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[*] SAS 052-149, 158-161, 168-999; MTH 281-999			
FUEL PRESSURE INDICATING SYSTEM	28-42-00		
Component Location		101	ALL
Component Index			
Component Location			

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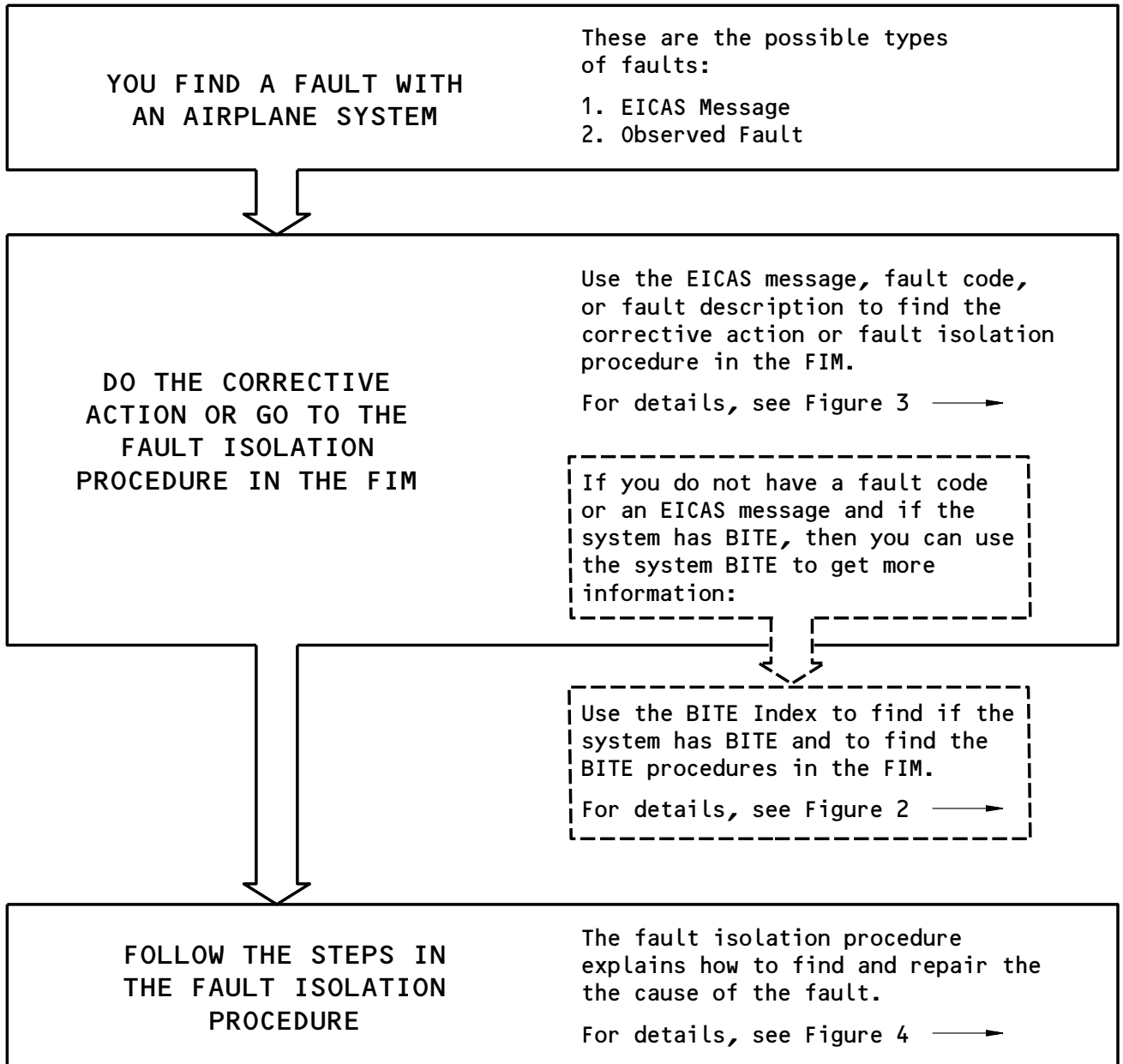
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Component Location		101	ALL
Component Index			
Component Location			

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Basic Fault Isolation Process
Figure 1

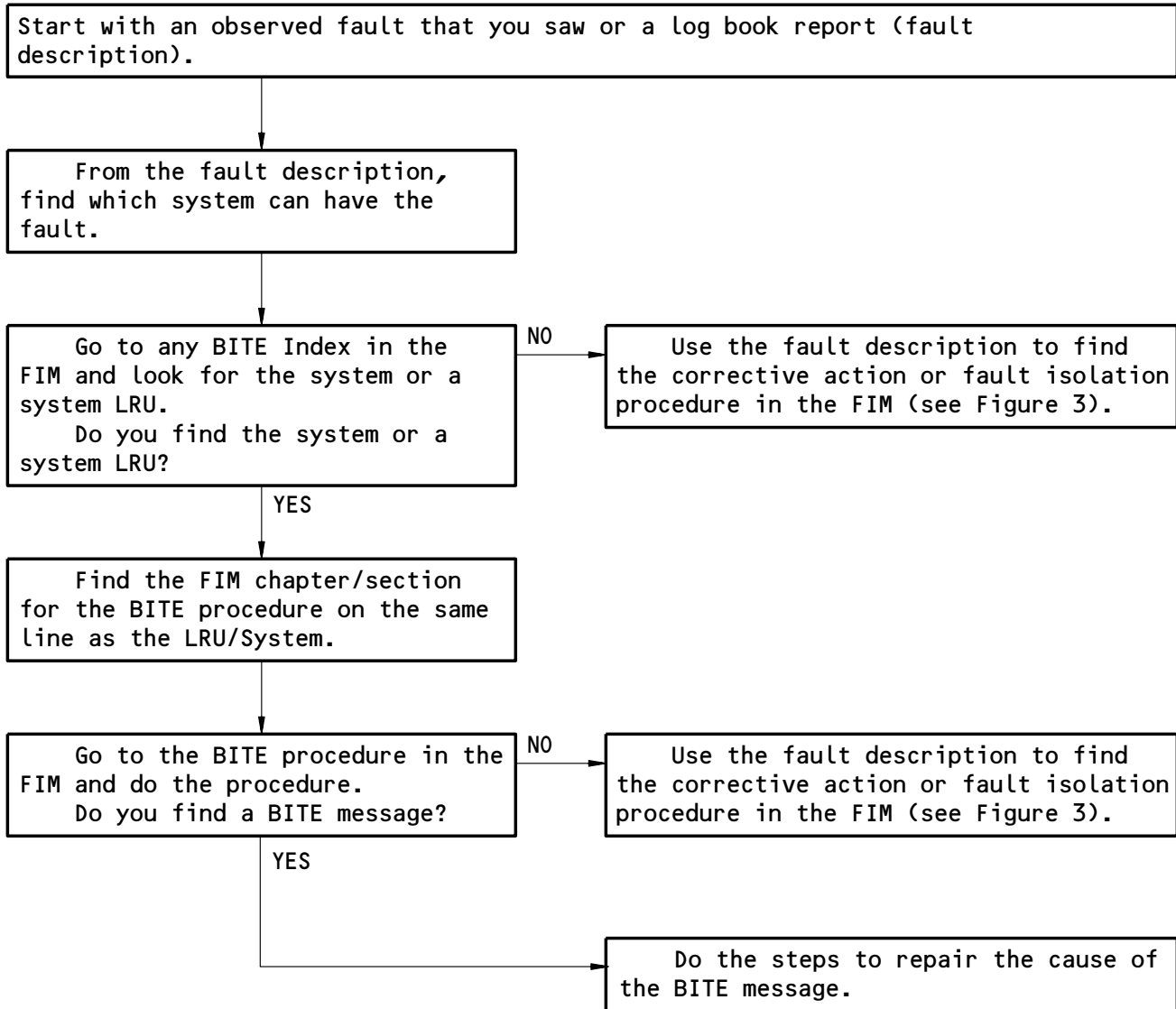
EFFECTIVITY

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28-HOW TO USE THE FIM

01

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How to Get Fault Information from BITE
Figure 2

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28-HOW TO USE THE FIM

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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

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28-HOW TO USE THE FIM

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 (If open, do not close the circuit breakers for the fuel boost, override and jettison pumps until you fix the problem).
- 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

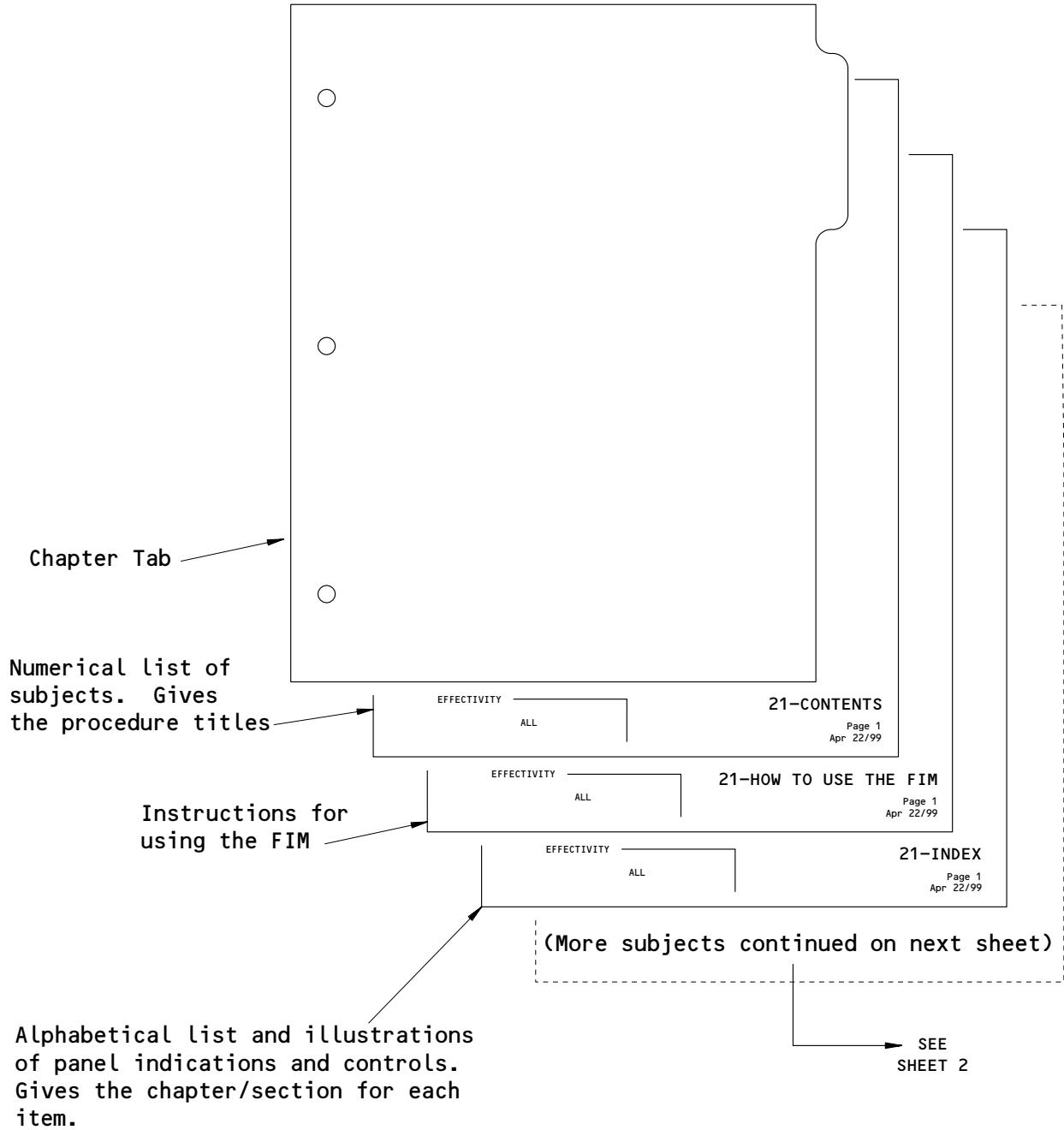
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28-HOW TO USE THE FIM

01

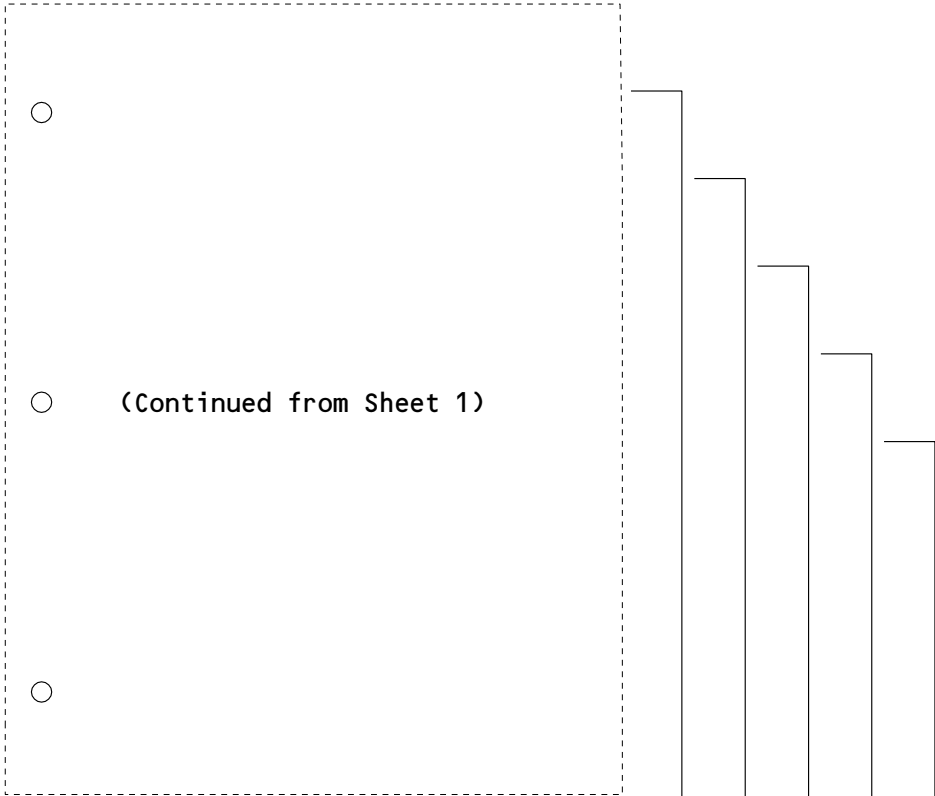
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Subjects in Each FIM Chapter
Figure 5 (Sheet 1)

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28-HOW TO USE THE FIM



Alphabetical list of the EICAS messages. Gives the procedure to repair the cause of the message or a reference to a fault isolation procedure.

EFFECTIVITY	ALL	21-EICAS MESSAGES	Page 1 Apr 22/99
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Failure analysis diagrams for the airplane systems to find the correct fault code for the fault.

EFFECTIVITY	ALL	21-FAULT CODE DIAGRAMS	Page 1 Apr 22/99
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Numerical list of fault codes. Gives the procedure to repair the cause of the fault or a reference to a fault isolation procedure.

EFFECTIVITY	ALL	21-FAULT CODE INDEX	Page 1 Apr 22/99
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Alphabetical list of all the LRUs/systems that have BITE. Gives the chapter/section for the BITE procedure.

EFFECTIVITY	ALL	21-BITE INDEX	Page 1 Apr 22/99
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Component index, component location, and fault isolation procedures for the systems in the chapter.

EFFECTIVITY	ALL	21-11-00	Page 101 Apr 22/99
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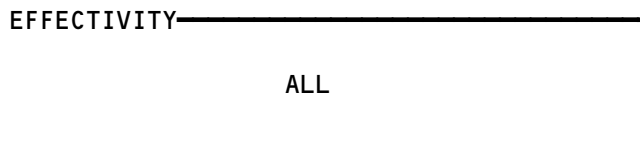
Subjects in Each FIM Chapter
Figure 5 (Sheet 2)

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28-HOW TO USE THE FIM

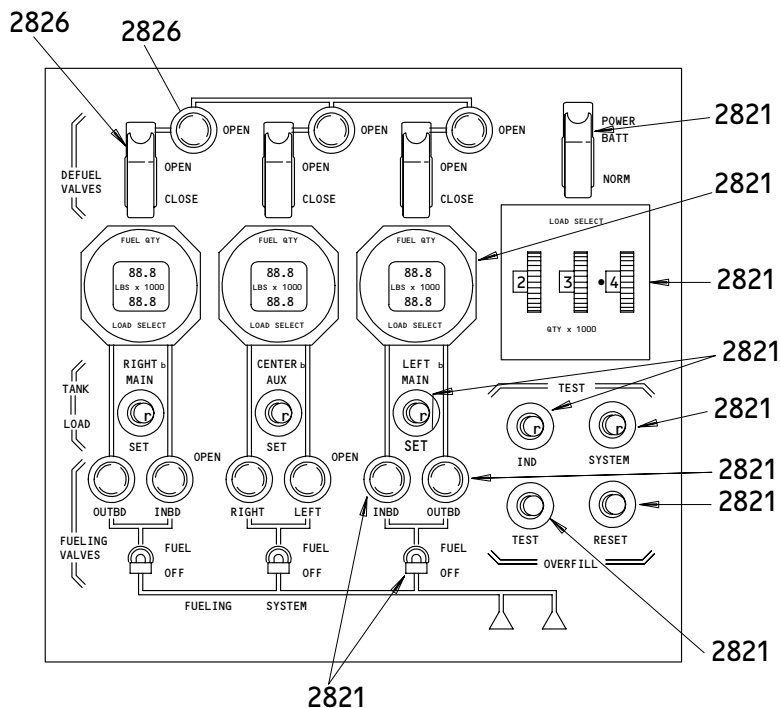
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APU	
FUEL FEED	2825
RUN LIGHT	CHAPTER 49
SLCTR SWITCH	CHAPTER 49
ENGINE VALVE	CHAPTER 71
FUEL	
BOOST PUMPS	2822
CONTROL SW	CHAPTER 71
FEED (VALVES)	2822
FLOW	CHAPTER 71
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FUEL - INDEX



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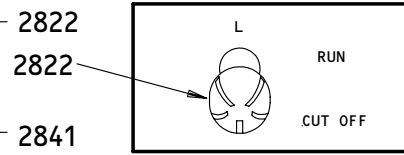
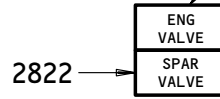
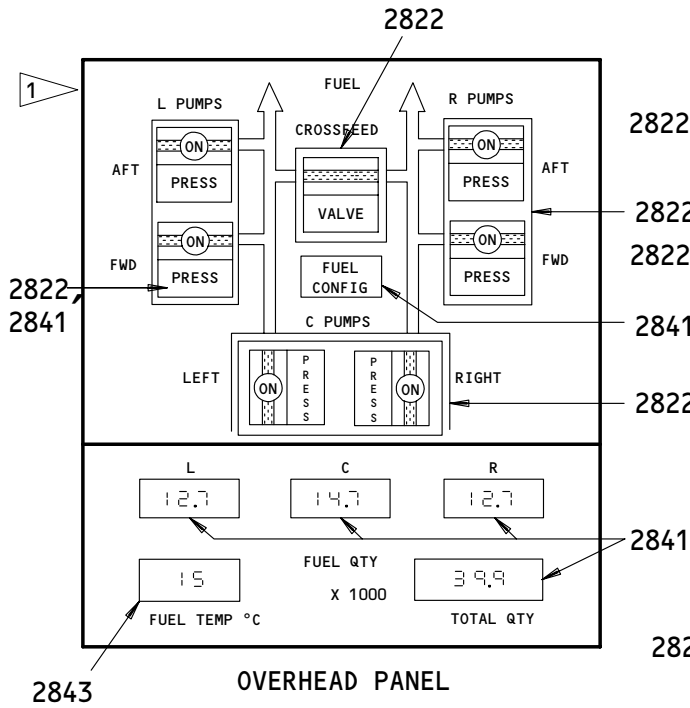
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PANEL LIGHT.....	2821
FUELING POWER SELECT.....	2821
INDICATOR - FUEL QUANTITY LOAD SELECT.....	2841
IND TEST.....	2841
LOAD SELECT.....	2841
SYSTEM TEST.....	2821
OVERFILL TEST.....	2821
TANK LOAD SET.....	2821
FUELING VALVE LIGHT.....	2821
FUELING VALVE SWITCH.....	2821
DEFUELING LIGHT.....	2826
DEFUELING SWITCH.....	2826

FUEL - INDEX (GROUND)

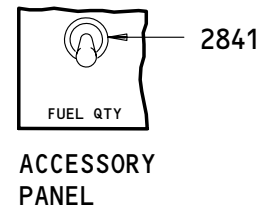
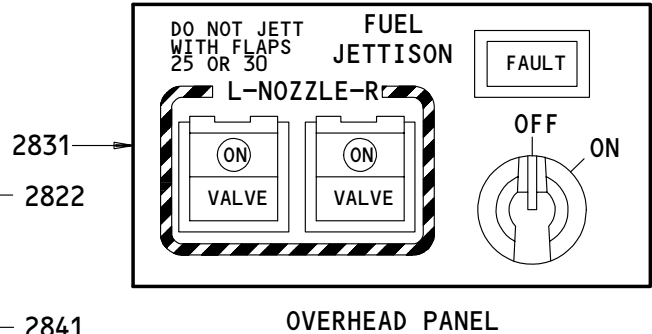
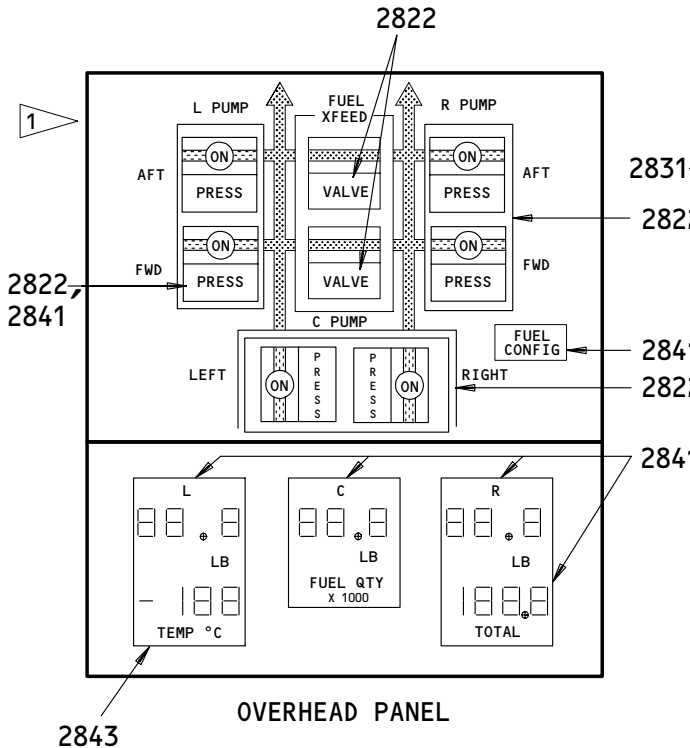
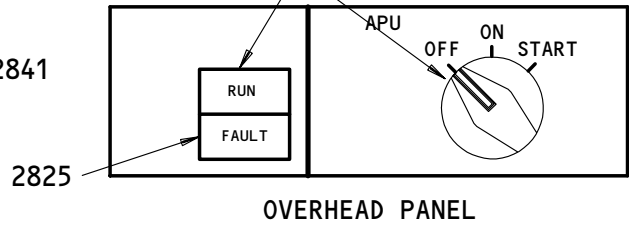
EFFECTIVITY	ALL
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CHAPTER 71



CHAPTER 49



1 AS INSTALLED

FUEL - INDEX

EFFECTIVITY	ALL
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FUEL - 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

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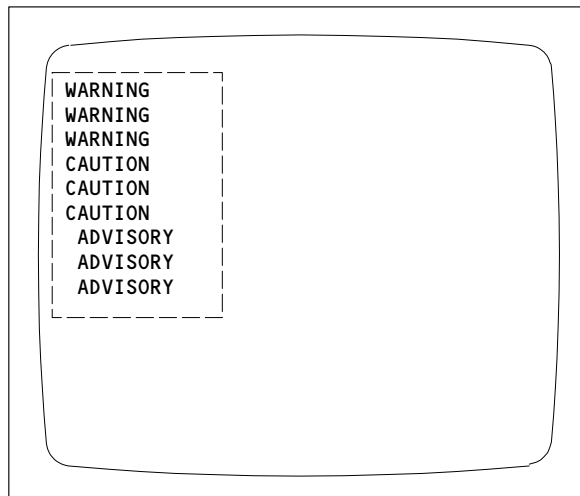
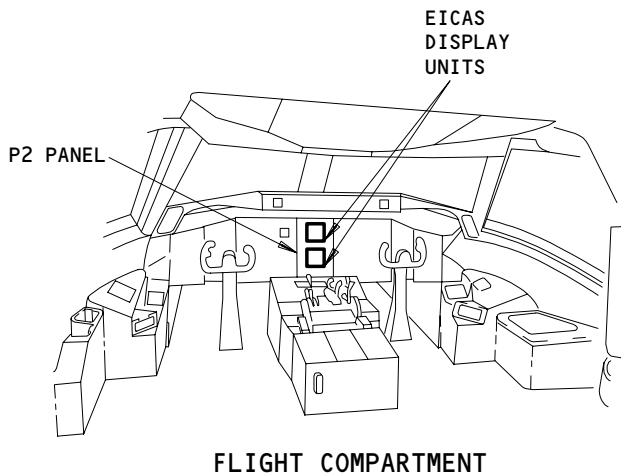
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28-EICAS MESSAGES

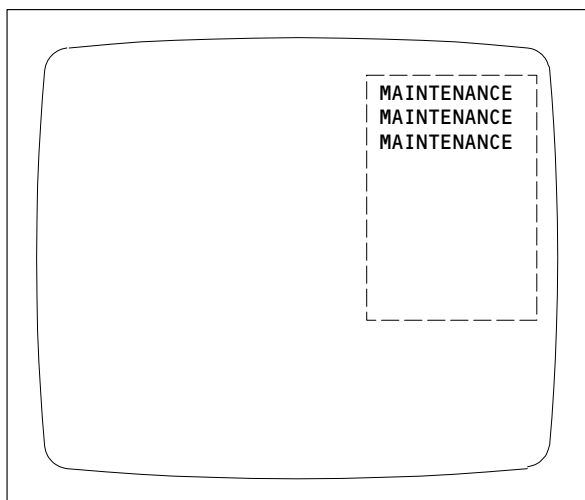
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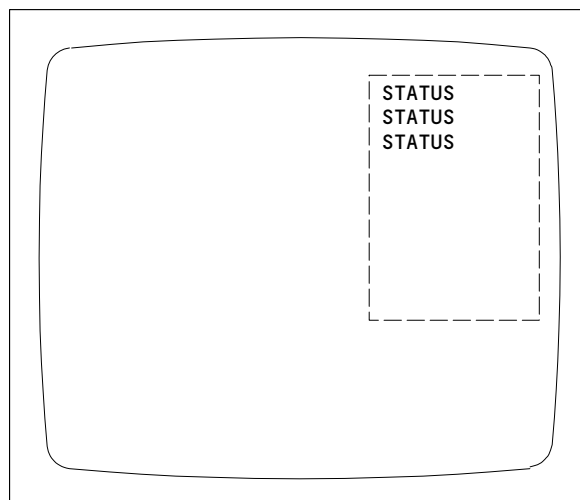
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ENGINE PRIMARY PAGE OR COMPACTED PAGE
(TOP DISPLAY UNIT)



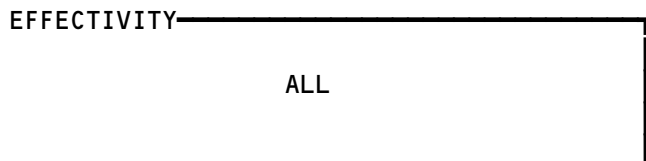
ECS/MSG PAGE
(BOTTOM DISPLAY UNIT)



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



28-EICAS MESSAGES



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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
APU FUEL VAL	C	FIM 28-25-00/101, Fig. 105
APU ISLN VALV	M,S	FIM 28-25-00/101, Fig. 104
CTR (L,R) FUEL PUMP	C	Replace the (L,R) fuel override pump control switch-light (YCLS6, YCLS3) (AMM 33-13-00). FIM 28-22-00/101, Fig. 105
DC FUEL PUMP ON	M	FIM 28-25-00/101, Fig. 106
FUEL CONFIG	C	FIM 28-41-00/101, Fig. 104 FIM 28-41-00/101, Fig. 105
FUEL CROSSFEED	C	FIM 28-22-00/101, Fig. 107 FIM 28-22-00/101, Fig. 108
(FWD, AFT) FUEL X-FEED	C	FIM 28-22-00/101, Fig. 107A FIM 28-22-00/101, Fig. 108A
FUEL JET NOZ	C	FIM 28-31-00/101, Fig. 103 FIM 28-31-00/101, Fig. 104
FUEL QTY BITE	M	FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Figure 104 (Simmonds FQIS)
FUEL QTY BITE	S	FIM 28-41-00/101, Fig. 107 (Honeywell FQIS) FIM 28-41-00/101, Fig. 118 (Simmonds FQIS)
FUEL QTY CHANNEL	S	FIM 28-41-00/101, Fig. 106 (Honeywell FQIS) FIM 28-41-00/101, Fig. 116 (Simmonds FQIS)
FUEL QTY IND	S	FIM 28-41-00/101, Fig. 106 (Honeywell FQIS) FIM 28-41-00/101, Fig. 116 (Simmonds FQIS)
(L,R) AFT FUEL PUMP	C	FIM 28-22-00/101, Fig. 106
(L,R) FUEL JET PUMP	C	FIM 28-31-00/101, Fig. 106
(L,R) FUEL SYS PRESS	B	FIM 28-22-00/101, Fig. 109

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28-EICAS MESSAGES

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
(L,R) FUEL SPAR VAL	C	Go to 28-FAULT CODE INDEX and look at the fault codes: 28 22 01, 28 22 09
(L,R) FWD FUEL PUMP	C	For L FWD FUEL PUMP, FIM 28-22-00/101, Fig. 106, FIM 28-25-00/101, Fig. 106A For R FWD FUEL PUMP, FIM 28-22-00/101, Fig. 106
(L,R) JET XFR VALVE	C	FIM 28-31-00/101, Fig. 105
LOW FUEL	B	FIM 28-41-00/101, Fig. 104 FIM 28-41-00/101, Fig. 105

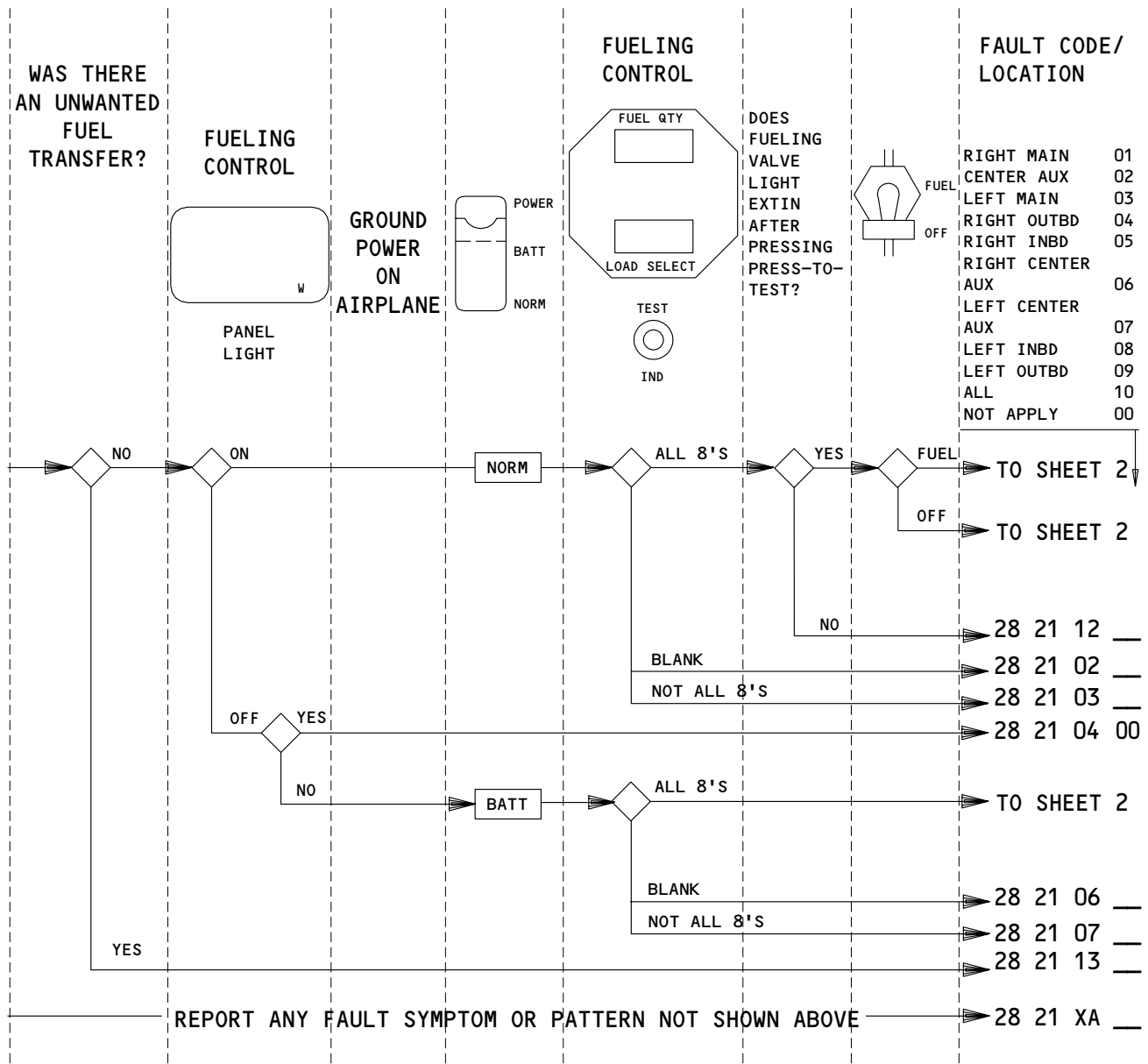
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28-EICAS MESSAGES

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FAULT CODE/ LOCATION	
RIGHT MAIN	01
CENTER AUX	02
LEFT MAIN	03
RIGHT OUTBD	04
RIGHT INBD	05
RIGHT CENTER AUX	06
LEFT CENTER AUX	07
LEFT INBD	08
LEFT OUTBD	09
ALL	10
NOT APPLY	00

APPLICABLE CIRCUIT BREAKERS

6E4	FUEL QTY REFUEL	34L2	FUEL QTY REFUEL
6E5	FUELING CONTROL	34L3	FUELING CONTROL
6E6	FUELING VALVES	34L5	FUELING VALVES
11C34	FUEL QTY 1		
11M19	FUEL QTY 2		

PRESSURE FUELING – FAULT CODES (GROUND)

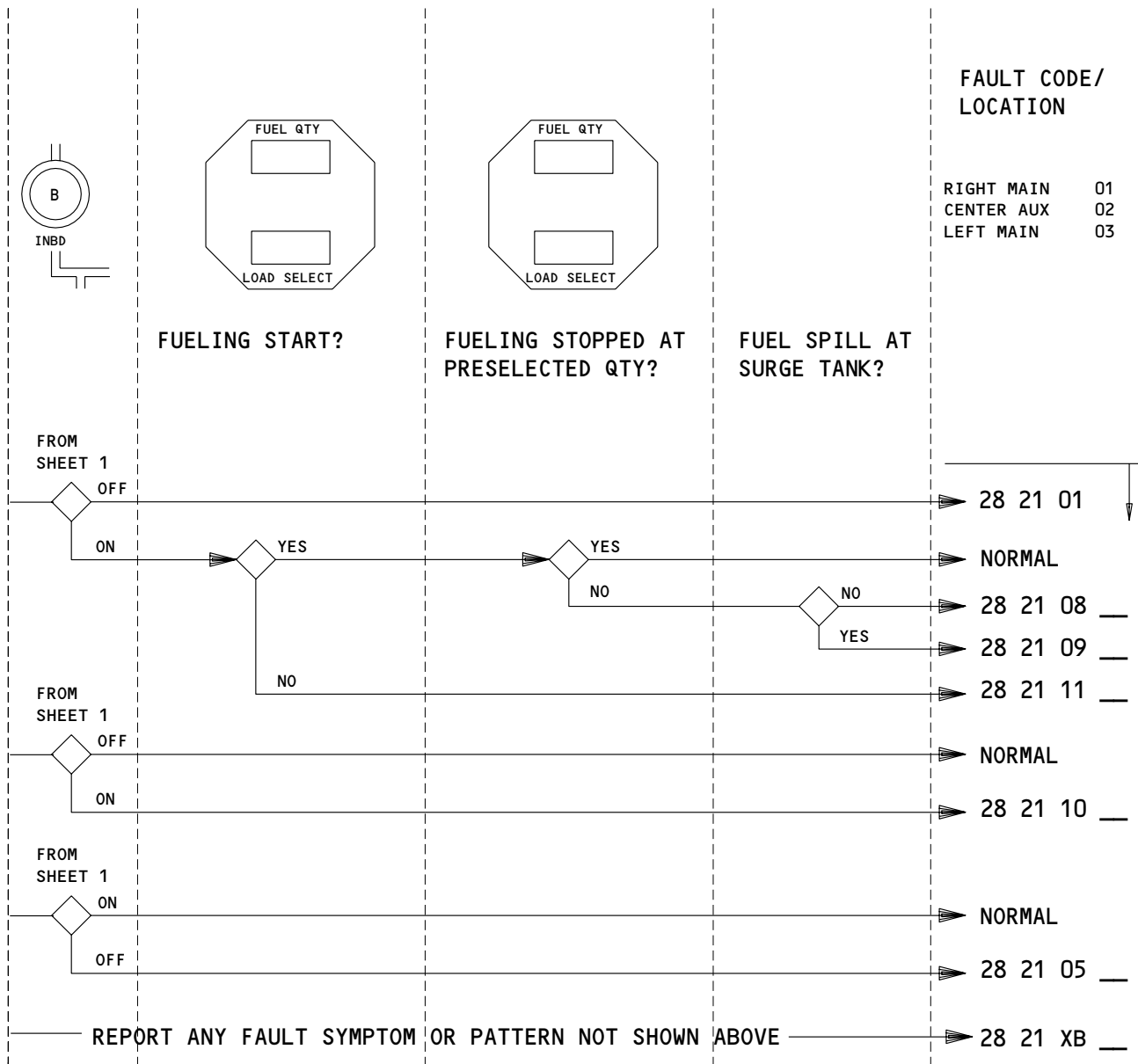
EFFECTIVITY ————
ALL

28-FAULT CODE DIAGRAM

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APPLICABLE CIRCUIT BREAKERS

6E4	FUEL QTY REFUEL	34L2	FUEL QTY REFUEL
6E5	FUELING CONTROL	34L3	FUELING CONTROL
6E6	FUELING VALVES	34L5	FUELING VALVES
11C34	FUEL QTY 1		
11M19	FUEL QTY 2		

PRESSURE FUELING – FAULT CODES (GROUND)

EFFECTIVITY

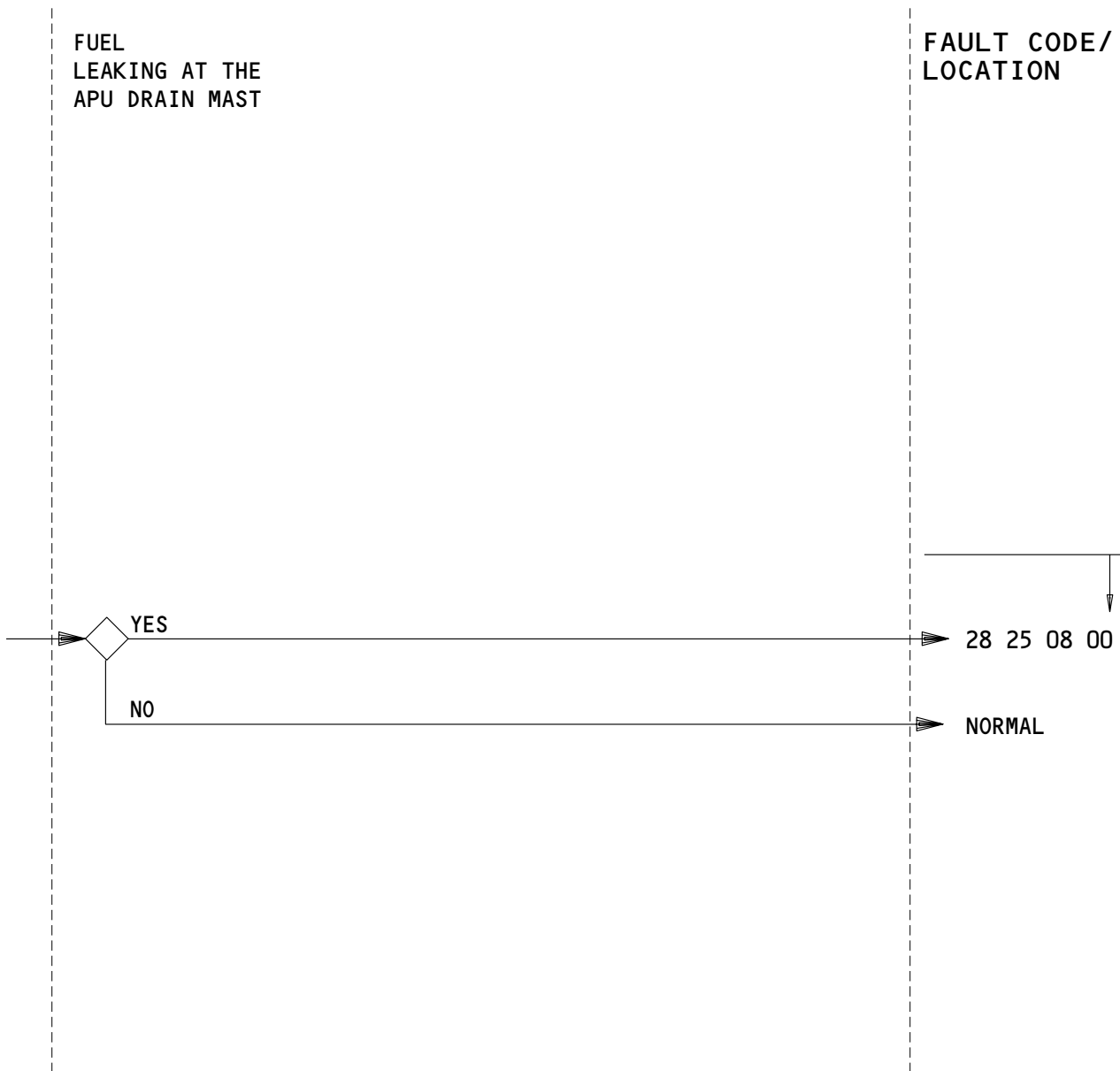
ALL

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PRESSURE FUELING – FAULT CODES (GROUND)

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28-FAULT CODE DIAGRAM

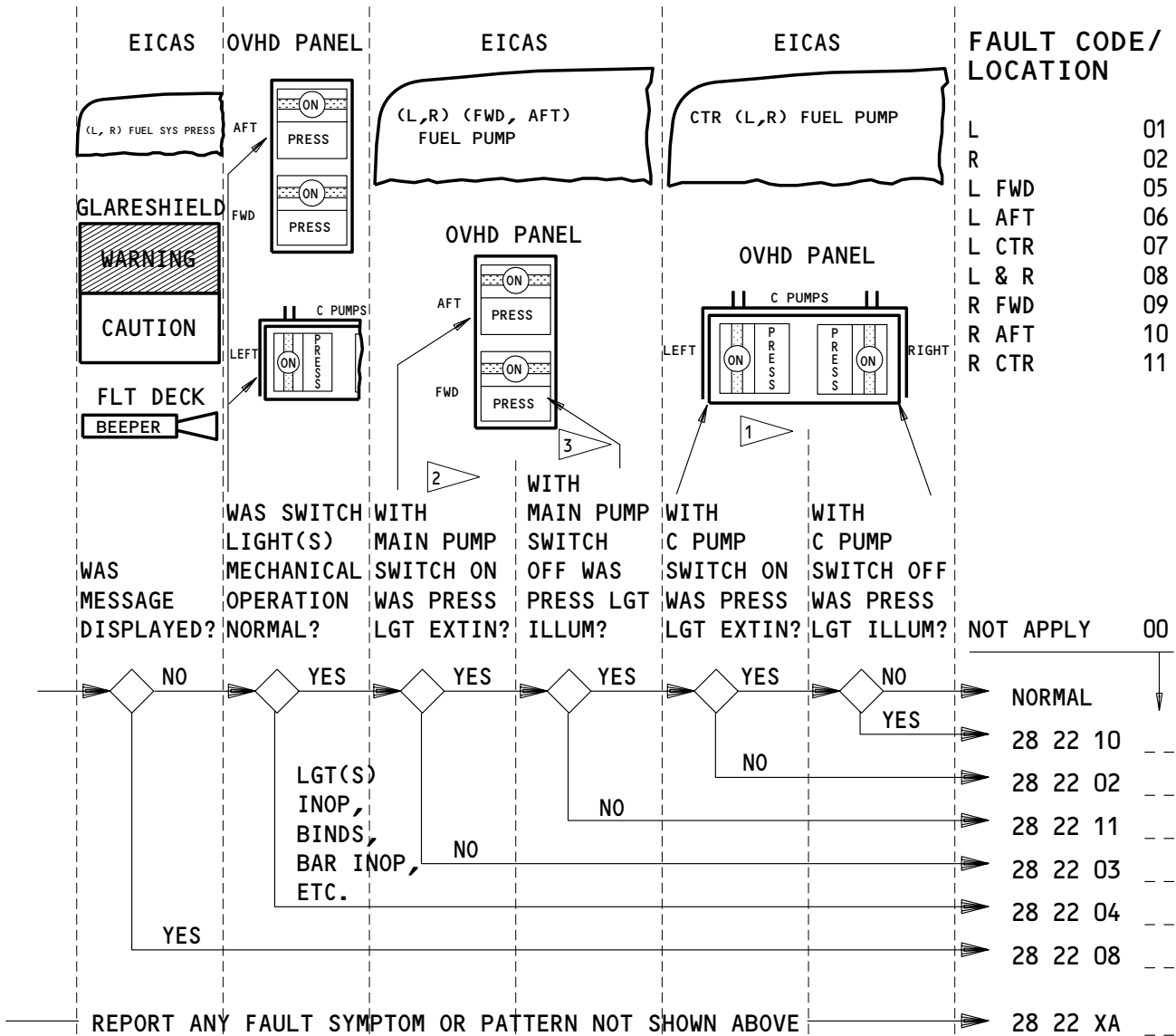
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- 1 CTR PUMPS INHIBITED UNLESS N2 IS OVER 50% OR REFUELING DOOR IS OPEN.
- 2 FWD BOOST PUMP LOW PRESS LGTS MAY FLICKER DURING CLIMB. THIS INDICATION SHOULD CEASE AT LEVEL OFF AND SHOULD NOT BE CONSIDERED A MALFUNCTION.
- 3 L FWD PRESS LGT SHOULD EXTIN WITH AC POWER AND APU SW ON.

APPLICABLE CIRCUIT BREAKERS

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">6F15</td><td>L FUEL OVRD PUMP</td></tr> <tr><td>6F21</td><td>R FUEL OVRD PUMP</td></tr> <tr><td>6G15</td><td>L AFT FUEL BOOST PUMP</td></tr> <tr><td>6G18</td><td>R FWD FUEL BOOST PUMP</td></tr> <tr><td>6G21</td><td>R AFT FUEL BOOST PUMP</td></tr> </table>	6F15	L FUEL OVRD PUMP	6F21	R FUEL OVRD PUMP	6G15	L AFT FUEL BOOST PUMP	6G18	R FWD FUEL BOOST PUMP	6G21	R AFT FUEL BOOST PUMP	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">6G24</td><td>L FWD FUEL BOOST PUMP</td></tr> <tr><td>11D35</td><td>FUEL DC PUMP CONT</td></tr> <tr><td>11M15</td><td>FUEL PUMPS L CTR</td></tr> <tr><td>11M16</td><td>FUEL PUMPS R FWD L AFT</td></tr> <tr><td>11M24</td><td>FUEL PUMPS R CTR</td></tr> <tr><td>11M25</td><td>FUEL PUMPS L FWD R AFT</td></tr> </table>	6G24	L FWD FUEL BOOST PUMP	11D35	FUEL DC PUMP CONT	11M15	FUEL PUMPS L CTR	11M16	FUEL PUMPS R FWD L AFT	11M24	FUEL PUMPS R CTR	11M25	FUEL PUMPS L FWD R AFT
6F15	L FUEL OVRD PUMP																						
6F21	R FUEL OVRD PUMP																						
6G15	L AFT FUEL BOOST PUMP																						
6G18	R FWD FUEL BOOST PUMP																						
6G21	R AFT FUEL BOOST PUMP																						
6G24	L FWD FUEL BOOST PUMP																						
11D35	FUEL DC PUMP CONT																						
11M15	FUEL PUMPS L CTR																						
11M16	FUEL PUMPS R FWD L AFT																						
11M24	FUEL PUMPS R CTR																						
11M25	FUEL PUMPS L FWD R AFT																						

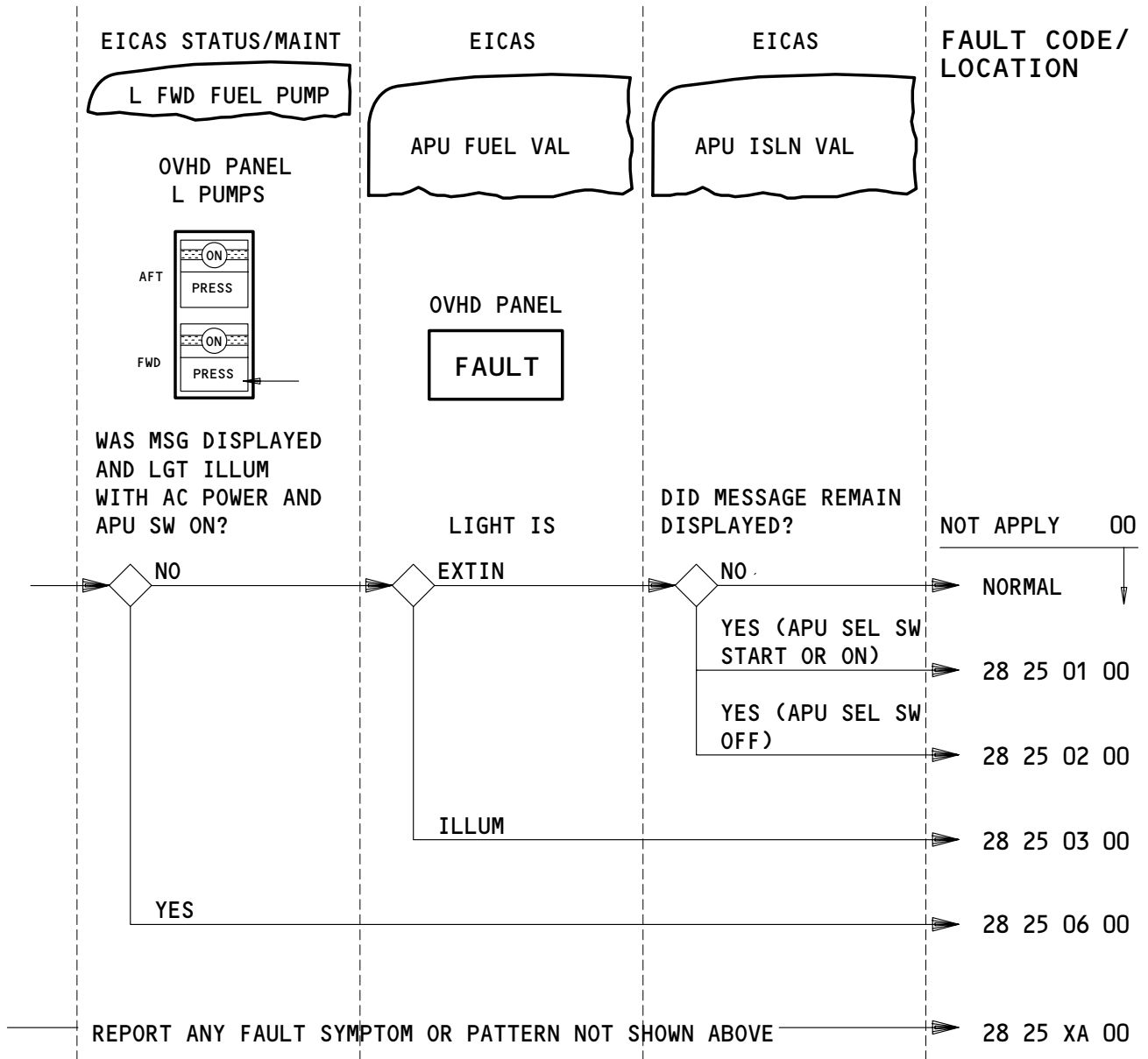
FUEL BOOST PUMPS - FAULT CODES

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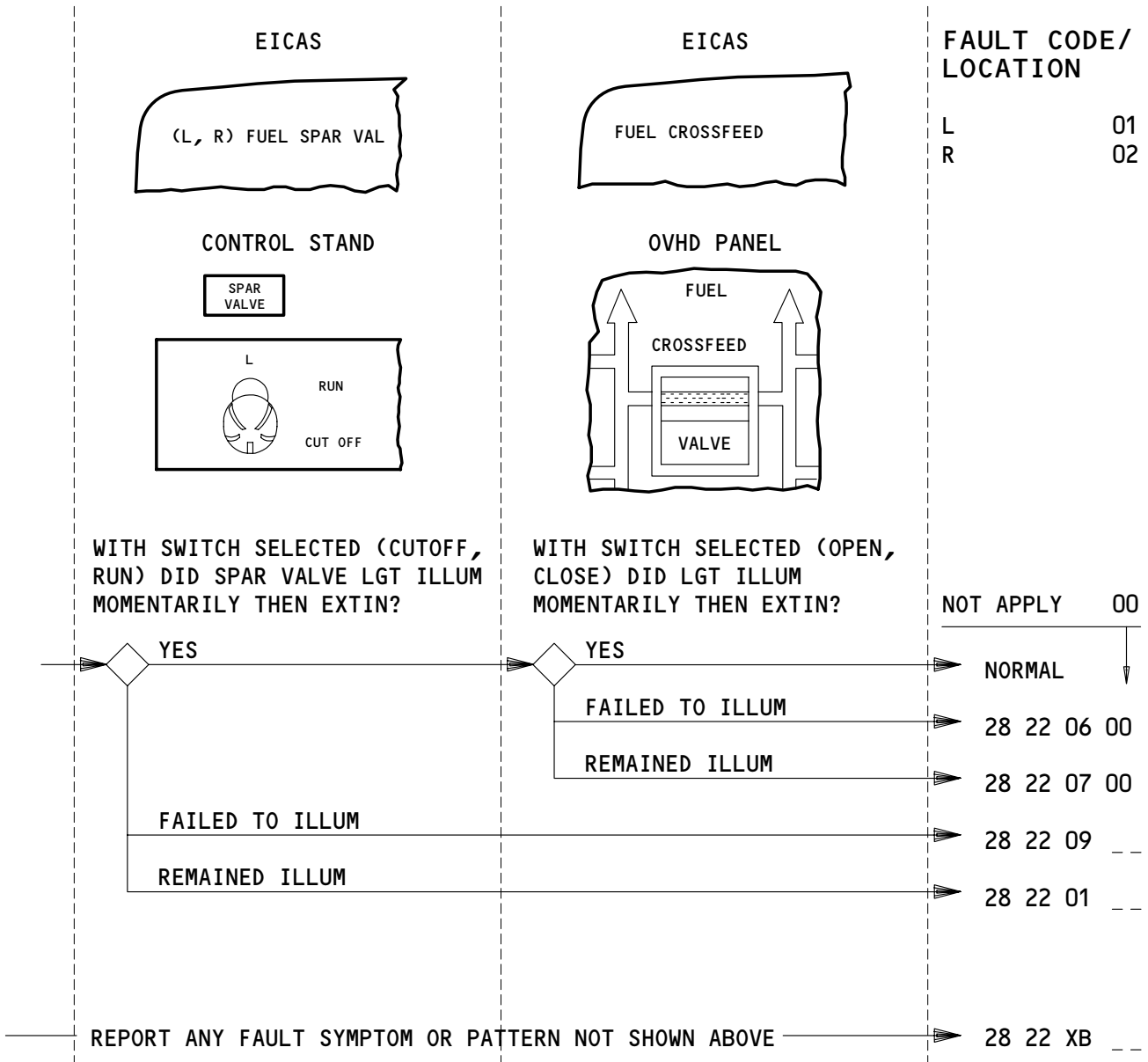
APPLICABLE CIRCUIT BREAKERS

6E3	APU FUEL VALVE
6G24	L FWD FUEL BOOST PUMP
11D34	FUEL DC PUMP PWR
11D35	FUEL DC PUMP CONT
11M25	FUEL PUMPS L FWD R AFT

APU FUEL FEED - FAULT CODES

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28-FAULT CODE DIAGRAM



APPLICABLE CIRCUIT BREAKERS

6E1	L SPAR FUEL VALVES
6E2	R SPAR FUEL VALVES
11D36	FUEL CROSSFEED VLV

FUEL FEED (VALVES) – FAULT CODES

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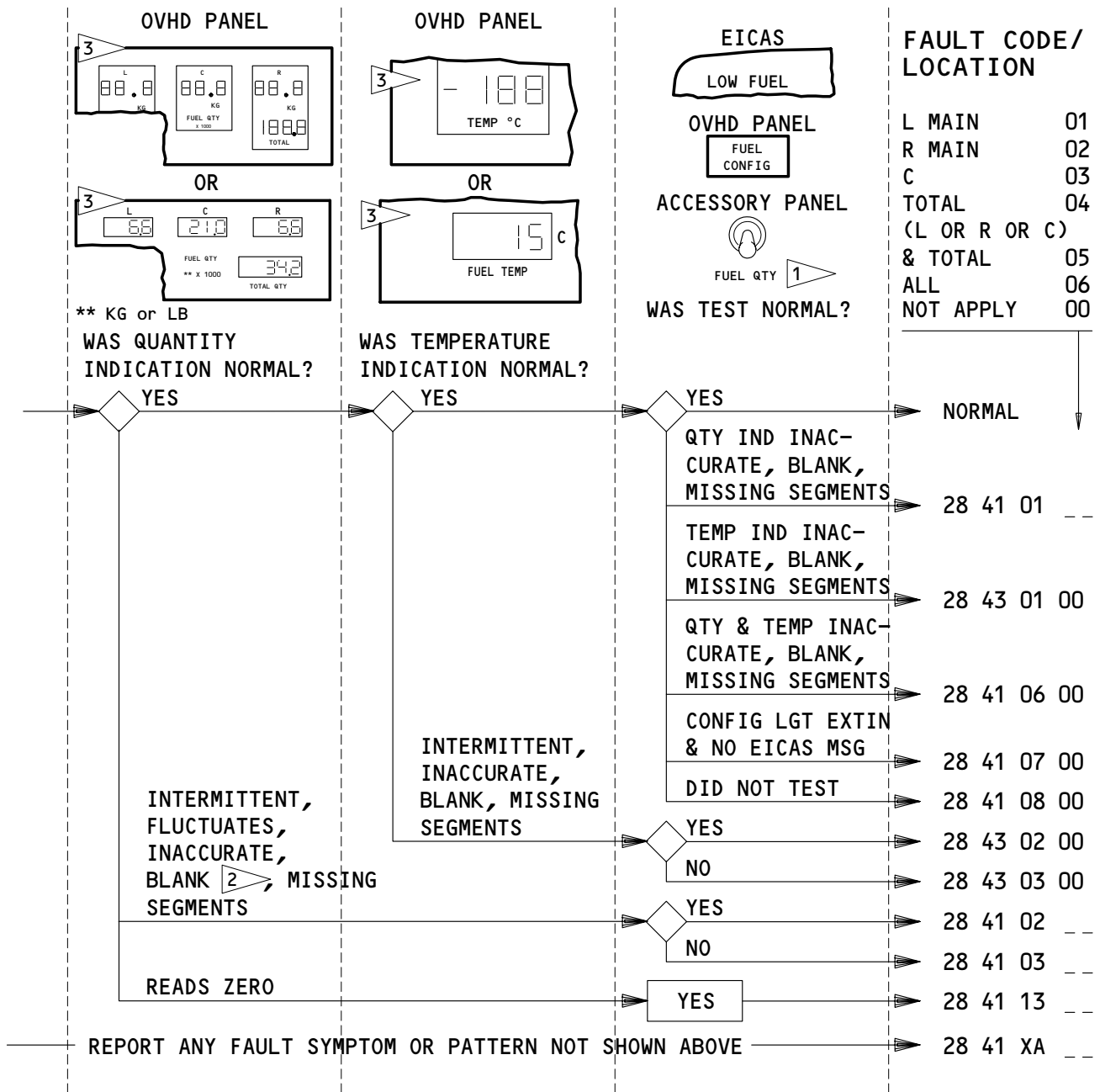
ALL

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APPLICABLE CIRCUIT BREAKERS

6E4	QTY FUELING
11C34	FUEL QTY 1
11M12	FUEL TEMP
11M19	FUEL QTY 2

- 1 DURING TEST OBSERVE:
ALL (8) IN QTY EXCEPT 1 IN FIRST DIGIT OF TOTAL
-185 ±2 IN TEMP, (HONEYWELL) 188.8, (SIMMONDS) 188.8
FUEL CONFIG LGT, EICAS MSG - LOW FUEL
MASTER CAUTION LGTS & AURAL CAUTION (ENG RUNNING)
- 2 IF BLANK WITH FUEL QTY IND MSG DISPLAYED, SEE " FUEL QTY IND/CHANNEL MSG'S".
- 3 AS INSTALLED

FUEL QUANTITY, TEMPERATURE INDICATION AND TEST - FAULT CODES

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28-FAULT CODE DIAGRAM

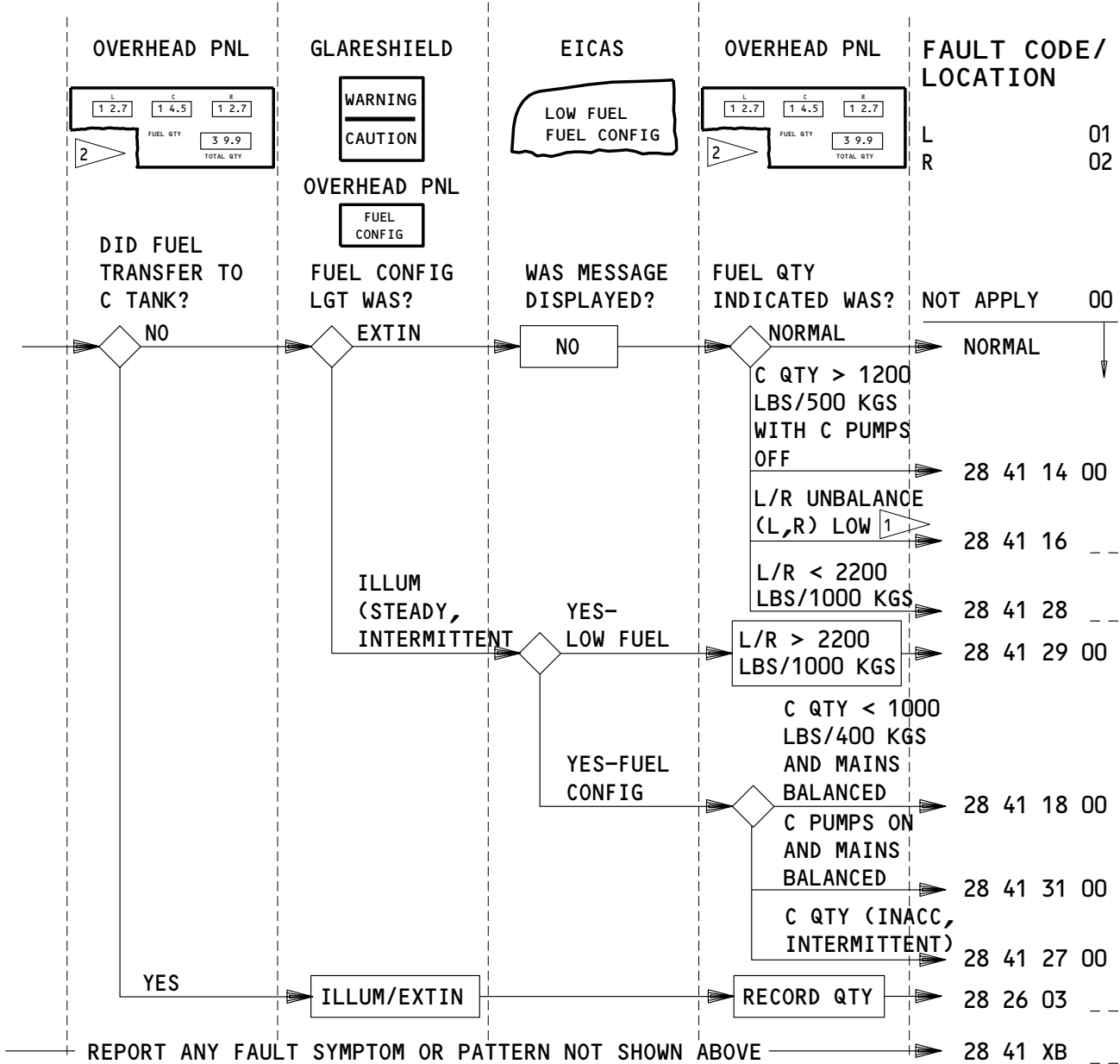
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- 1 FUEL UNBALANCE BETWEEN MAIN TANKS OF 1500 LBS/600 KGS HEAVY LOADS, 2500 LBS/1100 KGS LIGHT LOADS
- 2 LABELED LB OR KG

APPLICABLE CIRCUIT BREAKERS

NONE

FUEL TRANSFER/CONFIG - FAULT CODES

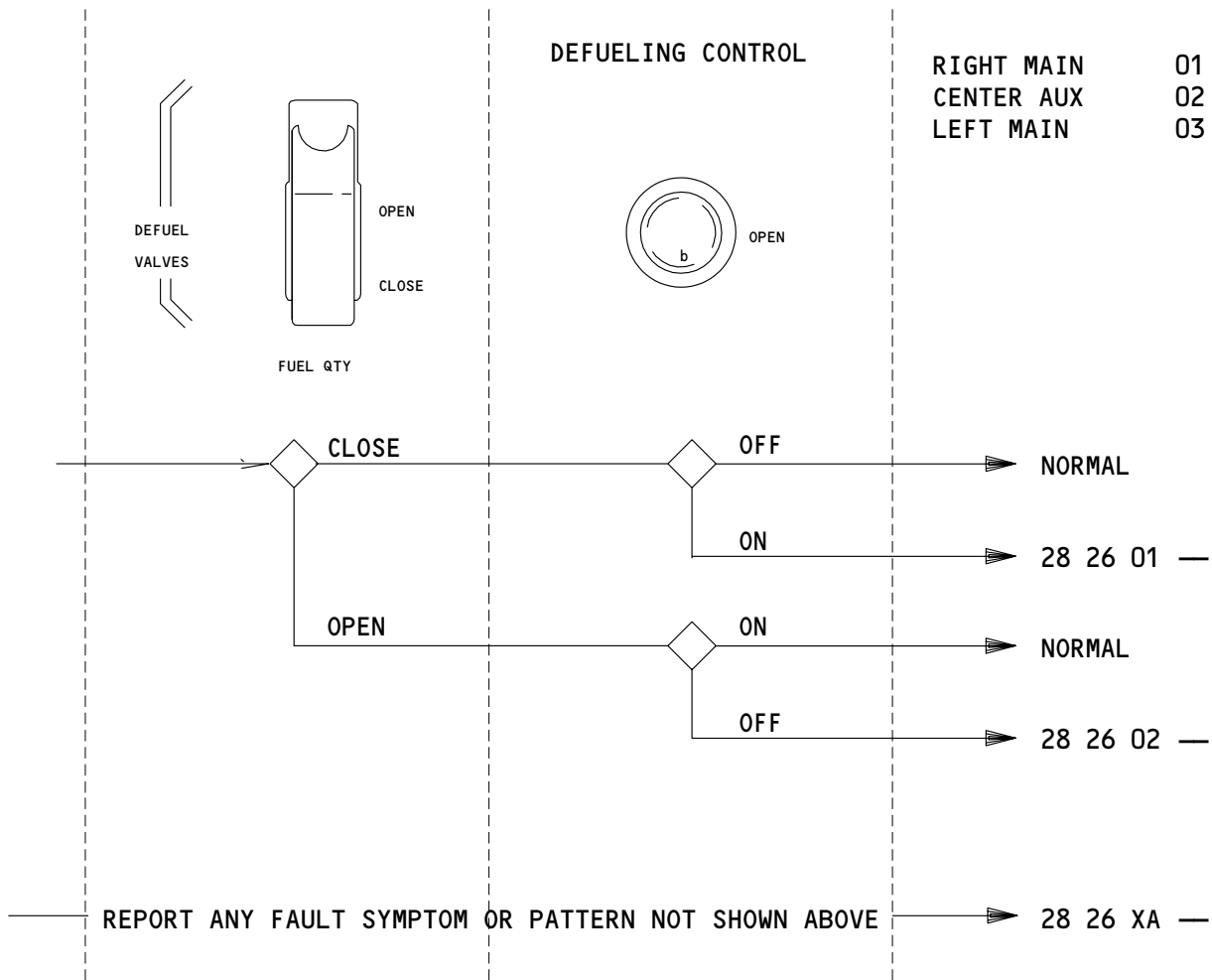
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28-FAULT CODE DIAGRAM

01

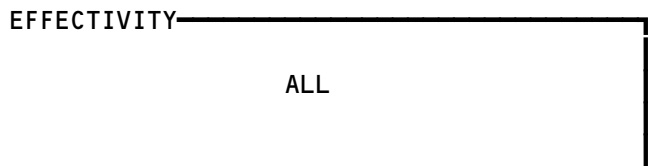
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APPLICABLE CIRCUIT BREAKERS

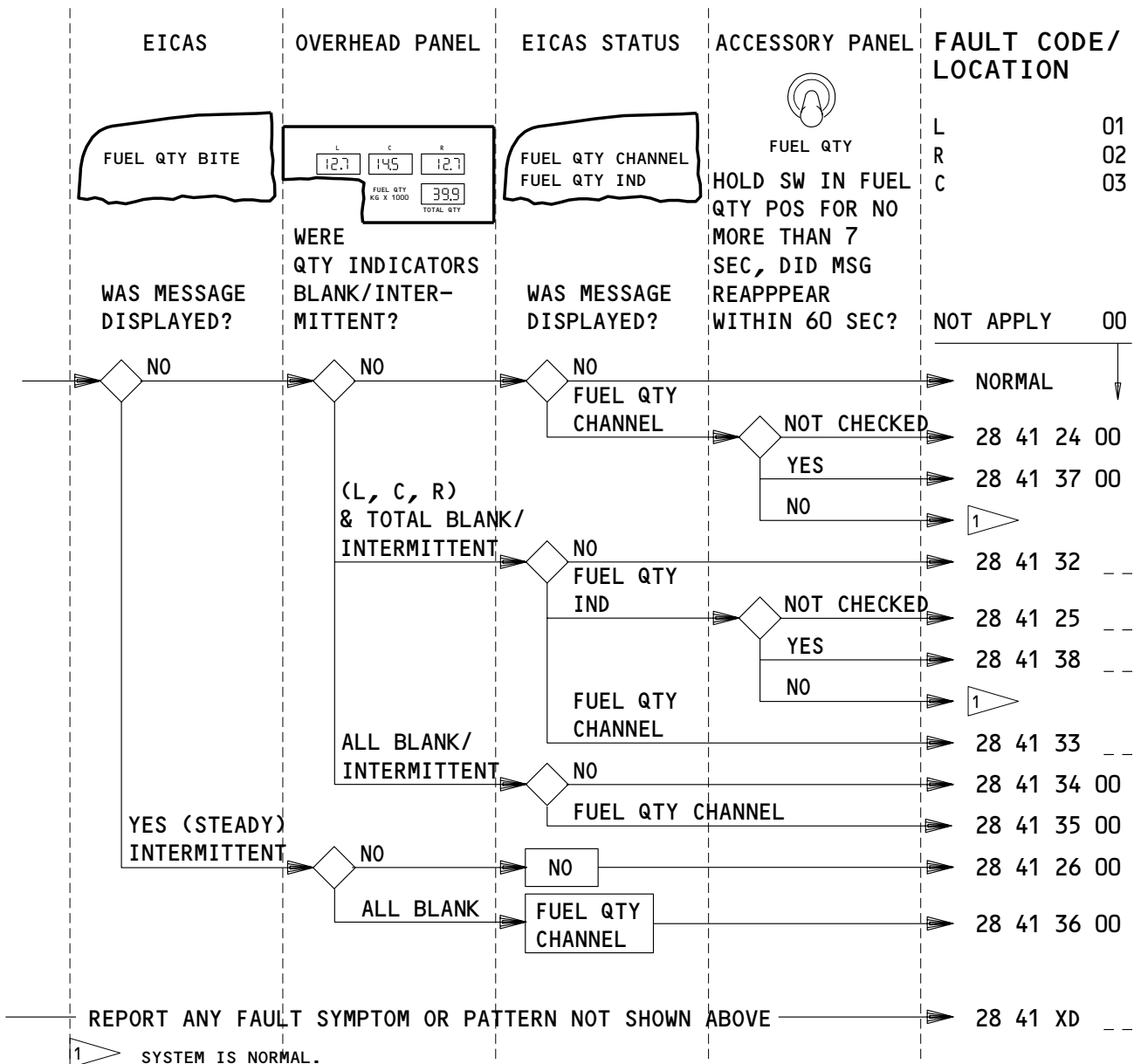
6E7	DEFUEL VALVES
34L4	DEFUELING VALVES

DEFUELING - FAULT CODES (GROUND)



28-FAULT CODE DIAGRAM

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APPLICABLE CIRCUIT BREAKERS

11C34	FUEL QTY 1
11M19	FUEL QTY 2

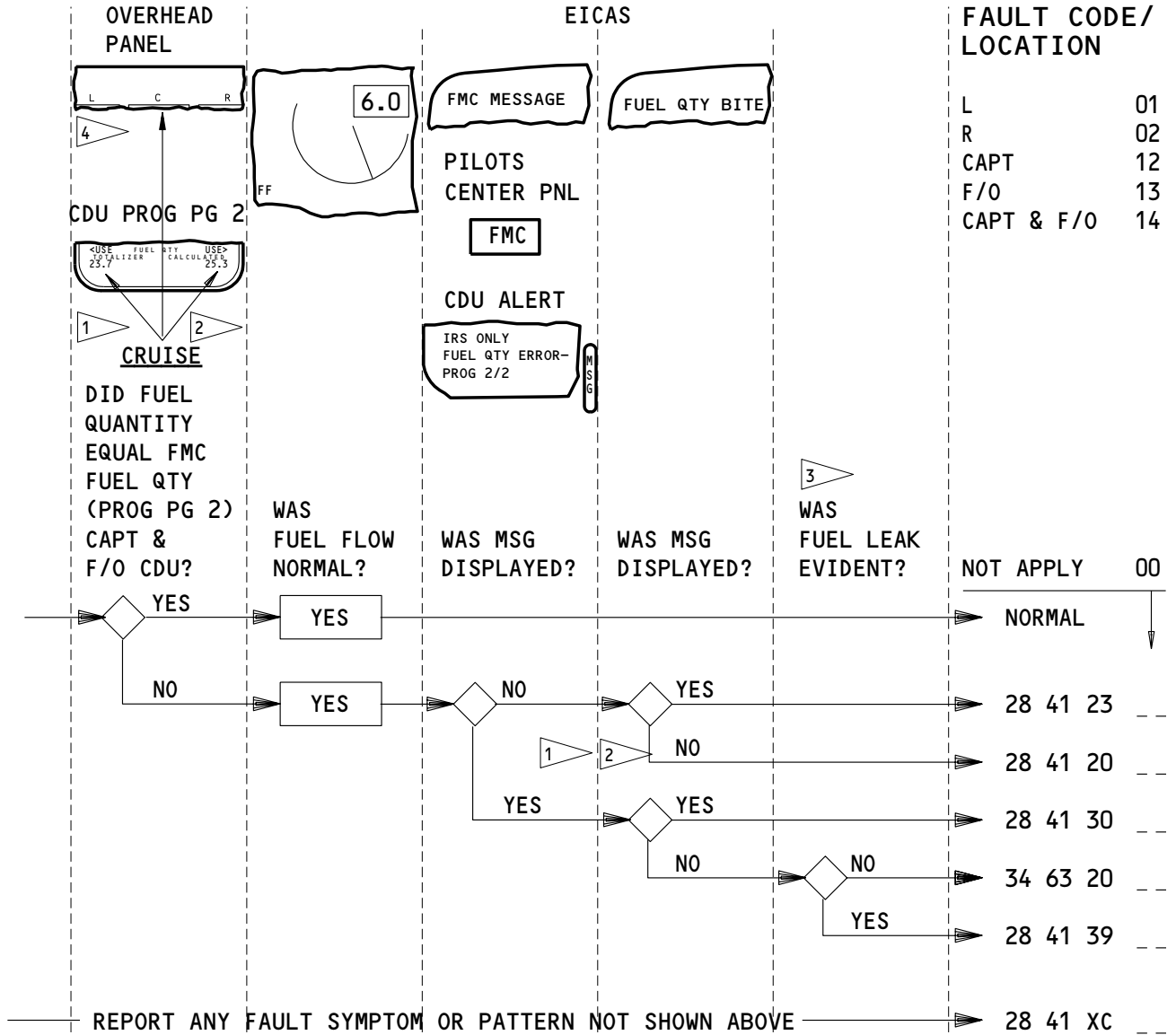
FUEL QTY IND/CHANNEL MSG'S - FAULT CODES

EFFECTIVITY

ALL

28-FAULT CODE DIAGRAM

243423



FAULT CODE/ LOCATION	
L	01
R	02
CAPT	12
F/O	13
CAPT & F/O	14

- 1 AIRPLANES WITH LESS THAN 119,000 LBS/54,000 KGS REPORT FUEL QUANTITY DIFFERENCE THAT EXCEEDS 2000 LBS/900 KGS FOR OVER SIX MINUTES AND REACHES 3000 LBS/1400 KGS. SIX MINUTE TIME IS CUMULATIVE. SMALLER DIFFERENCES MAY BE NORMAL WITH AIRPLANE ATTITUDE AND SYSTEM TOLERANCES.
- 2 AIRPLANES WITH MORE THAN 119,000 LBS/54,000 KGS REPORT FUEL QUANTITY DIFFERENCE THAT EXCEEDS 3000 LBS/1400 KGS FOR OVER SIX MINUTES AND REACHES 4500 LBS/2100 KGS. SIX MINUTE TIME IS CUMULATIVE. SMALLER DIFFERENCES MAY BE NORMAL WITH AIRPLANE ATTITUDE AND SYSTEM TOLERANCES.
- 3 FUEL LEAKS MAY BE CHECKED VISUALLY BY CABIN STAFF OR EVIDENT BY AILERON TRIM, AIRPLANE PERFORMANCE, OR FUEL MANAGEMENT CHECK.
- 4 LABELED LB OR KG

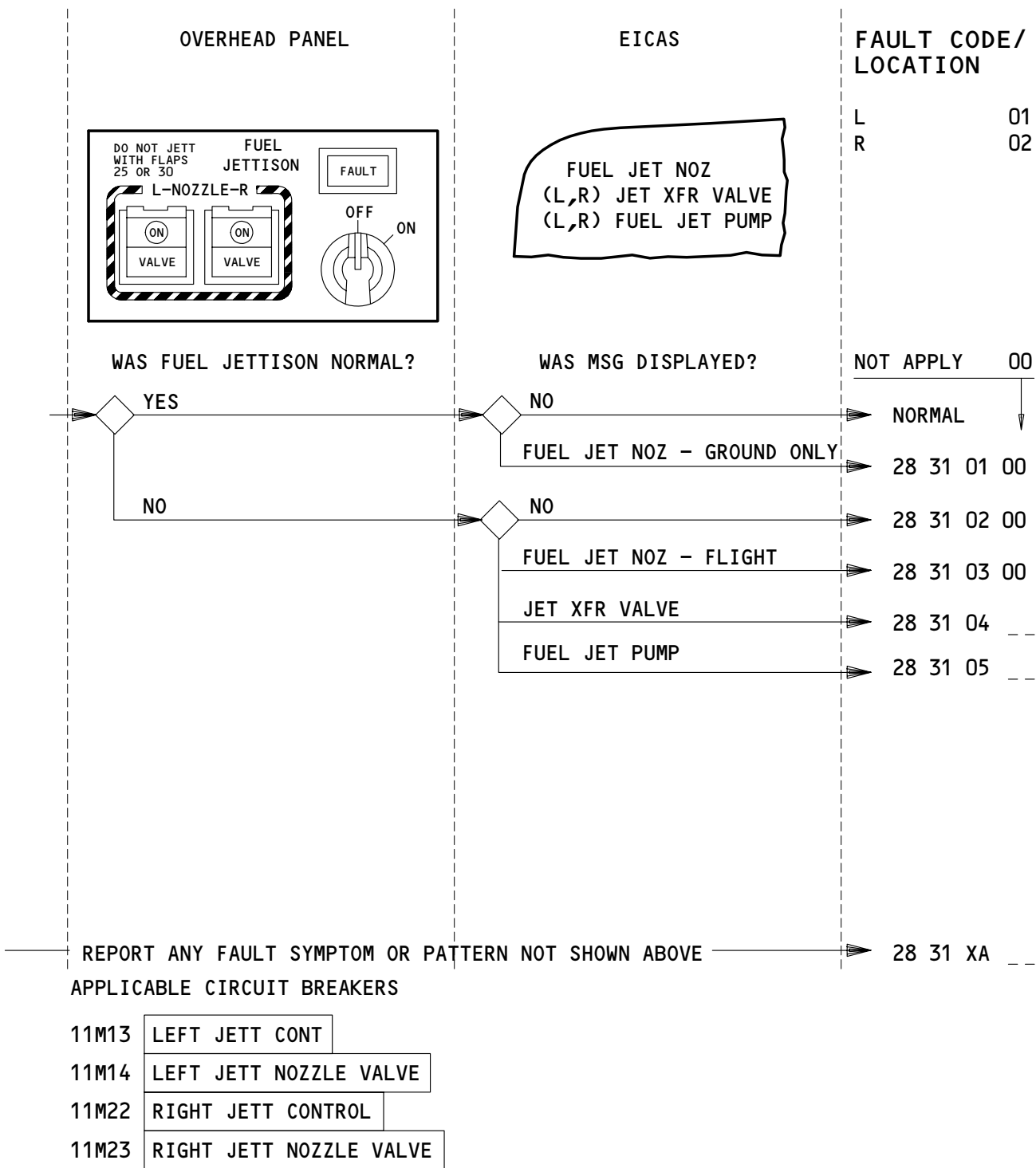
APPLICABLE CIRCUIT BREAKERS
 11C34 FUEL QTY 1 11M19 FUEL QTY 2

FUEL QTY (INDICATION VS FMC FUEL QTY) – FAULT CODES

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28-FAULT CODE DIAGRAM

134062



FUEL JETTISON - FAULT CODES

EFFECTIVITY
IF INSTALLED

28-FAULT CODE DIAGRAM



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28 21 XA --	1. A (01=RIGHT MAIN, 02=CENTER AUX, 03=LEFT MAIN, 04=RIGHT OUTBD, 05=RIGHT INBD, 06=RIGHT CENTER AUX, 07=LEFT CENTER AUX, 08=LEFT INBD, 09=LEFT OUTBD, 10=ALL) ground fueling problem was encountered by the ground crew which is not covered in the fault code diagrams. (Ref fault code diagram for ground crew actions.) 2. SSM 28-21-01
28 21 XB --	1. A (01=RIGHT MAIN, 02=CENTER AUX, 03=LEFT MAIN) pressure fueling problem was encountered by the ground crew which is not covered in the fault code diagrams. (Ref fault code diagram for ground crew actions.) 2. SSM 28-21-01
28 22 XA --	1. (01=L, 02=R) Tank. A fuel feed problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions.) 2. SSM 28-22-01
28 22 XB --	1. A (01=L TANK, 02=R TANK) fuel feed problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions.) 2. SSM 28-22-01
28 25 XA 00	1. An APU fuel feed problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions.) 2. SSM 28-25-01
28 26 XA --	1. A (01=R MAIN, 02=CTR AUX, 03=L MAIN) defueling problem was encountered by the ground crew which is not covered in the fault code diagrams. (Ref fault code diagram for ground crew actions.) 2. SSM 28-26-01.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 31 XA --	1. A (01=L, 02=R) fuel jettison system was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions.) 2. SSM 28-31-01, SSM 28-31-02.
28 41 XA --	1. A (01=L MAIN, 02=R MAIN, 03=C) fuel quantity or temperature indication problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions.) 2. SSM 28-41-01
28 41 XB --	1. A (01=L, 02=R) fuel transfer or configuration problem was encountered by the flight crew which is not covered in the fault code diagrams (Ref fault code diagram for flight crew actions). 2. SSM 28-41-01
28 41 XC --	1. A (12=CAPT, 13=F/O) Fuel Qty (indication vs FMC fuel qty) problem was encountered by the flight crew which is not covered in the fault code diagrams (Ref fault code diagram for flight crew actions). 2. SSM 28-41-01
28 41 XD --	1. A (01=L, 02=R 03=C) Fuel Qty (indicator, IND/CHAN msg) Fault was encountered by the flight crew which is not covered in the fault code diagrams (Ref fault code diagram for flight crew actions). 2. FIM 28-41-00/101, Fig. 105, Block 1
28 21 01 --	1. (04=R OUTBD MAIN, 05=R INBD MAIN, 06=R AUX, 07=L AUX, 08=L INBD MAIN, 09=L OUTBD MAIN) Fueling valve light fails to illuminate with fueling valve selected open. 2. FIM 28-21-00/101, Fig. 107
28 21 02 --	1. (01=R MAIN, 02=CENTER AUX, 03=L MAIN, 10=ALL) Load select indicator display remained blank with indicator test switch pressed. 2. (01=R MAIN, 02=CENTER AUX, 03=L MAIN) Replace the load select indicator (AMM 28-41-06/401). (10=ALL) Replace the IND TEST switch, S457, on the fueling station control panel (WDM 28-21-11).
28 21 03 --	1. (01=R MAIN, 02=AUX, 03=L MAIN) Load select indicator fails to display 8's when indicator test switch is pressed. 2. FIM 28-21-00/101, Fig. 108, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 21 04 00	1. Fueling control panel light fails to illuminate with ground power on airplane. 2. FIM 28-21-00/101, Fig. 109, Block 1
28 21 05 --	1. (04=R OUTBD MAIN, 05=R INBD MAIN, 06=R AUX, 07=L AUX, 08=L INBD MAIN, 09=L OUTBD MAIN) Fueling valve light fails to illuminate with fueling valve selected open and battery power selected. 2. FIM 28-21-00/101, Fig. 107, Block 1
28 21 06 --	1. (01=R MAIN, 02=CENTER AUX, 03=L MAIN) Load select indicator displays remain blank with battery power selected and indicator test switch pressed. 2. FIM 28-21-00/101, Fig. 110, Block 1
28 21 07 --	1. (01=R MAIN, 02=AUX, 03=L MAIN) Load select indicator fails to display 8's with battery power selected and indicator test switch pressed. 2. FIM 28-21-00/101, Fig. 108, Block 1
28 21 08 --	1. (01=RIGHT MAIN, 02=CENTER AUX, 03=LEFT MAIN) tank pressure fueling does not stop at preselected quantity. No fuel spill occurs at surge tank. 2. FIM 28-21-00/101, Fig. 104, Block 1
28 21 09 --	1. (01=RIGHT MAIN, 02=CENTER AUX, 03=LEFT MAIN) tank pressure fueling does not stop at preselected quantity. Fuel spill occurs at surge tank. 2. FIM 28-21-00/101, Fig. 103, Block 1
28 21 10 --	1. (04=R OUTBD, 05=R INBD, 06=R CTR, 07=L CTR, 08=L INBD, 09=L OUTBD) fueling valve fails to close with switch in OFF. 2. (04=R OUTBD, 05=R INBD, 08=L INBD, 09=L OUTBD) FIM 28-21-00/101, Fig. 113, Block 1 (06=R CTR, 07=L CTR) FIM 28-21-00/101, Fig. 109, Block 1
28 21 11 --	1. (04=R OUTBD MAIN, 05=R INBD MAIN, 06=R AUX, 07=L AUX, 08=L INBD MAIN, 09=L OUTBD MAIN) fueling valve indicated open but fueling did not start. 2. FIM 28-21-00/101, Fig. 114, Block 1
28 21 12 --	1. (04=R OUTBD MAIN, 05=R INBD MAIN, 06=R AUX, 07=L AUX, 08=L INBD MAIN, 09=L OUTBD MAIN) Fueling valve light fails to extinguish after pressing press-to-test. 2. FIM 28-21-00/101, Fig. 116, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 21 13 --	1. (04=R OUTBD MAIN, 05=R INBD MAIN, 06=R AUX, 07=L AUX, 08=L INBD MAIN, 09=L OUTBD MAIN) An unwanted fuel transfer is noted while the airplane is on the ground. 2. FIM 28-21-00/101, Fig. 118
28 22 01 --	1. (01=L, 02=R) SPAR VALVE lgt remained illum with Fuel Control sw selected (CUTOFF, RUN). EICAS msg (L, R) SPAR VALVE displayed (Ref Chapter 71 for fault code diagram). 2. FIM 28-22-00/101, Fig. 104, Block 1
28 22 02 --	1. (07=L CTR, 11=R CTR) BOOST PUMP Low PRESS lgt illum and EICAS msg CTR (L, R) FUEL PUMP displayed. 2. FIM 28-22-00/101, Fig. 105, Block 1
28 22 03 --	1. (05=L FWD, 06=L AFT, 09=R FWD, 10=R AFT) BOOST PUMP Low PRESS lgt illum with switch on. EICAS msg (L, R) (FWD, AFT) FUEL PUMP displayed. 2. FIM 28-22-00/101, Fig. 106, Block 1
28 22 04 --	1. (05=L FWD, 06=L AFT, 07=L CTR, 09=R FWD, 10=R AFT, 11=R CTR) fuel boost pump sw (light(s) inop, binds, bar inop, etc). 2. Replace the switch/light for the applicable fuel boost pump: 05=L FWD (YCLS2), 06=L AFT (YCLS4), 07=L CTR (YCLS6), 09=R FWD (YCLS5), 10=R AFT (YCLS1), 11=R CTR (YCLS3)
28 22 05 00	Not Used
28 22 06 --	1. (03=Fwd, 04=Aft, 05=Single) FUEL CROSSFEED VALVE lgt failed to illum when (open/close) selected. EICAS msg (FUEL CROSSFEED, FWD FUEL CROSSFEED, AFT FUEL CROSSFEED) displayed. 2. FIM 28-22-00/101, Fig. 107, Block 1 or FIM 28-22-00/101, Fig. 107A, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 22 07 --	1. (03=Fwd, 04=Aft, 05=Single) FUEL CROSSFEED VALVE lgt remained illum when (open/close) selected. EICAS msg (FUEL CROSSFEED, FWD FUEL CROSSFEED, AFT FUEL CROSSFEED) displayed. 2. FIM 28-22-00/101, Fig. 108, Block 1 or FIM 28-22-00/101, Fig. 108A, Block 1
28 22 08 --	1. EICAS msg (01=L, 02=R, 08=L & R) FUEL SYS PRESS displayed. 2. FIM 28-22-00/101, Fig. 109, Block 1
28 22 09 --	1. (01=L, 02=R) SPAR VALVE lgt failed to illum with Fuel Control sw selected (CUTOFF, RUN). EICAS msg (L,R) SPAR VALVE displayed. 2. Replace the R (L) spar valve light, YAZL3 (YAZL1) on the fuel control panel, P10 (AMM 33-16-02/401). If the problem continues, replace the annunciator diode/fuse card (AMM 33-16-02/401).
28 22 10 --	1. (07=L CTR, 11=R CTR) BOOST PUMP low PRESS light illum and EICAS msg CTR (L, R) FUEL PUMP displayed with sw OFF. 2. Replace the fuel management module, M10055, on the P5 panel (S6 - L CTR, S3 - R CTR Faulty) (WDM 28-22-12).
28 22 11 --	1. (05=L FWD, 06=L AFT, 09=R FWD, 10=R AFT) BOOST PUMP low PRESS lgt failed to illum and EICAS msg failed to display with sw OFF. 2. (05=L FWD) FIM 28-22-00/101, Fig. 110, Block 1 (06=L AFT, 09=R FWD, 10=R AFT) FIM 28-22-00/101, Fig. 111, Block 1
28 25 01 00	1. EICAS APU ISLN VAL message displayed with APU slctr switch in START or ON. 2. FIM 28-25-00/101, Fig. 104, Block 1
28 25 02 00	1. EICAS APU ISLN VAL message displayed with APU slctr switch in OFF. 2. FIM 28-25-00/101, Fig. 104, Block 1
28 25 03 00	1. APU FAULT light illum and EICAS APU FUEL VAL message displayed. 2. FIM 28-25-00/101, Fig. 105, Block 1
28 25 04 00	1. EICAS Message DC FUEL PUMP ON displayed (Ref Chapter 31 for fault code diagram). 2. FIM 28-25-00/101, Fig. 106, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 25 05 00	1. EICAS message APU ISLN VAL displayed (Ref Chapter 31 for fault code diagram). 2. FIM 28-25-00/101, Fig. 104, Block 1
28 25 06 00	1. EICAS message L FWD FUEL PUMP displayed and L FWD BOOST PUMP low PRESS light illuminated with AC power and APU switch on. 2. FIM 28-25-00/101, Fig. 106A
28 25 07 00	Not Used
28 25 08 00	1. There is fuel leakage found at the APU Drain Mast. 2. FIM 28-25-00/101, Fig. 108
28 26 01 --	1. (01=R MAIN, 02=CTR AUX, 03=L MAIN) defueling valve light illum with defuel valve sw in CLOSE. 2. FIM 28-26-00/101, Fig. 104, Block 1
28 26 02 --	1. (01=R MAIN, 02=CTR AUX, 03=L MAIN) defueling valve light extin with defuel valve sw in OPEN. 2. FIM 28-26-00/101, Fig. 104, Block 1.
28 26 03 --	1. (01=L, 02=R) main tank transferred fuel, _____ (lbs/kgs) into C tank. 2. FIM 28-26-00/101, Fig. 104A, Block 1
28 31 01 00	1. EICAS msg FUEL JET NOZ displayed on ground. 2. FIM 28-31-00/101, Fig. 103, Block 1
28 31 02 00	1. Fuel jettison not normal. Control master (fuel jettison) switch on. No EICAS msg displayed. 2. Replace the fuel jettison control module, M1733 (WDM 28-31-11, WDM 28-31-12, WDM 28-31-21).
28 31 03 00	1. Fuel jettison not normal. Control master (fuel jettison) switch on. EICAS msg FUEL JET NOZ displayed. 2. FIM 28-31-00/101, Fig. 104, Block 1
28 31 04 --	1. Fuel jettison not normal. Control master (fuel jettison) switch on. EICAS msg (01=L, 02=R) JET XFR VALVE displayed. 2. FIM 28-31-00/101, Fig. 105, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 31 05 --	1. Fuel jettison not normal. Control master (fuel jettison) switch ON. EICAS msg (01=L, 02=R) FUEL JET PUMP displayed. 2. FIM 28-31-00/101, Fig. 106, Block 1
28 41 01 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL) FUEL QTY ind displays (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST. 2. FIM 28-41-00/101, Fig. 103 or FIM 28-41-00/101, Fig. 109 (Honeywell FQIS) FIM 28-41-00/101, Fig. 114, Block 1 (Simmonds)
28 41 02 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL, 05=L OR R OR C & TOTAL, 06=ALL) FUEL QTY ind displays (describe condition: intermittent, fluctuates, inaccurate, blank, missing segments). FUEL QTY TEST normal. 2. FIM 28-41-00/101, Fig. 103 or FIM 28-41-00/101, Fig. 109 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104 or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 03 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL, 05=L OR R OR C & TOTAL, 06=ALL) FUEL QTY ind displays (describe condition: intermittent, fluctuates, inaccurate, blank, missing segments). FUEL QTY TEST abnormal. 2. FIM 28-41-00/101, Fig. 103 or FIM 28-41-00/101, Fig. 109 (Honeywell FQIS) FIM 28-41-00/101, Fig. 114, Block 1 (Simmonds FQIS)
28 41 04 00	Not Used
28 41 05 00	1. EICAS msg FUEL QTY BITE displayed (Ref Chapter 31 for fault code diagram). 2. For MAINTENANCE MSG FIM 28-41-00/101, Table 101 (Honeywell FQIS): FIM 28-41-00/101 Fig. 104, Block 1 or (Simmonds FQIS) FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS) For STATUS MSG FIM 28-41-00/101, Fig. 108 (Honeywell FQIS): FIM 28-41-00/101, Fig. 118, Block 1 (Simmonds FQIS).
28 41 06 00	1. FUEL QTY & TEMP display (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST. 2. FIM 28-43-00/101, Fig. 103, Block 1

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 41 07 00	1. FUEL CONFIG Lgt & EICAS msg LOW FUEL not displayed during FUEL QTY TEST. 2. FIM 28-41-00/101, Fig. 104 (Honeywell FQIS) FIM 28-41-00/101, Fig. 115, Block 1 (Simmonds FQIS)
28 41 08 00	1. FUEL QTY & TEMP system did not test. Operation normal with test sw in normal. 2. Replace the miscellaneous test panel, M10398 (S6 Faulty) (WDM 28-43-11).
28 41 09 00	Not Used
28 41 10 00	Not Used
28 41 11 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL) FUEL QTY displays (describe condition: fluctuates, inaccurate, blank, missing segments). FUEL TEMP ind abnormal. FUEL QTY TEST normal. 2. Replace the fuel quantity indicator, M10054 (AMM 28-41-04/401).
28 41 12 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL) FUEL QTY displays (describe condition: fluctuates inaccurate, blank, missing segments). FUEL TEMP ind abnormal. FUEL QTY TEST abnormal. 2. Replace the fuel quantity indicator, M10054 (AMM 28-41-04/401).
28 41 13 --	1. (01=L MAIN, 02=R MAIN, 03=C, 04=TOTAL) FUEL QTY display reads zero. FUEL QTY TEST normal. 2. Replace the tank wiring harness for the applicable fuel tank (AMM 28-41-09/401).
28 41 14 00	1. FUEL CONFIG lgt remained extin. EICAS msg FUEL CONFIG not displayed with more than 1200 lbs (500 kgs) and center pumps off. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 15 00	Not Used

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 41 16 --	1. FUEL CONFIG lgt remained extin. EICAS msg FUEL CONFIG not displayed with main tanks unbalance of _____ (lbs, kgs) (01=L, 02=R) main tank was low. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 17 00	Not Used
28 41 18 00	1. FUEL CONFIG lgt illum. EICAS msg FUEL CONFIG displayed with center qty less than 1000 lbs (400 kgs) and main tanks balanced. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 19 00	Not Used
28 41 20 --	1. Total fuel differs from (12=Capt, 13=F/O, 14=Capt & F/O) FMC(s) calculated fuel qty. Airplanes with less than or equal to (119,000 lbs, 54,000 kgs) differences exceeded (2000 lbs, 900 kgs) for over 6 minutes and peaked above (3000 lbs, 1400 kgs). Airplanes with more than (119,000 lbs, 54,000 kgs) differences exceeded (3000 lbs, 1400 kgs) for over 6 minutes and peaked above (4500 lbs, 2100 kgs). EICAS msg FMC MESSAGE or FUEL QTY BITE did not display. Fuel flow was norm. Total fuel ____. 2. FIM 28-41-00/101, Fig. 107 (Honeywell FQIS) FIM 28-41-00/101, Fig. 117, Block 1 (Simmonds FQIS)
28 41 21 00	Not Used
28 41 22 00	Not Used
28 41 23 --	1. Total fuel differs from (12=Capt, 13=F/O, 14=Capt & F/O) FMC(s) calculated fuel qty. Total fuel _____, FMC calculated fuel _____. EICAS msg FUEL QTY BITE displayed. Fuel flow was norm. 2. FIM 28-41-00/101, Fig. 107 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 41 24 00	1. EICAS message FUEL QTY CHANNEL displayed. FUEL QTY test not checked. 2. FIM 28-41-00/101, Fig. 106 (Honeywell FQIS) FIM 28-41-00/101, Fig. 116, Block 1 (Simmonds FQIS)
28 41 25 --	1. (01=L, 02=R, 03=C) fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY IND displayed. FUEL QTY test not checked. 2. FIM 28-41-00/101, Fig. 105 (Honeywell FQIS) FIM 28-41-00/101, Fig. 116, Block 1 (Simmonds FQIS)
28 41 26 00	1. EICAS msg FUEL QTY BITE displayed (steady, intermittent). 2. FIM 28-41-00/101, Fig. 108 (Honeywell FQIS) FIM 28-41-00/101, Fig. 118 (Simmonds FQIS)
28 41 27 00	1. FUEL CONFIG lgt illum (steady, intermittent) with EICAS msg FUEL CONFIG displayed. C fuel qty indication was (inaccurate, intermittent). Describe. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 28 --	1. FUEL CONFIG lgt remained extin. EICAS msg LOW FUEL did not display with _____ (lbs, kgs) (less than 2200 lbs, 1000 kgs) in (01=L, 02=R) main tank. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 29 00	1. FUEL CONFIG lgt illum. EICAS msg LOW FUEL displayed with more than 2200 lbs (1000 kgs) in each main tank. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 30 --	1. Total fuel differs from (12=Capt, 13=F/O, 14=Capt & F/O) FMC(s) calculated fuel qty. Fuel qty ERROR-PROG 2/2 alert msg displayed on CDU and EICAS msgs FMC MESSAGE and FUEL QTY BITE displayed. Total fuel _____, FMC calculated fuel _____. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 41 31 00	1. FUEL CONFIG lgt illum. EICAS msg FUEL CONFIG displayed with C pumps on and mains balanced. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 32 --	1. (01=L, 02=R, 03=C) fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY IND not displayed. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 33 --	1. (01=L, 02=R, 03=C) fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY CHANNEL displayed. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 34 00	1. All fuel tank qty indicators (blank, intermittent). No EICAS msgs displayed. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 35 00	1. All fuel tank qty indicators (blank, intermittent). EICAS msg FUEL QTY CHANNEL displayed. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 36 00	1. All fuel tank qty indicators (blank, intermittent). EICAS msgs FUEL QTY BITE and FUEL QTY CHANNEL displayed. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)
28 41 37 00	1. EICAS msg FUEL QTY CHANNEL displayed. Display returned within 60 sec of FUEL QTY test. 2. FIM 28-41-00/101, Table 101 (Honeywell FQIS) FIM 28-41-00/101, Fig. 104, Block 1 (Simmonds FQIS) or FIM 28-41-00/101, Fig. 105, Block 1 (Simmonds FQIS)

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
28 41 38 --	1. (01=L, 02=R, 03=C) fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY IND displayed. Display returned within 60 sec of FUEL QTY test. 2. FIM 28-41-00/101, Fig. 103 (Honeywell FQIS) or FIM 28-41-00/101, Fig. 108 (Honeywell FQIS) FIM 28-41-00/101, Fig. 114, Block 1 (Simmonds FQIS)
28 41 39 --	1. (01=L, 02=R) (eng, side of airplane) has evidence of fuel leak. Fuel leak evidence checked (visually, by abnormal aileron trim, fuel management, airplane performance, etc). Total fuel differs from FMC qty with normal fuel flow. 2. FIM 28-41-00/101, Fig. 106 (Honeywell FQIS) FIM 28-41-00/101, Fig. 117, Block 1 (Simmonds FQIS)
28 43 01 00	1. FUEL TEMP ind displays (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST. 2. FIM 28-43-00/101, Fig. 103, Block 1
28 43 02 00	1. FUEL TEMP displays (describe condition: intermittent, inaccurate, blank, missing segments). FUEL QTY TEST normal. 2. FIM 28-43-00/101, Fig. 103, Block 1
28 43 03 00	1. FUEL TEMP displays (describe condition: intermittent, inaccurate, blank, missing segments). FUEL QTY TEST abnormal. 2. FIM 28-43-00/101, Fig. 103, Block 1

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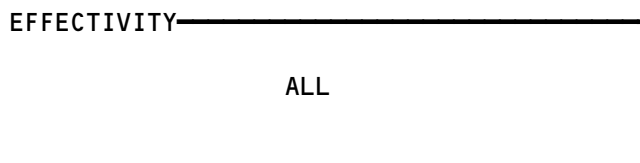
BITE Index

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.

<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
ACARS Management Unit		23-22
Air Data Computer	ADC	34-12
Air Data Inertial Reference Unit	ADIRU	34-26
Air Supply Control and Test Unit	ASCTU	36-20
Air Traffic Control Transponder	ATC	34-53
Airborne Vibration Monitor Signal Conditioner	AVM	77-31
Antiskid/Autobrake Control Unit	AACU	32-42
APU Fire Detection System		26-15
Automatic Direction Finder Receiver	ADF	34-57
APU Control Unit (or Electronic Control Unit)	ECU	49-11
Autopilot/Flight Director	AFDS	22-00
Auxiliary Zone Temperature Controller	AZTC	2160/21-61
Brake Temperature Monitor Unit	BTMU	32-46
Bus Power Control Unit	BPCU	24-20
Cabin Pressure Controller	CPC	21-30/21-31
Cabin Temperature Controller	CTC	21-61
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 Control Unit	ECU	49-11
Electronic Engine Control Monitor Unit (Non-FADEC Engines)	EECM	71-EECM Message Index
Electronic Flight Instrument System	EFIS	34-22

Bite Index
Figure 1 (Sheet 1)

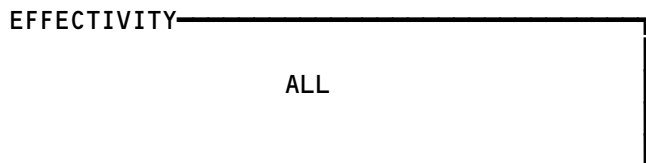


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<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
Engine Fire/Overheat Detection System		26-11
Engine Indication and Crew Alerting System Computer	EICAS	31-41
Enhanced Ground Proximity Warning Computer	EGPWC	34-46
Equipment Cooling System Controller		21-58
Equipment Cooling Temperature Controller		21-58
Flap/Slat Electronic Unit	FSEU	27-51
Flap/Stabilizer Position Module	FSPM	27-58
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
In-Flight Entertainment Equipment Cooling Card		21-58
Inertial Reference Unit	IRU	34-21
Instrument Comparator Unit	ICU	34-25
Instrument Landing System Receiver	ILS	34-31
Large Format Display System	LFDS	31-63
Lower Cargo Compartment Smoke Detection System		26-16
Maintenance Control Display Panel	MCDP	22-00
Multi-Mode Receiver	MMR	34-31
PA (Passenger Address) Amplifier		23-31
Pack Standby Temperature Controller	PSTC	21-51
Pack Temperature Controller	PTC	21-51
Passenger Entertainment System	PES	23-34
Power Supply Module (Control System Electronics Units)	PSM	27-09
Propulsion Interface and Monitor Unit (FADEC Engines)	PIMU	71-PIMU Message Index
Proximity Switch Electronics Unit	PSEU	32-09

Bite Index
Figure 1 (Sheet 2)



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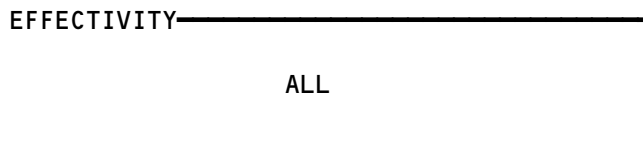


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<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
Radio Altimeter Transmitter/Receiver	RA	34-33
Rudder Ratio Changer Module	RRCM	27-09
Satellite Data Unit	SDU	23-25
Spoiler Control Module	SCM	27-09
Stabilizer Trim/Elevator Asymmetry Limit Module	SAM	27-09
Stall Warning Computer/Module (in Warning Electronic Unit)	SWC	27-32
Strut Overheat Detection System (RR Engines)		26-12
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	ZTC	21-60/21-61

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Figure 1 (Sheet 3)



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FUEL TANKS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BAFFLE- LEFT RIB NO. 5	2	11	532BB, LEFT MAIN TANK, UPPER WING SURFACE	28-11-00
BAFFLE- RIGHT RIB NO. 5	2	11	632BB, RIGHT MAIN TANK, UPPER WING SURFACE	28-11-00
DOOR - BAFFLE, LEFT FUEL TANK, 532AZ	2	1	532BB, LEFT MAIN TANK, RIB NO. 5	28-11-07
DOOR - BAFFLE, RIGHT FUEL TANK, 632AZ	2	1	632BB, RIGHT MAIN TANK, RIB NO. 5	28-11-07
DOOR - CENTER AUXILIARY TANK ACCESS	1	1	136KZ, AUXILIARY TANK CENTER COMPT	28-11-02
DOOR - LEFT AUXILIARY TANK ACCESS	1	1	531BB, AUXILIARY TANK LEFT COMPT	28-11-02
DOOR - LEFT DRY BAY ACCESS	1	1	533AB, LEFT DRY BAY	28-11-01
DOOR - LEFT MAIN TANK ACCESS	1	25	532BB,532DB,532EB,532FB,541AB,541BB,541CB,541DB,541EB,541FB,541GB,541HB,541JB,541KB,541LB,541MB,541NB,541PB,541QB,541SB,541TB,541UB,541VB,541WB,541XB	28-11-01
DOOR - LEFT SURGE TANK ACCESS	1	3	542AB,542BB,542CB	28-11-03
DOOR - RIGHT AUXILIARY TANK ACCESS	1	1	631BB, AUXILIARY TANK RIGHT COMPT	28-11-02
DOOR - RIGHT DRY BAY ACCESS	1	1	633AB, RIGHT DRY BAY	28-11-01
DOOR - RIGHT MAIN TANK ACCESS	1	25	632BB,632DB,632EB,632FB,641AB,641BB,641CB,641DB,641EB,641FB,641GB,641HB,641JB,641KB,641LB,641MB,641NB,641PB,641QB,641SB,641TB,641UB,641VB,641WB,641XB	28-11-01
DOOR - RIGHT SURGE TANK ACCESS	1	3	642AB,642BB,642CB	
POPPET - CENTER AUXILIARY TANK SUMP DRAIN VALVE PRIMARY	2	2	1932SLX,194QRX, WING ROOT LOWER SKIN	28-11-05
POPPET - LEFT AUXILIARY TANK SUMP DRAIN VALVE PRIMARY	3	1	193PL, LEFT AFT UNDERWING FAIRING	28-11-05
POPPET - LEFT MAIN TANK SUMP DRAIN VALVE PRIMARY	3	1	LEFT MAIN TANK LOWER SURFACE	28-11-05
POPPET - LEFT SURGE TANK SUMP DRAIN VALVE PRIMARY	3	1	LEFT MAIN TANK LOWER SURFACE	28-11-05
POPPET - RIGHT AUXILIARY TANK SUMP DRAIN VALVE PRIMARY	3	1	194MR, RIGHT AFT UNDERWING FAIRING	28-11-05
POPPET - RIGHT MAIN TANK SUMP DRAIN VALVE PRIMARY	3	1	RIGHT MAIN TANK LOWER SURFACE	28-11-05
POPPET - RIGHT SURGE TANK SUMP DRAIN VALVE PRIMARY	3	1	RIGHT SURGE TANK LOWER SURFACE	28-11-05
PORT - LEFT OVERWING FILL	1	1	LEFT WING UPPER SURFACE	28-11-04
PORT - RIGHT OVERWING FILL	1	1	RIGHT WING UPPER SURFACE	28-11-04
VALVE - CHECK, LEFT BAFFLE RIB	3	20	532BB, LEFT MAIN TANK, LOWER RIB NO. 5	28-11-00
VALVE - CHECK, LEFT BAFFLE RIB	3	13	541JB, LEFT MAIN TANK, RIB NO. 18	28-11-00
VALVE - CHECK, RIGHT BAFFLE RIB	3	20	632BB, RIGHT MAIN TANK, LOWER RIB NO. 5	28-11-00
VALVE - CHECK, RIGHT BAFFLE RIB	3	13	641JB, RIGHT MAIN TANK, RIB NO. 18	28-11-00
VALVE - SUMP DRAIN	3	2	1932SLX,194QRX, WING ROOT LOWER	28-11-05
VALVE - SUMP DRAIN	3	1	531BB, LEFT AUXILIARY TANK	28-11-05
VALVE - SUMP DRAIN	3	1	532BB, LEFT MAIN TANK	28-11-05
VALVE - SUMP DRAIN	3	1	542AB, LEFT SURGE TANK	28-11-05
VALVE - SUMP DRAIN	3	1	631BB, RIGHT AUXILIARY TANK	28-11-05
VALVE - SUMP DRAIN	3	1	632BB, RIGHT MAIN TANK	28-11-05
VALVE - SUMP DRAIN	3	1	642AB, RIGHT SURGE TANK	28-11-05

Fuel Tanks - Component Index
Figure 101

EFFECTIVITY

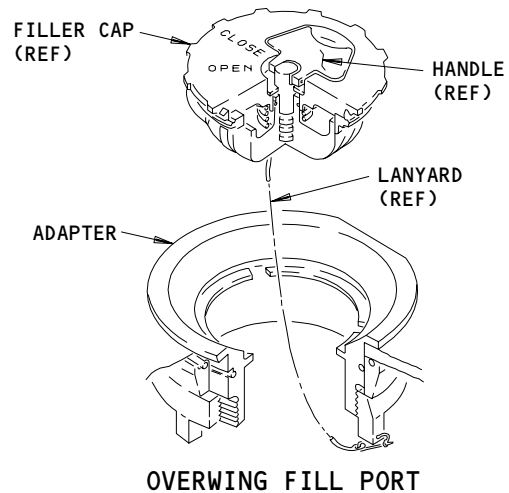
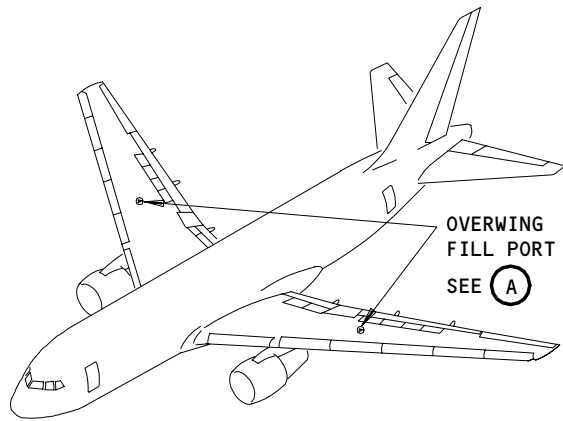
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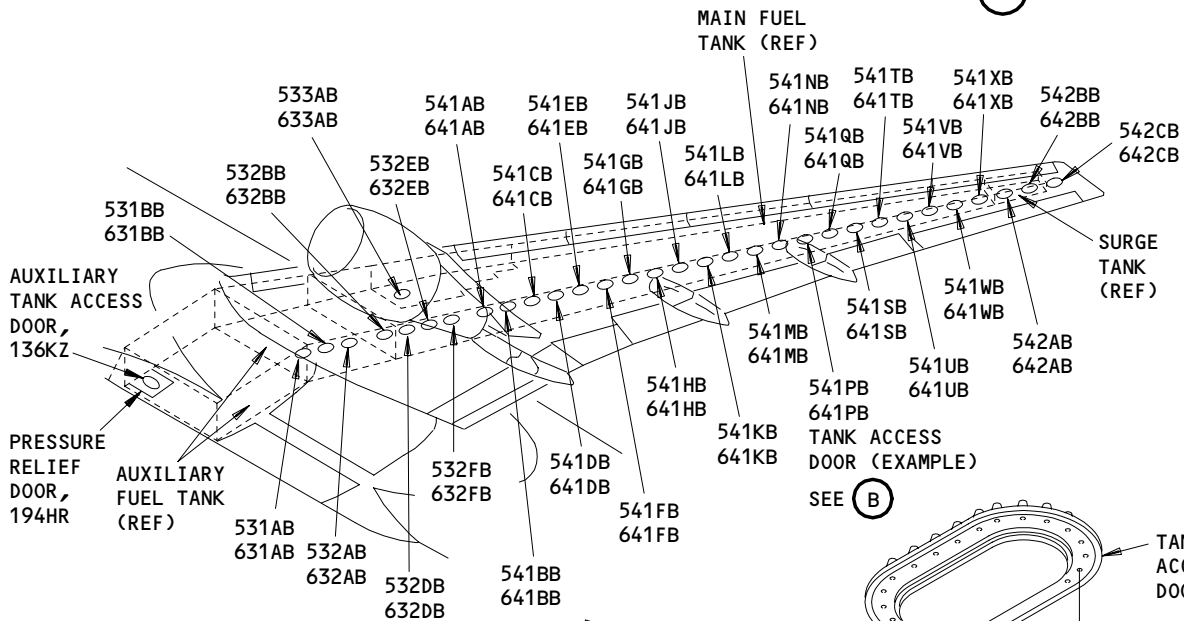
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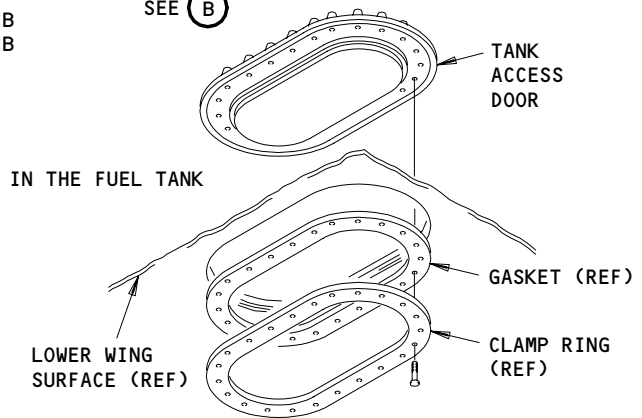
FAULT ISOLATION/MAINT MANUAL



(A)



1



TANK ACCESS DOOR (EXAMPLE)

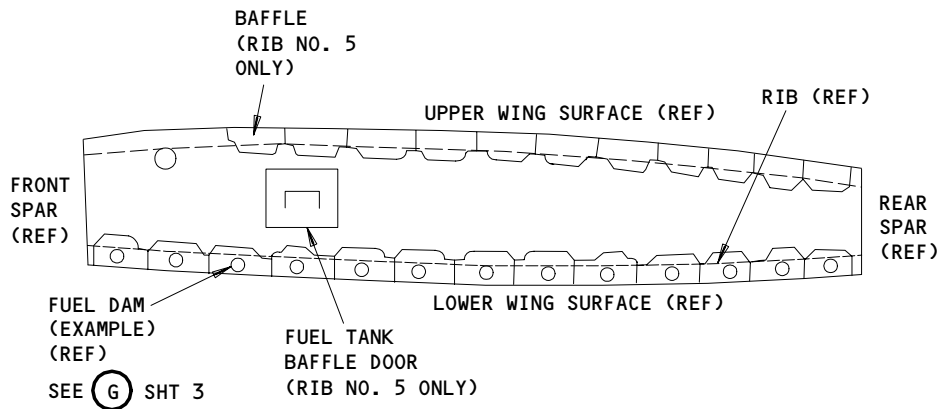
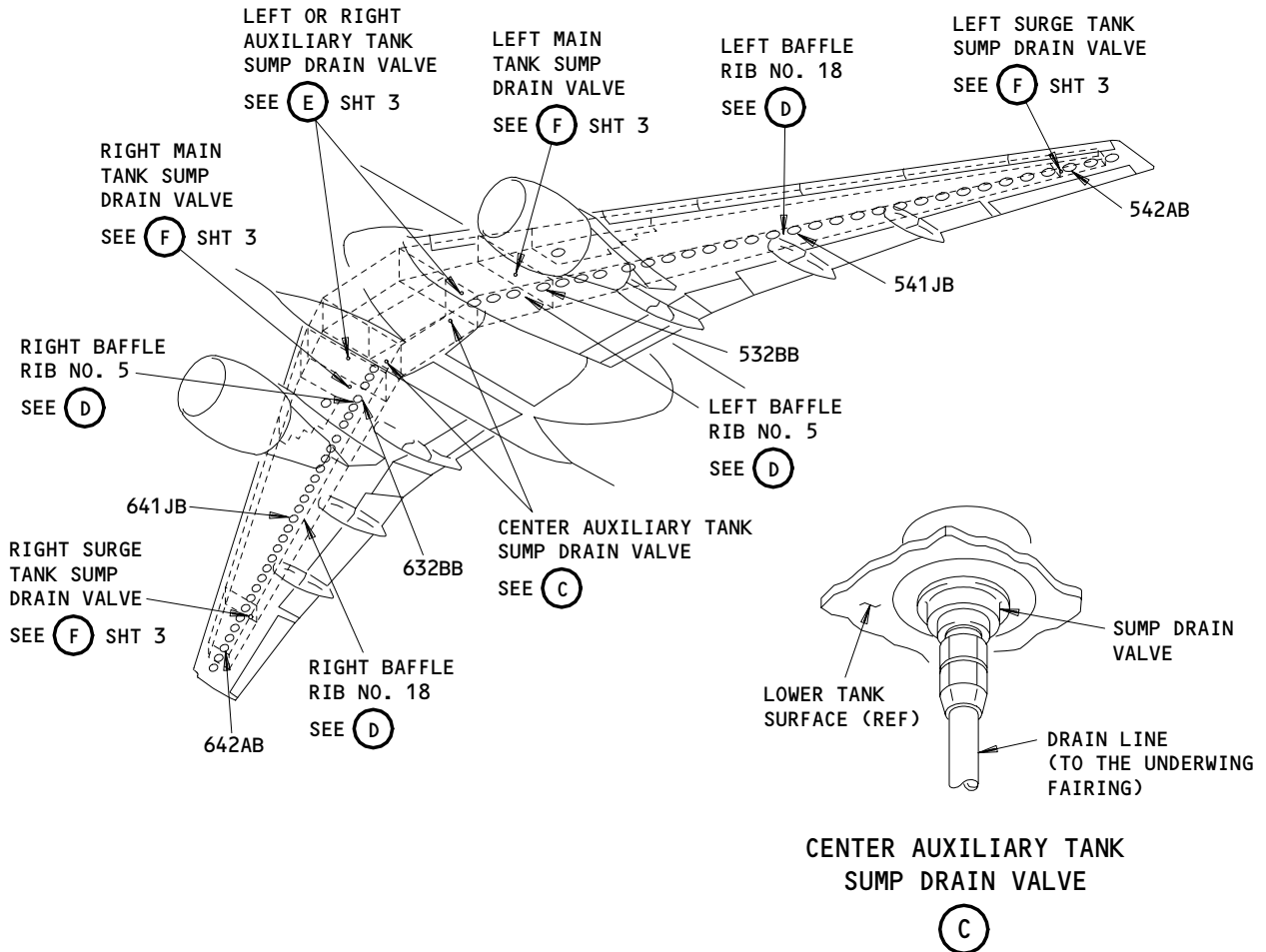
(B)

1 500 SERIES ACCESS DOORS ON THE LEFT WING,
600 SERIES ACCESS DOORS ON THE RIGHT WING.

Fuel Tanks - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY	ALL
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28-11-00



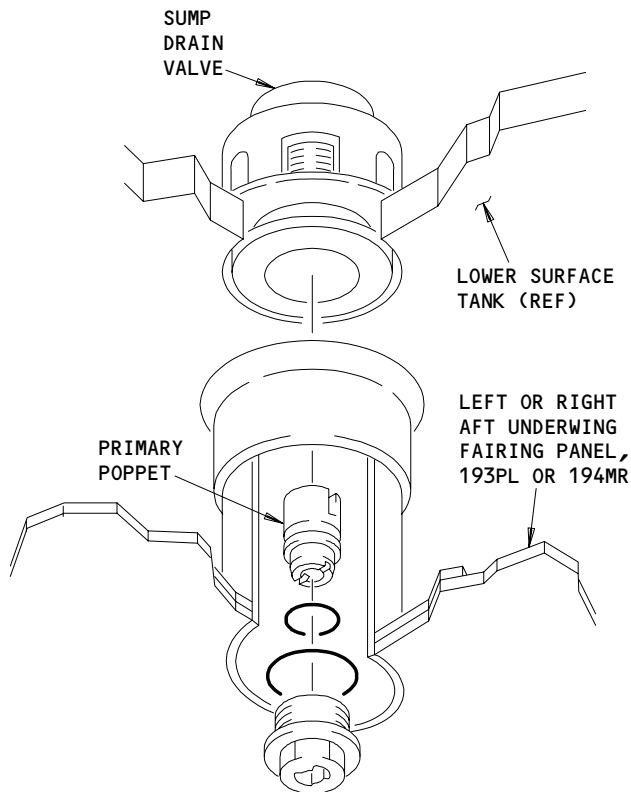
LEFT OR RIGHT BAFFLE RIB NO. 5 OR NO. 18

(D)

Fuel Tanks - Component Location
Figure 102 (Sheet 2)

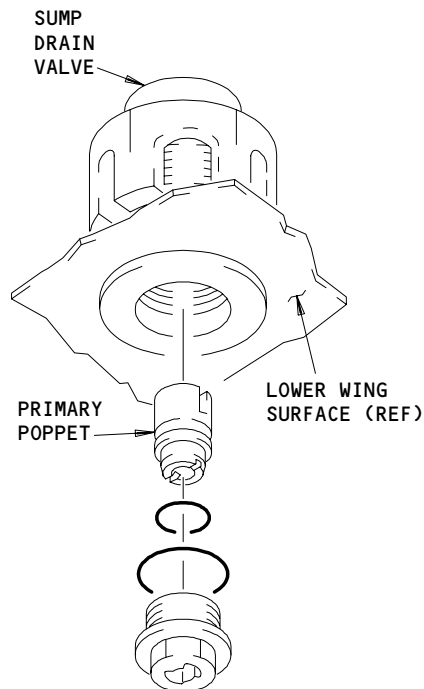
EFFECTIVITY	
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28-11-00



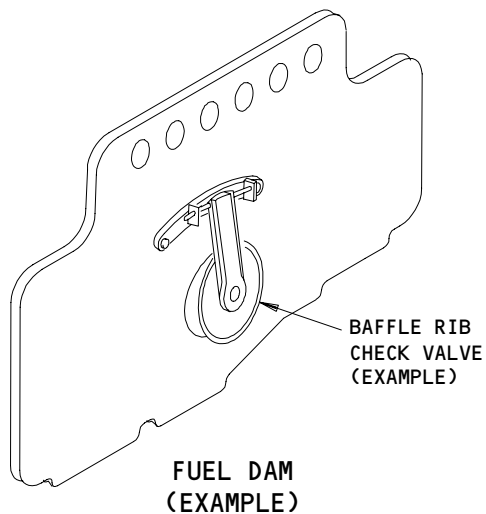
LEFT OR RIGHT AUXILIARY
TANK SUMP DRAIN VALVE

E



SUMP DRAIN VALVE OF THE
LEFT OR RIGHT MAIN OR SURGE TANK

F



FUEL DAM
(EXAMPLE)

G

Fuel Tanks - Component Location (Details from Sht 2)
Figure 102 (Sheet 3)

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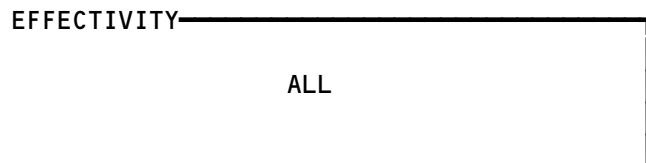
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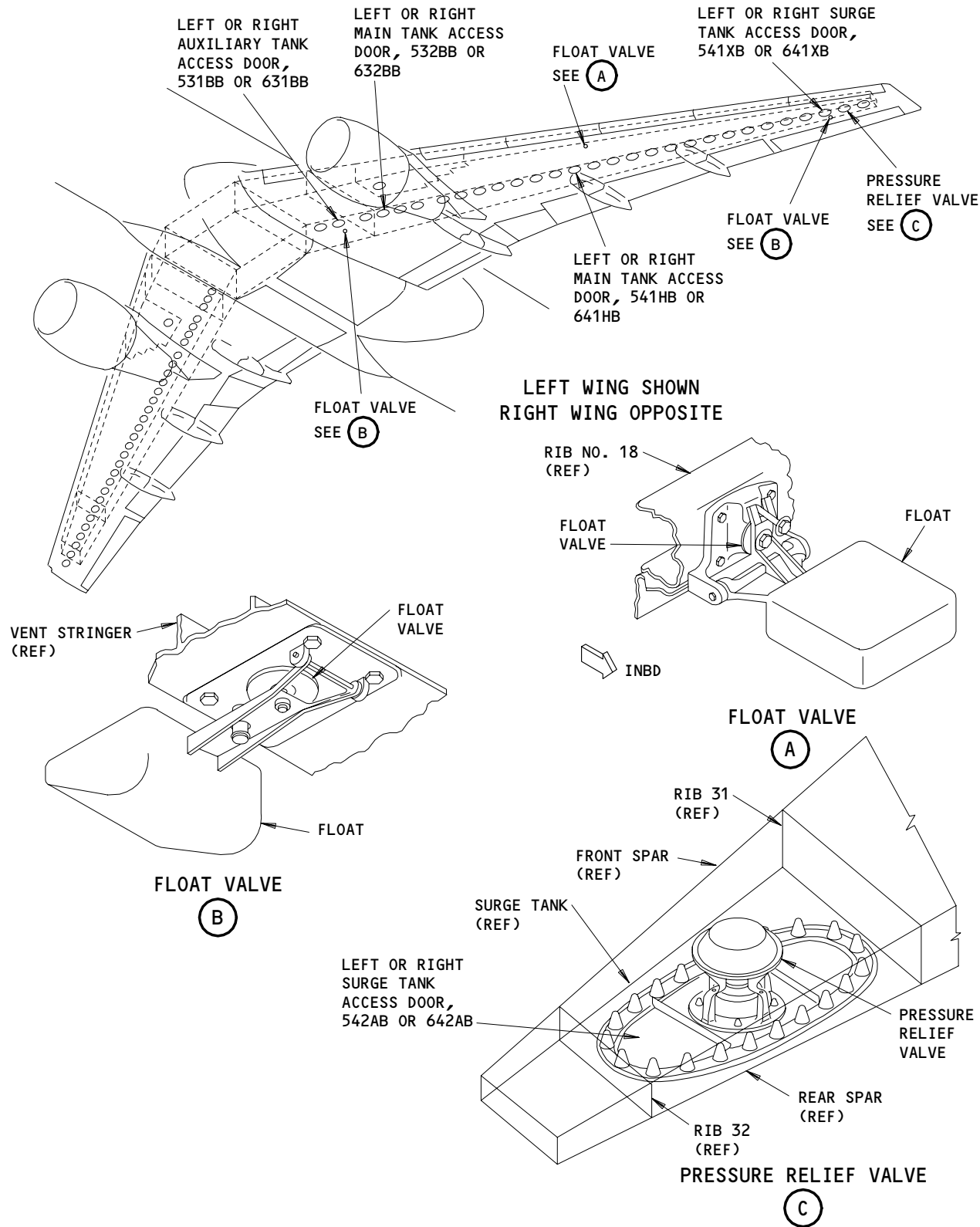
FUEL VENT SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ARRESTOR - LEFT SURGE TANK FLAME	2	1	561PB, LEFT SURGE TANK REAR SPAR	28-13-05
ARRESTOR - RIGHT SURGE TANK FLAME	2	1	661PB, RIGHT SURGE TANK REAR SPAR	28-13-05
VALVE - LEFT FLOAT	1	2	541XB, 531BB, LEFT MAIN FUEL TANK	28-13-01
VALVE - LEFT FLOAT	1	1	541HB, LEFT MAIN FUEL TANK	28-13-01
VALVE - LEFT FLOAT DRAIN	2	3	542AB, 541JB, 532BB, LEFT MAIN FUEL TANK	28-13-03
VALVE - LEFT FLOAT DRAIN	2	1	531BB, LEFT AUX FUEL TANK	28-13-03
VALVE - LEFT SURGE TANK DRAIN CHECK	2	1	531BB, LEFT AUX FUEL TANK	28-13-06
VALVE - LEFT SURGE TANK PRESSURE RELIEF	1	1	542AB, LEFT SURGE TANK	28-13-04
VALVE - RIGHT FLOAT	1	2	641XB, 631BB, RIGHT MAIN FUEL TANK	28-13-01
VALVE - RIGHT FLOAT	1	1	641HB, RIGHT MAIN FUEL TANK	28-13-01
VALVE - RIGHT FLOAT DRAIN	2	3	642AB, 641JB, 632BB, RIGHT MAIN FUEL TANK	28-13-03
VALVE - RIGHT FLOAT DRAIN	2	1	631BB, RIGHT AUX FUEL TANK	28-13-03
VALVE - RIGHT SURGE TANK PRESSURE RELIEF	1	1	642AB, RIGHT SURGE TANK	28-13-06
VALVE - RIGHT SURGE TANK DRAIN CHECK	2	1	631BB, RIGHT AUX FUEL TANK	28-13-04

Fuel Vent System - Component Index
Figure 101



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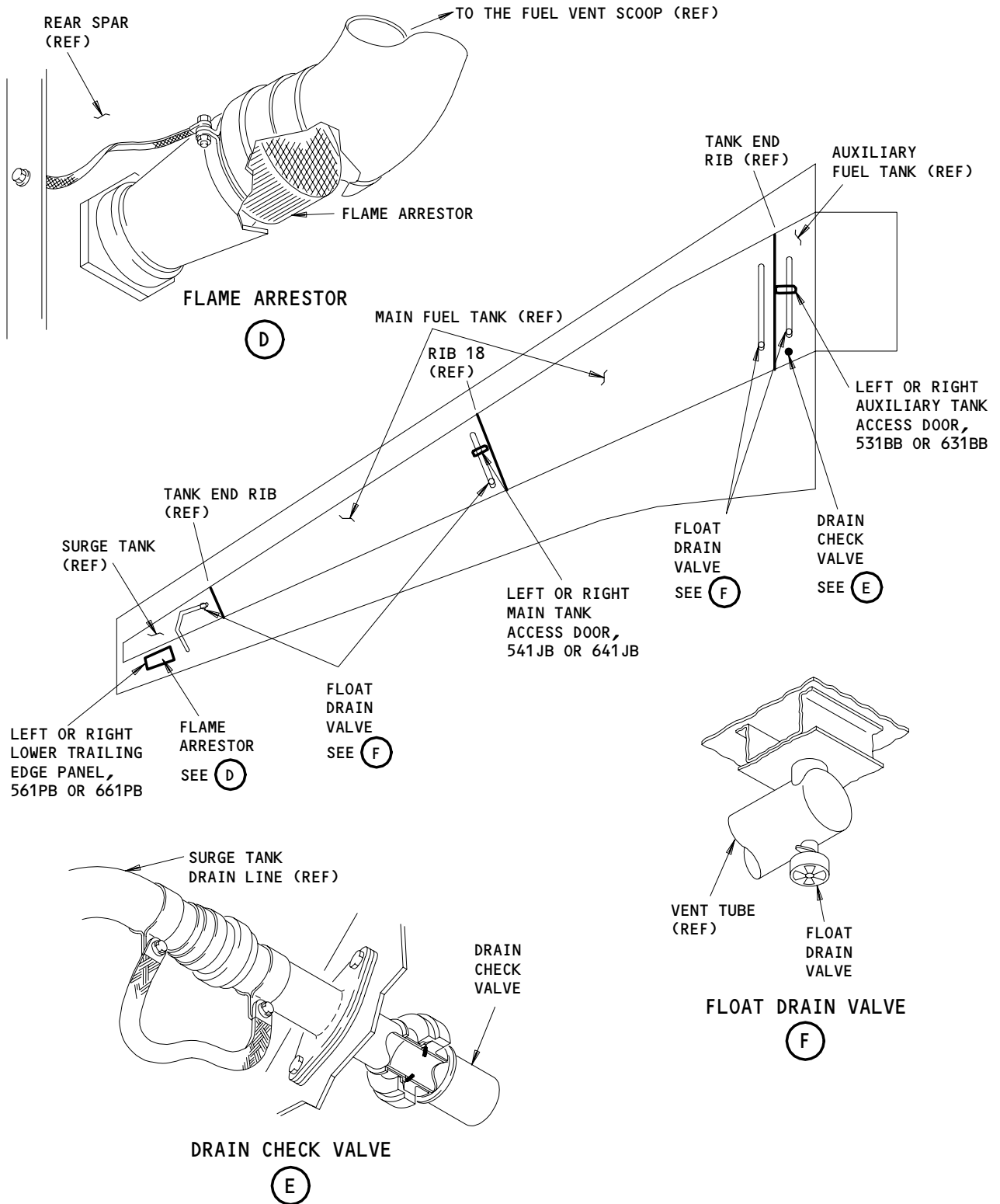


Fuel Vent System - Component Location
Figure 102 (Sheet 1)

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Fuel Vent System - Component Location
Figure 102 (Sheet 2)

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PRESSURE FUELING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ADAPTER - PRESSURE FUELING	1	2	521QB, FUELING STATION, P28, LEFT WING	28-21-01
CARD - SURGE TANK FUEL LEVEL SENSOR CONTROL, M586	5	1	119AL, MAIN EQUIP CTR, P50	28-21-04
CIRCUIT BREAKER - FUEL QTY 1, C1048	5	1	FLT COMPT, P6,P11 11C34	*
FUEL QTY 2, C1053		1	11M19	*
FUELING CONTROL, C1043		1	6E5	*
FUELING VALVES, C1046		1	6E6	*
CIRCUIT BREAKER - FLNG CONT, C1041	5	1	119AL, MAIN EQUIP CTR, P34 34L3	*
FLNG VALVES, C1047		1	34L5	*
FUEL QTY REFUEL, C1040		1	34L2	*
CIRCUIT BREAKER - FUELING PANEL, C94	5	1	119AL, MAIN EQUIP CTR, P36 36D2 OR 36E6	*
CONTROL - LOAD SELECT, M638	1	1	521QB, FUELING STATION, P28, LEFT WING	28-41-07
LIGHT - CENTER AUX LEFT FUELING VALVES, L174	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - CENTER AUX RIGHT FUELING VALVES, L175	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - FUELING PANEL, L62	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - LEFT MAIN INBD FUELING VALVES, L64	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - LEFT MAIN OUTBD FUELING VALVES, L63	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - RIGHT MAIN INBD FUELING VALVES, L65	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LIGHT - RIGHT MAIN OUTBD FUELING VALVES, L66	1	1	521QB, FUELING STATION, P28, LEFT WING	*
LUG - GROUNDING	1	2	521QB, FUELING STATION, P28, LEFT WING	28-21-00
RELAY - (FIM 31-01-36/101) FUEL OVERFILL CONTROL, K181				
FUEL OVERFILL SET, K180				
FUELING POWER CONTROL, K179				
FUELING POWER TRANSFER, K357				
FUELING VALVE CONTROL L AUX, K45				
FUELING VALVE CONTROL L INBD, K184				
FUELING VALVE CONTROL L OUTBD, K183				
FUELING VALVE CONTROL R AUX, K46				
FUELING VALVE CONTROL R INBD, K185				
FUELING VALVE CONTROL R OUTBD, K186				
SENSOR - LEFT SURGE TANK FUEL LEVEL, TS195	2	1	542AB, SURGE TANK, LEFT WING	28-21-03
SENSOR - RIGHT SURGE TANK FUEL LEVEL, TS196	2	1	642AB, SURGE TANK, RIGHT WING	28-21-03

* SEE THE WDM EQUIPMENT LIST

Pressure Fueling System - Component Index
Figure 101 (Sheet 1)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
SWITCH - CENTER AUX FUELING VALVES, S417	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - CENTER AUX TANK LOAD SET, S420	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - BATTERY POWER, S345	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - FUELING POWER CONTROL, S346	1	1	521QB, FUELING STATION, P28, LEFT WING	28-21-09
SWITCH - LEFT MAIN FUELING VALVES, S348	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - LEFT MAIN TANK LOAD SET, S418	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - OVERFILL RESET, S347	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - OVERFILL TEST, S416	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - RIGHT MAIN FUELING VALVES, S349	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - RIGHT MAIN TANK LOAD SET, S419	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - TEST INDICATOR, S457	1	1	521QB, FUELING STATION, P28, LEFT WING	*
SWITCH - TEST SYSTEM, S421	1	1	521QB, FUELING STATION, P28, LEFT WING	*
UNIT - L AUX FUELING SHUTOFF VALVE CONTROL, V121	2	1	LEFT WHEEL WELL, REAR SPAR	28-21-12
UNIT - L INBD FUELING SHUTOFF VALVE CONTROL, V21	2	1	551TB, REAR SPAR, LEFT WING	28-21-12
UNIT - L OUTBD FUELING SHUTOFF VALVE CONTROL, V20	2	1	561GB, REAR SPAR, LEFT WING	28-21-12
UNIT - R AUX FUELING SHUTOFF VALVE CONTROL, V122	2	1	RIGHT WHEEL WELL, REAR SPAR	28-21-12
UNIT - R INBD FUELING SHUTOFF VALVE CONTROL, V22	2	1	651TB, REAR SPAR, RIGHT WING	28-21-12
UNIT - R OUTBD FUELING SHUTOFF VALVE CONTROL, V23	2	1	661GB, REAR SPAR, RIGHT WING	28-21-12
VALVE - FUELING MANIFOLD DRAIN CHECK	3	2	531BB,631BB, LEFT WING, RIGHT WING	28-21-05
VALVE - FUELING MANIFOLD VACUUM	3	1	541HB, LEFT WING	28-21-05
VALVE - L AUX FUELING SHUTOFF, V121	2	1	531BB, LEFT WING	28-21-02
VALVE - L INBD FUELING SHUTOFF, V21	2	1	532BB, LEFT WING	28-21-02
VALVE - L OUTBD FUELING SHUTOFF, V20	2	1	541HB, LEFT WING	28-21-02
VALVE - R AUX FUELING SHUTOFF, V122	2	1	631BB, RIGHT WING	28-21-02
VALVE - R INBD FUELING SHUTOFF, V22	2	1	632BB, RIGHT WING	28-21-02
VALVE - R OUTBD FUELING SHUTOFF, V23	2	1	641HB, RIGHT WING	28-21-02
VALVE - SWING CHECK	3	2	541HB,641HB	28-21-06

* SEE THE WDM EQUIPMENT LIST

Pressure Fueling System - Component Index
Figure 101 (Sheet 2)

EFFECTIVITY

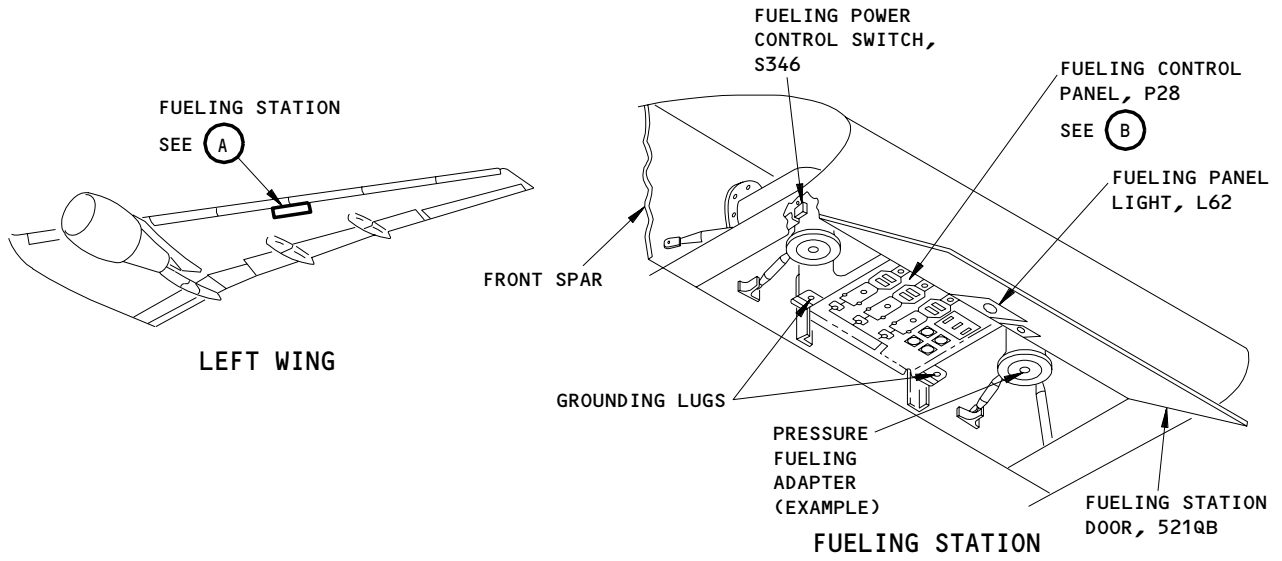
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28-21-00

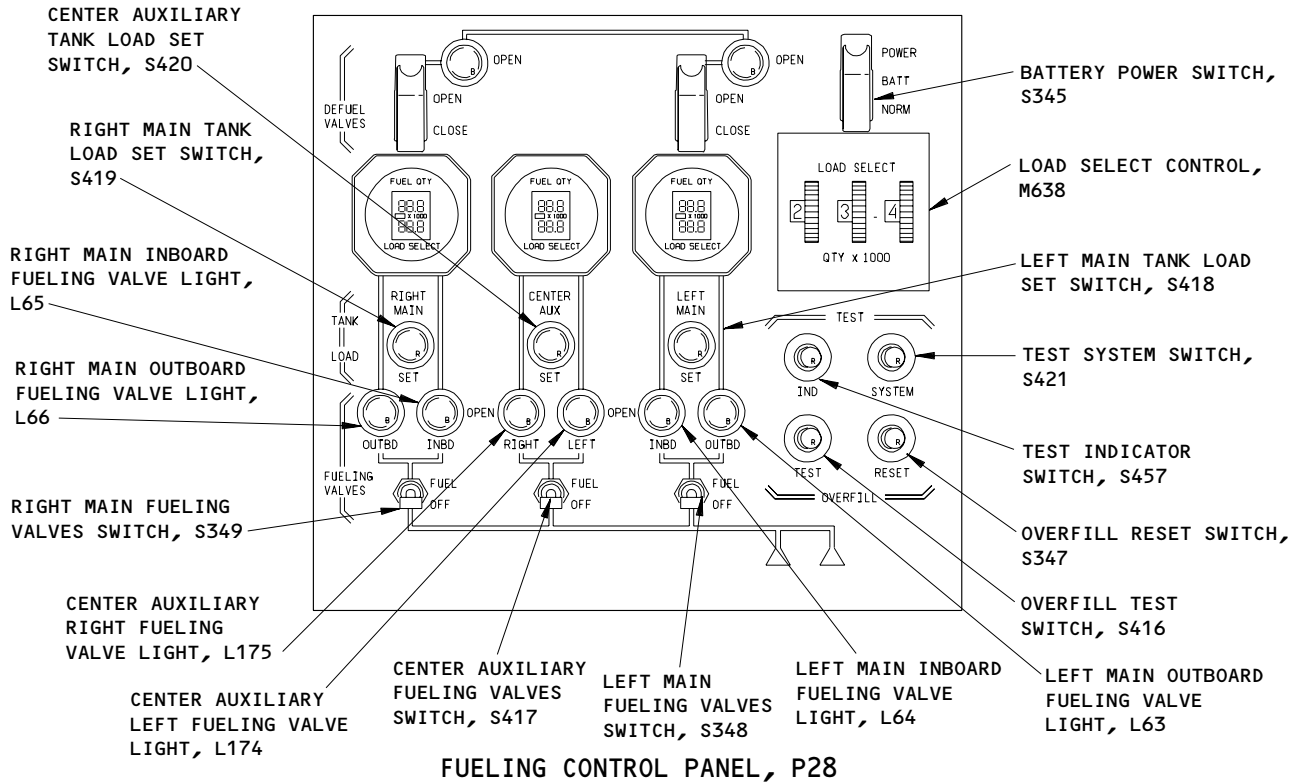
BOEING

767

FAULT ISOLATION/MAINT MANUAL



(A)



(B)

Pressure Fueling System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY	
	ALL

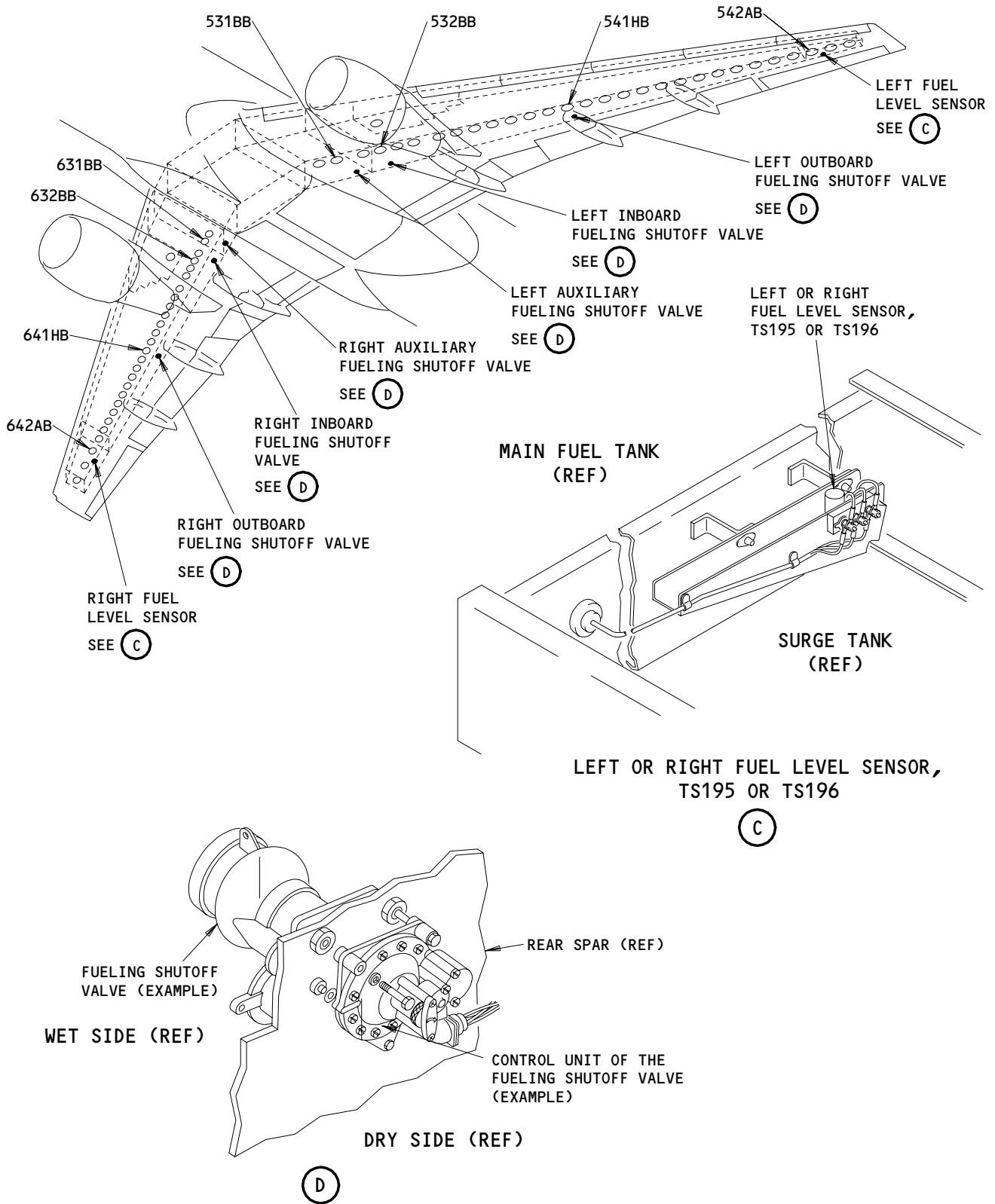
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FAULT ISOLATION/MAINT MANUAL

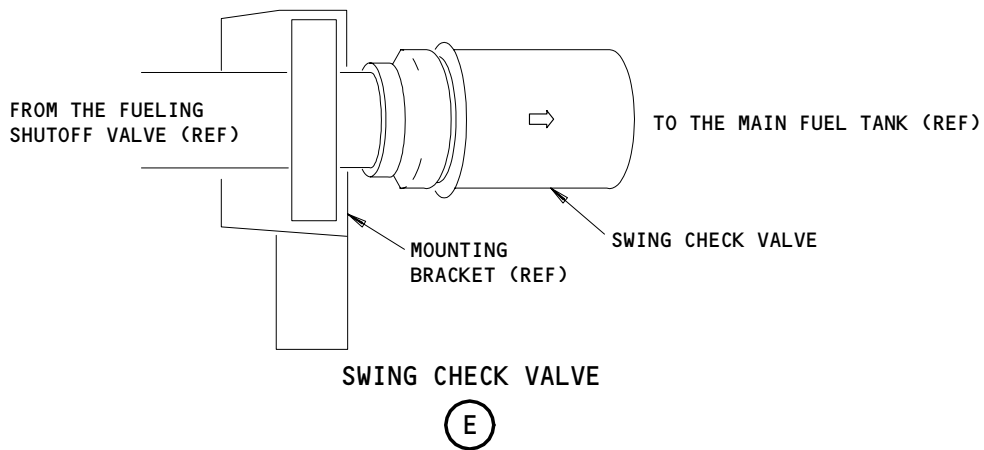
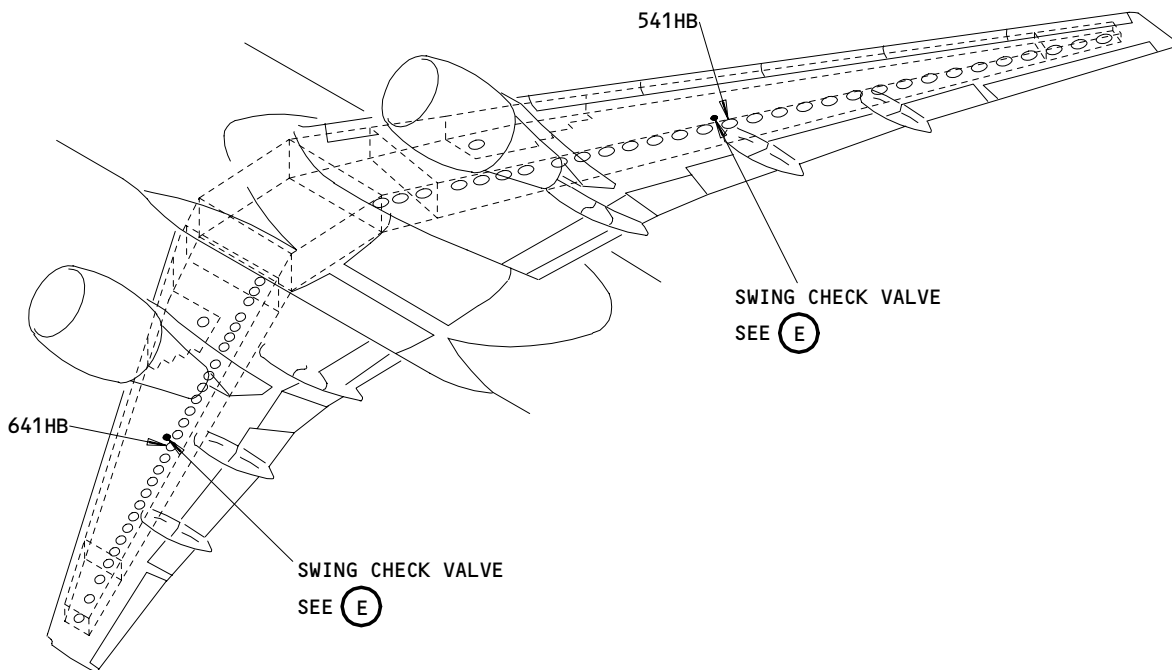


Pressure Fueling System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY	
	ALL

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767
FAULT ISOLATION/MAINT MANUAL

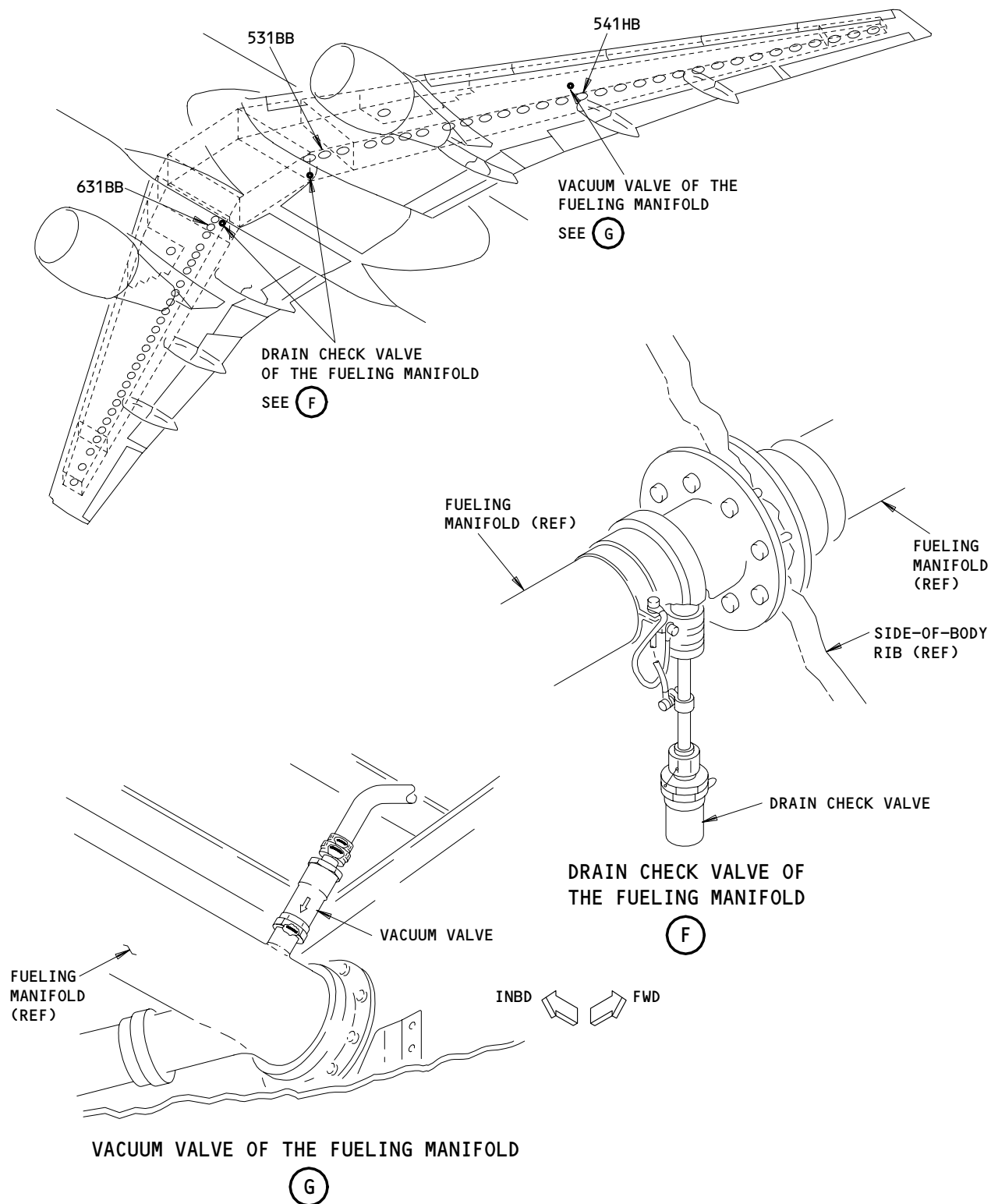


Pressure Fueling System - Component Location
Figure 102 (Sheet 3)

EFFECTIVITY	
	ALL

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FAULT ISOLATION/MAINT MANUAL



Pressure Fueling System - Component Location
Figure 102 (Sheet 4)

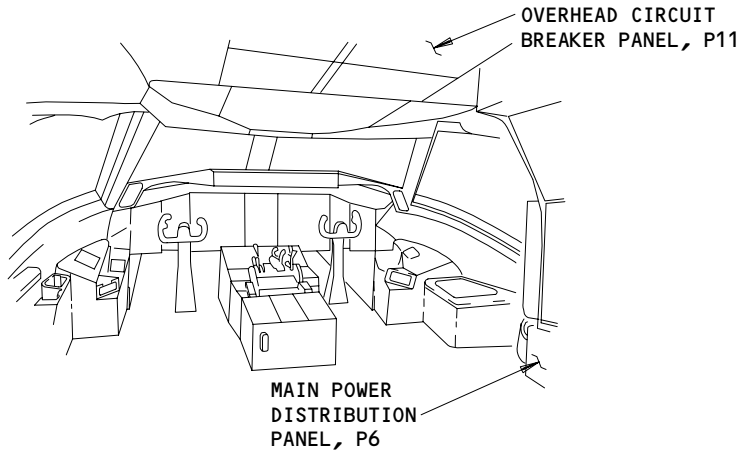
EFFECTIVITY	ALL
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28-21-00

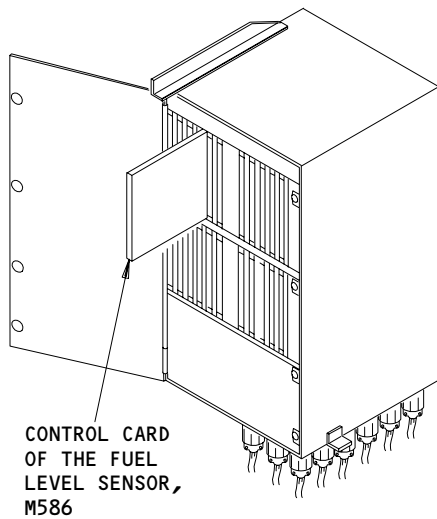
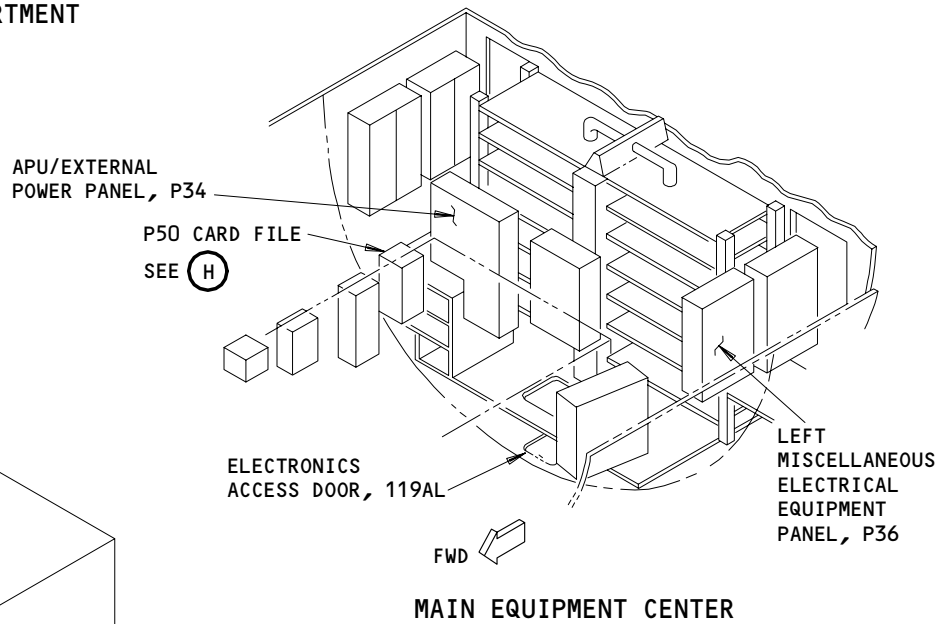
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FAULT ISOLATION/MAINT MANUAL



FLIGHT COMPARTMENT



P50 CARD FILE

(H)

Pressure Fueling System - Component Location
Figure 102 (Sheet 5)

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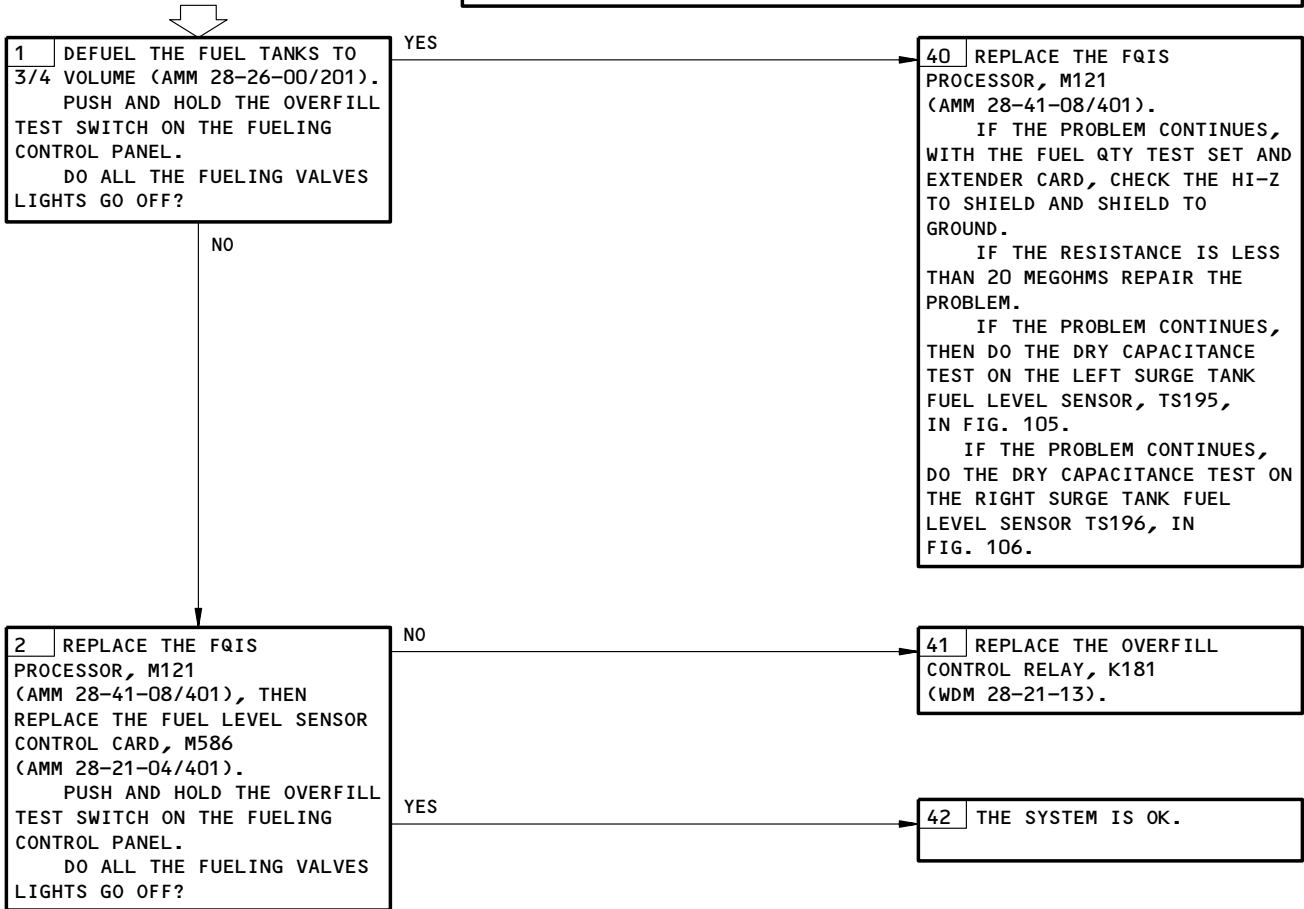
772890

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5, 6E6, 34L3, 34L5

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
FUELING MANIFOLD IS PRESSURIZED (AMM 12-11-01/301)
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

FUEL SPILL AT SURGE TANK



Fuel Spill at Surge Tank
Figure 103

EFFECTIVITY	ALL
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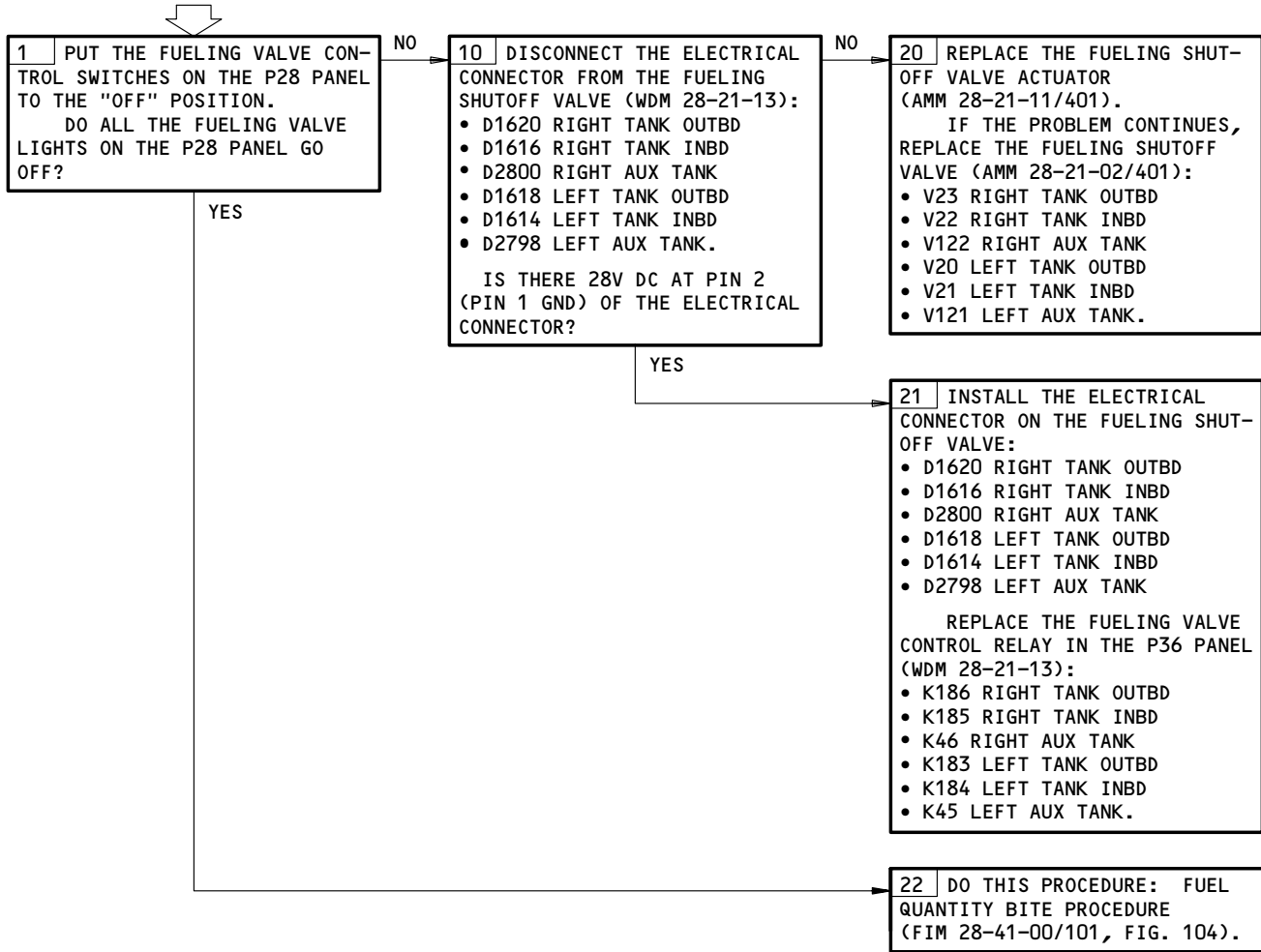
28-21-00

FUELING DID NOT STOP AT PRESELECTED QUANTITY. NO FUEL SPILL OCCURS AT SURGE TANK.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5,6E6,34L3,34L5

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



Fueling Did Not Stop at Preselected Quantity.
No Fuel Spill Occurs at Surge Tank.
Figure 104

EFFECTIVITY	ALL
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849850

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:

6E5, 6E6, 11C34, 11M19, 34L2, 34L3, 34L5

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:

ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EQUIPMENT:

1. GULL AIRBORNE INSTRUMENTS, INC.,
55 ENGINEERS ROAD, SMITHTOWN, NY 11787
 - A. FUEL QTY TEST SET - MODEL GTF-2, P/N 361-012-001
 - B. FUEL QTY ADAPTER HARNESS - 370-044-001OR
2. BARFIELD INSTRUMENT CORP.,
MIAMI, FL 33142
 - A. FUEL QTY TEST SET - MODEL 8000
 - B. FUEL QTY ADAPTER HARNESS - 101-00543OR
3. JcAir, INC.
400 INDUSTRIAL PARKWAY
INDUSTRIAL AIRPORT, KS 66031
 - A. FUEL QTY TEST SET - P/N 472090-007, OR P/N 472090-009, OR PSD 40-1, OR PSD 60-1, OR PSD 60-2, OR PSD 60-2R
 - B. FUEL QTY ADAPTER HARNESS
4. EXTENDER CARD - A28009-8 OR A28009-13 (PREFERRED)

NOTE: THE DRY CAPACITANCE TEST AT THE FUEL LEVEL SENSOR CONTROL CARD, M586, DOES A TEST OF THE CIRCUIT FROM THE FUEL LEVEL SENSOR CONTROL CARD, M586, TO THE LEFT FUEL LEVEL SENSOR, TS195.

THE DRY CAPACITANCE TEST AT THE P50 CARD FILE, DOES A TEST OF THE CIRCUIT FROM THE P50 CARD FILE, TO THE LEFT SURGE TANK FUEL LEVEL SENSOR, TS195.

THE DRY CAPACITANCE TEST AT THE PRESSURE SEAL, DOES A TEST OF THE CIRCUIT FROM THE PRESSURE SEAL, TO THE LEFT SURGE TANK FUEL LEVEL SENSOR, TS195.

DO THE DRY CAPACITANCE TESTS IN THE SEQUENCE SHOWN.

Dry Capacitance Test for the Left Surge Tank Fuel Level Sensor, TS195
Figure 105 (Sheet 1)

EFFECTIVITY

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FAULT ISOLATION/MAINT MANUAL

1. PREPARE THE AIRPLANE FOR THE TESTS
 - A. DRAIN AND PURGE THE FUEL TANKS (AMM 28-11-00/201).
2. DRY CAPACITANCE TEST AT THE FUEL LEVEL SENSOR CONTROL CARD, M586 (NO FUEL IN THE FUEL TANK)
 - A. REMOVE THE FUEL LEVEL SENSOR CONTROL CARD, M586, FROM CONNECTOR D1882, IN THE P50 CARD FILE (AMM 28-21-04/401).
 - B. INSTALL THE EXTENDER CARD TO THE CONNECTOR D1882, IN THE P50 CARD FILE.
 - C. CONNECT THE L HI-Z AND L LO-Z CONNECTORS ON THE EXTENDER CARD, TO THE HI-Z AND LO-Z CONNECTORS, ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - D. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.50 TO 8.05 PICO FARADS.
 - E. CHECK THE HI-Z TO SHIELD AND SHIELD TO GROUND. IF THE RESISTANCE IS LESS THAN 20 MEGOHMS REPAIR THE PROBLEMS.
 - F. REMOVE THE EXTENDER CARD FROM THE CONNECTOR D1882, IN THE P50 CARD FILE.
 - G. INSTALL THE FUEL LEVEL SENSOR CONTROL CARD, M586, TO CONNECTOR D1882, IN THE P50 CARD FILE (AMM 28-21-04/401).
 - H. IF THE CAPACITANCE IS NOT IN THE LIMITS, DO THE DRY CAPACITANCE TEST AT THE P50 CARD FILE, SHOWN IN STEP 3.
3. DRY CAPACITANCE TEST AT THE P50 CARD FILE (NO FUEL IN THE FUEL TANK)
 - A. DISCONNECT CONNECTOR D8038P, FROM THE P50 CARD FILE.
 - B. CONNECT PIN 11, OF CONNECTOR D8038P, TO THE HI-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - C. CONNECT PIN 4, OF CONNECTOR D8038P, TO THE LO-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - D. CONNECT PIN 1, PIN 3, PIN 10, AND PIN 12, OF CONNECTOR D8038P, TO THE AIRPLANE GROUND OR THE FUEL QUANTITY TEST SET GROUND.
 - E. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.50 TO 8.05 PICO FARADS.
 - F. IF THE CAPACITANCE IS IN THE LIMITS, REPAIR AND REPLACE THE WIRING FROM CONNECTOR D1882, TO CONNECTOR D8038P, AS IT IS NECESSARY (WDM 28-21-12).
 - G. CONNECT CONNECTOR D8038P, TO THE P50 CARD FILE.
 - H. IF THE CAPACITANCE IS NOT IN THE LIMITS, DO THE DRY CAPACITANCE TEST AT THE PRESSURE SEAL, SHOWN IN STEP 4.

Dry Capacitance Test for the Left Surge Tank Fuel Level Sensor, TS195
Figure 105 (Sheet 2)

EFFECTIVITY

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FAULT ISOLATION/MAINT MANUAL

4. DRY CAPACITANCE TEST AT THE PRESSURE SEAL (NO FUEL IN THE FUEL TANK)

- A. DISCONNECT CONNECTOR D6116J, FROM THE PRESSURE SEAL (AFT END OF FWD CARGO COMPARTMENT).
- B. CONNECT PIN 1, OF CONNECTOR D6116J, TO THE HI-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
- C. CONNECT PIN 3, OF CONNECTOR D6116J, TO THE LO-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
- D. CONNECT PIN 2 AND PIN C1, OF CONNECTOR D6116J, TO THE AIRPLANE GROUND OR THE FUEL QUANTITY TEST SET GROUND.
- E. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.40 TO 7.95 PICOFARADS.
- F. IF THE CAPACITANCE IS IN THE LIMITS, REPAIR OR REPLACE THE WIRING FROM CONNECTOR D6116J, TO CONNECTOR D8038P, AS IT IS NECESSARY (WDM 28-21-12).
- G. CONNECT CONNECTOR D6116J, TO THE PRESSURE SEAL (AFT END OF FWD CARGO COMPARTMENT).
- H. IF THE CAPACITANCE IS NOT IN THE LIMITS, REPAIR OR REPLACE THE WIRING FROM CONNECTOR D6116J, TO THE LEFT SURGE TANK FUEL LEVEL SENSOR, TS195, AS IT IS NECESSARY (WDM 28-21-12).
- I. IF THE PROBLEM CONTINUES, REPLACE THE LEFT SURGE TANK FUEL LEVEL SENSOR, TS195 (AMM 28-21-03/401).

Dry Capacitance Test for the Left Surge Tank Fuel Level Sensor, TS195
Figure 105 (Sheet 3)

EFFECTIVITY	ALL
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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5, 6E6, 11C34, 11M19, 34L2, 34L3, 34L5

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

EQUIPMENT:

1. GULL AIRBORNE INSTRUMENTS, INC.,
55 ENGINEERS ROAD, SMITHTOWN, NY 11787
 - A. FUEL QTY TEST SET - MODEL GTF-2, P/N 361-012-001
 - B. FUEL QTY ADAPTER HARNESS - 370-044-001OR
2. BARFIELD INSTRUMENT CORP.,
MIAMI, FL 33142
 - A. FUEL QTY TEST SET - MODEL 8000
 - B. FUEL QTY ADAPTER HARNESS - 101-00543OR
3. JcAir, INC.
400 INDUSTRIAL PARKWAY
INDUSTRIAL AIRPORT, KS 66031
 - A. FUEL QTY TEST SET - P/N 472090-007, OR P/N 472090-009, OR PSD 40-1, OR PSD 60-1, OR PSD 60-2, OR PSD 60-2R
 - B. FUEL QTY ADAPTER HARNESS
4. EXTENDER CARD - A28009-8 OR A28009-13 (PREFERRED)

NOTE: THE DRY CAPACITANCE TEST AT THE FUEL LEVEL SENSOR CONTROL CARD, M586, DOES A TEST OF THE CIRCUIT FROM THE FUEL LEVEL SENSOR CONTROL CARD, M586, TO THE RIGHT SURGE TANK FUEL LEVEL SENSOR, TS196.

THE DRY CAPACITANCE TEST AT THE P50 CARD FILE, DOES A TEST OF THE CIRCUIT FROM THE P50 CARD FILE, TO THE RIGHT SURGE TANK FUEL LEVEL SENSOR, TS196.

THE DRY CAPACITANCE TEST AT THE PRESSURE SEAL, DOES A TEST OF THE CIRCUIT FROM THE FRONT PRESSURE SEAL, TO THE RIGHT SURGE TANK FUEL LEVEL SENSOR, TS196.

DO THE DRY CAPACITANCE TESTS IN THE SEQUENCE SHOWN.

Dry Capacitance Test for the Right Surge Tank Fuel Level Sensor, TS196
Figure 106 (Sheet 1)

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FAULT ISOLATION/MAINT MANUAL

1. PREPARE THE AIRPLANE FOR THE TESTS
 - A. DRAIN AND PURGE THE FUEL TANKS (AMM 28-11-00/201).
2. DRY CAPACITANCE TEST AT THE FUEL LEVEL SENSOR CONTROL CARD, M586 (NO FUEL IN THE FUEL TANK)
 - A. REMOVE THE FUEL LEVEL SENSOR CONTROL CARD, M586, FROM CONNECTOR D1882, IN THE P50 CARD FILE (AMM 28-21-04/401).
 - B. INSTALL THE EXTENDER CARD TO CONNECTOR D1882, IN THE P50 CARD FILE.
 - C. CONNECT THE R HI-Z AND R LO-Z CONNECTORS ON THE EXTENDER CARD, TO THE HI-Z AND LO-Z CONNECTORS ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - D. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.50 TO 8.05 PICO FARADS.
 - E. REMOVE THE EXTENDER CARD FROM CONNECTOR D1882, IN THE P50 CARD FILE.
 - F. INSTALL THE FUEL LEVEL SENSOR CONTROL CARD, M586, TO CONNECTOR D1882, IN THE P50 CARD FILE (AMM 28-21-04/401).
 - G. IF THE CAPACITANCE IS NOT IN THE LIMITS, DO THE DRY CAPACITANCE TEST AT THE P50 CARD FILE, SHOWN IN STEP 3.
3. DRY CAPACITANCE TEST AT THE P50 CARD FILE (NO FUEL IN THE FUEL TANK)
 - A. DISCONNECT CONNECTOR D8033P, FROM THE P50 CARD FILE.
 - B. CONNECT PIN 8, OF CONNECTOR D8038P, TO THE HI-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - C. CONNECT PIN 6, OF CONNECTOR D8038P, TO THE LO-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
 - D. CONNECT PIN 2, PIN 5, PIN 7, AND PIN 9, OF CONNECTOR D8038P, TO THE AIRPLANE GROUND OR THE FUEL QUANTITY TEST SET GROUND.
 - E. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.50 TO 8.05 PICO FARADS.
 - F. IF THE CAPACITANCE IS IN THE LIMITS, REPAIR AND REPLACE THE WIRING FROM CONNECTOR D1882, TO CONNECTOR D8038P, IF IT IS NECESSARY (WDM 28-21-12).
 - G. CONNECT CONNECTOR D8038P, TO THE P50 CARD FILE.
 - H. IF THE CAPACITANCE IS NOT IN THE LIMITS, DO THE DRY CAPACITANCE TEST AT THE PRESSURE SEAL, SHOWN IN STEP 4.

Dry Capacitance Test for the Right Surge Tank Fuel Level Sensor, TS196
Figure 106 (Sheet 2)

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FAULT ISOLATION/MAINT MANUAL

4. DRY CAPACITANCE TEST AT THE PRESSURE SEAL (NO FUEL IN THE FUEL TANK)

- A. DISCONNECT CONNECTOR D6116J, FROM THE PRESSURE SEAL (AFT END OF FWD CARGO COMPARTMENT).
- B. CONNECT PIN 1, OF CONNECTOR D6114J, TO THE HI-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
- C. CONNECT PIN 3, OF CONNECTOR D6114J, TO THE LO-Z CONNECTOR ON THE FUEL QUANTITY TEST SET WITH THE FUEL QUANTITY ADAPTER HARNESS.
- D. CONNECT PIN 2 AND PIN C1, OF CONNECTOR D6114J, TO THE AIRPLANE GROUND OR THE FUEL QUANTITY TEST SET GROUND.
- E. MAKE SURE THE CAPACITANCE VALUE IS BETWEEN 6.40 TO 7.95 PICOFARADS.
- F. IF THE CAPACITANCE IS IN THE LIMITS, REPAIR OR REPLACE THE WIRING FROM CONNECTOR D6114J, TO CONNECTOR D8038P, AS IT IS NECESSARY (WDM 28-21-12).
- G. CONNECT CONNECTOR D6114J, TO THE PRESSURE SEAL (AFT END OF FWD CARGO COMPARTMENT).
- H. IF THE CAPACITANCE IS NOT IN THE LIMITS, REPAIR OR REPLACE THE WIRING FROM CONNECTOR D6116J, TO THE RIGHT SURGE TANK FUEL LEVEL SENSOR, TS196, AS IT IS NECESSARY (WDM 28-21-12).
- I. IF THE PROBLEM CONTINUES, REPLACE THE LEFT SURGE TANK FUEL LEVEL SENSOR, TS196 (AMM 28-21-03/401).

Dry Capacitance Test for the Right Surge Tank Fuel Level Sensor, TS196
Figure 106 (Sheet 3)

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PREREQUISITES

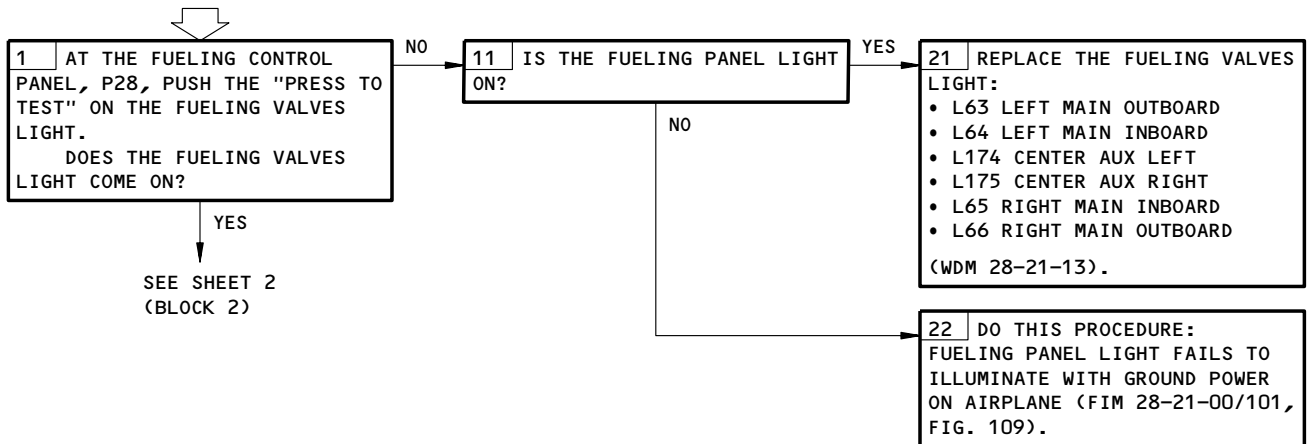
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 6E5, 6E6, 11C34, 11M19, 34L2, 34L3, 34L5

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
 28V DC ELECTRICAL POWER IS ON (AMM 24-22-00/201)
 FUELING MANIFOLD IS PRESSURIZED (AMM 12-11-01/301)

EQUIPMENT:

1. GULL AIRBORNE INSTRUMENTS, INC.,
 55 ENGINEERS ROAD, SMITHTOWN, NY 11787
 A. FUEL QTY TEST SET - MODEL GTF-2,
 P/N 361-012-001
 B. FUEL QTY ADAPTER HARNESS - 370-0044-001
 OR
2. BARFIELD INSTRUMENT CORP.,
 MIAMI, FL 33142
 A. FUEL QTY TEST SET - MODEL 8000
 B. FUEL QTY ADAPTER HARNESS - 101-00543
 OR
3. JcAir INC.
 400 INDUSTRIAL PARKWAY
 INDUSTRIAL AIRPORT, KS 66031
 A. FUEL QTY TEST SET - P/N 472090-007, OR
 P/N 472090-009, OR PSD 40-1, OR
 PSD 60-1, OR PSD 60-2, OR PSD 60-2R
 B. FUEL QTY ADAPTER HARNESS
4. EXTENDER CARD - A28009-8 OR A28009-13 (PREFERRED)

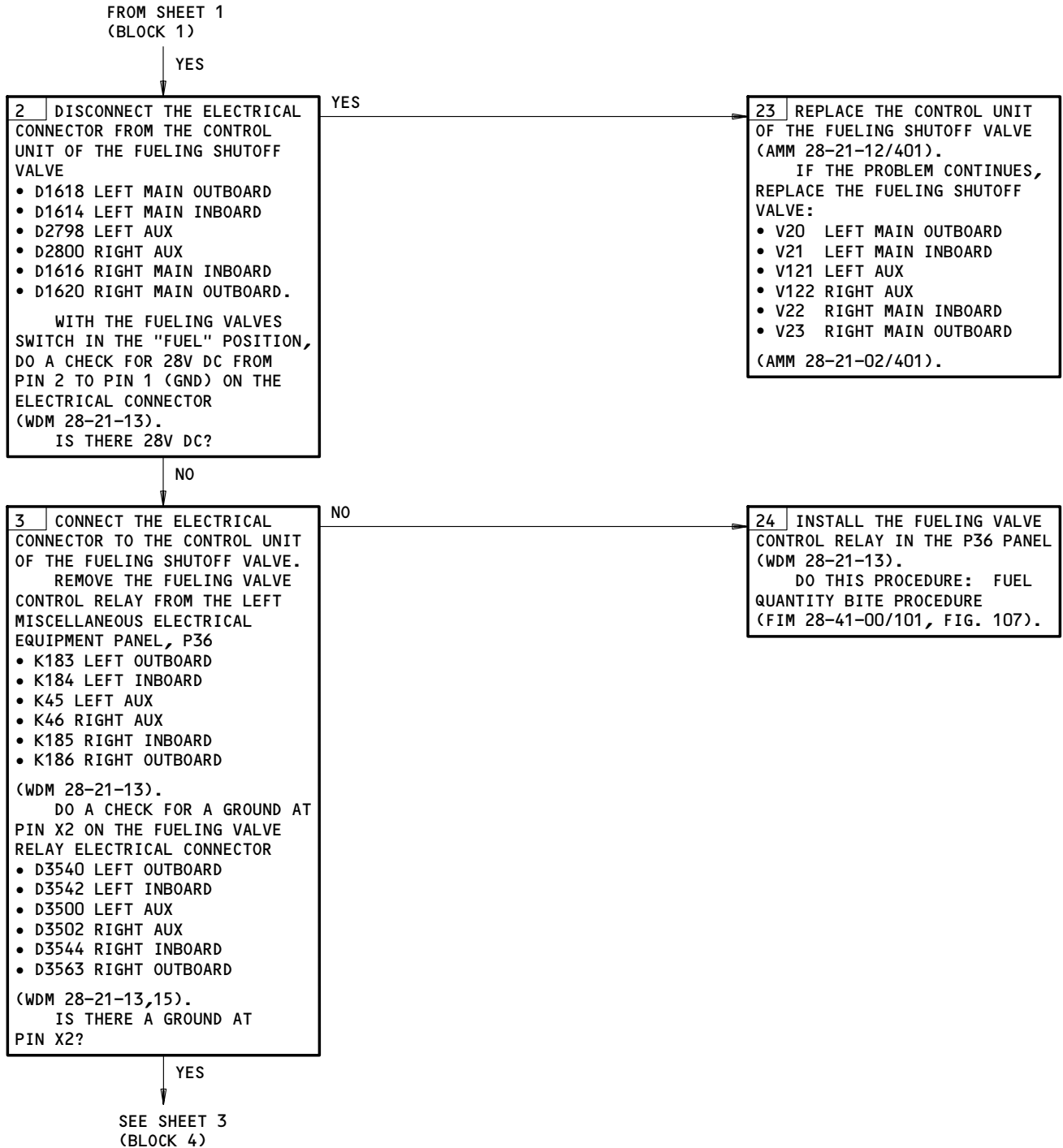
**FUELING VALVE LIGHT
 FAILS TO ILLUMINATE
 WITH FUELING VALVE
 SELECTED OPEN**



Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open
 Figure 107 (Sheet 1)

EFFECTIVITY	ALL
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Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open
Figure 107 (Sheet 2)

EFFECTIVITY

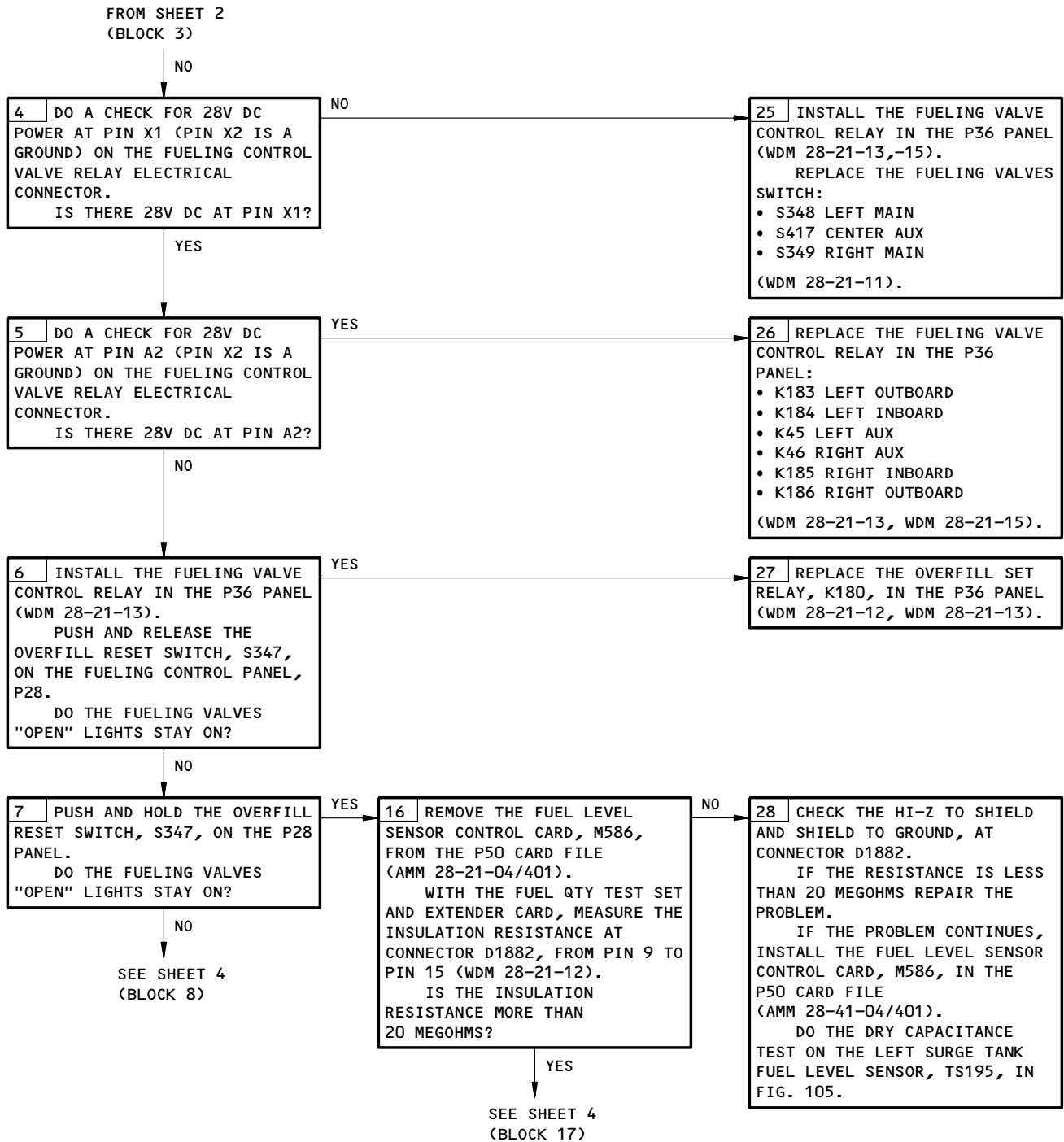
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FAULT ISOLATION/MAINT MANUAL



Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open
Figure 107 (Sheet 3)

EFFECTIVITY

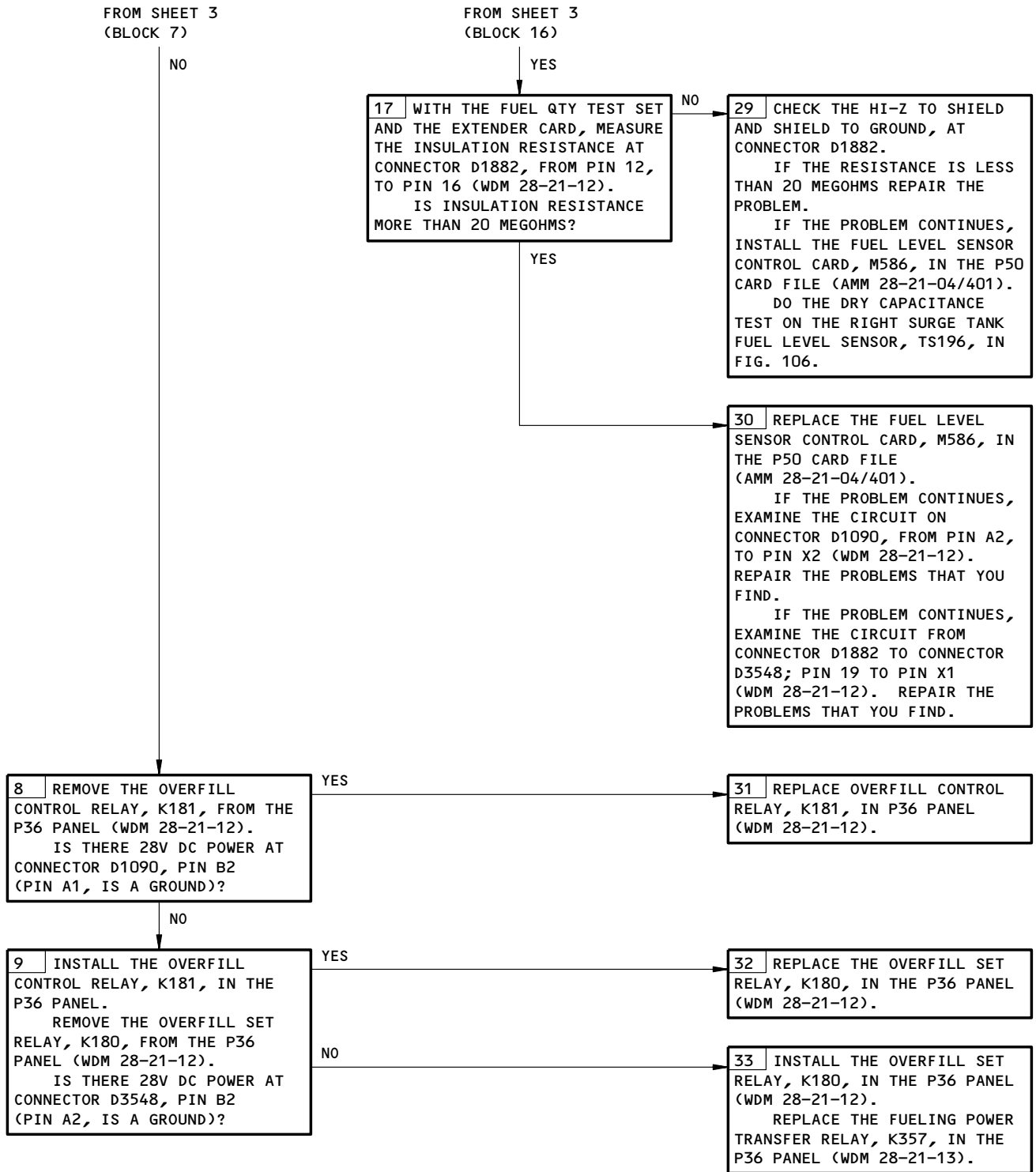
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Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open
Figure 107 (Sheet 4)

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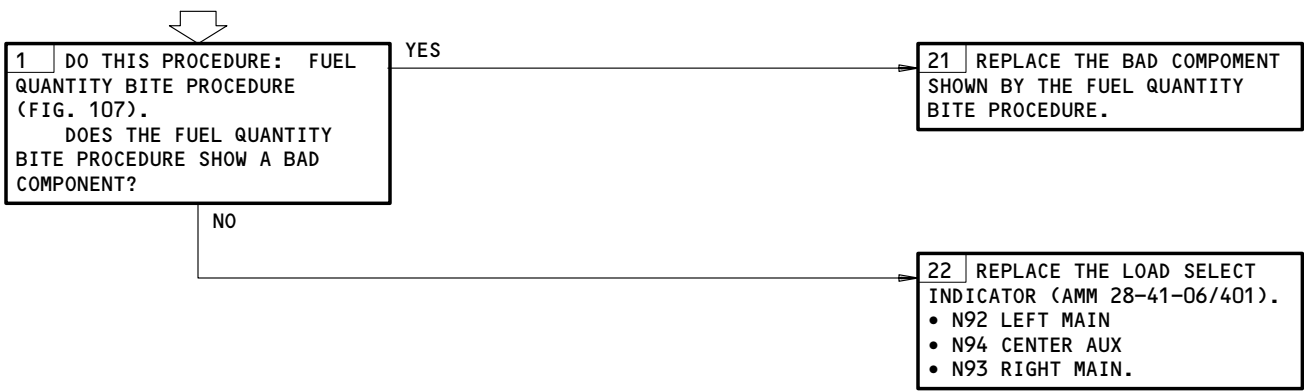
822465

LOAD SELECT FUEL
INDICATOR DISPLAYS
NOT ALL 8'S WHEN TEST
SWITCH IS PRESSED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M19,34L2

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
28V DC ELECTRICAL POWER IS ON (AMM 24-22-00/201)



Load Select Fuel Indicator Displays Not All 8's When Test Switch Is Pressed
Figure 108

EFFECTIVITY	ALL
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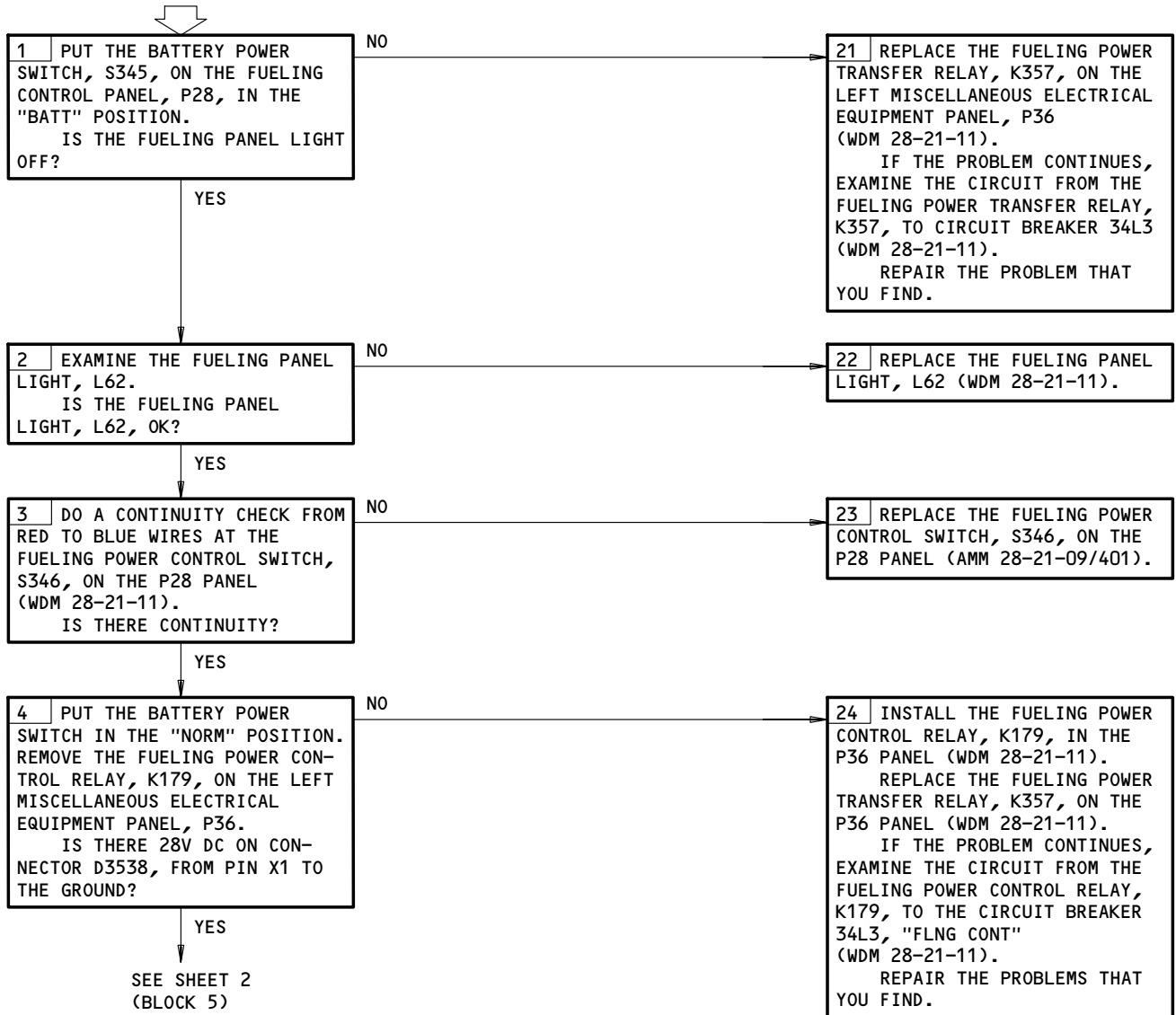
28-21-00

**FUELING PANEL LIGHT
FAILS TO ILLUMINATE
WITH GROUND POWER
ON AIRPLANE**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
34L3; 1 > 36D2 (IF INSTALLED); 2 > 36E7 (IF
INSTALLED)

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
28V DC ELECTRICAL POWER IS ON (AMM 24-22-00/201)



1 > SAS 157; MTH 275-280

2 > SAS 050-156,162-167

Fueling Panel Light Fails to Illuminate with Ground Power on Airplane
Figure 109 (Sheet 1)

EFFECTIVITY

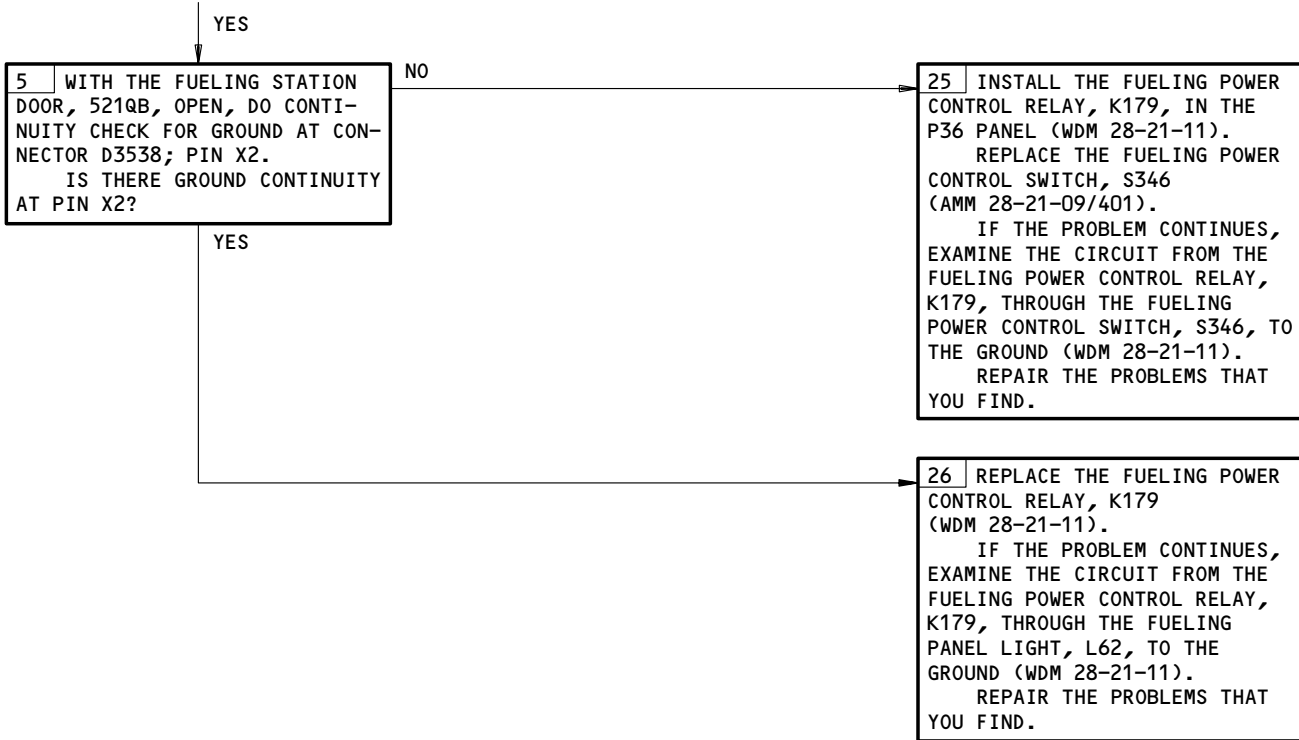
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Fueling Panel Light Fails to Illuminate with Ground Power on Airplane
Figure 109 (Sheet 2)

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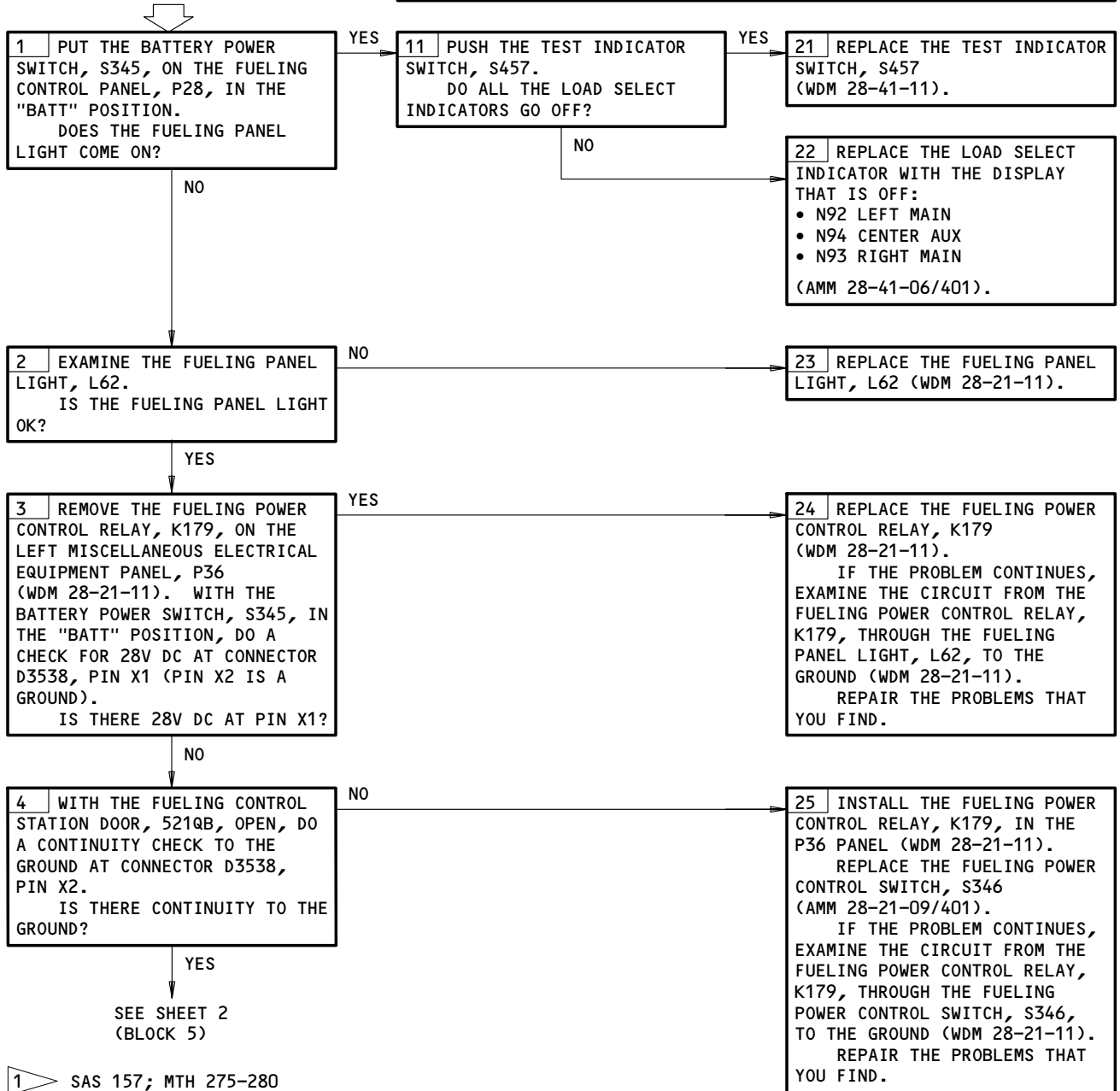
28-21-00

LOAD SELECT INDICATOR DISPLAYS BLANK WITH FUELING POWER SELECT SWITCH IN BATT

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11L19,34L2; 1 36D2 (IF INSTALLED); 2 36E7 (IF INSTALLED)

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
28V DC ELECTRICAL POWER IS ON (AMM 24-22-00/201)



1 SAS 157; MTH 275-280

2 SAS 050-156,162-167

Load Select Indicator Displays Blank with Fueling Power Select Switch in BATT
Figure 110 (Sheet 1)

EFFECTIVITY

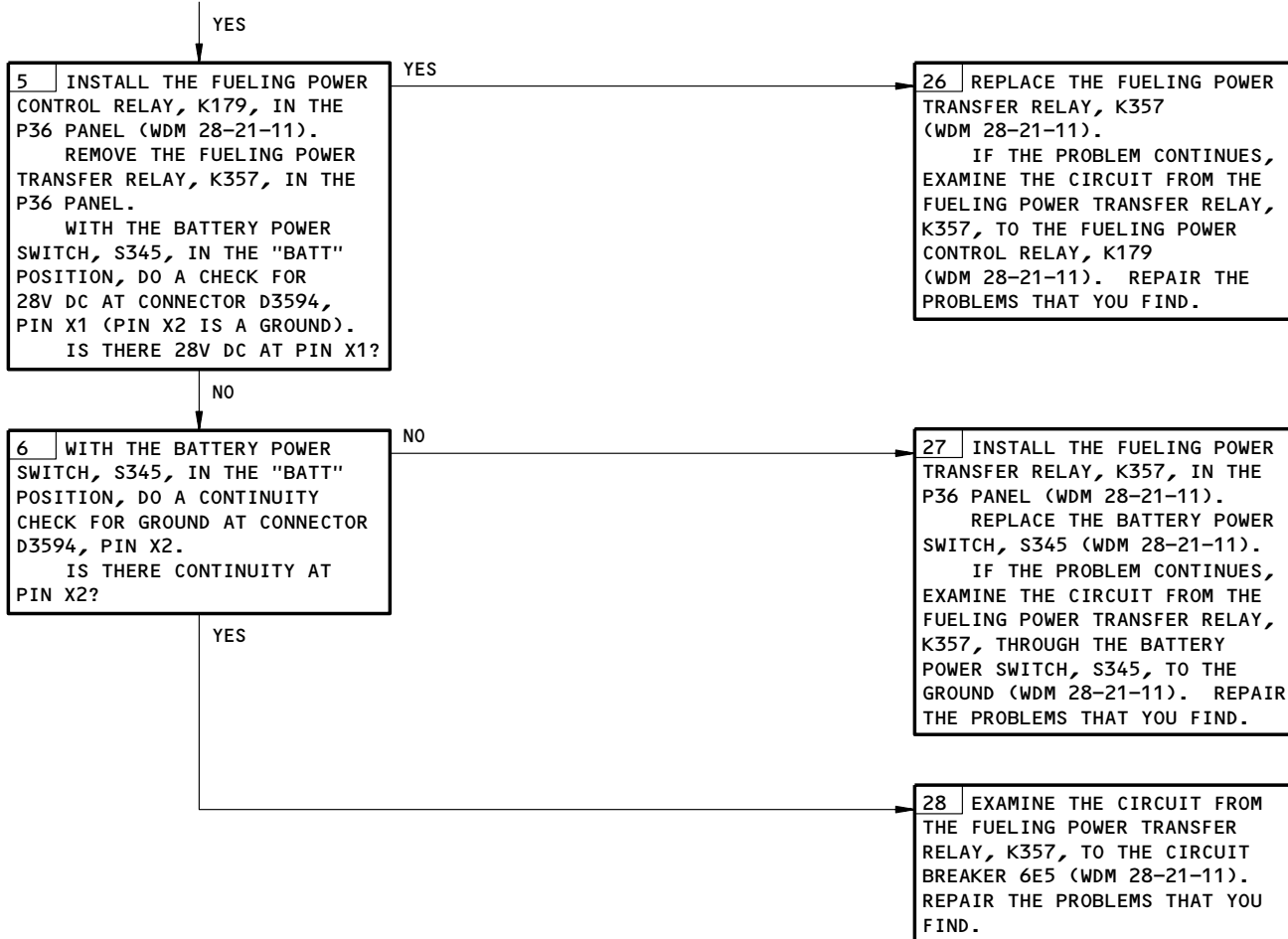
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(BLOCK 4)



Load Select Indicator Displays Blank with Fueling Power Select Switch in BATT
Figure 110 (Sheet 2)

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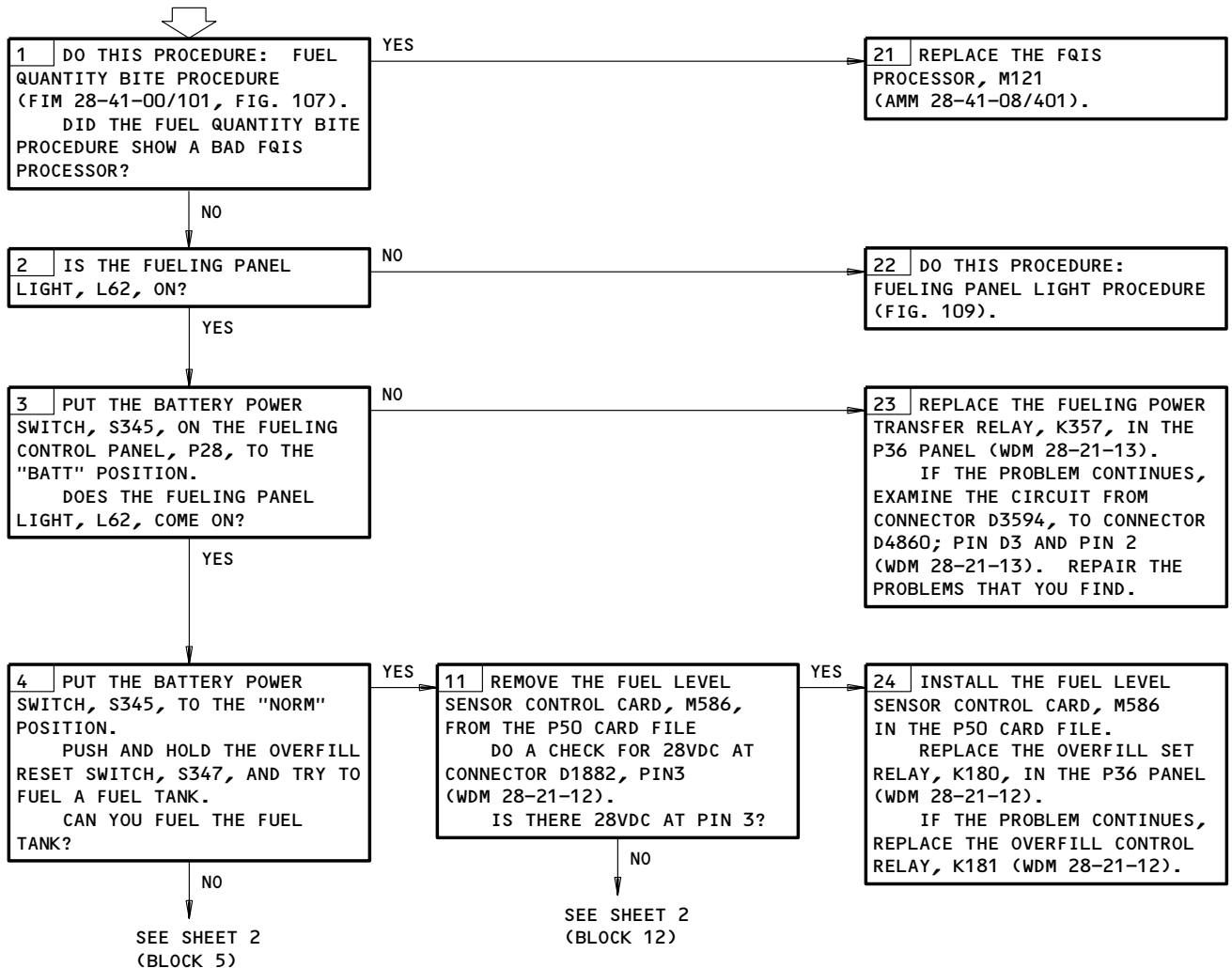
28-21-00

**ALL FUELING
PREVENTED AFTER
OVERFILL RESET**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5, 6E6, 34L3, 34L5

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FUELING MANIFOLD IS PRESSURIZED (AMM 12-11-01/301).



All Fueling Prevented After Overfill Reset
Figure 111 (Sheet 1)

EFFECTIVITY

ALL

28-21-00

01

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Aug 22/01

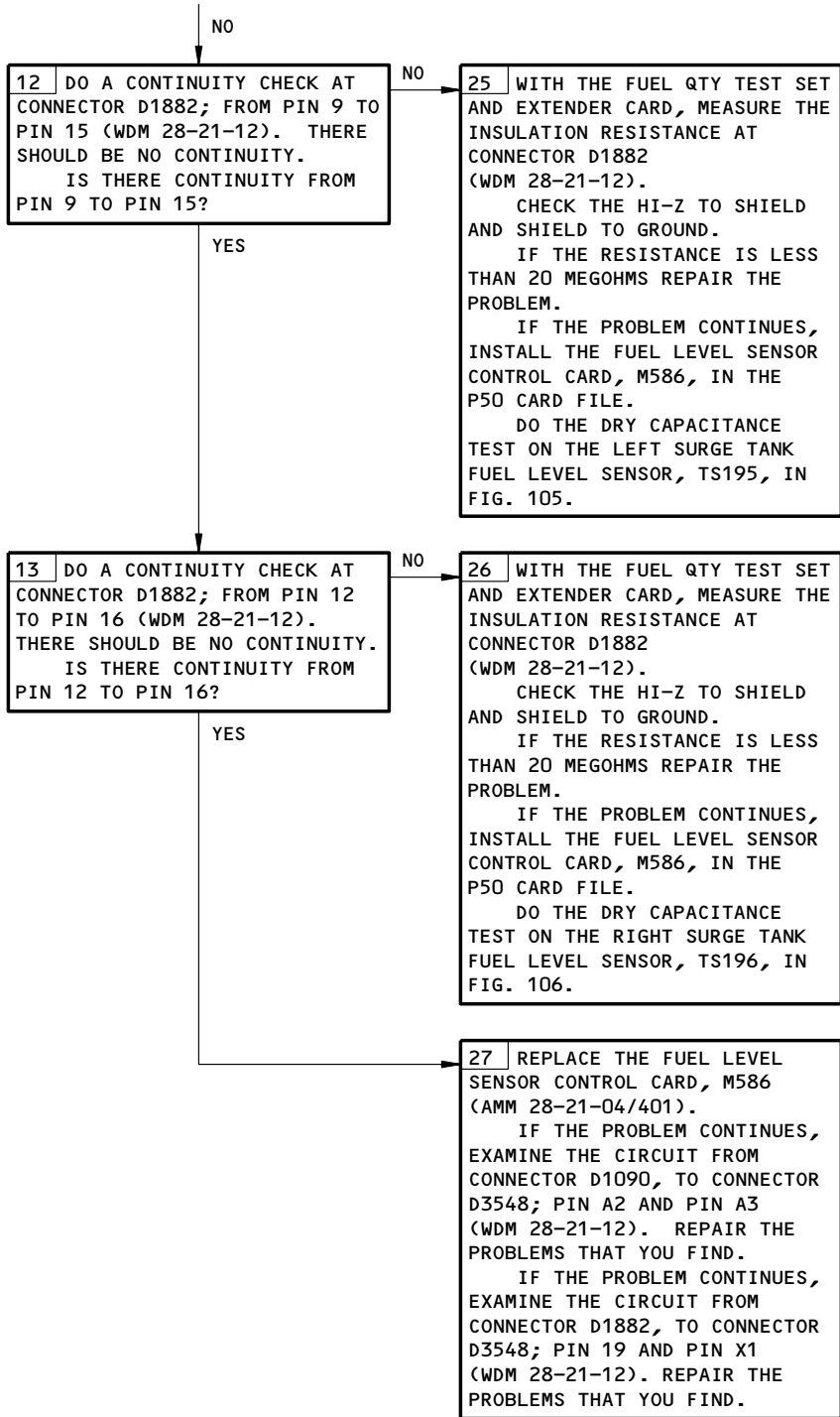
748772



767

FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 11)

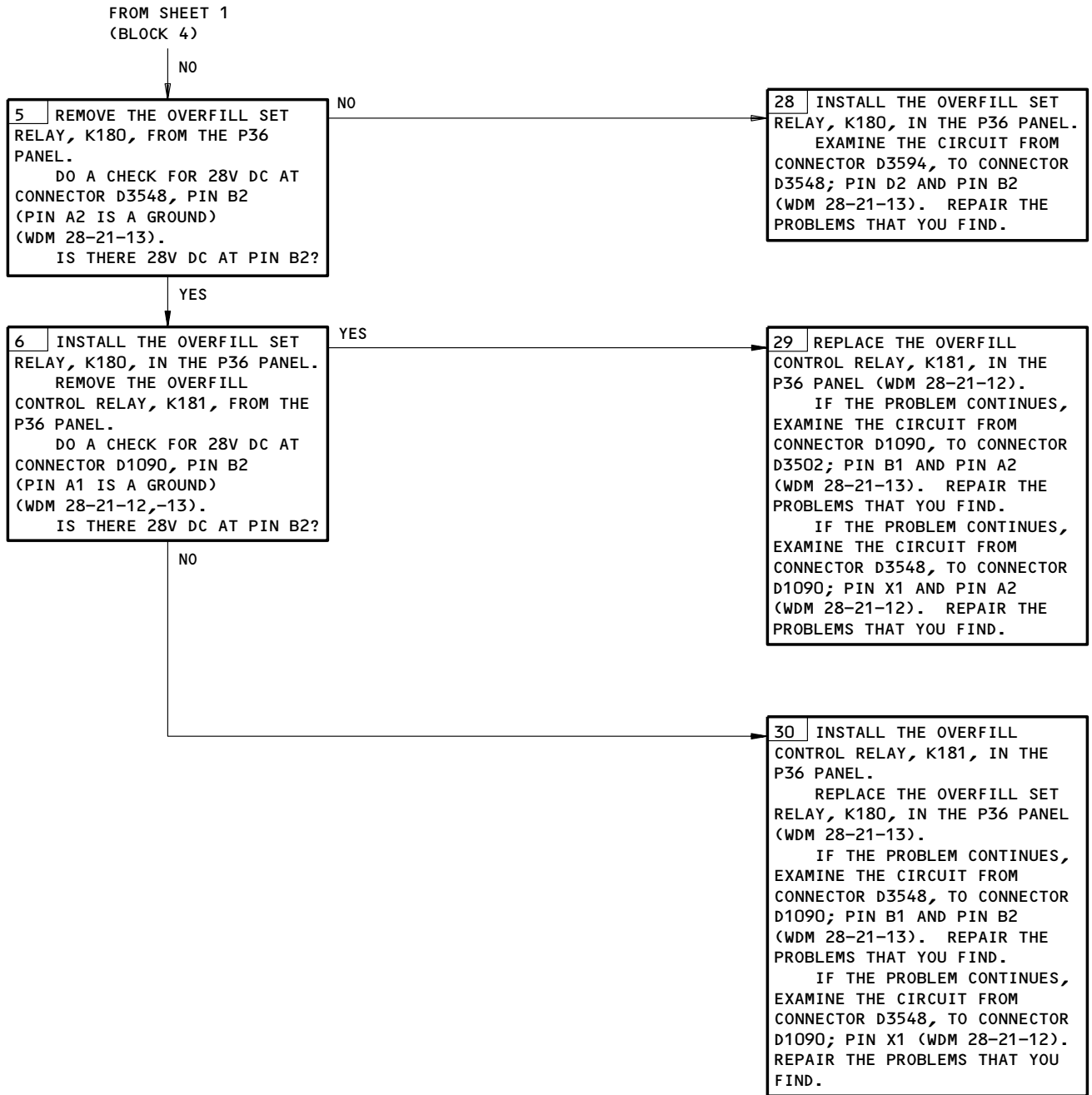


All Fueling Prevented After Overfill Reset
Figure 111 (Sheet 2)

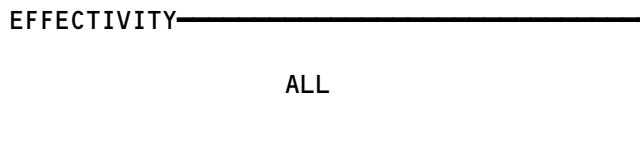
EFFECTIVITY	ALL
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28-21-00

112947



All Fueling Prevented After Overfill Reset
Figure 111 (Sheet 3)



28-21-00

**CENTER TANK L (R)
FUELING VALVE FAILS
TO CLOSE WITH SWITCH
IN "OFF" POS.**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5,6E6,11M15,34L3,34L5

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

1 WITH THE CENTER AUXILIARY FUELING VALVES SWITCH, S417, ON THE FUELING CONTROL PANEL, P28, IN THE "OFF" POSITION, DISCONNECT CONNECTOR D2798 (D2800) FROM CONTROL UNIT OF THE LEFT (RIGHT) AUXILIARY FUELING SHUTOFF VALVE, V121, (V122).
DO A CHECK FOR 28V DC ON CONNECTOR D2798 (D2800); FROM PIN 2 TO PIN 1 (WDM 28-21-13).
IS THERE 28V DC FROM PIN 2 TO PIN 1?

NO

21 REPLACE THE CONTROL UNIT OF THE LEFT (RIGHT) AUXILIARY FUELING SHUTOFF VALVE, V121 (V122)(AMM 28-21-12/401).
IF THE PROBLEM CONTINUES:
• REMOVE THE REFUEL VALVE CONTROL UNIT (AMM 28-21-12/401).
• MEASURE THE PISTON SHAFT AS SHOWN ON SHEET 3:
- IF THE MEASUREMENT IS MORE THAN 0.125 IN. (3.18 MM), REPLACE THE FUELING SHUTOFF VALVE (AMM 28-21-02/401).
- IF THE MEASUREMENT IS LESS THAN 0.120 IN. (3.05 MM), UNWANTED MATERIAL CAN BE IN THE VALVE.
• PRESSURIZE THE REFUEL MANIFOLD AND PUSH THE PISTON SHAFT IN SEVERAL TIMES.
• MEASURE THE PISTON SHAFT AGAIN:
- IF THE MEASUREMENT CHANGES TO 0.120-0.125 IN. (3.05-3.18 MM), REINSTALL THE REFUEL VALVE CONTROL UNIT (AMM 28-21-12/401).
- IF THE MEASUREMENT STAYS LESS THAN 0.120-0.125 IN. (3.05-3.18 MM), REPLACE THE LEFT (RIGHT) AUXILIARY FUELING SHUTOFF VALVE, V121(V122) (AMM 28-21-02/401).

YES

2 CONNECT CONNECTOR D2798 (D2800) TO THE CONTROL UNIT OF THE LEFT (RIGHT) AUXILIARY FUELING SHUTOFF VALVE, V121 (V122).
REMOVE THE LEFT (RIGHT) AUX FUELING VALVE CONTROL RELAY, K45 (K46), ON THE LEFT MISCELLANEOUS ELECTRICAL EQUIPMENT PANEL, P36.
DO A CHECK FOR 28V DC FROM PIN X1 TO PIN X2 (WDM 28-21-11).
IS THERE 28V DC FROM PIN X1 TO PIN X2?

YES

22 INSTALL THE LEFT (RIGHT) AUX FUELING VALVE CONTROL RELAY, K45 (K46), IN THE P36 PANEL.
REPLACE THE CENTER AUX FUELING VALVES SWITCH, S417, ON THE P28 PANEL (WDM 28-21-11).

NO

23 REPLACE THE LEFT (RIGHT) AUX FUELING VALVE CONTROL RELAY, K45 (K46), ON THE P36 PANEL (WDM 28-21-11).

Center Tank L (R) Fueling Valve Fails to Close with Switch in OFF Pos.
Figure 112 (Sheet 1)

EFFECTIVITY

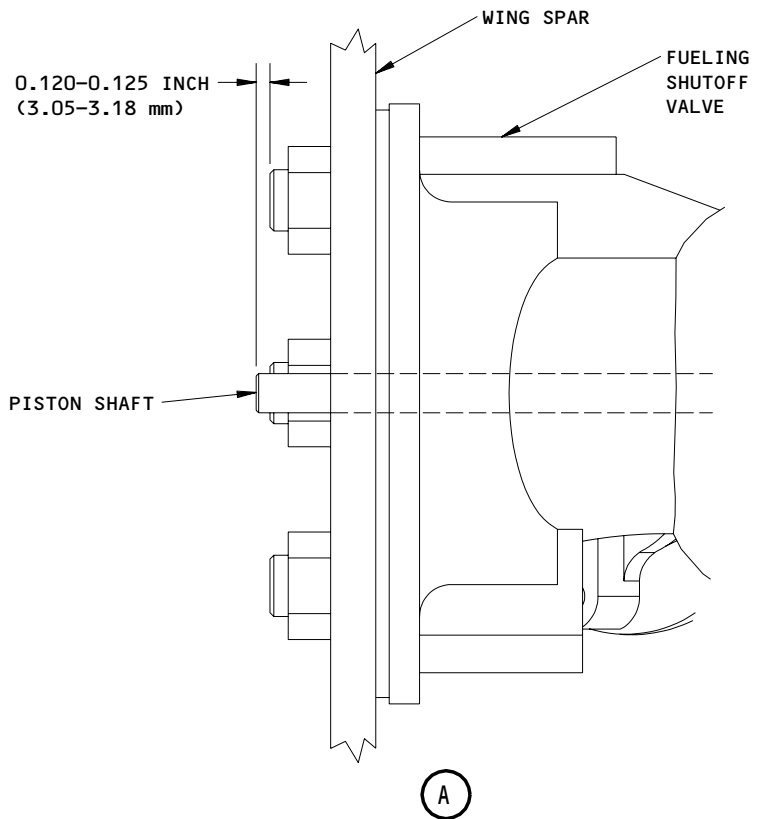
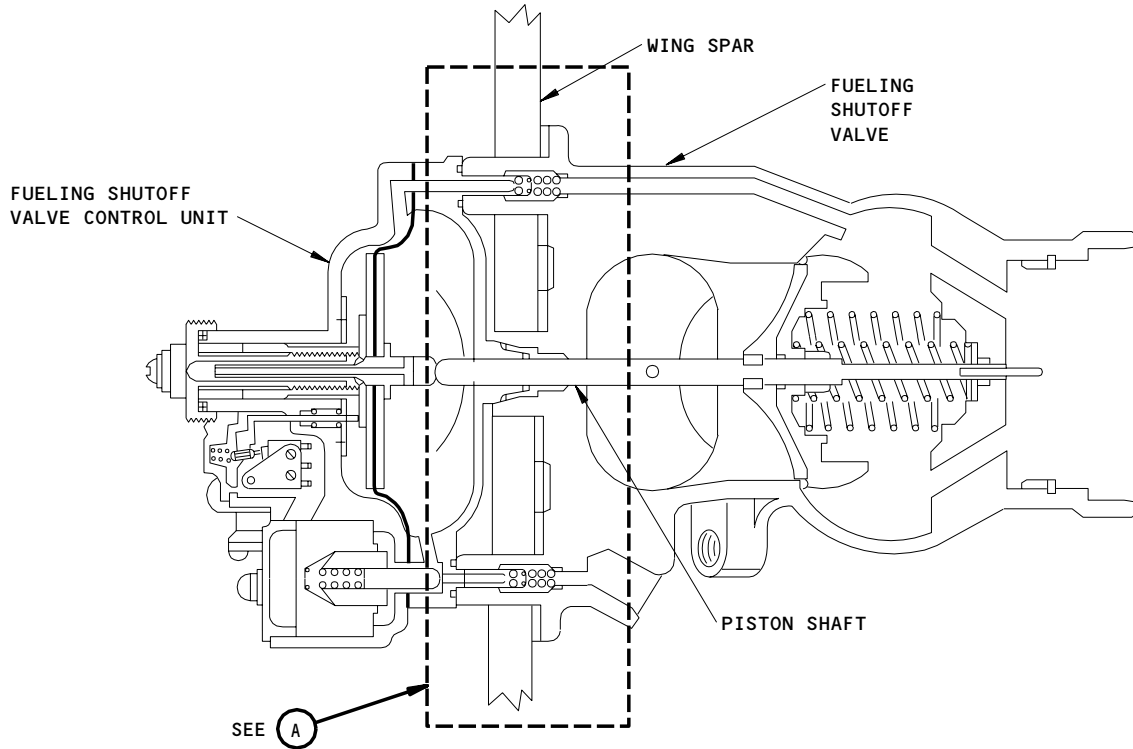
ALL

28-21-00

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Center Tank L (R) Fueling Valve Fails to Close with Switch in OFF Pos.
Figure 112 (Sheet 2)

EFFECTIVITY	
	ALL

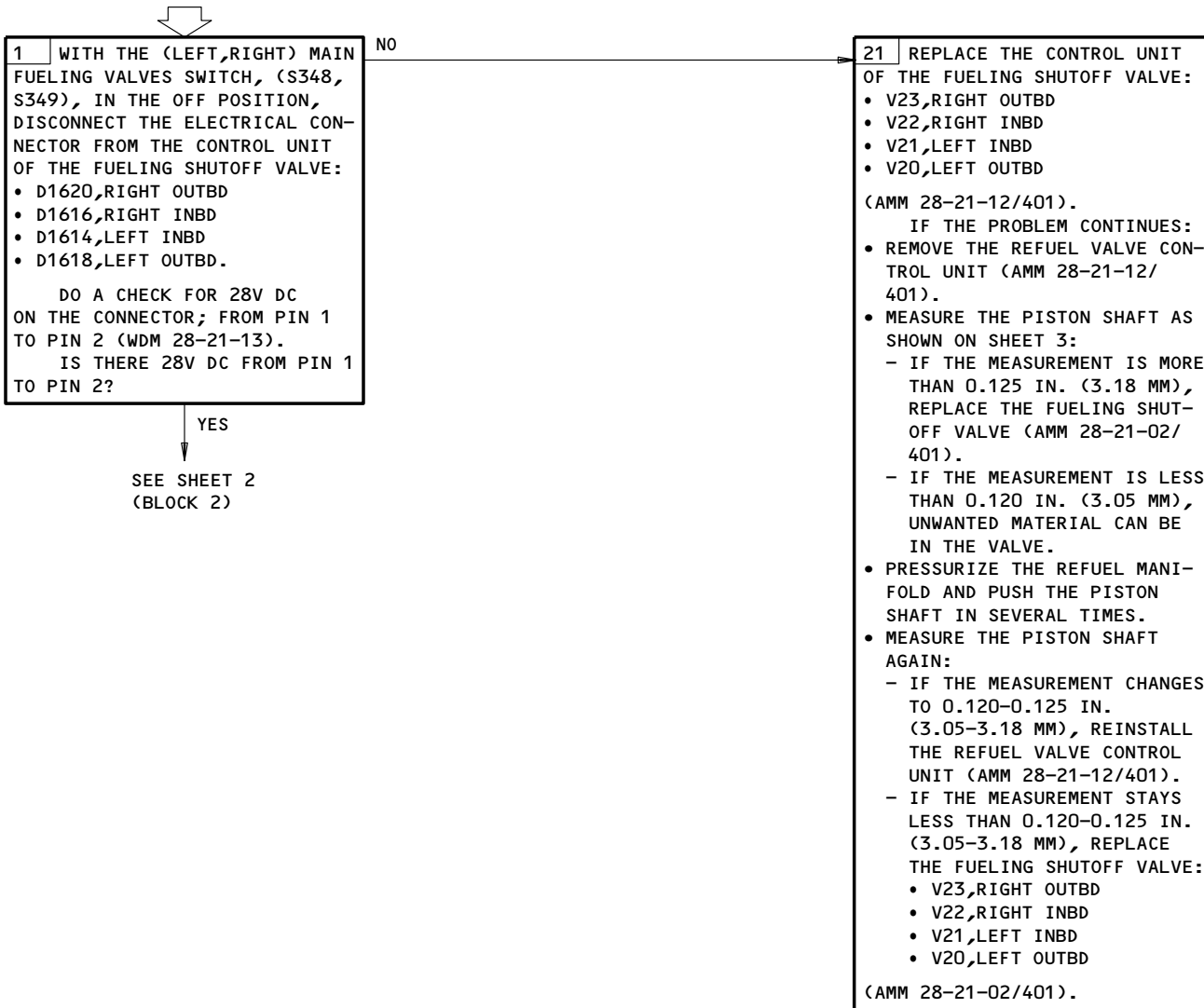
28-21-00

MAIN TANK (04=RIGHT
 OUTBD, 05=RIGHT
 INBD, 08=LEFT INBD,
 09=LEFT OUTBD) FUEL-
 ING VALVE FAILS TO
 CLOSE WITH SWITCH
 IN "OFF" (GROUND
 FAULT).

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 6E5,6E6,11M15,34L3,34L5

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



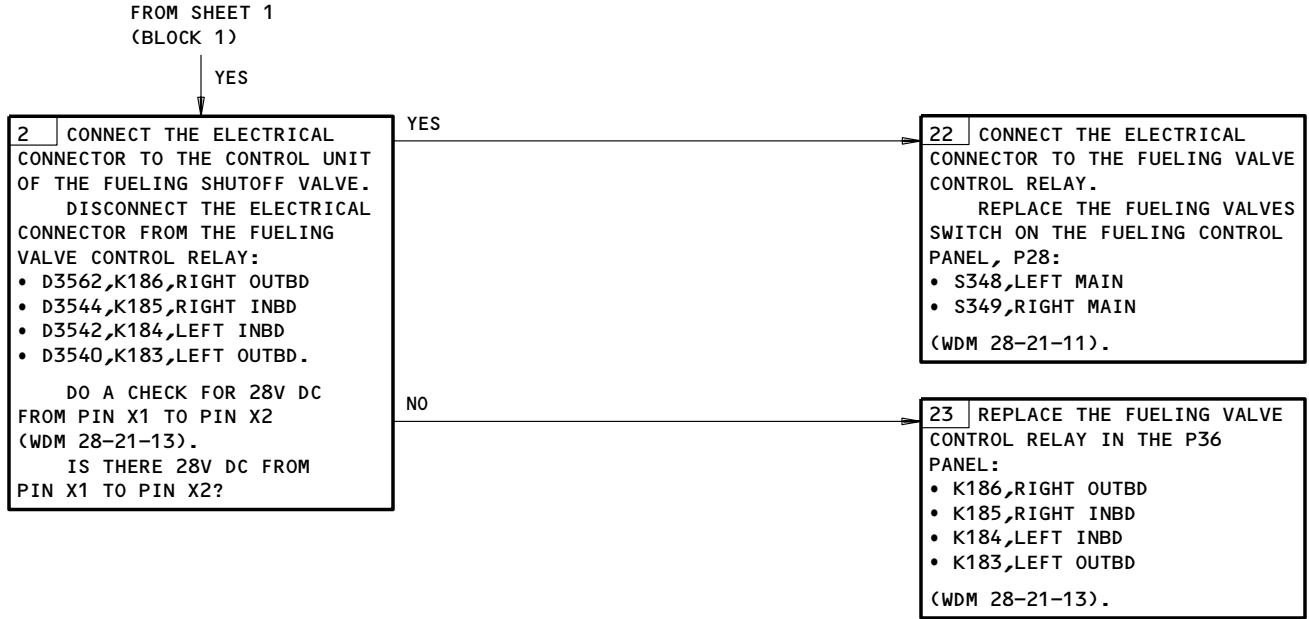
Main Tank (04=Right Outbd, 05=Right Inbd, 08=Left Inbd, 09=Left Outbd)
 Fueling Valve Fails to Close with Switch in OFF (Ground Fault).

Figure 113 (Sheet 1)

EFFECTIVITY

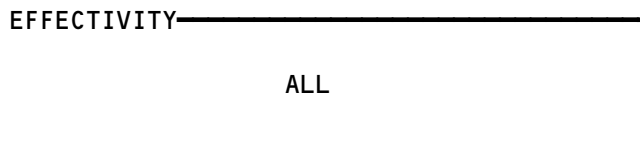
ALL

28-21-00



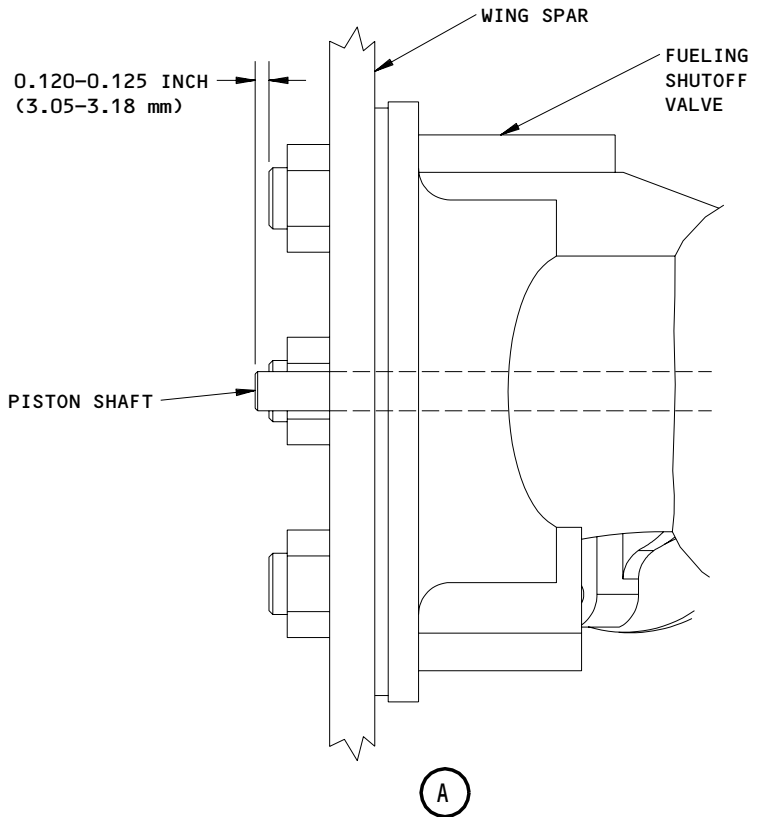
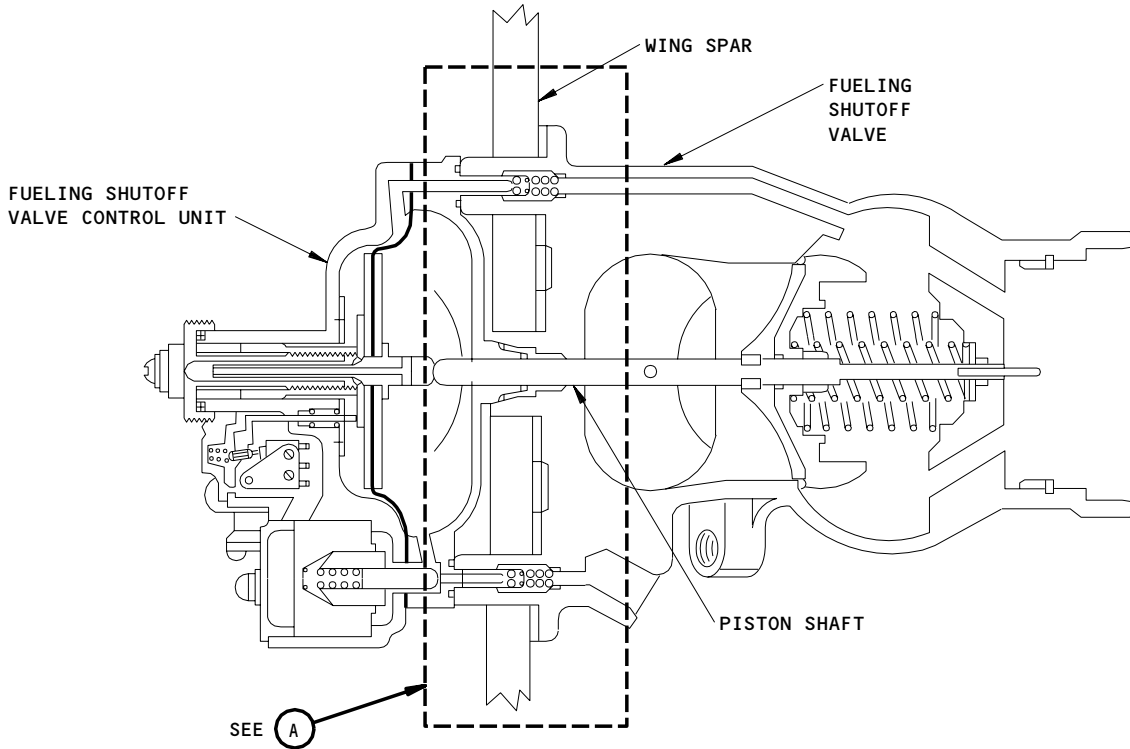
Main Tank (04=Right Outbd, 05=Right Inbd, 08=Left Inbd, 09=Left Outbd)
Fueling Valve Fails to Close with Switch in OFF (Ground Fault).

Figure 113 (Sheet 2)



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BOEING
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FAULT ISOLATION/MAINT MANUAL



Main Tank Fueling Valve Fails to Close with Switch in OFF
Figure 113 (Sheet 3)

EFFECTIVITY	ALL
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28-21-00

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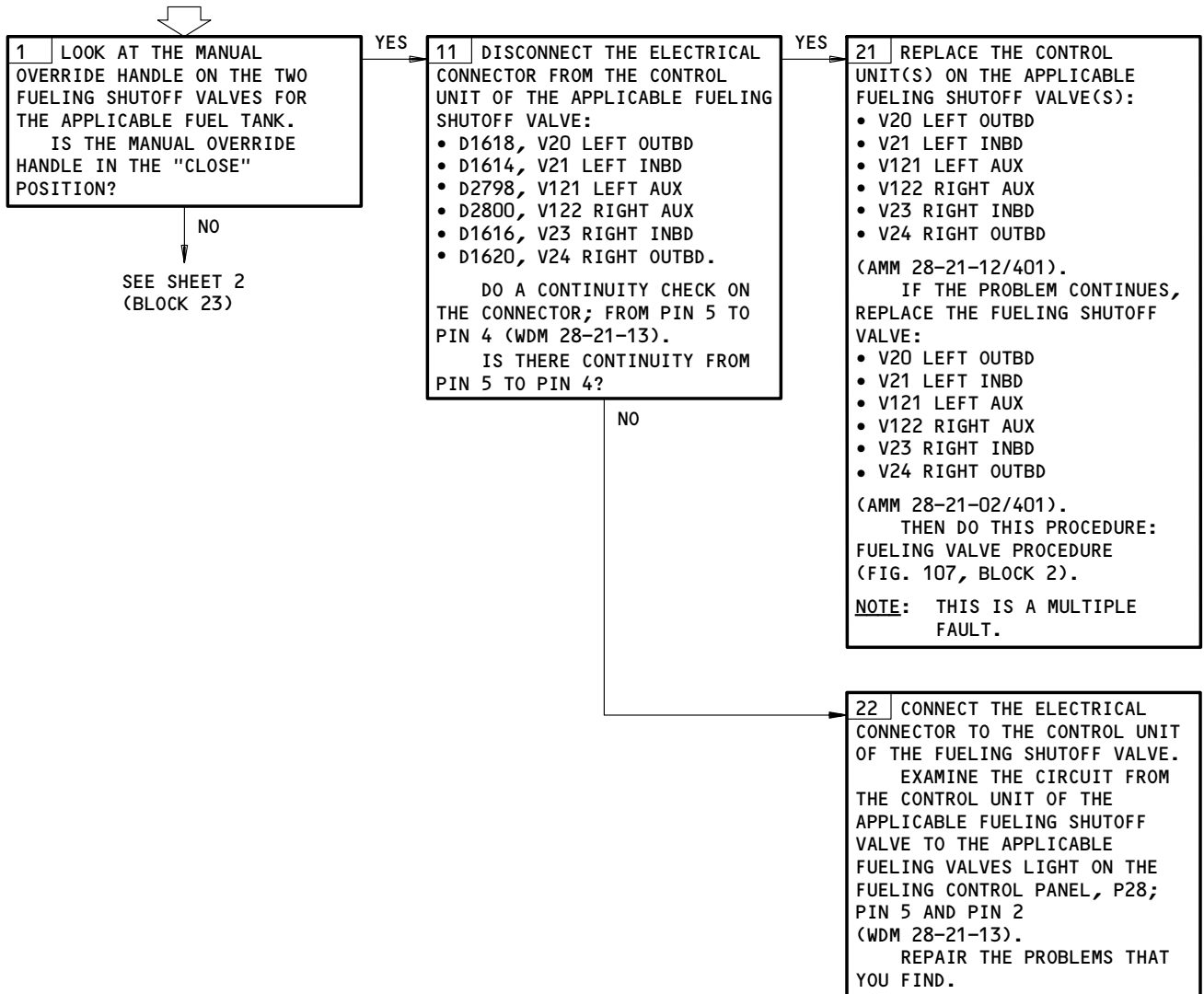
689375

FUELING VALVE "OPEN"
LIGHT ILLUMINATED
WITH FUELING SWITCH
IN "FUEL". FUEL
QUANTITY DID NOT
INCREASE OR INCREASES
AT A SLOW RATE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5,6E6,11C34,11M19,34L2,34L3,34L5

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FUELING MANIFOLD IS PRESSURIZED (AMM 12-11-01/301).



Fueling Valve OPEN Light Illuminated with Fueling Switch in FUEL.
Fuel Quantity Did Not Increase or Increases at a Slow Rate
Figure 114 (Sheet 1)

EFFECTIVITY	ALL
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28-21-00

 **BOEING**
767
FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 1)

NO

23 REPLACE THE CONTROL UNIT(S) OF THE APPLICABLE FUELING SHUTOFF VALVE(S):

- V20 LEFT OUTBD
- V21 LEFT INBD
- V121 LEFT AUX
- V122 RIGHT AUX
- V23 RIGHT INBD
- V24 RIGHT OUTBD

(AMM 28-21-12/401).

IF THE PROBLEM CONTINUES, REPLACE THE FUELING SHUTOFF VALVE:

- V20 LEFT OUTBD
- V21 LEFT INBD
- V121 LEFT AUX
- V122 RIGHT AUX
- V23 RIGHT INBD
- V24 RIGHT OUTBD

(AMM 28-21-02/201).

Fueling Valve OPEN Light Illuminated with Fueling Switch in FUEL.
Fuel Quantity Did Not Increase or Increases at a Slow Rate
Figure 114 (Sheet 2)

EFFECTIVITY

ALL

28-21-00

01

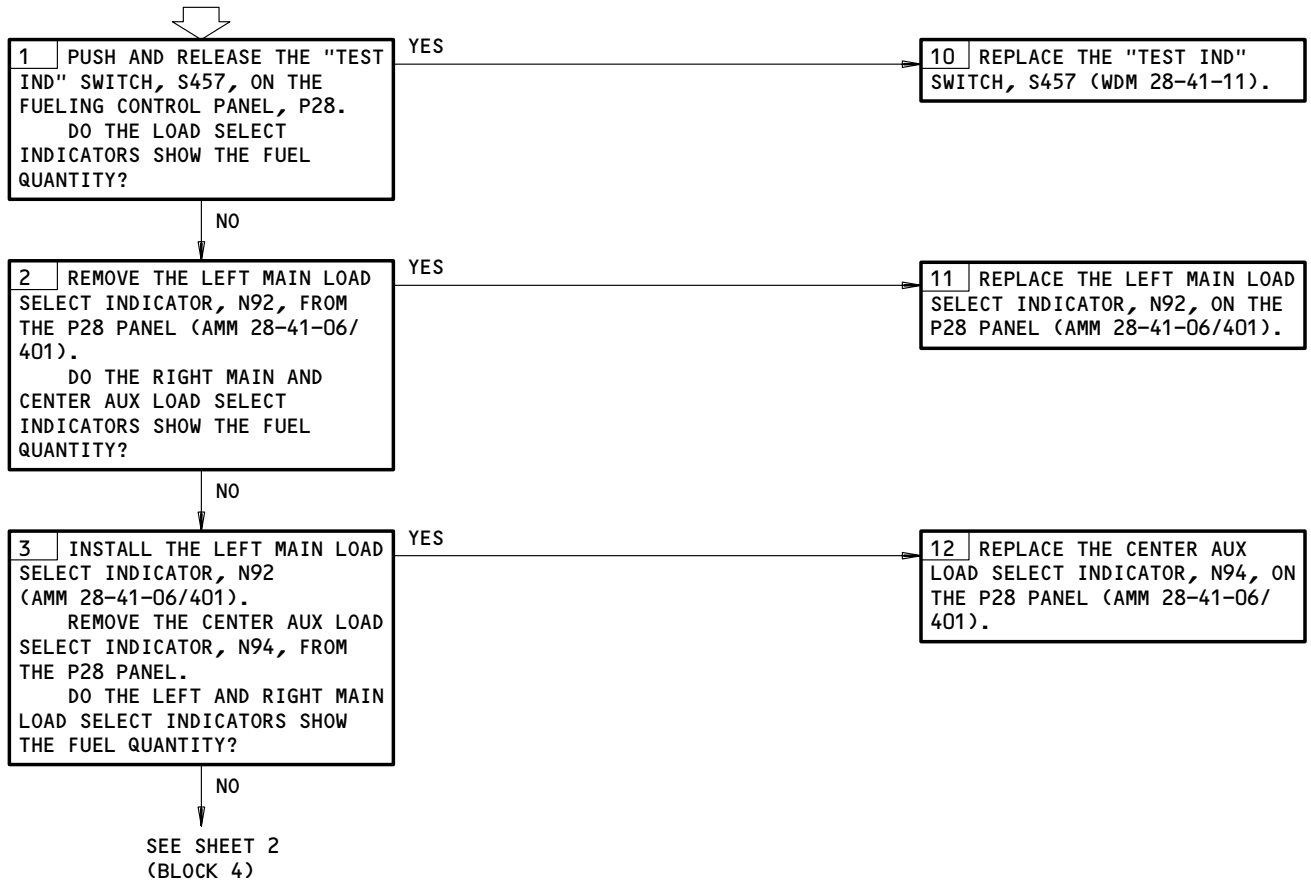
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**LOAD SELECT INDICA-
TOR DISPLAY REMAINED
BLANK WITH "TEST IND"
SWITCH DEPRESSED**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,6E5,11C34,11M19,34L2,34L3

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



Load Select Indicator Display Remained Blank with TEST IND Switch Depressed
Figure 115 (Sheet 1)

EFFECTIVITY

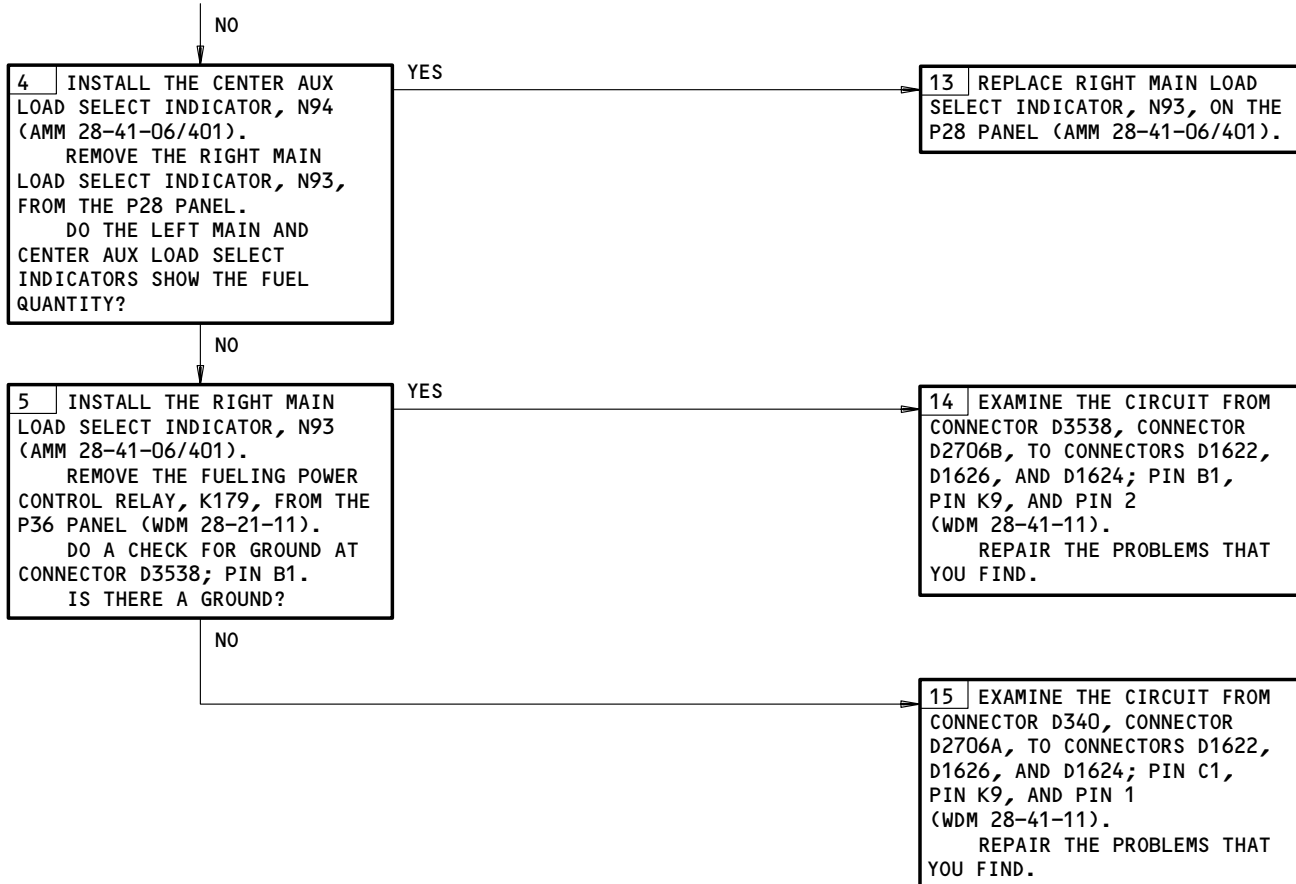
ALL

28-21-00

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FROM SHEET 1
(BLOCK 3)



Load Select Indicator Display Remained Blank with TEST IND Switch Depressed
Figure 115 (Sheet 2)

EFFECTIVITY

ALL

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**FUELING VALVE LIGHT
FAILS TO EXTINGUISH
AFTER PRESSING
PRESS-TO-TEST**

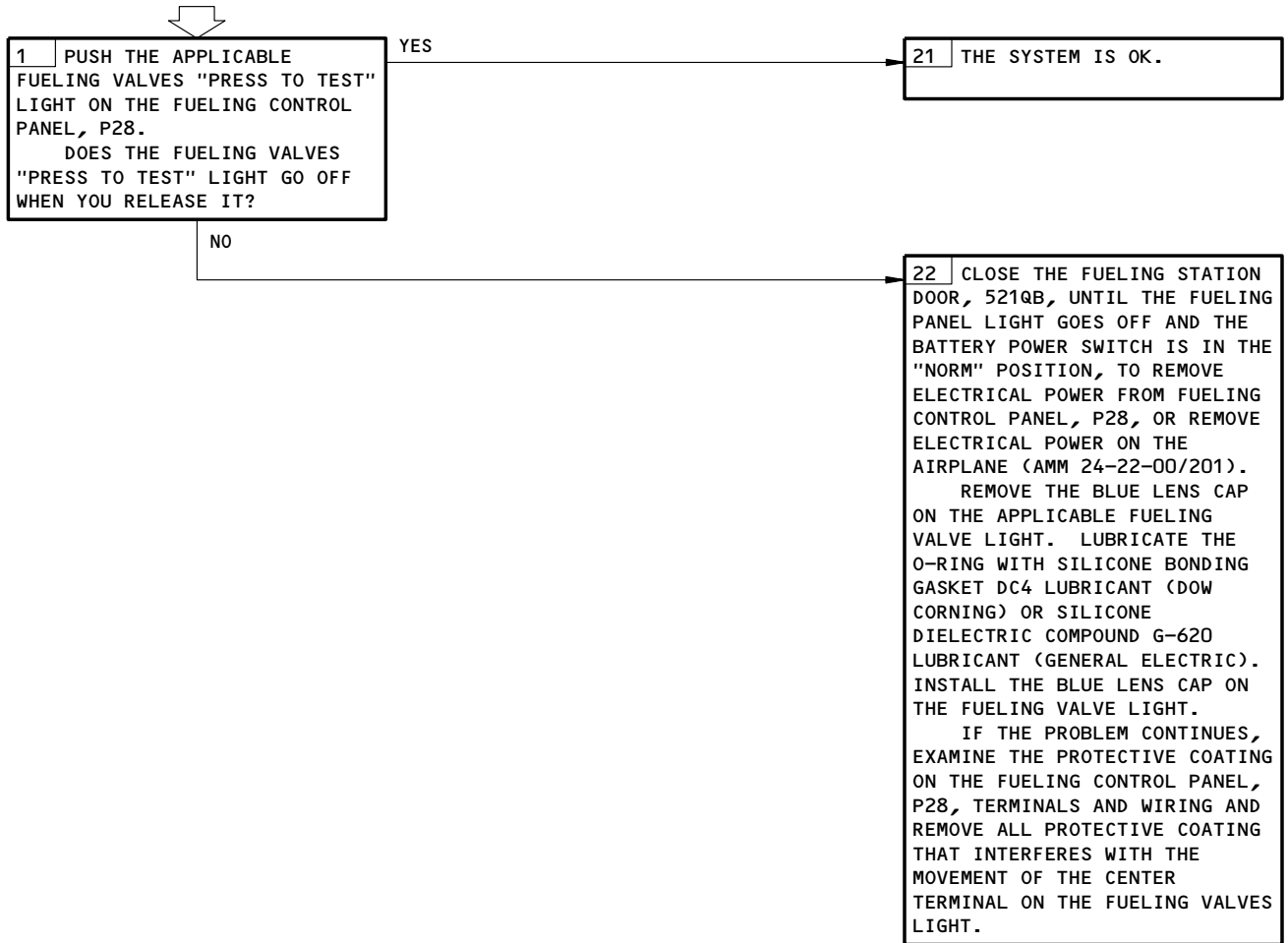
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E5, 34L3

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
28V DC ELECTRICAL POWER IS ON (AMM 24-22-00/201)

CONSUMABLE MATERIALS:
O-RING (P/N MS29513-013)
D00046 SILICONE BONDING GASKET DC4 LUBRICANT
(DOW CORNING) OR

D00419 SILICONE DIELECTRIC COMPOUND, G-620
LUBRICANT (GENERAL ELECTRIC)



Fueling Valve Light Fails to Extinguish after Pressing Press-to-Test
Figure 116

EFFECTIVITY	ALL
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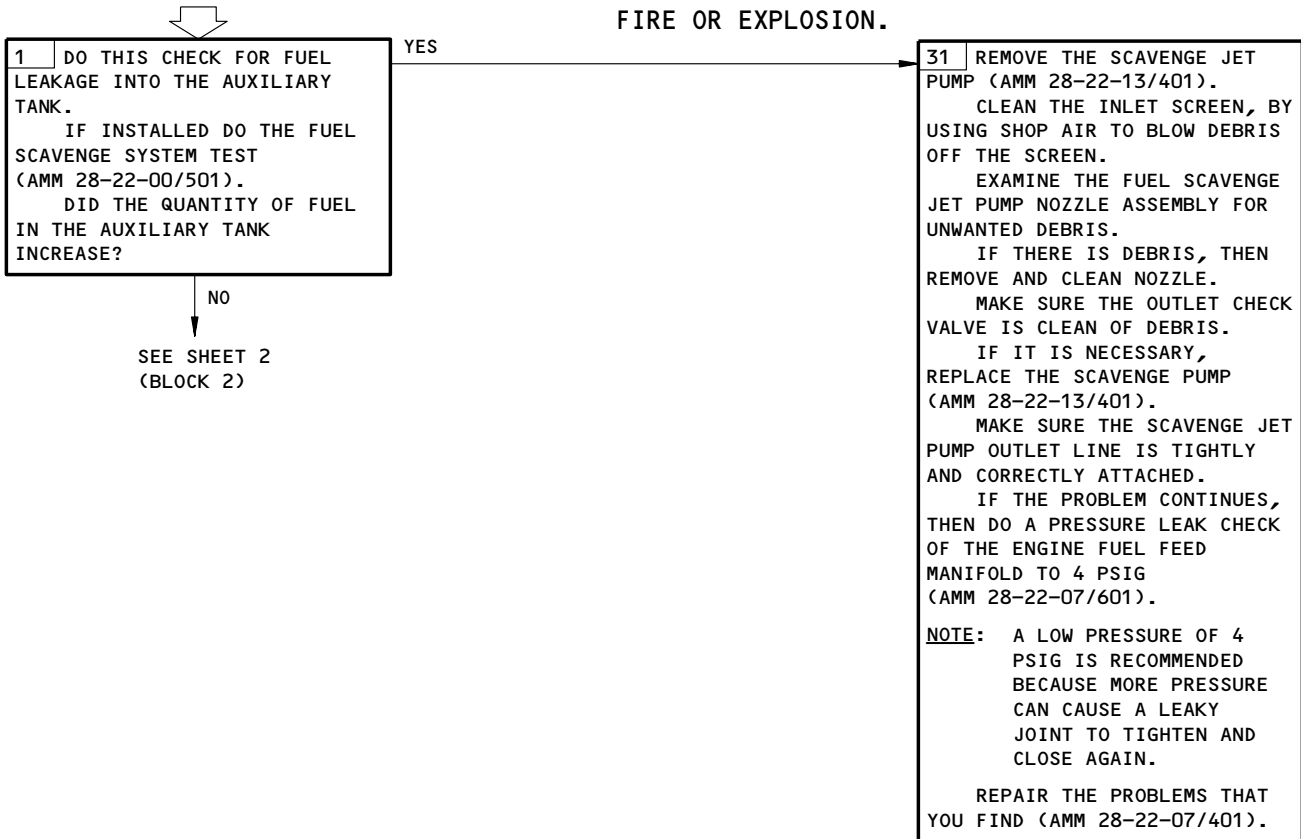
28-21-00

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201).
DEFUELING VALVES ARE IN THE CLOSED POSITION
CROSSFEED VALVES ARE IN THE CLOSED POSITION
FUEL CONTROL SWITCHES ARE IN THE CUTOFF POSITION
AUXILIARY TANK REFUEL VALVES ARE IN THE CLOSED POSITION
FUEL PUMP SWITCHES ARE IN THE OFF POSITION

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

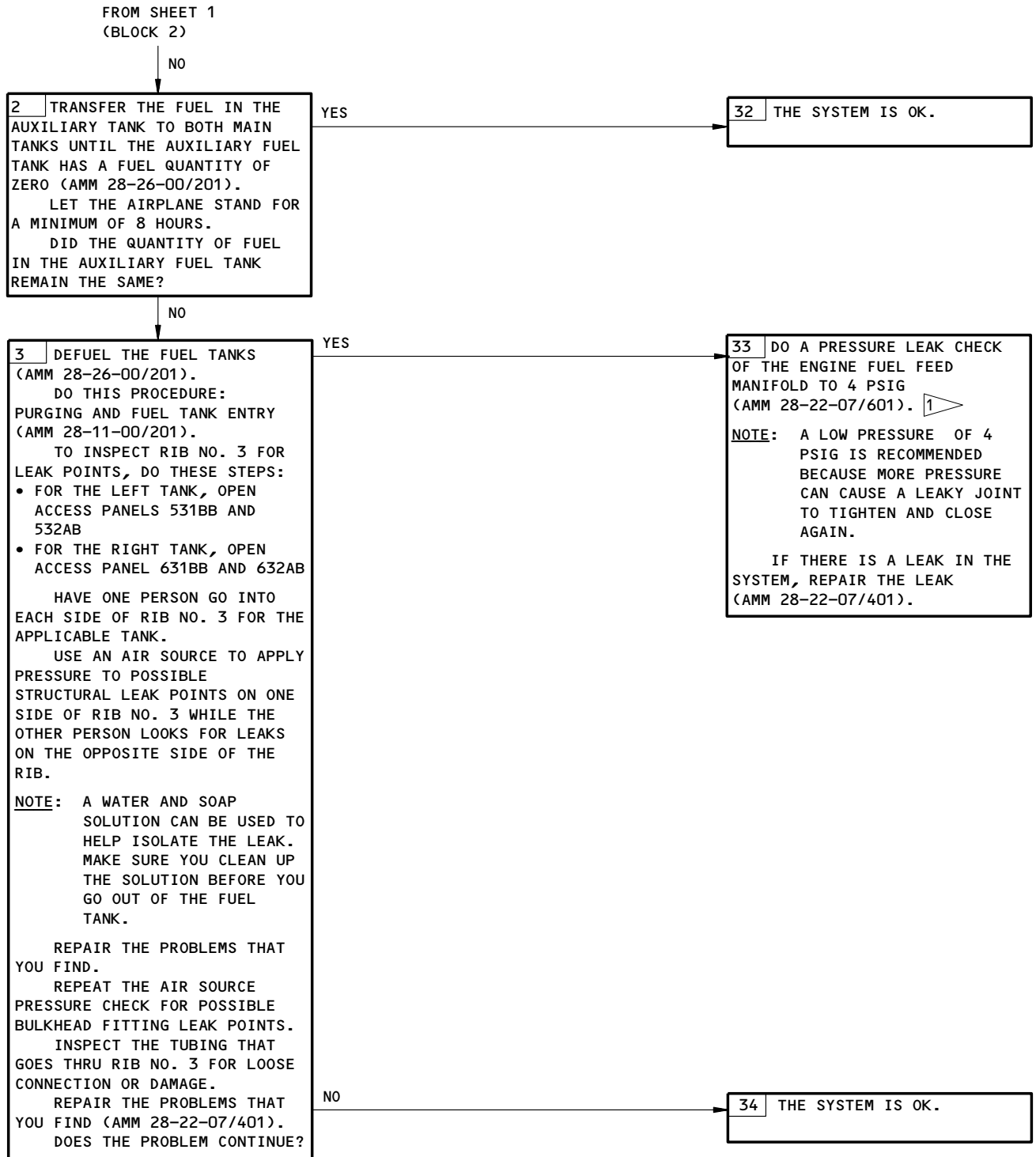
FUEL TRANSFER TO AUXILIARY TANK OCCURRED



Unwanted Fuel Transfer From Main Tanks to Auxiliary Tank
Figure 117 (Sheet 1)

EFFECTIVITY	ALL
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28-21-00



Unwanted Fuel Transfer From Main Tanks to Auxiliary Tank
Figure 117 (Sheet 2)

EFFECTIVITY

ALL

28-21-00

02

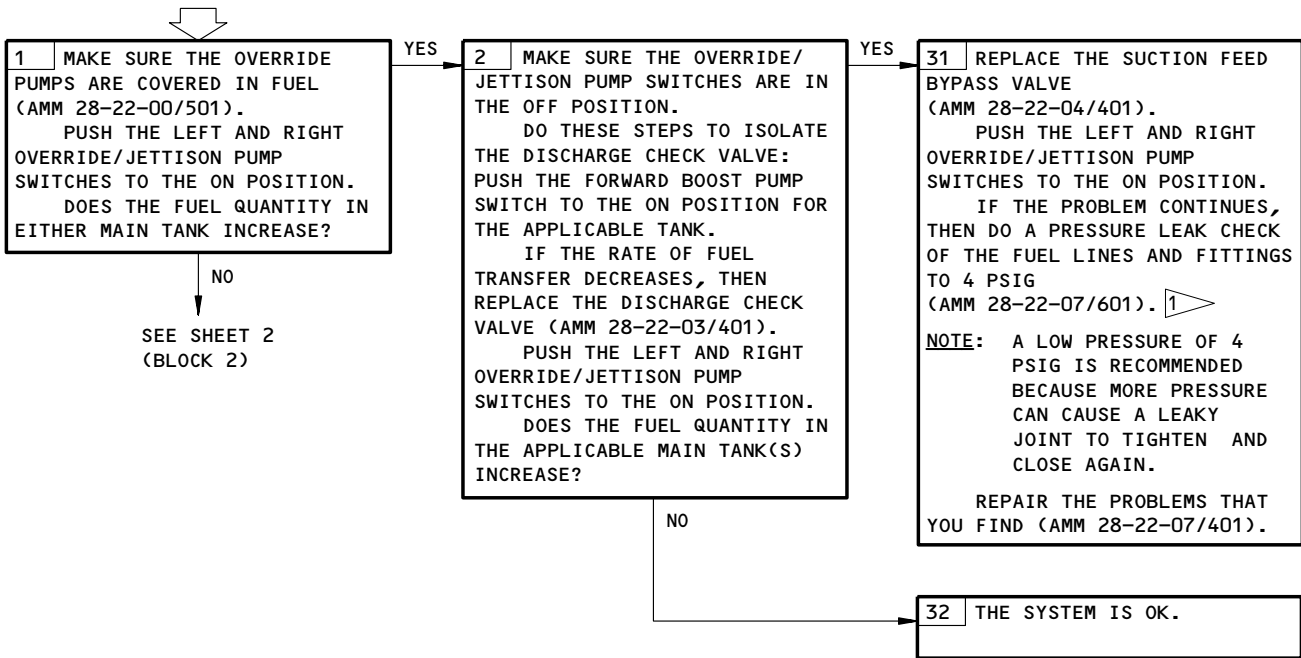
Page 139
Aug 22/08

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
 ELECTRICAL POWER IS ON (AMM 24-22-00/201)
 DEFUELING VALVES ARE IN THE CLOSED POSITION
 CROSSFEED VALVES ARE IN THE CLOSED POSITION
 FUEL CONTROL SWITCHES ARE IN THE CUTOFF POSITION
 AUXILIARY TANK REFUEL VALVES ARE IN THE CLOSED POSITION
 FUEL PUMP SWITCHES ARE IN THE OFF POSITION

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

UNWANTED FUEL TRANSFER FROM CENTER TANK TO MAIN TANK(S)

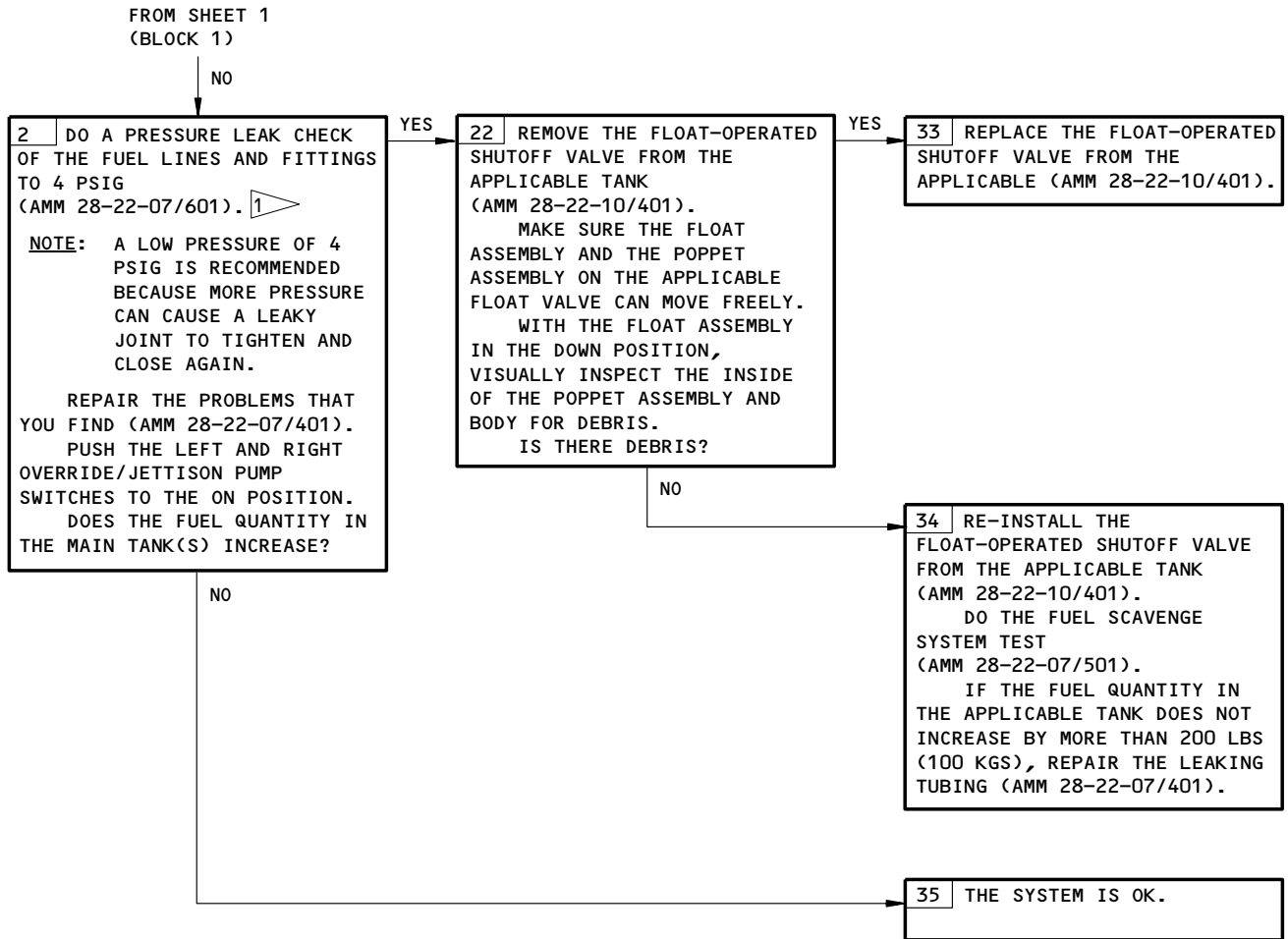


¹ MAKE SURE THE LEFT AND RIGHT MANIFOLD DRAIN VALVES ARE REMOVED AND CAPPED.
NOTE: THIS IS NECESSARY TO BE ABLE TO PRESSURIZE THE FUEL MANIFOLD TO 4 PSI.

Unwanted Fuel Transfer From Auxiliary Tank to Main Tank(s)
Figure 117A (Sheet 1)

EFFECTIVITY	ALL
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28-21-00



Unwanted Fuel Transfer From Auxiliary Tank to Main Tank(s)
Figure 117A (Sheet 2)

EFFECTIVITY	ALL
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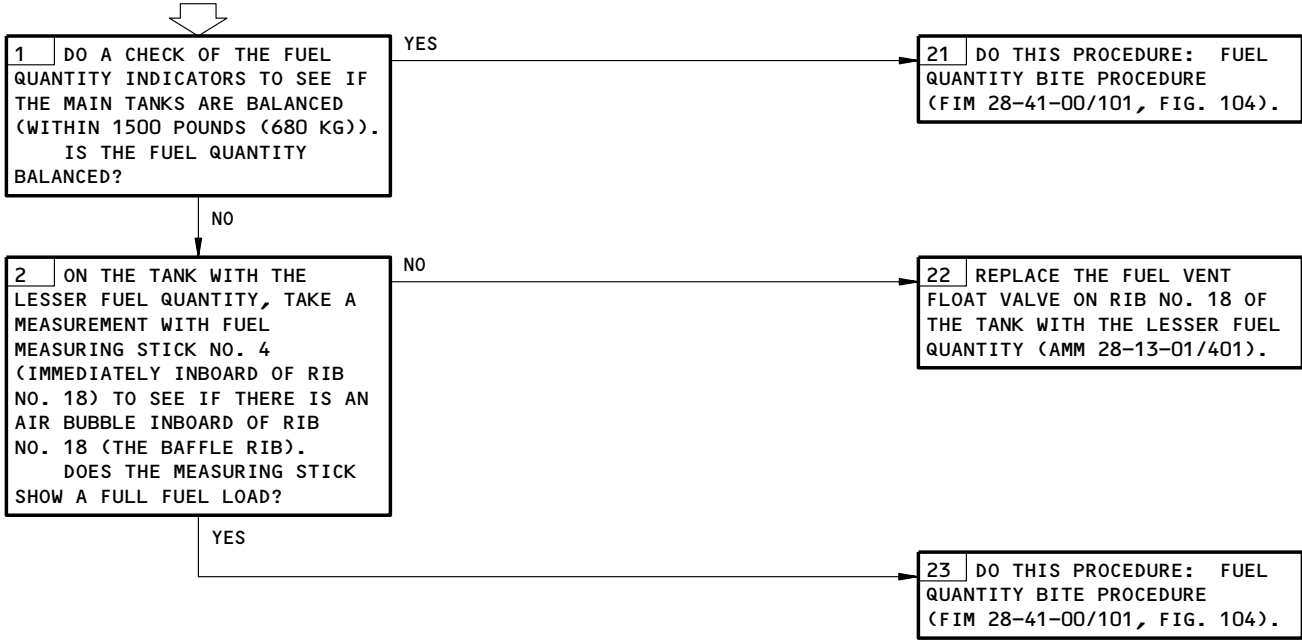
28-21-00

FUEL CONFIG LIGHT SHOWN AFTER PRESSURE REFUELING

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 6E5, 6E6, 11C34, 11M19, 34L2, 34L3, 34L5

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














Fuel Config Light Shown After Pressure Refueling
Figure 118

EFFECTIVITY	ALL
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
28-21-00


 **BOEING**
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FAULT ISOLATION/MAINT MANUAL


ENGINE FUEL-FEED SYSTEM


COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - AFT ENGINE FUEL CROSSFEED VALVE, V389 	3	1	LEFT WHEEL WELL	28-22-12
ACTUATOR - ENGINE FUEL CROSSFEED VALVE, V24 	3	1	LEFT WHEEL WELL	28-22-12
ACTUATOR - FWD ENGINE FUEL CROSSFEED VALVE, V388 	3	1	LEFT WHEEL WELL	28-22-12
ACTUATOR - L ENGINE FUEL SHUTOFF VALVE (SPAR VALVE), V25	3	1	551TB	28-22-11
ACTUATOR - R ENGINE FUEL SHUTOFF VALVE (SPAR VALVE), V26	3	1	651TB	28-22-11
CIRCUIT BREAKER -	1		FLT COMPT, P6	
L AFT FUEL BOOST PUMP (3φ), C366		1	6G15	*
L FUEL OVRD PUMP (3φ), C369		1	6F15	*
L FWD FUEL BOOST PUMP (3φ), C372		1	6G24	*
L SPAR FUEL VALVES, C1061		1	6E1	*
R AFT FUEL BOOST PUMP (3φ), C371		1	6G21	*
R FUEL OVRD PUMP (3φ), C370		1	6F21	*
R FWD FUEL BOOST PUMP (3φ), C368		1	6G18	*
R SPAR FUEL VALVES, C1062		1	6E2	*
CIRCUIT BREAKER -	1		FLT COMPT, P11	*
AFT CROSSFEED VALVE, C1070 		1	11M21	*
CROSSFEED IND, C1071 		1	11D36	*
FUEL CROSSFEED VALVE, C1051 		1	11D36	*
FUEL PUMPS L FWD/R AFT, C1055		1	11M25	*
FUEL PUMPS R FWD/L AFT, C1054		1	11M16	*
FWD CROSSFEED VALVE, C1069 		1	11M20	*
L CTR FUEL PUMPS, C1049		1	11M15	*
R CTR FUEL PUMPS, C1050		1	11M24	*
LIGHT - SPAR VALVE, YAZL1	3	1	FLT COMPT, P10, FUEL CONTROL PANEL, M73 (REF)	*
LIGHT - SPAR VALVE, YAZL3	3	1	FLT COMPT, P10, FUEL CONTROL PANEL, M73 (REF)	*
PANEL - (FIM 76-11-00/101) FUEL CONTROL, M73				
PANEL - FUEL MANAGEMENT, M10055	3	1	P5, FLT DECK	*
PUMP - AUTOMATIC SUMPING JET	2	6	531BB, 631BB	28-22-06
PUMP - L AFT FUEL BOOST, M333	2	1	532AB	28-22-03
PUMP - L FWD FUEL BOOST, M332	2	1	532AB	28-22-03
PUMP - L OVERRIDE, M636 		4	531AB	28-22-05
PUMP - L OVERRIDE, M636 		2	531AB	28-22-05
PUMP - R AFT FUEL BOOST, M335	2	1	632AB	28-22-03
PUMP - R FWD FUEL BOOST, M334	2	1	632AB	28-22-03
PUMP - R OVERRIDE, M637 		4	631AB	28-22-05
PUMP - R OVERRIDE, M637 		2	631AB	28-22-05
PUMP - SCAVENGE JET	4	2	531BB, 631BB	28-22-13

* SEE THE WDM EQUIPMENT LIST

 SAS 150, 152-154 POST-SB 28-27;
SAS 052-149, 155-161, 165-999;
MTH 275 POST-SB 28-27;
MTH 277-999

 SAS 150, 152-154 PRE-SB 28-27;
SAS 050, 051, 162-164;
MTH 275 PRE-SB 28-27;
MTH 276

 SAS 050, 051, 150-167 PRE-SB 28-34;
MTH 275-280 PRE-SB 28-34

 SAS 050, 051, 150-167 WITH SB 28-34;
SAS 052-149, 168-999;
MTH 275-280 POST-SB 28-34;
MTH 281-999

Engine Fuel-Feed System - Component Index
Figure 101 (Sheet 1)

EFFECTIVITY

ALL

28-22-00

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FAULT ISOLATION/MAINT MANUAL

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
RELAY - FUEL CROSSFEED VALVE DISAGREE, K1		1	FLT COMPT, P5, M10055	*
RELAY - L FWD PUMP PWR XFR, K4		1	FLT COMPT, P5	28-22-00
RELAY - L SPAR VALVE DISAGREE, K1		1	FLT COMPT, P10, M73	*
RELAY - R SPAR VALVE DISAGREE, K2		1	FLT COMPT, P10, M73	*
AFT FUEL CROSSFEED VALVE DISAGREE, K2151		1		*
FWD FUEL CROSSFEED VALVE DISAGREE, K2152		1		*
RELAY - (FIM 31-01-33/101)				
L FWD PUMP PWR SENSE, K513				
L FWD FUEL BOOST PUMP CONT, K188				
RELAY - (FIM 31-01-36/101)				
L AFT FUEL BOOST PUMP CONT, K187				
L FUEL OVRD PUMP CONT, K329				
OVRD PUMPS GND ENABLE, K633				
R FWD FUEL BOOST PUMP CONT, K190				
RELAY - (FIM 31-01-37/101)				
R AFT FUEL BOOST PUMP CONT, K189				
R FUEL OVRD PUMP CONT, K330				
SWITCH - AFT FUEL CROSSFEED VALVE, YCLS7	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - FUEL CROSSFEED VALVE, YCLS7	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - FWD FUEL CROSSFEED VALVE, YCLS8	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - L AFT FUEL BOOST PUMP, YCLS4	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - L FWD FUEL BOOST PUMP, YCLS2	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - L OVRD PUMP, YCLS6	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - R AFT FUEL BOOST PUMP, YCLS1	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - R FWD FUEL BOOST PUMP, YCLS5	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
SWITCH - R OVRD PUMP, YCLS3	3	1	FLT COMPT, P5, FUEL MANAGEMENT PANEL, M10055	*
VALVE - AFT ENGINE FUEL CROSSFEED	3	1	136KZ	28-22-02
VALVE - BOOST PUMP BYPASS	2	2	532BB,632BB	28-22-04
VALVE - DISCHARGE CHECK	2	4	532AB,632AB,531AB,631AB	28-22-03 28-22-05
VALVE - ENGINE FUEL CROSSFEED	3	1	531BB	28-22-02
VALVE - FUEL BOOST PUMP VAPOR VENT	2	4	532AB,632AB	28-22-09
VALVE - FWD ENGINE FUEL CROSSFEED	3	1	136KZ	28-22-02
VALVE - L ENGINE FUEL SHUTOFF (SPAR)	3	1	532BB	28-22-01
VALVE - MOTIVE FLOW AND SCREEN	2	4	532AB,632AB,531AB,631AB	28-22-03 28-22-05
VALVE - OVERRIDE/JETTISON PUMP VAPOR VENT		4	531AB,631AB	28-22-09
VALVE - OVERRIDE PUMP VAPOR VENT	2	2	531AB,631AB	28-22-09
VALVE - R ENGINE FUEL SHUTOFF (SPAR)	3	1	632BB	28-22-01

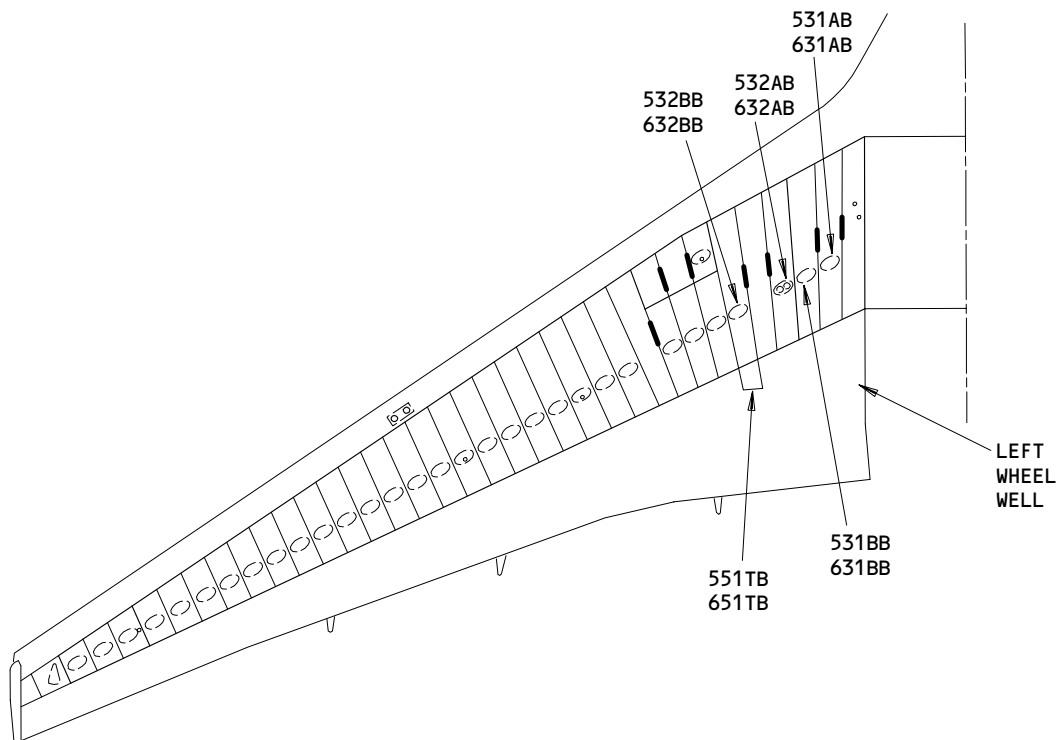
* SEE THE WDM EQUIPMENT LIST

Engine Fuel-Feed System - Component Index
Figure 101 (Sheet 2)

EFFECTIVITY

ALL

28-22-00



NOTE: 500 SERIES PANELS ON LEFT WING
 600 SERIES PANELS ON RIGHT WING

Engine Fuel-Feed System - Component Location
 Figure 102 (Sheet 1)

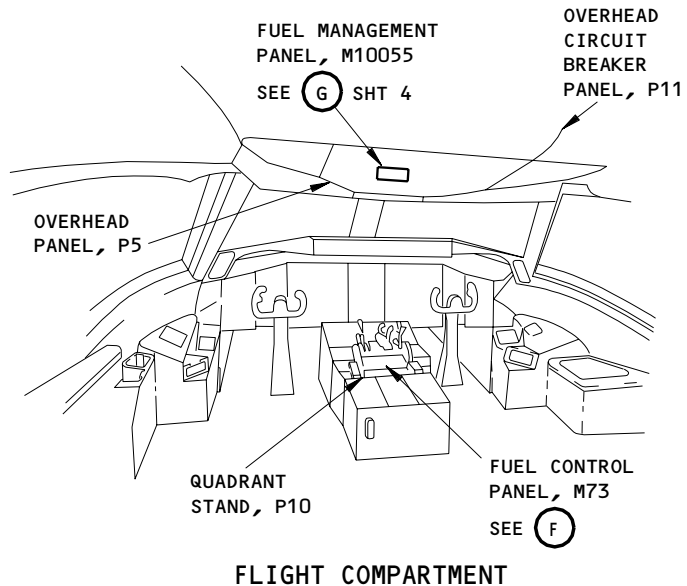
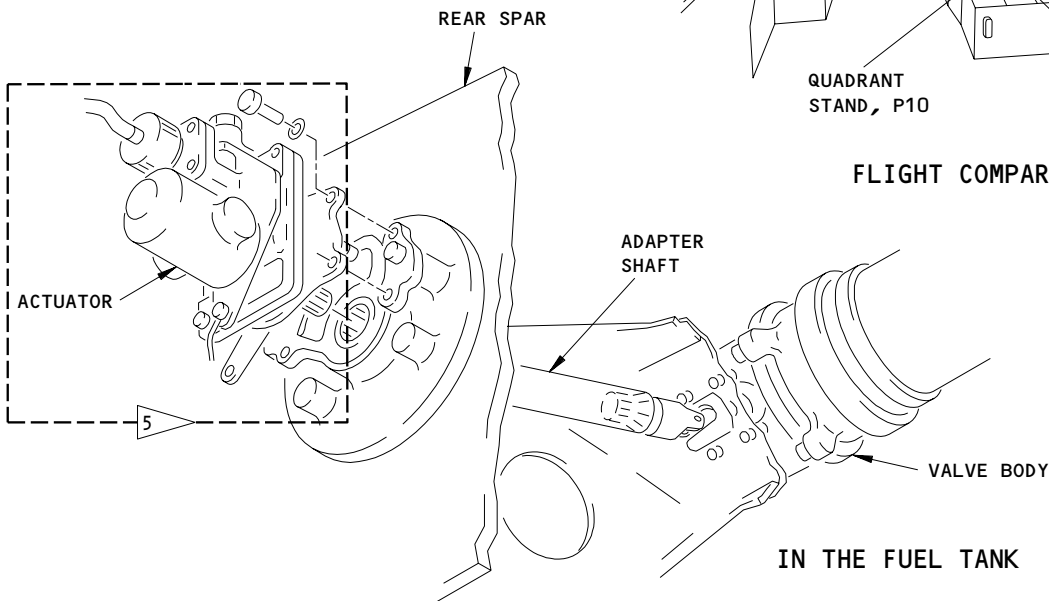
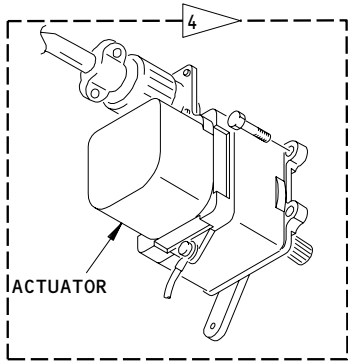
EFFECTIVITY	
	ALL

28-22-00

01

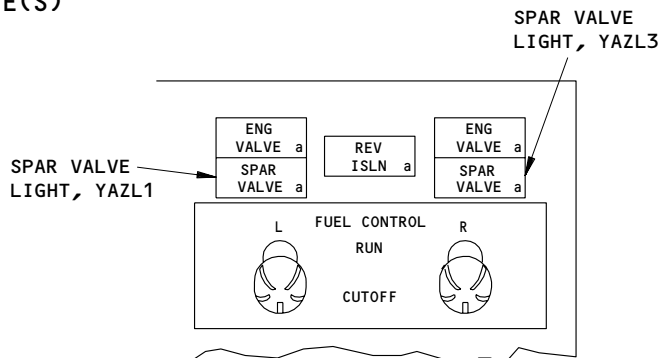
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719247



**ENGINE FUEL SHUTOFF VALVE (SPAR VALVE)
AND ENGINE FUEL CROSSFEED VALVE(S)
(ALMOST THE SAME)**

(E) FROM SHT 1



FUEL CONTROL PANEL, M73

(F)

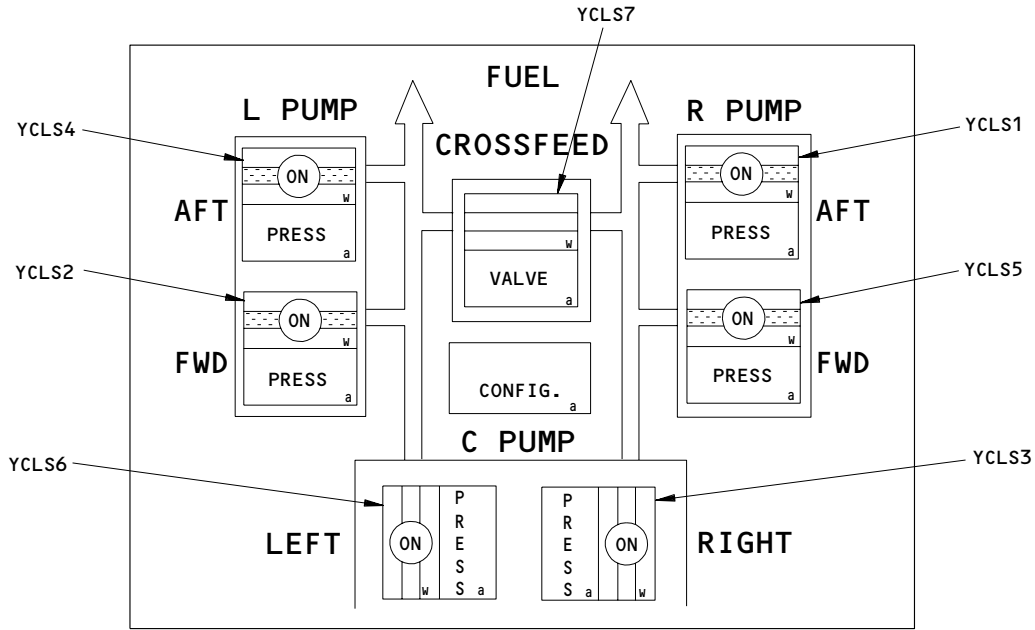
- 4 RECOMMENDED
- 5 ALTERNATE

Engine Fuel-Feed System - Component Location
Figure 102 (Sheet 3)

EFFECTIVITY	ALL
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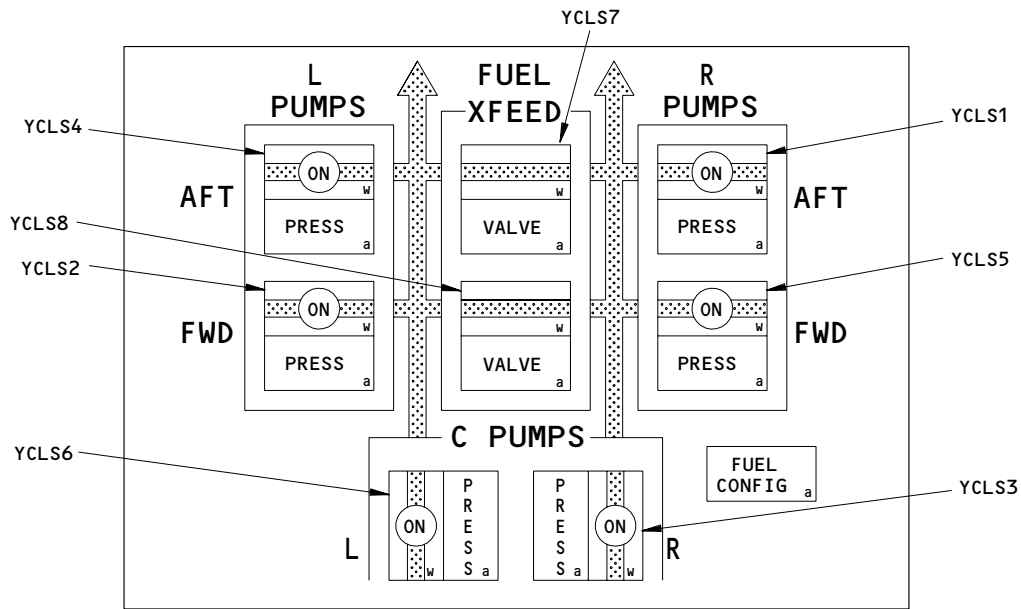
28-22-00

BOEING
767
FAULT ISOLATION/MAINT MANUAL



FUEL MANAGEMENT PANEL, M10055

G 6



FUEL MANAGEMENT PANEL, M10055

G 7

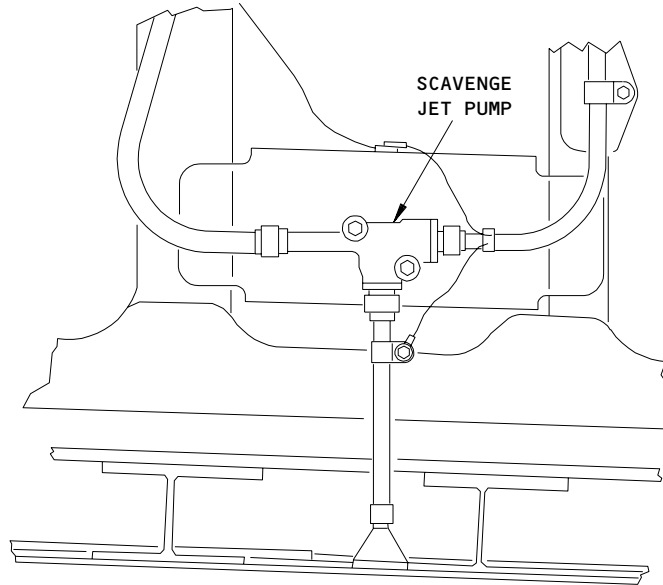
- 6 AIRPLANES WITH A SINGLE ENGINE FUEL CROSSFEED VALVE (PRE-SB 28-34)
- 7 AIRPLANES WITH FORWARD AND AFT ENGINE FUEL CROSSFEED VALVES (POST-SB 28-34 OR PRR12221)

Engine Fuel-Feed System - Component Location (Detail from Sht 3)
Figure 102 (Sheet 4)

EFFECTIVITY	ALL
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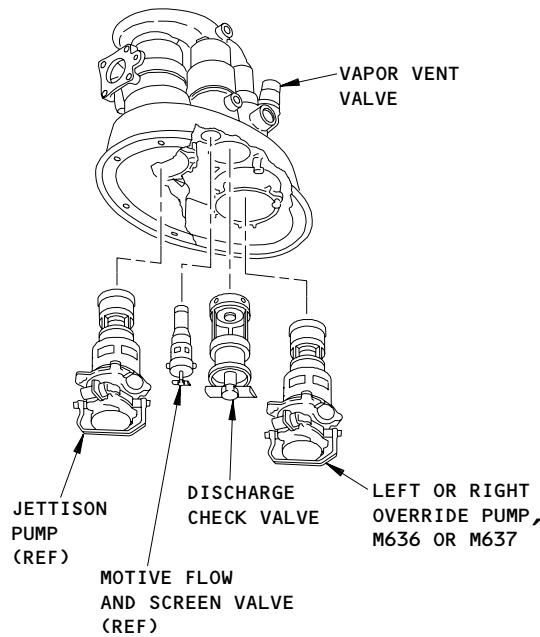
28-22-00

BOEING
767
FAULT ISOLATION/MAINT MANUAL



SCAVENGE JET PUMP
(SIDE VIEW)

(H)



VERRIDE/JETTISON PUMP

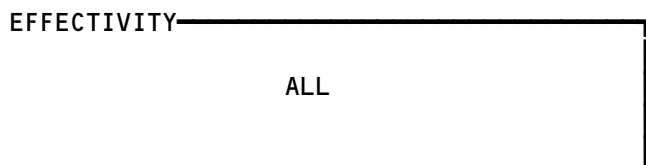
(I) 2

Engine Fuel-Feed System - Component Location
Figure 102 (Sheet 5)

EFFECTIVITY	
	ALL

28-22-00

Not Used
Figure 103



28-22-00

03

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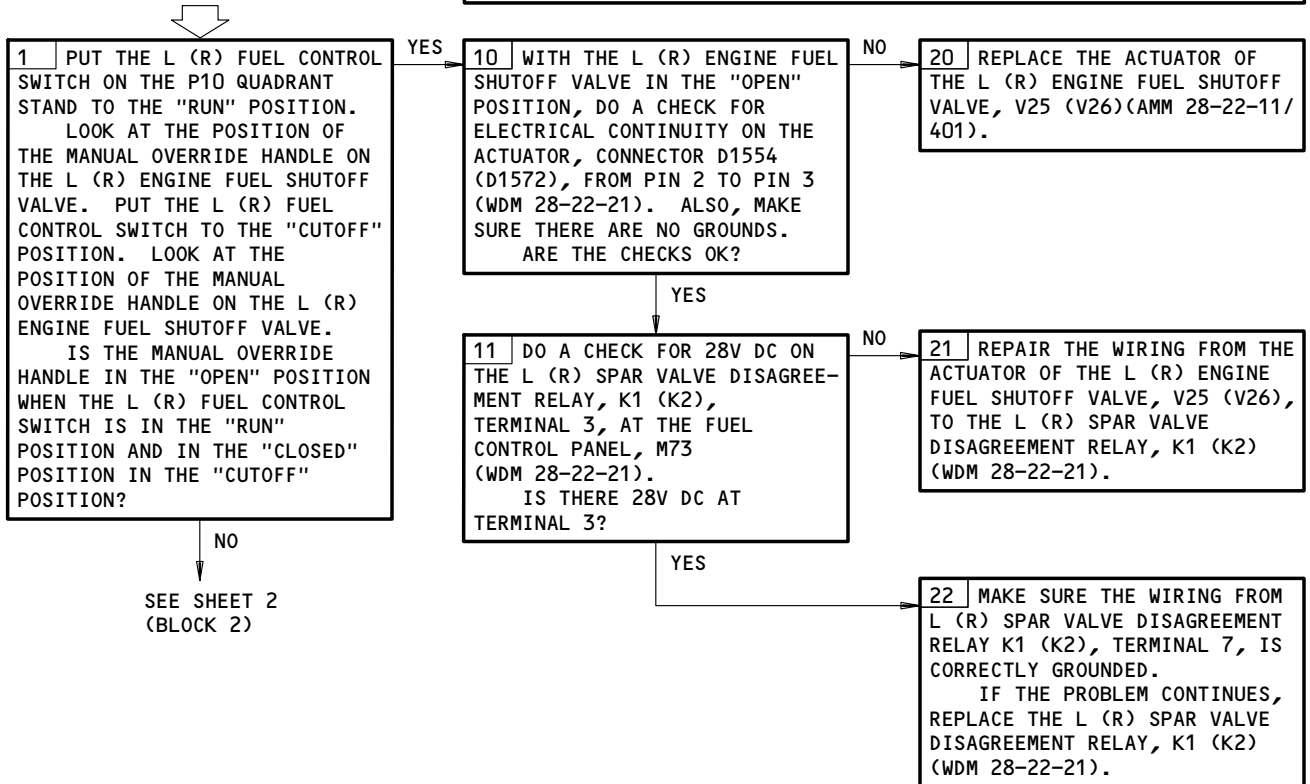
182663

ENGINE FUEL SHUTOFF (SPAR) VALVE SWITCH-LIGHT DOES NOT INDICATE AGREEMENT

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E1,6E2

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



Engine Fuel Shutoff (Spar) Valve Switchlight Does Not Indicate Agreement
Figure 104 (Sheet 1)

EFFECTIVITY

ALL

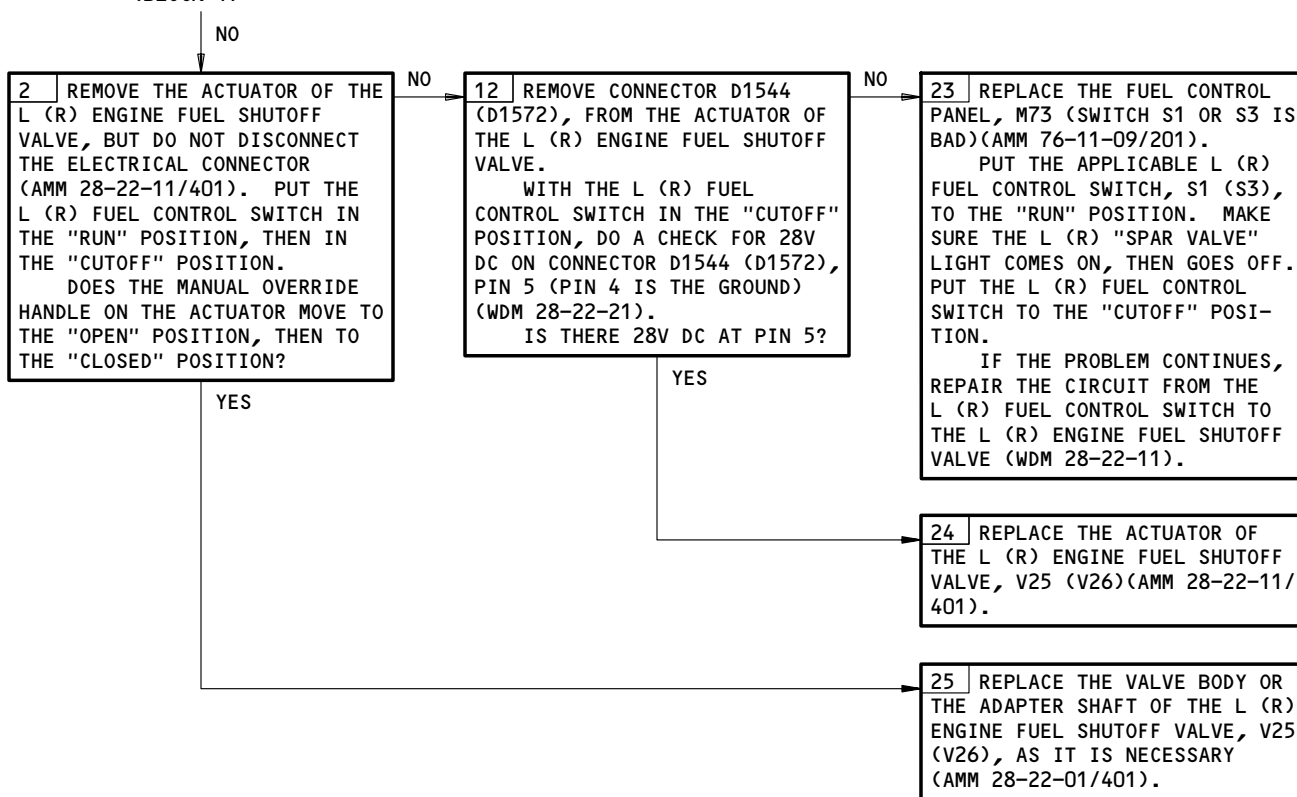
28-22-00

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FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 1)



Engine Fuel Shutoff (Spar) Valve Switchlight Does Not Indicate Agreement
Figure 104 (Sheet 2)

EFFECTIVITY

ALL

28-22-00

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M15, 11M24

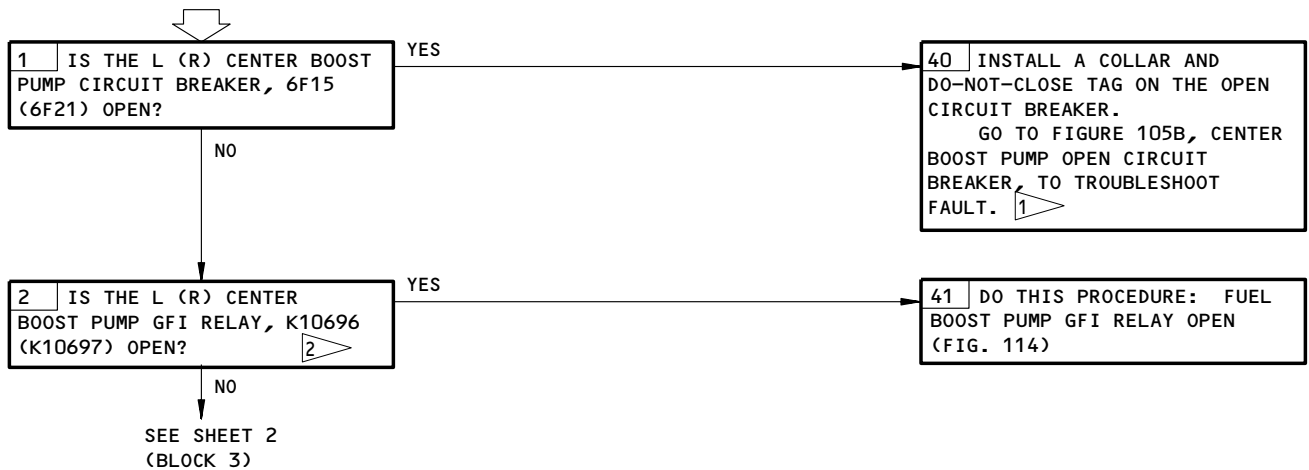
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
FUEL IS IN THE AUXILIARY FUEL TANK
(AMM 12-11-01/301)

ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES ARE OFF

WARNING: DO NOT RESET A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

CENTER BOOST PUMP
LOW PRESSURE LIGHT
ON, EICAS "CTR
L (R) FUEL PUMP"
MESSAGE DISPLAYED,
PUMP CIRCUIT
BREAKER CLOSED

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.



1 CDCCL - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-00/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCLs).

2 IF INSTALLED (POST-SB 28A0085 OR PRR B13421-3)

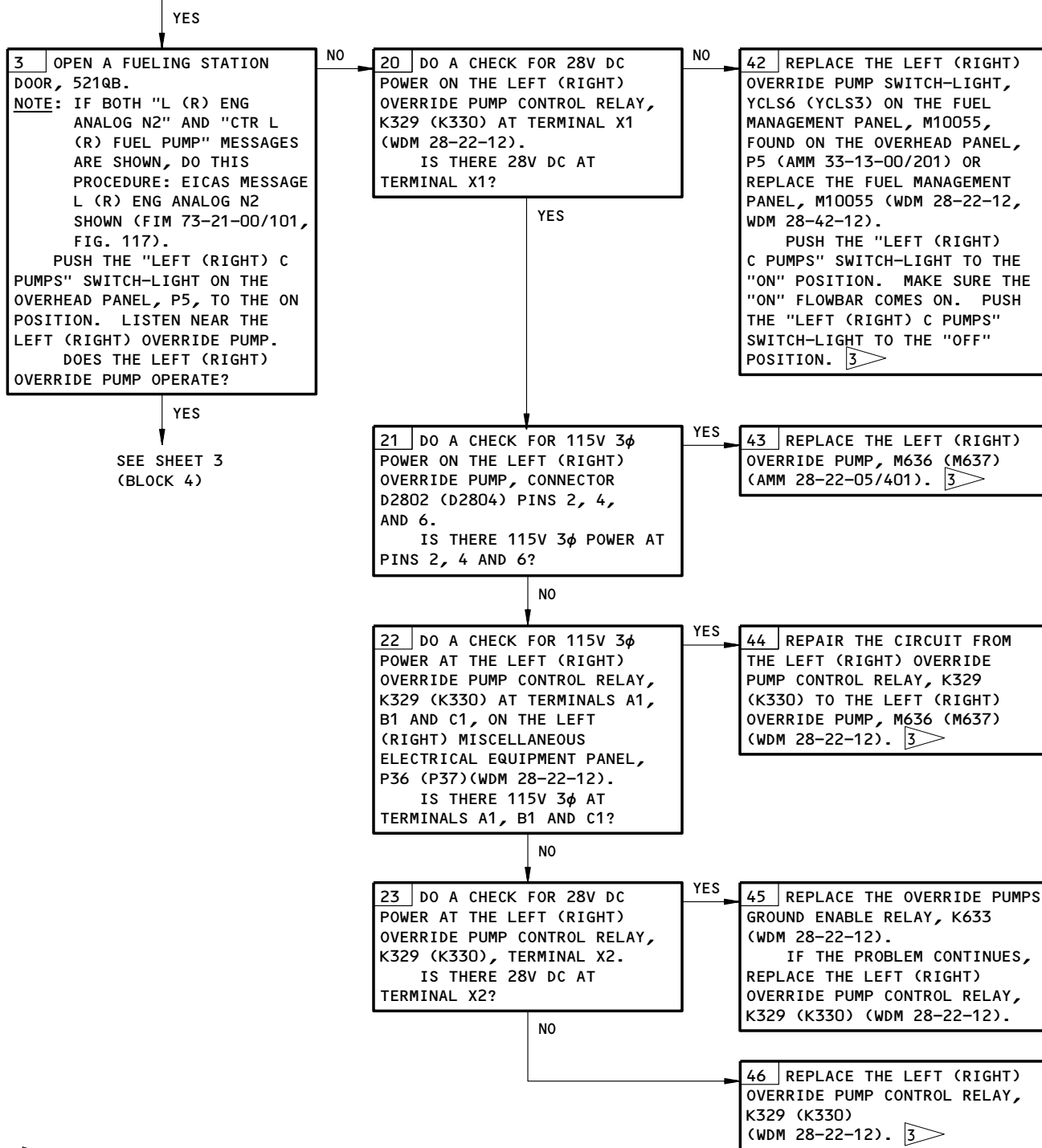
Center Boost Pump Low Pressure Light On,
EICAS CTR L (R) FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
Figure 105 (Sheet 1)

EFFECTIVITY
AIRPLANES WITHOUT AUTOMATIC OVERRIDE
PUMP SHUTOFF

28-22-00

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FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 2)



3 MAKE SURE THE EICAS MESSAGE, "CTR L (R) FUEL PUMP", DOES NOT SHOW ON THE TOP DISPLAY.

Center Boost Pump Low Pressure Light On,
EICAS CTR L (R) FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
Figure 105 (Sheet 2)

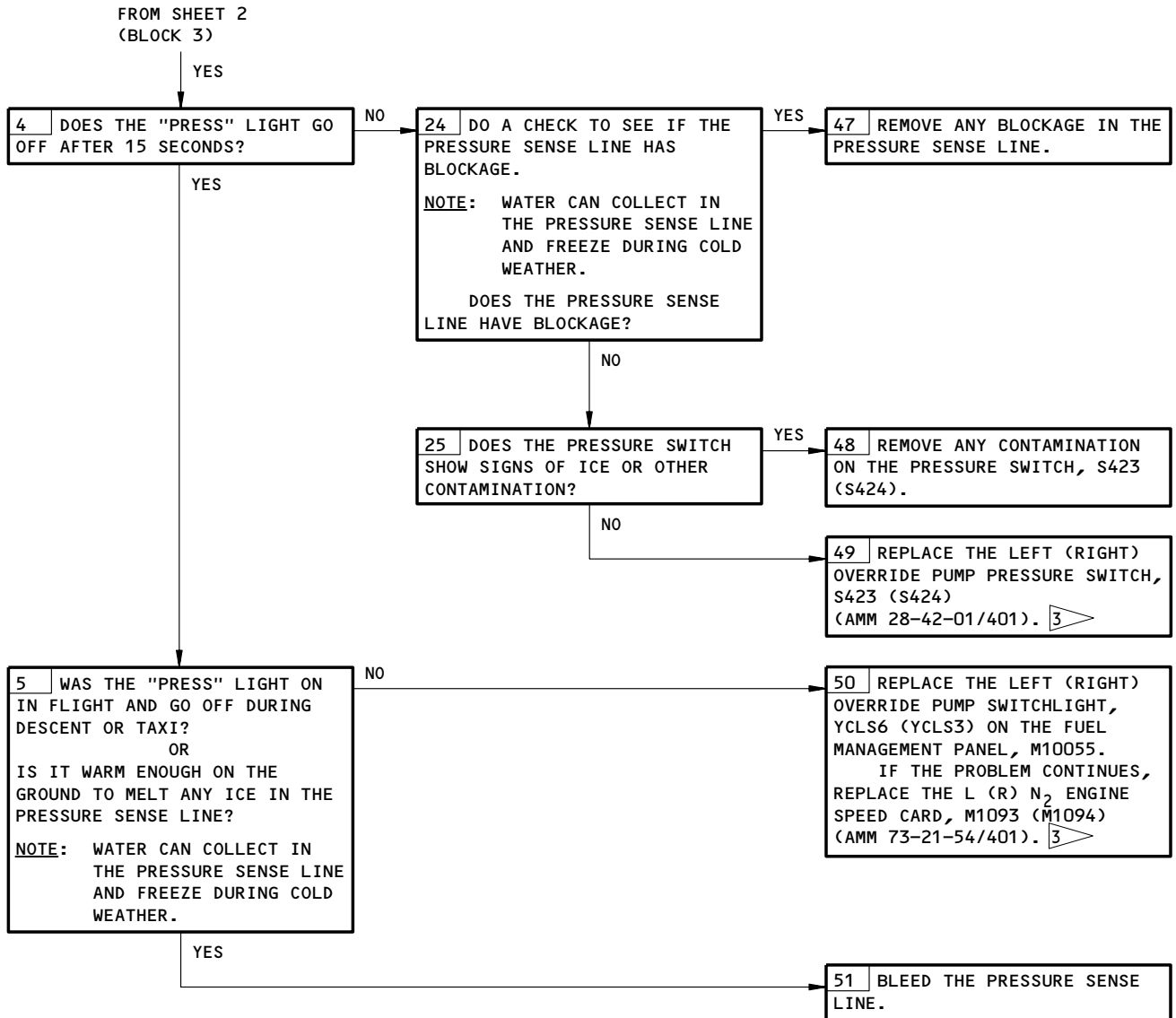
EFFECTIVITY
AIRPLANES WITHOUT AUTOMATIC OVERRIDE
PUMP SHUTOFF

28-22-00

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 FAULT ISOLATION/MAINT MANUAL



Center Boost Pump Low Pressure Light On,
 EICAS CTR L (R) FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
 Figure 105 (Sheet 3)

EFFECTIVITY
 AIRPLANES WITHOUT AUTOMATIC OVERRIDE
 PUMP SHUTOFF

28-22-00

PREREQUISITES

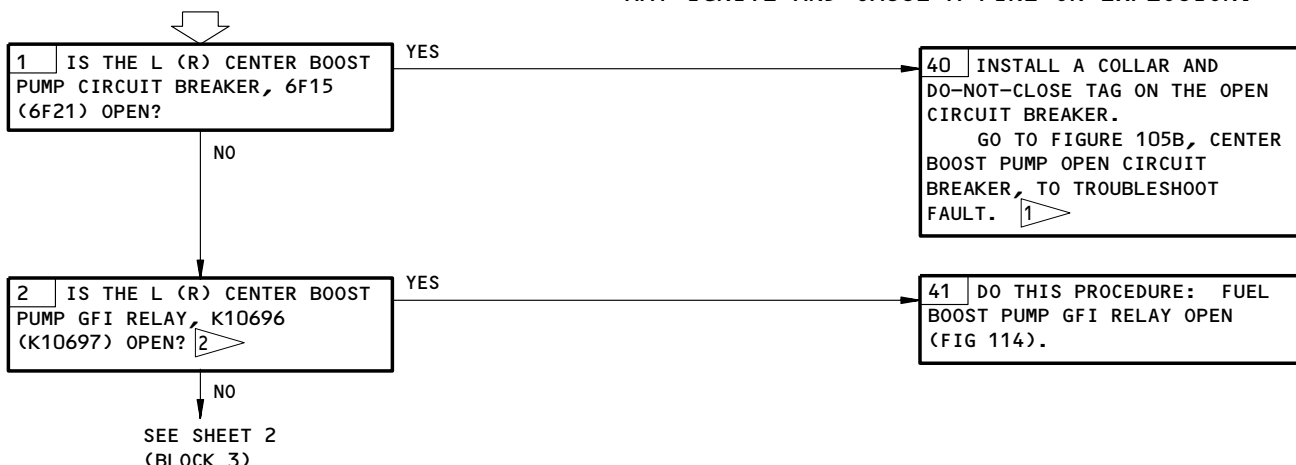
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M15, 11M24

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
FUEL IS IN THE AUXILIARY FUEL TANK
(AMM 12-11-01/301)
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES ARE OFF

WARNING: DO NOT RESET A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

**CENTER BOOST PUMP
LOW PRESSURE LIGHT
ON, EICAS "CTR
L (R) FUEL PUMP"
MESSAGE DISPLAYED,
PUMP CIRCUIT
BREAKER CLOSED**



1 CDCCL - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-00/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCLs).

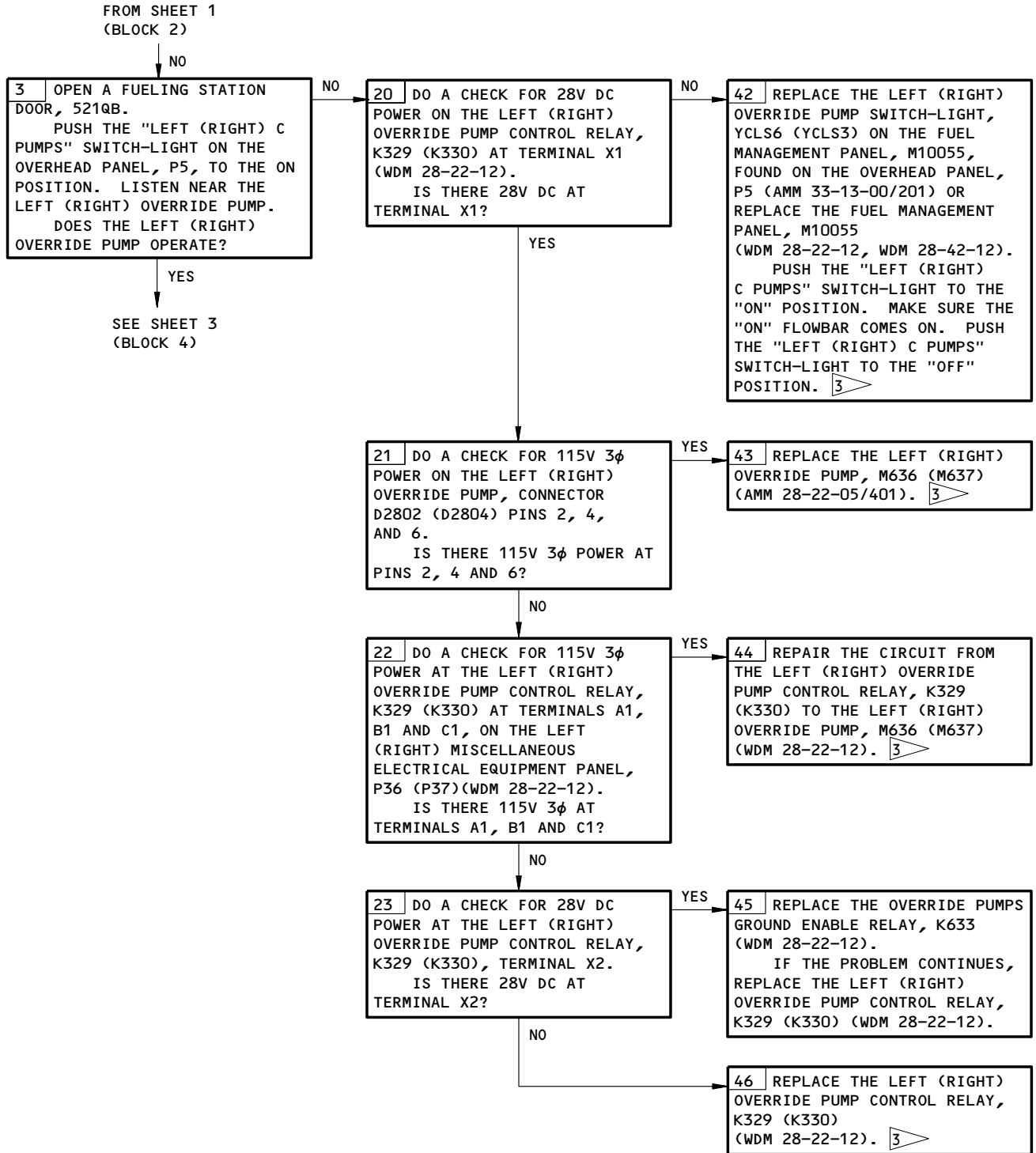
2 IF INSTALLED (POST-SB 28A0085 OR PRR B13421-3)

Center Boost Pump Low Pressure Light On, EICAS CTR L (R)
FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
Figure 105A (Sheet 1)

EFFECTIVITY
AIRPLANES WITH AUTOMATIC OVERRIDE PUMP
SHUTOFF

28-22-00

BOEING
767
FAULT ISOLATION/MAINT MANUAL



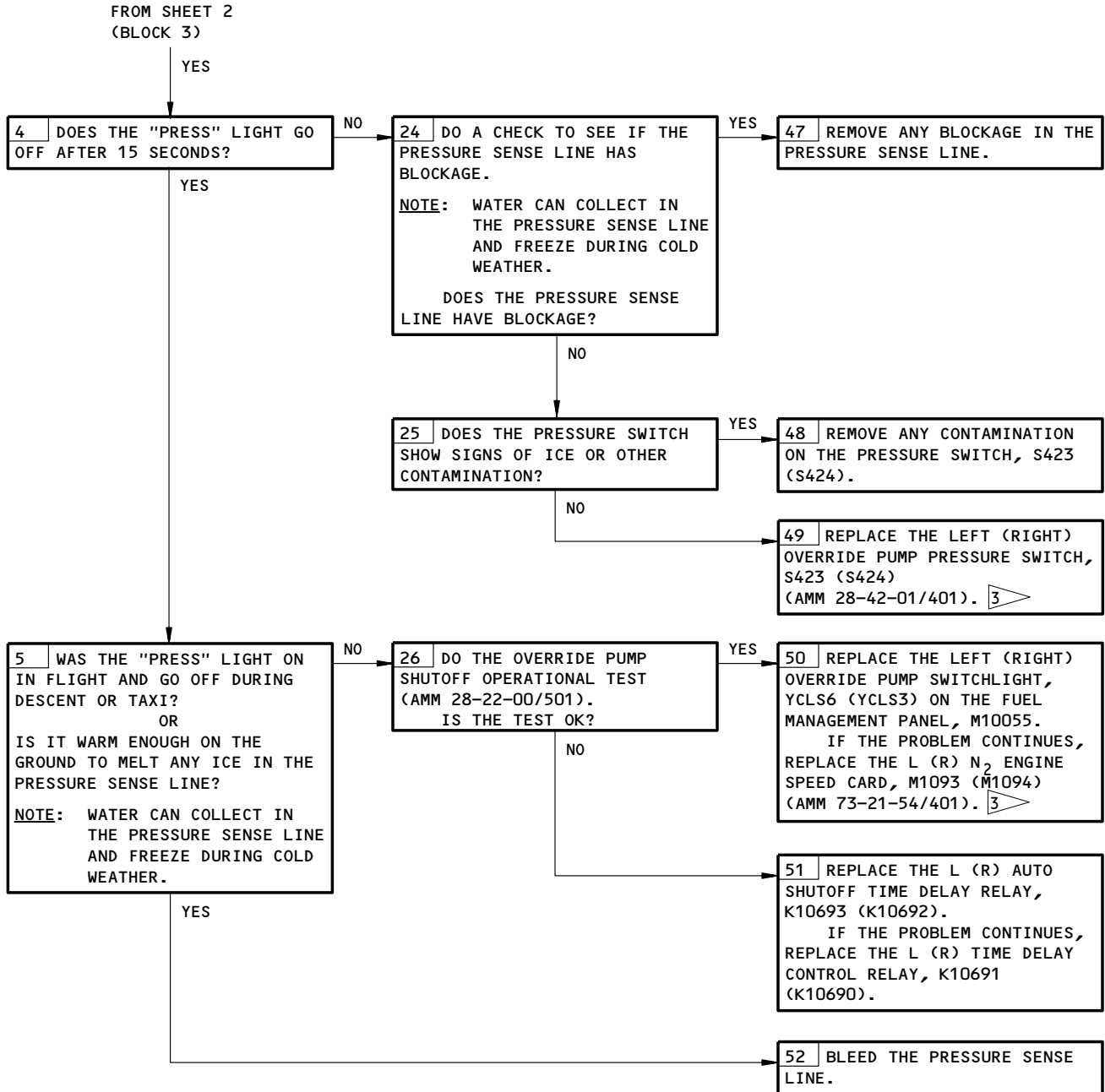
3 MAKE SURE THE EICAS MESSAGE "CTR L (R) FUEL PUMP", DOES NOT SHOW ON THE TOP DISPLAY.

Center Boost Pump Low Pressure Light On, EICAS CTR L (R)
FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
Figure 105A (Sheet 2)

EFFECTIVITY
AIRPLANES WITH AUTOMATIC OVERRIDE PUMP
SHUTOFF

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Center Boost Pump Low Pressure Light On, EICAS CTR L (R)
FUEL PUMP Message Displayed, Pump Circuit Breaker Closed
Figure 105A (Sheet 3)

EFFECTIVITY
AIRPLANES WITH AUTOMATIC OVERRIDE PUMP
SHUTOFF

28-22-00

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES ARE OFF
MAKE SURE THE AUXILIARY TANK HAS A MINIMUM FUEL QUANTITY OF:
6700 LBS (3100 KGS) - ZERO BAY CENTER COMPARTMENT
26,000 LBS (11,900 KGS) - TWO BAY CENTER COMPARTMENT
38,200 LBS (14,700 KGS) - FOUR BAY CENTER COMPARTMENT
REFER TO AMM 28-11-00/001 FOR CENTER COMPARTMENT SIZE EFFECTIVITY.

WARNING: DO NOT CLOSE (RESET) A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

NOTE: IF YOU MAKE A DECISION TO DISPATCH THE AIRPLANE WITH AN OPEN CIRCUIT BREAKER, DO THE STEPS IN THE MEL TO DEACTIVATE THE (L, R) OVERRIDE PUMP. OPERATE THE AIRPLANE PER THE MEL PROCEDURES.

CENTER BOOST PUMP
LOW PRESSURE LIGHT
ON, EICAS "CTR
(L, R) FUEL PUMP"
MESSAGE DISPLAYED,
CIRCUIT BREAKER
OPEN 1

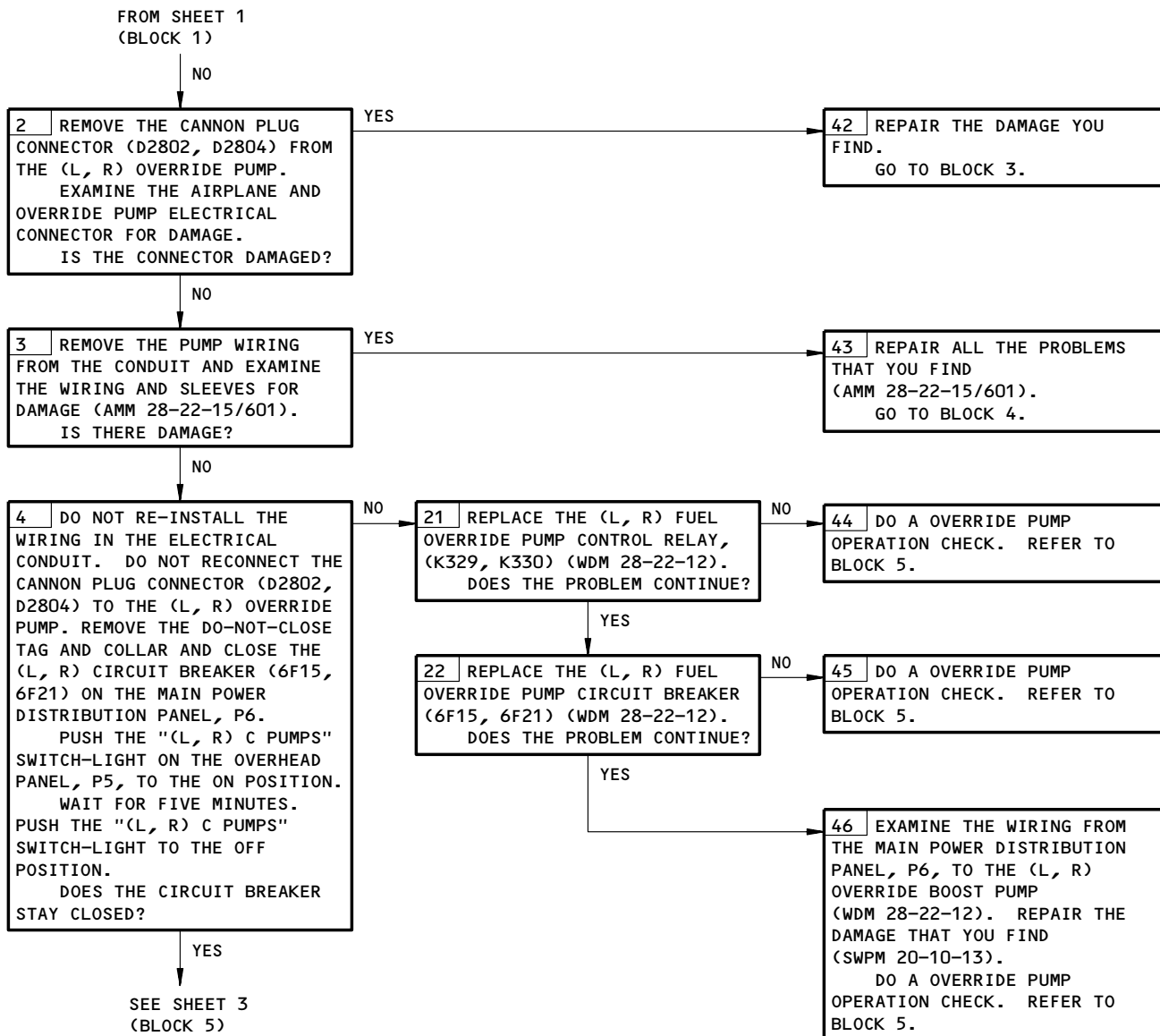


1 CDCCL - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-20/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCL'S).

Center Boost Pump Low Pressure Light On, EICAS CTR (L, R)
FUEL PUMP Message Displayed, Circuit Breaker Open
Figure 105B (Sheet 1)

EFFECTIVITY	ALL
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28-22-00



Center Boost Pump Low Pressure Light On, EICAS CTR (L, R)
FUEL PUMP Message Displayed, Circuit Breaker Open
Figure 105B (Sheet 2)

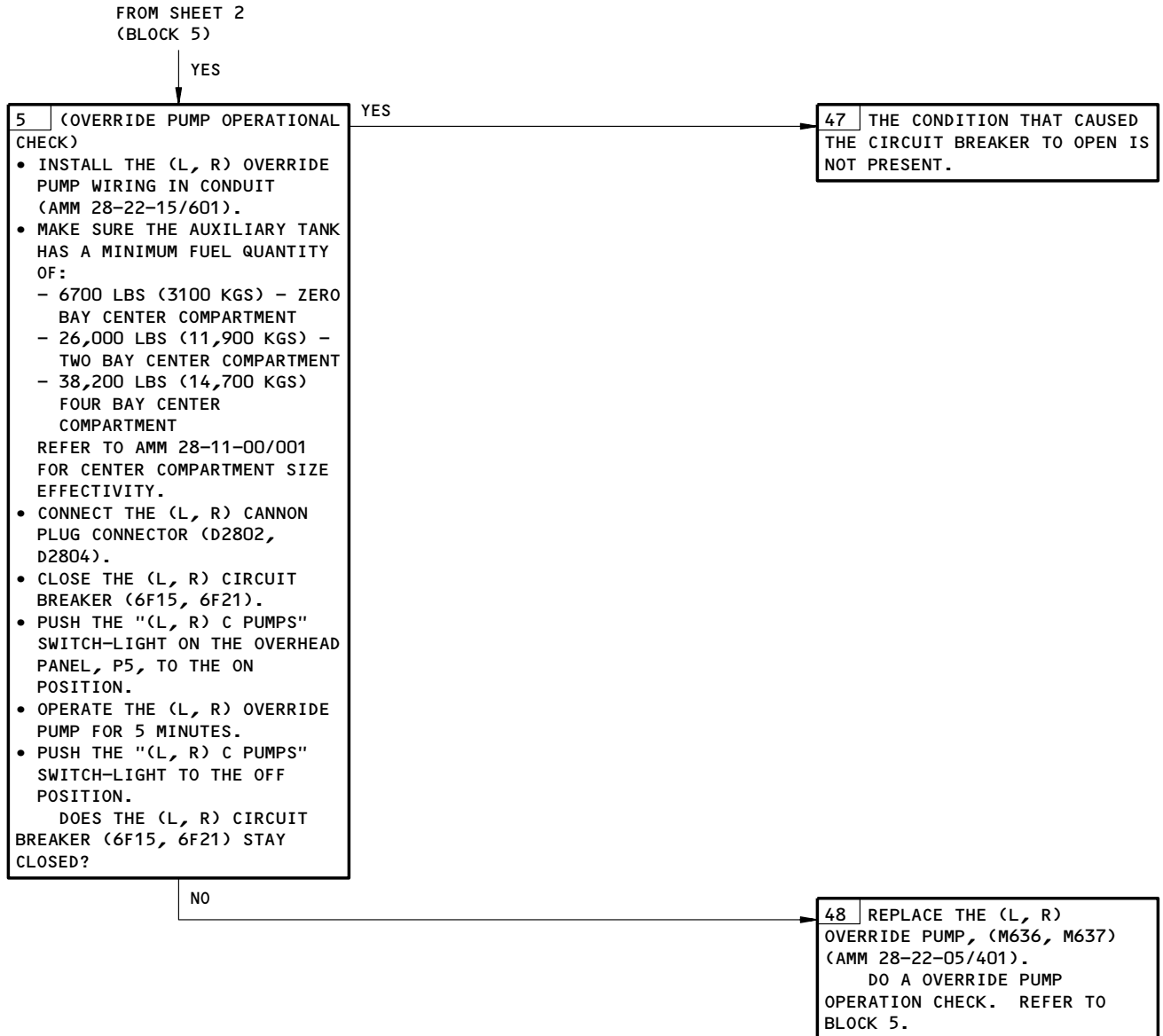
EFFECTIVITY

ALL

28-22-00

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Center Boost Pump Low Pressure Light On, EICAS CTR (L, R)
 FUEL PUMP Message Displayed, Circuit Breaker Open
 Figure 105B (Sheet 3)

EFFECTIVITY	ALL
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28-22-00

PREREQUISITES

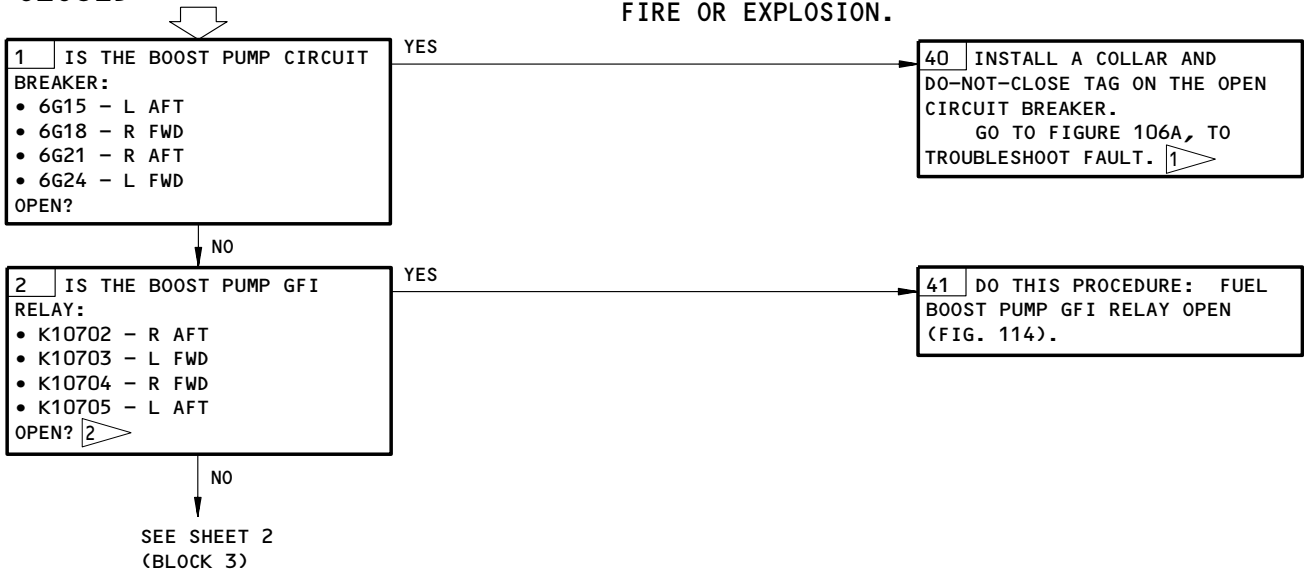
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M16, 11M25

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FUEL IS IN THE MAIN FUEL TANKS (AMM 12-11-01/301)

WARNING: DO NOT RESET A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

BOOST PUMP LOW PRESSURE LIGHT ON, EICAS MESSAGE DISPLAYED, PUMP CIRCUIT BREAKER CLOSED



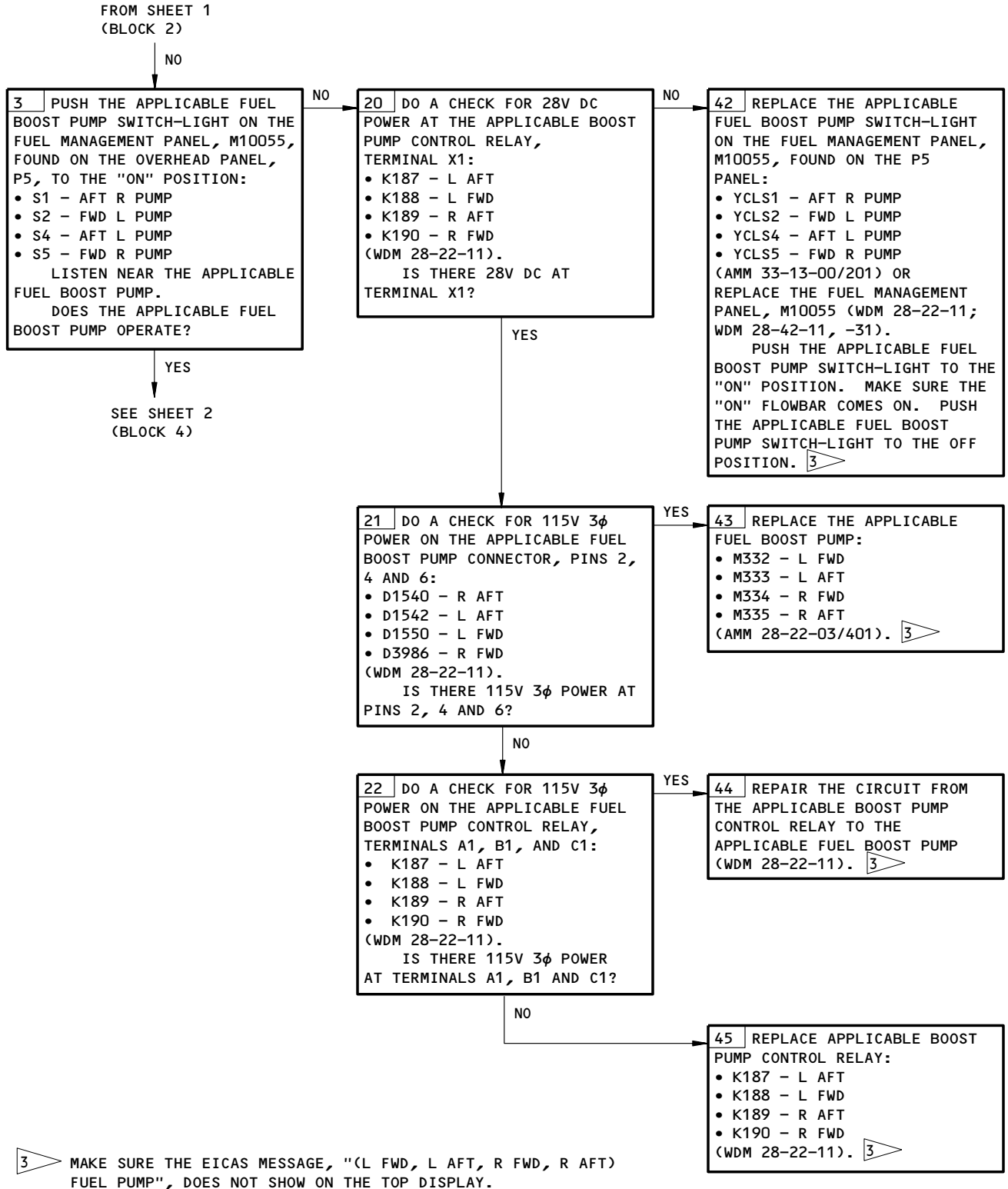
1 CDCCL - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-00/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCL'S).

2 IF INSTALLED (POST-SB 28A0085 OR PRR B13421-3)

**Boost Pump Low Pressure Light On, EICAS Message Displayed,
Pump Circuit Breaker Closed
Figure 106 (Sheet 1)**

EFFECTIVITY	ALL
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28-22-00



Boost Pump Low Pressure Light On, EICAS Message Displayed,
Pump Circuit Breaker Closed
Figure 106 (Sheet 2)

EFFECTIVITY

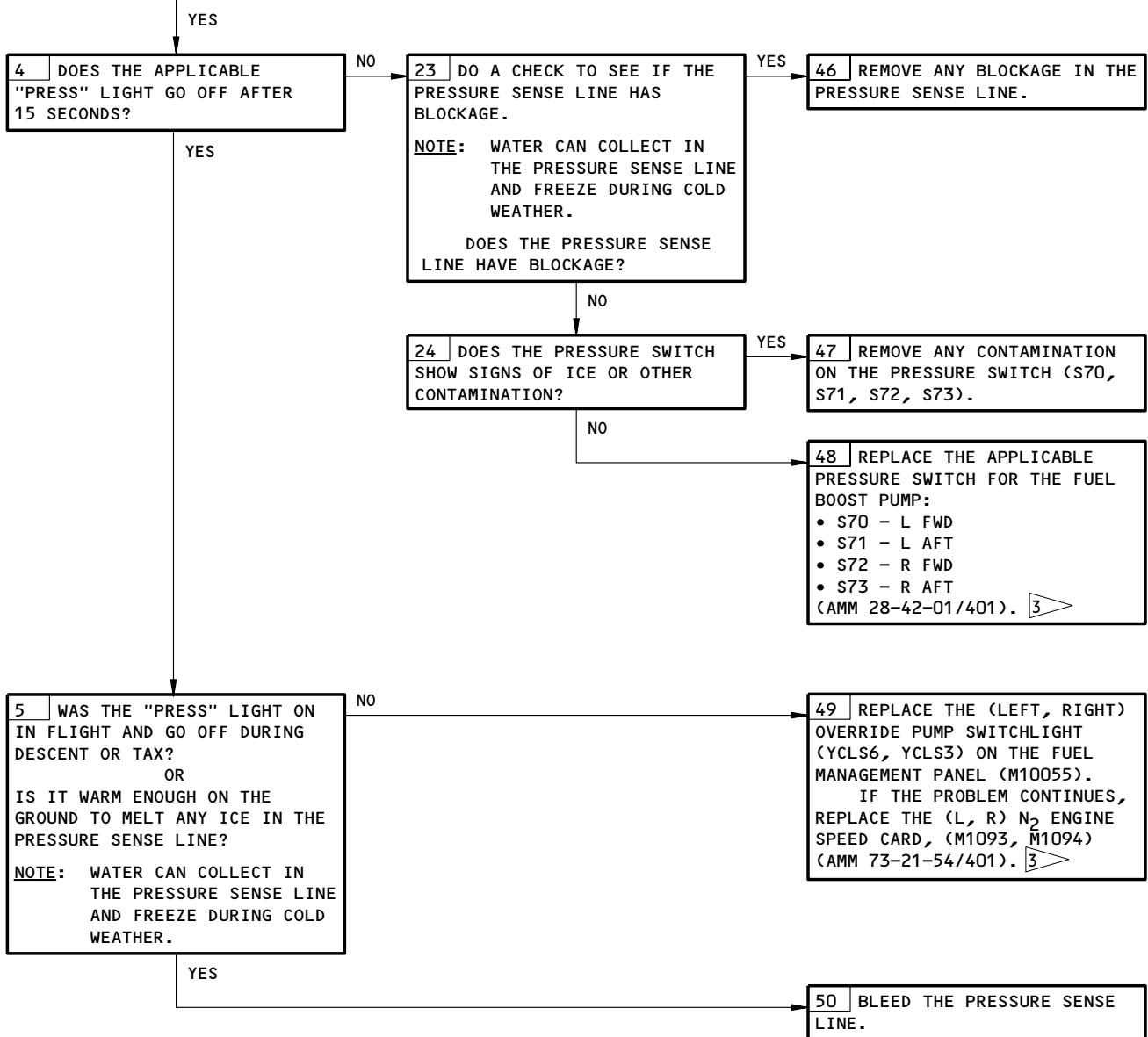
ALL

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FROM SHEET 2
(BLOCK 3)



Boost Pump Low Pressure Light On, EICAS Message Displayed,
Pump Circuit Breaker Closed
Figure 106 (Sheet 3)

EFFECTIVITY

ALL

28-22-00

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M30086

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES ARE OFF
MAKE SURE THE APPLICABLE MAIN TANK HAS A MINIMUM
FUEL QUANTITY OF 9400 LBS (4300 KGS).
ADD FUEL IF NECESSARY (AMM 12-11-01/301).

WARNING: DO NOT OPEN (RESET) A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

NOTE: IF YOU MAKE A DECISION TO DISPATCH THE AIRPLANE WITH AN OPEN CIRCUIT BREAKER, DO THE STEPS IN THE MEL TO DEACTIVATE THE APPLICABLE BOOST PUMP. OPERATE THE AIRPLANE PER THE MEL PROCEDURES.

BOOST PUMP LOW PRESSURE LIGHT ON, EICAS MESSAGE DISPLAYED, CIRCUIT BREAKER OPEN 1

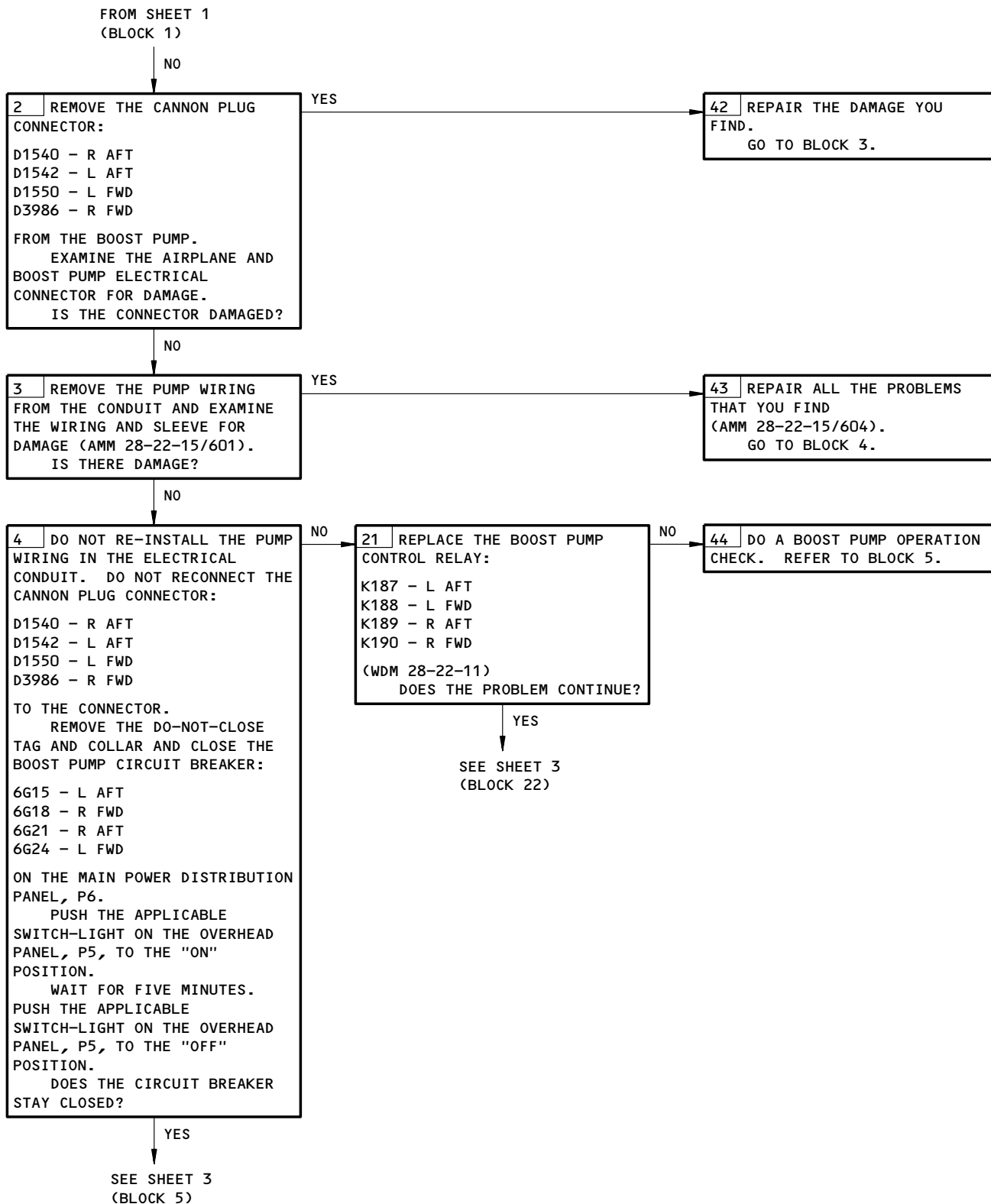


1 CDCC - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-20/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCC'S).

Boost Pump Low Pressure Light On, EICAS Message Displayed, Circuit Breaker Open
Figure 106A (Sheet 1)

EFFECTIVITY	ALL
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28-22-00

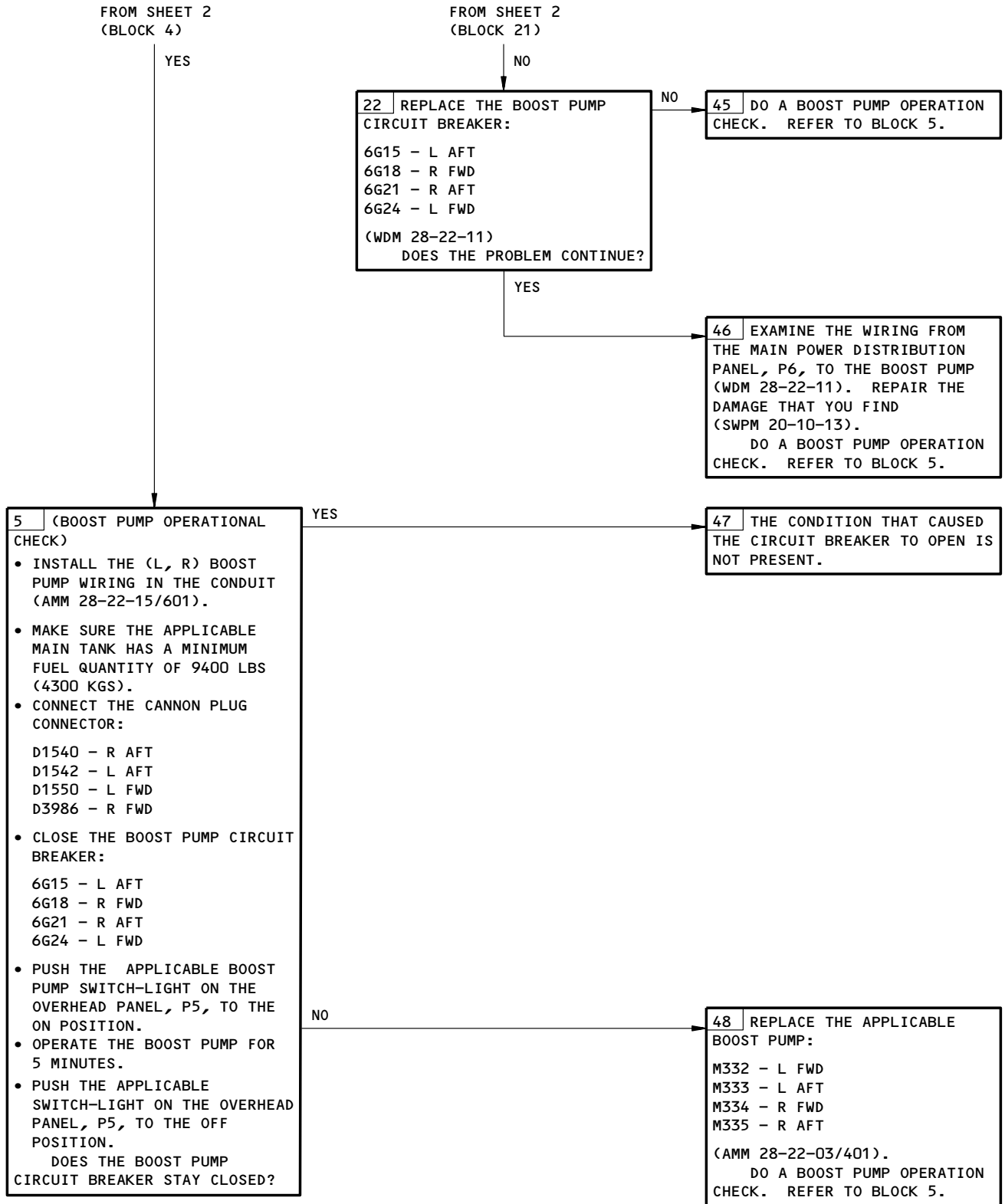


Boost Pump Low Pressure Light On, EICAS Message Displayed, Circuit Breaker Open
Figure 106A (Sheet 2)

EFFECTIVITY

ALL

28-22-00



Boost Pump Low Pressure Light On, EICAS Message Displayed, Circuit Breaker Open
Figure 106A (Sheet 3)

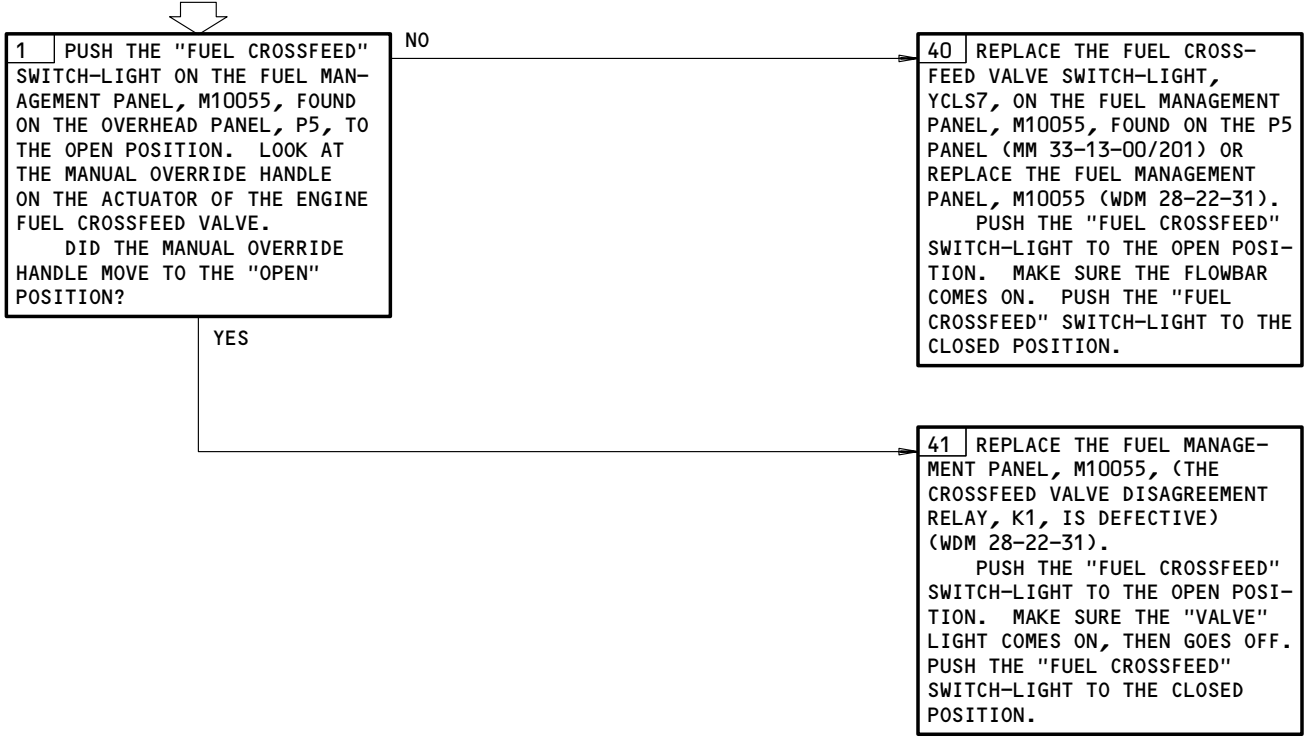
EFFECTIVITY

ALL

28-22-00

**FUEL CROSSFEED
VALVE LIGHT FAILS
TO ILLUMINATE DURING
VALVE TRANSIT**

PREREQUISITES
MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11D36
MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT
FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)



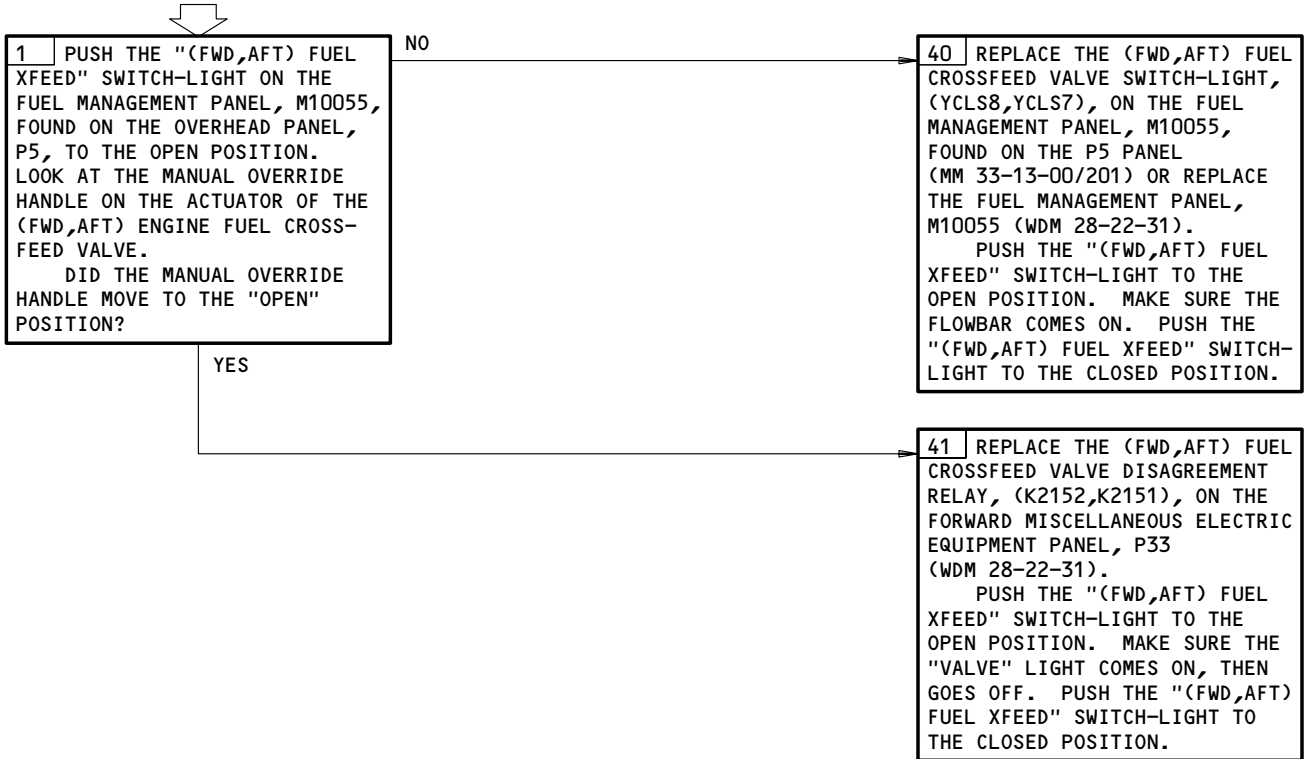
Fuel Crossfeed VALVE Light Fails to Illuminate During Valve Transit
Figure 107

EFFECTIVITY
SAS 050, 051, 150-167 PRE-SB 28-34;
MTH 275-280 PRE-SB 28-34

28-22-00

(FWD,AFT) FUEL
CROSSFEED VALVE
LIGHT FAILS TO
ILLUMINATE DURING
VALVE TRANSIT

PREREQUISITES
 MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 11D36,11M20,11M21
 MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
 ELECTRICAL POWER IS ON (MM 24-22-00/201)



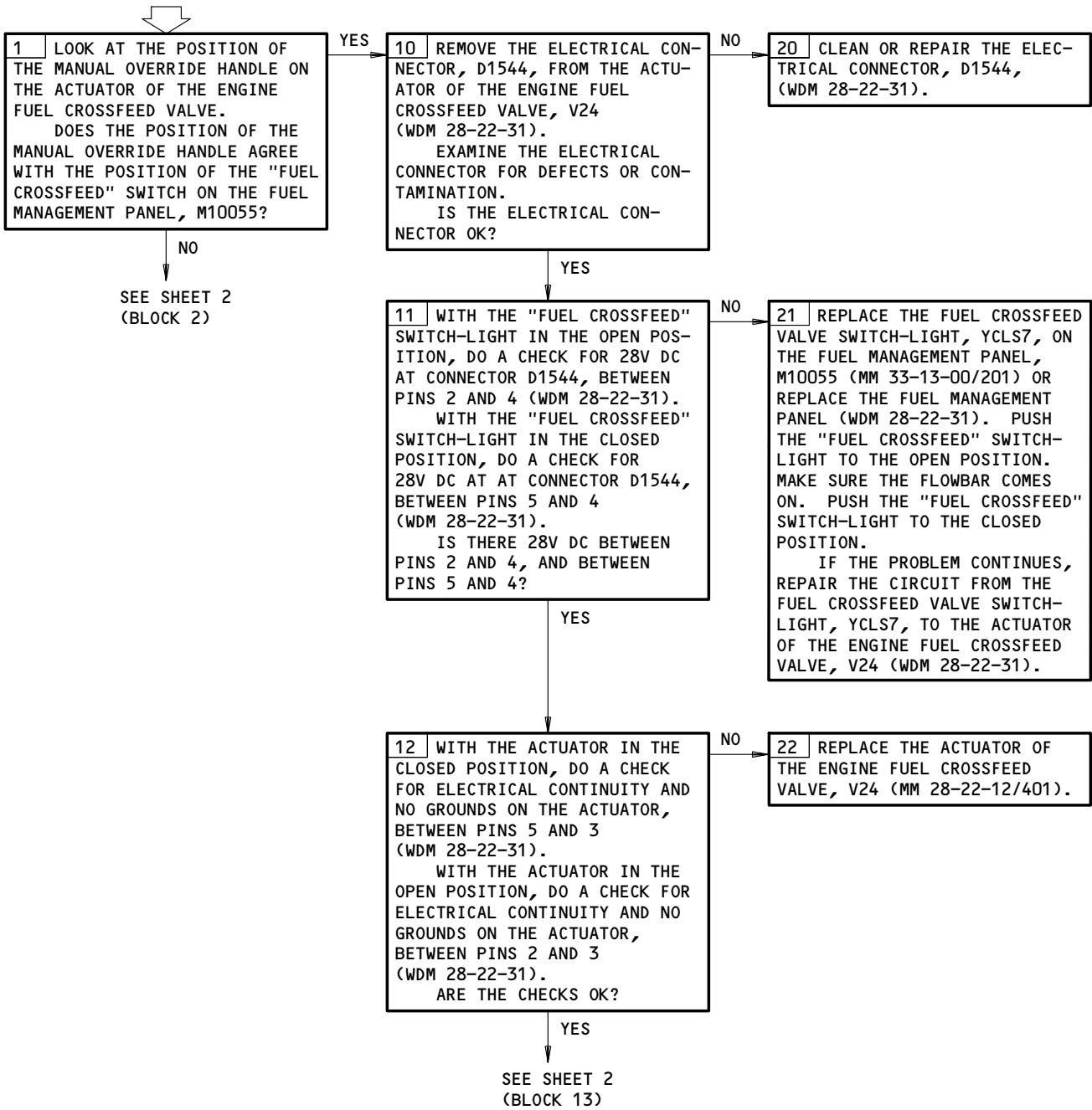
(Fwd, Aft) Fuel Crossfeed VALVE Light Fails to Illuminate During Valve Transit
Figure 107A

EFFECTIVITY
 SAS 050, 051, 150-167 WITH SB 28-34, AND
 SAS 052-149, 168-999;
 MTH 275-280 WITH SB 28-34, AND
 MTH 281-999

28-22-00

**FUEL CROSSFEED VALVE
LIGHT FAILS TO
EXTINGUISH**

PREREQUISITES
MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11D36
MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT
FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

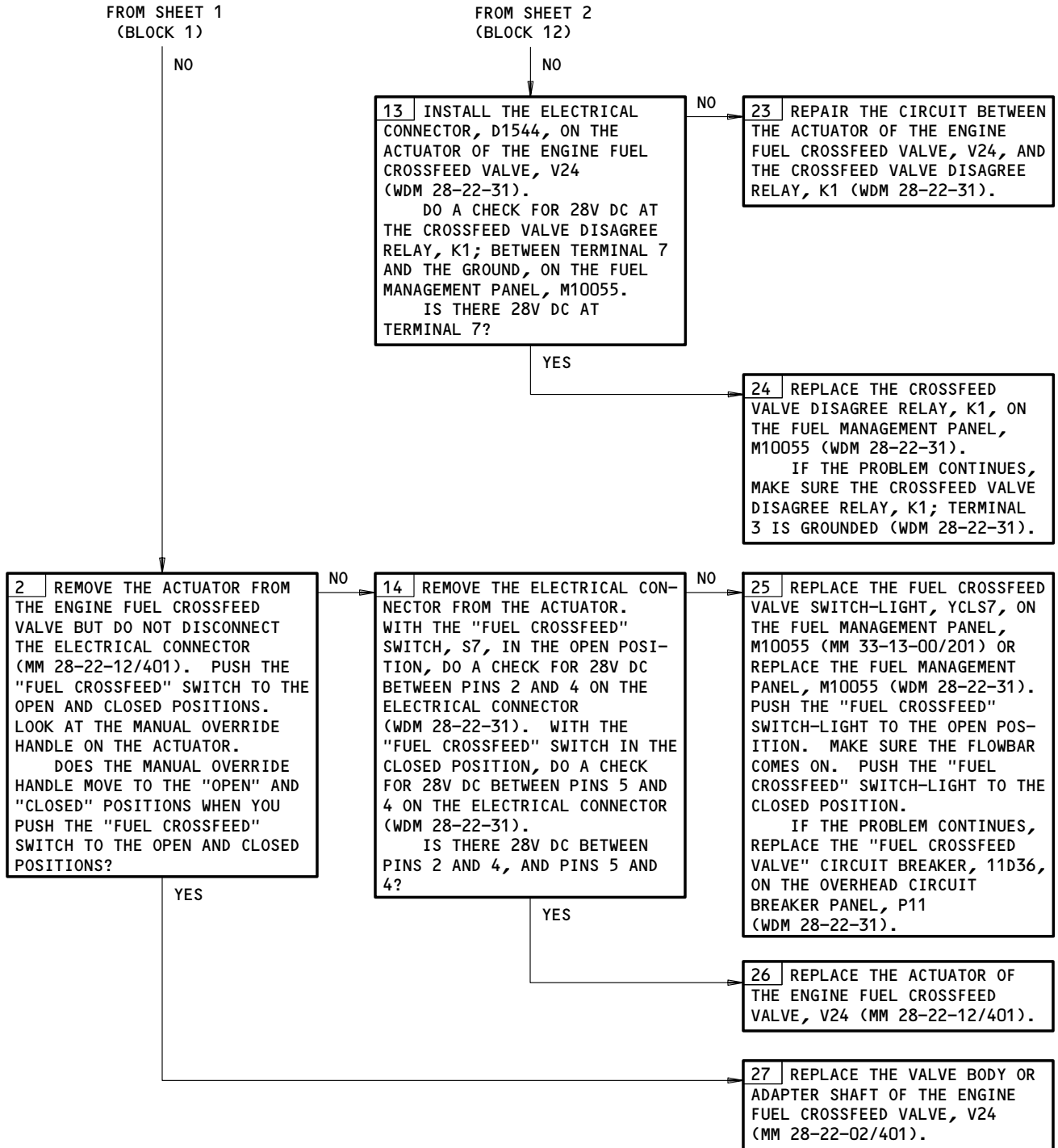


Fuel Crossfeed Valve Light Fails to Extinguish
Figure 108 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 150-167 PRE-SB 28-34;
MTH 275-280 PRE-SB 28-34

28-22-00

 **BOEING**
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FAULT ISOLATION/MAINT MANUAL



Fuel Crossfeed Valve Light Fails to Extinguish
Figure 108 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 150-167 PRE-SB 28-34;
MTH 275-280 PRE-SB 28-34

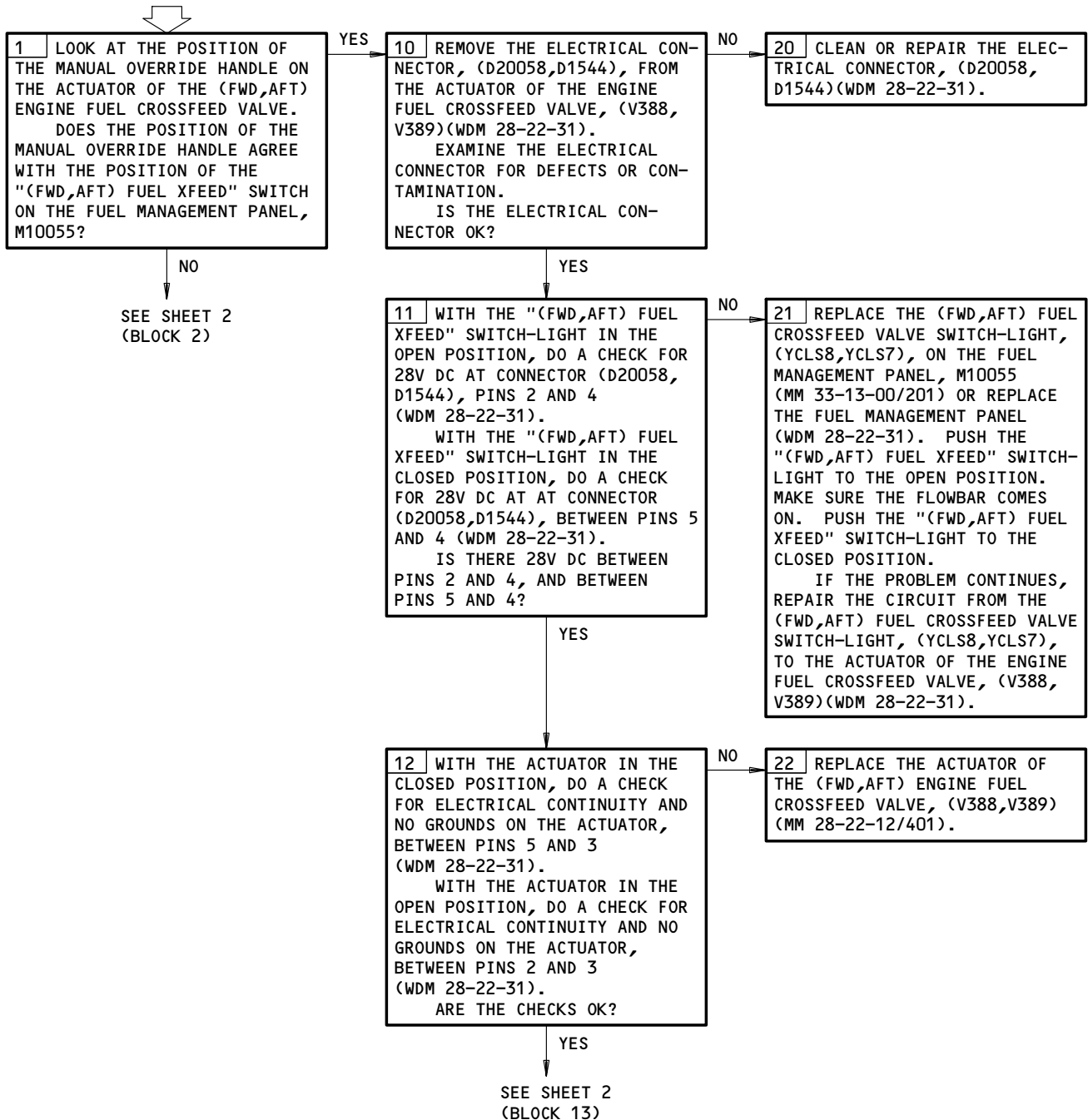
28-22-00

**(FWD,AFT) FUEL
CROSSFEED VALVE LIGHT
FAILS TO EXTINGUISH**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11D36,11M20,11M21

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

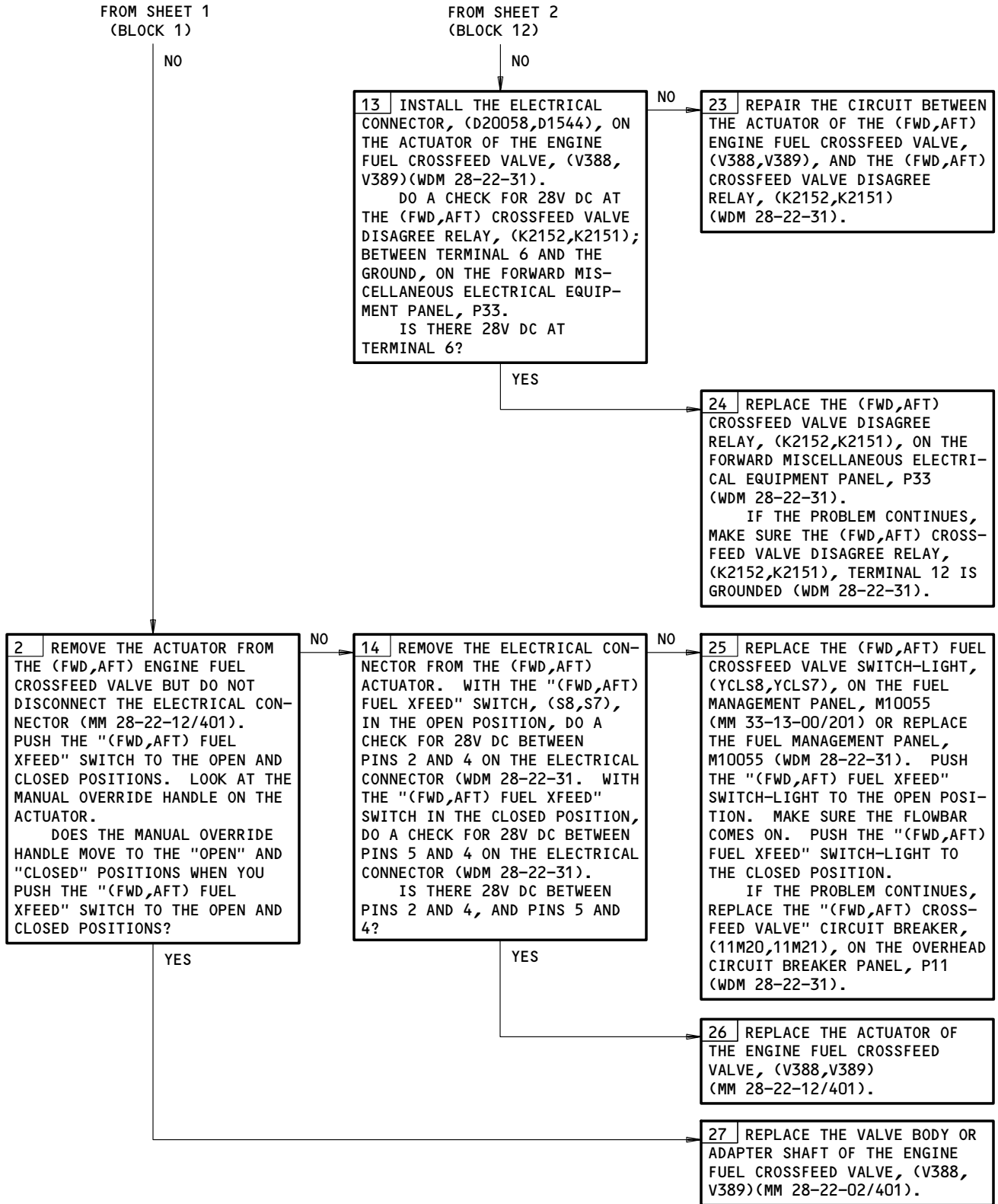


(Fwd,Aft) Fuel Crossfeed Valve Light Fails to Extinguish
Figure 108A (Sheet 1)

EFFECTIVITY
SAS 050, 051, 150-167 WITH SB 28-34, AND
SAS 052-149, 168-999;
MTH 275-280 WITH SB 28-34, AND
MTH 281-999

28-22-00

 **BOEING**
767
FAULT ISOLATION/MAINT MANUAL



(Fwd,Aft) Fuel Crossfeed Valve Light Fails to Extinguish
Figure 108A (Sheet 2)

EFFECTIVITY
SAS 050, 051, 150-167 WITH SB 28-34, AND
SAS 052-149, 168-999;
MTH 275-280 WITH SB 28-34, AND
MTH 281-999

28-22-00

PREREQUISITES

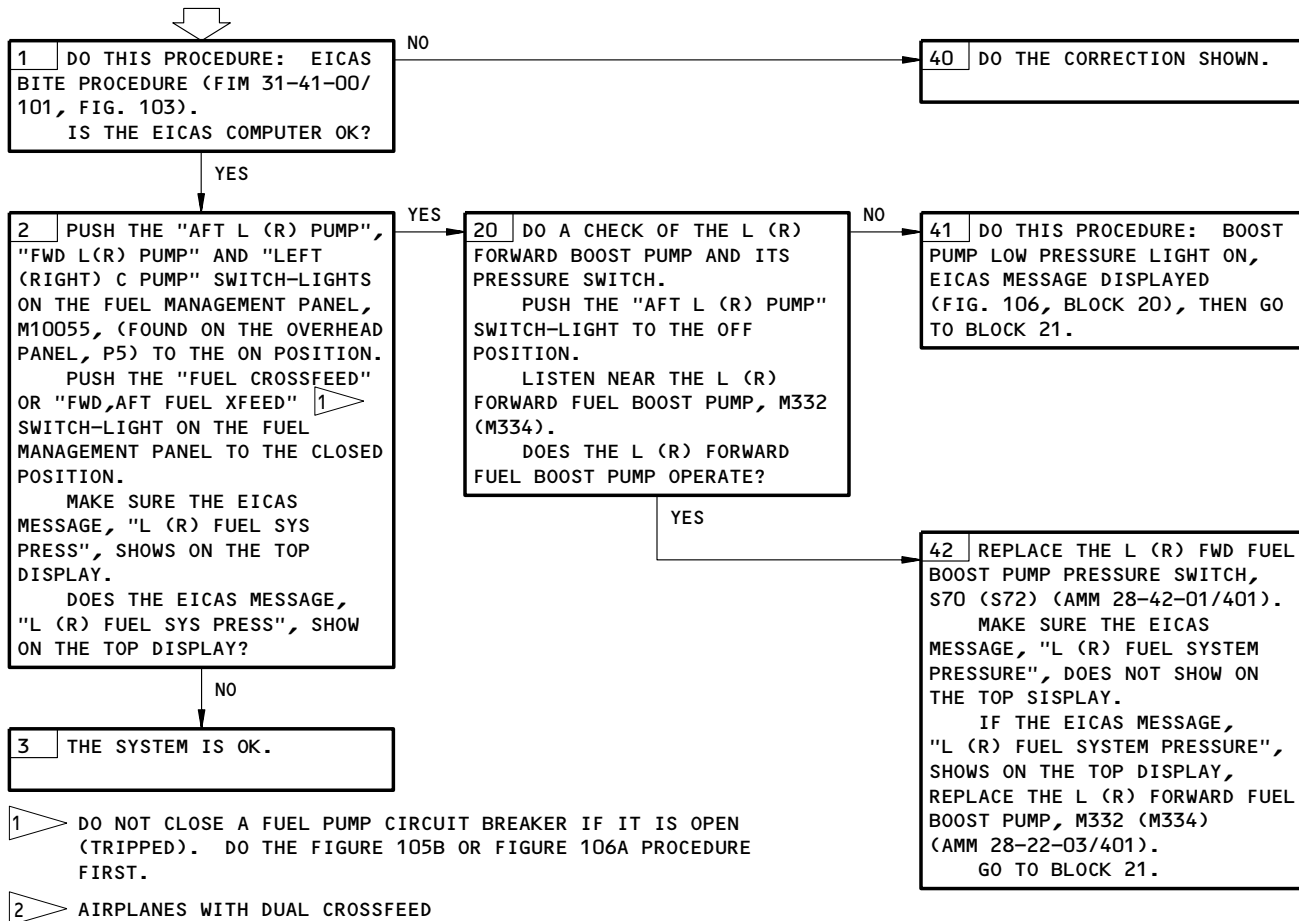
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: ¹ 6F15, 6F21, 6G15, 6G18, 6G21, 6G24, 11D36, 11M15, 11M16, 11M24, 11M25; ² 11M20, 11M21

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

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

"L (R) FUEL SYS PRESS" EICAS MSG DISPLAYED

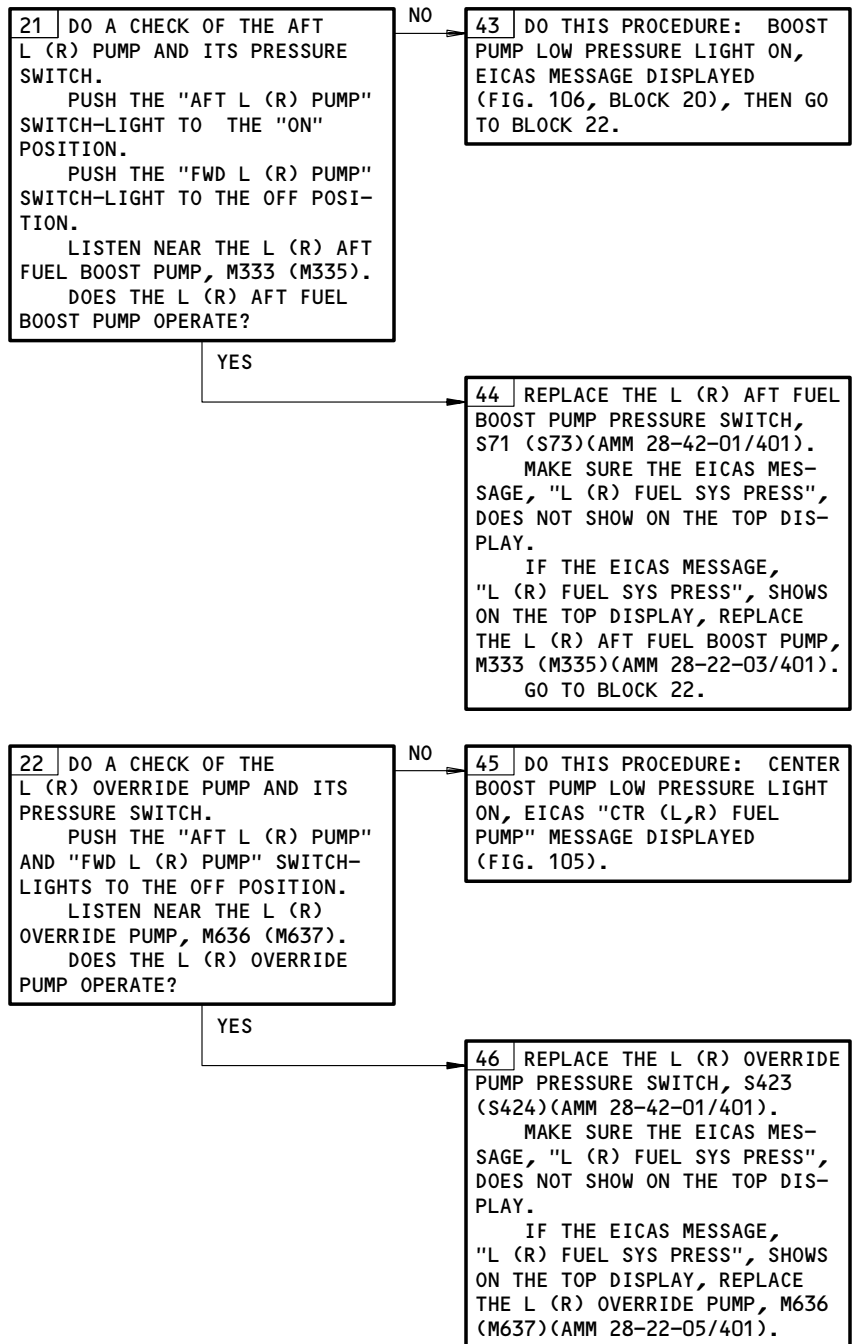
NOTE: THIS IS A MULTIPLE FAULT PROCEDURE.



L (R) FUEL SYS PRESS EICAS Msg Displayed
Figure 109 (Sheet 1)

EFFECTIVITY	ALL
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28-22-00



L (R) FUEL SYS PRESS EICAS Msg Displayed
Figure 109 (Sheet 2)

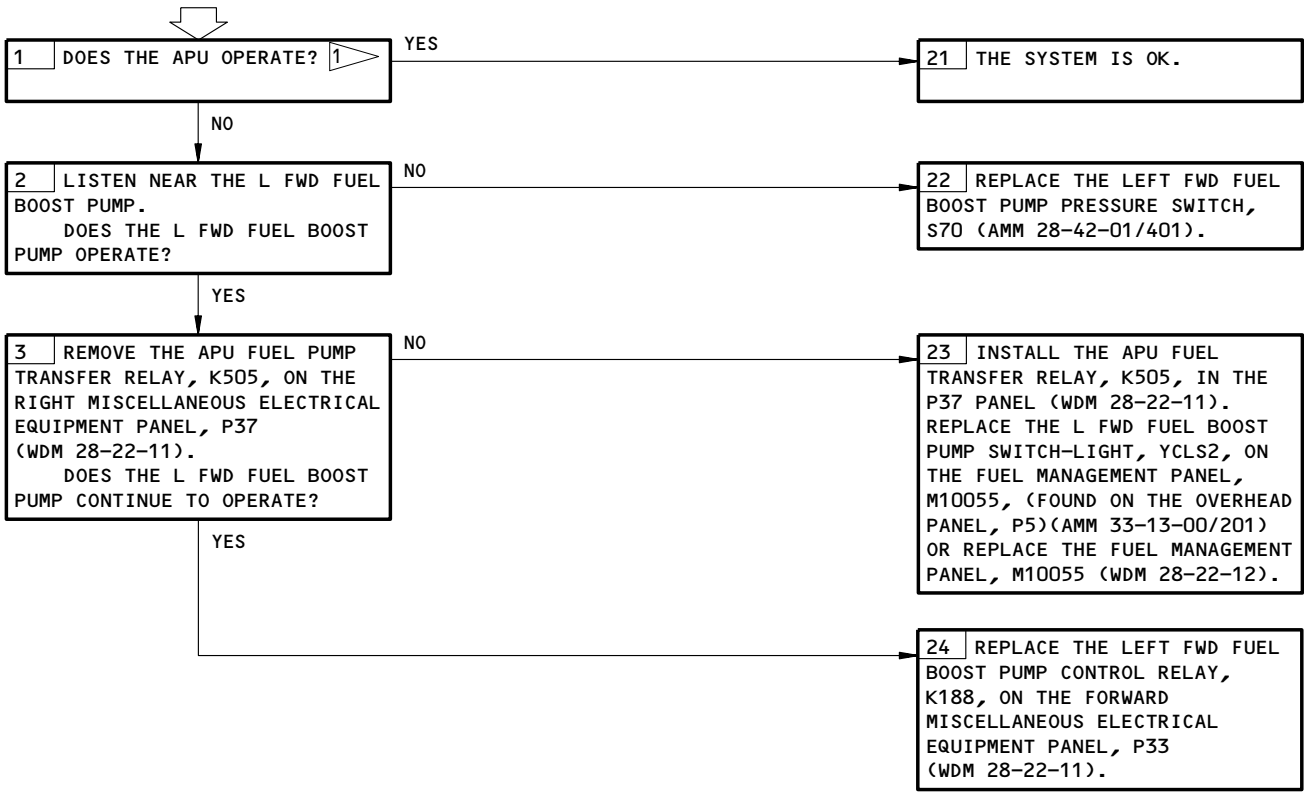
EFFECTIVITY	ALL
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28-22-00

PREREQUISITES
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E3, 6G24, 11D35, 11M16, 11M25
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

L FWD BOOST PUMP
LOW PRESS LIGHT
FAILED TO ILLUM
AND EICAS MSG FAILED
TO DISPLAY WITH SW
OFF



1 DURING AUTOMATIC APU OPERATIONS, THE L FWD FUEL BOOST PUMP WILL OPERATE WITH THE L FWD FUEL BOOST PUMP CONT SW IN THE OFF POSITION. THE L FWD FUEL BOOST PUMP LOW PRESS LIGHT WILL ONLY ILLUMINATE DURING APU OPERATION WHEN THE L FWD FUEL BOOST PUMP PRESSURE IS BELOW 3 PSI (SSM 28-22-01/101).

L Fwd Boost Pump Low Press Light Failed to Illum and EICAS
Msg Failed to Display with Sw Off
Figure 110

EFFECTIVITY	ALL
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28-22-00

103713

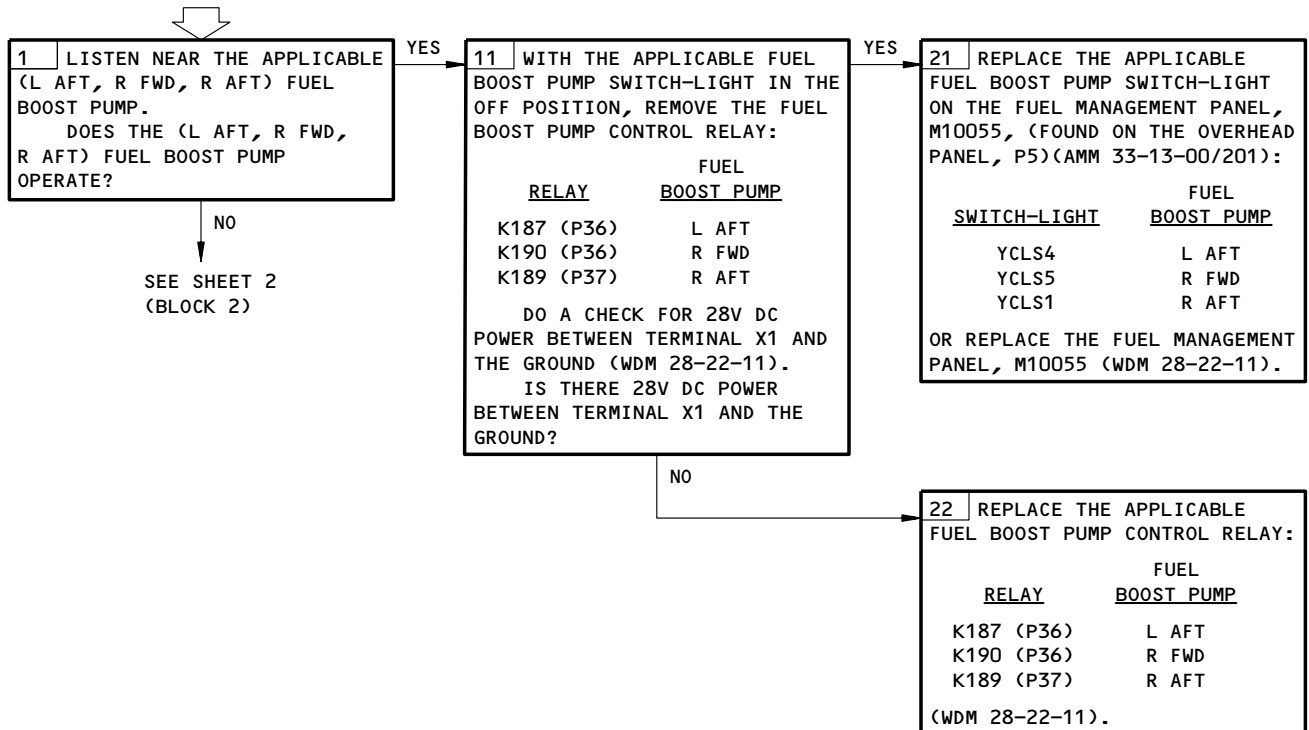
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6G15, 6G18, 6G21, 11M16, 11M25

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

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

(L AFT, R FWD,
R AFT) BOOST PUMP
LOW PRESS LIGHT
FAILED TO ILLUM AND
EICAS MSG FAILED TO
DISPLAY WITH SW OFF



(L Aft, R Fwd, R Aft) Boost Pump Low Press Light Failed to Illum
and EICAS Msg Failed to Display with Sw Off
Figure 111 (Sheet 1)

EFFECTIVITY

ALL

28-22-00

02

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103720

BOEING
767
FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 1)

NO

2 DISCONNECT THE ELECTRICAL CONNECTOR FROM THE APPLICABLE FUEL BOOST PUMP PRESSURE SWITCH:

<u>ELECTRICAL CONNECTOR</u>	<u>FUEL BOOST PUMP</u>
D1538	L AFT
D1532	R FWD
D2822	R AFT

DO A CHECK FOR 28V DC BETWEEN THE CONNECTOR, PINS 3 AND 2 (WDM 28-42-11).
IS THERE 28V DC BETWEEN PINS 3 AND 2?

YES

23 REPLACE THE APPLICABLE FUEL BOOST PUMP PRESSURE SWITCH:

<u>PRESSURE SWITCH</u>	<u>FUEL BOOST PUMP</u>
S71	L AFT
S72	R FWD
S73	R AFT

(MM 28-42-01/401).

NO

24 REPLACE THE APPLICABLE FUEL BOOST PUMP SWITCH-LIGHT ON THE FUEL MANAGEMENT PANEL, M10055, (FOUND ON THE OVERHEAD PANEL, P5)(MM 33-13-00/201):

<u>SWITCH-LIGHT</u>	<u>FUEL BOOST PUMP</u>
YCLS4	L AFT
YCLS5	R FWD
YCLS1	R AFT

OR REPLACE THE FUEL MANAGEMENT PANEL, M10055, ON THE P5 PANEL (WDM 28-22-11).
IF THE PROBLEM CONTINUES, EXAMINE THE CIRCUIT BETWEEN THE PRESURE SWITCH AND THE FUEL MANAGEMENT PANEL (WDM 28-42-11).

(L Aft, R Fwd, R Aft) Boost Pump Low Press Light Failed to Illum
and EICAS Msg Failed to Display with Sw Off
Figure 111 (Sheet 2)

EFFECTIVITY

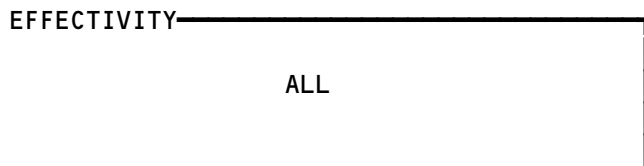
ALL

28-22-00

01

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Not Used
Figure 112



28-22-00

02

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185430



767

FAULT ISOLATION/MAINT MANUAL

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN:
11D7, 11D8, 11M1, 11M2

MAKE SURE THESE VALVES ARE CLOSED:
V109, V108

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THE LEFT (RIGHT) MAIN TANK CONTAINS AT LEAST
4000 LBS (1860 KG) (AMM 12-11-01/301 OR
AMM 28-26-00/201)
THE CENTER TANK CONTAINS 0 LBS (0 KG) OF FUEL
(AMM 28-26-00/201)
APU SWITCH IS IN THE "OFF" POSITION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST
BE IN THE FLIGHT COMPARTMENT TO
CONTINUOUSLY MONITOR THE FUEL QUANTITY AND
THE LOW PRESSURE INDICATION IN THE FUEL
TANK. IMMEDIATELY SET THE APPLICABLE FUEL
PUMP SWITCH TO THE OFF POSITION IF THE LOW
PRESSURE LIGHT COMES ON AND STAYS ON. FUEL
VAPORS IN THE TANK MAY IGNITE AND CAUSE A
FIRE OR EXPLOSION.

Right (Left) Engine Fails the Suction Feed Test
Figure 113 (Sheet 1)

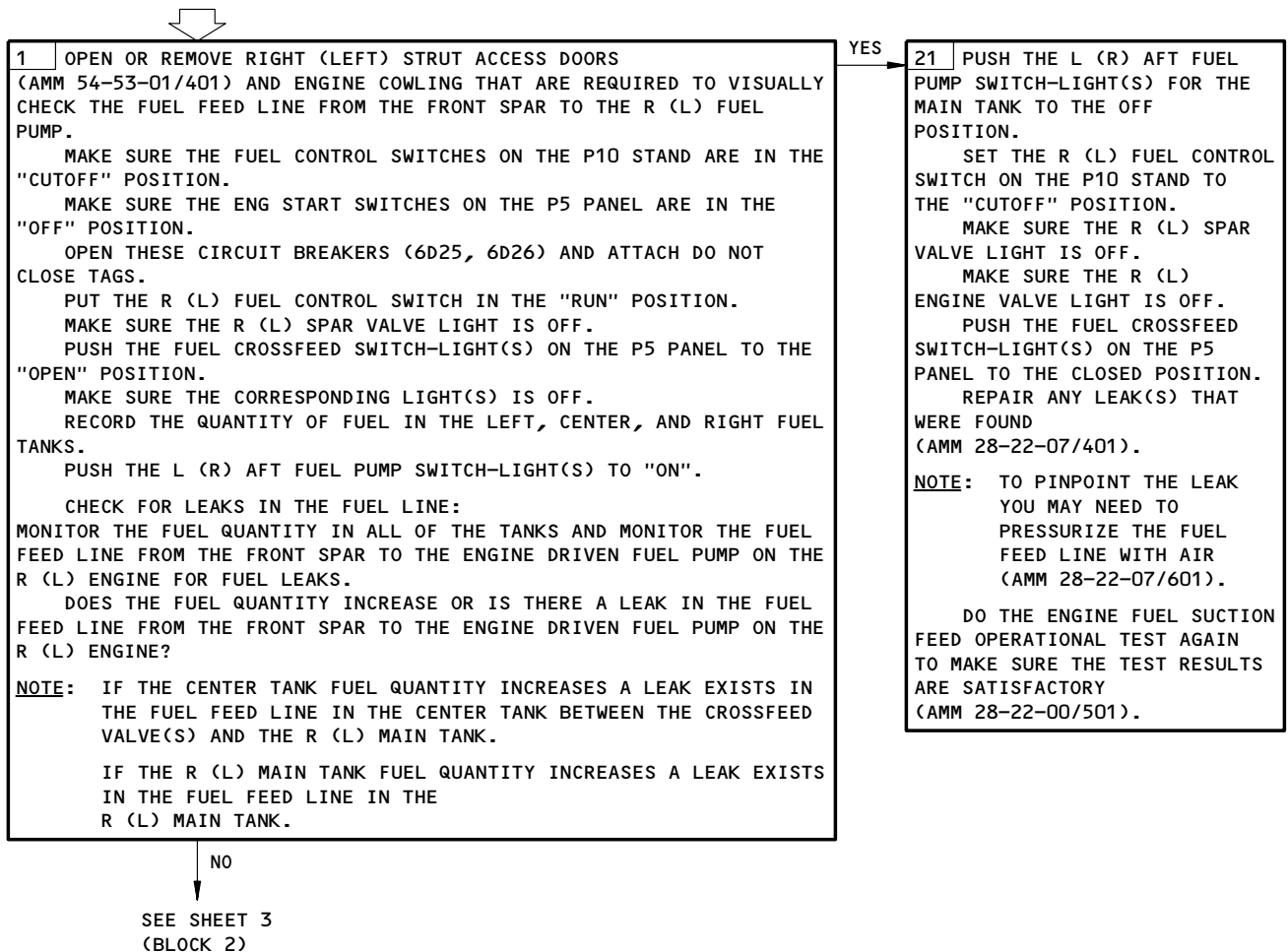
EFFECTIVITY	ALL
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02

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**RIGHT (LEFT)
 ENGINE FAILS THE
 SUCTION FEED TEST**



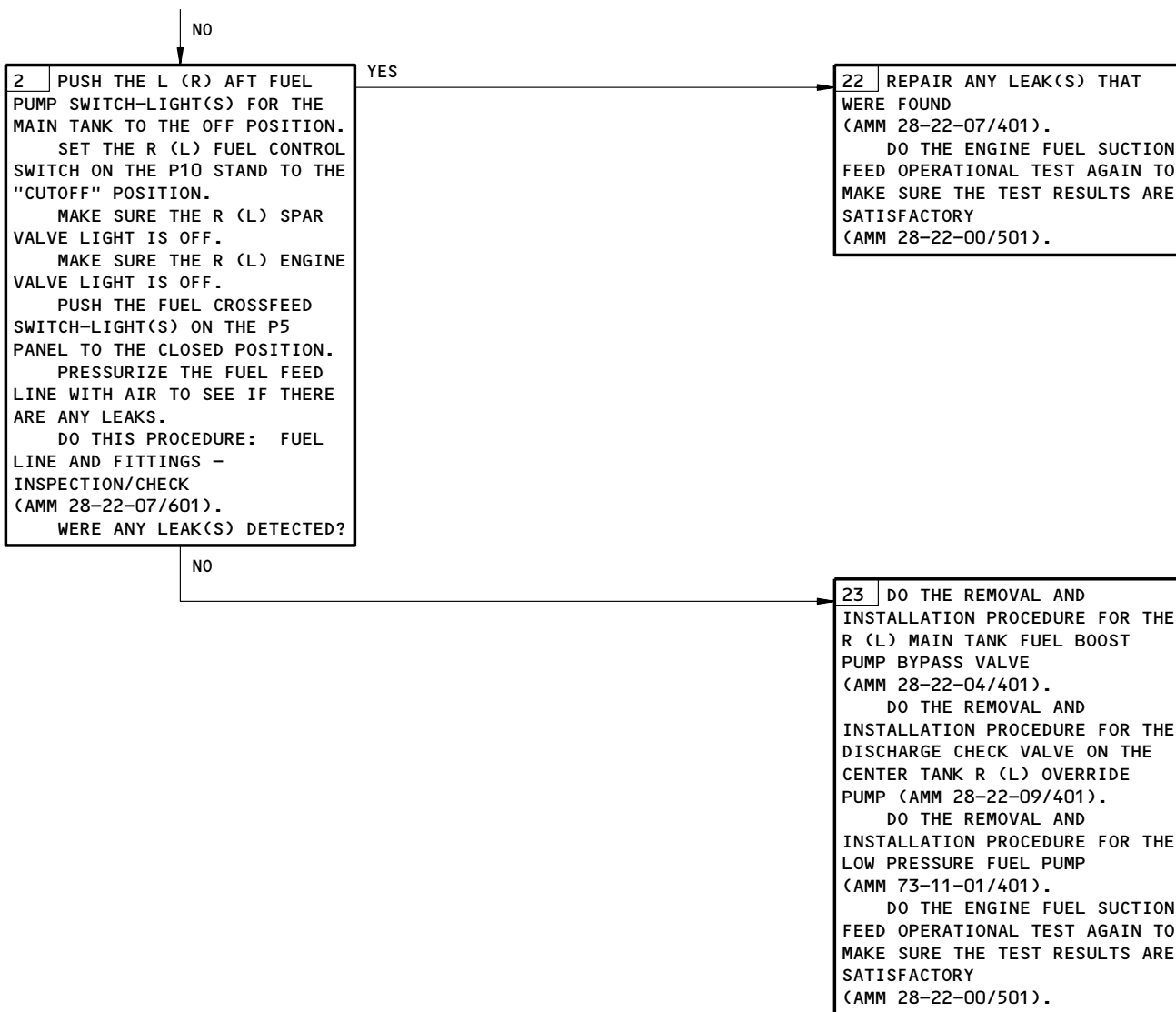
Right (Left) Engine Fails the Suction Feed Test
 Figure 113 (Sheet 2)

EFFECTIVITY	ALL
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28-22-00

BOEING
767
FAULT ISOLATION/MAINT MANUAL

FROM SHEET 2
(BLOCK 1)



Right (Left) Engine Fails the Suction Feed Test
Figure 113 (Sheet 3)

EFFECTIVITY	ALL
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28-22-00

PREREQUISITES

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

MAKE SURE THE APPLICABLE MAIN TANK HAS A MINIMUM FUEL QUANTITY OF 9,400 POUNDS (4,300 KILOGRAMS):
ADD FUEL IF NECESSARY (AMM 12-11-01/301)

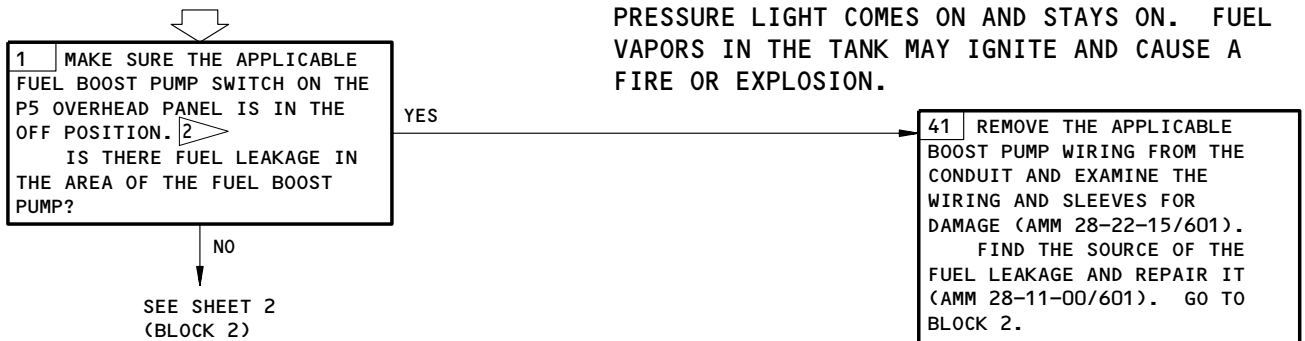
MAKE SURE THE AUXILIARY TANK HAS A MINIMUM FUEL QUANTITY OF:

- 6,700 POUNDS (3,100 KILOGRAMS) - ZERO BAY CENTER COMPARTMENT
 - 26,000 POUNDS (11,900 KILOGRAMS) - TWO BAY CENTER COMPARTMENT
 - 38,200 POUNDS (14,700 KILOGRAMS) - FOUR BAY CENTER COMPARTMENT
- REFER TO AMM 28-11-00/001 FOR CENTER COMPARTMENT SIZE EFFECTIVITY

WARNING: DO NOT RESET THE FUEL PUMP GFI RELAY THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

**FUEL BOOST PUMP
GFI RELAY
OPEN** 1



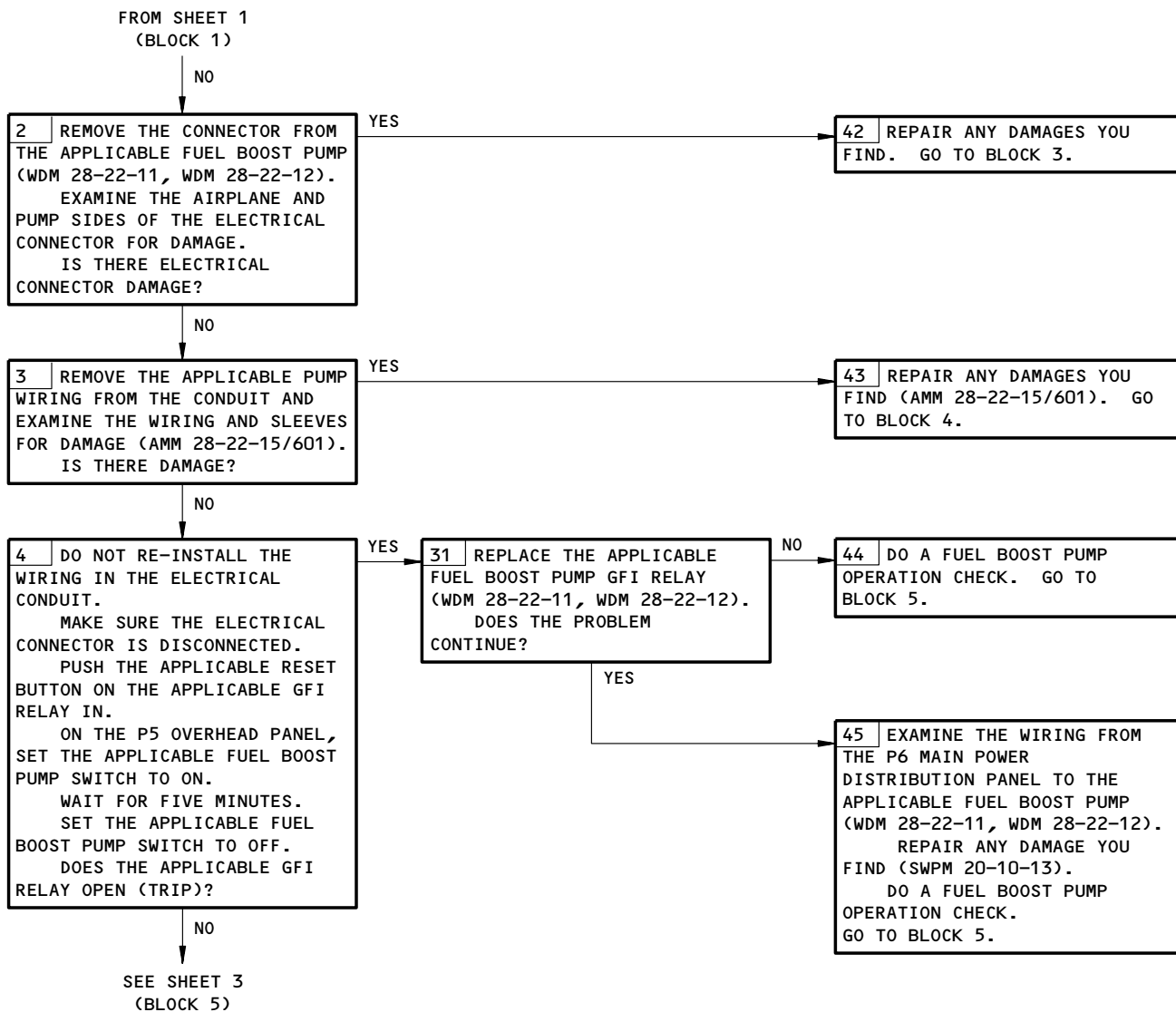
1 THE RESET BUTTON LOCATED AT THE TOP EDGE OF THE GFI RELAY MOVES UP, TO EXPOSE A NARROW WHITE BAND WHEN THE GFI CIRCUIT TURNS OFF THE RELAY DUE TO A GROUND FAULT, OR RESULTS WHEN YOU PUSH THE TEST BUTTON LOCATED ON THE TOP SURFACE OF THE RELAY.

2 THE GFI RELAY IS A LATCHING RELAY AND CAN NOT BE RESET BY PUSHING THE RESET BUTTON ON THE GFI RELAY. THE APPLICABLE BOOST PUMP SWITCH ON THE P5 OVERHEAD PANEL MUST BE PLACED IN THE OFF POSITION BEFORE THE RESET BUTTON ON THE RELAY IS PUSHED.

Fuel Boost Pump GFI Relay Open
Figure 114 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH GROUND FAULT INTERRUPTER
RELAYS (POST-SB 28A0085 OR PRR B13421-3)

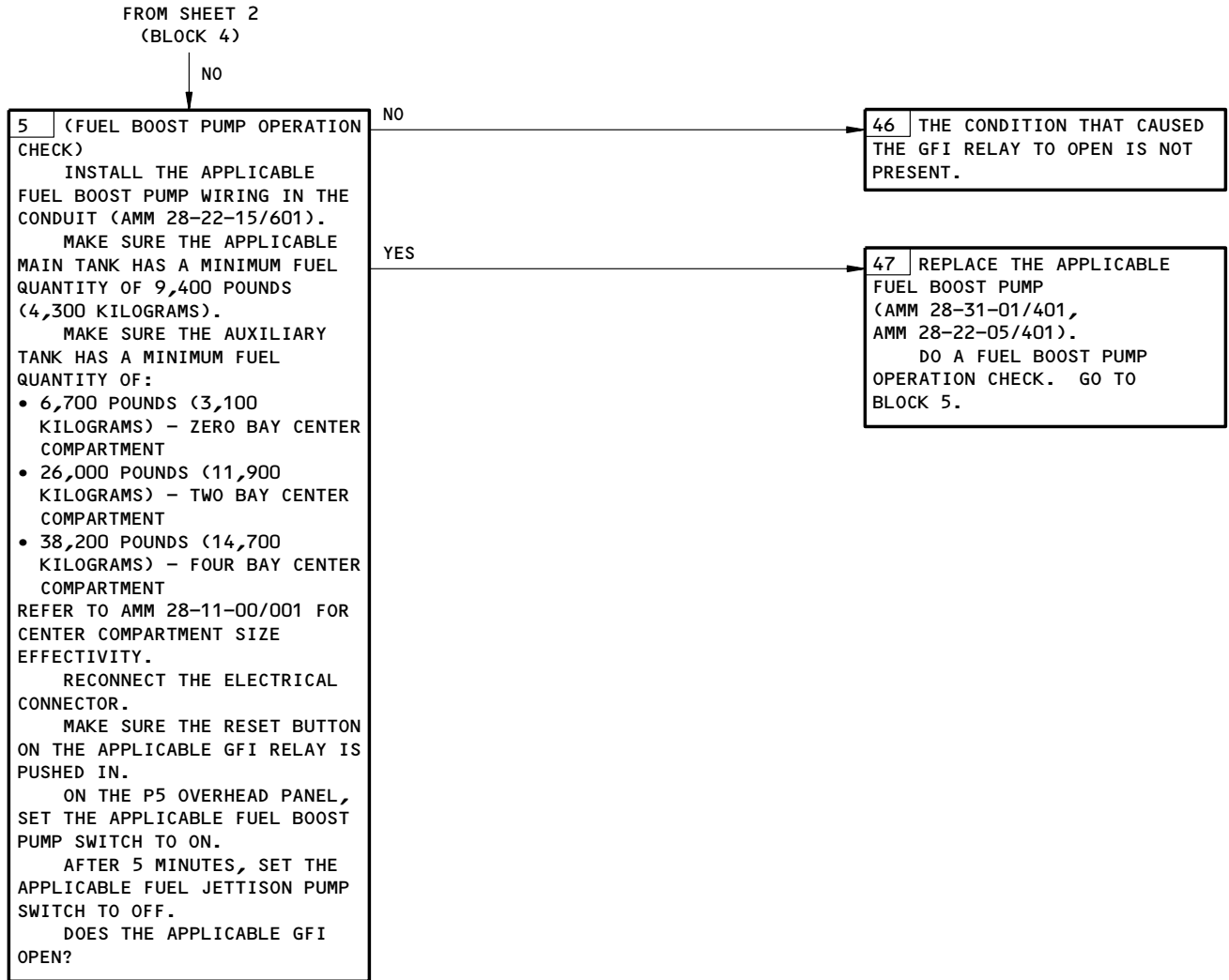
28-22-00



Fuel Boost Pump GFI Relay Open
Figure 114 (Sheet 2)

EFFECTIVITY
 AIRPLANES WITH GROUND FAULT INTERRUPTER
 RELAYS (POST-SB 28A0085 OR PRR B13421-3)

28-22-00



Fuel Boost Pump GFI Relay Open
Figure 114 (Sheet 3)

EFFECTIVITY—
AIRPLANES WITH GROUND FAULT INTERRUPTER RELAYS (POST-SB 28A0085 OR PRR B13421-3)

28-22-00

BOEING
767
FAULT ISOLATION/MAINT MANUAL

APU FUEL-FEED SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - APU ISOLATION VALVE, V97	2	1	L WHEEL WELL, REAR SPAR	28-25-04
ACTUATOR - APU SHUTOFF VALVE, V96	2	1	L WHEEL WELL, REAR SPAR	28-25-02
APU FUEL LINE AND SHROUD - CENTER COMPARTMENT	3		136KZ	
APU FUEL LINE AND SHROUD - FUSELAGE	3		AFT CARGO COMPT	
APU FUEL LINE AND SHROUD - LEFT AUXILIARY FUEL TANK	2	1	531BB	28-25-04
	3	1	531BB	28-25-05
CIRCUIT BREAKER - APU FUEL VALVES, C1063	1		FLT COMPT, P6	
		1	6E3	*
CIRCUIT BREAKER - DC FUEL PUMP CONT, C1052	1		FLT COMPT, P11	
DC FUEL PUMP PWR, C1058		1	11D35	*
DIODE - (FIM 31-01-37/101)		1	11D34	*
APU DC PUMP CONT, R39				
PUMP - APU DC FUEL, M336	2	1	L WHEEL WELL, REAR SPAR	28-25-01
RELAY - (FIM 31-01-37/101)				
APU ISLN VALVE DISAGREE, K523				
APU PUMP TRANS, K505				
APU VALVE DISAGREE, K192				
DC FUEL PUMP CONTROL, K191				
DC PUMP AUTO ON CONT, K632				
L FWD PUMP START, K512				
SWITCH - APU DC FUEL PUMP PRESSURE, S74				
VALVE - APU ISOLATION	2	1	531BB	28-25-02
VALVE - APU SHUTOFF	2	1	L WHEEL WELL, REAR SPAR	28-25-03

* SEE THE WDM EQUIPMENT LIST

SAS 050,051,150-167 WITHOUT SB 28-34;
MTH 275-280 WITHOUT SB 28-34

APU Fuel-Feed System - Component Index
Figure 101

EFFECTIVITY

ALL

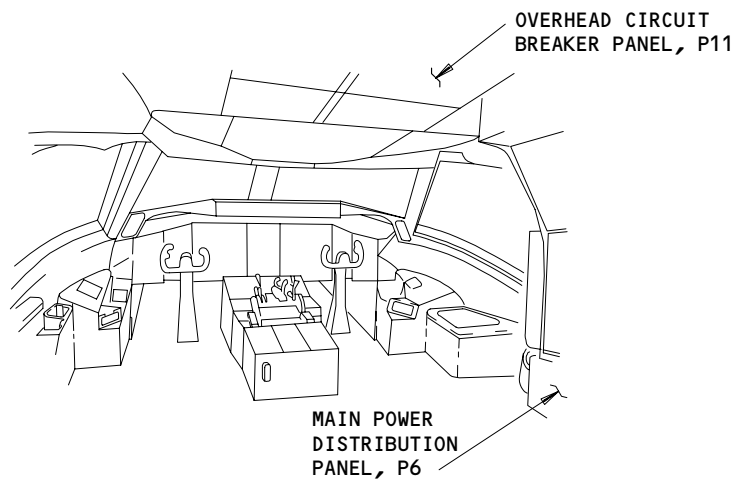
28-25-00

30

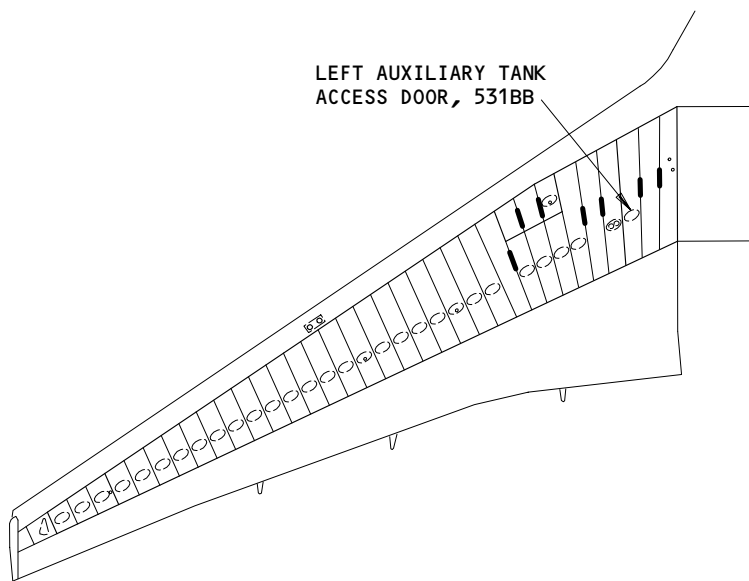
Page 101
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BOEING
 767
 FAULT ISOLATION/MAINT MANUAL



FLIGHT COMPARTMENT



LEFT WING

APU Fuel-Feed System - Component Location
 Figure 102 (Sheet 1)

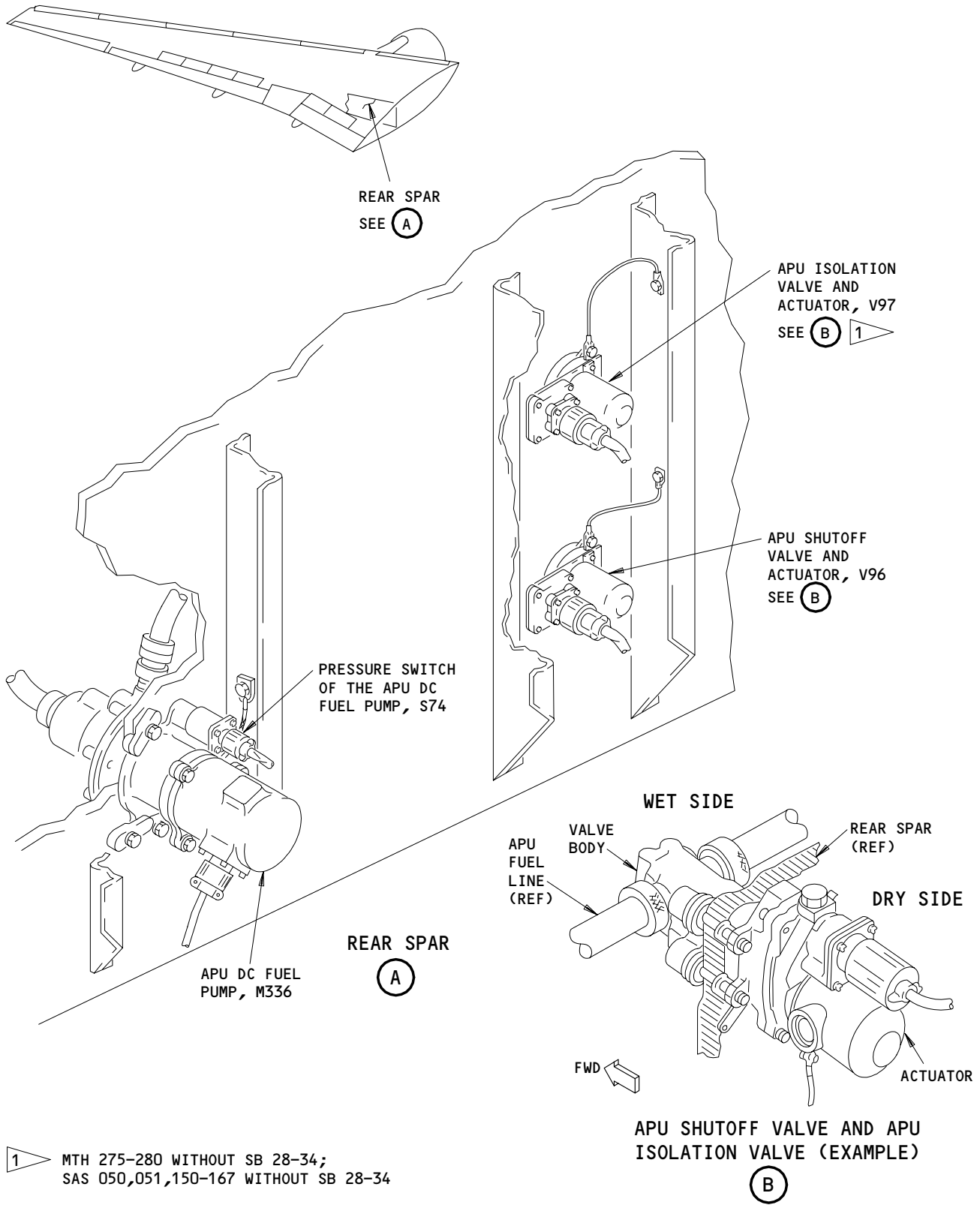
EFFECTIVITY	ALL
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28-25-00

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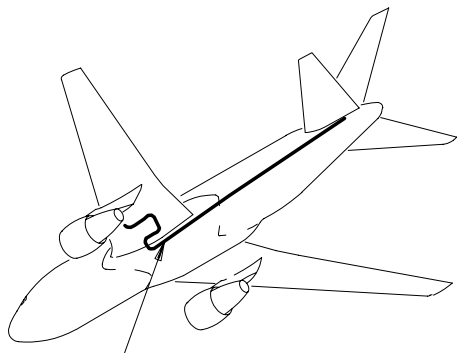
38106



APU Fuel-Feed System - Component Location
Figure 102 (Sheet 2)

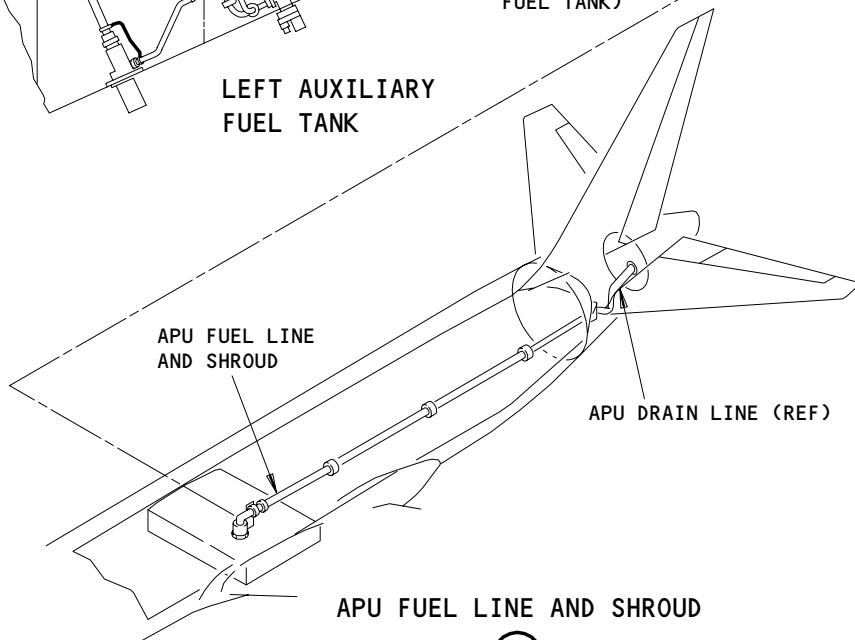
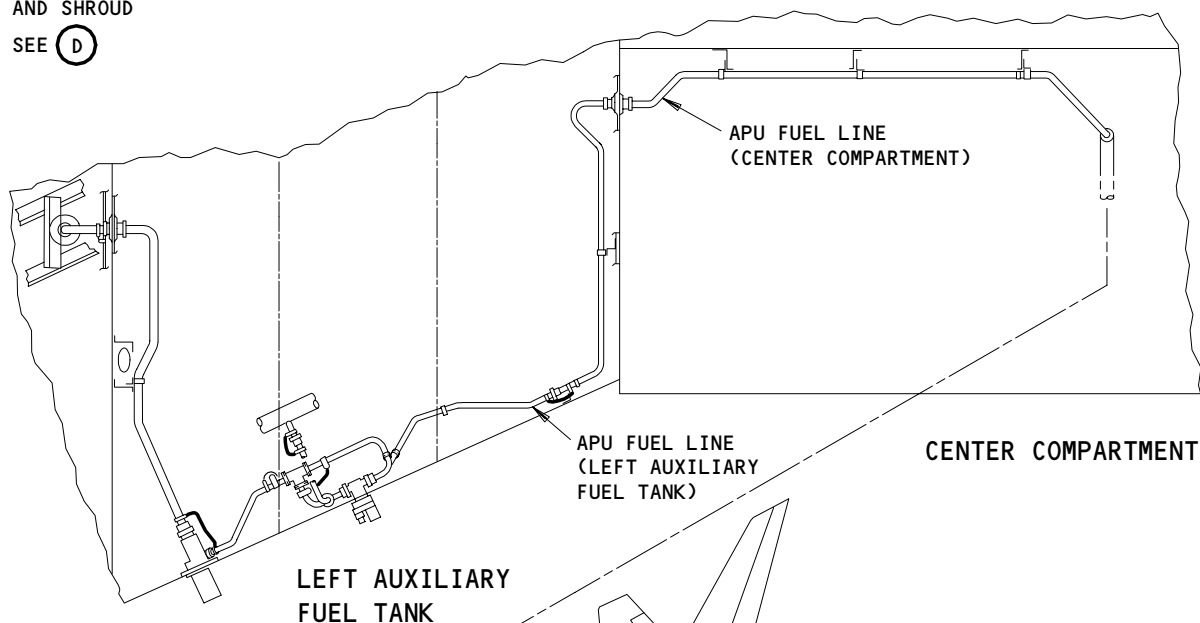
EFFECTIVITY	
	ALL

28-25-00



APU FUEL LINE
AND SHROUD

SEE (D)

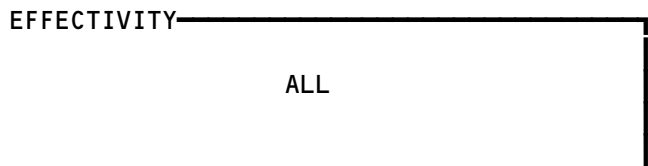


APU Fuel-Feed System - Component Location
Figure 102 (Sheet 3)

EFFECTIVITY	
ALL	

28-25-00

Not Used
Figure 103



28-25-00

01

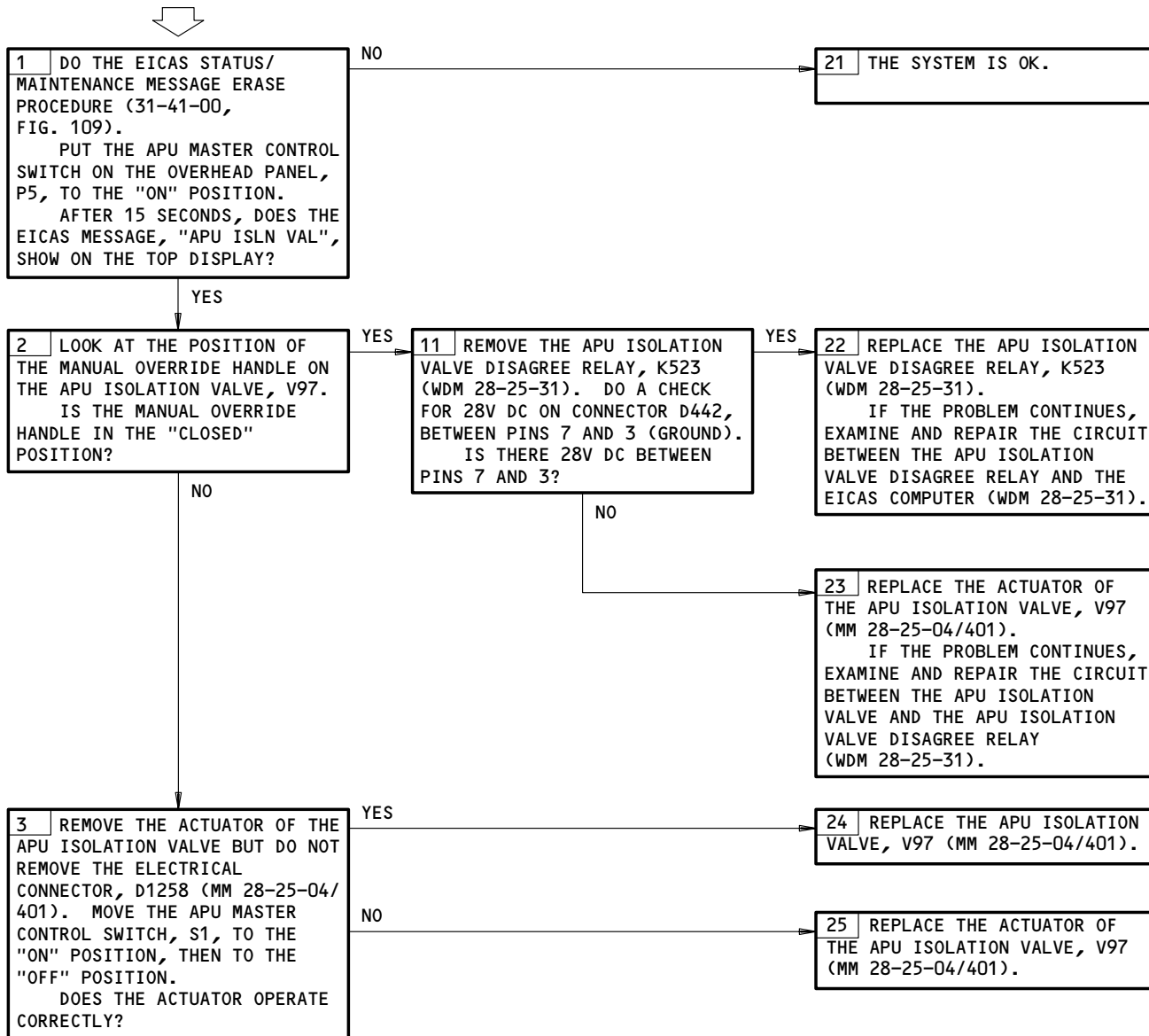
Page 105
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182711

EICAS MESSAGE "APU ISLN VAL" DISPLAYED
PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6E3

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



EICAS Message APU ISLN VAL Displayed
Figure 104

EFFECTIVITY
SAS 050, 051, 150-167 PRE-SB 28-34;
MTH 275-280 PRE-SB 28-34

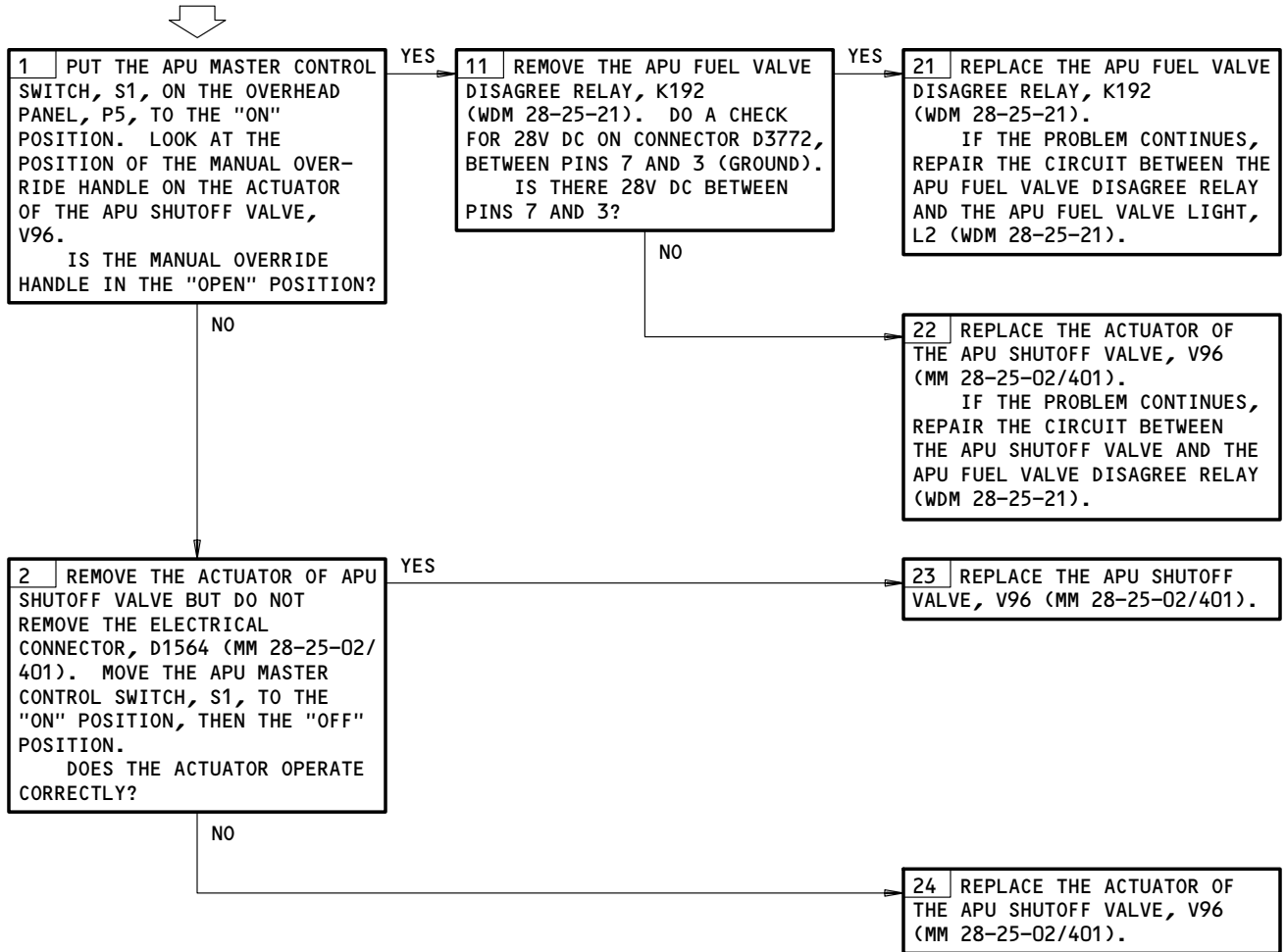
28-25-00

"APU" FAULT LIGHT
ILLUMINATES AND
EICAS MESSAGE "APU
FUEL VAL" DISPLAYED

PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6E3

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



APU Fault Light Illuminates and EICAS Message APU FUEL VAL Displayed
Figure 105

EFFECTIVITY	ALL
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28-25-00

48546

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M16, 11M25

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

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

EICAS MESSAGE "DC FUEL PUMP ON" DISPLAYED



EICAS Message DC FUEL PUMP ON Displayed
Figure 106 (Sheet 1)

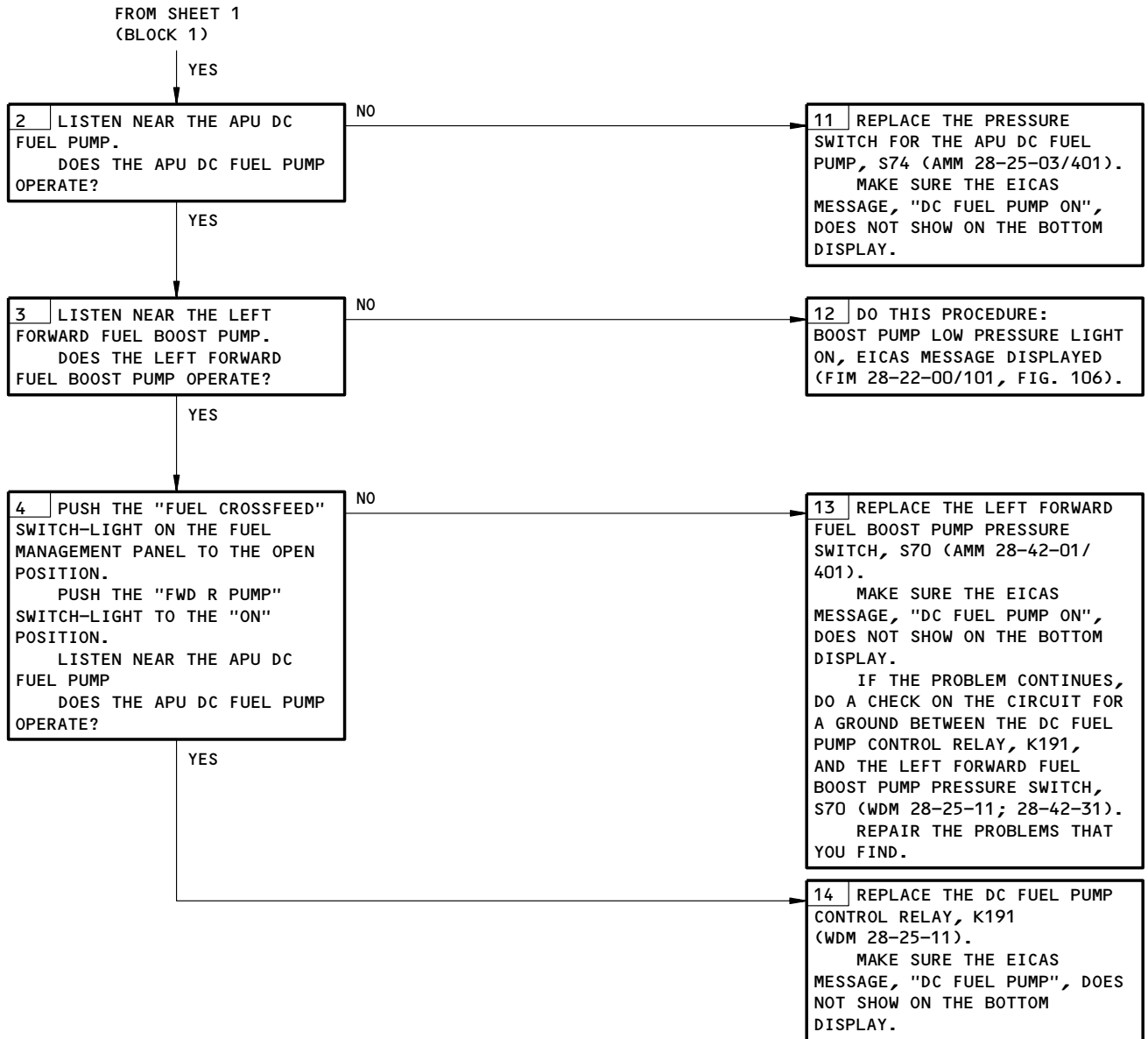
EFFECTIVITY

ALL

28-25-00

01

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EICAS Message DC FUEL PUMP ON Displayed
Figure 106 (Sheet 2)

EFFECTIVITY	ALL
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28-25-00

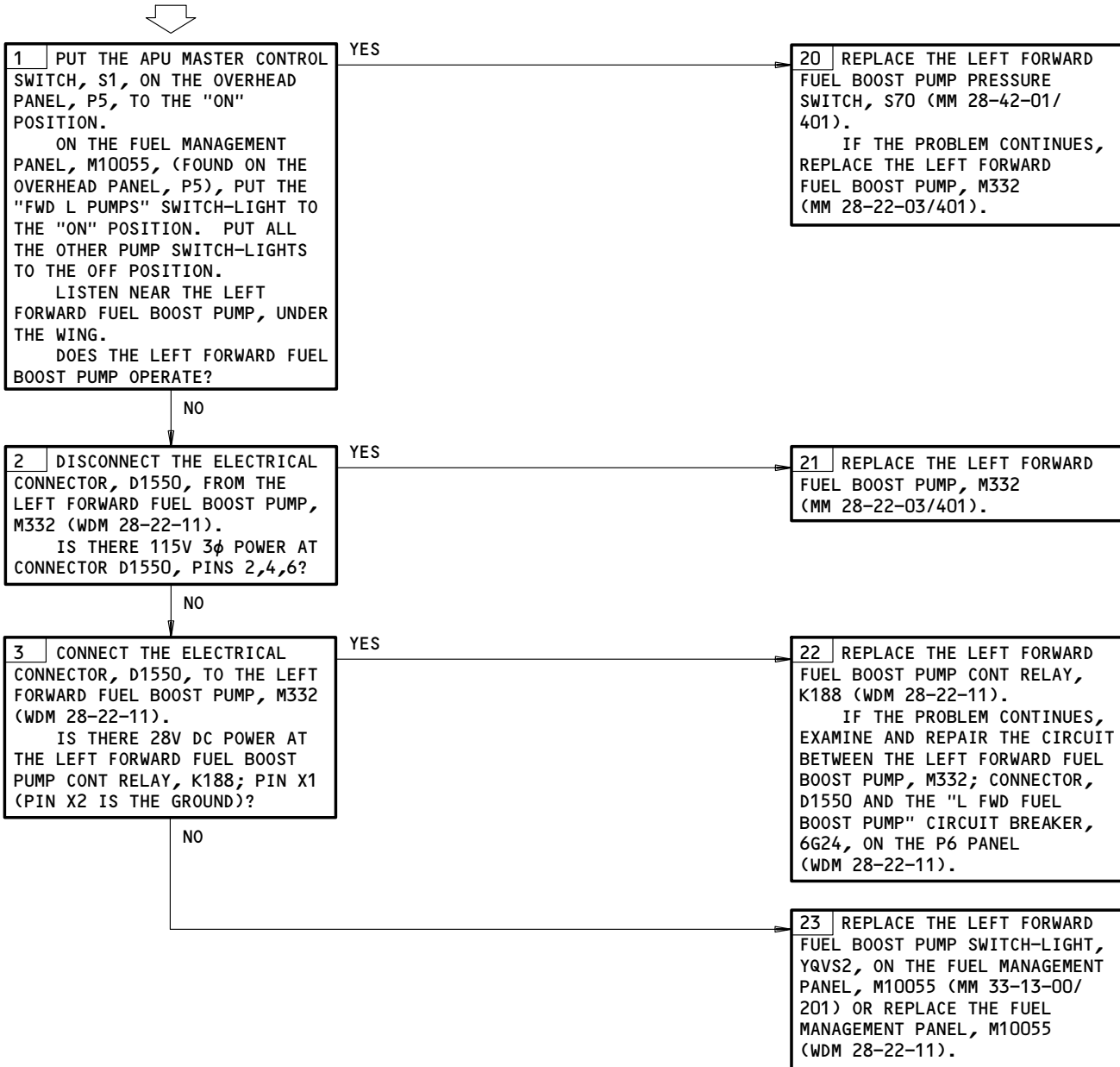
EICAS MESSAGE "L FWD FUEL PUMP" DISPLAYED AND L FWD FUEL PUMP "PRESS" LIGHT ILLUMINATED WITH AC POWER ON AND APU CONTROL SWITCH ON.

PREREQUISITES

MAKE SURE THSE CIRCUIT BREAKERS ARE CLOSED:
6G24,11D34,11D35,11M25

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:

ELECTRICAL POWER IS ON (MM 24-22-00/201)



EICAS Message L FWD FUEL PUMP Displayed and L Fwd Fuel Pump
PRESS Light Illuminated with AC Power On and APU Control Switch On
Figure 106A

EFFECTIVITY

ALL

28-25-00

01

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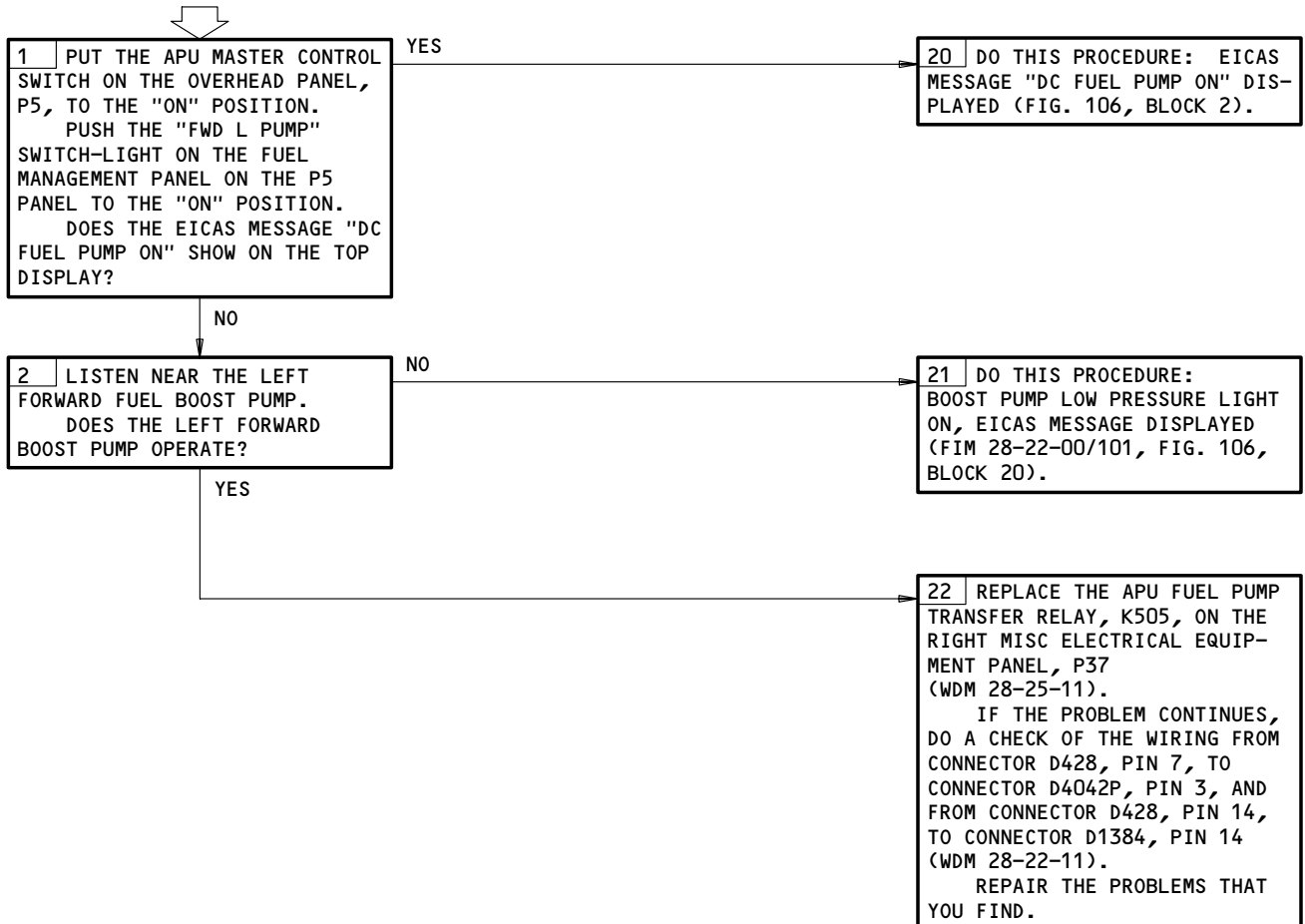
124197

LEFT FORWARD BOOST PUMP DOES NOT COME ON AUTOMATICALLY WHEN AC POWER IS AVAILABLE (APU AT 95% FULL SPEED)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6G24,11D34,11D35,11M16,11M25

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



Left Forward Boost Pump Does Not Come On Automatically
When AC Power Is Available (APU at 95% Full Speed)
Figure 107

EFFECTIVITY	ALL
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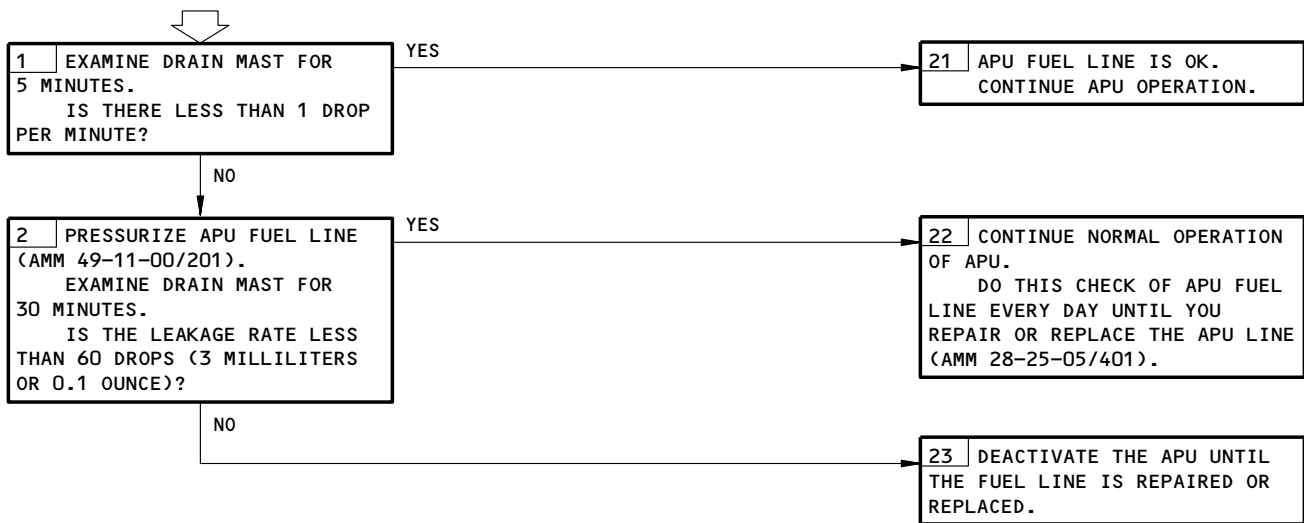
28-25-00

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 6E3, 6G24, 11D34, 11D35, 11M16, 11M25

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

FUEL LEAKING AT APU DRAIN MAST



Fuel Leaking at APU Drain Mast
Figure 108

EFFECTIVITY	ALL
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28-25-00

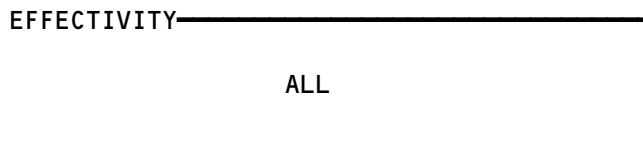
BOEING
767
FAULT ISOLATION/MAINT MANUAL

DEFUELING

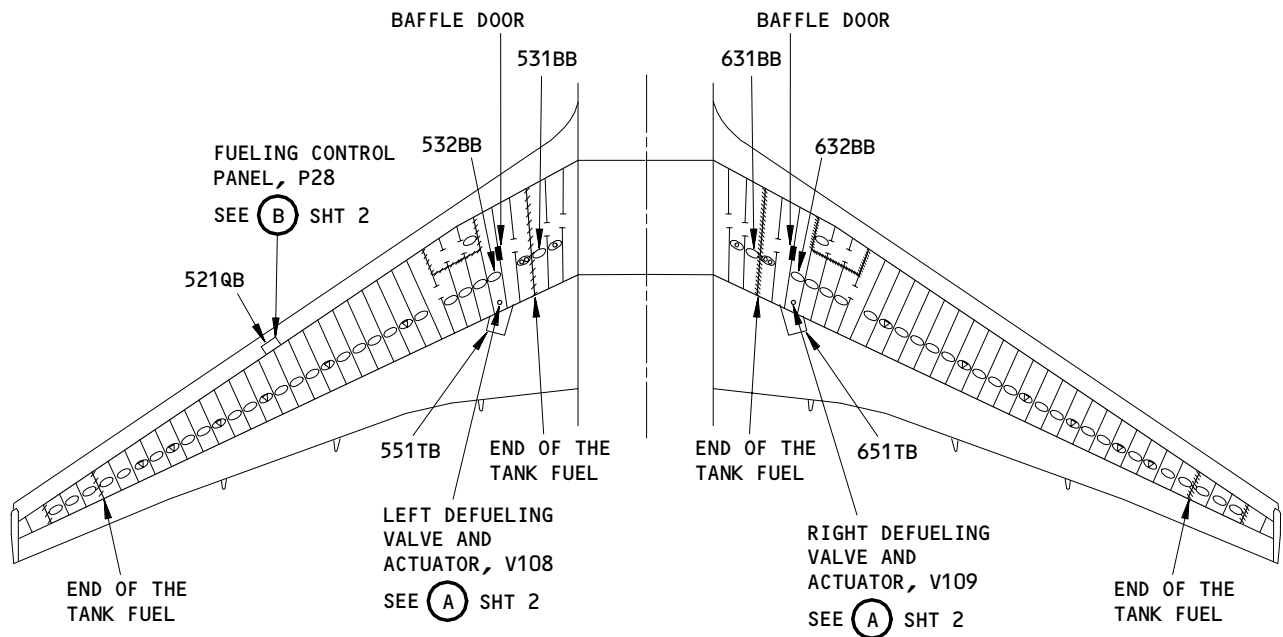
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - LEFT DEFUELING VALVE, V108	2	1	551TB, REAR SPAR	28-26-11
ACTUATOR - RIGHT DEFUELING VALVE, V109	2	1	651TB, REAR SPAR	28-26-11
CIRCUIT BREAKER - DEFUELING VALVES, C1044	--	1	FLT COMPT, P6 6E7	*
CIRCUIT BREAKER - DEFUELING VALVE, C1042	--	1	119AL, MAIN EQUIP CTR, P34 34L4	*
LIGHT - LEFT MAIN DEFUEL VALVE, L67	2	1	521QB, FUELING STATION	28-26-00
LIGHT - RIGHT MAIN DEFUEL VALVE, L68	2	1	521QB, FUELING STATION	28-26-00
RELAY - (FIM 31-01-36/101) L DEFUEL VALVE CONT, K452 L DEFUEL VALVE IND, K449 R DEFUEL VALVE CONT, K453 R DEFUEL VALVE IND, K450				
SWITCH - LEFT MAIN DEFUEL VALVE, S350	2	1	521QB, FUELING STATION	28-26-00
SWITCH - RIGHT MAIN DEFUEL VALVE, S351	2	1	521QB, FUELING STATION	28-26-00
VALVE - LEFT DEFUELING	2	1	532BB, LEFT MAIN FUEL TANK	28-26-01
VALVE - RIGHT DEFUELING	2	1	632BB, RIGHT MAIN FUEL TANK	28-26-01

* SEE THE WDM EQUIPMENT LIST

Defueling - Component Index
Figure 101



28-26-00

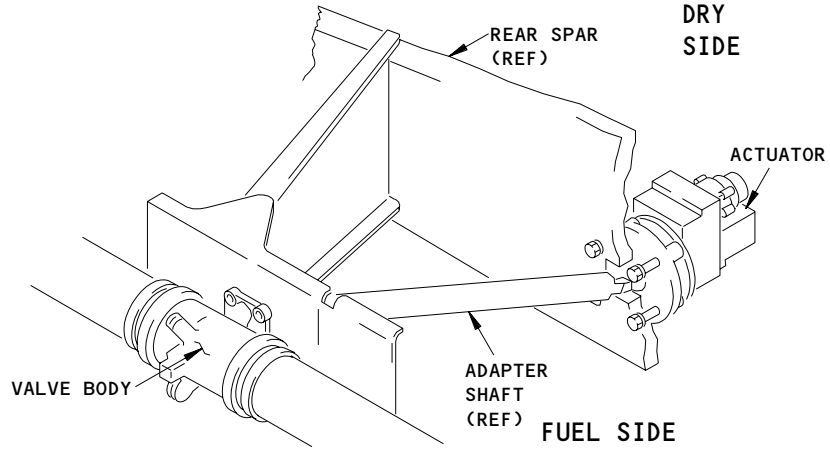


Defueling - Component Location
 Figure 102 (Sheet 1)

EFFECTIVITY	ALL
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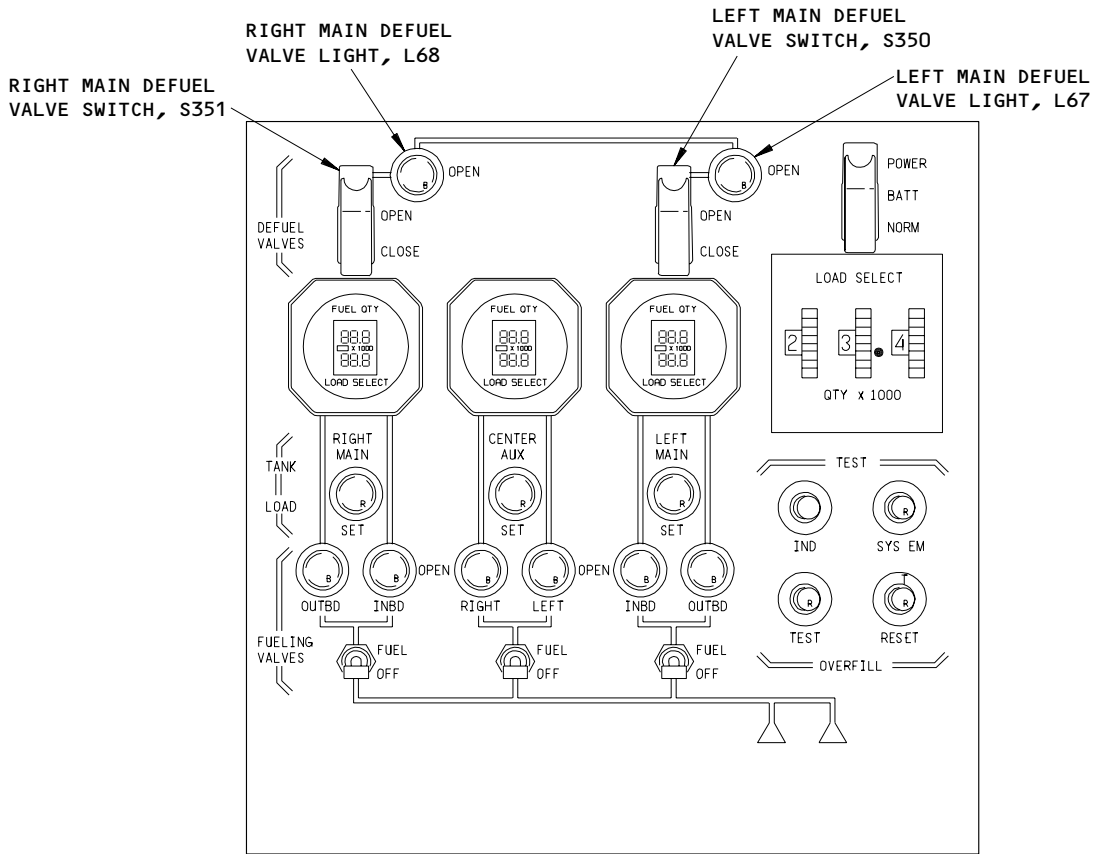
28-26-00

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FAULT ISOLATION/MAINT MANUAL



LEFT OR RIGHT DEFUELING VALVE AND ACTUATOR, V108 OR V109

(A)



FUELING CONTROL PANEL, P28

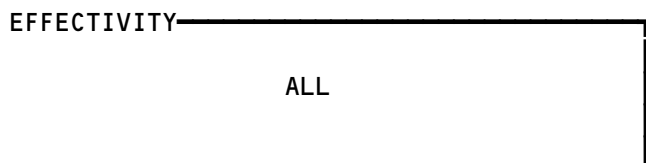
(B)

Defueling - Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

EFFECTIVITY	
	ALL

28-26-00

Not Used
Figure 103



28-26-00

04

Page 104
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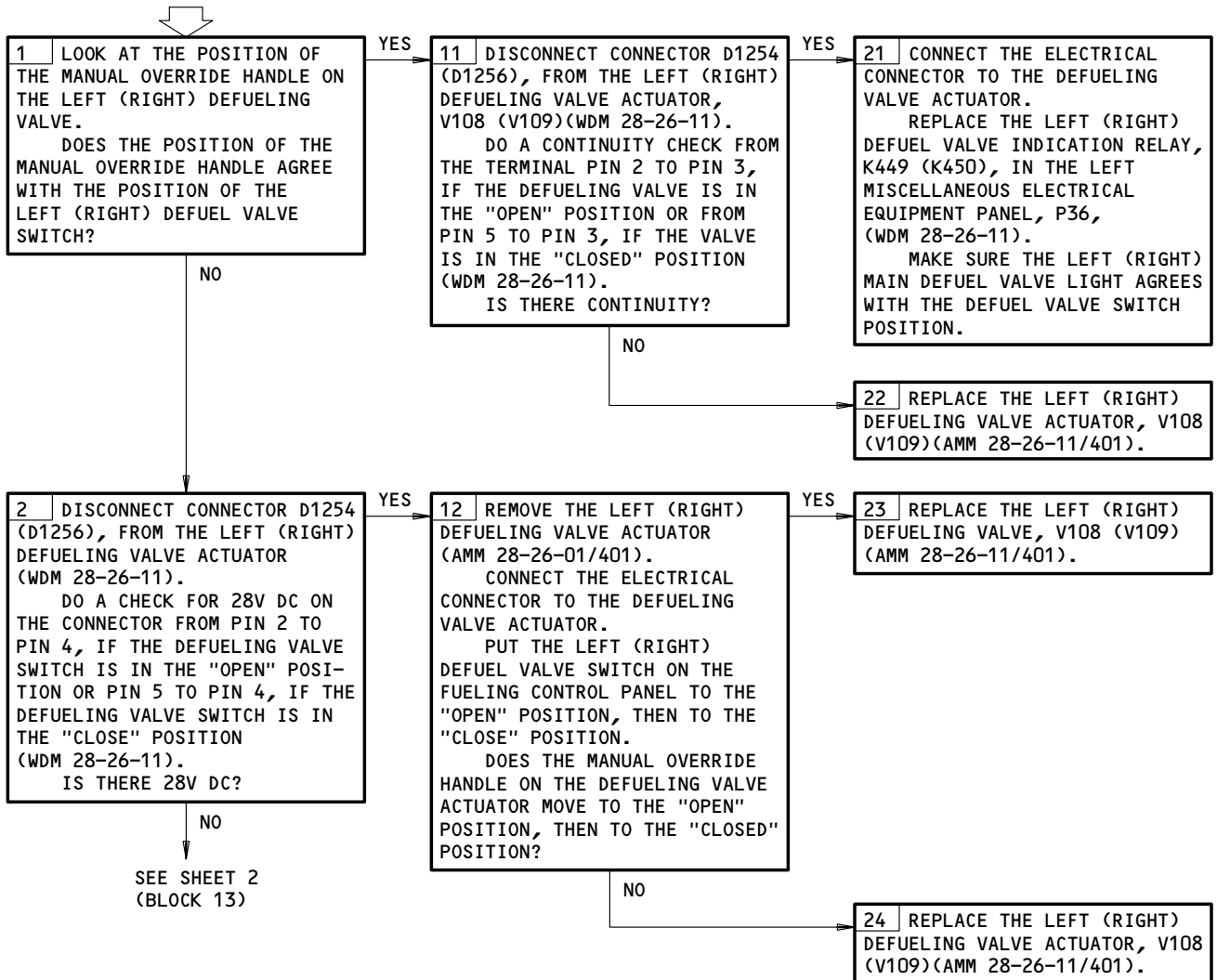
182707

**DEFUELING VALVE
LIGHT DOES NOT
INDICATE SELECTED
VALVE POSITION**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E7,34L4

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



Defueling Valve Light Does Not Indicate Selected Valve Position
Figure 104 (Sheet 1)

EFFECTIVITY

ALL

28-26-00

07

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FAULT ISOLATION/MAINT MANUAL

FROM SHEET 1
(BLOCK 2)

NO

13 CONNECT THE ELECTRICAL CONNECTOR TO THE LEFT (RIGHT) DEFUELING VALVE. REMOVE THE LEFT (RIGHT) DEFUEL VALVE CONTROL RELAY, K452 (K453), FROM THE LEFT MISCELLANEOUS ELECTRICAL EQUIPMENT PANEL, P36 (WDM 28-26-11).

DO A CHECK FOR 28V DC ON THE CONNECTOR, D2926 (2928), BETWEEN PINS X1 AND X2 WITH THE LEFT (RIGHT) MAIN DEFUEL VALVE SWITCH IN THE "OPEN" POSITION, AND DO A CHECK FOR ZERO V DC AT PINS X1 AND X2 WITH THE LEFT (RIGHT) MAIN DEFUEL VALVE SWITCH IN THE "CLOSE" POSITION (WDM 28-26-11).

IS THERE 28V DC WITH THE DEFUEL VALVE SWITCH IN THE "OPEN" POSITION AND ZERO V DC WITH THE DEFUEL VALVE SWITCH IN THE "CLOSE" POSITION?

YES

25 REPLACE THE LEFT (RIGHT) DEFUEL VALVE CONTROL RELAY, K452 (K453), IN THE P36 PANEL (WDM 28-26-11).

MAKE SURE THE LEFT (RIGHT) MAIN DEFUEL VALVE LIGHT AGREES WITH THE LEFT (RIGHT) MAIN DEFUEL VALVE SWITCH POSITION.

NO

26 INSTALL THE LEFT (RIGHT) DEFUEL VALVE CONTROL RELAY IN THE P36 PANEL. REPLACE THE LEFT (RIGHT) MAIN DEFUEL VALVE SWITCH, S350 (S351), ON THE FUELING CONTROL PANEL (WDM 28-26-11).

MAKE SURE THE LEFT (RIGHT) MAIN DEFUEL VALVE LIGHT AGREES WITH THE LEFT (RIGHT) MAIN DEFUEL VALVE SWITCH POSITION.

Defueling Valve Light Does Not Indicate Selected Valve Position
Figure 104 (Sheet 2)

EFFECTIVITY

ALL

28-26-00

04

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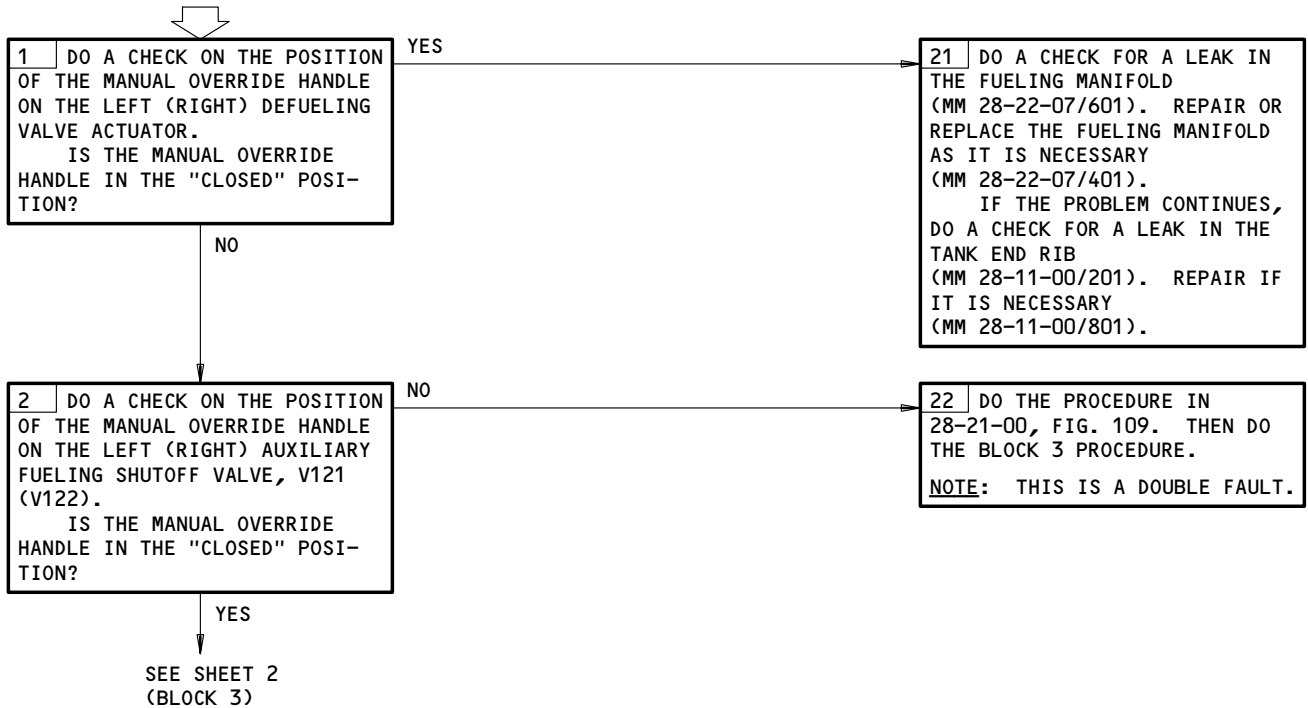
823188

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
 6E4,11C34,11M19,34L2

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

MAIN TANK TRANSFERRED FUEL INTO C TANK

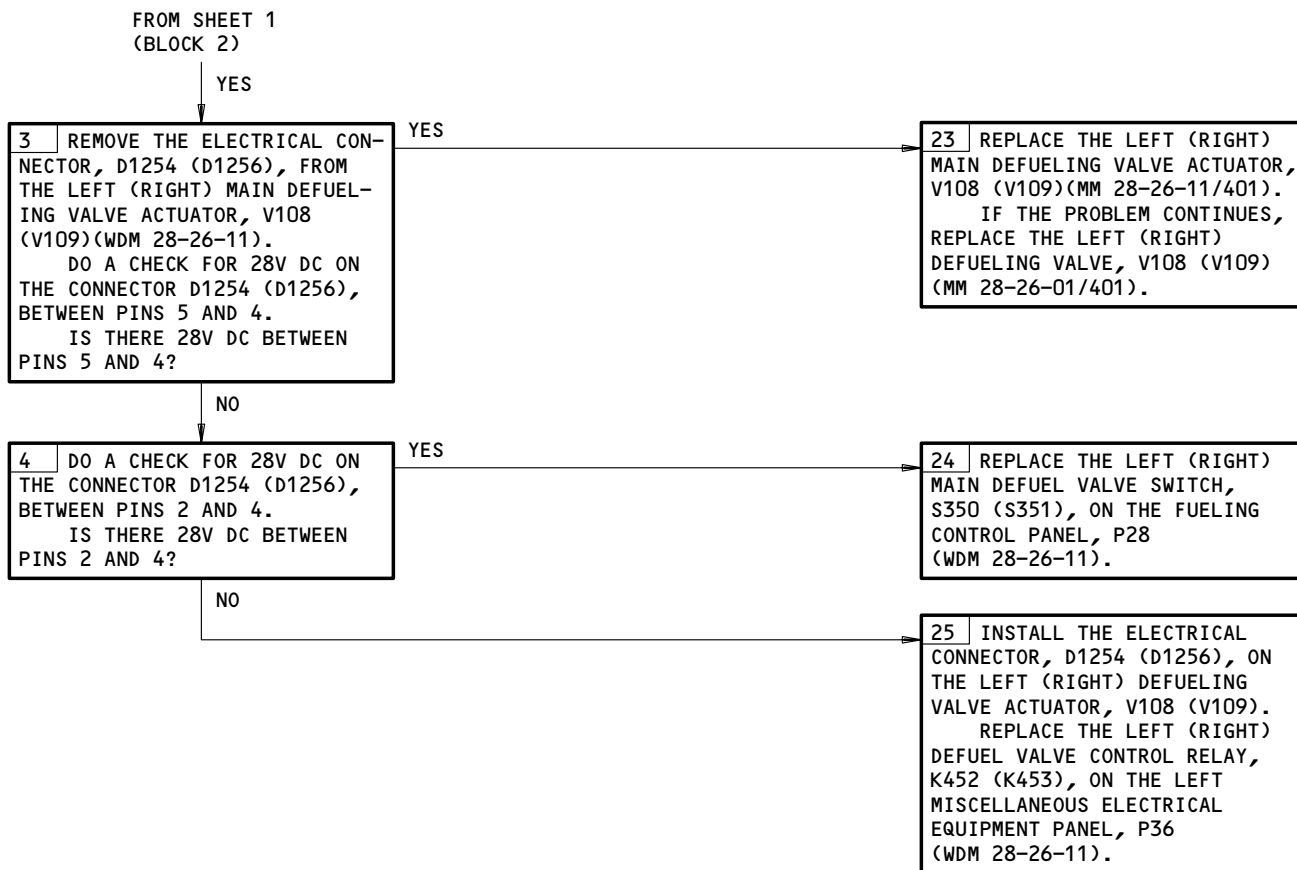


Main Tank Transferred Fuel into C Tank
 Figure 104A (Sheet 1)

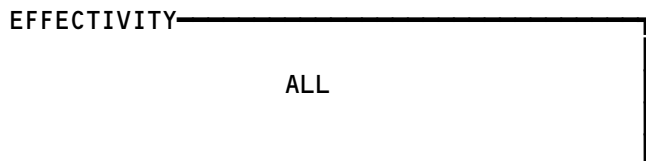
EFFECTIVITY

ALL

28-26-00



Main Tank Transferred Fuel into C Tank
Figure 104A (Sheet 2)



28-26-00

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FAULT ISOLATION/MAINT MANUAL

FUEL JETTISON SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - L FUEL JETTISON NOZZLE VALVE, V157	3	1	L REAR SPAR OF WING	28-31-05
ACTUATOR - L FUEL JETTISON TRANSFER VALVE, V159	3	1	L REAR SPAR OF WING	28-31-04
ACTUATOR - R FUEL JETTISON NOZZLE VALVE, V158	3	1	R REAR SPAR OF WING	28-31-05
ACTUATOR - R FUEL JETTISON TRANSFER VALVE, V160	3	1	R REAR SPAR OF WING	28-31-04
ADAPTER SHAFT - L FUEL JETTISON NOZZLE VALVE, V157	3	1	541UB, LEFT WING MAIN FUEL TANK	28-31-03
ADAPTER SHAFT - L FUEL JETTISON TRANSFER VALVE, V159	3	1	531BB, LEFT WING CENTER AUXILIARY FUEL TANK	28-31-06
ADAPTER SHAFT - R FUEL JETTISON NOZZLE VALVE, V158	3	1	641UB, RIGHT WING MAIN FUEL TANK	28-31-03
ADAPTER SHAFT - R FUEL JETTISON NOZZLE VALVE, V160	3	1	631BB, RIGHT WING CENTER AUXILIARY FUEL TANK	28-31-06
CIRCUIT BREAKER - L FUEL OVRD PUMP, C369		1	FLT COMPT, P6 6F15	*
R FUEL OVRD PUMP, C370		1	6F21	*
CIRCUIT BREAKER - LEFT JETT CONT, C1065		1	FLT COMPT, P11 11M13	*
LEFT JETT NOZZLE VALVE, C1067		1	11M14	*
RIGHT JETT CONT, C1066		1	11M22	*
RIGHT JETT NOZZLE VALVE, C1068		1	11M23	*
CIRCUIT BREAKER - L FUEL JETT PUMP, C375			L MISC ELEC EQUIP PANEL, P36 36F4 OR 36G7	*
CIRCUIT BREAKER - R FUEL JETT PUMP, C376			R MISC ELEC EQUIP PANEL, P37 37F4 OR 37G4	*
COMPUTER - (FIM 31-41-00/101) EICAS L, M10181				
EICAS R, M10182				
DIODE - JETTISON L BLOCKING, TB302		1	L MISC ELEC EQUIP PANEL, P36	
JETTISON R BLOCKING, TB304		1	R MISC ELEC EQUIP PANEL, P37	
LIGHT - FUEL JETTISON FAULT, L1	1	1	FUEL JETTISON CONTROL MODULE, M1733	
MANIFOLD - FUEL JETTISON	1,2	2	LEFT MAIN TANK, RIGHT MAIN TANK	
MODULE - FUEL JETTISON CONTROL, M1733		1	FLT COMPT, P5	

* SEE THE WDM EQUIPMENT LIST

SAS 050-149;
SAS 150, 152-154 POST-SB 28-27;
SAS 155-999;
MTH 275 POST-SB 28-27;
MTH 277-999

SAS 050, 051, 162-164 POST-SB 28-25;
SAS 052-149;
SAS 150, 152-154 POST-SB 28-27;
SAS 155-161, 165-999;
MTH 275 POST-SB 28-27;
MTH 277-999

SAS 051 POST-SB 28-30;
SAS 050, 052-149;
SAS 150, 152-154 POST-SB 28-27;
SAS 155-999;
MTH 275 POST-SB 28-27;
MTH 277-999

"INOP" MTH 276












"INOP" ON SAS 155-157, 165-167 PRE-SB 28-38;
SAS 050, 051, 162-164 PRE-SB 28-25;
MTH 277, 278, 280 PRE-SB 28-38;
MTH 279

Fuel Jettison System - Component Index Figure 101 (Sheet 1)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

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FAULT ISOLATION/MAINT MANUAL

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
PUMP - L JETTISON, M1730 		1	531AB, LEFT AUXILIARY FUEL TANK	28-31-01
PUMP - R JETTISON, M1731 		1	631AB, RIGHT AUXILIARY FUEL TANK	28-31-01
RELAY - L JETTISON PUMP IND, K2 		1	FUEL JETTISON CONTROL MODULE, M1733	*
RELAY - R JETTISON PUMP IND, K1		1	FUEL JETTISON CONTROL MODULE, M1733	*
RELAY - (REF 31-01-36, FIG. 101)				
L JETTISON IND, K2089				
L JETTISON PUMP CONTROL, K2093				
L NOZZLE VALVE INDICATION, K2095 				
L TRANSFER VALVE INDICATION, K2097 				
RELAY - (REF 31-01-37, FIG. 101)				
R JETTISON IND, K2090				
R JETTISON PUMP CONTROL, K2094				
R NOZZLE VALVE INDICATION, K2096 				
R TRANSFER VALVE INDICATION, K2098 				
SWITCH - FUEL JETTISON, S3	4	1	FUEL JETTISON CONTROL MODULE, M1733	
SWITCH - L NOZZLE VALVE, S1	4	1	FUEL JETTISON CONTROL MODULE, M1733	
SWITCH - R NOZZLE VALVE, S2	4	1	FUEL JETTISON CONTROL MODULE, M1733	
VALVE - L FUEL JETTISON NOZZLE, V157 	3	1	541UB, LEFT MAIN FUEL TANK	28-31-03
VALVE - L FUEL JETTISON TRANSFER, V159 	3	1	531BB, LEFT AUXILIARY FUEL TANK	28-31-06
VALVE - R FUEL JETTISON NOZZLE, V158 	3	1	641UB, RIGHT MAIN FUEL TANK	28-31-03
VALVE - R FUEL JETTISON TRANSFER, V160 	3	1	631BB, RIGHT AUXILIARY FUEL TANK	28-31-06

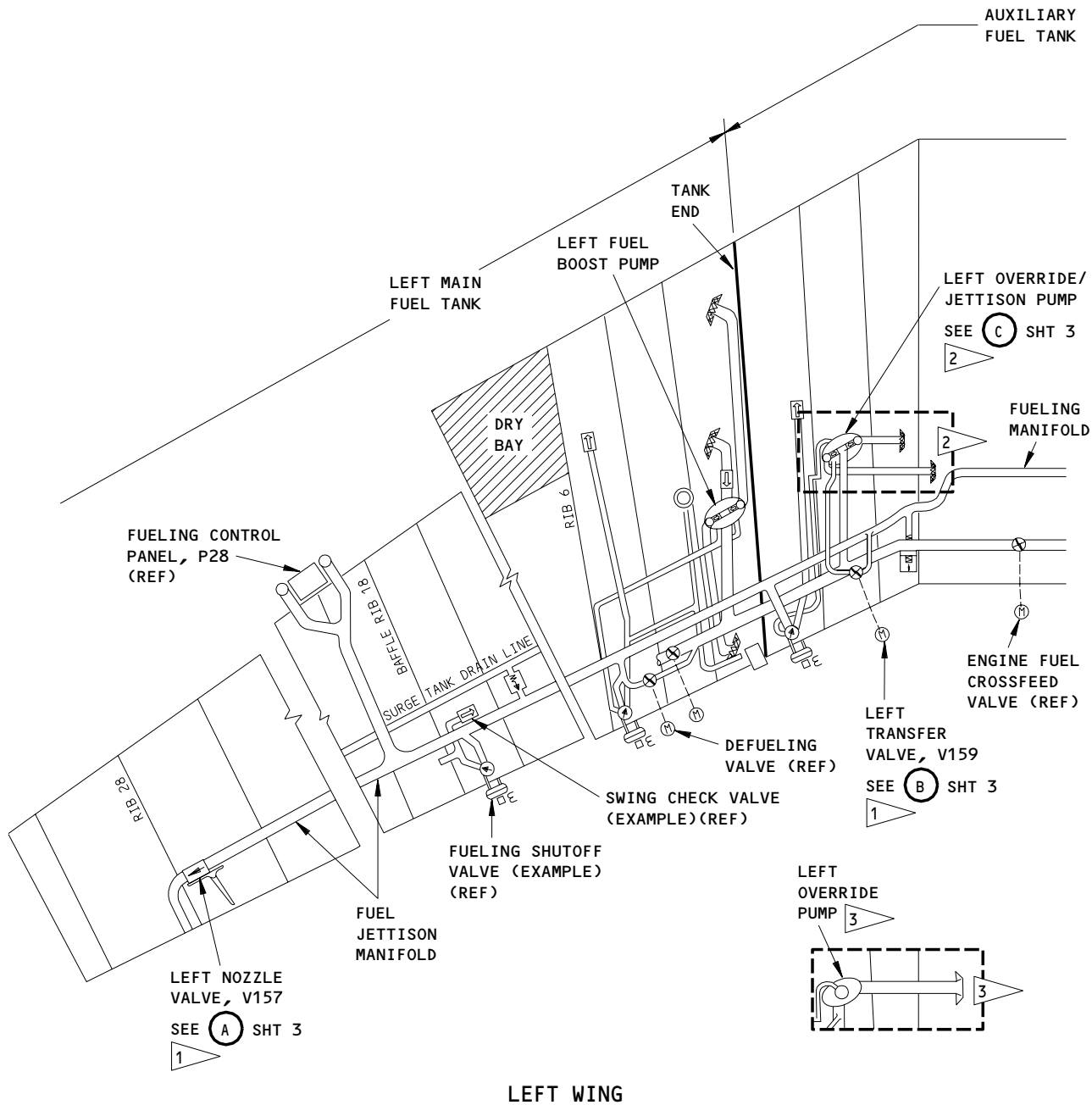
* SEE THE WDM EQUIPMENT LIST

Fuel Jettison System - Component Index
Figure 101 (Sheet 2)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

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FAULT ISOLATION/MAINT MANUAL



LEFT WING

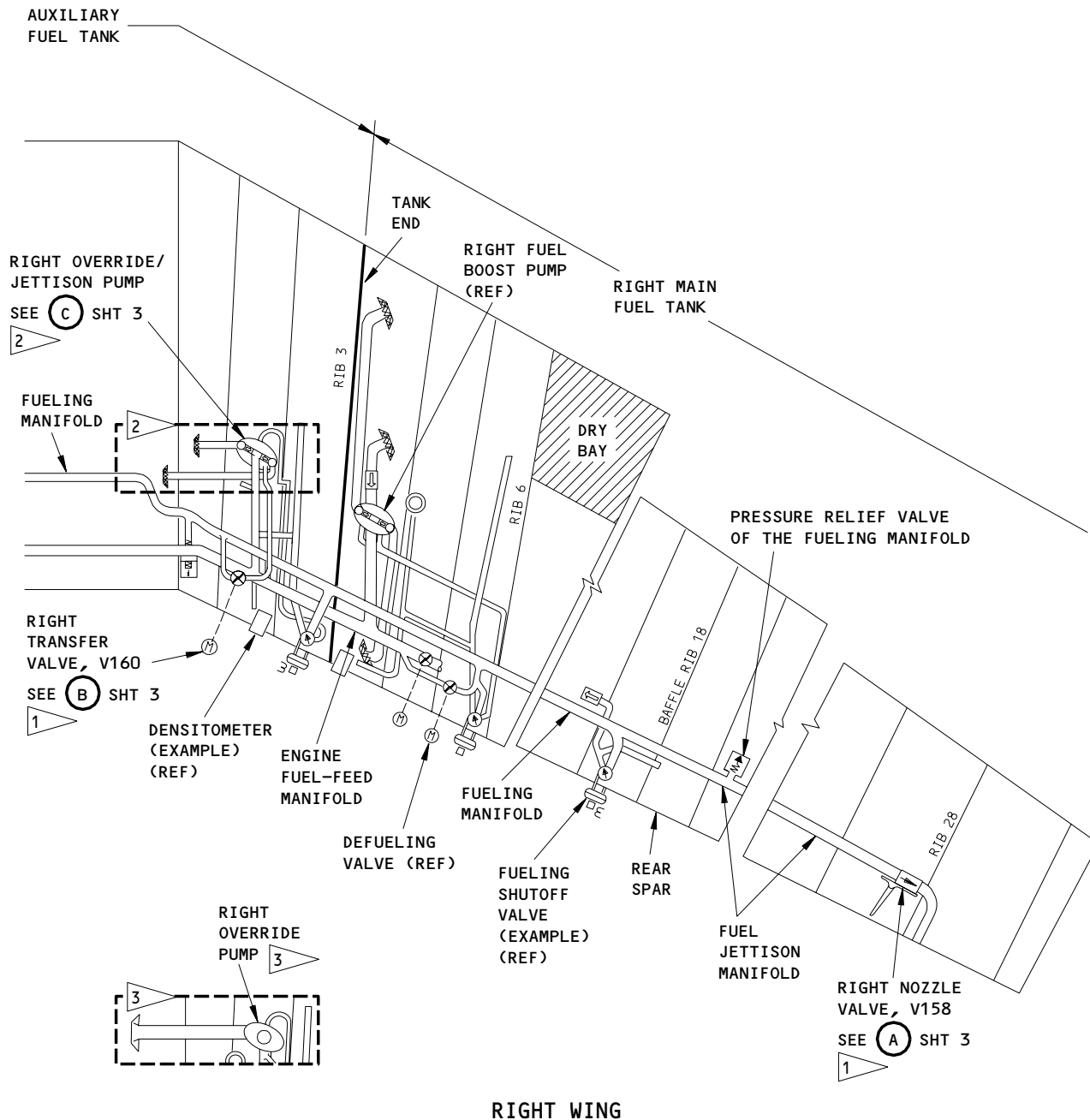
- 1 SAS 050-149, AND SAS 150,152-154 WITH WITH SB 28-27, AND 155-999;
MTH 275 WITH SB 28-27, AND MTH 277-999
- 2 SAS 050,051,162-164 WITH SB 28-25, AND
SAS 052-149, AND SAS 150,152-154 WITH SB 28-27,
AND SAS 155-161,165-999;
MTH 275 WITH SB 28-27, AND MTH 277-999
- 3 SAS 050,051,162-164 WITHOUT SB 28-25;
MTH 276

Fuel Jettison System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

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FAULT ISOLATION/MAINT MANUAL



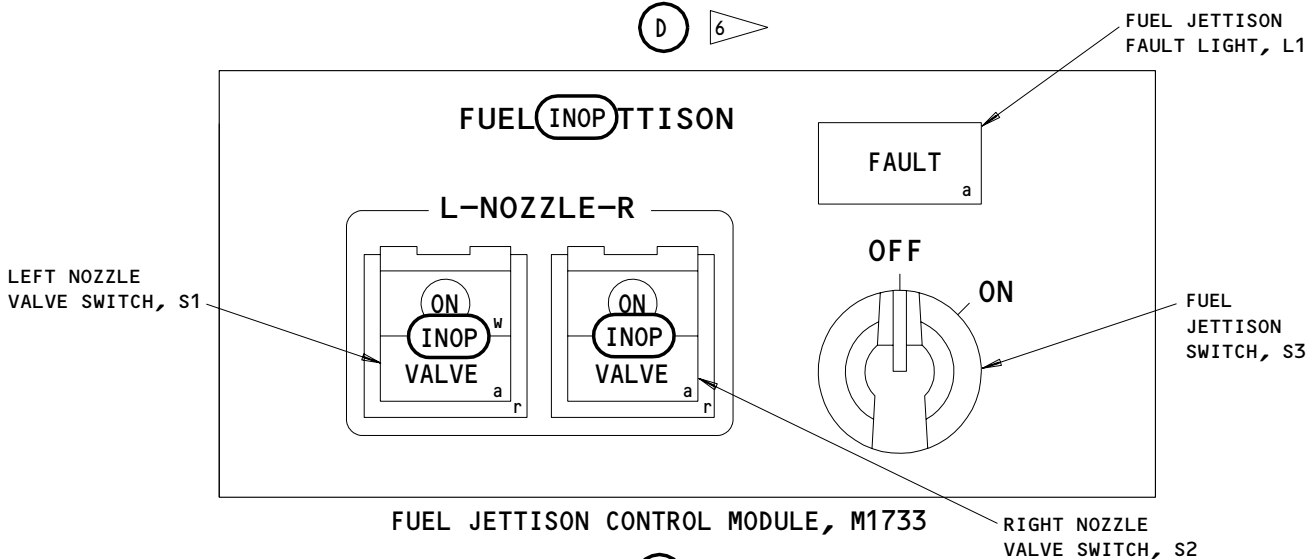
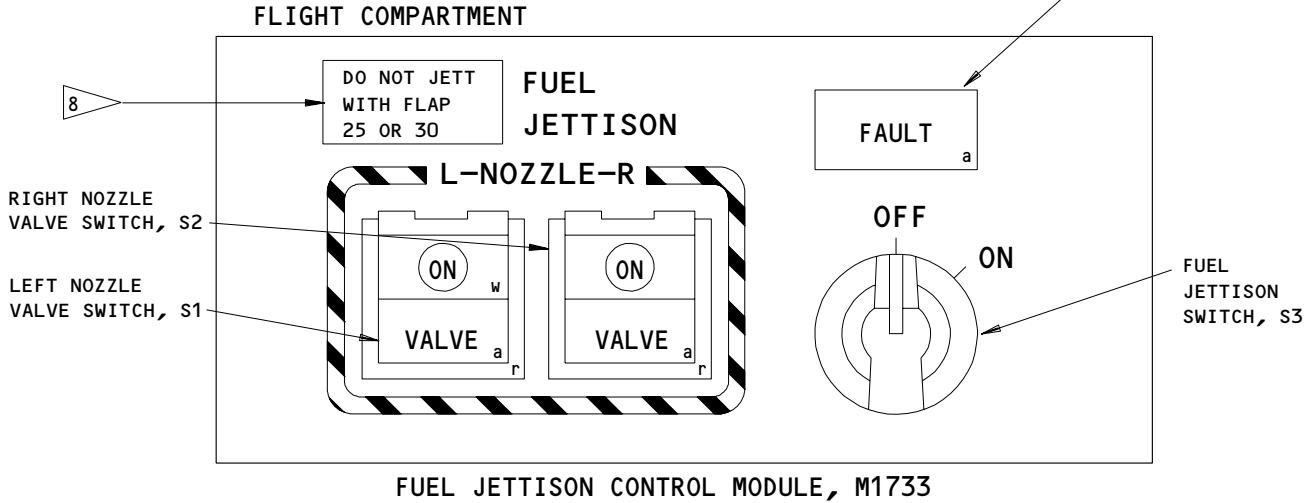
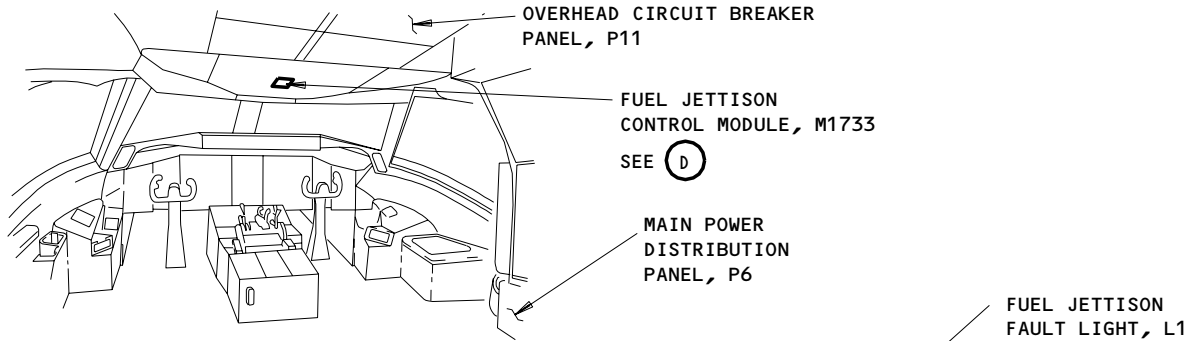
RIGHT WING

- 1 SAS 050-149, AND SAS 150,152-154 WITH WITH SB 28-27, AND 155-999;
MTH 275 WITH SB 28-27, AND MTH 277-999
- 2 SAS 050,051,162-164 WITH SB 28-25, AND
SAS 052-149, AND SAS 150,152-154 WITH SB 28-27,
AND SAS 155-161,165-999;
MTH 275 WITH SB 28-27, AND MTH 277-999
- 3 SAS 050,051,162-164 WITHOUT SB 28-25;
MTH 276

Fuel Jettison System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00



6 SAS 050-149 AND SAS 150,152-154 WITH SB 28-27, AND 155-999;
MTH 275 WITH SB 28-27, AND MTH 277-999

7 MTH 276

8 SAS 155-157,165-167 WITHOUT SB 28-38;
SAS 050,051,162-164 WITHOUT SB 28-25;
MTH 277,278,280 WITHOUT SB 28-38, AND MTH 279

Fuel Jettison System - Component Location
Figure 102 (Sheet 4)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

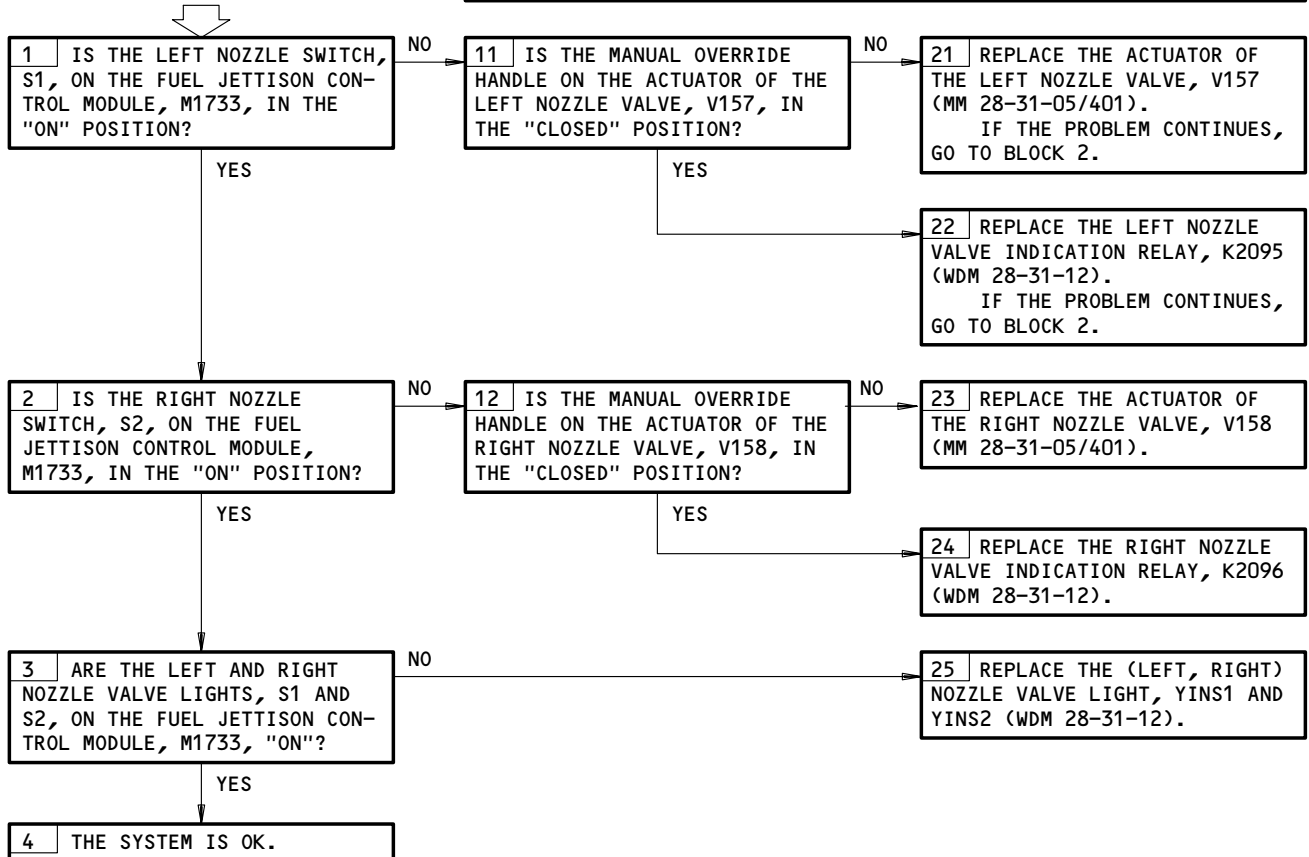
28-31-00

EICAS MESSAGE "FUEL JET NOZ" DISPLAYED ON GROUND

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M14, 11M23

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



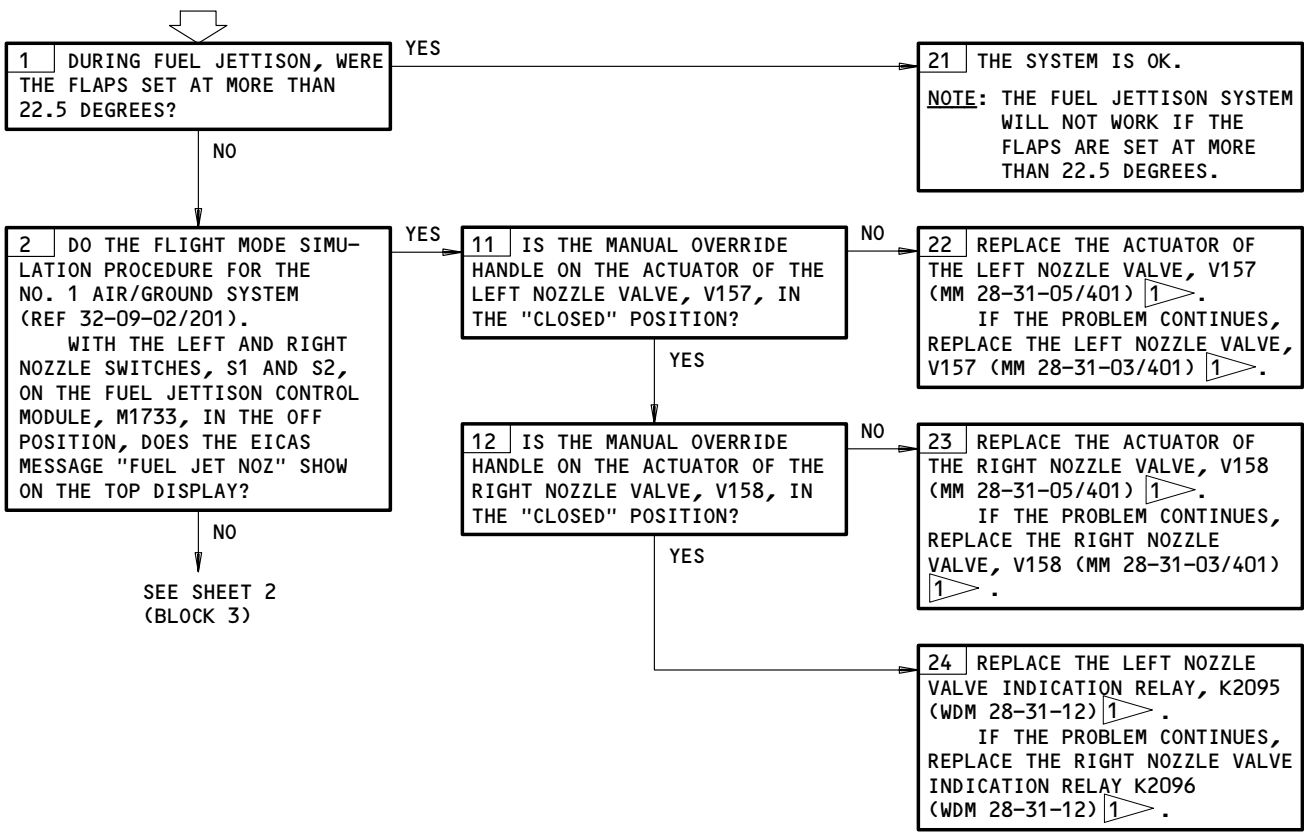
EICAS Message FUEL JET NOZ Displayed on Ground
Figure 103

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

FUEL JETTISON NOT NORMAL. FUEL JETTISON SWITCH "ON". EICAS MESSAGE "FUEL JET NOZ" DISPLAYED.

PREREQUISITES
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M14,11M23
MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)
THE SPOILERS ARE DEACTIVATED (MM 27-61-00/201)
FLAPS ARE SET AT LESS THAN 22.5 DEGREES



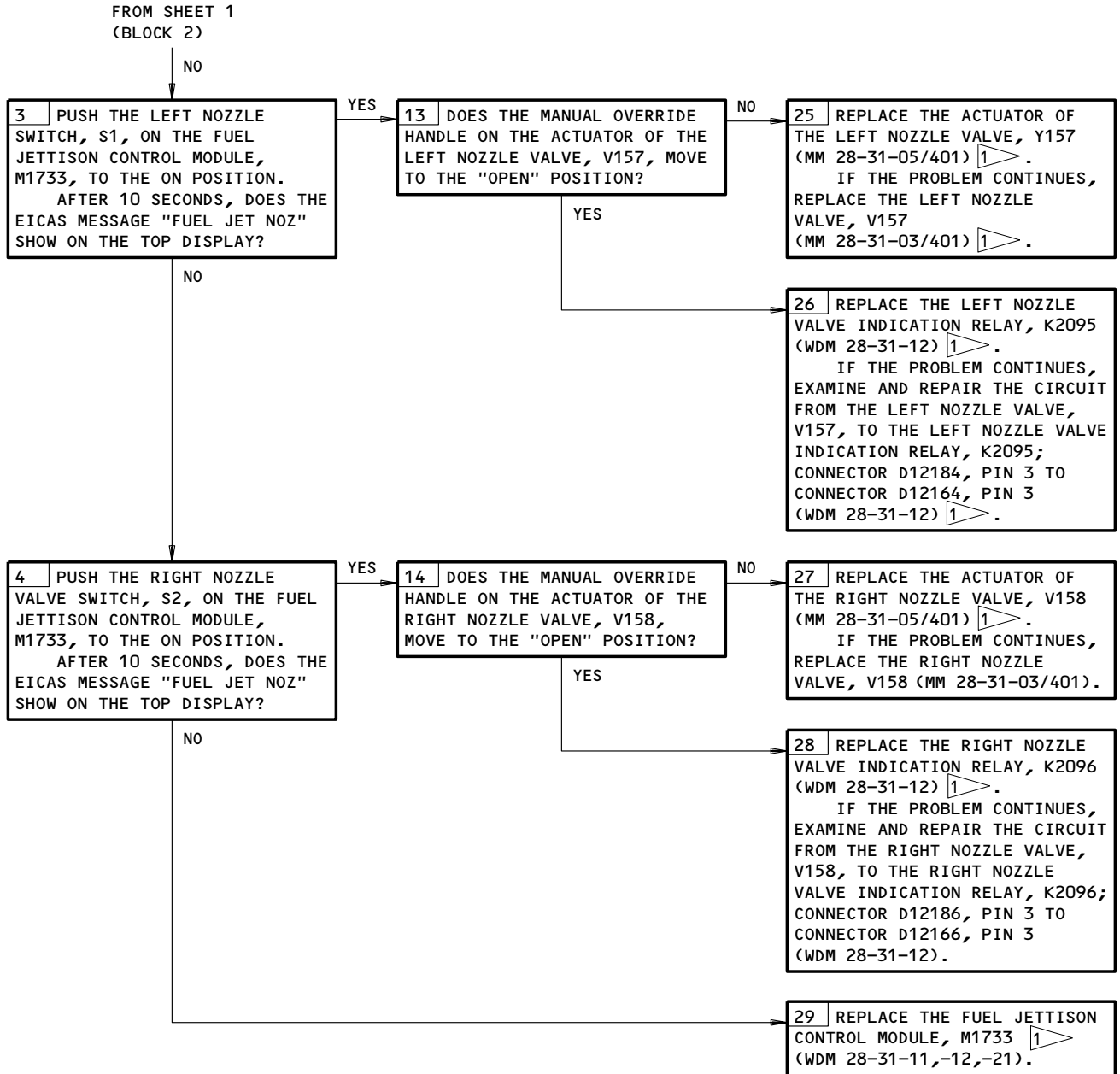
1 PUT THE AIRPLANE BACK TO THE GROUND MODE (MM 32-09-02/201)

Fuel Jettison not Normal. Fuel Jettison Switch ON.
EICAS Message FUEL JET NOZ Displayed.
Figure 104 (Sheet 1)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

801950



Fuel Jettison not Normal. Fuel Jettison Switch ON.
 EICAS Message FUEL JET NO. 2 Displayed.
 Figure 104 (Sheet 2)

EFFECTIVITY
 MTH 275 POST-SB 28-27; MTH 276-999;
 SAS 150, 152-154 POST-SB 28-27;
 SAS 050-149, 155-999

28-31-00

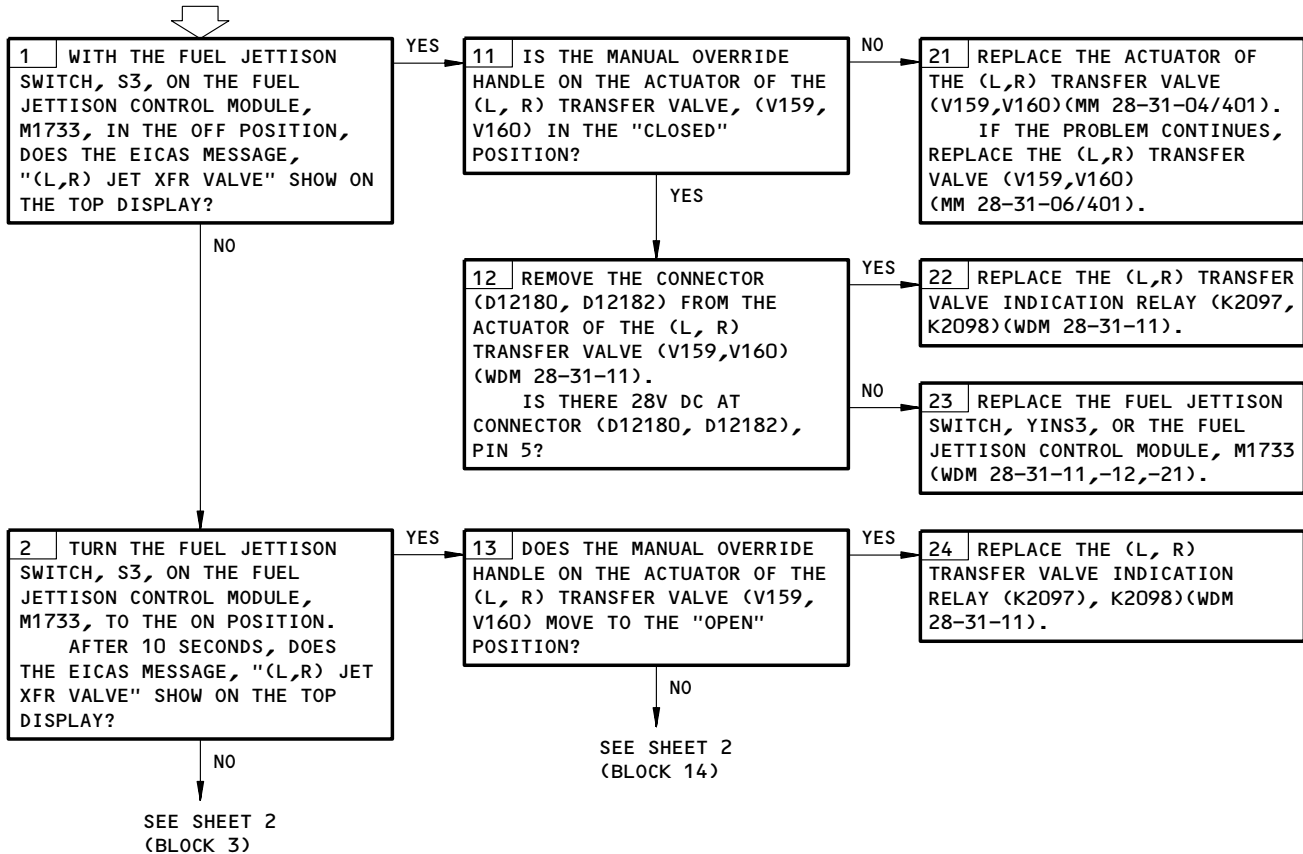
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M13, 11M22

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

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

FUEL JETTISON NOT NORMAL. FUEL JETTISON SWITCH "ON". EICAS MESSAGE "(O1=L, O2=R) JET XFR VALVE" DISPLAYED.

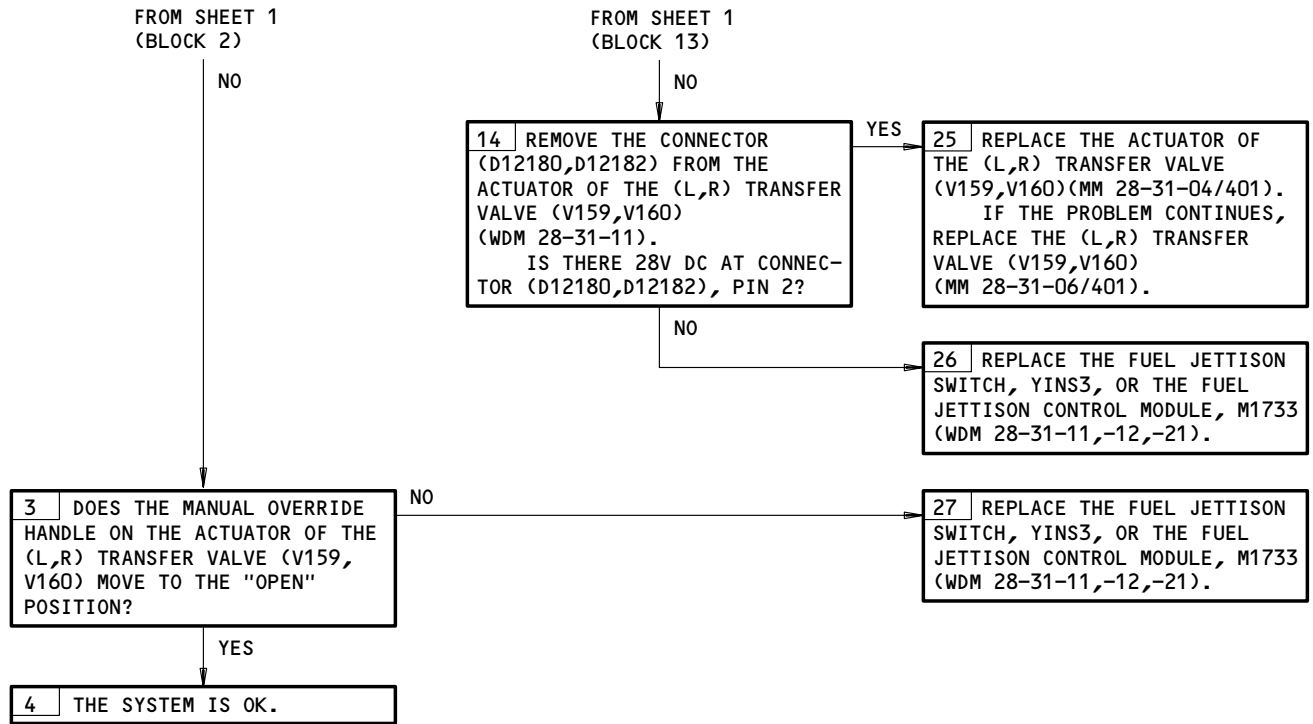


Fuel Jettison not Normal. Fuel Jettison Switch ON.
EICAS Message (O1=L, O2=R) JET XFR VALVE Displayed.
Figure 105 (Sheet 1)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

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FAULT ISOLATION/MAINT MANUAL



Fuel Jettison not Normal. Fuel Jettison Switch ON.
EICAS Message (01=L,02=R) JET XFR VALVE Displayed.
Figure 105 (Sheet 2)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00

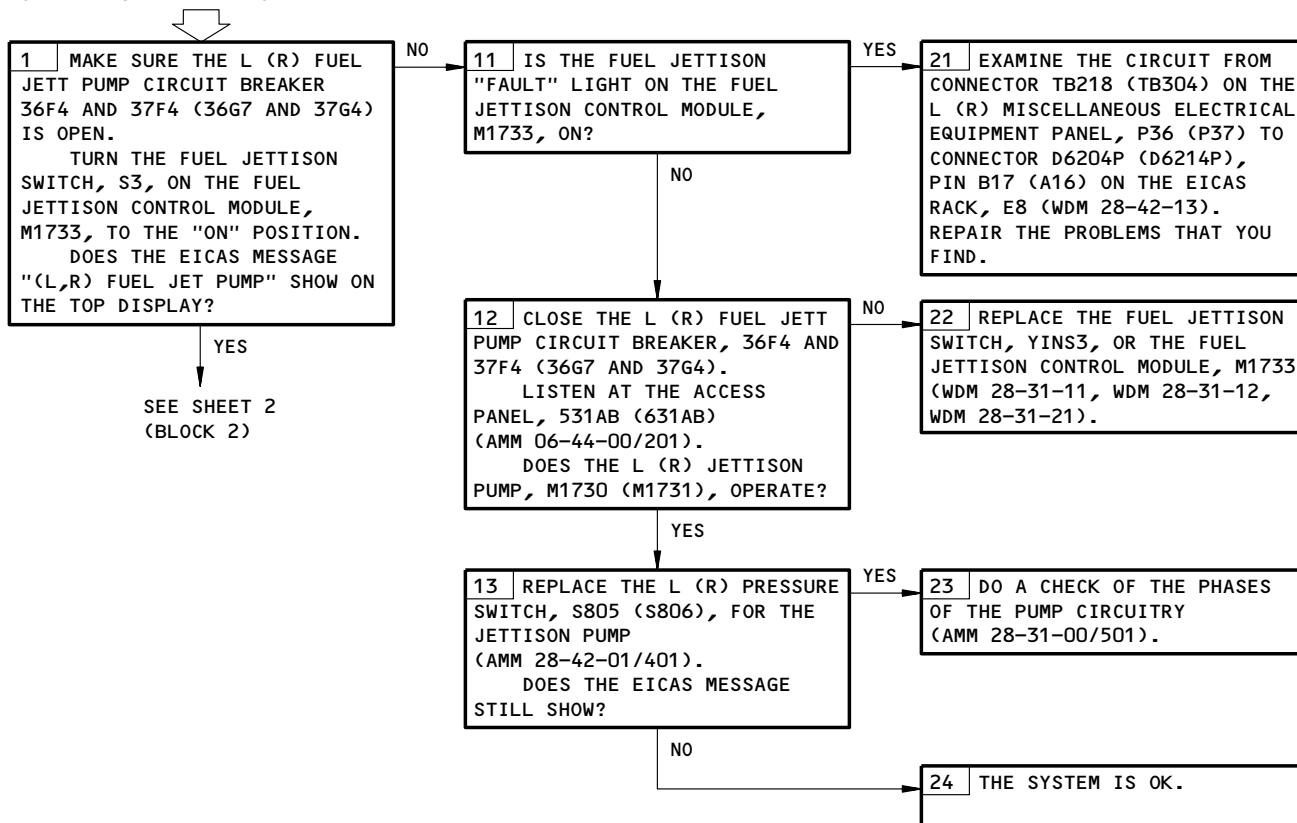
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M13, 11M22

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FUEL TANKS ARE DEFUELED (AMM 28-26-00/201)

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

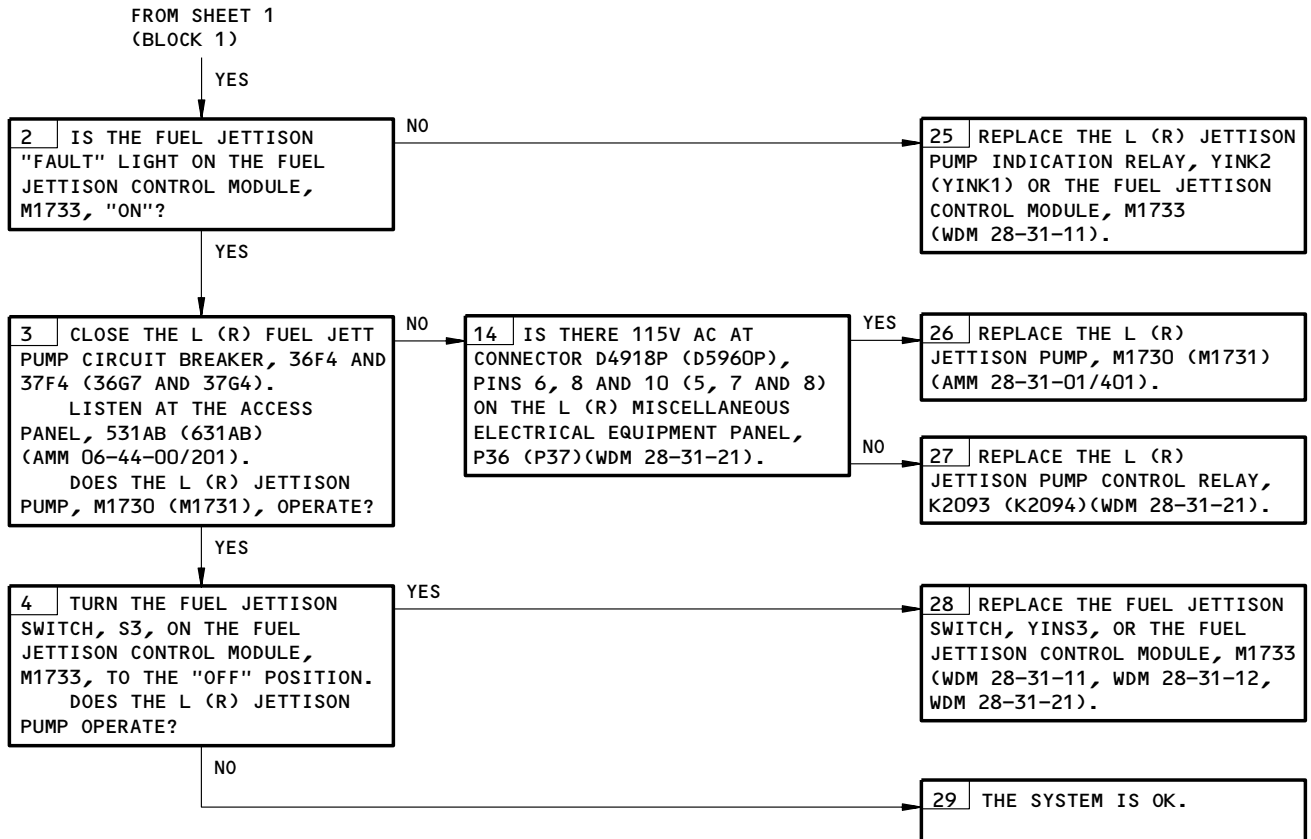
FUEL JETTISON NOT NORMAL. FUEL JETTISON SWITCH "ON". EICAS MESSAGE "(O1=L, O2=R) FUEL JET PUMP" DISPLAYED.



Fuel Jettison not Normal. Fuel Jettison Switch ON.
EICAS Message "(O1=L, O2=R) FUEL JET PUMP" Displayed.
Figure 106 (Sheet 1)

EFFECTIVITY
SAS 150, 152-154 POST-SB 28-27; SAS 050, 051, 162-164 POST-SB 28-25; SAS 155-157, 165-167 POST-SB 28-38; 052-149, 158-161, 168-999; MTH 275 POST-SB 28-27; 277-999

28-31-00



Fuel Jettison not Normal. Fuel Jettison Switch ON.
 EICAS Message "01=L, 02=R) FUEL JET PUMP" Displayed.
 Figure 106 (Sheet 2)

EFFECTIVITY
 MTH 275 POST-SB 28-27; MTH 276-999;
 SAS 150, 152-154 POST-SB 28-27;
 SAS 050-149, 155-999

28-31-00

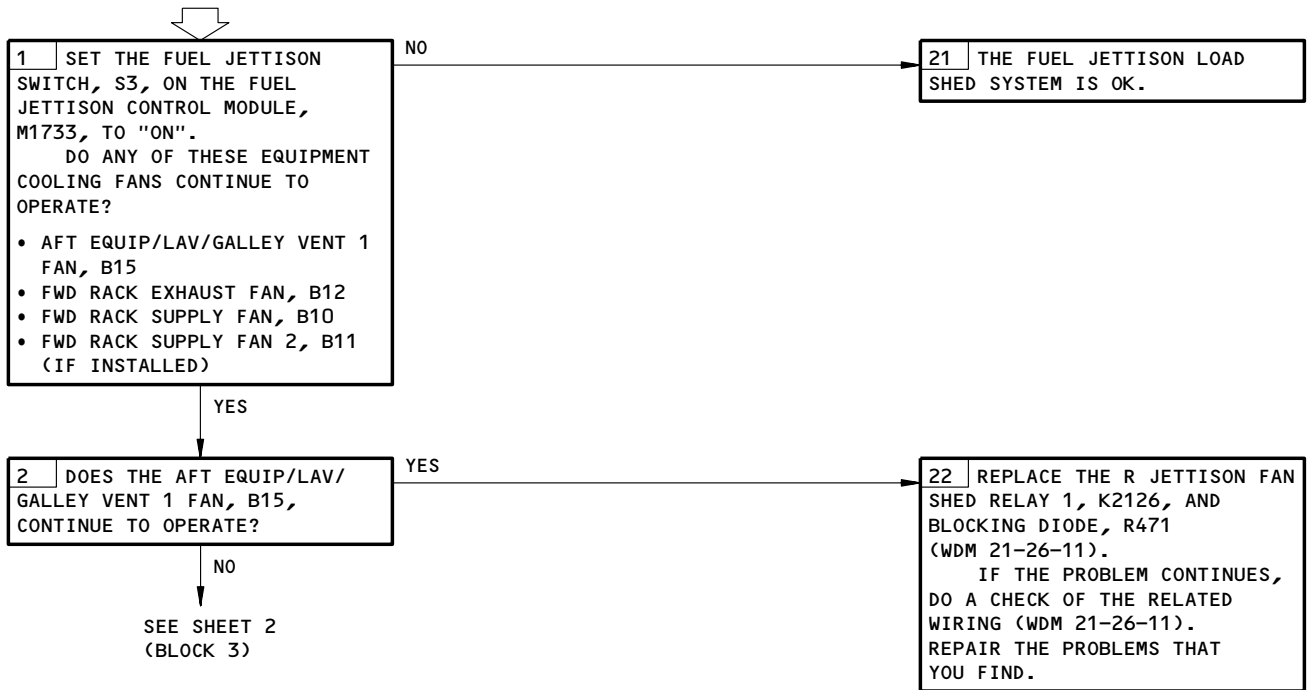
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M13, 11M22

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
EQUIPMENT COOLING IS SET TO "AUTO"

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

ONE OF THE EQUIPMENT COOLING FANS DOES NOT GO OFF WHEN THE FUEL JETTISON CONTROL SWITCH IS SET TO "ON".

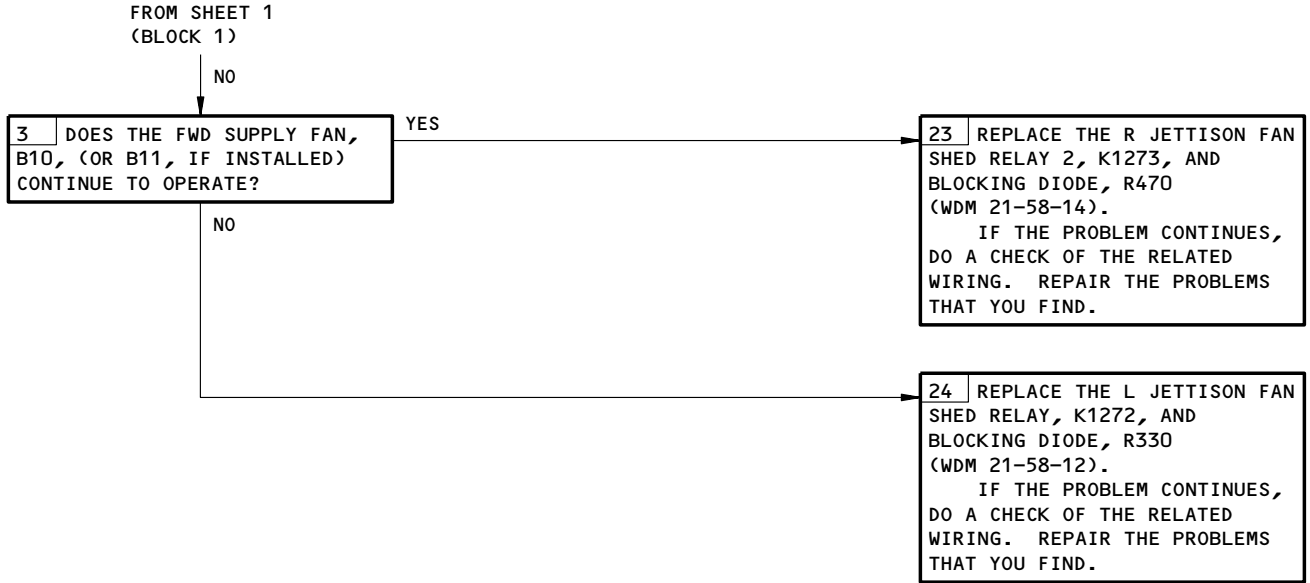


One of the Equipment Cooling Fans Does Not Go Off When the Fuel Jettison Control Switch is Set to ON.
Figure 107 (Sheet 1)

EFFECTIVITY
MTH 275 POST-SB 28-27; MTH 276-999;
SAS 150, 152-154 POST-SB 28-27;
SAS 050-149, 155-999

28-31-00


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 FAULT ISOLATION/MAINT MANUAL



One of the Equipment Cooling Fans Does Not Go Off When
 the Fuel Jettison Control Switch is Set to ON.
 Figure 107 (Sheet 2)

EFFECTIVITY
 MTH 275 POST-SB 28-27; MTH 276-999;
 SAS 150, 152-154 POST-SB 28-27;
 SAS 050-149, 155-999

28-31-00

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11M13, 11M22

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

MAKE SURE THE AUXILIARY TANK HAS A MINIMUM FUEL QUANTITY OF:
6700 LBS (3100 KGS) - ZERO BAY CENTER COMPARTMENT
26,000 LBS (11,900 KGS) - TWO BAY CENTER COMPARTMENT
38,200 LBS (14,700 KGS) - FOUR BAY CENTER COMPARTMENT

REFER TO AMM 28-11-00/001 FOR CENTER COMPARTMENT SIZE EFFECTIVITY.
ADD FUEL IF NECESSARY (AMM 12-11-01/301).

WARNING: DO NOT CLOSE (RESET) A FUEL PUMP CIRCUIT BREAKER THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

NOTE: IF YOU MAKE A DECISION TO DISPATCH THE AIRPLANE WITH AN OPEN CIRCUIT BREAKER, DO THE STEPS IN THE MEL TO DEACTIVATE THE (L, R) JETTISON PUMP. OPERATE THE AIRPLANE PER THE MEL PROCEDURES.

(L, R) FUEL JETTISON PUMP CIRCUIT BREAKER OPEN

1 INSTALL A COLLAR AND DO-NOT-CLOSE TAG ON THE OPEN CIRCUIT BREAKER.
EXAMINE THE AREA AT THE TWO ENDS OF THE (L, R) OVERRIDE/JETTISON PUMP CONDUIT FOR SIGNS OF FUEL LEAKAGE OR DAMAGE.
ARE THERE SIGNS OF FUEL LEAKAGE OR DAMAGE?

YES

41 REMOVE THE PUMP WIRING FROM THE CONDUIT AND EXAMINE THE WIRING AND SLEEVES FOR DAMAGE (AMM 28-22-15/601). FIND THE SOURCE OF THE FUEL LEAKAGE AND REPAIR IT. GO TO BLOCK 2.

NO

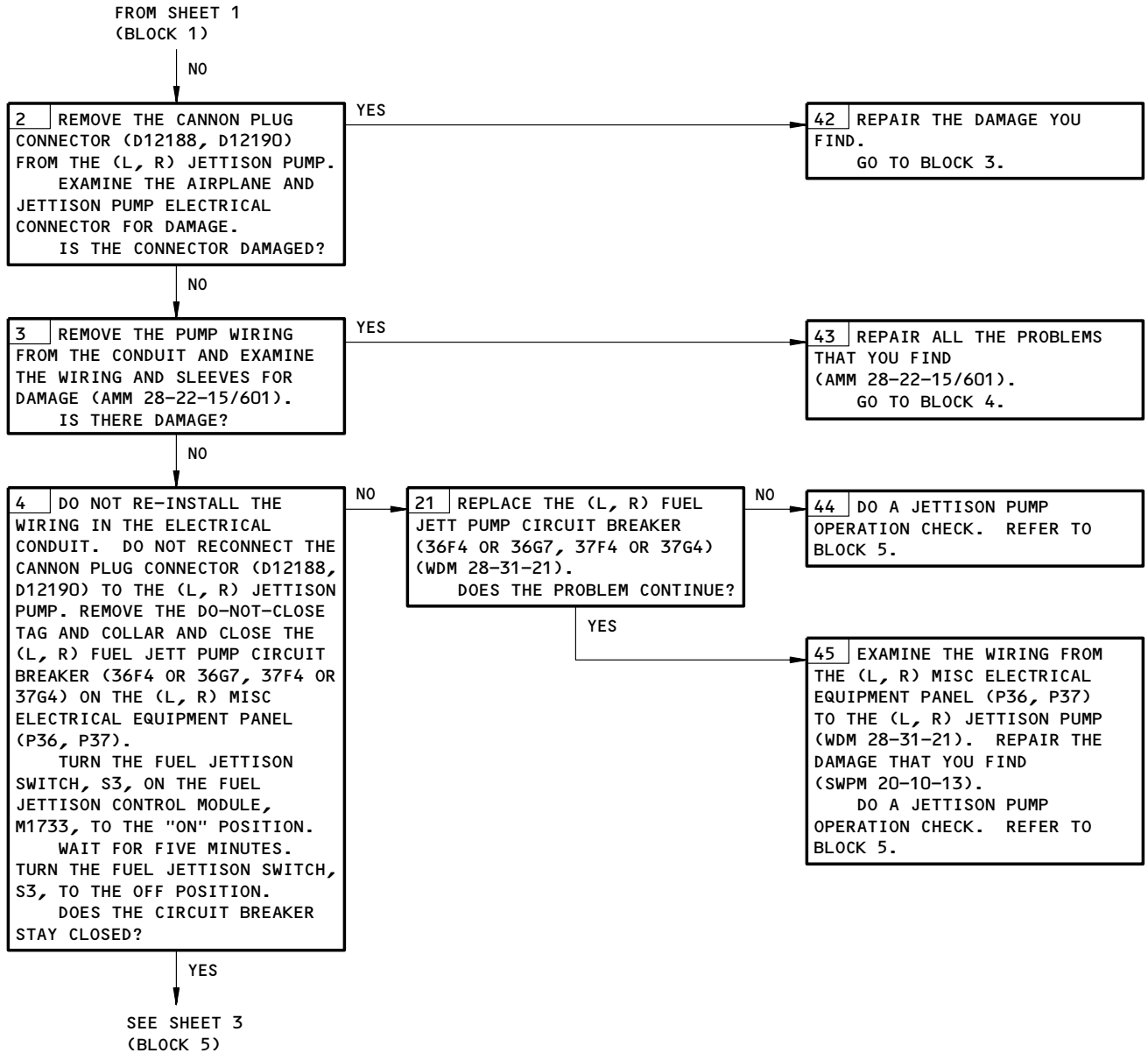
SEE SHEET 2 (BLOCK 2)

1 CDCCL - REFER TO THE TASK: AIRWORTHINESS LIMITATION PRECAUTIONS (AMM 28-00-20/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCLs).

(L, R) Fuel Jettison Pump Circuit Breaker Open
Figure 108 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH HIGH CAPACITY FUEL JETTISON SYSTEM

28-31-00



(L, R) Fuel Jettison Pump Circuit Breaker Open
Figure 108 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH HIGH CAPACITY FUEL
JETTISON SYSTEM

28-31-00

FROM SHEET 2
(BLOCK 5)

YES

5 (JETTISON PUMP OPERATIONAL CHECK)

- INSTALL THE (L, R) OVERRIDE/JETTISON PUMP WIRING IN CONDUIT (AMM 28-22-15/601).
- MAKE SURE THE AUXILIARY TANK HAS A MINIMUM FUEL QUANTITY OF:
 - 6700 LBS (3100 KGS) - ZERO BAY CENTER COMPARTMENT
 - 26,000 LBS (11,900 KGS) - TWO BAY CENTER COMPARTMENT
 - 38,200 LBS (14,700 KGS) - FOUR BAY CENTER COMPARTMENT
- REFER TO AMM 28-11-00/001 FOR CENTER COMPARTMENT SIZE EFFECTIVITY.
- CONNECT THE (L, R) CANNON PLUG CONNECTOR (D12188, D12190).
- CLOSE THE (L, R) CIRCUIT BREAKER (36F4 OR 36G7, 37F4 OR 37G4).
- TURN THE FUEL JETTISON SWITCH, S3, ON THE FUEL JETTISON CONTROL MODULE, M1733, TO THE "ON" POSITION.
- OPERATE THE (L, R) JETTISON PUMP FOR 5 MINUTES.
- TURN THE FUEL JETTISON SWITCH, S3, TO THE OFF POSITION.

DOES THE (L, R) CIRCUIT BREAKER (36F4 OR 36G7, 37F4 OR 37G4) STAY CLOSED?

YES

46 THE CONDITION THAT CAUSED THE CIRCUIT BREAKER TO OPEN IS NOT PRESENT.

NO

47 REPLACE THE (L, R) JETTISON PUMP, (M1730, M1731) (AMM 28-31-01/401).
DO A JETTISON PUMP OPERATION CHECK. REFER TO BLOCK 5.

(L, R) Fuel Jettison Pump Circuit Breaker Open
Figure 108 (Sheet 3)

EFFECTIVITY
AIRPLANES WITH HIGH CAPACITY FUEL
JETTISON SYSTEM

28-31-00

PREREQUISITES

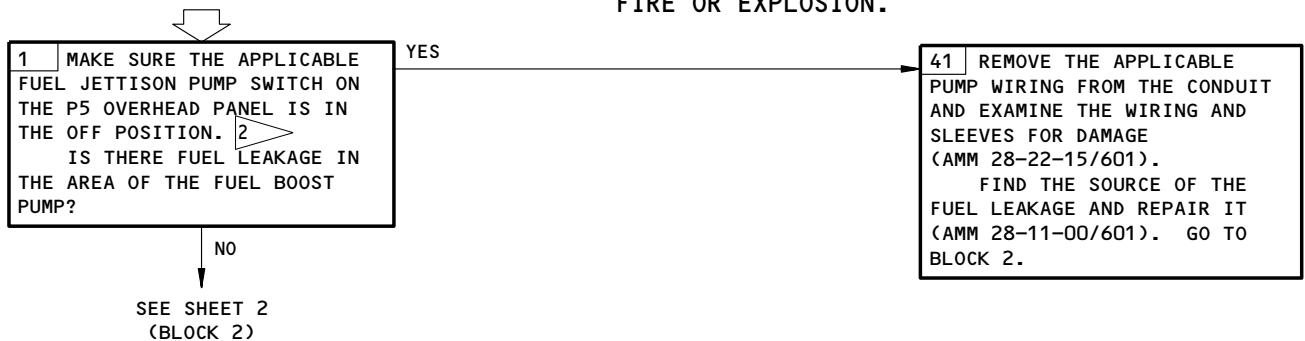
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES DO NOT OPERATE



MAKE SURE THE AUXILIARY TANK HAS A MINIMUM FUEL QUANTITY OF:
6,700 POUNDS (3,100 KILOGRAMS) - ZERO BAY CENTER COMPARTMENT
26,000 POUNDS (11,900 KILOGRAMS) - TWO BAY CENTER COMPARTMENT
38,200 POUNDS (14,700 KILOGRAMS) - FOUR BAY CENTER COMPARTMENT
REFER TO AMM 28-11-00/001 FOR CENTER COMPARTMENT SIZE EFFECTIVITY
ADD FUEL IF NECESSARY (AMM 12-11-01/301)

WARNING: DO NOT RESET THE FUEL PUMP GFI RELAY THAT HAS OPENED (TRIPPED) UNTIL YOU CORRECT THE PROBLEM. THIS CONDITION CAN CAUSE A FIRE OR EXPLOSION.

WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE LOW PRESSURE LIGHT COMES ON AND STAYS ON. FUEL VAPORS IN THE TANK MAY IGNITE AND CAUSE A FIRE OR EXPLOSION.

FUEL JETTISON PUMP GFI RELAY OPEN 

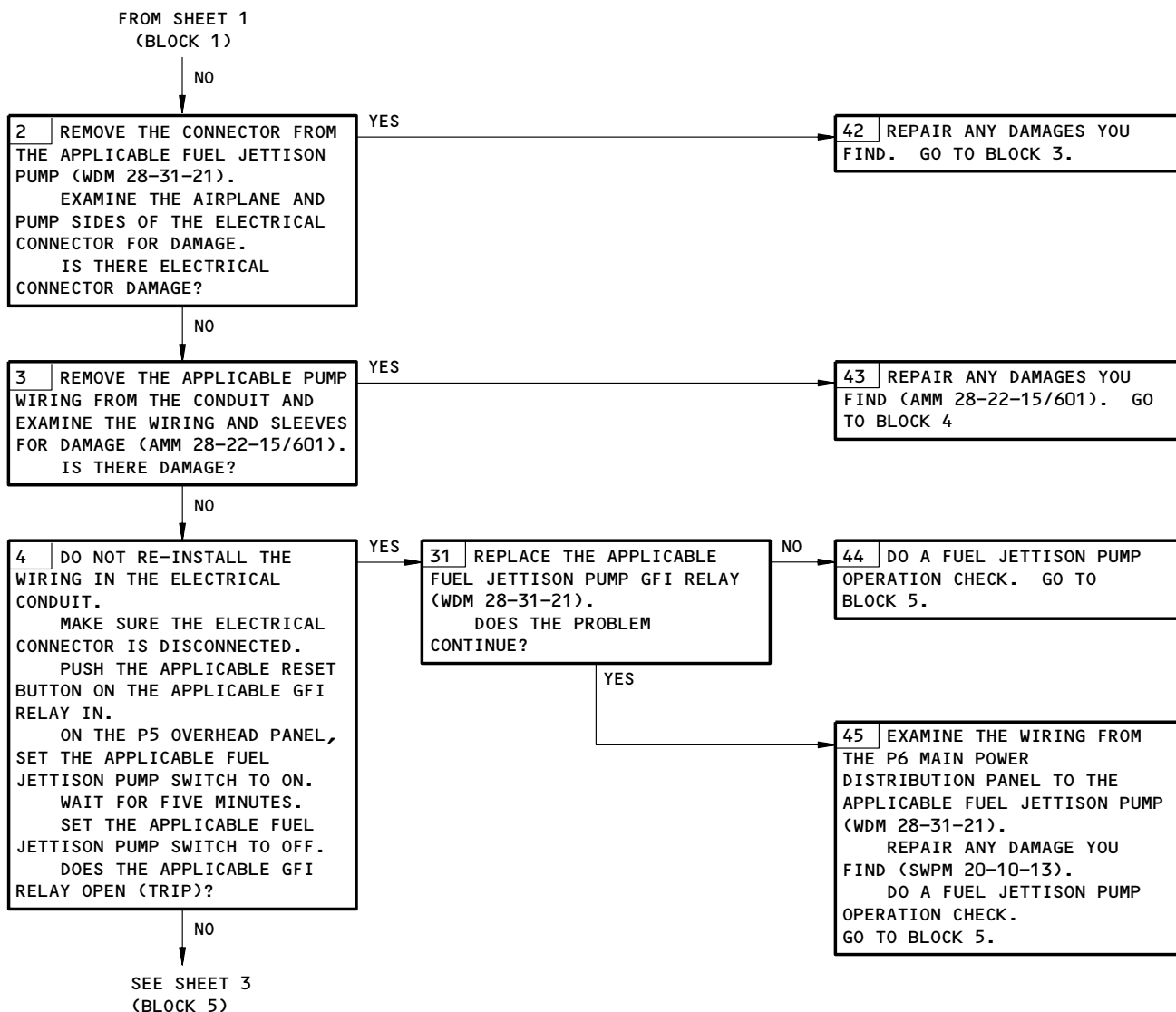


-  THE RESET BUTTON LOCATED AT THE TOP EDGE OF THE GFI RELAY MOVES UP, TO EXPOSE A NARROW WHITE BAND WHEN THE GFI CIRCUIT TURNS OFF THE RELAY DUE TO A GROUND FAULT, OR RESULTS WHEN YOU PUSH THE TEST BUTTON LOCATED ON THE TOP SURFACE OF THE RELAY.
-  THE GFI RELAY IS A LATCHING RELAY AND CAN NOT BE RESET BY PUSHING THE RESET BUTTON ON THE GFI RELAY. THE APPLICABLE BOOST PUMP SWITCH ON THE P5 OVERHEAD PANEL MUST BE PLACED IN THE OFF POSITION BEFORE THE RESET BUTTON ON THE RELAY IS PUSHED.

Fuel Jettison Pump GFI Relay Open
Figure 109 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH GROUND FAULT INTERRUPTER RELAYS (POST-SB 28A0085 OR PRR B13421-3)

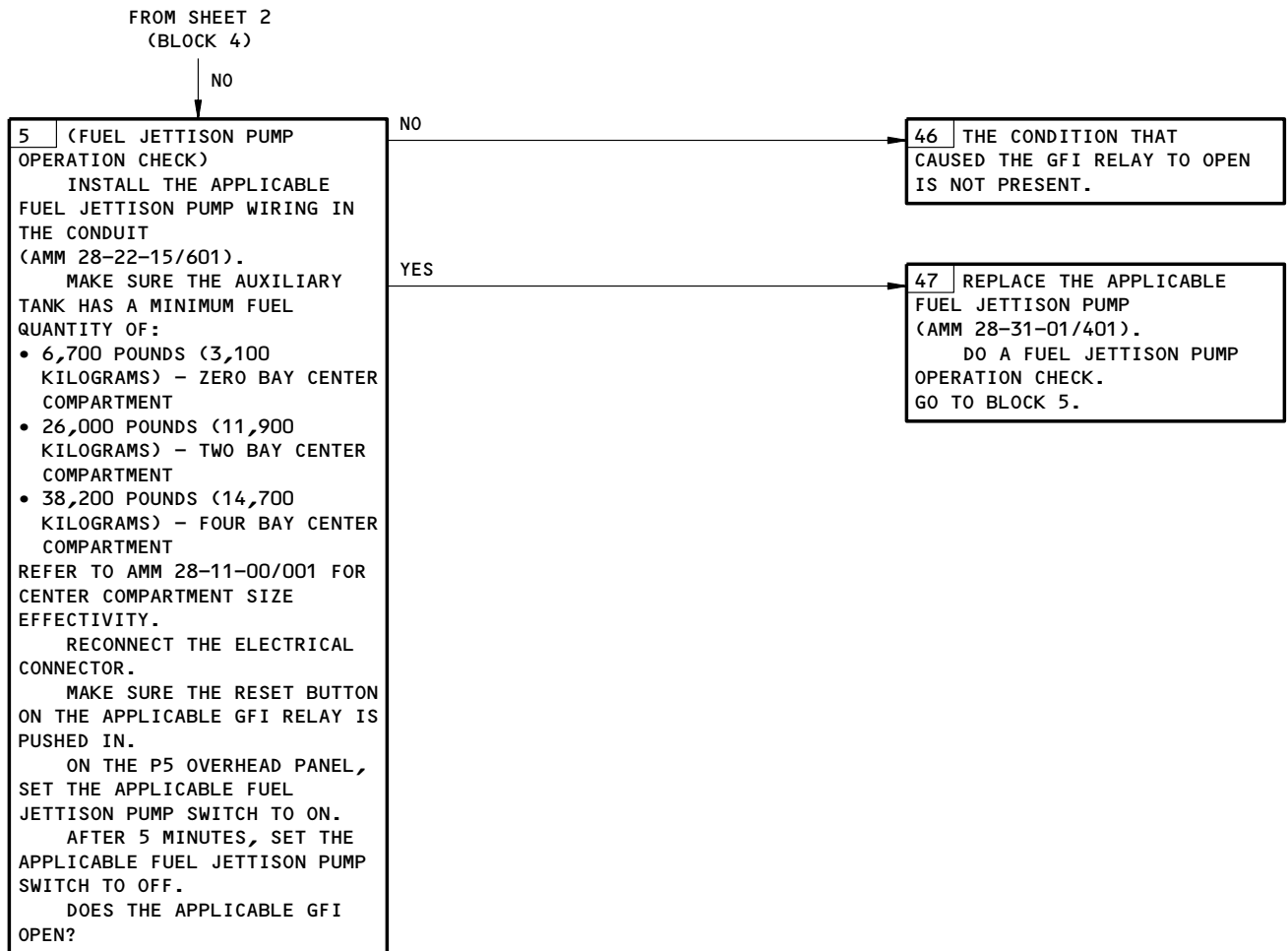
28-31-00



Fuel Jettison Pump GFI Relay Open
Figure 109 (Sheet 2)

EFFECTIVITY
 AIRPLANES WITH GROUND FAULT INTERRUPTER
 RELAYS (POST-SB 28A0085 OR PRR B13421-3)

28-31-00



Fuel Jettison Pump GFI Relay Open
Figure 109 (Sheet 3)

EFFECTIVITY—
AIRPLANES WITH GROUND FAULT INTERRUPTER RELAYS (POST-SB 28A0085 OR PRR B13421-3)

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FAULT ISOLATION/MAINT MANUAL

FUEL QUANTITY INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
COMPENSATOR - L MAIN TANK, TS300	5	1	532BB, L MAIN FUEL TANK	28-41-02
COMPENSATOR - R AUX TANK, TS328	5	1	631BB, AUX FUEL TANK	28-41-02
COMPENSATOR - R MAIN TANK, TS334	5	1	632BB, R MAIN FUEL TANK	28-41-02
CIRCUIT BREAKER - FUELING QTY, C1045		1	FLT COMPT, P6 6E4	*
CIRCUIT BREAKER - FUEL QTY NO. 1, C1048		1	FLT COMPT, P11 11C34	*
CIRCUIT BREAKER - FUEL QTY NO. 2, C1053		1	11M19	*
CIRCUIT BREAKER - FUEL QTY REFUEL, C1040		1	119AL, MAIN EQUIP CTR, P34 34L2	*
COMPUTER - (FIM 31-41-00/101)				
EICAS L, M10181				
EICAS R, M10182				
DENSITOMETER - L MAIN TANK, M596	4	1	551SB, L REAR SPAR	28-41-03
DENSITOMETER - R AUX TANK, M720	4	1	651QB, R REAR SPAR	28-41-03
DENSITOMETER - R MAIN TANK, M597	4	1	651SB, R REAR SPAR	28-41-03
FUEL QUANTITY PROCESSOR UNIT (FQPU), M121	9	1	119AL, MAIN EQUIP CTR, E2-4	28-41-08
HARNESS - L AUX TANK WIRING, M728	6	1	531BB, L AUX FUEL TANK	28-41-09
HARNESS - L MAIN TANK WIRING, M726	8	1	L MAIN FUEL TANK	28-41-09
HARNESS - R AUX TANK WIRING, M729	7	1	631BB, L AUX FUEL TANK	28-41-09
HARNESS - R MAIN TANK WIRING, M727	8	1	R MAIN FUEL TANK	28-41-09
INDICATOR - AUX TANK LOAD SELECT, N94	11	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - FUEL QTY, M10054	10	1	FLT COMPT, P5	28-41-04
INDICATOR - L MAIN TANK LOAD SELECT, N92	11	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - R MAIN TANK LOAD SELECT, N93	11	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
LIGHT - (FIM 28-22-00/101)				
CONFIG				
PANEL - (FIM 28-43-00/101)				
MISC TEST, M10398				
PLUG - L AUX TANK HI-Z BUSSING, M724	5	1	551QB, L REAR SPAR	*
PLUG - L MAIN TANK HI-Z BUSSING, M722	5	1	552HB, L REAR SPAR	*
PLUG - R AUX TANK HI-Z BUSSING, M725	5	1	651QB, R REAR SPAR	*
PLUG - R MAIN TANK HI-Z BUSSING, M723	5	1	652HB, R REAR SPAR	*
RELAY - (FIM 31-01-36/101)				
FUEL QTY PWR TRANS, K356				
FUELING PWR CONT, K179				
FUELING PWR TRANS, K357				
RELAY - (FIM 31-01-37/101)				
SYS NO. 1 AIR/GND, K716				
SYS NO. 2 AIR/GND, K206				
SWITCH - TEST INDICATOR, S457	11	1	521QB, FUELING CONTROL PANEL, P28	*
SWITCH - FUEL QTY TEST, YEIS6	10	1	FLT COMPT, P61, MISC TEST PANEL, M10398	*

* SEE THE WDM EQUIPMENT LIST

Fuel Quantity Indicating System - Component Index
Figure 101 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FAULT ISOLATION/MAINT MANUAL

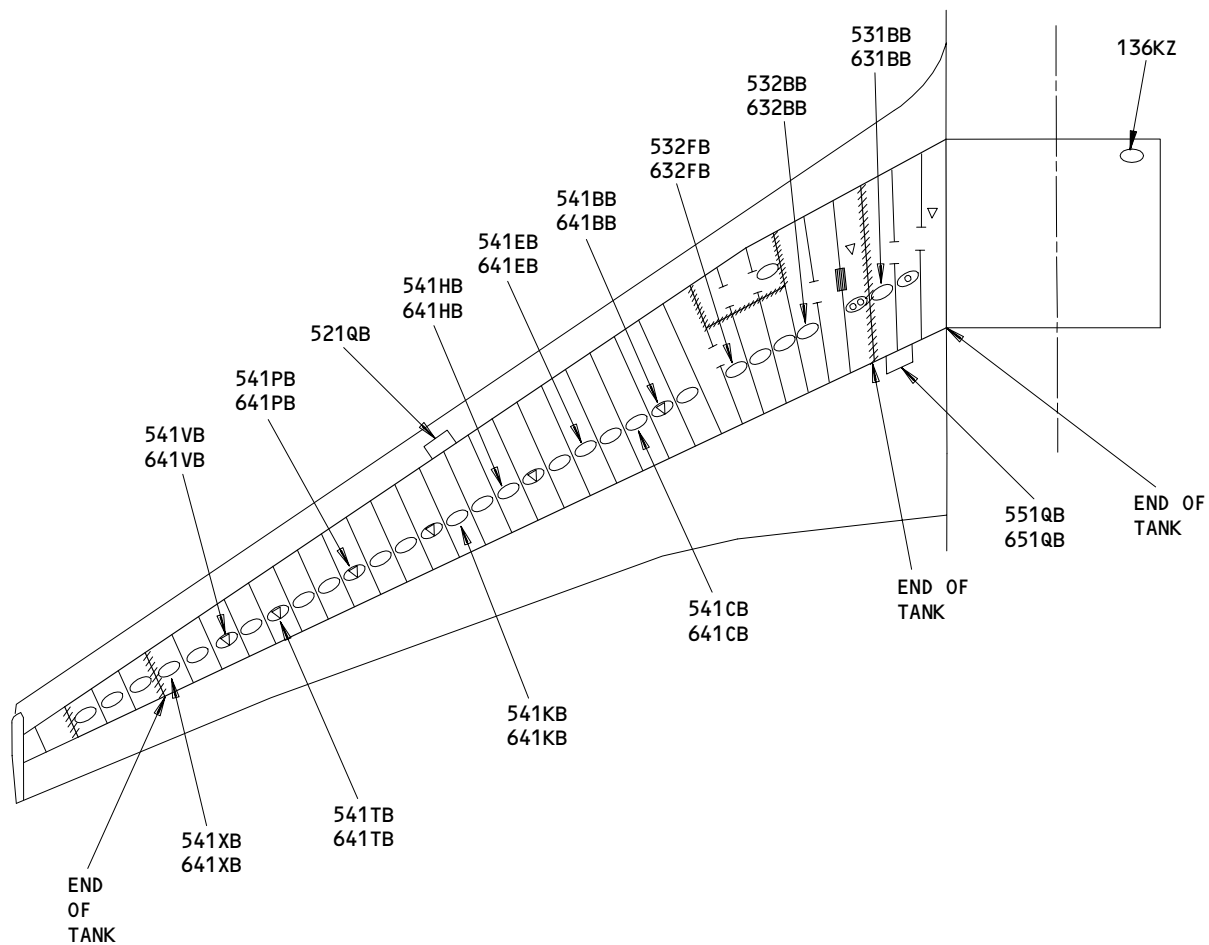
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
UNIT - L AUX TANK				
NO. 1, TS319	5	1	531BB	28-41-01
NO. 2, TS318	5	1	531BB	28-41-01
NO. 3, TS317	5	1	531BB	28-41-01
NO. 4, TS316	5	1	531BB	28-41-01
NO. 5, TS320		1	136KZ	28-41-01
UNIT - L MAIN TANK				
NO. 1, TS314	5	1	532BB	28-41-01
NO. 2, TS313	5	1	532BB	28-41-01
NO. 3, TS312	5	1	532BB	28-41-01
NO. 4, TS311	5	1	532BB	28-41-01
NO. 5, TS310	5	1	532BB	28-41-01
NO. 6, TS309	5	1	541BB	28-41-01
NO. 7, TS308	5	1	541CB	28-41-01
NO. 8, TS307	5	1	541EB	28-41-01
NO. 9, TS306	5	1	541HB	28-41-01
NO. 10, TS305	5	1	541KB	28-41-01
NO. 11, TS304	5	1	541PB	28-41-01
NO. 12, TS303	5	1	541TB	28-41-01
NO. 13, TS302	5	1	541VB	28-41-01
NO. 14, TS301	5	1	541XB	28-41-01
UNIT - R AUX TANK				
NO. 1, TS329	5	1	631BB	28-41-01
NO. 2, TS330	5	1	631BB	28-41-01
NO. 3, TS331	5	1	631BB	28-41-01
NO. 4, TS332	5	1	631BB	28-41-01
UNIT - R MAIN TANK				
NO. 1, TS335	5	1	632BB	28-41-01
NO. 2, TS336	5	1	632BB	28-41-01
NO. 3, TS337	5	1	632BB	28-41-01
NO. 4, TS338	5	1	632BB	28-41-01
NO. 5, TS339	5	1	632BB	28-41-01
NO. 6, TS340	5	1	641BB	28-41-01
NO. 7, TS341	5	1	641CB	28-41-01
NO. 8, TS342	5	1	641EB	28-41-01
NO. 9, TS343	5	1	641HB	28-41-01
NO. 10, TS344	5	1	641KB	28-41-01
NO. 11, TS345	5	1	641PB	28-41-01
NO. 12, TS346	5	1	641TB	28-41-01
NO. 13, TS347	5	1	641VB	28-41-01
NO. 14, TS348	5	1	641XB	28-41-01

Fuel Quantity Indicating System - Component Index
Figure 101 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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ACCESS PANELS

NOTE: 500 SERIES PANELS ON LEFT WING,
600 SERIES PANELS ON RIGHT WING.

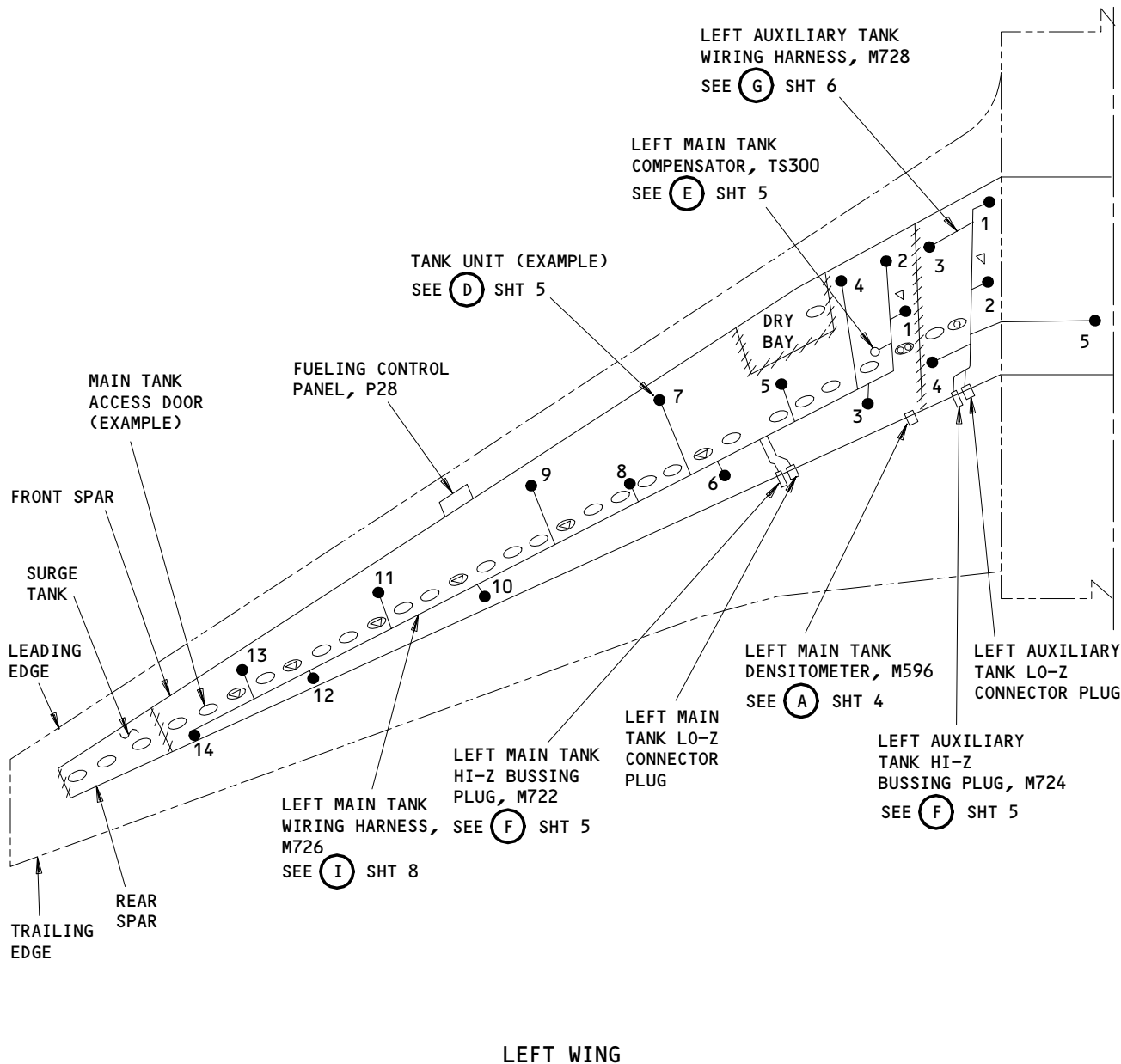
Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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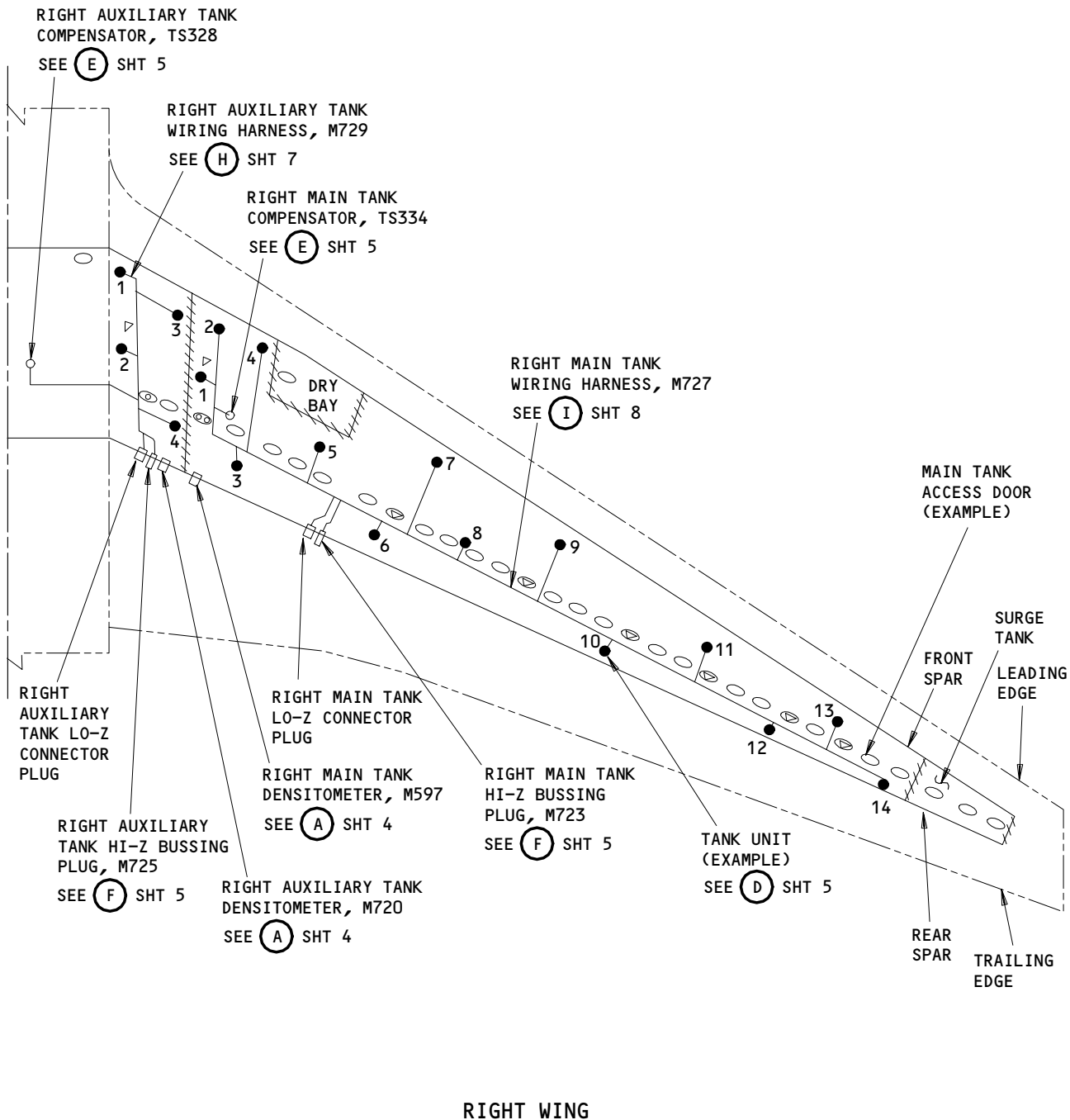


Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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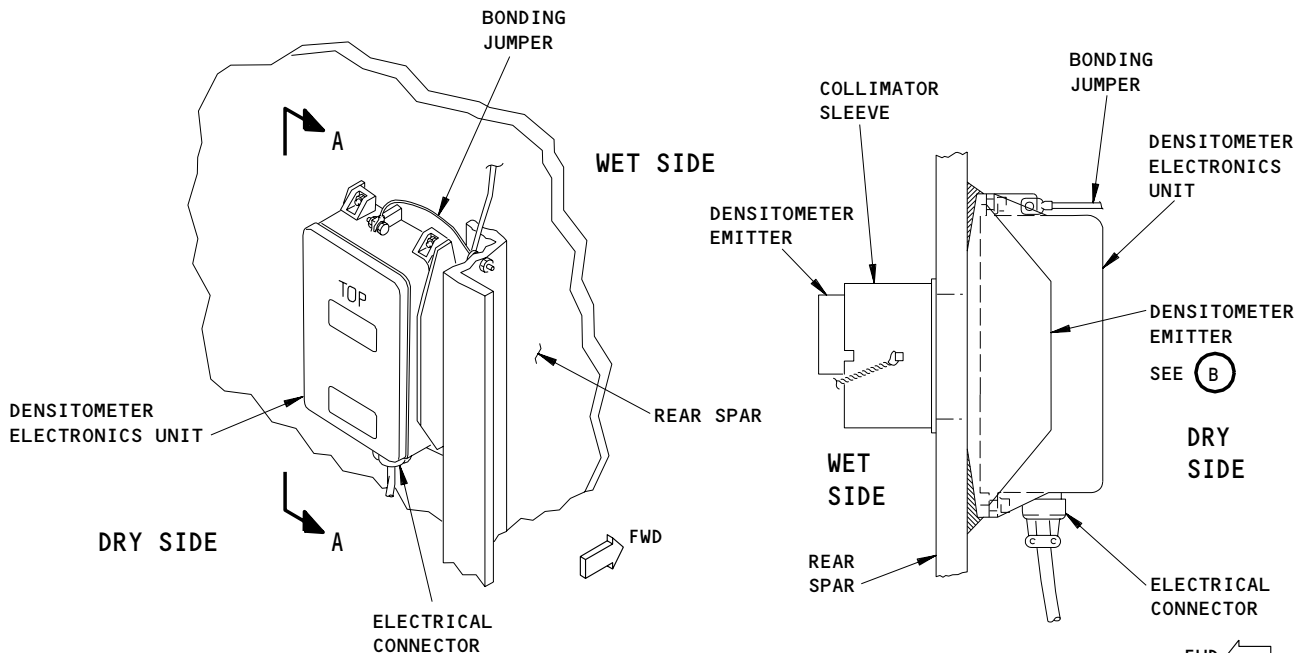


Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 3)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

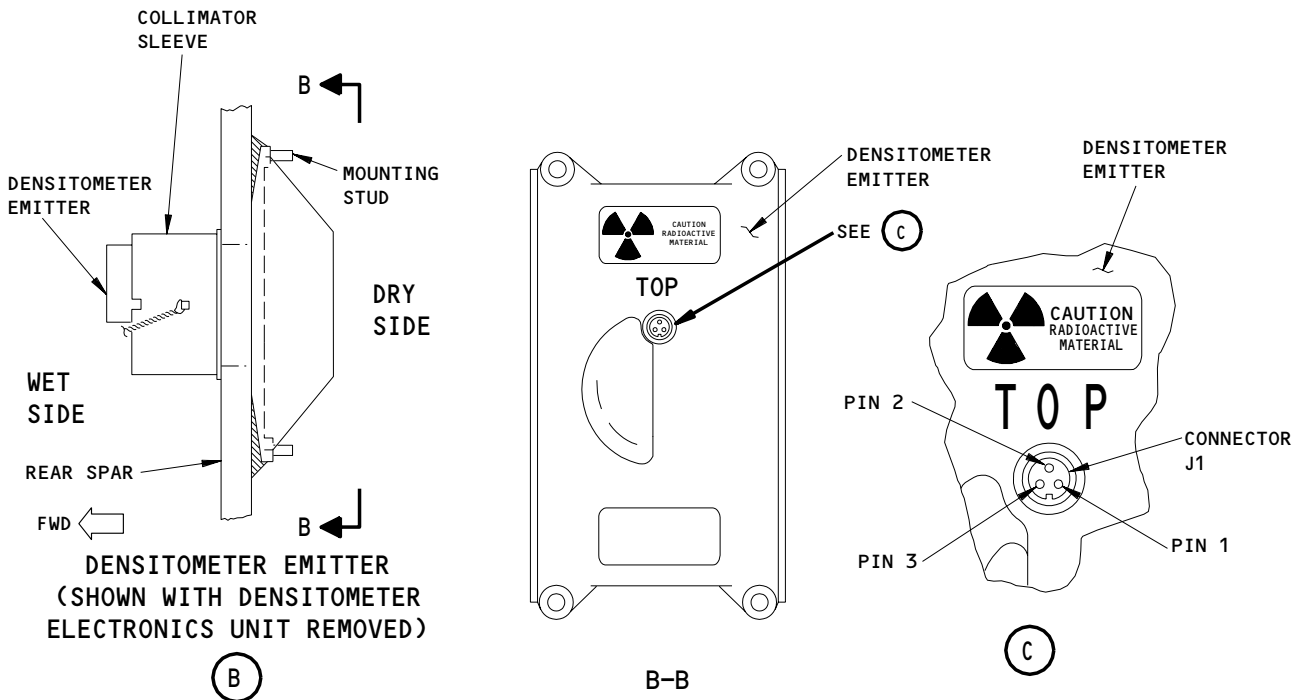
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LEFT MAIN TANK DENSITOMETER, M596
RIGHT AUXILIARY TANK DENSITOMETER, M720
RIGHT MAIN TANK DENSITOMETER, M597

(A) FROM SHT 2 AND 3



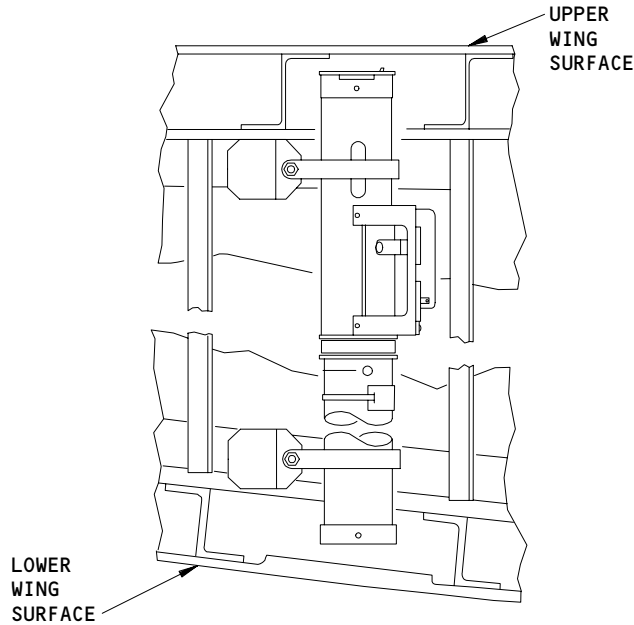
Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 4)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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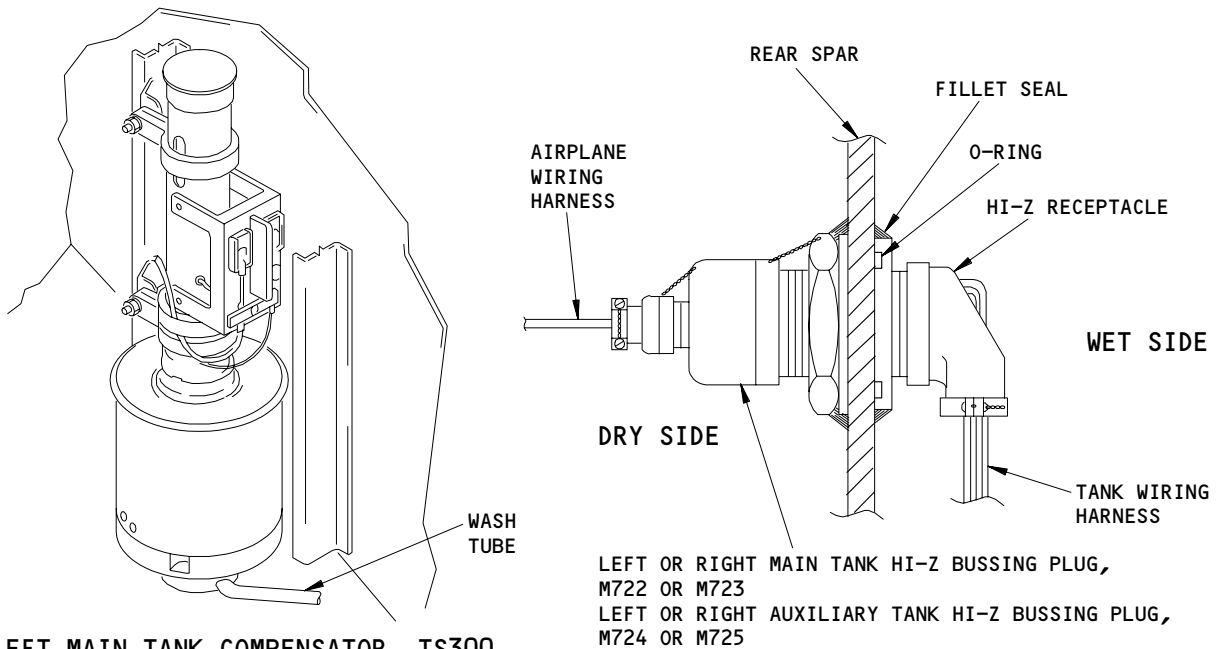
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FAULT ISOLATION/MAINT MANUAL



TANK UNIT INSTALLATION (EXAMPLE)

(D)



LEFT MAIN TANK COMPENSATOR, TS300
RIGHT AUXILIARY TANK COMPENSATOR, TS328
RIGHT MAIN TANK COMPENSATOR, TS334

(F)

(E)

Fuel Quantity Indicating System - Component Location (Details from Shts 2 and 3)
Figure 102 (Sheet 5)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

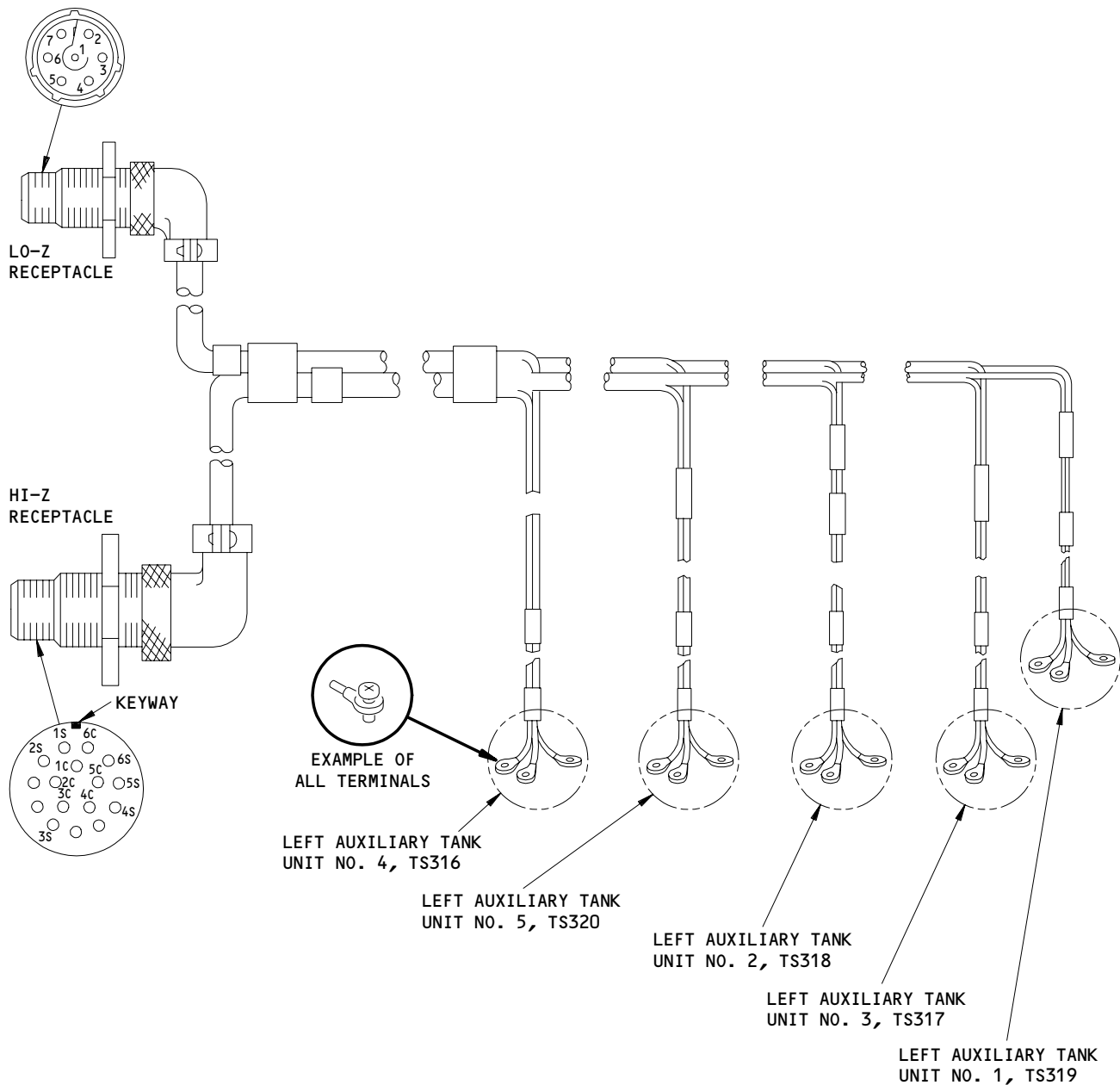
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LEFT AUXILIARY TANK WIRING HARNESS, M728

G

Fuel Quantity Indicating System - Component Location (Detail from Sht 2)
Figure 102 (Sheet 6)

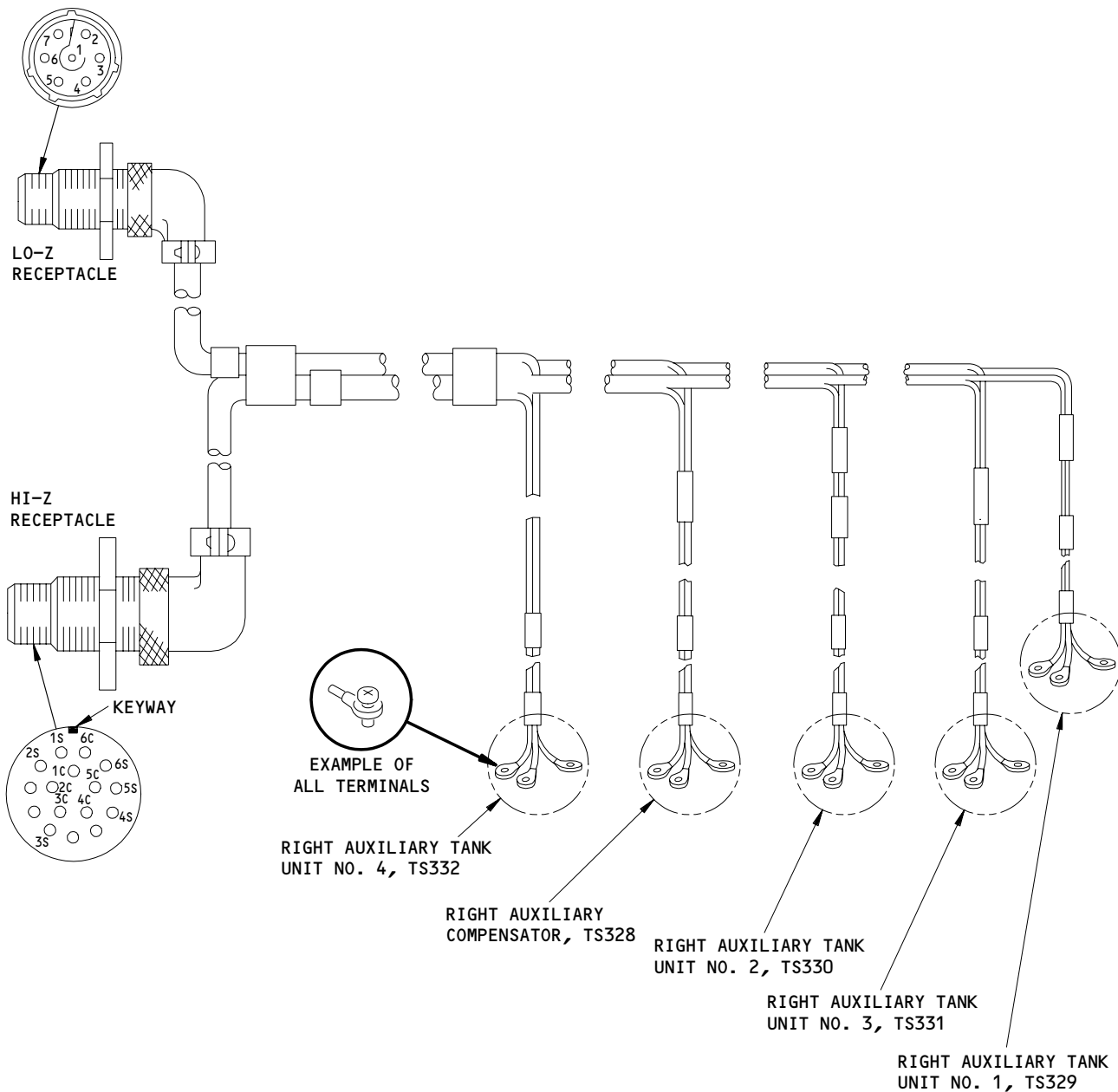
EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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F15703



RIGHT AUXILIARY TANK WIRING HARNESS, M729

(H)

Fuel Quantity Indicating System - Component Location (Detail from Sht 3)
Figure 102 (Sheet 7)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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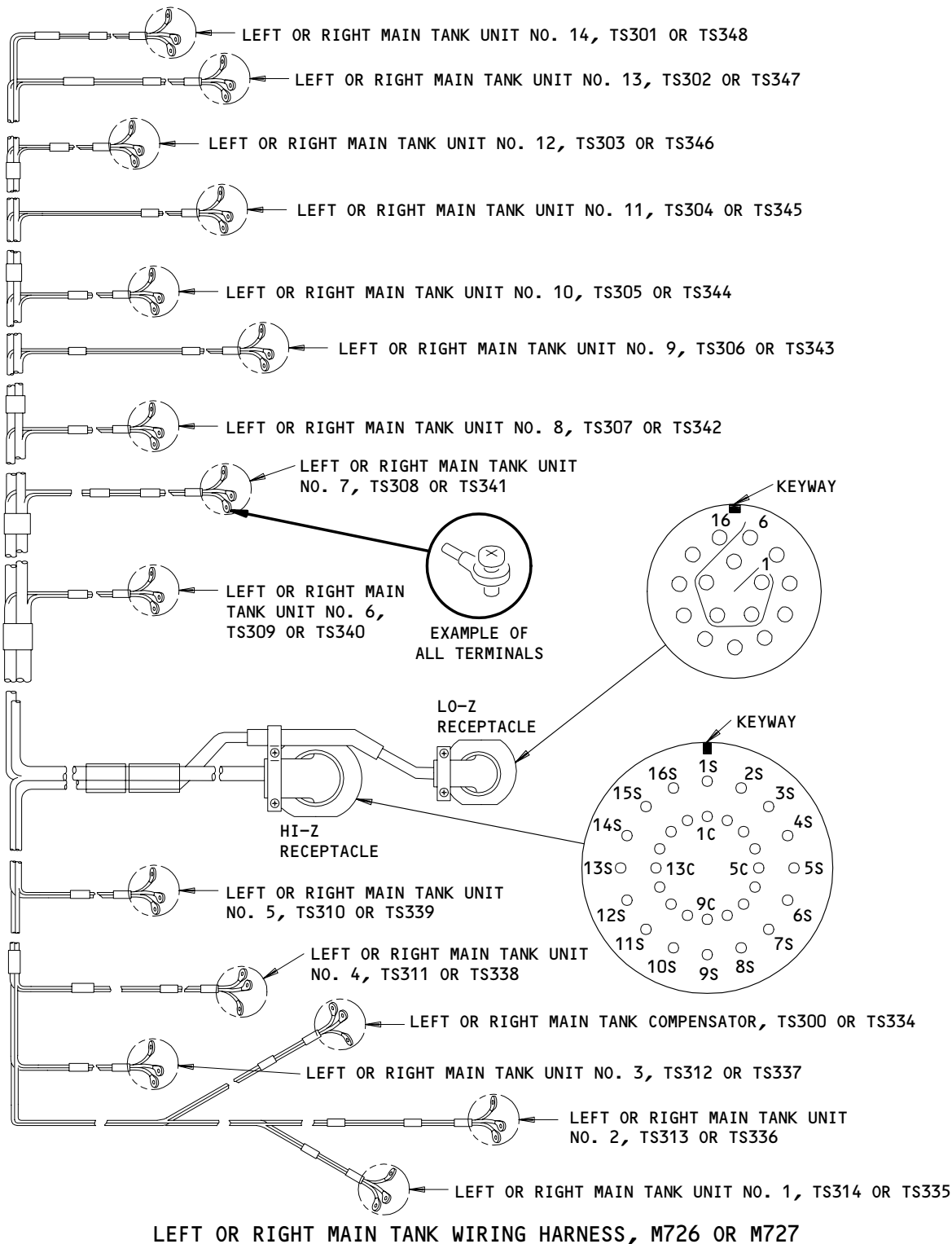
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FAULT ISOLATION/MAINT MANUAL



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Fuel Quantity Indicating System - Component Location (Detail from Shts 2 and 3)
Figure 102 (Sheet 8)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

28-41-00

CONFIG 1

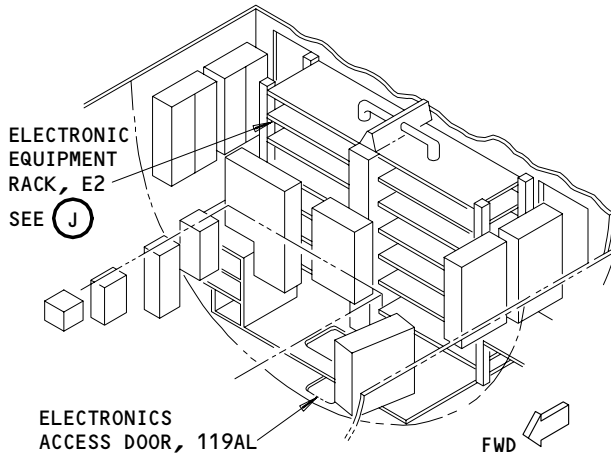
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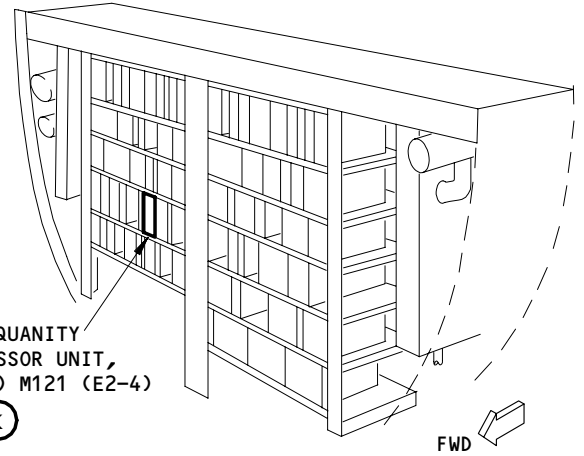
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FAULT ISOLATION/MAINT MANUAL

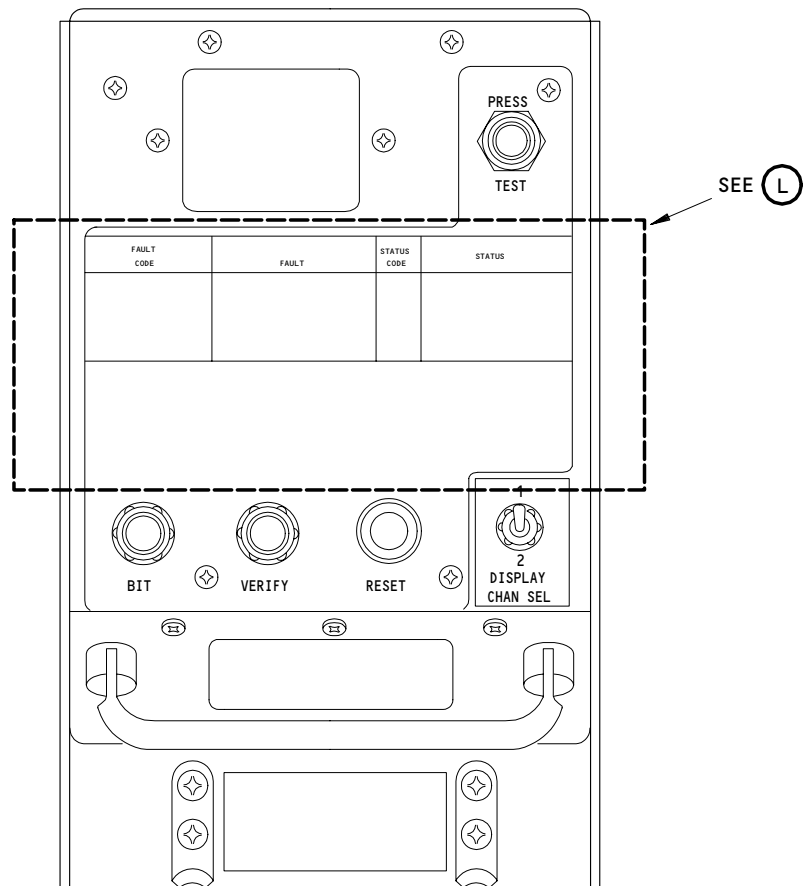


MAIN EQUIPMENT CENTER



ELECTRONIC EQUIPMENT RACK, E2

J



FQPU, M121

K

Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 9)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FAULT ISOLATION/MAINT MANUAL

FAULT CODE	FAULT	STATUS CODE	STATUS
01-14,51-64,C1,C4 21-30,71-80,C2,C5 31-44,81-94,C3,C6 C7 D1,D4,D7,D2,D5 D8,D3,D6,D9 E1,E2,E3,E4 A1-A9,B1-B9	LEFT } TANK COMPONENT AUX } OR WIRING RIGHT } LOAD SELECT CONTROL AIRCRAFT DISCRETE INPUT DENSITOMETER OR WIRING (L,AUX,R) FLT DECK IND (L,AUX,R,TOT) PROCESSOR UNIT	00 F1 F2 F3 F4 F5 F6 F7/ F8	BIT COMPLETE RESET IN PROGRESS RESET SUCCESSFUL RESET FAIL VERIFY IN PROGRESS VERIFY NO FAULTS VERIFY FAULTS EXIST VERIFY DISABLED-FUEL DR OPEN/ FLT DECK FUEL QTY TEST ACTIVE
<p>PROCEDURE: 1. OPERATE PRESS TEST AND HOLD. DISPLAY SHALL READ 88. IF 88 NOT DISPLAYED, THE SELECTED PROCESSOR CHANNEL IS UNPOWERED OR INOPERATIVE.</p> <p>2. REPEAT STEP 1 WITH DISPLAY CHAN SEL SWITCH IN OPPOSITE POSITION.</p> <p>3. PRESS BIT TO DISPLAY FAULT CODE. RECORD FAULT CODE. REPEAT UNTIL DISPLAY BLANKS</p> <p>4. PRESS RESET TO CLEAR MEMORY. AFTER F2 OR F3 PRESS RESET TO BLANK DISPLAY, REPEAT IF F3</p> <p>5. PRESS VERIFY. F5 - NO FURTHER MAINTENANCE INDICATED F6 - PRESS VERIFY TO BLANK DISPLAY. REPEAT STEP 3. SEE BOEING FAULT ISOLATION/MAINTENANCE MANUAL, 28-41-00 FOR FQIS REPAIR.</p>			
<p>☒ CHECK FOR POWER BUS OFF</p>			

PROCESSOR S345T002-48, -49, OR -61

FAULT CODE	FAULT	STATUS CODE	STATUS
01-14,51-64,C1,C4 21-30,71-80,C2,C5 31-44,81-94,C3,C6 C7 D1,D2,D3 E1,E2,E3,E4 A1-A9,B1-B9	LEFT } TANK COMPONENT AUX } OR WIRING RIGHT } LOAD SELECT CONTROL AIRCRAFT DISCRETE INPUT DENSITOMETER (L,AUX,R) FLT DECK IND (L,AUX,R,TOT) PROCESSOR UNIT	00 F1 F2 F3 F4 F5 F6 F7	BIT COMPLETE RESET IN PROGRESS RESET SUCCESSFUL RESET FAIL VERIFY IN PROGRESS VERIFY NO FAULTS VERIFY FAULTS EXIST VERIFY DISABLED-FUEL DR OPEN
<p>PROCEDURE: (DO NOT OPERATE DISPLAY CHAN SEL SWITCH UNLESS DISPLAY IS BLANK.)</p> <p>1. OPERATE PRESS TEST AND HOLD. DISPLAY SHALL READ 88. IF 88 NOT DISPLAYED, THE SELECTED PROCESSOR CHANNEL IS UNPOWERED OR INOPERATIVE.</p> <p>2. REPEAT STEP 1 WITH DISPLAY CHAN SEL SWITCH IN OPPOSITE POSITION.</p> <p>3. PRESS BIT TO DISPLAY FAULT CODE. RECORD FAULT CODE. REPEAT UNTIL DISPLAY BLANKS.</p> <p>4. PRESS RESET TO CLEAR MEMORY. AFTER F2 OR F3 PRESS RESET TO BLANK DISPLAY. REPEAT IF F3.</p> <p>5. PRESS VERIFY. F5 - NO FURTHER MAINTENANCE INDICATED. F6 - PRESS VERIFY TO BLANK DISPLAY. REPEAT STEP 3. SEE BOEING FAULT ISOLATION/MAINTENANCE MANUAL, 28-41-00 FOR FQIS REPAIR.</p>			
<p>☒ CHECK FOR POWER BUS OFF</p>			

PROCESSOR S345T002-46, -47, OR -60



Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 10)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

28-41-00

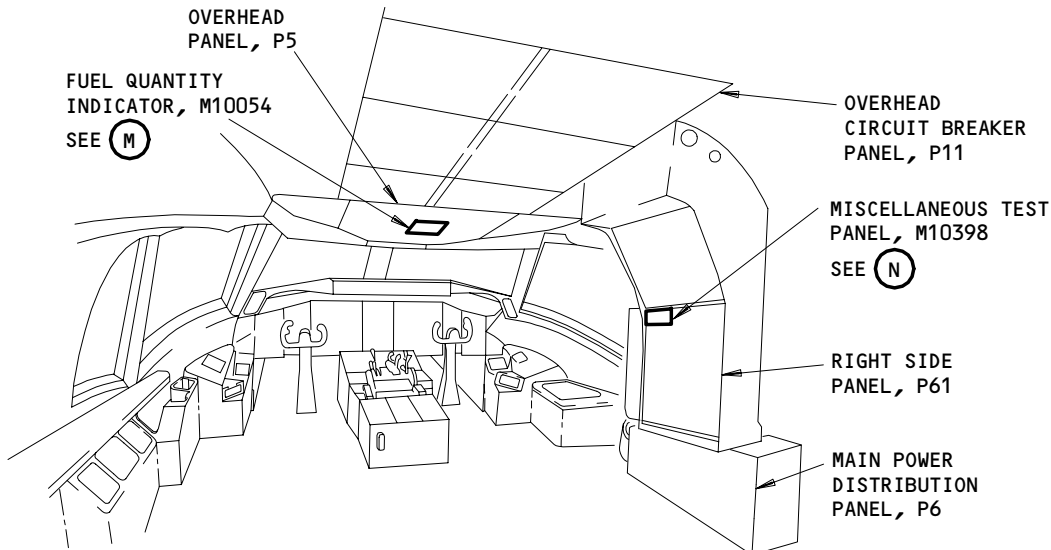
CONFIG 1

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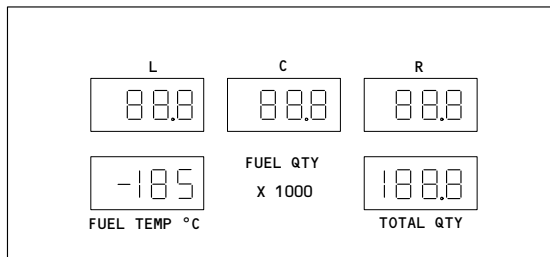
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F15629

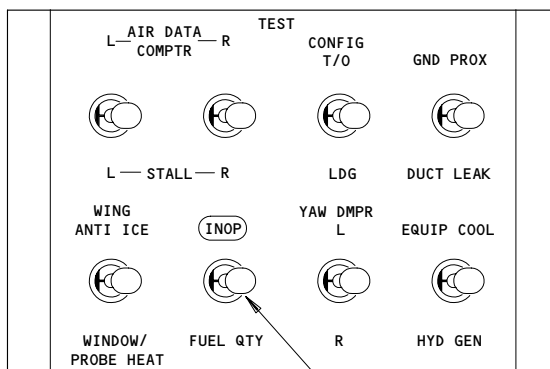


FLIGHT COMPARTMENT



FUEL QUANTITY INDICATOR, M10054

(M)



FUEL QUANTITY TEST SWITCH, YEIS6

MISCELLANEOUS TEST PANEL, M10398

(N)

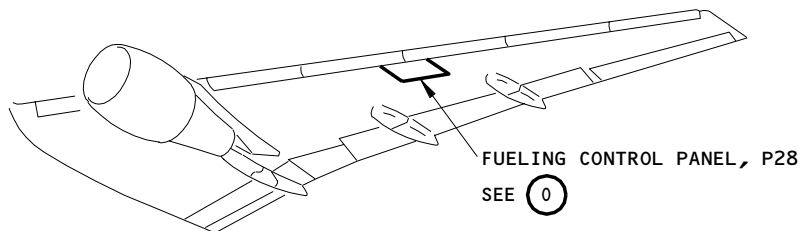
**Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 11)**

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

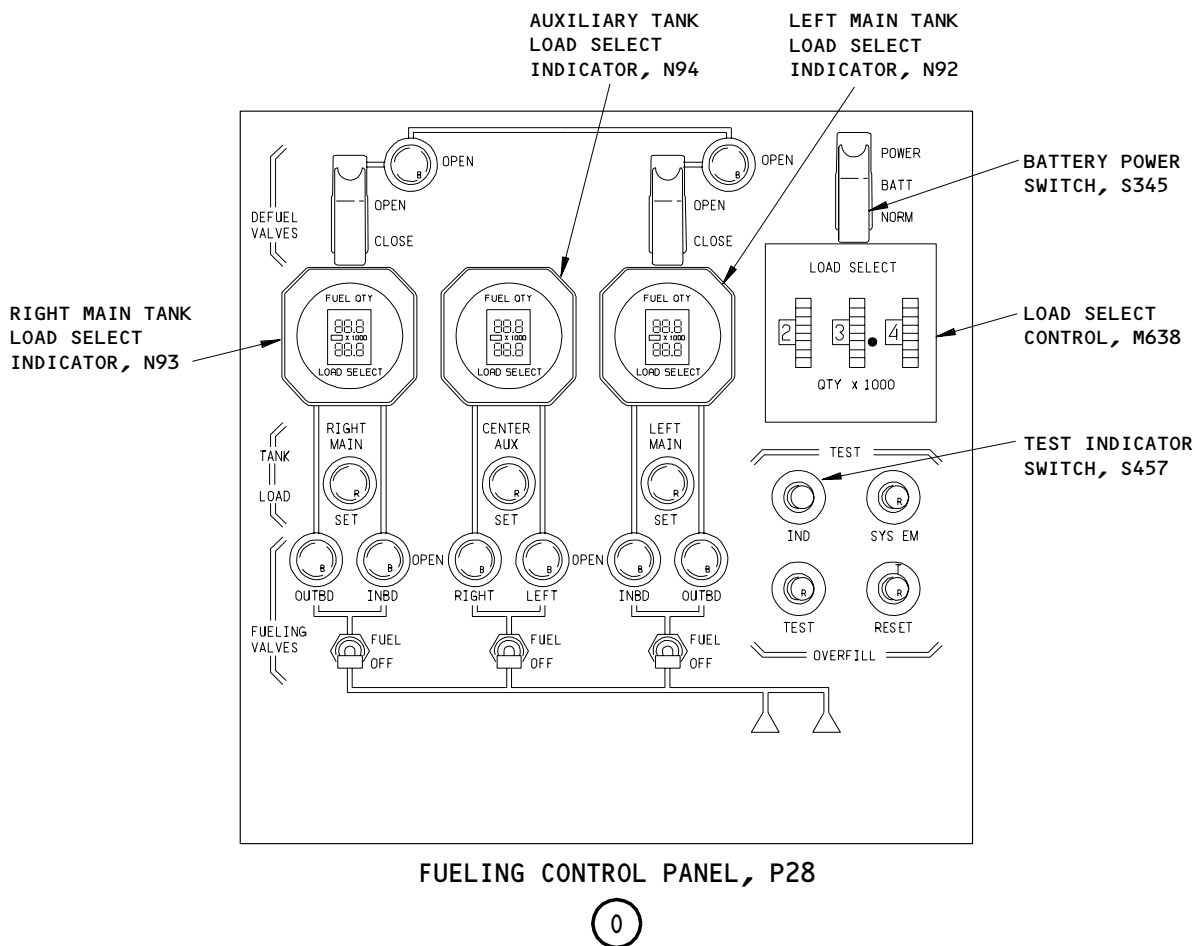
28-41-00

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LEFT WING



Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 12)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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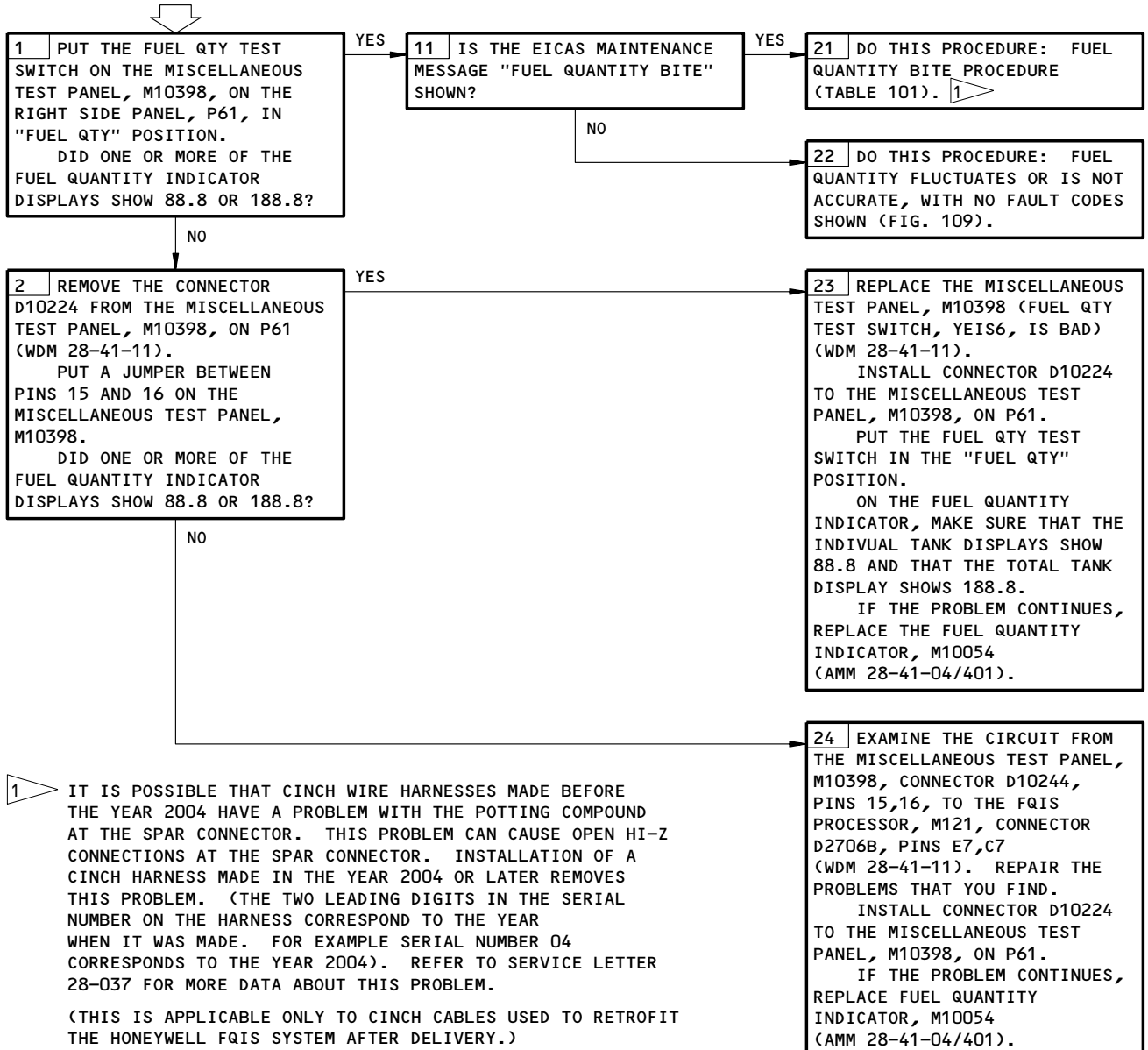
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M12, 11M19, 34L2

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

NOTE: AN INCORRECT DISPLAY IS ONE THAT IS FLUCTUATING OR INTERMITTENT OR INACCURATE OR BLANK OR HAS MISSING SEGMENTS.

FUEL QUANTITY INDICATOR DOES NOT DISPLAY CORRECTLY



Fuel Quantity Indicator Does Not Display Correctly
Figure 103

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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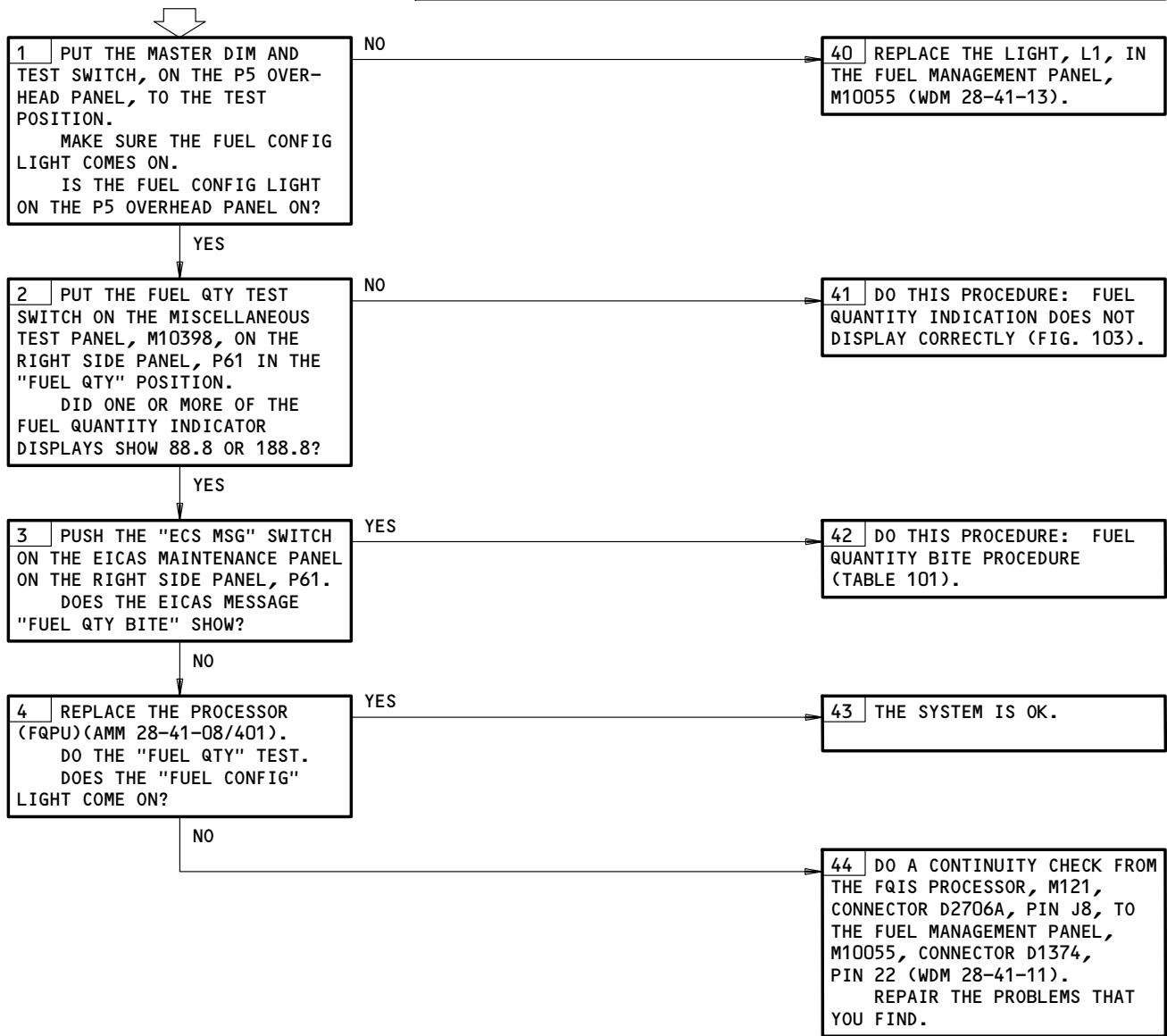
17A

**"FUEL CONFIG LT"
NOT DISPLAYED
DURING "FUEL QTY"
TEST**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M12,11M19,34L2

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



FUEL CONFIG LT Not Displayed during FUEL QTY Test
Figure 104

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

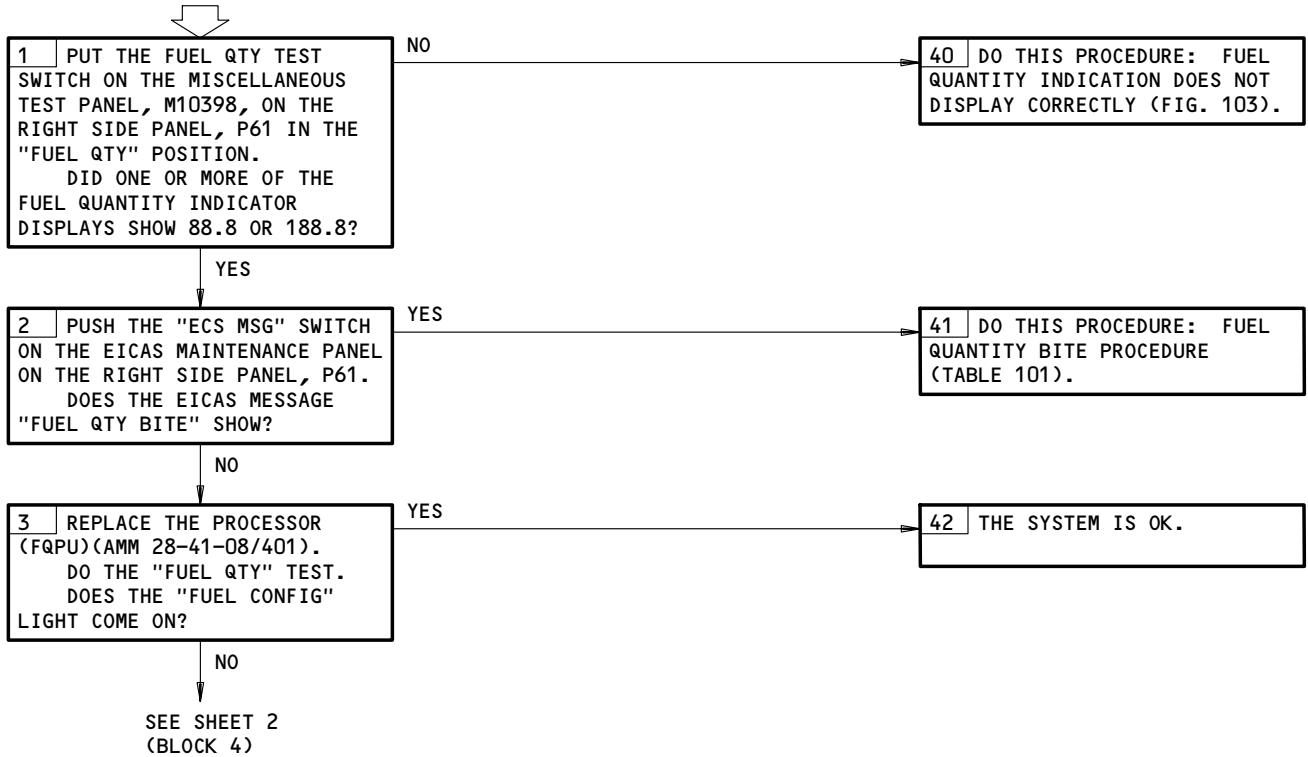
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**"LOW FUEL" EICAS
MSG NOT DISPLAYED
DURING "FUEL QTY"
TEST**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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



LOW FUEL EICAS Msg Not Displayed during FUEL QTY Test
Figure 105 (Sheet 1)

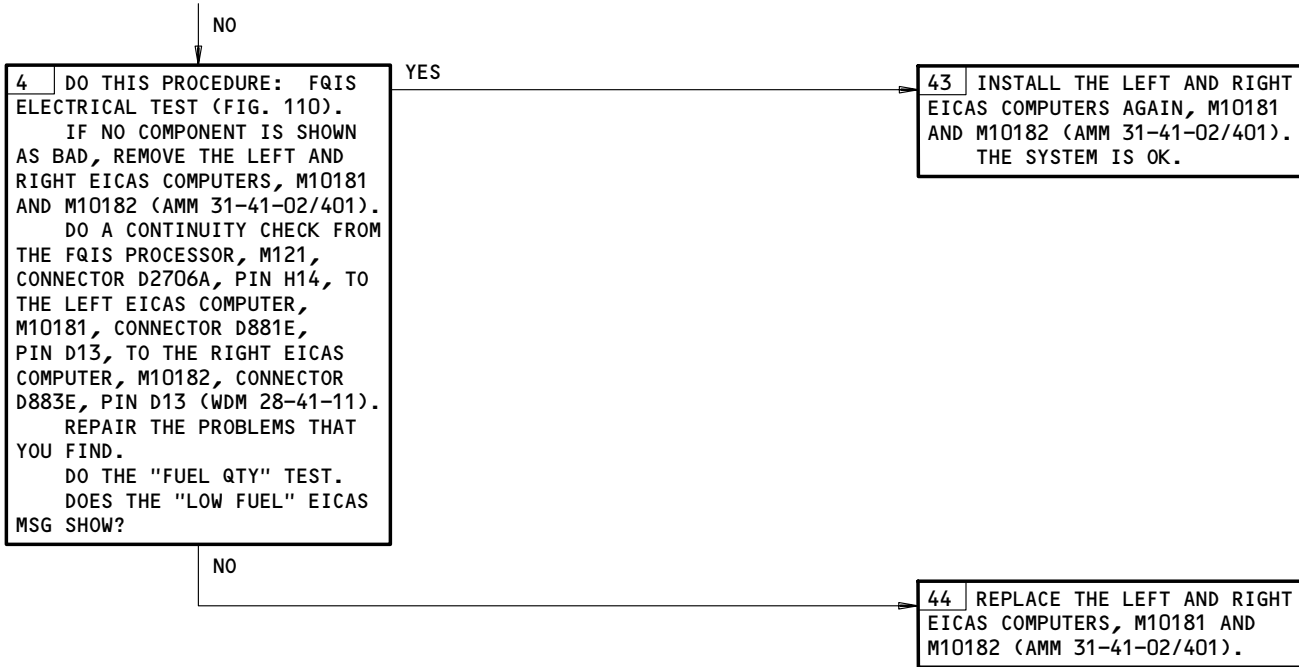
EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 1
(BLOCK 3)



LOW FUEL EICAS Msg Not Displayed during FUEL QTY Test
Figure 105 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

28-41-00
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EICAS MSG "FUEL QTY IND" OR "FUEL QTY CHANNEL" DISPLAYED.

1

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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

1 PUT THE FUEL QTY TEST SWITCH ON THE RIGHT SIDE PANEL, P61, TO THE "FUEL QTY" POSITION.
MAKE SURE THE EICAS MESSAGES "FUEL QTY IND" AND "FUEL QTY CHANNEL" SHOW ON THE EICAS DISPLAY.
RELEASE THE FUEL QTY TEST SWITCH IN 7 SECONDS OR LESS.
IN THE 60 SECONDS AFTER YOU RELEASE THE FUEL QTY TEST SWITCH, DOES THE EICAS MESSAGE "FUEL QTY IND" OR "FUEL QTY CHANNEL" SHOW ON THE EICAS DISPLAY?

YES

21 DO THIS PROCEDURE: FQIS ELECTRICAL TEST (TABLE 101).
IF NO COMPONENT IS SHOWN AS BAD, REMOVE THE LEFT AND RIGHT EICAS COMPUTERS, M10181 AND M10182 (AMM 31-41-02/401).
DO A CONTINUITY CHECK FROM PROCESSOR M121, CONNECTOR D2706A, PIN C14, TO THE LEFT EICAS COMPUTER, M10181, CONNECTOR D881E, PIN D4, TO THE RIGHT EICAS COMPUTER, M10182, CONNECTOR D883E, PIN D4 (WDM 28-41-11).
REPAIR THE PROBLEMS THAT YOU FIND.
IF THE AIRPLANE HAS EICAS SIGNAL CONSOLIDATION CARD, M10727 (WDM 31-41-35), DO THE SUBSEQUENT STEPS:
1. REMOVE THE EICAS SIGNAL CONSOLIDATION CARD, M10727 (AMM 31-41-07/401)
2. DO A CONTINUITY CHECK FROM THE FQIS PROCESSOR, M121, CONNECTOR D2706B, PINS A8, B8, TO M10727, CONNECTOR D2261, PINS 8, 5, RESPECTIVELY (WDM 28-48-11).
3. REPAIR THE PROBLEMS THAT YOU FIND.
4. DO A CONTINUITY CHECK FROM M10727, CONNECTOR D2261, PINS 42, 43, AND TO THE LEFT EICAS COMPUTER, M10181, CONNECTOR D881E PINS F2, F1, TO RIGHT EICAS COMPUTER M10182, CONNECTOR D883E, PINS F2, F1 (WDM 31-41-35).
5. REPAIR THE PROBLEMS THAT YOU FIND.
6. INSTALL THE LEFT (RIGHT) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401), AND EICAS SIGNAL CONSOLIDATION CARD, M10727 (AMM 31-41-07/401).
(CONTINUED)

NO

SEE SHEET 2
(BLOCK 2)

1 "FUEL QTY IND" SHOWS WHEN THERE IS A FAULT IN THE SYSTEM.
"FUEL QTY CHANNEL" SHOWS WHEN THERE IS A BAD CHANNEL IN THE PROCESSOR.

EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed.
Figure 106 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 1
(BLOCK 1)

NO

2 | PUSH THE "ECS MSG" SWITCH ON THE EICAS MAINT PANEL ON THE RIGHT SIDE PANEL, P61. IS EICAS MESSAGE "FUEL QTY BITE" SHOWN?

YES

(CONTINUED)

IF THE AIRPLANE DOES NOT HAVE EICAS SIGNAL CONSOLIDATION CARD, M10727 (WDM 31-41-35), DO THE SUBSEQUENT STEPS:

1. DO A CONTINUITY CHECK FROM THE FQIS PROCESSOR, M121, CONNECTOR D2706B, PINS A8, B8, TO THE LEFT EICAS COMPUTER, M10181, CONNECTOR D881E, PINS F1, F2, AND TO THE RIGHT EICAS COMPUTER, M10182, CONNECTOR D883E, PINS F1, F2 (WDM 28-41-11).
2. REPAIR THE PROBLEMS THAT YOU FIND.
3. INSTALL THE LEFT (RIGHT) EICAS COMPUTERS, M10181 (M10182) (AMM 31-41-02/401).

22 | DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE (FIM 28-41-00/101, FIG. 104).

NO

3 | THE SYSTEM IS OK.

EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed.
Figure 106 (Sheet 2)

EFFECTIVITY

SAS 050, 051, 151-157, 162-167; MTH 275-278, 280

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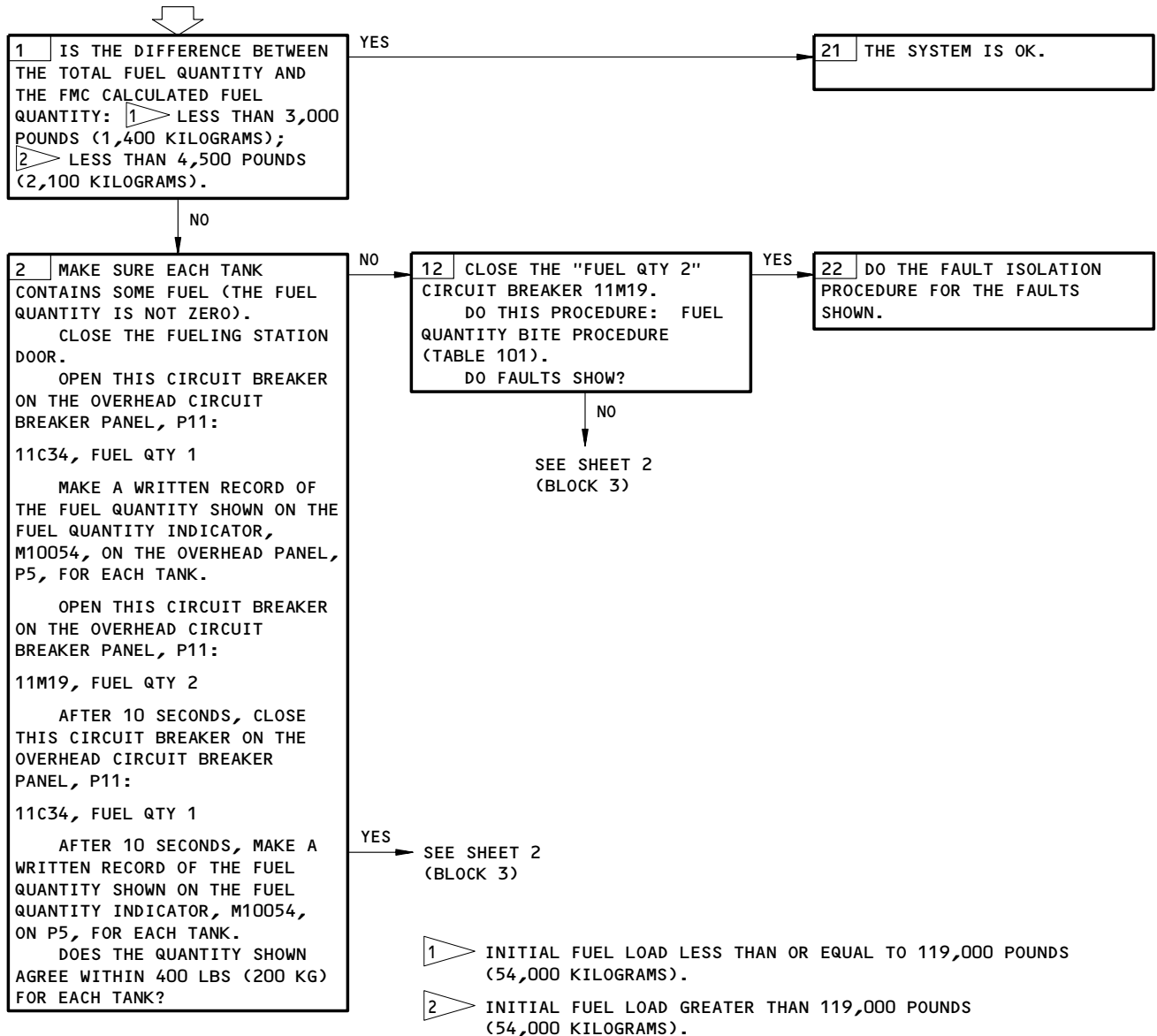
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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

NOTE: VERY BAD FLIGHT ATTITUDES CAN CAUSE THE "FUEL DISAGREE" MESSAGE TO SHOW. NO PROCEDURE IS NECESSARY FOR THIS CONDITION.

TOTAL FUEL QTY DOES NOT AGREE WITH FMC CALCULATED FUEL QTY. FUEL FLOW NORMAL.

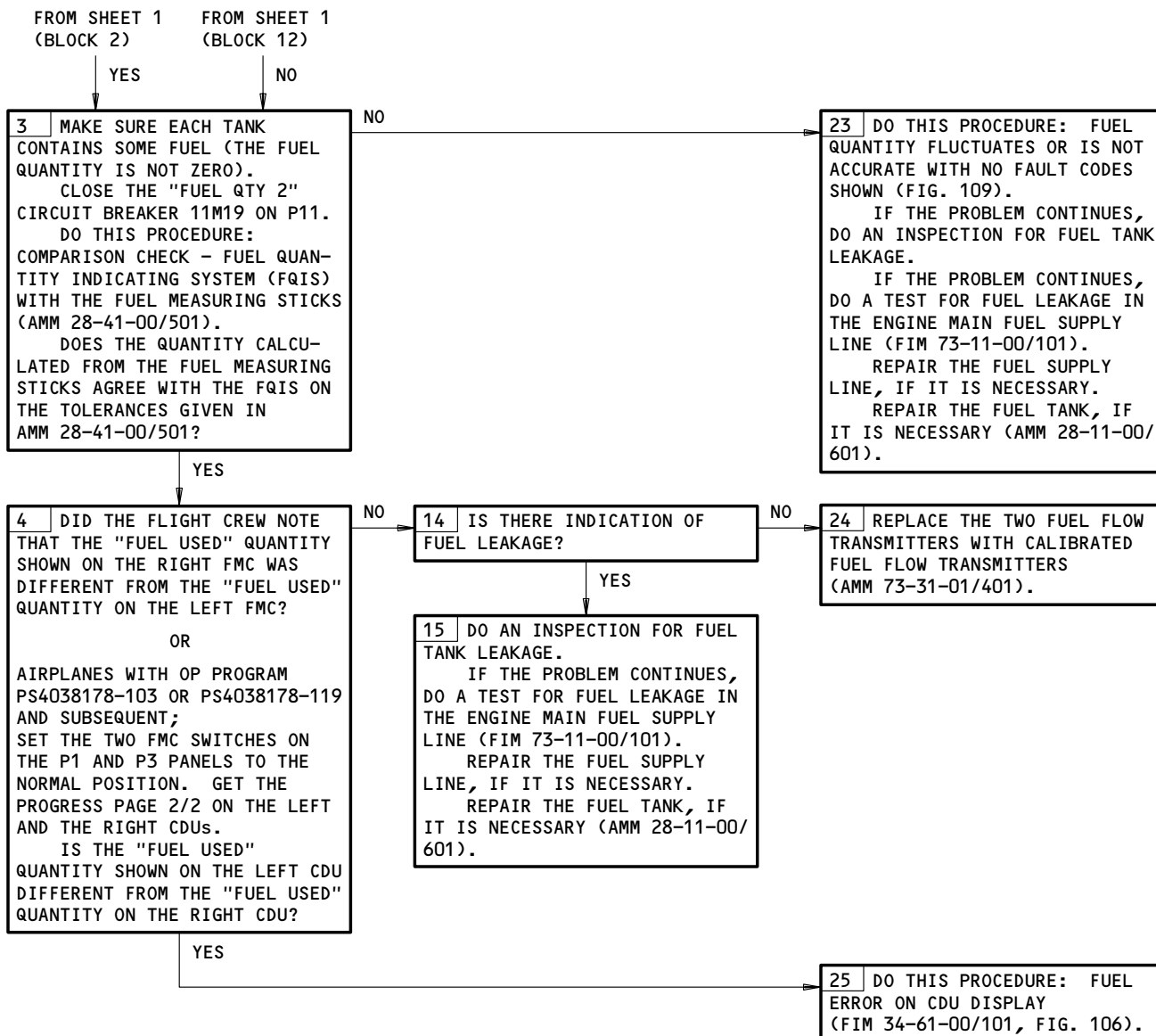


Total Fuel Qty Does Not Agree With FMC Calculated Fuel Qty. Fuel Flow Normal.
Figure 107 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal.
Figure 107 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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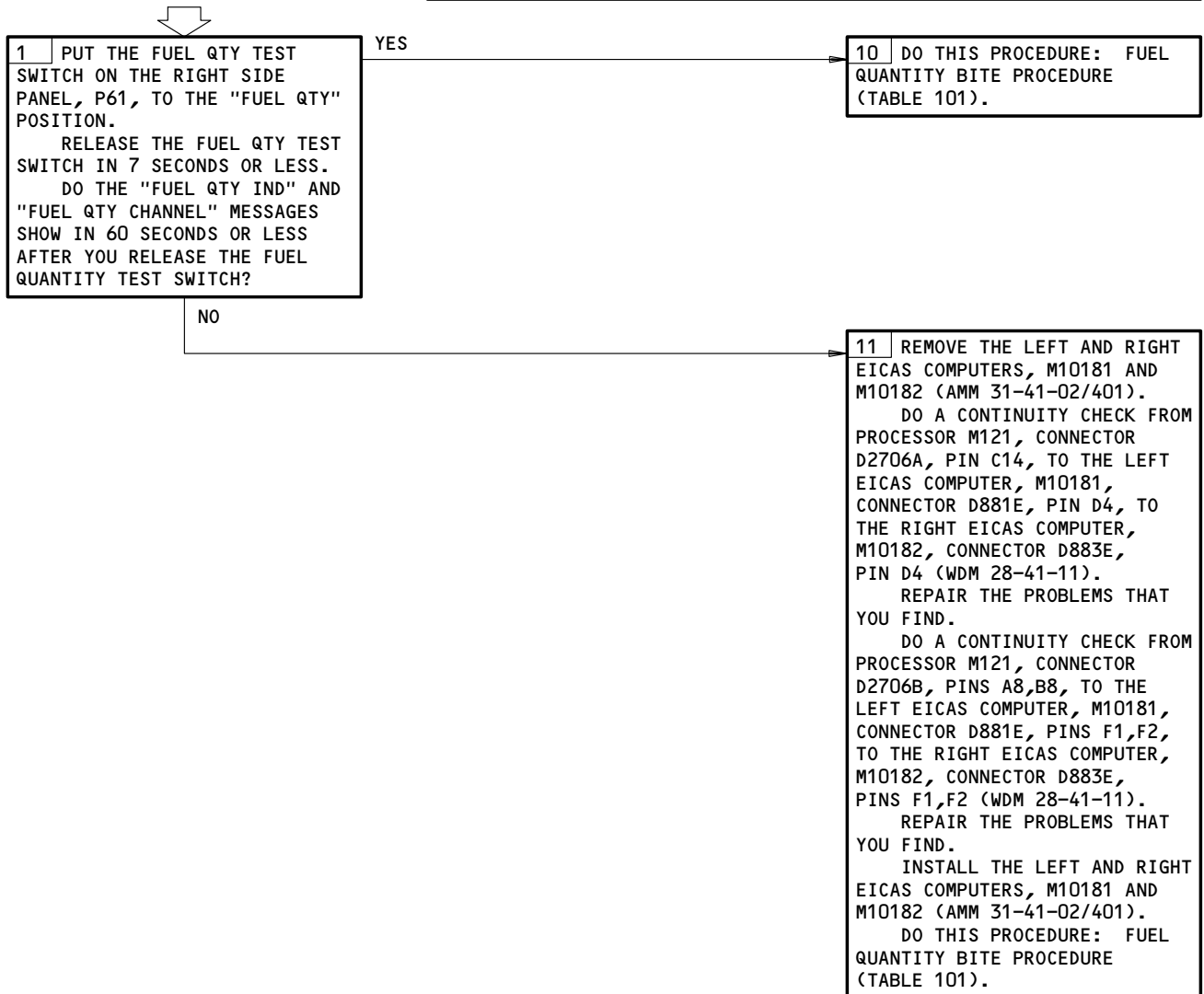
15A

**EICAS STATUS
MESSAGE "FUEL QTY
BITE" SHOWN**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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



EICAS Status Message FUEL QTY BITE Shown
Figure 108

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

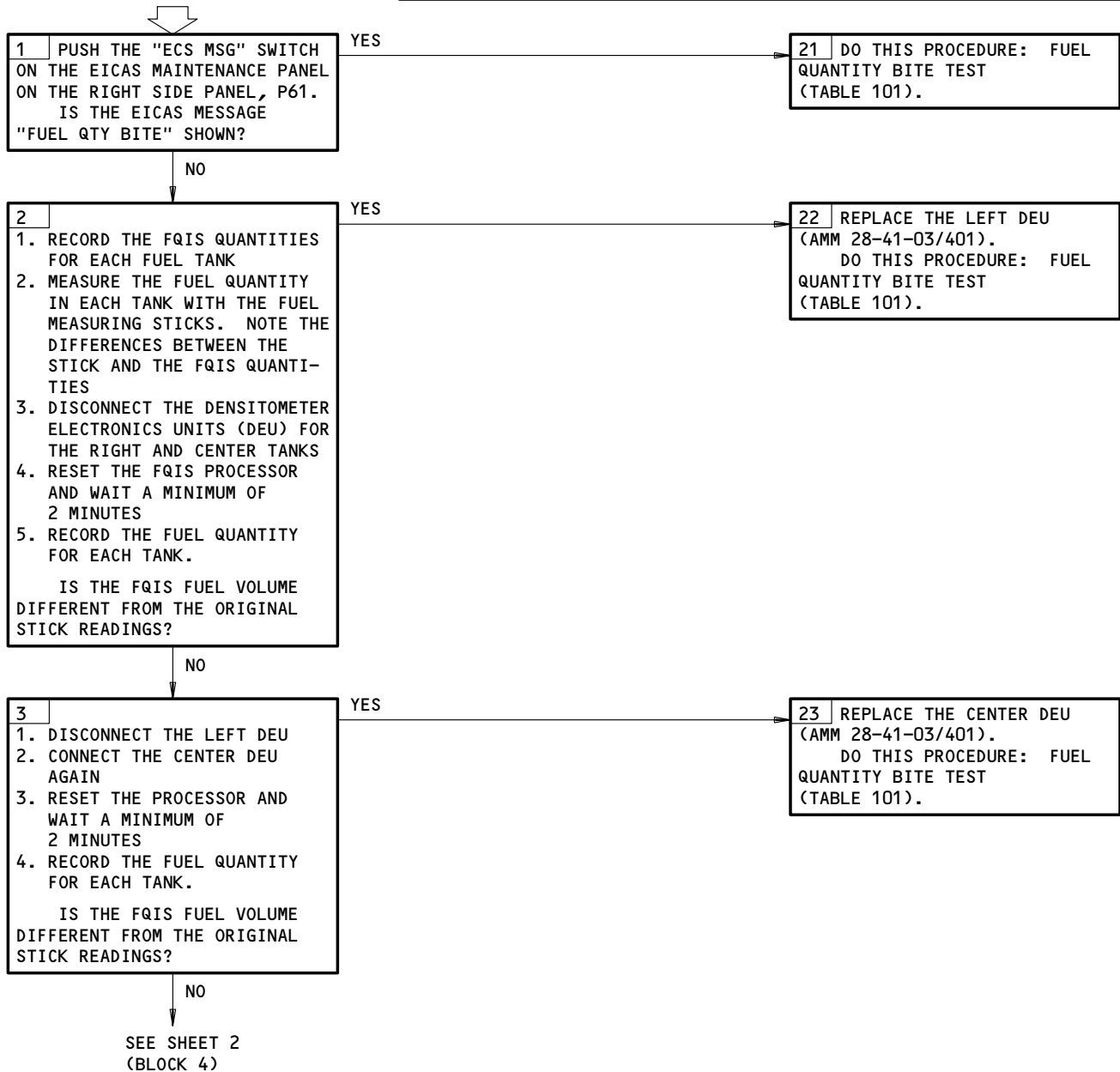
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CONFIG 1
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FUEL QUANTITY
FLUCTUATES OR IS
NOT ACCURATE, WITH
NO FAULT CODES
SHOWN

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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

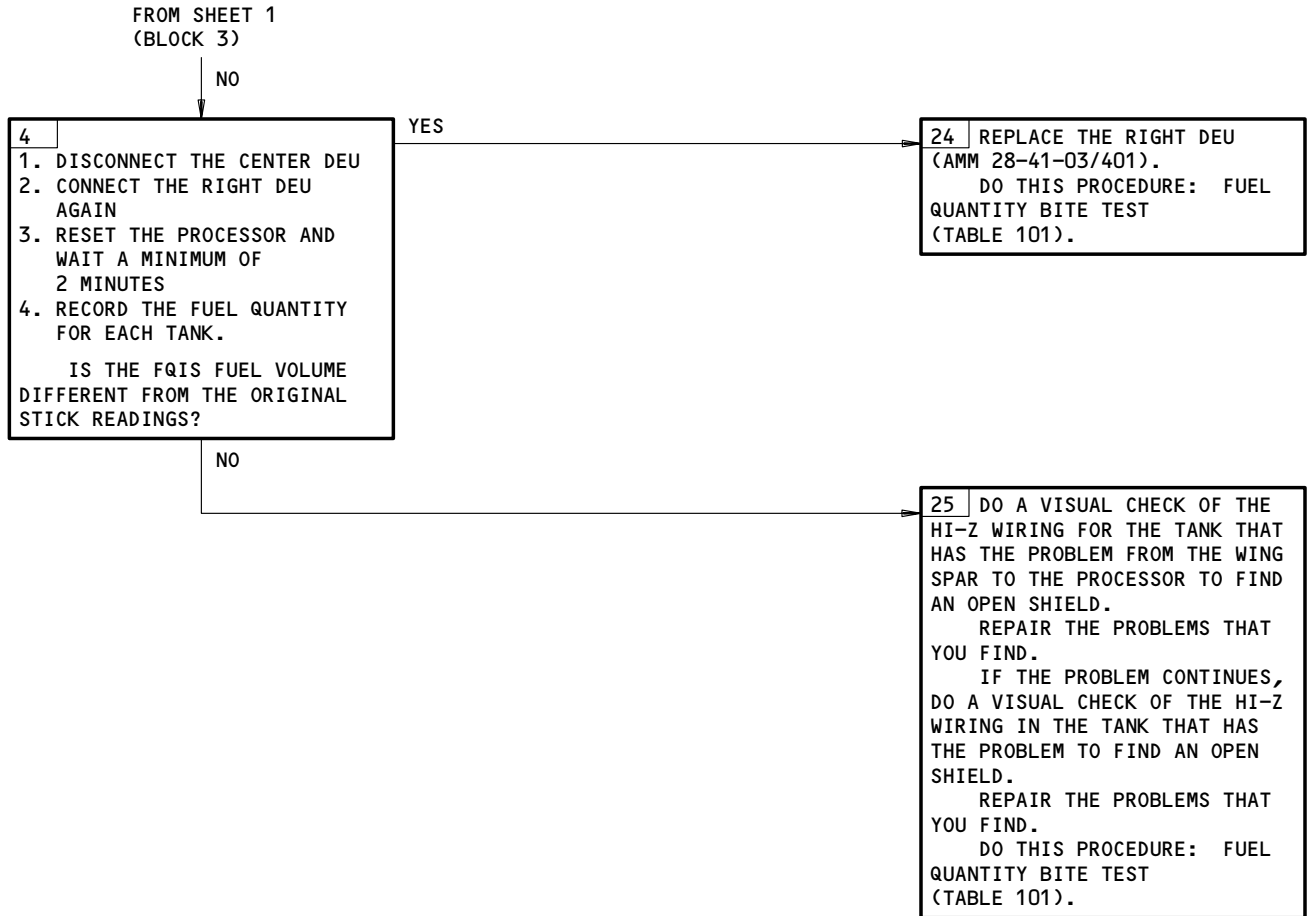


Fuel Quantity Fluctuates or Is Not Accurate, With No Fault Codes Shown
Figure 109 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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Fuel Quantity Fluctuates or Is Not Accurate, With No Fault Codes Shown
Figure 109 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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PREREQUISITES

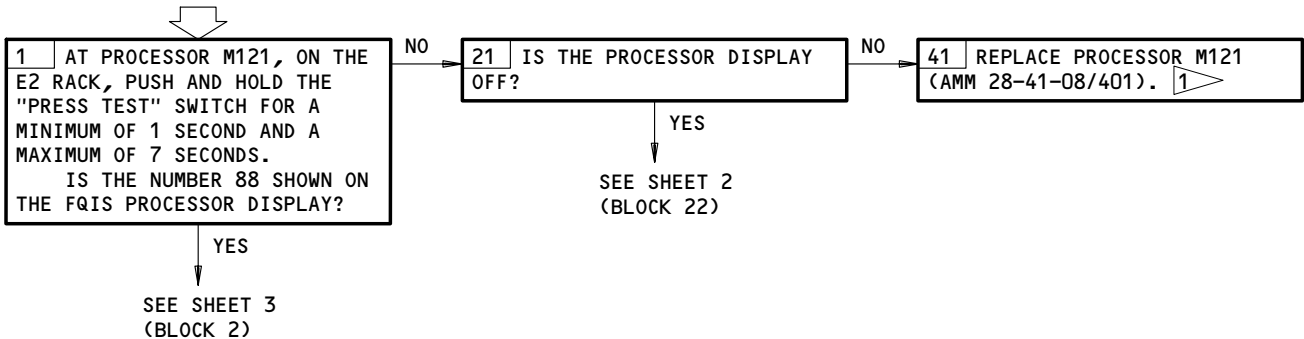
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FUELING STATION DOOR IS IN THE CLOSED POSITION

NOTE 1: DO NOT PUSH THE "RESET" SWITCH ON THE FQIS PROCESSOR BEFORE YOU MAKE A WRITTEN RECORD OF ALL FAULT CODES. WHEN YOU PUSH THE "RESET" SWITCH, IT WILL ERASE ALL THE FAULT CODES KEPT IN THE FQIS PROCESSOR MEMORY.

NOTE 2: FREQUENT REMOVALS AND INSTALLATIONS OF THE FQIS PROCESSOR CAN ACCIDENTALLY DAMAGE THE ARINC 600 CONNECTOR PINS. DAMAGED ARINC 600 CONNECTOR PINS WILL CAUSE NUISANCE FAULT CODES AND NUISANCE STATUS CODES. DO NOT REPLACE THE FQIS PROCESSOR UNLESS A HARD FAULT CODE SHOWS THAT IT IS BAD.

**FUEL QUANTITY
INDICATING SYSTEM
ELECTRICAL TEST**



1 GO TO BLOCK 1.

Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
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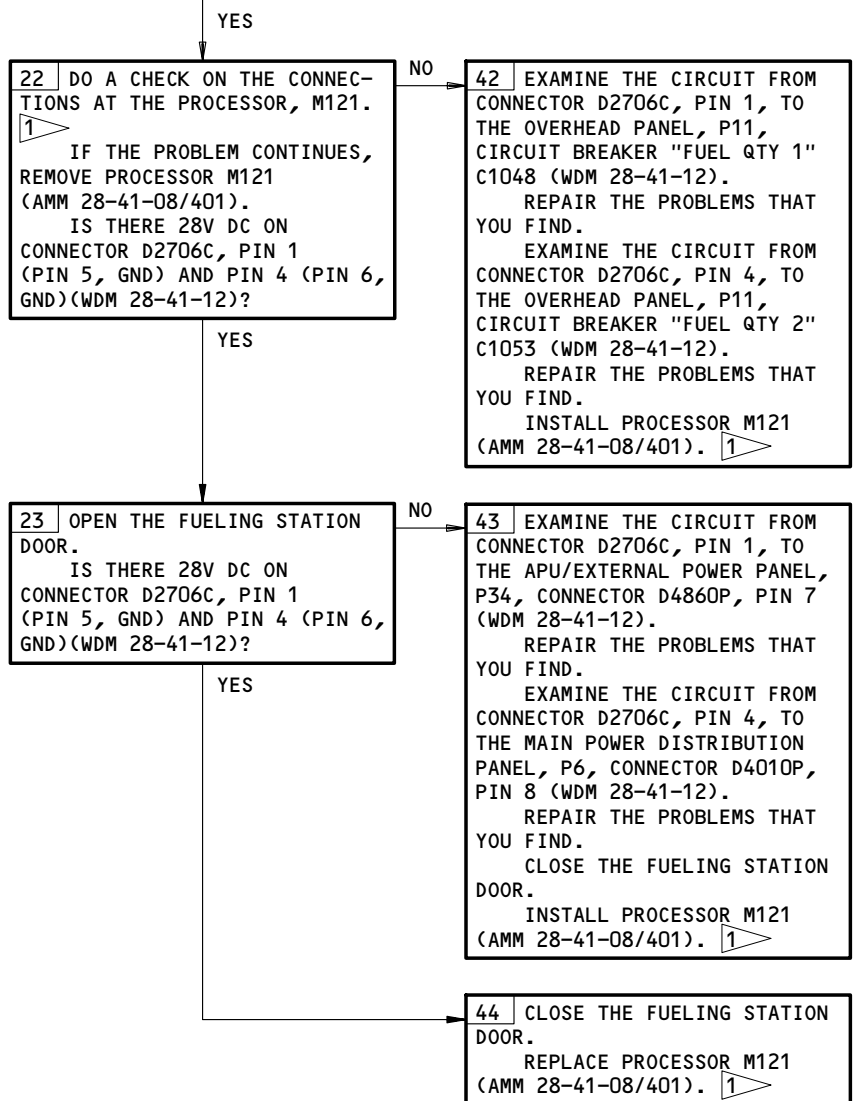
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FROM SHEET 1
(BLOCK 21)



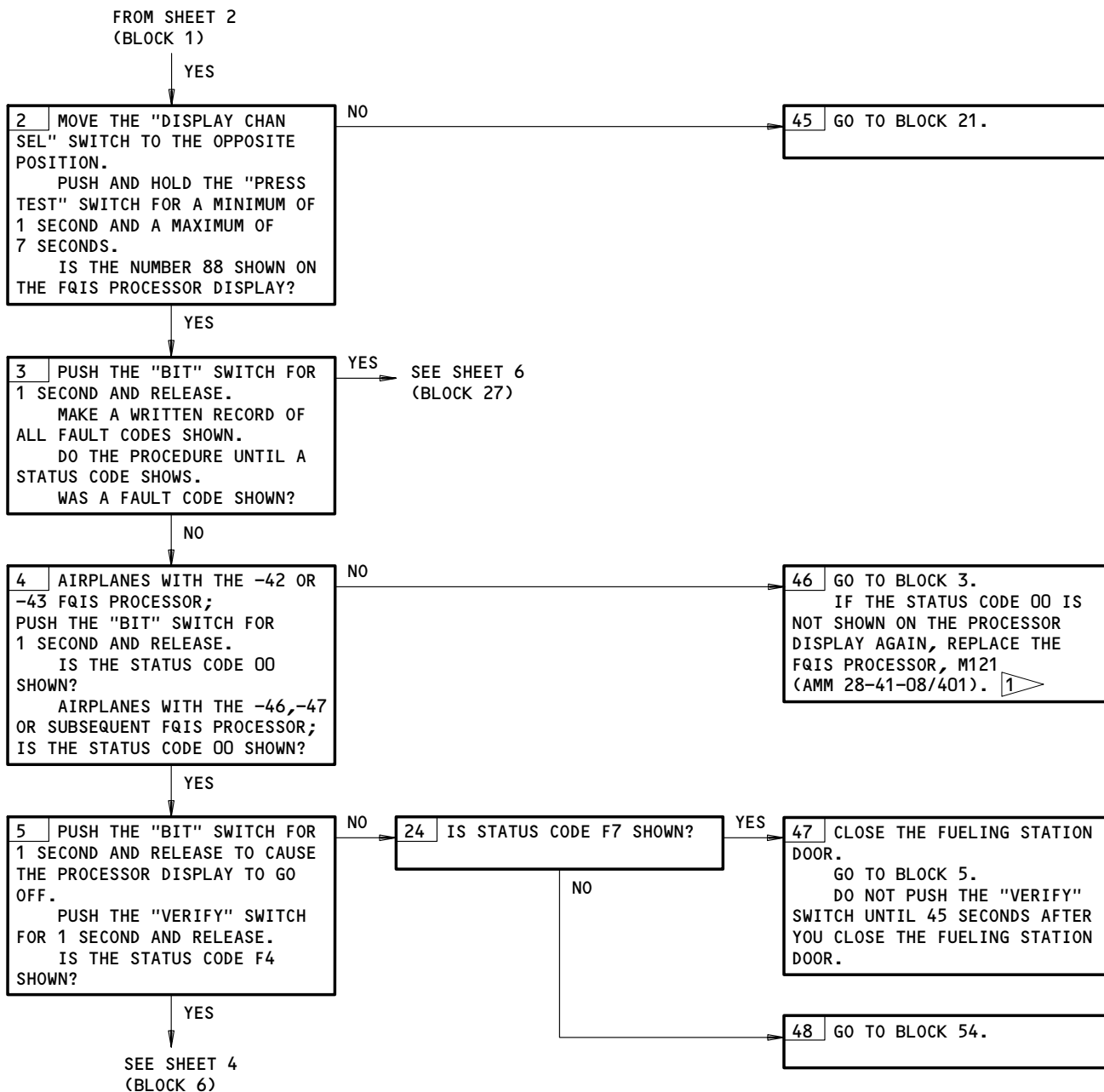
1 GO TO BLOCK 1.

Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 2)

EFFECTIVITY
 SAS 050, 051, 151-157, 162-167;
 MTH 275-278, 280

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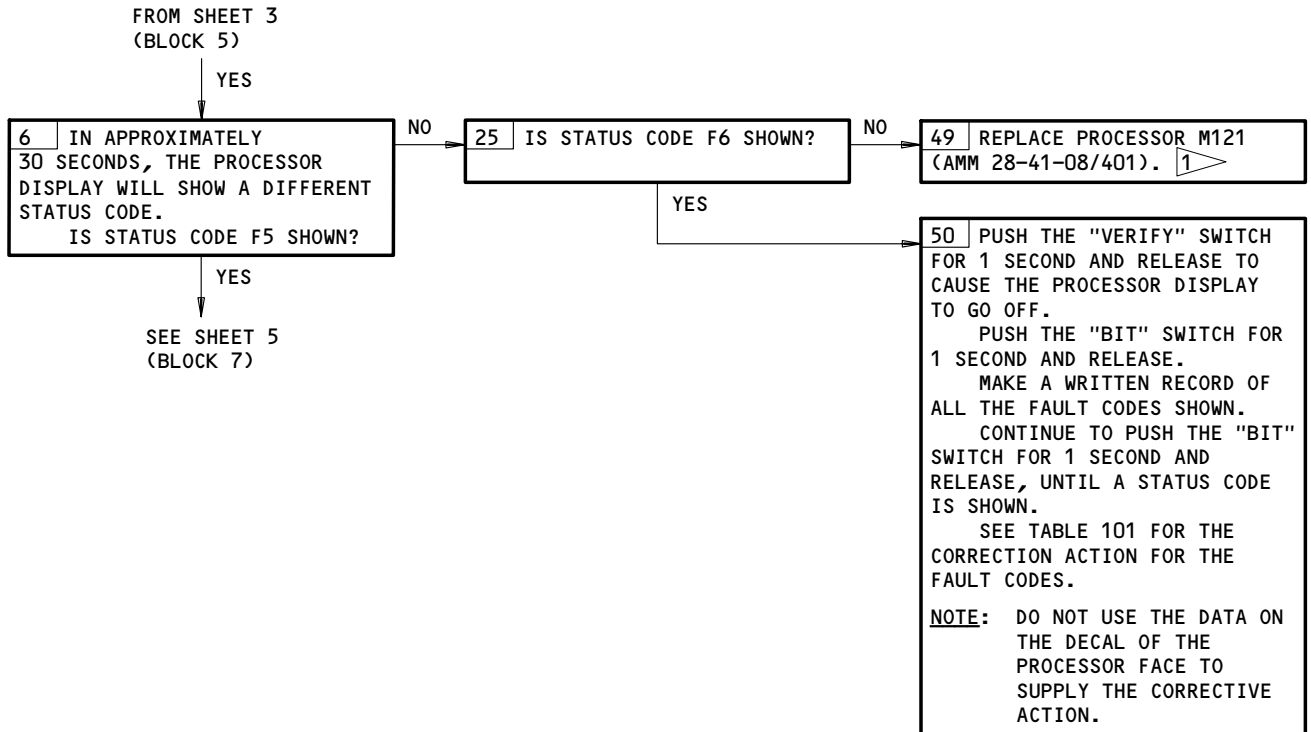
1 GO TO BLOCK 1.

Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 3)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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1 GO TO BLOCK 1.

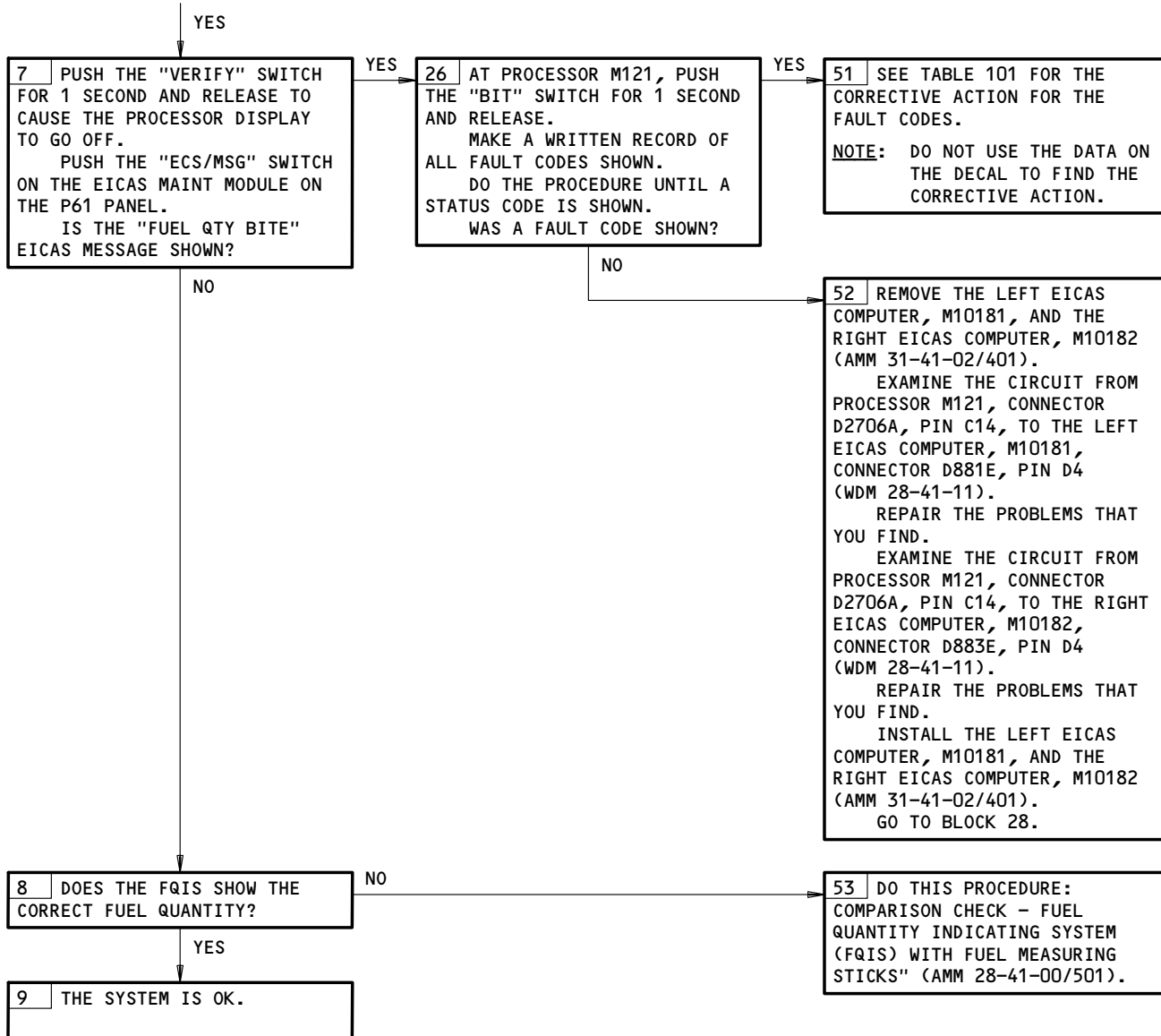
Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 4)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 4
(BLOCK 6)



Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 5)

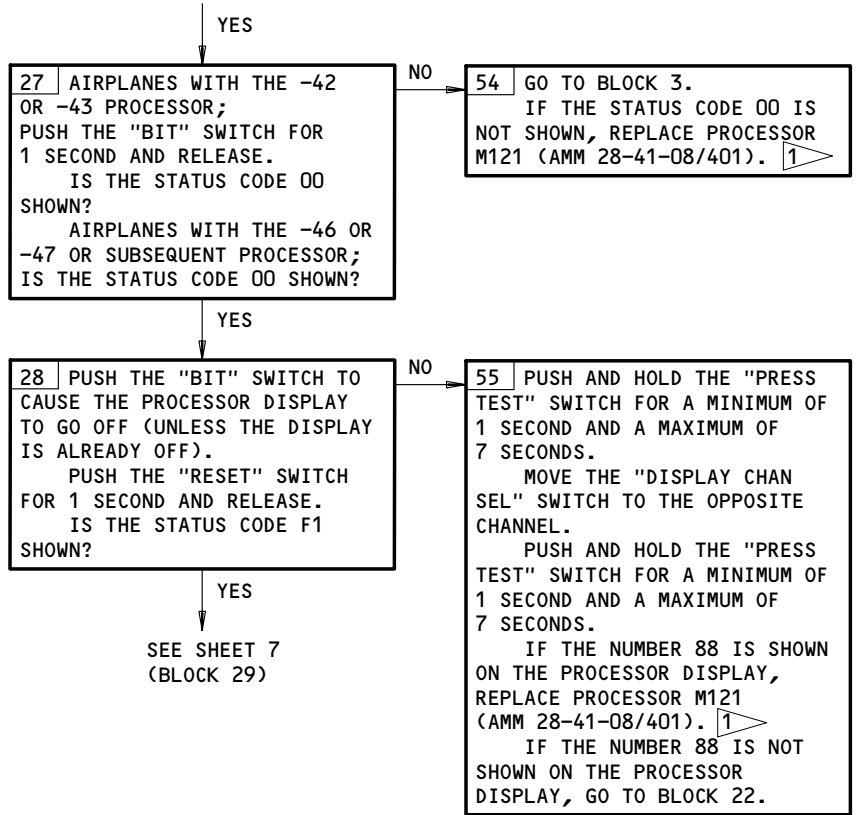
EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 3
(BLOCK 3)



1 GO TO BLOCK 1.

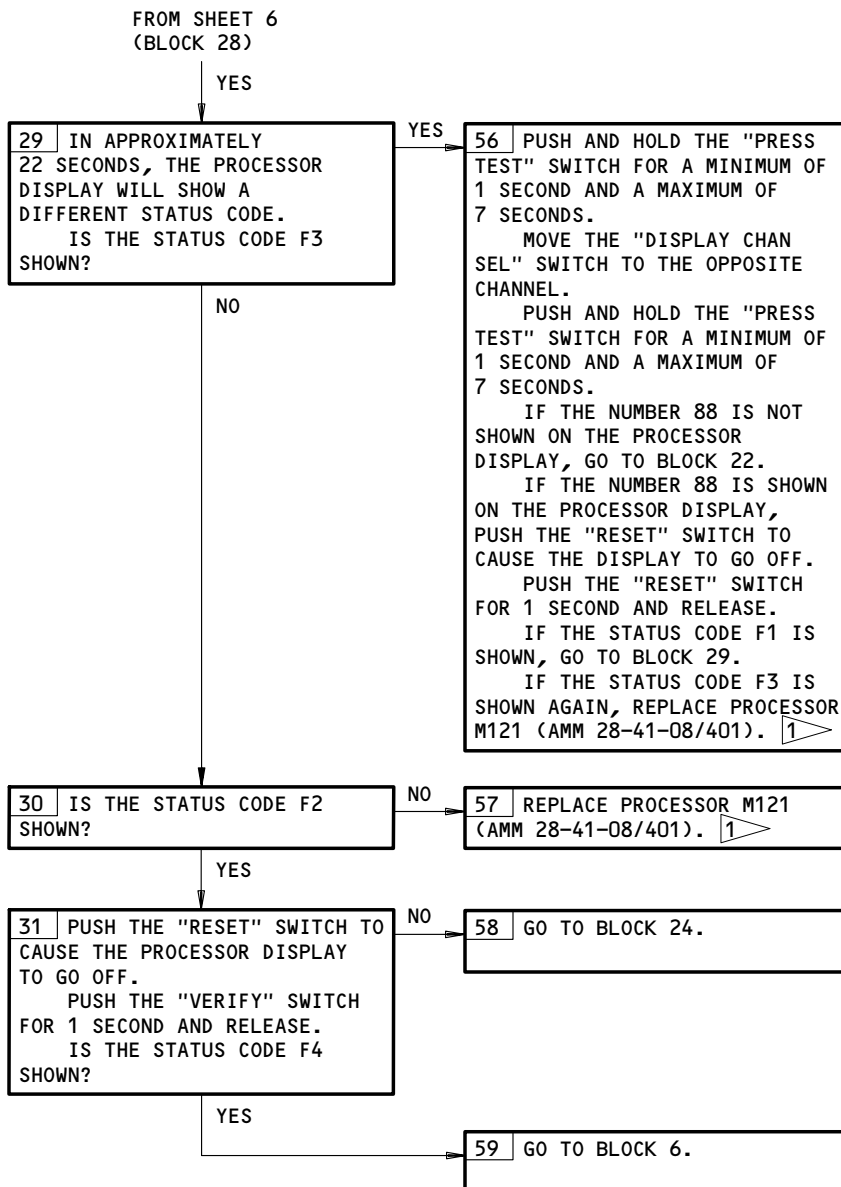
Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 6)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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1 GO TO BLOCK 1.

Fuel Quantity Indicating System Electrical Test
Figure 110 (Sheet 7)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
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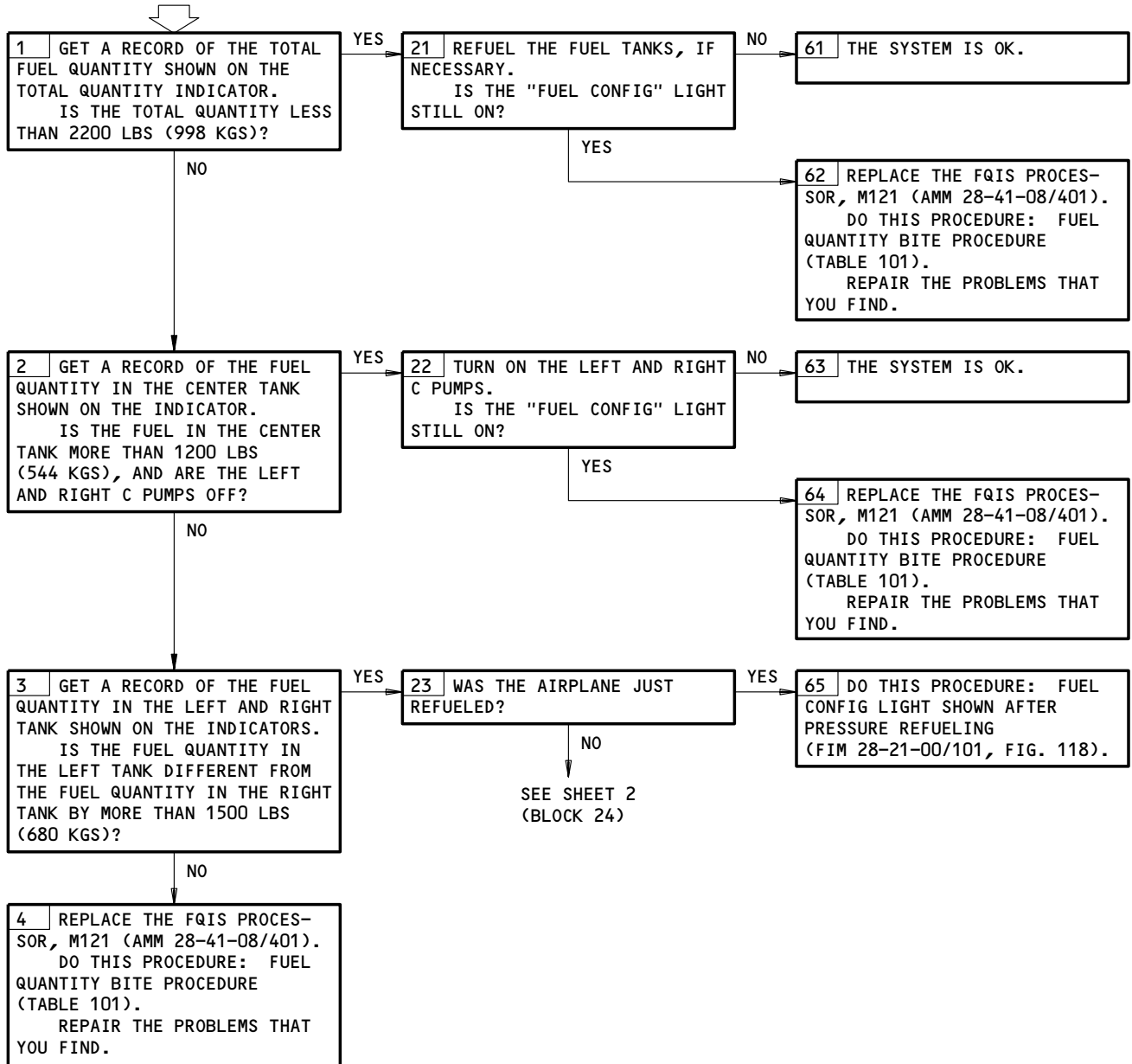
15A

"FUEL CONFIG"
LIGHT AND EICAS
MESSAGE "FUEL CONFIG"
ARE ILLUMINATED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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



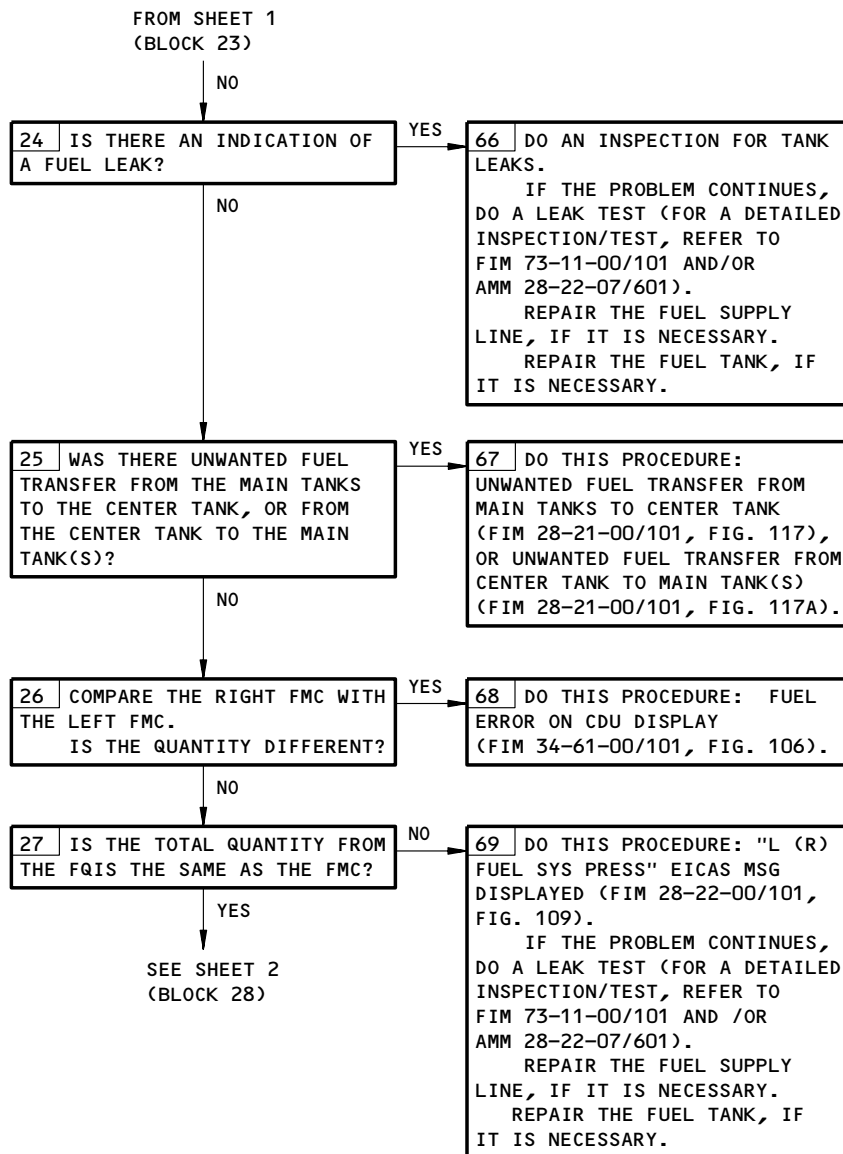
FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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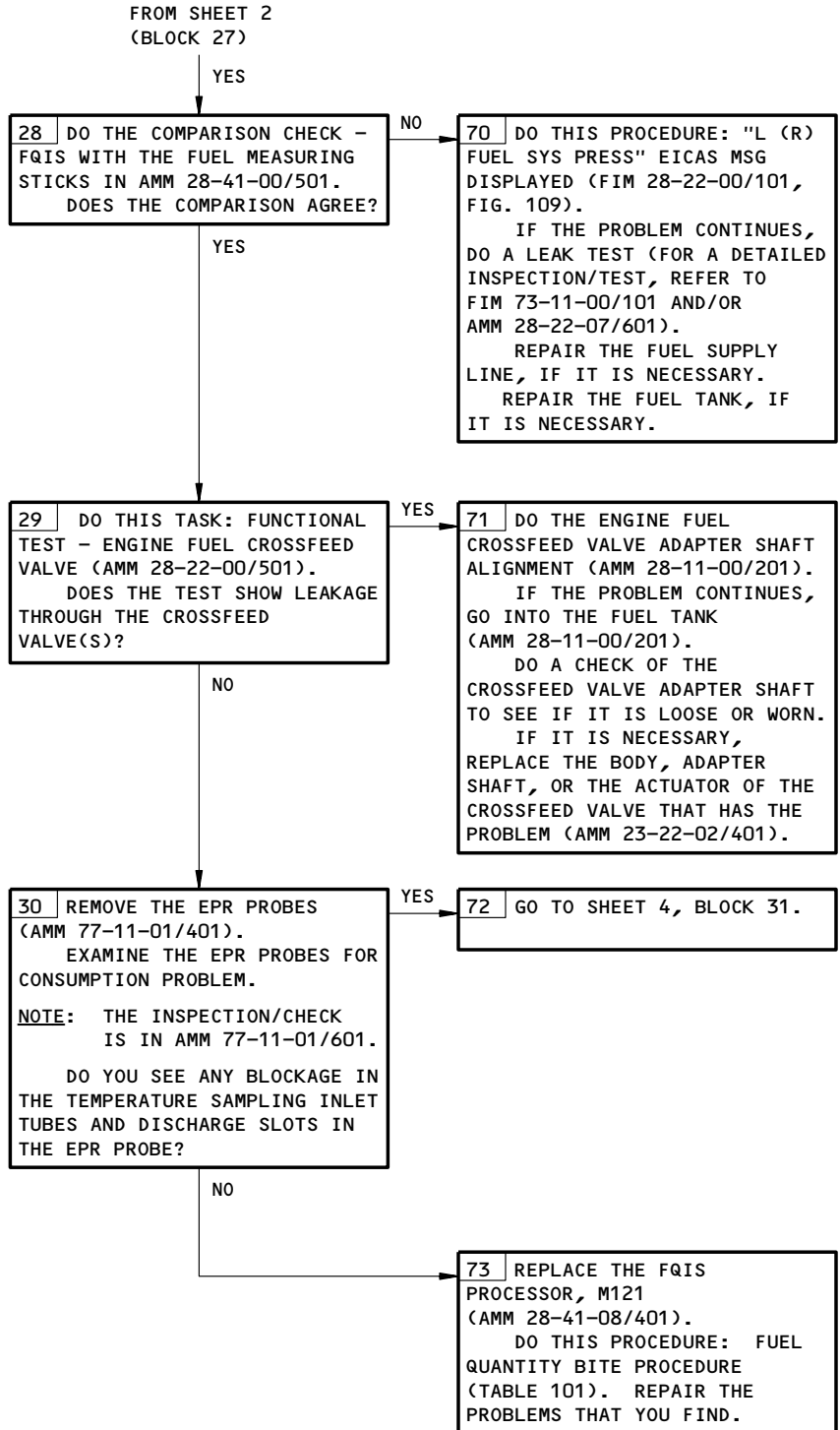
FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 3)

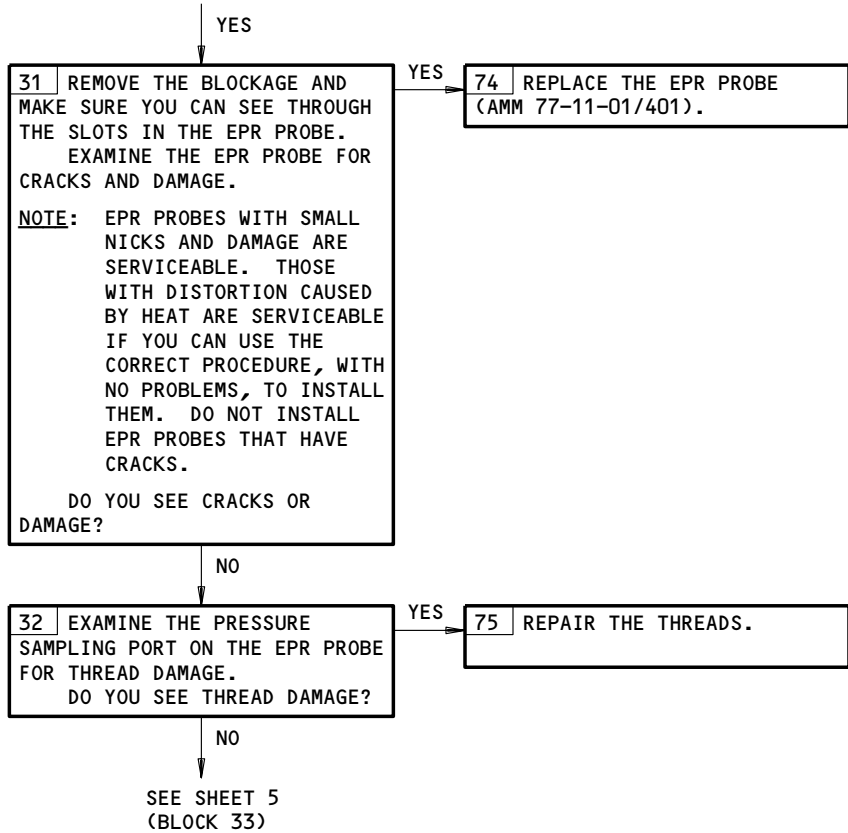
EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 3
(BLOCK 29)



FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 4)

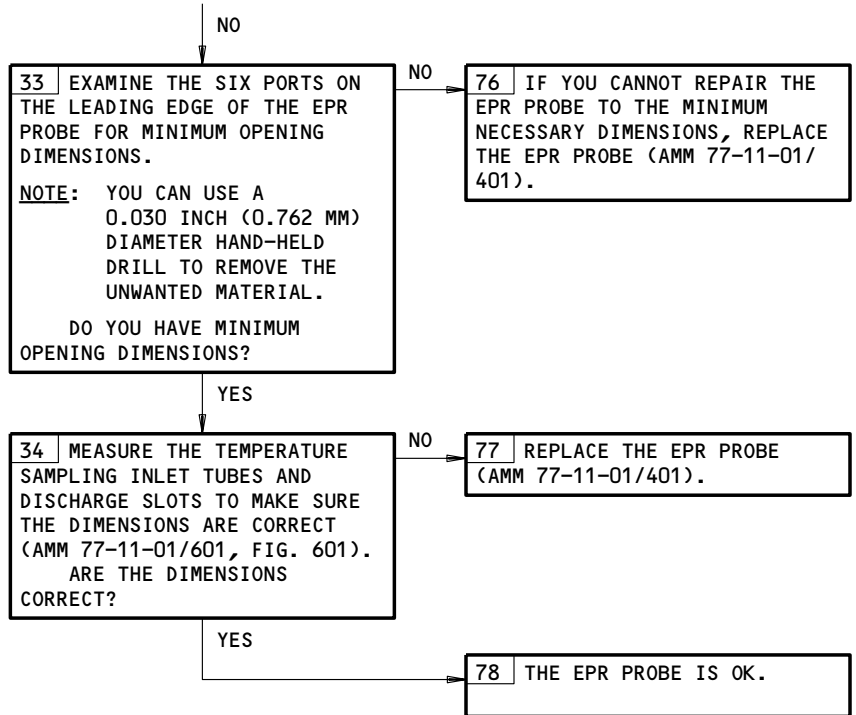
EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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FROM SHEET 4
(BLOCK 32)



FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 5)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
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1. Table 101 – Fuel Quantity BITE Test

A. Do these steps in this sequence to do the BITE test:

NOTE: Refer to Figure 110 for a complete FQIS system test. Refer to AMM 28-41-00/001 for additional FQIS reference data. It is recommended that all troubleshooting steps be done before you replace the fuel quantity processor unit (FQPU). Frequent removals and installations of the FQPU can cause damage to the ARINC 600 connector pins. Damaged ARINC 600 connector pins will cause nuisance fault codes and nuisance status codes. Do not replace the FQPU unless a hard fault code shows that it has a problem.

(1) BIT Procedure

- (a) Push the BIT switch for 1 second and release it.
 - (b) Make a written record of the fault code shown _____.
 - (c) Continue to push and release the BIT switch while you make a written record of all the fault codes shown.
-
-

NOTE: These are the faults that occurred during the previous flight leg(s).

- (d) When the status code 00, F8, or F9 shows on the processor display, all of the fault codes have been shown.
- (e) Push the BIT switch for 1 second and release it.
- (f) Make sure the processor display goes off.

(2) RESET Procedure

- (a) Push the RESET switch for 1 second and release it.
- (b) Make sure the processor display shows the status code F1.
- (c) After approximately 22 seconds, make sure the processor display shows the status code F2 or F3.
 - 1) If the display shows F3, wait for 45 seconds and do the RESET procedure again.

EFFECTIVITY _____
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- (d) Push the RESET switch for 1 second and release it.
 - (e) Make sure the processor display goes off.
- (3) VERIFY Procedure
- (a) Push the VERIFY switch for 1 second and release it.
 - (b) Make sure the processor display shows the status code F4 (Verify in progress).
 - (c) If the processor display shows the status code F5 after approximately 40 seconds, then the system is OK.
 - (d) If the processor display shows F6 after approximately 40 seconds, do these steps:
 - 1) Push the VERIFY switch for 1 second and release it to cause the processor display to go off.
 - 2) Push the BIT switch for 1 second and release it.
 - 3) Make a written record of the fault code shown _____.
 - 4) Continue to push and release the BIT switch while you make a written record of all the fault codes shown.
-
-

NOTE: These are hard fault codes.

- (e) When the status code 00, F8, or F9 shows on the processor display, all the fault codes are shown.
- (f) Push the BIT switch for 1 second and release it.
- (g) Make sure the processor display goes off.
- (h) If no hard fault codes show, the system is OK.

NOTE: If there were faults shown in the BIT procedure, keep a record of the faults for later fault isolation of intermittent faults. The corrective actions given for each hard fault code can also be used to troubleshoot intermittent faults that occur frequently.

- (i) If hard fault codes show, refer to Table 102 (Single Fault Codes) or Table 103 (Multiple Fault Codes).
- (j) Wait for 45 seconds before you do this procedure again.

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SAS 050, 051, 151-157, 162-167;
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Fault Code Index (Single Fault Codes) Table 102	
TABLE NUMBER	SINGLE FAULT CODES
TABLE 104	A1, A2, A3, A4, A5, A7, A8, A9, B1, B2, B3, B4, B5, B6, B7, B8, B9
TABLE 105	C1, C2, C3
TABLE 106	C4
TABLE 107	C5
TABLE 108	C6
TABLE 109	C7
TABLE 110	C8
TABLE 111 *[2]	D1
TABLE 112 *[1]	D1
TABLE 113 *[2]	D2
TABLE 114 *[1]	D2
TABLE 115 *[2]	D3
TABLE 116 *[1]	D3
TABLE 117	D4
TABLE 118	D5
TABLE 119	D6
TABLE 120	D7
TABLE 121	D8
TABLE 122	D9

*[1] AIRPLANES WITH PROCESSOR S345T002-48, -49, OR -61

*[2] AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47 OR -60

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Fault Code Index (Single Fault Codes) Table 102	
TABLE NUMBER	SINGLE FAULT CODES
TABLE 123	E1, E2, E3, E4
TABLE 124	01 thru 14
TABLE 125	21 thru 29
TABLE 126	31 thru 44
TABLE 127	51 thru 64
TABLE 128	71 thru 74, and 79
TABLE 129	75 thru 78
TABLE 130	81 thru 94

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Fault Code Index (Multiple Fault Codes) Table 103	
TABLE NUMBER	FAULT CODE COMBINATIONS
TABLE 131 *[1]	A4 and B4
TABLE 132	C4 and any one or more of these codes: 51-64
TABLE 133	C5 and any one or more of these codes: 71-79
TABLE 134	C6 and any one or more of these codes: 81-94
TABLE 135 *[1]	A4 and B4 and any one of these combinations: C4 or 51-64
TABLE 136 *[1]	A4 and B4 and any one or more of these codes: C5 or 71-79
TABLE 137 *[1]	A4 and B4 and one or more of these codes: C6 and 81-94
TABLE 138 *[1]	C4 and C6
TABLE 139 *[2]	One of these combinations: A4, B4, and C4; A4 and C4; B4 and C4
TABLE 140 *[2]	One of these combinations: A4, B4, and C6; A4 and C6; B4 and C6
TABLE 141 *[2]	One of these combinations: A4, B4, 60, and 90; A4, 60, and 90; B4, 60, and 90
TABLE 142 *[2]	One of these combinations: A4, B4, 61, and 91; A4, 61, and 91; B4, 61, and 91

*[1] AIRPLANES WITH PROCESSOR S345T002-48, -49, OR -61

*[2] AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47 OR -60

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Fault Code Index (Multiple Fault Codes) Table 103	
TABLE NUMBER	FAULT CODE COMBINATIONS
TABLE 143	One of these combinations: D2 and C5; D2 and one or more of these: 71-79; Two or more of these: C5 or 71-79 (If C5 shows, see also Table 133)
TABLE 144	Two or more of these: C4 or 51-64 (If C4 shows, see also Table 132)
TABLE 145	Two or more of these: C6 or 81-94 (If C6 shows, see also Table 134)
TABLE 146	One of these combinations: E1 and E2; E3 and E4; E1, E2, E3, and E4
TABLE 147	One of these combinations: 01 and 51; 02 and 52; 03 and 53; 04 and 54; 05 and 55; 06 and 56; 07 and 57; 08 and 58; 09 and 59; 10 and 60; 11 and 61; 12 and 62; 13 and 63; 14 and 64

*[1] AIRPLANES WITH PROCESSOR S345T002-48, -49, OR -61

*[2] AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47 OR -60

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Fault Code Index (Multiple Fault Codes) Table 103	
TABLE NUMBER	FAULT CODE COMBINATIONS
TABLE 148	One of these combinations: 21 and 71; 22 and 72; 23 and 73; 24 and 74; 25 and 75; 26 and 76; 27 and 77; 28 and 78; 29 and 79
TABLE 149	One of these combinations: 31 and 81; 32 and 82; 33 and 83; 34 and 84; 35 and 85; 36 and 86; 37 and 87; 38 and 88; 39 and 89; 40 and 90; 41 and 91; 42 and 92; 43 and 93; 44 and 94

*[1] AIRPLANES WITH PROCESSOR S345T002-48, -49, OR -61

*[2] AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47 OR -60

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Fault Code Index (Multiple Fault Codes) Table 103	
TABLE NUMBER	FAULT CODE COMBINATIONS
TABLE 150	One of these combinations: 51, 71, and 81; 52, 72, and 82; 53, 73, and 83; 54, 74, and 84; 55, 75, and 85; 56, 76, and 86; 57, 77, and 87; 58, 78, and 88; 59, 79, and 89; 60, 90, and C5; 61 and 91; 62 and 92; 63 and 93; 64 and 94
TABLE 151	Two or more of these: 51 thru 64
TABLE 152	Two or more of these: 71 thru 79
TABLE 153	Two or more of these: 81-94

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2. Table 104 – Single Fault Codes: A1, A2, A3, A4, A5, A7, A8, A9, B1, B2, B3, B4, B5, B6, B7, B8, B9

NOTE: This procedure is for the FQPU – Fault Isolation.

A. Fault Code

- (1) Any one of these FQPU fault codes:
 - (a) A1
 - (b) A2
 - (c) A3
 - (d) A4
 - (e) A5
 - (f) A7
 - (g) A8
 - (h) A9
 - (i) B1
 - (j) B2
 - (k) B3
 - (l) B4
 - (m) B5
 - (n) B6
 - (o) B7
 - (p) B8
 - (q) B9

B. Possible Flight Compartment Indication

- (1) EICAS Status Message, FUEL QTY CHANNEL.
- (2) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) Failure of a printed circuit card in the fuel quantity processor unit (FQPU).
- (2) AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -47, OR -60;
If there is an FQIS indication error and the fault code A5 or B5 shows, there can be an intermittent densitometer failure.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the fault code, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure does not show the fault code, there was an intermittent fault.

E. Fault Isolation

- (1) Replace the fuel quantity processor unit (FQPU), M121 (AMM 28-41-08/401).
- (2) Do this task: Fuel Quantity BITE Test (Table 101).
- (3) AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -47, OR -60;
If the problem continues (A5 or B5 shows) and no wire fault codes show, refer to the procedures for fault codes D1, D2, and D3.

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3. Table 105 – Single Fault Codes C1, C2, or C3

NOTE: This procedure is for the Compensator – Fault Isolation.

A. Fault Code

- (1) Any one of these compensator fault codes:
 - (a) C1 (left main tank)
 - (b) C2 (auxiliary tank)
 - (c) C3 (right main tank)

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The resistance between the HI-Z and the LO-Z terminal on the compensator is too low.
- (2) The density dielectric data is not within the correct limits and the data for the compensator with the problem does not agree with the compensator in the alternate tank.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the fault code, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure in the BITE does not show the fault code, then there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check for water contamination:
 - (a) Get a sample of fuel at the applicable fuel tank sump (AMM 12-11-03/301).
 - (b) Add one or two drops of water soluble food coloring to the fuel sample.

NOTE: If there is water contamination of the fuel sample, the water in the fuel sample will be identified by the food coloring.

- 1) If there is water contamination of the fuel sample, do these steps:
 - a) Continue to get samples of fuel until no water is identified by the food coloring.
 - b) Do the Fuel Quantity BITE Test (Table 101).
 - 1. If the VERIFY procedure does not show the fault code, then the system is OK.
 - 2. If the VERIFY procedure continues to show the fault code, then continue.
- 2) If there is no water contamination of the fuel sample, then continue.

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- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the tank shown by the fault code (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the tank shown by the fault code (AMM 28-41-00/501) to find a problem with the in-tank wire harness.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are no problems with the in-tank harness, replace the applicable section of the out-of-tank wiring.

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault code, then the system is OK.
 - e) If the VERIFY procedure in the BITE shows the fault code, then continue.
- (b) If the insulation resistance test does not show problems, then continue.
- (3) Replace the applicable compensator shown by the fault code (AMM 28-41-02/401).
- (a) Do an inspection of the compensator and the adjacent wiring for these problems:
 - 1) Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2) Make sure there are no brackets that are bent or have other problems.
 - 3) Make sure there is no unwanted material in the compensator.
 - 4) Make sure there are no loose terminal connections at the compensator.
 - 5) Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
 - (b) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - (c) Do the Fuel Quantity BITE Test (Table 101).
 - (d) If the VERIFY procedure does not show the fault code, then the system is OK.

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4. Table 106 – Single Fault Code C4

NOTE: This procedure is for the Left Main Tank Compensator Wiring – Fault Isolation.

- A. Fault Code
 - (1) C4 (compensator wiring left main tank).
- B. Possible Flight Compartment Indication
 - (1) Left main fuel quantity indicator is blank.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) The left main tank compensator capacitance is not in the correct range.
- D. Initial Evaluation
 - (1) Make sure there is 3000 pounds (1400 kg) of fuel in the left main tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows C4, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows C4 and the VERIFY procedure does not show C4, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the left main tank compensator (AMM 28-41-02/401).
 - b) Do an inspection of the left main tank compensator and the adjacent wiring for these problems:
 - 1. Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.
 - 3. Make sure there is no unwanted material in the compensator.
 - 4. Make sure there are no loose terminal connections at the compensator.
 - 5. Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
 - c) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).

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- e) If the VERIFY procedure does not show C4, then the system is OK.
- f) If the VERIFY procedure in the BITE continues to show C4, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show C4, then the system is OK.
 - 3. If the VERIFY procedure in the BITE shows C4, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show C4, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows C4, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the left main tank (AMM 28-41-00/501) to find a problem with the in-tank harness.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are no problems with the in-tank harness, replace the applicable section of the out-of-tank wiring.

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
- d) If the VERIFY procedure in the BITE shows C4, then continue.
- e) If the VERIFY procedure does not show C4, then the system is OK.

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- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show C4, then the system is OK.

5. Table 107 – Single Fault Code C5

NOTE: This procedure is for the Auxiliary Tank Compensator Wiring – Fault Isolation.

- A. Fault Code
 - (1) C5 (compensator wiring auxiliary tank).
- B. Possible Flight Compartment Indication
 - (1) Center tank fuel quantity indicator is blank.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) The auxiliary tank compensator capacitance is not in the correct range.
- D. Initial Evaluation
 - (1) Make sure there is 21,600 pounds (9800 kg) of fuel in the auxiliary fuel tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows C5, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows C5 and the VERIFY procedure does not show C5, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the auxiliary tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the auxiliary tank compensator (AMM 28-41-02/401).
 - b) Do an inspection of the compensator and the adjacent wiring for these problems:
 - 1. Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.
 - 3. Make sure there is no unwanted material in the compensator.
 - 4. Make sure there are no loose terminal connections at the compensator.

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5. Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
 - c) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show C5, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show C5, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show C5, then the system is OK.
 3. If the VERIFY procedure in the BITE shows C5, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
- a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show C5, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows C5, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the auxiliary tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the left and right auxiliary tank harness (AMM 28-41-00/501).
 - a) If there are problems with one of the in-tank harnesses, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are problems with the out-of-tank wiring replace the applicable section of out-of-tank wiring (WDM 28-41-23).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connectors disconnected to make sure the out-of-tank wiring has a problem.

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- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show C5, then the system is OK.
 - e) If the VERIFY procedure continues to show C5, then continue.
- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test.
 - 2) If the VERIFY procedure in the BITE test does not show C5, then the system is OK.

6. Table 108 – Single Fault Code C6

NOTE: This procedure is for the Right Main Tank Compensator Wiring – Fault Isolation.

- A. Fault Code
 - (1) C6 (compensator wiring, right main tank)
- B. Possible Flight Compartment Indication
 - (1) Right main fuel quantity indicator is blank.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) The right main tank compensator capacitance is not in the correct range.
- D. Initial Evaluation
 - (1) Make sure there is 3000 pounds (1400 kgs) of fuel in the right main tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows C6, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows C6 and the VERIFY procedure does not show C6, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the right main tank compensator (AMM 28-41-02/401).
 - b) Do an inspection of the compensator and the adjacent wiring for these problems:
 - 1. Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.

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3. Make sure there is no unwanted material in the compensator.
 4. Make sure there are no loose terminal connections at the compensator.
 5. Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
- c) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show C6, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show C6, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure in the BITE test does not show C6, then the system is OK.
 3. If the VERIFY procedure in the BITE shows C6, then go the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-22).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure in the BITE test does not show C6, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows C6, then go to the "FQIS Insulation Resistance Test".
 - (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance Test" from the wing spar for the right main tank (AMM 28-41-00/501) to find a problem with the in-tank wire harness.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).

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- b) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-22).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure in the BITE test does not show C6, then the system is OK.
 - e) If the VERIFY procedure in the BITE test continues to show C6, then continue.
- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show C6, then the system is OK.

7. Table 109 - Single Fault Code C7

NOTE: This procedure is for the Load Select Control - Fault Isolation.

- A. Fault Code
 - (1) C7 (load select indicator control).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) The resistance for the load select control is out of the correct range.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows C7, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows C7 and the VERIFY procedure does not show C7, there was an intermittent fault.
- E. Fault Isolation
 - (1) Replace the load select control, M638 (AMM 28-41-07/401).
 - (2) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE does not show C7, then the system is OK.
 - (b) If the VERIFY procedure in the BITE shows C7, then continue.
 - (3) Do these steps to do a check of the wiring from the FQPU to the Load Select Control Unit:
 - (a) Remove the fuel quantity processor unit, M121 (AMM 28-41-08/401).
 - (b) Remove the load select control unit, M638 from the fueling panel (AMM 28-41-07/401).

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- (c) Do a continuity check of the wiring between these pins of connector D2706A at the E2-4 rack in the E/E bay and the load select control unit connector D3056 in the fueling control panel (WDM 28-21-11):

D2706A		D3056
pin E6	-----	pin 4
pin E7	-----	pin 6
pin F6	-----	pin 5
pin F7	-----	pin 7

- (d) Make sure each of these pins are electrically isolated from each other.
 (e) Repair the problems that you find.
 (f) Do this procedure: Fuel Quantity BITE Test (Table 101).
 (g) If the VERIFY procedure in the BITE does not show C7, then the system is OK.

8. Table 110 – Single Fault Code C8

NOTE: This procedure is for the FQPU Inputs – Fault Isolation.

- A. Fault Code
 (1) C8 (Inputs to the fuel quantity processor unit, FQPU).
- B. Possible Flight Compartment Indication
 (1) EICAS Maintenance Message, FUEL QTY BITE
- C. Possible Causes
 (1) A difference in the inputs to the processor from one of these sources:
 (a) The Air/Ground channel 1 and 2.
 (b) The fueling station door switch relays.
 (c) The pound/kilogram jumpers.
 (d) The two/three tank jumpers.
- D. Initial Evaluation
 (1) Do the Fuel Quantity BITE test (Table 101).
 (a) If the VERIFY procedure in the BITE shows C8, do the fault isolation procedure below.
 (b) If the BIT test in the BITE shows C8 and the VERIFY test does not show C8, there was an intermittent fault.
- E. Fault Isolation
 (1) Do these steps to do a check of the air/ground signals (WDM 28-41-11):
 (a) Remove the fuel quantity processor unit, M121 (AMM 28-41-08/401).
 (b) Make sure the airplane is in ground mode (AMM 32-09-02/201).

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- (c) Make sure there is no continuity between these two pins on the D2706A connector in the E2-4 shelf:

D2706A		D2706A
pin A7	-----	pin K7

- (d) Make sure there is no continuity between these two pins on the D2706B connector in the E2-4 shelf:

D2706B		D2706B
pin A7	-----	pin K7

- (e) Do this procedure: "Flight Mode Simulation" for the No. 1 and the No. 2 Air/Ground System (AMM 32-09-02/201).
 (f) Make sure there is continuity between these two pins on the D2706A connector in the E2-4 shelf:

D2706A		D2706A
pin A7	-----	pin K7

- (g) Make sure there is continuity between these two pins on the D2706B connector in the E2-4 shelf:

D2706B		D2706B
pin A7	-----	pin K7

- (h) Put the airplane back to ground mode (AMM 32-09-02/201).
 (i) If there are problems with the air/ground signals, do these steps to do a check of the wiring to the air/ground relay system:
 1) Remove relays K206 in the P36 panel and K716 in the P37 panel.
 2) Do a continuity check between these pins on the connector D2706A in the E2-4 shelf and D10342 in the P36 panel:

D2706A		D10342
pin A7	-----	pin 11
pin K7	-----	pin 9

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- 3) Do a continuity check between these pins on the connector D2706B in the E2-4 shelf and D3690 in the P37 panel:

D2706B		D3690
pin A7	-----	pin 3
pin K7	-----	pin 5

- 4) Install relay K206 in the P37 panel and relay K716 in the P36 panel again (WDM 28-41-11).
- a) If there are problems with the wiring, repair the wiring (WDM 28-41-11).
- b) If there are no problems with the wiring, do this procedure: Air/Ground Relay Problem, no AIR/GND DISAGREE or NOSE A/G DISAGREE EICAS Message Display (FIM 32-09-00/101, Fig. 103).
- 5) Do this procedure: Fuel Quantity BITE Test (Table 101).
- 6) If the VERIFY procedure in the BITE test does not show C8, then the system is OK.
- 7) If the VERIFY procedure in the BITE test shows C8, then continue.
- (j) If there are no problems with the air/ground signals, then continue.
- (2) Do these steps to do a check of the fueling station door switch relays (WDM 28-41-11):
- (a) Open the fueling station door, 521QB, at the fueling control panel, P28.
- (b) Do a continuity check on these two pins on connector D2706A in the E2-4 shelf:

D2706A		D2706A
pin A1	-----	pin K9

- (c) Do a continuity check on these two pins on connector D2706B in the E2-4 shelf:

D2706B		D2706B
pin A1	-----	pin K9

- (d) Close the fueling station door, 521QB, at the fueling control panel, P28.

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- (e) Make sure there is no continuity between these two pins on connector D2706A in the E2-4 shelf:

D2706A		D2706A
pin A1	-----	pin K9

- (f) Make sure there is no continuity between these two pins on connector D2706B in the E2-4 shelf:

D2706B		D2706B
pin A1	-----	pin K9

- (g) If there are problems with the fueling station door switch relays, do these steps to do a check of the wiring to the relays:

- 1) Remove the relays, K179 and K356 in the P36 panel (WDM 28-41-11).
- 2) Do a continuity check between these pins on connector D2706A in the E2-4 shelf and connector D340 in the P36 panel:

D2706A		D340
pin A1	-----	pin C2
pin K9	-----	pin C1

- 3) Do a continuity check between these pins on connector D2706B in the E2-4 shelf and connector D3538 in the P36 panel:

D2706B		D3538
pin A1	-----	pin B2
pin K9	-----	pin B1

- 4) If there are problems with the wiring, repair the problems (WDM 28-41-11).
- 5) Replace the relays, K179 and K356 in the P36 panel (WDM 28-41-11).
- 6) If there are no problems with the wiring, do this procedure: Load Select Indicator Displays Blank with Fueling Power Select Switch in BATT (FIM 28-21-00/101, Fig. 110, Block 3).

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- 7) Do the Fuel Quantity BITE Test (Table 101).
 - a) If the VERIFY procedure does not show C8, then the system is OK.
 - b) If the VERIFY procedure continues to show C8, then continue.
- (h) If there are no problems with the fueling station door switch relays, then continue.
- (3) Do these steps to do a check of the pounds/kilograms jumper (WDM 28-41-11):
 - (a) Do a continuity check between these pins on connector D2706A:

D2706A		D2706A
pin C9	-----	pin A9 (pounds)
pin C9	-----	pin E9 (kilograms)

- (b) Do a continuity check between these pins on connector D2706B:

D2706B		D2706B
pin C9	-----	pin A9 (pounds)
pin C9	-----	pin E9 (kilograms)

- (c) If there is continuity on connector D2706A from pin C9 to pin A9 (pounds) or E9 (kgs) and there is continuity on connector D2706B from pin C9 to A9 (pounds) or E9 (kgs), then do these steps:
 - 1) Replace the fuel quantity processor unit (FQPU), M121 (AMM 28-41-08/401).
 - 2) Do the Fuel Quantity BITE Test (Table 101).
 - 3) If the VERIFY procedure in the BITE test does not show the fault code C8, then the system is OK.
 - 4) If the VERIFY procedure continues to show the fault code C8, then continue.
- (d) If there is not continuity on connector D2706A from pin C9 to pin A9 (pounds) or E9 (kgs), or there is not continuity on connector D2706B from pin C9 to pin A9 (pounds) or E9 (kgs), then do these steps:
 - 1) Repair the problems that you find (WDM 28-41-11).
 - 2) Do this procedure: Fuel Quantity BITE procedure (Table 101).
 - 3) If the VERIFY procedure does not show the fault code C8, then the system is OK.

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- (4) Examine the wiring from the fuel quantity processing unit (FQPU), M121, to the fueling control panel, P28 (WDM 28-41-11). Repair the damage that you find (SWPM 20-10-13).
 - (5) Examine the electrical connectors from the fuel quantity processing unit (FQPU), M121, to the fueling control panel, P28 (WDM 28-41-11). Repair the damage that you find (SWPM 20-60-03).
9. AIRPLANES WITH PROCESSORS S345T002-41, -42, -43, -46, -47 OR -60;
Table 111 - Single Fault Code D1

NOTE: This procedure is for the Left Main Densitometer - Fault Isolation.

- A. Fault Code
 - (1) D1 (Densitometer for the left main tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE
- C. Possible Causes
 - (1) Water or corrosion at the J1 connector on the densitometer emitter.
 - (2) Water or corrosion at the J1 or J2 connectors on the densitometer electronics unit
 - (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.
 - (4) If the level of fuel in the left main fuel tank is above the left densitometer (more than 2880 pounds (1310 kgs) of fuel in the left main tank), the left densitometer could be bad.
- D. Initial Evaluation
 - (1) Make sure there is 3146 pounds (1427 kg) of fuel in the left main tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D1, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D1 and the VERIFY procedure does not show D1, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the left main tank densitometer electronics unit, M596 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D1534 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion or water, replace the densitometer electronics unit (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY test in the BITE does not show D1, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D1, then continue.

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- (2) Do these resistance checks find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
 - (a) Remove the left main tank densitometer electronics unit, M596 (AMM 28-41-03/401).
 - (b) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (c) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (d) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (e) If the fault code D1 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
 - (f) Install the left main tank densitometer electronics unit, M596 again (AMM 28-41-03/401).
 - (g) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY test in the BITE does not show D1, the system is OK.
 - 2) If VERIFY test in the BITE continues to show D1, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the left main densitometer:
 - (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D1534 on the left densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D1534.
 - (d) Connect connector D1354 to the left main densitometer again.

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- (e) Use a multimeter to do a check for these voltages on these pins on the processor connector D2706A with respect to chassis ground:

Pin	Voltage
G1	100-200 millivolts dc
H1	5.0-6.0 volts dc
G2	100-200 millivolts dc
H2	5.0-6.0 volts dc

- (f) If there is a problem with the densitometer wiring, do these steps:
- 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).
 - 4) If the VERIFY procedure in the BITE test does not show the fault code D1, then the system is OK.
 - 5) If the VERIFY procedure in the BITE test continues to show D1, then continue.
- (g) If there is not a problem with the densitometer wiring, then continue.
- (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
- (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If the VERIFY procedure in the BITE does not show D1, the system is OK.
10. AIRPLANES WITH PROCESSORS S345T002-48, -49, OR -61;
Table 112 - Single Fault Code D1

NOTE: This procedure is for the Left Main Densitometer Electronics Unit - Fault Isolation.

- A. Fault Code
- (1) D1 (Densitometer electronics unit for the left main tank).
- B. Possible Flight Compartment Indication
- (1) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
- (1) Water or corrosion at the J1 connector on the densitometer emitter.
 - (2) If the level of fuel in the left main fuel tank is above the densitometer (more than 2880 pounds (1300 kg) in the left main tank), the left densitometer electronics unit could be bad.
- D. Initial Evaluation
- (1) Make sure there is 3146 pounds (1427 kg) of fuel in the left main tank.

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- (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D1, do the fault isolation procedure below.
 - (b) If the BIT test in the BITE shows D1 and the VERIFY procedure does not show D1, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the left main tank densitometer electronics unit, M596 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D1534 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY procedure in the BITE does not show D1, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D1, then continue.
- (2) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If the VERIFY procedure in the BITE does not show D1, the system is OK.

11. AIRPLANES WITH PROCESSORS S345T002-41, -42, -43, -46, -47, OR -60;
Table 113 - Single Fault Code D2

NOTE: This procedure is for the Right Auxiliary Densitometer - Fault Isolation.

A. Fault Code

- (1) D2 (Densitometer for the auxiliary tank).

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE

C. Possible Cause

- (1) Water or corrosion at the J1 connector on the densitometer emitter.
- (2) Water or corrosion at the J1 or J2 connectors on the densitometer electronics unit.
- (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.

D. Initial Evaluation

- (1) Do these steps to do a check for a leak in the fuel retention system:
 - (a) Do the RESET procedure in the Fuel Quantity BITE test (Table 101).
 - (b) Remove fuel from the center auxiliary tank until there is less than 5000 pounds (2300 kilograms) in the center auxiliary tank.

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- (c) Do the BIT procedure in the Fuel Quantity BITE test (Table 101).
 - 1) If the fault code D2 shows, then do the fault isolation below.
 - 2) If the fault code D2 does not show, then continue.
- (d) Add fuel to the center auxiliary tank to a quantity of more than 10,000 pounds (4600 kg) but less than 15,000 pounds (6800 kg).
- (e) Wait for 30 minutes after you close the auxiliary tank fueling valves.
- (f) Do the BIT procedure in the Fuel Quantity BITE test to do a check of for the D2 fault code.

NOTE: Use only the BIT switch. Do not use the RESET switch. You can monitor the EICAS maintenance page for the FUEL QTY BITE message to see when the D2 fault code was stored.

- 1) If there is no D2 fault code, the densitometer retention system does not have a leak.
 - 2) If there is a D2 fault code, add fuel to the center auxiliary tank until it contains a minimum of 40,000 pounds (18,200 kg).
 - 3) While you add fuel or immediately after you add the fuel push the RESET switch on the processor to clear the stored faults.
- (g) Wait for 30 minutes after you close the center auxiliary tank fueling valves.
 - (h) Do the BIT procedure in the Fuel Quantity BITE test to do a check for a D2 fault code.

NOTE: Use only the BIT procedure. Do not do the RESET procedure.

- 1) If the fault D2 is not found, the densitometer retention system has a leak.
 - a) Do the steps in the Fault Isolation procedure to repair the leak.
 - 2) If a D2 fault code is found, then do the fault isolation procedure below.
- (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D2, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D2 and the VERIFY procedure does not show D2, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right auxiliary tank densitometer electronics unit, M720 (AMM 28-41-03/401).

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- (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D2820 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit, M720 (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If the VERIFY procedure in the BITE does not show D2, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D2, then continue.
- (2) Do these resistance checks to find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
- (a) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (b) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (c) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (d) If the fault code D2 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If the VERIFY procedure in the BITE does not show D2, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D2, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the right auxiliary densitometer:
- (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D2820 on the right auxiliary densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D2820.
 - (d) Connect connector D2820 to the right auxiliary densitometer again.

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- (e) Use a multimeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground:

Pin	Voltage
A10	100–200 millivolts dc
A11	5.0–6.0 volts dc
B10	100–200 millivolts dc
B11	5.0–6.0 volts dc

- (f) If there is a problem with the densitometer wiring, do these steps:
- 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).
 - a) If the VERIFY procedure in the BITE test does not show the fault code D2, then the system is OK.
 - b) If the VERIFY procedure in the BITE test continues to show D2, then continue.
- (g) If there is not a problem with the densitometer wiring, then continue.
- (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
- (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If VERIFY procedure in the BITE does not show D2, the system is OK.
- (5) Do these steps to repair a problem with the fuel retention system.
- (a) Do the fuel tank purging and entry procedure for the auxiliary tank (AMM 28-11-00/201).
 - (b) Get access to the densitometer in the right auxiliary fuel tank (AMM 28-41-03/401).
 - (c) Examine the fuel retention system for these problems (AMM 28-41-03/401):
 - 1) Leaky tubing
 - 2) Loose couplings
 - 3) O-ring seals that are missing or badly installed or damaged.
 - 4) A problem with the retention can.
 - (d) Repair the problems that you find.
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (f) If VERIFY procedure in the BITE does not show D2, the system is OK.

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12. AIRPLANES WITH PROCESSOR S345T002-48, -49, OR -61;
Table 114 - Single Fault Code D2

NOTE: This procedure is for the Right Auxiliary Densitometer Electronic Unit
- Fault Isolation.

- A. Fault Code
 - (1) D2 (densitometer electronics unit for the auxiliary tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE
- C. Possible Cause
 - (1) Water or corrosion at the J1 or J2 connectors on the densitometer electronics unit.
 - (2) If the level of fuel in the auxiliary fuel tank is above the densitometer (more than 6200 pounds (2800 kg)), the right auxiliary densitometer could be bad.
- D. Initial Evaluation
 - (1) Do these steps to do a check for a leak in the fuel retention system:
 - (a) Do the RESET procedure in the Fuel Quantity BITE test (Table 101).
 - (b) Remove fuel from the center auxiliary tank until there is less than 5000 pounds in the center auxiliary tank.
 - (c) Do the BIT procedure in the Fuel Quantity BITE test (Table 101).
 - 1) If the fault code D2 shows, then do the fault isolation below.
 - 2) If the fault code D2 does not show, then continue.
 - (d) Add fuel to the center auxiliary tank to a quantity of more than 10,000 pounds (4800 kgs) but less than 15,000 pounds (6800 kgs).
 - (e) Wait for 30 minutes after you close the auxiliary tank fueling valves.
 - (f) Do the BIT procedure in the Fuel Quantity BITE test to do a check of for the D2 fault code.

NOTE: Use only the BIT switch. Do not use the RESET switch. You can monitor the EICAS maintenance page for the FUEL QTY BITE message to see when the D2 fault code was stored.

- 1) If there is no D2 fault code, the densitometer retention system does not have a leak.
- 2) If there is a D2 fault code, add fuel to the center auxiliary tank until it contains a minimum of 40,000 pounds (18,200 kg).
- 3) While you add fuel or immediately after you add the fuel push the RESET switch on the processor to clear the stored faults.
- (g) Wait for 30 minutes after you close the center auxiliary tank fueling valves.

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- (h) Do the BIT procedure in the Fuel Quantity BITE test to do a check for a D2 fault code.

NOTE: Use only the BIT procedure. Do not do the RESET procedure.

- 1) If the fault D2 is not found, the densitometer retention system has a leak.
 - a) Do the steps in the Fault Isolation procedure to repair the leak.
 - 2) If a D2 fault code is found, then do the fault isolation procedure below.
- (2) Do the Fuel Quantity BITE test (Table 101).
- (a) If the VERIFY procedure in the BITE shows D2, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D2 and the VERIFY procedure does not show D2, there was an intermittent fault.
- E. Fault Isolation
- (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right auxiliary tank densitometer electronics unit, M720 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D2820 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the right main auxiliary densitometer electronics unit, M720 (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY procedure in the BITE does not show D2, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows the fault code D2, then continue.
 - (2) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If VERIFY procedure in the BITE does not show D2, the system is OK.
 - (3) Do these steps to repair a problem with the fuel retention system:
 - (a) Do the fuel tank purging and entry procedure for the auxiliary tank (AMM 28-11-00/201).
 - (b) Get access to the densitometer in the right auxiliary fuel tank (AMM 28-41-03/401).
 - (c) Examine the fuel retention system for these problems (AMM 28-41-03/401):
 - 1) Leaky tubing
 - 2) Loose couplings
 - 3) O-ring seals that are missing or badly installed or damaged.
 - 4) A problem with the retention can.

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- (d) Repair the problems that you find.
- (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (f) If VERIFY procedure in the BITE does not show D2, the system is OK.

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Table 115 - Single Fault Code D3

NOTE: This procedure is for the Right Main Densitometer - Fault Isolation.

A. Fault Code

- (1) D3 (densitometer for the right main tank).

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

- (1) Water or corrosion at the J1 connector on the densitometer emitter.
- (2) Water or corrosion at the J1 or J2 connectors on the densitometer electronics unit.
- (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.
- (4) If the level of fuel in the right main fuel tank is above the densitometer (more than 2800 pounds (1310 kgs) of fuel in the right main fuel tank), the right densitometer could be bad.

D. Initial Evaluation

- (1) Make sure there is a minimum of 3146 pounds (1427 kg) of fuel in the right main tank.
- (2) Do the Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D3, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D3 and the VERIFY procedure does not show D3, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right main tank densitometer electronics unit, M597 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D1536 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit, M597 (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY procedure in the BITE does not show D3, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D3, then continue.

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- (2) Do these resistance checks to find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
- (a) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (b) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (c) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (d) If the fault code D3 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY procedure in the BITE does not show D3, the system is OK.
 - 2) If the VERIFY procedure in the BITE test continues to show D3, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the right main densitometer:
- (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D1536 on the right densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D1536.
 - (d) Connect connector D1536 to the right main densitometer again.
 - (e) Use a multimeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground:

Pin	Voltage
G1	100-200 millivolts dc
H1	5.0-6.0 volts dc
G2	100-200 millivolts dc
H2	5.0-6.0 volts dc

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- (f) If there is a problem with the densitometer wiring, do these steps:
 - 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).
 - a) If the VERIFY procedure in the BITE test does not show the fault code D3, then the system is OK.
 - b) If the VERIFY procedure in the BITE test continues to show D3, then continue.
 - (g) If there is not a problem with the densitometer wiring, then continue.
 - (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If VERIFY procedure in the BITE does not show D3, the system is OK.
14. AIRPLANES WITH PROCESSORS S345T002-48, -49, OR -61;
Table 116 - Single Fault Code D3

NOTE: This procedure is for the Right Main Densitometer - Fault Isolation.

- A. Fault Code
 - (1) D3 (densitometer electronics unit for the right main tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE
- C. Possible Cause
 - (1) Water or corrosion at the J1 or J2 connectors on the densitometer electronics unit
 - (2) If the level of fuel in the right main tank is above the right main densitometer (more than 2880 pounds (1310 kg)), the right main densitometer could be bad.
- D. Initial Evaluation
 - (1) Make sure there is a minimum of 3146 pounds (1427 kg) of fuel in the right main tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D3, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D3 and the VERIFY procedure does not show D3, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right main tank densitometer electronics unit, M597 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter and the J1 and J2 connectors on the densitometer electronics unit for water or corrosion.
 - (c) If there is corrosion, clean the connector (SWPM 20-60-01). If there is water, clean and dry the connector as necessary.
 - (d) If there is no corrosion, replace the right main tank densitometer electronics unit, M597 again (AMM 28-41-03/401).

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- (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY procedure in the BITE does not show D3, the system is OK.
 - 2) If the VERIFY procedure in the BITE shows D3, then continue.
- (2) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If VERIFY procedure in the BITE does not show D3, the system is OK.

15. Table 117 - Single Fault Code D4

NOTE: This procedure is for the Left Main Densitometer - Fault Isolation.

- A. Fault Code
 - (1) D4 (densitometer emitter for the left main tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE
- C. Possible Cause
 - (1) Water or corrosion at the J1 connector on the densitometer emitter.
 - (2) Water or corrosion at the J1 connector on the densitometer electronics unit.
 - (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY test in the BITE shows D4, do the fault isolation procedure below.
 - (b) If the BIT test in the BITE shows D4 and the VERIFY test does not show D4, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the left main tank densitometer electronics unit, M596 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D1534 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit, M596 (AMM 28-41-03/401).
 - (2) Do these resistance checks find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
 - (a) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).

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- (b) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
- (c) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
- (d) If the fault code D4 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
- (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY test in the BITE does not show D4, the system is OK.
 - 2) If the VERIFY procedure in the BITE continues to show D4, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the left main densitometer:
 - (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D1534 on the left densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D1534.
 - (d) Connect connector D1354 to the left main densitometer again.
 - (e) Use a multimeter to do a check for these voltages on these pins on the processor connector D2706A with respect to chassis ground:

Pin	Voltage
G1	100-200 millivolts dc
H1	5.0-6.0 volts dc
G2	100-200 millivolts dc
H2	5.0-6.0 volts dc

- (f) If there is a problem with the densitometer wiring, do these steps:
 - 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).
 - 4) If the VERIFY procedure in the BITE test does not show the fault code D4, then the system is OK.

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- 5) If the VERIFY procedure in the BITE test continues to show D4, then continue.
- (g) If there are no problems with the densitometer wiring, then continue.
- (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If the VERIFY procedure in the BITE does not show D4, the system is OK.

16. Table 118 - Single Fault Code D5

NOTE: This procedure is for the Right Auxiliary Densitometer - Fault Isolation.

- A. Fault Code
 - (1) D5 (densitometer emitter for the auxiliary tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) Water or corrosion at the J1 connector on the densitometer emitter.
 - (2) Water or corrosion at the J1 connector on the densitometer electronics unit.
 - (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D5, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D5 and the VERIFY procedure does not show D5, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right auxiliary tank densitometer electronics unit, M720 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D2820 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit, M720 (AMM 28-41-03/401).
 - (2) Do these resistance checks find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
 - (a) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).

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- (b) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
- (c) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
- (d) If the fault code D5 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
- (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If the VERIFY procedure in the BITE does not show D5, the system is OK.
 - 2) If the VERIFY procedure in the BITE continues to show D5, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the right auxiliary densitometer:
 - (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D2820 on the right auxiliary densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D2820.
 - (d) Connect connector D2820 to the right auxiliary densitometer again.
 - (e) Use a multimeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground:

Pin	Voltage
A10	100-200 millivolts dc
A11	5.0-6.0 volts dc
B10	100-200 millivolts dc
B11	5.0-6.0 volts dc

- (f) If there is a problem with the densitometer wiring, do these steps:
 - 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).

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- 4) If the VERIFY procedure in the BITE test does not show the fault code D5, then the system is OK.
- 5) If the VERIFY procedure in the BITE test continues to show D5, then continue.
- (g) If there is no problem with the densitometer out-of-tank wiring, then continue.
- (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If VERIFY procedure in the BITE does not show D5, the system is OK.

17. Table 119 - Single Fault Code D6

NOTE: This procedure is for the Right Main Densitometer Emitter - Fault Isolation.

- A. Fault Code
 - (1) D6 (densitometer emitter for the right main tank).
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) Water or corrosion at the J1 connector on the densitometer emitter.
 - (2) Water or corrosion at the J1 connector on the densitometer electronics unit.
 - (3) The fuel leak detector switch in the emitter has found a fuel leak and has transmitted that data to the fuel quantity processor unit.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D6, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D6 and the VERIFY procedure does not show D6, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to do a check of the connectors on the densitometer electronics unit and the emitter for corrosion:
 - (a) Remove the right main tank densitometer electronics unit, M597 (AMM 28-41-03/401).
 - (b) Look at the J1 connector on the densitometer emitter, the J1 and J2 connectors on the densitometer electronics unit, and the D1536 connector for the densitometer out-of-tank wiring for water or corrosion.
 - (c) If there is corrosion, clean the connectors (SWPM 20-60-01). If there is water, clean and dry the connectors as necessary.
 - (d) If there is no corrosion, replace the densitometer electronics unit, M597 (AMM 28-41-03/401).
 - (e) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1) If VERIFY test in the BITE does not show D6, the system is OK.
 - 2) If VERIFY test in the BITE shows D6, then continue.

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- (2) Do these resistance checks find out the position of the fuel leak detector switch (no special training is necessary to do these checks):
- (a) Use a multimeter to measure the resistance from pin 3 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance is more than 20.0 ohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (b) Use a multimeter to measure the resistance between pin 2 of the J1 connector on the densitometer emitter and the emitter chassis.
 - 1) If the resistance measures less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (c) Use a multimeter to measure the resistance between pins 2 and 3 of the J1 connector on the densitometer emitter.
 - 1) If the resistance is less than 500 kilohms, make a written record of the value. (It is possible that the leak detector switch has found a leak).
 - (d) If the fault code D6 is shown on the FQPU and one or more of the resistance checks were not satisfactory, replace the densitometer emitter (AMM 28-41-03/401).
 - (e) Do this task: Fuel Quantity BITE Test (Table 101).
 - 1) If the VERIFY procedure in the BITE does not show D6, the system is OK.
 - 2) If the VERIFY procedure in the BITE test continues to show D6, then continue.
- (3) Do these steps to do a check of the out-of-tank wiring for the right main densitometer:
- (a) Remove the fuel quantity processor unit from the E2-4 shelf (AMM 28-41-08/401).
 - (b) Disconnect connector D1536 on the right densitometer electronics unit.
 - (c) Use a multimeter to do a check for 28 volts dc from pin 5 (+28 Vdc) to pin 8 (ground) on connector D1536.
 - (d) Connect connector D1536 to the right main densitometer again.
 - (e) Use a digital voltmeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground:

Pin	Voltage
G1	100-200 millivolts dc
H1	5.0-6.0 volts dc
G2	100-200 millivolts dc
H2	5.0-6.0 volts dc

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- (f) If there is a problem with the densitometer wiring, do these steps:
 - 1) Repair or replace the applicable wiring.
 - 2) Install the fuel quantity processor unit again (AMM 28-41-08/401).
 - 3) Do this task: Fuel Quantity BITE Test (Table 101).
 - 4) If the VERIFY procedure in the BITE test does not show the fault code D6, then the system is OK.
 - 5) If the VERIFY procedure in the BITE test continues to show D6, then continue.
- (4) Replace the fuel quantity processor unit (FQPU) (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (b) If the VERIFY procedure in the BITE does not show D6, the system is OK.

18. Table 120 - Single Fault Code D7

NOTE: This procedure is for the Left Main Tank Densitometer Wiring - Fault Isolation.

- A. Fault Code
 - (1) D7 (left main tank densitometer wiring).
- B. Possible Flight Compartment Indication
 - (1) Fuel quantity indicator for the left main tank fluctuates from a known accurate value.
 - (2) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) One or more of the left main tank densitometer electronics unit signal wires (FAST+, FAST-, SLOW+, SLOW-) has failed.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D7, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D7 and the VERIFY procedure does not show D7, there was an intermittent fault.

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E. Fault Isolation

- (1) Do these steps to check the wiring between the densitometer electronics unit on the wing spar and the fuel quantity processor unit in the main equipment center.
 - (a) Use a digital voltmeter to do a check for these voltages on these pins on the processor connector D2706A with respect to chassis ground:

Pin	Voltage
G1	100–200 millivolts dc
H1	5.0–6.0 volts dc
G2	100–200 millivolts dc
H2	5.0–6.0 volts dc

- (b) Repair the wiring that does not have the correct voltage.
- (c) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (d) If the VERIFY procedure in the BITE does not show D7, the system is OK.

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19. Table 121 – Single Fault Code D8

NOTE: This procedure is for the Auxiliary Tank Densitometer Wiring – Fault Isolation.

- A. Fault Code
 - (1) D8 (auxiliary tank densitometer wiring).
- B. Possible Flight Compartment Indication
 - (1) Fuel quantity indicator for the auxiliary tank fluctuates from a known accurate value.
 - (2) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) One or more of the auxiliary tank densitometer electronics unit signal wires (FAST+, FAST-, SLOW+, SLOW-) has failed.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D8, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D8 and the VERIFY procedure does not show D8, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to check the wiring between the densitometer electronics unit on the wing spar and the fuel quantity processor unit in the main equipment center.
 - (a) Use a digital voltmeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground (WDM 28-41-23):

Pin	Voltage
A10	100–200 millivolts dc
A11	5.0–6.0 volts dc
B10	100–200 millivolts dc
B11	5.0–6.0 volts dc

- (b) Repair the wiring that does not have the correct voltage.
- (c) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (d) If the VERIFY procedure in the BITE does not show D8, the system is OK.

20. Table 122 – Single Fault Code D9

NOTE: This procedure is for the Right Main Tank Densitometer Wiring – Fault Isolation.

- A. Fault Code
 - (1) D9 (Right main tank densitometer wiring).

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- B. Possible Flight Compartment Indication
 - (1) Fuel quantity indicator for the right main tank fluctuates from a known accurate value.
 - (2) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) One or more of the right main tank densitometer electronics unit signal wires (FAST+, FAST-, SLOW+, SLOW-) has failed.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows D9, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows D9 and the VERIFY procedure does not show D9, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do these steps to check the wiring between the densitometer electronics unit on the wing spar and the fuel quantity processor unit in the main equipment center:
 - (a) Use a digital voltmeter to do a check for these voltages on these pins on the processor connector D2706B with respect to chassis ground (WDM 28-41-22):

Pin	Voltage
G1	100-200 millivolts dc
H1	5.0-6.0 volts dc
G2	100-200 millivolts dc
H2	5.0-6.0 volts dc

- (b) Repair the wiring that does not have the correct voltage.
- (c) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (d) If the VERIFY procedure in the BITE does not show D9, the system is OK.

21. Table 123 - Single Fault Codes E1, E2, E3, or E4

NOTE: This procedure is for the Fuel Quantity Indication - Fault Isolation.

- A. Fault Code
 - (1) Any one of these fuel quantity indication fault codes:
 - (a) E1 Left Main
 - (b) E2 Center
 - (c) E3 Right Main
 - (d) E4 Total
- B. Possible Flight Compartment Indication
 - (1) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
 - (1) The fuel quantity processor unit does not receive an acknowledge signal from the fuel quantity indicator.

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D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the fault code (E1-E4), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure does not show the fault code, there was an intermittent fault.

E. Fault Isolation

- (1) Do a check for damage to the pins of the connectors D2706A and D2706B on the fuel quantity processor unit, M121 (WDM 28-41-11).
 - (a) If you find problems, do these steps:
 - 1) Repair the problems that you find.
 - 2) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 3) If the VERIFY procedure does not show the fault code (E1-E4), then the system is OK.
 - 4) If the VERIFY procedure shows the fault code (E1-E4), then continue.
 - (b) If you do not find problems, then continue.
- (2) Do a check for damage to the pins of connectors D3898 and D3900 on the fuel quantity indicating module, M10054 (WDM 28-41-11).
 - (a) If you find problems, do these steps:
 - 1) Repair the problems that you find.
 - 2) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 3) If the VERIFY procedure does not show the fault code (E1-E4), then the system is OK.
 - 4) If the VERIFY procedure shows the fault code (E1-E4), then continue.
 - (b) If you do not find problems, then continue.
- (3) Replace the fuel quantity indicating module, M10054 (AMM 28-41-08/401).
 - (a) Do this procedure: Fuel Quantity BITE test (Table 101).
 - (b) If the VERIFY procedure does not show the fault code (E1-E4), then the system is OK.
 - (c) If the VERIFY procedure shows the fault code (E1-E4), then continue.
- (4) Do these steps to do a check of the wiring between the fuel quantity indicating module and the fuel quantity processor (WDM 28-41-11).
 - (a) Remove the fuel quantity indicating module, M10054 (AMM 28-41-04/401).
 - (b) Remove the fuel quantity processor unit, M121 (AMM 28-41-08/401).

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- (c) For fault code E1, do a continuity check and a check for a short to ground of these pins on the D3900 connector in the P5 pilots overhead panel and the connector D2706A in the E2-4 shelf:

D3900		D2706A
pin 10	-----	pin K1
pin 11	-----	pin J3
pin 12	-----	pin K3
pin 13	-----	pin J2
pin 24	-----	pin J1
pin 25	-----	pin J4
pin 29	-----	pin K2

- (d) For fault code E2, do a continuity check and a check for a short to ground of these pins on the D3900 connector in the P5 pilots overhead panel and the connector D2706B in the E2-4 shelf:

D3900		D2706B
pin 16	-----	pin J10
pin 18	-----	pin K10
pin 19	-----	pin K11
pin 20	-----	pin H11
pin 32	-----	pin J11
pin 38	-----	pin G11
pin 39	-----	pin H10

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- (e) For fault code E3, do a continuity check and a check for a short to ground of these pins on the D3898 connector in the P5 pilots overhead panel and the connector D2706B in the E2-4 shelf:

D3900		D2706B
pin 10	-----	pin K1
pin 11	-----	pin J3
pin 12	-----	pin K3
pin 13	-----	pin J2
pin 24	-----	pin J1
pin 25	-----	pin J4
pin 29	-----	pin K2

- (f) For fault code E4, do a continuity check and a check for a short to ground of these pins on the D3898 connector in the P5 pilots overhead panel and the connector D2706B in the E2-4 shelf:

D3898		D2706B
pin 16	-----	pin F7
pin 18	-----	pin F8
pin 19	-----	pin G8
pin 20	-----	pin G6
pin 32	-----	pin G7
pin 38	-----	pin H6
pin 39	-----	pin F6

- (g) Repair the problems that you find.
 (h) Install the fuel quantity indicating module, M10054, again (AMM 28-41-04/401).
 (i) Install the fuel quantity processor unit, M121, again (AMM 28-41-08/401).
 (j) Do this procedure: Fuel Quantity BITE Test (Table 101).

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(k) If the VERIFY procedure does not show the fault code (E1-E4), then the system is OK.

22. Table 124 - Single Fault Codes 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14

NOTE: This procedure is for the Left Main Tank Unit - Fault Isolation.

A. Fault Code

(1) One of the tank units in the left main tank:

- (a) 01 (Tank unit No. 1)
- (b) 02 (Tank unit No. 2)
- (c) 03 (Tank unit No. 3)
- (d) 04 (Tank unit No. 4)
- (e) 05 (Tank unit No. 5)
- (f) 06 (Tank unit No. 6)
- (g) 07 (Tank unit No. 7)
- (h) 08 (Tank unit No. 8)
- (i) 09 (Tank unit No. 9)
- (j) 10 (Tank unit No. 10)
- (k) 11 (Tank unit No. 11)
- (l) 12 (Tank unit No. 12)
- (m) 13 (Tank unit No. 13)
- (n) 14 (Tank unit No. 14)

B. Possible Flight Compartment Indication

(1) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

(1) The tank unit resistance is too low for the applicable tank unit.

D. Initial Evaluation

(1) Do the Fuel Quantity BITE test (Table 101).

- (a) If the VERIFY procedure in the BITE shows the fault code, do the fault isolation procedure below.
- (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure does not show the fault code, there was an intermittent fault.

E. Fault Isolation

(1) Do these steps to do a check for water in the fuel:

- (a) Get a sample of fuel at the left main fuel tank sump (AMM 12-11-03/301).
- (b) Add one or two drops of water soluble food coloring to the fuel sample.

NOTE: If there is water contamination of the fuel sample, the water in the fuel sample will be identified by the food coloring.

- 1) If there is water contamination of the fuel sample, continue to get samples of fuel until no water is identified by the food coloring (AMM 12-11-03/301).
 - a) Do this procedure: Fuel Quantity BITE Test (Table 101).

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1. If the VERIFY procedure in the BITE does not show the fault code, the system is OK.
 2. If the VERIFY procedure in the BITE shows the fault code, then continue.
- 2) If there is no water contamination of the fuel sample, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the left main tank (AMM 28-41-00/501) to find problems with the in-tank harness.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are no problems with the in-tank harness, replace the applicable section of the out-of-tank wiring.

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault code, then the system is OK.
 - e) If the VERIFY procedure in the BITE shows the fault code, then continue.
- (b) If the insulation resistance test does not show problems, then continue.
- (3) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
- (a) Do an inspection of the tank unit and the adjacent wiring for these problems:
- 1) Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - 2) Make sure there are no brackets that are bent or have other problems.
 - 3) Make sure there is no unwanted material in the tank unit.
 - 4) Make sure there are no loose terminal connections at the tank unit.
 - 5) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).

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- (b) If there are problems with the tank unit or the adjacent wiring, repair the problems.
- (c) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (d) If the VERIFY procedure in the BITE does not show the fault code, the system is OK.

23. Table 125 – Single Fault Codes 21, 22, 23, 24, 25, 26, 27, 28, or 29

NOTE: This procedure is for the Auxiliary Tank Unit – Fault Isolation.

A. Fault Code

(1) One of the tank units in the auxiliary tank:

- (a) 21 (L Aux Unit No. 1)
- (b) 22 (L Aux Unit No. 2)
- (c) 23 (L Aux Unit No. 3)
- (d) 24 (L Aux Unit No. 4)
- (e) 25 (R Aux Unit No. 1)
- (f) 26 (R Aux Unit No. 2)
- (g) 27 (R Aux Unit No. 3)
- (h) 28 (R Aux Unit No. 4)
- (i) 29 (L Aux Unit No. 5)

B. Possible Flight Compartment Indication

(1) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

(1) The tank unit resistance is too low for applicable tank unit.

D. Initial Evaluation

(1) Do the Fuel Quantity BITE test (Table 101).

- (a) If the VERIFY procedure in the BITE shows the fault code, do the fault isolation procedure below.
- (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure does not show the fault code, there was an intermittent fault.

E. Fault Isolation

(1) Do these steps to do a check for water in the fuel:

- (a) Get a sample of fuel at the auxiliary fuel tank sump (AMM 12-11-03/301).
- (b) Add one or two drops of water soluble food coloring to the fuel sample.

NOTE: If there is water contamination of the fuel sample, the water in the fuel sample will be identified by the food coloring.

- 1) If there is water contamination of the fuel sample, continue to get samples of fuel until no water is identified by the food coloring (AMM 12-11-03/301).
 - a) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - 1. If the VERIFY procedure in the BITE does not show the fault code, the system is OK.
 - 2. If the VERIFY procedure in the BITE shows the fault code, then continue.

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- 2) If there is no water contamination of the fuel sample, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the tank shown by the fault code (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the left and right auxiliary tank (AMM 28-41-00/501) to find a problem with one of the in-tank wire harnesses.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are no problems with the in-tank harness, replace the applicable section of the out-of-tank wiring.

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault code, then the system is OK.
 - e) If the VERIFY procedure in the BITE shows the fault code, then continue.
- (b) If the insulation resistance test does not show problems, then continue.
- (3) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
- (a) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - 1) Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - 2) Make sure there are no brackets that are bent or have other problems.
 - 3) Make sure there is no unwanted material in the tank unit.
 - 4) Make sure there are no loose terminal connections at the tank unit.
 - 5) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - (b) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - (c) Do this procedure: Fuel Quantity BITE Test (Table 101).

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- (d) If the VERIFY procedure in the BITE does not show the fault code, the system is OK.
24. Table 126 – Single Fault Codes 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44

NOTE: This procedure is for the Right Main Tank Unit – Fault Isolation.

A. Fault Code

- (1) One of the tank units in the left main tank:
- (a) 31 (Tank Unit No. 1)
 - (b) 32 (Tank Unit No. 2)
 - (c) 33 (Tank Unit No. 3)
 - (d) 34 (Tank Unit No. 4)
 - (e) 35 (Tank Unit No. 5)
 - (f) 36 (Tank Unit No. 6)
 - (g) 37 (Tank Unit No. 7)
 - (h) 38 (Tank Unit No. 8)
 - (i) 39 (Tank Unit No. 9)
 - (j) 40 (Tank Unit No. 10)
 - (k) 41 (Tank Unit No. 11)
 - (l) 42 (Tank Unit No. 12)
 - (m) 43 (Tank Unit No. 13)
 - (n) 44 (Tank Unit No. 14)

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

- (1) The tank unit resistance is too low for applicable tank unit.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
- (a) If the VERIFY procedure in the BITE shows the fault code, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault code and the VERIFY procedure does not show the fault code, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check for water in the fuel:
- (a) Get a sample of fuel at the right main fuel tank sump (AMM 12-11-03/301).
 - (b) Add one or two drops of water soluble food coloring to the fuel sample.

NOTE: If there is water contamination of the fuel sample, the water in the fuel sample will be identified by the food coloring.

- (c) If there is water contamination of the fuel sample, continue to get samples of fuel until no water is identified by the food coloring (AMM 12-11-03/301).

- 1) Do this procedure: Fuel Quantity BITE Test (Table 101).
- a) If the VERIFY procedure in the BITE does not show the fault code, the system is OK.

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- b) If the VERIFY procedure test in the BITE shows the fault code, then continue.
- (d) If there is no water contamination of the fuel sample, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the tank shown by the fault code (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance" from the wing spar for the tank shown by the fault code (AMM 28-41-00/501) to find problems with the in-tank harness.
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are no problems with the in-tank harness, replace the applicable section of the out-of-tank wiring.

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
- d) If the VERIFY procedure does not show the fault code, then the system is OK.
- e) If the VERIFY procedure in the BITE shows the fault code, then continue.
- (b) If the insulation resistance test does not show problems, then continue.
- (3) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
 - (a) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - 1) Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2) Make sure there are no brackets that are bent or have other problems.
 - 3) Make sure there is no unwanted material in the tank unit.
 - 4) Make sure there are no loose terminal connections at the tank unit.
 - 5) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - (b) If there are problems with the tank unit or the adjacent wiring, repair the problems.

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- (c) Do this procedure: Fuel Quantity BITE Test (Table 101).
- (d) If the VERIFY procedure in the BITE does not show the fault code, the system is OK.

25. Table 127 – Single Fault Codes 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64

NOTE: This procedure is for the Left Main Tank Unit Wiring – Fault Isolation.

A. Fault Code

- (1) The wiring for one of the tank units in the left main tank:
 - (a) 51 (Tank Unit No. 1)
 - (b) 52 (Tank Unit No. 2)
 - (c) 53 (Tank Unit No. 3)
 - (d) 54 (Tank Unit No. 4)
 - (e) 55 (Tank Unit No. 5)
 - (f) 56 (Tank Unit No. 6)
 - (g) 57 (Tank Unit No. 7)
 - (h) 58 (Tank Unit No. 8)
 - (i) 59 (Tank Unit No. 9)
 - (j) 60 (Tank Unit No. 10)
 - (k) 61 (Tank Unit No. 11)
 - (l) 62 (Tank Unit No. 12)
 - (m) 63 (Tank Unit No. 13)
 - (n) 64 (Tank Unit No. 14)

B. Possible Flight Compartment Indication

- (1) Left main tank fuel quantity indicator and the total fuel quantity indicator are blank.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

- (1) The capacitance for the applicable tank unit is out of the correct range.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure (51-64), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows a single fault code (51-64), and the VERIFY procedure does not show that fault code, then there was an intermittent fault.

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E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit shown by the fault code (51-64) (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault code (51-64), then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault code (51-64), then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show the fault code (51-64), then the system is OK.
 3. If the VERIFY procedure in the BITE does not show the fault code (51-64), then go to the "FQIS Insulation Resistance Test".
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault code (51-64), then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault code (51-64), then go to the "FQIS Insulation Resistance Test".
 - (b) If the E/E bay capacitance test does not show problems, then continue.

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- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance Test" at the wing spar for the left main tank (AMM 28-41-00/501).
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault code (51-64), then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE does not show the fault code (51-64), then the system is OK.

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26. Table 128 – Single Fault Codes 71, 72, 73, 74, or 79

NOTE: This procedure is for the Left Auxiliary Tank Unit Wiring – Fault Isolation.

A. Fault Code

- (1) The wiring for one of the tank units in the left auxiliary tank:
 - (a) 71 (L Aux Unit No. 1)
 - (b) 72 (L Aux Unit No. 2)
 - (c) 73 (L Aux Unit No. 3)
 - (d) 74 (L Aux Unit No. 4)
 - (e) 79 (L Aux Unit No. 5)

B. Possible Flight Compartment Indication

- (1) The center tank fuel quantity indicator and the total fuel quantity indicator are blank.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

- (1) The capacitance for the applicable tank unit is out of the correct range.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure (71–74, or 79), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows a single fault code (71–74, or 79), and the VERIFY procedure does not show that fault code, then there was an intermittent fault.

E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the auxiliary tank (AMM 28–41–00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28–41–00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit shown by the fault code (71–74, or 79) (AMM 28–41–01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.

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5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault code (71-74, or 79), then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault code (71-74, or 79), then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show the fault code (71-74, or 79), then the system is OK.
 3. If the VERIFY procedure in the BITE continues to show the fault code (71-74, or 79), then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-23).
- a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault code (71-74, or 79), then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault code (71-74, or 79), then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left and right auxiliary tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" at the wing spar for the left auxiliary tank harness (AMM 28-41-00/501).
 - a) If there are problems with the in-tank harness, repair or replace the left auxiliary in-tank harness (AMM 28-41-09/401).

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- b) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-23).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault code (71-74, or 79), then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE does not show the fault code (71-74, or 79), then the system is OK.

27. Table 129 - Single Fault Codes 75, 76, 77, or 78

NOTE: This procedure is for the Right Auxiliary Tank Unit Wiring - Fault Isolation.

A. Fault Code

- (1) The wiring for one of the tank units in the right auxiliary tank:
 - (a) 75 (R Aux Unit No. 1)
 - (b) 76 (R Aux Unit No. 2)
 - (c) 77 (R Aux Unit No. 3)
 - (d) 78 (R Aux Unit No. 4)

B. Possible Flight Compartment Indication

- (1) The center tank fuel quantity indicator and the total fuel quantity indicator are blank.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The capacitance for the applicable tank unit is out of the correct range.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure (75-78), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows a single fault code (75-78), and the VERIFY procedure does not show that fault code, then there was an intermittent fault.

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E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the auxiliary tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test shows problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit shown by the fault code (75-78) (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault code (75-78), then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault code (75-78), then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show the fault code (75-78), then the system is OK.
 3. If the VERIFY procedure in the BITE does not show the fault code (75-78), then go to the "FQIS Insulation Resistance Test".
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-23).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault code (75-78), then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault code (75-78), then go to the "FQIS Insulation Resistance Test".
 - (b) If the E/E bay capacitance test does not show problems, then continue.

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- (2) Do this task: "FQIS Insulation Resistance Test" from the E/E bay for the left and right auxiliary tank harness (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance" at the wing spar, for the right auxiliary tank harness (AMM 28-41-00/501).
 - a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-23).
 - b) If there are problems with the in-tank harness, repair or replace the right auxiliary in-tank harness (AMM 28-41-09/401).
 - c) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-23).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault code (75-78), then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE does not show the fault code (75-78), then the system is OK.

28. Table 130 - Single Fault Codes 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94

NOTE: This procedure is for the Right Main Tank Unit Wiring - Fault Isolation.

A. Fault Code

- (1) The wiring for one of the tank units in the right main tank:
 - (a) 81 (Tank Unit No. 1)
 - (b) 82 (Tank Unit No. 2)
 - (c) 83 (Tank Unit No. 3)
 - (d) 84 (Tank Unit No. 4)
 - (e) 85 (Tank Unit No. 5)
 - (f) 86 (Tank Unit No. 6)

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- (g) 87 (Tank Unit No. 7)
 - (h) 88 (Tank Unit No. 8)
 - (i) 89 (Tank Unit No. 9)
 - (j) 90 (Tank Unit No. 10)
 - (k) 91 (Tank Unit No. 11)
 - (l) 92 (Tank Unit No. 12)
 - (m) 93 (Tank Unit No. 13)
 - (n) 94 (Tank Unit No. 14)
- B. Possible Flight Compartment Indication
- (1) The right main fuel quantity indicator and the total fuel quantity indicator are blank.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message: FUEL QTY BITE.
- C. Possible Cause
- (1) The capacitance for the applicable tank unit is out of the correct range.
- D. Initial Evaluation
- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure (81-94), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows a single fault code (81-94), and the VERIFY procedure does not show that fault code, then there was an intermittent fault.
- E. Fault Isolation
- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit shown by the fault code (81-94) (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.
 - 3. Make sure there is no unwanted material in the tank unit.
 - 4. Make sure there are no loose terminal connections at the tank unit.
 - 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.

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- d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault code (81-94), then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault code (81-94), then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show the fault code (81-94), then the system is OK.
 - 3. If the VERIFY procedure in the BITE does not show the fault code (81-94), then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-22).
- a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault code (81-94), then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault code (81-94), then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" from the E/E bay for the right main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance Test" at the wing spar, for the right main tank (AMM 28-41-00/501).
 - a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - b) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-22).

NOTE: You can do the insulation resistance test from the E/E bay again with the HI-Z bussing plug and the LO-Z connector disconnected to make sure the out-of-tank wiring has a problem.

- c) Do the Fuel Quantity BITE test (Table 101).
- d) If the VERIFY procedure does not show the fault code (81-94), then the system is OK.

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- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE does not show the fault code (81-94), then the system is OK.

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Table 131 - Multiple Fault Codes

NOTE: This procedure is for the Fuel Quantity Processor Unit - Fault Isolation.

- A. Fault Code
 - (1) A4 and B4 (fuel quantity processor unit).
- B. Possible Flight Compartment Indication

NOTE: If the indication for only a single tank goes blank, refer to Table 135 Left Main Tank, Table 136 Auxiliary Tank, or Table 137 Right Main Tank.

- (1) EICAS Status Message: FUEL QTY CHANNEL.
- (2) It is possible that the indicators for all tanks will go blank.
- (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) The fuel quantity processor unit has a problem.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure (A4 and B4), do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.
- E. Fault Isolation
 - (1) Replace the fuel quantity processor unit, M121 (AMM 28-41-08/401).
 - (2) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
 - (3) If the fault codes A4 and B4 do not show, then the system is OK.

30. Table 132 - Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank HI-Z Wiring - Fault Isolation.

- A. Fault Code
 - (1) C4 and any one or more of these codes:
 - (a) 51-64 (Left main HI-Z wiring)
- B. Possible Flight Compartment Indication
 - (1) The display for the left main tank and the total fuel quantity display go off.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message, FUEL QTY BITE.

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C. Possible Cause

- (1) There is a HI-Z circuit problem between the HI-Z bussing plug and the ARINC 600 connector on the fuel quantity processor unit.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault code seen in the BIT procedure, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.

E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) Look for capacitance values that are unstable or have fluctuations.
 - (b) If the E/E Bay capacitance test shows problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" for the left main tank (AMM 28-41-00/501).
 - 1) Look for capacitance values that are unstable or have fluctuations.
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - 3) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - (c) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do these steps to do a check of the left main tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the left main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity of the HI-Z and LO-Z wiring from the ARINC 600 connector to the HI-Z bussing plug and the LO-Z connector at the wing spar (WDM 28-41-21).
 - 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.

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- (c) Repair or replace the section of the out-of-tank wiring that has the problem.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left main tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
- (e) If the fault codes do not show, then the system is OK.

31. Table 133 - Multiple Fault Codes

NOTE: This procedure is for the Left or Right Auxiliary Tank HI-Z Wiring - Fault Isolation.

- A. Fault Code
 - (1) C5 and any one or more of these codes:
 - (a) 71-79 (left or right auxiliary HI-Z wiring)
- B. Possible Flight Compartment Indication
 - (1) The display for the center tank and the total fuel quantity display go off.
 - (2) EICAS Status Message, FUEL QTY IND.
 - (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) There is a HI-Z circuit problem between the HI-Z bussing plug and the ARINC 600 connector on the fuel quantity processor unit.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault codes seen in the BIT procedure, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the auxiliary tank (AMM 28-41-00/501).
 - (a) Look for capacitance values that are unstable or have fluctuations.
 - (b) If the E/E Bay capacitance test shows problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" for the auxiliary tank (AMM 28-41-00/501).
 - 1) Look for capacitance values that are unstable or have fluctuations.
 - 2) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).

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- 3) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-23).
- (c) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do these steps to do a check of the left and right auxiliary tank HI-Z wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left auxiliary tank (AMM 28-41-00/501) with the HI-Z bussing plug and the L0-Z connector disconnected

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right auxiliary tank (AMM 28-41-00/501) with the HI-Z bussing plug and the L0-Z connector disconnected

NOTE: This is a test of the out-of-tank wiring only.

- (c) Do a check for continuity of the HI-Z and L0-Z wiring from the ARINC 600 connector to the HI-Z bussing plugs and the L0-Z connectors at the wing spar (WDM 28-41-23).
 - 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.
- (d) Repair or replace the section of the out-of-tank wiring that has the problem.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left or right auxiliary tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (e) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
- (f) If the fault codes do not show, then the system is OK.

32. Table 134 - Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank HI-Z Wiring - Fault Isolation.

A. Fault Code

- (1) C6 and any one or more of these codes:
 - (a) 81-94 (right main HI-Z wiring).

B. Possible Flight Compartment Indication

- (1) The display for the right main tank and the total fuel quantity display go off.

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- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) There is a HI-Z circuit problem between the HI-Z bussing plug and the ARINC 600 connector on the fuel quantity processor unit.
- D. Initial Evaluation
 - (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault codes seen in the BIT procedure, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) Look for capacitance values that are unstable or have fluctuations.
 - (b) If the E/E Bay capacitance test shows problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" for the right main tank (AMM 28-41-00/501).
 - (c) Look for capacitance values that are unstable or have fluctuations.
 - 1) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-22).
 - 2) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - (d) If the E/E bay capacitance test does not show problems, then continue.
 - (2) Do these steps to do a check of the right main tank HI-Z wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the right main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the L0-Z connector disconnected

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity of the HI-Z and L0-Z wiring from the ARINC 600 connector to the HI-Z bussing plugs and the L0-Z connectors at the wing spar (WDM 28-41-22).
 - 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.

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- (c) Repair or replace the section of the out-of-tank wiring that has the problem.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the right main tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
 - (d) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
 - (e) If the fault codes do not show, then the system is OK.
33. AIRPLANES WITH PROCESSOR S345T002-48, -49, -61;
Table 135 - Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank HI-Z Wiring - Fault Isolation.

A. Fault Code

- (1) A4 and B4 and any one or more of these codes:

NOTE: It is possible that only fault code A4 and B4 will show. If this occurs along with the flight compartment indications shown below, continue with this isolation procedure.

- (a) C4 or 51-64 (left main HI-Z wiring).

B. Possible Flight Compartment Indication

- (1) The display for the left main tank and the total fuel quantity display go off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The HI-Z center conductor is shorted to the shield between the HI-Z bussing plug and the ARINC 600 connector, including the HI-Z bussing plug, on the fuel quantity processor unit.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault codes seen in the BIT procedure, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.

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E. Fault Isolation

- (1) Do these steps to do a check of the HI-Z left main tank wiring from the spar to the processor:
- (a) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity between these pins on connector D2706C in the E2-4 shelf and connector D1552 on the wing spar:

D2706C		D1552
pin 3	-----	pin 1
pin = 3	-----	pin = C1

- (c) Repair or replace the section of the HI-Z out-of-tank wiring that has the problem.
- 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left main tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
- (e) If the fault codes do not show, then the system is OK.

34. AIRPLANES WITH PROCESSOR S345T002-48, -49, -61;

Table 136 - Multiple Fault Codes

NOTE: This procedure is for the Auxiliary Tank HI-Z Wiring - Fault Isolation.

A. Fault Code

- (1) A4 and B4 and any one or more of these codes:

NOTE: It is possible that only fault code A4 and B4 will show. If this occurs along with the flight compartment indications shown below, continue with this isolation procedure.

- (a) C5, 71-79 (left or right auxiliary HI-Z wiring).

B. Possible Flight Compartment Indication

- (1) The display for the center aux tank and the total fuel quantity display go off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

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C. Possible Cause

- (1) The HI-Z center conductor is shorted to the shield between the HI-Z bussing plug and the ARINC 600 connector, including the HI-Z bussing plug, on the fuel quantity processor unit.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the same fault codes seen in the BIT procedure, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the HI-Z auxiliary tank wiring from the spar to the processor.
 - (a) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the auxiliary tank (AMM 28-41-00/501) with the HI-Z bussing plugs and the LO-Z connector disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity between these pins on connector D2706C in the E2-4 shelf and connector D2812 on the wing spar:

D2706C		D1552
pin 8	-----	pin 1
pin = C8	-----	pin = C1

- (c) Do a check for continuity between these pins on connector D2706C in the E2-4 shelf and connector D2814 on the wing spar:

D2706C		D2814
pin 7	-----	pin 1
pin = C7	-----	pin = C1

- (d) Repair or replace the section of the HI-Z out-of-tank wiring that has the problem.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left or right auxiliary tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.

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(e) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).

(f) If the fault codes do not show, then the system is OK.

35. AIRPLANES WITH PROCESSOR S345T002-48, -49, -61;

Table 137 - Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank HI-Z Wiring - Fault Isolation.

A. Fault Code

(1) A4 and B4 and any one or more of these codes:

NOTE: It is possible that only fault code A4 and B4 will show. If this occurs along with the flight compartment indications shown below, continue with this isolation procedure.

(a) C6, 81-94 (right main HI-Z wiring).

B. Possible Flight Compartment Indication

(1) The display for the right main tank and the total fuel quantity display go off.

(2) EICAS Status Message, FUEL QTY IND.

(3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

(1) The HI-Z center conductor is shorted to the shield between the HI-Z bussing plug and the ARINC 600 connector, including the HI-Z bussing plug, on the fuel quantity processor unit.

D. Initial Evaluation

(1) Do the Fuel Quantity BITE test (Table 101).

(a) If the VERIFY procedure in the BITE shows the same fault codes seen in the BIT procedure, do the fault isolation procedure below.

(b) If the BIT test in the BITE shows the fault codes, and the VERIFY procedure does not show those fault codes, then there was an intermittent fault.

E. Fault Isolation

(1) Do these steps to do a check of the right main HI-Z wiring from the spar to the processor:

(a) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector disconnected at the spar.

NOTE: This is a test of the out-of-tank wiring only.

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- (b) Do a check for continuity between these pins on connector D2706C in the E2-4 shelf and connector D1560 on the wing spar:

D2706C		D1560
pin 2	-----	pin 1
pin = 2	-----	pin = C1

- (c) Repair or replace the section of the HI-Z out-of-tank wiring that has the problem.
- 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the right main tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the VERIFY procedure in the Fuel Quantity BITE Test (Table 101).
- (e) If the fault codes do not show, then the system is OK.
36. AIRPLANES WITH PROCESSOR S345T002-48, -49, -61;
Table 138 - Multiple Fault Codes

NOTE: This procedure is for the Left or Right Main Tank Compensator Wiring - Fault Isolation.

- A. Fault Code
 (1) C4 and C6 (left or right main tank compensator wiring).
- B. Possible Flight Compartment Indication
 (1) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 (1) There is a LO-Z short to ground on the left or the right main tank compensator.
- D. Initial Evaluation
 (1) Make sure there is 3042 pounds (1380 kg) of fuel in the left main tank.
 (2) Do the Fuel Quantity BITE test (Table 101).
 (a) If the VERIFY procedure in the BITE shows C4 and C6, do the fault isolation procedure below.
 (b) If the BIT procedure in the BITE shows C4 and C6 and the VERIFY procedure does not show C4 and C6, there was an intermittent fault.

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E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left and right main tanks (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test shows problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, replace the compensator that has the problem (AMM 28-41-02/401).
 - a) Do the Fuel Quantity BITE test (Table 101).
 - b) If the VERIFY procedure does not show C4 and C6, then the system is OK.
 - c) If the VERIFY procedure in the BITE continues to show C4 and C6, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show C4 and C6, then the system is OK.
 3. If the VERIFY procedure in the BITE shows C4 and C6, then go to the "FQIS Insulation Resistance Test".
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show C4 and C6, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows C4 and C6, then go to the "FQIS Insulation Resistance Test".
 - (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank and the right main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left and the right main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

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- 2) If there are problems with one of these resistance or continuity tests, repair or replace the applicable wiring:
 - a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
 - b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure in the BITE shows C4 and C6, then continue.
 - e) If the VERIFY procedure does not show C4 and C6, then the system is OK.
 - (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show C4 and C6, then the system is OK.
37. AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47, OR -60;
Table 139 - Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank Compensator Wiring - Fault Isolation.

A. Fault Code

- (1) One of these combinations:
 - (a) A4, B4 and C4
 - (b) A4 and C4
 - (c) B4 and C4 (left main tank compensator wiring).

B. Possible Flight Compartment Indication

- (1) The right main tank and total fuel quantity indicator displays go off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There is a L0-Z short to ground at the left main tank compensator or the left main tank compensator wiring.

D. Initial Evaluation

- (1) Make sure there is 3042 pounds (1580 kg) of fuel in the left main tank.
- (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the fault codes, do the fault isolation procedure below.
 - (b) If the BIT test in the BITE shows the fault codes and the VERIFY test does not show the fault codes, there was an intermittent fault.

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E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the left main tank compensator (AMM 28-41-02/401).
 - b) Do an inspection of the left main tank compensator and the adjacent wiring for these problems:
 1. Make sure no parts of the compensator are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the compensator.
 4. Make sure there are no loose terminal connections at the compensator.
 5. Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
 - c) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure test does not show the fault codes, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show the fault codes, then the system is OK.
 3. If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
 - (b) If the E/E bay capacitance test does not show problems, then continue.

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- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- (b) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- 1) Do this task: "FQIS Insulation Resistance Test" at the wing spar, for the left main tank (AMM 28-41-00/501).
- 2) If there are problems with one of these resistance tests, repair or replace the applicable wiring:
- a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
- b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
- c) Do the Fuel Quantity BITE test (Table 101).
- d) If the VERIFY procedure in the BITE shows the fault codes, then continue.
- e) If the VERIFY procedure does not show the fault codes, then the system is OK.

- (c) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test (Table 101).
- 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

38. AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47, OR -60;
Table 140 - Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank Compensator Wiring - Fault Isolation.

A. Fault Code

- (1) One of these combinations right main tank compensator wiring:
- (a) A4, B4 and C6
- (b) A4 and C6.
- (c) B4 and C6.

B. Possible Flight Compartment Indication

- (1) The left main tank and total fuel quantity indicator displays go off.
- (2) EICAS Status Message, FUEL QTY IND.

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- (3) EICAS Maintenance Message, FUEL QTY BITE.
- C. Possible Cause
 - (1) There is a L0-Z short to ground at the right main tank compensator or the right main tank compensator wiring.
- D. Initial Evaluation
 - (1) Make sure there is 450 pounds (200 kg) of fuel in the right main tank.
 - (2) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY test in the BITE shows the fault codes, do the fault isolation procedure below.
 - (b) If the BIT test in the BITE shows the fault codes and the VERIFY test does not show the fault codes, there was an intermittent fault.
- E. Fault Isolation
 - (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the right main tank compensator (AMM 28-41-02/401).
 - b) Do an inspection of the right main tank compensator and the adjacent wiring for these problems:
 - 1. Make sure no parts of the compensator are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.
 - 3. Make sure there is no unwanted material in the compensator.
 - 4. Make sure there are no loose terminal connections at the compensator.
 - 5. Make sure there are no other problems with the wiring near the compensator (for example, a wire pinched under a compensator wire clamp).
 - c) If there are problems with the compensator or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show the fault codes, then the system is OK.

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3. If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - c) If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
 - 1) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- 2) Do this task: "FQIS Insulation Resistance Test" at the wing spar for the right main tank (AMM 28-41-00/501).
- 3) If there are problems with one of these resistance tests, repair or replace the applicable wiring:
 - a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
 - b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - c) Do the Fuel Quantity BITE Test (Table 101).
 - d) If the VERIFY procedure does not show the fault codes, then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

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39. AIRPLANES WITH PROCESSOR S345T002-41, -42, -43, -46, -47, OR -60;
Table 141 - Multiple Fault Codes

NOTE: This procedure is for the Left or Right Main Tank Unit No. 10 Wiring
- Fault Isolation.

A. Fault Code

- (1) One of these combinations (left or right main tank unit No. 10 wiring):
 - (a) A4, B4, 60 and 90.
 - (b) A4, 60 and 90.
 - (c) B4, 60 and 90.

B. Possible Flight Compartment Indication

- (1) The center tank and total fuel quantity indicator displays go off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There is a L0-Z short to ground at the left or right main tank unit No. 10 or the wiring for left or right main tank unit No. 10.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE shows the fault codes, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left and the right main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the tank unit that is out of tolerance (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).

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- c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show the fault codes, then the system is OK.
 - 3. If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
- a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - c) If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right and the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank and the right main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- 2) If there are problems with one of these resistance or continuity tests, repair or replace the applicable wiring:
- a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
 - b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - c) Do the Fuel Quantity BITE test (Table 101).

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- d) If the VERIFY procedure in the BITE continues to show the fault codes, then continue.
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.
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Table 142 - Multiple Fault Codes

NOTE: This procedure is for the Left or Right Main Tank Unit No. 11 Wiring - Fault Isolation.

A. Fault Code

- (1) One of these combinations (left or right main tank unit No. 11 wiring):
 - (a) A4, B4, 61, and 91
 - (b) A4, 61 and 91
 - (c) B4, 61 and 91

B. Possible Flight Compartment Indication

- (1) The center tank and total fuel quantity indicator displays go off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There is a L0-Z short to ground at the left or right main tank unit No. 11 or the wiring for left or right main tank unit No. 11.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE test (Table 101).
 - (a) If the VERIFY procedure in the BITE continues to show the fault codes, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right and the left main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit with the problem (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.

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- 2) If there are problems with one of these resistance tests, repair or replace the applicable wiring:
 - a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
 - b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - c) Do the Fuel Quantity BITE Test (Table 101).
 - d) If the VERIFY procedure does not show the fault codes, then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test.
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

41. Table 143 - Multiple Fault Codes

NOTE: This procedure is for the Center Tank Wiring - Fault Isolation.

A. Fault Code

- (1) These combinations of fault codes are not related to the densitometer or its wiring:
 - (a) D2 and C5 or,
 - (b) D2 and one or more of these tank unit wiring fault codes:
 - 1) 71-79 or,
 - (c) Two or more of wiring fault codes:
 - 1) C5, 71-79

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.
- (2) And one of these indications:
 - (a) After you push the FUEL QTY TEST switch, the fuel quantity indicator shows an incorrect high fuel quantity while the right main tank is empty or almost empty.
 - (b) The center tank and the total fuel quantity displays go off while the center tank is empty.
 - (c) The center tank and the total fuel quantity displays show fuel while the center tank is empty.

C. Possible Cause

- (1) The HI-Z shield circuit is open in the out-of-tank wiring harness. Some or all of the HI-Z shield wires in the circuit are damaged.
- (2) The stray capacitance caused by the tank wiring harness failure is more than the permitted capacitance limit.
- (3) The LO-Z circuit is open in the out-of-tank wiring harness for the tank unit(s) or compensator shown by the fault code(s).

D. Initial Evaluation

- (1) Push and release the FUEL QTY TEST switch on the P6 panel.
- (2) Look at the fuel quantity indicators to make sure that the center tank has high fuel quantity indication.
- (3) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.

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- (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Do this task: "E/E Bay Dry Capacitance Test", for the left and right auxiliary tank (AMM 28-41-00/501).

NOTE: This fault can be caused by the wiring for the left or the right auxiliary tank wiring. The tank unit fault code can show the opposite side from the correct location of the fault.

- (a) Look for low capacitance values.
- (b) If the E/E Bay capacitance test shows problems, then do this task: "Wing Spar Dry Capacitance Test" for the auxiliary tank (AMM 28-41-00/501).
 - 1) Look for low capacitance values.
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-23).
 - 3) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
- (c) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the left and the right auxiliary tank (AMM 28-41-00/501) at the E/E bay with the HI-Z bussing plug and the L0-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity of the HI-Z and L0-Z wiring from the ARINC 600 connector to the HI-Z bussing plugs and the L0-Z connectors at the wing spar (WDM 28-41-23).
 - 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.
- (c) Repair the problems that you find.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left or right auxiliary tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the Fuel Quantity BITE Test (Table 101).

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- (e) If the VERIFY procedure in the BITE test shows no fault codes, then the system is OK.

42. Table 144 - Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank Wiring - Fault Isolation.

A. Fault Code

- (1) Two or more of these wiring fault codes:
 - (a) C4, 51-64.

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.
- (2) And one of these indications:
 - (a) After you push the FUEL QTY TEST switch, the fuel quantity indicator shows an incorrect high fuel quantity while the right main tank is empty or almost empty.
 - (b) The left main tank and the total fuel quantity display go off while the left main tank is empty.
 - (c) The left main tank and the total fuel quantity display shows fuel while the left main fuel tank is empty.

C. Possible Cause

- (1) The HI-Z shield circuit is open in the out-of-tank wiring harness. Some or all of the HI-Z shield wires in the circuit are damaged.
- (2) The stray capacitance caused by the tank wiring harness failure is more than the permitted capacitance limit.
- (3) The LO-Z circuit is open in the out-of-tank wiring harness for the tank unit(s) or compensator shown by the fault code(s).

D. Initial Evaluation

- (1) Push and release the FUEL QTY TEST switch on the P6 panel.
- (2) Look at the fuel quantity indicators to make sure that the left main tank has high fuel quantity indication.
- (3) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Do this task: "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) Look for low capacitance values.
 - (b) If the E/E Bay capacitance test shows problems, then do this task: "Wing Spar Dry Capacitance Test" for the left main tank (AMM 28-41-00/501).
 - 1) Look for low capacitance values.
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - 3) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - (c) If the E/E bay capacitance test does not show problems, then continue.

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- (2) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
- (a) Do this task: "FQIS Insulation Resistance Test" for the left main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity of the HI-Z and LO-Z wiring from the ARINC 600 connector to the HI-Z bussing plugs and the LO-Z connectors at the wing spar (WDM 28-41-21).
- 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.
- (c) Repair the problems that you find.
- 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the left or right auxiliary tank bussing plug to the E2-4 shelf.
 - 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the Fuel Quantity BITE Test (Table 101).
- (e) If the VERIFY procedure in the BITE test shows no fault codes, then the system is OK.

43. Table 145 - Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank Wiring - Fault Isolation.

A. Fault Code

- (1) Two or more of these wiring fault codes:
- (a) C6, 81-94

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.
- (2) And one of these indications:
- (a) After you push the FUEL QTY TEST switch, the fuel quantity indicator shows an incorrect high fuel quantity while the right main tank is empty or almost empty.
 - (b) The right main tank and the total fuel quantity display go off while the right main tank is empty.
 - (c) The right main tank and the total fuel quantity display shows fuel while the right main fuel tank is empty.

C. Possible Cause

- (1) The HI-Z shield circuit is open in the out-of-tank wiring harness. Some or all of the HI-Z shield wires in the circuit are damaged.
- (2) The stray capacitance caused by the tank wiring harness failure is more than the permitted capacitance limit.

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- (3) The L0-Z circuit is open in the out-of-tank wiring harness for the tank unit(s) or compensator shown by the fault code(s).

D. Initial Evaluation

- (1) Push and release the FUEL QTY TEST switch on the P6 panel.
- (2) Look at the fuel quantity indicators to make sure that the right main tank has high fuel quantity indication.
- (3) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Do this task: "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) Look for low capacitance values.
 - (b) If the E/E Bay capacitance test shows problems, then do this task: "Wing Spar Dry Capacitance Test" for the right main tank (AMM 28-41-00/501).
 - 1) Look for low capacitance values.
 - 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-22).
 - 3) If the wing spar capacitance test shows problems, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - (c) If the E/E bay capacitance test does not show problems, then continue.
- (2) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the right main tank (AMM 28-41-00/501) at the E/E bay with the HI-Z bussing plug and the L0-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Do a check for continuity of the HI-Z and L0-Z wiring from the ARINC 600 connector to the HI-Z bussing plugs and the L0-Z connectors at the wing spar (WDM 28-41-22).
 - 1) Make sure the resistance between each of these pairs of pins is less than two (2) ohms.
 - 2) If any resistance is more than two ohms, clean the connectors.
 - 3) If the resistance for the pins for the HI-Z shield is more than two (2) ohms, look for damage to the shield between these two pins.
- (c) Repair the problems that you find.
 - 1) Refer to SWPM 20-61-11 to repair or replace the HI-Z wiring and connectors from the right main tank bussing plug to the E2-4 shelf.

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- 2) Refer to SWPM 20-71-14 to repair or replace the ARINC 600 connector on the fuel quantity processor unit and the related wiring.
- (d) Do the Fuel Quantity BITE Test (Table 101).
- (e) If the VERIFY procedure in the BITE test shows no fault codes, then the system is OK.

44. Table 146 - Multiple Fault Codes

NOTE: This procedure is for the Connectors on the Fuel Quantity Indicating Module - Fault Isolation.

A. Fault Code

- (1) One of these combinations:
 - (a) E1 and E2,
 - (b) E3 and E4,
 - (c) E1, E2, E3, and E4.

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message: FUEL QTY BITE.

C. Possible Cause

- (1) One or more of the connectors on the fuel quantity indicating module is loose.

D. Initial Evaluation

- (1) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) For fault codes E1 and E2, make sure the connector D3900 is correctly attached to the fuel quantity indicating module, M10054 (WDM 28-41-11).
- (2) For fault codes E3 and E4, make sure the connector D3898 is correctly attached to the fuel quantity indicating module, M10054 (WDM 28-41-11).
- (3) For fault codes E1, E2, E3, and E4, make sure connectors D3900 and D3898 are correctly attached to the fuel quantity indicating module, M10054 (WDM 28-41-11).
- (4) Do the Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE does not show the fault code, then the system is OK.
 - (b) If the VERIFY procedure in the BITE test continues to show the fault codes, do these steps:
 - 1) Replace the fuel quantity processor unit, M121 (AMM 28-41-08/401).
 - 2) Do the Fuel Quantity BITE Test (Table 101).
 - 3) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

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45. Table 147 – Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank Unit Wiring – Fault Isolation.

A. Fault Code

- (1) One of these combinations:
- (a) 01 and 51 for Tank Unit No. 1.
 - (b) 02 and 52 for Tank Unit No. 2.
 - (c) 03 and 53 for Tank Unit No. 3.
 - (d) 04 and 54 for Tank Unit No. 4.
 - (e) 05 and 55 for Tank Unit No. 5.
 - (f) 06 and 56 for Tank Unit No. 6.
 - (g) 07 and 57 for Tank Unit No. 7.
 - (h) 08 and 58 for Tank Unit No. 8.
 - (i) 09 and 59 for Tank Unit No. 9.
 - (j) 10 and 60 for Tank Unit No. 10.
 - (k) 11 and 61 for Tank Unit No. 11.
 - (l) 12 and 62 for Tank Unit No. 12.
 - (m) 13 and 63 for Tank Unit No. 13.
 - (n) 14 and 64 for Tank Unit No. 14.

B. Possible Flight Compartment Indication

- (1) The left main tank indicator goes blank.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The indicated tank unit is bad.

D. Initial Evaluation

- (1) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
- (2) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - (a) Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - (b) Make sure there are no brackets that are bent or have other problems.
 - (c) Make sure there is no unwanted material in the tank unit.
 - (d) Make sure there are no loose terminal connections at the tank unit.
 - (e) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
- (3) If there are problems with the tank unit or the adjacent wiring, repair the problems.
- (4) Do the Fuel Quantity BITE Test (Table 101).

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- (5) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

46. Table 148 - Multiple Fault Codes

NOTE: This procedure is for the Auxiliary Tank Unit - Fault Isolation.

A. Fault Code

- (1) One of these combinations:
- (a) 21 and 71 (L Aux Tank Unit No. 1).
 - (b) 22 and 72 (L Aux Tank Unit No. 2).
 - (c) 23 and 73 (L Aux Tank Unit No. 3).
 - (d) 24 and 74 (L Aux Tank Unit No. 4).
 - (e) 25 and 75 (R Aux Tank Unit No. 1).
 - (f) 26 and 76 (R Aux Tank Unit No. 2).
 - (g) 27 and 77 (R Aux Tank Unit No. 3).
 - (h) 28 and 78 (R Aux Tank Unit No. 4).
 - (i) 29 and 79 (L Aux Tank Unit No. 5).

B. Possible Flight Compartment Indication

- (1) The center tank indicator goes blank.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The indicated tank unit is bad.

D. Initial Evaluation

- (1) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
- (2) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - (a) Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - (b) Make sure there are no brackets that are bent or have other problems.
 - (c) Make sure there is no unwanted material in the tank unit.
 - (d) Make sure there are no loose terminal connections at the tank unit.
 - (e) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
- (3) If there are problems with the tank unit or the adjacent wiring, repair the problems.
- (4) Do the Fuel Quantity BITE Test (Table 101).
- (5) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

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47. Table 149 – Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank Unit – Fault Isolation.

A. Fault Code

- (1) One of these combinations:
 - (a) 31 and 81 for Tank Unit No. 1.
 - (b) 32 and 82 for Tank Unit No. 2.
 - (c) 33 and 83 for Tank Unit No. 3.
 - (d) 34 and 84 for Tank Unit No. 4.
 - (e) 34 and 84 for Tank Unit No. 4.
 - (f) 35 and 85 for Tank Unit No. 5.
 - (g) 36 and 86 for Tank Unit No. 6.
 - (h) 37 and 87 for Tank Unit No. 7.
 - (i) 38 and 88 for Tank Unit No. 8.
 - (j) 39 and 89 for Tank Unit No. 9.
 - (k) 40 and 90 for Tank Unit No. 10.
 - (l) 41 and 91 for Tank Unit No. 11.
 - (m) 42 and 92 for Tank Unit No. 12.
 - (n) 43 and 93 for Tank Unit No. 13.
 - (o) 44 and 94 for Tank Unit No. 14.

B. Possible Flight Compartment Indication

- (1) The right main tank indicator goes off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) The indicated tank unit is bad.

D. Initial Evaluation

- (1) Do this procedure: Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure does not show the fault codes, the system is OK.
 - (b) If the VERIFY procedure continues to show the fault codes, then do the fault isolation procedure below.

E. Fault Isolation

- (1) Replace the tank unit shown by the fault code (AMM 28-41-01/401).
- (2) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - (a) Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - (b) Make sure there are no brackets that are bent or have other problems.
 - (c) Make sure there is no unwanted material in the tank unit.
 - (d) Make sure there are no loose terminal connections at the tank unit.
 - (e) Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
- (3) If there are problems with the tank unit or the adjacent wiring, repair the problems.
- (4) Do the Fuel Quantity BITE Test (Table 101).

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- (5) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

48. Table 150 - Multiple Fault Codes

NOTE: This procedure is for the Tank Unit Wiring - Fault Isolation.

A. Fault Code

- (1) One of these combinations:

- (a) 51, 71, and 81
- (b) 52, 72, and 82
- (c) 53, 73, and 83
- (d) 54, 74, and 84
- (e) 55, 75, and 85
- (f) 56, 76, and 86
- (g) 57, 77, and 87
- (h) 58, 78, and 88
- (i) 59, 79, and 89
- (j) 59, 89, and C5
- (k) 60, 90, and C5
- (l) 61 and 91
- (m) 62 and 92
- (n) 63 and 93
- (o) 64 and 94

B. Possible Flight Compartment Indication

- (1) EICAS Maintenance Message, FUEL QTY BITE.
- (2) All tanks and total qty on the fuel quantity indicator display go off. EICAS Status Message, FUEL QTY IND.

C. Possible Cause

- (1) There is a L0-Z short to ground on one of the tank units or compensators indicated by the fault codes.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE continues to show the fault codes, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

E. Fault Isolation

- (1) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right and the left main tank and the left and right auxiliary tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank unit with the problem (AMM 28-41-01/401).

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- b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 - 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 - 2. Make sure there are no brackets that are bent or have other problems.
 - 3. Make sure there is no unwanted material in the tank unit.
 - 4. Make sure there are no loose terminal connections at the tank unit.
 - 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show the fault codes, then the system is OK.
 - 3. If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
- a) Do the Fuel Quantity BITE Test (Table 101).
 - b) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - c) If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.

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- (2) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the right or the left main tank or the left or right auxiliary tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, do these steps:
- 1) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left and the right main tank and the left and right auxiliary tank (AMM 28-41-00/501) with the HI-Z bussing plugs and the L0-Z connectors at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- 2) If there are problems with one of these resistance or continuity tests, repair or replace the applicable wiring:
 - a) If there are problems with the out-of-tank wiring harness, replace the applicable section of out-of-tank harness (WDM 28-41-21).
 - b) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - c) Do the Fuel Quantity BITE test (Table 101).
 - d) If the VERIFY procedure does not show the fault codes, then the system is OK.

- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test.
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

49. Table 151 - Multiple Fault Codes

NOTE: This procedure is for the Left Main Tank Unit Wiring - Fault Isolation.

A. Fault Codes

- (1) Two or more of these wiring fault codes:
 - (a) 51 thru 64

B. Possible Flight Compartment Indication

- (1) The left main fuel quantity indicator goes off and the total qty indicator goes off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There are shorts in the L0-Z circuit.
- (2) There are bent connector pins in the L0-Z connector that are shorted together.

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D. Initial Evaluation

- (1) Do the Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE continues to show the fault codes, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" at the E/E bay for the left main tank (AMM 28-41-00/501) with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Repair the problems that you find.
- (c) Do the Fuel Quantity BITE Test (Table 101).
 - 1) If the fault codes do not show, then the system is OK.
 - 2) If the fault codes continue to show, then continue.
- (2) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the tank units indicated by the fault codes (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.

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- f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 - 1. Do the Fuel Quantity BITE Test (Table 101).
 - 2. If the VERIFY procedure does not show the fault codes, then the system is OK.
 - 3. If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, do these steps:
 - a) Do a check for bent pins in the L0-Z connector at the spar.
 - b) Do a check of the L0-Z connector and the L0-Z plug for contamination.
 - c) Clean the L0-Z connector and the L0-Z plug if it is necessary.
 - d) Do a check for indications that the wire bundle rubs against the airplane structure.
 - e) Repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-21).
 - f) Do the Fuel Quantity BITE Test (Table 101).
 - g) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - h) If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (3) Do this task: "FQIS Insulation Resistance Test" at the wing spar for the left main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If there are problems with the in-tank harness, repair or replace the in-tank harness (AMM 28-41-09/401).
 - 1) Do the Fuel Quantity BITE test (Table 101).
 - 2) If the VERIFY procedure does not show the fault codes, then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test.
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

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50. Table 152 – Multiple Fault Codes

NOTE: This procedure is for the Left or Right Auxiliary Tank Wiring – Fault Isolation.

A. Fault Code

- (1) Two or more of these wiring fault codes:
 - (a) 71 thru 79

B. Possible Flight Compartment Indication

- (1) The auxiliary fuel quantity indicator goes off. And the total qty indicator goes off.
- (2) EICAS Status Message, FUEL QTY IND.
- (3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There are shorts in the L0-Z circuit.
- (2) There are bent connector pins in the L0-Z connector that are shorted together.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE Test (Table 101).
 - (a) If the VERIFY procedure in the BITE continues to show the fault codes, do the fault isolation procedure below.
 - (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

E. Fault Isolation

- (1) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the left and right auxiliary tank (AMM 28-41-00/501) at the E/E bay with the HI-Z bussing plug and the L0-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Repair the problems that you find.
 - (c) Do the Fuel Quantity BITE Test (Table 101).
 - 1) If the fault codes do not show, then the system is OK.
 - 2) If the fault codes continue to show, then continue.
- (2) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the left and right auxiliary tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, then do these steps:
 - a) Replace the tank units indicated by the fault codes (AMM 28-41-02/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:

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1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
- c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
- d) Do the Fuel Quantity BITE test (Table 101).
- e) If the VERIFY procedure does not show the fault codes, then the system is OK.
- f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness that shows the problem (AMM 28-41-09/401).
- g) Do the Fuel Quantity BITE Test (Table 101).
- h) If the VERIFY procedure does not show the fault codes, then the system is OK.
- i) If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, then do these steps:
- a) Do a check for bent pins in the L0-Z connector at the spar.
 - b) Do a check of the L0-Z connector and the L0-Z plug for contamination.
 - c) Clean the L0-Z connector and the L0-Z plug if it is necessary.
 - d) Do a check for indications that the wire bundle rubs against the airplane structure.
 - e) Repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-23).
 - f) Do the Fuel Quantity BITE Test (Table 101).
 - g) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - h) If the VERIFY procedure in the BITE shows the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.

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- (3) Do this task: "FQIS Insulation Resistance Test" at the wing spar for the left and right auxiliary tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, replace the in-tank harness that shows the problems (AMM 28-41-09/401).
- 1) Do the Fuel Quantity BITE test (Table 101).
 - 2) If the VERIFY procedure does not show the fault code, then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
- 1) Do the Fuel Quantity BITE Test.
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

51. Table 153 - Multiple Fault Codes

NOTE: This procedure is for the Right Main Tank Unit Wiring - Fault Isolation.

A. Fault Code

- (1) Two or more of these wiring fault codes:
(a) 81 thru 94

B. Possible Flight Compartment Indication

- (1) The right main fuel quantity indicator goes off and the total qty indicator goes off.
(2) EICAS Status Message, FUEL QTY IND.
(3) EICAS Maintenance Message, FUEL QTY BITE.

C. Possible Cause

- (1) There are shorts in the L0-Z circuit.
(2) There are bent connector pins in the L0-Z connector that are shorted together.

D. Initial Evaluation

- (1) Do the Fuel Quantity BITE Test (Table 101).
- (a) If the VERIFY procedure in the BITE continues to show the fault codes, do the fault isolation procedure below.
- (b) If the BIT procedure in the BITE shows the fault codes and the VERIFY procedure does not show the fault codes, there was an intermittent fault.

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E. Fault Isolation

- (1) Do these steps to do a check of the out-of-tank wiring from the spar to the processor:
 - (a) Do this task: "FQIS Insulation Resistance Test" for the right main tank (AMM 28-41-00/501) at the E/E bay with the HI-Z bussing plug and the LO-Z connector at the spar disconnected.

NOTE: This is a test of the out-of-tank wiring only.

- (b) Repair the problems that you find.
- (c) Do the Fuel Quantity BITE Test (Table 101).
 - 1) If the fault codes do not show, then the system is OK.
 - 2) If the fault codes continue to show, then continue.
- (2) Do one of these tasks: "E/E Bay Wet Capacitance Test at Volumetric Shutoff", or "E/E Bay Dry Capacitance Test", for the right main tank (AMM 28-41-00/501).
 - (a) If the E/E Bay capacitance test show problems, then do one of these tasks: "Wing Spar Wet Capacitance Test at Volumetric Shutoff" or "Wing Spar Dry Capacitance Test" (AMM 28-41-00/501).
 - 1) If the Wing Spar Capacitance Test continues to show problems, do these steps:
 - a) Replace the tank units indicated by the fault codes (AMM 28-41-01/401).
 - b) Do an inspection of the tank unit and the adjacent wiring for these problems:
 1. Make sure no parts of the tank unit are in electrical contact with the airplane structure.
 2. Make sure there are no brackets that are bent or have other problems.
 3. Make sure there is no unwanted material in the tank unit.
 4. Make sure there are no loose terminal connections at the tank unit.
 5. Make sure there are no other problems with the wiring near the tank unit (for example, a wire pinched under a tank unit wire clamp).
 - c) If there are problems with the tank unit or the adjacent wiring, repair the problems.
 - d) Do the Fuel Quantity BITE test (Table 101).
 - e) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - f) If the VERIFY procedure in the BITE continues to show the fault codes, then repair or replace the in-tank wiring harness (AMM 28-41-09/401).
 1. Do the Fuel Quantity BITE Test (Table 101).
 2. If the VERIFY procedure does not show the fault codes, then the system is OK.

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3. If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- 2) If the wing spar capacitance test does not show problems, do these steps:
 - a) Do a check for bent pins in the L0-Z connector at the spar.
 - b) Do a check of the L0-Z connector and the L0-Z plug for contamination.
 - c) Clean the L0-Z connector and the L0-Z plug if it is necessary.
 - d) Do a check for indications that the wire bundle rubs against the airplane structure.
 - e) Repair or replace the applicable out-of-tank wiring between the FQPU and the wing spar (WDM 28-41-22).
 - f) Do the Fuel Quantity BITE Test (Table 101).
 - g) If the VERIFY procedure does not show the fault codes, then the system is OK.
 - h) If the VERIFY procedure in the BITE continues to show the fault codes, then go to the "FQIS Insulation Resistance Test".
- (b) If the E/E bay capacitance test does not show problems, then continue.
- (3) Do this task: "FQIS Insulation Resistance Test" at the wing spar for the right main tank (AMM 28-41-00/501).

NOTE: This test can help to isolate a fault caused by bad wiring or other wire faults which may not be hard faults. These faults can become hard faults if no corrective action is done.

- (a) If the insulation resistance test shows problems, repair or replace the in-tank harness (AMM 28-41-09/401).
 - 1) Do the Fuel Quantity BITE test (Table 101).
 - 2) If the VERIFY procedure does not show the fault code, then the system is OK.
- (b) If the insulation resistance test does not show problems, do these steps:
 - 1) Do the Fuel Quantity BITE Test (Table 101).
 - 2) If the VERIFY procedure in the BITE test does not show the fault codes, then the system is OK.

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FUEL QUANTITY INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
COMPENSATOR - L MAIN TANK, TS300	7	1	532BB, L FUEL TANK	28-41-02
COMPENSATOR - R AUX TANK, TS328	7	1	136KZ, AUX FUEL TANK	28-41-02
COMPENSATOR - R MAIN TANK, TS334	7	1	632BB, R FUEL TANK	28-41-02
CIRCUIT BREAKER - FUELING QTY, C1045		1	FLT COMPT, P6 6E4	*
CIRCUIT BREAKERS - FUEL QTY NO. 1, C1048		1	FLT COMPT, P11 11C34	*
FUEL QTY NO. 2, C1053		1	11M19	*
CIRCUIT BREAKER - FUEL QTY REFUEL, C1040		1	119AL, MAIN EQUIP CTR, P34 34L2	*
COMPUTERS - (FIM 31-41-00/101) EICAS L, M10181				
EICAS R, M10182				
DENSITOMETER - L MAIN TANK, M596	11	1	532BB, L FUEL TANK	28-41-03
DENSITOMETER - R AUX TANK, M720	11	1	136KZ, AUX FUEL TANK	28-41-03
DENSITOMETER - R MAIN TANK, M597	11	1	632, R FUEL TANK	28-41-03
HARNESS - DENSITOMETER L MAIN TANK, M1930	12	1	532BB, L FUEL TANK	28-41-09
HARNESS - DENSITOMETER R AUX TANK, M1937	12	1	631BB, AUX FUEL TANK	28-41-09
HARNESS - DENSITOMETER R MAIN TANK, M1931	12	1	632BB, R FUEL TANK	28-41-09
HARNESS - L AUX TANK, M1933 AND M1943	8	1	531BB	28-41-09
HARNESS - L MAIN TANK, M726 AND M1938	10	1	L FUEL TANK	28-41-09
HARNESS - R AUX TANK, M1934 AND M1942	9	1	631BB	28-41-09
HARNESS - R MAIN TANK, M727 AND M1939	10	1	R FUEL TANK	28-41-09
HOT SHORT PROTECTOR, M12168	13	1	631BB	28-41-24
INDICATOR - AUX TANK LOAD SELECT, N94	4	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - FUEL QTY, M10054	2	1	FLT COMPT, P5	28-41-04
INDICATOR - L MAIN TANK LOAD SELECT, N92	4	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - R MAIN TANK LOAD SELECT, N93	4	1	521QB, FUELING CONTROL PANEL, P28	28-41-06
LIGHT - (FIM 28-22-00/101) CONFIG				
PANEL - (FIM 28-43-00/101) MISC TEST, M10398				
RELAYS - (FIM 31-01-36/101) FUEL QTY PWR TRANS, K356				
FUELING PWR CONT, K179				
FUELING PWR TRANS, K357				
RELAYS - (FIM 31-01-37/101) SYS NO. 1 AIR/GND, K716				
SYS NO. 2 AIR/GND, K206				
SWITCH - TEST INDICATOR, S457	4	1	521QB, FUELING CONTROL PANEL, P28	*
SWITCH - FUEL QTY TEST, YEIS6	2	1	FLT COMPT, P61, MISC TEST PANEL, M10398	*
UNIT- FQIS PROCESSOR, M121	3	1	119AL, MAIN EQUIP CTR, E2-4	28-41-08

* SEE THE WDM EQUIPMENT LIST

AIRPLANES WITH HOT SHORT PROTECTOR (POST-SB 28A0094 OR PRR B13421-8)

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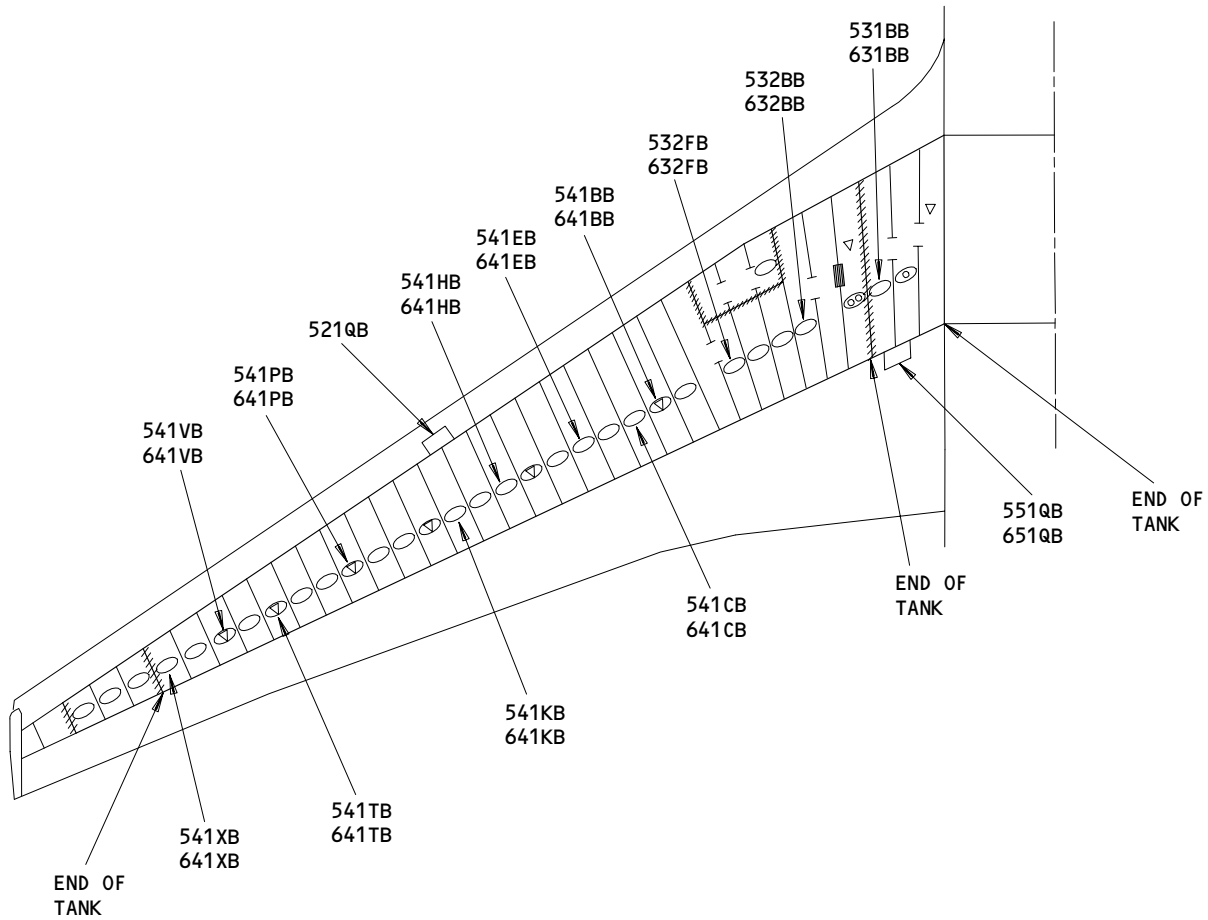
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
UNITS - L AUX TANK				
NO. 1, TS319	5	1	531BB	28-41-01
NO. 2, TS318	5	1	531BB	28-41-01
NO. 3, TS317	5	1	531BB	28-41-01
NO. 4, TS316	5	1	531BB	28-41-01
NO. 5, TS320		1	136KZ	28-41-01
UNITS - L MAIN TANK				
NO. 1, TS314	5	1	532BB	28-41-01
NO. 2, TS313	5	1	532BB	28-41-01
NO. 3, TS312	5	1	532BB	28-41-01
NO. 4, TS311	5	1	532BB	28-41-01
NO. 5, TS310	5	1	532BB	28-41-01
NO. 6, TS309	5	1	541BB	28-41-01
NO. 7, TS308	5	1	541CB	28-41-01
NO. 8, TS307	5	1	541EB	28-41-01
NO. 9, TS306	5	1	541HB	28-41-01
NO. 10, TS305	5	1	541KB	28-41-01
NO. 11, TS304	5	1	541PB	28-41-01
NO. 12, TS303	5	1	541TB	28-41-01
NO. 13, TS302	5	1	541VB	28-41-01
NO. 14, TS301	5	1	541XB	28-41-01
UNITS - R AUX TANK				
NO. 1, TS329	5	1	631BB	28-41-01
NO. 2, TS330	5	1	631BB	28-41-01
NO. 3, TS331	5	1	631BB	28-41-01
NO. 4, TS332	5	1	631BB	28-41-01
UNITS - R MAIN TANK				
NO. 1, TS335	5	1	632BB	28-41-01
NO. 2, TS336	5	1	632BB	28-41-01
NO. 3, TS337	5	1	632BB	28-41-01
NO. 4, TS338	5	1	632BB	28-41-01
NO. 5, TS339	5	1	632BB	28-41-01
NO. 6, TS340	5	1	641BB	28-41-01
NO. 7, TS341	5	1	641CB	28-41-01
NO. 8, TS342	5	1	641EB	28-41-01
NO. 9, TS343	5	1	641HB	28-41-01
NO. 10, TS344	5	1	641KB	28-41-01
NO. 11, TS345	5	1	641PB	28-41-01
NO. 12, TS346	5	1	641TB	28-41-01
NO. 13, TS347	5	1	641VB	28-41-01
NO. 14, TS348	5	1	641XB	28-41-01

* SEE THE WDM EQUIPMENT LIST

Fuel Quantity Indicating System - Component Index
Figure 101 (Sheet 2)

EFFECTIVITY
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ACCESS PANELS

NOTE: 500 SERIES PANELS ON LEFT WING,
600 SERIES PANELS ON RIGHT WING.

Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
 SAS 052-149, 158-161, 168-999;
 MTH 281-999

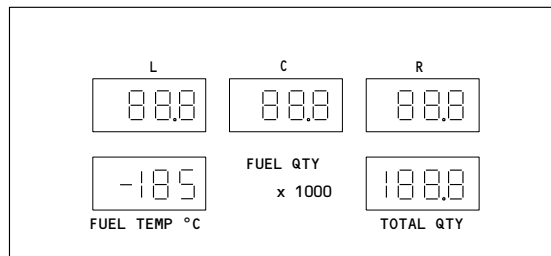
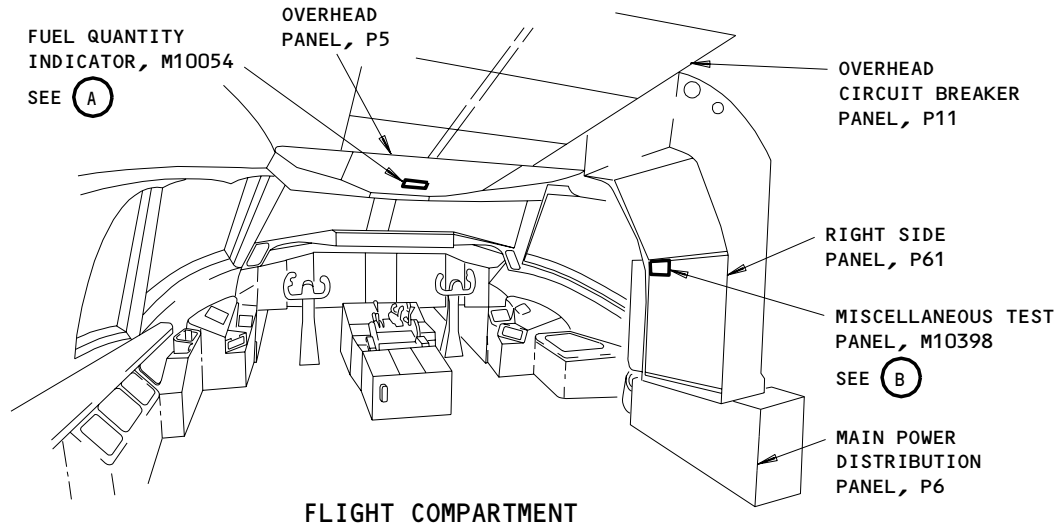
28-41-00
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A31492

BOEING

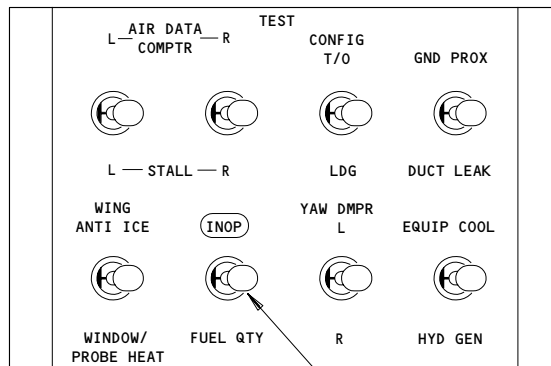
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FAULT ISOLATION/MAINT MANUAL



FUEL QUANTITY INDICATOR, M10054

(A)



FUEL QUANTITY
TEST SWITCH, YEIS6

MISCELLANEOUS TEST PANEL, M10398

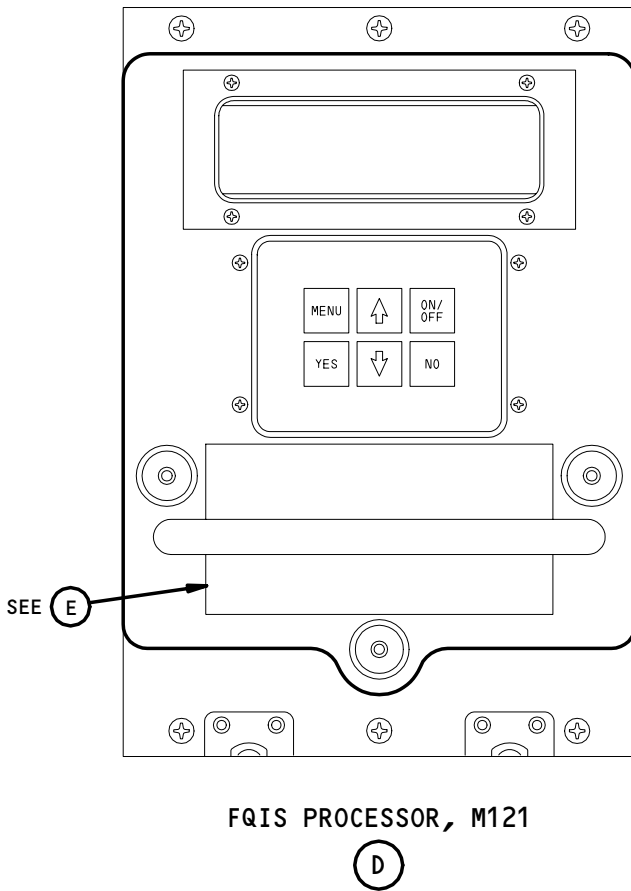
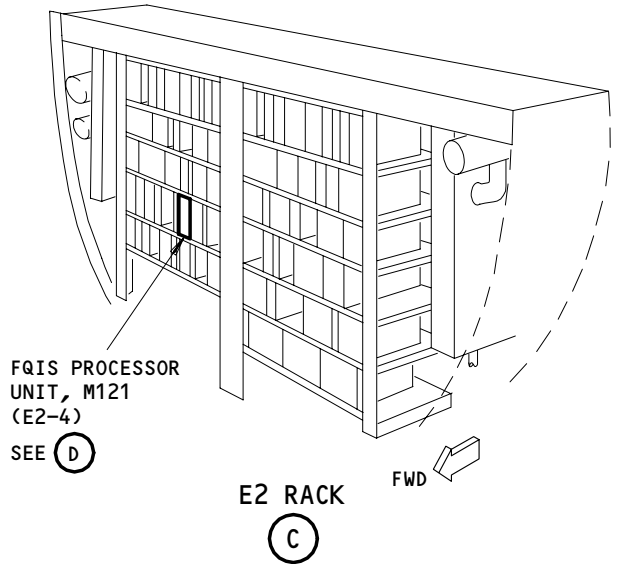
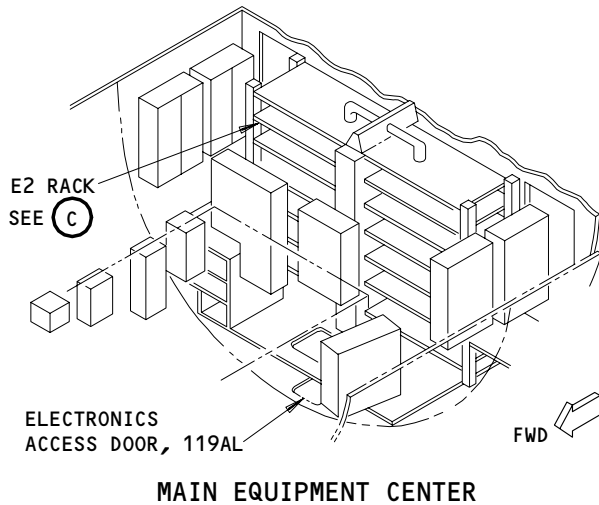
(B)

**Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 2)**

EFFECTIVITY
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INSTRUCTIONS:

- Press ON to start BITE display
- Press YES or NO in response to questions (?)
- Press to display next result
- Press to display previous result
- Press MENU to return to current menu
- Press OFF to stop BITE display

PRIMARY BITE MENU OPTIONS:

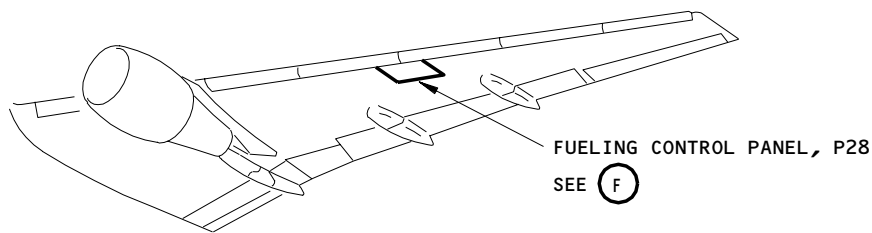
- FAULT HISTORY: Displays past faults by flight leg
- SYSTEM DATA: Displays system/LRU Data
- SELF TEST: Tests system/LRUs interfaces
- SYSTEM CONFIG: Displays system configuration
- ERASE FAULT HISTORY:

Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 3)

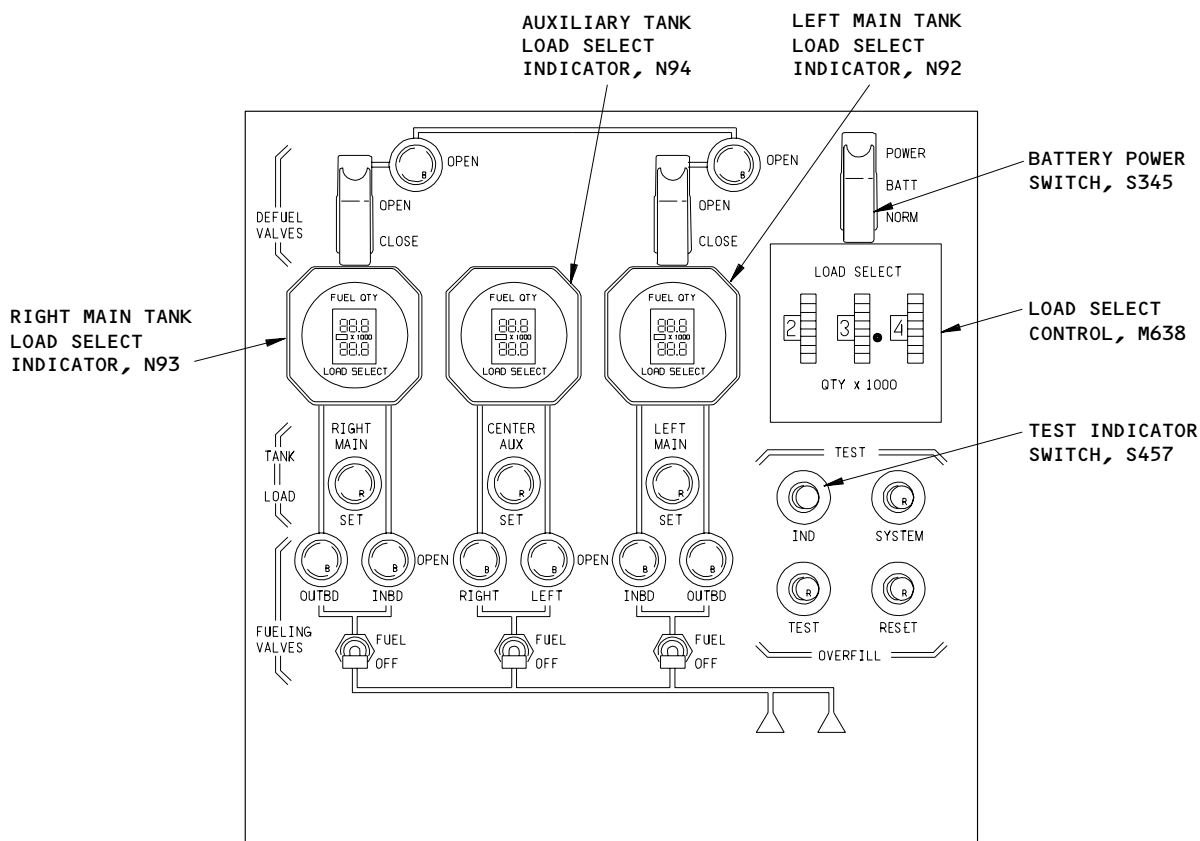
EFFECTIVITY
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FAULT ISOLATION/MAINT MANUAL



LEFT WING



FUELING CONTROL PANEL, P28

(F)

**Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 4)**

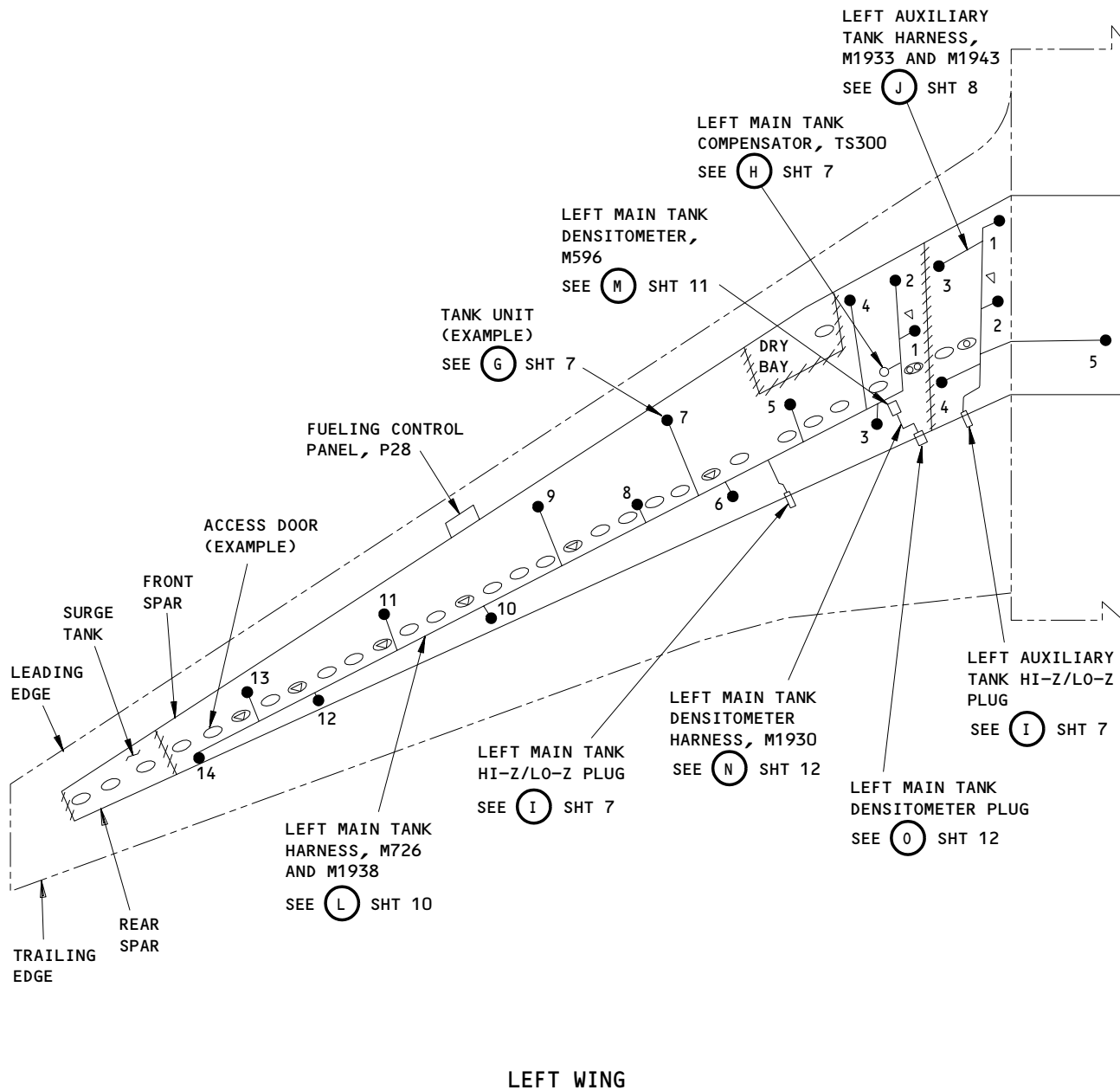
EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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FAULT ISOLATION/MAINT MANUAL



Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 5)

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RIGHT AUXILIARY TANK
COMPENSATOR, TS328

SEE (H) SHT 7

RIGHT AUXILIARY TANK
HARNESS, M729

SEE (K) SHT 9

RIGHT MAIN TANK
COMPENSATOR, TS334

SEE (H) SHT 7

RIGHT MAIN TANK
DENSITOMETER, M597

SEE (M) SHT 11

RIGHT MAIN TANK
HARNESS, M727
AND M1939

SEE (L) SHT 10

DRY
BAY

ACCESS
DOOR
(EXAMPLE)

FRONT
SPAR

SURGE
TANK

LEADING
EDGE

RIGHT
MAIN TANK
DENSITOMETER
HARNESS, M1931

SEE (N) SHT 12

RIGHT MAIN TANK
HI-Z/LO-Z PLUG

SEE (I) SHT 7

TANK UNIT
(EXAMPLE)

SEE (G) SHT 7

RIGHT
AUXILIARY
TANK
DENSITOMETER,
M720

SEE (M) SHT 11

RIGHT MAIN TANK
DENSITOMETER PLUG

SEE (O) SHT 12

RIGHT AUXILIARY TANK
DENSITOMETER PLUG

SEE (O) SHT 12

RIGHT AUXILIARY
TANK HI-Z/LOZ PLUG

SEE (I) SHT 7

FUEL
MEASURING
STICK
(EXAMPLE)

REAR
SPAR

TRAILING
EDGE

RIGHT AUXILIARY
TANK DENSITOMETER
HARNESS

SEE (N) SHT 12

RIGHT WING

Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 6)

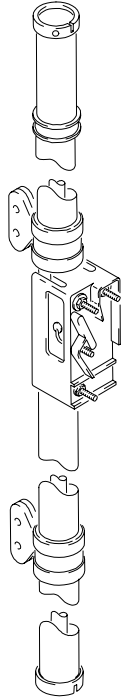
EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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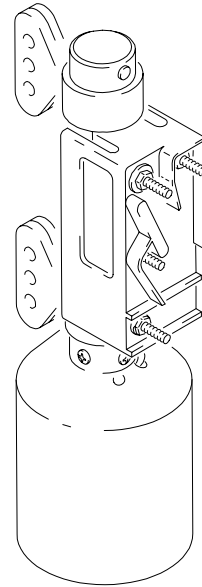
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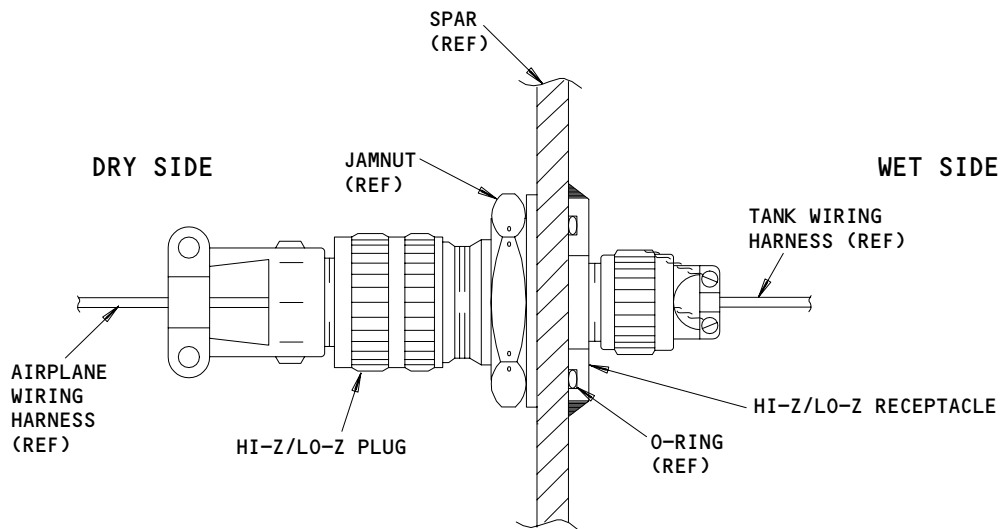
TANK UNIT INSTALLATION (EXAMPLE)
 (14 TANK UNITS IN EACH MAIN TANK;
 9 TANK UNITS IN THE AUXILIARY TANK)

G



LEFT MAIN TANK COMPENSATOR, TS300
 RIGHT AUXILIARY TANK COMPENSATOR, TS328
 RIGHT MAIN TANK COMPENSATOR, TS334

H



HI-Z/LO-Z CONNECTOR

I

Fuel Quantity Indicating System - Component Location (Details from Shts 5 and 6)
 Figure 102 (Sheet 7)

EFFECTIVITY
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 MTH 281-999

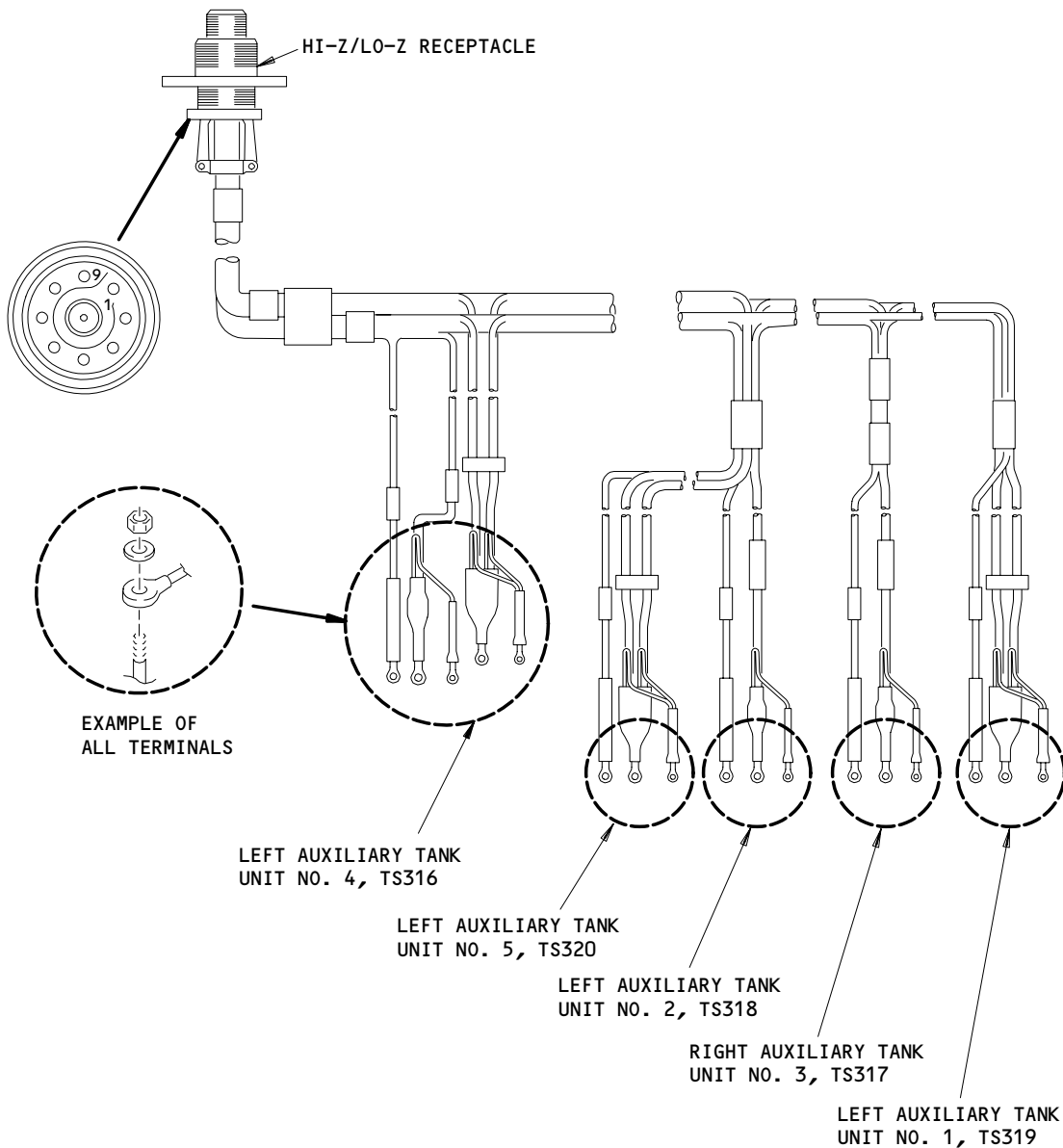
28-41-00

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LEFT AUXILIARY TANK WIRING HARNESS, M1934 AND M1943

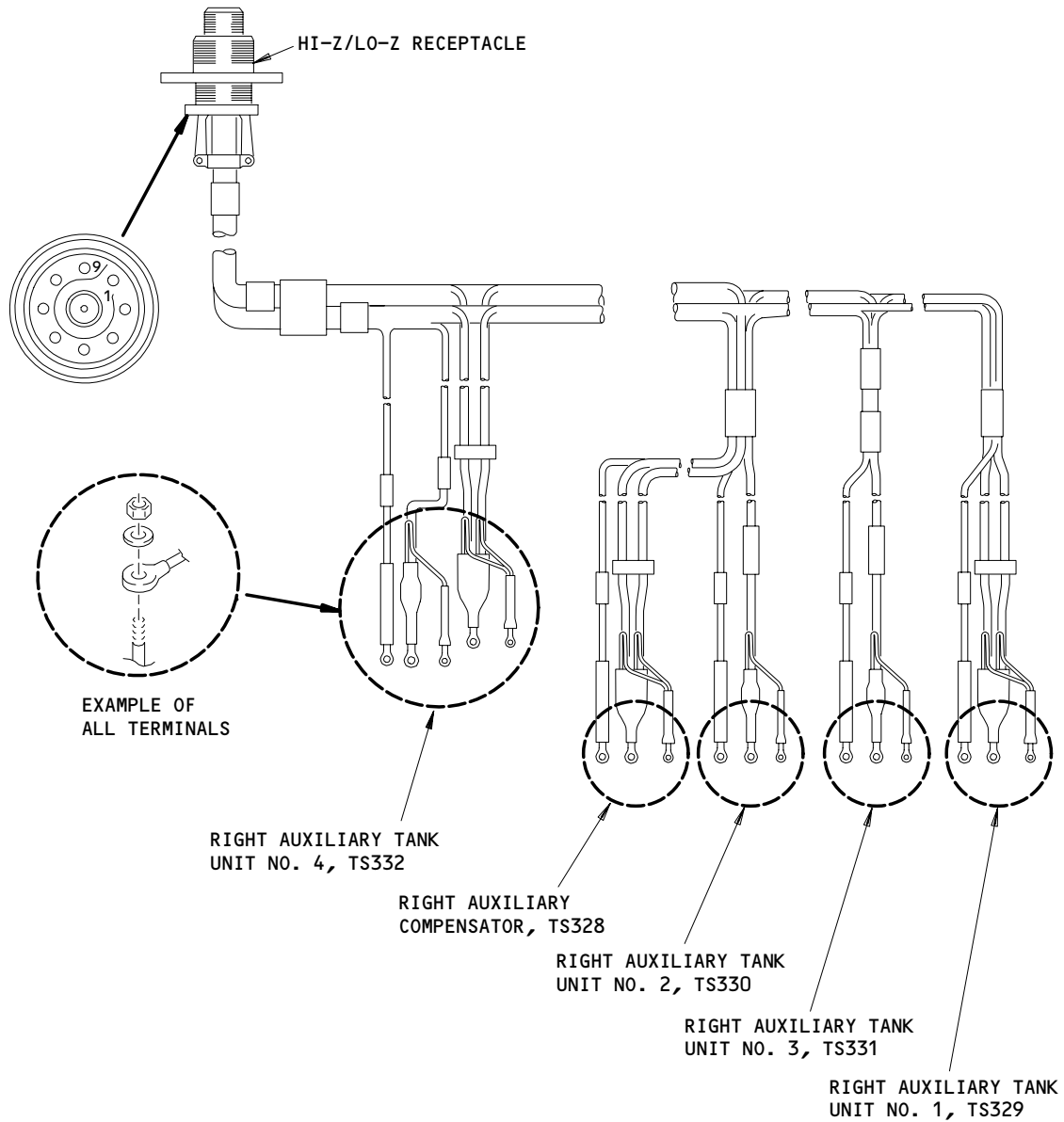
J

Fuel Quantity Indicating System - Component Location (Detail from Sht 5)
Figure 102 (Sheet 8)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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RIGHT AUXILIARY TANK WIRING HARNESS, M1935 AND M1942

(K)

Fuel Quantity Indicating System - Component Location (Detail from Sht 6)
Figure 102 (Sheet 9)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

28-41-00

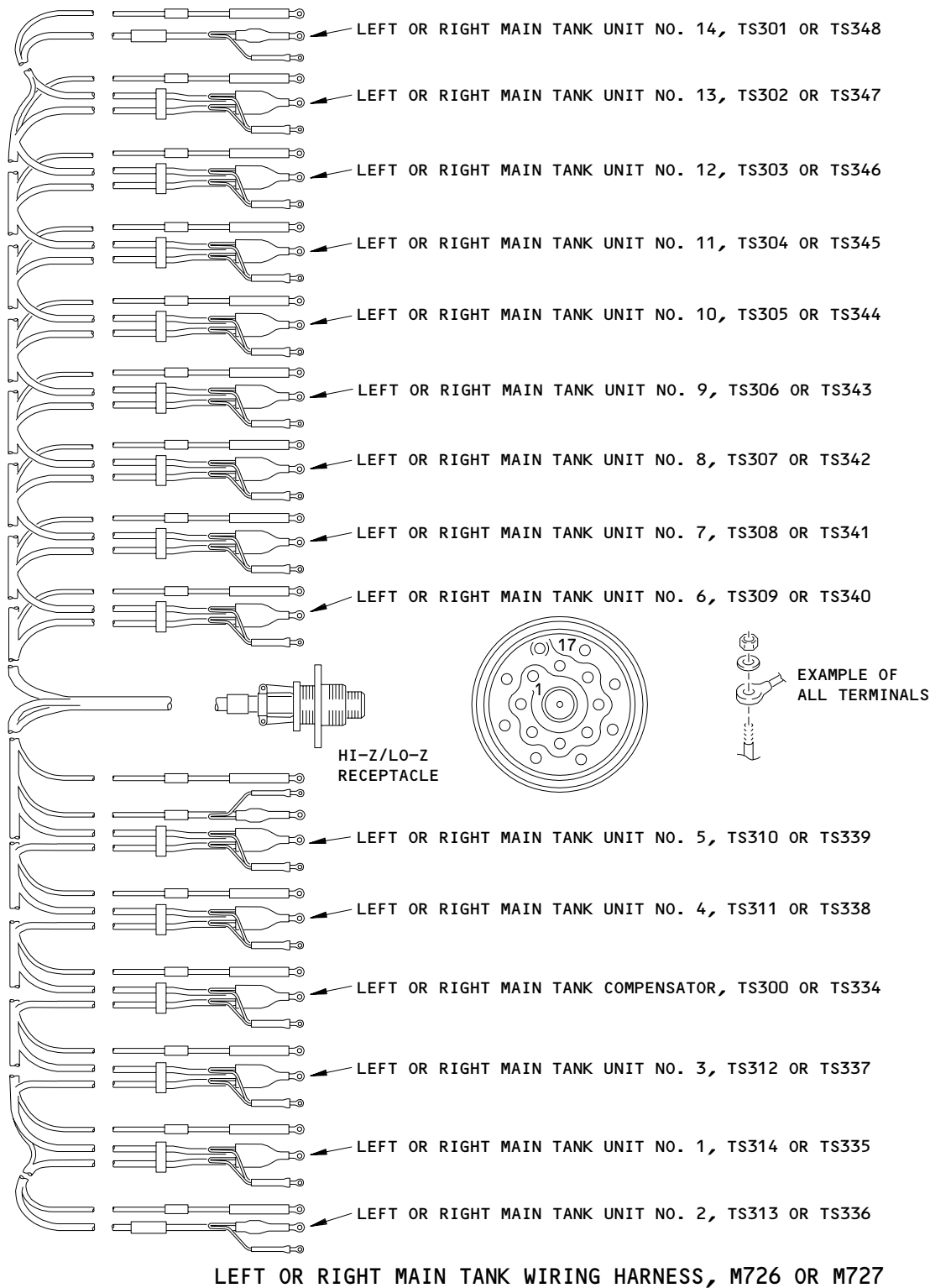
CONFIG 2

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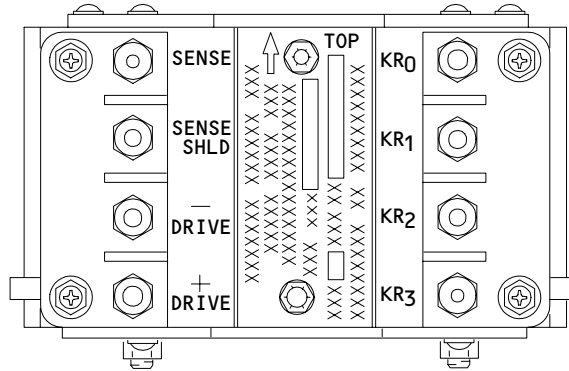
(L)

Fuel Quantity Indicating System - Component Location (Detail from Shts 5 and 6)
Figure 102 (Sheet 10)

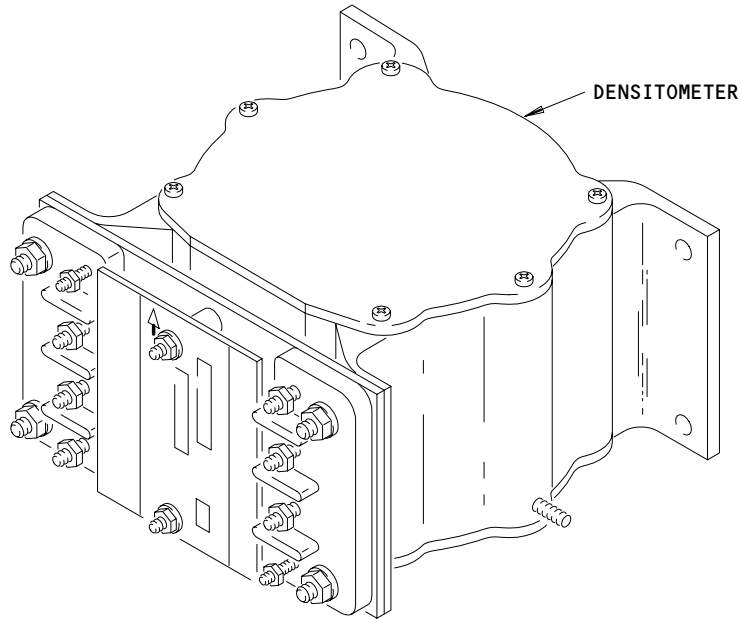
EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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 FAULT ISOLATION/MAINT MANUAL



FRONT VIEW



LEFT MAIN, RIGHT AUXILIARY OR RIGHT MAIN TANK DENSITOMETER, M596, M720 OR M597



Fuel Quantity Indicating System - Component Location (Detail from Shts 5 and 6)
Figure 102 (Sheet 11)

EFFECTIVITY
 SAS 052-149, 158-161, 168-999;
 MTH 281-999

28-41-00

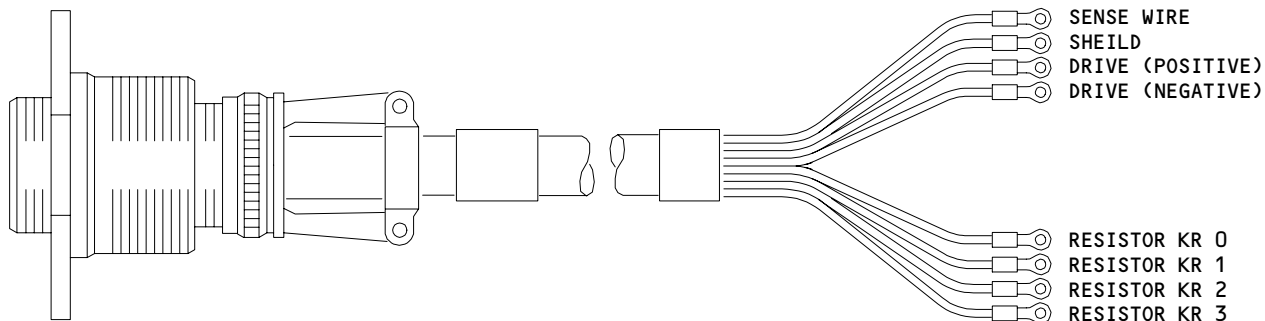
CONFIG 2

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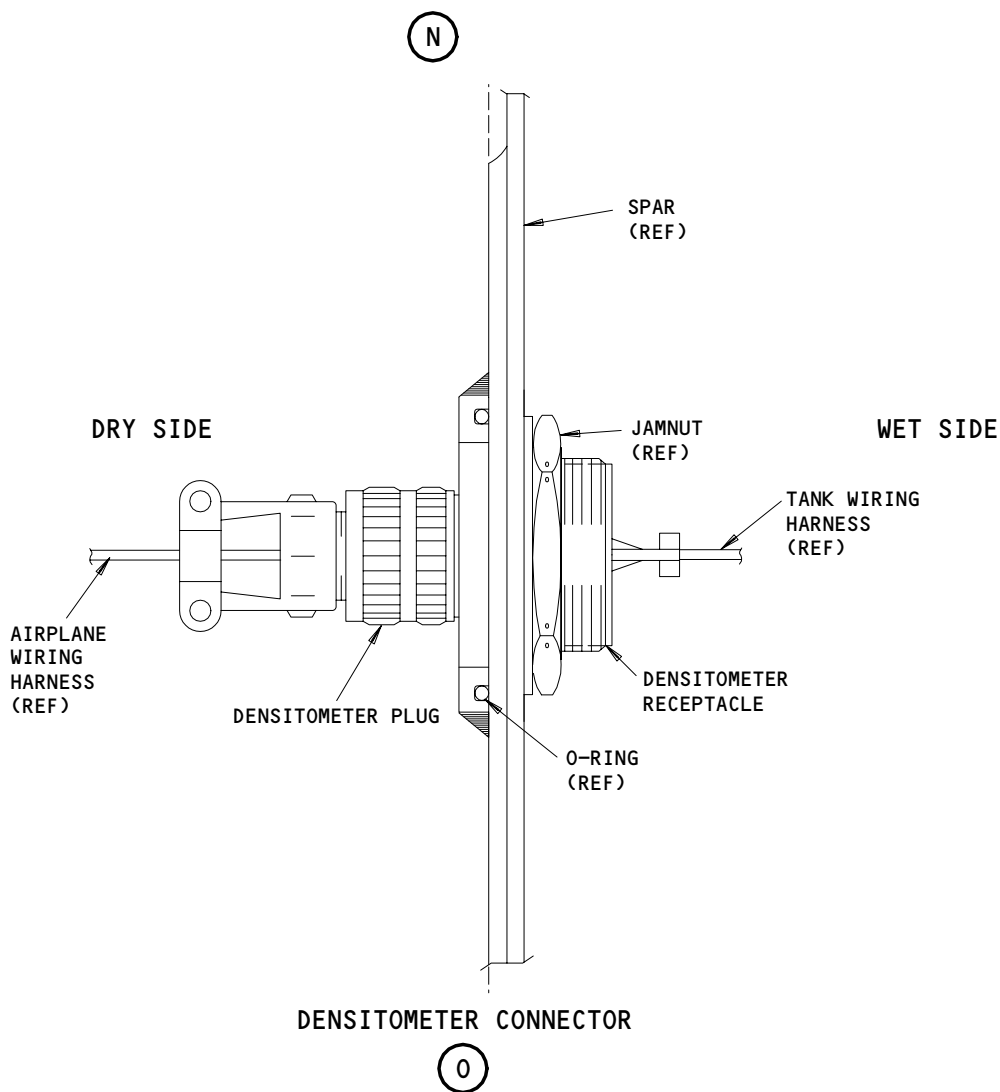
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FAULT ISOLATION/MAINT MANUAL



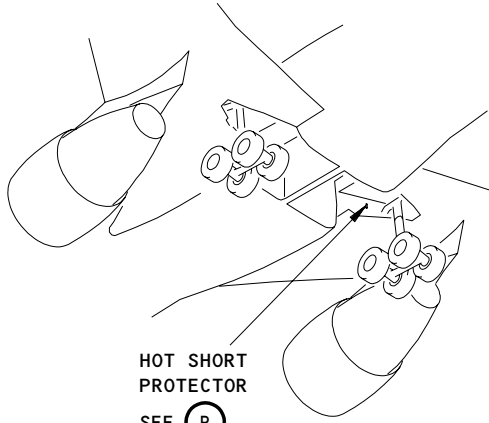
LEFT MAIN, RIGHT MAIN OR RIGHT AUXILIARY DENSITOMETER TANK WIRING HARNESS,
M1930, M1931 OR M1937



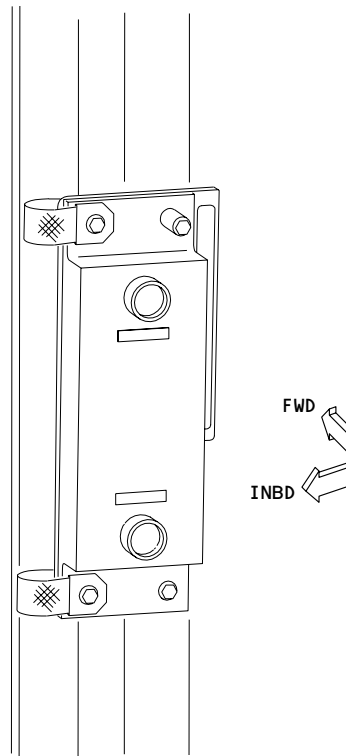
Fuel Quantity Indicating System - Component Location (Details from Shts 5 and 6)
Figure 102 (Sheet 12)

EFFECTIVITY
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MTH 281-999

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MAIN LANDING GEAR
WHEEL WELL



HOT SHORT PROTECTOR

(P)

Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 13)

EFFECTIVITY
AIRPLANES WITH HOT SHORT PROTECTOR
(POST-SB 28A0094 OR PRR B13421-8)

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TITLE

FUEL QUANTITY BITE PROCEDURE.....	FIGURE 104
FQIS PROCESSOR BITE MENU	FIGURE 105
FAULT MESSAGE REFERENCE CHART.....	FIGURE 106
FQIS WIRING	FIGURE 107
FAULT MESSAGES	FIGURE 108
DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER (NO FUEL IN THE TANK)	FIGURE 109
INTERMITTENT FAULT MESSAGES.....	FIGURE 110
"FUEL CONFIG" LIGHT AND EICAS MESSAGE "FUEL CONFIG" ARE ILLUMINATED	FIGURE 111 
FUEL QUANTITY INDICATOR DOES NOT DISPLAY CORRECTLY.....	FIGURE 114
FUEL CONFIG LIGHT AND EICAS MSG LOW FUEL NOT DISPLAYED DURING FUEL QTY TEST.....	FIGURE 115
EICAS MSG FUEL QTY IND OR FUEL QTY CHANNEL DISPLAYED	FIGURE 116
TOTAL FUEL QTY DOES NOT AGREE WITH FMC CALCULATED FUEL QTY. FUEL FLOW NORMAL	FIGURE 117
EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWN.....	FIGURE 118
LOAD SELECT INDICATOR SHOWS "-A.-", "-b.-", OR "-A.b"	FIGURE 119
FUEL QUANTITY INDICATOR SHOWS "-A.-", "-b.-", OR "-A.b"	FIGURE 120

 SEE EFFECTIVITY ON THE FIGURE

Fuel Quantity Indicating System Problems Index
Figure 103

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M12,34L2

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

EQUIPMENT:

JcAir INC.

400 INDUSTRIAL PARKWAY

INDUSTRIAL AIRPORT, KS 66031

A. FUEL QTY TEST SET - P/N 472090-007, OR P/N 472090-009, OR PSD 40-1, OR
PSD 60-1, OR PSD 60-2, OR PSD 60-2R

B. FUEL QTY ADAPTER HARNESS - LEFT/RIGHT MAIN FUEL TANK - PSD 757/767-101
CENTER FUEL TANK - PSD 757/767 - 102
DENSITOMETER - PSD 757/767 - 103

C. TEST BOX, FQIS - PSD 757/767 - 1

NOTE 1: WHEN AN AIRPLANE EICAS MESSAGE SHOWS, YOU MUST DO A CHECK OF THE FQIS PROCESSOR BITE MENU "PRESENT FAULTS?". FOR THE FAULT HISTORY MENU, DO A CHECK FOR FAULT MESSAGES ON THE FLIGHT LEG 00. MAKE A WRITTEN RECORD OF THE FAULTS IN FLIGHT LEG 00 TO HELP IN SUBSEQUENT FAULT ISOLATION.

NOTE 2: THE RECOMMENDED CORRECTIVE ACTION FOR FAULT MESSAGES IS AS FOLLOWS:

- DO A CHECK OF THE "PRESENT FAULTS?" MENU
- IF THERE ARE PRESENT FAULTS SHOWN, DO THE APPLICABLE FAULT ISOLATION PROCEDURE IN FIGURE 108.

NOTE: IF NO PRESENT FAULTS SHOW AND THERE ARE FAULT MESSAGES IN "FAULT HISTORY?" FLIGHT LEG 00, MAKE SURE THE FQIS OPERATES CORRECTLY AS FOLLOWS:

1. MAKE SURE THE FUEL QUANTITY DISPLAY DOES NOT GO OFF OR HAVE AN IRREGULAR INDICATION
2. DO A "SELF TEST?" ON THE FQIS PROCESSOR DISPLAY
3. IF NO FAULTS SHOW FROM THE "SELF TEST?" OR IN THE "PRESENT FAULTS?" MENU AND THE FQIS DISPLAY OPERATES CORRECTLY, NO FURTHER MAINTENANCE IS NECESSARY.

NOTE 3: EACH FLIGHT LEG, AS SHOWN BY THE FQIS PROCESSOR UNDER THE "FAULT HISTORY?" MENU, STARTS AT AIRPLANE TAKEOFF. THIS FLIGHT LEG WILL BE FLIGHT LEG 00 IN THE FQIS PROCESSOR UNTIL THE NEXT TAKEOFF. AT TAKEOFF THE DATA FROM FLIGHT LEG 00 IS RECORDED IN FLIGHT LEG 01, AND FLIGHT LEG 00 WILL START AGAIN.

NOTE 4: THE AIRPLANE WIRING HARNESS, FOR THE TANK UNITS, COMPENSATORS AND DENSITOMETERS, ARE THE HARNESSES FROM THE FQIS PROCESSOR CONNECTOR TO THE APPLICABLE SPAR PLUG. THE AIRPLANE WIRING HARNESSES ARE EXTERNAL TO THE FUEL TANK.

NOTE 5: THE TANK WIRING HARNESS, FOR THE TANK UNITS, COMPENSATORS AND DENSITOMETERS, ARE THE HARNESSES FROM THE TANK UNITS, COMPENSATORS AND DENSITOMETERS, TO THE APPLICABLE SPAR RECEPTACLE. THE TANK WIRING HARNESSES ARE INTERNAL TO THE FUEL TANKS.

Fuel Quantity BITE Procedure
Figure 104 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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1. BITE CONTROL PANEL - GENERAL

A. THE BITE CONTROL PANEL IS ON THE FRONT OF THE FQIS PROCESSOR IN THE MAIN EQUIPMENT CENTER, FIGURE 102, SHEET 4. THE FQIS PROCESSOR BITE CONTROL PANEL OPERATION BUTTONS ARE AS FOLLOWS:

OFF/ON: THE "ON/OFF" BUTTON PUTS THE BITE DISPLAY CONTROL ON OR OFF

MENU: THE "MENU" BUTTON PUTS YOU AT THE MENU LEVEL OF THE MENU YOU ARE IN

YES: THE "YES" BUTTON PUTS ON THE MENU ITEM SHOWN ON THE DISPLAY FOR MESSAGES THAT END IN A QUESTION MARK (?)

NO: THE "NO" BUTTON PUTS ON THE NEXT MENU ITEM ON THE DISPLAY FOR MESSAGES THAT END IN A QUESTION MARK (?)

↑ (UP): THE "UP" BUTTON SHOWS THE LAST MENU ITEM SHOWN

↓ (DOWN): THE "DOWN" BUTTON SHOWS THE NEXT MENU ITEM

2. FQIS PROCESSOR MENU - GENERAL

THE FQIS TOP LEVEL MENU MESSAGES ARE AS FOLLOWS:
(SEE FIGURE 105, SHEET 1).

A. PRESENT FAULTS ?

THE PRESENT FAULTS MENU DISPLAY IS SHOWN IN FIGURE 105, SHEET 2. THE PRESENT FAULTS MENU SHOWS ALL PRESENT SYSTEM FAULTS.

B. FAULT HISTORY ?

THE FAULT HISTORY MENU DISPLAY IS SHOWN IN FIGURE 105, SHEET 3. THE FAULT HISTORY MENU SHOWS ALL SYSTEM FAULTS FOR THE FLIGHT LEGS 0 THRU 64.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure
Figure 104 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
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C. SYSTEM DATA ?

THE SYSTEM DATA MENU DISPLAY IS SHOWN IN FIGURE 105, SHEET 4. THE SYSTEM DATA MENU SHOWS DATA AS FOLLOWS:

(1) UPLIFT DATA ?

THE UPLIFT DATA MENU SHOWS AIRPLANE FUEL UPLIFT DATA AS FOLLOWS:

- (A) FUEL UPLIFT MASS
- (B) FUEL DENSITY.

NOTE: YOU CAN CALCULATE THE FUEL UPLIFT VOLUME TO COMPARE IT TO THE FUEL TRUCK VOLUME. IF YOU DIVIDE THE "FUEL UPLIFT MASS" BY THE "FUEL DENSITY" YOU WILL GET THE AIRPLANE FUEL VOLUME.

(2) MAIN TANKS DATA ?

THE MAIN TANKS DATA MENU SHOWS LEFT AND RIGHT MAIN TANK FUEL DATA AS FOLLOWS:

- (A) FUEL MASS
- (B) FUEL DENSITY
- (C) FUEL VOLUME
- (D) HI-Z WIRING, COMPENSATOR AND TANK UNIT CAPACITANCE MEASUREMENTS.

(3) CENTER TANK DATA ?

THE CENTER TANK DATA MENU SHOWS CENTER TANK FUEL DATA AS FOLLOWS:

- (A) FUEL MASS
- (B) FUEL DENSITY
- (C) FUEL VOLUME
- (D) HI-Z WIRING, COMPENSATOR AND TANK UNIT CAPACITANCE MEASUREMENTS.

D. SELF TEST ?

THE SELF TEST MENU DISPLAYS ARE SHOWN IN FIGURE 105, SHEET 5. THE SELF TEST MENU DOES A TEST OF THE FQIS SYSTEM. IF NO FAULTS SHOW, THE "TEST COMPLETE SELF TEST PASS" MESSAGE IS SHOWN. IF FAULTS OCCUR, THE FAULTS ARE SHOWN ON THE DISPLAY.

NOTE: YOU CAN SEE THE FAULT MESSAGES IN THE SELF TEST PROCEDURE ONE TIME ONLY. TO SEE THE SELF TEST FAULT MESSAGES AGAIN, YOU MUST DO THE "SELF TEST?" PROCEDURE AGAIN.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure
Figure 104 (Sheet 3)

EFFECTIVITY
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E. SYSTEM CONFIG ?

THE SYSTEM CONFIGURATION MENU DISPLAYS ARE SHOWN IN FIGURE 105, SHEET 6.
THE SYSTEM CONFIGURATION MENU DISPLAYS ARE AS FOLLOWS:

- (1) LEFT MAIN CONFIGURATION ?
RIGHT MAIN CONFIGURATION ?
CENTER CONFIGURATION ?

THE LEFT MAIN CONFIGURATION, RIGHT MAIN CONFIGURATION, AND CENTER CONFIGURATION MENUS SHOW THE DATA AS FOLLOWS:

- (A) SOFTWARE VERSION AND REVISION
- (B) A AND B AIR/GROUND RELAY INDICATION
- (C) LB OR KG INDICATION
- (D) FUELING STATION DOOR OPEN/CLOSED INDICATION
- (E) AIRPLANE FUEL TANK INDICATION
- (F) FQIS SELF TEST STATUS.

- (2) ARINC BUS A CONFIGURATION ?
ARINC BUS B CONFIGURATION ?

THE ARINC BUS A CONFIGURATION, AND ARINC BUS B CONFIGURATION MENUS SHOW THE DATA AS FOLLOWS:

- (A) SOFTWARE VERSION AND REVISION
- (B) A AND B AIR/GROUND RELAY INDICATION
- (C) SPARE STATUS, THIS INDICATION IS NOT ACTIVE (ABSENT SHOWS)
- (D) FUELING STATION DOOR, OPEN/CLOSED INDICATION
- (E) ID STATUS, INDICATION OF THE INPUT/OUTPUT CARD IN USE (CARD 1 OR 2)
- (F) CENTER OVERRIDE PUMP, ON/OFF INDICATION
- (G) FLIGHT, REFUEL, SYSTEM TEST INDICATION (0 IS OFF, OR 1 IS ON)
- (H) SET LEFT, RIGHT, CENTER INDICATION (0 IS OFF, OR 1 IS ON)
- (I) SELECTED BUS IS FAILED, REPLACE THE APPLICABLE BUS.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure
Figure 104 (Sheet 4)

EFFECTIVITY
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(3) BDB CONFIGURATION ?

THE BITE DISPLAY BOARD CONFIGURATION MENU SHOWS DATA AS FOLLOWS:

- (A) SOFTWARE VERSION AND REVISION
- (B) FUEL QUANTITY BITE, SHOWS "NO FAULT" OR "FAULT PRESENT" FOR ALL FQIS FAILURES.

F. ERASE HISTORY ?

THE ERASE FAULT HISTORY MENU DISPLAY IS SHOWN IN FIGURE 105, SHEET 10. THE ERASE FAULT HISTORY MENU DISPLAYS ARE AS FOLLOWS:

- (A) ERASE FLIGHT LEG 11-64? LETS YOU ERASE THE AIRPLANE FLIGHT LEGS 11 THRU 64 ONLY.
- (B) ARE YOU SURE? LETS YOU ERASE OR NOT ERASE THE FLIGHT LEGS 11 THRU 64.
- (C) END HISTORY ERASE (ERASE COMPLETE).

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure
Figure 104 (Sheet 5)

EFFECTIVITY
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3. FUEL QUANTITY BITE PROCEDURE

A. PUSH AND RELEASE THE "ON/OFF" BUTTON TO PUT THE FQIS PROCESSOR TO ON.

NOTE: MAKE SURE THE FQIS PROCESSOR IS ON. IF THE FQIS PROCESSOR IS NOT ON AFTER YOU PUSH THE "ON/OFF" BUTTON MORE THAN ONCE, MAKE SURE POWER IS SUPPLIED TO THE FQIS PROCESSOR (FIG. 106, FAULT MESSAGE 36).

B. "PRESENT FAULTS ?" WILL SHOW ON THE FQIS PROCESSOR DISPLAY. PUSH AND RELEASE THE "YES" BUTTON TO SEE THE PRESENT FAULTS MENU, OR CONTINUE TO PUSH THE "NO" BUTTON TO SEE THE NEXT MENU ALTERNATIVES (SEE FIG. 105, SHEET 1).

C. PRESENT FAULTS ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "PRESENT FAULTS ?" SHOWS ON THE MENU DISPLAY.

(A) IF THE FQIS PROCESSOR IS NOT ON, GO TO STEP 3.A.

(2) PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE PRESENT FAULT DISPLAY.

(3) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE FAULT MESSAGES.

(4) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.

(5) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.

(6) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.

(7) WHEN THE "END OF PRESENT FAULTS" MESSAGE SHOWS, ALL FAULT MESSAGES ARE SHOWN. PUSH AND RELEASE THE MENU BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "PRESENT FAULTS ?" MENU.

(8) SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES.

D. FAULT HISTORY ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "FAULT HISTORY ?" SHOWS ON THE MENU DISPLAY.

(A) IF THE FQIS PROCESSOR IS NOT ON, DO STEP 3.A.

(2) PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE "FAULT HISTORY LEG ## ?" DISPLAY.

NOTE: THE "##" PLACE HOLDER WILL SHOW THE FLIGHT LEG NUMBER FOR THE RECORDED FAULTS.

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- (3) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE "FLIGHT LEG(S) WITH FAULT MESSAGES, OR PUSH AND RELEASE THE "NO" BUTTON TO SEE THE NEXT "FLIGHT HISTORY LEG(S)" WITH FAULT MESSAGES.

NOTE: ONLY THE FLIGHT LEGS WITH FAULTS RECORDED WILL SHOW ON THE DISPLAY.

- (4) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE FIRST FAULT MESSAGE.
- (5) MAKE A WRITTEN RECORD OF THE FAULT MESSAGE SHOWN.
- (6) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.
- (7) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.
- (8) WHEN THE "END OF FAULT HISTORY" MESSAGE SHOWS, PUSH AND RELEASE THE "MENU" BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "FAULT HISTORY ?"

- (9) SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES.

E. SYSTEM DATA ?

- (1) MAKE SURE THE FQIS PROCESSOR IS ON AND "SYSTEM DATA ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE FQIS PROCESSOR IS NOT ON, DO STEP 3.A.

- (2) IF YOU WANT TO SEE SYSTEM DATA, PUSH AND RELEASE THE "YES" BUTTON. THE "UPLIFT DATA ?" MENU WILL SHOW.
- (3) IF YOU WANT TO SEE THE UPLIFT DATA, PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE "UPLIFT DATA ?" MENU; OR IF YOU WANT TO SEE THE "MAIN TANKS DATA ?" MENU, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (4).

- (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE UPLIFT DATA AS FOLLOWS:

- 1) UPLIFT MASS (KG OR LB)
- 2) UPLIFT DENSITY (KG/L OR LB/G)
- 3) END OF UPLIFT DATA.

NOTE: WHEN THE "END OF UPLIFT DATA" MESSAGE SHOWS, ALL THE UPLIFT DATA MESSAGES ARE SHOWN.

- (4) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE MAIN TANKS DATA; OR IF YOU WANT TO SEE THE CENTER TANK DATA, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (5).

- (A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE MAIN TANKS DATA MESSAGES.

- (B) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE LEFT AND RIGHT FUEL TANKS.

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(C) THE MAIN TANKS DATA MENU SHOWS THE LEFT AND RIGHT FUEL TANK DATA AS FOLLOWS (FIG. 105, SHEET 4):

- 1) FUEL MASS
- 2) FUEL DENSITY
- 3) FUEL VOLUME
- 4) HI-Z WIRING CAPACITANCE
- 5) COMPENSATOR CAPACITANCE
- 6) TANK UNIT CAPACITANCE
- 7) END OF MAIN TANK DATA.

NOTE: WHEN THE "END OF MAIN TANK DATA" MESSAGE SHOWS, ALL THE MAIN TANKS DATA MESSAGES ARE SHOWN.

(5) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE CENTER TANKS DATA.

(A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE CENTER TANKS DATA MESSAGES.

(B) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE CENTER FUEL TANK.

(C) THE CENTER TANK DATA MENU SHOWS THE CENTER FUEL TANK DATA AS FOLLOWS (FIG. 105, SHEET 4):

- 1) FUEL MASS
- 2) FUEL DENSITY
- 3) FUEL VOLUME
- 4) HI-Z WIRING CAPACITANCE
- 5) COMPENSATOR CAPACITANCE
- 6) TANK UNIT CAPACITANCE
- 7) END OF CENTER TANK DATA.

(D) PUSH AND RELEASE THE "DOWN" BUTTON TO SHOW THE MESSAGE "END OF SYSTEM DATA".

NOTE: WHEN THIS MESSAGE SHOWS, ALL OF THE CENTER TANKS DATA ARE SHOWN.

(E) PUSH AND RELEASE THE MENU BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "SYSTEM DATA ?" MENU.

F. SELF TEST ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "SELF TEST ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE FQIS PROCESSOR IS NOT ON, DO STEP 3.A.

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(2) IF YOU WANT TO BEGIN THE SELF TEST, PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE "BEGIN SELF TEST ? TEST TIME =90 SEC" DISPLAY (FIG. 105, SHEET 5).

NOTE: IF YOU DO NOT WANT TO DO A SELF TEST, PUSH AND RELEASE THE "NO" BUTTON TO GO TO "END OF SELF TEST" WHEN "BEGIN SELF TEST ?" SHOWS.

NOTE: THE FUELING STATION DOOR, 521QB, MUST BE CLOSED FOR THIS TEST.

(A) PUSH AND RELEASE THE "YES" BUTTON TO START THE SELF TEST.

NOTE: THE DISPLAY "TEST IN PROGRESS" WILL FLASH FOR 90 SECONDS.

(B) IF THE SELF TEST MESSAGE "TEST COMPLETE SELF TEST PASS" SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO GO TO "END OF SELF TEST".

(C) IF YOU WANT TO SEE THE SYSTEM FAULT MESSAGES WHEN "TEST COMPLETE LIST FAULTS ?" SHOWS, PUSH AND RELEASE THE "YES" BUTTON TO SEE THE SYSTEM FAULT MESSAGES.

1) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE FAULT MESSAGES.

2) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.

NOTE: SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES. WHEN THE "END OF SELF TEST FAULTS" MESSAGE SHOWS, ALL OF THE SELF TEST FAULT MESSAGES ARE SHOWN.

(D) IF YOU DO NOT WANT TO SEE THE SYSTEM FAULTS WHEN "TEST COMPLETE LIST FAULTS ?" SHOWS, PUSH AND RELEASE THE "NO" BUTTON TO NOT SEE THE SYSTEM FAULTS.

NOTE: WHEN THE "END OF SELF TEST FAULTS" SHOWS, YOU ARE AT THE END OF THE SELF TEST.

(3) PUSH AND RELEASE THE "MENU" BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "SELF TEST MENU ?" DISPLAY.

G. SYSTEM CONFIGURATION ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "SYSTEM CONFIGURATION ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE FQIS PROCESSOR IS NOT ON, DO STEP 3.A.

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- (2) IF YOU WANT TO SEE THE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "YES" BUTTON.
- (3) IF YOU WANT TO SEE THE LEFT MAIN FUEL TANK CONFIGURATION DATA, PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE "LEFT MAIN CONFIGURATION ?" MENU (FIG. 105, SHEET 6); OR IF YOU WANT TO SEE THE RIGHT MAIN TANK CONFIGURATION DATA, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (4).
 - (A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE LEFT MAIN FUEL TANK CONFIGURATION DATA.
 - (B) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE LEFT MAIN FUEL TANK CONFIGURATION.
 - (C) THE LEFT MAIN CONFIGURATION DATA MENU SHOWS THE LEFT MAIN FUEL TANK DATA AS FOLLOWS (FIGURE 105, SHEET 7):
 - 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER
 - 2) "AIR" OR "GROUND" A RELAY INDICATION
 - 3) "AIR" OR "GROUND" B RELAY INDICATION
 - 4) FQIS SYSTEM "LB" OR "KG" CONFIGURATION INDICATION
 - 5) FUELING STATION DOOR "OPEN" OR "CLOSED" INDICATION
 - 6) ID STATUS INDICATION SHOWS THE AIRPLANE FUEL TANK ON THE DISPLAY
 - 7) FQIS SELF TEST STATUS INDICATION SHOWS "NO TEST" OR "TEST".
- NOTE: WHEN THE "END LEFT MAIN CONFIGURATION" MESSAGE SHOWS, ALL OF THE LEFT MAIN FUEL TANK CONFIGURATION MESSAGES ARE SHOWN.
- (D) IF YOU WANT TO SEE MORE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "DOWN" BUTTON TO CONTINUE.
- (E) IF YOU WANT TO GO TO THE TOP OF THE SYSTEM DATA MENU, PUSH AND RELEASE THE "MENU" BUTTON.
- (4) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE "RIGHT MAIN CONFIGURATION" DATA (FIG. 105, SHEET 6); OR IF YOU WANT TO SEE THE CENTER TANK CONFIGURATION DATA, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (5).
 - (A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE DATA FOR THE RIGHT MAIN FUEL TANK CONFIGURATION.
 - (B) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE RIGHT MAIN FUEL TANK CONFIGURATION.

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Figure 104 (Sheet 10)

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(C) THE RIGHT MAIN CONFIGURATION MENU SHOWS THE RIGHT FUEL TANK DATA AS FOLLOWS (FIG. 105, SHEET 7):

- 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER
- 2) "AIR" OR "GROUND" A RELAY INDICATION
- 3) "AIR" OR "GROUND" B RELAY INDICATION
- 4) FQIS SYSTEM 'LB' OR 'KG' CONFIGURATION INDICATION
- 5) FUELING STATION DOOR "OPEN" OR "CLOSED" INDICATION
- 6) ID STATUS INDICATION SHOWS THE AIRPLANE FUEL TANK ON THE DISPLAY
- 7) FQIS SELF TEST STATUS INDICATION SHOWS.

NOTE: WHEN THE "END RIGHT MAIN CONFIGURATION" MESSAGE SHOWS, ALL OF THE RIGHT MAIN FUEL TANK CONFIGURATION MESSAGES ARE SHOWN.

(D) IF YOU WANT TO SEE MORE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "DOWN" BUTTON TO CONTINUE.

(E) IF YOU WANT TO GO TO THE TOP OF THE SYSTEM CONFIGURATION MENU, PUSH AND RELEASE THE "MENU" BUTTON.

(5) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE CENTER FUEL TANK CONFIGURATION DATA (FIG. 105, SHEET 6); OR IF YOU WANT TO SEE THE DATA FOR THE ARINC BUS A, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (6).

(A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE DATA FOR THE CENTER FUEL TANK CONFIGURATION.

(B) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE CENTER FUEL TANK CONFIGURATION.

(C) THE CENTER CONFIGURATION MENU SHOWS THE CENTER FUEL TANK DATA AS FOLLOWS (FIG. 105, SHEET 7):

- 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER
- 2) "AIR" OR "GROUND" A RELAY INDICATION
- 3) "AIR" OR "GROUND" B RELAY INDICATION
- 4) FQIS SYSTEM 'LB' OR 'KG' CONFIGURATION INDICATION
- 5) FUELING STATION DOOR "OPEN" OR "CLOSED" INDICATION
- 6) ID STATUS INDICATION SHOWS THE AIRPLANE FUEL TANK ON THE DISPLAY
- 7) FQIS SELF TEST STATUS INDICATION SHOWS.

NOTE: WHEN THE "END CENTER CONFIGURATION" MESSAGE SHOWS, ALL THE CENTER CONFIGURATION MESSAGES ARE SHOWN.

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Figure 104 (Sheet 11)

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- (D) IF YOU WANT TO SEE MORE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "DOWN" BUTTON TO CONTINUE.
- (E) IF YOU WANT TO GO TO THE TOP OF THE SYSTEM CONFIGURATION MENU, PUSH AND RELEASE THE "MENU" BUTTON.
- (6) IF YOU WANT TO SEE THE DATA FOR ARINC BUS A CONFIGURATION, PUSH AND RELEASE THE "YES" BUTTON WHEN THE "ARINC BUS A CONFIGURATION ?" MENU SHOWS (FIG. 105, SHEET 6); OR IF YOU WANT TO SEE THE ARINC BUS B CONFIGURATION DATA, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (7).
- NOTE: THE MESSAGE "SWITCHING TO SELECTED BUS" WILL SHOW. IF THE BUS IS BAD, THE MESSAGE "SELECTED BUS IS FAILED" WILL SHOW.
- (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE ARINC BUS A CONFIGURATION DATA.
- (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE ARINC A DATA.
- (C) MAKE A WRITTEN RECORD OF ALL THE ARINC A MESSAGES SHOWN.
- (D) THE ARINC BUS A CONFIGURATION DATA MENU SHOWS INPUT/OUTPUT CARD (IOC) 1 DATA AS FOLLOWS (FIG. 105, SHEET 8):
- 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER
 - 2) "AIR" OR "GROUND" A RELAY INDICATION
 - 3) "AIR" OR "GROUND" B RELAY INDICATION
 - 4) SPARE STATUS (THIS INDICATION IS NOT ACTIVE, "ABSENT" SHOWS)
 - 5) "OPEN" OR "CLOSED" FUELING STATION DOOR STATUS
 - 6) ID STATUS INDICATION SHOWS THE INPUT OUTPUT CARD IN USE, "IOC #1" OR "IOC #2"
 - 7) CENTER OVERRIDE PUMP "ON" OR "OFF" INDICATION
 - 8) FLIGHT, REFUEL, SYSTEM TEST INDICATION (0 IS OFF, OR 1 IS ON)
 - 9) SET LEFT, RIGHT, OR CENTER INDICATION (0 IS OFF, OR 1 IS ON).
- NOTE: WHEN THE "END OF ARINC A CONIGURATION" MESSAGE SHOWS, ALL THE ARINC A CONFIGURATION MESSAGES ARE SHOWN.
- (E) IF YOU WANT TO SEE MORE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "DOWN" BUTTON TO CONTINUE.
- (F) IF YOU WANT TO GO TO THE TOP OF THE SYSTEM CONFIGURATION MENU, PUSH AND RELEASE THE "MENU" BUTTON.

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Figure 104 (Sheet 12)

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(7) IF YOU WANT TO SEE THE DATA FOR ARINC BUS B CONFIGURATION, PUSH AND RELEASE THE "YES" BUTTON WHEN THE "ARINC BUS B CONFIGURATION ?" MENU SHOWS (FIG. 105, SHEET 6); OR IF YOU WANT TO SEE THE DATA FOR THE BITE DISPLAY BOARD (BDB), PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (8).

NOTE: THE MESSAGE "SWITCHING TO SELECTED BUS" WILL SHOW. IF THE SELECTED BUS DOES NOT SHOW, THE MESSAGE "SELECTED BUS IS FAILED" WILL SHOW.

- (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE ARINC BUS B CONFIGURATION DATA.
- (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE DATA FOR THE ARINC BUS B.
- (C) MAKE A WRITTEN RECORD OF ALL THE ARINC B MESSAGES SHOWN.
- (D) THE "ARINC BUS B CONFIGURATION" MENU SHOWS IOC 2 DATA AS FOLLOWS (FIG. 105, SHEET 8):
 - 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER
 - 2) "AIR" OR "GROUND" A RELAY INDICATION
 - 3) "AIR" OR "GROUND" B RELAY INDICATION
 - 4) SPARE STATUS (THIS INDICATION IS NOT ACTIVE, "ABSENT" SHOWS)
 - 5) "OPEN" OR "CLOSED" FUELING STATION DOOR STATUS
 - 6) ID STATUS INDICATION SHOWS THE INPUT OUTPUT CARD IN USE, "IOC #1" OR "IOC #2"
 - 7) CENTER OVERRIDE PUMP "ON" OR "OFF" INDICATION
 - 8) FLIGHT, REFUEL, SYSTEM TEST INDICATION (0 IS OFF, OR 1 IS ON)
 - 9) SET LEFT, RIGHT, OR CENTER INDICATION (0 IS OFF, OR 1 IS ON).

NOTE: WHEN THE "END OF ARINC B CONIGURATION" MESSAGE SHOWS, ALL THE ARINC B CONFIGURATION MESSAGES ARE SHOWN.

- (E) IF YOU WANT TO SEE MORE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "DOWN" BUTTON TO CONTINUE.
 - (F) IF YOU WANT TO GO TO THE TOP OF THE SYSTEM CONFIGURATION MENU, PUSH AND RELEASE THE "MENU" BUTTON.
- (8) IF YOU WANT TO SEE THE DATA FOR THE BITE DISPLAY BOARD, PUSH AND RELEASE THE "YES" BUTTON WHEN THE "BITE DISPLAY BRD CONFIGURATION ?" MENU SHOWS (FIG. 105, SHEET 6).
- (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE BITE DISPLAY BOARD CONFIGURATION DATA.

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Figure 104 (Sheet 13)

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(B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON WHILE YOU MAKE A WRITTEN RECORD OF ALL THE BDB DATA MESSAGES SHOWN, IF IT IS NECESSARY.

(C) THE BITE DISPLAY BOARD CONFIGURATION MENU SHOWS DATA AS FOLLOWS (FIG. 105, SHEET 9):

- 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER SHOW
- 2) FUEL QUANTITY BITE, SHOWS "NO FAULT" OR "FAULT PRESENT" FOR THE FQIS PROCESSOR DISPLAY BOARD

NOTE: WHEN THE "END OF BDB CONFIGURATION" MESSAGE SHOWS, ALL OF THE BDB CONFIGURATION MESSAGES ARE SHOWN.

(D) PUSH AND RELEASE THE "DOWN" BOTTON TO CONTINUE.

NOTE: THE MESSAGE "END OF SYSTEM CONFIGURATION" WILL SHOW.

(9) PUSH AND RELEASE THE MENU BUTTON. THIS PUTS YOU AT THE TOP OF THE "SYSTEM CONFIGURATION ?" MENU.

H. ERASE HISTORY ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "ERASE FAULT HISTORY ?" SHOWS ON THE MENU DISPLAY (FIG. 105, SHEET 10).

NOTE: IF THE FQIS PROCESSOR IS NOT ON, DO STEP 3.A.

(2) PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE "ERASE FLIGHT LEG 11-64 ?" DISPLAY.

(3) IF YOU WANT TO STOP THE ERASE PROCEDURE, PUSH AND RELEASE THE "NO" BUTTON GO TO STOP THE "END HISTORY ERASE" MESSAGE.

(4) IF YOU WANT TO ERASE FLIGHT HISTORY, PUSH AND RELEASE THE "YES" BUTTON TO ERASE THE FLIGHT LEGS 11 THRU 64 FAULT MESSAGES.

(5) FOR THE MESSAGE "ARE YOU SURE ?", PUSH AND RELEASE THE "YES" BUTTON TO ERASE THE FLIGHT LEGS 11 THRU 64, OR PUSH AND RELEASE THE "NO" BUTTON TO GO TO THE "END HISTORY ERASE" MESSAGE.

(6) IF YOU DID THE ERASE THE FLIGHT LEGS 11 THRU 64 STEP, THE MESSAGE "ERASE IN PROGRESS" WILL SHOW AND THEN THE MESSAGE "END HISTORY ERASE COMPLETE" WILL SHOW.

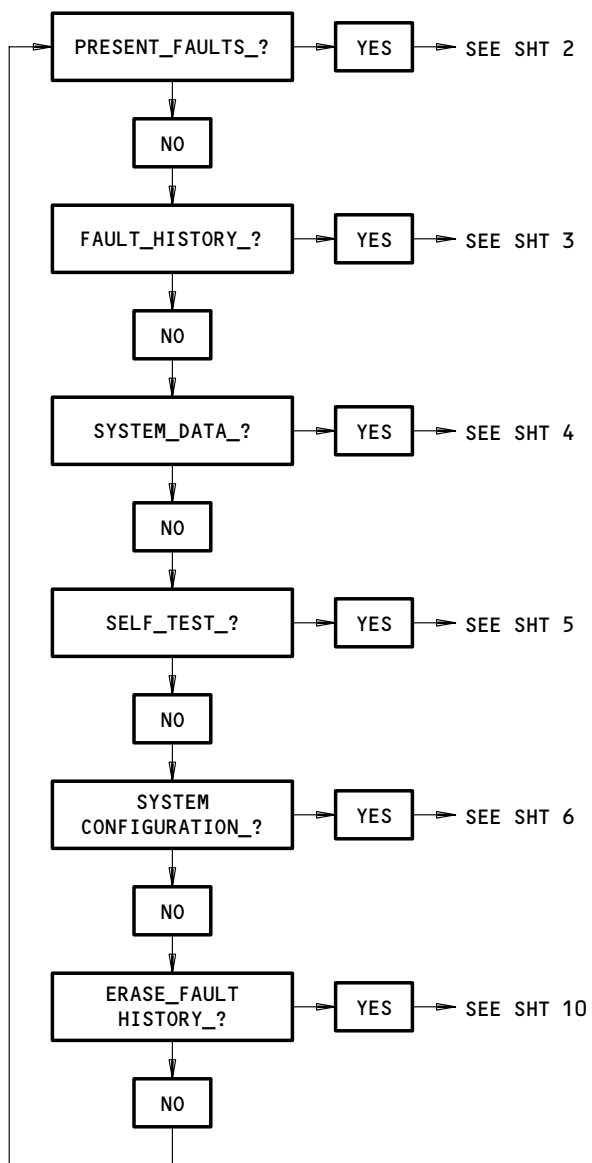
(7) WHEN THE "END HISTORY ERASE COMPLETE" MESSAGE SHOWS, PUSH AND RELEASE THE "MENU" BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "ERASE FAULT HISTORY ?" MENU.

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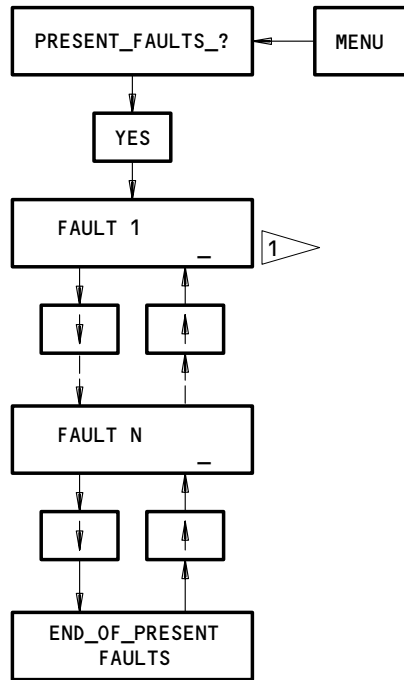



MAIN MENU
 FQIS Processor BITE Menu
 Figure 105 (Sheet 1)

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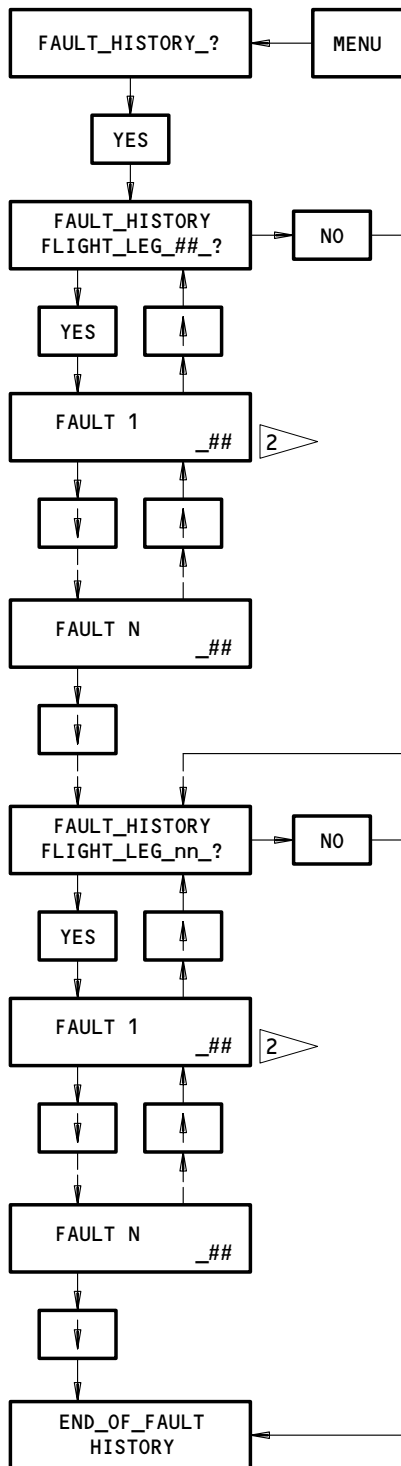



 " - " THIS INDICATION SHOWS "A" OR "G" TO INDICATE THAT THE FIRST FAULT OCCURRED IN THE AIR OR GROUND MODE.

PRESENT FAULT MENU
 FQIS Processor BITE Menu
 Figure 105 (Sheet 2)

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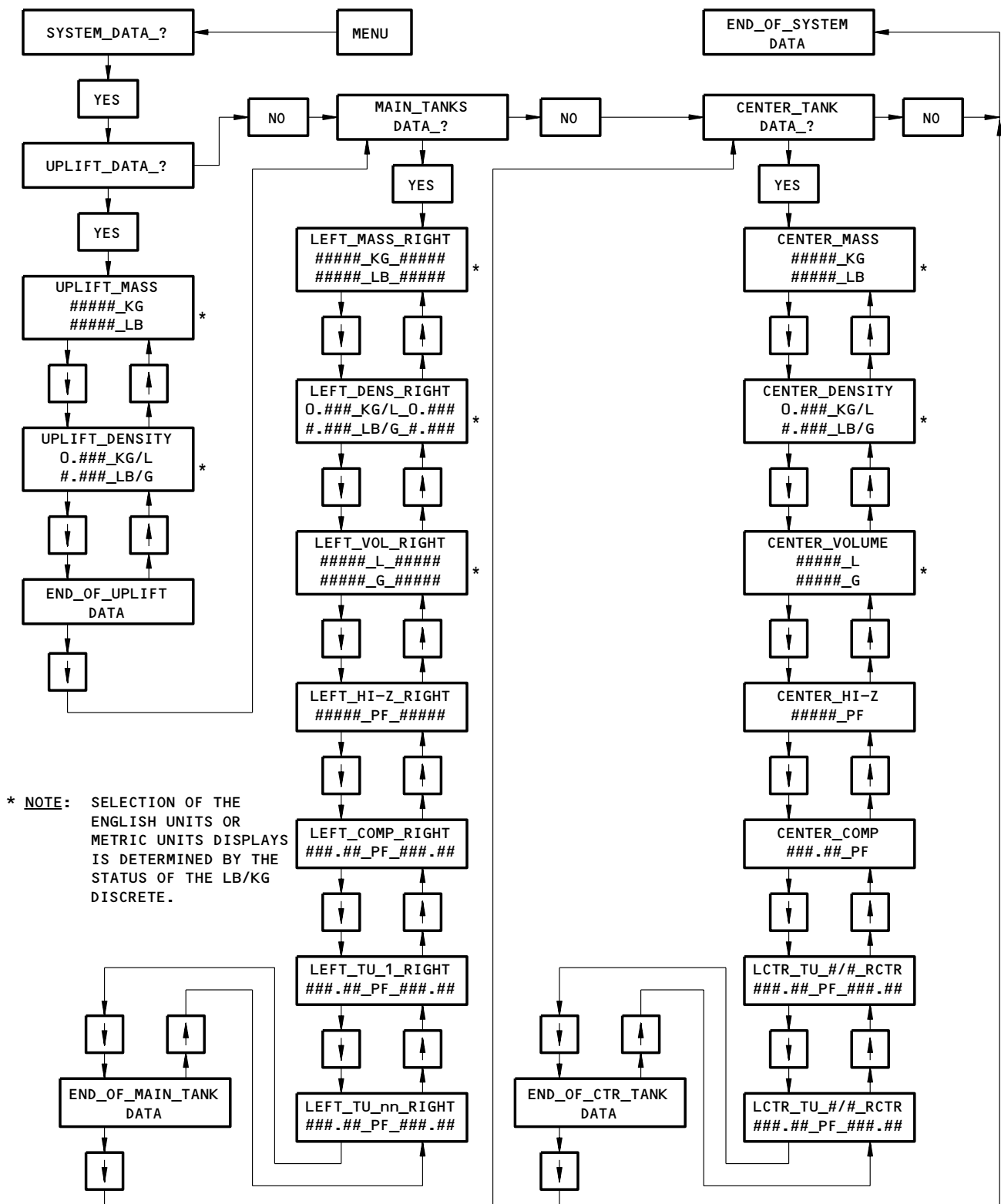
2 " " THIS INDICATION SHOWS "A" OR "G" TO SHOW THAT THE FIRST FAULT OCCURRED IN THE AIR OR ON THE GROUND MODE. THE "##" INDICATION WILL SHOW THE NUMBER OF TIMES THE FAULT OCCURRED IN THE APPLICABLE FLIGHT LEG.

FAULT HISTORY MENU
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Figure 105 (Sheet 3)

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* **NOTE:** SELECTION OF THE ENGLISH UNITS OR METRIC UNITS DISPLAYS IS DETERMINED BY THE STATUS OF THE LB/KG DISCRETE.

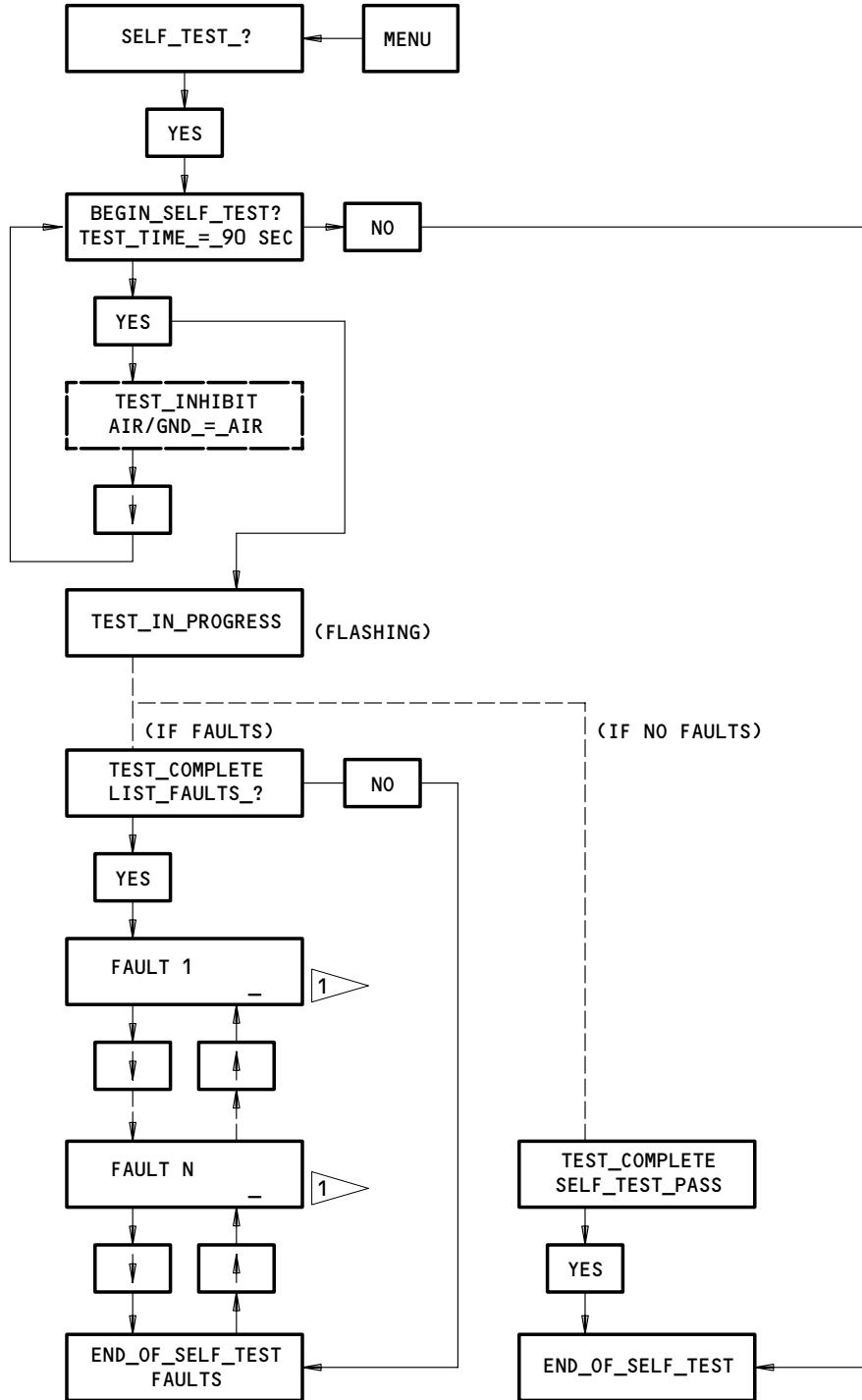
SYSTEM DATA MENU

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Figure 105 (Sheet 4)

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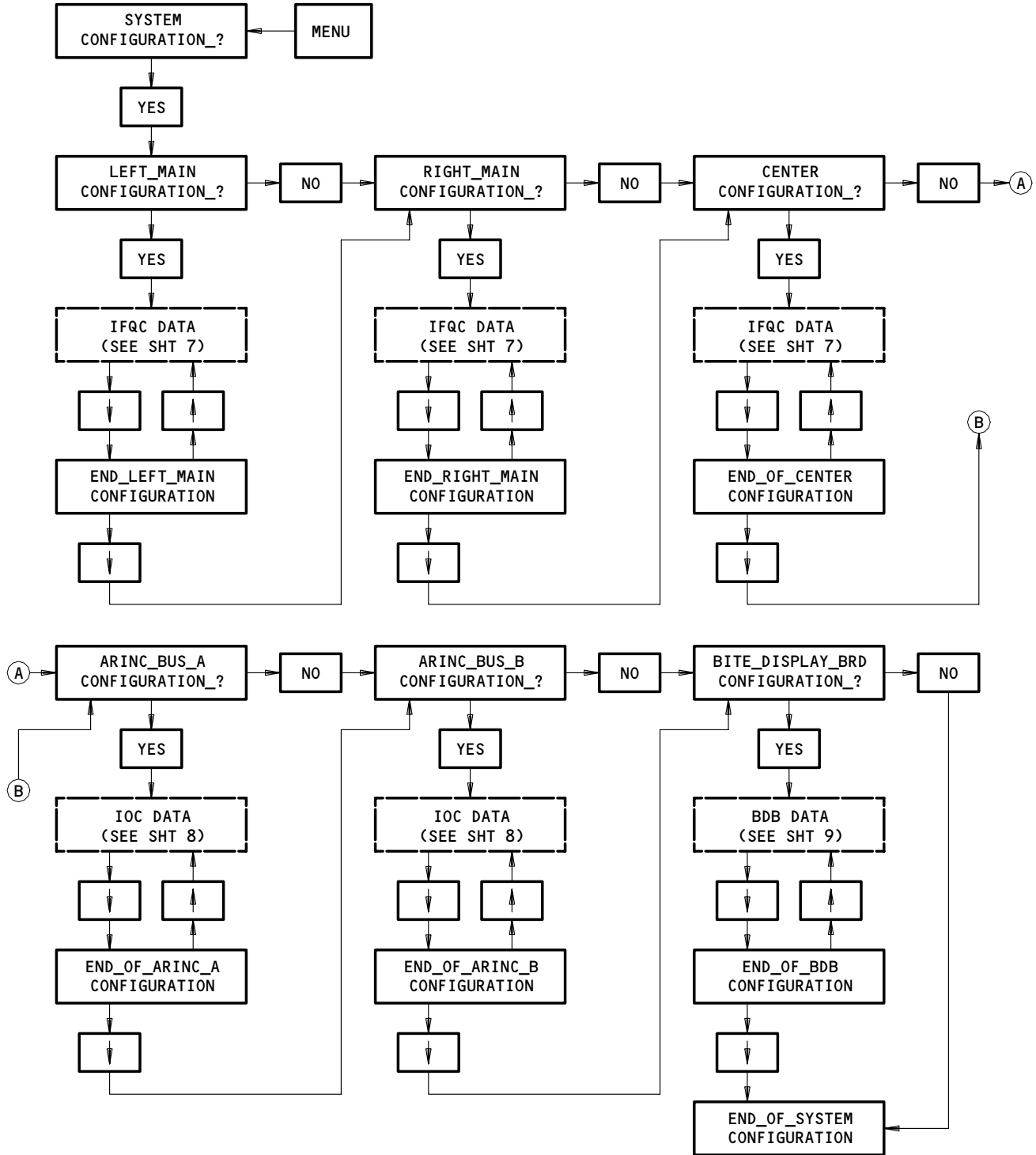
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SELF TEST MENU
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 Figure 105 (Sheet 5)

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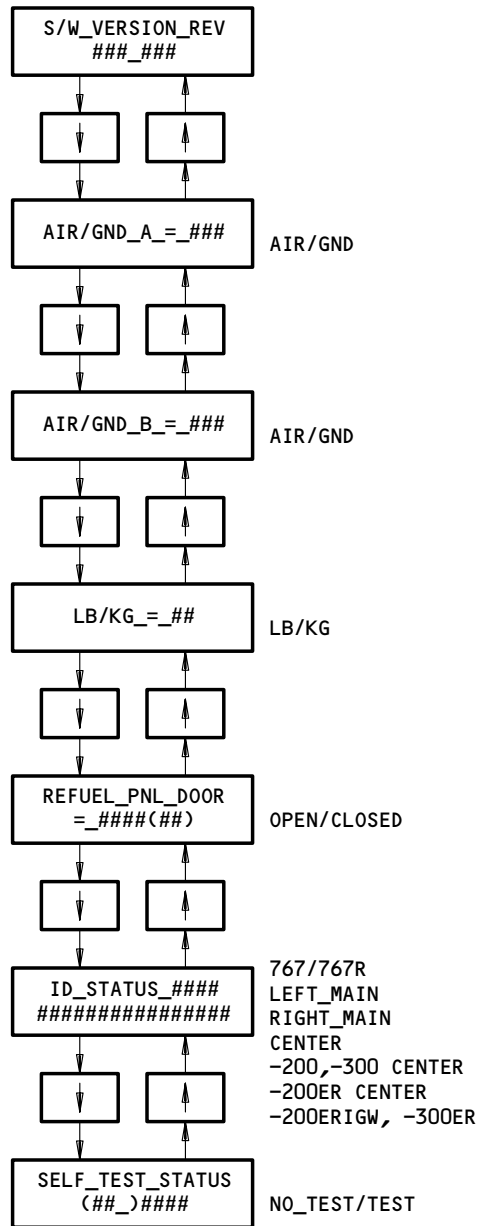
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SYSTEM CONFIGURATION MENU
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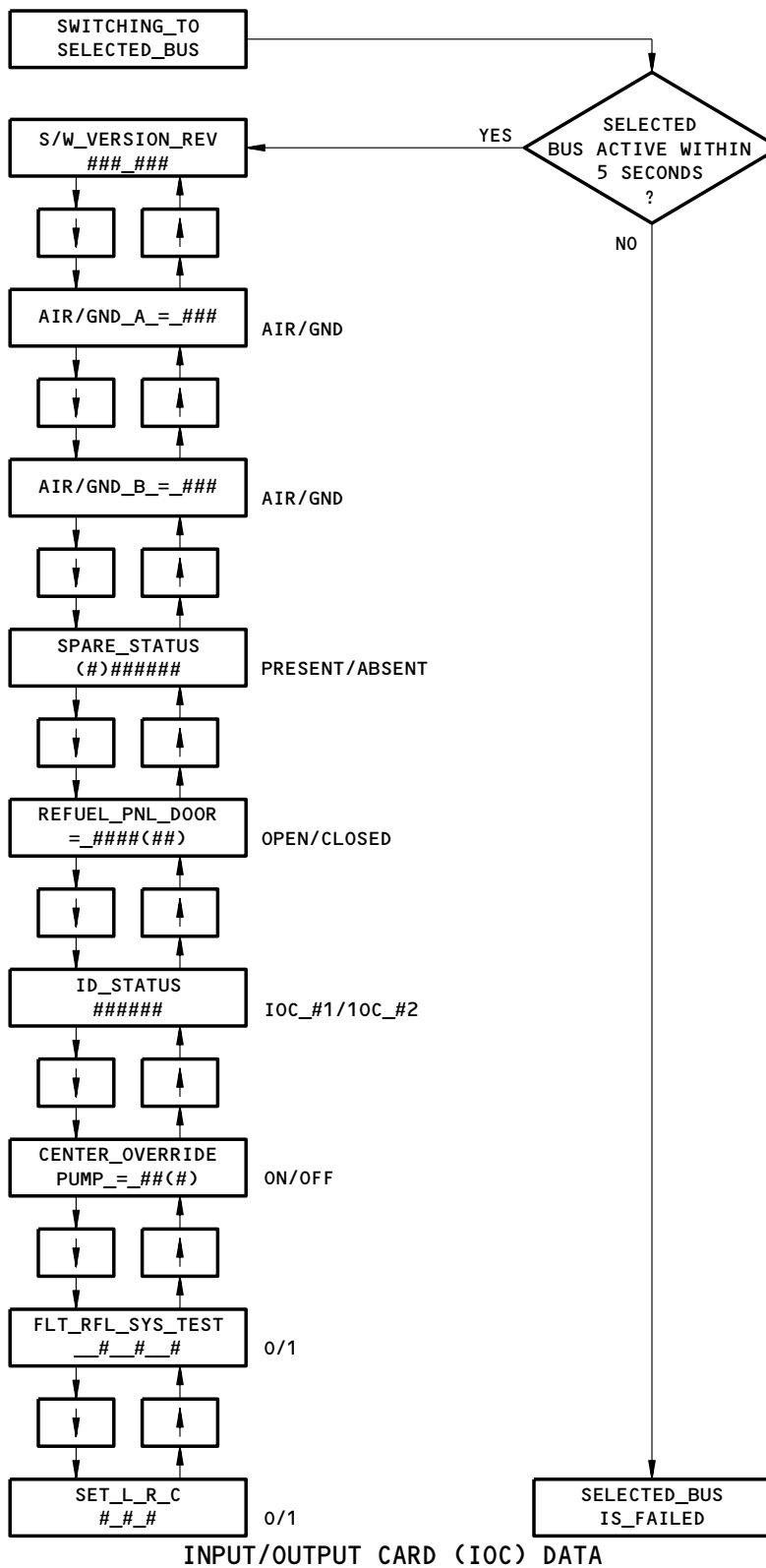
INDIVIDUAL FUEL QUANTITY CHANNEL CARD (IFQC) DATA
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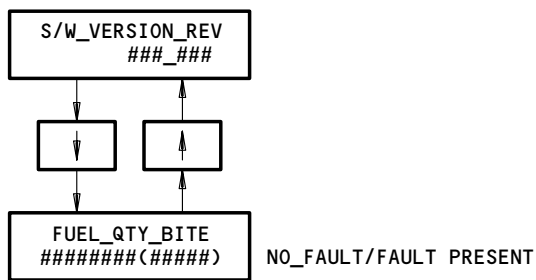

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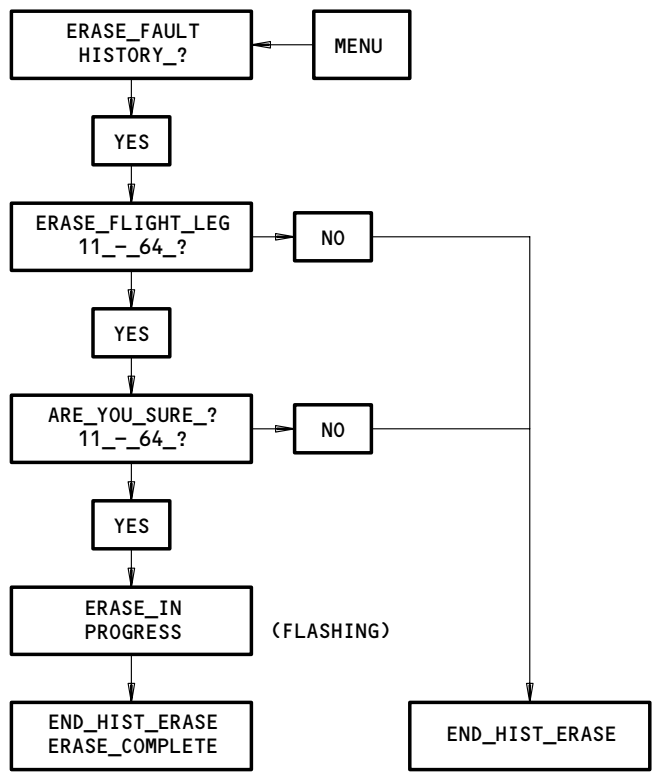


BITE DISPLAY BOARD DATA
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 Figure 105 (Sheet 9)

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ERASE FAULT HISTORY MENU
 FQIS Processor BITE Menu
 Figure 105 (Sheet 10)

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NO.	FIGURE	SHEET	FAULT MESSAGES
1	FIG. 108	SH. 2	** TU ## OPEN LOZ OR HIZ WIRE G##.
2	FIG. 108	SH. 3	** TU ## SHORTED IN TANK G##.
3	FIG. 108	SH. 4	** TU ?? SHORTED IN TANK G##.
4	FIG. 108	SH. 5	** TU ## CONTAMINATED G##.
5	FIG. 108	SH. 6	** TU ## SHORTED TO GROUND G##.
6	FIG. 108	SH. 7	** COMP OPEN LOZ OR HIZ WIRE G##.
7	FIG. 108	SH. 8	** COMP SHORTED IN TANK G##.
8	FIG. 108	SH. 9	** COMPENSATOR CONTAMINATED G##.
9	FIG. 108	SH. 10	** COMP SHORTED TO GROUND G##.
10	FIG. 108	SH. 11	** HIZ WIRE OPEN AT SPAR G##.
11	FIG. 108	SH. 12	** HIZ SHIELD OPEN AT SPAR G##.
12	FIG. 108	SH. 13	** HIZ WIRE OPEN AT PROCESSOR G##.
13	FIG. 108	SH. 14	** HIZ SHIELD OPEN AT PROC G##.
14	FIG. 108	SH. 15	** HIZ WIRE LOW RESISTANCE G##.
15	FIG. 108	SH. 16	** HIZ SHORTED WIRE TO SHLD G##.
16	FIG. 108	SH. 17	** HIZ SHIELD SHORT TO GND G##.
17	FIG. 108	SH. 18	** DENS RESISTOR UNREADABLE G##.
18	FIG. 108	SH. 19	** DENS EXCITA- TION SHORTED G##.
19	FIG. 108	SH. 20	** DENS SENSE WIRE SHORTED G##.
20	FIG. 108	SH. 21	** DENS SENSE OPEN AT SPAR G##.
21	FIG. 108	SH. 22	** DENS SENSE OPEN AT PROC G##.
22	FIG. 108	SH. 23	** DENS CONTAM OR RESISTOR G##.
23	FIG. 108	SH. 24	** DENS SENSOR OR DRIVE WIRE G##. (OR) ** DENS SENSOR FAILURE G##.
24	FIG. 108	SH. 25	** IFQC CIRCUIT BOARD FAILED G##.
25	FIG. 108	SH. 26	** IFQC AIR/GND CIRCUIT FAIL G##.
26	FIG. 108	SH. 27	AIR/GROUND INPUT FAILED G##.
27	FIG. 108	SH. 28	LB/KG INPUT WIRE FAILED G##.
28	FIG. 108	SH. 29	** IFQC LB/KG CIRCUIT FAIL G##.
29	FIG. 108	SH. 29	IOC I DISCRETE DRIVER FAIL G##.
30	FIG. 108	SH. 30	LOAD SELECT UNIT OR WIRE FAIL G##.
31	FIG. 108	SH. 30	IOC # (1 OR 2) FAILED G##.
32	FIG. 108	SH. 31	VOLUME SHUTOFF OF ** AT 95% G##.
33	FIG. 108	SH. 32	VOLUME SHUTOFF OF ** AT 87% G##.
34	FIG. 108	SH. 33	BITE DISPALY BOARD FAILED G##.
35	FIG. 108	SH. 34	(THE BITE DISPLAY BOARD IS NOT ON)
36	FIG. 108	SH. 35	ARINC BUS (A OR B) FAILED G##.
37	FIG. 108	SH. 36	SHORT/LONG INPUT WIRE FAILED G##.
38	FIG. 108	SH. 37	** IFQC SHORT/LONG CIRCUIT G##.
39	FIG. 108	SH. 38	** TU?? SHORTED TO GROUND G##.

Fault Message Reference Chart
Figure 106

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FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR D5878 PINS		HI-Z/LO-Z CONNECTOR (REAR) (SPAR) R0230-14 PINS		COMPONENT	EQUIPMENT NO.	ACCESS DOOR
D2706B	D2706C	LO-Z	HI-Z	LO-Z	HI-Z			
LO-Z	HI-Z 1	LO-Z	HI-Z 2	LO-Z	HI-Z 3			
10F	6E	7	1	7	1	R AUX COMPENSATOR	TS328	136KZ
10D	6E	3	1	3	1	R AUX TANK UNIT NO. 1	TS329	631BB
10E	6E	4	1	4	1	R AUX TANK UNIT NO. 2	TS330	631BB
11D	6E	5	1	5	1	R AUX TANK UNIT NO. 3	TS331	631BB
11E	6E	6	1	6	1	R AUX TANK UNIT NO. 4	TS332	631BB

RIGHT AUXILIARY FUEL TANK WIRING

FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR D4320 PINS		HI-Z/LO-Z CONNECTOR (REAR) (SPAR) L0246-14 PINS		COMPONENT	EQUIPMENT NO.	ACCESS DOOR
D2706A	D2706C	LO-Z	HI-Z	LO-Z	HI-Z			
LO-Z	HI-Z 4	LO-Z	HI-Z 5	LO-Z	HI-Z 6			
10D	6B	3	1	3	1	L AUX TANK UNIT NO. 1	TS319	531BB
10E	6B	4	1	4	1	L AUX TANK UNIT NO. 2	TS318	531BB
11D	6B	5	1	5	1	L AUX TANK UNIT NO. 3	TS317	531BB
11E	6B	6	1	6	1	L AUX TANK UNIT NO. 4	TS316	531BB
11F	6B	7	1	7	1	L AUX TANK UNIT NO. 5	TS320	136KZ

LEFT AUXILIARY FUEL TANK WIRING


- 1 THE PIN NUMBER 6E IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PINS ARE 5D AND 7F (WDM 28-41-23).
- 2 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-23).
- 3 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-23).
- 4 THE PIN NUMBER 6B IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PINS ARE 5A AND 7C (WDM 28-41-23).
- 5 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-23).
- 6 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-23).

FQIS Wiring
Figure 107 (Sheet 1)

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FQIS PROCESSOR CONNECTOR D2706A PINS	EE BAY RACK CONNECTOR D8384 PINS	HOT SHORT PROTECTOR M12168 PINS 	DENSITOMETER (REAR) (SPAR) R0243-14 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
				DENSITOMETER	M720	136KZ
9J	1	1	1	SENSE		
10K	C1	G1	C1	SHIELD		
10H	2	15	2	DRIVE (POSITIVE)		
10J	3	11	3	DRIVE (NEGATIVE)		
9G	4	12	6	KR0		
10G	5	13	7	KR1		
11G	6	14	8	KR2		
12G	7	5	9	KR3		

AUXILIARY TANK DENSITOMETER WIRING

 AIRPLANES WITH HOT SHORT PROTECTOR (POST-SB 28A0094 OR PRR B13421-8)

FQIS Wiring
Figure 107 (Sheet 2)

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FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR PINS		HI-Z/LO-Z CONNECTOR (REAR) (SPAR) R0411-14 PINS		COMPONENT	EQUIPMENT NO.	ACCESS DOOR
D2706B	D2706C	D8382	D4638					
LO-Z	HI-Z 7	LO-Z	HI-Z 8	LO-Z	HI-Z 9			
4E	2J	15	1	17	1	COMPENSATOR	TS334	632BB
1C	2J	1	1	3	1	TANK UNIT NO. 1	TS335	632BB
1D	2J	2	1	4	1	TANK UNIT NO. 2	TS336	632BB
1E	2J	3	1	5	1	TANK UNIT NO. 3	TS337	632BB
1F	2J	4	1	6	1	TANK UNIT NO. 4	TS338	632BB
2C	2J	5	1	7	1	TANK UNIT NO. 5	TS339	632BB
2D	2J	6	1	8	1	TANK UNIT NO. 6	TS340	641BB
2E	2J	7	1	9	1	TANK UNIT NO. 7	TS341	641CB
2F	2J	8	1	10	1	TANK UNIT NO. 8	TS342	641EB
3C	2J	9	1	11	1	TANK UNIT NO. 9	TS343	641HB
3D	2J	10	1	12	1	TANK UNIT NO. 10	TS344	641KB
3E	2J	11	1	13	1	TANK UNIT NO. 11	TS345	641PB
3F	2J	12	1	14	1	TANK UNIT NO. 12	TS346	641TB
4C	25	13	1	15	1	TANK UNIT NO. 13	TS347	641VB
4D	25	14	1	16	1	TANK UNIT NO. 14	TS348	641XB

RIGHT MAIN FUEL TANK WIRING

- 7 THE PIN NUMBER 2J IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PINS ARE 1H AND 3K (WDM 28-41-22).
- 8 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-22).
- 9 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-22).

FQIS Wiring
Figure 107 (Sheet 3)

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FQIS PROCESSOR CONNECTOR D2706B PINS	EE BAY RACK CONNECTOR D8380 PINS	DENSITOMETER (REAR) (SPAR) R0287-14 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
			DENSITOMETER	M597	632BB
7D	1	1	SENSE		
6E	C1	C1	SHIELD		
6D	2	2	DRIVE (POSITIVE)		
5E	3	3	DRIVE (NEGATIVE)		
5A	4	6	KR0		
5B	5	7	KR1		
5C	6	8	KR2		
5D	7	9	KR3		

RIGHT MAIN FUEL TANK DENSITOMETER
 RIGHT MAIN FUEL TANK WIRING

FQIS Wiring
 Figure 107 (Sheet 4)

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FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR PINS		HI-Z/LO-Z CONNECTOR (REAR) (SPAR) L0403-14 PINS		COMPONENT	EQUIPMENT NO.	ACCESS DOOR
D2706A	D2706C	D8392	D4466	LO-Z	HI-Z			
LO-Z	HI-Z 10	LO-Z	HI-Z 11	LO-Z	HI-Z 12			
4E	B2	15	1	17	1	COMPENSATOR	TS314	532BB
1C	B2	1	1	3	1	TANK UNIT NO. 1	TS314	532BB
1D	B2	2	1	4	1	TANK UNIT NO. 2	TS313	532BB
1E	B2	3	1	5	1	TANK UNIT NO. 3	TS312	532BB
1F	B2	4	1	6	1	TANK UNIT NO. 4	TS311	532BB
2C	B2	5	1	7	1	TANK UNIT NO. 5	TS310	532BB
2D	B2	6	1	8	1	TANK UNIT NO. 6	TS309	541BB
2E	B2	7	1	9	1	TANK UNIT NO. 7	TS308	541CB
2F	B2	8	1	10	1	TANK UNIT NO. 8	TS307	541EB
3C	B2	9	1	11	1	TANK UNIT NO. 9	TS306	541HB
3D	B2	10	1	12	1	TANK UNIT NO. 10	TS305	541KB
3E	B2	11	1	13	1	TANK UNIT NO. 11	TS304	542PB
3F	B2	12	1	14	1	TANK UNIT NO. 12	TS303	542TB
4C	B2	13	1	15	1	TANK UNIT NO. 13	TS302	541VB
4D	B2	14	1	16	1	TANK UNIT NO. 14	TS301	541XB

LEFT MAIN FUEL TANK WIRING

- 10 THE PIN NUMBER B2 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PINS ARE A1 AND C3 (WDM 28-41-21).
- 11 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-21).
- 12 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-21).

FQIS Wiring
Figure 107 (Sheet 5)

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FQIS PROCESSOR CONNECTOR D2706A PINS	EE BAY RACK CONNECTOR D8378 PINS	DENSITOMETER (REAR) (SPAR) L0287-14 PINS	COMPONENT		
			DENSITOMETER	M596	532BB
6B	1	1	SENSE		
6A	C1	C1	SHIELD		
5A	2	2	DRIVE (POSITIVE)		
5B	3	3	DRIVE (NEGATIVE)		
5C	4	6	KRO		
5D	5	7	KR1		
5E	6	8	KR2		
6D	7	9	KR3		

LEFT MAIN FUEL TANK DENSITOMETER
LEFT MAIN FUEL TANK WIRING

FQIS Wiring
Figure 107 (Sheet 6)

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**** FAULT ## MESSAGE G##.**

EXAMPLE

THIS BLOCK SHOWS THE EXACT FAULT MESSAGE THAT SHOWS ON THE FQIS PROCESSOR DISPLAY. THERE ARE ABBREVIATIONS USED IN THE FAULT MESSAGES BECAUSE OF THE LIMITS ON THE DISPLAY. THE FUEL TANK AND COMPONENT INDICATIONS ARE SHOWN AS FOLLOWS:

"**" SHOWS THE FUEL TANK THAT THE FAULT MESSAGE IS FOR AS FOLLOWS:

- ** - "LM" LEFT MAIN FUEL TANK
- ** - "RM" RIGHT MAIN FUEL TANK
- ** - "CT" CENTER FUEL TANK

"##" THIS PLACE HOLDER SHOWS THE NUMERICAL INDICATION FOR TANK UNIT, OR OTHER NUMERICAL IDENTIFICATION. AN EXAMPLE IS AS FOLLOWS:

- ## - "01" INDICATION FOR NUMBER 1 TANK UNIT
- ## - "02" INDICATION FOR NUMBER 2 TANK UNIT
- ## - "03" INDICATION FOR NUMBER 3 TANK UNIT
- .
- .
- ## - "14" INDICATION FOR NUMBER 14 TANK UNIT

"G##" - THIS PLACE HOLDER INDICATION SHOWS IF THE FIRST APPLICABLE FAULT MESSAGE OCCURRED IN THE GROUND "G" MODE, OR IN THE AIR "A" MODE. THE "##" PLACE HOLDER INDICATION SHOWS HOW MANY TIMES THE FAULT OCCURRED DURING THE APPLICABLE FLIGHT LEG.

NOTE: THE "##" INDICATION WILL SHOW THE NUMBER OF TIMES THE FAULT OCCURRED AS FOLLOWS:

- FAULTS 01-09, WILL SHOW AS 01-09
- FAULTS 10-18, WILL SHOW AS 09
- FAULTS 19-28, WILL SHOW AS 19
- FAULTS 29-38, WILL SHOW AS 29
- FAULTS 39-48, WILL SHOW AS 39
- .
- .
- FAULTS 89-98, WILL SHOW AS 89
- FAULT 99, WILL SHOW AS 99

FAULT CONDITION

THIS BLOCK EXPLAINS THE FQIS SYSTEM FAULT CONDITIONS.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- THIS BLOCK SHOWS THE POSSIBLE FLIGHT COMPARTMENT OR AIRPLANE INDICATIONS THAT WILL OCCUR BECAUSE OF THE FAULT MESSAGE SHOWN ABOVE.

CORRECTION

THIS BLOCK SHOWS THE STEPS TO CORRECT THE FAULT MESSAGE SHOWN ABOVE.

THE RECOMMENDED CORRECTIVE ACTION FOR FAULT MESSAGES IS AS FOLLOWS:

- DO A CHECK OF THE "PRESENT FAULTS?" MENU
- IF THERE ARE PRESENT FAULTS SHOWN DO THE APPLICABLE FAULT ISOLATION PROCEDURE IN FIG. 108.

NOTE: IF NO PRESENT FAULTS SHOW AND THERE ARE FAULT MESSAGES IN "FAULT HISTORY?" FLIGHT LEG 00, MAKE SURE THE FQIS OPERATES CORRECTLY AS FOLLOWS:

1. MAKE SURE THE FUEL QUANTITY DISPLAY DOES NOT GO OFF OR HAVE AN IRREGULAR INDICATION
2. DO A "SELF TEST?" ON THE FQIS PROCESSOR
3. IF NO FAULTS SHOW FROM THE "SELF TEST?" OR IN THE "PRESENT FAULTS?" MENU AND THE FQIS DISPLAY OPERATES CORRECTLY, NO FURTHER MAINTENANCE IS NECESSARY.

Fault Messages
Figure 108 (Sheet 1)

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FAULT MESSAGE	1
** TU ## OPEN LOZ OR HIZ WIRE G##.	
FAULT CONDITION	
THIS FAULT MESSAGE SHOWS IF THE APPLICABLE TANK UNIT CAPACITANCE IS LESS THAN THE CAPACITANCE FOR AN EMPTY FUEL TANK, AND THERE ARE NO OTHER FAULTS IN THE SYSTEM.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION, WHEN ONLY ONE TANK UNIT IS BAD. WHEN YOU FUEL THE AIRPLANE THE VOLUME TOP-OFF (VTO) MECHANISM CAN STOP FUELING AT 5% LESS THAN FULL. - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS - IF THERE IS MORE THAN ONE OPEN WIRE, THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK AFTER 10 SECONDS, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - IF THERE IS MORE THAN ONE OPEN WIRE, WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE CONNECTORS AND PINS FOR CORROSION OR DAMAGE TO THE PINS (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE PROBLEM CONTINUES, FIND THE OPEN WIRE BETWEEN THE FQIS PROCESSOR AND THE FUEL TANK. 4. MEASURE THE CAPACITANCE OF THE APPLICABLE TANK UNIT AT THE TANK WALL (SPAR) CONNECTOR (FIG. 107). 5. IF THE CAPACITANCE OF THE TANK UNIT IS ZERO, THE OPEN WIRE IS ON THE TANK WIRE HARNESS. <ol style="list-style-type: none"> A. GO INTO THE APPLICABLE FUEL TANK AND EXAMINE THE LO-Z/HI-Z CONNECTIONS AT THE TANK UNIT. 6. IF THE MEASURED CAPACITANCE IS OK, THE PROBLEM IS IN THE AIRPLANE WIRE HARNESS. 7. REPLACE OR REPAIR THE APPLICABLE HI-Z/LO-Z WIRE HARNESS (WDM 28-41-21,-22,-23). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 2)

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FAULT MESSAGE	2
** TU ## SHORTED IN TANK G##.	
FAULT CONDITION	
LESS THAN 10,000 OHMS RESISTANCE IS MEASURED FROM THE INNER TUBE OF THE TANK UNIT TO THE OUTER TUBE OF THE TANK UNIT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE SPAR CONNECTOR FOR CONDUCTIVE MATERIAL BETWEEN THE HI-Z AND LO-Z TERMINALS. 2. IF THE PROBLEM CONTINUES, DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201). 3. DRAIN THE APPLICABLE FUEL TANK SUMP (AMM 12-11-03/301). 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 5. IF THE PROBLEM CONTINUES TO SHOW, GO INTO THE FUEL TANK AND EXAMINE THE APPLICABLE TANK UNIT FOR CONTAMINATION OR CONDUCTIVE MATERIAL IN THE TANK UNIT OR TERMINAL BLOCK (AMM 28-11-00/201). 6. REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401). 7. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 3)

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FAULT MESSAGE	3
** TU ?? SHORTED IN TANK G##.	
FAULT CONDITION	
LESS THAN 10,000 OHMS RESISTANCE IS MEASURED FROM THE INNER TUBE OF THE TANK UNIT TO THE OUTER TUBE OF THE TANK UNIT. THE FAULT IS SO BAD THE FQIS PROCESSOR CANNOT ISOLATE THE FAILED TANK UNIT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. GO TO THE "SYSTEM DATA?" MENU AND LOOK AT THE CAPACITANCE VALUES FOR THE TANK UNITS IN THE APPLICABLE FUEL TANK. 2. FIND THE TANK UNIT CAPACITANCE VALUE THAT IS 0.0, OR DOES NOT HAVE A CAPACITANCE VALUE THAT IS ALMOST THE SAME AS THE OTHER TANK UNIT ON THE DISPLAY. <ul style="list-style-type: none"> <u>NOTE:</u> FOR CENTER TANK UNIT 1, THERE IS NOT ANOTHER TANK UNIT THAT IS ALMOST THE SAME FOR YOU TO COMPARE THE CAPACITANCE VALUE WITH. A. IF A PROBLEM AT THE TANK UNIT OR SPAR CONNECTOR CANNOT BE FOUND, DO A CONTINUITY CHECK AT THE FQIS PROCESSOR CONNECTOR BETWEEN THE APPLICABLE LO-Z AND HI-Z CONNECTOR PINS TO FIND THE SHORTED LO-Z TO HI-Z WIRE OR TANK UNIT (FIG. 107). 3. REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401). 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 4)

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FAULT MESSAGE	4
** TU ## CONTAMINATED G##.	
FAULT CONDITION	
THE RESISTANCE BETWEEN THE INNER AND OUTER TUBES OF THE TANK UNIT IS LESS THAN 1 MEGOHM, OR THE CAPACITANCE MEASURED FOR THE TANK UNIT IS 104% OF FULL.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - IF THERE IS MORE THAN ONE CONTAMINATED TANK UNIT, OR THE HIGHEST TANK UNIT IN THE FUEL TANK IS CONTAMINATED, THE FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - IF THERE IS MORE THAN ONE CONTAMINATED TANK UNIT (OR THE HIGHEST TANK UNIT IN THE FUEL TANK IS CONTAMINATED, WHILE FUELING, THE FUELING SHUTOFF VALVE WILL CLOSE FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201). 2. DRAIN THE APPLICABLE FUEL TANK SUMP (AMM 12-11-03/301). 3. DO THE DRY CAPACITANCE TEST (FIG. 109). 4. MAKE SURE THE TANK UNIT CAPACITANCE VALUES ARE IN THE LIMITS ON FIG. 109. IF ALL THE TANK UNIT CAPACITANCE VALUES ARE IN THE LIMITS ON FIG. 109, GO TO STEP 6. 5. IF ONE OR MORE OF THE TANKS CAPACITANCE VALUES ARE NOT THE LIMITS ON FIG. 109, EXAMINE THE HI-Z SHIELD CONNECTIONS AT THE TANK UNIT AND REPLACE THE APPLICABLE FUEL TANK WIRING HARNESS (AMM 28-41-09/401). 6. IF ALL THE TANK UNITS ARE IN THE LIMITS ON FIG. 109, REPLACE THE APPLICABLE TANK UNIT THAT SHOWS IN THE FAULT MESSAGE ON THE FQIS PROCESSOR DISPLAY (AMM 28-41-01/401). 7. IF THE PROBLEM CONTINUES, REPLACE THE APPLICABLE WIRE HARNESS (AMM 28-41-09/401). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
 Figure 108 (Sheet 5)

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FAULT MESSAGE	5
** TU ## SHORTED TO GROUND G##.	
FAULT CONDITION	
THE APPLICABLE TANK UNIT OR LO-Z WIRE IS SHORTED TO GROUND.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - IF THERE IS MORE THAN ONE ELECTRICAL SHORT THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - IF THERE IS MORE THAN ONE ELECTRICAL SHORT WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSURES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. OPEN THE HI-Z/LO-Z CONNECTOR FOR THE APPLICABLE FUEL TANK (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" 3. IF THE FAULT MESSAGE CONTINUES TO SHOW WHEN THE HI-Z/LO-Z CONNECTOR IS OPEN, THEN THE PROBLEM IS BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR AT THE FRONT SPAR. <u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE AND THE OPEN HI-Z AT SPAR FAULT MESSAGE WILL SHOW, WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES. 4. EXAMINE THE WIRING TO FIND THE TANK UNIT LO-Z SHORT TO GROUND AND REPAIR OR REPLACE THE APPLICABLE WIRING (WDM 28-41-21,-22,-23). 5. IF THE PROBLEM GOES AWAY THE SHORTED CIRCUIT IS IN THE FUEL TANK. 6. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). <u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE AND THE OPEN HI-Z AT SPAR FAULT MESSAGE WILL SHOW, WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES. 7. EXAMINE AND REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401). <u>NOTE:</u> MAKE SURE THE TANK UNIT HAS CLEARANCE FROM THE AIRPLANE STRUCTURE. 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 9. IF THE PROBLEM CONTINUES, EXAMINE AND REPLACE THE TANK WIRING HARNESS (WDM 28-41-21,-22,-23). 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 6)

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FAULT MESSAGE	6
** COMP OPEN LOZ OR HIZ WIRE G##.	
FAULT CONDITION	
THIS MESSAGE IS SENT IF THE MEASURED CAPACITANCE OF THE APPLICABLE TANK UNIT IS BELOW THE MINIMUM VALUE, REFER TO FIG. 108, AND THERE ARE NO OTHER FAULTS.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - THE FUEL OPERATION CAN STOP AT 5% OR 13% LESS THAN THE VOLUMETRIC SHUTOFF (VSO) POINT TO PREVENT A FUEL SPILL. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE AND CLEAN THE APPLICABLE CONNECTORS (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?", TO SEE IF THE FAULT MESSAGES CONTINUES TO SHOW. 3. IF THE PROBLEM CONTINUES, FIND THE OPEN WIRE BETWEEN THE FQIS PROCESSOR AND THE FUEL TANK. 4. MEASURE THE CAPACITANCE OF THE APPLICABLE COMPENSATOR AT THE TANK WALL (SPAR) CONNECTOR (FIG. 107). 5. IF THE CAPACITANCE OF THE COMPENSATOR IS ZERO, THE OPEN WIRE IS ON THE TANK WIRE HARNESS. <ol style="list-style-type: none"> A. GO INTO THE APPLICABLE FUEL TANK AND EXAMINE THE LO-Z/HI-Z CONNECTIONS AT THE COMPENSATOR. 6. IF THE MEASURED CAPACITANCE IS OK, THE PROBLEM IS IN THE AIRPLANE WIRE HARNESS. 7. REPLACE OR REPAIR THE APPLICABLE HI-Z/LO-Z WIRE HARNESS (WDM 28-41-21,-22,-23). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 7)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	7
** COMP SHORTED IN TANK G##.	
FAULT CONDITION	
THERE IS LESS THAN 10,000 OHMS OF RESISTANCE BETWEEN THE INNER AND OUTER TUBES OF THE APPLICABLE TANK UNIT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201). 2. DRAIN THE APPLICABLE FUEL TANK SUMP (AMM 12-11-03/301). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" 4. IF THE PROBLEM CONTINUES, EXAMINE THE APPLICABLE COMPENSATOR AND TERMINAL BLOCK FOR CONTAMINATION. <u>NOTE:</u> MAKE SURE THE COMPENSATOR HAS CLEARANCE WITH THE AIRPLANE STRUCTURE. 5. REPLACE THE APPLICABLE COMPENSATOR IF IT IS NECESSARY (AMM 28-41-02/401). 6. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" 	

Fault Messages
Figure 108 (Sheet 8)

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FAULT MESSAGE	8
** COMPENSATOR CONTAMINATED G##.	
FAULT CONDITION	
THE COMPENSATOR OR DENSITOMETER IS BAD; OR BOTH THE COMPENSATOR AND DENSITOMETER ARE BAD.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
<ol style="list-style-type: none"> 1. DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201). 2. DRAIN THE APPLICABLE FUEL TANK SUMP (AMM 12-11-03/301). 3. DO THE DRY CAPACITANCE TEST (FIG. 109). 4. IF THE FAULT CONTINUES TO SHOW, DISCONNECT THE APPLICABLE SPAR CONNECTOR AND EXAMINE IT FOR DAMAGE OR CONTAMINATION. 5. REPAIR OR REPLACE THE WIRE HARNESS IF IT IS NECESSARY (WDM 28-41-21,-22,-23). 6. IF THE PROBLEM CONTINUES, MEASURE THE RESISTANCE BETWEEN THE APPLICABLE HI-Z SHIELD AND AIRPLANE GROUND ON THE AIRPLANE WIRE HARNESS. 7. IF THE MEASURED RESISTANCE IS MORE THAN 7 OHMS, EXAMINE THE HI-Z SHIELD CONNECTIONS BETWEEN THE SPAR AND THE PROCESSOR (FIG. 107). 8. IF THE PROBLEM CONTINUES, YOU MUST GO INTO THE FUEL TANK (AMM 28-11-00/201). 9. EXAMINE THE FUEL TANK FOR WATER, MICROBIAL GROWTH, OR OTHER CONTAMINANTS NEAR THE COMPENSATOR. 10. IF THERE IS NO CONTAMINATION, THEN DO A RESISTANCE TEST TO MAKE SURE THE HI-Z SHIELD RESISTANCE IS LESS THAN 1 OHM BETWEEN THE COMPENSATOR AND THE HI-Z SHIELD CONTACT AT THE SPAR CONNECTOR. 11. IF THE SHIELD RESISTANCE IS OK, REPLACE THE COMPENSATOR. 12. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 9)

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FAULT MESSAGE	9
** COMP SHORTED TO GROUND G##.	
FAULT CONDITION	
THE APPLICABLE TANK UNIT OUTER TUBE OR LO-Z WIRE IS SHORTED TO GROUND.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE FUEL OPERATION CAN STOP AT 5% OR 13% LESS THAN THE VOLUMETRIC SHUTOFF (VSO) POINT TO PREVENT A FUEL SPILL. - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS 	
CORRECTION	
<ol style="list-style-type: none"> 1. OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" <u>NOTE:</u> WHEN YOU OPEN THE SPAR CONNECTOR, "OPEN" FAULT MESSAGES WILL SHOW. IGNORE THESE "OPEN" FAULT MESSAGES. 3. IF THE FAULT MESSAGE CONTINUES TO SHOW, FOR THE APPLICABLE COMPENSATOR, THE FAILURE IS BETWEEN THE APPLICABLE HI-Z/LO-Z CONNECTOR AND THE FQIS PROCESSOR, M121, GO TO STEP 5. <u>NOTE:</u> ALL THE TANK UNITS WILL SHOW THE FAULT MESSAGES OPEN LO-Z OR HI-Z WIRE WHEN YOU OPEN THE SPAR CONNECTOR. IGNORE THESE OPEN FAULT MESSAGES. 4. IF THE FAULT MESSAGE DOES NOT SHOW AFTER STEP 2, THE PROBLEM IS IN THE FUEL TANK, GO TO STEP 6. 5. FIND THE SHORTED COMPENSATOR LO-Z WIRE. REPAIR OR REPLACE THE WIRE AS NECESSARY (WDM 28-41-21,-22,-23). 6. EXAMINE AND REPLACE THE APPLICABLE COMPENSATOR (AMM 28-41-02/401). <u>NOTE:</u> MAKE SURE THE COMPENSATOR HAS CLEARANCE FROM THE AIRPLANE STRUCTURE. 7. IF THE PROBLEM CONTINUES, EXAMINE AND REPLACE THE APPLICABLE TANK WIRING HARNESS (WDM 28-41-21,-31,-41). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 10)

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FAULT MESSAGE	10
** HIZ WIRE OPEN AT SPAR G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF THERE IS AN OPEN IN THE CENTER CONDUCTOR OF THE HI-Z WIRE. THE OPEN WIRE IS USUALLY NEAR THE APPLICABLE HI-Z/LO-Z CONNECTOR. THIS INCLUDES THE POINTS BETWEEN A POINT HALF THE DISTANCE BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR, AND A POINT HALF THE DISTANCE BETWEEN THE HI-Z/LO-Z CONNECTOR AND THE FIRST TANK SENSOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE HI-Z/LO-Z CONNECTOR FOR CONTAMINATION OR DAMAGE (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" TO SEE IF THE FAULT MESSAGE CONTINUES TO SHOW. 3. DO A TEST ON THE APPLICABLE HI-Z WIRE TO FIND THE OPEN WIRE (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). <ol style="list-style-type: none"> A. ON THE FRONT PANEL OF THE FQIS PROCESSOR, GO TO THE "SYSTEM DATA?" MENU. FIND THE CAPACITANCE VALUE FOR THE APPLICABLE HI-Z WIRE. B. SELECT APPROPRIATE TREE MAIN-TANK-DATA OR CENTER-TANK-DATA. C. TOGGLE DOWN TO THE APPROPRIATE LEFT-HI-Z-RIGHT (FOR MAIN TANKS) OR CENTER-HI-Z (FOR AUXILIARY TANK). D. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXIMATE VALUE FOR THE DISTANCE (IN FEET) TO THE OPEN WIRE FROM THE FQIS PROCESSOR. 4. REPAIR OR REPLACE THE APPLICABLE WIRING HARNESS (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 11)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	11
** HIZ SHIELD OPEN AT SPAR G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF THERE IS AN OPEN IN THE HI-Z WIRE. THE OPEN WIRE WILL BE NEAR THE APPLICABLE HI-Z/LO-Z CONNECTOR. THIS INCLUDES THE POINTS BETWEEN A POINT HALF THE DISTANCE BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR, AND A POINT HALF THE DISTANCE BETWEEN THE HI-Z/LO-Z CONNECTOR AND THE FIRST TANK UNIT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE CONNECTORS FOR CONTAMINATION OR DAMAGE (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" TO SEE IF THE FAULT MESSAGE CONTINUES TO SHOW. 3. DO A TEST ON THE APPLICABLE HI-Z SHIELD TO FIND THE OPEN SHIELD (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). <ol style="list-style-type: none"> A. ON THE FRONT PANEL OF THE FQIS PROCESSOR, GO TO THE "SYSTEM DATA?" MENU. FIND THE CAPACITANCE VALUE FOR THE APPLICABLE HI-Z WIRE. B. SELECT APPROPRIATE TREE MAIN-TANK-DATA OR CENTER-TANK-DATA. C. TOGGLE DOWN TO THE APPROPRIATE LEFT-HI-Z-RIGHT (FOR MAIN TANKS) OR CENTER-HI-Z (FOR AUXILIARY TANK). D. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXIMATE VALUE FOR THE DISTANCE (IN FEET) TO THE OPEN WIRE FROM THE FQIS PROCESSOR. 4. EXAMINE, REPAIR OR REPLACE THE APPLICABLE HI-Z WIRING HARNESS AS NECESSARY (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). 5. DO THIS PROCEDURE: FUEL QTY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 12)

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FAULT MESSAGE	12
** HIZ WIRE OPEN AT PROCESSOR G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF THERE IS AN OPEN IN THE CENTER WIRE OF THE HI-Z CABLE. THE OPEN WIRE WILL BE NEAR THE FQIS PROCESSOR. THIS INCLUDES THE POINTS BETWEEN THE FQIS PROCESSOR CONNECTOR, AND A POINT HALF THEIR DISTANCE BETWEEN THE FQIS PROCESSOR CONNECTOR AND THE HI-Z/LO-Z CONNECTOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.	
CORRECTION	
1. EXAMINE THE FQIS PROCESSOR CONNECTOR, AND THE E/E BAY RACK CONNECTOR FOR CONTAMINATION OR DAMAGE (FIG. 107). A. ON THE FRONT PANEL OF THE FQIS PROCESSOR, GO TO THE "SYSTEM DATA?" MENU. FIND THE CAPACITANCE VALUE FOR THE APPLICABLE HI-Z WIRE. B. SELECT APPROPRIATE TREE MAIN-TANK-DATA OR CENTER-TANK-DATA. C. TOGGLE DOWN TO THE APPROPRIATE LEFT-HI-Z-RIGHT (FOR MAIN TANKS) OR CENTER-HI-Z (FOR AUXILIARY TANK). D. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXIMATE VALUE FOR THE DISTANCE (IN FEET) TO THE OPEN WIRE FROM THE FQIS PROCESSOR. 2. EXAMINE AND REPAIR THE APPLICABLE WIRE CIRCUIT (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?".	

Fault Messages
Figure 108 (Sheet 13)

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FAULT MESSAGE	13
** HIZ SHIELD OPEN AT PROC G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF THERE IS AN OPEN IN THE SHIELD WIRE OF THE HI-Z CABLE. THE OPEN WIRE WILL BE NEAR THE FQIS PROCESSOR. THIS INCLUDES THE POINTS BETWEEN THE FQIS PROCESSOR CONNECTOR, AND A POINT HALF THE DISTANCE BETWEEN THE FQIS PROCESSOR CONNECTOR AND THE HI-Z/LO-Z CONNECTOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE FQIS PROCESSOR CONNECTOR AND THE E/E BAY RACK CONNECTOR FOR CONTAMINATION OR DAMAGE (FIG. 107). <ol style="list-style-type: none"> A. ON THE FRONT PANEL OF THE FQIS PROCESSOR, GO TO THE "SYSTEM DATA?" MENU. FIND THE CAPACITANCE VALUE FOR THE APPLICABLE HI-Z WIRE. B. SELECT APPROPRIATE TREE MAIN-TANK-DATA OR CENTER-TANK-DATA. C. TOGGLE DOWN TO THE APPROPRIATE LEFT-HI-Z-RIGHT (FOR MAIN TANKS) OR CENTER-HI-Z (FOR AUXILIARY TANK). D. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXIMATE VALUE FOR THE DISTANCE (IN FEET) TO THE OPEN WIRE FROM THE FQIS PROCESSOR. 2. EXAMINE AND REPAIR THE APPLICABLE WIRE CIRCUIT (WDM 28-41-21, WDM 28-41-22, WDM 28-41-23). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 14)

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FAULT MESSAGE	14
** HIZ WIRE LOW RESISTANCE G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF LESS THAN 402,000 OHMS OF RESISTANCE IS MEASURED BETWEEN THE HI-Z SHIELD AND THE HI-Z CENTER CONDUCTOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
1. EXAMINE THE APPLICABLE WIRE CONNECTORS FOR CONTAMINATION OR DAMAGE (FIG. 107). CLEAN OR REPAIR THE CONNECTIONS AS NECESSARY. 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE PROBLEM CONTINUES, OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107) AND THE FUEL QUANTITY BITE PROCEDURE, SEE FIG. 104, SELF-TEST ? 4. IF THE FAULT MESSAGE SHOWS THE PROBLEM IS BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR AT THE REAR SPAR. GO TO STEP 6. <u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES. 5. IF THE FAULT MESSAGE DOES NOT SHOW THE PROBLEM IS IN THE APPLICABLE TANK WIRING HARNESS. GO TO STEP 7. 6. REPAIR OR REPLACE THE CIRCUIT BETWEEN THE FQIS PROCESSOR AND THE APPLICABLE HI-Z/LO-Z CONNECTOR (WDM 28-41-21,-22,-23). 7. EXAMINE AND REPLACE THE APPLICABLE TANK WIRING HARNESS (AMM 28-41-09/401). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".	

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Figure 108 (Sheet 15)

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FAULT MESSAGE	15
** HIZ SHORTED WIRE TO SHLD G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF LESS THAN 2,180 OHMS RESISTANCE IS MEASURED BETWEEN THE HI-Z SHIELD AND THE HI-Z CENTER CONDUCTOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE WIRE CONNECTORS FOR CONTAMINATION OR DAMAGE (FIG. 107). CLEAN OR REPAIR THE CONNECTIONS AS NECESSARY. 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE PROBLEM CONTINUES, OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107) AND THE FUEL QUANTITY BITE PROCEDURE, FIG. 104, SELF-TEST ? 4. IF THE FAULT MESSAGE SHOWS THE PROBLEM IS BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR AT THE REAR SPAR, GO TO STEP 6. <p style="margin-left: 20px;"><u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES.</p> <ol style="list-style-type: none"> 5. IF THE FAULT MESSAGE DOES NOT SHOW, THE PROBLEM IS IN THE APPLICABLE TANK WIRING HARNESS. GO TO STEP 7. 6. REPAIR OR REPLACE THE APPLICABLE AIRPLANE WIRING HARNESS (WDM 28-41-21,-22,-23). 7. EXAMINE AND REPLACE THE APPLICABLE TANK WIRING HARNESS (AMM 28-41-09/401). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 16)

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BOEING
 767
 FAULT ISOLATION/MAINT MANUAL



FAULT MESSAGE	16
** HIZ SHIELD SHORT TO GND G##.	
FAULT CONDITION	
THIS FAULT MESSAGE SHOWS IF THERE IS A HI-Z SHIELD SHORTED TO A LO-Z WIRE, OR THE HI-Z SHIELD IS SHORTED TO GROUND AT A POINT OTHER THAN AT THE PROCESSOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.	
CORRECTION	
<ol style="list-style-type: none"> 1. OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE FAULT MESSAGE SHOWS THE PROBLEM IS BETWEEN THE FQIS PROCESSOR AND THE HI-Z/LO-Z CONNECTOR AT THE REAR SPAR, GO TO STEP 5. <div style="margin-left: 20px;"> <p><u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES.</p> </div> 4. IF THE FAULT MESSAGE DOES NOT SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK WIRING HARNESS. GO TO STEP 6. <div style="margin-left: 20px;"> <p><u>NOTE:</u> WHEN THE PROCESSOR IS INSTALLED, THE USUAL HI-Z SHIELD TO AIRPLANE GROUND (OR THE HI-Z SHIELD TO LO-Z WIRE) RESISTANCE IS 4.5 TO 6.5 OHMS. WHEN THE PROCESSOR IS REMOVED, THE SAME RESISTANCE CHECKS WILL SHOW MORE THAN 10 MEGOHMS.</p> </div> 5. EXAMINE THE CIRCUIT FROM THE FQIS PROCESSOR TO THE APPLICABLE HI-Z/LO-Z CONNECTOR (WDM 28-41-21,-22,-23). REPAIR THE PROBLEMS THAT YOU FIND. 6. REPAIR OR REPLACE THE APPLICABLE TANK WIRING HARNESS (AMM 28-41-09/401). 7. IF THE PROBLEM CONTINUES, EXAMINE AND REPLACE THE APPLICABLE COMPENSATOR OR TANK UNIT (AMM 28-41-01,-02/401). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 17)

EFFECTIVITY
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FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	17
** DENS RESISTOR UNREADABLE G##.	
FAULT CONDITION	
THIS MESSAGE SHOWS IF ONE OR MORE OF THE CALIBRATION RESISTORS IN THE DENSITOMETER DOES NOT OPERATE CORRECTLY. THE FAULT CONDITIONS ARE AS FOLLOWS:	
<ol style="list-style-type: none"> 1. DENSITOMETER INSTALLED BACKWARDS 2. CALIBRATION WIRE SHORTED TO GROUND 3. CALIBRATION RESISTOR FAILED 4. CALIBRATION WIRE SHORTED TO ANOTHER CALIBRATION WIRE 5. DENSITOMETER DRIVE WIRE OPEN. 	
<u>NOTE:</u> FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN NORMAL RANGE, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. 	
CORRECTION	
<ol style="list-style-type: none"> 1. TO DO A TEST OF THE DENSITOMETERS AT THE ELECTRONICS RACK DO THESE STEPS: <ol style="list-style-type: none"> A. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). B. INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST. <p><u>NOTE:</u> YOU CAN ALSO REFER TO SECTION III, OPERATIONS, OF THE PSD 757/767-1 MAINTENANCE MANUAL FOR INSTRUCTIONS TO DO THE DENSITOMETER TEST.</p> <ol style="list-style-type: none"> C. SET THE POWER TO ON (LED WILL COME ON IF THE POWER IS ON OR FLASH IF BATTERIES ARE LOW). D. TURN THE SWITCH LEFT, CENTER, OR RIGHT ON THE DENSITOMETER AND SET THE FUNCTION (DENSITY OR R1 THRU R8). THE TEST SET SHOWS A GREEN LED FOR GOOD AND A RED LED FOR BAD IN EACH POSITION. <p><u>NOTE:</u> THE DENSITY TEST IS APPLICABLE ONLY WITH THE DENSITOMETER PUT FULLY INTO FUEL.</p> <ol style="list-style-type: none"> E. SET THE TEST SET POWER SWITCH TO THE OFF POSITION WHEN THE TESTS ARE COMPLETED. F. REMOVE PSD 757/767-1 FROM THE RACK. G. PUT PROCESSOR IN RACK. 2. TO DO A TEST OF THE DENSITOMETERS FROM THE TANK WALL DO THESE STEPS: <ol style="list-style-type: none"> A. CONNECT PSD 757/767-1 CHASSIS JACK (FOUND ON THE TOP PANEL) TO AIRCRAFT GROUND. B. CONNECT THE INTERFACE CABLE TO THE SIGNAL CONNECTOR FOUND ON THE PSD 757/767-1 TOP PANEL. C. REMOVE THE AIRCRAFT HARNESS FROM THE TANK WALL CONNECTOR. CONNECT THE INTERFACE CABLE TO THE TANK WALL CONNECOR. D. SET THE POWER TO ON (LED WILL COME ON IF THE POWER IS ON OR FLASH IF BATTERIES ARE LOW). E. TURN THE CENTER DENSITOMETER SWITCH TO SET THE FUNCTION (DENSITY OR R1 THRU R8). THE TEST SET SHOWS A GREEN LED FOR GOOD AND A RED LED FOR BAD IN EACH POSITION. <p><u>NOTE:</u> THE DENSITY TEST IS APPLICABLE ONLY WITH THE DENSITOMETER PUT FULLY INTO FUEL.</p> <ol style="list-style-type: none"> F. TURN THE TEST SET POWER SWITCH TO THE OFF POSITION WHEN THE TESTS ARE COMPLETED. G. DISCONNECT THE INTERFACE CABLE FROM THE TANK WALL. RECONNECT THE AIRCRAFT HARNESS. 3. MAKE A WRITTEN RECORD OF THE PROBLEM. 4. IF A FAILURE INDICATION DOES NOT SHOW, THE PROBLEM IS IN THE HOT SHORT PROTECTOR  OR AIRPLANE WIRE HARNESS. <ol style="list-style-type: none"> A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR (AMM 28-41-24/401)  OR APPLICABLE AIRPLANE HARNESS (WDM 28-41-21, -22, -23). 5. IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK. <ol style="list-style-type: none"> A. YOU MUST GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). B. EXAMINE THE DENSITOMETER TERMINALS FOR CONTAMINATION, CLEAN OR REPAIR AS NECESSARY. C. IF YOU CANNOT FIND ANY CONTAMINATION, REPLACE THE DENSITOMETER (AMM 28-41-04/401). 6. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	



 IF INSTALLED, AUXILIARY TANK ONLY (POST-SB 28A0094 OR PRR B13421-8)

Fault Messages
Figure 108 (Sheet 18)

EFFECTIVITY
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 **BOEING**
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FAULT ISOLATION/MAINT MANUAL


FAULT MESSAGE	18
** DENS EXCITA- TION SHORTED G##.	
FAULT CONDITION	
THIS FAULT MESSAGE SHOWS IF THE DENSITOMETER DRIVE CIRCUIT DOES NOT HAVE SUFFICIENT RESISTANCE BETWEEN THE POSITIVE OR NEGATIVE DRIVE WIRES, AND AIRPLANE GROUND.	
<u>NOTE:</u> FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN NORMAL RANGE, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
<ol style="list-style-type: none"> 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST. 3. MAKE A WRITTEN RECORD OF THE PROBLEM. 4. OPEN THE APPLICABLE DENSITOMETER CONNECTOR AT THE REAR SPAR (FIG. 107). 5. CONNECT THE PSD 757/767-1 TESTER TO THE DENSITOMETER CONNECTOR ON THE REAR SPAR AND DO A TEST. 6. IF A FAILURE INDICATION DOES NOT SHOW, THE PROBLEM IS IN THE HOT SHORT PROTECTOR  OR AIRPLANE WIRE HARNESS. <ol style="list-style-type: none"> A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR (AMM 28-41-24/401)  OR APPLICABLE AIRPLANE HARNESS (WDM 28-41-21, -22, -23). 7. IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK. <ol style="list-style-type: none"> A. YOU MUST GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). B. EXAMINE THE DENSITOMETER TERMINALS FOR CONTAMINATION, CLEAN OR REPAIR AS NECESSARY. C. IF YOU CANNOT FIND ANY CONTAMINATION, REPLACE THE DENSITOMETER (AMM 28-41-04/401). 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 9. IF THE APPLICABLE FAULT MESSAGE CONTINUES TO SHOW, THE PROBLEM IS THE APPLICABLE TANK WIRING HARNESS. REPAIR OR REPLACE THE APPLICABLE TANK WIRING HARNESS (WDM 28-41-21,-22,-23). 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 19)

EFFECTIVITY
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 FAULT ISOLATION/MAINT MANUAL



FAULT MESSAGE	19
<p>** DENS SENSE WIRE SHORTED G##.</p>	
FAULT CONDITION	
<p>THIS MESSAGE IS AN INDICATION THAT THERE IS LESS THAN 80 OHMS BETWEEN THE CENTER CONDUCTOR OF THE DENSITOMETER SENSE WIRE AND THE SHIELD.</p> <p>THIS MESSAGE CAN OCCUR AS A NUISANCE MESSAGE IF THE APPLICABLE TANK IS EMPTY.</p> <p>NOTE: FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN NORMAL RANGE, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.</p>	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<p>– NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).</p> <p>– THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.</p>	
CORRECTION	
<ol style="list-style-type: none"> 1. DO THESE STEPS TO FIND OUT IF THIS IS A NUISANCE FAULT: <ol style="list-style-type: none"> A. IF THE APPLICABLE TANK IS EMPTY, ADD FUEL UNTIL THE DENSITOMETER IS COVERED (284 U.S. GALLONS FOR THE LEFT OR RIGHT MAIN TANKS, 1664 U.S. GALLONS FOR THE CENTER TANK). B. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE (FIG. 104, "SELF TEST ?"). C. IF THE FAULT MESSAGE DOES NOT SHOW, THEN THE SYSTEM IS OK. D. IF THE FAULT MESSAGE CONTINUES TO SHOW, THEN CONTINUE. 2. DISCONNECT THE APPLICABLE DENSITOMETER CONNECTOR (REAR SPAR)(FIG. 107). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE (FIG. 104, "SELF TEST ?"). 4. IF THE FAULT CONTINUES TO SHOW, THE PROBLEM IS IN THE HOT SHORT PROTECTOR (28-41-24/401)  OR THE AIRPLANE WIRE HARNESS. EXAMINE THE WIRING (WDM 28-41-21, -31, -41). REPAIR THE PROBLEMS THAT YOU FIND. <p style="margin-left: 20px;">NOTE: WHEN THE REAR SPAR CONNECTOR FOR THE DENSITOMETER IS OPEN OTHER FAULT MESSAGES WILL SHOW. LOOK FOR THE INITIAL FAULT MESSAGE ONLY, IGNORE ALL OTHER FAULT MESSAGES.</p> 5. IF THE FAULT MESSAGE DOES NOT SHOW, THE PROBLEM IS IN THE APPLICABLE DENSITOMETER, TANK WIRING HARNESS OR CONDUCTIVE MATERIAL IS ON THE DENSITOMETER TERMINALS. 6. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). 7. EXAMINE AND REPLACE THE DENSITOMETER IF IT IS NECESSARY (AMM 28-41-03/401). 8. EXAMINE AND REPLACE THE DENSITOMETER TANK WIRING HARNESS IF IT IS NECESSARY (AMM 28-41-09/401). 9. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE (FIG. 104, "SELF TEST ?"). 	

Fault Messages
Figure 108 (Sheet 20)

EFFECTIVITY
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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	20
** DENS SENSE OPEN AT SPAR G##.	
FAULT CONDITION	
<p>THIS MESSAGE IS SENT IF AN OPEN OCCURS IN THE DENSITOMETER SENSE COIL WIRE OR SHEILD. THE OPEN WIRE WILL OCCUR NEAR THE DENSITOMETER CONNECTOR, SEE FIG. 107. THIS INCLUDES THE POINTS BETWEEN, A POINT HALF THE DISTANCE BETWEEN THE PROCESSOR AND THE APPLICABLE DENSITOMETER CONNECTOR, AND A POINT HALF THE DISTANCE BETWEEN THE APPLICABLE DENSITOMETER CONNECTOR AND THE APPLICABLE DENSITOMETER.</p> <p><u>NOTE:</u> FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN NORMAL RANGE, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.</p>	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. 	
CORRECTION	
<ol style="list-style-type: none"> 1. EXAMINE THE APPLICABLE DENSITOMETER CONNECTOR ON THE REAR SPAR FOR DAMAGE OR CONTAMINATION (FIG. 107). EXAMINE AND REPAIR THE DENSITOMETER CONNECTOR IF IT IS NECESSARY. 2. IF THE PROBLEM CONTINUES, REPLACE THE HOT SHORT PROTECTOR (AMM 28-41-24/401)  OR EXAMINE AND REPAIR THE AIRPLANE WIRING HARNESS FOR THE APPLICABLE DENSITOMETER (WDM 28-41-21, -22, -23). 3. IF THE HOT SHORT PROTECTOR  AND THE APPLICABLE AIRPLANE WIRING HARNESS IS OK, THE PROBLEM IS IN THE APPLICABLE TANK WIRING HARNESS. 4. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). 5. EXAMINE AND REPLACE THE APPLICABLE DENSITOMETER TANK WIRING HARNESS (AMM 28-41-09/401). 6. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 21)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	21
** DENS SENSE OPEN AT PROC G##.	
FAULT CONDITION	
THIS MESSAGE IS SENT IF AN OPEN OCCURS IN THE DENSITOMETER SENSE COIL WIRE OR SHIELD. THE OPEN WIRE WILL OCCUR NEAR THE FQIS PROCESSOR. THE BREAK IN THE SENSE WIRE WILL BE A POINT BETWEEN, THE FQIS PROCESSOR AND A POINT HALF THE DISTANCE BETWEEN THE FQIS PROCESSOR AND THE DENSITOMETER CONNECTOR. <u>NOTE:</u> FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN NORMAL RANGE, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
1. EXAMINE THE APPLICABLE ELECTRONIC EQUIPMENT BAY SHELF CONNECTORS FOR DAMAGE (FIG. 107). 2. IF THE CONNECTORS ARE OK, THE DENSITOMETER SENSE WIRE IS OPEN BETWEEN THE FQIS PROCESSOR AND A POINT HALF THE DISTANCE BETWEEN THE FQIS PROCESSOR AND THE DENSITOMETER CONNECTOR. 3. EXAMINE AND REPAIR THE CIRCUIT (FIG. 107)(WDM 28-41-21,-22,-23). 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?".	

Fault Messages
Figure 108 (Sheet 22)

EFFECTIVITY
 SAS 052-149, 158-161, 168-999;
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BOEING
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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	22
** DENS CONTAM OR RESISTOR G##.	
FAULT CONDITION	
IF THE MEASURED DENSITY IS NOT IN THE USUAL LIMITS, OR THE DENSITOMETER AND COMPENSATOR DENSITY VALUES ARE NOT THE SAME, THIS FAULT MESSAGE IS SENT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
1. DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201). 2. DRAIN THE APPLICABLE FUEL TANK SUMP (AMM 12-11-03/301). 3. IF YOU DO NOT FIND CONTAMINATION IN THE SUMP FUEL, GO TO STEP 4, OR IF THERE WAS CONTAMINATION IN THE SUMP FUEL, DO THE FQIS BITE PROCEDURE, FIG. 104, "SELF TEST ?". 4. IF THE FAULT MESSAGE CONTINUES TO SHOW, GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). 5. EXAMINE THE DENSITOMETER FOR DAMAGE, WATER, OR OTHER CONTAMINATION MATERIAL. REPLACE THE DENSITOMETER AS NECESSARY (AMM 28-41-03/401). 6. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?".	

Fault Messages
Figure 108 (Sheet 23)

EFFECTIVITY
 SAS 052-149, 158-161, 168-999;
 MTH 281-999

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 FAULT ISOLATION/MAINT MANUAL




FAULT MESSAGE	23
** DENS SENSOR OR DRIVE WIRE G## (OR) DENS SENSOR FAILURE G##.	
FAULT CONDITION	
THE DENSITOMETER SENSOR DOES NOT OPERATE CORRECTLY.	
<u>NOTE:</u> FOR ANY DENSITOMETER FAULT MESSAGE, WHERE THE DENSITOMETER IS STILL IN ITS USUAL LIMITS, THE FAULT MESSAGE COMPENSATOR CONTAMINATED CAN SHOW.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE DENSITOMETER FOR THE APPLICABLE FUEL TANK (AMM 28-41-03/401). 2. REFUEL THE APPLICABLE FUEL TANK UNTIL THE FUEL IS ABOVE THE DENSITOMETER (AMM 12-11-01/301). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 4. IF THE PROBLEM CONTINUES, REPLACE THE DENSITOMETER IN TANK WIRING HARNESS FOR THE APPLICABLE FUEL TANK (AMM 28-41-09/401). 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 24)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
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 **BOEING**
767
FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	24
** IFQC CIRCUIT BOARD FAILED G##.	
FAULT CONDITION	
THE FQIS BITE SHOWS A PROBLEM WITH THE INDIVIDUAL FUEL QUANTITY CHANNEL (IFQC) CIRCUIT BOARD OR THERE IS A PROBLEM WITH THE DENSITOMETER HOT SHORT PROTECTOR. 	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - NORMAL OPERATION, IF FUEL GAGE CIRCUITRY IS NOT BAD. - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. - THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. DO A CHECK FOR THESE CONDITIONS: <ol style="list-style-type: none"> A. FUEL QUANTITY INDICATION FOR THE APPLICABLE TANK IS BLANK. B. FMC TOTALIZER FUEL QUANTITY VALUE IS BLANK. C. FUEL QTY IND EICAS STATUS LEVEL MESSAGE IS SHOWN. D. ON THE PROCESSOR, THE "SYSTEM DATA" MENU FOR THE APPLICABLE TANK SHOWS ZEROES FOR ALL DATA. 2. IF ONE OR MORE OF THESE CONDITIONS IS NOT TRUE, THEN GO TO STEP 4. 3. IF ALL OF THE CONDITIONS IN STEP 1 ARE TRUE, THEN DO THESE STEPS: <ol style="list-style-type: none"> A. CYCLE THE POWER FOR THE PROCESSOR. B. IF THE REFUEL PANEL DOOR IS OPEN, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN: <ol style="list-style-type: none"> (1) 34L2, FUEL QTY-FUEL (2) 6E4, FUELING QTY C. IF THE REFUEL PANEL DOOR IS CLOSED, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN: <ol style="list-style-type: none"> (3) 11C34, FUEL QTY 1 (4) 11M19, FUEL QTY 2 D. IF NO FAULT MESSAGES ARE SHOWN IN THE PRESENT FAULTS MENU, THE SYSTEM IS OK. E. IF THE FAULT MESSAGE CONTINUES TO SHOW IN THE "PRESENT FAULTS" MENU, THEN CONTINUE. 4. DO THESE STEPS: <ol style="list-style-type: none"> A. EXAMINE THE WIRING AT THE DENSITOMETER HOT SHORT PROTECTOR CONNECTORS, M12169 AND M12170, FOR A SHORT (WDM 28-41-21, -22, -23).  <ol style="list-style-type: none"> (1) IF THERE IS A SHORT TO GROUND, REPAIR OR REPLACE THE APPLICABLE WIRING (WDM 28-41-21, -22, -23). (2) IF THE WIRING IS OK, REPLACE THE DENSITOMETER HOT SHORT PROTECTOR, M12168 (AMM 28-41-24/401).  B. IF THE FAULT MESSAGE CONTINUES TO SHOW IN THE "PRESENT FAULTS" MENU, THEN CONTINUE. C. REPLACE THE PROCESSOR, M121 (AMM 28-41-08/401). D. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST?". 	

 AIRPLANES WITH HOT SHORT PROTECTOR (POST-SB 28A0094 OR PRR B13421-8)

Fault Messages
Figure 108 (Sheet 25)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	25
** IFQC AIR/GND CIRCUIT FAIL G##.	
FAULT CONDITION	
THE APPLICABLE INDIVIDUAL FUEL QUANTITY CHANNEL (IFQC) CIRCUIT BOARD CAN NOT FIND IF THE AIRPLANE IS IN THE AIR OR ON THE GROUND.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE FQIS SYSTEM IS SET TO THE AIR MODE IF THE FUELING STATION DOOR, 521QB IS CLOSED. - THE FQIS SYSTEM IS SET TO THE GROUND MODE IF THE FUELING STATION DOOR, 521QB, IS OPEN. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE PROBLEM CONTINUES, DO THE CORRECTION FOR THE FAULT MESSAGE "AIR/GROUND_INPUT_FAILED" (FIG. 106). 	

Fault Messages
Figure 108 (Sheet 26)

EFFECTIVITY
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BOEING
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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	26
AIR/GROUND INPUT FAILED G##.	
FAULT CONDITION	
THE FQIS AIR/GROUND INPUTS A AND B DO NOT AGREE, OR ONE OF THE INPUTS IS FAILED OPEN, OR THE SYSTEM HAS BEEN OPERATED ON BATTERY POWER.	
<u>NOTE:</u> IF THE AIRPLANE WAS OPERATED ON BATTERY POWER, THIS FAULT MESSAGE CAN SHOW. THIS IS BECAUSE THE AIR/GROUND INDICATION USUALLY DEFAULTS TO "AIR" AND BATTERY POWER IS USED TO REFUEL THE AIRPLANE.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.	
CORRECTION	
1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. WHEN THE AIRPLANE IS IN THE GROUND MODE, MEASURE THE RESISTANCE FROM THE PROCESSOR RACK, CONNECTOR, GND, PIN K7, TO THE AIR/GND COM, PIN K8, FOR BOTH CONNECTORS, D2706B AND D2706A. A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11). 3. WHEN THE AIRPLANE IS IN THE AIR MODE, MEASURE THE RESISTANCE FROM THE PROCESSOR RACK, CONNECTOR, GND, PIN K7, TO THE AIR/GND COM, PIN K6, FOR BOTH CONNECTORS, D2706B AND D2706A. A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11). 4. IF THE RESISTANCE IS LESS THAN 10 OHMS IN STEPS 2 OR 3, REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?".	

Fault Messages
Figure 108 (Sheet 27)

EFFECTIVITY
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BOEING
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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	27
LB/KG INPUT WIRE FAILED G##.	
FAULT CONDITION	
THE POUND/KILOGRAM INPUT JUMPER HAS FAILED OPEN.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION, LB/KG STATUS FOUND BY VALUE STORED IN MEMORY. - NORMAL OPERATION, LB/KG STATUS FOUND BY VALUE STORED IN MEMORY. - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. AIRPLANES WITH UNITS IN LBS; MEASURE THE RESISTANCE FROM THE LBS, PIN A9, TO LBS/KGS COM, PIN C9, ON THE PROCESSOR RACK, CONNECTOR D2706A (WDM 28-41-11). A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11). 3. AIRPLANES WITH UNITS IN KGS; MEASURE THE RESISTANCE FROM THE KGS, PIN E9, TO LBS/KGS COM, PIN C9, ON THE PROCESSOR RACK, CONNECTOR D2706A (WDM 28-41-11). A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11). 4. IF THE RESISTANCE IS LESS THAN 10 OHMS IN STEPS 2 OR 3, REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 28)

EFFECTIVITY
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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	28
** IFQC LB/KG CIRCUIT FAIL G##.	
FAULT CONDITION	
THE APPLICABLE IFQC CIRCUIT BOARD CANNOT READ THE POUNDS OR KILOGRAMS INPUT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION - POUND OR KILOGRAM STATUS IS COMES FROM DATA IN NONVOLATILE MEMORY.	
CORRECTION	
1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE PROBLEM CONTINUES, DO THE CORRECTION FOR THE FAULT MESSAGE "LB/KG_INPUT_FAILED" (FIG. 106).	

Fault Messages
Figure 108 (Sheet 29)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	29
IOC 1 DISCRETE DRIVER FAIL G##.	
FAULT CONDITION	
THE INPUTS AIR/GROUND AND LB/KG CANNOT BE READ BY THE FQIS PROCESSOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE FAULT MESSAGE CONTINUES TO SHOW, EXAMINE AND REPAIR THE APPLICABLE AIR/GND OR LB/KG CIRCUIT (WDM 28-41-14). 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	
FAULT MESSAGE	30
LOAD SELECT UNIT OR WIRE FAIL G##.	
FAULT CONDITION	
THE FQIS PROCESSOR CANNOT READ THE LOAD SELECT CONTROL UNIT BECAUSE OF A CONTROL UNIT FAILURE OR A WIRING FAULT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - FUELING MUST BE DONE MANUALLY - IF YOU PUSH THE SET SWITCH FOR THE LOAD SELECT CONTROL, "FAIL" WILL SHOW ON THE LOWER LOAD SELECT INDICATOR DISPLAY. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE LOAD SELECT CONTROL, M638 (AMM 28-41-07/401). 2. IF THE FAULT MESSAGE CONTINUES TO SHOW, DO A CHECK OF THE LOAD SELECT WIRING FROM THE LOAD SELECT CONTROL TO THE FQIS PROCESSOR, M121 (WDM 28-41-11). 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 30)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	31
IOC # (1 OR 2) FAILED G##.	
FAULT CONDITION	
THIS FAULT MESSAGE SHOWS A FAILURE OF THE APPLICABLE INPUT/OUTPUT CARD (IOC) OR ARINC BUS FAILURE.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWS. - AUTOMATIC REFUELING NOT AVAILABLE. - "FAIL" SHOWS ON THE LOAD SELECT INDICATOR DISPLAY IF YOU TRY AUTOMATIC REFUELING. 	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE FAULT MESSAGE CONTINUES TO SHOW DO A CHECK OF THE WIRING FROM THE FQIS PROCESSOR, M121, TO THE FUEL QUANTITY INDICATORS AS FOLLOWS (WDM 28-41-11): <ol style="list-style-type: none"> A. FLIGHT COMPARTMENT IND, M10054 B. FUELING PANEL IND N92 C. FUELING PANEL IND N93 D. FUELING PANEL IND N94. 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	
FAULT MESSAGE	
VOLUME SHUTOFF OF ** AT 95% G##.	
FAULT CONDITION	
THERE IS A SYSTEM FAILURE THAT RESULTS IN FUEL SHUTOFF DURING FUELING AT 95% OF FULL TO PREVENT FUEL SPILLS.	
<u>NOTE:</u> FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO 5% LESS THAN FULL.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
32	
- REFUELING WILL STOP AT 5% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT.	
CORRECTION	
<ol style="list-style-type: none"> 1. DO THE CORRECTIONS FOR THESE FAULT MESSAGES SHOWN IN THE PRESENT FAULTS MENU AND THE FAULT HISTORY MENU, FLIGHT LEG 0. 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?", TO MAKE SURE THERE ARE NO FAULT MESSAGES SHOWN. <p style="margin-left: 20px;"><u>NOTE:</u> YOU CAN REFUEL MANUALLY (AMM 12-11-01/301).</p> 3. THE REFUEL VALVE CAN BE CLOSED AND "PUSH SET" CAN SHOW ON REFUEL PANEL INDICATOR. IF YOU PUSH THE "SET" SWITCH, THE REFUEL VALVE WILL OPEN, AND YOU CAN CONTROL THE VALVE MANUALLY. <p style="margin-left: 20px;"><u>NOTE:</u> THE FQIS WILL NOT CLOSE THE REFUEL VALVE, AND THE FQIS FUEL QUANTITY INDICATION WILL FLASH ON AND OFF.</p> 	

Fault Messages
Figure 108 (Sheet 31)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	33
VOLUME SHUTOFF OF ** AT 87% G##.	
FAULT CONDITION	
THERE IS A SYSTEM FAILURE THAT RESULTS IN FUEL SHUTOFF DURING FUELING AT 95% OF FULL.	
<u>NOTE:</u> FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO A QUANTITY 13% LESS THAN EXPECTED.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWS. - REFUELING WILL STOP AT 13% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT. 	
CORRECTION	
<ol style="list-style-type: none"> 1. DO THE CORRECTIONS FOR THESE FAULT MESSAGES SHOWN IN THE PRESENT FAULTS MENU AND THE FAULT HISTORY MENU, FLIGHT LEG O. 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?", TO MAKE SURE THERE ARE NO FAULT MESSAGES SHOWN. <u>NOTE:</u> YOU CAN REFUEL MANUALLY (AMM 12-11-01/301). 3. THE REFUEL VALVE CAN BE CLOSED AND "PUSH SET" CAN SHOW ON REFUEL PANEL INDICATOR. IF YOU PUSH THE "SET" SWITCH, THE REFUEL VALVE WILL OPEN, AND YOU CAN CONTROL THE VALVE MANUALLY. <u>NOTE:</u> THE FGIS WILL NOT CLOSE THE REFUEL VALVE, AND THE FQIS FUEL QUANTITY INDICATION WILL FLASH ON AND OFF. 	

Fault Messages
Figure 108 (Sheet 32)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	34
BITE DISPLAY BOARD FAILED G##.	
FAULT CONDITION	
THIS MESSAGES SHOWS ON THE FQIS PROCESSOR ONLY. THIS MESSAGE SHOWS THAT THE FQIS BITE DISPLAY BOARD (BDB) IS FAILED.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - SELF-TEST FROM FQIS PROCESSOR MENU BOARD MAY NOT OPERATE. - FAULT MESSAGES MAY NOT BE STORED OR SHOWN CORRECTLY. - THE EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWS. <p><u>NOTE:</u> IF THIS MESSAGE SHOWS GO TO STEP 3.</p>	
CORRECTION	
<ol style="list-style-type: none"> 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". <p><u>NOTE:</u> THIS PROBLEM ONLY AFFECTS THE BDB DISPLAY. THE FUEL QUANTITY INFORMATION IS NOT AFFECTED. THE FQIS PROCESSOR REPLACEMENT MAY BE DONE AT A LATER TIME, BUT IF ANOTHER FQIS SYSTEM FAULT OCCURS IT WILL POSSIBLY NOT BE CORRECTLY RECORDED OR SHOWN.</p> <ol style="list-style-type: none"> 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING FROM THE FQIS PROCESSOR TO THE EICAS COMPUTERS (WDM 28-41-11). 4. REPAIR OR REPLACE THE APPLICABLE WIRING (WDM 28-41-11). 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 33)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	35
(THE BITE DISPLAY BOARD IS OFF).	
FAULT CONDITION	
THE BITE DISPLAY IS OFF.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION - FAULT MESSAGES WILL NOT BE STORED OR SHOWN. - FQIS BITE "SELF TEST ?" WILL NOT OPERATE. - LOW FUEL AND FUEL CONFIGURATION INDICATIONS WILL NOT OPERATE CORRECTLY. 	
CORRECTION	
<ol style="list-style-type: none"> 1. PUSH AND RELEASE THE "ON/OFF" BUTTON ON THE FQIS PROCESSOR CONTROL PANEL. 2. IF THE FQIS PROCESSOR DISPLAY IS OFF, REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 3. DO A TEST AT THE FQIS CONNECTOR TO MAKE SURE THERE IS 28V DC AT THE CONNECTOR AS FOLLOWS (WDM 28-41-12): <ol style="list-style-type: none"> A. CONNECTOR D2706C, PINS A10 AND C9 K10 AND H9 4. INSTALL THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 5. PUSH AND RELEASE THE "ON/OFF" BUTTON ON THE FQIS PROCESSOR CONTROL PANEL. 6. IF THE PROBLEM CONTINUES, REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 7. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 34)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	36
ARINC BUS (A OR B) FAILED G##.	
FAULT CONDITION	
THE ARINC BUS A OR B WIRES ARE BAD.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION, ON THE CHANNEL THAT IS GOOD. - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW.	
CORRECTION	
1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 3. IF THE FAULT MESSAGE CONTINUES TO SHOW, DO A CONTINUITY CHECK OF THE ARINC WIRES. A. DO A CONTINUITY CHECK OF THE WIRES FROM THE PROCESSOR, M121, TO THE LOAD SELECT INDICATORS AND THE FUEL QUANTITY INDICATOR, M10054 (WDM 28-41-11). B. DO A CONTINUITY CHECK OF THE WIRES FROM THE PROCESSOR, M121, TO THE LOAD SELECT CONTROL UNIT, M638 (WDM 28-21-22). C. REPLACE OR REPAIR THE WIRES AS NECESSARY. 4. IF THE ARINC WIRES ARE OK, REPLACE THE FUEL QUANTITY INDICATOR, M10054 (AMM 28-41-04/401). 5. IF THE PROBLEM CONTINUES, REPLACE THE LOAD SELECT CONTROL, M638 (AMM 28-41-07/401). 6. IF THE PROBLEM CONTINUES, REPLACE THE LOAD SELECT INDICATORS (AMM 28-41-06/401). 7. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?".	

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	37
SHORT/LONG INPUT WIRE FAILED G##.	
FAULT CONDITION	
THE SHORT/LONG INPUT JUMPER WIRE IS AN OPEN CIRCUIT.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION - THE FQIS PROCESSOR READS THE AIRPLANE CONFIGURATION AS "SHORT".	
CORRECTION	
1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO A CONTINUITY CHECK FROM PIN C8 TO PIN E8 ON THE FQIS PROCESSOR, CONNECTOR D2706A. 3. MAKE SURE THE RESISTANCE IS LESS THAN 10 OHMS. 4. IF THE MEASURED RESISTANCE IS MORE THAN 10 OHMS REPLACE THE WIRING (WDM 28-41-11). 5. IF THE RESISTANCE IS LESS THAN 10 OHMS REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 6. DO THIS PROCEDURE: "FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST?".	

Fault Messages
Figure 108 (Sheet 36)

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	38
**IFQC SHORT/LONG CIRCUIT G##.	
FAULT CONDITION	
THE APPLICABLE IFQC CIRCUIT BOARD CAN NOT READ THE WIRE INPUT THAT INDICATES IF THE AIRPLANE IS THE "SHORT" OR "LONG" CONFIGURATION.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
- NORMAL OPERATION - THE FQIS PROCESSOR READS THE AIRPLANE CONFIGURATION AS "SHORT".	
CORRECTION	
1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 2. DO A CONTINUITY CHECK FROM PIN C8 TO PIN E8 ON THE FQIS PROCESSOR, CONNECTOR D2706A. 3. MAKE SURE THE RESISTANCE IS LESS THAN 10 OHMS. 4. IF THE MEASURED RESISTANCE IS MORE THAN 10 OHMS REPLACE THE WIRING (WDM 28-41-11). 5. IF THE RESISTANCE IS LESS THAN 10 OHMS REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401). 6. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST?".	

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 FAULT ISOLATION/MAINT MANUAL

FAULT MESSAGE	39
** TU ?? SHORTED TO GROUND G##.	
FAULT CONDITION	
THERE IS MORE THAN 1.7 MILLIAMPS OF CURRENT FLOW IN ONE OR MORE LOW Z CIRCUIT(S), AND THE DRIVE VOLTAGE TO ONE OR MORE TANK UNITS HAS DECREASED ENOUGH TO AFFECT THE MEASURED VALUE OF THE TANK UNIT CAPACITANCE. THIS FAULT PREVENTS FAULT ISOLATION TO ONE TANK UNIT BY THE FQIS PROCESSOR.	
FLIGHT COMPARTMENT OR AIRPLANE INDICATION	
<ul style="list-style-type: none"> - NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF $\pm 5\%$ FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD). - THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" CAN SHOW. - IF THERE IS MORE THAN ONE ELECTRICAL SHORT THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICATION WILL GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" SHOWS. - THE REFUEL OPERATION CAN STOP AT 5% LESS THAN THE VSO. THIS WILL PREVENT ACCIDENTAL FUEL SPILL. - THE REFUEL OPERATION CAN STOP AT 5% LESS THAN THE AUTOMATIC SET VALUE. - IF THERE IS MORE THAN ONE ELECTRICAL SHORT WHILE FUELING, THE FUELING SHUTOFF VALVE CLOSES FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE FUEL QUANTITY INDICATORS ON THE FUELING CONTROL PANEL, P28, SEE AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF. 	
CORRECTION	
<ol style="list-style-type: none"> 1. OPEN THE HI-Z/LO-Z CONNECTOR FOR THE APPLICABLE FUEL TANK (FIG. 107). 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?" 3. IF THE FAULT MESSAGE CONTINUES TO SHOW WHEN THE HI-Z/LO-Z CONNECTOR IS OPEN, THEN THE PROBLEM IS FROM THE FQIS PROCESSOR TO THE HI-Z/LO-Z CONNECTOR AT THE FRONT SPAR. <u>NOTE:</u> THE OTHER TANK UNITS AND COMPENSATOR WILL SHOW THE OPEN LO-Z OR HI-Z FAULT MESSAGE AND THE OPEN HI-Z AT SPAR FAULT MESSAGE WILL SHOW, WHEN THE SPAR CONNECTOR IS OPEN. IGNORE THESE OPEN FAULT MESSAGES. 4. EXAMINE THE WIRING TO FIND THE TANK UNIT LO-Z SHORT TO GROUND AND REPAIR OR REPLACE THE APPLICABLE WIRING (WDM 28-41-21,-31,-41). 5. IF THE PROBLEM GOES AWAY THE SHORTED CIRCUIT IS IN THE FUEL TANK. 6. MEASURE THE RESISTANCE OF EACH TANK UNIT AT THE APPLICABLE SPAR CONNECTOR TO FIND THE SHORT. USE THE 757/767-1 TESTER TO MEASURE THE RESISTANCE OF THE LO-Z AND HI-Z WIRES. 7. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201). 8. EXAMINE AND REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401). <u>NOTE:</u> MAKE SURE THE TANK UNIT HAS CLEARANCE FROM THE AIRPLANE STRUCTURE. 9. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 10. IF THE PROBLEM CONTINUES, EXAMINE AND REPLACE THE APPLICABLE TANK WIRING HARNESS (WDM 28-41-21,-31,-41). 11. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104, "SELF TEST ?". 	

Fault Messages
Figure 108 (Sheet 38)

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NOTE 1: THE PRIMARY SOURCE OF FAILURE CAN BE DAMAGE TO THE HI-Z/LO-Z PLUG ON THE AIRPLANE WIRING HARNESS. LOOK AT THE HI-Z/LO-Z PLUG BEFORE YOU DO A CHECK OF AN AIRPLANE WIRING HARNESS.

NOTE 2: THE "DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER (NO FUEL IN THE TANK)" IS A TEST BETWEEN THE FUEL TANK AND THE MAIN EQUIPMENT CENTER.

NOTE 3: AUXILIARY TANK FUEL PROBE IDENTIFICATION NUMBERS:

MAINTENANCE MANUAL	FQIS PROCESSOR
L AUX 1	LCTR TU 1
L AUX 2	LCTR TU 2
L AUX 3	LCTR TU 3
L AUX 4	LCTR TU 4
R AUX 1	RCTR TU 5
R AUX 2	RCTR TU 6
R AUX 3	RCTR TU 7
R AUX 4	RCTR TU 8
L AUX 5	LCTR TU 9

1. DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER (NO FUEL IN THE TANK)

- A. DEFUEL THE APPLICABLE FUEL TANK (AMM 28-26-00/201).
- B. DRAIN AND PURGE THE APPLICABLE FUEL TANK (AMM 28-11-00/201).
- C. PUSH THE "ON/OFF" BUTTON ON THE FQIS PROCESSOR, M121.
- D. CONTINUE PUSH AND RELEASE THE "NO" BUTTON UNTIL THE "SYSTEM DATA?" MENU SHOWS.
- E. PUSH AND RELEASE THE "YES" BUTTON TO SEE THE SYSTEM DATA.
- F. PUSH THE "NO" BUTTON WHEN THE "UPLIFT DATA?" MESSAGE SHOWS ON THE DISPLAY.
- G. WHEN THE MESSAGE "MAIN TANKS DATA?" SHOWS PUSH AND RELEASE THE "YES" BUTTON.

NOTE: THIS MENU LIST WILL SHOW THE LEFT AND RIGHT MAIN FUEL TANK CAPACITANCE DATA.

- H. MAKE A WRITTEN RECORD OF THE LEFT AND RIGHT MAIN TANK CAPACITANCE VALUES.
- I. CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON UNTIL THE "END OF MAIN TANKS DATA?" SHOWS ON THE DISPLAY.
- J. PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE CENTER TANK DATA.
- K. WHEN THE MESSAGE "CENTER TANK DATA?" SHOWS PUSH AND RELEASE THE "YES" BUTTON.

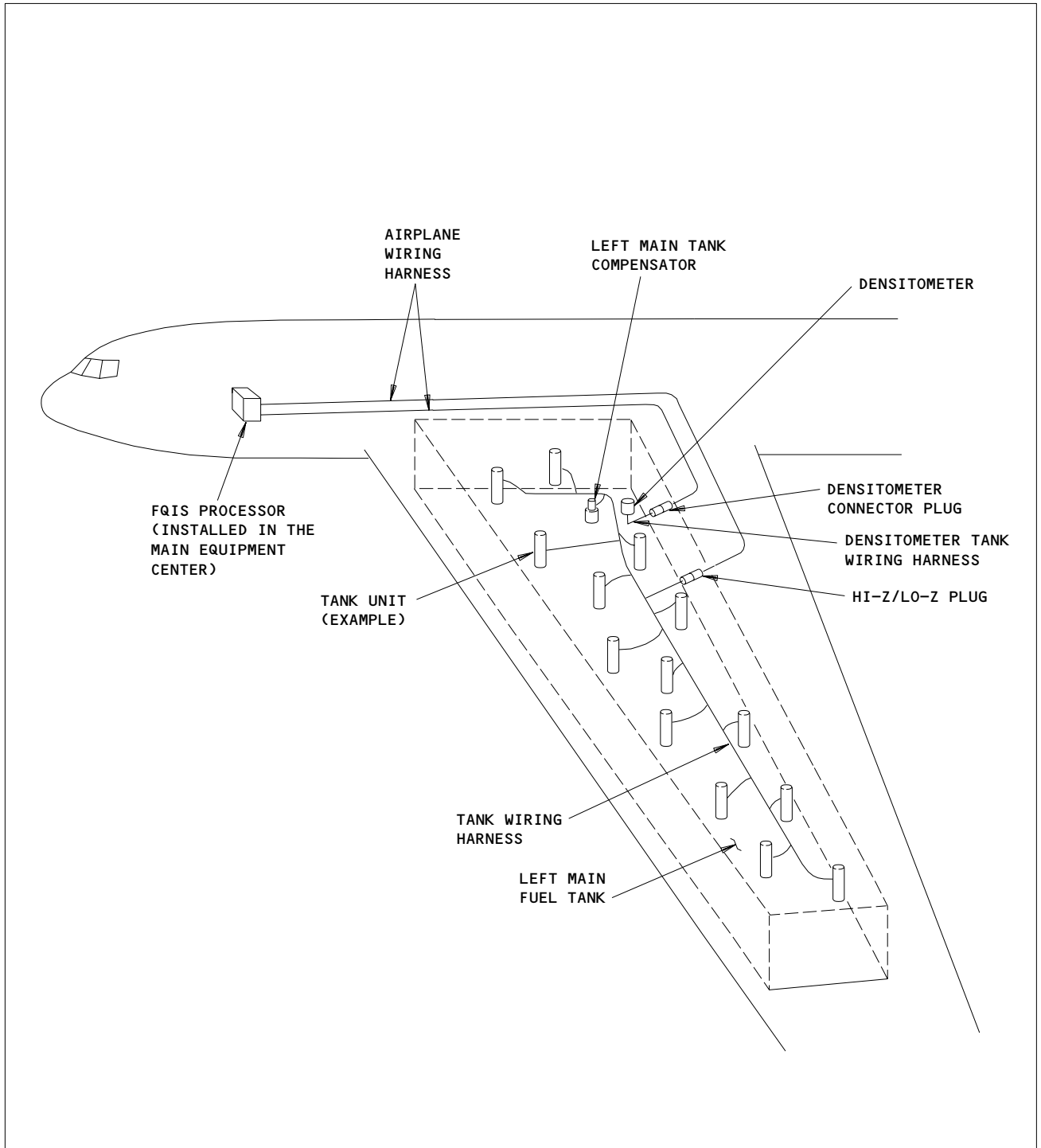
NOTE: THIS MENU LIST WILL SHOW THE CENTER FUEL TANK CAPACITANCE DATA.

- L. MAKE A WRITTEN RECORD OF THE CENTER TANK CAPACITANCE VALUES.
- M. CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON UNTIL THE "END OF CTR TANK DATA?" SHOWS ON THE DISPLAY.
- N. IF THE CAPACITANCE VALUES ARE NOT IN THE LIMITS SHOWN IN FIG. 109, SH. 3, DO THE STEPS THAT FOLLOW:
 - (1) DISCONNECT THE HI-Z/LO-Z PLUG FOR THE APPLICABLE TANK. EXAMINE THE CONNECTOR. EXAMINE THE PLUG AND THE RECEPTACLE FOR DAMAGE. REPAIR THE PROBLEMS THAT YOU FIND.
 - (2) MEASURE THE CAPACITANCES OF THE TANK UNITS AND THE COMPENSATOR FROM THE HI-Z/LO-Z PLUG WITH THE TEST BOX PSD 757/767-1 AND THE APPLICABLE HARNESS AND TEST SET (FIG. 104). FIND OUT IF THE PROBLEM IS IN THE FUEL TANK OR IN THE AIRPLANE WIRING (FROM THE SPAR TO THE EQUIPMENT CENTER).
 - (3) IF THE PROBLEM IS IN THE AIRPLANE WIRING, REPAIR THE WIRING. IF THE PROBLEM IS IN THE FUEL TANK, GO INTO THE FUEL TANK. USE THE DATA YOU FOUND BEFORE THIS STEP TO FIND THE PROBLEM IN THE TANK. REPLACE A BAD TANK UNIT OR COMPENSATOR IF IT IS NECESSARY (AMM 28-41-01/401, AMM 28-41-02/401). REPLACE THE TANK WIRING HARNESS IF IT IS DAMAGED (AMM 28-41-01/401).

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 1)

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Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank)
Figure 109 (Sheet 2)

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TANK UNIT OR COMPENSATOR UNDER TEST	MIN CAPACITANCE (PICOFARADS)	MAX CAPACITANCE (PICOFARADS)	EQUIP. NO.	FUEL QTY PROCESSOR REFERENCE DESIGNATOR
COMPENSATOR - L MAIN TANK	50.72	51.48	TS300	LEFT COMP
COMPENSATOR - AUX TANK	50.72	51.48	TS328	CENTER COMP
COMPENSATOR - R MAIN TANK	50.72	51.48	TS334	RIGHT COMP
L AUX TANK UNIT NO. 1	119.25	121.00	TS319	LCTR TU 1
L AUX TANK UNIT NO. 2	116.21	117.89	TS318	LCTR TU 2
L AUX TANK UNIT NO. 3	97.75	99.20	TS317	LCTR TU 3
L AUX TANK UNIT NO. 4	81.30	82.55	TS316	LCTR TU 4
L AUX TANK UNIT NO. 5	93.71	95.04	TS320	LCTR TU 9
L MAIN TANK UNIT NO. 1	93.71	95.04	TS314	LEFT TU 1
L MAIN TANK UNIT NO. 2	83.04	84.21	TS313	LEFT TU 2
L MAIN TANK UNIT NO. 3	68.08	69.12	TS312	LEFT TU 3
L MAIN TANK UNIT NO. 4	61.75	62.71	TS311	LEFT TU 4
L MAIN TANK UNIT NO. 5	60.70	61.60	TS310	LEFT TU 5
L MAIN TANK UNIT NO. 6	45.06	45.76	TS309	LEFT TU 6
L MAIN TANK UNIT NO. 7	41.20	41.80	TS308	LEFT TU 7
L MAIN TANK UNIT NO. 8	41.20	41.80	TS307	LEFT TU 8
L MAIN TANK UNIT NO. 9	36.86	37.44	TS306	LEFT TU 9
L MAIN TANK UNIT NO. 10	29.97	30.43	TS305	LEFT TU 10
L MAIN TANK UNIT NO. 11	32.72	33.13	TS304	LEFT TU 11
L MAIN TANK UNIT NO. 12	25.09	25.46	TS303	LEFT TU 12
L MAIN TANK UNIT NO. 13	26.83	27.22	TS302	LEFT TU 13
L MAIN TANK UNIT NO. 14	20.34	20.70	TS301	LEFT TU 14
R AUX TANK UNIT NO. 1	119.25	121.00	TS329	RCTR TU 5
R AUX TANK UNIT NO. 2	116.21	117.89	TS330	RCTR TU 6
R AUX TANK UNIT NO. 3	97.75	99.20	TS331	RCTR TU 7
R AUX TANK UNIT NO. 4	81.30	82.55	TS332	RCTR TU 8
R MAIN TANK UNIT NO. 1	93.71	95.04	TS335	RIGHT TU 1
R MAIN TANK UNIT NO. 2	83.04	84.21	TS336	RIGHT TU 2
R MAIN TANK UNIT NO. 3	68.08	69.12	TS337	RIGHT TU 3
R MAIN TANK UNIT NO. 4	61.75	62.71	TS338	RIGHT TU 4
R MAIN TANK UNIT NO. 5	60.70	61.60	TS339	RIGHT TU 5
R MAIN TANK UNIT NO. 6	45.06	45.76	TS340	RIGHT TU 6
R MAIN TANK UNIT NO. 7	41.20	41.80	TS341	RIGHT TU 7
R MAIN TANK UNIT NO. 8	41.20	41.80	TS342	RIGHT TU 8
R MAIN TANK UNIT NO. 9	36.86	37.44	TS343	RIGHT TU 9
R MAIN TANK UNIT NO. 10	29.97	30.43	TS344	RIGHT TU 10
R MAIN TANK UNIT NO. 11	32.72	33.13	TS345	RIGHT TU 11
R MAIN TANK UNIT NO. 12	25.09	25.46	TS346	RIGHT TU 12
R MAIN TANK UNIT NO. 13	26.83	27.22	TS347	RIGHT TU 13
R MAIN TANK UNIT NO. 14	20.34	20.70	TS348	RIGHT TU 14

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank)
Figure 109 (Sheet 3)

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1. GENERAL

A. THESE INTERMITTENT MESSAGES CAN SHOW ON THE 767 EICAS:

1. EICAS MAINTENANCE MESSAGE "FUEL QUANTITY BITE"
2. EICAS STATUS MESSAGE "FUEL QUANTITY CHAN"

THESE MESSAGES CAN BE CAUSED BY INTERMITTENT BUILT-IN-TEST (BIT) FAULT MESSAGES FROM THE FUEL QUANTITY INDICATING SYSTEM (FQIS).

B. THIS SERVICE INFORMATION APPLIES TO AIRPLANES WITH THE FQIS PROCESSOR, PART NUMBERS 30071-0303 BOEING PART NUMBERS S345N001-032 (MANUFACTURED BY SIMMONDS PRECISION, REF SERVICE LETTER 91-15).

C. THE 767 FQIS BIT IN THE PROCESSOR CAN SHOW 36 FAULT MESSAGES. ALL OF THESE FAULT MESSAGES WILL CAUSE A "FUEL QTY BITE" MESSAGE ON THE EICAS MAINTENANCE PAGE. THESE FAULT MESSAGES CAN ALSO CAUSE A "FUEL QTY CHAN", "FUEL QTY IND" OR "FUEL QTY BITE" MESSAGE ON THE EICAS STATUS PAGE. TO REMOVE THE EICAS MESSAGES, YOU MUST GO TO THE BITE PANEL ON THE FQIS PROCESSOR AND LOOK AT THE FAULT MESSAGES AS FOLLOWS (FIG. 104):

1. GO TO THE "FAULT HISTORY ?" MENU ON THE BITE PANEL OF THE PROCESSOR AND LOOK AT THE FAULT MESSAGES STORED IN MEMORY FOR THE FLIGHT LEG 00.
2. YOU MUST ALSO GO TO THE "PRESENT FAULTS ?" MENU AND LOOK AT THE FAULT MESSAGES STORED IN MEMORY. IF THERE ARE FAULT MESSAGES IN THE PRESENT FAULTS MENU, YOU MUST CORRECT THESE FAULTS TO REMOVE THE EICAS MESSAGE(S).

D. THE FAULT MESSAGES THAT FOLLOW ARE CONSIDERED INTERMITTENT IF THERE ARE NO FAULT MESSAGES IN THE PRESENT FAULTS MENU AND THERE ARE NO REPORTS THAT THE FQIS TANK INDICATIONS HAVE BLANKED.

NOTE: IF THESE FAULT MESSAGES SHOW WITH THE CONDITIONS THAT FOLLOW THE FUEL QUANTITY INDICATION AND THE REFUEL OPERATION DO NOT CHANGE.

Intermittent Fault Messages
Figure 110 (Sheet 1)

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FAULT MESSAGE	FLIGHT DECK INDICATION OR POSSIBLE CAUSE FOR INTERMITTENT FAULT MESSAGE	CORRECTION
LM IFQC CIRCUIT BOARD FAILED	FOR A POWER BUS TRANSFER OR POWER INTERRUPTION, THESE FAULT MESSAGES CAN CAUSE AN EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" TO SHOW. NOTE: ONLY THE "IOC NUMBER 1 (OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUANTITY CHAN" STATUS MESSAGE TO SHOW ON EICAS.	GO TO THE FQIS PROCESSOR BITE PANEL AND DO THE STEPS IN STEP 1.C.
RM IFQC CIRCUIT BOARD FAILED		
CT IFQC CIRCUIT BOARD FAILED		
IOC NUMBER 1 FAILED		
IOC NUMBER 2 FAILED		
LOAD SELECT UNIT OR WIRE FAIL		
IOC 1 DISCRETE DRIVE FAIL		
VOLUME SHUTOFF OF LM AT 95%	THESE MESSAGES CAN SHOW IF POWER IS APPLIED TO THE FQIS (POWER-UP) WHEN THE MAIN TANKS ARE EMPTY, OR WHEN THE CENTER TANK IS LESS THAN 17% FULL BEFORE REFUELING.	IF THESE MESSAGES ONLY SHOW ONE TIME, FUEL QUANTITY INDICATION OR REFUELING WILL NOT BE AFFECTED. IGNORE THE FAULT MESSAGE IN THE FAULT HISTORY MENU.
VOLUME SHUTOFF OF RM AT 95%		
VOLUME SHUTOFF OF CT AT 95%		
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE "FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	GO TO FIG. 104, SHEET 1, NOTES 1 AND 2 FOR CORRECTIVE ACTION.
RM TU (1-12) CONTAMINATED		
CT TU (1-12) CONTAMINATED		
LM COMPENSATOR CONTAMINATED		
RM COMPENSATOR CONTAMINATED		
CT COMPENSATOR CONTAMINATED		
AIR/GROUND INPUT FAILED	WHEN THE AIRPLANE IS OPERATED ON BATTERY POWER ON THE GROUND, THIS FAULT MESSAGE WILL SHOW.	IF THE AIRPLANE IS OPERATED ON BATTERY POWER (I.E., BATTERY POWERED REFUELING) AND THIS FAULT MESSAGE SHOWS IN THE FAULT HISTORY MENU, IGNORE THE FAULT MESSAGE.

Intermittent Fault Messages
Figure 110 (Sheet 2)

EFFECTIVITY

SAS 052-149, 158-161, 168-999; MTH 281-999

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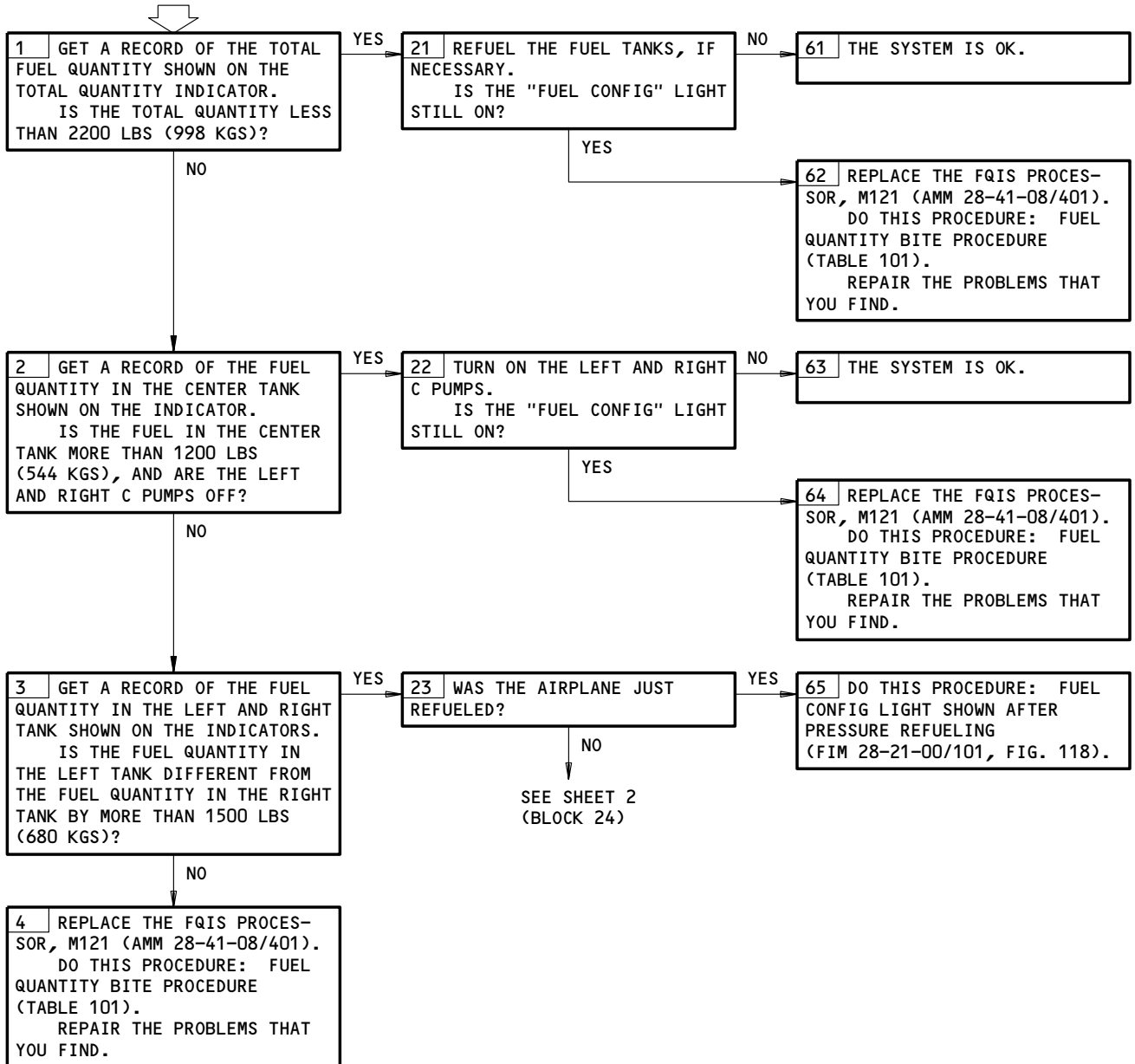
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"FUEL CONFIG"
LIGHT AND EICAS
MESSAGE "FUEL CONFIG"
ARE ILLUMINATED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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

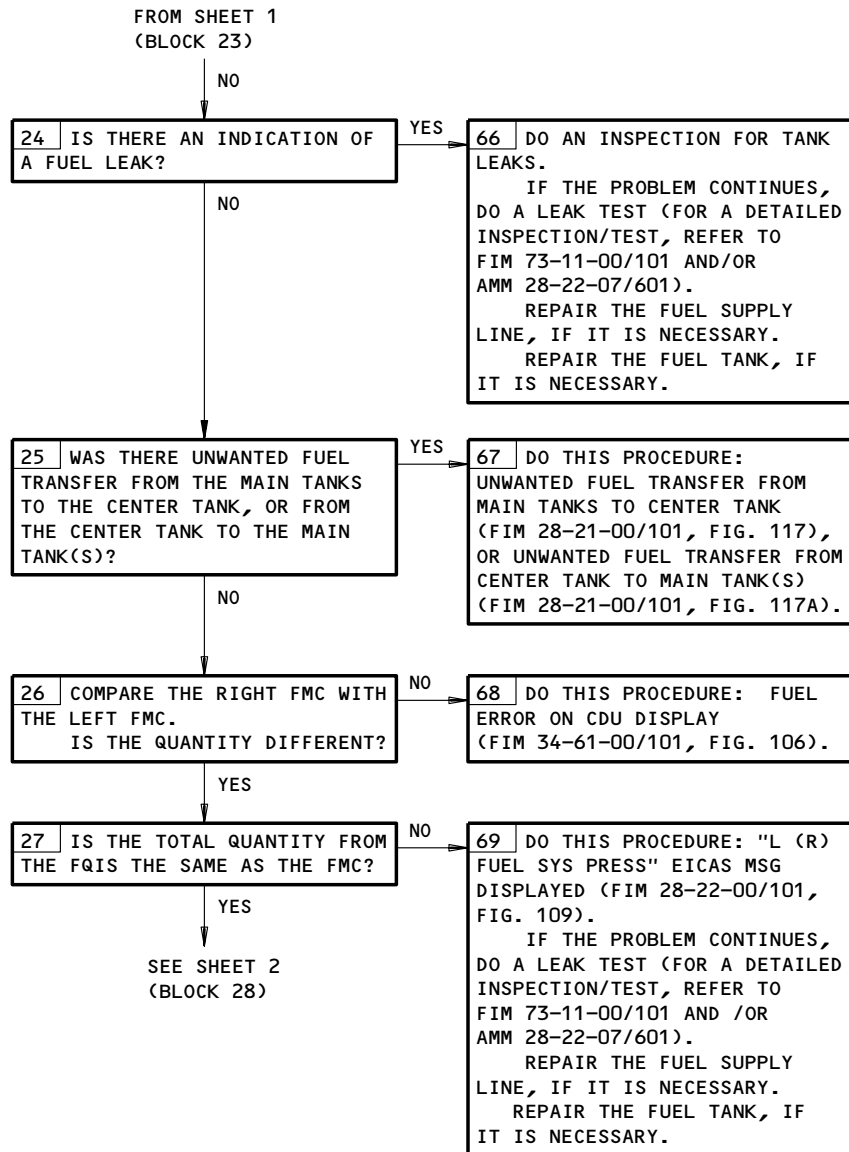


FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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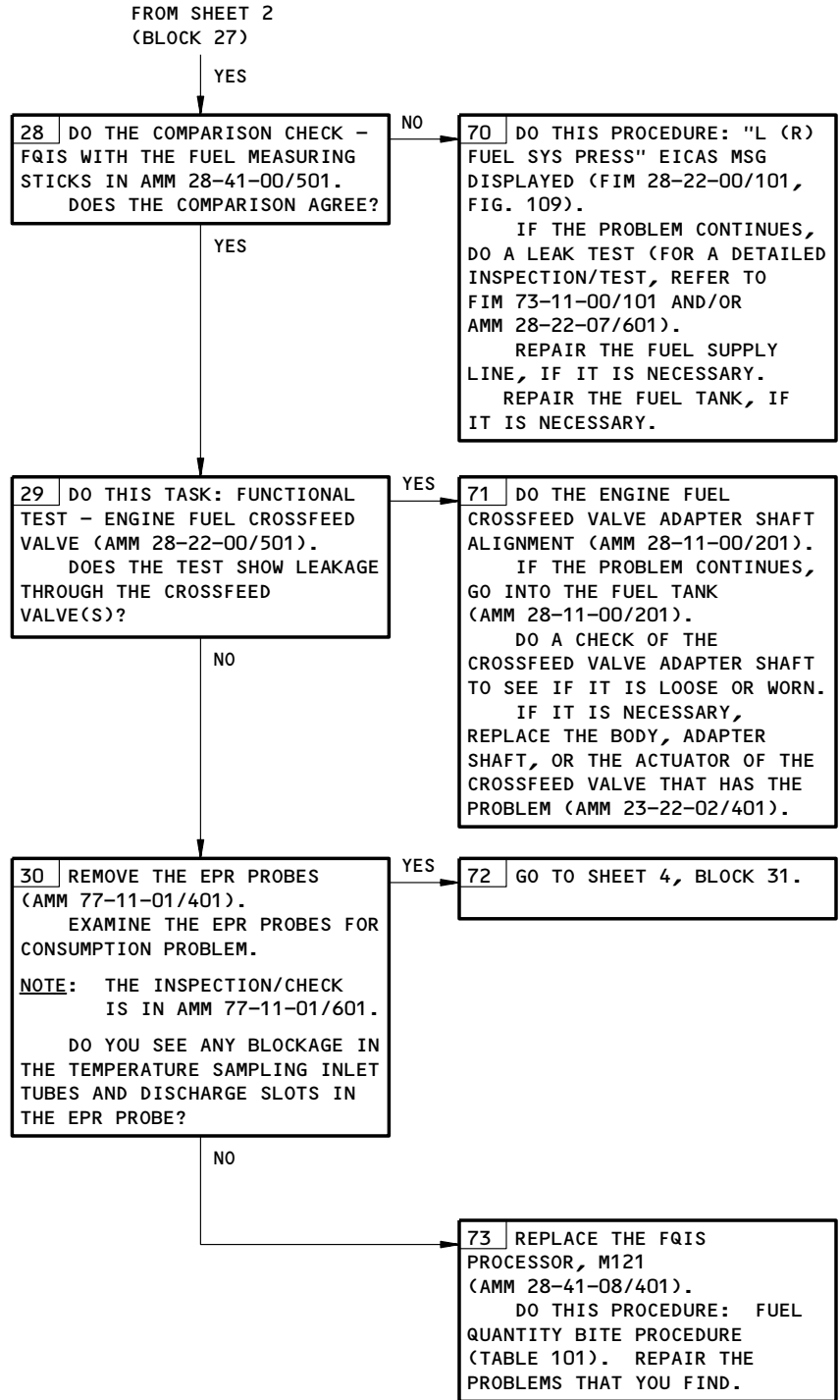


FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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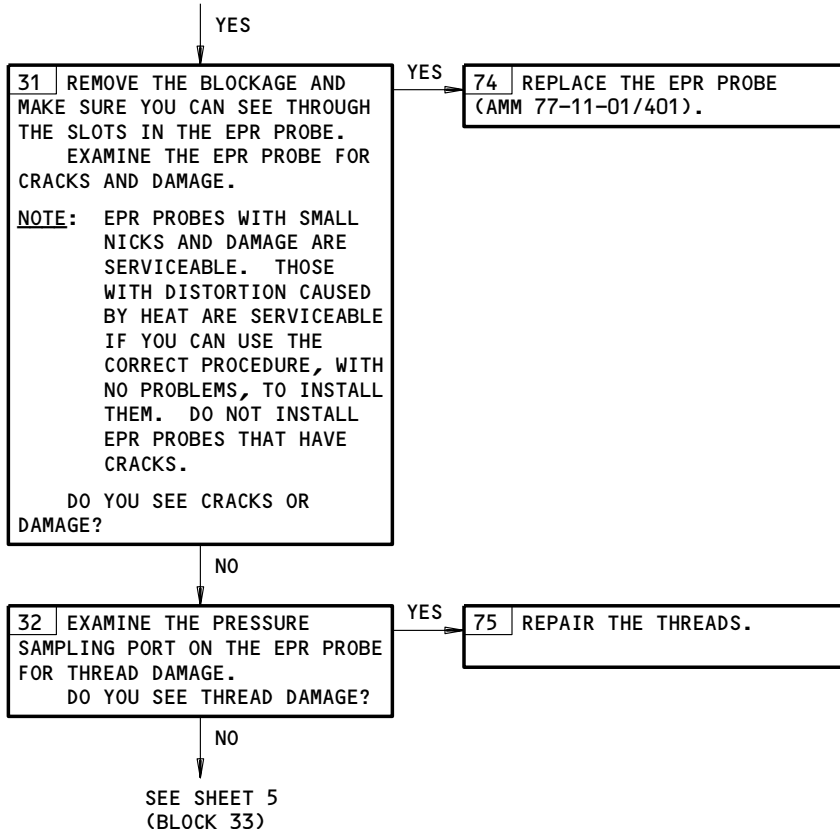
FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 3)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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FROM SHEET 3
(BLOCK 29)



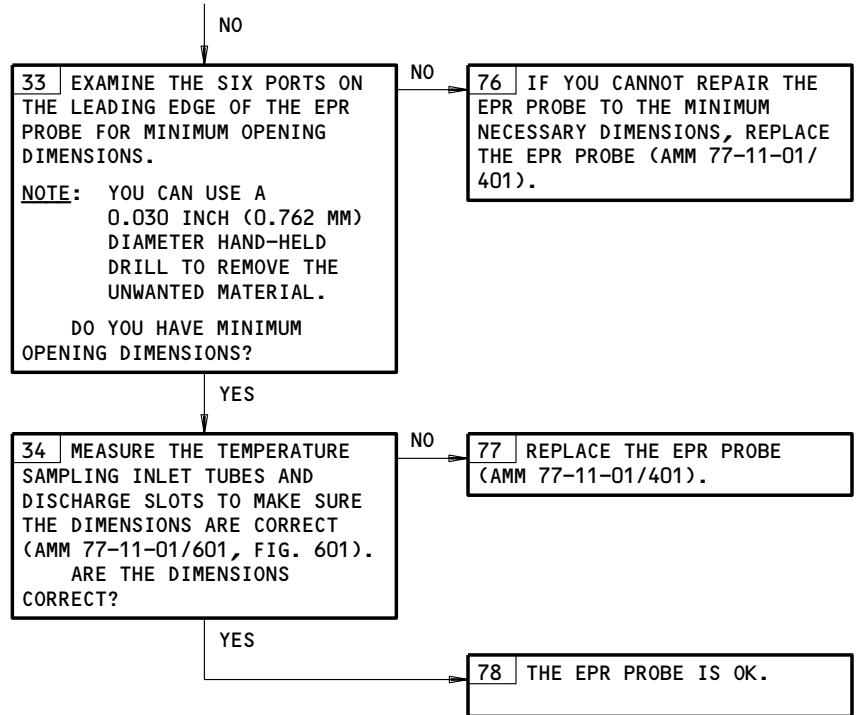
FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 4)

EFFECTIVITY
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MTH 281-999

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FROM SHEET 4
(BLOCK 32)



FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 5)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
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Not Used
Figure 112

EFFECTIVITY
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Not Used
Figure 113

EFFECTIVITY
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PREREQUISITES

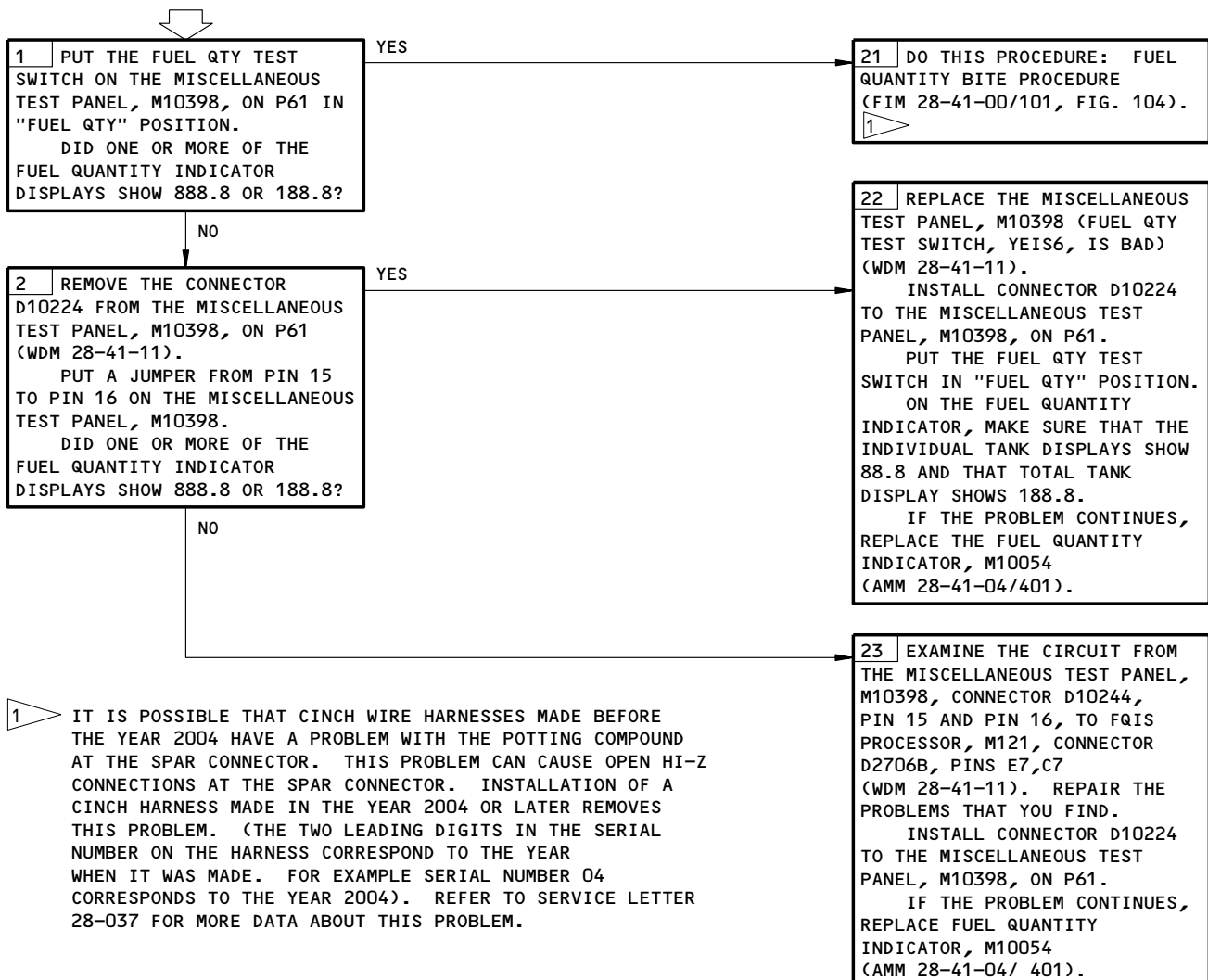
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M12, 11M19, 34L2

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

NOTE: AN INCORRECT DISPLAY IS ONE THAT IS FLUCTUATING OR INTERMITTENT OR INACCURATE OR BLANK OR HAS MISSING SEGMENTS.

NOTE: NO ACTION IS REQUIRED FOR A FUEL QUANTITY INDICATOR THATS BLANKS INTERMITTENTLY (LESS THAN 60 SECONDS) AND HAS NO CORRESPONDING FAULT MESSAGE.

FUEL QUANTITY INDICATOR DOES NOT DISPLAY CORRECTLY



Fuel Quantity Indicator Does Not Display Correctly
Figure 114

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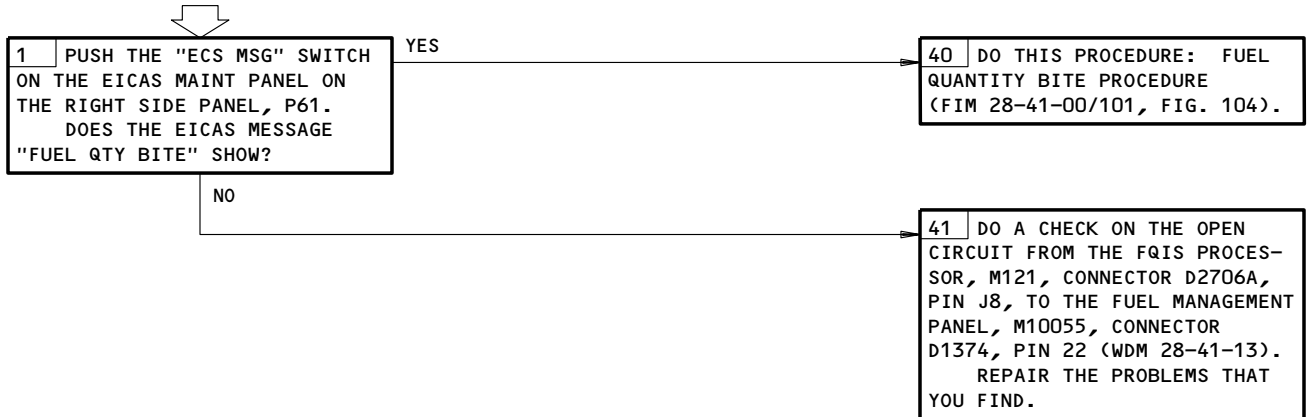
"FUEL CONFIG LT"
AND "LOW FUEL"
EICAS MSG NOT
DISPLAYED DURING
"FUEL QTY" TEST

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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

NOTE: AN INCORRECT DISPLAY IS ONE THAT IS FLUCTUATING
OR INTERMITTENT OR INACCURATE OR BLANK OR HAS
MISSING SEGMENTS.



FUEL CONFIG LT and LOW FUEL EICAS Msg not Displayed During FUEL QTY Test
Figure 115

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

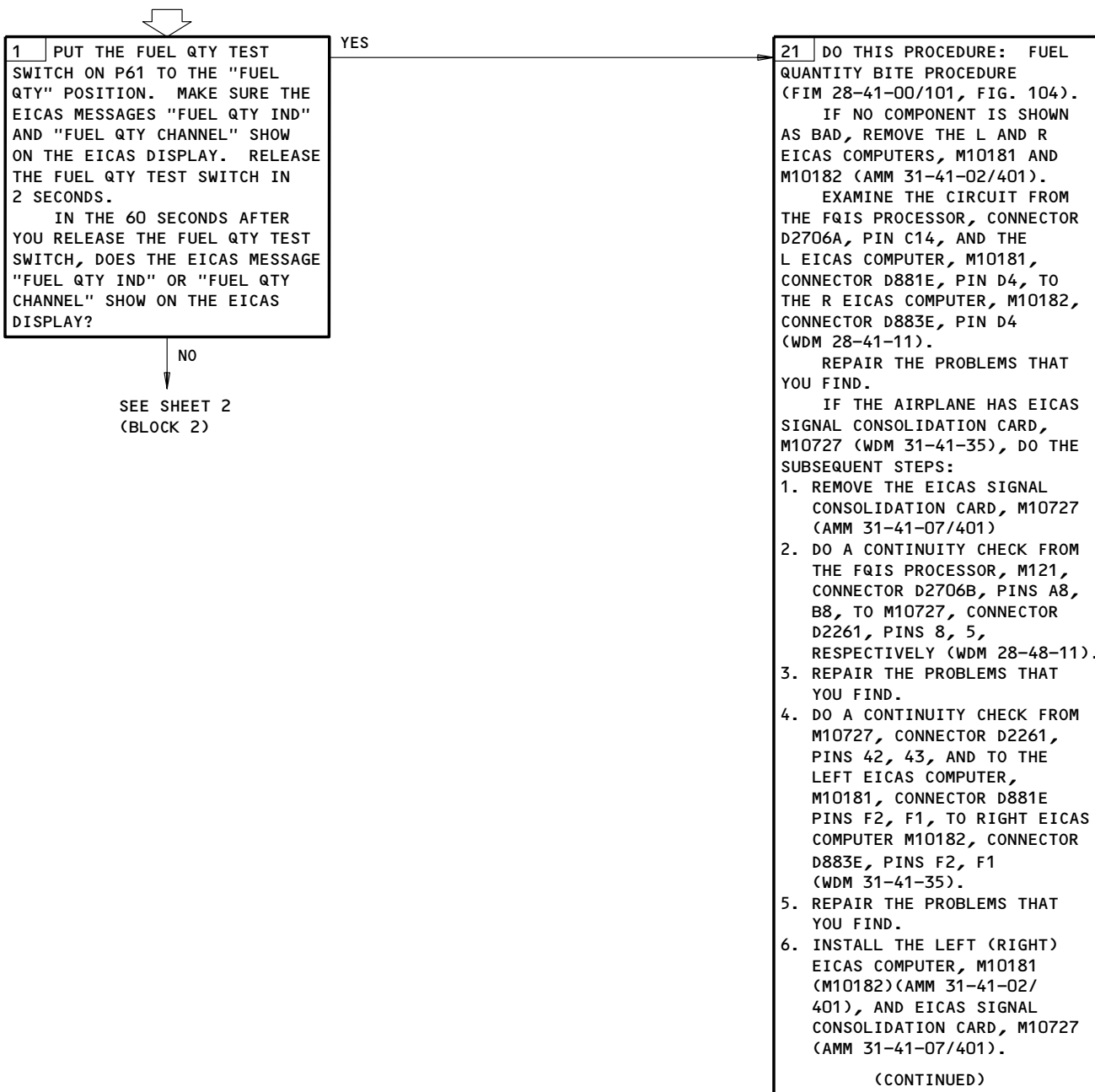
28-41-00
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EICAS MSG "FUEL QTY IND" OR "FUEL QTY CHANNEL" DISPLAYED.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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



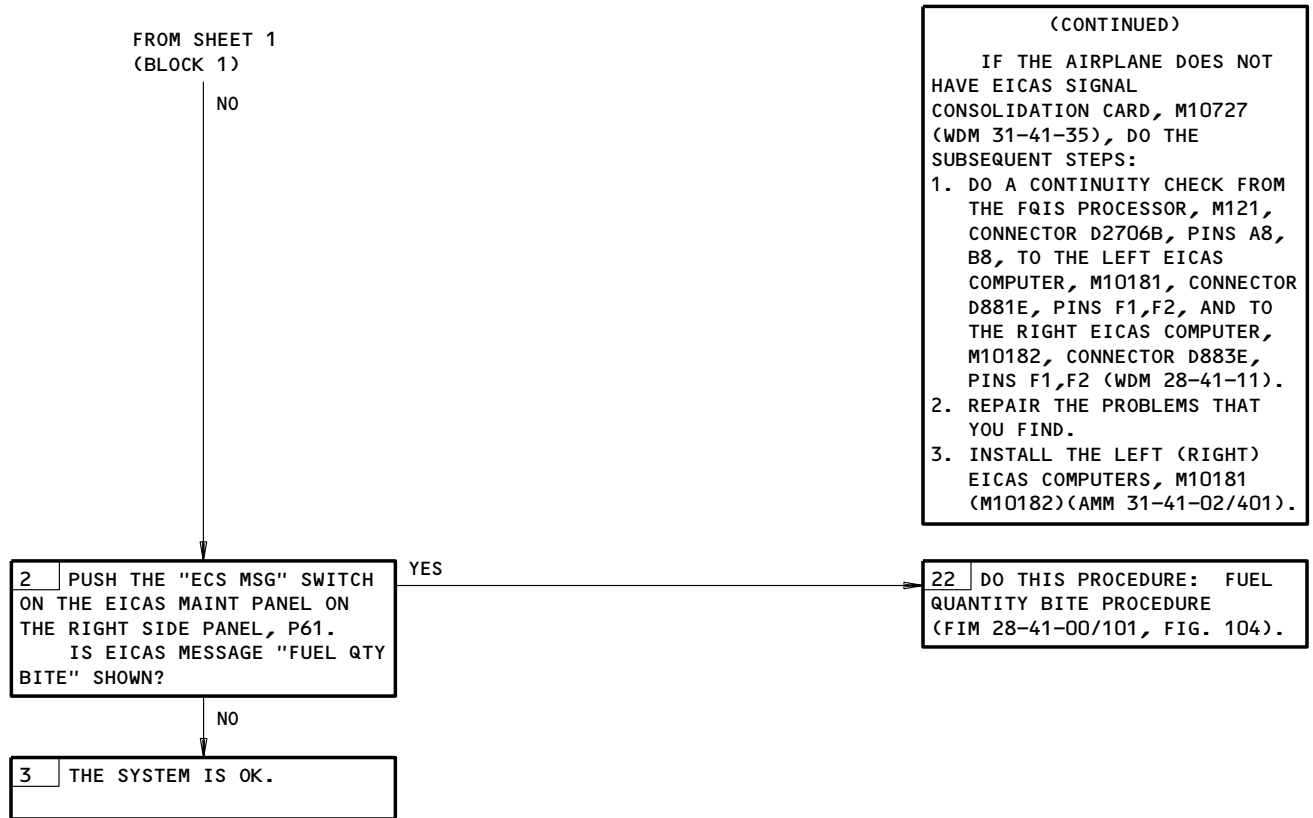
EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed.
Figure 116 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed.
Figure 116 (Sheet 2)

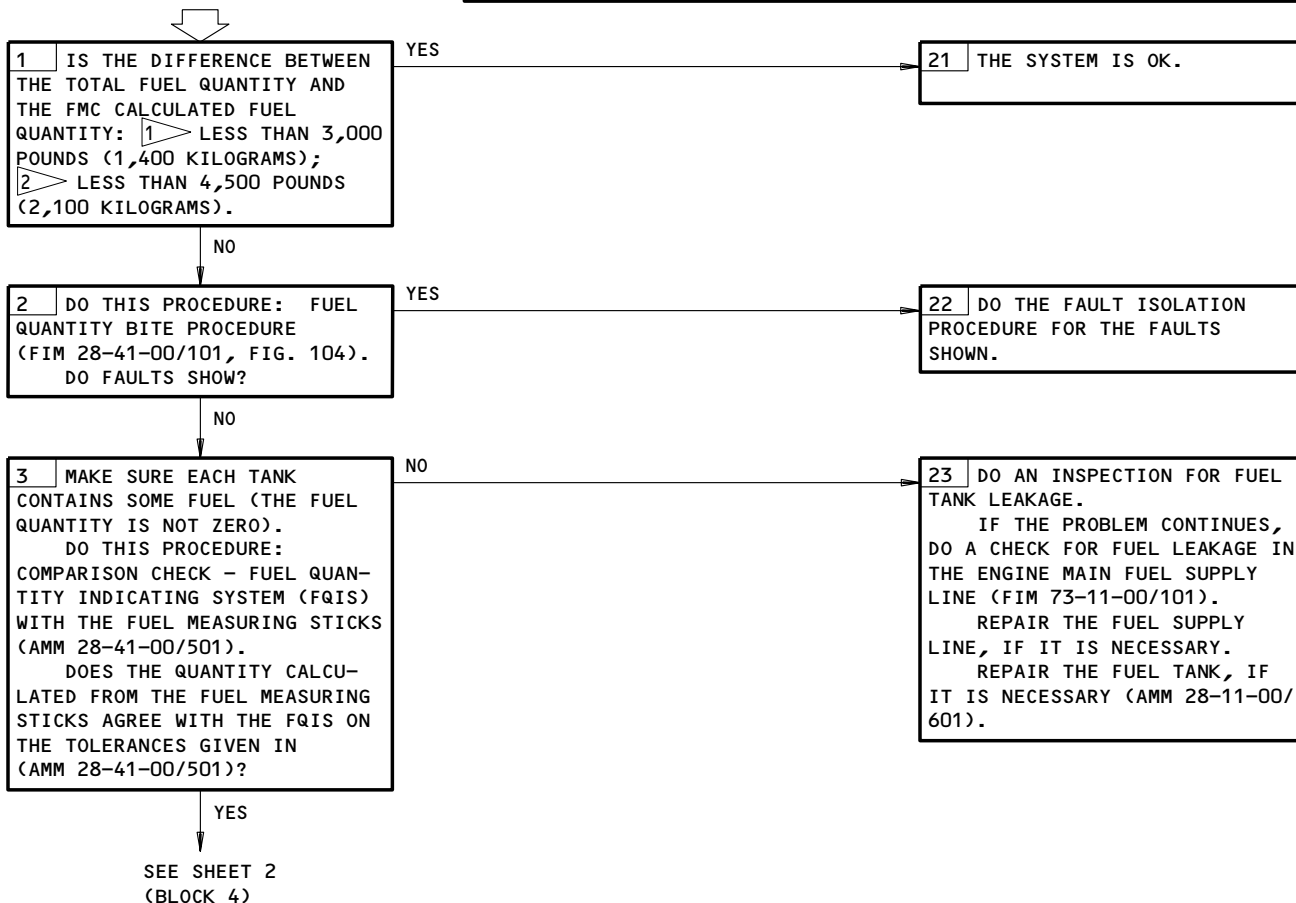
EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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TOTAL FUEL QTY DOES NOT AGREE WITH FMC CALCULATED FUEL QTY. FUEL FLOW NORMAL.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

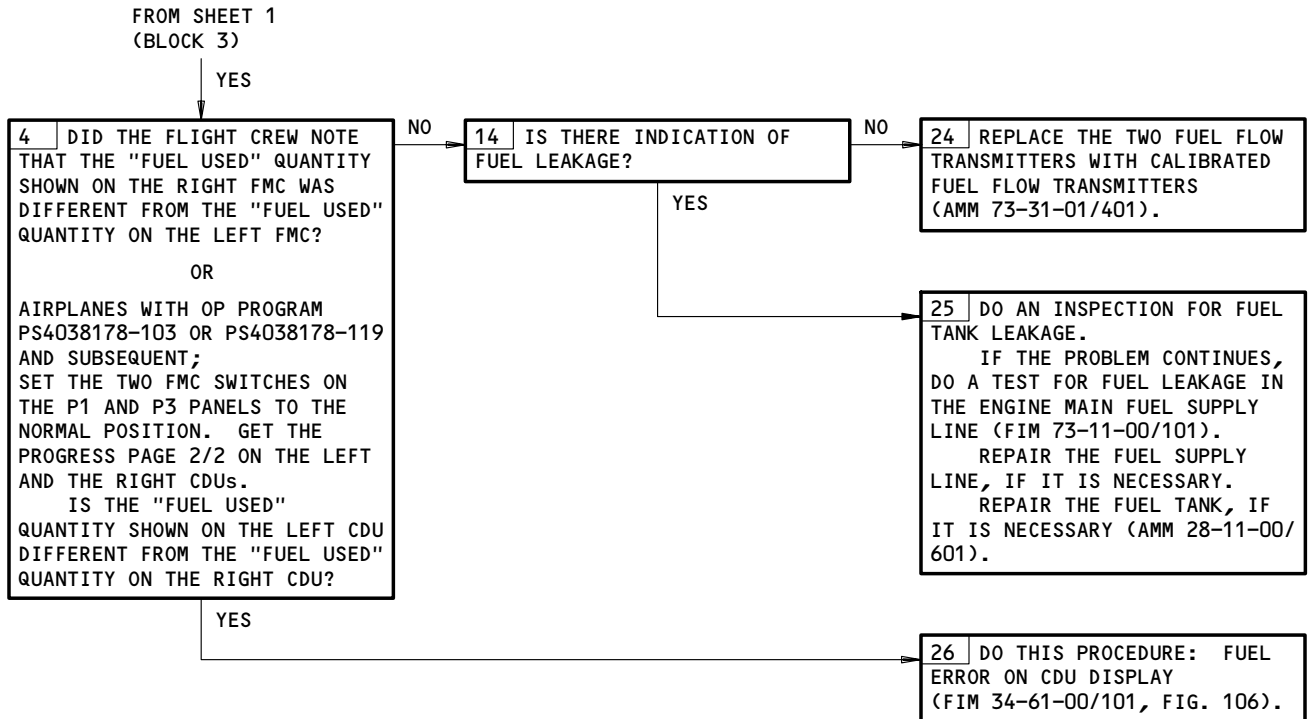


- 1** INITIAL FUEL LOAD LESS THAN OR EQUAL TO 119,000 POUNDS (54,000 KILOGRAMS).
- 2** INITIAL FUEL LOAD GREATER THAN 119,000 POUNDS (54,000 KILOGRAMS).

Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal.
Figure 117 (Sheet 1)

EFFECTIVITY
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Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal.
Figure 117 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

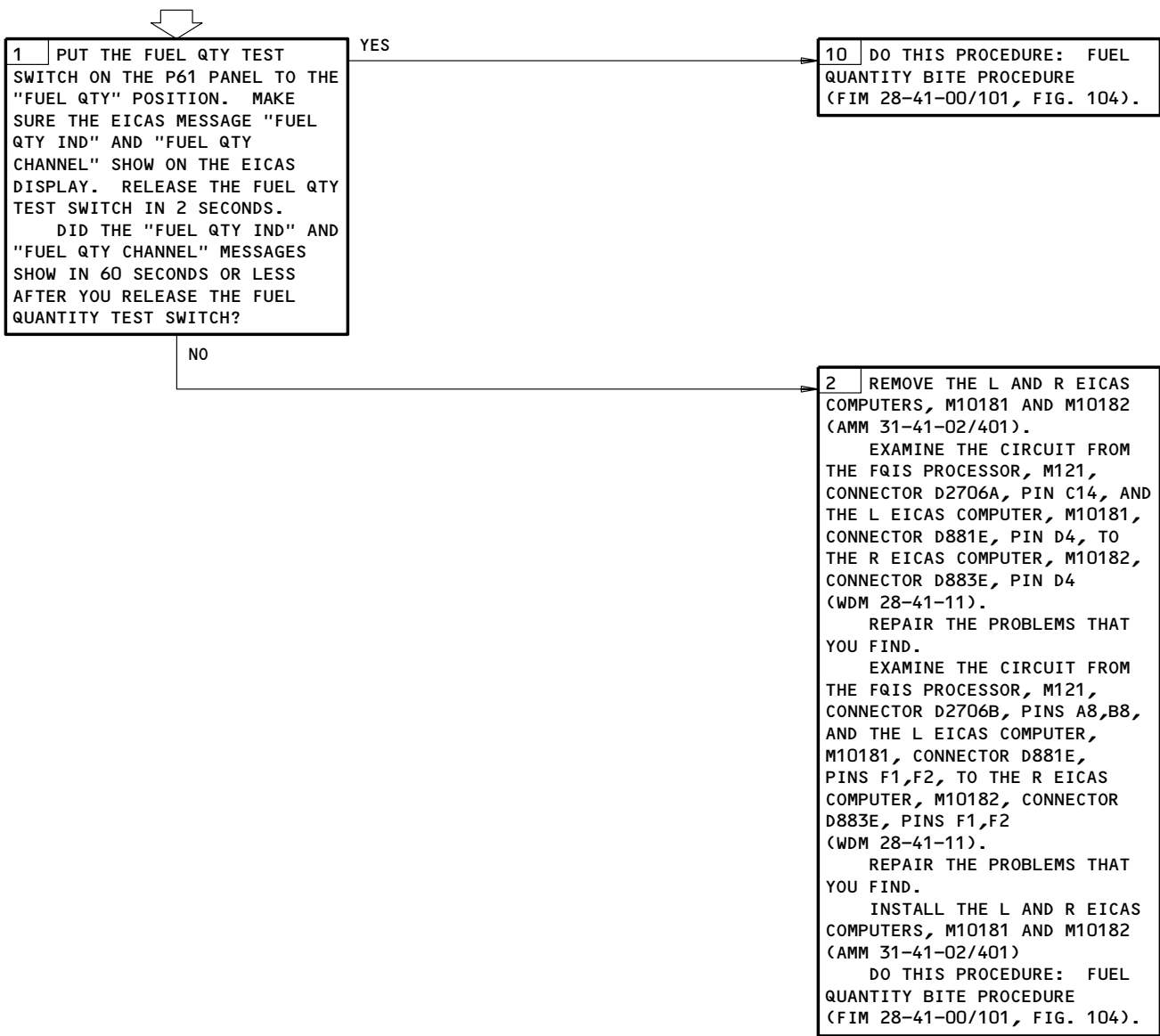
28-41-00
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**EICAS STATUS
MESSAGE "FUEL QTY
BITE" SHOWN**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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



EICAS Status Message FUEL QTY BITE Shown
Figure 118

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

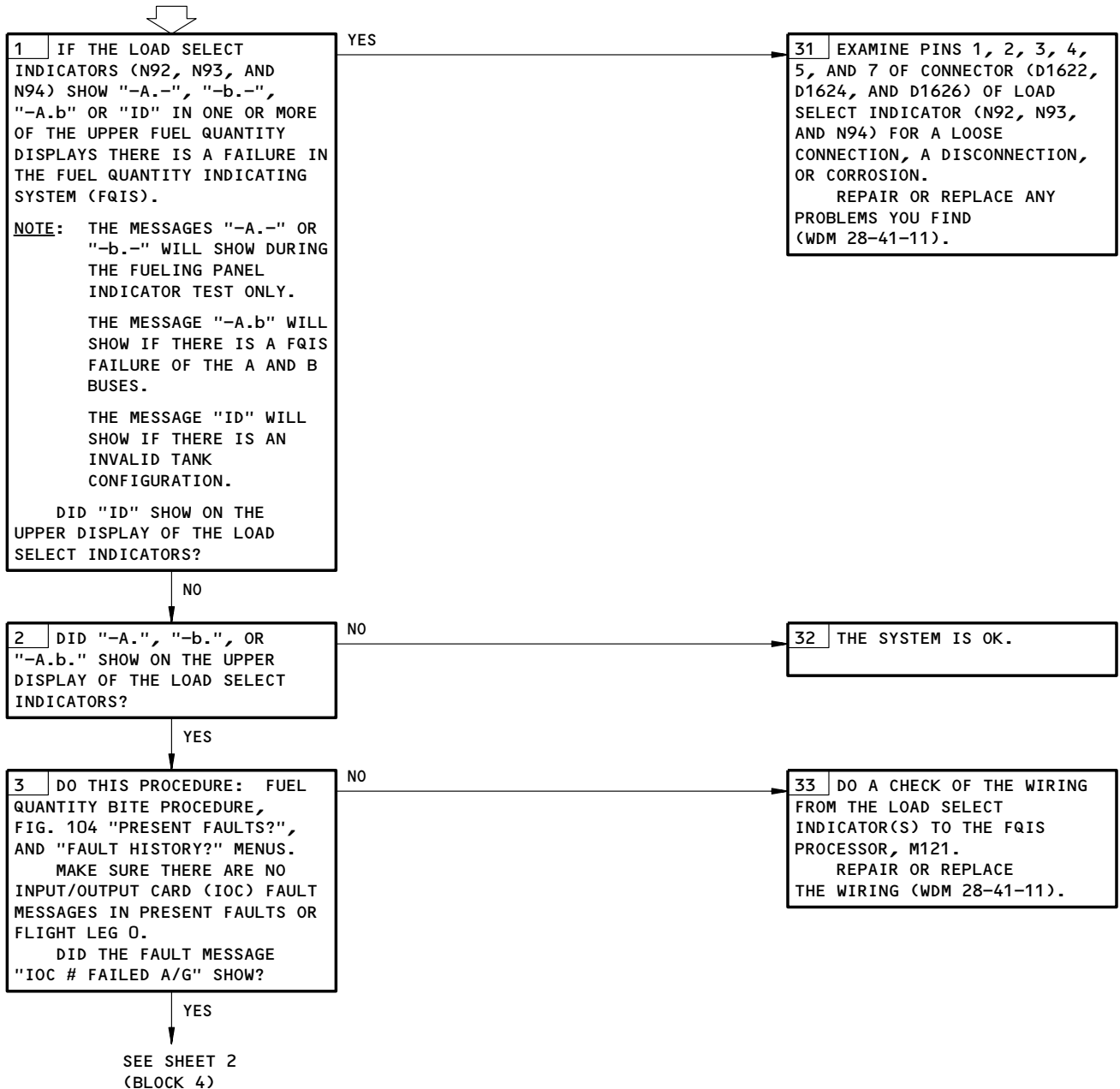
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LOAD SELECT INDICATOR SHOWS THE MESSAGE "-A.-", "-b.-", "-A.b" OR "ID" IN THE DISPLAY

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11L19, 34L2

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

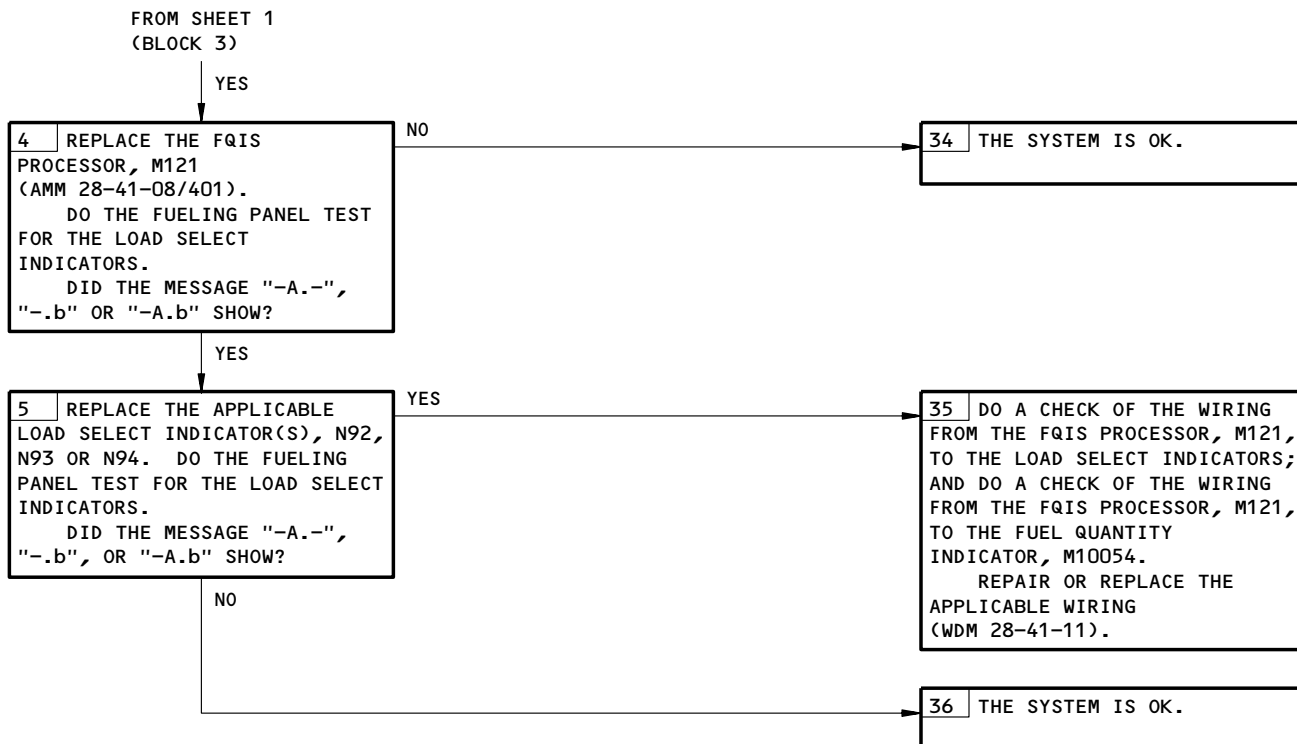


Load Select Indicator Shows the Message -A.-, -b.-, -A.b or ID in the Display
Figure 119 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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Load Select Indicator Shows the Message -A.-, -b.-, -A.b or ID in the Display
Figure 119 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

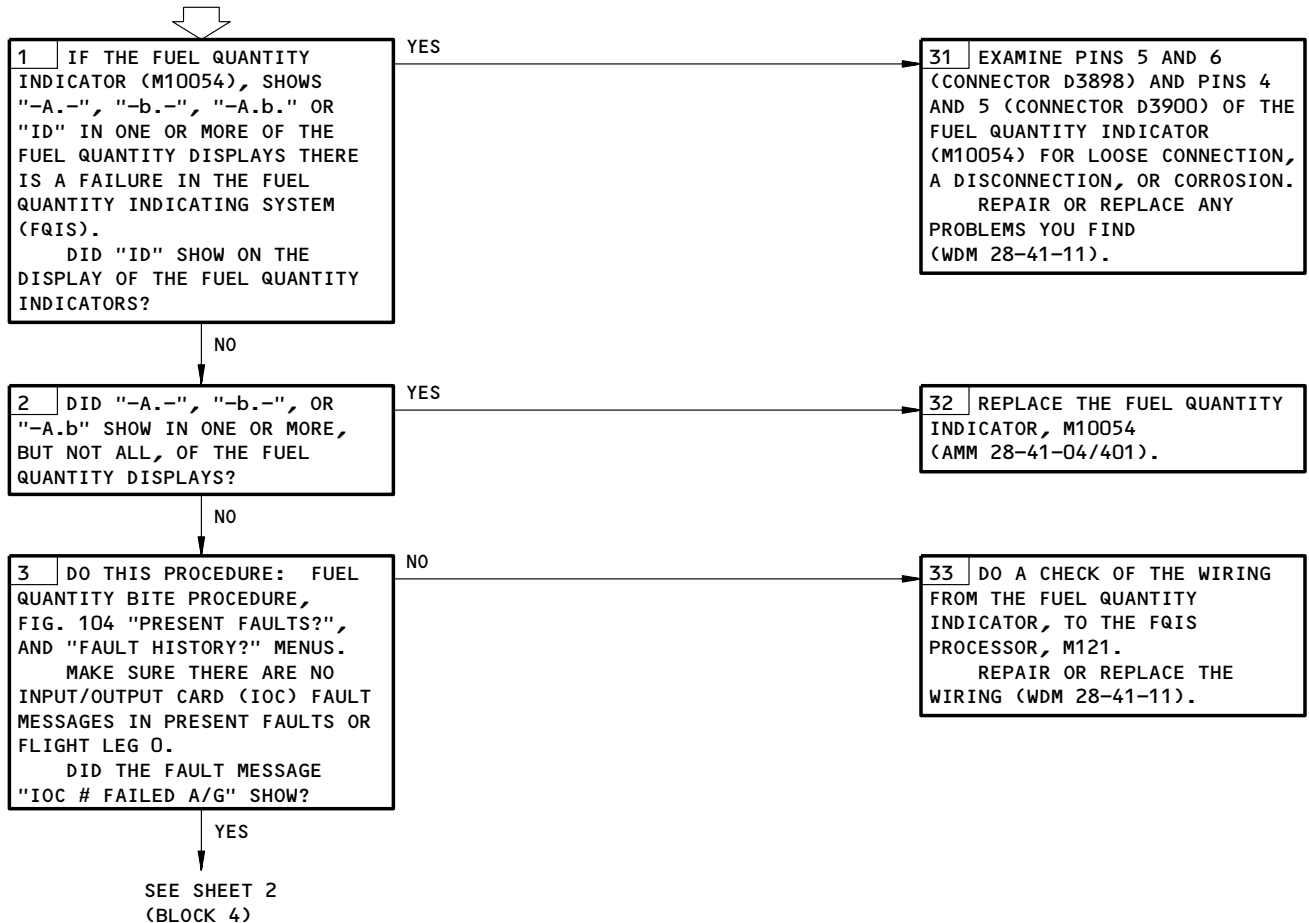
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FUEL QUANTITY INDICATOR, M10054, SHOWS THE MESSAGE(S) "-A.-", "-b.-", "-Ab." OR "ID" IN ONE OR ALL FUEL QUANTITY DISPLAYS

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4, 11C34, 11M19, 34L2

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



Fuel Quantity Indicator, M10054, Shows the Message(s) -A.-, -b.-, -A.b. or ID in One or All Fuel Quantity Displays
Figure 120 (Sheet 1)

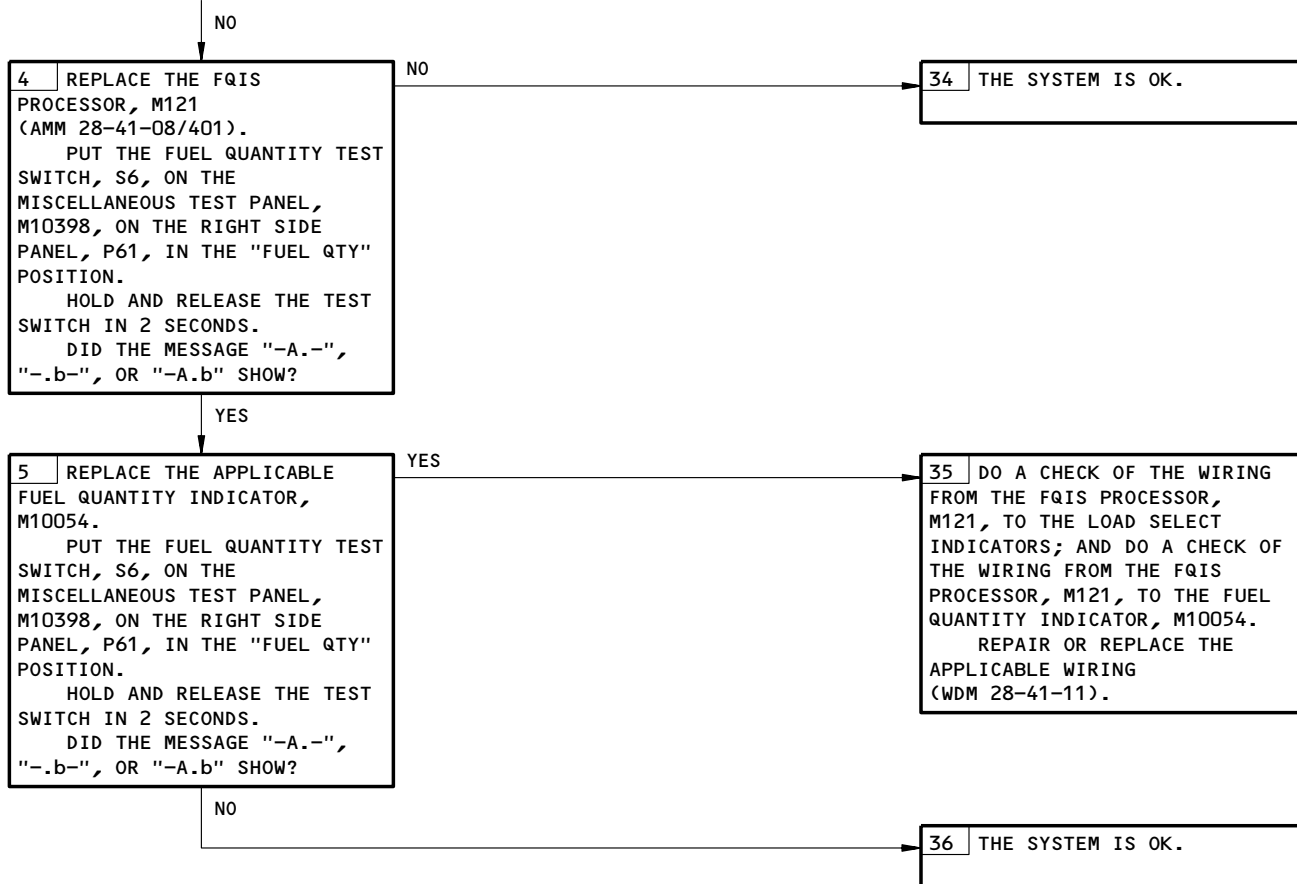
EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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(BLOCK 3)



Fuel Quantity Indicator, M10054, Shows the Message(s) -A.-, -b.-, -A.b. or ID
 in One or All Fuel Quantity Displays
 Figure 120 (Sheet 2)

EFFECTIVITY
 SAS 052-149, 158-161, 168-999;
 MTH 281-999

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07




767

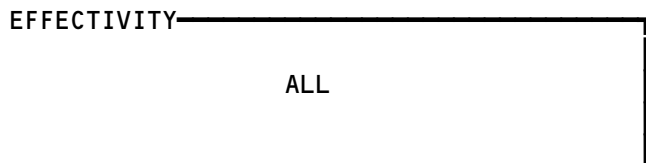
FAULT ISOLATION/MAINT MANUAL

FUEL PRESSURE INDICATING SYSTEM

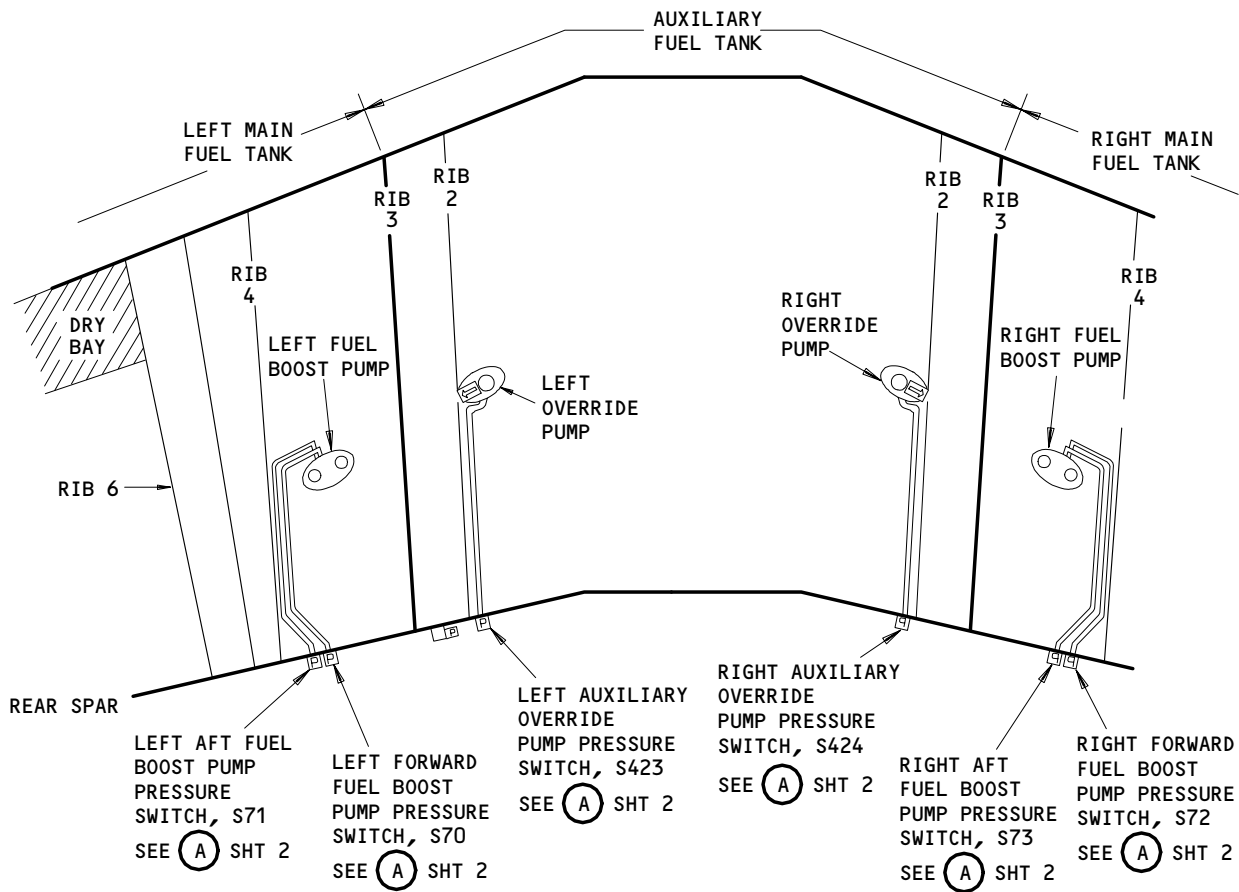
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
PANEL - (FIM 28-22-00/101) FUEL MANAGEMENT, M10055				
SWITCH -				
L AFT FUEL BOOST PUMP PRESSURE, S71	2	1	LEFT WHEEL WELL, REAR SPAR	28-42-01
L AUX OVRD PUMP PRESSURE, S423	2	1	LEFT WHEEL WELL, REAR SPAR	28-42-01
L FWD FUEL BOOST PUMP PRESSURE, S70	2	1	LEFT WHEEL WELL, REAR SPAR	28-42-01
L JETTISON PUMP PRESSURE, S805 	2	1	LEFT WHEEL WELL, REAR SPAR	28-42-01
R AFT FUEL BOOST PUMP PRESSURE, S73	2	1	RIGHT WHEEL WELL, REAR SPAR	28-42-01
R AUX OVRD PUMP PRESSURE, S424	2	1	RIGHT WHEEL WELL, REAR SPAR	28-42-01
R FWD FUEL BOOST PUMP PRESSURE, S72	2	1	RIGHT WHEEL WELL, REAR SPAR	28-42-01
R JETTISON PUMP PRESSURE, S806 	2	1	RIGHT WHEEL WELL, REAR SPAR	28-42-01

 SAS 050,051,162-164 WITH SB 28-25, AND SAS 052-149,155-161,165-999

Fuel Pressure Indicating System - Component Index
Figure 101



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COMPONENT LOCATION 1

- 1 SAS 050,051,162-164 WITHOUT SB 28-25,
AND SAS 150-154; MTH 275,276
- 2 SAS 050,051,162-164 WITH SB 28-25,
AND SAS 052-149,155-161,165-999;
MTH 277-999

Fuel Pressure Indicating System - Component Location
Figure 102 (Sheet 1)

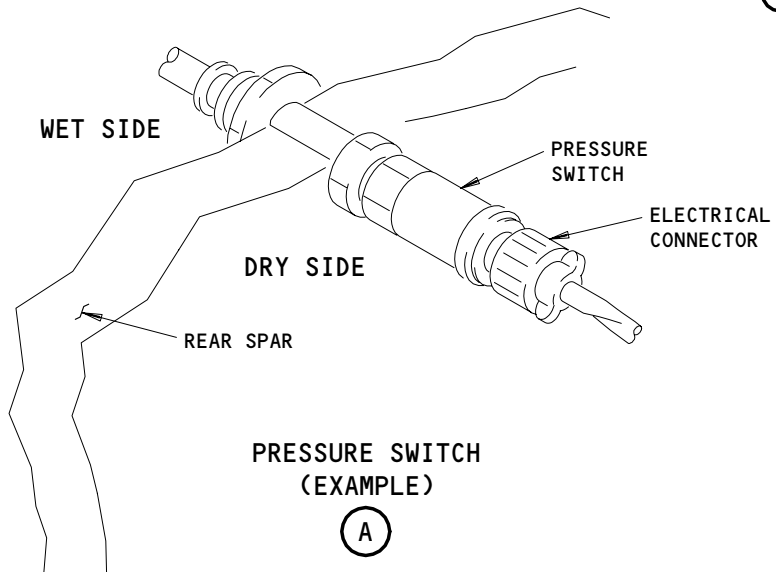
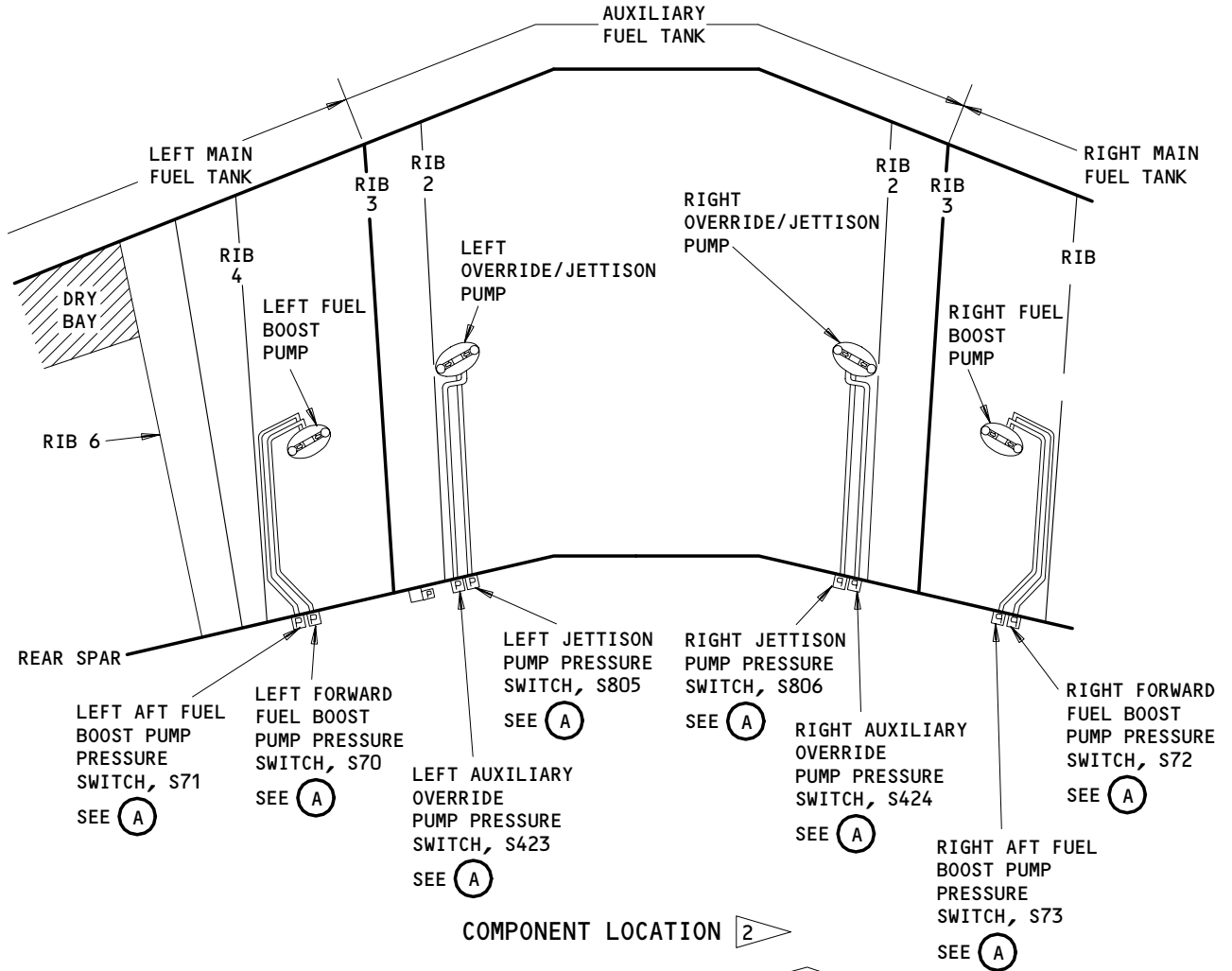
EFFECTIVITY	ALL
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Fuel Pressure Indicating System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY	
	ALL

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FUEL TEMPERATURE SYSTEM

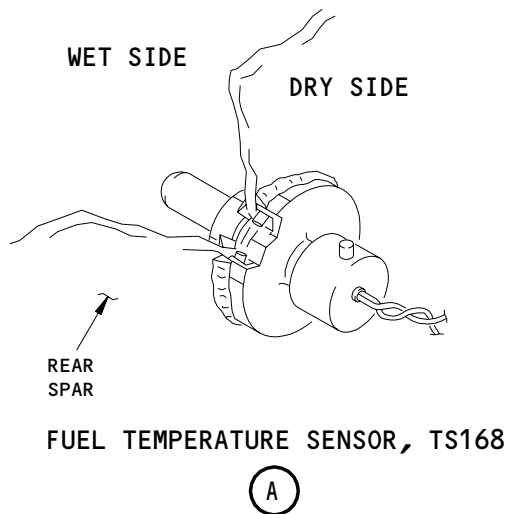
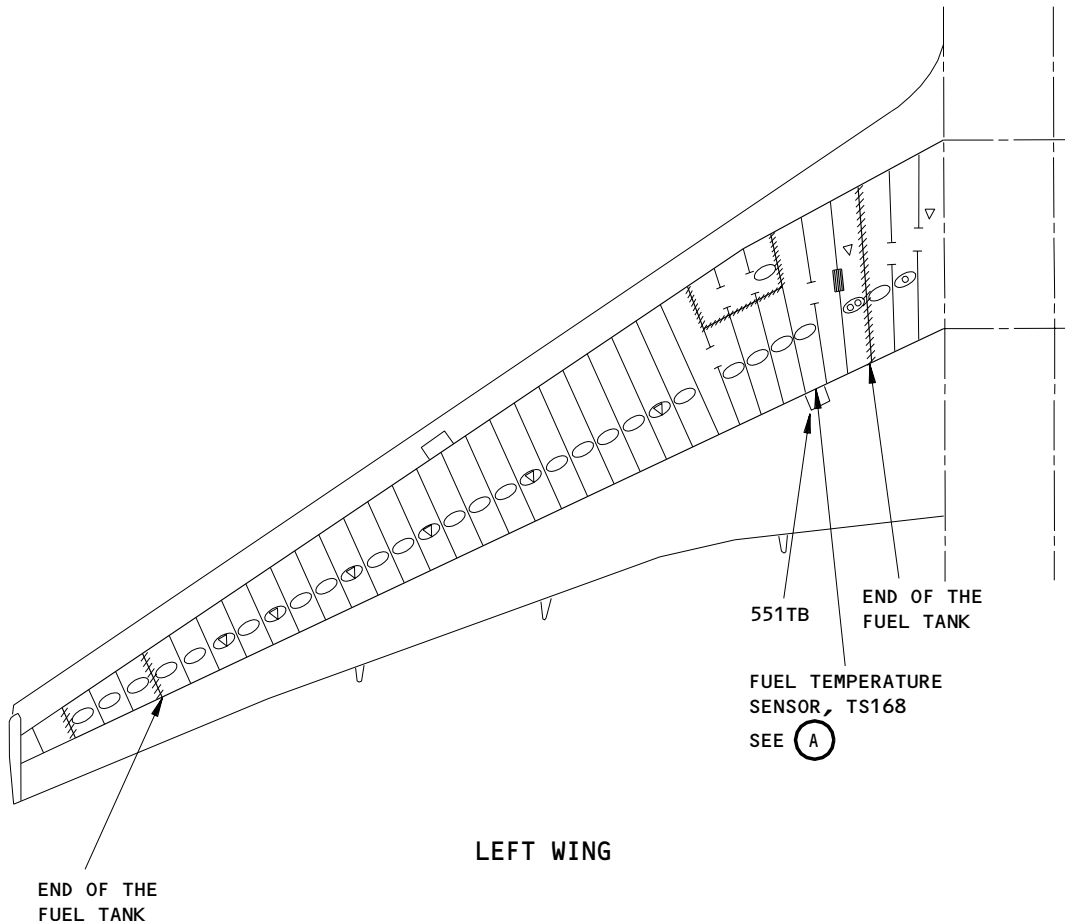
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER - FUEL TEMP, C1412	2	1	FLT COMPT, P11 11M12	*
INDICATOR - (FIM 28-41-00/101) FUEL QUANTITY, M10054				
SENSOR - FUEL TEMPERATURE, TS168	1	1	551TB, L REAR SPAR	28-43-01

* SEE THE WDM EQUIPMENT LIST

Fuel Temperature System - Component Index
Figure 101

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

28-43-00
 CONFIG 1
 Page 101
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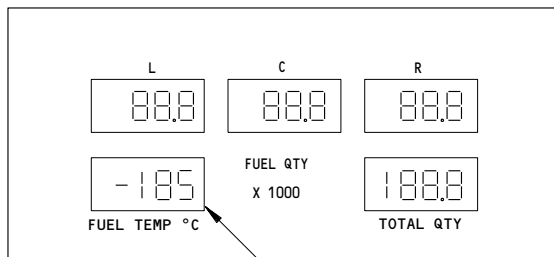
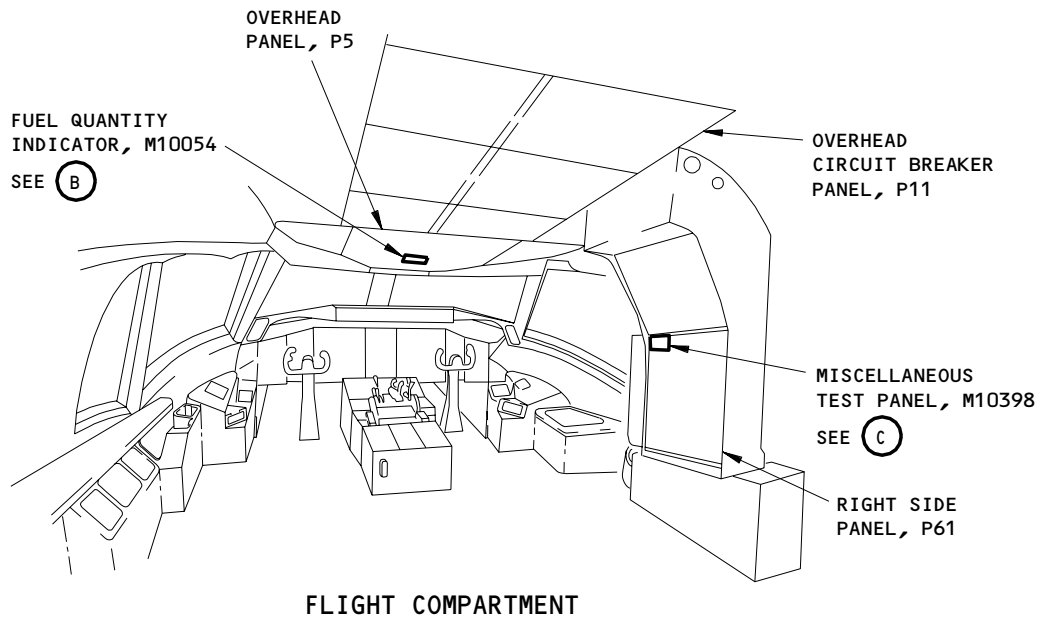


Fuel Temperature System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

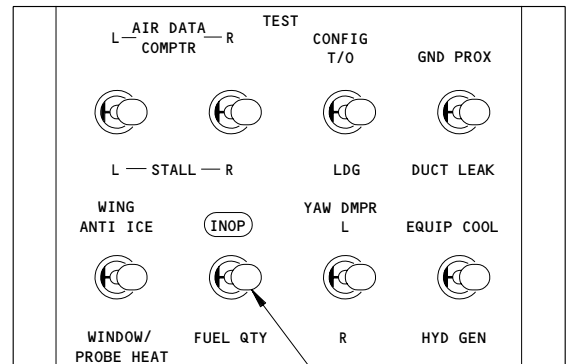
28-43-00
CONFIG 1
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FAULT ISOLATION/MAINT MANUAL



FUEL QUANTITY INDICATOR, M10054

(B)



MISCELLANEOUS TEST PANEL, M10398

(C)

Fuel Temperature System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

28-43-00

CONFIG 1
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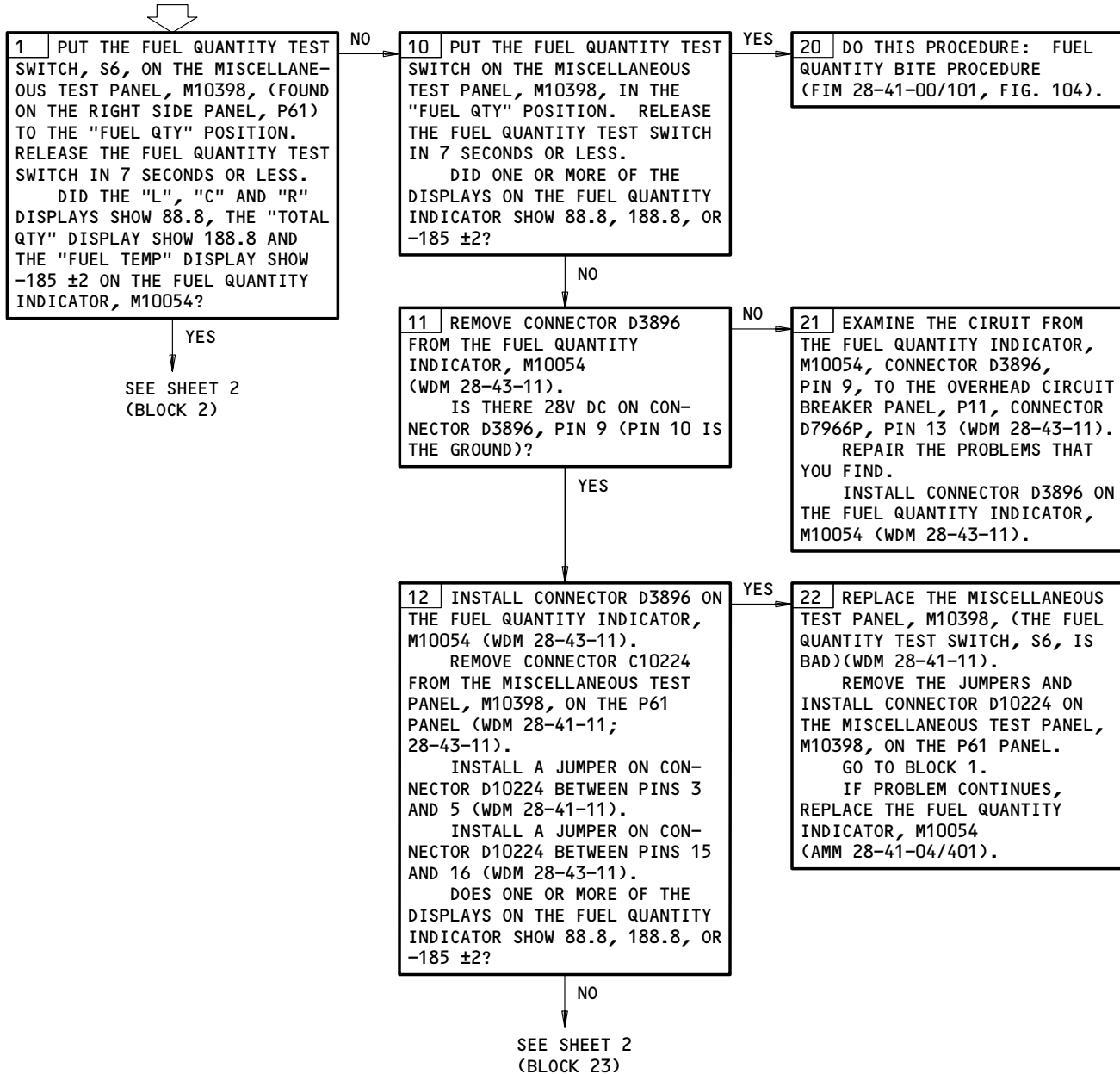
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M12,11M19,34L2

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

FUEL TEMPERATURE INDICATOR DOES NOT DISPLAY CORRECTLY.

NOTE: AN INCORRECT DISPLAY IS ONE THAT IS FLUCTUATING OR INTERMITTENT OR INACCURATE OR BLANK OR HAS MISSING SEGMENTS.

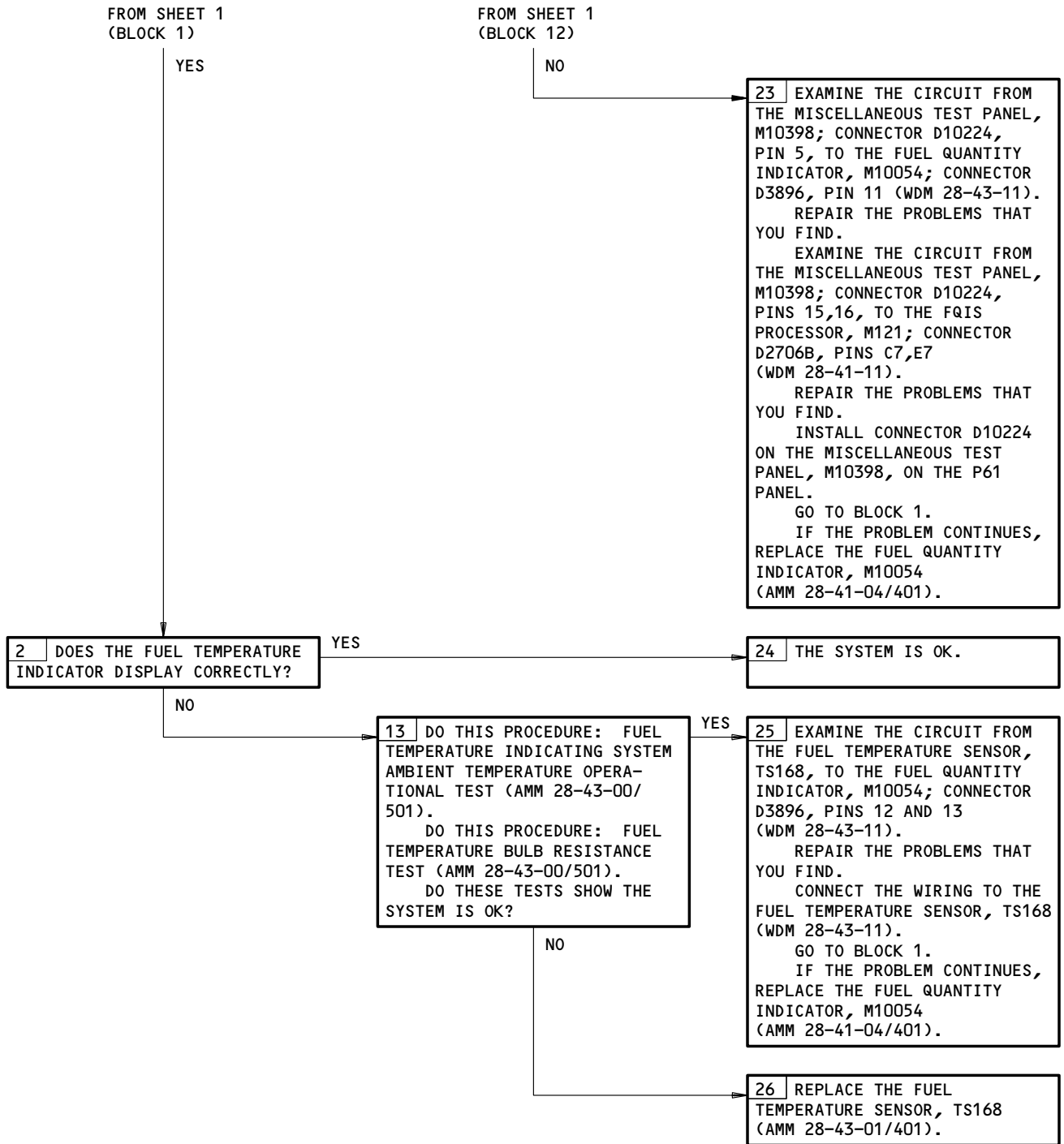


Fuel Temperature Indicator Does Not Display Correctly.
Figure 103 (Sheet 1)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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CONFIG 1
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FAULT ISOLATION/MAINT MANUAL



Fuel Temperature Indicator Does Not Display Correctly.
Figure 103 (Sheet 2)

EFFECTIVITY
SAS 050, 051, 151-157, 162-167;
MTH 275-278, 280

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CONFIG 1
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FAULT ISOLATION/MAINT MANUAL

FUEL TEMPERATURE SYSTEM

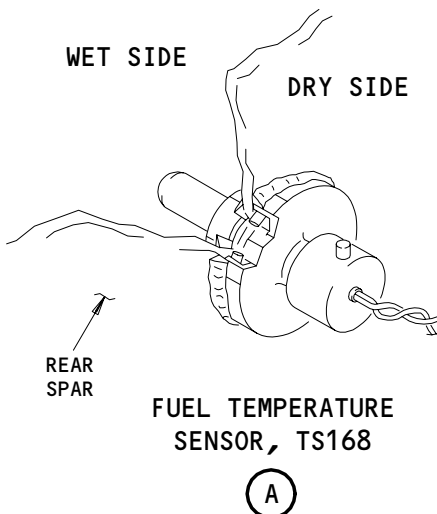
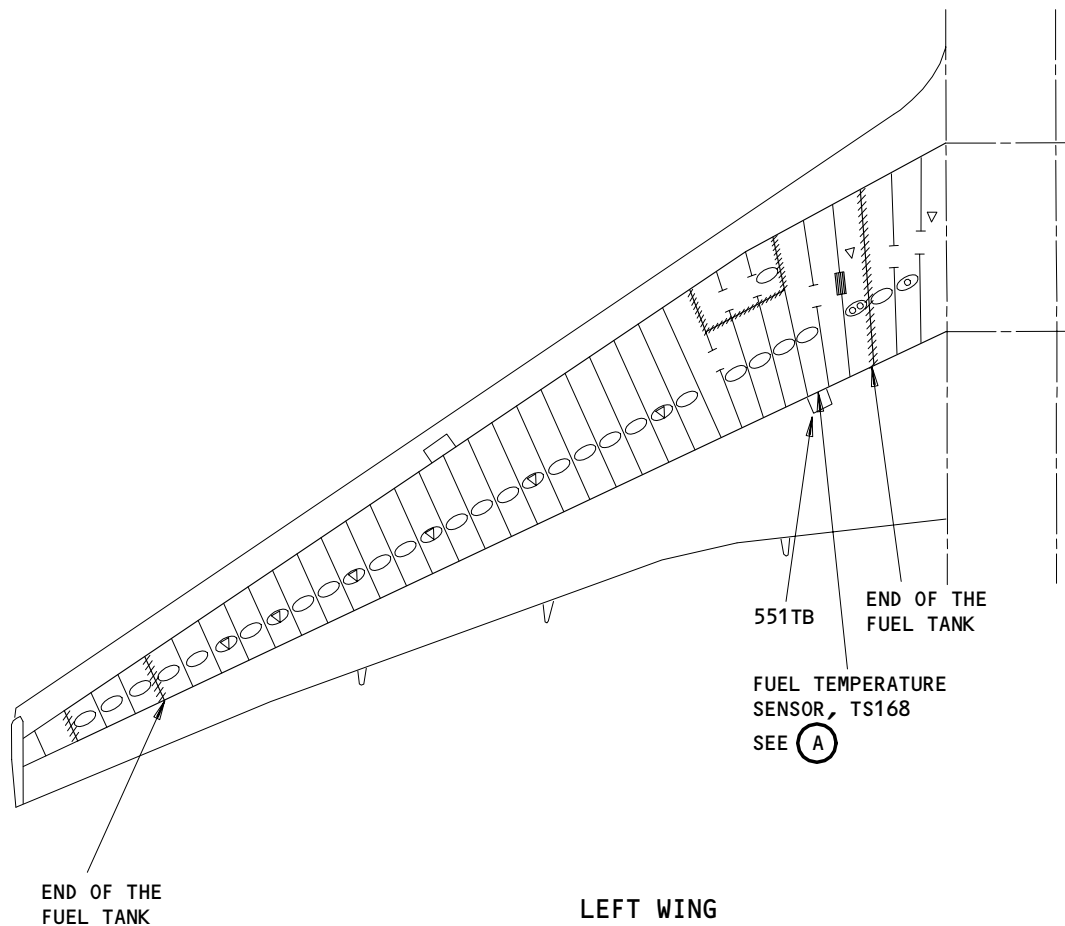
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER - FUELING QTY, C1045	--	1	FLT COMPT, P6 6E4	*
CIRCUIT BREAKER - FUEL QTY 1, C1048	--	1	FLT COMPT, P11 11C34	*
FUEL QTY 2, C1053	--	1	11M19	*
CIRCUIT BREAKER - FUEL QTY REFUEL, C1040	--	1	FLT COMPT, P34 34L2	*
INDICATOR - (FIM 28-41-00/101) FUEL QUANTITY, M10054	2	1	FLT COMPT, P5	*
SENSOR - FUEL TEMPERATURE, TS168	1	1	551TB, LEFT REAR SPAR	28-43-01

* SEE THE WDM EQUIPMENT LIST

Fuel Temperature System - Component Index
Figure 101

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

28-43-00
CONFIG 2
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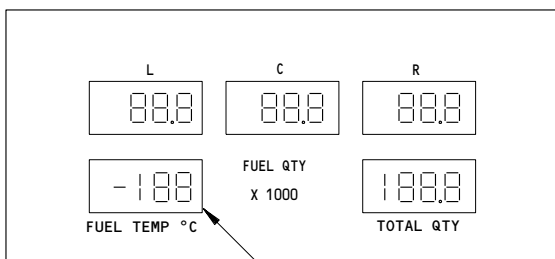
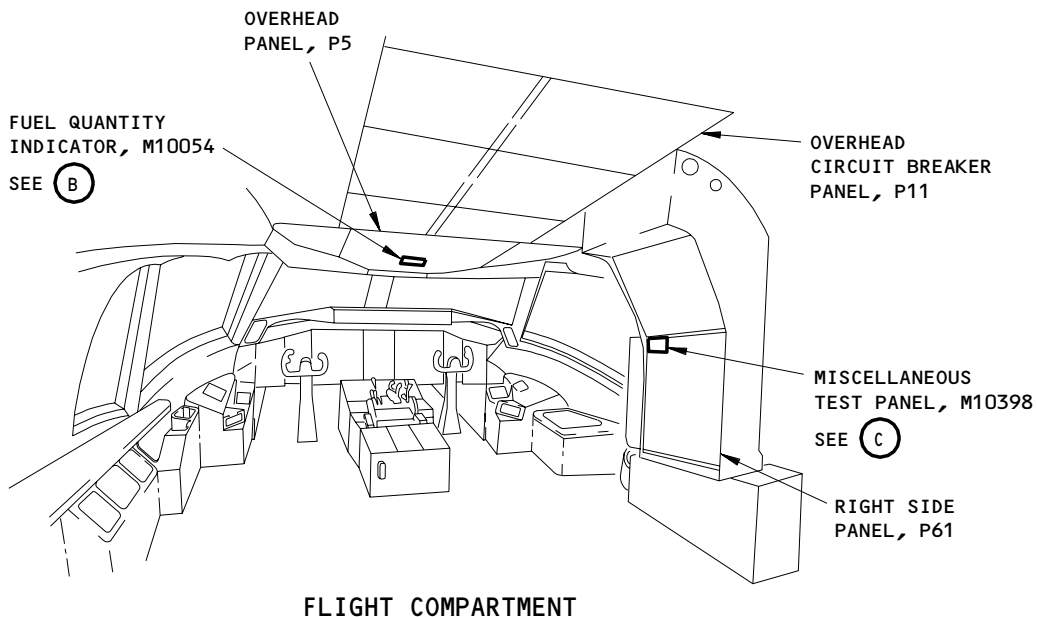


Fuel Temperature System - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

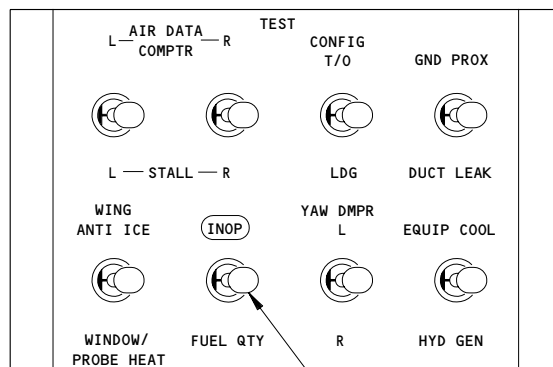
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CONFIG 2
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FAULT ISOLATION/MAINT MANUAL



FUEL QUANTITY INDICATOR, M10054

(B)



MISCELLANEOUS TEST PANEL, M10398

(C)

Fuel Temperature System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

28-43-00

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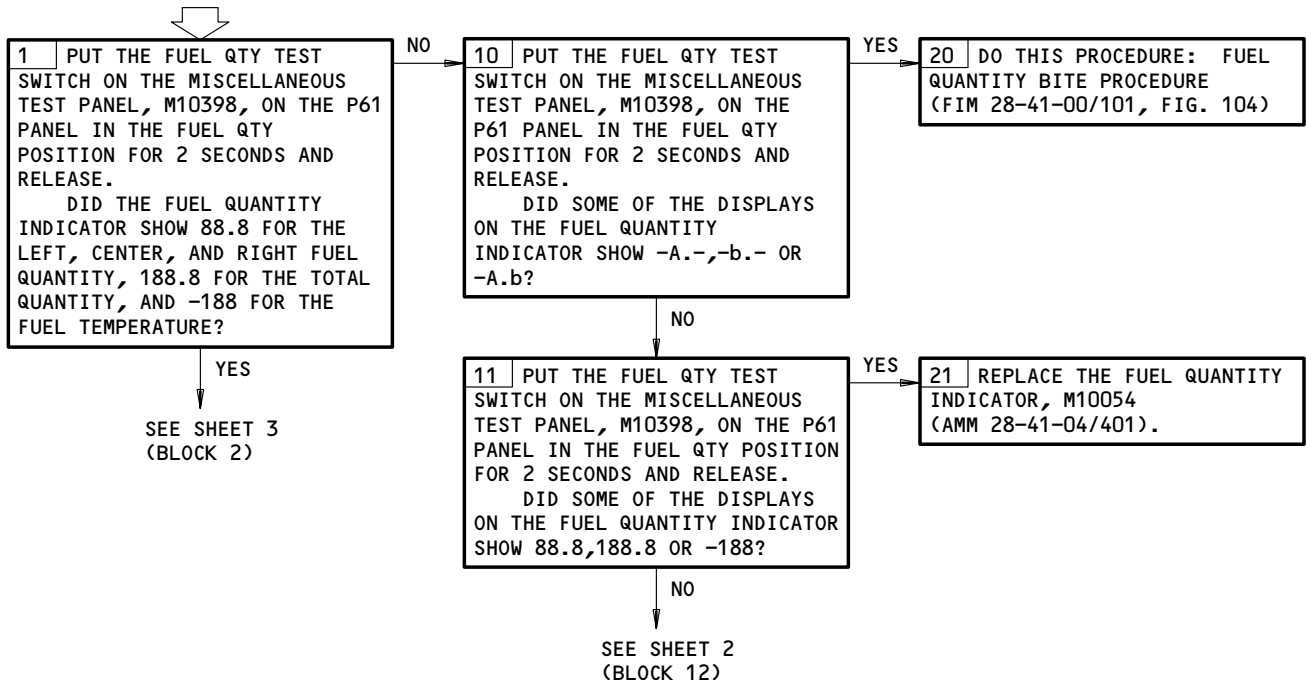
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6E4,11C34,11M19,34L2

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

FUEL TEMPERATURE INDICATOR DOES NOT DISPLAY CORRECTLY.

NOTE: AN INCORRECT DISPLAY IS ONE THAT FLUCTUATES OR IS INTERMITTENT OR INACCURATE OR BLANK OR HAS MISSING SEGMENTS.



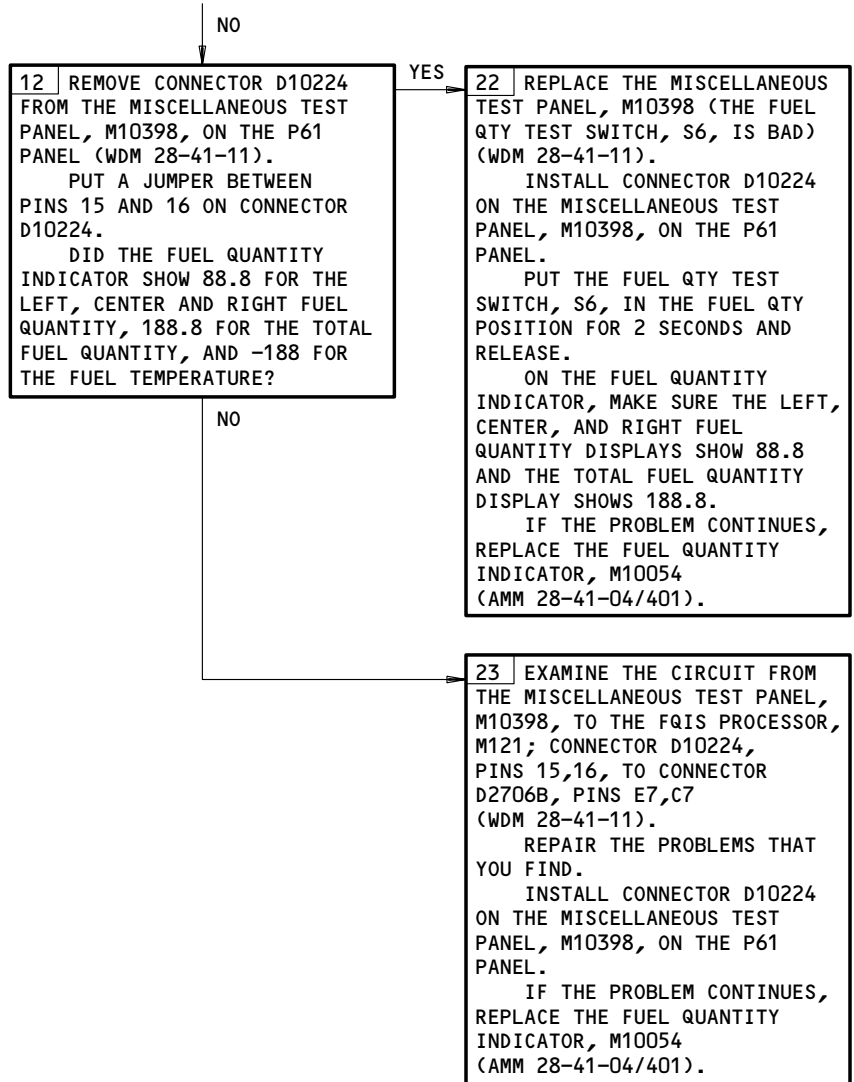
Fuel Temperature Indicator Does Not Display Correctly.
Figure 103 (Sheet 1)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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CONFIG 2
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FROM SHEET 1
(BLOCK 11)

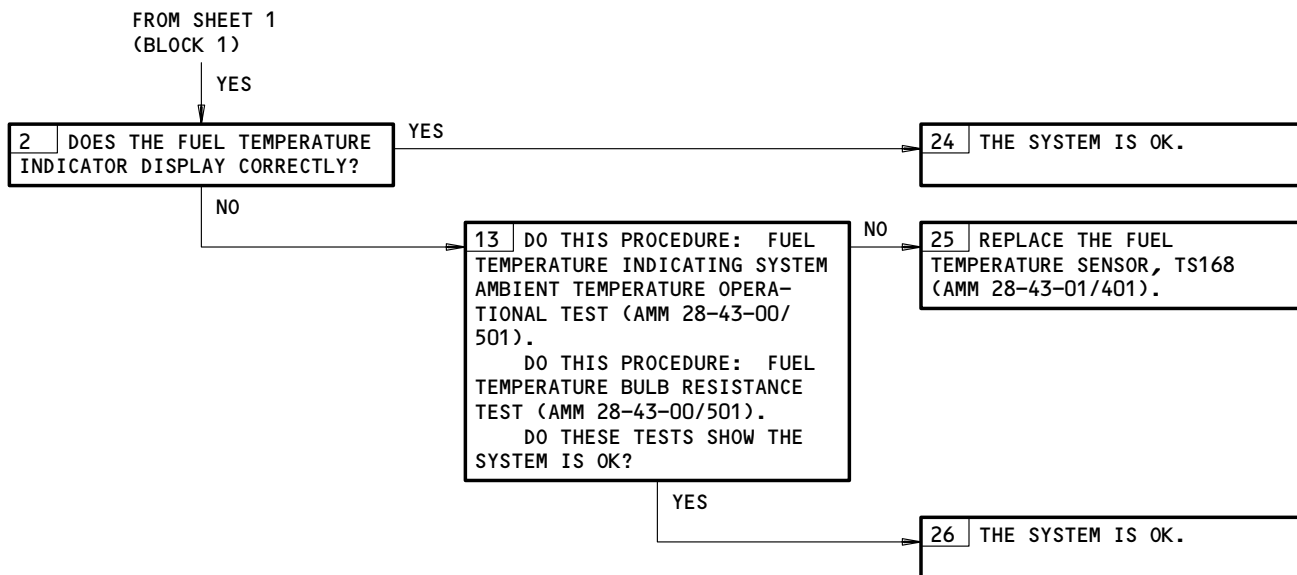


Fuel Temperature Indicator Does Not Display Correctly.
Figure 103 (Sheet 2)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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Fuel Temperature Indicator Does Not Display Correctly.
Figure 103 (Sheet 3)

EFFECTIVITY
SAS 052-149, 158-161, 168-999;
MTH 281-999

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FUEL MEASURING STICKS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
FUEL MEASURING STICK -				
NO. 1	1	2	531BB,631BB	28-44-01
NO. 2	1	2	532BB,632BB	28-44-01
NO. 3	1	2	541BB,641BB	28-44-01
NO. 4	1	2	541GB,641GB	28-44-01
NO. 5	1	2	541LB,641LB	28-44-01
NO. 6	1	2	541PB,641PB	28-44-01
NO. 7	1	2	541TB,641TB	28-44-01
NO. 8	1	2	541VB,641VB	28-44-01

Fuel Measuring Sticks - Component Index
Figure 101

EFFECTIVITY

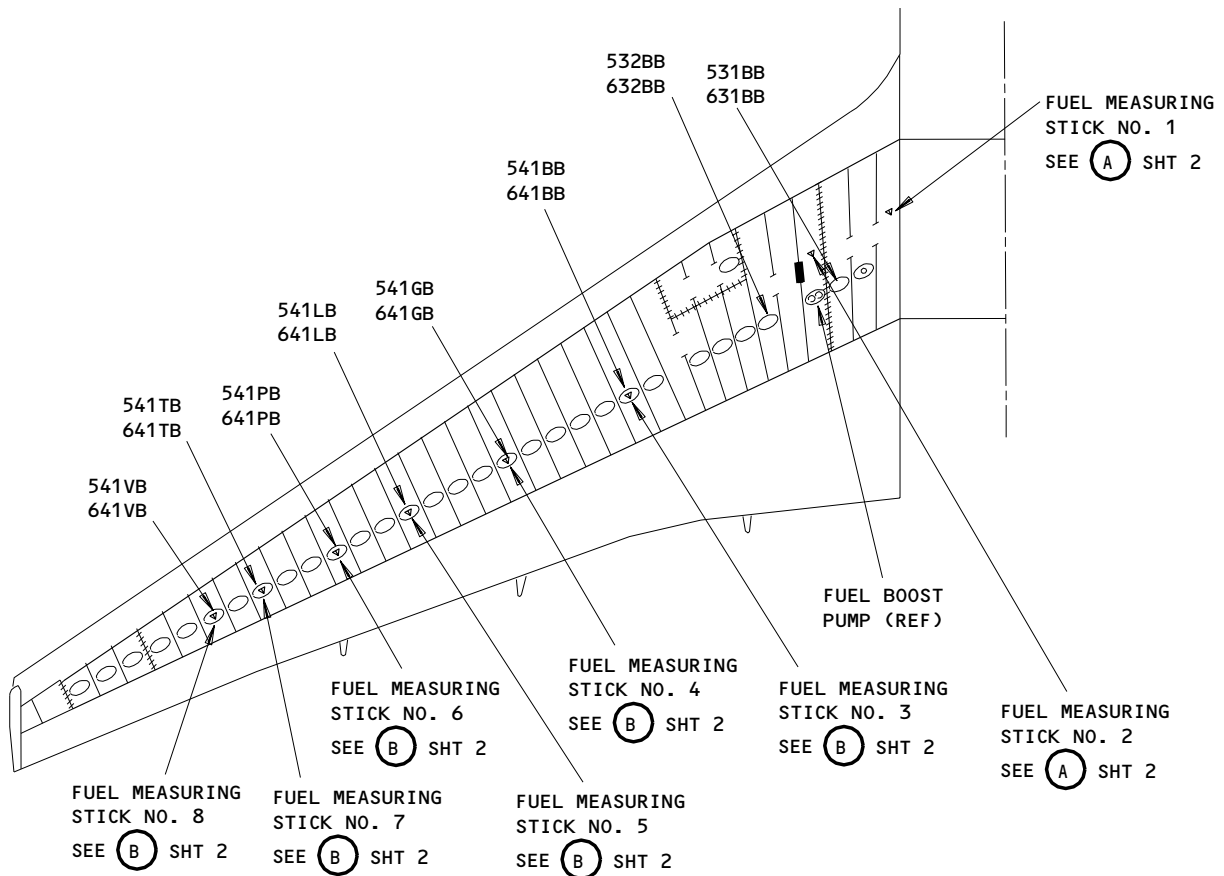
ALL

28-44-00

01

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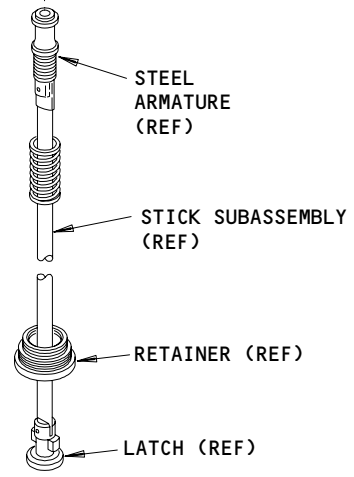
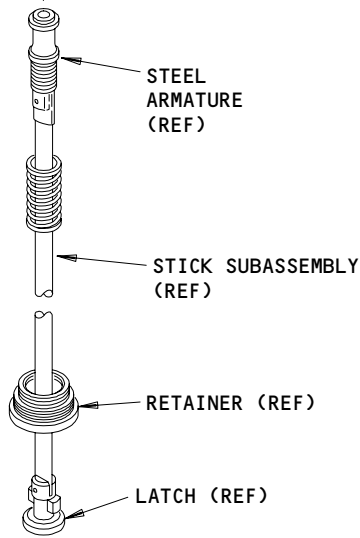
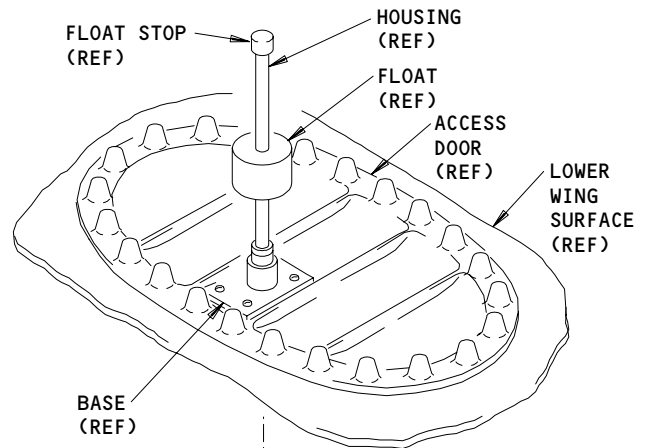
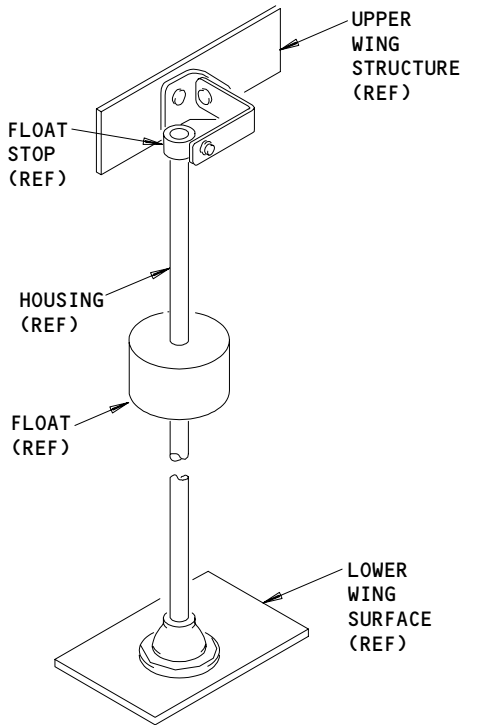


NOTE: 500 SERIES PANELS ON THE LEFT WING
600 SERIES PANELS ON THE RIGHT WING

Fuel Measuring Sticks - Component Location
Figure 102 (Sheet 1)

EFFECTIVITY	ALL
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28-44-00



FUEL MEASURING
STICK NO. 1,2
(INSTALLED ON THE
AIRPLANE STRUCTURE)

A

FUEL MEASURING STICK
NO. 3,4,5,6,7,8
(INSTALLED ON THE
TANK ACCESS DOOR)

B

Fuel Measuring Sticks - Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

EFFECTIVITY

ALL

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01

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