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Load Select Indicator Shows the Message "-A", or "-b" or "-A.b" in the Display (Fig. 118)		180z	
Load Select Indicator Shows the Message "I.d" in the Display (Fig. 120)		182B	
Not Used		143	
Not Used		180P	
Not Used		180Q	
Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal. (Fig. 116) [*] GUI 001-114, 116-999		1800	
Component Location		101	CONFIG 3 [*]
Component Index			
Component Location			
Fault Isolation			
Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) (Fig. 109)		180F	
EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed. (Fig. 117)		180x	
Fault Message Reference Chart (Fig. 106)		143	
Fault Messages (Fig. 108)		150	
Fuel Quantity BITE Procedure (Fig. 104)		118	
Fuel Quantity Indicating Module (FQIM) Does Not Display Correctly. (Fig. 114)		180s	
Fuel Quantity Indicating Module (FQIM), M10054, Shows the Message(s) "-A","-b" or "-A.b" in One or All Fuel Quantity Displays (Fig. 119)		182	
Fuel Quantity Indicating System Problems Index (Fig. 103)		117	
FQIS Wiring (Fig. 107)		144	

28-CONTENTS

GUI

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TABLE OF CONTENTS

Chapter Section Subject <u>Subject</u> <u>Page</u> **Effectivity** FUEL CONFIG Light and EICAS 180N Message FUEL CONFIG are Illuminated (Fig. 111) FUEL CONFIG Light and EICAS 180U Msg LOW FUEL Not Displayed during Fuel Qty Test (Fig. 115) Intermittent Fault Messages 180J (Fig. 110) Load Select Indicator Shows 180Z the Message "-A.-", or "-b.-" or '-A.b" in the Display (Fig. 118) Load Select Indicator Shows 182B the Message "I.d" in the Display (Fig. 120) Not Used 142 Not Used 180Q 180R Not Used Total Fuel Qty Does Not Agree 180V with FMC Calculated Fuel Qty. Fuel Flow Normal (Fig. 116) [*] GUI 115 FUEL PRESSURE INDICATING SYSTEM 28-42-00 Component Location 101 ALL Component Index Component Location FUEL TEMPERATURE INDICATING SYSTEM 28-43-00 Component Location 101 ALL Component Index Component Location Fault Isolation Fuel Temperature Indicator 104 Does Not Display Correctly. (Fig. 103) FUEL MEASURING STICKS 28-44-00 101 Component Location ALL Component Index

Component Location

28-CONTENTS



These are the possible types of faults: YOU FIND A FAULT WITH 1. EICAS Message AN AIRPLANE SYSTEM 2. Observed Fault Use the EICAS message, fault code, or fault description to find the corrective action or fault isolation procedure in the FIM. DO THE CORRECTIVE For details, see Figure 3 -ACTION OR GO TO THE FAULT ISOLATION PROCEDURE IN THE FIM If you do not have a fault code or an EICAS message and if the system has BITE, then you can use the system BITE to get more information: Use the BITE Index to find if the system has BITE and to find the BITE procedures in the FIM. For details, see Figure 2 -The fault isolation procedure FOLLOW THE STEPS IN explains how to find and repair the THE FAULT ISOLATION the cause of the fault. **PROCEDURE**

> Basic Fault Isolation Process Figure 1

EFFECTIVITY-

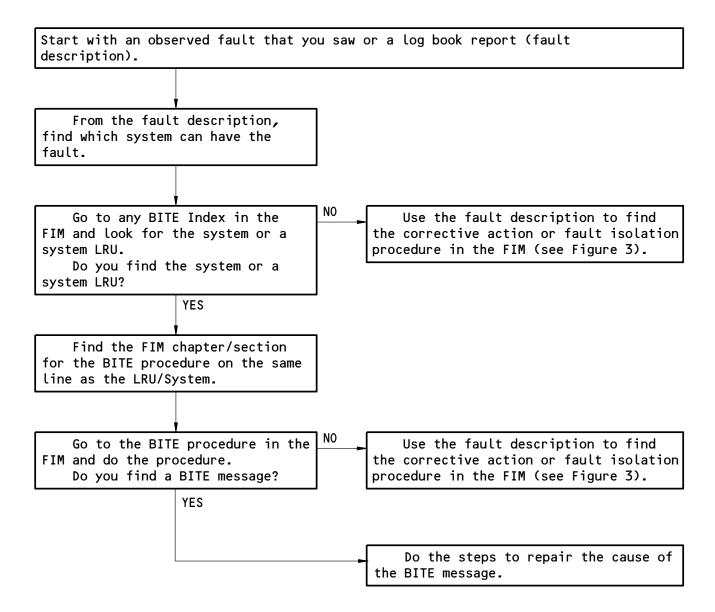
28-HOW TO USE THE FIM

For details, see Figure 4 —

01

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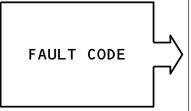
How to Get Fault Information from BITE Figure 2

28-HOW TO USE THE FIM

01

Page 2 Sep 20/98 IF YOU HAVE:

THEN DO THIS TO FIND THE CORRECTIVE ACTION OR FAULT ISOLATION PROCEDURE IN THE FIM:



- 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).

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).



- 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

EFFECTIVITY-

28-HOW TO USE THE FIM

ALL

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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 breaker for the fuel boost and fuel override pumps until you correct 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

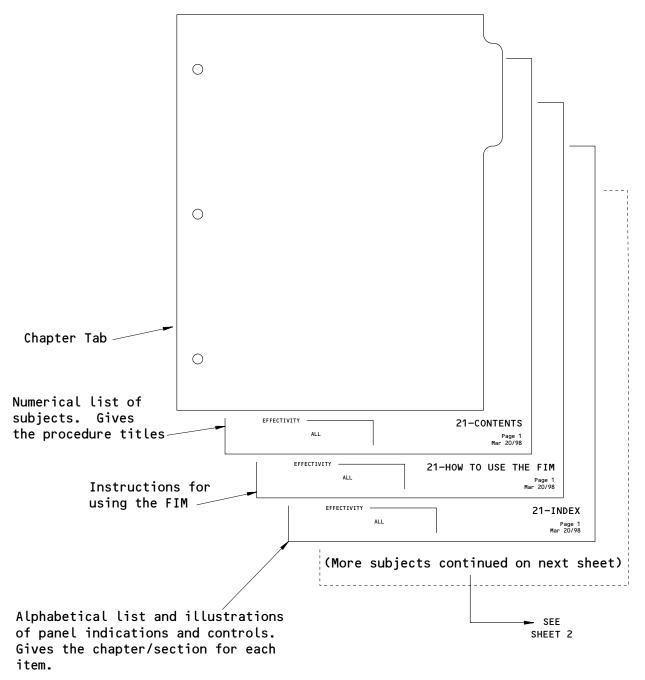
- Start the fault isolation procedure at block 1 unless specified differently.
- Do the check to get an answer to the question in the box. Follow the arrow that applies to your answer. This will go to the next check.
- When you get to a box in the column at the right of the page, you have isolated that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

EFFECTIVITY-

28-HOW TO USE THE FIM



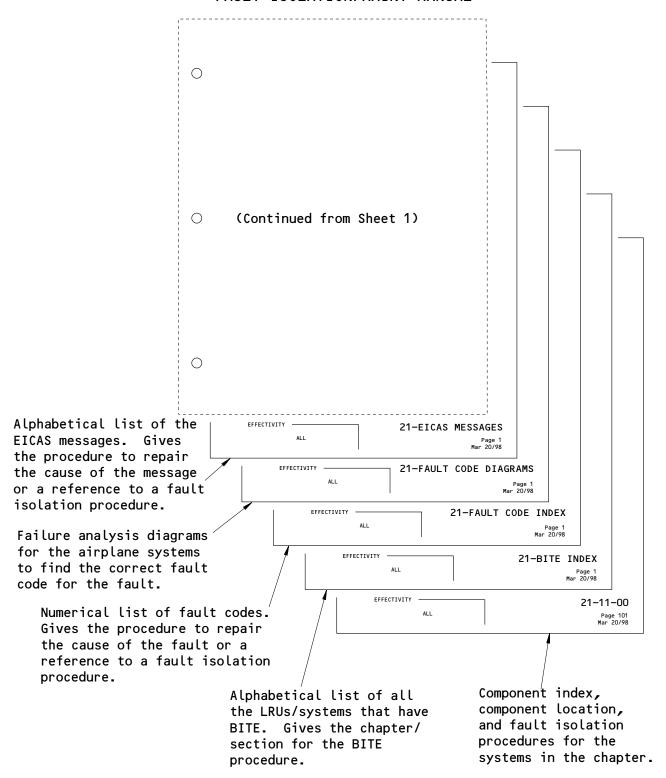


Subjects in Each FIM Chapter Figure 5 (Sheet 1)

ALL

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Subjects in Each FIM Chapter Figure 5 (Sheet 2)

EFFECTIVITY-

28-HOW TO USE THE FIM

01

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<u>TITLE</u>	CHAP/SEC
APU	
FAULT LIGHT	2825
FUEL VALVE	
RUN LIGHT	
SLCTR SWITCH	
BOOST PUMP (CTR)	
BOOST PUMP (MAIN)	
CROSSFEED VALVE(S)	2822
ENGINE VALVE	CHAPTER 71
FUEL	
CONFIG	2841
CONTROL SW	CHAPTER 71
FLOW	CHAPTER 71
LEAK	2841
QTY BITE	2841
QTY IND	2841
QTY IND/CHANNEL MSGs	2841
QTY IND TEST SWITCH	2841
QTY (INDICATION VS FMC	
FUEL QTY)	2841
TEMP IND	2843
TRANSFER	2841
USED	CHAPTER 34
LOW FUEL	
SPAR VALVE	
TOTAL FUEL QTY IND	2841

FUEL - INDEX Figure 1 (Sheet 1)

EFFECTIVITY-ALL

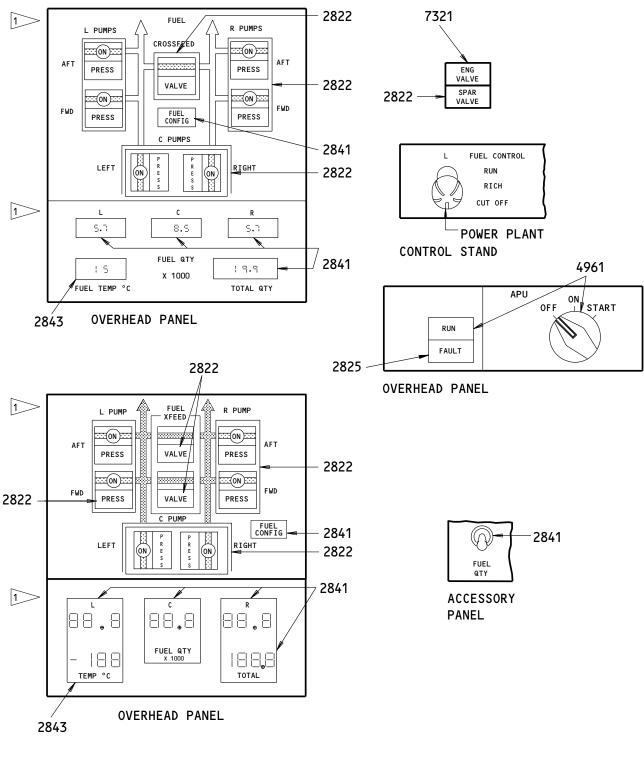
28-INDEX

02

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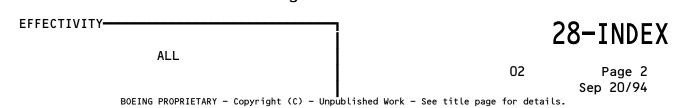


FAULT ISOLATION/MAINT MANUAL

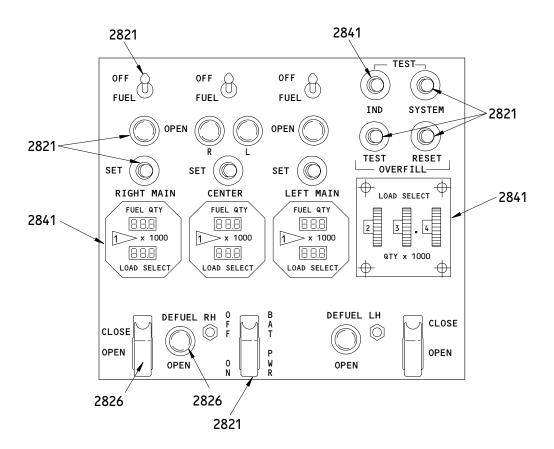


1> AS INSTALLED

FUEL - INDEX
Figure 1 (Sheet 2)



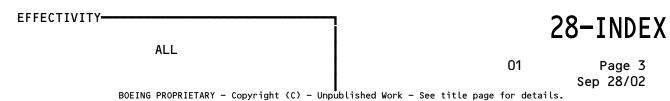




1 UNITS ARE IN LBS OR KGS

TITLE	CHAP/SEC
BAT PWR SWITCH	2821
DEFUELING LIGHT	2826
DEFUELING SWITCH	2826
FUELING VALVE LIGHT	2821
FUELING VALVE SWITCH	2821
LOAD SELECT CONTROL	2841
LOAD SELECT INDICATOR	2841
OVERFILL RESET SWITCH	2821
OVERFILL TEST SWITCH	2821
PANEL LIGHT	2821
SET SWITCH	2821
TEST SWITCH IND	2841
TEST SWITCH SYSTEM	2821

FUEL - INDEX (GROUND) Figure 2





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

EFFECTIVITY-

28-EICAS MESSAGES

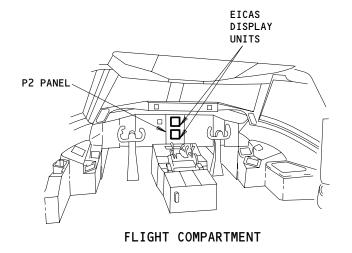
01

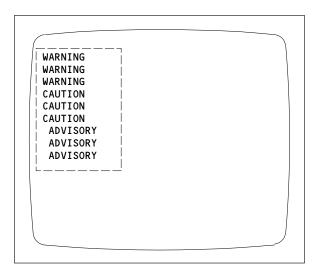
ALL

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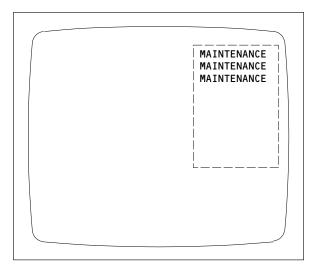


FAULT ISOLATION/MAINT MANUAL

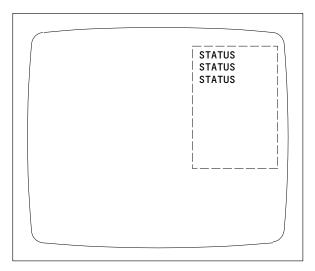




ENGINE PRIMARY PAGE OR COMPACTED PAGE (TOP DISPLAY UNIT)



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

EFFECTIVITY-ALL

781713

28-EICAS MESSAGES

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EICAS MESSAGE LIST				
EICAS MESSAGE	LEVEL	PROCEDURE		
APU FUEL VAL	С	FIM 28-25-00/101, Fig. 104		
CTR (L,R) FUEL PUMP	С	Replace the (L, R) override fuel boost pump switch-light (YQVS6, YQVS7) (AMM 33-13-00/201). FIM 28-22-00/101, Fig. 105		
20 51151 51115 211				
DC FUEL PUMP ON	М	FIM 28-25-00/101, Fig. 105		
FUEL CONFIG	С	FIM 28-41-00/101, Fig. 111		
FUEL CROSSFEED	С	FIM 28-22-00/101, Fig. 107 FIM 28-22-00/101, Fig. 108		
FUEL QTY BITE	S,M	FIM 28-41-00/101, Fig. 104		
FUEL QTY CHANNEL	S	FIM 28-41-00/101, Fig. 117		
FUEL QTY IND	S	FIM 28-41-00/101, Fig. 117		
(L,R) AFT FUEL PUMP	С	FIM 28-22-00/101, Fig. 106		
(L,R) FUEL SPAR VAL	С	Go to 28-FAULT CODE INDEX and look at the fault codes: 28 22 01, 28 22 06, 28 22 07, 28 22 09		
(L,R) FUEL SYS PRESS	В	FIM 28-22-00/101, Fig. 109		
(L,R) FWD FUEL PUMP	С	FIM 28-22-00/101, Fig. 106		
LOW FUEL	В	FIM 28-41-00/101, Fig. 104		

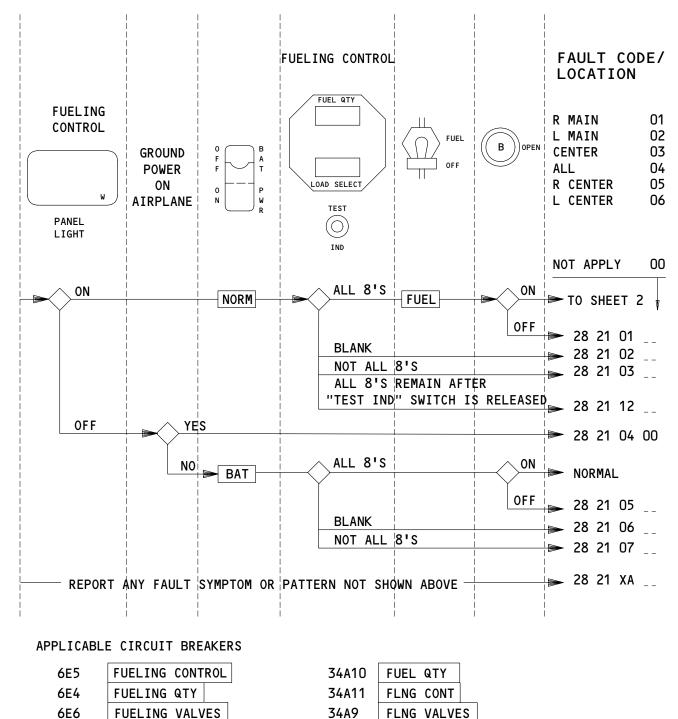
ALL

28-EICAS MESSAGES

07

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PRESSURE FUELING - FAULT CODES (GROUND)

28-FAULT CODE DIAGRAM

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Jun 15/86

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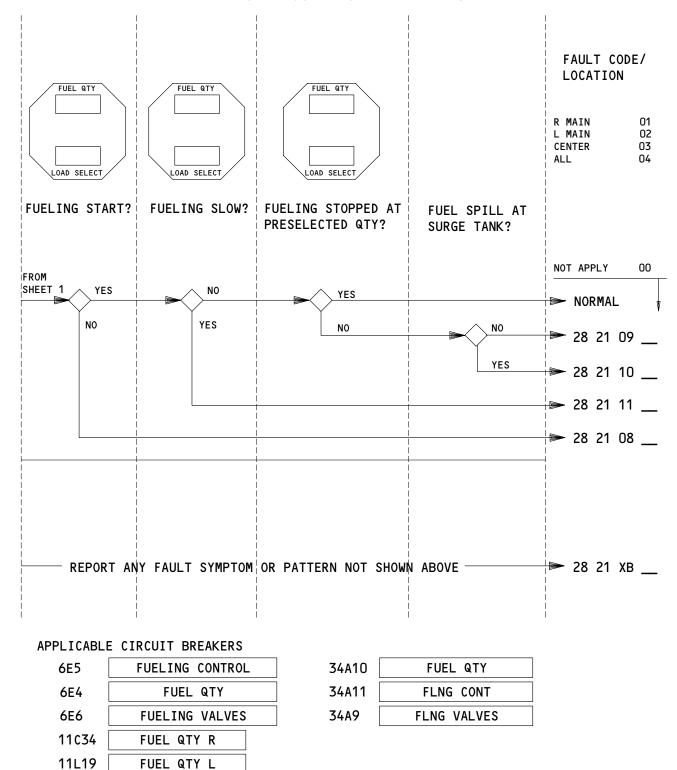
11C34

11L19

FUEL QTY R

FUEL QTY L





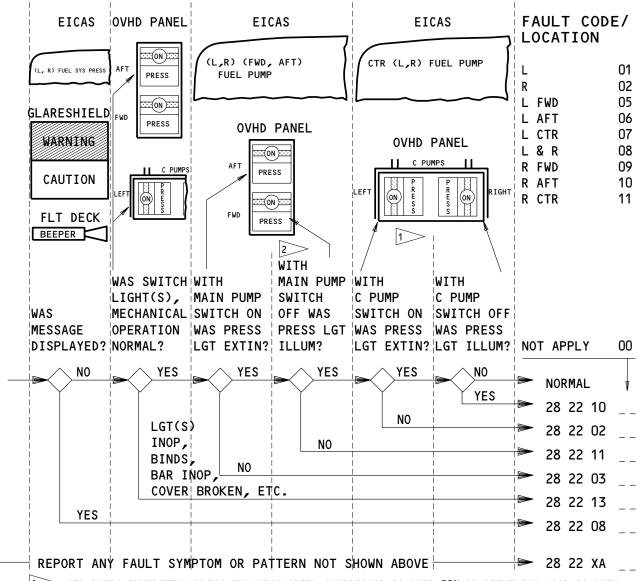
PRESSURE FUELING - FAULT CODES (GROUND)

28-FAULT CODE DIAGRAM

O1 Page 2

108715





1 CTR PUMPS INHIBITED UNLESS ENG HIGH SPEED COMPRESSOR IS OVER 50% OR REFUELING DOOR IS OPEN.

APPLICABLE CIRCUIT BREAKERS

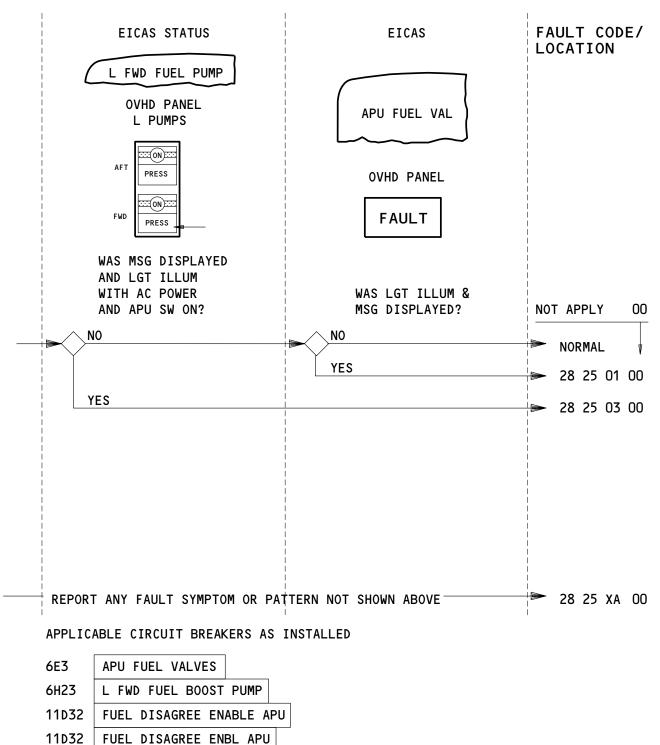
6F14	L FUEL OVRD PUMP	6H17	R FWD FUEL BOOST PUMP
6F20	R FUEL OVRD PUMP	6H2O	R AFT FUEL BOOST PUMP
6H14	L AFT FUEL BOOST PUMP	6H23	L FWD FUEL BOOST PUMP

FUEL BOOST PUMPS - FAULT CODES

28-FAULT CODE DIAGRAM

² L FWD PRESS LGT SHOULD EXTIN WITH AC POWER AND APU SW ON.



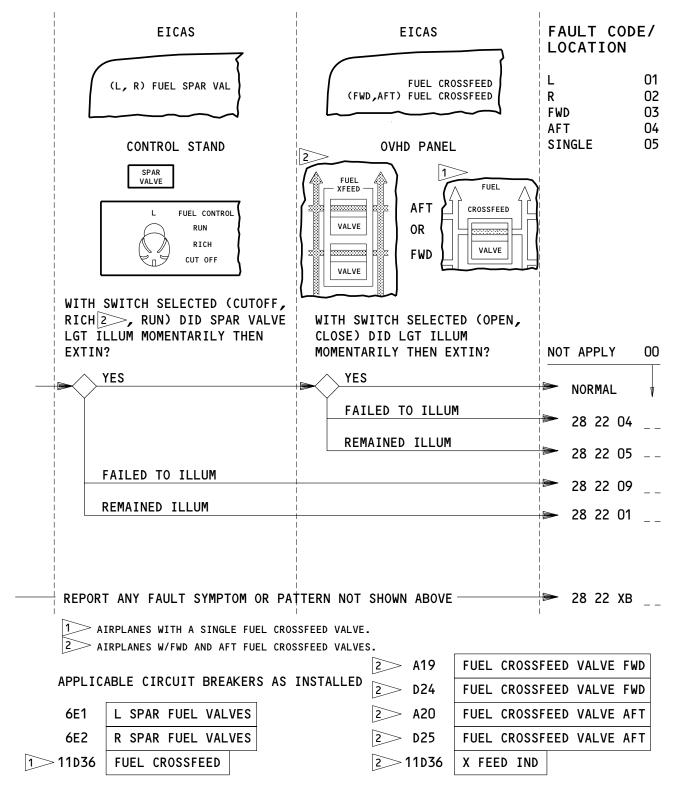


APU FUEL FEED - FAULT CODES

28-FAULT CODE DIAGRAM

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Jun 20/96





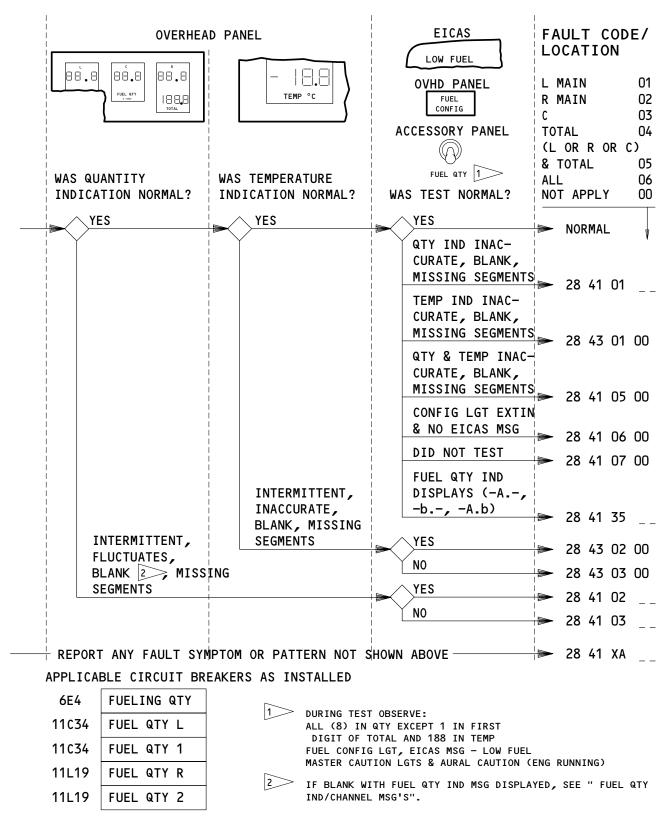
FUEL FEED (VALVES) - FAULT CODES

28-FAULT CODE DIAGRAM

05

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FUEL QUANTITY, TEMPERATURE INDICATION AND TEST - FAULT CODES

EFFECTIVITY-

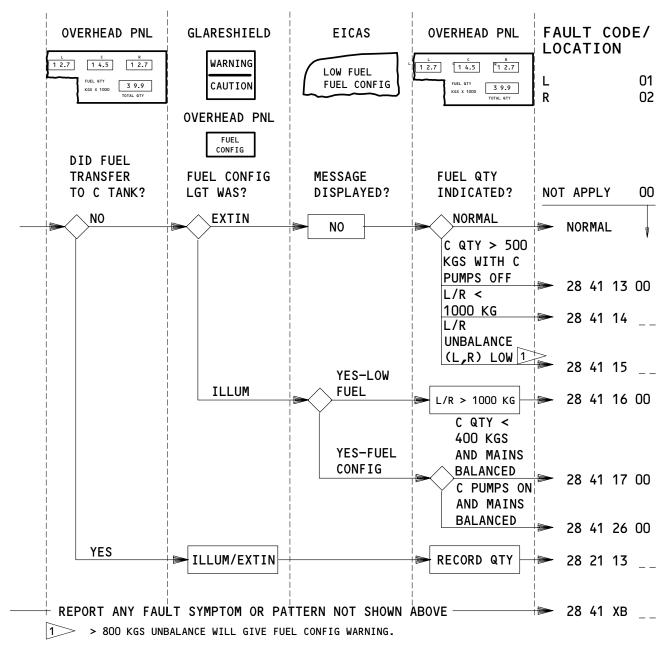
28-FAULT CODE DIAGRAM

18

ALL

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APPLICABLE CIRCUIT BREAKERS

N/A

79377

FUEL TRANSFER/CONFIG - FAULT CODES

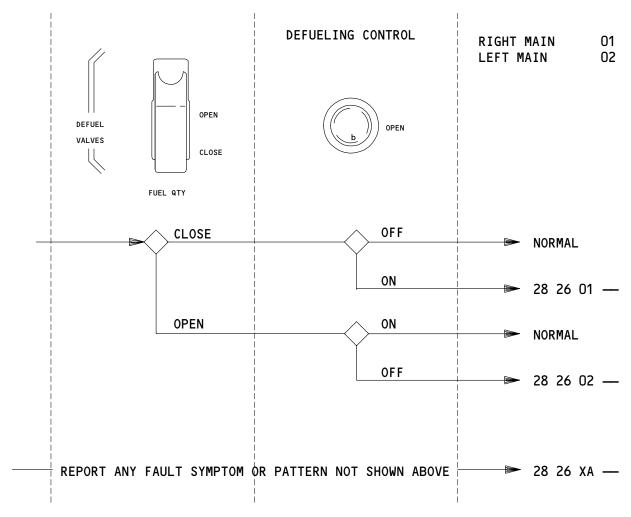
EFFECTIVITY-ALL

28-FAULT CODE DIAGRAM

02

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APPLICABLE CIRCUIT BREAKERS

6E6 DEFUELING VALVES
34A9 DEFUELING VALVES

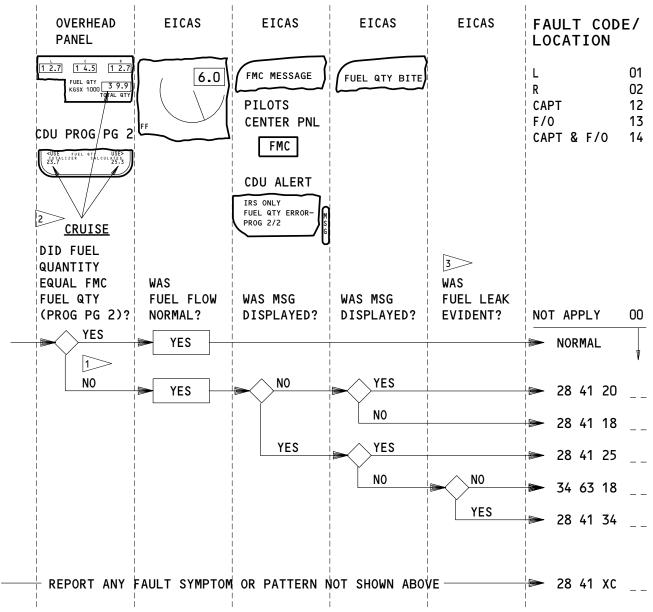
DEFUELING - FAULT CODES (GROUND)

28-FAULT CODE DIAGRAM

01

Page 8 Dec 15/83





REPORT FUEL QUANTITY DIFFERENCE THAT EXCEEDS 900 KGS FOR OVER 6 MINUTES AND REACHES 1400 KGS.
6 MINUTE TIME IS CUMULATIVE. SMALLER DIFFERENCES MAY BE NORMAL WITH AIRPLANE ATTITUDE AND SYSTEM TOLERANCES.

APPLICABLE CIRCUIT BREAKERS

11C34 FUEL QTY 1
11L19 FUEL QTY 2

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

ALL

28-FAULT CODE DIAGRAM

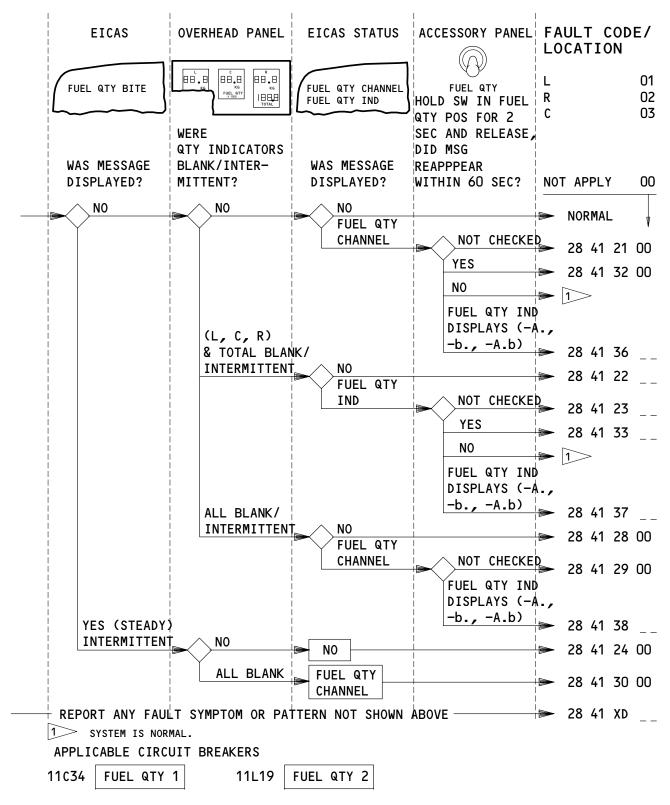
04

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TO CORRECT DIFFERENCE BETWEEN FMC FUEL & TOTALIZER FUEL ON PERF INIT PAGE, MANUALLY ENTER ANY AMOUNT OF FUEL, THEN DELETE FUEL WITH DELETE KEY. FMC SHOULD THEN DISPLAY TOTALIZER FUEL.

FUEL LEAKS MAY BE CHECKED VISUALLY BY CABIN STAFF OR EVIDENT BY AILERON TRIM, AIRPLANE PERFORMANCE, OR FUEL MANAGEMENT CHECK.





FUEL QTY IND/CHANNEL MSG'S - FAULT CODES

28-FAULT CODE DIAGRAM

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Mar 20/93



FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 21 XA 00	A ground fueling problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 28-21-01
28 21 XB	A (01=R MAIN,02=L MAIN, 03=CENTER,04=ALL) fueling problem was encountered by the ground crew which is not covered by fault code diagrams.	SSM 28-21-01
28 22 XA	A (01=L FWD,02=L AFT,03=R FWD, 04=R AFT,05=L CTR,06=R CTR,07=L, 08=R,09=L&R) fuel boost pump problem developed which was not covered by fault code diagrams.	SSM 28-22-01
28 22 XB	A (01=L,02=R) fuel feed problem developed which was not covered by fault code diagrams.	SSM 28-22-01
28 25 XA 00	An APU fuel feed problem developed which was not covered by fault code diagrams.	SSM 28-25-01
28 26 XA	A (01=RIGHT MAIN,02=LEFT MAIN) defueling problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 28-26-01
28 41 XA	A (01=L MAIN,02=R MAIN,03=C, 04=T0TAL) fuel quantity and temperature indicating system problem developed which was not covered by fault code diagrams.	FIM 28-41-00/101, Fig. 104
28 41 XB	A (01=L,02=R) fuel transfer/configuration problem developed which was not covered by fault code diagrams.	FIM 28-41-00/101, Fig. 104
28 41 XC 00	A fuel quantity indication vs FMC fuel quantity indication problem was encountered by the flight crew which was not covered by fault code diagrams.	SSM 28-41-01 thru SSM 28-41-04

28-FAULT CODE INDEX



FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 41 XD	A (01=L,02=R,03=C) fuel quantity indication/fuel quantity channel message problem was encountered by the flight crew which was not covered by fault code diagrams.	SSM 28-41-01 thru SSM 28-41-03
28 21 01	(01=R MAIN,02=LMAIN,04=ALL,05=R CTR,06=L CTR) Fueling valve lgt fails to come on with fueling valve selected open.	FIM 28-21-00/101, Fig. 104
28 21 02	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Load select indicator display remained blank with indicator test switch pushed.	(01=R MAIN,02=L MAIN,03=CENTER) Replace load select indicator N92 (left main tank), N10011 (center tank), N93 (right main tank)(AMM 28-41-06). (04=ALL) FIM 28-21-00/101, Fig. 107, Block 1.
28 21 03	(01=R MAIN,02=L MAIN,03=CENTER) Load select indicator fails to display 8s when test switch is pushed.	FIM 28-21-00/101, Fig. 105, Block 1
28 21 04 00	Fueling control panel light fails to come on with ground power on airplane.	FIM 28-21-00/101, Fig. 106, Block 1
28 21 05	(01=R MAIN,02=L MAIN,05=R CENTER,06=L CENTER) fueling valve light fails to come on with fueling valve selected open and battery power selected.	FIM 28-21-00/101, Fig. 104, Block 1
28 21 06	(01=R MAIN,02=L MAIN,03=CENTER) Load select indicators displays remain blank with battery power selected and indicator test switch pushed.	FIM 28-21-00/101, Fig. 103, Block 1
28 21 07	(01=R MAIN,02=L MAIN,03=CENTER) Load select indicator fails to display 8s with battery power selected and indicator test switch pushed.	FIM 28-21-00/101, Fig. 105A, Block 1

28-FAULT CODE INDEX

ALL



FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 21 08	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Fueling valve OPEN light on with fueling switch in FUEL. Fuel quantity did not increase.	FIM 28-21-00/101, Fig. 105, Block 1
28 21 09	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Tank pressure fueling does not stop at preselected quantity. No fuel spill occurs at surge tank.	FIM 28-21-00/101, Fig. 108, Block 1
28 21 10	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Tank pressure fueling does not stop at preselected quantity. Fuel spill occurs at surge tank.	FIM 28-21-00/101, Fig. 109, Block 1
28 21 11	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Fueling valve OPEN light on with fueling switch in FUEL. Fuel quantity increased at a slow rate.	FIM 28-21-00/101, Fig. 105, Block 1
28 21 12	(01=R MAIN,02=L MAIN,03=CENTER, 04=ALL) Load select indicator display remained all 8s when IND TEST switch was depressed and released.	(01=R MAIN,02=L MAIN,03=CENTER) Replace load select indicator N92 (left main tank), N10011 (center tank), N93 (right main tank)(AMM 28-41-06). (04=ALL) Replace IND TEST switch S457 on P28 fueling control panel (WDM 28-21-11).
28 21 13	(01=L,02=R) main tank transferred fuel (kgs/ lbs) into C tank.	FIM 28-21-00/101, Fig. 108, Block 1
28 22 01	(01=L,02=R) SPAR VALVE lgt remained on with Fuel Control sw selected (CUTOFF, RICH, RUN). EICAS msg (L,R) FUEL SPAR VALVE displayed.	FIM 28-22-00/101, Fig. 104, Block 1
28 22 02	(07=L CTR,11=R CTR) BOOST PUMP low PRESS light on. EICAS msg CTR (L,R) FUEL PUMP displayed.	FIM 28-22-00/101, Fig. 105, Block 1

28-FAULT CODE INDEX

01



FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 22 03	(05=L FWD,06=L AFT,09=R FWD, 10=R AFT) B00ST PUMP low PRESS lgt on with switch on. EICAS msg (L,R) (FWD,AFT) FUEL PUMP displayed.	FIM 28-22-00/101, Fig. 106, Block 1
28 22 04 00	(03=Fwd,04=Aft,05=Single) FUEL CROSSFEED VALVE lgt failed to come on when (open, close) selected. EICAS msg (FWD FUEL CROSSFEED, AFT FUEL CROSSFEED, FUEL CROSSFEED) displayed.	FIM 28-22-00/101, Fig. 107, Block 1
28 22 05 00	(03=Fwd,04=Aft,05=Single) FUEL CROSSFEED VALVE lgt remained on when (open, close) selected. EICAS msg (FWD FUEL CROSSFEED, AFT FUEL CROSSFEED, FUEL CROSSFEED) displayed.	FIM 28-22-00/101, Fig. 108, Block 1
28 22 06	(O1=L,O2=R) ENG VALVE and SPAR VALVE light on and EICAS msg: (L,R) FUEL SPAR VAL and (L,R) ENG FUEL VAL displayed with fuel control sw in (RUN,RICH,CUTOFF). No fuel flow indicated.	FIM 28-22-00/101, Fig. 104, Block 2
28 22 07	(01=L,02=R) eng SPAR VALVE light on and EICAS msg: (L,R) FUEL SPAR VAL displayed with fuel control sw in (RUN,RICH). Fuel flow indicated.	FIM 28-22-00/101, Fig. 104, Block 20
28 22 08	EICAS msg (01=L,02=R,08=L&R) FUEL SYS PRESS displayed.	FIM 28-22-00/101, Fig. 109, Block 1
28 22 09	(O1=L,O2=R) SPAR VALVE lgt failed to come on with Fuel Control sw selected (CUTOFF, RICH, RUN). EICAS msg (L,R) FUEL SPAR VALVE displayed.	Relamp R(L) spar valve annunciator on fuel control module M73 (AMM 33-16-02). If the problem continues, replace annunciator diode/fuse card (AMM 33-16-02).
28 22 10	(07=L CTR,11=R CTR) B00ST PUMP low PRESS lgt on and EICAS message CTR (L,R) FUEL PUMP displayed with sw OFF.	Replace L(R) override fuel boost pump switch/light YQVS6 (YQVS7) (AMM 33-13-00).

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 22 11	(05=L FWD,06=L AFT,09=R FWD, 10=R AFT) B00ST PUMP low PRESS light failed to come on and EICAS message failed to display with switch OFF.	(01=L FWD) FIM 28-22-00/101, Fig. 111, Block 1. (02=L AFT, 03=R FWD,04=R AFT) FIM 28-22-00/101, Fig. 110, Block 1.
28 22 13	(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, cover broken, etc).	Replace fuel boost pump switch/light: (05=L fwd) YQVS2, (06=L aft) YQVS1, (07=L ctr) YQVS6, (09=R fwd) YQVS5, (10=R aft) YQVS4, (11=R ctr) YQVS7.
28 25 01 00	APU FAULT lgt on and EICAS msg APU FUEL VAL displayed.	FIM 28-25-00/101, Fig. 104, Block 1
28 25 02 00	EICAS msg DC FUEL PUMP ON displayed.	FIM 28-25-00/101, Fig. 105, Block 1
28 25 03 00	EICAS msg L FWD FUEL PUMP displayed and L FWD BOOST PUMP low PRESS lgt on with AC power and APU sw on.	FIM 28-22-00/101, Fig. 106, Block 1
28 26 01	(O1=R MAIN,O2=L MAIN) defueling valve light on with defuel valve sw in CLOSE.	FIM 28-26-00/101, Fig. 103, Block 1
28 26 02	(O1=R MAIN,O2=L MAIN) Defueling valve light off with defuel valve sw in OPEN.	FIM 28-26-00/101, Fig. 103, Block 1
28 41 01	(01=L MAIN,02=R MAIN,03=C, 04=TOTAL) FUEL QTY ind displays (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST.	FIM 28-41-00/101, Fig. 114, Block 1
28 41 02	(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, fluctuate, inaccurate, blank, missing segments). FUEL QTY TEST normal.	FIM 28-41-00/101, Fig. 104

28-FAULT CODE INDEX



FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 41 03	(01=L MAIN,02=R MAIN,03=C, 04-TOTAL) FUEL QTY ind displays (describe condition: intermittent, fluctuates, inaccurate, blank, missing segments). FUEL QTY TEST normal.	FIM 28-41-00/101, Fig. 114, Block 1
28 41 04 00	EICAS msg FUEL QTY BITE displayed.	FIM 28-41-00/101, Fig. 104
28 41 05 00	FUEL QTY & TEMP display (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST.	Replace fuel quantity indicator M10054 (AMM 28-41-04/401).
28 41 06 00	FUEL CONFIG lgt & EICAS msg LOW FUEL not displayed during FUEL QTY TEST.	FIM 28-41-00/101, Fig. 115, Block 1
28 41 07 00	FUEL QTY & TEMP system did not test. Operation normal with test sw in normal.	Replace test panel M10398 (S6 faulty) (WDM 28-41-31).
28 41 11	(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.	Replace fuel quantity indicator M10054 (AMM 28-41-04/401).
28 41 12	(01=L MAIN,02=R MAIN,03=C, 04=TOTAL) FUEL QTY display reads zero. FUEL QTY TEST normal.	FIM 28-41-00/101, Fig. 104
28 41 13 00	FUEL CONFIG lgt remained off and EICAS msg FUEL CONFIG did not display with more than 1200 LBS/500KGS in C tank with C pumps off.	FIM 28-41-00/101, Fig. 104
28 41 14	FUEL CONFIG lgt remained off and EICAS msg LOW FUEL did not display with less than 2200 LBS/1000 KGS in (01=L,02=R) main tank.	FIM 28-41-00/101, Fig. 104

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 41 15	FUEL CONFIG lgt remained off and EICAS msg FUEL CONFIG did not display with main tanks unbalance of LBS/ KGS). (O1=L,O2=R) Fuel tank low.	FIM 28-41-00/101, Fig. 104
28 41 16 00	FUEL CONFIG lgt on and EICAS msg LOW FUEL displayed with more than 2200 LBS/1000 KGS in each main tank.	FIM 28-41-00/101, Fig. 104
28 41 17 00	FUEL CONFIG lgt on and EICAS msg FUEL CONFIG displayed with center qty less than 1000 LBS/400 KGS and main tanks balanced.	FIM 28-41-00/101, Fig. 104
28 41 18	Total fuel differs from (12=Capt,13=F/0,14=Capt & F/0) FMC(s) calculated fuel qty. Differences exceeded 2000 lbs/900 kgs for over 6 minutes and peaked above 3000 lbs/1400 kgs. EICAS msg, FMC MESSAGE or FUEL QTY BITE did not display. Fuel flow was norm. Total fuel, FMC calculated fuel	FIM 28-41-00/101, Fig. 104
28 41 20	Total fuel differs from (12=Capt,13=F/0,14=Capt & F/0) FMC(s) calculated fuel quantity. Total fuel, FMC calculated fuel EICAS msg FUEL QTY BITE displayed. Fuel flow was normal.	FIM 28-41-00/101, Fig. 116
28 41 21 00	EICAS msg FUEL QTY CHANNEL displayed. FUEL QTY test not checked.	FIM 28-41-00/101, Fig. 117, Block 1
28 41 22	(01=L,02=R,03=C) Fuel tank and total fuel indicators (blank, intermittent). EICAS msg FUEL QTY IND not displayed.	Replace the fuel quantity indicator M10054 (AMM 28-41-04/401).

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 41 23	(01=L,02=R,03=C) Fuel tank and total fuel indicators (blank, intermittent). EICAS msg FUEL QTY IND displayed. FUEL QTY test not checked.	FIM 28-41-00/101, Fig. 104
28 41 24 00	EICAS msg FUEL QTY BITE displayed (steady,intermittent). FUEL QTY test not checked.	FIM 28-41-00/101, Fig. 104
28 41 25	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 Fuel, FMC fuel	FIM 28-41-00/101, Fig. 104
28 41 26 00	FUEL CONFIG light on and EICAS msg FUEL CONFIG displayed with C pumps on and main tanks balanced.	FIM 28-41-00/101, Fig. 104
28 41 28 00	All fuel tank qty indicators (blank, intermittent). No EICAS msgs displayed.	Replace fuel quantity indicator M10054 (AMM 28-41-04).
28 41 29 00	All fuel tank qty indicators (blank, intermittent). EICAS msg FUEL QTY CHANNEL displayed.	FIM 28-41-00/101, Fig. 104
28 41 30 00	All fuel tank qty indicators blank. EICAS msgs FUEL QTY BITE and FUEL QTY CHANNEL displayed (steady, intermittent).	FIM 28-41-00/101, Fig. 104
28 41 31	(01=L,02=R,03=C) Fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY CHANNEL displayed.	FIM 28-41-00/101, Fig. 104
28 41 32 00	EICAS msg FUEL QTY CHANNEL displayed. Display returned within 60 sec of FUEL QTY test.	FIM 28-41-00/101, Fig. 117, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 41 33	(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.	FIM 28-41-00/101, Fig. 114, Block 1
28 41 34	(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.	FIM 28-41-00/101, Fig. 116, Block 1
28 41 35	(01=L MAIN,02=R MAIN,03=C, 04=TOTAL,05=(L OR R OR C) & TOTAL,06=ALL) FUEL QTY ind displays (-A, -b, -A.b) during FUEL QTY TEST.	FIM 28-41-00/101, Fig. 119, Block 1
28 41 36	EICAS msg FUEL QTY CHANNEL displayed. (01=L,02=R,03=C) Fuel qty ind displays (-A, -b, -A.b). Display returned within 60 sec of FUEL QTY test.	FIM 28-41-00/101, Fig. 104
28 41 37	(01=L,02=R,03=C) Fuel tank and total fuel qty indicators (blank, intermittent). EICAS msg FUEL QTY IND displayed. Fuel qty ind displays (-A, -b, -A.b). Display returned within 60 sec of FUEL QTY test.	FIM 28-41-00/101, Fig. 104
28 41 38	All fuel tank qty indicators (blank, intermittent). (01=L, 02=R,03=C) Fuel qty ind displays (-A, -b, -A.b). EICAS msg FUEL QTY CHANNEL displayed.	FIM 28-41-00/101, Fig. 104
28 43 01 00	FUEL TEMP ind displays (describe condition: inaccurate, blank, missing segments) during FUEL QTY TEST.	FIM 28-43-00/101, Fig. 103, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
28 43 02 00	FUEL TEMP displays (describe condition: intermittent, inaccurate, blank, missing segments). FUEL QTY TEST normal.	FIM 28-43-00/101, Fig. 103, Block 1
28 43 03 00	FUEL TEMP displays (describe condition: intermittent, inaccurate, blank, missing segments). FUEL QTY TEST abnormal.	FIM 28-43-00/101, Fig. 103, Block 1

28-FAULT CODE INDEX



BITE Index

1. General

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

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

Bite Index Figure 1 (Sheet 1)

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

Bite Index Figure 1 (Sheet 2)

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

Bite Index Figure 1 (Sheet 3)

28-BITE INDEX

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FUEL TANKS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
DOOR - CENTER TANK ACCESS	1	7	134AZ,531AB,531BB,531CB,631AB, 631BB,631CB	28-11-02
DOOR - LEFT MAIN TANK ACCESS	1	16	541AB,541BB,541CB,541DB,541EB, 541FB,541GB,541HB,541JB,541KB, 541LB,541MB,542AB,542BB,542CB, 542DB	28-11-01
DOOR - LEFT SURGE TANK ACCESS	1	3	543AB,543BB,543CB	28-11-03
DOOR - RIGHT MAIN TANK ACCESS	1	16	641AB,641BB,641CB,641DB,641EB, 641FB,641GB,641HB,641JB,641KB, 641LB,641MB,642AB,642BB,642CB, 642DB	28-11-01
DOOR - RIGHT SURGE TANK ACCESS	1	3	643AB,643BB,643CB	28-11-03
PORT - OVERWING FILL	1	2	L & R UPPER WING SURFACE, OUTBD	28-11-04
VALVE - LEFT BAFFLE RIB CHECK	2	11	541AB	28-11-00
VALVE - LEFT CENTER TANK SUMP DRAIN	2	1	194CL, L ECS EQUIPMENT BAY ACCESS DOOR	28-11-05
VALVE - LEFT MAIN TANK SUMP DRAIN	2	1	541AB	28-11-05
VALVE - LEFT SURGE TANK SUMP DRAIN	2	1	543AB	28-11-05
VALVE - RIGHT BAFFLE RIB CHECK	2	11	641AB	28-11-00
VALVE - RIGHT CENTER TANK SUMP DRAIN	2	1	194CR, R ECS EQUIPMENT BAY ACCESS DOOR	28-11-05
VALVE - RIGHT MAIN TANK SUMP DRAIN	2	1	641AB	28-11-05
VALVE - RIGHT SURGE TANK SUMP DRAIN	2	1	643AB	28-11-05

Fuel Tanks - Component Index Figure 101

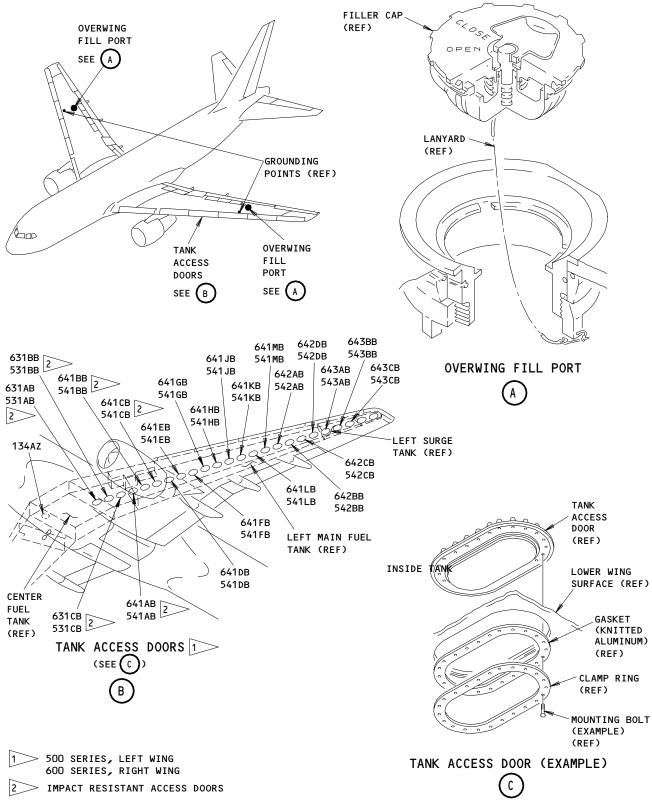
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FAULT ISOLATION/MAINT MANUAL



Fuel Tanks - Component Location Figure 102 (Sheet 1)

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LEFT CENTER LEFT SURGE TANK LEFT TANK SUMP SUMP DRAIN VALVE ECS EQUIPMENT DRAIN_VALVE SEE (F) 541AB **BAY ACCESS** SEE (G) DOOR, 194CL RIGHT CENTER TANK SUMP DRAIN VALVE BAFFLE RIB SEE (G SEE (D) RIGHT MAIN TANK SUMP DRAIN VALVE SEE (F) 641AB RIGHT ECS LEFT MAIN **EQUIPMENT** TANK SUMP RIGHT SURGE **BAY ACCESS** DRAIN VALVE TANK SUMP BAFFLE RIB DOOR, 194CR SEE (F) BAFFLE DRAIN_VALVE RIB (REF) SEE (D) SEE (F) BAFFLE RIB CHECK VALVE **BAFFLE** (11 LOCATIONS) RIB (REF) CHECK VALVE CHECK VALVE Ε SEE (E) BAFFLE RIB DRAIN VALVE D SEE (F FLAPPER VALVE BODY (REF) (REF) VALVE BODY IN THE **FUEL TANK** (REF) DRAIN LINE LOWER SURFACE OF THE FUEL TANK (REF) CENTER TANK SUMP DRAIN VALVE DRAIN VALVE (EXAMPLE)

Fuel Tanks - Component Location Figure 102 (Sheet 2)

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FUEL VENT SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ARRESTOR - SURGE TANK VENT FLAME	2	2	543BB,643BB, WING, OUTBD	28-13-05
HOUSING - SURGE TANK VENT FLAME ARRESTOR	2	2	543BB,643BB, WING, OUTBD	28-13-05
VALVE - FLOAT DRAIN	2	4	134AZ, WING, INBD	28-13-03
VALVE - FLOAT-ACTUATED VENT	1	2	531CB,631CB, WING, INBD	28-13-01
VALVE - FUEL VENT FLOAT	1	2	542DB,642DB, WING, OUTBD	28-13-01
VALVE - SURGE TANK DRAIN CHECK	2	2	541MB,641MB, WING, OUTBD	28-13-08
VALVE - SURGE TANK PRESSURE RELIEF	2	2	543AB,643AB, WING, OUTBD	28-13-04

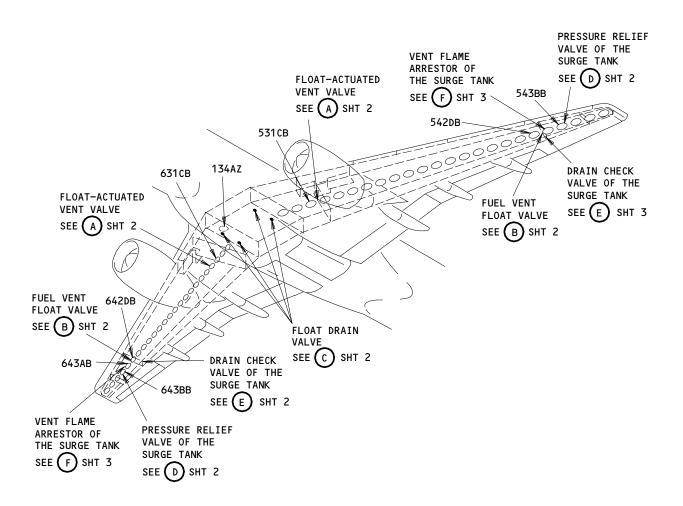
^{*} SEE THE WDM EQUIPMENT LIST

Fuel Vent System - Component Index Figure 101

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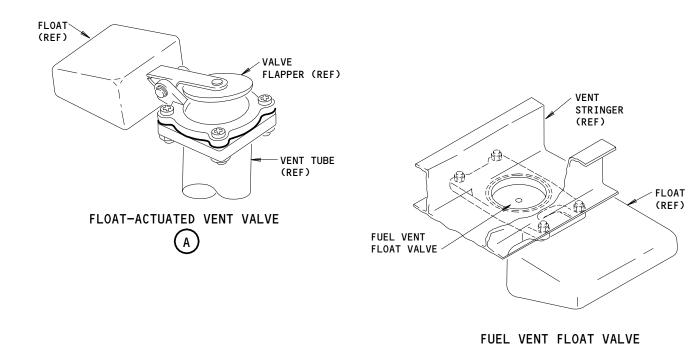


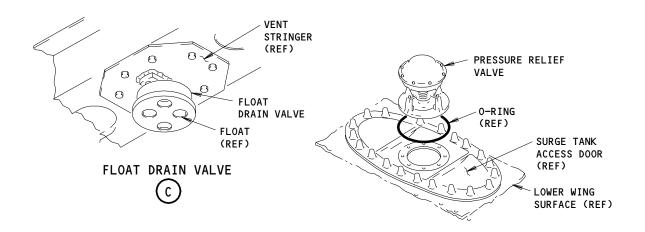
Fuel Vent System - Component Location Figure 102 (Sheet 1)

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PRESSURE RELIEF VALVE OF THE SURGE TANK

Fuel Vent System - Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

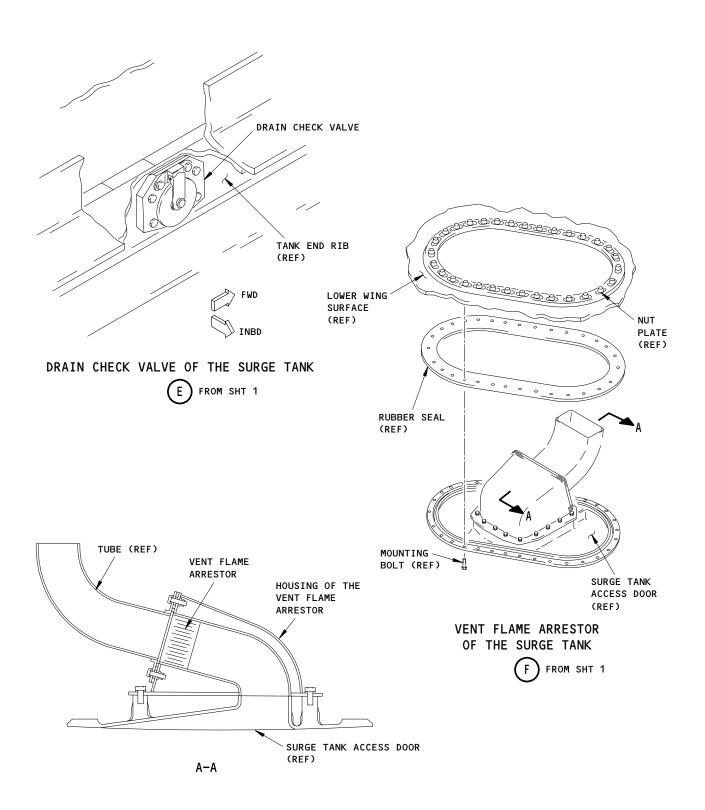
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Fuel Vent System - Component Location Figure 102 (Sheet 3)

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PRESSURE FUELING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - L CTR TANK FUELING SHUTOFF VALVE, V10001	3	1	LEFT MAIN LANDING GEAR DOOR	28-21-12
ACTUATOR - L TANK FUELING SHUTOFF VALVE, V10003	3	1	551BB, L WING, INBD	28-21-12
ACTUATOR - R CTR TANK FUELING SHUTOFF VALVE, V10064	3	1	RIGHT MAIN LANDING GEAR DOOR	28-21-12
ACTUATOR - R TANK FUELING SHUTOFF VALVE, V10002	3	1	651BB, R WING, INBD	28-21-12
ADAPTER - FUELING	2	2	FUELING PANEL DOOR, 621GB	28-21-01
CARD - SURGE TANK FUEL LEVEL SENSOR CONTROL, M586	4	1	119BL, MAIN EQUIP CTR, P50	28-21-04
CIRCUIT BREAKER -			FLIGHT COMPARTMENT, P6	
FUELING QTY, C1045	1	1	6E4	*
FUELING CONTROL, C1043	i	1	6E5	*
FUELING VALVES, C1046	1	1	6E6	*
CIRCUIT BREAKER -			FLIGHT COMPARTMENT, P11	
FUEL QTY R OR 2, C1048	1	1	11c34	*
FUEL QTY L OR 1, C1053	1	1	11L19	*
CIRCUIT BREAKER -			119BL, MAIN EQUIP CTR, P34	
FLNG VALVE, C1047	4	1	34A9	*
FUEL QTY, C1040	4	1	34A10	*
FLNG CONT, C1041	4	1	34A11	*
CONTROL - LOAD SELECT, M638	2	1	621GB, FUELING CONTROL PANEL, P28	28-41-07
PANEL - FUELING CONTROL, P28	2	1	621GB, R WING, OUTBD	28-21-08
LIGHT - FUELING PANEL DOOR, L243	2	1	621GB, FUELING CONTROL PANEL, P28	*
LIGHT - FUELING PANEL DOOR, L379	2	1	621GB, FUELING CONTROL PANEL, P28	*
LIGHT - L CTR FUELING VALVE OPEN, L402	2	1	621GB, FUELING CONTROL PANEL, P28	*
LIGHT - L MAIN FUELING VALVE OPEN, L83	2	1	621GB, FUELING CONTROL PANEL, P28	*
LIGHT - R CTR FUELING VALVE OPEN, L82	2	1	621GB, FUELING CONTROL PANEL, P28	*
LIGHT - R MAIN FUELING VALVE OPEN, L81	2	1	621GB, FUELING CONTROL PANEL, P28	*
RELAY - (FIM 31-01-33/101)				
FUEL QUANTITY TRANSFER, K356				
FUELING PANEL DOOR, K179				
FUELING POWER TRANSFER, K357				
L CTR REFUELING VALVE, K10013				
L REFUELING VALVE, K10025				
OVERFILL CONTROL, K181				
OVERFILL SET, K180				
R CTR REFUELING VALVE, K10157				
R REFUELING VALVE, K10024				
SENSOR - L SURGE TANK FUEL LEVEL, TS195	3	1	561AB, L WING	28-21-03
SENSOR - R SURGE TANK FUEL LEVEL, TS196	3	1	661AB, R WING, OUTBD	28-21-03

^{*} SEE THE WDM EQUIPMENT LIST

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Pressure Fueling - Component Index Figure 101 (Sheet 1)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
SWITCH - BATTERY POWER, S345	2	1	621GB, FUELING CONTROL PANEL, P28	*
SWITCH - CENTER LOAD SELECT SET, S420	2	1	621GB, FUELING CONTROL PANEL, P28	*
SWITCH - CTR FUELING VALVE, S417	2	1	621GB, FUELING CONTROL PANEL, P28	*
SWITCH - FUELING PANEL DOOR, \$346	2	1	621GB, FUELING CONTROL PANEL, P28	*
SWITCH - L MAIN FUELING VALVE, S348	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - LEFT MAIN LOAD SELECT SET, S418	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - OVERFILL RESET, S347	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - OVERFILL TEST, S416	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - R MAIN FUELING VALVE, S349	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - R MAIN LOAD SELECT SET, S419	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - TEST INDICATOR, S457	2	1	621GB, FUELING CONTROL PANEL, P28	
SWITCH - TEST SYSTEM, S421	2	1	621GB, FUELING CONTROL PANEL, P28	*
VALVE - FUELING MANIFOLD DRAIN CHECK	3	2	134AZ	28-21-05
VALVE - FUELING MANIFOLD VENT	3	1	642AB	28-21-09
VALVE - L CTR FUELING SHUTOFF, V10001	3	1	134AZ	28-21-02
VALVE - L MAIN FUELING SHUTOFF, V10003	3	1	541AB	28-21-02
VALVE - R CTR FUELING SHUTOFF, V10064	3	1	134AZ	28-21-02
VALVE - R MAIN FUELING SHUTOFF, V10002	3	1	641AB	28-21-02

^{*} SEE THE WDM EQUIPMENT LIST

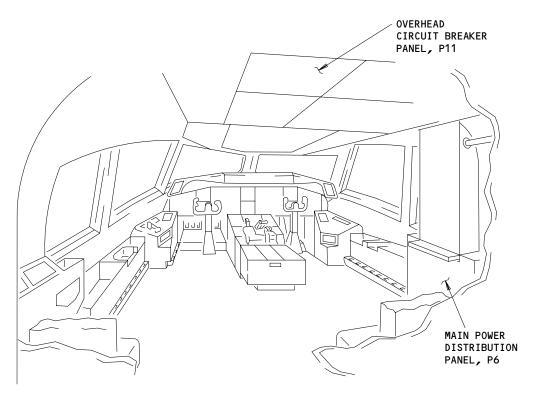
Pressure Fueling - Component Index Figure 101 (Sheet 2)

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FLIGHT COMPARTMENT

Pressure Fueling - Component Location Figure 102 (Sheet 1)

ALL

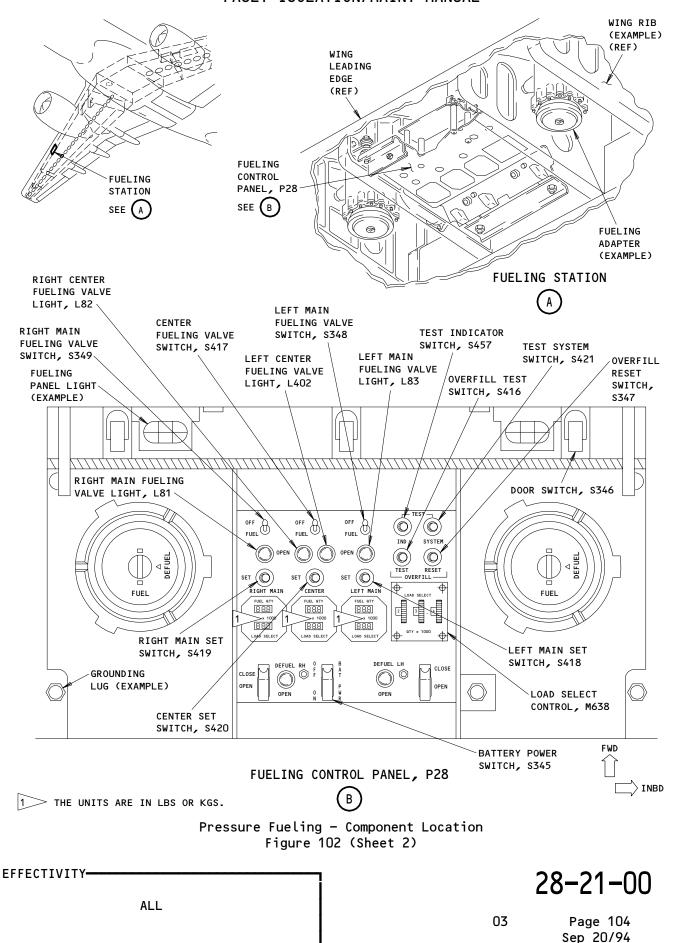
ALL

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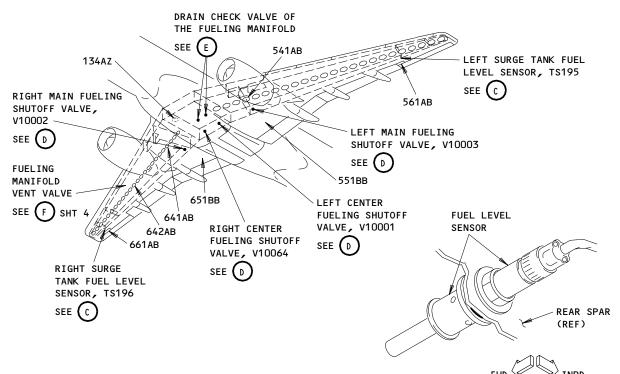


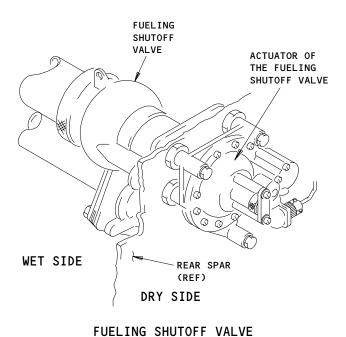
FAULT ISOLATION/MAINT MANUAL



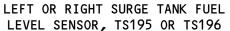
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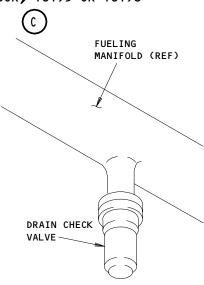






(EXAMPLE)





DRAIN CHECK VALVE OF THE FUELING MANIFOLD

E

Pressure Fueling - Component Location Figure 102 (Sheet 3)

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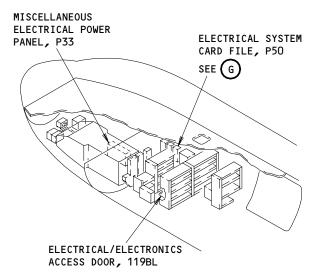
28-21-00

11

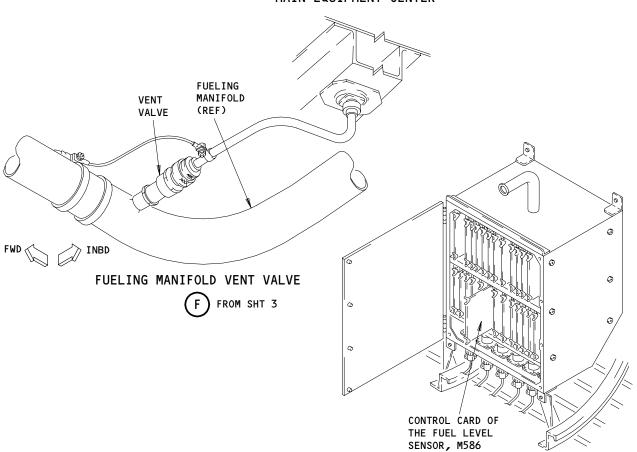
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FAULT ISOLATION/MAINT MANUAL



MAIN EQUIPMENT CENTER



ELECTRICAL SYSTEM CARD FILE, P50



Pressure Fueling - Component Location Figure 102 (Sheet 4)

EFFECTIVITY-ALL

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ALL LOAD SELECT INDI-CATOR DISPLAYS BLANK WITH BAT PWR SWITCH IN "ON" AND "TEST

IND" SWITCH **DEPRESSED**

PREREQUISITES

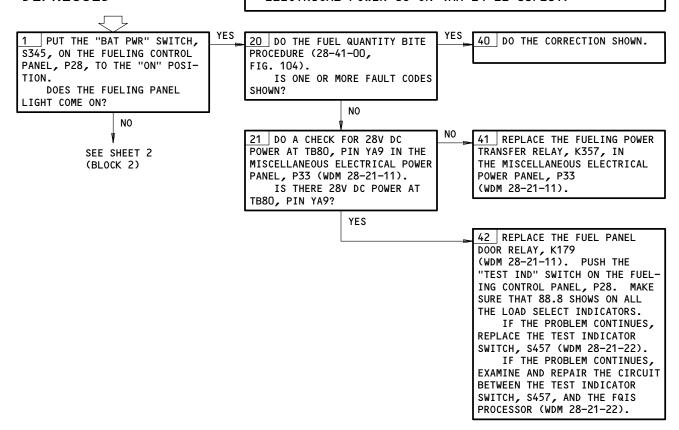
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,6E5,11L19,11C34

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN AND ATTACH DO-NOT-CLOSE TAGS:

34A10,34A11

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:

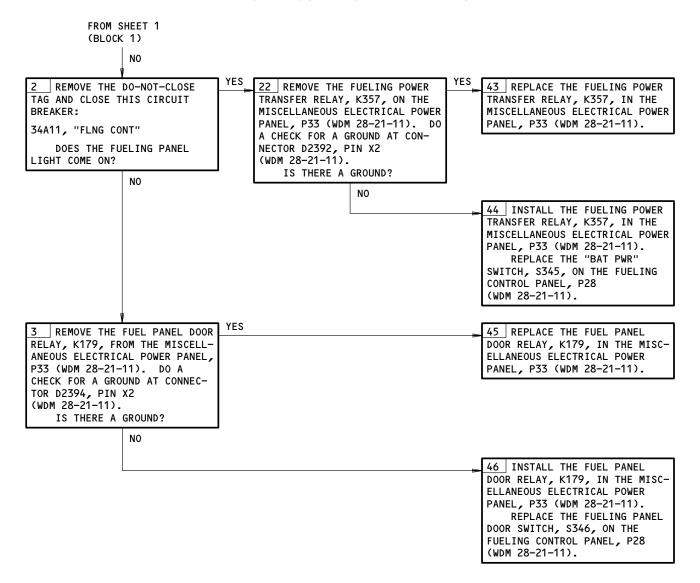
ELECTRICAL POWER IS ON (MM 24-22-00/201)



All Load Select Indicator Displays Blank with Bat Pwr Switch in ON and TEST IND Switch Depressed Figure 103 (Sheet 1)

EFFECTIVITY-ALL

28-21-00



All Load Select Indicator Displays Blank with Bat Pwr Switch in ON and TEST IND Switch Depressed
Figure 103 (Sheet 2)

ALL

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 11C34, 11L19, 6E4, 6E5, 6E6, 34A9, 34A10, 34A11

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

EQUIPMENT:

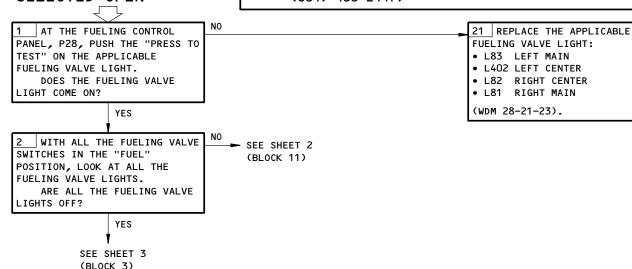
- 1. FUEL QTY TEST SET MODEL GTF-2, P/N 361-012-001 GULL AIRBORNE INSTRUMENTS, INC., 55 ENGINEERS ROAD, SMITHTOWN, NY 11787
- 2. FUEL QTY TEST SET MODEL 8000 BARFIELD INSTRUMENT CORP., MIAMI, FL 33142 OR
- FUEL QTY TEST SET P/N 472090-007, OR P/N 472090-009, OR 60-2R

NOTE: THE LATEST VERSION OF THE PSD-60-2R IS REQUIRED (MODEL 6 OR HIGHER) TO DO THE CONTINUITY CHECKS.

JcAir INC. 400 INDUSTRIAL PARKWAY INDUSTRIAL AIRPORT, KS 66031

- 4. EXTENDER CARD A28009-14
- 5. BCD M-1 BONDING METER BCD ELECTRONICS LTD. VANCOUVER, BC (604) 433-2447)

FUELING VALVE LIGHT FAILS TO ILLUMINATE WITH FUELING VALVE SELECTED OPEN



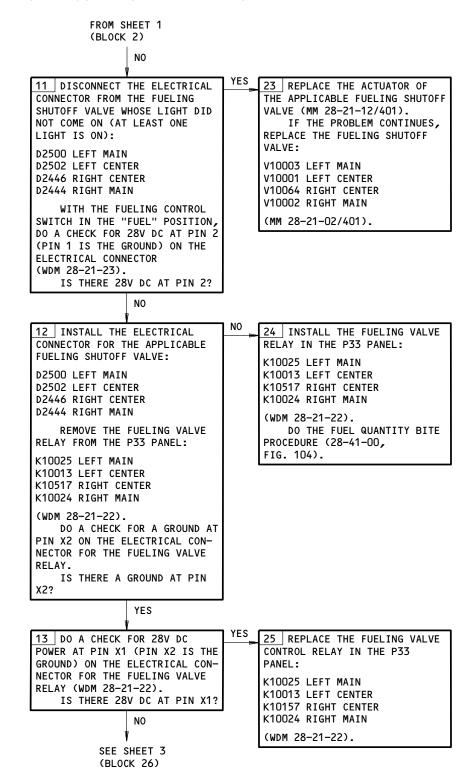
Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open Figure 104 (Sheet 1)

ALL

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Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open Figure 104 (Sheet 2)

ALL

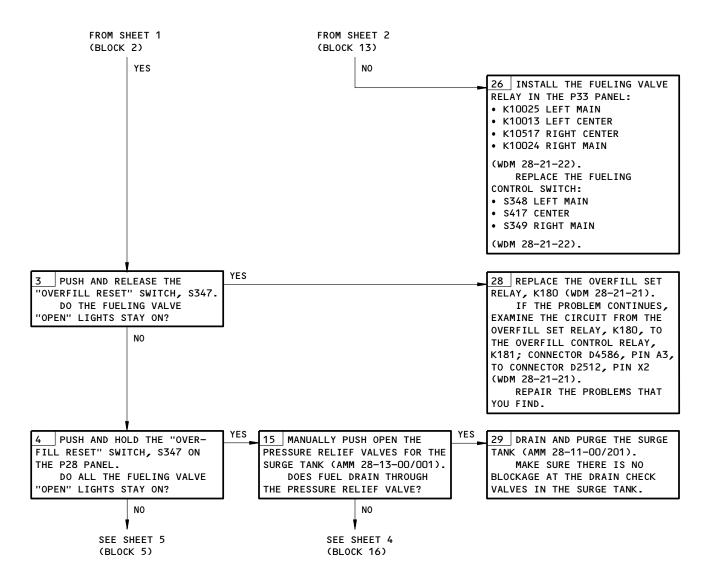
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Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open Figure 104 (Sheet 3)

FROM SHEET 3 (BLOCK 15) 16 REMOVE THE CONTROL CARD OF 30 REPAIR OR REPLACE THE WIRING FROM THE FUEL LEVEL THE FUEL LEVEL SENSOR, M586, SENSOR FOR THE LEFT SURGE IN THE ELECTRICAL SYSTEMS CARD FILE, P50 (AMM 28-21-04/401). TANK, TO THE ELECTRICAL DISCONNECT THE L SURGE SYSTEMS CARD FILE, P50 (WDM 28-21-21). TANK FUEL LEVEL SENSOR CONNECTOR, D2510. INSTALL A JUMPER WIRE BETWEEN PIN A AND PIN B ON THE CONNECTOR, D2510. USE THE EXTENDER CARD AND THE FUEL QUANTITY TEST SET TO DO A CONTINUITY CHECK ON CONNECTOR D2514, FROM PINS, 5 TO 15 (WDM 28-21-21). IS THERE CONTINUITY FROM PINS, 5 TO 15? NOTE: THIS IS NOT A COMPLETE CHECK OF THE OPERATION OF THE FUEL LEVEL SENSOR. YES 17 DISCONNECT THE R SURGE 31 REPAIR OR REPLACE THE TANK FUEL LEVEL SENSOR WIRING FROM THE FUEL LEVEL CONNECTOR, D2456. SENSOR FOR THE RIGHT SURGE INSTALL A JUMPER WIRE TANK, TO THE ELECTRICAL BETWEEN PIN A AND PIN B ON THE SYSTEMS CARD FILE P50 CONNECTOR, D2456. (WDM 28-21-21). USE THE EXTENDED CARD AND THE FUEL QUANTITY TEST SET TO DO A CONTINUITY CHECK ON CONNECTOR, D2456, FROM PINS, 16 TO 17 (WDM 28-21-21). IS THERE CONTINUITY FROM PINS, 16 TO 17? NOTE: THIS IS NOT A COMPLETE CHECK OF THE OPERATION OF THE FUEL LEVEL SENSOR -YES 32 REPLACE THE CONTROL CARD OF THE FUEL LEVEL SENSOR, M586, IN THE P50 PANEL (AMM 28-21-04/401). IF THE PROBLEM CONTINUES,

Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open Figure 104 (Sheet 4)

28-21-00

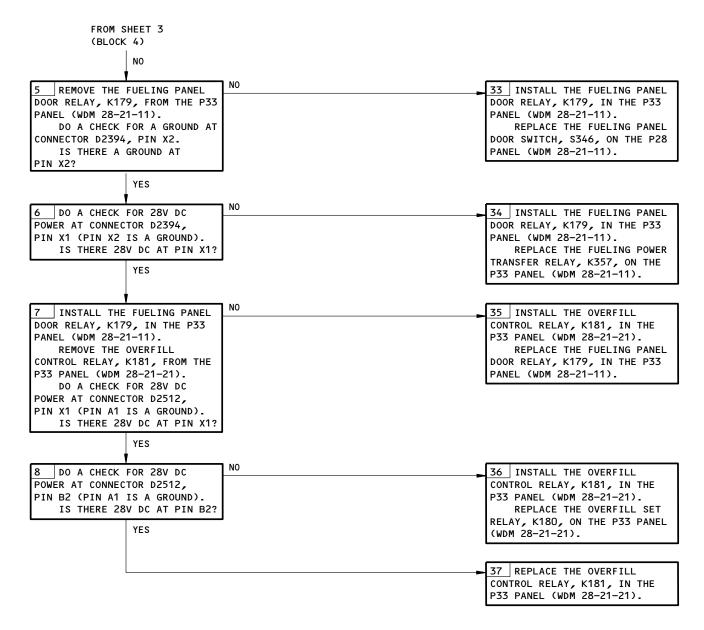
REPLACE THE TWO FUEL LEVEL SENSORS (AMM 28-21-03/401).

01

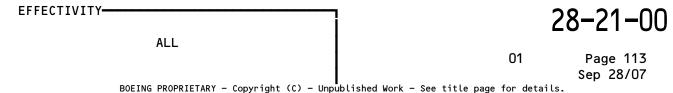
Page 112 Sep 28/07

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Fueling Valve Light Fails to Illuminate with Fueling Valve Selected Open Figure 104 (Sheet 5)



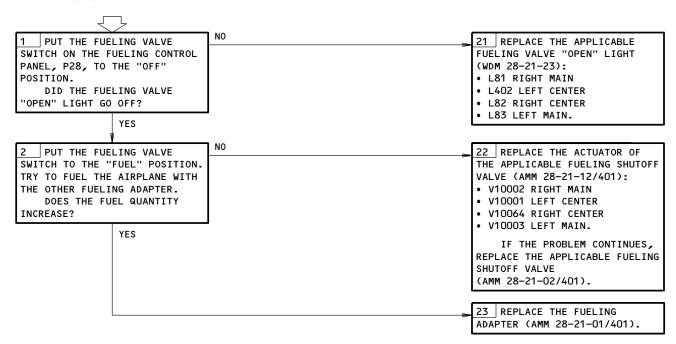


FUELING VALVE "OPEN"
LIGHT ILLUMINATED
WITH FUELING SWITCH
IN "FUEL". FUEL
QUANTITY DID NOT
INCREASE OR INCREASED
AT A SLOW RATE.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4, 6E5, 6E6, 11C34, 11L19, 34A9, 34A10, 34A11

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 Increased at a Slow Rate.

Figure 105

ALL

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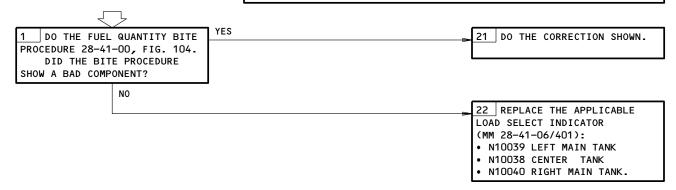


LOAD SELECT FUEL INDICATOR DISPLAYS NOT ALL 8'S WHEN TEST SWITCH IS PRESSED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,6E5,6E6,11L19,11C34,34A9,34A10,34A11

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



Load Select Fuel Indicator Displays Not All 8's When Test Switch is Pressed Figure 105A

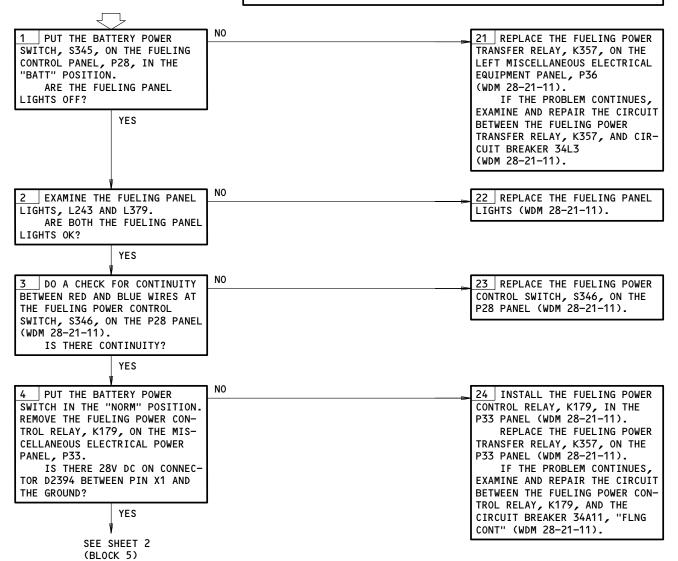
28-21-00

FUELING PANEL LIGHT FAILS TO ILLUMINATE WITH GROUND POWER ON AIRPLANE

PREREQUISITES

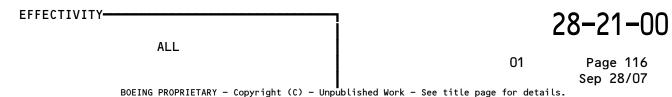
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E5,34A11; 1>37C4

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

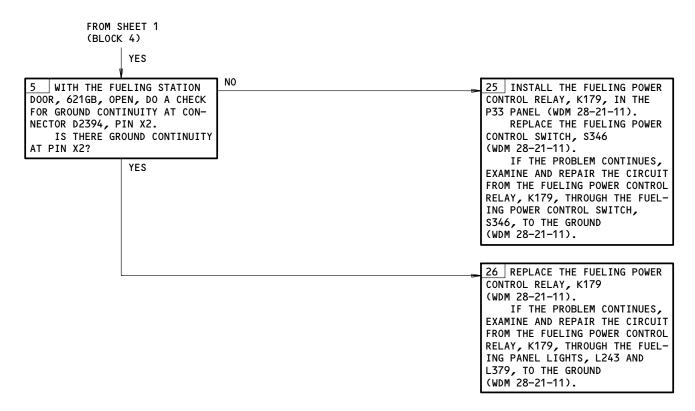


1 IF INSTALLED

Fueling Panel Light Fails to Illuminate with Ground Power on Airplane Figure 106 (Sheet 1)







Fueling Panel Light Fails to Illuminate with Ground Power on Airplane Figure 106 (Sheet 2)

ALL

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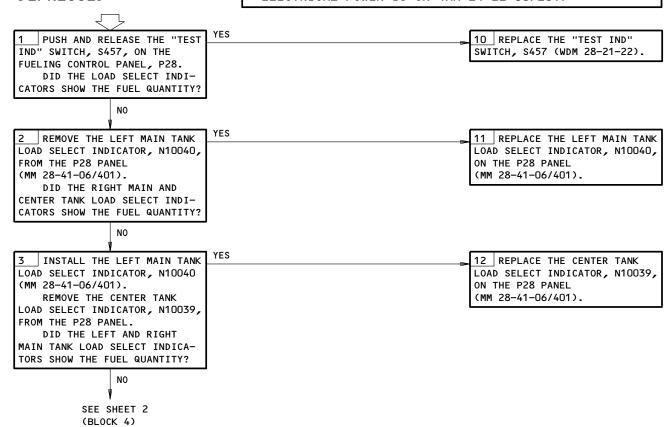


LOAD SELECT INDICA-TOR DISPLAY REMAINED BLANK WITH "IND TEST" SWITCH DEPRESSED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 11C34,11L19,6E4,6E5,34A10,34A11

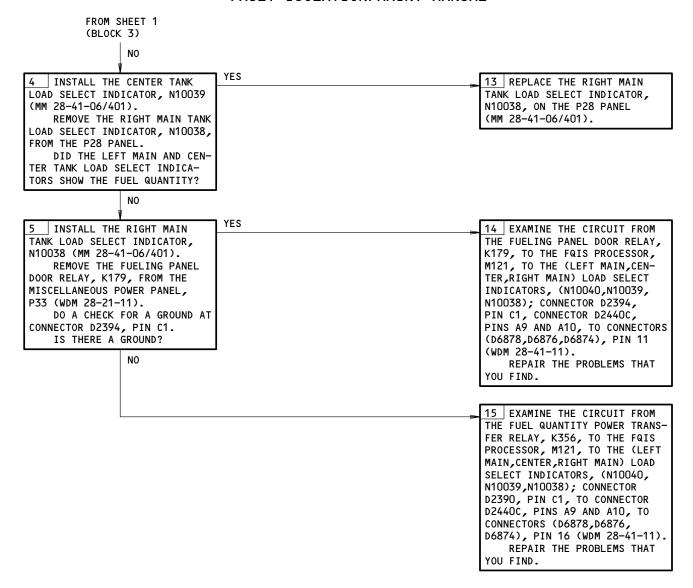
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (MM 24-22-00/201)



Load Select Indicator Display Remained Blank with IND TEST Switch Depressed Figure 107 (Sheet 1)

28-21-00
ALL
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Load Select Indicator Display Remained Blank with IND TEST Switch Depressed Figure 107 (Sheet 2)

ALL

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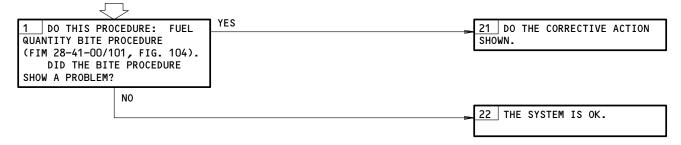


LOAD SELECT INDICATOR FLASHES AT ONE SECOND **INTERVALS**

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 11M19,34L2,36D2 (IF INSTALLED)

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



Load Select Indicator Flashes at One Second Intervals Figure 107A

EFFECTIVITY-ALL

28-21-00

MAKE SURE THIS SYSTEM WILL OPERATE: DEFUELING (AMM 28-26-00/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,6E5,6E6,11C34,11L19,34A9,34A10,34A11

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

FUELING DID NOT STOP AT PRESELECTED QUANTITY OR FUEL TRANSFER TO CENTER TANK OCCURRED.

PUT THE FUELING VALVE SWITCHES ON THE FUELING CON-TROL PANEL, P28, TO THE "OFF" POSITION. ARE ALL FUELING VALVE LIGHTS ON THE P28 PANEL OFF? YES SEE SHEET 2 (BLOCK 22)

10 DISCONNECT THE ELECTRICAL CONNECTOR FROM THE FUELING SHUTOFF VALVE (WDM 28-21-23):

- D2500 LEFT MAIN
- D2502 LEFT CENTER
- D2446 RIGHT CENTER
- D2444 RIGHT MAIN.

IS THERE 28V DC AT PIN 2 (PIN 1 IS A GROUND) OF THE APPLICABLE ELECTRICAL CONNEC-TOR?

> SEE SHEET 2 (BLOCK 21)

YES

20 REPLACE THE ACTUATOR OF THE APPLICABLE FUELING SHUTOFF VALVE (AMM 28-21-12/401).

IF THE PROBLEM CONTINUES, REMOVE THE REFUEL VALVE ACTU-ATOR (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 ACTUATOR (AMM 28-21-12/401).

IF THE MEASUREMENT STAYS LESS THAN 0.120-0.125 IN. (3.05-3.18 MM), REPLACE THE FUELING SHUTOFF VALVE (AMM 28-21-02/401):

- V10003 LEFT MAIN
- V10001 LEFT CENTER
- V10064 RIGHT CENTER
 - V10002 RIGHT MAIN.

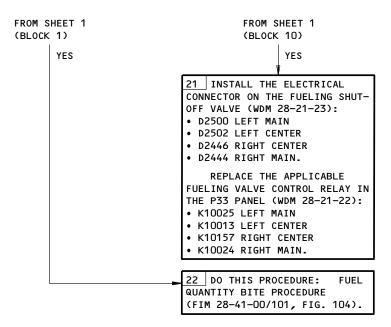
Fueling Did Not Stop at Preselected Quantity or Fuel Transfer to Center Tank Occurred. Figure 108 (Sheet 1)

EFFECTIVITY-ALL

28-21-00

18

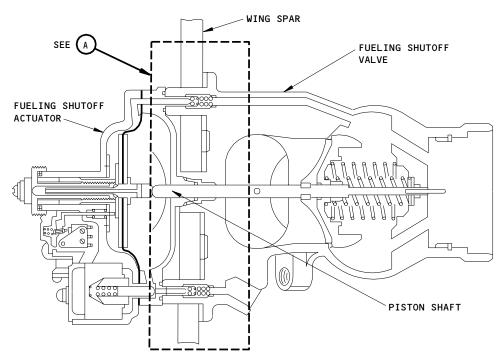
Page 121 Sep 28/07

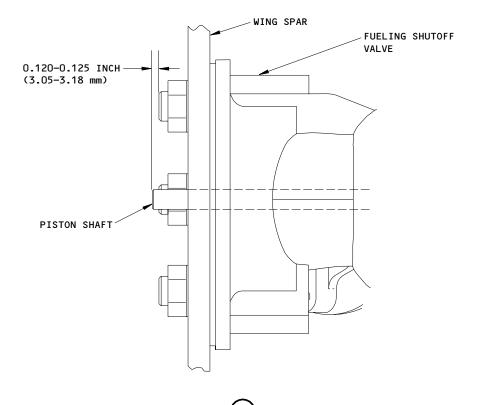


Fueling Did Not Stop at Preselected Quantity or Fuel Transfer to Center Tank Occurred.
Figure 108 (Sheet 2)

28-21-00







Fueling Did Not Stop at Preselected Quantity or Fuel Transfer to Center Tank Occurred.
Figure 108 (Sheet 3)

ALL

ALL

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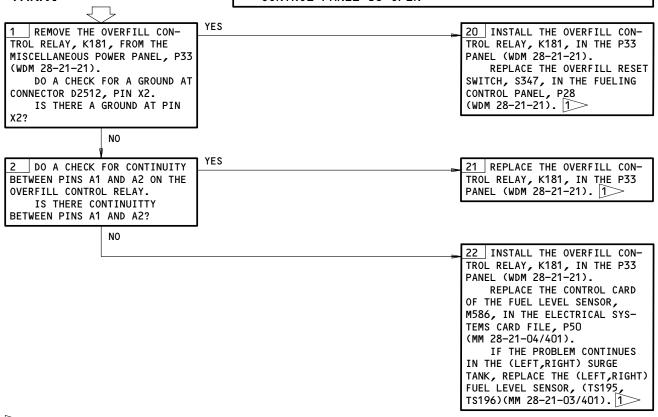
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ALL TANKS FAILED TO STOP AT PRESELECTED QUANTITY DURING PRESSURE FUELING. FUEL SPILL AT SURGE TANK.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E5,34A11

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (MM 24-22-00/201) MAKE SURE THE REFUELING DOOR (621GB) FOR THE REFUEL CONTROL PANEL IS OPEN



1 DO THE FUEL QUANTITY BITE PROCEDURE (28-41-00, FIG. 104)

All Tanks Failed to Stop at Preselected Quantity During Pressure Fueling.

Fuel Spill at Surge Tank.

Figure 109

ALL

ALL

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MAKE SURE THIS SYSTEM WILL OPERATE: DEFUELING (AMM 28-26-00/501)

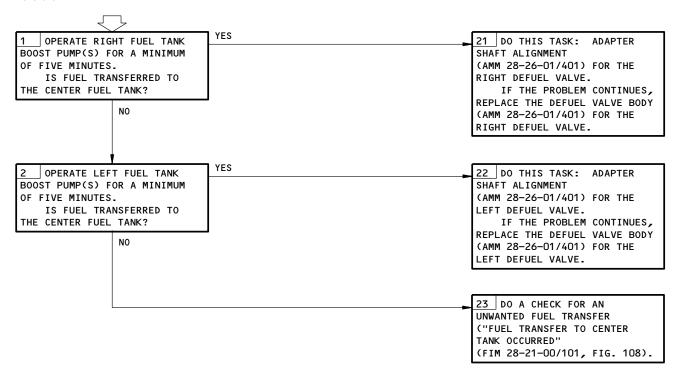
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4, 6E5, 6E6, 11C34, 11L19, 34A9, 34A10, 34A11

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
CENTER TANK REFUEL VALVES ARE IN THE OPEN POSITION
CENTER FUEL TANK MUST BE LESS THAN FULL

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 CENTER TANK OCCURRED.



Fuel Transfer to Center Tank Occurred.
Figure 110

28-21-00

04

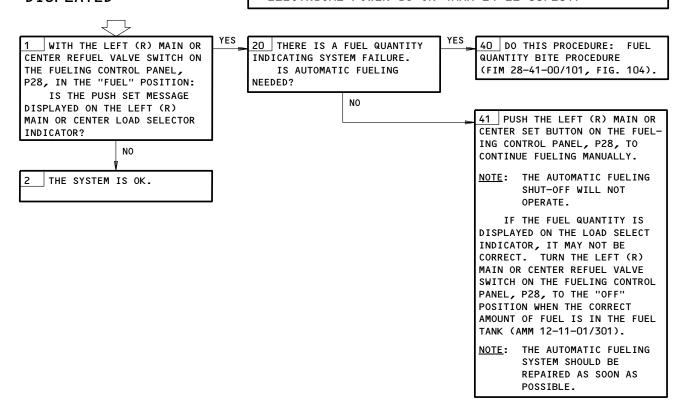
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"PUSH SET" ON LOAD SELECT INDICATOR DISPLAYED

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6F14,6F20,6H14,6H17,6H20,6H23,11D24,11D25,11D33, 11D34,11D36

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



PUSH SET on Load Select Indicator Displayed Figure 111

H44217

28-21-00



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
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 DO A PRESSURE LEAK CHECK 2 REMOVE THE FLOAT-OPERATED 31 REPLACE THE OF THE FUEL LINES AND FITTINGS SHUTOFF VALVE FROM THE FLOAT-OPERATED SHUTOFF VALVE (AMM 28-22-07/601). APPLICABLE TANK FROM THE APPLICABLE TANK (AMM 28-22-10/401). REPAIR THE PROBLEMS THAT (AMM 28-22-10/401). YOU FIND (AMM 28-22-07/401). MAKE SURE THE FLOAT ASSEMBLY AND THE POPPET MAKE SURE THE APPLICABLE NO MAIN TANK HAS A MINIMUM FUEL ASSEMBLY ON THE APPLICABLE 32 RE-INSTALL THE QUANTITY OF 9,400 POUNDS FLOAT VALVE CAN MOVE FREELY. FLOAT-OPERATED SHUTOFF VALVE (4,300 KILOGRAMS). WITH THE FLOAT ASSEMBLY IN FROM THE APPLICABLE TANK MAKE SURE THE CENTER FUEL THE DOWN POSITION, VISUALLY (AMM 28-22-10/401).TANK HAS A MINIMUM FUEL INSPECT THE INSIDE OF THE DO THE FUEL SCAVENGE QUANTITY OF 500 POUNDS (200 POPPET ASSEMBLY AND BODY FOR SYSTEM TEST DEBRIS. KILOGRAMS). (AMM 28-22-10/501). IS THERE DEBRIS? PUSH THE APPLICABLE FUEL IF THE FUEL QUANTITY IN BOOST PUMP OR FUEL OVERRIDE THE APPLICABLE TANK DOES NOT PUMP TO THE ON POSITION. INCREASE BY MORE THAN 220 DOES THE FUEL QUANTITY IN POUNDS (100 KILOGRAMS), REPAIR MAIN TANK(S) INCREASE? THE LEAKING TUBING (AMM 28-22-07/401).33 THE SYSTEM IS OK.

Unwanted Fuel Transfer From Center Tank to Main Tank(s)
Figure 112

EFFECTIVITY-

28-21-00

ALL

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ENGINE FUEL-FEED SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
COMPONENT ACTUATOR - ENGINE FUEL CROSSFEED VALVE, V24 ACTUATOR - ENGINE FUEL SHUTOFF VALVE (SPAR VALVE) CIRCUIT BREAKERS - L AFT FUEL BOOST PUMP, C366 L FWD FUEL BOOST PUMP, C372 L FUEL OVRD PUMP, C369 L SPAR FUEL VALVE, C1061 R AFT FUEL BOOST PUMP, C371 R FWD FUEL BOOST PUMP, C370 R SPAR FUEL VALVE, C1062 CIRCUIT BREAKERS - FUEL - AUTO S/O OVRD PMP CTR TANK L, C4679 FUEL - AUTO S/O OVRD PMP CTR TANK R, C4680 FUEL CROSSFEED, C1051 L DISAGREE ENBL, C4133 R DISAGREE ENBL, C4132 LINE - FUEL AND FITTINGS PUMP - AUTOMATIC SUMPING JET PUMP - FUEL BOOST RELAYS - (FIM 31-01-33/101) FUEL PANEL DOOR, K179 FUEL QTY POWER TRANSFER, K356 L AFT FUEL BOOST PUMP CONTROL, K187 L CTR OVRD PMP AUTO S/O TIME DELAY, K10872	102	QTY 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ACCESS/AREA MAIN LANDING GEAR DOOR 551BB, 651BB FLT COMPT, P6 6H14 6H23 6F14 6E1 6H20 6H17 6F20 6E2 FLT COMPT, P11 11L13 11L25 11D36 11D33 11D34 FUEL TANKS 134AZ, 541AB, 641AB 134AZ 531AB 531AB, 631AB	1
L OVERRIDE FUEL BOOST PUMP CONTROL, K10011 L SECONDARY OVRD FUEL BOOST PUMP CONTROL, K10875 L SPAR VALVE DISAGREE ENBL, K10111 R FWD FUEL BOOST PUMP CONTROL, K190 R SPAR VALVE DISAGREE ENBL, K10110 FUEL CROSSFEED VALVE DISAGREE, K10094 RELAYS - (FIM 31-01-37/101) L FWD FUEL BOOST PUMP CONTROL, K188 R AFT FUEL BOOST PUMP CONTROL, K189 R CTR OVRD PMP AUTO S/O ENABLE, K10870 R CTR OVRD PMP AUTO S/O TIME DELAY, K10871 R OVERRIDE FUEL BOOST PUMP CONTROL, K10012 R SECONDARY OVERRIDE FUEL BOOST PUMP CONTROL, K10874				

^{*} SEE THE WDM EQUIPMENT LIST

AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082) AIRPLANES WITH SECONDARY OVERRIDE FUEL BOOST PUMP CONTROL RELAYS (POST-SB 28A0105)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
SWITCH - L AUTO S/O FUEL TEST, S10712 SWITCH - R AUTO S/O FUEL TEST, S10711 VALVE - ENGINE FUEL CROSSFEED, V24 VALVE - ENGINE FUEL SHUTOFF (SPAR VALVE) VALVE - FLOAT-OPERATED SHUTOFF VALVE - DISCHARGE CHECK VALVE - REMOVAL CHECK VALVE - FUEL BOOST PUMP BYPASS	3 2 4 3 3 4	1 1 1 2 1 6 6 2	119BL, MAIN EQUIP CTR, E2 119BL, MAIN EQUIP CTR, E2 134AZ 541AB, 641AB 541AB 531AB, 631AB, 134AZ 531AB, 631AB, 134AZ 541AB, 641AB	* 28-22-02 28-22-01 28-22-10 28-22-09 28-22-08 28-22-04

^{*} SEE THE WDM EQUIPMENT LIST

GUI 001-008 PRE-SB 28-29



COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - AFT ENGINE FUEL CROSSFEED VALVE, V10139	3	1	LEFT, MAIN LANDING GEAR DOOR	28-22-12
ACTUATOR - ENGINE FUEL SHUTOFF VALVE (SPAR VALVE)	2	2	551BB, 651BB	28-22-11
ACTUATOR - FWD ENGINE FUEL CROSSFEED VALVE, V10138	3	1	RIGHT, MAIN LANDING GEAR DOOR	28-22-12
CIRCUIT BREAKER -			FLT COMPT, P6	
L AFT FUEL BOOST PUMP, C366		1	6H14	*
L FWD FUEL BOOST PUMP, C372		1	6H23	*
L FUEL OVRD PUMP, C369		1	6F14	*
L SPAR FUEL VALVE, C1061		1	6E1	*
R AFT FUEL BOOST PUMP, C371		1	6H2O	*
R FWD FUEL BOOST PUMP, C368		1	6H17	*
R FUEL OVRD PUMP, C370		1	6F20	*
R SPAR FUEL VALVE, C1062		1	6E2	*
CIRCUIT BREAKER -			FLT COMPT, P11	
AFT FUEL CROSSFEED, C4477		1	11D25	*
FUEL - AUTO S/O OVRD PMP CTR TANK L, C4679 1		1	11L13	*
FUEL - AUTO S/O OVRD PMP CTR TANK R, C4680 1		1	11L25	*
FUEL XFEED IND, C4485		1	11D36	
FWD FUEL CROSSFEED, C4476		1	11D24	*
L DISAGREE ENBL, C4133		1	11D33	*
R DISAGREE ENBL, C4132		1	11D34	*
LINE - FUEL AND FITTINGS			FUEL TANKS	28-22-07
PUMP - AUTOMATIC SUMPING JET	4	4	134AZ, 541AB, 641AB	28-22-06
PUMP - FUEL BOOST	5	4	531AB, 631AB	28-22-03
PUMP - FUEL OVERRIDE	5	2	134AZ	28-22-05
PUMP - SCAVENGE EJECTOR	4	1	531AB	28-22-13
RELAY - (FIM 31-01-33/101)				
AFT FUEL CROSSFEED VALVE DISAGREE, K10714				
FUEL PANEL DOOR, K179				
FUEL QTY POWER TRANSFER, K356				
FWD FUEL CROSSFEED VALVE DISAGREE, K10715 L AFT FUEL BOOST PUMP CONTROL, K187				
L CTR OVRD PMP AUTO S/O ENABLE, K10873 1				
L CTR OVRD PMP AUTO S/O TIME DELAY,				
K10872 1				
L OVERRIDE FUEL BOOST PUMP CONTROL, K10011				
L SECONDARY OVRD FUEL BOOST PUMP CONTROL,				
K10875 2				
L SPAR VALVE DISAGREE ENBL, K10111				
R FWD FUEL BOOST PUMP CONTROL, K190				
R SPAR VALVE DISAGREE ENBL, K10110				

^{*} SEE THE WDM EQUIPMENT LIST

AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082)

2 AIRPLANES WITH SECONDARY OVERRIDE FUEL BOOST PUMP CONTROL RELAYS (POST-SB 28A0105)

Engine Fuel-Feed System - Component Index Figure 101 (Sheet 3)

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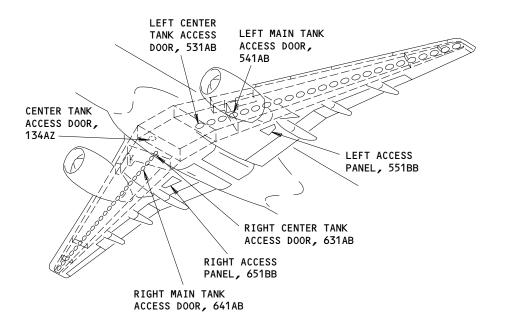
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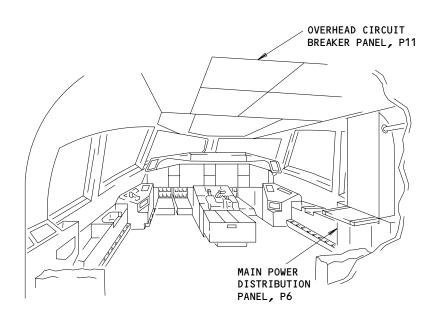


COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
RELAY - (FIM 31-01-37/101) L FWD FUEL BOOST PUMP CONTROL, K188 R AFT FUEL BOOST PUMP CONTROL, K189 R CTR OVRD PMP AUTO S/O ENABLE, K10870 R CTR OVRD PMP AUTO S/O TIME DELAY, K10871 R OVERRIDE FUEL BOOST PUMP CONTROL, K10012 R SECONDARY OVRD FUEL BOOST PUMP CONTROL, K10874 SWITCH - L AUTO S/O FUEL TEST, S10712 SWITCH - R AUTO S/O FUEL TEST, S10711 VALVE - AFT ENGINE FUEL CROSSFEED, V10139 VALVE - DISCHARGE CHECK VALVE - FUGINE FUEL SHUTOFF (SPAR VALVE) VALVE - FUEL BOOST PUMP BYPASS VALVE - FUEL BOOST PUMP BYPASS VALVE - FWD ENGINE FUEL CROSSFEED, V10138 VALVE - REMOVAL CHECK	3 3 2 4 4 3 3	1 1 1 6 2 1 2 1 6	119BL, MAIN EQUIP CTR, E2 119BL, MAIN EQUIP CTR, E2 134AZ 531AB, 631AB, 134AZ 541AB, 641AB 541AB 541AB, 641AB 134AZ 531AB, 631AB, 134AZ	* 28-22-02 28-22-09 28-22-01 28-22-04 28-22-02 28-22-08

^{*} SEE THE WDM EQUIPMENT LIST







FLIGHT COMPARTMENT

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

55684

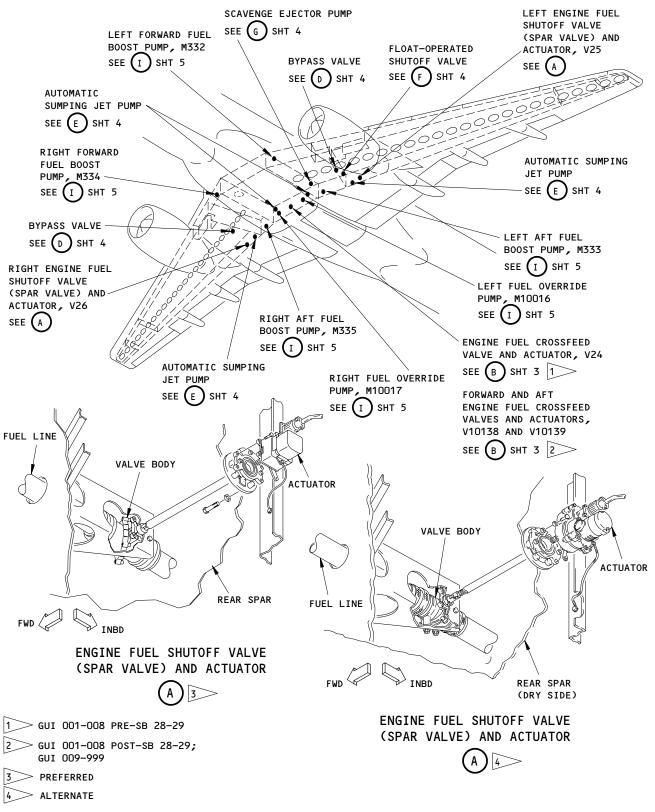
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FAULT ISOLATION/MAINT MANUAL



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

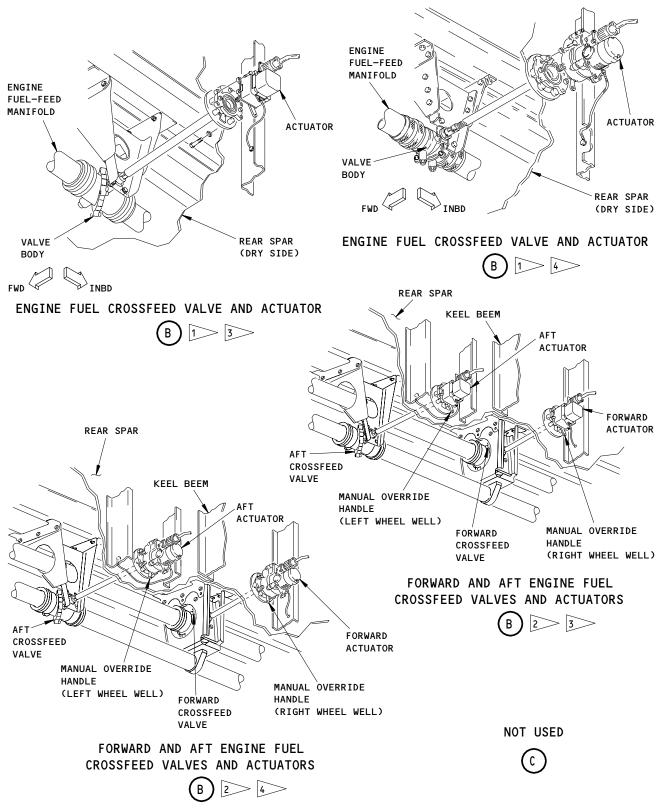
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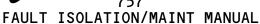
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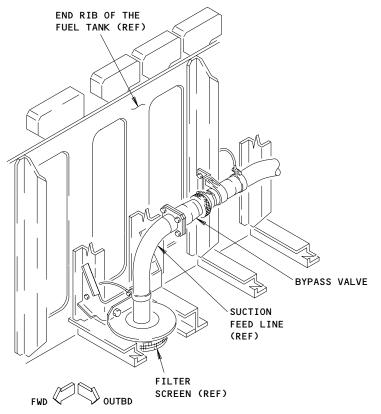
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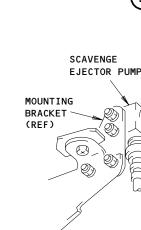


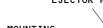


BYPASS VALVE



END OF THE FUEL TANK





MOUNTING

BRACKET (REF)

AUTOMATIC SUMPING JET PUMP

FLOAT-OPERATED SHUTOFF VALVE

FLOAT-OPERATED

SHUTOFF VALVE



SCAVENGE EJECTOR PUMP



Engine Fuel-Feed System - Component Location (Details from Sht 2) Figure 102 (Sheet 4)

) INBD

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OUTBD <

AUTOMATIC SUMPING JET PUMP

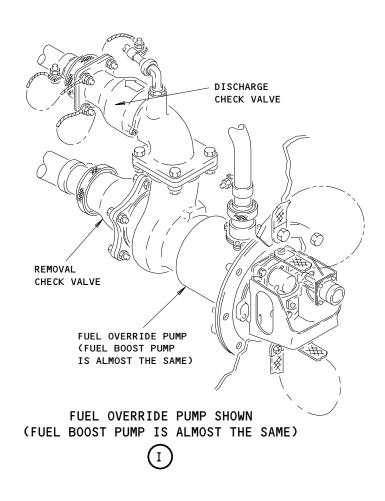
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NOT USED



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Not Used Figure 103

178259

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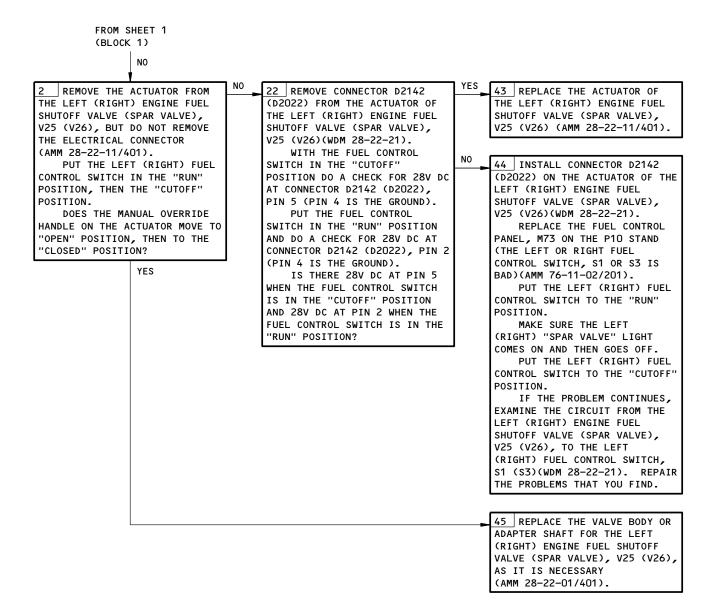
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EICAS MSG "FUEL SPAR VAL" AND "SPAR VALVE" LT ILLUM MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E1, 6E2, 11D33, 11D34

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

PUT THE LEFT (RIGHT) FUEL 20 PUT THE LEFT (RIGHT) FUEL 40 REPLACE THE ACTUATOR OF CONTROL SWITCH, S1 (S3) ON THE CONTROL SWITCH ON THE P10 TO THE LEFT (RIGHT) ENGINE FUEL QUADRANT CONTROL STAND P10, TO "RUN" POSITION. SHUTOFF VALVE (SPAR VALVE), THE "RUN" POSITION. REMOVE CONNECTOR D2142 V25 (V26) (AMM 28-22-11/401). LOOK AT THE POSITION OF (D2022) FROM THE L (R) ENGINE IF THE PROBLEM CONTINUES, THE MANUAL OVERRIDE HANDLE ON SHUTOFF VALVE (SPAR VALVE), REPLACE THE LEFT (RIGHT) V25 (V26) (WDM 28-22-21). ENGINE FUEL SHUTOFF VALVE THE L (R) ENGINE FUEL SHUTOFF VALVE (SPAR VALVE), V25 (V26). IS THERE CONTINUITY (SPAR VALVE), V25 (V26) (AMM 28-22-01/401). BETWEEN PINS 2 AND 3 ON THE PUT THE LEFT (RIGHT) FUEL CONTROL SWITCH, S1 (S3) ACTUATOR (WDM 28-22-21)? ON THE P10 STAND TO THE YES "CUTOFF" POSITION. LOOK AT THE POSITION OF 41 INSTALL CONNECTOR D2142 THE MANUAL OVERRIDE HANDLE ON 21 IS THERE A GROUND AT CONNECTOR D2142 (D2022), PIN 3 (D2022) ON THE L (R) ENGINE THE L (R) ENGINE FUEL SHUTOFF (WDM 28-22-21)? FUEL SHUTOFF VALVE (SPAR VALVE (SPAR VALVE), V25 (V26). IS THE MANUAL OVERRIDE VALVE), V25 (V26) (WDM 38-22-21). YES HANDLE IN THE "OPEN" POSITION WHEN THE FUEL CONTROL SWITCH REPLACE THE LEFT (RIGHT) SPAR VALVE DISAGREE ENABLE IS IN THE "RUN" POSITION AND IS THE MANUAL OVERRIDE HANDLE RELAY, K10111 (K10110), ON THE P33 PANEL (WDM 28-22-21). IN THE "CLOSED" POSITION WHEN THE FUEL CONTROL SWITCH IS IN THE "CUTOFF" POSITION? 42 INSTALL CONNECTOR D2142 (D2022) ON THE L (R) ENGINE NO FUEL SHUTOFF VALVE (SPAR VALVE), V25 (V26) (WDM 28-22-21). SEE SHEET 2 REPLACE THE FUEL CONTROL (BLOCK 2) PANEL, M73, ON THE P10 STAND (AMM 76-11-02/401).

> EICAS Msg FUEL SPAR VAL and SPAR VALVE Lt Illum Figure 104 (Sheet 1)



EICAS Msg FUEL SPAR VAL and SPAR VALVE Lt Illum Figure 104 (Sheet 2)

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MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:

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

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.

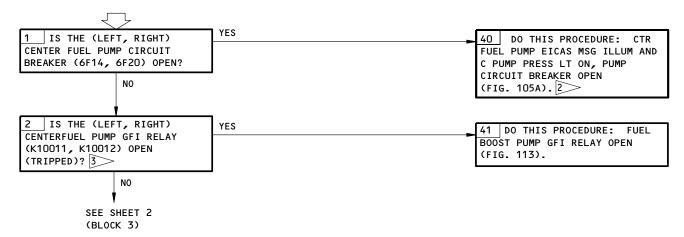
WARNING: TO OPERATE ANY OF THE FUEL PUMPS, YOU

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.

"CTR FUEL PUMP"
EICAS MSG ILLUM
AND "C PUMP PRESS"
LT ON



AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082)

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

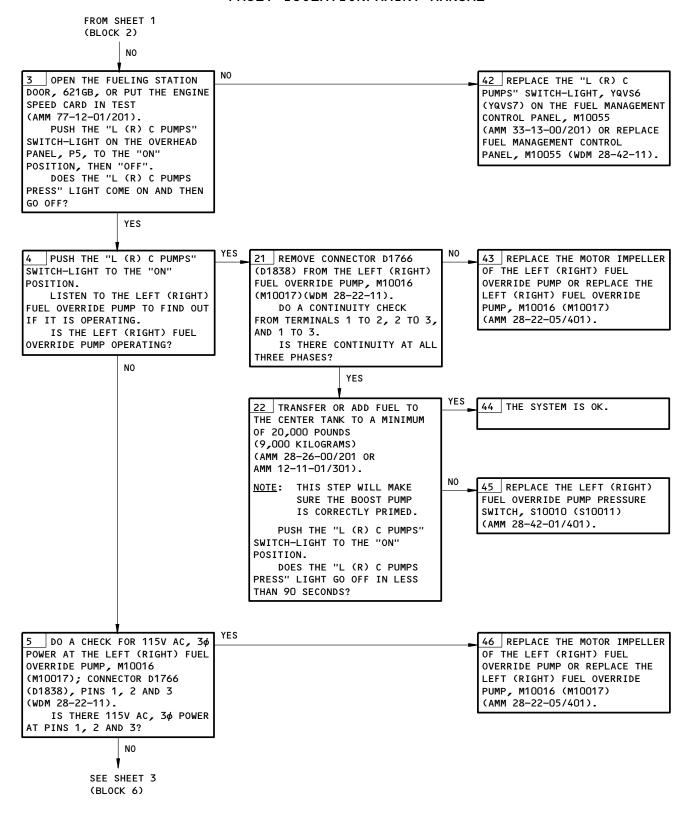
3 AIRPLANES POST-SB 28A0078 OR POST-SB 28A0079

CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On Figure 105 (Sheet 1)

28-22-00

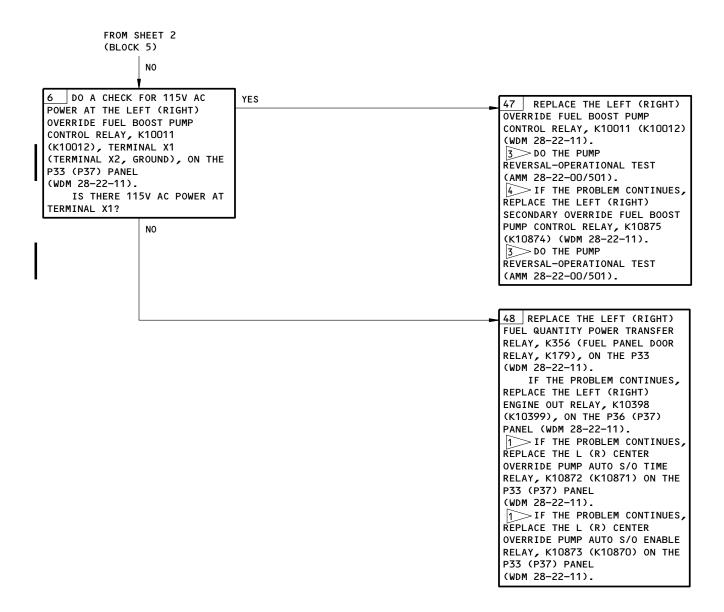
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CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On Figure 105 (Sheet 2)





AIRPLANES WITH SECONDARY OVERRIDE FUEL BOOST PUMP CONTROL RELAY (POST-SB 28A105)

CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On Figure 105 (Sheet 3)

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MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 1>11L13, 11L25

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

MAKE SURE THE CENTER TANK HAS A MINIMUM OF 40,000 POUNDS (18,000 KILOGRAMS) OF FUEL (AMM 12-11-01/301, AMM 28-26-00/201).

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.

TO OPERATE ANY OF THE FUEL PUMPS, YOU MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND LOW PRESSURE INDICATION IN THE FUEL TANK. IMMEDIATELY SET THE APPLICABLE FUEL PUMP SWITCH TO THE OFF POSITION IF THE 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 CENTER OVERRIDE PUMP). OPERATE THE AIRPLANE PER THE MEL PROCEDURES.

"CTR FUEL PUMP" EICAS
MSG ILLUM AND "C PUMP
PRESS" LT ON, PUMP
CIRCUIT BREAKER OPEN [2>>

1 INSTALL A COLLAR AND A
DO-NOT-CLOSE TAG ON THE LEFT
(RIGHT) OVERRIDE PUMP CIRCUIT
BREAKER 6F14 (6F20).
IS THERE FUEL LEAKAGE IN
THE AREA OF THE LEFT (RIGHT)
OVERRIDE PUMP?

NO

SEE SHEET 2
(BLOCK 2)

1 AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082)

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

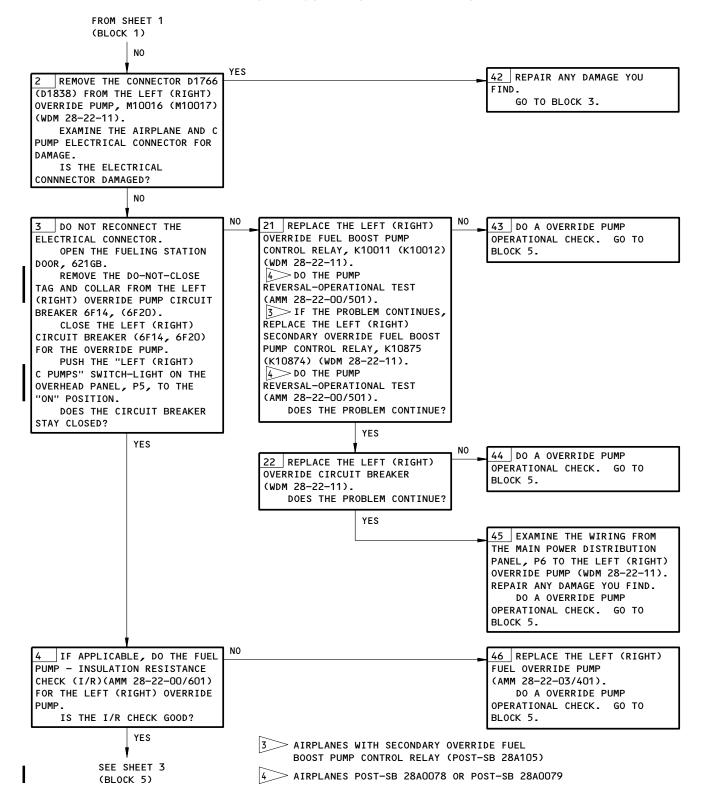
CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On, Pump Circuit Breaker Open Figure 105A (Sheet 1)

EFFECTIVITY ALL

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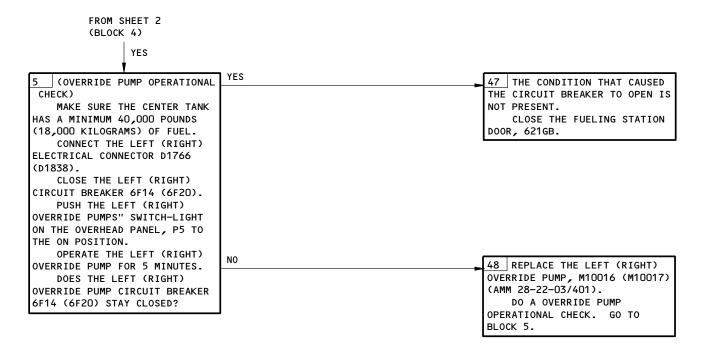
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CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On, Pump Circuit Breaker Open Figure 105A (Sheet 2)

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CTR FUEL PUMP EICAS Msg Illum and C PUMP PRESS Lt On, Pump Circuit Breaker Open Figure 105A (Sheet 3)

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

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.

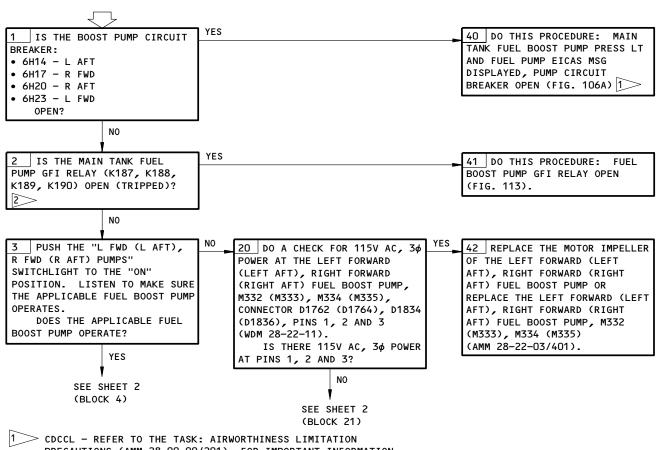
TO OPERATE ANY OF THE FUEL PUMPS, YOU WARNING:

> MUST BE IN THE FLIGHT COMPARTMENT TO CONTINUOUSLY MONITOR THE FUEL QUANTITY AND THE LOW PRESSURE INDICATION IN THE

FUEL TANK. IMMEDIATELY SET THE

MAIN TANK FUEL BOOST PUMP PRESS LT AND "FUEL PUMP" EICAS MSG DISPLAYED

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.

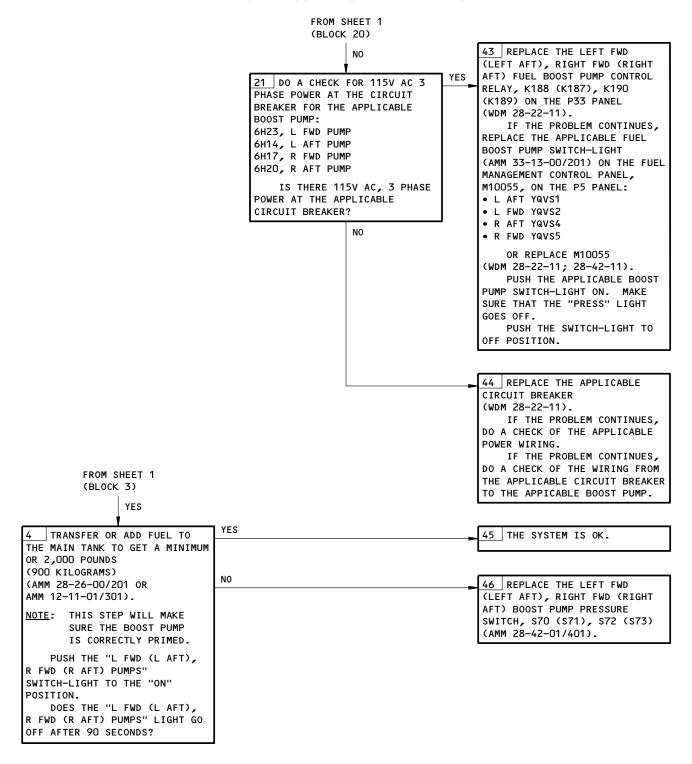


PRECAUTIONS (AMM 28-00-00/201), FOR IMPORTANT INFORMATION ON CRITICAL DESIGN CONFIGURATION CONTROL LIMITATIONS (CDCCLs).

2 AIRPLANES POST-SB 28A0078 OR POST-SB 28A0079

Main Tank Fuel Boost Pump PRESS Lt and FUEL PUMP EICAS Msg Displayed Figure 106 (Sheet 1)

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Main Tank Fuel Boost Pump PRESS Lt and FUEL PUMP EICAS Msg Displayed Figure 106 (Sheet 2)

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

MAKE SURE THE CENTER TANK HAS A MINIMUM OF 40,000 POUNDS (18,000 KILOGRAMS) OF FUEL AND THE NO. 1 (NO. 2) TANK HAS A MINIMUM OF 1000 POUNDS (450 KILOGRAMS) OF FUEL (AMM 12-11-01/301, AMM 28-26-00/201).

WARNING:

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

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.

MAIN TANK FUEL BOOST PUMP PRESS LT AND "FUEL PUMP" EICAS MSG DISPLAYED, PUMP CIRCUIT BREAKER OPENED

NOTE: IF YOU MAKE A DECISION TO DISPATCH THE AIRPLANE WITH AN OPEN CIRCUIT BREAKER, DO THE STEPS IN THE MEL TO DEACTIVATE THE (AFT, FWD MAIN TANK BOOST PUMP). OPERATE THE AIRPLANE PER THE MEL

INSTALL A COLLAR AND A
DO-NOT-CLOSE TAG ON THE LEFT
FORWARD (LEFT AFT), RIGHT
FORWARD (RIGHT AFT) CIRCUIT
BREAKER (6H23, 6H14, 6H17,
6H20). REMOVE THE CONNECTOR
D1762, (D1764), D1834,
(D1836), FROM THE LEFT FORWARD
(LEFT AFT), RIGHT FORWARD
(RIGHT AFT) FUEL BOOST PUMP
M332 (M333), M334 (M335),
(WDM 28-22-11).
IS THERE FUEL LEAKAGE IN
THE AREA OF THE FUEL BOOST
PUMP?

NO

SEE SHEET 2 (BLOCK 2)

41 FIND THE SOURCE OF THE FUEL LEAKAGE AND REPAIR (AMM 28-11-00/601).

GO TO BLOCK 2.

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

> Main Tank Fuel Boost Pump PRESS Lt and FUEL PUMP EICAS Msg Displayed, Pump Circuit Breaker Open Figure 106A (Sheet 1)

PROCEDURES.

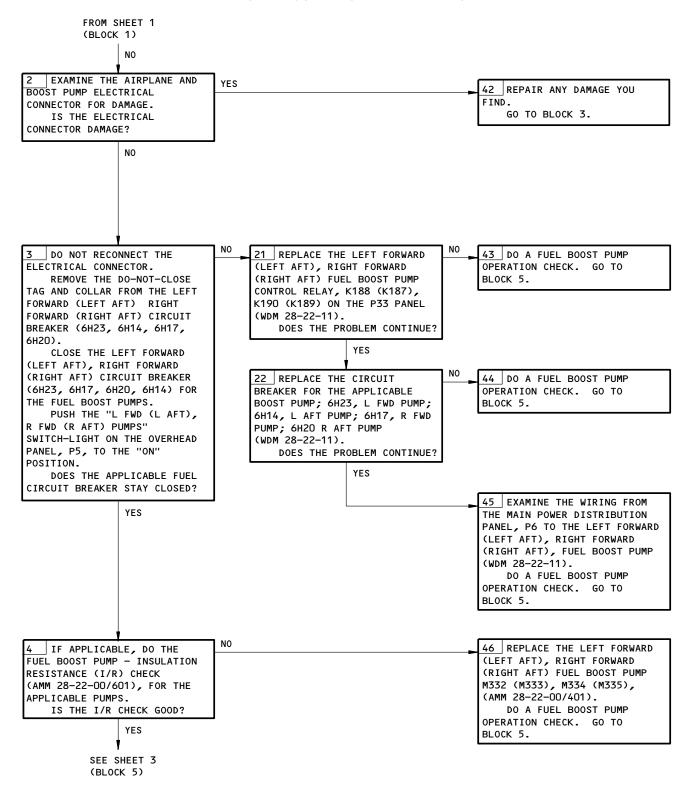
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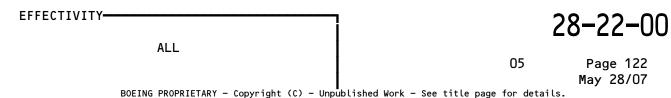
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Main Tank Fuel Boost Pump PRESS Lt and FUEL PUMP EICAS Msg Displayed, Pump Circuit Breaker Open Figure 106A (Sheet 2)



FROM SHEET 2 (BLOCK 4) YES YES (FUEL BOOST PUMP OPERATION 47 THE CONDITION THAT CAUSED CHECK) THE CIRCUIT BREAKER TO OPEN IS MAKE SURE THE MAIN TANK NOT PRESENT. HAS A MINIMUM OF 1,000 POUNDS (450 KILOGRAMS) OF FUEL AND THE CENTER TANK HAS A MINIMUM OF 40,000 POUNDS (18,000 KILOGRAMS) OF FUEL. CONNECT THE LEFT FORWARD (LEFT AFT), RIGHT FORWARD (RIGHT AFT) FUEL PUMP CONNECTOR D1762 (D1764), D1834 (D1836). CLOSE THE CIRCUIT BREAKER FOR THE APPLICABLE BOOST PUMP: • 6H23, L FWD PUMP • 6H14, L AFT PUMP • 6H17, R FWD PUMP • 6H2O, R AFT PUMP PUSH THE "L FWD (L AFT), R FWD (R AFT) PUMPS" SWITCH-LIGHT ON THE OVERHEAD PANEL, P5 TO THE 'ON' POSITION. OPERATE THE APPLICABLE BOOST PUMP FOR 5 MINUTES. DOES THE CIRCUIT BREAKER FOR THE APPLICABLE BOOST PUMP: • 6H23, L FWD PUMP • 6H14, L AFT PUMP • 6H17, R FWD PUMP • 6H20, R AFT PUMP STAYED CLOSED? 48 REPLACE THE LEFT FORWARD (LEFT AFT), RIGHT FORWARD (RIGHT AFT) FUEL BOOST PUMP, M332 (M333), M334 (M335) (AMM 28-22-03/401). DO A FUEL BOOST PUMP OPERATION CHECK. GO TO BLOCK 5.

> Main Tank Fuel Boost Pump PRESS Lt and FUEL PUMP EICAS Msg Displayed, Pump Circuit Breaker Open Figure 106A (Sheet 3)



FUEL CROSSFEED VALVE LT FAILS TO ILLUMINATE

PREREQUISITES	
NONE	

 $\overline{}$

1 REPLACE THE FUEL CROSSFEED VALVE DISAGREE RELAY, K10094 (WDM 28-22-31).

Fuel Crossfeed Valve Lt Fails to Illuminate Figure 107

GUI 001-008 PRE-SB 28-29



FORWARD (AFT)
FUEL CROSSFEED
VALVE LT FAILS TO
ILLUMINATE

PREREQUISITES	
NONE	

REPLACE THE FORWARD (AFT) FUEL CROSSFEED VALVE DISAGREE RELAY, K10715 (K10714)(WDM 28-22-31).

Forward (Aft) Fuel Crossfeed Valve Lt Fails to Illuminate Figure 107A

GUI 001-008 POST-SB 28-29; GUI 009-999

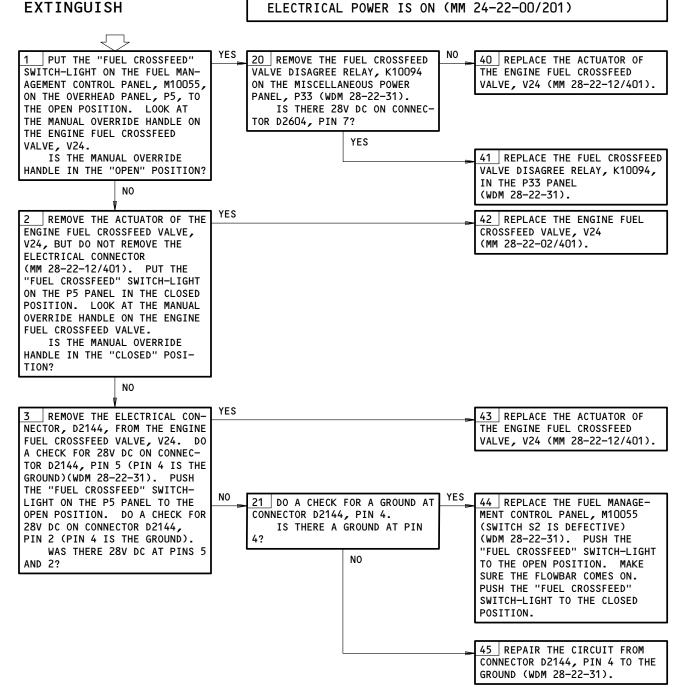


FUEL CROSSFEED VALVE LT FAILS TO

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 Lt Fails to Extinguish Figure 108

EFFECTIVITY-28-22-00 GUI 001-008 PRE-SB 28-29 27 Page 126 Jan 28/07 BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11D24, FWD CROSSFEED VALVE
11D25, AFT CROSSFEED VALVE
11D36, FUEL XFEED IND

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

YES 1 PUT THE "FWD (AFT) FUEL 20 REMOVE THE FWD (AFT) FUEL 40 REPLACE THE FWD (AFT) XFEED" SWITCH-LIGHT ON THE CROSSFEED VALVE DISAGREE ACTUATOR OF THE ENGINE FWD FUEL MANAGEMENT CONTROL PANEL, RELAY, K10715 (K10714), ON THE (AFT) FUEL CROSSFEED VALVE, M10055, ON THE OVERHEAD PANEL, MISCELLANEOUS POWER PANEL, P33 V10138 (V10139)(AMM 28-22-12/ P5, TO THE OPEN POSITION. (WDM 28-22-31). 401). IS THERE 28V DC ON CONNEC-LOOK AT THE MANUAL OVER-RIDE HANDLE ON THE FWD (AFT) TOR D7738, PIN 6 FWD RELAY, CONNECTOR D7736, PIN 6 AFT ENGINE FUEL CROSSFEED VALVE, V10138 (V10139). **RELAY?** IS THE FWD (AFT) MANUAL YES OVERRIDE HANDLE IN THE "OPEN" 41 REPLACE THE FWD (AFT) FUEL POSITION? CROSSFEED VALVE DISAGREE NO RELAY, K10715 (K10714), IN THE P33 PANEL (WDM 28-22-31). YES REMOVE THE FWD (AFT) 42 REPLACE THE FWD (AFT) ACTUATOR OF THE ENGINE FUEL ENGINE FUEL CROSSFEED VALVE, CROSSFEED VALVE, V10138 V10138 (V10139)(AMM 28-22-02/ (V10139), BUT DO NOT REMOVE 401). THE CONNECTOR (AMM 28-22-12/ 401). PUT THE "FWD (AFT) FUEL XFEED" SWITCH-LIGHT ON THE P5 PANEL IN THE CLOSED POSITION. LOOK AT THE FWD (AFT) MANUAL OVERRIDE HANDLE ON THE ENGINE FUEL CROSSFEED VALVE. IS THE FWD (AFT) MANUAL OVERRIDE HANDLE IN THE "CLOSED" POSITION? SEE SHEET 2

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

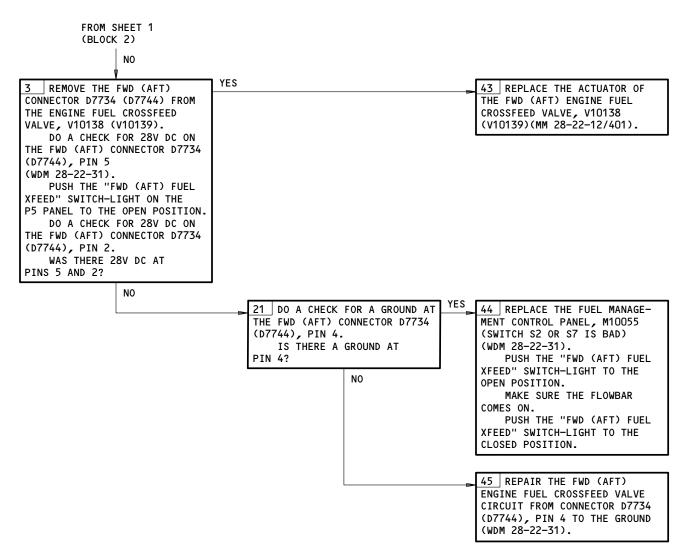
(BLOCK 3)

FWD (AFT) FUEL

CROSSFEED VALVE LT

FAILS TO EXTINGUISH





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

EFFECTIVITY
GUI 001-008 POST-SB 28-29;
GUI 009-999

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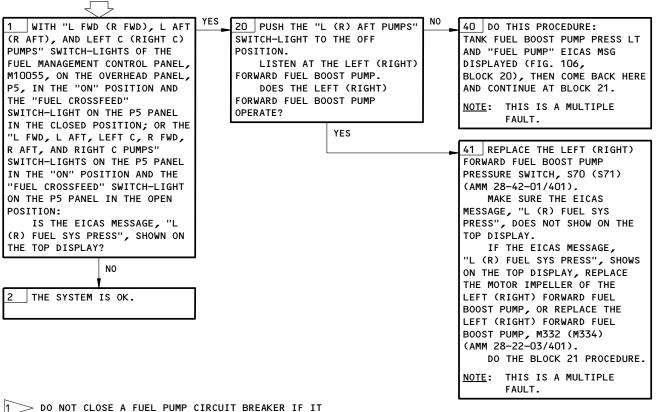
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED : 6F14, 6F20, 6H14, 6H17, 6H20, 6H23, 11D33, 11D34, 11D36; 2 11L13, 11L25

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



IS OPEN (TRIPPED). DO THE FIGURE 105A OR FIGURE 106A PROCEDURE FIRST.

2 AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082)

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

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21 PUSH THE "L (R) AFT PUMPS" 42 DO THE PROCEDURE IN FIG. 106, BLOCK 20. THEN DO SWITCH-LIGHT TO THE "ON" POSITION AND THE "L (R) FWD THE PROCEDURE IN FIG. 109, PUMPS" SWITCH-LIGHT TO THE OFF BLOCK 22. POSITION. NOTE: THIS IS A MULTIPLE LISTEN AT THE LEFT FAULT. (RIGHT) AFT FUEL BOOST PUMP. DOES THE LEFT (RIGHT) AFT FUEL BOOST PUMP OPERATE? YES 43 REPLACE THE LEFT (RIGHT) AFT FUEL BOOST PUMP PRESSURE SWITCH, S71 (S73) (AMM 28-42-01/401). MAKE SURE THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", DOES NOT SHOW ON THE TOP DISPLAY. IF THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", SHOWS ON THE TOP DISPLAY, REPLACE THE MOTOR IMPELLER OF THE LEFT (RIGHT) AFT FUEL BOOST PUMP OR REPLACE THE LEFT (RIGHT) AFT FUEL BOOST PUMP, M333 (M335) (AMM 28-22-03/401).GO TO BLOCK 22. NOTE: THIS IS A MULTIPLE FAULT. 44 DO THE PROCEDURE IN 22 PUSH THE "L (R) FWD AND L (R) AFT PUMPS" SWITCH-LIGHTS FIG. 105, BLOCK 1. TO THE OFF POSITION. LISTEN AT THE LEFT (RIGHT) FUEL OVER-RIDE PUMP. DOES THE LEFT (RIGHT) FUEL OVERRIDE PUMP OPERATE? YES 45 REPLACE THE LEFT (RIGHT) FUEL OVERRIDE PUMP PRESSURE SWITCH, S10010 (S10011) (AMM 28-42-01/401). MAKE SURE THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", DOES NOT SHOW ON THE TOP DISPLAY. IF THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", SHOWS ON THE TOP DISPLAY, REPLACE THE MOTOR IMPELLER OF THE LEFT (RIGHT) FUEL OVERRIDE PUMP OR REPLACE THE LEFT (RIGHT) FUEL OVERRIDE PUMP, M10016 (M10017) (AMM 28-22-05/401).

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

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PREREQUISITES

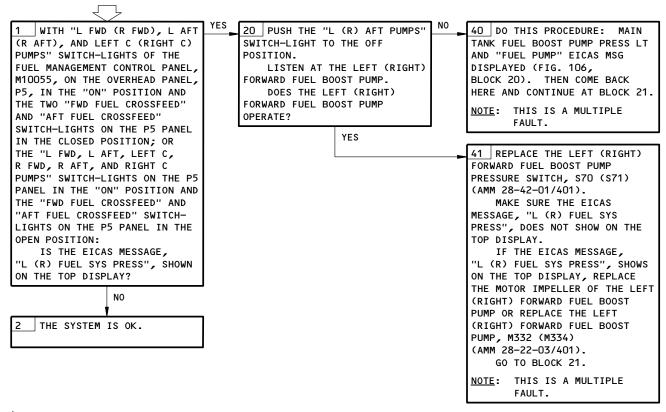
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED : 6F14, 6F20, 6H14, 6H17, 6H20, 6H23, 11D24, 11D25, 11D33, 11D34, 11D36; 2 11L13, 11L25

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



DO NOT CLOSE A FUEL PUMP CIRCUIT BREAKER IF IT IS OPEN (TRIPPED). DO THE FIGURE 105A OR FIGURE 106A PROCEDURE FIRST.

AIRPLANES WITH OVERRIDE PUMP AUTO SHUTOFF (POST-SB 28A0081 OR POST-SB 28A0082)

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

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21 PUSH THE "L (R) AFT PUMPS" 42 DO THIS PROCEDURE: TANK FUEL BOOST PUMP PREMAINT SWITCH-LIGHT TO THE "ON" AND "FUEL PUMP" EICAS MSG POSITION AND THE "L (R) FWD PUMPS" SWITCH-LIGHT TO THE OFF DISPLAYED (FIG. 106, POSITION. BLOCK 20). THEN COME BACK HERE AND CONTINUE AT BLOCK 22. LISTEN AT THE LEFT (RIGHT) AFT FUEL BOOST PUMP. NOTE: THIS IS A MULTIPLE DOES THE LEFT (RIGHT) AFT FAULT. FUEL BOOST PUMP OPERATE? YES 43 REPLACE THE LEFT (RIGHT) AFT FUEL BOOST PUMP PRESSURE SWITCH, S71 (S73) (AMM 28-42-01/401). MAKE SURE THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", DOES NOT SHOW ON THE TOP DISPLAY. IF THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", SHOWS ON THE TOP DISPLAY, REPLACE THE MOTOR IMPELLER OF THE LEFT (RIGHT) AFT FUEL BOOST PUMP OR REPLACE THE LEFT (RIGHT) AFT FUEL BOOST PUMP, M333 (M335) (AMM 28-22-03/401). GO TO BLOCK 22. NOTE: THIS IS A MULTIPLE FAULT. 22 PUSH THE "L (R) FWD AND 44 DO THIS PROCEDURE: CTR L (R) AFT PUMPS" SWITCH-LIGHTS FUEL PUMP EICAS MSG ILLUM AND TO THE OFF POSITION. LISTEN C PUMP PRESS LT ON (FIG. 105). AT THE LEFT (RIGHT) FUEL OVER-RIDE PUMP. DOES THE LEFT (RIGHT) FUEL OVERRIDE PUMP OPERATE? YES 45 REPLACE THE LEFT (RIGHT) FUEL OVERRIDE PUMP PRESSURE SWITCH, \$10010 (\$10011) (AMM 28-42-01/401). MAKE SURE THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", DOES NOT SHOW ON THE TOP DISPLAY. IF THE EICAS MESSAGE, "L (R) FUEL SYS PRESS", SHOWS ON THE TOP DISPLAY, REPLACE THE MOTOR IMPELLER OF THE LEFT (RIGHT) FUEL OVERRIDE PUMP OR REPLACE THE LEFT (RIGHT) FUEL OVERRIDE PUMP, M10016 (M10017) (AMM 28-22-05/401).

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

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED 1 : 6H14, 6H17, 6H20

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) THE MAIN TANKS CONTAIN MORE THAN 2000 POUNDS (1000 KILOGRAMS) OF FUEL (AMM 12-11-01/301)

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
"PRESS" LIGHT FAILED
TO ILLUMINATE WITH
PUMP SWITCH/LIGHT IN
"OFF" POSITION

(BLOCK 2)

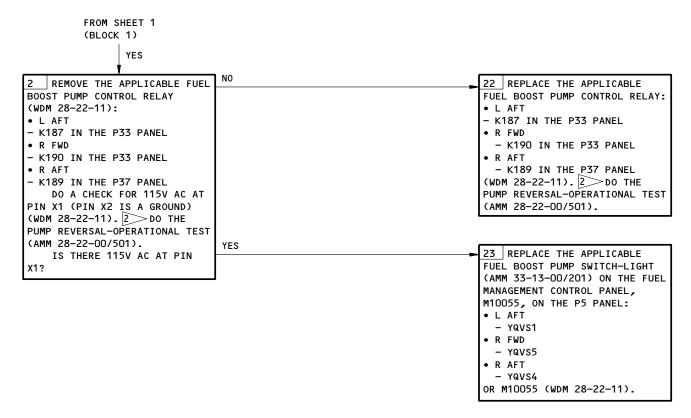
WITH THE "(L AFT, R FWD, 21 REPLACE THE APPLICABLE R AFT) PUMPS" SWITCH-LIGHT OF FUEL BOOST PUMP PRESSURE THE FUEL MANAGEMENT CONTROL SWITCH: PANEL, M10055, ON THE OVERHEAD • L AFT PANEL, P5, IN THE OFF - s71 POSITION, LISTEN AT THE • R FWD (FRONT, REAR) SPAR NEAR THE - s72 APPLICABLE FUEL BOOST PUMP. • R AFT DOES THE (LEFT AFT, RIGHT - s73 FORWARD, RIGHT AFT) FUEL BOOST (AMM 28-42-01/401). PUMP OPERATE? YES SEE SHEET 2

DO NOT CLOSE A FUEL PUMP CIRCUIT BREAKER IF IT IS OPEN (TRIPPED). DO THE FIGURE 105A OR FIGURE 106A PROCEDURE FIRST.

Boost Pump Low PRESS Light Failed to Illuminate with PUMP Switch/Light in OFF Position Figure 110 (Sheet 1)

EFFECTIVITY-

28-22-00





Boost Pump Low PRESS Light Failed to Illuminate with PUMP Switch/Light in OFF Position Figure 110 (Sheet 2)

ALL 28-22-00

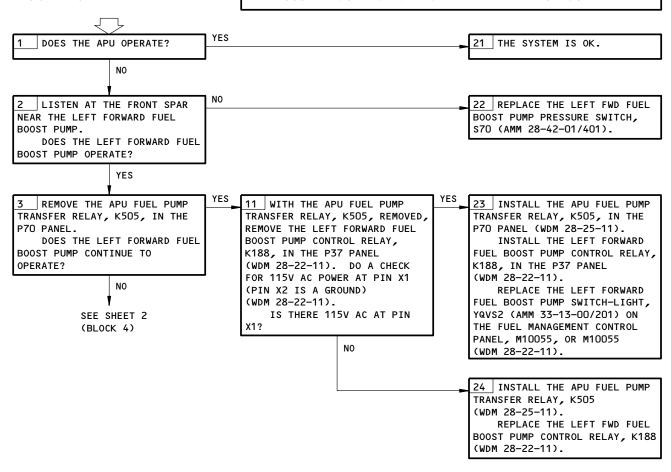
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L FWD BOOST PUMP
"PRESS" LIGHT FAILED
TO ILLUMINATE WITH
PUMP SWITCH IN "OFF"
POSITION

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED 1 : 6H23, 11B34, 11D35

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THE MAIN TANKS CONTAIN MORE THAN 2000 POUNDS (1000 KILOGRAMS) OF FUEL (AMM 12-11-01/301)



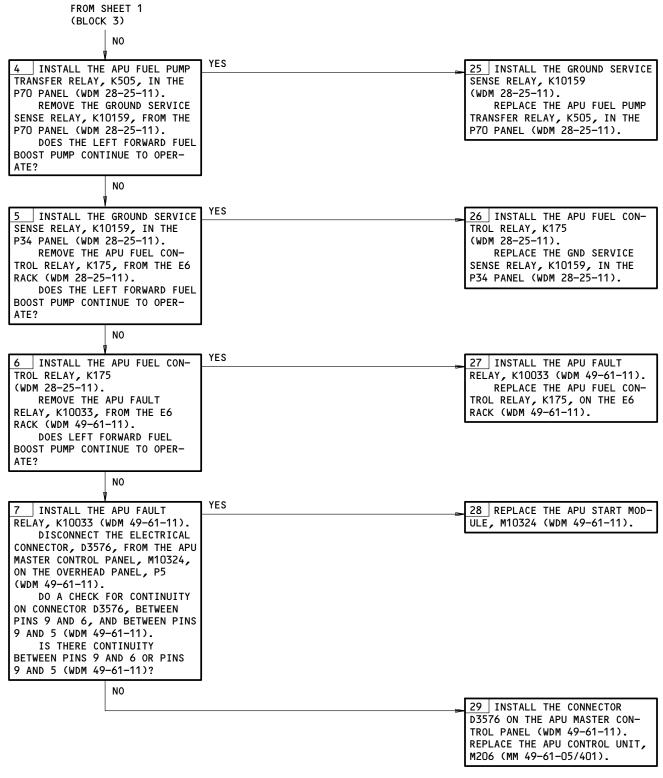
DO NOT CLOSE A FUEL PUMP CIRCUIT BREAKER IF IT IS OPEN (TRIPPED). DO THE FIGURE 105A OR FIGURE 106A PROCEDURE FIRST.

L FWD Boost Pump PRESS Light Failed to Illuminate with Pump Switch/Light in OFF Position Figure 111 (Sheet 1)

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L FWD Boost Pump PRESS Light Failed to Illuminate with Pump Switch in OFF Position Figure 111 (Sheet 2)



PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN: 11D7, 11D8, 11L1, 11D9, 11D10, 11L28

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 4200 LBS (1900 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 112 (Sheet 1)

EFFECTIVITY-

28-22-00

RIGHT (LEFT) ENGINE FAILS THE SUCTION FEED TEST



1 OPEN OR REMOVE RIGHT (LEFT) STRUT ACCESS DOORS

(AMM 54-53-01/401) AND ENGINE COWLING THAT ARE REQUIRED TO VISUALLY CHECK THE FUEL FEED LINE FROM THE FRONT SPAR TO THE R (L) FUEL

MAKE SURE THE FUEL CONTROL SWITCHES ON THE P10 STAND ARE IN THE "CUTOFF" POSITION.

MAKE SURE THE ENG START SWITCHES ON THE P5 PANEL ARE IN THE "OFF" POSITION.

OPEN THESE CIRCUIT BREAKERS (6C1, 6C2) AND ATTACH DO NOT CLOSE TAGS.

PUT THE R (L) FUEL CONTROL SWITCH IN THE "RUN" POSITION.

MAKE SURE THE R (L) SPAR VALVE LIGHT IS OFF.

PUSH THE FUEL CROSSFEED SWITCH-LIGHT(S) ON THE P5 PANEL TO THE "OPEN" POSITION.

MAKE SURE THE CORRESPONDING LIGHT(S) IS OFF.

RECORD THE QUANTITY OF FUEL IN THE LEFT, CENTER, AND RIGHT FUEL TANKS.

PUSH THE L (R) AFT FUEL PUMP SWITCH-LIGHT(S) TO "ON".

CHECK FOR LEAKS IN THE FUEL LINE:

MONITOR THE FUEL QUANTITY IN ALL OF THE TANKS AND MONITOR THE FUEL FEED LINE FROM THE FRONT SPAR TO THE ENGINE DRIVEN FUEL PUMP ON THE R (L) ENGINE FOR FUEL LEAKS.

DOES THE FUEL QUANTITY INCREASE OR IS THERE A LEAK IN THE FUEL FEED LINE FROM THE FRONT SPAR TO THE ENGINE DRIVEN FUEL PUMP ON THE R (L) ENGINE?

NOTE: IF THE CENTER TANK FUEL QUANTITY INCREASES A LEAK EXISTS IN THE FUEL FEED LINE IN THE CENTER TANK BETWEEN THE CROSSFEED VALVE(S) AND THE R (L) MAIN TANK.

IF THE R (L) MAIN TANK FUEL QUANTITY INCREASES A LEAK EXISTS IN THE FUEL FEED LINE IN THE

R (L) MAIN TANK.

NO

SEE SHEET 3 (BLOCK 2)

21 PUSH THE L (R) AFT FUEL PUMP SWITCH-LIGHT(S) FOR THE MAIN TANK TO THE OFF POSITION.

SET THE R (L) FUEL CONTROL SWITCH ON THE P10 STAND TO THE "CUTOFF" POSITION.

MAKE SURE THE R (L) SPAR VALVE LIGHT IS OFF.

MAKE SURE THE R (L)

ENGINE VALVE LIGHT IS OFF.
PUSH THE FUEL CROSSFEED

SWITCH-LIGHT(S) ON THE P5
PANEL TO THE CLOSED POSITION.
REPAIR ANY LEAK(S) THAT

WERE FOUND

(AMM 28-22-07/401).

NOTE: TO PINPOINT THE LEAK
YOU MAY NEED TO
PRESSURIZE THE FUEL
FEED LINE WITH AIR
(AMM 28-22-07/601).

DO THE ENGINE FUEL SUCTION FEED OPERATIONAL TEST AGAIN TO MAKE SURE THE TEST RESULTS ARE SATISFACTORY (AMM 28-22-00/501).

Right (Left) Engine Fails the Suction Feed Test Figure 112 (Sheet 2)

EFFECTIVITY ALL

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FROM SHEET 2 (BLOCK 1) YES PUSH THE L (R) AFT FUEL 22 REPAIR ANY LEAK(S) THAT PUMP SWITCH-LIGHT(S) FOR THE WERE FOUND MAIN TANK TO THE OFF POSITION. (AMM 28-22-07/401). SET THE R (L) FUEL CONTROL DO THE ENGINE FUEL SUCTION SWITCH ON THE P10 STAND TO THE FEED OPERATIONAL TEST AGAIN TO "CUTOFF" POSITION. MAKE SURE THE TEST RESULTS ARE MAKE SURE THE R (L) SPAR SATISFACTORY VALVE LIGHT IS OFF. (AMM 28-22-00/501). MAKE SURE THE R (L) ENGINE VALVE LIGHT IS OFF. PUSH THE FUEL CROSSFEED SWITCH-LIGHT(S) ON THE P5 PANEL TO THE CLOSED POSITION. PRESSURIZE THE FUEL FEED LINE WITH AIR TO SEE IF THERE ARE ANY LEAKS. DO THIS PROCEDURE: FUEL LINE AND FITTINGS -INSPECTION/CHECK (AMM 28-22-07/601). WERE ANY LEAK(S) DETECTED? NO 23 DO THE REMOVAL AND INSTALLATION PROCEDURE FOR THE R (L) MAIN TANK FUEL BOOST PUMP BYPASS VALVE (AMM 28-22-04/401). DO THE REMOVAL AND INSTALLATION PROCEDURE FOR THE DISCHARGE CHECK VALVE ON THE CENTER TANK R (L) OVERRIDE PUMP (AMM 28-22-09/401). DO THE ENGINE FUEL SUCTION FEED OPERATIONAL TEST AGAIN TO MAKE SURE THE TEST RESULTS ARE SATISFACTORY (AMM 28-22-00/501).

Right (Left) Engine Fails the Suction Feed Test Figure 112 (Sheet 3)

28-22-00

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 CENTER TANK HAS A MINIMUM OF 40,000 POUNDS (18,000 KILOGRAMS) OF FUEL AND THE NO. 1 (NO. 2) TANK HAS A MINIMUM OF 1,000 POUNDS (450 KILOGRAMS) OF FUEL (AMM 12-11-01/301, AMM 28-26-00/201).

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 MAKE SURE THE APPLICABLE
FUEL BOOST PUMP SWITCH ON THE
P5 OVERHEAD PANEL IS IN THE
OFF POSITION. 2

IS THERE FUEL LEAKAGE IN
THE AREA OF THE FUEL BOOST
PUMP?

NO

SEE SHEET 2
(BLOCK 2)

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.

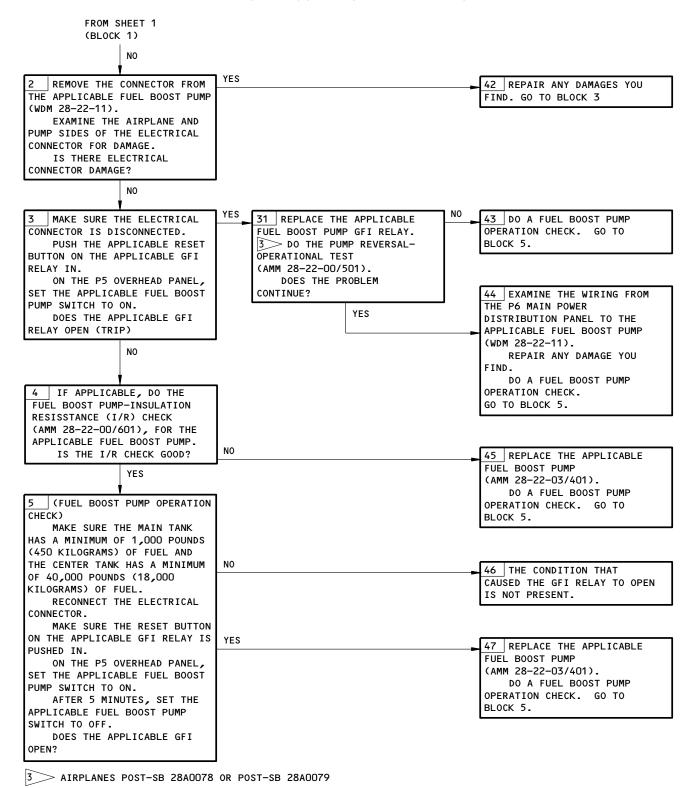
THE GFI RELAY IS A LATCHING RELAY AND CAN NOT BE RESET BY PUSHING THE RESET BUTTON ON THE GFI RELAY. THE APPLICABLE BOOST PUMP SWITCH ON THE P5 OVERHEAD PANEL MUST BE PLACED IN THE OFF POSITION BEFORE THE RESET BUTTON ON THE RELAY IS PUSHED.

Fuel Boost Pump GFI Relay Open Figure 113 (Sheet 1)

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Fuel Boost Pump GFI Relay Open Figure 113 (Sheet 2)

EFFECTIVITY
AIRPLANES POST-SB 28A0078 OR
POST-SB 28A0079

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APU FUEL-FEED SYSTEM

SHT		ACCESS/AREA	REFERENCE
1	1	MAIN GEAR DOORS	28-25-11
4	2	MAIN GEAR DOORS	28-25-07
1		FLT COMPT, P6	
	1	6E3	*
	1	6H23	*
1		FLT COMPT, P11	
	1	11c33	*
	1	11D32	*
		11D35	*
		119BL, MAIN EQUIP CTR, P37	
	1		*
3		AIRPLANE FUSELAGE	28-25-05
2	1	134AZ, MAIN GEAR DOORS	28-25-01
2	1	MAIN GEAR DOORS	28-25-03
2	1	MAIN GEAR DOORS	*
2	1	134AZ	28-25-06
1	1	134AZ	28-25-02
4	1	MAIN GEAR DOORS	28-25-09
	4 1 1 3 2 2 2 2 1	2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 2 MAIN GEAR DOORS 1 6E3 1 6H23 1 FLT COMPT, P1 1 11C33 1 11D32 11D35 119BL, MAIN EQUIP CTR, P37 1 AIRPLANE FUSELAGE 2 1 MAIN GEAR DOORS 2 1 MAIN GEAR DOORS 2 1 MAIN GEAR DOORS 2 1 134AZ 1 1 134AZ

^{*} SEE THE WDM EQUIPMENT LIST

APU Fuel-Feed System - Component Index Figure 101

EFFECTIVITY-

28-25-00



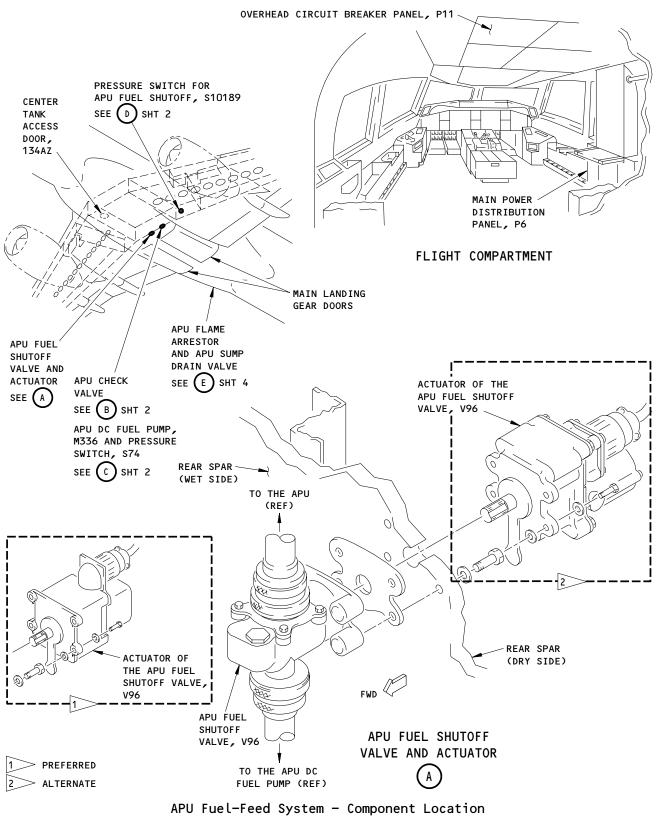


Figure 102 (Sheet 1)

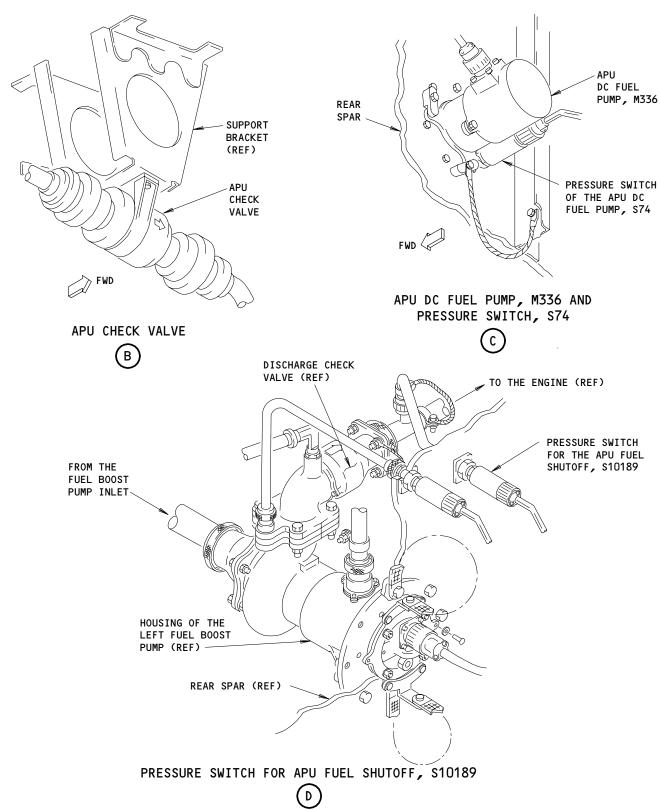
EFFECTIVITY-ALL

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APU Fuel-Feed System - Component Location (Details from Sht 1) Figure 102 (Sheet 2)

ALL

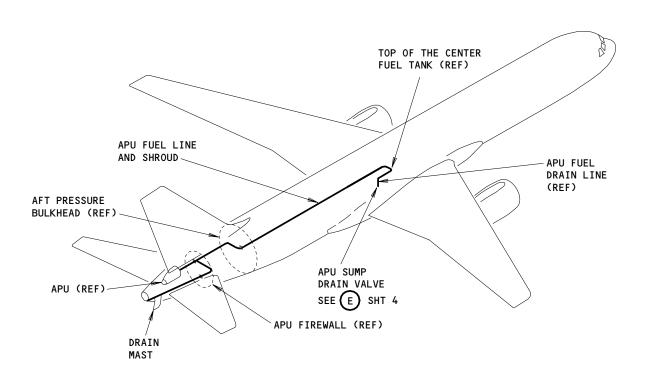
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APU Fuel-Feed System - Component Location Figure 102 (Sheet 3)

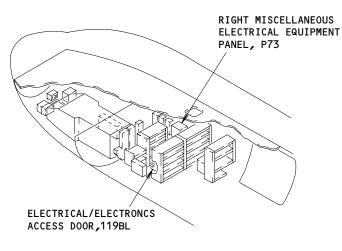
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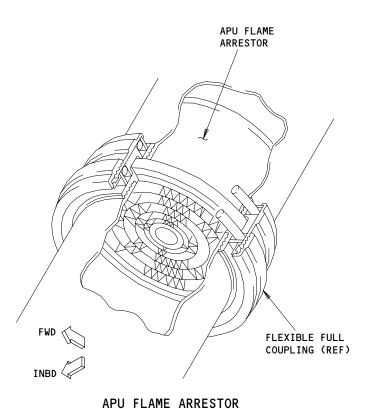
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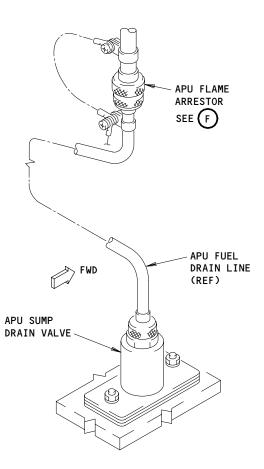
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MAIN EQUIPMENT CENTER





APU FLAME ARRESTOR AND APU SUMP DRAIN VALVE

APU FLAME ARRESTOR

F

APU Fuel-Feed System - Component Location Figure 102 (Sheet 4)

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Not Used Figure 103

ALL ALL

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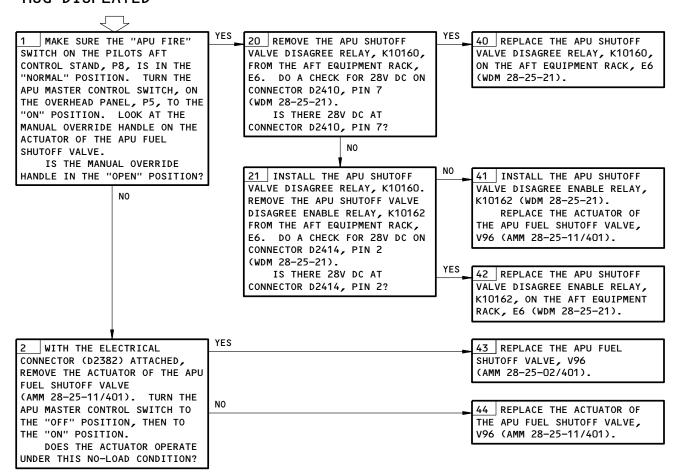


PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E3, 11D32, 11D35, 11C33

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

APU FAULT LT AND
"APU FUEL VAL" EICAS
MSG DISPLAYED



APU FAULT Lt and APU FUEL VAL EICAS Msg Displayed Figure 104

28-25-00

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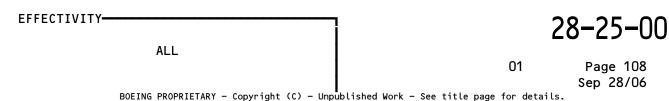
Page 107 May 28/04

PREREQUISITES MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E3,6F14,6H14,6H23,11C33,11D32,11D33,11D34,11D35 MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: EICAS MSG "DC FUEL ELECTRICAL POWER IS ON (REF 24-22-00/201) PUMP ON" DISPLAYED THE APU MASTER CONTROL SWITCH IS IN THE ON POSITION 1 PUSH THE "ECS MSG" SWITCH 41 DO THIS PROCEDURE: LEFT ON THE "EICAS MAINT" PANEL ON FORWARD BOOST PUMP DOES NOT THE RIGHT SIDE PANEL, P61. COME ON AUTOMATICALLY WHEN AC DOES THE EICAS MESSAGE "DC POWER IS AVAILABLE (APU AT 95% FUEL PUMP ON" SHOW ON THE TOP FULL SPEED)(FIG. 106, DISPLAY? BLOCK 2). YES LISTEN AT THE APU DC FUEL NΩ 42 REPLACE THE PRESSURE PUMP. SWITCH OF THE APU DC FUEL DOES THE APU DC FUEL PUMP PUMP, S74 (AMM 28-25-03/401). OPERATE? YES 3 OPEN THESE CIRCUIT N0 43 DO THIS PROCEDURE: MAIN BREAKERS AND ATTACH TANK FUEL BOOST PUMP PRESS LT DO-NOT-CLOSE TAGS: 6F14, AND "FUEL PUMP" EICAS MSG 6F20, 6H17, 6H20, 6H14. DISPLAYED (28-22-00/101, DOES THE LEFT FORWARD FUEL FIG. 106). 1 **BOOST PUMP OPERATE?** YFS 4 DISCONNECT CONNECTOR D2388 44 REPLACE THE DC FUEL PUMP FROM THE PRESSURE SWITCH FOR CONTROL RELAY, K191 THE APU FUEL SHUTOFF, S10189 (WDM 28-25-11). 1 (WDM 28-25-11). DOES THE APU DC FUEL PUMP OPERATE? 5 | CONNECT CONNECTOR D2388 ON 45 REPLACE THE LEFT FORWARD THE PRESSURE SWITCH FOR THE FUEL BOOST PUMP, M332 APU FUEL SHUTOFF, S10189 (AMM 28-22-03/401). 1 (WDM 28-25-11).REMOVE THE DO-NOT-CLOSE TAG AND CLOSE THIS CIRCUIT YES 46 REPLACE THE PRESSURE BREAKER: 6H14. SWITCH FOR THE APU FUEL OPEN THIS CIRCUIT BREAKER SHUTOFF, S10189 AND ATTACH A DO-NOT-CLOSE (AMM 28-25-04/401). 1> TAG: 6H23. PUSH THE "AFT L PUMP" SWITCH-LIGHT ON THE FUEL MANAGEMENT PANEL ON THE P-5

EICAS Msg DC FUEL PUMP ON Displayed Figure 105

> REMOVE THE DO-NOT-CLOSE TAGS AND CLOSE THESE CIRCUIT BREAKERS,

IF APPLICABLE: 6F14, 6F20, 6H14, 6H17, 6H20, 6H23



PANEL TO THE "ON" POSITION.

OPERATE?

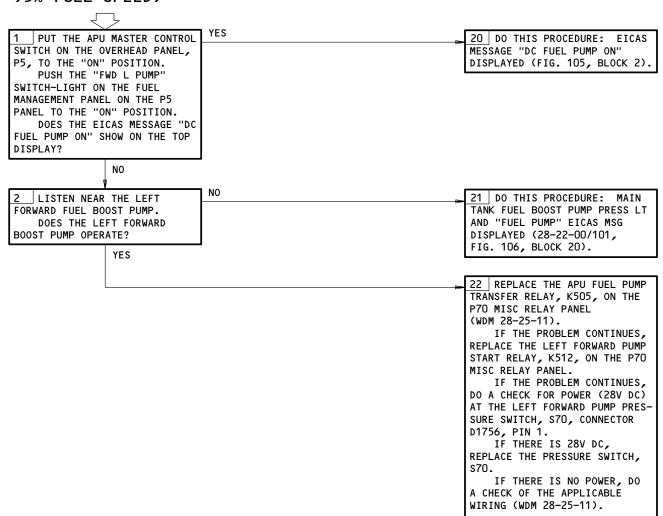
DOES THE APU DC FUEL PUMP

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: 6E3,6F14,6H23,11C33,11D33,11D34,11D35

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



Left Forward Boost Pump Does Not Come On Automatically When AC Power Is Available (APU at 95% Full Speed) Figure 106

EFFECTIVITY ALL

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DEFUELING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - LEFT DEFUELING VALVE, V108	1	1	733, LEFT MLG OLEO DOOR	28-26-02
ACTUATOR - RIGHT DEFUELING VALVE, V109 CIRCUIT BREAKER -	1	1	743, RIGHT MLG OLEO DOOR FLT COMPT, P6	28-26-02
FUELING VALVE, C1046	'	1	6E6	*
CIRCUIT BREAKER - FLNG VALVE, C1047 RELAY - (FIM 31-01-33/101) FUELING PANEL DOOR, K179 FUELING PWR TRANSFER, K357 L DEFUEL VALVE CONT, K452	2	1	119BL,MAIN EQUIP CTR, P34 34A9	*
L DEFUEL VALVE IND, K449 R DEFUEL VALVE CONT, K453 R DEFUEL VALVE IND, K450 SWITCH - LEFT DEFUELING VALVE, S350 SWITCH - RIGHT DEFUELING VALVE, S351 VALVE BODY - LEFT DEFUELING, V108 VALVE BODY - RIGHT DEFUELING, V109	2 2 1	1 1 1	621GB, FUELING CONTROL PANEL, P28 621GB, FUELING CONTROL PANEL, P28 531CB 631CB	

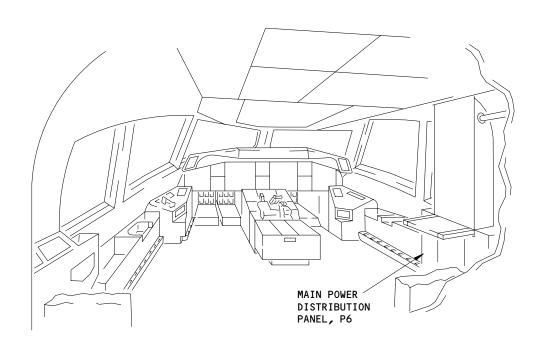
^{*} SEE THE WDM EQUIPMENT LIST

Defueling - Component Index Figure 101

28-26-00

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FLIGHT COMPARTMENT

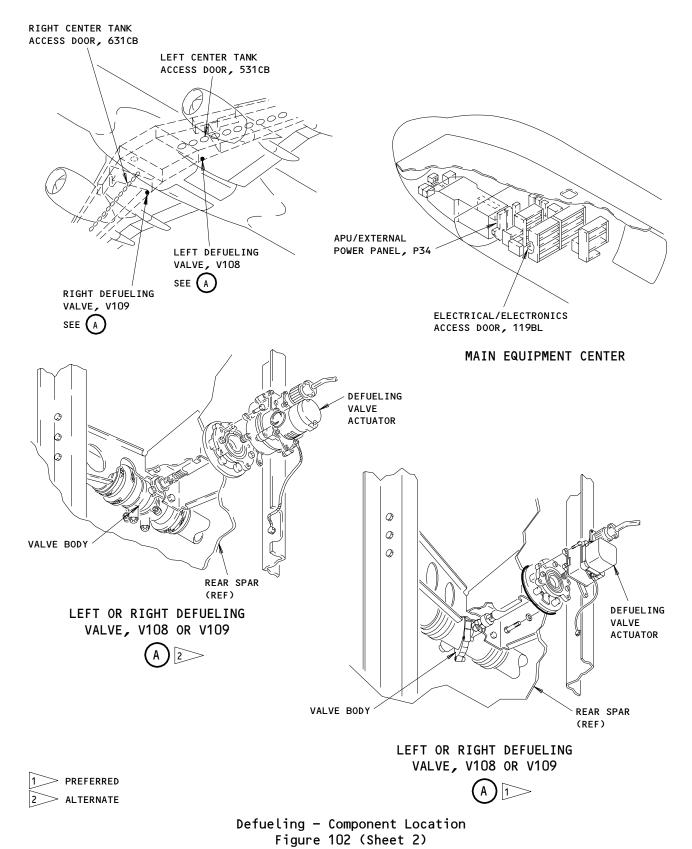
Defueling - Component Location Figure 102 (Sheet 1)

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EFFECTIVITY-

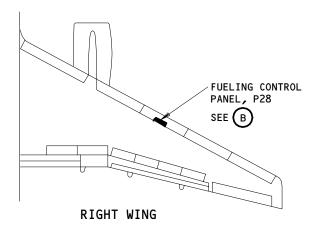
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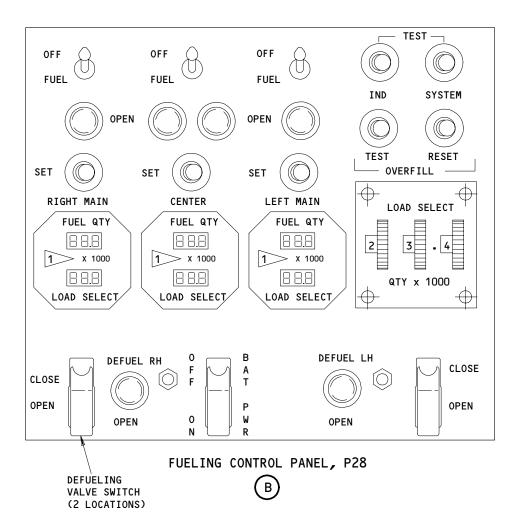
28-26-00

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1>> THE UNITS ARE IN LBS OR KGS.

Defueling - Component Location Figure 102 (Sheet 3)

ALL

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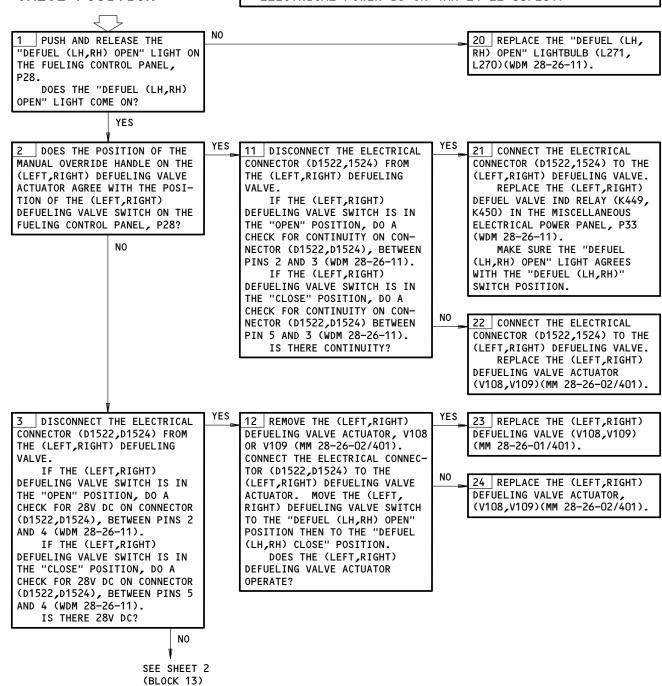
DEFUELING VALVE LIGHT DOES NOT INDICATE SELECTED VALVE POSITION

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E6,34A9

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:

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



Defueling Valve Light Does Not Indicate Selected Valve Position Figure 103 (Sheet 1)

28-26-00

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Page 105 Sep 20/94 FROM SHEET 1 (BLOCK 3) NO

13 DISCONNECT THE ELECTRICAL CONNECTOR (D1522,D1524) FROM THE (LEFT, RIGHT) DEFUELING VALVE ACTUATOR. INSTALL THE (LEFT, RIGHT) DEFUELING VALVE ACTUATOR, V108 OR V109 (MM 28-26-02/401).

REMOVE THE (LEFT, RIGHT) DEFUEL VALVE CONTROL RELAY (K452,K453) IN THE MISCELLA-NEOUS ELECTRICAL POWER PANEL, P33 (WDM 28-26-11).

IF THE (LEFT, RIGHT) DEFUELING VALVE IS IN THE "OPEN" POSITION, DO A CHECK FOR 28V DC AT CONNECTOR (D2716,D2626), PIN X1.

IF THE (LEFT, RIGHT) DEFUELING VALVE IS IN THE "CLOSE" POSITION, DO A CHECK FOR ZERO V DC AT CONNECTOR (D2716,D2626), PIN X1. IS THE CORRECT VOLTAGE FOUND?

25 REPLACE THE (LEFT, RIGHT) DEFUEL VALVE CONTROL RELAY

(K452,K453) IN THE MISCELLA-NEOUS ELECTRICAL POWER PANEL, P33 (WDM 28-26-11).

MAKE SURE THE "DEFUEL (LH,RH) OPEN" LIGHT AGREES WITH THE "DEFUEL (LH,RH)" SWITCH POSITION.

NO

26 INSTALL THE (LEFT, RIGHT) DEFUEL VALVE CONTROL RELAY (K452,K453) IN THE MISCELLA-NEOUS ELECTRICAL POWER PANEL, P33 (WDM 28-26-11). REPLACE THE (LEFT, RIGHT)

DEFUELING VALVE SWITCH (\$350, \$351) ON THE FUELING CONTROL PANEL, P28 (WDM 28-26-11).

MAKE SURE THE "DEFUEL (LH,RH) OPEN" LIGHT AGREES WITH THE "DEFUEL (LH,RH)" SWITCH POSITION.

Defueling Valve Light Does Not Indicate Selected Valve Position Figure 103 (Sheet 2)

EFFECTIVITY-ALL

28-26-00



FUEL QUANTITY INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -			119BL, MAIN EQUIP CTR, P34	
FUEL QTY, C1040		1	34A10	*
CIRCUIT BREAKER -			FLT COMPT, P11	
FUEL QTY - L, C1048		1	11034	*
FUEL QTY - R, C1053		1	11L19	*
CIRCUIT BREAKER - FUELING QTY, C1045		1	FLT COMPT, P6	*
COMPENSATOR - CENTER TANK, TS5010	8		631AB, CENTER FUEL TANK	28-41-02
COMPENSATOR - L MAIN TANK, TS108	8	1	541AB, L MAIN FUEL TANK	28-41-02
COMPENSATOR - R MAIN TANK, TS119	8	i	641AB, R MAIN FUEL TANK	28-41-02
COMPUTER - (FIM 31-41-00/101) EICAS L, M10181 EICAS R, M10182				
DENSITOMETER - CENTER TANK, M10903	12	1	631AB, CENTER FUEL TANK	28-41-03
DENSITOMETER - L MAIN TANK, M10901	12	1	541AB, L MAIN FUEL TANK	28-41-03
DENSITOMETER - R MAIN TANK, M10902	12	1	641AB, R MAIN FUEL TANK	28-41-03
HARNESS - CENTER DENSITOMETER TANK WIRING, M10917	13	1	CENTER MAIN FUEL TANK	28-41-09
HARNESS - L CENTER TANK WIRING, M10910 AND M10911	9	1	CENTER FUEL TANK	28-41-09
HARNESS - L MAIN TANK WIRING, M10908 AND M10909	11	1	L MAIN FUEL TANK	28-41-09
HARNESS - LEFT MAIN DENSITOMETER TANK WIRING, M10916	13	1	L MAIN FUEL TANK	28-41-09
HARNESS - R CENTER TANK WIRING, M10912 AND M10913	10	1	CENTER FUEL TANK	28-41-09
HARNESS - R MAIN TANK WIRING, M10914 AND M10915	11	1	R MAIN FUEL TANK	28-41-09
HARNESS - RIGHT MAIN DENSITOMETER TANK WIRING, M10918	13	1	R MAIN FUEL TANK	28-41-09
HOT SHORT PROTECTOR, M11872	15	1	651, R REAR SPAR	28-41-24
INDICATOR - CENTER TANK LOAD SELECT (LSI), N10039	5	1	FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - L MAIN TANK LOAD SELECT (LSI), N10040	5	1	FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - R MAIN TANK LOAD SELECT (LSI), N10038	5	1	FUELING CONTROL PANEL, P28	28-41-06
MODULE - FUEL QUANTITY INDICATING (FQIM), M10054	3	1	FLT COMPT, P5	28-41-04
RELAY - (FIM 31-01-33/101) FUEL QTY PWR XFR, K356				
FUELING PANEL DOOR, K179 FUELING POWER TRANSFER, K357				
RELAY - (FIM 31-01-36/101)				
SYS 1 AIR/GND, K10691				
RELAY - (FIM 31-01-37/101) SYS 2 AIR/GND, K10203				

^{*} SEE THE WDM EQUIPMENT LIST

1 AIRPLANES POST-SB 28A0085

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

EFFECTIVITY GUI 001-114, 116-999

28-41-00

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CONFIG 2 Page 101 May 28/06



FAULT ISOLATION/MAINT MANUAL

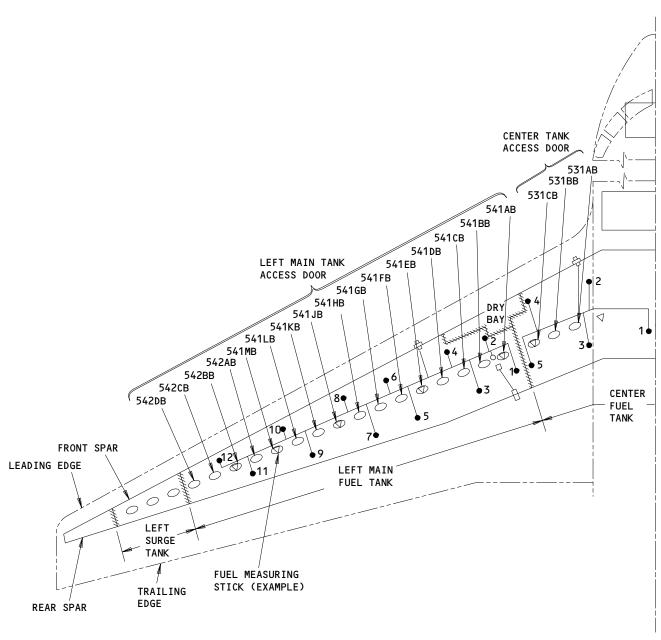
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
SWITCH - FUEL QUANTITY TEST, S6	3	1	FLT COMPT, P61	*
SWITCH - TEST INDICATOR, \$457	5	1	FUELING CONTROL PANEL, P28	*
UNIT - FUEL QUANTITY PROCESSOR (FQPU), M121	4	1	119BL, MAIN EQUIP CTR, E3-4	28-41-08
UNIT - TANK	8	-	LEFT OR RIGHT WING	28-41-01
CENTER TANK NO. 1, TS5011		1	134AZ	
CENTER TANK NO. 2, TS5012		1	531AB	
CENTER TANK NO. 3, TS5013		1	531AB	
CENTER TANK NO. 4, TS5014		1	531BB	
CENTER TANK NO. 5, TS5015		1	531CB	
CENTER TANK NO. 6, TS5016		1	631AB	
CENTER TANK NO. 7, TS5017		1	631AB	
CENTER TANK NO. 8, TS5075		1	631BB	
CENTER TANK NO. 9, TS5076		1	631CB	
L MAIN TANK NO. 1, TS109		1	541AB	
L MAIN TANK NO. 2, TS110		1	541BB	
L MAIN TANK NO. 3, TS111		1	541CB	
L MAIN TANK NO. 4, TS112		1	541DB	
L MAIN TANK NO. 5, TS113		1	541FB	
L MAIN TANK NO. 6, TS114		1	541GB	
L MAIN TANK NO. 7, TS115		1	541HB	
L MAIN TANK NO. 8, TS116		1	541 JB	
L MAIN TANK NO. 9, TS117		1	541LB	
L MAIN TANK NO. 10, TS118		1	541MB	
L MAIN TANK NO. 11, TS5196		1	542AB	
L MAIN TANK NO. 12, TS5197		1	542CB	
R MAIN TANK NO. 1, TS146		1	641AB	
R MAIN TANK NO. 2, TS147		1	641BB	
R MAIN TANK NO. 3, TS148		1	641CB	
R MAIN TANK NO. 4, TS149		1	641DB	
R MAIN TANK NO. 5, TS150		1	641FB	
R MAIN TANK NO. 6, TS151		1	641GB	
R MAIN TANK NO. 7, TS152		1	641HB	
R MAIN TANK NO. 8, TS153		1	641 JB	
R MAIN TANK NO. 9, TS154		1	641LB	
R MAIN TANK NO. 10, TS155		1	641MB	
R MAIN TANK NO. 11, TS5198		1	642AB	
R MAIN TANK NO. 12, TS5199		1	642CB	

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

EFFECTIVITY-GUI 001-114, 116-999

CONFIG 2 Page 102





LEFT WING

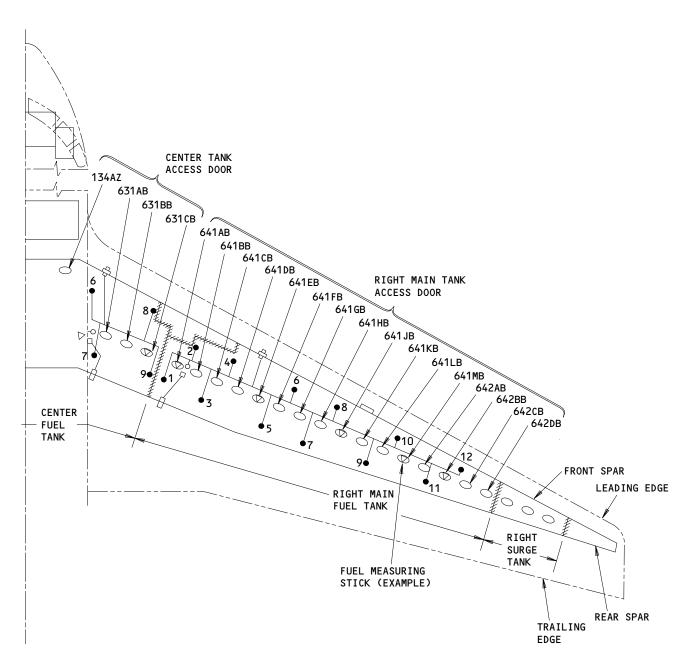
Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 1)

EFFECTIVITY
GUI 001-114, 116-999

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RIGHT WING

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

EFFECTIVITY
GUI 001-114, 116-999

CONFIG 2

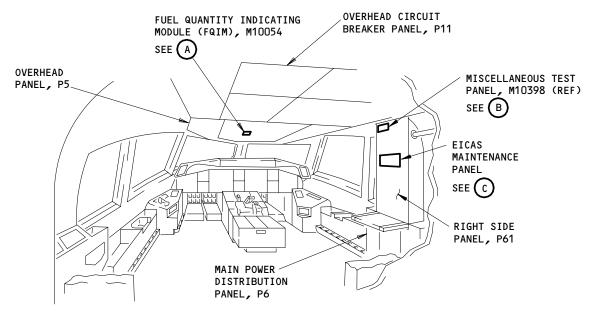
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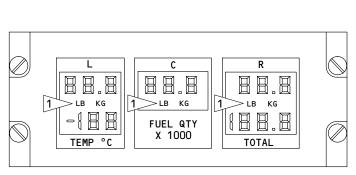
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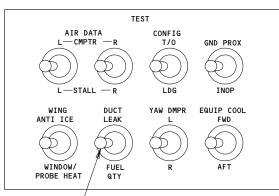


FAULT ISOLATION/MAINT MANUAL



FLIGHT COMPARTMENT





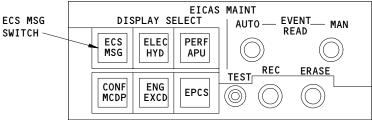
FUEL QUANTITY INDICATING MODULE (FQIM), M10054

FUEL QUANTITY TEST SWITCH, S6

MISCELLANEOUS TEST PANEL, M10398 (REF) (EXAMPLE PANEL SHOWN)

В





EICAS MAINTENANCE PANEL

1 THE UNITS ARE IN KGS OR LBS.

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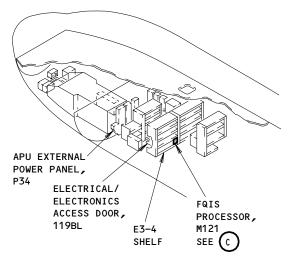
Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 3)

EFFECTIVITY-GUI 001-114, 116-999

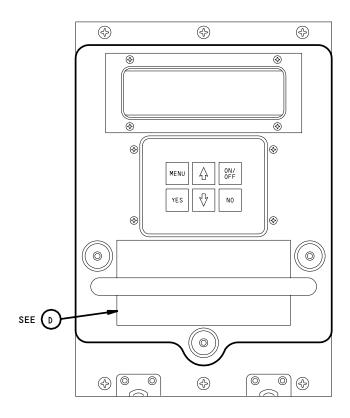
CONFIG

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MAIN EQUIPMENT CENTER



FQIS PROCESSOR, M121

${\tt INSTRUCTIONS:}$

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:



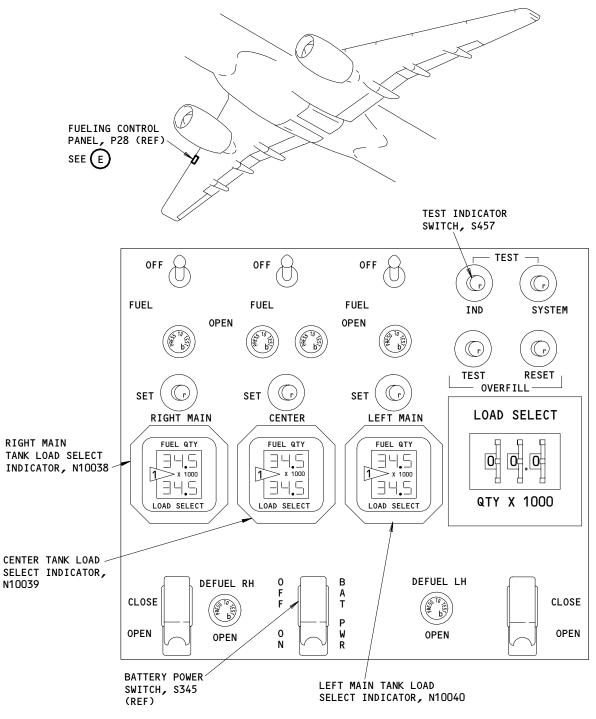
Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 4)

28-41-00 config 2

13

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FUELING CONTROL PANEL, P28

1 THE UNITS ARE IN KGS OR LBS.

Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 5)

GUI 001-114, 116-999

28-41-C

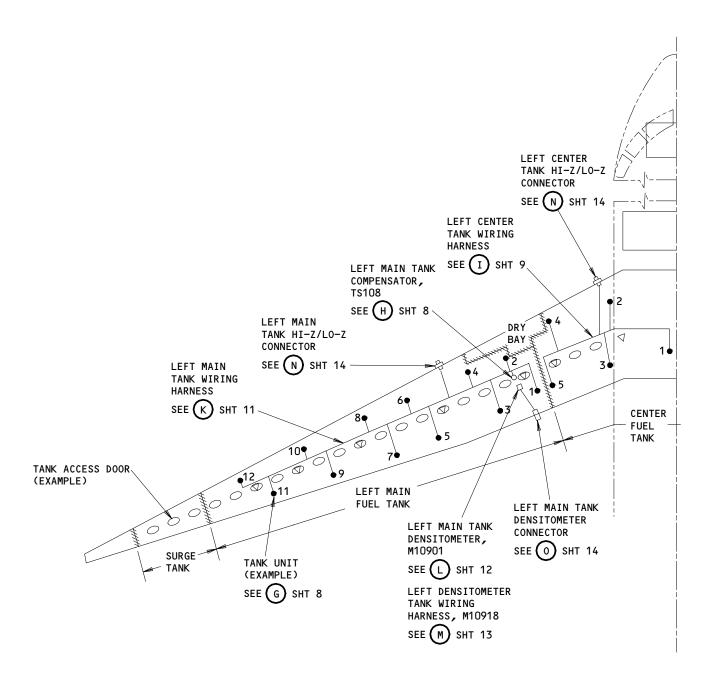
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LEFT WING

Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 6)

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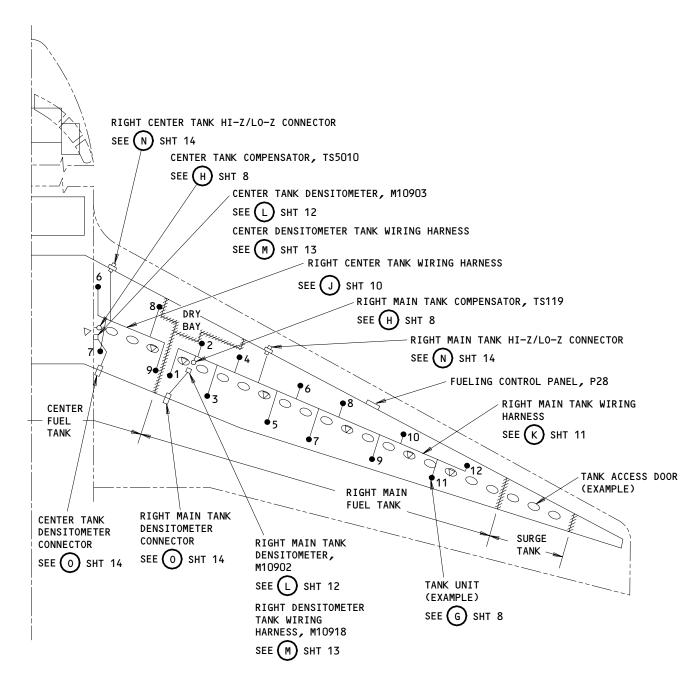
CONFIG 2

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RIGHT WING

Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 7)

EFFECTIVITY
GUI 001-114, 116-999

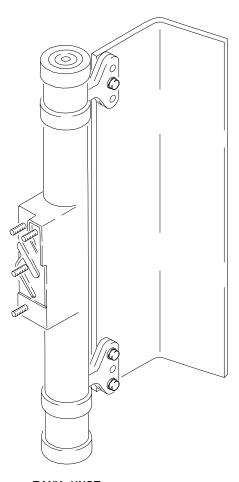
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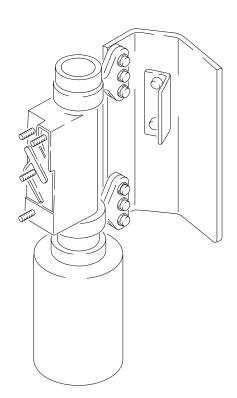


NOT USED





TANK UNIT (EXAMPLE)



LEFT MAIN TANK COMPENSATOR, TS108 CENTER TANK COMPENSATOR, TS5010 RIGHT MAIN TANK COMPENSATOR, TS119



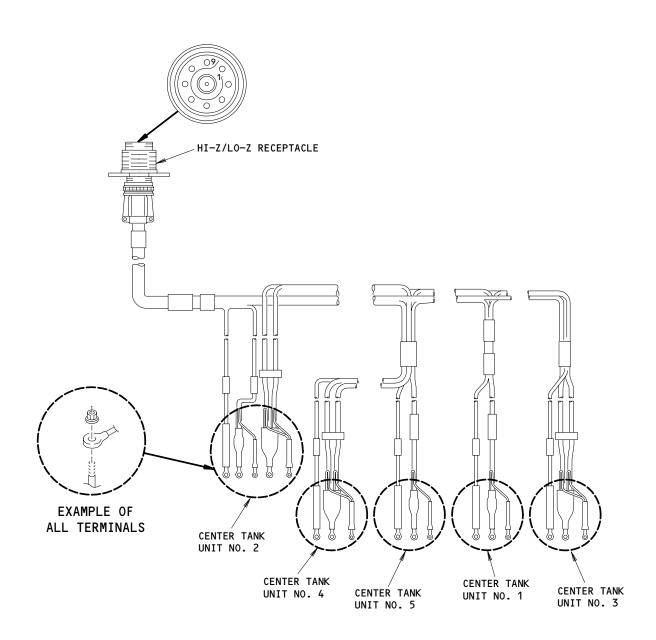
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Fuel Quantity Indicating System - Component Location (Details from Shts 6 and 7)
Figure 102 (Sheet 8)

GUI 001-114, 116-999

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LEFT CENTER TANK WIRING HARNESS



Fuel Quantity Indicating System - Component Location (Detail from Sht 6) Figure 102 (Sheet 9)

EFFECTIVITY GUI 001-114, 116-999

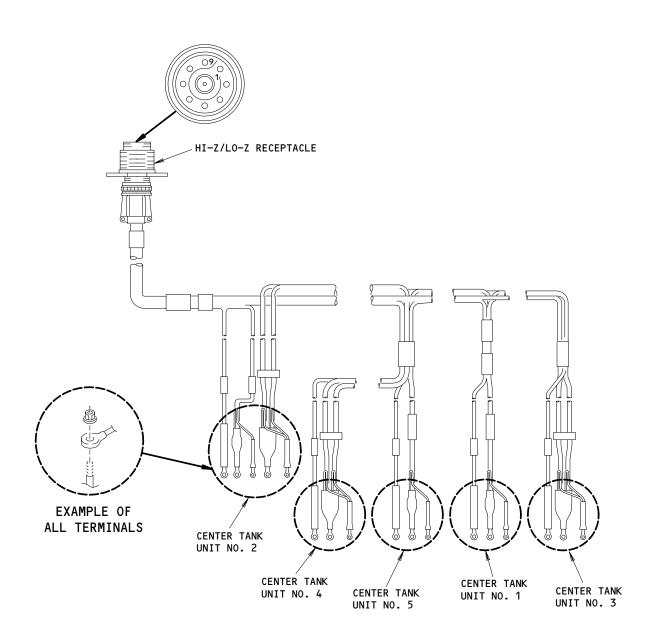
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RIGHT CENTER TANK WIRING HARNESS



Fuel Quantity Indicating System - Component Location
(Detail from Sht 7)
Figure 102 (Sheet 10)

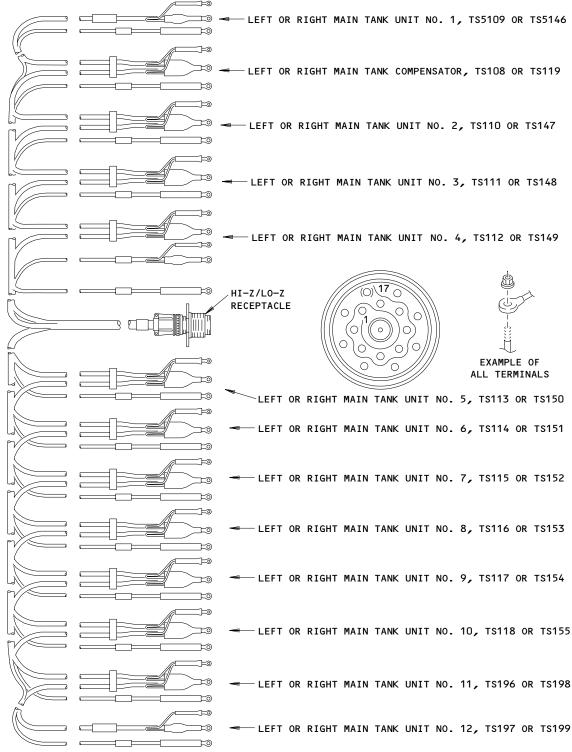
EFFECTIVITY GUI 001-114, 116-999

28-41-0(CONFIG 2 Page 112

May 28/03



FAULT ISOLATION/MAINT MANUAL



LEFT OR RIGHT MAIN TANK WIRING HARNESS

(K)

Fuel Quantity Indicating System - Component Location
(Detail from Sht 6 and 7)
Figure 102 (Sheet 11)

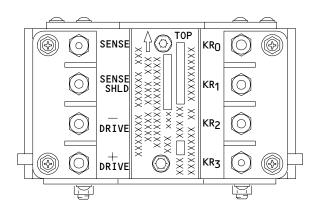
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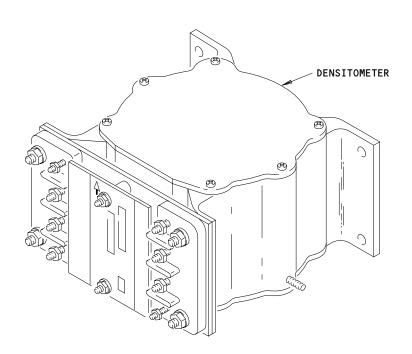
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FRONT VIEW



LEFT MAIN, CENTER OR RIGHT MAIN DENSITOMETER, M10901,M10903 OR M10902

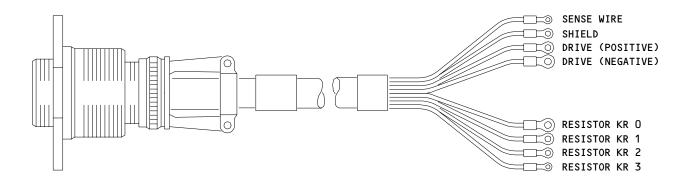


Fuel Quantity Indicating System - Component Location (Detail from Sht 6 and 7) Figure 102 (Sheet 12)

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LEFT MAIN, RIGHT MAIN OR CENTER DENSITOMETER TANK WIRING HARNESS, M10916, M10918, OR M10917



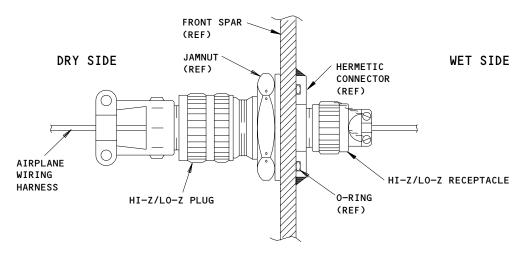
Fuel Quantity Indicating System - Component Location (Detail from Sht 6 and 7) Figure 102 (Sheet 13)

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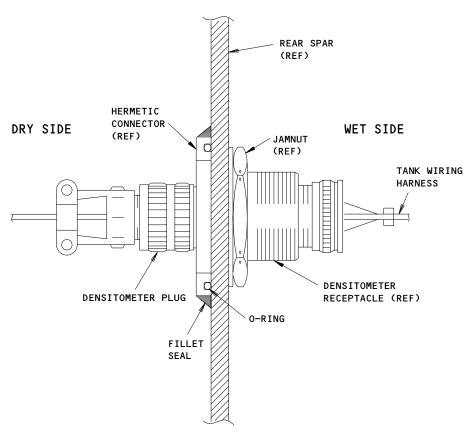


FAULT ISOLATION/MAINT MANUAL



HI-Z/LO-Z CONNECTOR





DENSITOMETER CONNECTOR

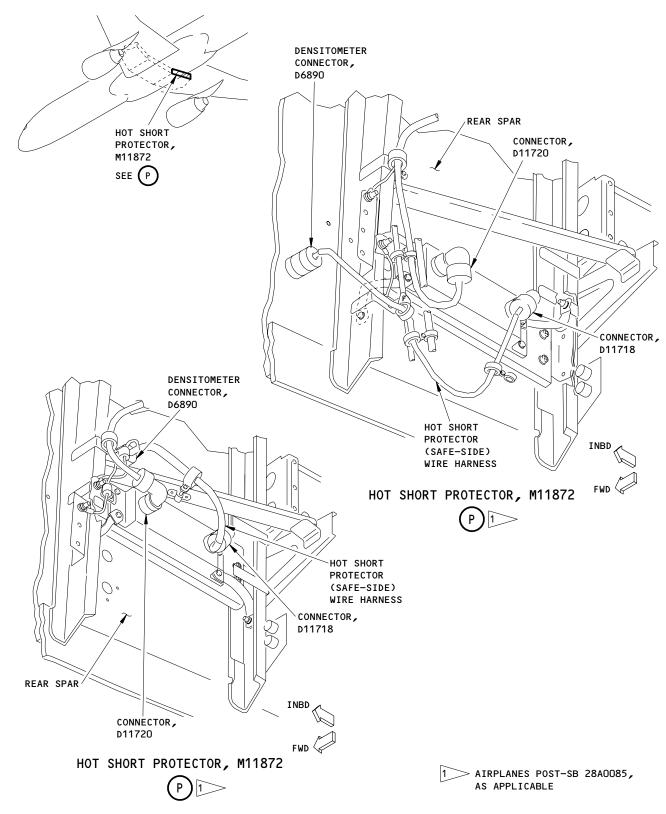


Fuel Quantity Indicating System - Component Location
(Details from Sht 6 and 7)
Figure 102 (Sheet 14)

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Fuel Quantity Indicating System - Component Location
Figure 102 (Sheet 15)

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TITLE

FUEL QUANTITY BITE PROCEDURE	FIGURE	104
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 QUANTITY INDICATOR DOES NOT DISPLAY CORRECTLY	FIGURE	114
FUEL CONFIG LIGHT AND EICAS MSG LOW FUEL NOT DISPLAYED DURING FUEL QTY TEST	FIGURE	115
TOTAL FUEL QTY DOES NOT AGREE WITH FMC CALCULATEDFUEL QTY. FUEL FLOW NORMAL	FIGURE	116
EICAS MSG FUEL QTY IND OR FUEL QTY CHANNEL DISPLAYED	FIGURE	117
LOAD SELECT INDICATOR SHOWS "-A", "-b", OR "-A.b"	FIGURE	118
FUEL QUANTITY INDICATOR SHOWS "-A", "-b", OR "-A.b"	FIGURE	119
LOAD SELECT INDICATOR SHOWS THE MESSAGE "I.d" IN THE DISPLAY	FIGURE	120

Fuel Quantity Indicating System Problems Index Figure 103

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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 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
- WHEN AN AIRPLANE EICAS MESSAGE SHOWS, YOU MUST DO A CHECK OF THE PROCESSOR NOTE 1: (FQPU) BITE MENU "PRESENT FAULTS?". FOR THE FAULT HISTORY MENU, DO A CHECK FOR FAULT MESSAGES ON THE FLIGHT LEG OO. MAKE AND KEEP A WRITTEN RECORD OF THE FAULTS IN FLIGHT LEG OO TO HELP IN SUBSEQUENT FAULT ISOLA-TION.
- THE RECOMMENDED CORRECTIVE ACTION FOR FAULT MESSAGES IS AS FOLLOWS: NOTE 2:
 - DO A CHECK OF THE "PRESENT FAULTS?" MENU
 - IF THERE ARE PRESENT FAULTS SHOWN, DO THE APPLICABLE FAULT ISOLATION PROCEDURE IN FIG. 106.

IF NO PRESENT FAULTS SHOW AND THERE ARE FAULT MESSAGES IN "FAULT HISTORY?" FLIGHT LEG OO, MAKE SURE THE FQIS OPERATES CORRECTLY AS FOLLOWS:

- 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
- 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 PROCESSOR UNDER THE "FAULT HISTORY?" MENU, STARTS AT AIRPLANE TAKEOFF. THIS FLIGHT LEG WILL BE FLIGHT LEG OO IN THE FQIS PROCESSOR UNTIL THE NEXT TAKEOFF. AT TAKEOFF THE DATA FROM FLIGHT LEG OO IS RECORDED IN FLIGHT LEG O1, AND FLIGHT LEG OO WILL START AGAIN.

Fuel Quantity BITE Procedure Figure 104 (Sheet 1)

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CONFIG



NOTE 4: AIRPLANES WITH THE PROCESSOR, PART NO. S345N001-030;

IF THE AIRPLANE POWER IS PUT OFF AND ON, AND THERE IS A FAULT MESSAGE IN "FAULT HISTORY?" FLIGHT LEG O, THE EICAS MESSAGE "FUEL QTY BITE" WILL SHOW. THE EICAS MESSAGE "FUEL QTY BITE" WILL ALSO SHOW IF YOU DO A "SELF TEST?" WHEN THERE IS A FAULT MESSAGE IN FLIGHT LEG O. TO CORRECT THIS FAULT MESSAGE, SEE NOTE 1.

NOTE 5: THE AIRPLANE WIRING HARNESSES ARE EXTERNAL TO THE FUEL TANK.

NOTE 6: THE TANK WIRING HARNESSES ARE INTERNAL TO THE FUEL TANK.

1. BITE CONTROL PANEL - GENERAL

A. THE BITE CONTROL PANEL IS ON THE FRONT OF THE PROCESSOR IN THE MAIN EQUIP-MENT CENTER, FIG. 102, SHEET 4. THE PROCESSOR BITE CONTROL PANEL OPERA-TION BUTTONS ARE AS FOLLOWS:

THE "ON/OFF" BUTTON PUTS THE BITE DISPLAY CONTROL ON OR OFF OFF/ON: THE "MENU" BUTTON PUTS YOU AT THE MENU LEVEL OF THE MENU MENU:

YOU ARE IN

THE "YES" BUTTON PUTS ON THE MENU ITEM SHOWN ON THE DISPLAY YES:

FOR MESSAGES THAT END IN A QUESTION MARK (?)

THE "NO" BUTTON PUTS ON THE NEXT MENU ITEM ON THE DISPLAY NO:

FOR MESSAGES THAT END IN A QUESTION MARK (?)

♠ (UP): THE "UP" BUTTON SHOWS THE LAST DATA ITEM SHOWN

♥ (DOWN): THE "DOWN" BUTTON SHOWS THE NEXT DATA ITEM

2. PROCESSOR MENU - GENERAL

THE TOP LEVEL MENU MESSAGES ARE AS FOLLOWS: (SEE SHEET 6).

A. PRESENT FAULTS ?

THE PRESENT FAULTS MENU DISPLAY IS SHOWN ON SHEET 8. THE PRESENT FAULTS MENU SHOWS ALL PRESENT SYSTEM FAULTS.

B. FAULT HISTORY?

THE FAULT HISTORY MENU DISPLAY IS SHOWN ON SHEET 10. THE FAULT HISTORY MENU SHOWS ALL SYSTEM FAULTS FOR THE FLIGHT LEGS O THRU 64.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure Figure 104 (Sheet 2)

EFFECTIVITY-GUI 001-114, 116-999



C. SYSTEM DATA ?

THE SYSTEM DATA MENU DISPLAY IS SHOWN ON SHEET 13. THE SYSTEM DATA MENU SHOWS DATA AS FOLLOWS:

- (1) UPLIFT DATA ?
 - THE UPLIFT DATA MENU SHOWS AIRPLANE FUEL LOADED DATA AS FOLLOWS:
 - (a) UPLIFT MASS (THE MASS OF THE FUEL ADDED DURING THE REFUEL OPERATION)
 - (b) UPLIFT DENSITY (THE DENSITY OF THE FUEL ADDED DURING THE REFUEL OPERATION)
 - NOTE 1: YOU CAN CALCULATE THE FUEL UPLIFT VOLUME TO COMPARE IT TO THE FUEL TRUCK VOLUME. IF YOU DIVIDE THE "UPLIFT MASS" BY THE "UPLIFT DENSITY" YOU WILL GET THE AIRPLANE FUEL VOLUME.
 - NOTE 2: TO SEE THE UPLIFT DATA AFTER THE REFUEL OPERATION, YOU MUST CLOSE THE FUELING STATION DOOR AND THEN WAIT FOR APPROXIMATELY 2 MINUTES FOR THE PROCESSOR TO CALCULATE THE DATA.
- (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 ON SHEET 15. 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. YOU MUST CLOSE THE FUELING STATION DOOR, 621GB, TO DO THIS TEST.

Fuel Quantity BITE Procedure Figure 104 (Sheet 3)

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CONFIG



E. SYSTEM CONFIG ?

THE SYSTEM CONFIGURATION MENU DISPLAYS ARE SHOWN ON SHEET 19. 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 (PANEL 28) 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 TANK STATUS, "ABSENT" SHOWS IF NO SPARE TANK IS USED
 - (d) FUELING STATION DOOR (PANEL 28) OPEN/CLOSED INDICATION
 - (e) ID STATUS, INDICATION OF THE INPUT/OUTPUT CARD IN USE (CARD 1 OR 2)
 - (f) CENTER OVERRIDE PUMPS, ON/OFF INDICATION
 - (g) FLIGHT, REFUEL, SYSTEM TEST INDICATION (O IS OFF, OR 1 IS ON)
 - (h) LEFT, RIGHT AND CENTER SET SWITCH INDICATION (O IS OFF, OR 1 IS ON)
 - (i) SELECTED BUS IS FAILED, REPLACE THE APPLICABLE BUS.

Fuel Quantity BITE Procedure Figure 104 (Sheet 4)

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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 ON SHEET 24. 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.
 - (b) ARE YOU SURE? LETS YOU ERASE OR NOT ERASE THE FLIGHT LEGS 11 THRU 64.
 - (c) END HISTORY ERASE (ERASE COMPLETE).

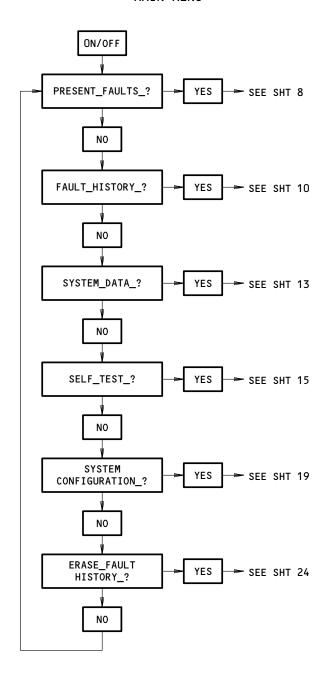
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Fuel Quantity BITE Procedure Figure 104 (Sheet 5)

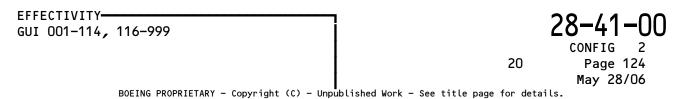
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MAIN MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 6)





3. FUEL QUANTITY BITE PROCEDURE

A. PUSH AND RELEASE THE "ON/OFF" BUTTON TO PUT THE PROCESSOR BITE DISPLAY TO ON.

NOTE: MAKE SURE THE PROCESSOR BITE DISPLAY IS ON. IF THE PROCESSOR BITE DISPLAY IS NOT ON AFTER YOU PUSH THE "ON/OFF" BUTTON MORE THAN ONCE, MAKE SURE POWER IS SUPPLIED TO THE PROCESSOR (WDM 28-21-11).

- 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 SHEET 6).
- C. PRESENT FAULTS ?
 - (1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "PRESENT FAULTS?" SHOWS ON THE MENU DISPLAY.
 - (A) IF THE PROCESSOR IS NOT ON, GO TO STEP 3.A.
 - (2) PUSH AND RELEASE THE "YES" BUTTON TO GO TO THE PRESENT FAULT DATA.
 - (3) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.
 - (4) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.

NOTE: PUSH AND RELEASE THE "UP" BUTTON TO SEE THE PREVIOUS FAULT MESSAGES.

(5) 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.

(6) SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES.

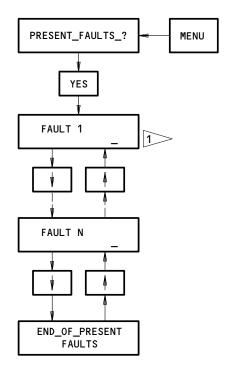
Fuel Quantity BITE Procedure Figure 104 (Sheet 7)

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CONFIG



PRESENT FAULT MENU



THE FAULT FIRST OCCURRED IN THE AIR OR GROUND MODE.

Fuel Quantity BITE Procedure Figure 104 (Sheet 8)

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D. FAULT HISTORY ?

- (1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "FAULT HISTORY ?" SHOWS ON THE MENU DISPLAY.
 - (A) IF THE PROCESSOR IS NOT ON, GO TO 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 FLIGHT LEG WITH THE RECORDED FAULTS.

(3) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE FAULT MESSAGES, OR PUSH AND RELEASE THE "NO" BUTTON TO SEE THE NEXT "FLIGHT LEG" WITH FAULT MESSAGES.

NOTE: ONLY THE FLIGHT LEGS WITH FAULTS RECORDED WILL SHOW FAULT MESSAGES ON THE DISPLAY.

- (4) MAKE A WRITTEN RECORD OF THE FAULT MESSAGE SHOWN.
- (5) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.
- (6) WHEN "END OF HISTORY FLIGHT LEG ##" SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE NEXT FLIGHT LEG'S FAULT MESSAGES.
- (7) 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 ?" MENU.

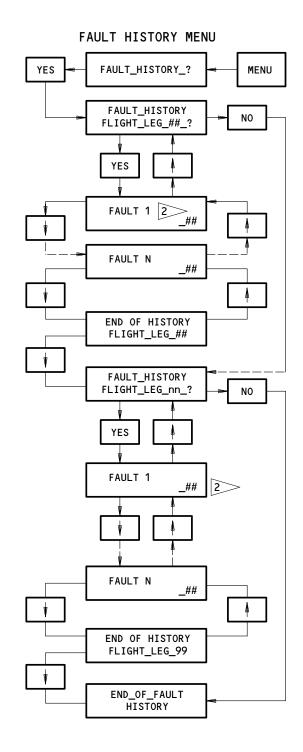
(8) SEE FIG. 106 FOR POSSIBLE CORRECTION OF THE FAULT MESSAGES SHOWN.

NOTE: ONLY THE FLIGHT LEGS WITH FAULTS RECORDED WILL SHOW FAULT MESSAGES ON THE DISPLAY.

> Fuel Quantity BITE Procedure Figure 104 (Sheet 9)

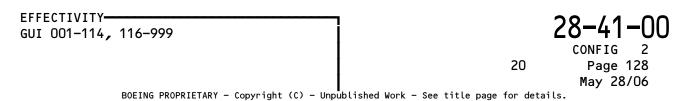
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"_" THIS INDICATION SHOWS "A" OR "G" TO SHOW THAT THE FAULT FIRST OCCURRED IN THE AIR OR ON THE GROUND MODE. THE "##" INDICATION WILL SHOW THE NUMBER OF TIMES THE FAULT OCCURRED IN THE APPLICABLE FLIGHT LEG.

Fuel Quantity BITE Procedure Figure 104 (Sheet 10)





E. SYSTEM DATA ?

(1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SYSTEM DATA ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE PROCESSOR BITE DISPLAY IS NOT ON, GO TO 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; OR IF YOU WANT TO SEE THE "MAIN TANKS DATA?" MENU, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (5).
 - (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.
- (4) WHEN THE "END OF UPLIFT DATA" MESSAGE SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO GO TO THE "MAIN TANKS DATA ?" MENU.
- (5) 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 (7).
 - (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 SYSTEM DATA SHOWN FOR THE LEFT AND RIGHT FUEL TANKS.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure Figure 104 (Sheet 11)

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CONFIG



- (C) THE MAIN TANKS DATA MENU SHOWS THE LEFT AND RIGHT FUEL TANK DATA AS FOLLOWS (SEE SHEET 13):
 - 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.
- (6) WHEN THE "END OF MAIN TANK DATA" MESSAGE SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO GO TO THE "CENTER TANK DATA?" MENU.
- (7) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE CENTER TANKS DATA.
 - (A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE CENTER TANK DATA.
 - (B) MAKE A WRITTEN RECORD OF ALL THE SYSTEM DATA SHOWN FOR THE CENTER FUEL TANK.
 - (C) THE CENTER TANK DATA MENU SHOWS THE CENTER FUEL TANK DATA AS FOLLOWS (SEE SHEET 13):
 - 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 SYSTEM DATA HAVE SHOWN.

(E) PUSH AND RELEASE THE MENU BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "SYSTEM DATA?" MENU.

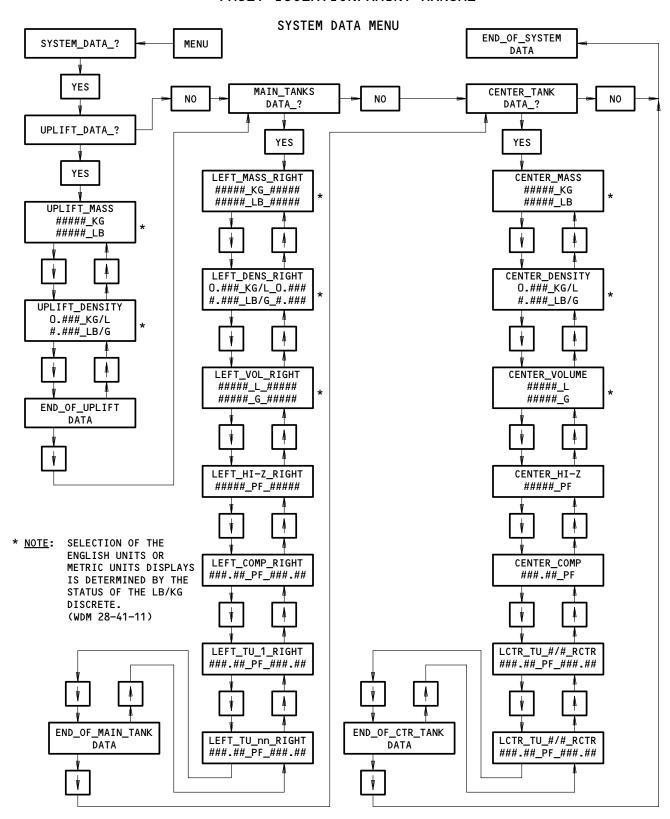
(CONTINUED ON SHEET 14)

Fuel Quantity BITE Procedure Figure 104 (Sheet 12)

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FAULT ISOLATION/MAINT MANUAL



Fuel Quantity BITE Procedure Figure 104 (Sheet 13)



F. SELF TEST ?

(1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SELF TEST ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE PROCESSOR BITE DISPLAY IS NOT ON, DO STEP 3.A.

(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 (SEE SHEET 16).

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, 621GB, MUST BE CLOSED FOR THIS TEST.

(A) PUSH AND RELEASE THE "YES" BUTTON TO START THE SELF TEST.

THE DISPLAY "TEST IN PROGRESS" WILL FLASH FOR 90 NOTE: 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.
 - 3) PUSH AND RELEASE THE "DOWN" BUTTON WHEN THE "END OF SELF TEST FAULTS" MESSAGE SHOWS (ALL OF THE SELF TEST FAULT MESSAGES ARE SHOWN).

NOTE: SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES.

(D) IF YOU DO NOT WANT TO SEE THE SYSTEM FAULT MESSAGES 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.

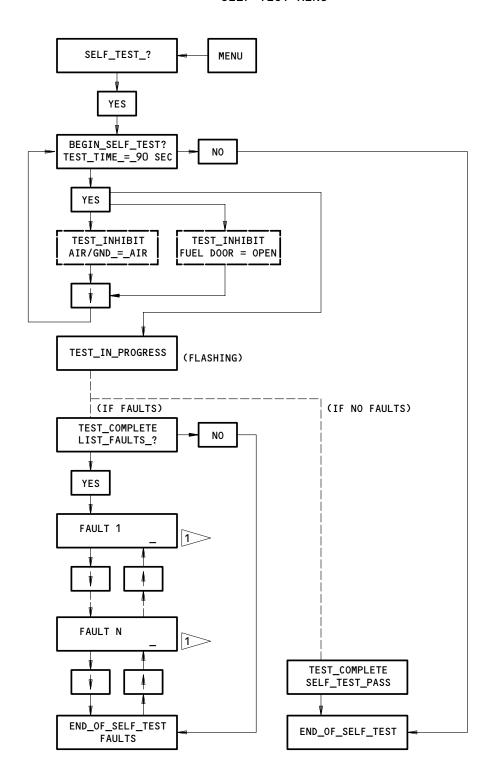
Fuel Quantity BITE Procedure Figure 104 (Sheet 14)

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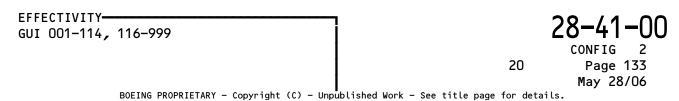
CONFIG



SELF TEST MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 15)





- G. SYSTEM CONFIGURATION ?
 - (1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SYSTEM CONFIGURATION ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE PROCESSOR IS NOT ON, GO TO STEP 3.A.

- (2) IF YOU WANT TO SEE THE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "YES" BUTTON.
- (3) TO SEE THE LEFT MAIN FUEL TANK CONFIGURATION DATA, GO TO STEP (A) BELOW; TO SEE THE RIGHT MAIN FUEL TANK CONFIGURATION, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (A) BELOW; TO SEE THE CENTER FUEL TANK CONFIGURATION, DATA PUSH AND RELEASE THE "NO" BUTTON TWO TIMES AND GO TO STEP (A) BELOW (SEE SHEET 19).
 - (A) PUSH AND RELEASE THE "YES" BUTTON WHEN THE MENU DISPLAY SHOWS THE APPLICABLE MENU: "LEFT MAIN CONFIGURATION ?", "RIGHT MAIN CONFIGURATION ?", "CENTER CONFIGURATION ?"
 - (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE APPLICABLE FUEL TANK CONFIGURATION DATA.
 - (C) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE APPLICABLE FUEL TANK CONFIGURATION.
 - (D) THE FUEL TANK CONFIGURATION DATA MENU SHOWS THE FUEL TANK DATA AS FOLLOWS (SHEET 19):
 - 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".

WHEN THE "END LEFT MAIN CONFIGURATION" MESSAGE SHOWS, ALL OF THE LEFT MAIN FUEL TANK CONFIGURA-TION 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 DATA MENU, PUSH AND RELEASE THE "MENU" BUTTON.

(CONTINUED ON SHEET 17)

Fuel Quantity BITE Procedure Figure 104 (Sheet 16)

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(4) TO SEE THE CONFIGURATION DATA FOR ONE OF THE TWO ARINC BUSSES, PUSH AND RELEASE THE "YES" BUTTON WHEN THE DISPLAY SHOWS THE APPLICABLE MENU: "ARINC BUS A CONFIGURATION ?", "ARINC BUS B CONFIGURATION ?" (SEE SHEET 19).

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 CONFIGURATION DATA.
- (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE ARINC DATA.
- (C) MAKE A WRITTEN RECORD OF ALL THE ARINC MESSAGES SHOWN.
- (D) THE ARINC BUS CONFIGURATION DATA MENUS SHOW INPUT/OUTPUT CARD (IOC) 1 DATA AS FOLLOWS (SEE SHEET 19):
 - 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 (O IS OFF, OR 1 IS ON)
 - 9) SET LEFT, RIGHT, OR CENTER INDICATION (O IS OFF, OR 1 IS ON).

NOTE: WHEN THE "END OF ARINC CONIGURATION" MESSAGE SHOWS, ALL THE ARINC CONFIGURATION MESSAGES HAVE 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.

(CONTINUED ON SHEET 18)

Fuel Quantity BITE Procedure Figure 104 (Sheet 17)

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- (5) 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 (SEE SHEET 19).
 - (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE BITE DISPLAY BOARD CONFIGURATION DATA.
 - (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 (SEE SHEET 22):
 - 1) SOFTWARE VERSION NUMBER AND REVISION NUMBER SHOW
 - 2) FUEL QUANTITY BITE, SHOWS "NO FAULT" OR "FAULT PRESENT" FOR THE FQIS PROCESSOR DISPLAY BOARD

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.

(6) PUSH AND RELEASE THE MENU BUTTON. THIS PUTS YOU AT THE TOP OF THE "SYSTEM CONFIGURATION ?" MENU.

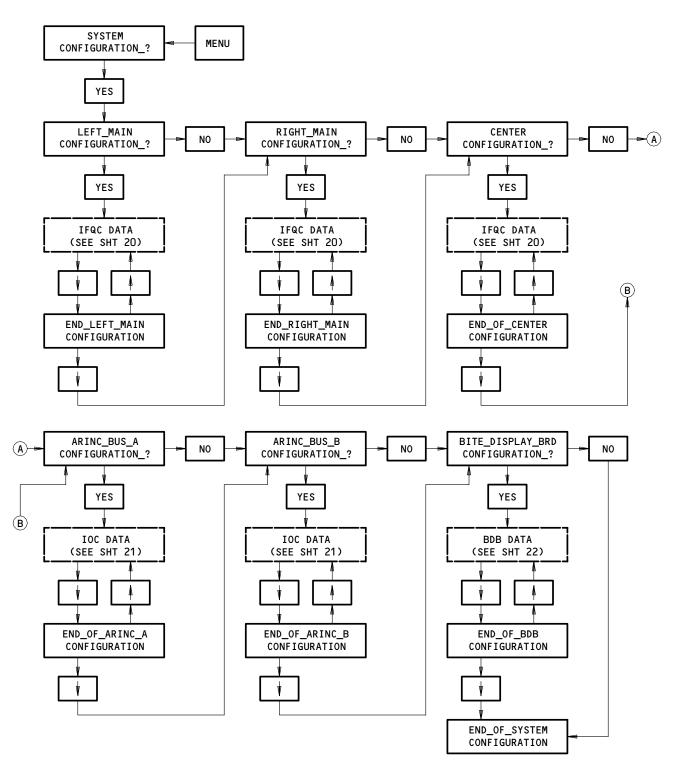
> Fuel Quantity BITE Procedure Figure 104 (Sheet 18)

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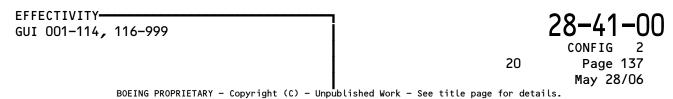
CONFIG



SYSTEM CONFIGURATION MENU

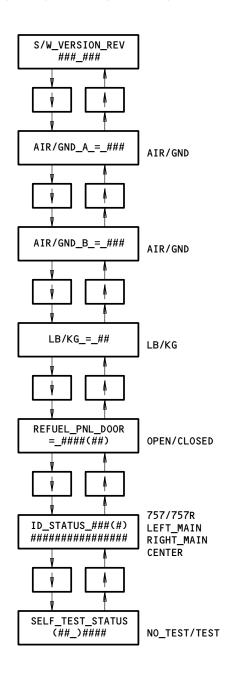


Fuel Quantity BITE Procedure Figure 104 (Sheet 19)





INDIVIDUAL FUEL QUANTITY CHANNEL CARD (IFQC) DATA

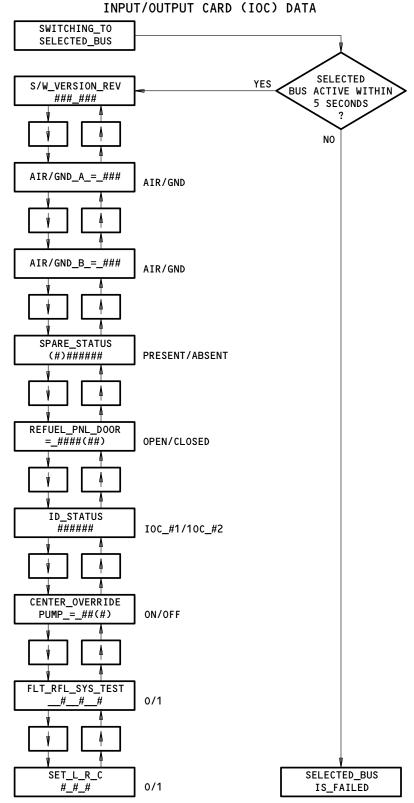


Fuel Quantity BITE Procedure Figure 104 (Sheet 20)

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Fuel Quantity BITE Procedure Figure 104 (Sheet 21)

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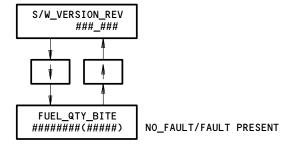
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BITE DISPLAY BOARD DATA



Fuel Quantity BITE Procedure Figure 104 (Sheet 22)

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H. ERASE HISTORY ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "ERASE FAULT HISTORY?" SHOWS ON THE MENU DISPLAY (SEE SHEET 24).

NOTE: IF THE FQIS PROCESSOR IS NOT ON, GO TO 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.

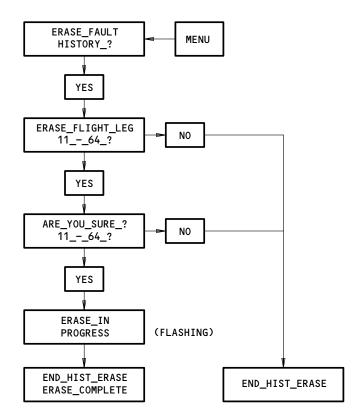
NOTE: THIS PUTS YOU AT THE TOP OF THE "ERASE FAULT HISTORY ?"

Fuel Quantity BITE Procedure Figure 104 (Sheet 23)

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ERASE FAULT HISTORY MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 24)

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Not Used Figure 105

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NO.	FIG.	SHEET	FAULT MESSAGES
1	108	2	** TU ## OPEN LOZ OR HIZ WIRE G##.
2	108	3	** TU ## SHORTED IN TANK G##.
3	108	4	** TU ?? SHORTED IN TANK G##.
4	108	5	** TU ## CONTAMINATED G##.
5	108	6	** TU ## SHORTED TO GROUND G##.
6	108	7	** COMP OPEN LOZ OR HIZ WIRE G##.
7	108	8	** COMP SHORTED IN TANK G##.
8	108	9	** COMPENSATOR CONTAMINATED G##.
9	108	10	** COMP SHORTED TO GROUND G##.
10	108	11	** HIZ WIRE OPEN AT SPAR G##.
11	108	12	** HIZ SHIELD OPEN AT SPAR G##.
12	108	13	** HIZ WIRE OPEN AT PROCESSOR G##.
13	108	14	** HIZ SHIELD OPEN AT PROC G##.
14	108	15	** HIZ WIRE LOW RESISTANCE G##.
15	108	16	** HIZ SHORTED WIRE TO SHLD G##.
16	108	17	** HIZ SHIELD SHORT TO GND G##.
17	108	18	** DENS RESISTOR UNREADABLE G##.
18	108	19	** DENS EXCITA- TION SHORTED G##.
19	108	20	** DENS SENSE WIRE SHORTED G##.
20	108	21	** DENS SENSE OPEN AT SPAR G##.
21	108	22	** DENS SENSE OPEN AT PROC G##.
22	108	23	** DENS CONTAM OR RESISTOR G##.
23	108	24	** DENS SENSOR OR DRIVE WIRE G## (OR) ** DENS SENSOR FAILURE G##.
24	108	25	** IFQC CIRCUIT BOARD FAILED G##.
25	108	26	** IFQC AIR/GND CIRCUIT FAIL G##.
26	108	27	AIR/GROUND INPUT FAILED G##.
27	108	28	LB/KG INPUT WIRE FAILED G##.
28	108	29	** IFQC LB/KG CIRCUIT FAIL G##.
29	108	30	IOC 1 DISCRETE DRIVER FAIL G##.
30	108	30	LOAD SELECT UNIT OR WIRE FAIL G##.
31	108	31	IOC # (1 OR 2) FAILED G##.
32	108	31	VOLUME SHUTOFF OF ** AT 95% G##.
33	108	32	VOLUME SHUTOFF OF ** AT 87% G##.
34	108	33	BITE DISPLAY BOARD FAILED G##.
35	108	34	(THE BITE DISPLAY BOARD IS NOT ON)
36	108	35	ARINC BUS (A OR B) FAILED G##.
37	108	36	** TU ?? SHORTED TO GROUND G##.

Fault Message Reference Chart Figure 106

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FQIS PROCESSOR CONNECTOR PINS D2440B D2440C		RA CONNI D42	BAY CK ECTOR 226 NS	CONNI (FRONT D68	/LO-Z ECTOR SPAR) 888 NS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
L0-Z	HI-Z	L0-Z	HI-Z	L0-Z	HI-Z			
F10	E6	9	1	9	1	COMPENSATOR	TS5010	631AB
E10	E6	7	1	3	1	TANK UNIT NO. 6	TS5016	631AB
D11	E6	4	1	4	1	1 TANK UNIT NO. 7 T		631AB
E11	E6	5	1	5	1	TANK UNIT NO. 8	TS5075	631BB
F11	E6	6	1	6	1	TANK UNIT NO. 9	TS5076	631CB

RIGHT CENTER FUEL TANK (WDM 28-41-41)

FQIS PROCESSOR CONNECTOR PINS D2440A D2440C		RA CONNI D42	BAY CK ECTOR 2224 NS	CONNI (FRONT D68	/LO-Z ECTOR SPAR) 892 NS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
L0-Z	HI-Z	L0-Z	HI-Z	L0-Z	HI-Z			
D10	В6	8	1	3	1	TANK UNIT NO. 1	TS5011	134AZ
E10	В6	4	1	4	1	TANK UNIT NO. 2	TS5012	531AB
D11	В6	5	1	5	1	TANK UNIT NO. 3	TS5013	531AB
E11	В6	6	1	6 1 7 1		TANK UNIT NO. 4	TS5014	531BB
D10 7	В6	7	1			TANK UNIT NO. 5	TS5015	531CB

LEFT CENTER FUEL TANK (WDM 28-41-41)

1	>	THE PIN (WDM 28-			FOR	THE	HI-Z	CENTER	R CONDUCTOR	R ONLY.	THE	HI-Z	SHIELD	PIN	S ARE	D5 A	ND F7	
2	>	THE PIN	NUMBER	1 IS	FOR	THE I	HI-Z	CENTER	CONDUCTOR	ONLY.	THE	HI-Z	SHIELD	PIN	IS C1	(WDM	28-41-	41).
3	>	THE PIN	NUMBER	1 IS	FOR	THE I	HI-Z	CENTER	CONDUCTOR	ONLY.	THE	HI-Z	SHIELD	PIN	IS C1	(WDM	28-41-	41).
4	>	THE PIN			FOR	THE	HI-Z	CENTER	R CONDUCTOR	R ONLY.	THE	HI-Z	SHIELD	PIN	S ARE	A5 A	ND F7	
5	>	THE PIN	NUMBER	1 IS	FOR	THE I	HI-Z	CENTER	CONDUCTOR	ONLY.	THE	HI-Z	SHIELD	PIN	IS C1	(WDM	28-41-	41).
6	>	THE PIN	NUMBER	1 IS	FOR	THE I	HI-Z	CENTER	CONDUCTOR	ONLY.	THE	HI-Z	SHIELD	PIN	IS C1	(WDM	28-41-	41).
7	>	THIS PI	N (PIN	NUMBER	R D10) IS	ON C	ONNECTO	OR D2440B.									

Left, Center and Right Center Fuel Tank Wiring FQIS Wiring Figure 107 (Sheet 1)

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FQIS PROCESSOR CONNECTOR D2440A PINS	EE BAY RACK CONNECTOR D41276 PINS		HOT SHORT PROTECTOR CONNECTOR D11718 PINS	DENSITO- METER CONNECTOR (REAR SPAR) D6890 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
					DENSITOMETER	M10903	631AB
J9	11	1	1	1	SENSE		
K10	14	3,8	3,8	C1	SHIELD		
H10	12	15	15	2	DRIVE (POSITIVE)		
J10	13	11	11	3	DRIVE (NEGATIVE)		
G9	16	12	12	6	KR0		
G10	17	13	13	7	KR1		
G11	18	14	14	8	KR2		
G12	19	5	5	9	KR3		

CENTER TANK DENSITOMETER (WDM 28-41-41, -51)

1 AIRPLANES POST-SB 28A0085

Center Tank Densitometer Wiring FQIS Wiring Figure 107 (Sheet 2)

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FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR D42226		HI-Z/LO-Z CONNECTOR (FRONT SPAR) D6884		COMPONENT	EQUIPMENT	ACCESS
D2440B	D2440C	PINS		PINS		COMPONENT	NO.	DOOR
L0-Z	HI-Z	L0-Z	HI-Z	L0-Z	HI-Z			
E4	J2	17	1	17	1	COMPENSATOR	TS119	641AB
C1	J2	3	1	3	1	TANK UNIT NO. 1	TS146	641AB
D1	J2	4	1	4	1	TANK UNIT NO. 2	TS147	641BB
E1	J2	5	1	5	1	TANK UNIT NO. 3	TS148	641CB
F1	J2	6	1	6	1	TANK UNIT NO. 4	TS149	641DB
C2	J2	7	1	7	1	TANK UNIT NO. 5	TS150	641FB
D2	J2	8	1	8	1	TANK UNIT NO. 6	TS151	641GB
E2	J2	9	1	9	1	TANK UNIT NO. 7	TS152	641HB
F2	J2	10	1	10	1	TANK UNIT NO. 8	TS153	641 JB
С3	J2	11	1	11	1	TANK UNIT NO. 9	TS154	641LB
D3	J2	12	1	12	1	TANK UNIT NO. 10	TS155	641MB
E3	J2	13	1	13	1	TANK UNIT NO. 11	TS5198	642AB
F3	J2	14	1	14	1	TANK UNIT NO. 12	TS5199	642CB

RIGHT MAIN FUEL FUEL TANK (WDM 28-41-31)

FQIS PROCESSOR CONNECTOR D2440B PINS	EE BAY RACK CONNECTOR D41276 PINS	DENSITO- METER CONNECTOR (REAR SPAR) D6886 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
			DENSITOMETER	M10902	641AB
D7	1	1	SENSE		
E6	4	C1	SHIELD		
D6	2	2	DRIVE (POSITIVE)		
E5	3	3	DRIVE (NEGATIVE)		
A5	6	6	KRO		
В5	7	7	KR1		
C5	8	8	KR2		
D5	9	9	KR3		

RIGHT MAIN FUEL TANK DENSITOMETER (WDM 28-41-31,-51)

THE PIN NUMBER J2 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PINS ARE H1 AND K3 (WDM 28-41-31).

THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-31).

10> THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-31).

Right Main Fuel Tank Wiring FQIS Wiring Figure 107 (Sheet 3)



FQIS PROCESSOR CONNECTOR PINS		EE BAY RACK CONNECTOR PINS		HI-Z/LO-Z CONNECTOR (FRONT SPAR) D6880		COMPONENT	EQUIPMENT	ACCESS
D2440A	D2440C	D41268	D42220	PINS		COMPONENT	NO.	DOOR
L0-Z	HI-Z	L0-Z	HI-Z	L0-Z	HI-Z 13>			
E4	B2	17	1	17	1	COMPENSATOR	TS108	541AB
C1	В2	3	1	3	1	TANK UNIT NO. 1	TS109	541AB
D1	В2	4	1	4	1	TANK UNIT NO. 2	TS110	541BB
E1	В2	5	1	5	1	TANK UNIT NO. 3	TS111	541CB
F1	B2	6	1	6	1	TANK UNIT NO. 4	TS112	541DB
C2	B2	7	1	7	1	TANK UNIT NO. 5	TS113	541FB
D2	B2	8	1	8	1	TANK UNIT NO. 6	TS114	541GB
E2	B2	9	1	9	1	TANK UNIT NO. 7	TS115	541HB
F2	B2	10	1	10	1	TANK UNIT NO. 8	TS116	541 JB
С3	B2	11	1	11	1	TANK UNIT NO. 9	TS117	541LB
D3	B2	12	1	12	1	TANK UNIT NO. 10	TS118	541MB
E3	B2	13	1	13	1	TANK UNIT NO. 11	TS5196	542AB
F3	B2	14	1	14	1	TANK UNIT NO. 12	TS5197	542CB

LEFT MAIN FUEL TANK (WDM 28-41-21)

FQIS PROCESSOR CONNECTOR D2440A PINS	EE BAY RACK CONNECTOR D41272 PINS	DENSITO- METER CONNECTOR (REAR SPAR) D6882 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
			DENSITOMETER	M10901	541AB
В6	1	1	SENSE		
A6	4	C1	SHIELD		
A5	2	2	DRIVE (POSITIVE)		
B5	3	3	DRIVE (NEGATIVE)		
C5	6	6	KRO		
D5	7	7	KR1		
E5	8	8	KR2		
D6	9	9	KR3		

LEFT MAIN FUEL TANK DENSITOMETER (WDM 28-41-21,-51)

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).

12 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-21).

13> THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-21).

Left Main Fuel Tank Wiring
FQIS Wiring
Figure 107 (Sheet 4)

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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:

```
## - "1" INDICATION FOR NUMBER 1 TANK UNIT
## - "2" INDICATION FOR NUMBER 2 TANK UNIT
## - "3" INDICATION FOR NUMBER 3 TANK UNIT
.
```

- "12" INDICATION FOR NUMBER 12 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 1-9, WILL SHOW AS 1-9
FAULTS 10-18, WILL SHOW AS 9
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.

Fault Messages
Figure 108 (Sheet 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

- NORMAL IS POSSIBLE, WHEN ONLY ONE "** TU ## OPEN LOZ OR HIZ WIRE G ##" FAULT MESSAGE SHOWS. WHEN YOU FUEL THE AIRPLANE THE VOLUME TOP-OFF (VTO) MECHANISM CAN STOP FUELING AT 5% LESS THAN FULL (SEE FAULT MESSAGE 32).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS
- THE FUEL QUANTITY INDICATION CAN GO OFF FOR THE APPLICABLE FUEL TANK, AND THE TOTAL FUEL QUANTITY INDICATION CAN GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" CAN SHOW.
- WHILE FUELING, THE FUELING SHUTOFF VALVES CAN CLOSE FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE CAN SHOW ON THE LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. EXAMINE THE APPLICABLE CONNECTORS AND PINS FOR CORROSION OR DAMAGE TO THE PINS, SEE 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.
- MEASURE THE CAPACITANCE OF THE APPLICABLE TANK UNIT AT THE TANK WALL (SPAR) CONNECTOR, SEE FIG. 109.
- 5. IF THE CAPACITANCE OF THE TANK UNIT IS ZERO, THE OPEN WIRE IS ON THE TANK WIRE HARNESS.
 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,-31,-41).
- 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 2)

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** TU ## SHORTED IN TANK G##.

FAULT CONDITION

LESS THAN NORMAL RESISTANCE IS MEASURED FROM THE INNER TUBE OF THE TANK UNIT TO THE OUTER TUBE OF THE TANK UNIT.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- 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 LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR FOR THE APPLICABLE FUEL TANK, M10054, WILL ALSO GO OFF.

CORRECTION

- 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. USE THE SUMP TO REMOVE ALL THE REMAINING FUEL FROM THE APPLICABLE FUEL TANK, (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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** TU ?? SHORTED IN TANK G##.

FAULT CONDITION

THE RESISTANCE MEASURED FROM THE INNER TUBE OF A TANK UNIT OR THE COMPENSATOR TO THE OUTER TUBE OF THE TANK UNIT IS VERY LOW. WITH THIS FAULT THE PROCESSOR CANNOT ISOLATE THE FAILED TANK UNIT OR COMPENSATOR.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" WILL 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 LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF FOR THE APPLICABLE FUEL TANK.

CORRECTION

- 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 APPROXIMATELY 0.0 (FIG. 104, FIG. 109).

 A. IF A PROBLEM AT THE TANK UNIT OR SPAR CONNECTOR CANNOT BE FOUND, DO THE TEST: DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE 757/767-1 TEST BOX BOX (FIG. 109).
- 3. REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401).
- 4. IF THE PROBLEM CONTINUES, REPLACE THE APPLICABLE TANK WIRING HARNESS (AMM 28-41-04/401).
- 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 4)

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** TU ## CONTAMINATED G##.

FAULT CONDITION

THERE IS CONTAMINATION BETWEEN THE INNER AND OUTER TUBES OF THE TANK UNIT THAT CAUSES A RESISTANCE LESS THAN THE USUAL RESISTANCE, OR THE CAPACITANCE MEASURED FOR THE TANK UNIT IS A MINIMUM OF 105% OF THE FULL VALUE, OR THERE IS A HI-Z SHIELD OPEN IN THE FUEL TANK. THERE CAN BE MORE THAN ONE TANK UNIT CONTAMINATION MESSAGE.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL INDICATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT IS FAULTED).
- 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 CONTA-MINATED, 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 LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR FOR THE APPLICABLE TANK, M10054, WILL ALSO GO OFF.

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. 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 8.
- 5. IF ONE OF THE TANK UNITS IS NOT 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).
- 6. IF MORE THAN ONE OF THE TANKS CAPACITANCE VALUES ARE NOT IN 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).
- 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)



** TU ## SHORTED TO GROUND G##.

FAULT CONDITION

THE APPLICABLE TANK UNIT OR LO-Z WIRE IS SHORTED TO GROUND.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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 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 FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. OPEN THE HI-Z/LO-Z CONNECTOR FOR THE APPLICABLE FUEL TANK, SEE 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.

NOTE: 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. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201).

NOTE: 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).

NOTE: 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,-31,-41).
- 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 6)

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** 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 SEE FIG. 108, AND THERE ARE NO OTHER FAULTS.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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

- 1. EXAMINE AND CLEAN THE APPLICABLE CONNECTORS, SEE 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, SEE
- 5. IF THE CAPACITANCE OF THE COMPENSATOR IS ZERO, THE OPEN WIRE IS ON THE TANK WIRE HARNESS. 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,-31,-41).
- 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 7)

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** 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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

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. 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.

NOTE: 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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** 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

- 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,-31,-41).
- 6. IF THE PROBLEM CONTINUES, MEASURE THE RESISTANCE BETWEEN THE APPLICABLE HI-Z SHIELD AND AIRPLANE GROUND ON THE AIRPLANE WIRE HARNESS (AMM 28-41-00/501).
- 7. IF THE MEASURED RESISTANCE IS MORE THAN 7 OHMS, EXAMINE THE HI-Z SHIELD CONNECTIONS BETWEEN THE SPAR AND THE PROCESSOR (SEE 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 (AMM 28-41-02/401).
- 12. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 9)

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** 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

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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

- 1. OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107).
- 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?"
 - NOTE: 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.
 - NOTE: 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,-31, -41).
- 6. EXAMINE AND REPLACE THE APPLICABLE COMPENSATOR (AMM 28-41-02/401).
 - NOTE: 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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** 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

- THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICA-TION 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. EXAMINE THE APPLICABLE HI-Z/LO-Z CONNECTOR FOR CONTAMINATION OR DAMAGE, SEE TABLE 102.
 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,-31,-41).
 - 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. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXI-MATE 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,-31,-41).
- 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 11)

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** 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 PRO-CESSOR 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

- THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICA-TION 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. EXAMINE THE APPLICABLE CONNECTORS FOR CONTAMINATION OR DAMAGE, SEE 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,-31,-41).
 - 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. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXI-MATE 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,-31,-41).
- 5. DO THIS PROCEDURE: FUEL QTY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 12)

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** 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 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 FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- EXAMINE THE FQIS PROCESSOR CONNECTOR AND THE E/E BAY RACK CONNECTOR FOR CONTAMINATION OR DAMAGE, SEE 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. 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,-31,-41).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 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 PORCESSOR CONNECTOR, AND A POINT HALF THE 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 INDICA-TION 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, P28, 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, SEE 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. IF YOU DIVIDE THIS VALUE BY 50, YOU WILL HAVE THE APPROXI-MATE 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,-31,-41).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 14)

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** 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, SEE 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, SEE FIG. 107, AND THE FUEL QUAN-TITY 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 FRONT SPAR. GO TO STEP 6.

NOTE: 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,-31,-41).
- 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 15)

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** 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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. EXAMINE THE APPLICABLE WIRE CONNECTORS FOR CONTAMINATION OR DAMAGE, SEE 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, SEE 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 FRONT SPAR, GO TO STEP 6.
 - NOTE: 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 APPLICABLE AIRPLANE WIRING HARNESS (WDM 28-41-21,-31,-41).
- 7. EXAMIME 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)

EFFECTIVITY-GUI 001-114, 116-999

28-41-00



** 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR, SEE 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 FRONT SPAR, GO TO STEP 5.

NOTE: 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.

4. IF THE FAULT MESSAGE DOES NOT SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK WIRING HARNESS. GO TO STEP 6.

NOTE: 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 (AMM 28-41-00/501).

- 5. EXAMINE AND REPAIR THE CIRCUIT BETWEEN THE FQIS PROCESSOR AND THE APPLICABLE HI-Z/LO-Z CONNECTOR (AMM 28-41-00/501)(WDM 28-41-21, -31, -41).
- 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)

** DENS RESISTOR UNREADABLE G##.

FAULT CONDITION

THIS MESSAGE SHOWS IF ONE OR MORE OF THE CALIBRATION RESISTORS IN THE DENSITOMETER DOES NOT OPERATE COR-RECTLY. THE FAULT CONDITIONS ARE AS FOLLOWS:

- DENSITOMETER INSTALLED BACKWARDS
- CALIBRATION WIRE SHORTED TO GROUND
- CALIBRATION RESISTOR FAILED
- CALIBRATION WIRE SHORTED TO ANOTHER CALIBRATION WIRE (4)
- DENSITOMETER DRIVE WIRE OPEN

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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST.

NOTE: NO OTHER TEST BOX IS NECESSARY TO DO THE DENSITOMETER TEST. READ THE GO-NO-GO (RED/GREEN) LED LIGHT ON THE FRONT OF THE 757/767-1 TEST BOX.

- 3. MAKE A WRITTEN RECORD OF THE PROBLEM.
- 4. OPEN THE APPLICABLE DENSITOMETER CONNECTOR AT THE REAR SPAR, FIG. 102.
- 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 1 OR AIRPLANE WIRE HARNESS.
 - A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401) 1 or THE APPLICABLE AIRPLANE HARNESS (WDM 28-41-21,-31,-41).
- 7. IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK.
 - 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 ?".

1 > IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 18)

EFFECTIVITY-GUI 001-114, 116-999



** 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.

NOTE: 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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST.

NOTE: NO OTHER TEST BOX IS NECESSARY TO DO THE DENSITOMETER TEST. READ THE GO-NO-GO (RED/GREEN) LED LIGHT ON THE FRONT OF THE 757/767-1 TEST BOX.

- 3. MAKE A WRITTEN RECORD OF THE PROBLEM.
- 4. OPEN THE APPLICABLE DENSITOMETER CONNECTOR AT THE REAR SPAR, FIG. 102.
- 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 1 OR AIRPLANE WIRE HARNESS.
 - A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401) TO OR THE APPLICABLE AIRPLANE HARNESS (WDM 28-41-21,-31,-41).
- 7. IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK.
 - 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 (MM 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,-31,-41).
- 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

1 IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 19)

28-41-00



** DENS SENSE WIRE SHORTED G##.

FAULT CONDITION

THIS MESSAGE IS AN INDICATION THAT THERE IS LESS THAN 80 OHMS BETWEEN THE CENTER CONDUCTOR OF THE DENSITOMETER SENSE WIRE AND THE SHIELD.

THIS MESSAGE CAN OCCUR AS A NUISANCE MESSAGE IF THE APPLICABLE TANK IS EMPTY.

NOTE: 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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. DO THESE STEPS TO FIND OUT IF THIS IS A NUISANCE FAULT:
 - A. IF THE APPLICABLE TANK IS EMPTY, ADD FUEL UNTIL THE DENSITOMETER IS COVERED (138 U.S. GALLONS FOR THE LEFT OR RIGHT MAIN TANKS, 1002 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 ↑ OR AIRPLANE WIRING HARNESS. EXAMINE THE WIRING (WDM 28-41-21,-31,-41). REPAIR THE PROBLEMS THAT YOU FIND. 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.
- 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 ?").

1 > IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 20)

EFFECTIVITY-GUI 001-114, 116-999



** DENS SENSE OPEN AT SPAR 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 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.

NOTE: 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 ±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 DENSITOMETER CONNECTOR ON THE REAR SPAR FOR DAMAGE OR CONTAMINATION, SEE FIG. 107. EXAMINE AND REPAIR THE DENSITOMETER CONNECTOR IF IT IS NECESSARY.
- 2. IF THE PROBLEM CONTINUES, REPLACE THE HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401) 1 OR HOT SHORT PROTECTOR WIRE HARNESS (AMM 28-41-25/401) 0 OR EXAMINE THE AIRPLANE WIRING HARNESS FOR THE APPLICABLE DENSITOMETER (WDM 28-41-21,-31,-41). REPAIR THE PROBLEMS THAT YOU FIND.
- 3. IF THE HOT SHORT PROTECTOR \uparrow , HOT SHORT PROTECTOR WIRE HARNESS \uparrow AND THE APPLICABLE AIRPLANE WIRING HARNESS ARE 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 ?".

1 IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 21)

GUI 001-114, 116-999



** 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.

NOTE: 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 ±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, SEE 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, SEE FIG. 107 (WDM 28-41-21,-31,-41).
- 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 22)

EFFECTIVITY-GUI 001-114, 116-999

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** 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 ±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 THIS PROCEDURE: 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, MICROBIAL GROWTH, 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)



** DENS SENSOR OR DRIVE WIRE G## (OR) ** DENS SENSOR FAILURE G**.

FAULT CONDITION

THE DENSITOMETER SENSOR DOES NOT OPERATE CORRECTLY.

NOTE: 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

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REPLACE THE DENSITOMETER FOR THE APPLICBALE 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)

28-41-00



** 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. 1

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).
- 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

- 1. DO A CHECK FOR THESE CONDITIONS:
 - 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:
 - A. CYCLE THE POWER FOR THE PROCESSOR.
 - B. IF THE REFUEL PANEL DOOR IS OPEN, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN:
 - (1) 34A10, FUEL QTY-FUEL
 - (2) 6E4, FUELING QTY
 - C. IF THE REFUEL PANEL DOOR IS CLOSED, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN:
 - (3) 11C34, FUEL QTY L OR FUEL QTY 1
 - (4) 11L19, FUEL QTY R OR 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:
 - A. EXAMINE THE WIRING AT THE DENSITOMETER HOT SHORT PROTECTOR WIRE HARNESS CONNECTORS D11718 AND D11720, FOR A SHORT (AMM 28-41-25/401).
 - (1) IF THERE IS A SHORT TO GROUND, REPAIR OR REPLACE THE WIRING (AMM 28-41-25/401).
 - (2) IF THE WIRING IS OK, REPLACE THE DENSITOMETER HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401). $\fbox{}$
 - 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?".

1 IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 25)

28-41-00



** 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

- THE FQIS SYSTEM IS SET TO THE AIR MODE IF THE FUELING STATION DOOR, 621GB IS CLOSED.
- THE FQIS SYSTEM IS SET TO THE GROUND MODE IF THE FUELING STATION DOOR, 621GB, IS OPEN.

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 "AIR/GROUND_INPUT_FAILED", SEE FIG. 106.

Fault Messages Figure 108 (Sheet 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.

NOTE: 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 BETWEEN THE PROCESSOR RACK CONNECTOR GND PIN K7 AND THE AIR/GND COM PIN K8 FOR BOTH CONNECTORS, D2440A AND D2440B.
- A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-14).

 3. WHEN THE AIRPLANE IS IN THE AIR MODE, MEASURE THE RESISTANCE BETWEEN THE PROCESSOR RACK CONNECTOR GND K7 PIN AND THE AIR/GND COM PIN K6 FOR BOTH CONNECTORS, D2440A AND D2440B.
 - A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-14).
- 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)

28-41-00



LB/KG INPUT WIRE FAILED G##.

FAULT CONDITION

THE POUND/KILOGRAM INPUT JUMPER HAS FAILED OPEN.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION, LB/KG STATUS FOUND BY VALUE STORED IN MEMORY.
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. FOR AIRPLANES WITH UNITS IN LBS, MEASURE THE RESISTANCE BETWEEN THE LBS PIN, A9, TO LBS/KGS COM PIN, C9, ON THE PROCESSOR RACK CONNECTOR D2440A (WDM 28-41-11). A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11).
- 3. FOR AIRPLANES WITH UNITS IN KGS, MEASURE THE RESISTANCE BETWEEN THE KGS PIN, E9, TO LBS/KGS COM PIN, C9, ON THE PROCESSOR RACK, CONNECTOR D2440A (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-GUI 001-114, 116-999

28-41-00 CONFIG



** 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", SEE FIG. 106.

Fault Messages Figure 108 (Sheet 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

- NORMAL OPERATION
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

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, 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

- 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

- 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 BETWEEN THE LOAD SELECT CONTROL AND THE FQIS PROCESSOR, M121 (WDM 28-21-22).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 30)

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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

- 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

- 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 BETWEEN THE FQIS PROCESSOR, M121, AND THE FUEL QUANTITY INDICATORS AS FOLLOWS (WDM 28-41-11):
 - A. FLIGHT COMPARTMENT IND M10054
 - B. FUELING PANEL IND N10038
 - C. FUELING PANEL IND N10039
 - D. FUELING PANEL IND N10040.
- 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

FAULT MESSAGE 32

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.

NOTE: FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO 5% LESS THAN FULL.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- REFUELING WILL STOP AT 5% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT.

CORRECTION

- 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.

NOTE: 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.

NOTE: THE FQIS WILL NOT CLOSE THE REFUEL VALVE, AND THE FQIS FUEL QUANTITY INDICATION WILL FLASH ON AND OFF.

Fault Messages Figure 108 (Sheet 31)

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VOLUME SHUTOFF OF ** AT 87% G##.

FAULT CONDITION

THERE IS A SYSTEM FAILURE THAT RESULTS IN FUEL SHUTOFF DURING FUELING AT 95% OF FULL.

NOTE: FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO A QUANTITY 13% LESS THAN EXPECTED.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- THE EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWS.
- REFUELING WILL STOP AT 13% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT.

CORRECTION

- 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.

NOTE: YOU CAN REFUEL MANUALLY, REFER TO 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.
 - NOTE: THE FQIS 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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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

- 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.

NOTE: IF THIS MESSAGE SHOWS GO TO STEP 3.

CORRECTION

- 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

NOTE: 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.

- 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING BETWEEN THE FQIS PROCESSOR AND 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)



FAULT MESSAGE 35

(THE BITE DISPLAY BOARD IS OFF).

FAULT CONDITION

THE BITE DISPLAY IS OFF.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- 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

- 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 28-41-11):
 - A. CONNECTOR D2440A, PINS J1 AND K1
 - B. CONNECTOR D2440B, PINS F6 AND G6, J1 AND K1,
 - H10 AND H11.
- 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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CONFIG



FAULT MESSAGE 36

ARINC BUS (A OR B) FAILED G##.

FAULT CONDITION

THE ARINC BUS A OR B WIRES OR THE PROCESSOR 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 TEST OF THE WIRES BETWEEN THE PROCESSOR, M121, AND THE LOAD SELECT INDICATORS AND THE FUEL QUANTITY INDICATOR, M10054 (WDM 28-41-11).
 - B. DO A CONTINUITY TEST OF THE WIRES BETWEEN THE PROCESSOR, M121, AND 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 ?".

Fault Messages Figure 108 (Sheet 35)

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FAULT MESSAGE 37

** 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

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 1. OPEN THE HI-Z/LO-Z CONNECTOR FOR THE APPLICABLE FUEL TANK, SEE 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.

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 (AMM 28-41-00/501). 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).

NOTE: 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 36)

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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.

1. <u>DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE FQPU (NO FUEL IN THE TANK)</u>

- 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

- 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, SHT. 4, DO THE STEPS THAT FOLLOW:
 - (1) REMOVE THE HI-Z/LO-Z PLUG FOR THE APPLICABLE FUEL TANK. EXAMINE THE APPLICABLE CONNECTOR FOR DAMAGE.
 - (a) IF THE CAPACITANCE VALUE CHANGES AFTER YOU INSTALL THE HI-Z/LO-Z PLUG, REPAIR OR REPLACE THE DEFECTIVE PIN ON THE HI-Z/LO-Z PLUG (WDM 28-41-21,-31,-41).
 - (b) IF THE CAPACITANCE VALUE DOES NOT CHANGE AFTER YOU INSTALL THE HI-Z/LO-Z PLUG, DO THE STEPS THAT FOLLOW:
 - 1) LOOK FOR DAMAGE ON THE TANK WIRING HARNESS BETWEEN THE HI-Z/LO-Z RECEPTACLE AND THE TANK UNIT OR COMPENSATOR.
 - 2) DO A CHECK ON THE TANK UNIT OR COMPENSATOR FOR A POSSIBLE SHORT TO GROUND. REPAIR OR REPLACE THE TANK UNIT (AMM 28-41-01/401), OR THE TANK WIRING HARNESS (AMM 28-41-09/401) IF IT IS NECESSARY.
 - (2) DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".
- O. IF THE CAPACITANCE VALUES ARE IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, THE FQIS IS OK.

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank)
Figure 109 (Sheet 1)

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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.

EQUIPMENT:

JCAIR, INC. 400 INDUSTRIAL PARKWAY INDUSTRIAL AIRPORT, KS 66031

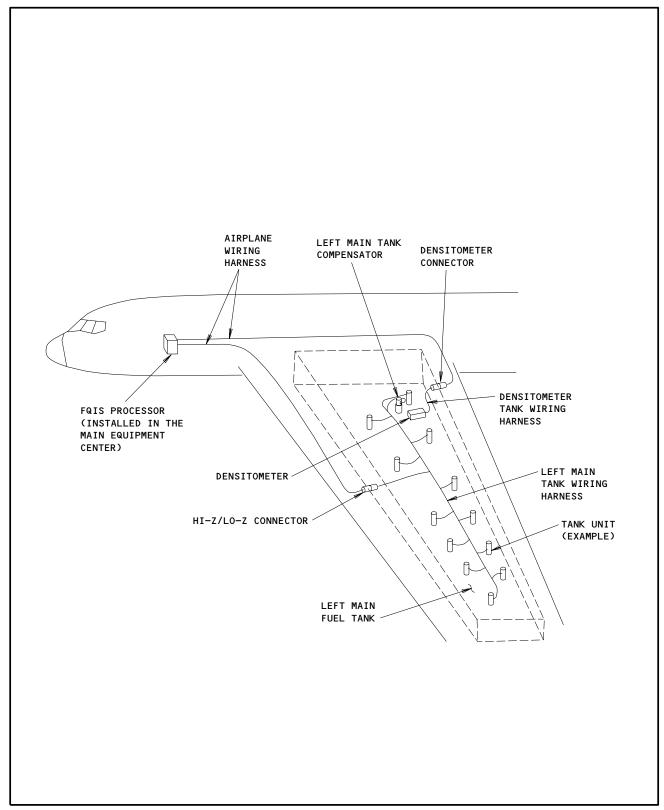
- A. FUEL QTY TEST SET P/N 472090-007, OR P/N 472090-009, OR PSD 40-1, OR PSD 60-1, OR PSD 60-2,
 OR PSD 60-2R
- B. FUEL QTY ADAPTER HARNESS -LEFT/RIGHT MAIN FUEL TANK - PSD 757/767-101 CENTER FUEL TANK - PSD 757/767-102 DENSITOMETER - PSD 757/767-103
- C. TEST BOX, FQIS PSD 757/767-1
- 1. <u>DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE PSD 757/767-1 TESTER (NO FUEL IN THE TANK)</u>
 - 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. REMOVE THE PROCESSOR (FQPU), M121 (AMM 28-41-08/401).
 - D. INSTALL THE PSD 757/767-1 TESTER AND LOOK AT THE CAPACITANCE VALUES FOR ALL THE TANK UNITS AND THE COMPENSATOR IN THE APPLICABLE TANK.
 - E. MAKE A WRITTEN RECORD OF THE CAPACITANCE VALUES.
 - F. IF THE CAPACITANCE VALUES ARE NOT IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, DO THE STEPS THAT FOLLOW:
 - (1) REMOVE THE HI-Z/LO-Z PLUG FOR THE APPLICABLE FUEL TANK. EXAMINE THE APPLICABLE HI-Z/LO-Z CONNECTOR FOR DAMAGE.
 - (a) IF THE CAPACITANCE VALUE CHANGES WHEN YOU INSTALL THE HI-Z/LO-Z PLUG, REPAIR OR REPLACE THE DEFECTIVE PIN ON THE HI-Z/LO-Z PLUG (WDM 28-41-21,-31,-41).
 - (b) IF THE CAPACITANCE VALUE DOES NOT CHANGE AFTER YOU INSTALL THE HI-Z/LO-Z PLUG, DO THE STEPS THAT FOLLOW:
 - 1) LOOK FOR DAMAGE ON THE TANK WIRING HARNESS BETWEEN THE HI-Z/LO-Z RECEPTACLE AND THE TANK UNIT OR COMPENSATOR.
 - 2) DO A CHECK ON THE TANK UNIT OR COMPENSATOR FOR A POSSIBLE SHORT TO GROUND REPAIR OR REPLACE THE TANK UNIT (AMM 28-41-01/401), OR THE TANK WIRING HARNESS (AMM 28-41-09/401) IF IT IS NECESSARY.
 - (2) REMOVE THE TEST EQUIPMENT AND INSTALL THE FQPU, M121 (AMM 28-41-08/401).
 - (3) DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST?".
 - G. IF THE CAPACITANCE VALUES ARE IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, THE FQIS IS OK.

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 2)

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Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 3)

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TANK UNIT OR COMPENSATOR UNDER TEST	MINIMUM CAPACITANCE (PICOFARADS)	MAXIMUM CAPACITANCE (PICOFARADS)	EQUIP. NO.	
CENTER TANK UNIT NO. 1	81.23	82.61	T\$5011	
CENTER TANK UNIT NO. 2	90.04	91.56	T\$5012	
CENTER TANK UNIT NO. 3	70.12	71.36	T\$5013	
CENTER TANK UNIT NO. 4	57.07	58.09	T\$5014	
CENTER TANK UNIT NO. 5	54.97	55.87	T\$5015	
CENTER TANK UNIT NO. 6	90.04	91.56	T\$5016	
CENTER TANK UNIT NO. 7	70.12	71.36	T\$5017	
CENTER TANK UNIT NO. 8	57.07	58.09	T\$5075	
CENTER TANK UNIT NO. 9	54.97	55.87	T\$5076	
COMPENSATOR - CENTER TANK	50.8	51.4	T\$5010	
COMPENSATOR - LEFT MAIN TANK	50.8	51.4	TS108	
COMPENSATOR - RIGHT MAIN TANK	50.8	51.4	TS119	
LEFT MAIN TANK UNIT NO. 1	53.47	54.35	TS109	
LEFT MAIN TANK UNIT NO. 2	51.42	52.28	T\$110	
LEFT MAIN TANK UNIT NO. 3	42.86	43.60	TS111	
LEFT MAIN TANK UNIT NO. 4	41.16	41.84	TS112	
LEFT MAIN TANK UNIT NO. 5	32.68	33.18	T\$113	
LEFT MAIN TANK UNIT NO. 6	32.62	33.12	TS114	
LEFT MAIN TANK UNIT NO. 7	28.91	29.37	TS115	
LEFT MAIN TANK UNIT NO. 8	28.20	28.66	T\$116	
LEFT MAIN TANK UNIT NO. 9	26.81	27.25	TS117	
LEFT MAIN TANK UNIT NO. 10	23.52	23.90	TS118	
LEFT MAIN TANK UNIT NO. 11	20.35	20.69	TS5196	
LEFT MAIN TANK UNIT NO. 12	20.35	20.69	T\$5197	
RIGHT MAIN TANK UNIT NO. 1	53.47	54.35	T\$146	
RIGHT MAIN TANK UNIT NO. 2	51.42	52.28	T\$147	
RIGHT MAIN TANK UNIT NO. 3	42.86	43.60	TS148	
RIGHT MAIN TANK UNIT NO. 4	41.16	41.84	TS149	
RIGHT MAIN TANK UNIT NO. 5	32.68	33.18	T\$150	
RIGHT MAIN TANK UNIT NO. 6	32.62	33.12	TS151	
RIGHT MAIN TANK UNIT NO. 7	28.91	29.37	T\$152	
RIGHT MAIN TANK UNIT NO. 8	28.20	28.66	T\$153	
RIGHT MAIN TANK UNIT NO. 9	26.81	27.25	T\$154	
RIGHT MAIN TANK UNIT NO. 10	23.52	23.90	T\$155	
RIGHT MAIN TANK UNIT NO. 11	20.35	20.69	T\$5198	
RIGHT MAIN TANK UNIT NO. 12	20.35	20.69	TS5199	

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 4)

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GENERAL

- A. 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.
- B. THESE INTERMITTENT MESSAGES CAN SHOW ON THE 757 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).
- C. THIS SERVICE INFORMATION APPLIES TO AIRPLANES WITH THE FQIS PROCESSOR, PART NUMBERS 30071-0101,-0202,-0303 BOEING PART NUMBERS S345N001-030,-031, -032 (MANUFACTURED BY SIMMONDS PRECISION).
- D. THE 757 FQIS BIT IN THE PROCESSOR CAN SHOW 37 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 PROCESSOR AND LOOK AT THE FAULT MESSAGES AS FOLLOWS (SEE FIG. 104):
 - YOU MUST 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).
 - 2. YOU MUST ALSO 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 OO.

NOTE: AIRPLANES WITH PROCESSOR 300 71-0101 (\$345,001-030);
POWER INTERRUPT CAN RESET EICAS MESSAGES IF THERE ARE FAULTS IN FLIGHT LEG OO.

Intermittent Fault Messages Figure 110 (Sheet 1)

28-41-00

20



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			
RM IFQC CIRCUIT BOARD FAILED	INTERRUPTION, THESE FAULT MESSAGES CAN CAUSE AN EICAS MAINTENANCE	STEP 1.C.		
CT IFQC CIRCUIT BOARD FAILED	MESSAGE "FUEL QTY BITE" TO SHOW.			
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1			
IOC NUMBER 2 FAILED	(OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUAN-			
LOAD SELECT UNIT OR WIRE FAIL	TITY CHAN" STATUS MESSAGE			
IOC 1 DISCRETE DRIVE FAIL	TO SHOW ON EICAS.			
VOLUME SHUTOFF OF LM AT 95%	THESE MESSAGES CAN SHOW IF POWER	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%	IS APPLIED TO THE FQIS (POWER-UP) WHEN THE MAIN TANKS ARE EMPTY, OR			
VOLUME SHUTOFF OF CT AT 95%	WHEN THE CENTER TANK IS LESS THAN 17% FULL BEFORE REFUELING.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
CT TU (1-12) CONTAMINATED	T 410 T NOOLOGON BITT			
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 FOR PROCESSOR \$345N001-030

Intermittent Fault Messages Figure 110 (Sheet 2)

EFFECTIVITY-GUI 001-114, 116-999



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	GO TO THE FQIS PROCESSOR BITE PANEL AND DO THE STEPS IN STEP 1.C.		
RM IFQC CIRCUIT BOARD FAILED	CAN CAUSE AN EICAS MAINTENANCE			
CT IFQC CIRCUIT BOARD FAILED	MESSAGE "FUEL QTY BITE" TO SHOW.			
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1			
IOC NUMBER 2 FAILED	(OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUAN-			
IOC 1 DISCRETE DRIVE FAIL	TITY CHAN" STATUS MESSAGE TO SHOW ON EICAS.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
CT TU (1-12) CONTAMINATED	T 410 T NOOLOON BITT			
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 FOR PROCESSOR \$345N001-031

Intermittent Fault Messages Figure 110 (Sheet 3)

28-41-00



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			
RM IFQC CIRCUIT BOARD FAILED	INTERRUPTION, THESE FAULT MESSAGES CAN CAUSE AN EICAS MAINTENANCE	PANEL AND DO THE STEPS IN STEP 1.C.		
CT IFQC CIRCUIT BOARD FAILED	MESSAGE "FUEL QTY BITE" TO SHOW.			
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1			
IOC NUMBER 2 FAILED	(OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUAN-			
IOC 1 DISCRETE DRIVE FAIL	TITY CHAN" STATUS MESSAGE TO SHOW ON EICAS.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
CT TU (1-12) CONTAMINATED				
LM COMPENSATOR CONTAMINATED				
RM COMPENSATOR CONTAMINATED				
CT COMPENSATOR CONTAMINATED				

INTERMITTENT FAULT MESSAGES FOR PROCESSOR \$345N001-032

Intermittent Fault Messages Figure 110 (Sheet 4)

EFFECTIVITY-GUI 001-114, 116-999

c77013

CONFIG



PREREQUISITES

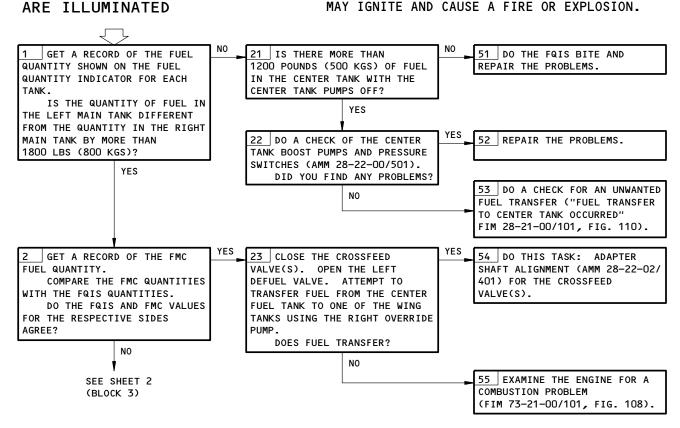
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4, 11C34, 11M19, 34L2

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

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

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

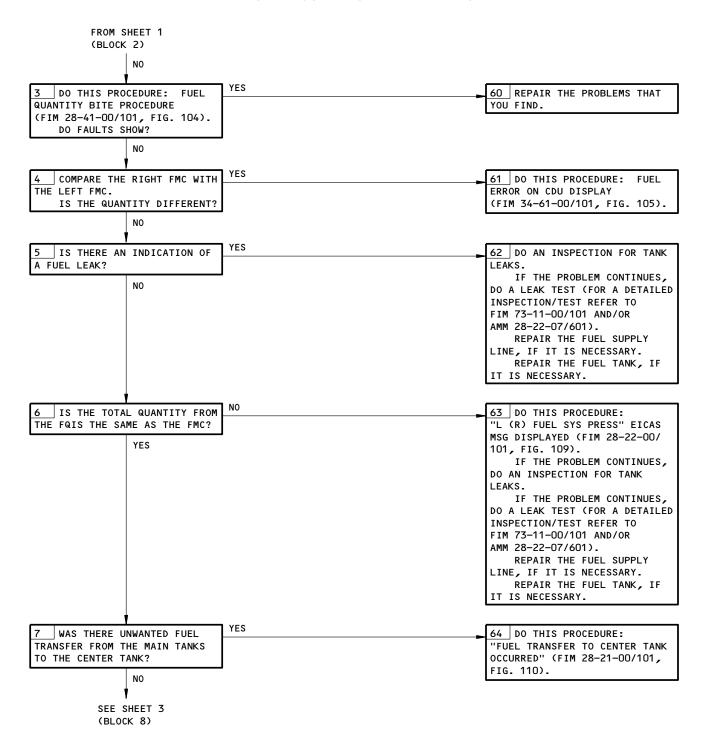


FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated
Figure 111 (Sheet 1)

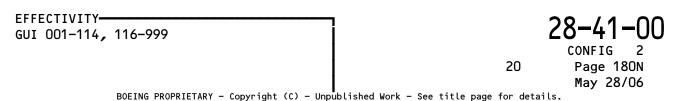
EFFECTIVITY
GUI 001-114, 116-999

CONFIG 2
Page 180M
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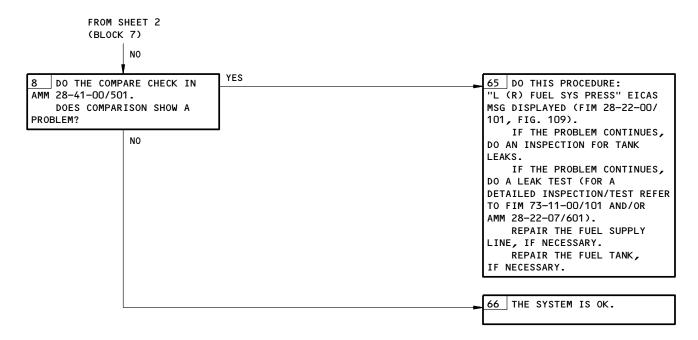
BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



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







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

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Not Used Figure 112

EFFECTIVITY-GUI 001-114, 116-999

CONFIG Page 180P May 28/06



Not Used Figure 113

EFFECTIVITY-GUI 001-114, 116-999

E50289



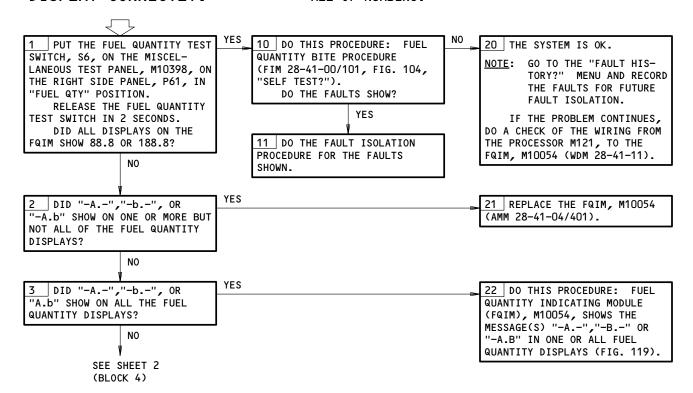
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

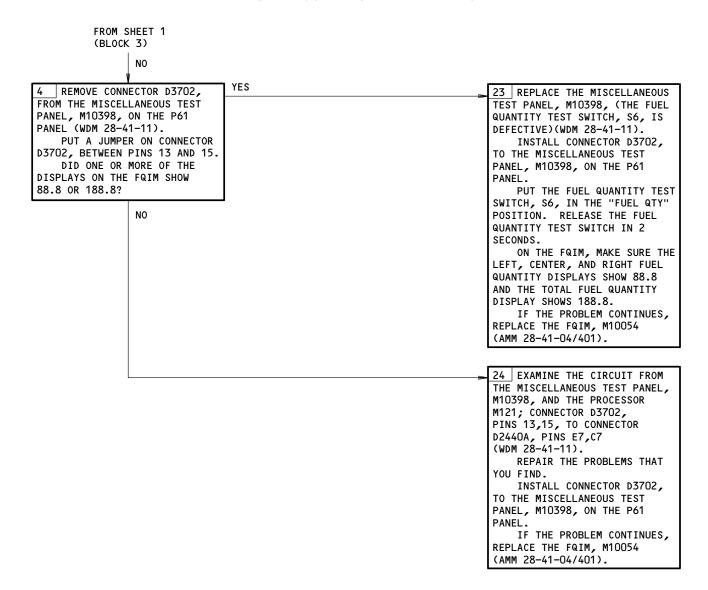
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

FUEL QUANTITY
INDICATING MODULE
(FQIM) DOES NOT
DISPLAY CORRECTLY.

NOTE: THE DISPLAY IS NOT CORRECT IF IT IS INTERMITTENT, NOT ACCURATE, OR DOES NOT SHOW PART OR ALL OF NUMBERS.



Fuel Quantity Indicating Module (FQIM) Does Not Display Correctly.
Figure 114 (Sheet 1)



Fuel Quantity Indicating Module (FQIM) Does Not Display Correctly.
Figure 114 (Sheet 2)

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"FUEL CONFIG" LIGHT AND EICAS MSG "LOW FUEL" NOT DISPLAYED DURING FUEL QTY TEST

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11L19,34A10

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



FUEL CONFIG Light and EICAS Msg LOW FUEL Not Displayed during Fuel Qty Test Figure 115

GUI 001-114, 116-999

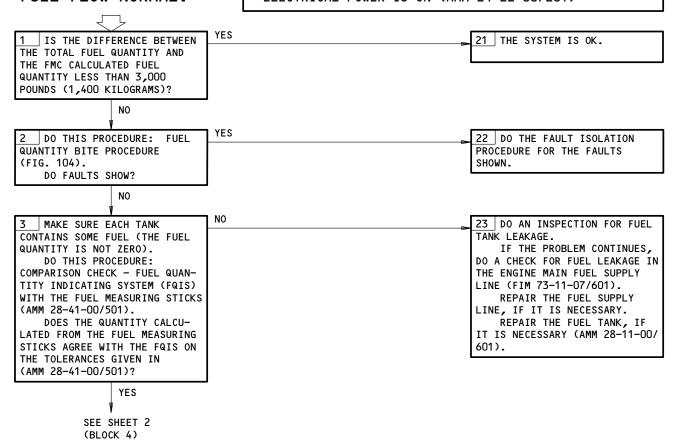
28-41-00

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

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11L19,34A10

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

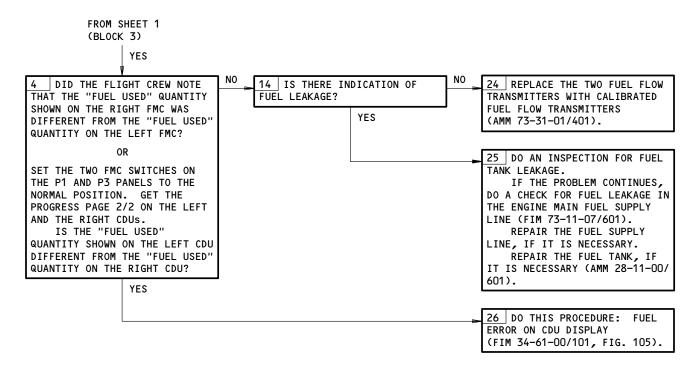


Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal. Figure 116 (Sheet 1)

EFFECTIVITY GUI 001-114, 116-999

28-41-00





Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal. Figure 116 (Sheet 2)

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PREREQUISITES

EICAS MSG "FUEL QTY IND" OR "FUEL QTY CHANNEL" DISPLAYED.

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

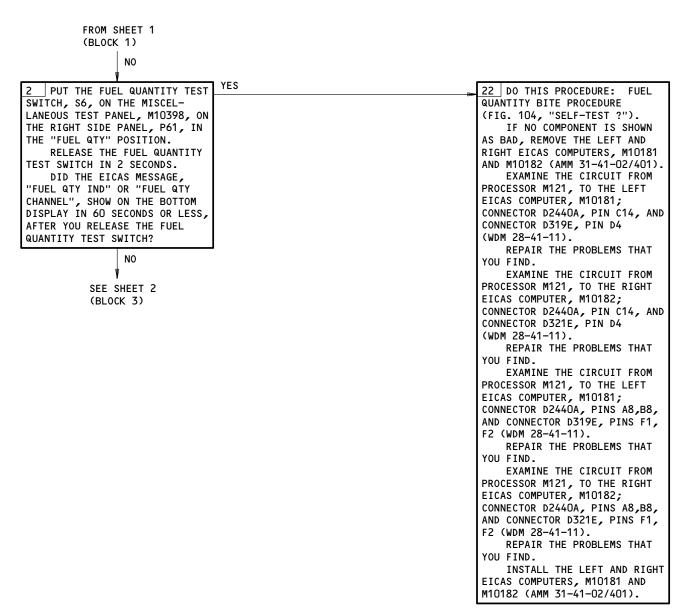
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

YES DO A CHECK FOR THESE 21 OPEN THESE CIRCUIT CONDITIONS: BREAKERS ON THE P11 PANEL: • EICAS STATUS MESSAGE, "FUEL 11C34, FUEL QTY 1 QTY IND" IS SHOWN 11L19, FUEL QTY 2 • PRESENT FAULTS MENU ON THE FUEL QUANTITY PROCESSOR CLOSE THESE CIRCUIT UNIT (FQPU) SHOWS THE BREAKERS ON THE P11 PANEL: MESSAGE, "XX IFQC CIRCUIT 11C34, FUEL QTY 1 BOARD FAIL" (FIG. 104) 11L19, FUEL QTY 2 THE SYSTEM DATA MENU ON THE DO THIS PROCEDURE: FUEL FQPU SHOWS ZEROES FOR ALL QUANTITY BITE PROCEDURE (FIG. 104, "SELF-TEST"?). • THE MESSAGES ON THE FQPU ARE STILL SHOWN AFTER YOU DO THE IF NO FAULT MESSAGES SHOW, SELF TEST PROCEDURE THEN THE SYSTEM IS OK. FIG. 104). ARE ALL THESE CONDITIONS TRUE? NO SEE SHEET 2 (BLOCK 2)

EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed.
Figure 117 (Sheet 1)

 28-41-00

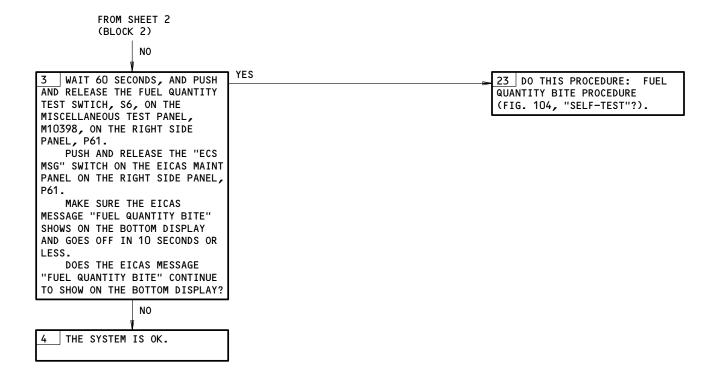
20



EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed. Figure 117 (Sheet 2)

EFFECTIVITY-GUI 001-114, 116-999

28-41-00 CONFIG



EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed. Figure 117 (Sheet 3)

28-41-00

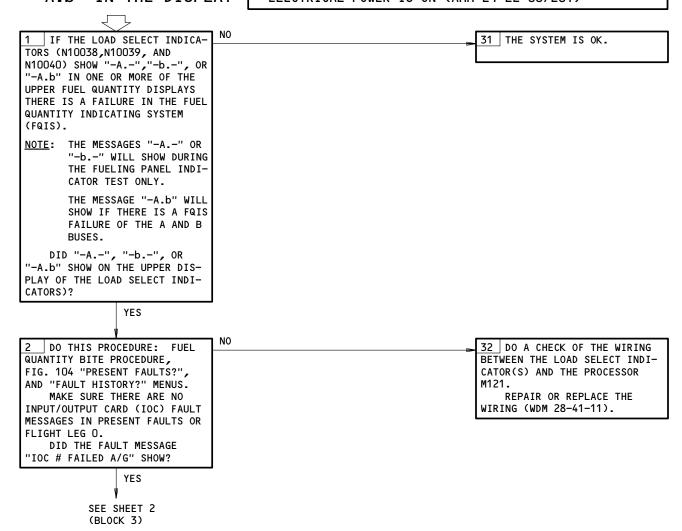
20

CONFIG 2 Page 180Y May 28/06 LOAD SELECT INDICATOR SHOWS THE MESSAGE "-A.-", OR "-b.-" OR "-A.b" IN THE DISPLAY

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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

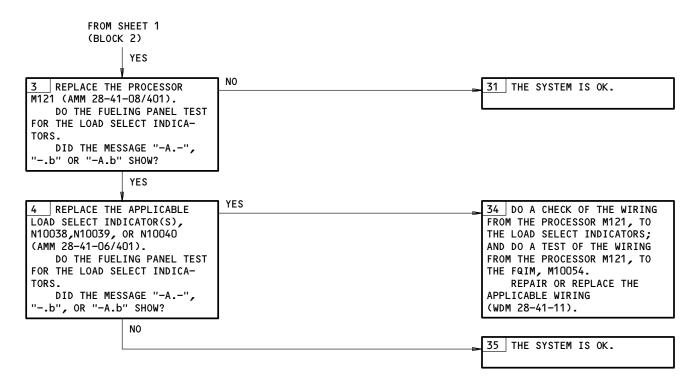


Load Select Indicator Shows the Message "-A.-", or "-b.-" or "-A.b" in the Display Figure 118 (Sheet 1)

EFFECTIVITY-GUI 001-114, 116-999

28-41-00





Load Select Indicator Shows the Message "-A.-", or "-b.-" or "-A.b" in the Display Figure 118 (Sheet 2)

GUI 001-114, 116-999

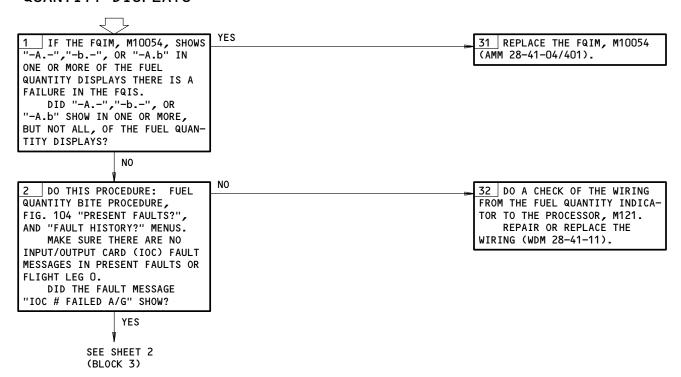
28-41-00 CONFIG 2 Page 181 May 28/06

FUEL QUANTITY INDI-CATING MODULE (FQIM), M10054, SHOWS THE MESSAGE(S) "-A.-", "-b-" OR "-A-b" IN ONE OR ALL FUEL QUANTITY DISPLAYS

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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



Fuel Quantity Indicating Module (FQIM), M10054, Shows the Message(s) "-A.-","-b.-" or "-A.b" in One or All Fuel Quantity Displays Figure 119 (Sheet 1)

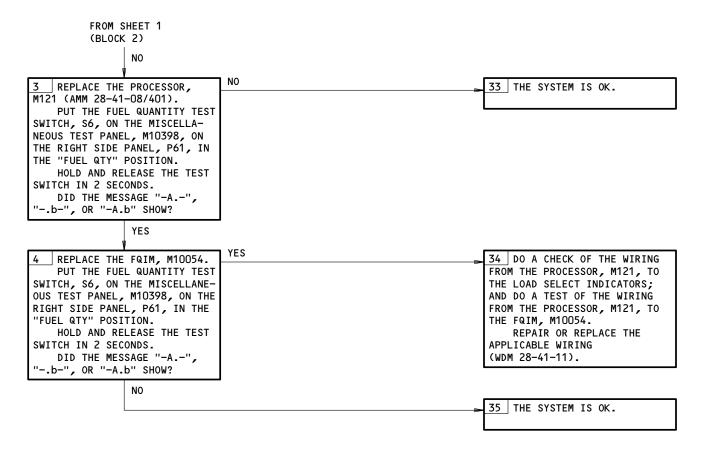
EFFECTIVITY-GUI 001-114, 116-999

28-41-00 CONFIG

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Fuel Quantity Indicating Module (FQIM), M10054, Shows the Message(s) "-A.-","-b.-" or "-A.b" in One or All Fuel Quantity Displays Figure 119 (Sheet 2)

EFFECTIVITY GUI 001-114, 116-999

28-41-00

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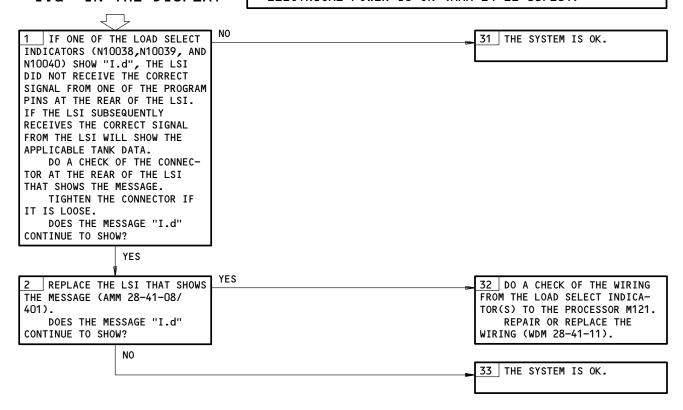
PREREQUISITES

TCATOR MA

LOAD SELECT INDICATOR SHOWS THE MESSAGE
"I.d" IN THE DISPLAY

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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



Load Select Indicator Shows the Message "I.d" in the Display Figure 120

GUI 001-114, 116-999

28-41-00 config 2



FUEL QUANTITY INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -			119BL, MAIN EQUIP CTR, P34	
FUEL QTY, C1040		1	34A10	*
CIRCUIT BREAKER -			FLT COMPT, P11	
FUEL QTY - L, C1048		1	11034	*
FUEL QTY - R, C1053		1	11L19	*
CIRCUIT BREAKER -			FLT COMPT, P6	
FUELING QTY, C1045		1	664	*
COMPENSATOR - CENTER TANK, TS5010	8 8	1 1	631AB, CENTER FUEL TANK	28-41-02
COMPENSATOR - L MAIN TANK, TS108 COMPENSATOR - R MAIN TANK, TS119		1	541AB, L MAIN FUEL TANK 641AB, R MAIN FUEL TANK	28-41-02 28-41-02
COMPUTER - (FIM 31-41-00/101) EICAS L, M10181 EICAS R, M10182	8	1	OTTAB, K MAIN FUEL TANK	20-41-02
DENSITOMETER - CENTER TANK, M10903	12	1	631AB, CENTER FUEL TANK	28-41-03
DENSITOMETER - L MAIN TANK, M10901	12	1	541AB, L MAIN FUEL TANK	28-41-03
DENSITOMETER - R MAIN TANK, M10902	12	1	641AB, R MAIN FUEL TANK	28-41-03
HARNESS - CENTER DENSITOMETER TANK WIRING, M10917	13	1	CENTER MAIN FUEL TANK	28-41-09
HARNESS - L CENTER TANK WIRING, M10294	9	1	CENTER FUEL TANK	28-41-09
HARNESS - L MAIN TANK WIRING, M726	11	1	L MAIN FUEL TANK	28-41-09
HARNESS - LEFT MAIN DENSITOMETER TANK WIRING, M10916	13	1	L MAIN FUEL TANK	28-41-09
HARNESS - R CENTER TANK WIRING, M10137	10	1	CENTER FUEL TANK	28-41-09
HARNESS - R MAIN TANK WIRING, M727	11	1	R MAIN FUEL TANK	28-41-09
HARNESS - RIGHT MAIN DENSITOMETER TANK WIRING, M10918	13	1	R MAIN FUEL TANK	28-41-09
HOT SHORT PROTECTOR, M11872	14	1	651, R REAR SPAR	28-41-24
INDICATOR - CENTER TANK LOAD SELECT (LSI), N10039	5	1	FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - L MAIN TANK LOAD SELECT (LSI), N10040	5	1	FUELING CONTROL PANEL, P28	28-41-06
INDICATOR - R MAIN TANK LOAD SELECT (LSI), N10038	5	1	FUELING CONTROL PANEL, P28	28-41-06
MODULE - FUEL QUANTITY PROCESSOR (FQPU), M10054	3	1	FLT COMPT, P5	28-41-04
RELAY - (FIM 31-01-33/101) FUEL QTY PWR XFR, K356 FUELING PANEL DOOR, K179 FUELING POWER TRANSFER, K357 RELAY - (FIM 31-01-36/101) SYS 1 AIR/GND, K140				
RELAY - (FIM 31-01-37/101) SYS 2 AIR/GND, K200				

^{*} SEE THE WDM EQUIPMENT LIST

1 AIRPLANES POST-SB 28A0085

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

GUI 115

28-41-00 config 3



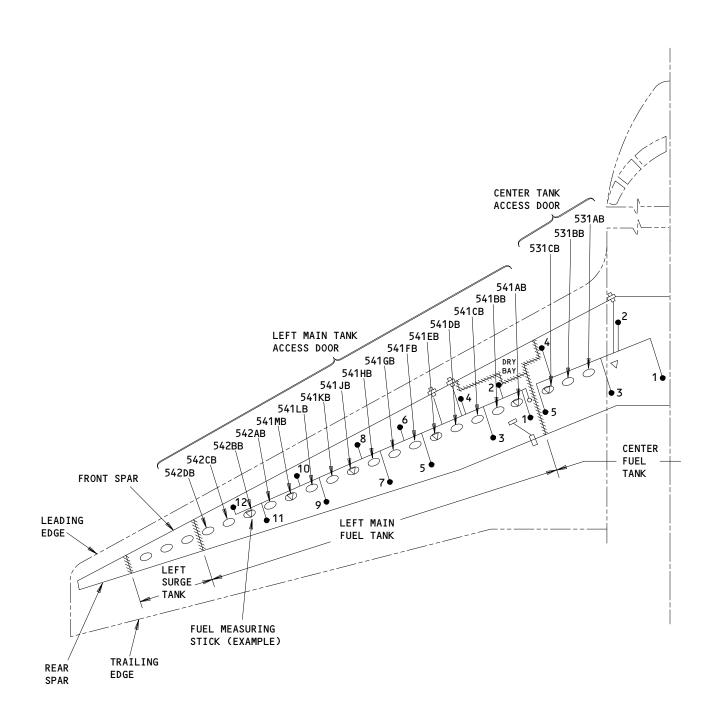
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
UNIT - TANK	8	_	LEFT OR RIGHT WING	28-41-01
CENTER TANK NO. 1, TS5011		1	134AZ	
CENTER TANK NO. 2, TS5012		1	531AB	
CENTER TANK NO. 3, TS5013		1	531AB	
CENTER TANK NO. 4, TS5014		1	531BB	
CENTER TANK NO. 5, TS5015		1	531CB	
CENTER TANK NO. 6, TS5016		1	631AB	
CENTER TANK NO. 7, TS5017		1	631AB	
CENTER TANK NO. 8, TS5075		1	631BB	
CENTER TANK NO. 9, TS5076		1 1	631CB 541AB	
L MAIN TANK NO. 1, TS109 L MAIN TANK NO. 2, TS110			541BB	
L MAIN TANK NO. 2, 13110 L MAIN TANK NO. 3, TS111		1	541CB	
L MAIN TANK NO. 4, TS112		i	541DB	
L MAIN TANK NO. 5, TS113		i	541FB	
L MAIN TANK NO. 6, TS114		i	541GB	
L MAIN TANK NO. 7, TS115		1	541HB	
L MAIN TANK NO. 8, TS116		1	541 JB	
L MAIN TANK NO. 9, TS117		1	541LB	
L MAIN TANK NO. 10, TS118		1	541MB	
L MAIN TANK NO. 11, TS5196		1	542AB	
L MAIN TANK NO. 12, TS5197		1	542CB	
R MAIN TANK NO. 1, TS146		1	641AB	
R MAIN TANK NO. 2, TS147		1	641BB	
R MAIN TANK NO. 3, TS148		1	641CB	
R MAIN TANK NO. 4, TS149		1	641DB	
R MAIN TANK NO. 5, TS150		1	641FB	
R MAIN TANK NO. 6, TS151		1	641GB	
R MAIN TANK NO. 7, TS152		1	641HB	
R MAIN TANK NO. 8, TS153		1	641 JB	
R MAIN TANK NO. 9, TS154		1 1	641LB 641MB	
R MAIN TANK NO. 10, TS155 R MAIN TANK NO. 11, TS5198			642AB	
R MAIN TANK NO. 11, 153196 R MAIN TANK NO. 12, TS5199			642CB	
IN PINTIN THINK NO. 12, 133177		_ '	U42CD	

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

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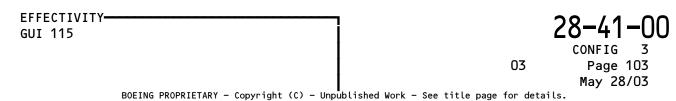
03



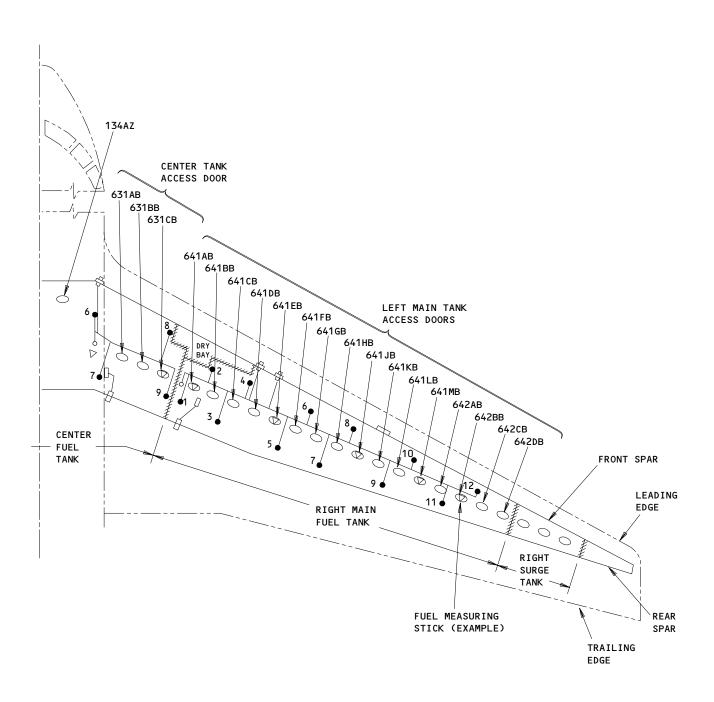


LEFT WING

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

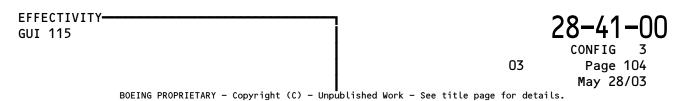






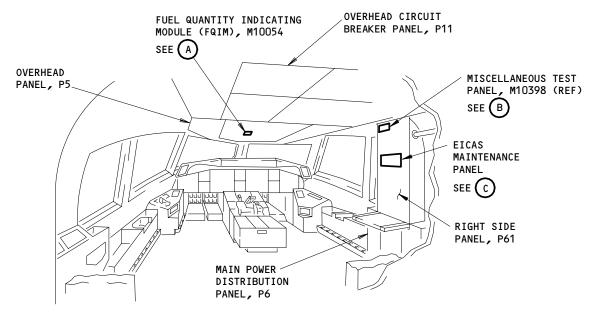
RIGHT WING

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

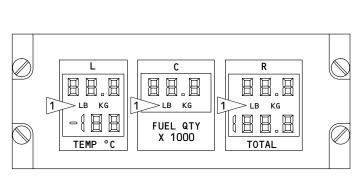


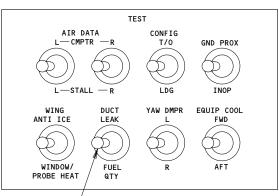


FAULT ISOLATION/MAINT MANUAL



FLIGHT COMPARTMENT



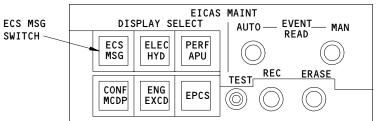


FUEL QUANTITY INDICATING MODULE (FQIM), M10054

FUEL QUANTITY TEST SWITCH, S6

MISCELLANEOUS TEST PANEL, M10398 (REF) (EXAMPLE PANEL SHOWN)





EICAS MAINTENANCE PANEL

1 THE UNITS ARE IN KGS OR LBS.



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

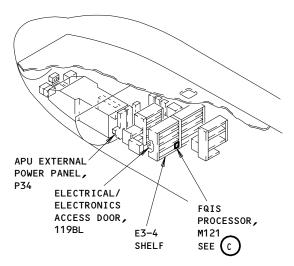
EFFECTIVITY-**GUI 115**

CONFIG

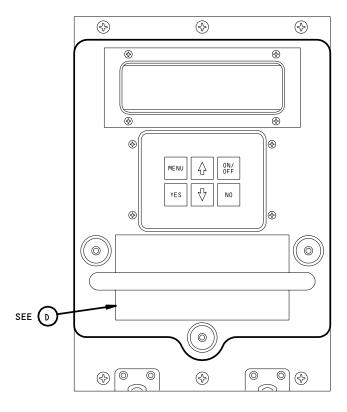
03

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MAIN EQUIPMENT CENTER



FQIS PROCESSOR, M121

INSTRUCTIONS:

Press ON to start BITE display Press YES or NO in response to questions (?) Press 會 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 4)

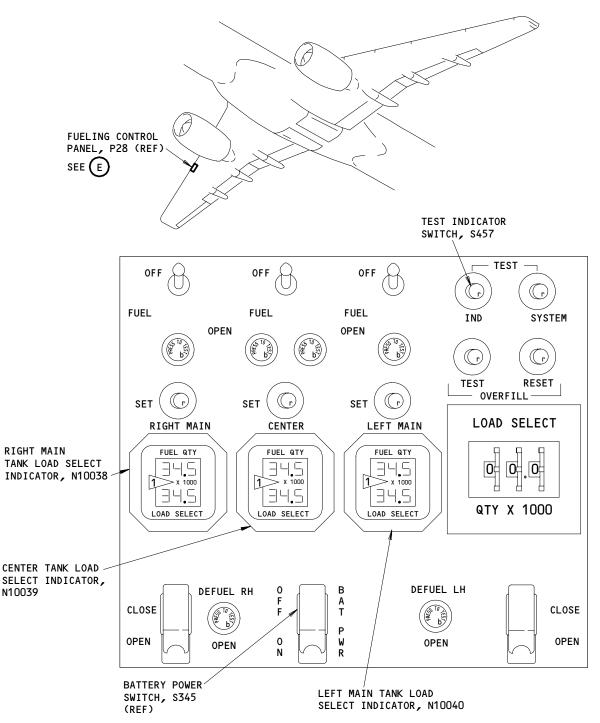
EFFECTIVITY-**GUI 115**

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FUELING CONTROL PANEL, P28

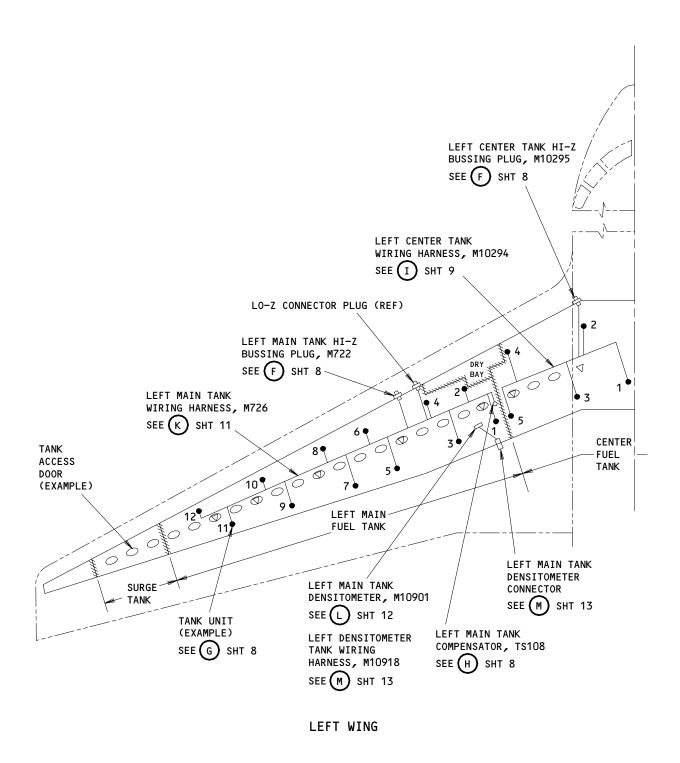
1> THE UNITS ARE IN KGS OR LBS.

Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 5)

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Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 6)

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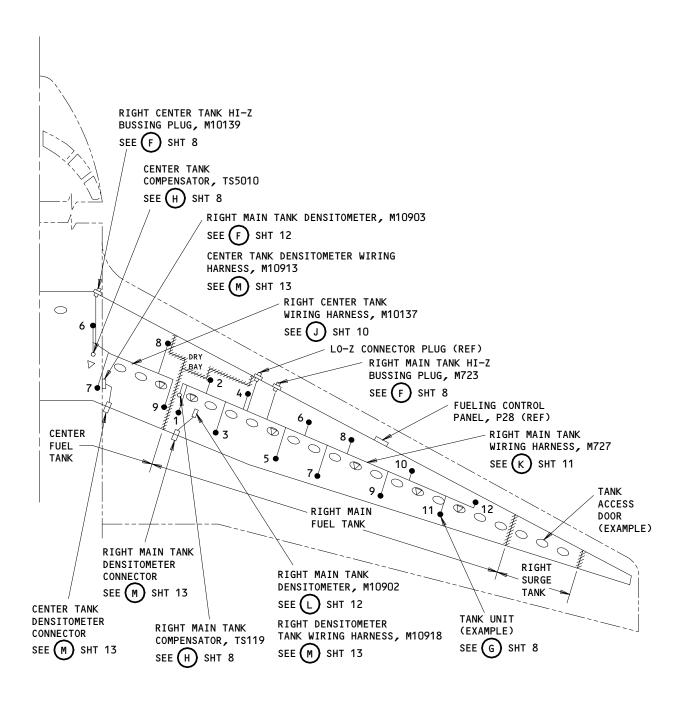
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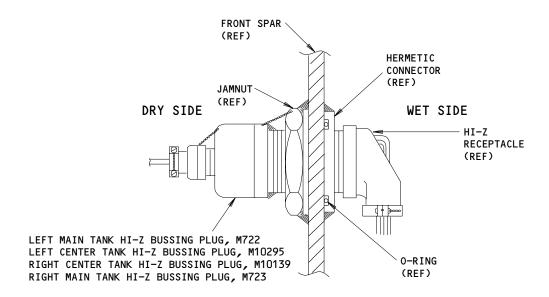


RIGHT WING

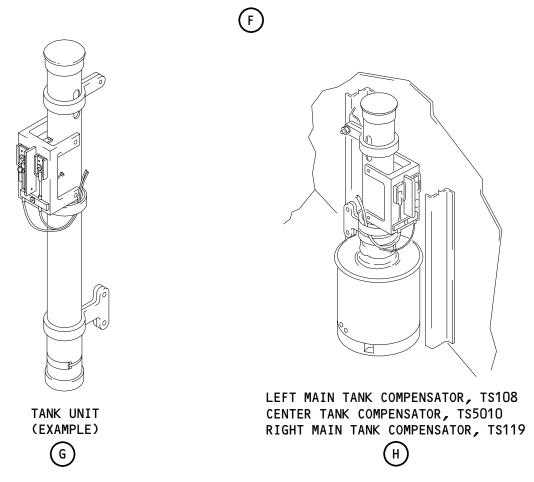
Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 7)

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HI-Z BUSSING PLUG OR LO-Z CONNECTOR



Fuel Quantity Indicating System - Component Location (Details from Sht 6 and 7)
Figure 102 (Sheet 8)

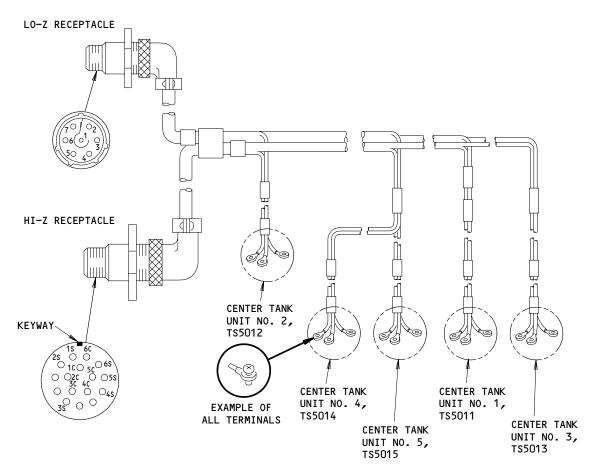
GUI 115

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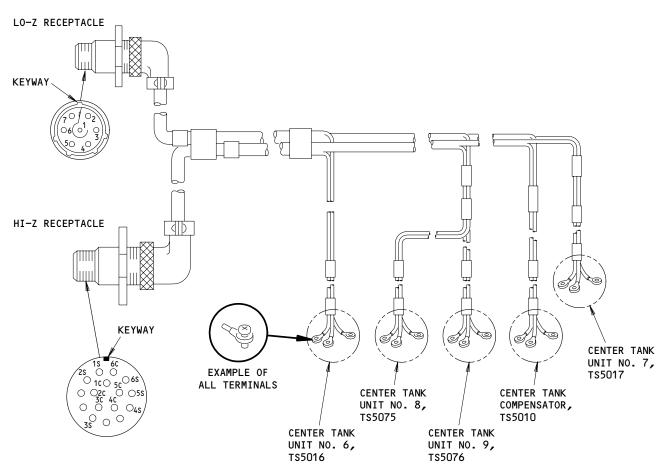


LEFT CENTER TANK WIRING HARNESS, M10294

Fuel Quantity Indicating System - Component Location (Detail from Sht 6) Figure 102 (Sheet 9)

EFFECTIVITY-**GUI 115**





RIGHT CENTER TANK WIRING HARNESS, M10137

Fuel Quantity Indicating System - Component Location (Detail from Sht 7)
Figure 102 (Sheet 10)

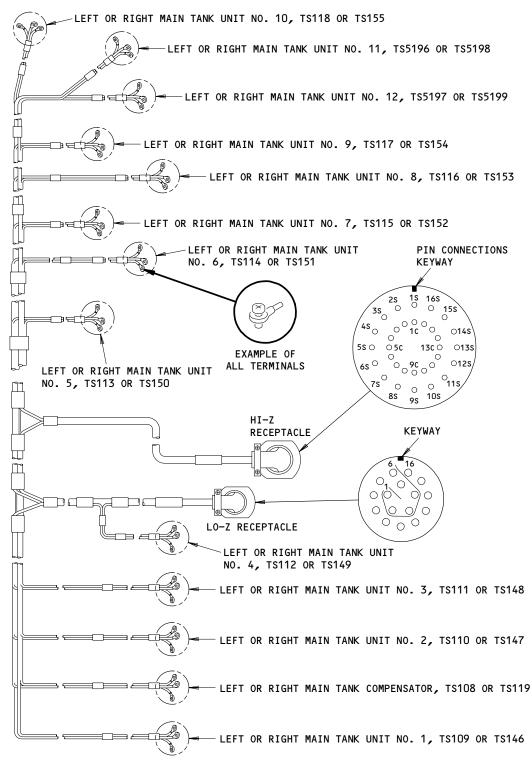
GUI 115

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LEFT OR RIGHT MAIN TANK WIRING HARNESS, M726 OR M727



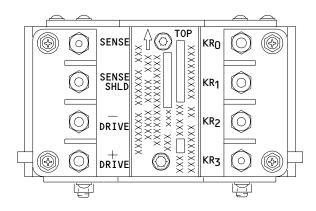
Fuel Quantity Indicating System - Component Location (Detail from Sht 6 and 7) Figure 102 (Sheet 11)

EFFECTIVITY-**GUI 115**

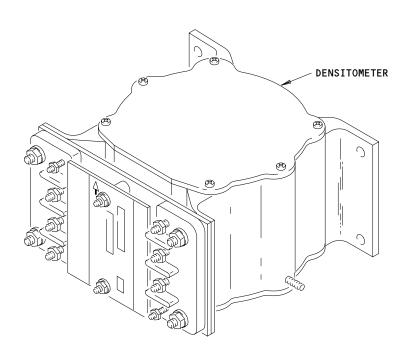
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FRONT VIEW



LEFT MAIN, CENTER OR RIGHT MAIN DENSITOMETER, M10901,M10903 OR M10902



Fuel Quantity Indicating System - Component Location (Detail from Sht 6 and 7) Figure 102 (Sheet 12)

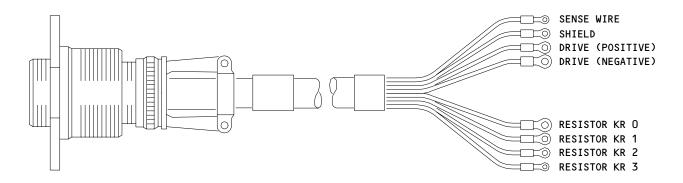
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LEFT MAIN, RIGHT MAIN OR CENTER DENSITOMETER TANK WIRING HARNESS, M10916,M10918, OR M10917



Fuel Quantity Indicating System - Component Location (Detail from Sht 6 and 7)
Figure 102 (Sheet 13)

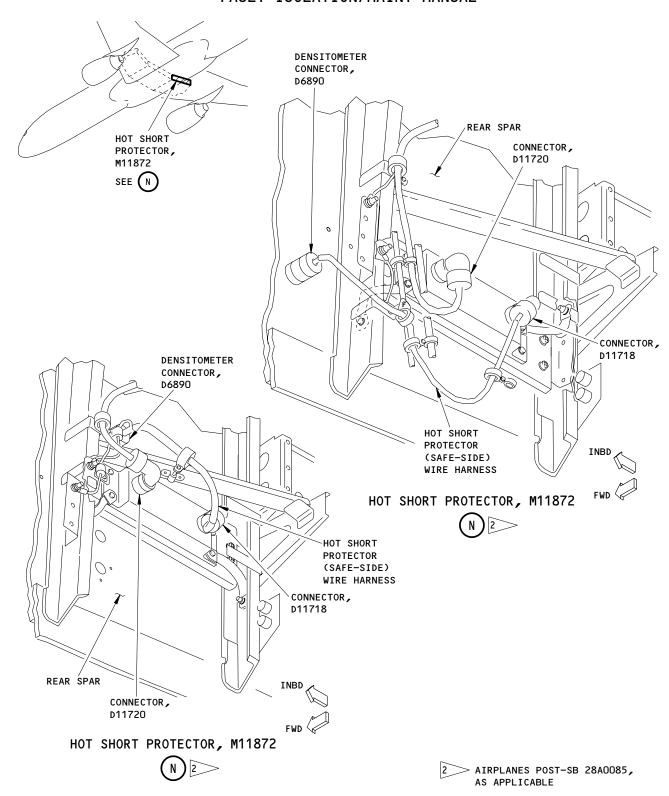
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FAULT ISOLATION/MAINT MANUAL



Fuel Quantity Indicating System - Component Location Figure 102 (Sheet 14)

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Fuel Quantity Indicating System Problems Index Figure 103

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4, 11C34, 11L19, 34A10

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 370-044-001 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 -LEFT/RIGHT MAIN FUEL TANK - PSD 40-510 CENTER FUEL TANK - PSD 40-511
- C. TEST BOX, FQIS PSD 757/767 1
- D. FUEL QTY ADAPTER HARNESS DENSITOMETER PS 757/767 103
- 4. TEST BOX, FQIS A28007-44 (PART OF A28007-41)
- NOTE 1: WHEN AN AIRPLANE EICAS MESSAGE SHOWS, YOU MUST DO A CHECK OF THE PROCESSOR (FQPU) BITE MENU "PRESENT FAULTS?". FOR THE FAULT HISTORY MENU, DO A CHECK FOR FAULT MESSAGES ON THE FLIGHT LEG OO. MAKE AND KEEP A WRITTEN RECORD OF THE FAULTS IN FLIGHT LEG OO 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 FIG. 106.

NOTE: IF NO PRESENT FAULTS SHOW AND THERE ARE FAULT MESSAGES IN "FAULT HISTORY?" FLIGHT LEG OO, MAKE SURE THE FQIS OPERATES CORRECTLY AS FOLLOWS:

- MAKE SURE THE FUEL QUANTITY DISPLAY DOES NOT GO OFF OR HAVE AN IRREGULAR INDICATION
- 2. DO A "SELF TEST?" ON THE 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.

Fuel Quantity BITE Procedure Figure 104 (Sheet 1)

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NOTE 3: EACH FLIGHT LEG, AS SHOWN BY THE 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 FORM FLIGHT LEG OO IS RECORDED IN FLIGHT LEG O1, AND FLIGHT LEG OO WILL START AGAIN.

AIRPLANES WITH THE PROCESSOR, PART NO. \$345,001-030; IF THE AIRPLANE POWER IS PUT OFF AND ON, AND THERE IS A FAULT MESSAGE IN "FAULT HISTORY?" FLIGHT LEG O, THE EICAS MESSAGE "FUEL QTY BITE" WILL SHOW. THE EICAS MESSAGE "FUEL QTY BITE" WILL ALSO SHOW IF YOU DO A "SELF TEST?" WHEN THERE IS A FAULT MESSAGE IN FLIGHT LEG O. TO CORRECT THIS FAULT MESSAGE, SEE NOTE 1.

NOTE 5: THE AIRPLANE WIRING HARNESSES ARE EXTERNAL TO THE FUEL TANK.

NOTE 6: THE TANK WIRING HARNESSES ARE INTERNAL TO THE FUEL TANK.

1. BITE CONTROL PANEL - GENERAL

A. THE BITE CONTROL PANEL IS ON THE FRONT OF THE PROCESSOR IN THE MAIN EQUIPMENT CENTER, FIG. 102, SHEET 4. THE PROCESSOR BITE CONTROL PANEL OPERATION BUTTONS ARE AS FOLLOWS:

THE "ON/OFF" BUTTON PUTS THE BITE DISPLAY CONTROL ON OR OFF OFF/ON: THE "MENU" BUTTON PUTS YOU AT THE MENU LEVEL OF THE MENU 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 (?)

THE "NO" BUTTON PUTS ON THE NEXT MENU ITEM ON THE DISPLAY NO:

FOR MESSAGES THAT END IN A QUESTION MARK (?)

♠ (UP): THE "UP" BUTTON SHOWS THE LAST DATA ITEM SHOWN

lacklack (DOWN): THE "DOWN" BUTTON SHOWS THE NEXT DATA ITEM

2. PROCESSOR MENU - GENERAL

THE FQIS TOP LEVEL MENU MESSAGES ARE AS FOLLOWS: (SEE SHEET 6).

A. PRESENT FAULTS ?

THE PRESENT FAULTS MENU DISPLAY IS SHOWN ON SHEET 8. THE PRESENT FAULTS MENU SHOWS ALL PRESENT SYSTEM FAULTS.

B. FAULT HISTORY ?

THE FAULT HISTORY MENU DISPLAY IS SHOWN ON SHEET 10. THE FAULT HISTORY MENU SHOWS ALL SYSTEM FAULTS FOR THE FLIGHT LEGS O THRU 64.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure Figure 104 (Sheet 2)

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C. SYSTEM DATA ?

THE SYSTEM DATA MENU DISPLAY IS SHOWN ON SHEET 13. THE SYSTEM DATA MENU SHOWS DATA AS FOLLOWS:

(1) UPLIFT DATA ?

THE UPLIFT DATA MENU SHOWS AIRPLANE FUEL LOADED 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 ON SHEET 15. 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. YOU MUST CLOSE THE FUELING STATION DOOR, 621GB, TO DO THIS TEST.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure Figure 104 (Sheet 3)

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E. SYSTEM CONFIG ?

THE SYSTEM CONFIGURATION MENU DISPLAYS ARE SHOWN ON SHEET 23. 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 (PANEL 28) 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 TANK STATUS, "ABSENT" SHOWS IF NO SPARE TANK IS USED
- (D) FUELING STATION DOOR (PANEL 28) OPEN/CLOSED INDICATION
- (E) ID STATUS, INDICATION OF THE INPUT/OUTPUT CARD IN USE (CARD 1 OR 2)
- (F) CENTER OVERRIDE PUMPS, ON/OFF INDICATION
- (G) FLIGHT, REFUEL, SYSTEM TEST INDICATION (O IS OFF, OR 1 IS ON)
- (H) LEFT, RIGHT, AND CENTER SET SWITCH INDICATION (O 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)

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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 ON SHEET 28. 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.
- (B) ARE YOU SURE? LETS YOU ERASE OR NOT ERASE THE FLIGHT LEGS 11 THRU 64.
- (C) END HISTORY ERASE (ERASE COMPLETE).

(CONTINUED ON SHEET 7)

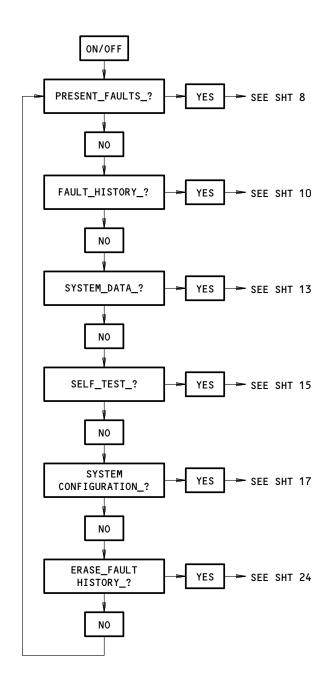
Fuel Quantity BITE Procedure Figure 104 (Sheet 5)

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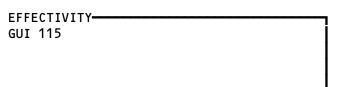
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MAIN MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 6)





3. FUEL QUANTITY BITE PROCEDURE

A. PUSH AND RELEASE THE "ON/OFF" BUTTON TO PUT THE PROCESSOR BITE DISPLAY TO ON.

NOTE: MAKE SURE THE PROCESSOR BITE DISPLAY IS ON. IF THE PROCESSOR BITE DISPLAY 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 SHEET 6).
- C. PRESENT FAULTS ?
 - (1) MAKE SURE THE PROCESSOR BITE DISPLAY 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 DATA.
 - (3) MAKE A WRITTEN RECORD OF ALL THE FAULT MESSAGES SHOWN.
 - (4) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.

NOTE: PUSH AND RELEASE THE "UP" BUTTON TO SEE THE PREVIOUS FAULT MESSAGES.

(5) 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.

(6) SEE FIG. 106 FOR CORRECTION OF ALL FAULT MESSAGES.

(CONTINUED ON SHEET 9)

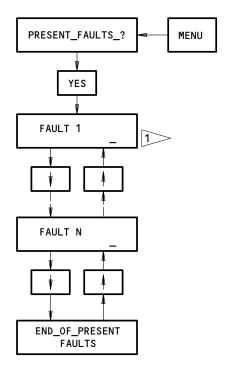
Fuel Quantity BITE Procedure Figure 104 (Sheet 7)

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PRESENT FAULT MENU



"_" THIS INDICATION SHOWS "A" OR "G" TO INDICATE THAT THE FAULT FIRST OCCURRED IN THE AIR OR GROUND MODE.

Fuel Quantity BITE Procedure Figure 104 (Sheet 8)

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D. FAULT HISTORY ?

- (1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "FAULT HISTORY?" SHOWS ON THE MENU DISPLAY.
 - (A) IF THE PROCESSOR IS NOT ON, GO TO 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 FLIGHT LEG WITH THE RECORDED FAULTS.

(3) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE FAULT MESSAGES, OR PUSH AND RELEASE THE "NO" BUTTON TO SEE THE NEXT "FLIGHT LEG" WITH FAULT MESSAGES.

NOTE: ONLY THE FLIGHT LEGS WITH FAULTS RECORDED WILL SHOW FAULT MESSAGES ON THE DISPLAY.

- (4) MAKE A WRITTEN RECORD OF THE FAULT MESSAGE SHOWN.
- (5) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL THE FAULT MESSAGES.
- (6) WHEN "END OF HISTORY FLIGHT LEG ##" SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE NEXT FLIGHT LEG'S FAULT MESSAGES.
- (7) 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 ?"

(8) REFER TO TABLE 101 FOR CORRECTION OF ALL FAULT MESSAGES.

NOTE: ONLY THE FLIGHT LEGS WITH FAULTS RECORDED WILL SHOW FAULT MESSAGES ON THE DISPLAY.

(CONTINUED ON SHEET 11)

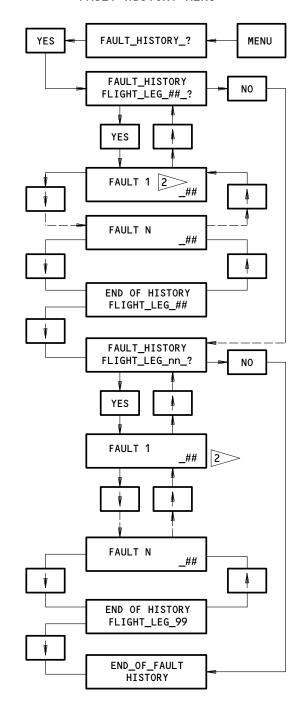
Fuel Quantity BITE Procedure Figure 104 (Sheet 9)

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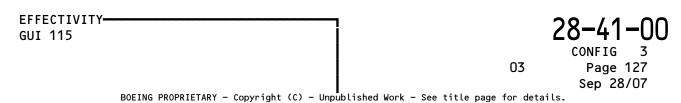


FAULT HISTORY MENU



2 "_" THIS INDICATION SHOWS "A" OR "G" TO SHOW THAT THE FAULT FIRST 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.

Fuel Quantity BITE Procedure Figure 104 (Sheet 10)





E. SYSTEM DATA ?

(1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SYSTEM DATA?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE PROCESSOR BITE DISPLAY IS NOT ON, GO TO 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; OR IF YOU WANT TO SEE THE "MAIN TANKS DATA ?"
 MENU, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (5).
 - (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.
- (4) WHEN THE "END OF UPLIFT DATA" MESSAGE SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO GO TO THE "MAIN TANKS DATA ?" MENU.
- (5) 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 (7).
 - (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 SYSTEM DATA SHOWN FOR THE LEFT AND RIGHT FUEL TANKS.

(CONTINUED ON NEXT SHEET)

Fuel Quantity BITE Procedure Figure 104 (Sheet 11)

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- (C) THE MAIN TANKS DATA MENU SHOWS THE LEFT AND RIGHT FUEL TANK DATA AS FOLLOWS (SEE SHEET 13):
 - 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.
- (6) WHEN THE "END OF MAIN TANK DATA" MESSAGE SHOWS, PUSH AND RELEASE THE "DOWN" BUTTON TO GO TO THE "CENTER TANK DATA ?" MENU.
- (7) PUSH AND RELEASE THE "YES" BUTTON TO SEE THE CENTER TANKS DATA.
 - (A) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE CENTER TANK DATA.
 - (B) MAKE A WRITTEN RECORD OF ALL THE SYSTEM DATA SHOWN FOR THE CENTER FUEL TANK.
 - (C) THE CENTER TANK DATA MENU SHOWS THE CENTER FUEL TANK DATA AS FOLLOWS (SEE SHEET 13):
 - 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 SYSTEM DATA HAVE SHOWN.

(E) PUSH AND RELEASE THE MENU BUTTON.

NOTE: THIS PUTS YOU AT THE TOP OF THE "SYSTEM DATA ?" MENU.

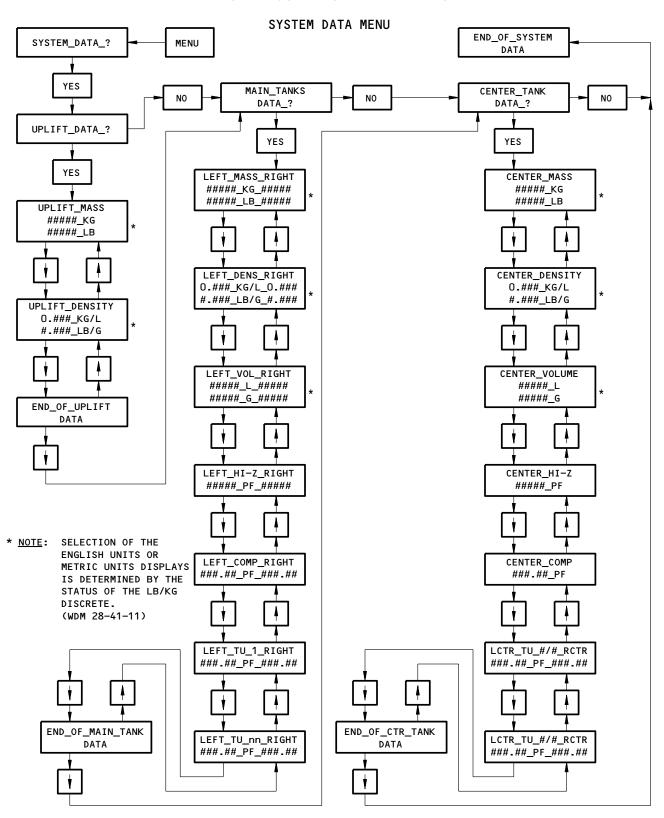
(CONTINUED ON SHEET 14)

Fuel Quantity BITE Procedure Figure 104 (Sheet 12)

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FAULT ISOLATION/MAINT MANUAL



Fuel Quantity BITE Procedure Figure 104 (Sheet 13)



F. SELF TEST ?

(1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SELF TEST ?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE PROCESSOR BITE DISPLAY IS NOT ON, GO TO STEP 3.A.

(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 (SEE SHEET 16).

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: YOU MUST CLOSE THE FUELING STATION DOOR, 621GB, BEFORE YOU DO 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.
 - 3) PUSH AND RELEASE THE "DOWN" BUTTON WHEN THE "END OF SELF TEST FAULTS" MESSAGE SHOWS (ALL OF THE SELF TEST FAULT MESSAGES ARE SHOWN).

NOTE: SEE TABLE 101 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.

(CONTINUED ON SHEET 16)

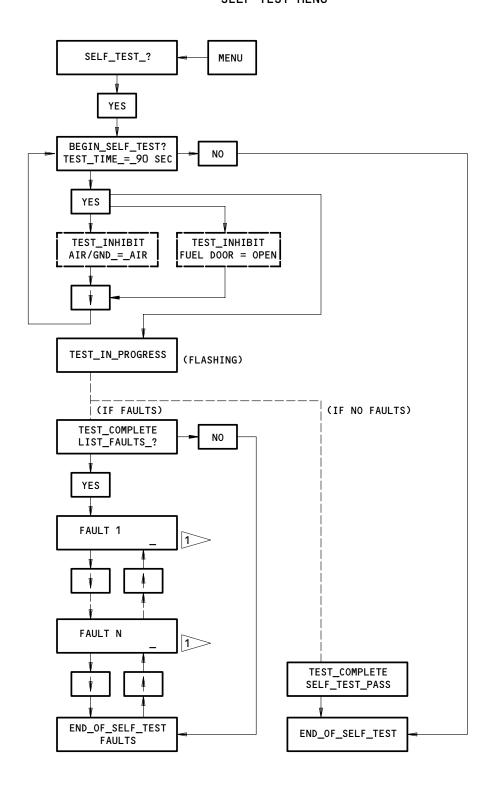
Fuel Quantity BITE Procedure Figure 104 (Sheet 14)

EFFECTIVITY—GUI 115

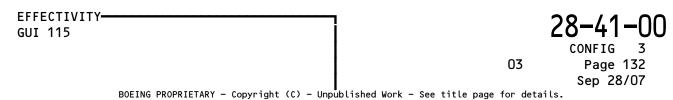
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SELF TEST MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 15)





- G. SYSTEM CONFIGURATION ?
 - (1) MAKE SURE THE PROCESSOR BITE DISPLAY IS ON AND "SYSTEM CONFIGURATION?" SHOWS ON THE MENU DISPLAY.

NOTE: IF THE FQIS PROCESSOR IS NOT ON, GO TO STEP 3.A.

- (2) IF YOU WANT TO SEE THE SYSTEM CONFIGURATION DATA, PUSH AND RELEASE THE "YES" BUTTON.
- (3) TO SEE THE LEFT MAIN FUEL TANK CONFIGURATION DATA, GO TO STEP (A) BELOW; TO SEE THE RIGHT MAIN FUEL TANK CONFIGURATION, PUSH AND RELEASE THE "NO" BUTTON AND GO TO STEP (A) BELOW; TO SEE THE CENTER FUEL TANK CONFIGURATION, DATA PUSH AND RELEASE THE "NO" BUTTON TWO TIMES AND GO TO STEP (A) BELOW (SEE SHEET 19):
 - (A) PUSH AND RELEASE THE "YES" BUTTON WHEN THE MENU DISPLAY SHOWS THE APPLICABLE MENU: "LEFT MAIN CONFIGURATION ?", "RIGHT MAIN CONFIGURATION ?", "CENTER CONFIGURATION ?"
 - (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE APPLICABLE FUEL TANK CONFIGURATION DATA.
 - (C) MAKE A WRITTEN RECORD OF ALL THE MESSAGES SHOWN FOR THE APPLICABLE FUEL TANK CONFIGURATION.
 - (D) THE LEFT MAIN CONFIGURATION DATA MENU SHOWS THE LEFT MAIN FUEL TANK DATA AS FOLLOWS (SHEET 19):
 - 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.

- (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 DATA MENU, PUSH AND RELEASE THE "MENU" BUTTON.

(CONTINUED ON SHEET 17)

Fuel Quantity BITE Procedure Figure 104 (Sheet 16)

EFFECTIVITY—GUI 115

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(4) TO SEE THE CONFIGURATION DATA FOR ONE OF THE TWO ARINC BUSSES, PUSH AND RELEASE THE "YES" BUTTON WHEN THE DISPLAY SHOWS THE APPLI-CABLE MENU: "ARINC BUS A CONFIGURATION ?", "ARINC BUS B CON-FIGURATION ?" (SEE SHEET 19).

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 CONFIGURATION DATA.
- (B) CONTINUE TO PUSH AND RELEASE THE "DOWN" BUTTON TO SEE ALL OF THE ARINC DATA.
- (C) MAKE A WRITTEN RECORD OF ALL THE ARINC MESSAGES SHOWN.
- (D) THE ARINC BUS A CONFIGURATION DATA MENU SHOWS INPUT/OUTPUT CARD (IOC) 1 DATA AS FOLLOWS (SEE SHEET 19):
 - 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 (O IS OFF, OR 1 IS ON)
 - 9) SET LEFT, RIGHT, OR CENTER INDICATION (O IS OFF, OR 1 IS ON).

WHEN THE "END OF ARINC CONIGURATION" MESSAGE SHOWS, ALL THE ARINC CONFIGURATION MESSAGES SHOW.

- (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.

(CONTINUED ON SHEET 18)

Fuel Quantity BITE Procedure Figure 104 (Sheet 17)

EFFECTIVITY-**GUI 115**



- (5) 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 (SEE SHEET 19).
 - (A) PUSH AND RELEASE THE "DOWN" BUTTON TO SEE THE BITE DISPLAY BOARD CONFIGURATION DATA.
 - (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 (SEE FIGURE 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" BUTTON TO CONTINUE.

NOTE: THE MESSAGE "END OF SYSTEM CONFIGURATION" WILL SHOW.

(6) PUSH AND RELEASE THE MENU BUTTON. THIS PUTS YOU AT THE TOP OF THE "SYSTEM CONFIGURATION?" MENU.

(CONTINUED ON SHEET 23)

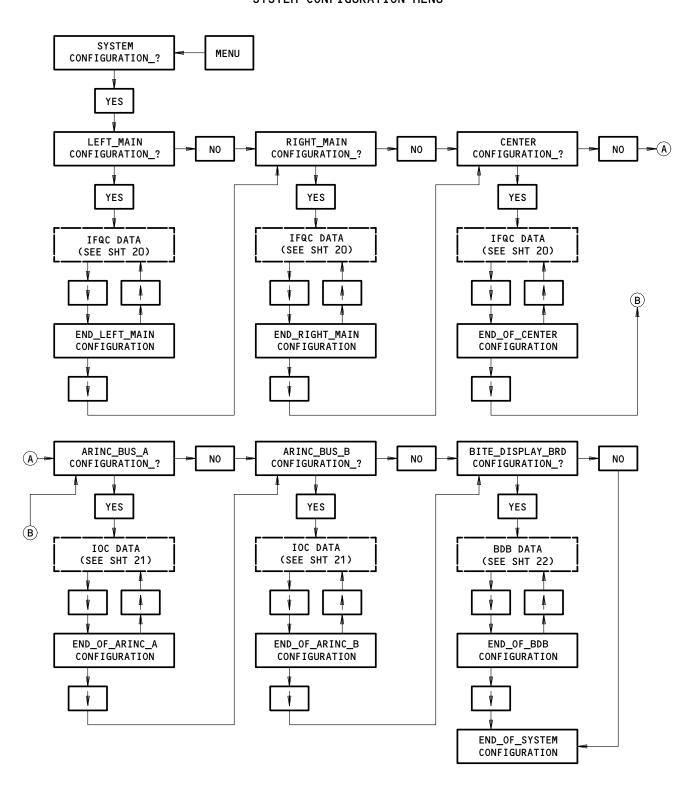
Fuel Quantity BITE Procedure Figure 104 (Sheet 18)

EFFECTIVITY—GUI 115

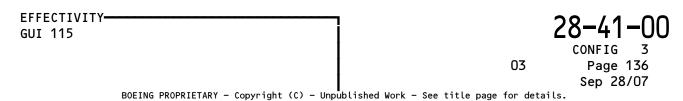
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SYSTEM CONFIGURATION MENU

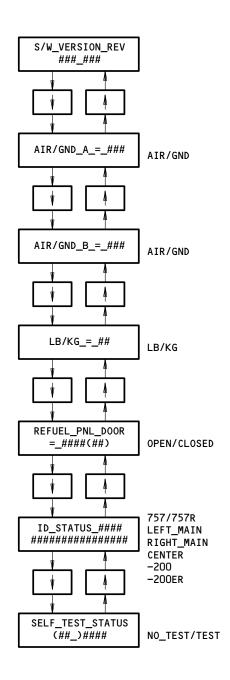


Fuel Quantity BITE Procedure Figure 104 (Sheet 19)

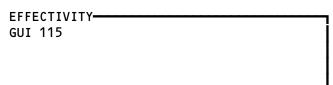




INDIVIDUAL FUEL QUANTITY CHANNEL CARD (IFQC) DATA



Fuel Quantity BITE Procedure Figure 104 (Sheet 20)



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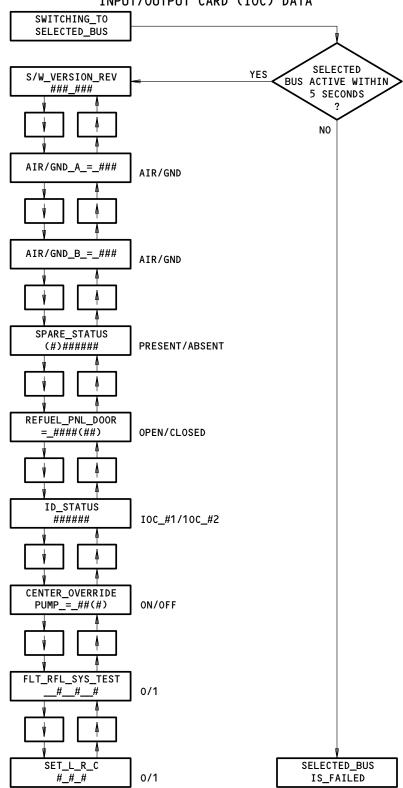
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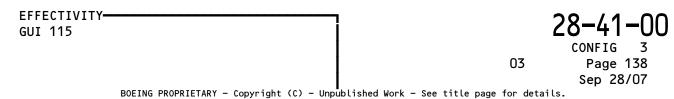


FAULT ISOLATION/MAINT MANUAL

INPUT/OUTPUT CARD (IOC) DATA

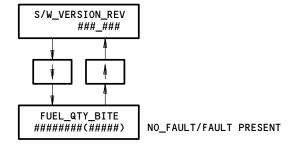


Fuel Quantity BITE Procedure Figure 104 (Sheet 21)





BITE DISPLAY BOARD DATA



Fuel Quantity BITE Procedure Figure 104 (Sheet 22)

28-41-00



H. ERASE HISTORY ?

(1) MAKE SURE THE FQIS PROCESSOR IS ON AND "ERASE FAULT HISTORY?" SHOWS ON THE MENU DISPLAY (SEE SHEET 24).

NOTE: IF THE FQIS PROCESSOR IS NOT ON, GO TO 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.

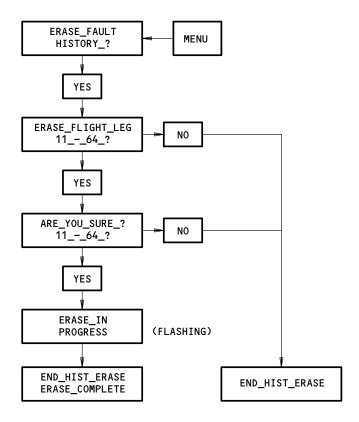
Fuel Quantity BITE Procedure Figure 104 (Sheet 23)

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ERASE FAULT HISTORY MENU



Fuel Quantity BITE Procedure Figure 104 (Sheet 24)

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Not Used Figure 105

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NO.	FIGURE	SHEET	FAULT MESSAGES
1	108	2	** TU ## OPEN LOZ OR HIZ WIRE G##.
2	108	3	** TU ## SHORTED IN TANK G##.
3	108	4	** TU ?? SHORTED IN TANK G##.
4	108	5	** TU ## CONTAMINATED G##.
5	108	6	** TU ## SHORTED TO GROUND G##.
6	108	7	** COMP OPEN LOZ OR HIZ WIRE G##.
7	108	8	** COMP SHORTED IN TANK G##.
8	108	9	** COMPENSATOR CONTAMINATED G##.
9	108	10	** COMP SHORTED TO GROUND G##.
10	108	11	** HIZ WIRE OPEN AT SPAR G##.
11	108	12	** HIZ SHIELD OPEN AT SPAR G##.
12	108	13	** HIZ WIRE OPEN AT PROCESSOR G##.
13	108	14	** HIZ SHIELD OPEN AT PROC G##.
14	108	15	** HIZ WIRE LOW RESISTANCE G##.
15	108	16	** HIZ SHORTED WIRE TO SHLD G##.
16	108	17	** HIZ SHIELD SHORT TO GND G##.
17	108	18	** DENS RESISTOR UNREADABLE G##.
18	108	19	** DENS EXCITA- TION SHORTED G##.
19	108	20	** DENS SENSE WIRE SHORTED G##.
20	108	21	** DENS SENSE OPEN AT SPAR G##.
21	108	22	** DENS SENSE OPEN AT PROC G##.
22	108	23	** DENS CONTAM OR RESISTOR G##.
23	108	24	** DENS SENSOR OR DRIVE WIRE G## (OR) ** DENS SENSOR FAILURE G##
24	108	25	** IFQC CIRCUIT BOARD FAILED G##.
25	108	26	** IFQC AIR/GND CIRCUIT FAIL G##.
26	108	27	AIR/GROUND INPUT FAILED G##.
27	108	28	LB/KG INPUT WIRE FAILED G##.
28	108	29	** IFQC LB/KG CIRCUIT FAIL G##.
29	108	30	IOC 1 DISCRETE DRIVER FAIL G##.
30	108	30	LOAD SELECT UNIT OR WIRE FAIL G##.
31	108	31	IOC # (1 OR 2) FAILED G##.
32	108	31	VOLUME SHUTOFF OF ** AT 95% G##.
33	108	32	VOLUME SHUTOFF OF ** AT 87% G##.
34	108	33	BITE DISPLAY BOARD FAILED G##.
35	108	34	(THE BITE DISPLAY BOARD IS NOT ON)
36	108	35	ARINC BUS (A OR B) FAILED G##.
37	108	36	** TU ?? SHORTED TO GROUND G##.

Fault Message Reference Chart Figure 106

GUI 115

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		EFFECTIVITY GUI 115	
BOEING PROPRIETARY – Copyright (C) – Unpublished Work – See title page for details.	03 Page 144 Sep 28/07	28-41-00 config 3	FQIS Wiring Figure 107 (Sheet 1)
		0	

	EQUIP-				CONNECTOR PINS		CONNECTOR PINS		CONNECTOR (2)	ONNECTOR CONNECTOR PINS		
COMPONENT	MENT NUMBER	MENI DOOP		HI-Z CONNECTOR D2440C	LO-Z CONNECTOR D41620	HI-Z CONNECTOR D42222	LO-Z CONNECTOR D41198	LO-Z CONNECTOR D41196	LO-Z CONNECTOR D2814	HI-Z 3 BUSSING PLUG M723	HI-Z SHIELD 3 BUSSING PLUG M723	
COMPENSATOR	TS119	641AB	E4	J2	1	1	1	1	16	16C	168	
TANK UNIT NO. 1	TS146	641AB	C1	J2	2	1	2	2	1	1C	18	
TANK UNIT NO. 2	TS147	641BB	D1	J2	3	1	3	3	2	20	2\$	
TANK UNIT	TS148	641CB	E1	J2	4	1	4	4	3	3C	3\$	
TANK UNIT	TS149	641DB	F1	J2	5	1	5	5	4	4C	48	
TANK UNIT	TS150	641FB	C2	J2	6	1	6	6	5	5C	5\$	
TANK UNIT	TS151	641GB	D2	J2	7	1	7	7	6	6C	6\$	
TANK UNIT	TS152	641HB	E2	J2	8	1	8	8	7	7C	7\$	
TANK UNIT NO. 8	TS153	641 JB	F2	J2	9	1	9	9	8	80	88	
TANK UNIT	TS154	641LB	C 3	J2	10	1	10	10	9	9C	98	
TANK UNIT NO. 10	TS155	641MB	D3	J2	11	1	11	11	10	10c	108	
TANK UNIT NO. 11	TS5198	642AB	E3	J2	36	1	12	12	11	11C	118	
TANK UNIT NO. 12	TS5199	642CB	F3	J2	37	1	13	13	12	12C	128	

EE RACK

INTER-

MEDIATE

INTER-

MEDIATE

FRONT SPAR

757 ISOLATION/MAINT MANUAL

RIGHT MAIN FUEL TANK

THE PIN NUMBER J2 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS H1 (WDM 28-41-31).

FQIS PROCESSOR

> THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-31).

THE HI-Z BUSSING PLUG PUTS THE HI-Z WIRE THROUGH THE CONNECTOR D2818. THE HI-Z CENTER CONDUCTOR IS PIN 1, AND THE SHIELD PIN IS C1.

Figure 107 (FQIS W
(Sheet 2)	Wiring
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	EQUIP-	ACCESS	FQIS PROCESSOR EE RACK MED CONNECTOR PINS CONNECTOR PINS CONN		SSOR EE RACK MEDIATE MEDIA PINS CONNECTOR PINS CONNECTOR CONNEC			EE RACK MEDIATE MEDIATE CONNECTOR PINS CONNECTOR CONNECTOR		C	FRONT SPAR CONNECTOR PINS		
COMPONENT	MENT NUMBER	MENT DOOR	LO-Z CONNECTOR D2440A	HI-Z CONNECTOR D2440C	LO-Z CONNECTOR D41636	HI-Z CONNECTOR D42222	LO-Z CONNECTOR D41394	LO-Z CONNECTOR D41192	LO-Z CONNECTOR D2788	HI-Z 6 BUSSING PLUG M722	HI-Z SHIELD 6 BUSSING PLUG M722		
COMPENSATOR	TS108	541AB	E4	В2	11	1	1	1	16	16C	168		
TANK UNIT NO. 1	TS109	541AB	C1	В2	12	1	2	2	1	10	1s		
TANK UNIT NO. 2	TS110	541BB	D1	В2	13	1	3	3	2	20	2\$		
TANK UNIT	TS111	541CB	E1	В2	14	1	4	4	3	3C	3\$		
TANK UNIT	TS112	541DB	F1	В2	15	1	5	5	4	4C	48		
TANK UNIT	TS113	541FB	C2	В2	16	1	6	6	5	5C	5\$		
TANK UNIT	TS114	541GB	D2	В2	17	1	7	7	6	6C	6S		
TANK UNIT	TS115	541HB	E2	В2	18	1	8	8	7	7C	7\$		
TANK UNIT	TS116	541 JB	F2	В2	19	1	9	9	8	80	88		
TANK UNIT	TS117	541LB	С3	В2	20	1	10	10	9	9C	9\$		
TANK UNIT NO. 10	TS118	541MB	D3	В2	21	1	11	11	10	10c	108		
TANK UNIT NO. 11	TS5196	542AB	E3	В2	22	1	12	12	11	11C	118		
TANK UNIT NO. 12	TS5197	542CB	F3	В2	25	1	13	13	12	12C	128		

ISOLATION/MAINT MANUAL

LEFT MAIN FUEL TANK

THE PIN NUMBER B2 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS A1 (WDM 28-41-21).

THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-21).

THE HI-Z BUSSING PLUG PUTS THE HI-Z WIRE THROUGH THE CONNECTOR D2792. THE HI-Z CENTER CONDUCTOR IS PIN 1, AND THE SHIELD PIN IS C1.

gure 107	
7 (Sheet 3)	22.27

COMPONENT	EQUIP- ACCESS		FQIS PROCESSOR CONNECTOR PINS		EE RACK CONNECTOR PINS		FRONT SPAR CONNECTOR PINS		
	MENT NUMBER	DOOR	LO-Z CONNECTOR D2440B	HI-Z CONNECTOR D2440C	LO-Z CONNECTOR D41620	HI-Z CONNECTOR D42226	LO-Z CONNECTOR D2814	HI-Z 9 BUSSING PLUG M10139	HI-Z SHIELD 9 BUSSING PLUG M10139
COMPENSATOR	TS5010	631 AB	F10	E6	17	1	5	5C	5\$
TANK UNIT	TS5016	631 AB	E10	E6	12	1	1	10	18
TANK UNIT	TS5017	631AB	D11	E6	13	1	2	20	2\$
TANK UNIT	T\$5075	631BB	E11	E6	14	1	3	3C	3\$
TANK UNIT	TS5076	631CB	F11	Е6	16	1	4	4C	48

RIGHT CENTER FUEL TANK

ISOLATION/MAINT MANUAL

THE PIN NUMBER E6 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS D5 (WDM 28-41-41).

THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-41).

THE HI-Z BUSSING PLUG PUTS THE HI-Z WIRE THROUGH THE CONNECTOR D2812. THE HI-Z CENTER CONDUCTOR IS PIN 1, AND THE HI-Z SHIELD IS PIN C1.

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COMPONENT	MI-NII I		FQIS PROCESSOR CONNECTOR PINS		EE RACK CONNECTOR PINS		FRONT SPAR CONNECTOR PINS		
		T ACCESS	LO-Z CONNECTOR D2440A	HI-Z CONNECTOR D2440C	LO-Z CONNECTOR D41636	HI-Z CONNECTOR D42224	LO-Z CONNECTOR D2784	HI-Z 12 BUSSING PLUG M10295	HI-Z SHIELD 12 BUSSING PLUG M10295
COMPENSATOR	TS5011	134AZ	D10	В6	26	1	1	1C	18
TANK UNIT NO. 6	TS5012	531 AB	E10	В6	27	1	2	20	2\$
TANK UNIT NO. 7	TS5013	531 AB	D11	В6	28	1	3	3C	3\$
TANK UNIT NO. 8	TS5014	531BB	E11	В6	29	1	4	4C	48
TANK UNIT NO. 9	TS5015	531CB	D10 10>	В6	30	1	5	5C	58

LEFT CENTER FUEL TANK

ISOLATION/MAINT MANUAL

8 THE PIN NUMBER 1 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS C1 (WDM 28-41-41).

10 THIS PIN D10 IS ON THE CONNECTOR D2440B.

> THE PIN NUMBER B6 IS FOR THE HI-Z CENTER CONDUCTOR ONLY. THE HI-Z SHIELD PIN IS A5 (WDM 28-41-41).
> THE HI-Z BUSSING PLUG PUTS THE HI-Z WIRE THROUGH THE CONNECTOR D2786. THE HI-Z CENTER CONDUCTOR IS PIN 1, AND THE HI-Z SHIELD IS PIN C1.



FQIS PROCESSOR CONNECTOR D2440B PINS	EE BAY RACK CONNECTOR D41276 PINS	DENSITO- METER CONNECTOR (REAR) SPAR) D6886 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
			DENSITOMETER	M10902	641AB
7D	1	1	SENSE		
6E	4	C1	SHIELD		
6D	2	2	DRIVE (POSITIVE)		
5E	3	3	DRIVE (NEGATIVE)		
5A	6	6	KRO		
5B	7	7	KR1		
5C	8	8	KR2		
5D	9	9	KR3		

RIGHT MAIN FUEL TANK DENSITOMETER

FQIS PROCESSOR CONNECTOR D2440A PINS	EE BAY RACK CONNECTOR D41272 PINS	DENSITO- METER CONNECTOR (REAR) SPAR) D6882 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
			DENSITOMETER	M10901	541AB
6B	1	1	SENSE		
6A	4	C1	SHIELD		
5A	2	2	DRIVE (POSITIVE)		
5B	3	3	DRIVE (NEGATIVE)		
5C	6	6	KRO		
5D	7	7	KR1		
5E	8	8	KR2		
6D	9	9	KR3		

LEFT MAIN FUEL TANK DENSITOMETER

FQIS Wiring Figure 107 (Sheet 5)

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FQIS PROCESSOR CONNECTOR D2440A PINS	EE BAY RACK CONNECTOR D41276 PINS	HOT SHORT PROTECTOR CONNECTOR D11720 PINS		DENSITO- METER CONNECTOR (REAR SPAR) D6890 PINS	COMPONENT	EQUIPMENT NO.	ACCESS DOOR
					DENSITOMETER	M10903	631AB
J9	11	1	1	1	SENSE		
K10	14	3, 8	3, 8	C1	SHIELD		
H10	12	15	15	2	DRIVE (POSITIVE)		
J10	13	11	11	3	DRIVE (NEGATIVE)		
G9	16	12	12	6	KR0		
G10	17	13	13	7	KR1		
G11	18	14	14	8	KR2		
G12	19	5	5	9	KR3		

CENTER TANK DENSITOMETER (WDM 28-41-41, -51)

13 AIRPLANES POST-SB 28A0085

FQIS Wiring Figure 107 (Sheet 6)

GUI 115

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** FAULT ## MESSAGE G##.

EXAMPLE

THIS BLOCK SHOWS THE EXACT FAULT MESSAGE THAT SHOWS ON THE FQIS PROCESSOR DISPLAY. THERE ARE ABBREVIA-TIONS 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:

- "1" INDICATION FOR NUMBER 1 TANK UNIT ## - "2" INDICATION FOR NUMBER 2 TANK UNIT ## - "3" INDICATION FOR NUMBER 3 TANK UNIT

- "12" INDICATION FOR NUMBER 12 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 1-9, WILL SHOW AS 1-9 FAULTS 10-18, WILL SHOW AS 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.

Fault Messages Figure 108 (Sheet 1)

EFFECTIVITY-**GUI 115**



** 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

- NORMAL IS POSSIBLE, WHEN ONLY ONE "** TU ## OPEN LOZ OR HIZ WIRE G ##" FAULT MESSAGE SHOWS. WHEN YOU FUEL THE AIRPLANE THE VOLUME TOP-OFF (VTO) MECHANISM CAN STOP FUELING AT 5% LESS THAN FULL (SEE FAULT MESSAGE 32).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS
- THE FUEL QUANTITY INDICATION CAN GO OFF FOR THE APPLICABLE FUEL TANK, AND THE TOTAL FUEL QUANTITY INDICATION CAN GO OFF (FUEL QTY IND, M10054), AND THE EICAS STATUS MESSAGE "FUEL QTY IND" CAN SHOW.
- WHILE FUELING, THE FUELING SHUTOFF VALVES CAN CLOSE FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE CAN SHOW ON THE LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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. 109).
- 5. IF THE CAPACITANCE OF THE TANK UNIT IS ZERO, THE OPEN WIRE IS ON THE TANK WIRE HARNESS.
- 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,-31,-41).
- 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 2)

GUI 115

28-41-00



** TU ## SHORTED IN TANK G##.

FAULT CONDITION

LESS THAN NORMAL RESISTANCE IS MEASURED FROM THE INNER TUBE OF THE TANK UNIT TO THE OUTER TUBE OF THE TANK UNIT.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- 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 LSI ON THE FUELING CONTROL PANEL, P28, SEE AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR FOR THE APPLICABLE FUEL TANK, M10054, WILL ALSO GO OFF.

CORRECTION

- 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. USE THE SUMP TO REMOVE ALL THE REMAINING FUEL FROM THE APPLICABLE FUEL TANK, (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)

EFFECTIVITY-**GUI 115**



** TU ?? SHORTED IN TANK G##.

FAULT CONDITION

THE RESISTANCE MEASURED FROM THE INNER TUBE OF A TANK UNIT OR THE COMPENSATOR TO THE OUTER TUBE OF THE TANK UNIT IS VERY LOW. WITH THIS FAULT THE PROCESSOR CANNOT ISOLATE THE FAILED TANK UNIT OR COMPENSATOR.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" WILL SHOW.
- THE FUEL QUANTITY INDICATION WILL GO OFF FOR THE APPLICABLE FUEL TANK, THE TOTAL FUEL QUANTITY INDICA-TION 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 LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF FOR THE APPLICABLE FUEL TANK.

CORRECTION

- 1. GO TO THE "SYSTEM DATA?" MENU AND LOOK AT THE CAPACITANCE VALUES FOR THE TANK UNITS IN THE APPLI-CABLE FUEL TANK.
- 2. FIND THE TANK UNIT CAPACITANCE VALUE THAT IS 0.0, OR APPROXIMATELY 0.0 (FIG. 104, FIG. 109). A. IF A PROBLEM AT THE TANK UNIT OR SPAR CONNECTOR CANNOT BE FOUND, DO THE TEST: DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE 757/767-1 TEST BOX BOX (FIG. 109).
- 3. REPLACE THE APPLICABLE TANK UNIT (AMM 28-41-01/401).
- 4. IF THE PROBLEM CONTINUES, REPLACE THE APPLICABLE TANK WIRING HARNESS (AMM 28-41-04/401).
- 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 4)

EFFECTIVITY-**GUI 115**

28-41-00



** TU ## CONTAMINATED G##.

FAULT CONDITION

THERE IS CONTAMINATION BETWEEN THE INNER AND OUTER TUBES OF THE TANK UNIT THAT CAUSES A RESISTANCE LESS THAN THE USUAL RESISTANCE, OR THE CAPACITANCE MEASURED FOR THE TANK UNIT IS A MINIMUM OF 105% OF THE FULL VALUE, OR THERE IS A HI-Z SHIELD OPEN IN THE FUEL TANK. THERE CAN BE MORE THAN ONE TANK UNIT CON-TAMINATION MESSAGE.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL INDICATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT IS FAULTED).
- 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 CONTA-MINATED, 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 CONTA-MINATED, WHILE FUELING, THE FUELING SHUTOFF VALVE WILL CLOSE FOR THE APPLICABLE FUEL TANK. THE "PUSH SET" MESSAGE WILL SHOW ON THE LSI ON THE FUELING CONTROL PANEL, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR FOR THE APPLICABLE TANK, M10054, WILL ALSO GO OFF.

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. 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 8.
- 5. IF ONE OF THE TANK UNITS IS NOT 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).
- 6. IF MORE THAN ONE OF THE TANKS CAPACITANCE VALUES ARE NOT IN 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).
- 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)

EFFECTIVITY-**GUI 115**

28-41-00



** TU ## SHORTED TO GROUND G##.

FAULT CONDITION

THE APPLICABLE TANK UNIT OR LO-Z WIRE IS SHORTED TO GROUND.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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 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 FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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.

NOTE: 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. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201).

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).

NOTE: 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,-31,-41).
- 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 6)

EFFECTIVITY-**GUI 115**

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** 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 (FIG. 108), AND THERE ARE NO OTHER FAULTS.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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

- 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 CONTINUE 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.
- 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,-31,-41).
- 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 7)

EFFECTIVITY-**GUI 115**

CONFIG

6



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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

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. 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.

NOTE: 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)

GUI 115

28-41-00



** 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

- 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,-31,-41).
- 6. IF THE PROBLEM CONTINUES, MEASURE THE RESISTANCE BETWEEN THE APPLICABLE HI-Z SHIELD AND AIRPLANE GROUND ON THE AIRPLANE WIRE HARNESS (AMM 28-41-00/501).
- 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 (AMM 28-41-02/401).
- 12. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 9)

EFFECTIVITY-**GUI 115**

28-41-00



** 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

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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

- 1. OPEN THE APPLICABLE HI-Z/LO-Z CONNECTOR (FIG. 107).
- 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?"

NOTE: 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.

NOTE: 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,-31, -41).
- 6. EXAMINE AND REPLACE THE APPLICABLE COMPENSATOR (AMM 28-41-02/401).

NOTE: 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)

EFFECTIVITY-**GUI 115**



** 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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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,-31,-41).
 - 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. 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,-31,-41).
- 5. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 11)

GUI 115

28-41-00



** 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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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,-31,-41).
 - 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. 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,-31,-41).
- 5. DO THIS PROCEDURE: FUEL QTY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 12)

GUI 115

28-41-00



** 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 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 FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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. 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,-31,-41).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 13)

GUI 115

28-41-00



** 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 PORCESSOR CONNECTOR, AND A POINT HALF THE 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 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 FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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. 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,-31,-41).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 14)

GUI 115

28-41-00



** 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 FRONT SPAR. GO TO STEP 6.

NOTE: 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.
- REPAIR OR REPLACE THE CIRCUIT BETWEEN THE FQIS PROCESSOR AND THE APPLICABLE HI-Z/LO-Z CONNECTOR (WDM 28-41-21,-31,-41).
- 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 15)

GUI 115

28-41-00



** 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

- 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

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, 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 FRONT SPAR, GO TO STEP 6.

NOTE: 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 APPLICABLE AIRPLANE WIRING HARNESS (WDM 28-41-21,-31,-41).
- 7. EXAMIME 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)

A09439

28-41-00



** 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, P28, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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 FRONT SPAR, GO TO STEP 5.
 - NOTE: 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 MESSGES.
- 4. IF THE FAULT MESSAGE DOES NOT SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK WIRING HARNESS. GO TO STEP 6.
 - NOTE: 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 (AMM 28-41-00/501).
- 5. EXAMINE AND REPAIR THE CIRCUIT BETWEEN THE FQIS PROCESSOR AND THE APPLICABLE HI-Z/LO-Z CONNECTOR (AMM 28-41-00/501)(WDM 28-41-21, -31, -41).
- 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—GUI 115

28-41-00



** 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:

- 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

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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST.

NOTE: NO OTHER TEST BOX IS NECESSARY TO DO THE DENSITOMTER TEST. READ THE GO-NO-GO (RED/GREEN) LED LIGHT ON THE FRONT OF THE 757/767-1 TEST BOX.

- MAKE A WRITTEN RECORD OF THE PROBLEM.
- OPEN THE APPLICABLE DENSITOMETER CONNECTOR AT THE REAR SPAR (FIG. 107).
- CONNECT THE PSD 757/767-1 TESTER TO THE DENSITOMETER CONNECTOR ON THE REAR SPAR AND DO A TEST.
- IF A FAILURE INDICATION DOES NOT SHOW, THE PROBLEM IS IN THE HOT SHORT PROTECTOR 1 OR AIRPLANE WIRE HARNESS.
 - A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401) $\stackrel{1}{\mid}$ OR THE APPLICABLE AIRPLANE HARNESS (WDM 28-41-21, -31, -41).
- IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK.
 - 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 ?".

1 > IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 18)

EFFECTIVITY-**GUI 115**



** 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.

NOTE: 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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. INSTALL THE PSD 757/767-1 TESTER AND DO THE DENSITOMETER TEST.

NOTE: NO OTHER TEST BOX IS NECESSARY TO DO THE DENSITOMETER TEST. READ THE GO-NO-GO (RED/GREEN) LED LIGHT ON THE FRONT OF THE 757/767-1 TEST BOX.

- 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.
 - A. REPAIR OR REPLACE THE HOT SHORT PROTECTOR, M11872 (AMM 28-41-24/401) OR THE APPLICABLE AIRPLANE HARNESS (WDM 28-41-21, -31, -41).
- 7. IF A FAILURE INDICATION CONTINUES TO SHOW, THE PROBLEM IS IN THE APPLICABLE FUEL TANK.
 - 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,-31,-41).
- 10. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST?".

1 IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 19)

EFFECTIVITY—GUI 115

28-41-00



** DENS SENSE WIRE SHORTED G##.

FAULT CONDITION

THIS MESSAGE IS AN INDICATION THAT THERE IS LESS THAN 80 OHMS BETWEEN THE CENTER CONDUCTOR OF THE DENSI-TOMETER SENSE WIRE AND THE SHIELD.

NOTE: 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 ±5% FOR THE APPLICABLE TANK (ONLY ONE TANK UNIT CAN BE BAD).
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. DISCONNECT THE APPLICABLE DENSITOMETER CONNECTOR (REAR SPAR)(FIG. 107).
- 2. DO THE FQIS PROCESSOR BITE, FIG. 104 "SELF TEST ?".
- 3. IF THE FAULT CONTINUES TO SHOW, THE PROBLEM IS IN THE HOT SHORT PROTECTOR 1 OR THE AIRPLANE WIRING HARNESS. EXAMINE THE WIRING (WDM 28-41-21, -31, -41).

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.

- 4. 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.
- 5. GO INTO THE APPLICABLE FUEL TANK (AMM 28-11-00/201).
- 6. EXAMINE AND REPLACE THE DENSITOMETER IF IT IS NECESSARY (AMM 28-41-03/401).
- 7. EXAMINE AND REPLACE THE DENSITOMETER TANK WIRING HARNESS IF IT IS NECESSARY (AMM 28-41-09/401).
- 8. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

1 > IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 20)

EFFECTIVITY-**GUI 115**

28-41-00



** DENS SENSE OPEN AT SPAR 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 DENSITOMETER CONNECTOR (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.

NOTE: 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 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, M11872 (AMM 28-41-24/401) 1 or HOT SHORT PROTECTOR WIRE HARNESS (AMM 28-41-25/401) OR EXAMINE THE AIRPLANE WIRING HARNESS FOR THE APPLICABLE DENSITOMETER (WDM 28-41-21, -31, -41). REPAIR THE PROBLEMS THAT YOU FIND.
- 3. IF THE HOT SHORT PROTECTOR 1 HOT SHORT PROTECTOR WIRE HARNESS 1 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 ?".

1 > IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 21)

EFFECTIVITY-**GUI 115**

28-41-00



** 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.

NOTE: 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 ±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,-31,-41).
- 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 22)

GUI 115

28-41-00



** 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 ±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, MICROBIAL GROWTH, 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-**GUI 115**

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** DENS SENSOR OR DRIVE WIRE G## (OR) ** DENS SENSOR FAILURE G##.

FAULT CONDITION

THE DENSITOMETER SENSOR DOES NOT OPERATE CORRECTLY.

NOTE: 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

- 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. REPLACE THE DENSITOMETER FOR THE APPLICBALE 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)

GUI 115

28-41-00

** 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. 1

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).
- 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

- 1. DO A CHECK FOR THESE CONDITIONS:
 - 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:
 - A. CYCLE THE POWER FOR THE PROCESSOR.
 - B. IF THE REFUEL PANEL DOOR IS OPEN, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN:
 - (1) 34A10, FUEL QTY-FUEL
 - (2) 6E4, FUELING QTY
 - C. IF THE REFUEL PANEL DOOR IS CLOSED, OPEN THESE CIRCUIT BREAKERS AND CLOSE THEM AGAIN:
 - (3) 11c34, FUEL QTY L OR FUEL QTY 1
 - (4) 11L19, FUEL QTY R OR 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:
 - A. EXAMINE THE WIRING AT THE DENSITOMETER HOT SHORT PROTECTOR WIRE HARNESS CONNECTORS D11718 AND D11720, FOR A SHORT (AMM 28-41-25/401).
 - (1) IF THERE IS A SHORT TO GROUND, REPAIR OR REPLACE THE WIRING (AMM 28-41-25/401).
 - (2) IF THE WIRING IS OK, REPLACE THE DENSITOMETER HOT SHORT PROTECTOR, M11872 (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?".

1> IF INSTALLED, CENTER TANK ONLY (POST-SB 28A0085)

Fault Messages Figure 108 (Sheet 25)

EFFECTIVITY—GUI 115

28-41-00



** 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

- THE FQIS SYSTEM IS SET TO THE AIR MODE IF THE FUELING STATION DOOR, 621GB IS CLOSED.
- THE FQIS SYSTEM IS SET TO THE GROUND MODE IF THE FUELING STATION DOOR, 621GB, IS OPEN.

CORRECTION

- 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".
- IF THE PROBLEM CONTINUES, DO THE CORRECTION FOR THE FAULT MESSAGE "AIR/GROUND_INPUT_FAILED" (FIG. 106).

Fault Messages Figure 108 (Sheet 26)

A09454

28-41-00



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.

NOTE: 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

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 BETWEEN THE PROCESSOR RACK CONNECTOR GND PIN K7 AND THE AIR/GND COM PIN K8 FOR THE TWO CONNECTORS, D2440A AND D2440B.
 - A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-14).
- 3. WHEN THE AIRPLANE IS IN THE AIR MODE, MEASURE THE RESISTANCE BETWEEN THE PROCESSOR RACK CONNECTOR GND K7 PIN AND THE AIR/GND COM PIN K6 FOR THE TWO CONNECTORS, D244OA AND D244OB.
 - A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-14).
- 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-**GUI 115**



LB/KG INPUT WIRE FAILED G##.

FAULT CONDITION

THE POUND/KILOGRAM INPUT JUMPER HAS FAILED OPEN.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- NORMAL OPERATION, LB/KG STATUS FOUND BY VALUE STORED IN MEMORY.
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

CORRECTION

- 1. REMOVE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. FOR AIRPLANES WITH UNITS IN LBS, MEASURE THE RESISTANCE BETWEEN THE LBS PIN, A9, TO LBS/KGS COM PIN, C9, ON THE PROCESSOR RACK CONNECTOR D2440A (WDM 28-41-11).
 - A. IF THE RESISTANCE IS MORE THAN 10 OHMS, EXAMINE AND REPAIR THE APPLICABLE CIRCUIT (WDM 28-41-11).
- 3. FOR AIRPLANES WITH UNITS IN KGS, MEASURE THE RESISTANCE BETWEEN THE KGS PIN, E9, TO LBS/KGS COM PIN, C9, ON THE PROCESSOR RACK CONNECTOR D2440A (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)

GUI 115

28-41-00

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** 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).
- DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".
 If the problem continues, do the correction for the fault Message "LB/Kg_INPUT_FAILED" (FIG. 106).

Fault Messages Figure 108 (Sheet 29)

EFFECTIVITY-**GUI 115**



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

- NORMAL OPERATION
- THE EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" SHOWS.

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, 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

- 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

- 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 BETWEEN THE LOAD SELECT CONTROL AND THE FQIS PROCESSOR, M121 (WDM 28-21-22).
- 3. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

Fault Messages Figure 108 (Sheet 30)

EFFECTIVITY—GUI 115

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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

- 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

- 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 BETWEEN THE FQIS PROCESSOR, M121, AND THE FUEL QUANTITY INDICATORS AS FOLLOWS (WDM 28-41-11):
 - A. FLIGHT COMPARTMENT IND M10054
 - B. FUELING PANEL IND N10038
 - C. FUELING PANEL IND N10039
 - D. FUELING PANEL IND N10040.
- 4. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

FAULT MESSAGE 32

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.

NOTE: FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO 5% LESS THAN FULL.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- REFUELING WILL STOP AT 5% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT.

CORRECTION

- 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.

NOTE: 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.

NOTE: THE FQIS WILL NOT CLOSE THE REFUEL VALVE, AND THE FQIS FUEL QUANTITY INDICATION WILL FLASH ON AND OFF.

Fault Messages
Figure 108 (Sheet 31)

GUI 115

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VOLUME SHUTOFF OF ** AT 87% G##.

FAULT CONDITION

THERE IS A SYSTEM FAILURE THAT RESULTS IN FUEL SHUTOFF DURING FUELING AT 95% OF FULL.

NOTE: FOR MANUAL OR AUTOMATIC REFUELING THE AFFECTED FUEL TANK CAN BE REFUELED TO A QUANTITY 13% LESS THAN EXPECTED.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- THE EICAS STATUS MESSAGE "FUEL QTY BITE" SHOWS.
- REFUELING WILL STOP AT 13% BELOW THE VOLUMETRIC SHUTOFF (VSO) POINT.

CORRECTION

- 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.

NOTE: 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.
 - NOTE: THE FQIS WILL NOT CLOSE THE REFUEL VALVE, AND THE FQIS FUEL QUANTITY INDICATION WILL FLASH ON AND OFF.

Fault Messages Figure 108 (Sheet 32)



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

- 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.

NOTE: IF THIS MESSAGE SHOWS GO TO STEP 3.

CORRECTION

- 1. REPLACE THE FQIS PROCESSOR, M121 (AMM 28-41-08/401).
- 2. DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".

NOTE: 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.

- 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING BETWEEN THE FQIS PROCESSOR AND 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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CONFIG



(THE BITE DISPLAY BOARD IS OFF).

FAULT CONDITION

THE BITE DISPLAY IS OFF.

FLIGHT COMPARTMENT OR AIRPLANE INDICATION

- 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

- 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 28-41-11):
 - A. CONNECTOR D2440A, PINS J1 AND K1
 - B. CONNECTOR D2440B, PINS F6 AND G6, J1 AND K1,

H10 AND H11.

- 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)



ARINC BUS (A OR B) FAILED G##.

FAULT CONDITION

THE ARINC BUS A OR B WIRES OR THE PROCESSOR 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 BETWEEN THE PROCESSOR, M121, AND THE LOAD SELECT INDICATORS AND THE FUEL QUANTITY INDICATOR, M10054 (WDM 28-41-11).
 - B. DO A CONTINUITY CHECK OF THE WIRES BETWEEN THE PROCESSOR, M121, AND 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 ?".

Fault Messages Figure 108 (Sheet 35)

GUI 115

28-41-00

CONFIG



** 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

- NORMAL OPERATION WITH AN INDICATION ERROR FOR FUEL QUANTITY OF ±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, REFER TO AMM 12-11-01/301 TO CONTINUE FUELING. THE FUEL QUANTITY INDICATOR, M10054, WILL ALSO GO OFF.

CORRECTION

- 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.

NOTE: 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 (AMM 28-41-00/501). USE THE A28007-44 OR PSD757-1 TEST BOX 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).

NOTE: 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 36)

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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.
- 1. DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE FQPU (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, SHT. 4, DO THE STEPS THAT FOLLOW:
 - (1) SHAKE THE AIRPLANE WIRING HARNESS AT THE HI-Z/LO-Z PLUG FOR THE APPLICABLE FUEL TANK. LOOK AT THE CAPACITANCE VALUES ON THE FQPU FOR ALL THE TANK UNITS AND THE COMPENSATOR.
 - (a) IF THE CAPACITANCE VALUE CHANGES WHEN YOU SHAKE THE AIRPLANE WIRING HARNESS AT THE HI-Z/LO-Z PLUG, REPAIR OR REPLACE THE DEFECTIVE PIN ON THE HI-Z/LO-Z PLUG (WDM 28-41-21,-31,-41).
 - (b) IF THE CAPACITANCE VALUE DOES NOT CHANGE WHEN YOU SHAKE THE AIRPLANE WIRING HARNESS AT THE HI-Z/LO-Z PLUG, DO THE STEPS THAT FOLLOW:
 - 1) LOOK FOR DAMAGE ON THE TANK WIRING HARNESS BETWEEN THE HI-Z/LO-Z RECEPTACLE AND THE TANK UNIT OR COMPENSATOR.

DO A CHECK ON THE TANK UNIT OR COMPENSATOR FOR A POSSIBLE SHORT TO GROUND. REPAIR OR REPLACE THE TANK UNIT (AMM 28-41-01/401), OR THE TANK WIRING HARNESS (AMM 28-41-09/401) IF IT IS NECESSARY.

- (2) DO THE FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".
- O. IF THE CAPACITANCE VALUES ARE IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, THE FQIS IS OK.

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank)
Figure 109 (Sheet 1)

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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.

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 - PSD40-510 CENTER FUEL TANK - PSD40-511 DENSITOMETER - PSD757/767-103
- C. TEST BOX, FQIS PSD757/767-1, (IN MAIN EQUIPMENT CENTER); PSD757-1 OR A28007-44 (PART OF A28007-41) (AT WING SPAR)
- 1. DRY CAPACITANCE TEST IN THE MAIN EQUIPMENT CENTER WITH THE PSD 757/767-1 TESTER (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. REMOVE THE PROCESSOR (FQPU), M121 (AMM 28-41-08/401).
 - D. INSTALL THE PSD 757/767-1 TESTER AND LOOK AT THE CAPACITANCE VALUES FOR ALL THE TANK UNITS AND THE COMPENSATOR IN THE APPLICABLE TANK.
 - E. MAKE A WRITTEN RECORD OF THE CAPACITANCE VALUES.
 - F. IF THE CAPACITANCE VALUES ARE NOT IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, DO THE STEPS THAT FOLLOW:
 - (1) REMOVE THE HI-Z/LO-Z PLUG FOR THE APPLICABLE FUEL TANK. EXAMINE THE APPLICABLE HI-Z/LO-Z CONNECTOR FOR DAMAGE.
 - (a) IF THE CAPACITANCE VALUE CHANGES WHEN YOU INSTALL THE HI-Z/LO-Z PLUG, REPAIR OR REPLACE THE DEFECTIVE PIN ON THE HI-Z/LO-Z PLUG (WDM 28-41-21,-31,-41).
 - (b) IF THE CAPACITANCE VALUE DOES NOT CHANGE AFTER YOU INSTALL THE HI-Z/LO-Z PLUG, DO THE STEPS THAT FOLLOW:
 - 1) LOOK FOR DAMAGE ON THE TANK WIRING HARNESS BETWEEN THE HI-Z/LO-Z RECEPTACLE AND THE TANK UNIT OR COMPENSATOR.
 - 2) DO A CHECK ON THE TANK UNIT OR COMPENSATOR FOR A POSSIBLE SHORT TO GROUND REPAIR OR REPLACE THE TANK UNIT (AMM 28-41-01/401), OR THE TANK WIRING HARNESS (AMM 28-41-09/401) IF IT IS NECESSARY.
 - (2) REMOVE THE TEST EQUIPMENT AND INSTALL THE FQPU, M121 (AMM 28-41-08/401).
 - (3) DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE, FIG. 104 "SELF TEST ?".
 - G. IF THE CAPACITANCE VALUES ARE IN THE LIMITS SHOWN IN FIG. 109, SHT. 4, THE FQIS IS OK.

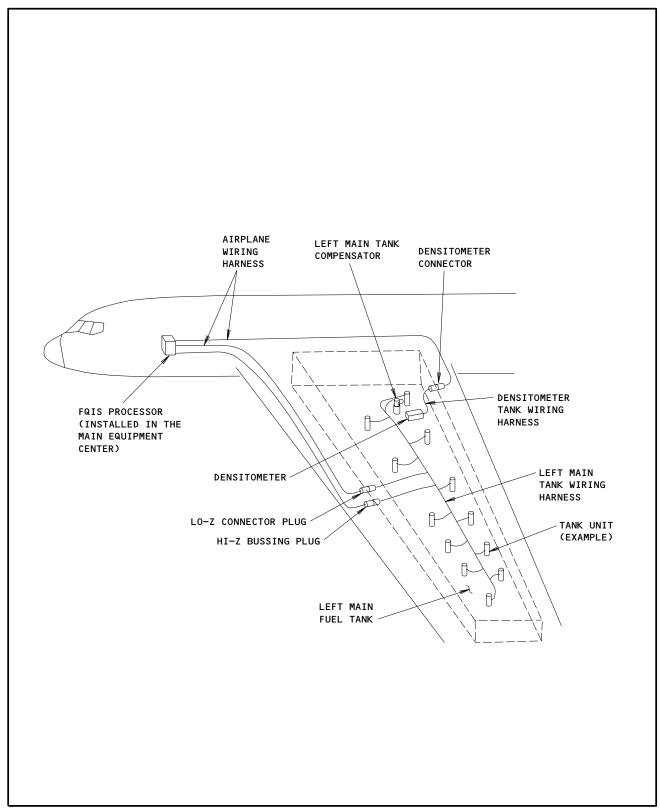
Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 2)

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CONFIG





Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 3)

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TANK UNIT OR COMPENSATOR UNDER TEST	MINIMUM CAPACITANCE (PICOFARADS)	MAXIMUM CAPACITANCE (PICOFARADS)	EQUIP. NO.
L MAIN TANK UNIT NO. 1	60.55	61.25	T\$109
L MAIN TANK UNIT NO. 2	58.25	58.95	TS110
L MAIN TANK UNIT NO. 3	48.70	49.30	TS111
L MAIN TANK UNIT NO. 4	46.80	47.40	TS112
L MAIN TANK UNIT NO. 5	37.20	37.70	TS113
L MAIN TANK UNIT NO. 6	37.20	37.70	TS114
L MAIN TANK UNIT NO. 7	32.95	33.45	TS115
L MAIN TANK UNIT NO. 8	32.15	32.65	TS116
L MAIN TANK UNIT NO. 9	30.65	31.15	TS117
L MAIN TANK UNIT NO. 10	27.00	27.50	TS118
L MAIN TANK UNIT NO. 11	23.35	23.95	TS5196
L MAIN TANK UNIT NO. 12	23.40	23.90	TS5197
CENTER TANK UNIT NO. 1	91.60	92.60	TS5011
CENTER TANK UNIT NO. 2	101.50	102.60	T\$5012
CENTER TANK UNIT NO. 3	79.20	80.20	TS5013
CENTER TANK UNIT NO. 4	64.65	65.35	TS5014
CENTER TANK UNIT NO. 5	62.30	63.00	TS5015
CENTER TANK UNIT NO. 6	101.50	102.60	TS5016
CENTER TANK UNIT NO. 7	79.20	80.20	TS5017
CENTER TANK UNIT NO. 8	64.65	65.35	T\$5075
CENTER TANK UNIT NO. 9	62.30	63.00	T\$5076
R MAIN TANK UNIT NO. 1	60.55	61.25	T\$146
R MAIN TANK UNIT NO. 2	58.25	58.95	T\$147
R MAIN TANK UNIT NO. 3	48.70	49.30	T\$148
R MAIN TANK UNIT NO. 4	46.80	47.40	T\$149
R MAIN TANK UNIT NO. 5	37.20	37.70	T\$150
R MAIN TANK UNIT NO. 6	37.20	37.70	T\$151
R MAIN TANK UNIT NO. 7	32.95	33.45	T\$152
R MAIN TANK UNIT NO. 8	32.15	32.65	T\$153
R MAIN TANK UNIT NO. 9	30.65	31.15	T\$154
R MAIN TANK UNIT NO. 10	27.00	27.50	T\$155
R MAIN TANK UNIT NO. 11	23.35	23.95	T\$5198
R MAIN TANK UNIT NO. 12	23.40	23.90	T\$5199
L MAIN TANK COMPENSATOR	50.20	50.70	TS108
CENTER TANK COMPENSATOR	50.20	50.70	T\$5010
R MAIN TANK COMPENSATOR	50.20	50.70	TS119

Dry Capacitance Test in the Main Equipment Center (No Fuel in the Tank) Figure 109 (Sheet 4)

EFFECTIVITY-GUI 115

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GENERAL

- A. 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.
- B. THESE INTERMITTENT MESSAGES CAN SHOW ON THE 757 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).
- C. THIS SERVICE INFORMATION APPLIES TO AIRPLANES WITH THE FQIS PROCESSOR, PART NUMBERS 30071-0101,-0202,-0303 BOEING PART NUMBERS S345N001-030,-031, -032 (MANUFACTURED BY SIMMONDS PRECISION).
- D. THE 757 FQIS BIT IN THE PROCESSOR CAN SHOW 37 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 PROCESSOR AND LOOK AT THE FAULT MESSAGES AS FOLLOWS (FIG. 104):
 - YOU MUST 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).
 - 2. YOU MUST ALSO 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 OO.

NOTE: AIRPLANES WITH PROCESSOR 300 71-0101 (\$345,001-030);
POWER INTERRUPT CAN RESET EICAS MESSAGES IF THERE ARE FAULTS IN FLIGHT LEG OO.

Intermittent Fault Messages Figure 110 (Sheet 1)

EFFECTIVITY——GUI 115



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	GO TO THE FQIS PROCESSOR BITE PANEL AND DO THE STEPS IN STEP 1.C.		
RM IFQC CIRCUIT BOARD FAILED	CAN CAUSE AN EICAS MAINTENANCE			
CT IFQC CIRCUIT BOARD FAILED	MESSAGE "FUEL QTY BITE" TO SHOW.			
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1 (OR 2) FAILED" MESSAGE			
IOC NUMBER 2 FAILED	WILL CAUSE A "FUEL QUAN-			
LOAD SELECT UNIT OR WIRE FAIL	TITY CHAN" STATUS MESSAGE			
IOC 1 DISCRETE DRIVE FAIL	TO SHOW ON EICAS.			
VOLUME SHUTOFF OF LM AT 95%	THESE MESSAGES CAN SHOW IF POWER	IF THESE MESSAGES ONLY SHOW ONE		
VOLUME SHUTOFF OF RM AT 95%	IS APPLIED TO THE FQIS (POWER-UP) WHEN THE MAIN TANKS ARE EMPTY, OR	TIME, FUEL QUANTITY INDICATION OR REFUELING WILL NOT BE AFFECTED. IGNORE THE FAULT MESSAGE IN THE FAULT HISTORY MENU.		
VOLUME SHUTOFF OF CT AT 95%	WHEN THE CENTER TANK IS LESS THAN 17% FULL BEFORE REFUELING.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
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 FOR PROCESSOR \$345N001-030

Intermittent Fault Messages Figure 110 (Sheet 2)

EFFECTIVITY—GUI 115



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			
RM IFQC CIRCUIT BOARD FAILED	INTERRUPTION, THESE FAULT MESSAGES CAN CAUSE AN EICAS MAINTENANCE	STEP 1.C.		
CT IFQC CIRCUIT BOARD FAILED	MESSAGE "FUEL QTY BITE" TO SHOW.	1		
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1			
IOC NUMBER 2 FAILED	(OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUAN-			
IOC 1 DISCRETE DRIVE FAIL	TITY CHAN" STATUS MESSAGE TO SHOW ON EICAS.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
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 FOR PROCESSOR \$345N001-031

Intermittent Fault Messages
 Figure 110 (Sheet 3)

EFFECTIVITY————GUI 115

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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			
CT IFQC CIRCUIT BOARD FAILED	CAN CAUSE AN EICAS MAINTENANCE MESSAGE "FUEL QTY BITE" TO SHOW.	STEP 1.C.		
IOC NUMBER 1 FAILED	NOTE: ONLY THE "IOC NUMBER 1			
IOC NUMBER 2 FAILED	(OR 2) FAILED" MESSAGE WILL CAUSE A "FUEL QUAN-			
IOC 1 DISCRETE DRIVE FAIL	TITY CHAN" STATUS MESSAGE TO SHOW ON EICAS.			
LM TU (1-12) CONTAMINATED	THESE MESSAGES CAN SHOW IN THE	GO TO FIG. 104, SHEET 1, NOTES 1		
RM TU (1-12) CONTAMINATED	"FAULT HISTORY ?" MENU OF THE FQIS PROCESSOR BIT.	AND 2 FOR CORRECTIVE ACTION.		
CT TU (1-12) CONTAMINATED				
LM COMPENSATOR CONTAMINATED				
RM COMPENSATOR CONTAMINATED				
CT COMPENSATOR CONTAMINATED				

INTERMITTENT FAULT MESSAGES FOR PROCESSOR \$345N001-032

Intermittent Fault Messages Figure 110 (Sheet 4)

EFFECTIVITY-GUI 115

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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)

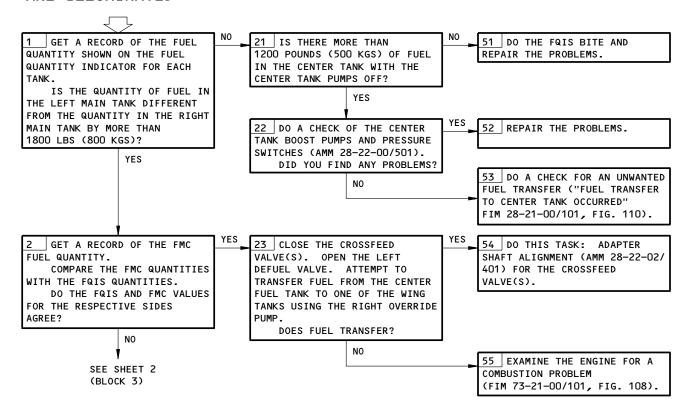
WARNING:

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



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

EFFECTIVITY
GUI 115

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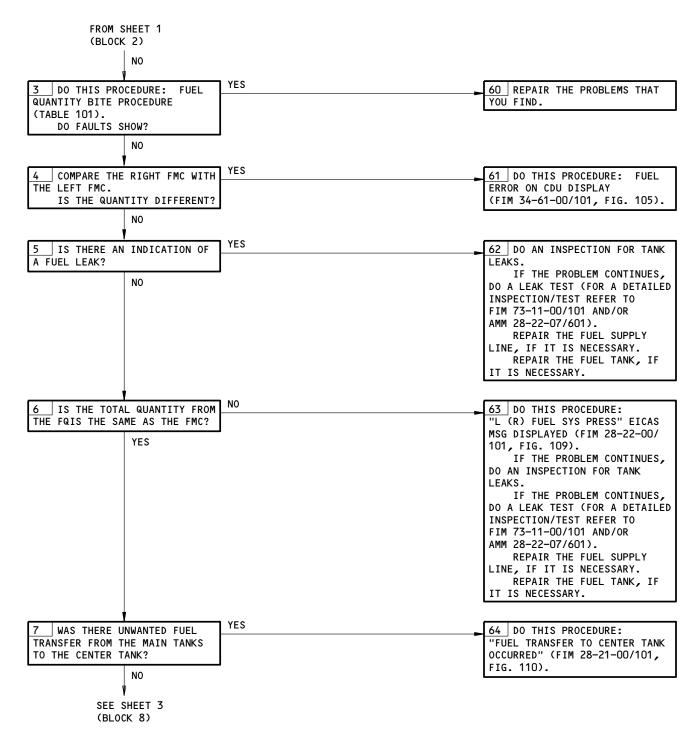
CONFIG 3

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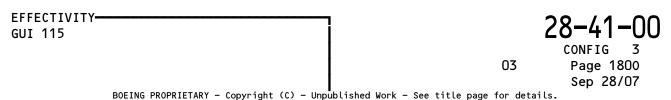
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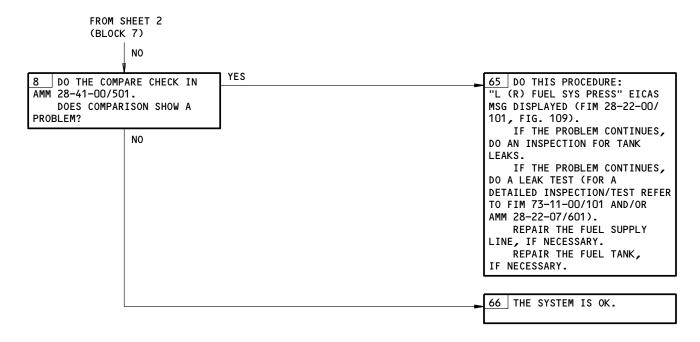




FUEL CONFIG Light and EICAS Message FUEL CONFIG are Illuminated Figure 111 (Sheet 2)







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

EFFECTIVITY
GUI 115

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Not Used Figure 112

GUI 115



Not Used Figure 113

EFFECTIVITY-GUI 115

CONFIG

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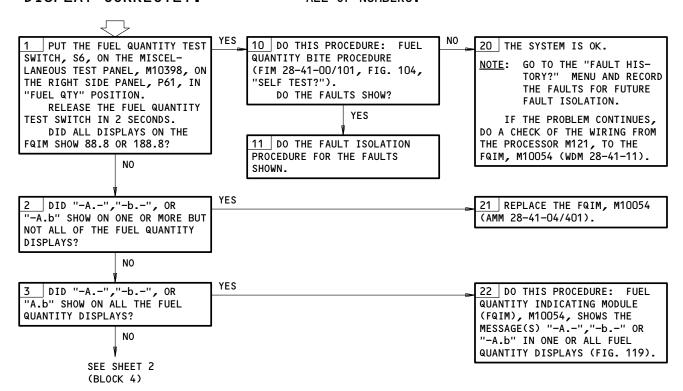
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L12,11L19,34A10

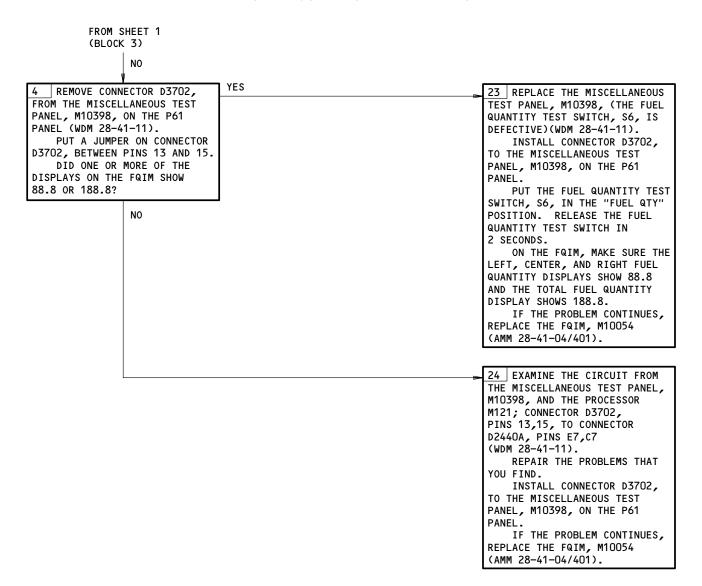
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

FUEL QUANTITY INDICATING MODULE (FQIM) DOES NOT DISPLAY CORRECTLY.

THE DISPLAY IS NOT CORRECT IF IT IS INTERMIT-NOTE: TENT, NOT ACCURATE, OR DOES NOT SHOW PART OR ALL OF NUMBERS.



Fuel Quantity Indicating Module (FQIM) Does Not Display Correctly. Figure 114 (Sheet 1)



Fuel Quantity Indicating Module (FQIM) Does Not Display Correctly.
Figure 114 (Sheet 2)



"FUEL CONFIG" LIGHT AND EICAS MSG "LOW FUEL" NOT DISPLAYED DURING FUEL QTY TEST

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11L19,34A10

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



FUEL CONFIG Light and EICAS Msg LOW FUEL Not Displayed during Fuel Qty Test Figure 115

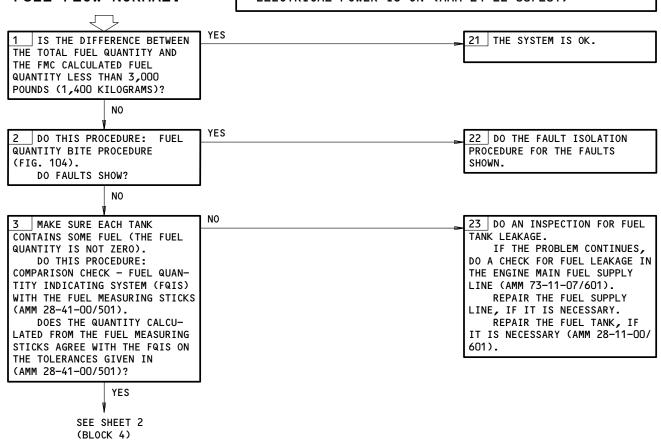
EFFECTIVITY-**GUI 115**

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

PREREQUISITES

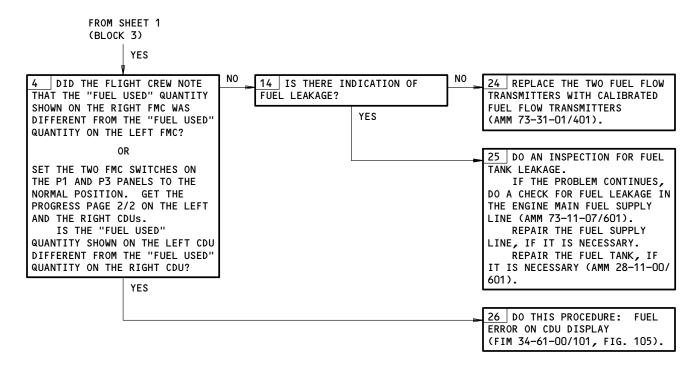
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11L19,34A10

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



Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal. Figure 116 (Sheet 1)





Total Fuel Qty Does Not Agree with FMC Calculated Fuel Qty. Fuel Flow Normal. Figure 116 (Sheet 2)

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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.

YES PUT THE FUEL QUANTITY TEST SWITCH, S6, ON THE MISCEL-LANEOUS TEST PANEL, M10398, ON THE RIGHT SIDE PANEL, P61, IN THE "FUEL QTY" POSITION. RELEASE THE FUEL QUANTITY TEST SWITCH IN 2 SECONDS. DID THE EICAS MESSAGE, "FUEL QTY IND" OR "FUEL QTY CHANNEL", SHOW ON THE BOTTOM DISPLAY IN 60 SECONDS OR LESS, AFTER YOU RELEASE THE FUEL QUANTITY TEST SWITCH? NO

SEE SHEET 2

(BLOCK 2)

21 DO THIS PROCEDURE: FUEL QUANTITY BITE PROCEDURE (FIM 28-41-00/101, FIG. 104, "SELF-TEST ?").

IF NO COMPONENT IS SHOWN

AS BAD, REMOVE THE LEFT AND RIGHT EICAS COMPUTERS, M10181 AND M10182 (AMM 31-41-02/401). EXAMINE THE CIRCUIT FROM THE PROCESSOR M121, TO THE LEFT EICAS COMPUTER, M10181;

CONNECTOR D2440A, PIN C14, AND CONNECTOR D319E, PIN D4 (WDM 28-41-11).

REPAIR THE PROBLEMS THAT YOU FIND.

EXAMINE THE CIRCUIT FROM THE PROCESSOR M121, TO THE RIGHT EICAS COMPUTER, M10182; CONNECTOR D2440A, PIN C14, AND CONNECTOR D321E, PIN D4 (WDM 28-41-11).

REPAIR THE PROBLEMS THAT YOU FIND.

EXAMINE THE CIRCUIT FROM THE PROCESSOR M121, TO THE LEFT EICAS COMPUTER, M10181; CONNECTOR D2440A, PINS A8, B8, AND CONNECTOR D319E, PINS F1, F2 (WDM 28-41-11).

REPAIR THE PROBLEMS THAT YOU FIND.

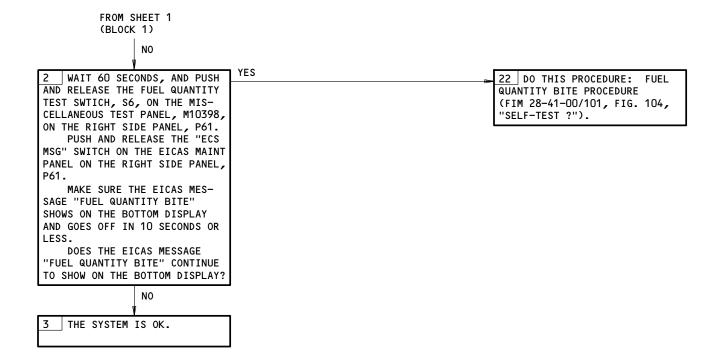
EXAMINE THE CIRCUIT FROM THE PROCESSOR M121, TO THE RIGHT EICAS COMPUTER, M10182; CONNECTOR D2440A, PINS A8,B8, AND CONNECTOR D321E, PINS F1, F2 (WDM 28-41-11).

REPAIR THE PROBLEMS THAT YOU FIND.

INSTALL THE LEFT AND RIGHT EICAS COMPUTERS, M10181 AND M10182 (AMM 31-41-02/401).

EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed. Figure 117 (Sheet 1)

EFFECTIVITY-**GUI 115**



EICAS Msg FUEL QTY IND or FUEL QTY CHANNEL Displayed. Figure 117 (Sheet 2)

GUI 115

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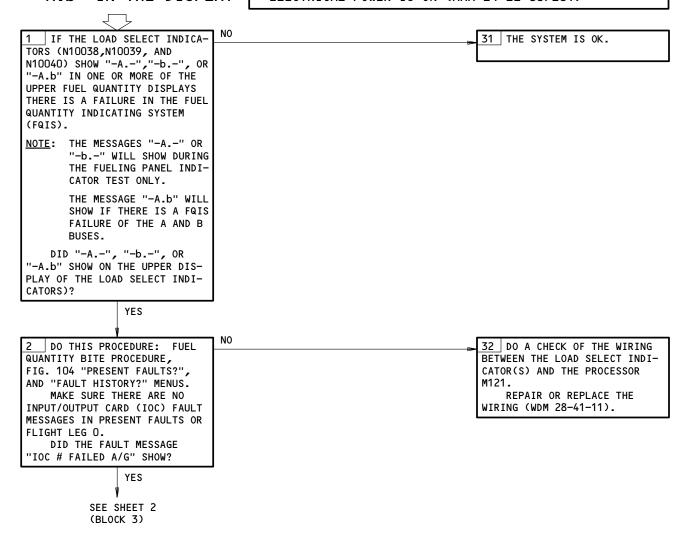
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LOAD SELECT INDICATOR SHOWS THE MESSAGE "-A.-", OR "-b.-" OR "-b.b" IN THE DISPLAY

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

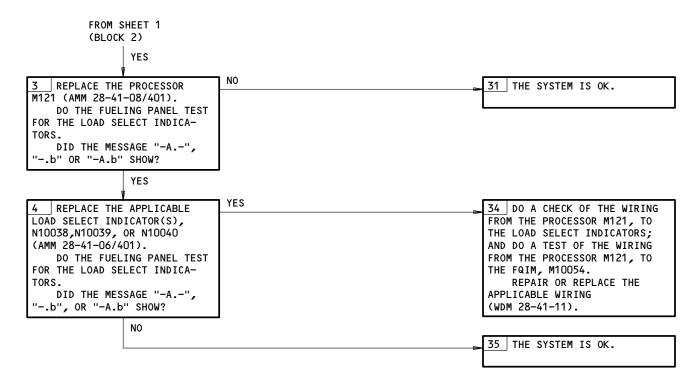
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)



Load Select Indicator Shows the Message "-A.-", or "-b.-" or "-A.b" in the Display Figure 118 (Sheet 1)

GUI 115





Load Select Indicator Shows the Message "-A.-", or "-b.-" or "-A.b" in the Display Figure 118 (Sheet 2)

GUI 115

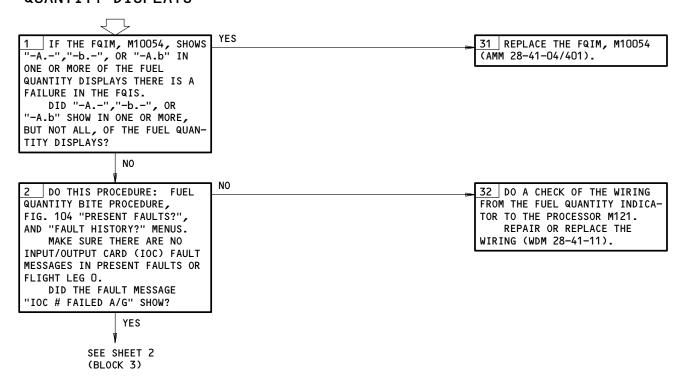
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FUEL QUANTITY INDI-CATING MODULE (FQIM), M10054, SHOWS THE MESSAGE(S) "-A.-", "-b-" OR "-A.b" IN ONE OR ALL FUEL QUANTITY DISPLAYS

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

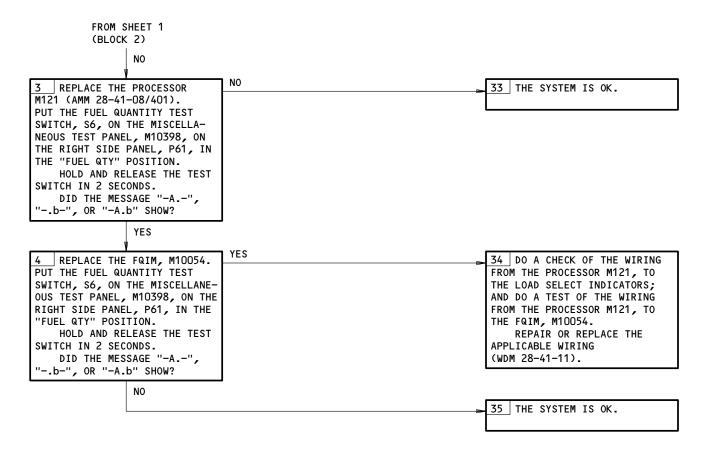
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)



Fuel Quantity Indicating Module (FQIM), M10054, Shows the Message(s) "-A.-","-b.-" or "-A.b" in One or All Fuel Quantity Displays Figure 119 (Sheet 1)

EFFECTIVITY-**GUI 115**

28-41-00 CONFIG



Fuel Quantity Indicating Module (FQIM), M10054, Shows the Message(s) "-A.-","-b.-" or "-A.b" in One or All Fuel Quantity Displays Figure 119 (Sheet 2)

EFFECTIVITY-**GUI 115**

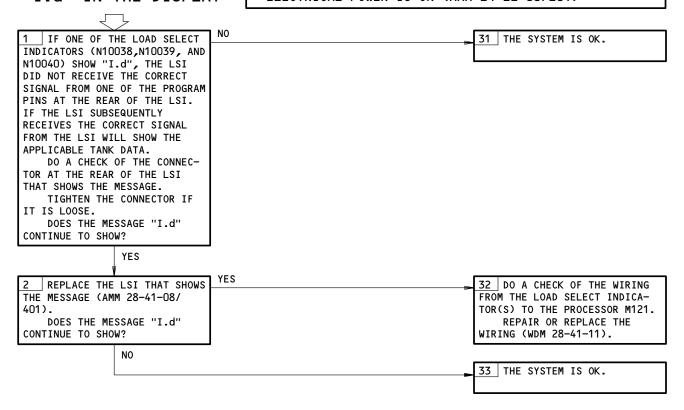


LOAD SELECT INDICATOR SHOWS THE MESSAGE "I.d" IN THE DISPLAY

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11C34,11L19,34A10

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



Load Select Indicator Shows the Message "I.d" in the Display Figure 120

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FUEL PRESSURE INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
SWITCH - L AFT FUEL BOOST PUMP PRESSURE, S71 SWITCH - L FUEL OVERRIDE PUMP PRESSURE,		1	MAIN LANDING GEAR DOORS	28-42-01
\$10010		1	MAIN LANDING GEAR DOORS	28-42-01
SWITCH - L FWD FUEL BOOST PUMP PRESSURE, S70		1	FRONT SPAR	28-42-01
SWITCH - R AFT FUEL BOOST PUMP PRESSURE, S73		1	MAIN LANDING GEAR DOORS	28-42-01
SWITCH - R FUEL OVERRIDE PUMP PRESSURE,				
S10011		1	MAIN LANDING GEAR DOORS	28-42-01
SWITCH - R FWD FUEL BOOST PUMP PRESSURE, S72		1	FRONT SPAR	28-42-01

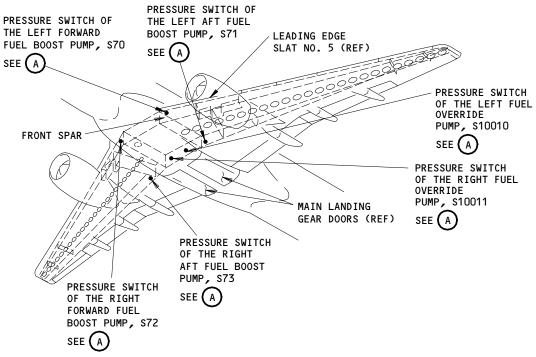
Fuel Pressure Indicating System - Component Index Figure 101

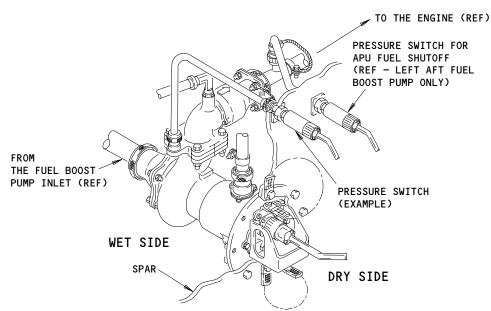
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PRESSURE SWITCH OF THE LEFT AFT, LEFT FORWARD, RIGHT AFT OR RIGHT FORWARD FUEL BOOST PUMP, S71, S70, S73, OR S72, SHOWN (PRESSURE SWITCH OF THE LEFT AND RIGHT FUEL OVERRIDE PUMP, S10010 AND S10011, ALMOST THE SAME)



Fuel Pressure Indicating System - Component Location Figure 102

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FUEL TEMPERATURE INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CIRCUIT BREAKER -			FLT COMPT, P6	
FUELING QTY, C1045		1	6E4	*
CIRCUIT BREAKERS -			FLT COMPT, P11	
FUEL QTY 1, C1048		1	11034	*
FUEL QTY 2, C1053		1	11L19	*
INSTR LTS, C1246		1	11B7	*
OVHD INSTR LTS AND PANEL LTS, C1241		1	11N4	*
CIRCUIT BREAKER -			FLT COMPT, P34	
FUEL QTY, C1040		1	34AA10	*
SENSOR - FUEL TEMPERATURE, TS5140	1	1	641AB	28-43-01

^{*} SEE THE WDM EQUIPMENT LIST

Fuel Temperature Indicating System - Component Index Figure 101

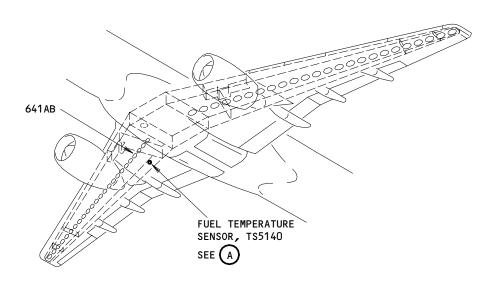
ALL

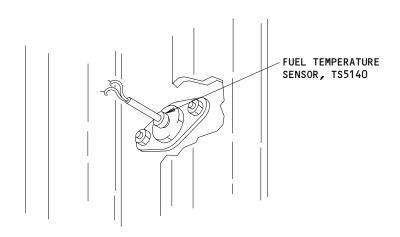
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FUEL TEMPERATURE SENSOR, TS5140



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

EFFECTIVITY-ALL

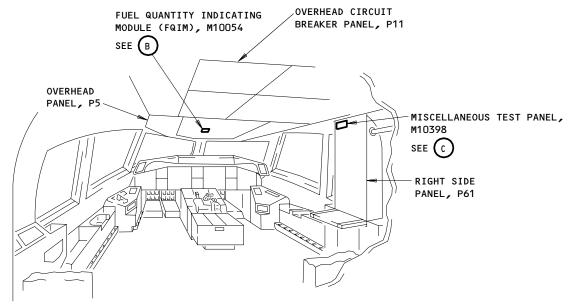
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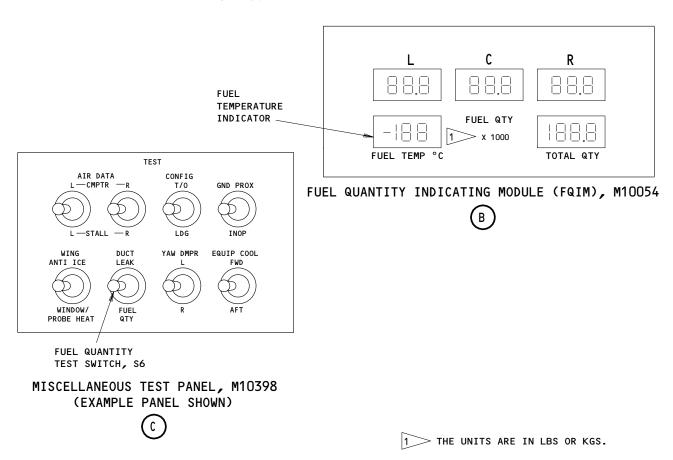
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FLIGHT COMPARTMENT



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

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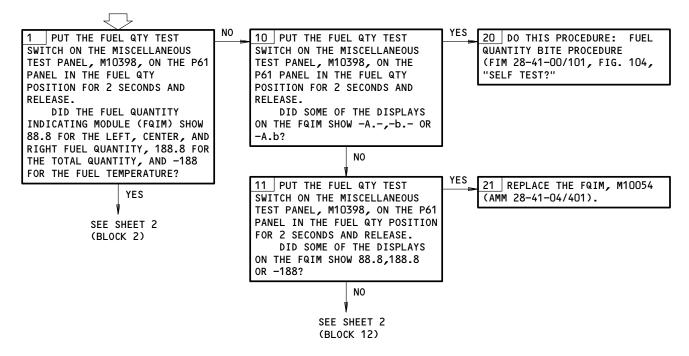
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 6E4,11B7,11C34,11L19,11N4,34AA10

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

FUEL TEMPERATURE INDICATOR DOES NOT DISPLAY CORRECTLY.

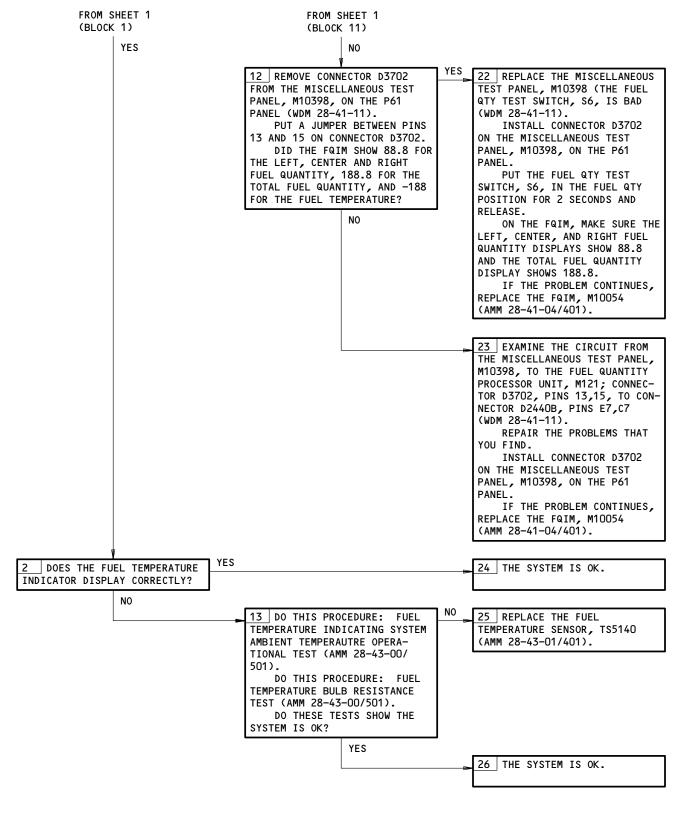
NOTE: AN INCORRECT DISPLAY IS ONE THAT FLUCTUATES OR IS INTERMITTENT OR INACCURATE OR BLANK OR HAS MISSING SEGMENTS.



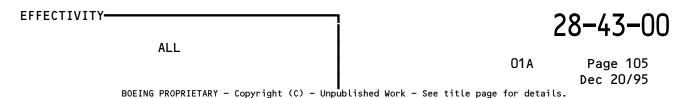
Fuel Temperature Indicator Does Not Display Correctly. Figure 103 (Sheet 1)

C21322

28-43-00



Fuel Temperature Indicator Does Not Display Correctly. Figure 103 (Sheet 2)





FUEL MEASURING STICK ASSEMBLY

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
L FUEL MEASURING STICK NO. 1	1	1	531AB	28-44-01
L FUEL MEASURING STICK NO. 2	1	1	531CB	28-44-01
L FUEL MEASURING STICK NO. 3	1	1	541AB	28-44-01
L FUEL MEASURING STICK NO. 4	1	1	541EB	28-44-01
L FUEL MEASURING STICK NO. 5	1	1	541JB	28-44-01
L FUEL MEASURING STICK NO. 6	1	1	541MB	28-44-01
L FUEL MEASURING STICK NO. 7	1	1	542BB	28-44-01
R FUEL MEASURING STICK NO. 1	2	1	631AB	28-44-01
R FUEL MEASURING STICK NO. 2	2	1	631CB	28-44-01
R FUEL MEASURING STICK NO. 3	2	1	641AB	28-44-01
R FUEL MEASURING STICK NO. 4	2	1	641EB	28-44-01
R FUEL MEASURING STICK NO. 5	2	1	641 JB	28-44-01
R FUEL MEASURING STICK NO. 6	2	1	641MB	28-44-01
R FUEL MEASURING STICK NO. 7	2	1	642BB	28-44-01

Fuel Measuring Stick Assembly - Component Index Figure 101

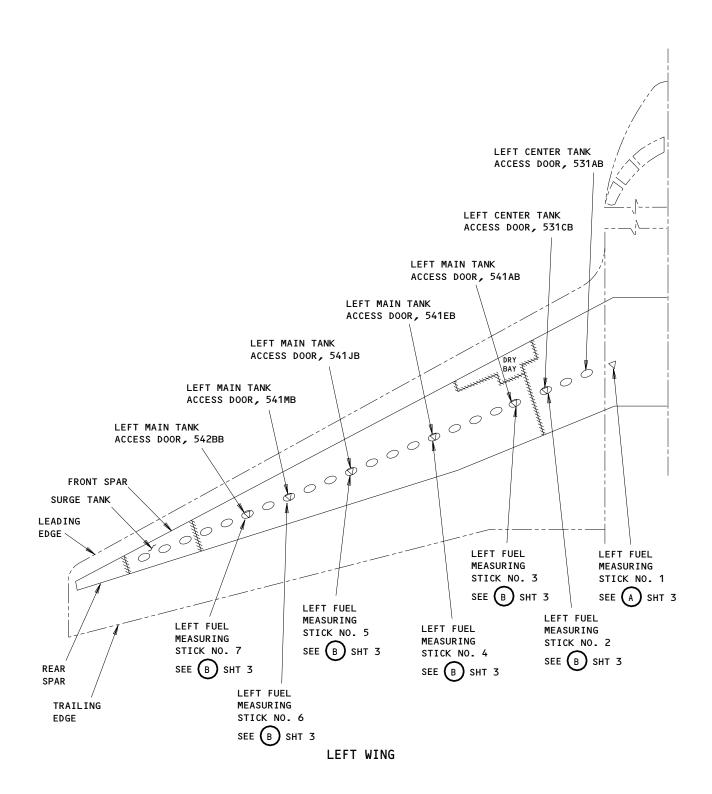
EFFECTIVITY ALL

28-44-00

02

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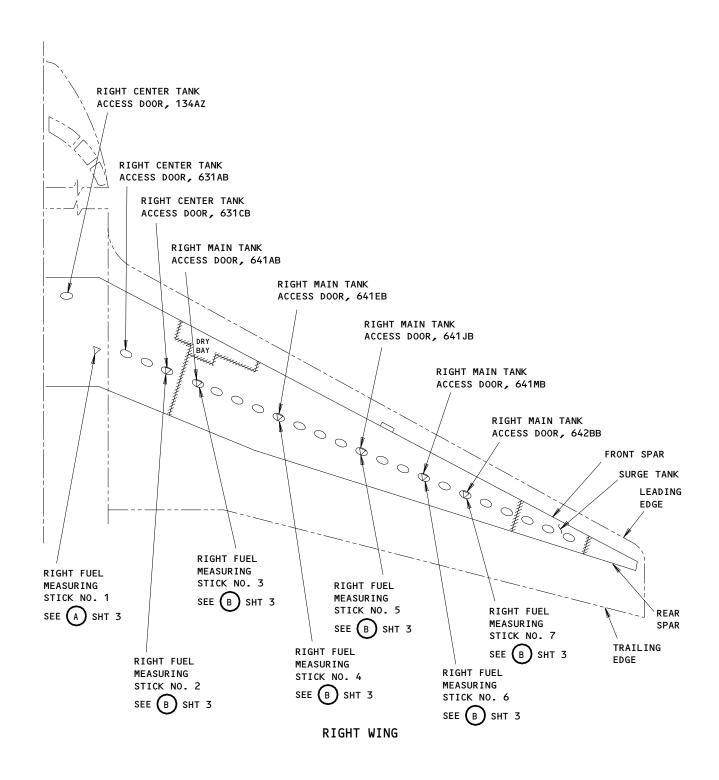


Fuel Measuring Stick Assembly - Component Location Figure 102 (Sheet 1)

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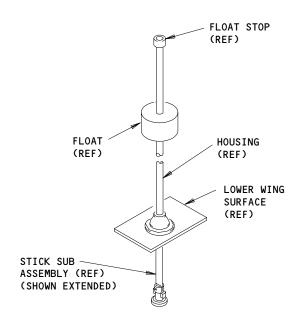
Fuel Measuring Stick Assembly - Component Location Figure 102 (Sheet 2)

ALL

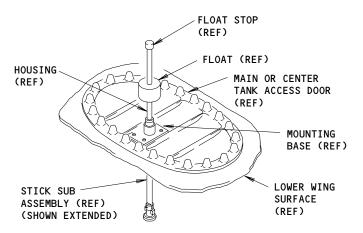
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LEFT OR RIGHT FUEL MEASURING STICK NO. 1 (INSTALLED ON THE AIRPLANE STRUCTURE)



LEFT OR RIGHT FUEL MEASURING STICK NO. 2,3,4,5,6,7 (INSTALLED ON THE MAIN OR CENTER TANK ACCESS DOOR)



Fuel Measuring Stick Assembly - Component Location (Details from Sht 1 and 2) Figure 102 (Sheet 3)

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