Scandinavian Airlines System

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CHAPTER 30 TAB		
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EFFECTIVE PAGES SEE LAST PAGE OF LIST FOR NUMBER OF PAGES		
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1	AUG 22/99	01
2	AUG 22/99	SAS
3	AUG 22/07	SAS
4	AUG 22/06	SAS
5	APR 22/03	SAS
6	APR 22/08	SAS
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8	BLANK	
30-HOW TO USE THE FIM		
1	AUG 22/99	01
2	AUG 22/99	01
3	AUG 22/99	01
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30-INDEX		
1	DEC 22/01	18
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30-EICAS MESSAGES		
1	NOV 10/90	01
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2	APR 22/01	09
3	APR 22/01	08
4	APR 22/01	13
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30-21-00		
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102	FEB 10/97	03
103	FEB 10/97	01
104	FEB 10/97	15
105	MAY 10/95	19
106	MAY 10/96	17
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102	MAY 10/95	01
103	MAY 10/95	01
104	FEB 10/91	04
105	AUG 22/99	01
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105	AUG 22/01	03
106	AUG 22/01	03
107	AUG 22/01	03
108	AUG 22/01	02
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102	NOV 10/97	05
103	FEB 10/91	04
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R 115	AUG 22/09	02.1
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104	AUG 22/99	01

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30-43-00		
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30-71-00		
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103	APR 22/04	09
104	APR 22/04	19
105	APR 22/05	19
106	APR 22/04	11
107	APR 22/04	06
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102	AUG 22/01	02
103	AUG 22/01	04
104	AUG 22/01	02
105	AUG 22/01	02
106	BLANK	

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CHAPTER 30 - ICE AND RAIN PROTECTION

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[*] AIRPLANES WITH RAIN REPELLENT SYSTEM

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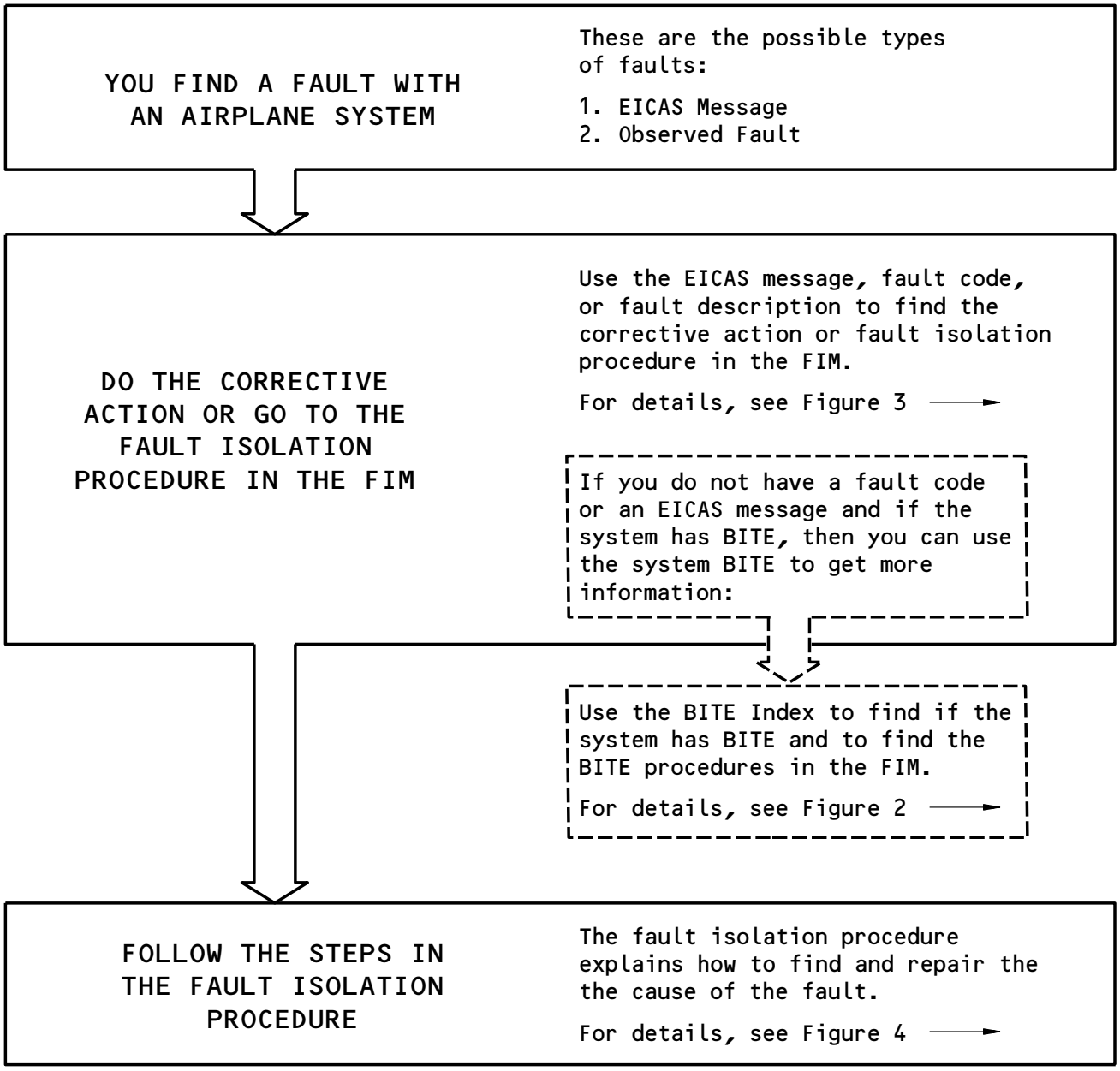
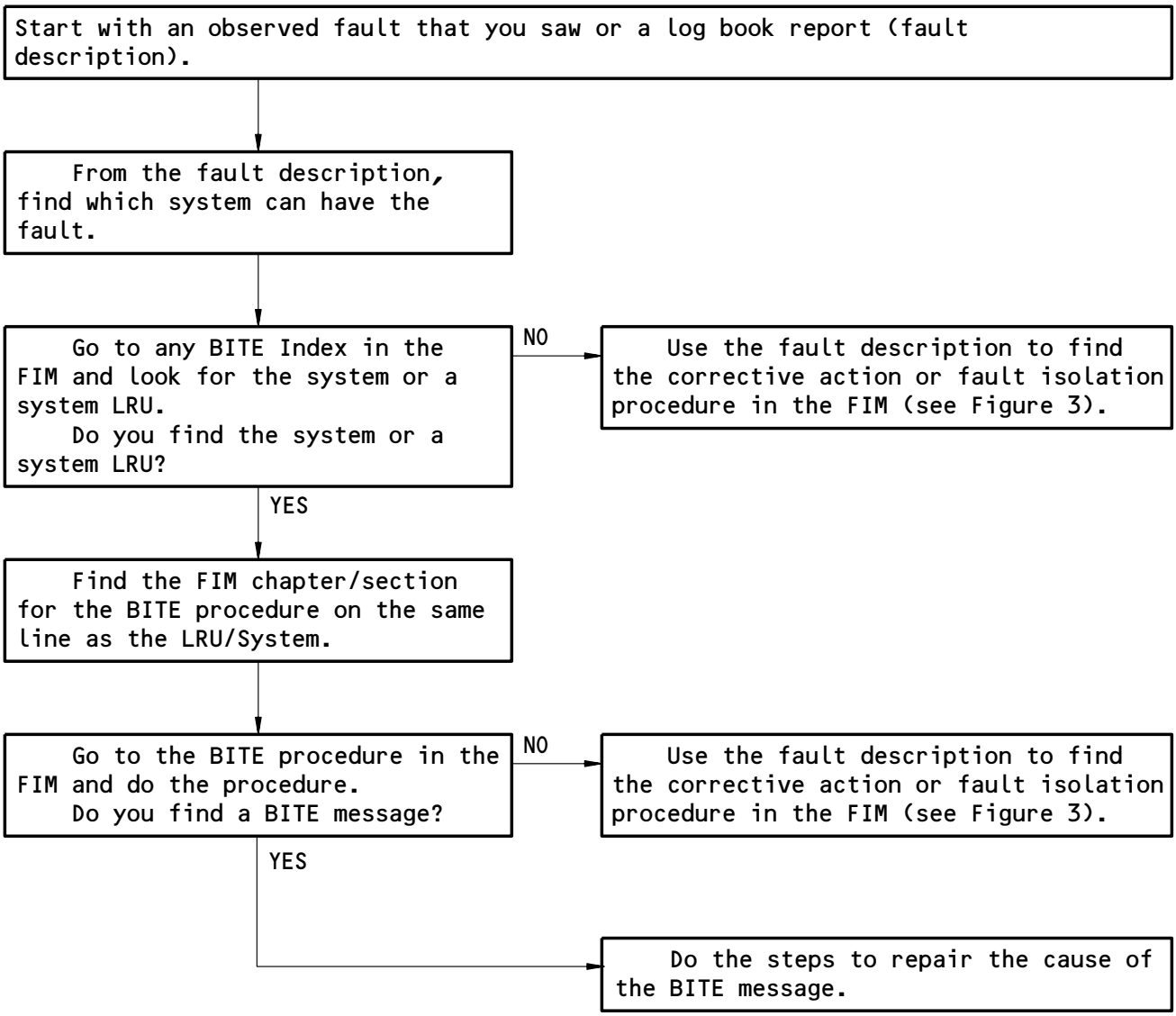
[*] AIRPLANES WITH ICE DETECTION SYSTEM



Basic Fault Isolation Process
Figure 1

K37670



How to Get Fault Information from BITE
Figure 2

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

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

ASSUMED CONDITIONS AT START OF TASK

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

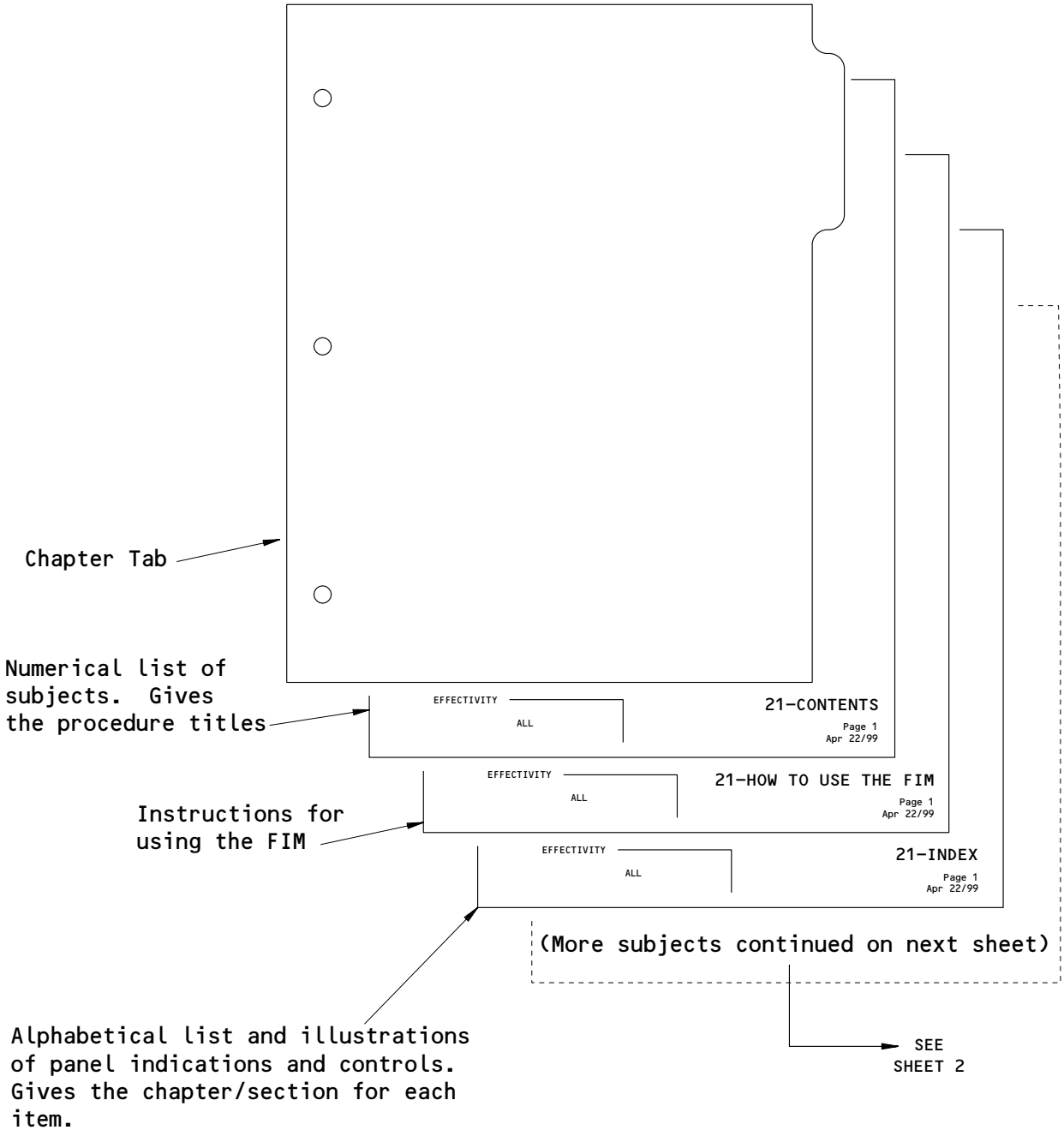
PREREQUISITES

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

FAULT ISOLATION BLOCKS

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

Do the Fault Isolation Procedure
Figure 4

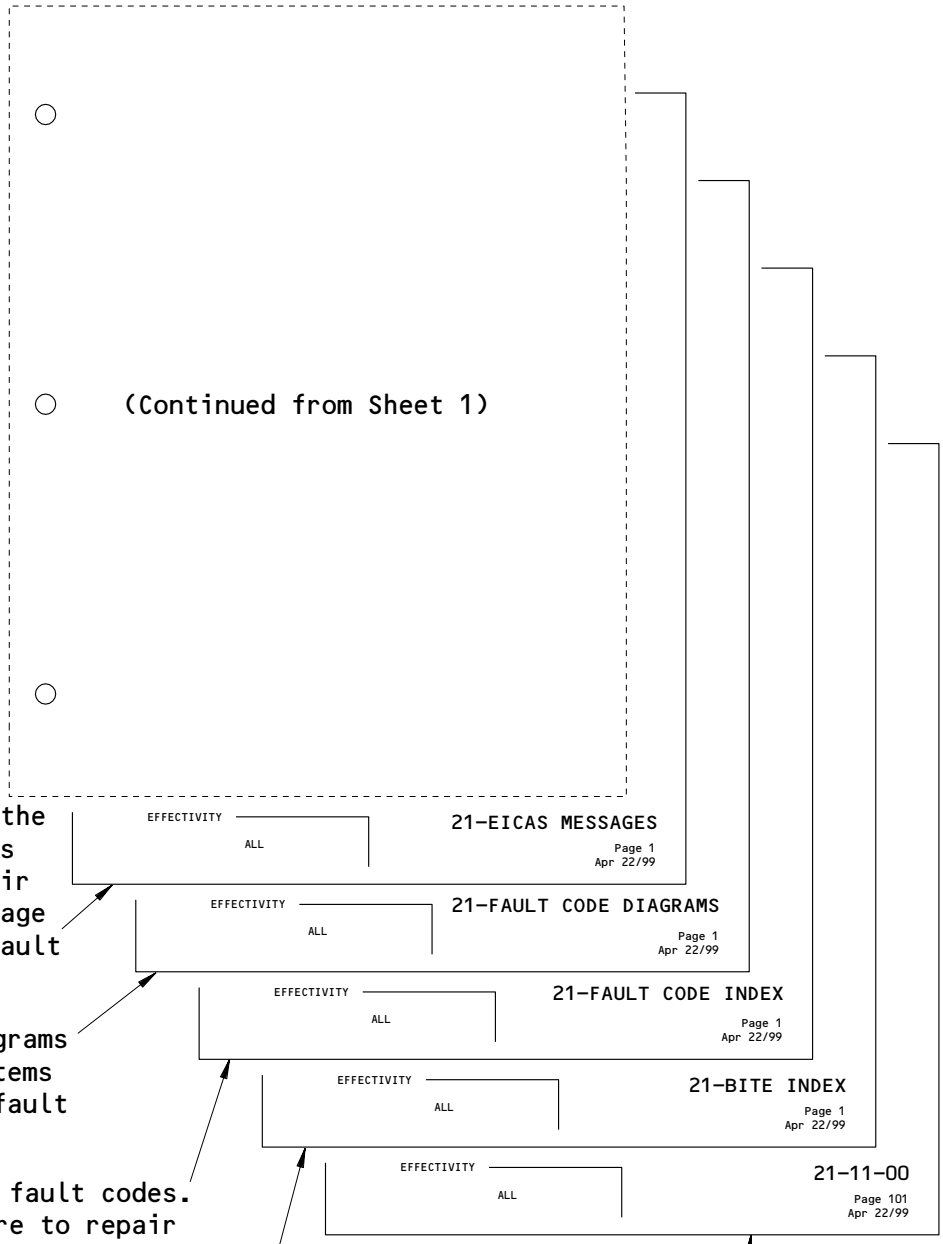


Subjects in Each FIM Chapter
Figure 5 (Sheet 1)

EFFECTIVITY
ALL

30-HOW TO USE THE FIM

K37674



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

Failure analysis diagrams for the airplane systems to find the correct fault code for the fault.

Numerical list of fault codes. Gives the procedure to repair the cause of the fault or a reference to a fault isolation procedure.

Alphabetical list of all the LRUs/systems that have BITE. Gives the chapter/ section for the BITE procedure.

Component index, component location, and fault isolation procedures for the systems in the chapter.

Subjects in Each FIM Chapter
Figure 5 (Sheet 2)

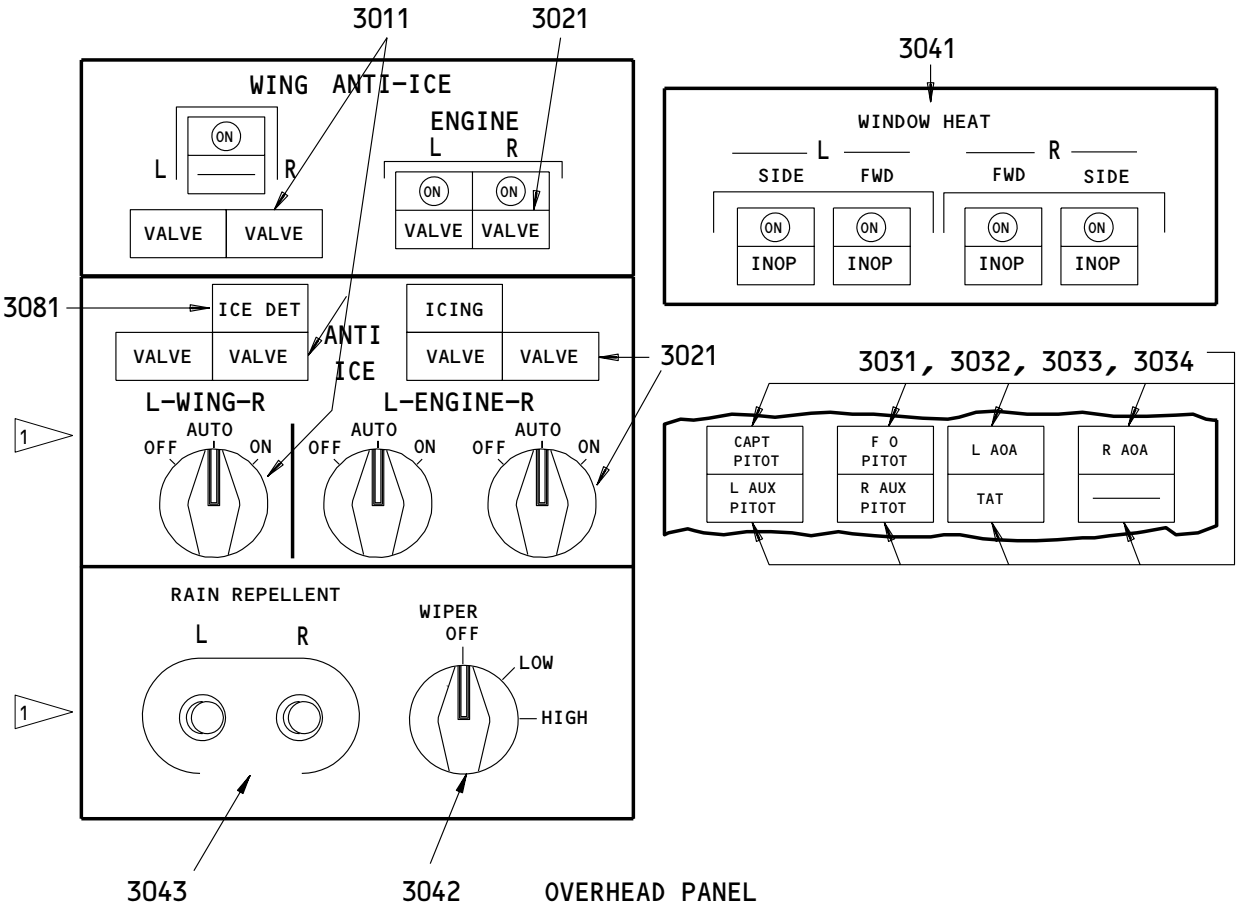
EFFECTIVITY
ALL

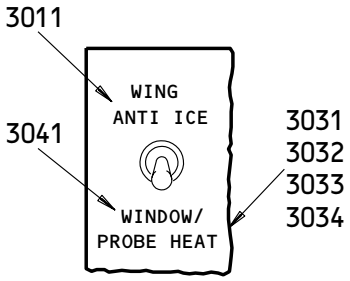
K37675

1 AS INSTALLED

ICE AND RAIN PROTECTION - INDEX
Figure 1

M32629





ACCESSORY PANEL

1 AS INSTALLED

ICE AND RAIN PROTECTION - INDEX

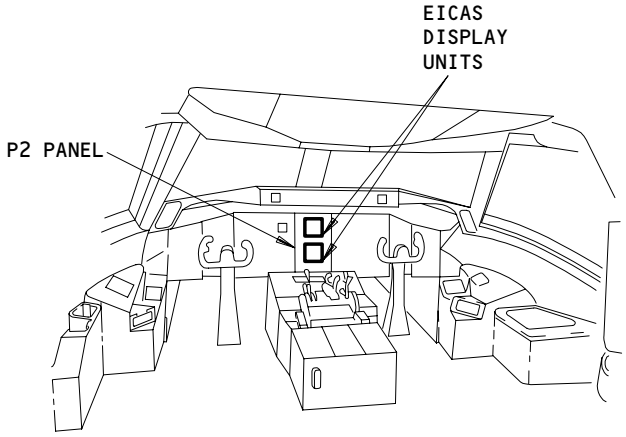
EFFECTIVITY

ALL

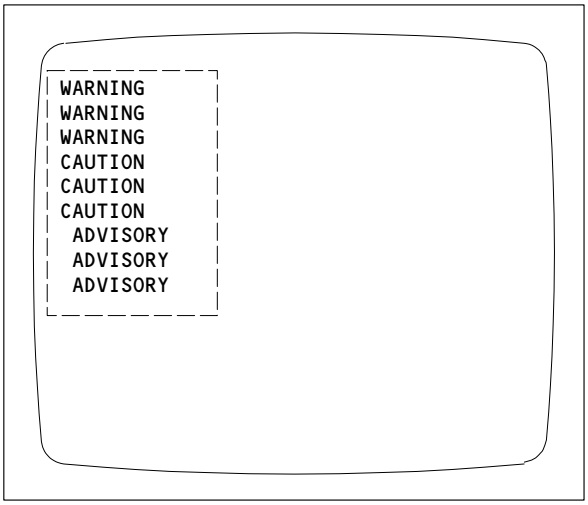
959921

ICE AND RAIN PROTECTION - EICAS MESSAGE LIST

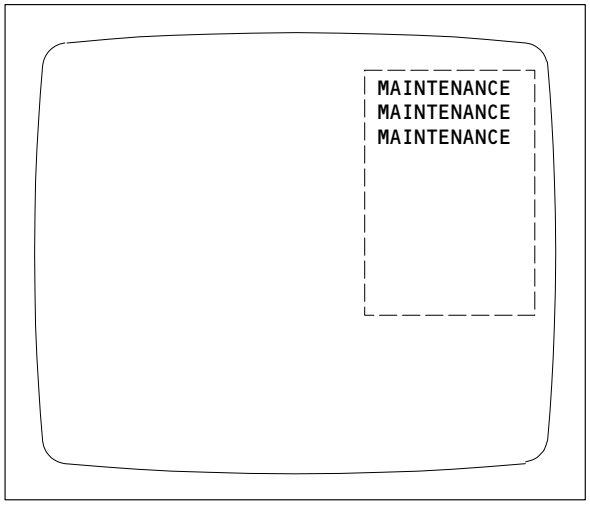
1. General
   A. This procedure shows the EICAS message locations and gives a list of procedures to find the solution for each message.
      (1) EICAS Message Locations (Fig. 1)
         (a) Figure 1 shows the location of the EICAS display units and the area where the messages show on the display units.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



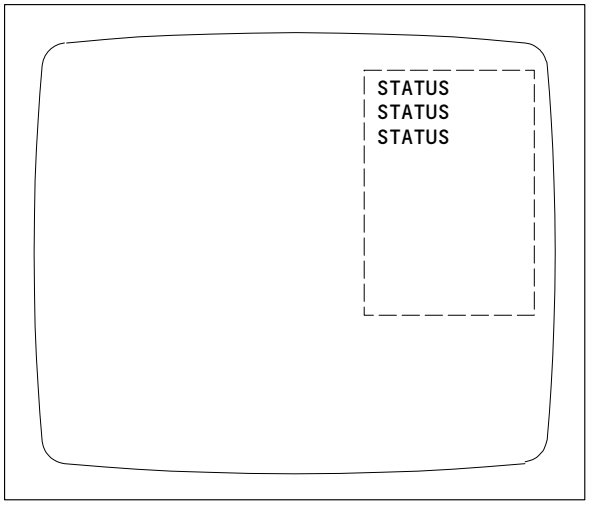
FLIGHT COMPARTMENT



ENGINE PRIMARY PAGE OR COMPACTED PAGE
(TOP DISPLAY UNIT)



ECS/MSG PAGE
(BOTTOM DISPLAY UNIT)



STATUS PAGE
(BOTTOM DISPLAY UNIT)

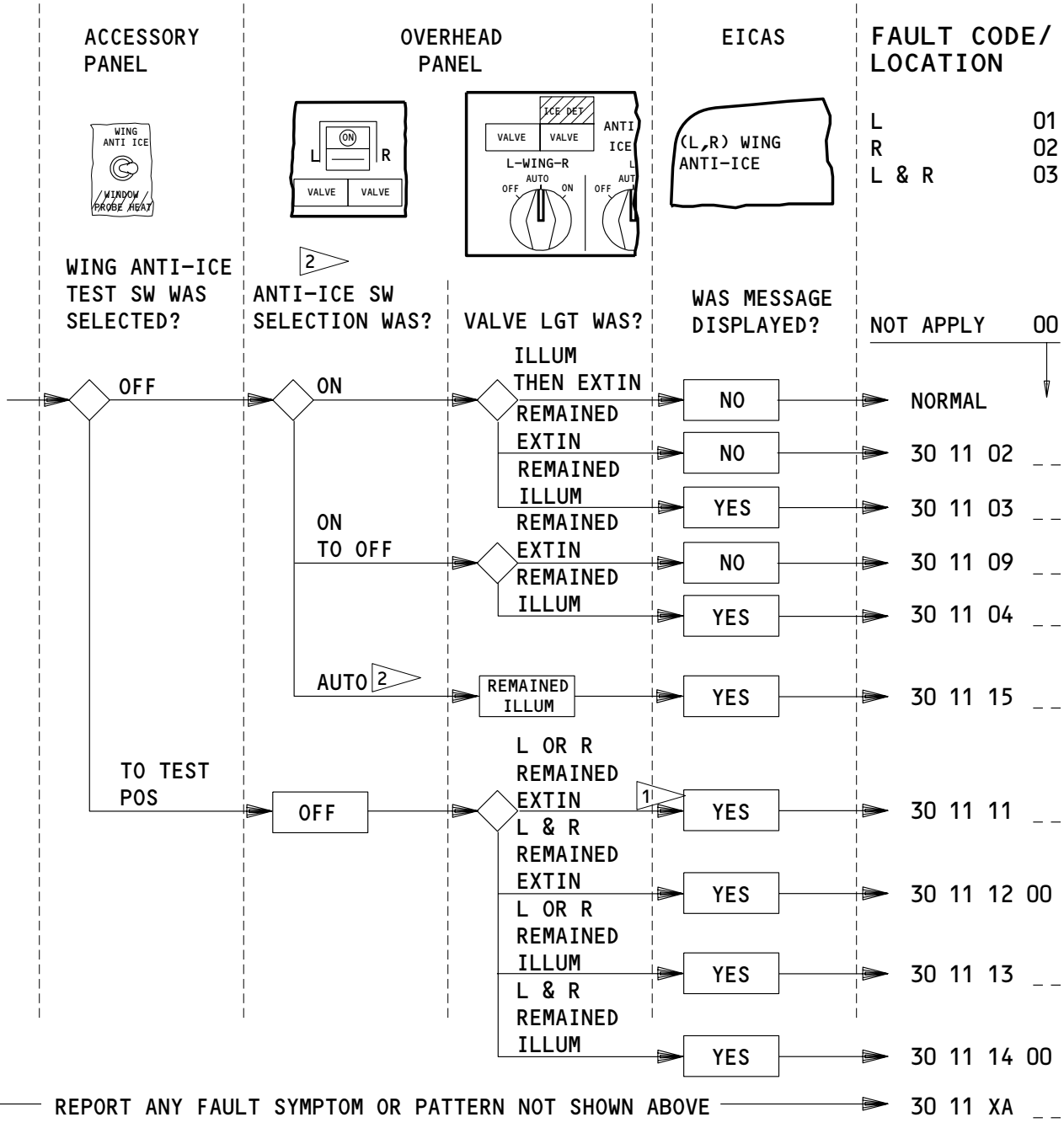
LEVEL	COLOR
A–WARNING	RED
B–CAUTION	YELLOW
C–ADVISORY	YELLOW
S–STATUS	WHITE
M–MAINTENANCE	WHITE

EICAS Message Locations
Figure 1

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
CAPT PITOT	C	Replace the CAPT pitot/static current sensing relay, K241 (WDM 30-31-11). If the problem continues, replace the CAPT pitot/static probe, B26 (AMM 34-11-01).
CAPT PITOT HEAT	M	Replace the system number 1 air/gnd relay, K516, on the P33 panel (AMM 32-09-02).
F/O PITOT	C	Replace the F/O pitot/static current sensing relay, K310 (WDM 30-31-21). If the problem continues, replace the F/O pitot static probe, B28 (AMM 30-31-00).
F/O PITOT HEAT	M	Replace the system number 2 air/gnd relay, K528 on the P33 panel (AMM 32-09-02).
ICE DETECTORS	M	Replace the ice detector probes, M1739 and M1740 (AMM 30-81-01).
ICE DETECTOR OFF	C	No procedure is necessary.
ICE DETECTOR ON	C	No procedure is necessary.
ICING ENGINE	C	No procedure is necessary.
ICING WING	C	No procedure is necessary.
L (R) AOA PROBE	C	FIM 30-32-00/101, Fig. 104
L (R) AUX PITOT	C	Replace the L (R) aux pitot/static current sensing relay, K312 (K243) (WDM 30-31-13). If the problem continues, replace the L (R) aux pitot/static probe, B29 (B27) (AMM 30-31-00).

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
L (R) AUX PITOT HEAT	M	Replace the system number 2 (1) air/gnd relay K522 (K515) on the P33 panel (AMM 32-09-02).
L (R) COWL DUCT LEAK	S, M	Look for leaks in the L (R) engine duct (AMM 75-11-09). If you do not find leaks, replace the L (R) engine EEC overheat temperature switch, S1606 (S1616) (AMM 30-21-04). If the problem continues, replace the L (R) engine EEC overheat relay, K1077 (K1078) on the P37 panel (AMM 30-21-11).
L (R) ENG ANTI-ICE	C	Replace the L (R) engine anti-ice switch-light, YDNS1 (YDNS2), on the M10397 panel (AMM 33-13-00) or replace the M10397 panel (AMM 30-11-01). If the problem continues, replace the L (R) engine inlet TAI valve, V115 (V117) (AMM 30-21-03).
L (R) ENG PROBE HEAT	S, M	FIM 30-34-00/101, Fig. 103
L (R) ENG TAI VALVE	S, M	FIM 30-21-00/101, Fig. 104
L (R) FWD WINDOW	C	Replace the L (R) FWD AND R (L) SIDE window heat control unit, M191 (M192) (AMM 30-41-01). If the problem continues, replace the window heat control panel, M10395 (AMM 30-41-02).

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
L (R) ICE DETECTOR	S, M	Replace the left (right) ice detector probe, M1740 (M1739) (AMM 30-81-01).
L (R) SIDE WINDOW	C	Replace the R (L) FWD AND L (R) SIDE window heat control unit, M192 (M191) (AMM 30-41-01). If the problem continues, replace the window heat control panel, M10395 (AMM 30-41-02).
L (R) WING ANTI-ICE	C	Replace the left (right) wing TAI valve, V52 (V57) (AMM 30-11-02). If the problem continues, replace the left (right) wing temperature switch, S398(S399) (AMM 30-11-03).
L (R) WING TAI VALVE	M	FIM 30-11-00/101, Fig. 104
PROBE HEAT	C	FIM 30-31-00/101, Fig. 107 FIM 30-31-00/101, Fig. 108
TAT PROBE	C	Replace the system number 1 air/gnd relay, K514, on the P33 panel (AMM 32-09-02).
WINDOW HEAT	C	Replace the L FWD AND R SIDE (R FWD AND L SIDE) window heat control unit, M191 (M192) (AMM 30-41-01). If the problem continues, replace the window heat control panel, M10395 (AMM 30-41-02).



1 BOTH VALVE LGTS ILLUM THEN EXTIN INDICATES NORMAL TEST.

2 AS INSTALLED

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11A31	ANTI-ICE WING
11T20	ANTI-ICE WING

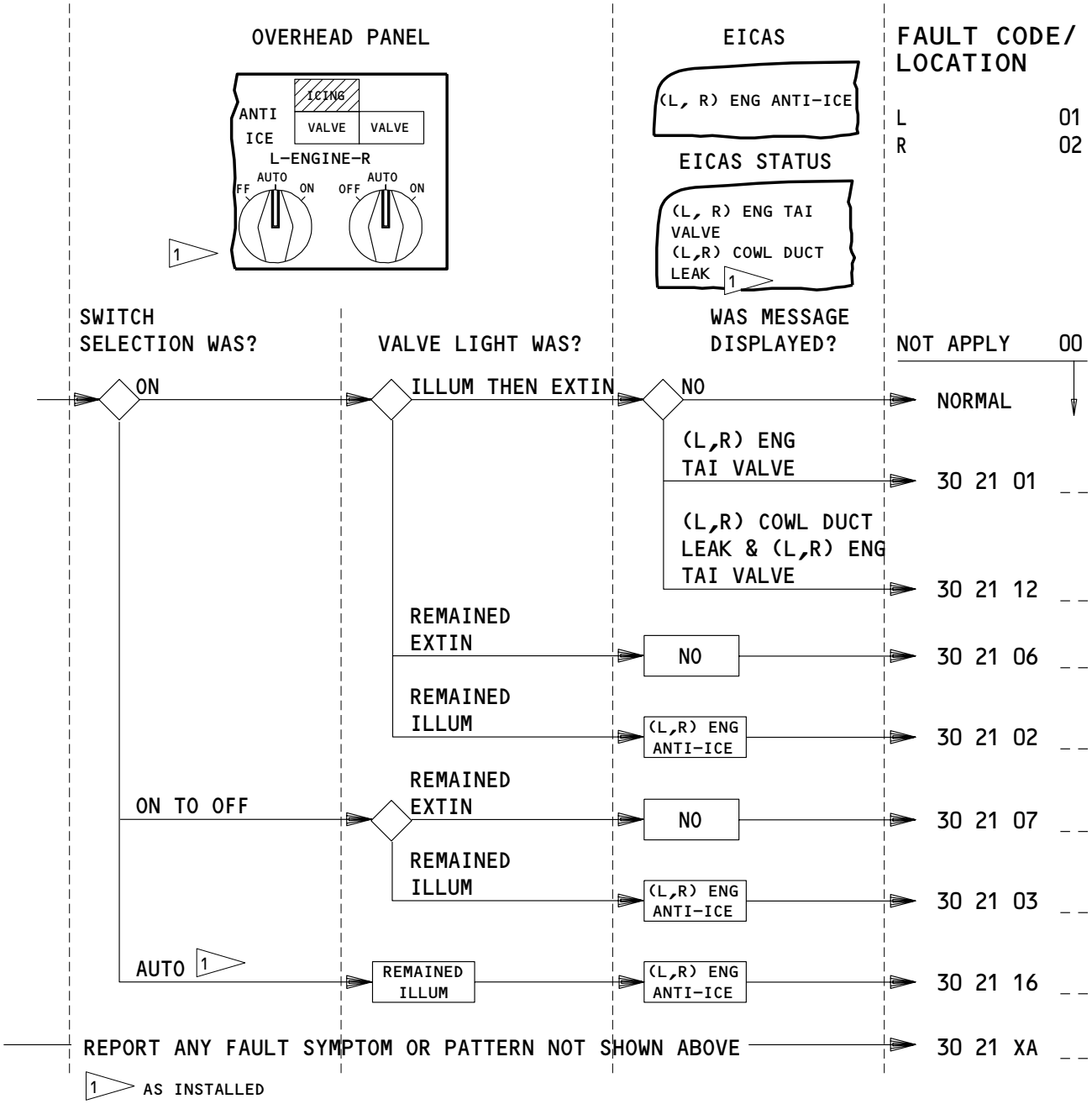
WING ANTI-ICE & TEST - FAULT CODES

EFFECTIVITY

ALL

30-FAULT CODE DIAGRAM

F94476



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

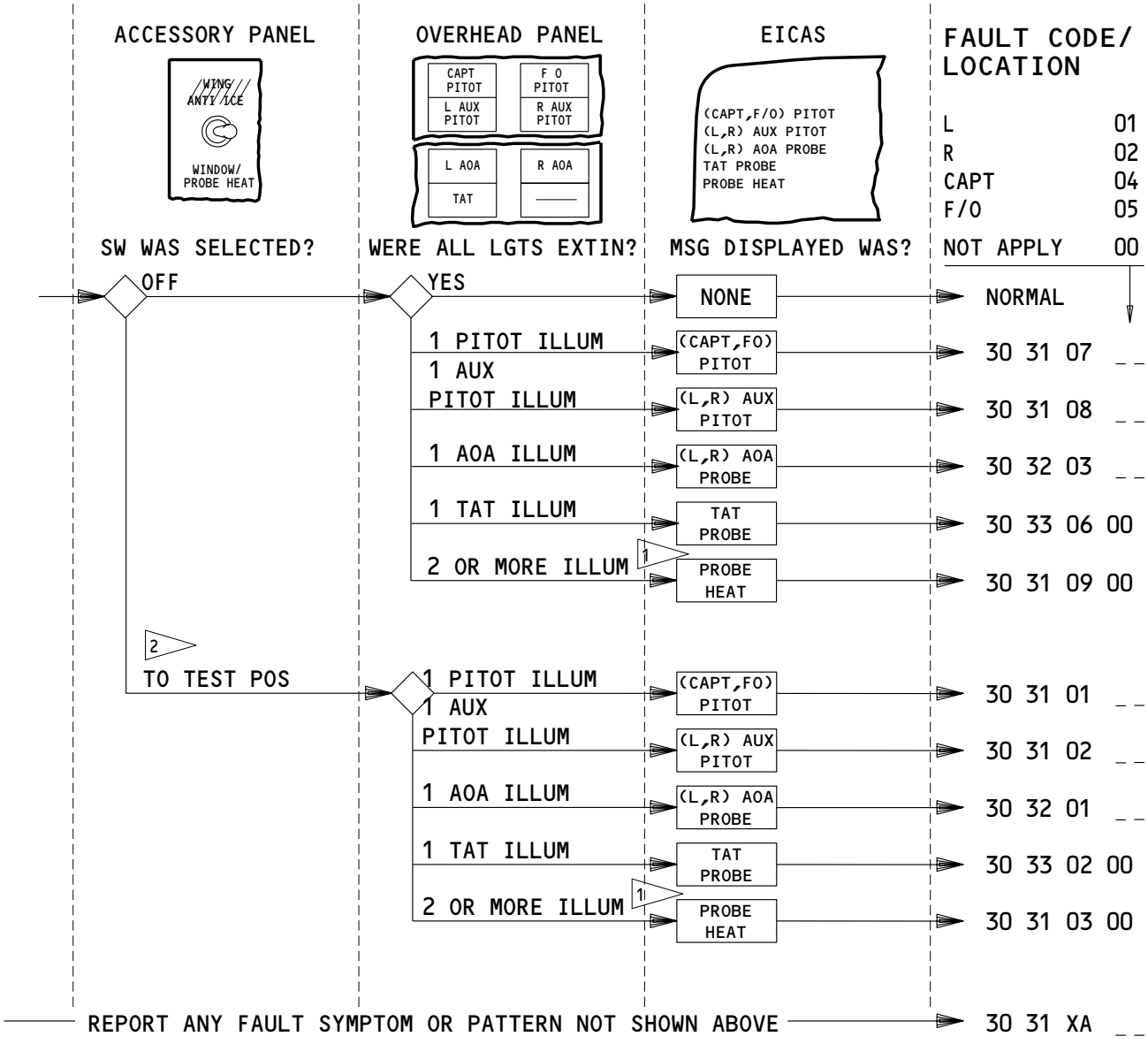
11A16	ANTI ICE ENG L	11C28	ANTI–ICE ENG R
11A30	ANTI–ICE ALTN R ENG	11T10	ANTI–ICE ENG L
11C27	ANTI–ICE ENG L	11T19	ANTI–ICE ENG R

ENGINE ANTI–ICE – FAULT CODES

EFFECTIVITY

ALL

30–FAULT CODE DIAGRAM



1 2 OR MORE WILL REPLACE INDIVIDUAL MESSAGE WITH PROBE HEAT MESSAGE.

2 PERFORM TEST ON GROUND WITH ENGINES OFF.

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

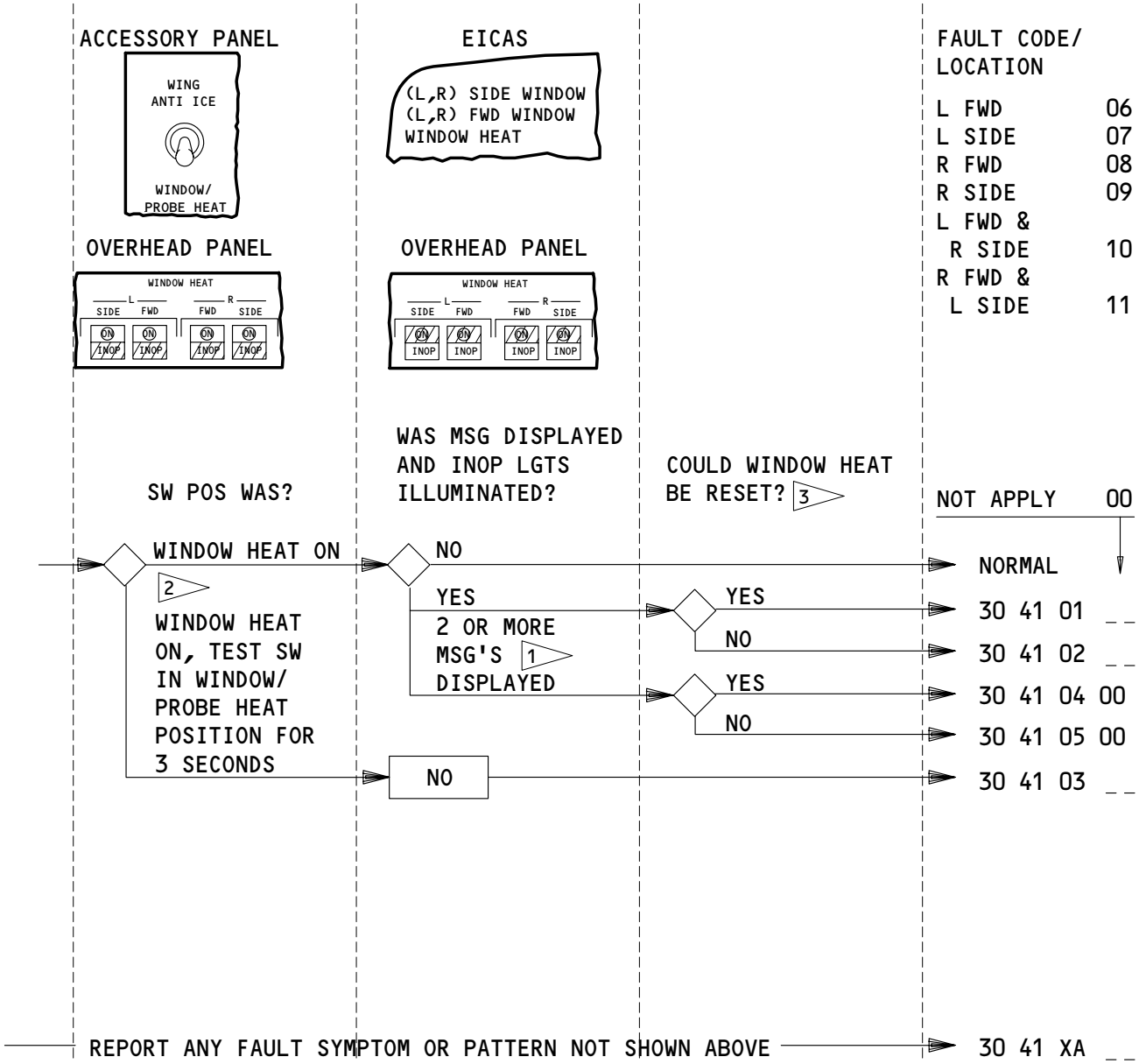
6K14	ØA CAPT PITOT HEAT	6K21	ØB L AUX PITOT HEAT	6L18	L TAT PROBE HEAT
6K15	ØB CAPT PITOT HEAT	6K22	ØB F/O PITOT HEAT	11A15	PROBE HEAT IND L
6K16	ØB R AUX PITOT HEAT	6K23	ØA F/O PITOT HEAT	11A28	PROBE HEAT IND R
6K17	ØC R AUX PITOT HEAT	6K24	R AOA PROBE HEAT	11T17	PROBE HEAT IND L
6K20	ØC L AUX PITOT HEAT	6L17	L AOA PROBE HEAT	11T26	PROBE HEAT IND R

PROBE HEAT & TEST – FAULT CODES

EFFECTIVITY

ALL

30-FAULT CODE DIAGRAM



1 2 OR MORE WILL REPLACE INDIVIDUAL MESSAGES WITH WINDOW HEAT MESSAGE.

2 ALL 4 INOP LGTS ILLUMINATED INDICATES NORMAL TEST.

3 LEAVE SW IN OFF A MINIMUM OF 10 SEC BEFORE POSITIONING SW ON.

APPLICABLE CIRCUIT BREAKERS

11T15 WINDOW HEAT TEST

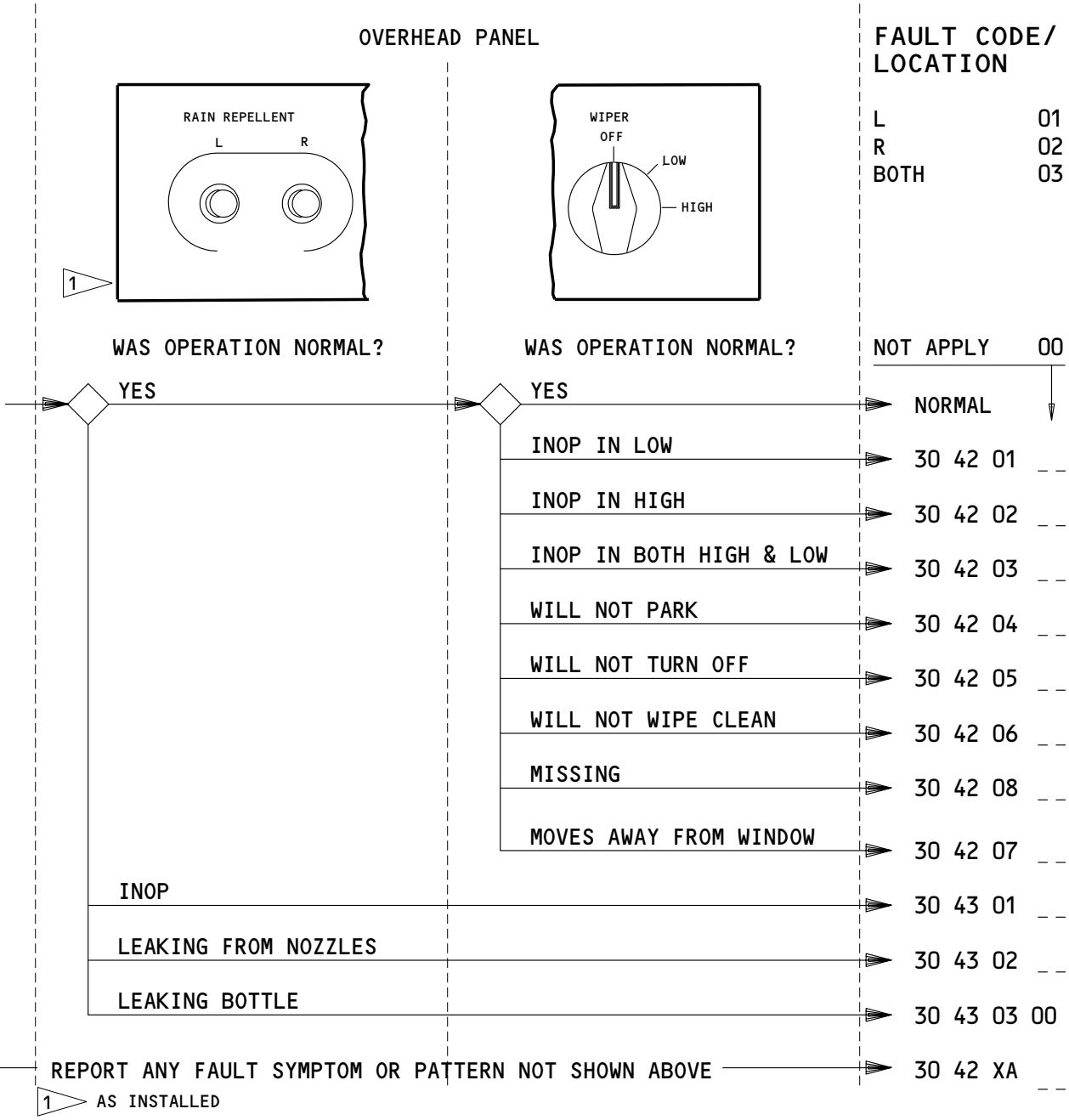
WINDOW HEAT – FAULT CODES

EFFECTIVITY

ALL

30-FAULT CODE DIAGRAM

34668



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11T12	RAIN REPEL R
11T13	WSHLD WIPER L
11T21	RAIN REPEL L
11T22	WSHLD WIPER R

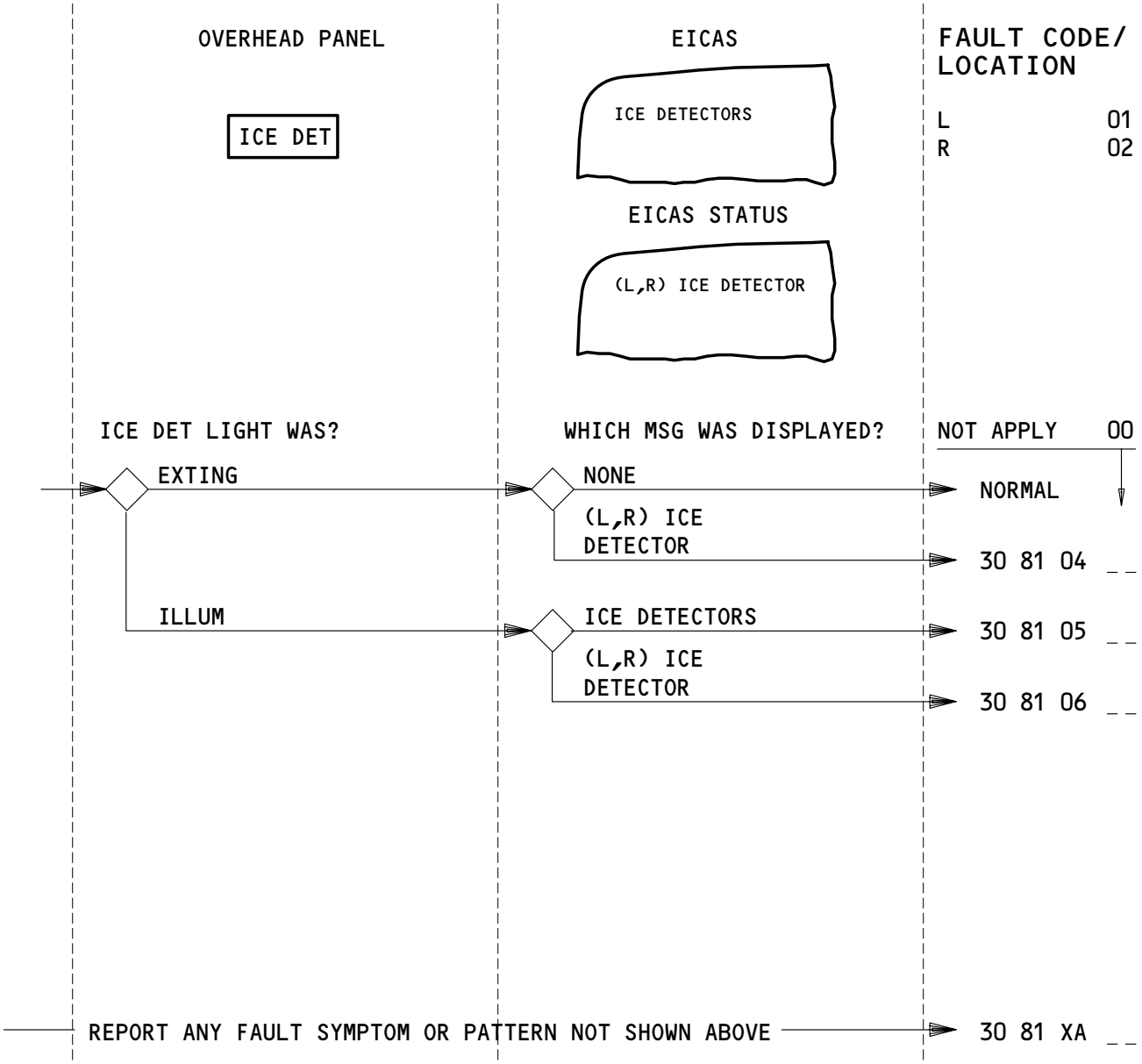
RAIN REPELLENT & WINDSHIELD WIPERS – FAULT CODES

EFFECTIVITY

ALL

30-FAULT CODE DIAGRAM

F94481



APPLICABLE CIRCUIT BREAKERS

11T14	ICE DETECTOR L
11T23	ICE DETECTOR R

ICE DETECTION – FAULT CODES

EFFECTIVITY

ALL

30-FAULT CODE DIAGRAM

978325

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 11 XA --	1. A (01=L, 02=R) wing anti-ice problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions). 2. SSM 30-11-01
30 21 XA --	1. An (01=L, 02=R) engine anti-ice problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions). 2. SSM 30-21-01
30 31 XA --	1. A (01=L, 02=R, 04=CAPT, 05=F/O) probe heat problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions). 2. Pitot probe heat: SSM 30-31-01 AOA probe heat: SSM 30-32-01 TAT probe heat: SSM 30-33-01 Eng EEC probe heat: SSM 30-34-01
30 31 XB --	Not Used
30 31 XC --	Not Used
30 41 XA --	1. A (06=L FWD, 07=L SIDE, 08=R FWD, 09=R SIDE) window heat problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions). 2. SSM 30-41-01, SSM 30-41-02
30 42 XA --	Report windshield wipers symptoms or patterns along with fault code.

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 81 XA --	1. SAS 150-154 POST-SB 30-17; SAS 050-149, 155-274; An ice detection problem was encountered by the flight crew which is not covered in the fault code diagrams. (Ref fault code diagram for flight crew actions). 2. SSM 30-81-01
30 11 01 --	Not Used
30 11 02 --	1. With wing anti-ice sw selected ON (01=L, 02=R, 03=L & R) VALVE light(s) remained extin. No EICAS msg displayed. 2. (01=L, 02=R) Replace L(R) wing TAI valve V52 (V57) (AMM 30-11-02) (03=L&R) FIM 30-11-00/101, Fig. 104A, Block 1
30 11 03 --	1. With wing anti-ice sw selected ON, EICAS msg (01=L, 02=R, 03=L & R) WING ANTI-ICE displayed. Respective VALVE light(s) illum. 2. FIM 30-11-00/101, Fig. 103, Block 1
30 11 04 --	1. With wing anti-ice VALVE light sw selected from ON to OFF. EICAS msg (01=L, 02=R, 03=L & R) WING ANTI-ICE displayed. Respective VALVE light(s) remained illum. 2. (01=L, 02=R) Replace L (R) wing TAI valve V52 (V57) (AMM 30-11-02) (03=L & R) FIM 30-11-00/101, Fig. 104B, Block 1
30 11 05 00	1. EICAS msg L WING TAI VALVE displayed. (Ref Chapter 31 for fault code diagram). 2. FIM 30-11-00/101, Fig. 104, Block 1
30 11 06 00	1. EICAS msg R WING TAI VALVE displayed. (Ref Chapter 31 for fault code diagram). 2. FIM 30-11-00/101, Fig. 104, Block 1
30 11 07 --	Not Used

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 11 08 00	Not Used
30 11 09 --	1. With wing anti-ice sw selected from ON to OFF (01=L, 02=R, 03=L & R) VALVE light(s) remained extinguished. No EICAS message displayed. 2. (01=L, 02=R) Replace L (R) wing TAI valve V52 (V57) (AMM 30-11-02). (03=L & R) FIM 30-11-00/101, Fig. 104A, Block 1
30 11 10 00	Not Used
30 11 11 --	1. With wing anti-ice test sw selected to test pos, EICAS msg (01=L, 02=R) WING ANTI-ICE displayed. (L,R) VALVE Light remained extin. 2. Replace L(R) wing TAI valve V52 (V57) (AMM 30-11-02).
30 11 12 00	1. With wing anti-ice test sw selected to test pos, EICAS messages L & R WING ANTI-ICE displayed. Both VALVE Lights remained extin. 2. FIM 30-11-00/101, Fig. 104A, Block 1
30 11 13 --	1. With wing anti-ice test sw selected to test pos, EICAS msg (01=L, 02=R) WING ANTI-ICE displayed. (L, R) VALVE Light remained illum. 2. Replace L(R) wing TAI valve V52 (V57) (AMM 30-11-02).
30 11 14 00	1. With wing anti-ice test sw selected to test pos, EICAS messages L & R WING ANTI-ICE displayed. Both VALVE Lights remained illum. 2. FIM 30-11-00/101, Fig. 104B, Block 1
30 11 15 --	1. With wing anit-ice sw selected to AUTO pos, EICAS msg (01=L, 02=R, 03=L & R) WING ANTI-ICE displayed. Respective VALVE Light(s) remained illum. 2. FIM 30-11-00/101, Fig. 107, Block 1
30 21 01 --	1. EICAS msg (01=L, 02=R) ENG TAI VALVE displayed. Eng anti-ice VALVE light extin with sw ON. 2. FIM 30-21-00/101, Fig. 104, Block 1
30 21 02 --	1. EICAS msg (01=L, 02=R) ENG ANTI-ICE displayed and eng anti-ice VALVE light remained illum with sw ON. 2. FIM 30-21-00/101, Fig. 105, Block 1

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 21 03 --	1. EICAS msg (O1=L, O2=R) ENG ANTI-ICE displayed and eng anti-ice VALVE light remained illum with sw selected from ON to OFF. 2. FIM 30-21-00/101, Fig. 103, Block 1
30 21 04 00	1. EICAS msg L ENG TAI VALVE displayed (Ref Chapter 31 for fault code diagram). 2. FIM 30-21-00/101, Fig. 104, Block 1
30 21 05 00	1. EICAS msg R ENG TAI VALVE displayed (Ref Chapter 31 for fault code diagram). 2. FIM 30-21-00/101, Fig. 104, Block 1
30 21 06 --	1. With (O1=L, O2=R) eng anti-ice sw positioned to ON, VALVE light remained extin. No EICAS msg displayed. 2. FIM 30-21-00/101, Fig. 105A, Block 1
30 21 07 --	1. With (O1=L, O2=R) eng anti-ice sw selected from ON to OFF, VALVE light remained extin. No EICAS msg displayed. 2. FIM 30-21-00/101, Fig. 105A, Block 1
30 21 08 --	Not Used
30 21 09 --	Not Used
30 21 10 00	1. EICAS msg L COWL DUCT LEAK displayed (Ref Chapter 31 for fault code diagram). 2. Replace failed L engine cowl TAI duct (AMM 71-11-09).
30 21 11 00	1. EICAS msg R COWL DUCT LEAK displayed (Ref Chapter 31 for fault code diagram). 2. Replace failed R engine cowl TAI duct (AMM 71-11-09).

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 21 12 --	1. EICAS msgs (O1=L, O2=R) COWL DUCT LEAK and ENG TAI VALVE displayed. Eng anti-ice VALVE light illum with SW ON. 2. Replace failed L(R) engine cowl TAI duct (AMM 71-11-09).
30 21 16 --	1. EICAS msg (O1=L, O2=R) ENG ANTI-ICE displayed and eng anti-ice VALVE Light remained illum with sw selected to AUTO position. 2. FIM 30-21-00/101, Fig. 106, Block 1
30 31 01 --	1. EICAS msg (O4=CAPT, O5=F/O) PITOT displayed. (CAPT, F/O) PITOT probe heat lgt remains illum during probe heat test. 2. Replace (CAPT, F/O) P/S current sensing relay (K241, K310) (WDM 30-31-11, WDM 30-31-21). If fault persists, replace (CAPT, F/O) pitot static probe (B26, B28) (AMM 34-11-01).
30 31 02 --	1. EICAS msg (O1=L, O2=R) AUX PITOT displayed. (L, R) AUX PITOT probe heat lgt remains illum during probe heat test. 2. Replace (L, R) aux P/S current sensing relay (K312, K243) (WDM 30-31-23, WDM 30-31-13). If fault persists replace (L, R) aux pitot static probe (B29, B27) (AMM 34-11-01).
30 31 03 00	1. EICAS msg PROBE HEAT displayed. Two or more probe heat lgts remain illum during probe heat test. (identify faulty probes) 2. On Gnd, Engs Off: FIM 30-31-00/101, Fig. 107, Block 1 On Gnd, Engs Running: FIM 30-31-00/101, Fig. 108, Block 1
30 31 04 --	Not Used
30 31 05 --	Not Used
30 31 06 00	Not Used
30 31 07 --	1. EICAS msg (O4=CAPT, O5=F/O) PITOT displayed. (CAPT, F/O) PITOT probe heat lgt illum. 2. FIM 30-31-00/101, Fig. 103, Block 1 FIM 30-31-00/101, Fig. 105, Block 1
30 31 08 --	1. EICAS msg (O1=L, O2=R) AUX PITOT displayed. (L, R) AUX PITOT probe heat lgt illum. 2. FIM 30-31-00/101, Fig. 104, Block 1 FIM 30-31-00/101, Fig. 106, Block 1

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 31 09 00	1. EICAS msg PROBE HEAT displayed. Two or more probe heat lgts illum. (Identify faulty probes) 2. CAPT(F/O) Pitot probe heat: FIM 30-31-00/101, Fig. 103, Block 1 FIM 30-31-00/101, Fig. 105, Block 1 L (R) AUX Pitot probe heat: FIM 30-31-00/101, Fig. 104, Block 1 FIM 30-31-00/101, Fig. 106, Block 1 AOA probe heat: FIM 30-32-00/101, Fig. 104, Block 1 TAT probe heat: FIM 30-33-00/101, Fig. 105, Block 1
30 31 10 00	Not Used
30 31 11 00	Not Used
30 31 12 00	1. EICAS msg L AUX PITOT HEAT displayed. (Ref Chapter 31 for fault code diagram). 2. Replace Sys No. 2 air/gnd relay K522 in P33 (AMM 32-09-02).
30 31 13 00	1. EICAS msg R AUX PITOT HEAT displayed. (Ref Chapter 31 for fault code diagram). 2. Replace Sys No. 1 air/gnd relay K515 in P33 (AMM 32-09-02).
30 32 01 --	1. EICAS msg (01=L, 02=R) AOA PROBE displayed. (L, R) AOA probe heat lgt remains illum during probe heat test. 2. On Gnd, Engs Off: FIM 30-32-00/101, Fig. 103, Block 1
30 32 02 --	Not Used
30 32 03 --	1. EICAS msg (01=L, 02=R) AOA PROBE displayed. (L, R) AOA probe heat lgt illum. 2. On Gnd, Engs Running: FIM 30-32-00/101, Fig. 104, Block 1
30 33 01 --	Not Used

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 33 02 --	1. EICAS msg (01=L, 02=R) TAT PROBE displayed. (01=L, 02=R) TAT probe heat lgt remains illum during probe heat test with apl on grd and engs off. 2. On Gnd, Engs Off: FIM 30-33-00/101, Fig. 103, Block 1 On Gnd, Engs Running: FIM 30-33-00/101, Fig. 104, Block 1
30 33 02 00	1. EICAS msg TAT PROBE displayed. TAT probe heat lgt remains illum during probe heat test. 2. On Gnd, Engs Off: FIM 30-33-00/101, Fig. 103, Block 1 On Gnd, Engs Running: FIM 30-33-00/101, Fig. 104, Block 1
30 33 03 --	Not Used
30 33 04 00	Not Used
30 33 05 --	Not Used
30 33 06 --	1. EICAS msg (01=L, 02=R) TAT PROBE displayed. (01=L, 02=R) TAT probe heat lgt illum. 2. FIM 30-33-00/101, Fig. 105, Block 1
30 33 06 00	1. EICAS msg TAT PROBE displayed. TAT probe heat lgt illum. 2. FIM 30-33-00/101, Fig. 105, Block 1
30 34 01 00 thru 30 34 15 00	Not Used
30 34 16 --	Not Used
30 34 17 --	Not Used
30 34 18 --	1. EICAS msg (01=L, 02=R) ENG PROBE HEAT displayed. 2. FIM 30-34-00/101, Fig. 103, Block 1
30 34 19 00	Not Used
30 34 20 00	Not Used

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 41 01 --	1. EICAS msg (06=L FWD, 07=L SIDE, 08=R FWD, 09=R SIDE, 10=L FWD & R SIDE, 11=R FWD & L SIDE) WINDOW displayed. INOP light illum. Window heat could be reset 2. (06=L FWD, 09=R SIDE, 10=L FWD & R SIDE) FIM 30-41-00/101, Fig. 103, Block 1 (07=L SIDE, 08=R FWD, 11=R FWD & L SIDE) FIM 30-41-00/101, Fig. 104, Block 1
30 41 02 --	1. EICAS msg (06=L FWD, 07=L SIDE, 08=R FWD, 09=R SIDE, 10=L FWD & R SIDE, 11=R FWD & L SIDE) WINDOW displayed. INOP light illum. Window heat could not be reset. 2. (06=L FWD, 09=R SIDE, 10=L FWD & R SIDE) FIM 30-41-00/101, Fig. 103, Block 1 (07=L SIDE, 08=R FWD, 11=R FWD & L SIDE) FIM 30-41-00/101, Fig. 104, Block 1
30 41 03 --	1. (06=L FWD, 07=L SIDE, 08=R FWD, 09=R SIDE , 10=L FWD & R SIDE, 11=R FWD & L SIDE) window heat INOP light did not illuminate with test switch in WINDOW/PROBE HEAT position. 2. (06=L FWD, 09=R SIDE, 10= L FWD & R SIDE) FIM 30-41-00/101, Fig. 105, Block 1 (07=L SIDE, 08=R FWD, 11= R FWD & L SIDE) FIM 30-41-00/101, Fig. 106, Block 1
30 41 04 00	1. EICAS msg WINDOW HEAT displayed. (Identify illuminated lights). Window heat could be reset. 2. (L FWD & R SIDE) FIM 30-41-00/101, Fig. 103, Block 1 (R FWD & L SIDE) FIM 30-41-00/101, Fig. 104, Block 1
30 41 05 00	1. EICAS msg WINDOW HEAT displayed. (Identify illuminated lights). Window heat could not be reset. 2. (L FWD & R SIDE) FIM 30-41-00/101, Fig. 103, Block 1 (R FWD & L SIDE) FIM 30-41-00/101, Fig. 104, Block 1
30 41 06 00	Not Used
30 41 07 --	Not Used
30 41 08 --	Not Used
30 41 09 --	Not Used

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 41 10 --	Not Used
30 42 01 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers inop in LOW pos. 2. FIM 30-42-00/101, Fig. 103, Block 1
30 42 02 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers inop in HIGH pos. 2. FIM 30-42-00/101, Fig. 103, Block 1
30 42 03 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers inop in both HIGH & LOW pos. 2. FIM 30-42-00/101, Fig. 103, Block 1
30 42 04 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers will not park. 2. Adjust windshield wiper park position (AMM 30-42-00). If the fault persists, replace LCR windshield wiper motor/converter M237 (M238) (AMM 30-42-02).
30 42 05 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers will not turn OFF. 2. FIM 30-42-00/101, Fig. 103, Block 1
30 42 06 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers will not wipe clean. 2. Check wiper arm pressure and adjust if necessary (AMM 30-42-00). If fault persists, replace windshield wiper arm and blade (AMM 30-42-00).
30 42 07 --	1. (01=L, 02=R, 03=Both L & R) wshld wipers move away from wshld. 2. Check wiper arm pressure and adjust if necessary (AMM 30-42-00). If fault persists, replace windshield wiper arm and blade (AMM 30-42-00).
30 42 08 --	1. (01=L, 02=R, 03=Both L & R) windshield wipers missing. 2. Replace wipers (AMM 30-42-03)
30 81 01 00	1. SAS 050-149, 155-274; EICAS msg R ICE DETECTOR displayed. (Ref Chapter 31 for fault code diagram). 2. SAS 050-149, 155-274; EICAS msg L ICE DETECTOR displayed. (Ref Chapter 31 for fault code diagram). 3. SAS 050-149, 155-274; EICAS msg ICE DETECTOR displayed. (Ref Chapter 31 for fault code diagram). 4. FIM 30-81-00/101, Fig. 103, Block 1

FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
30 81 02 00	1. ICING lgt failed to illum and EICAS msg ICE DET OFF displayed when in icing conditions. 2. FIM 30-81-00/101, Fig. 103, Block 1
30 81 03 00	1. ICING lgt illum and EICAS msg ICE DET ON displayed when not in icing conditions. 2. FIM 30-81-00/101, Fig. 103, Block 1
30 81 04 --	1. AIRPLANES WITH PRIMARY ICE DETECTION SYSTEM; EICAS msg (01=L, 02=R) ICE DETECTOR displayed. ICE DET light extinguished. (Ref Chapter 31 for fault code diagram). 2. FIM 30-81-00/101, Fig. 103
30 81 05 --	1. ARPLANES WITH PRIMARY ICE DETECTION SYSTEM; EICAS msg ICE DETECTORS displayed. ICE DET light illuminated. (Ref Chapter 31 for fault code diagram). 2. FIM 30-81-00/101, Fig. 103
30 81 06 --	1. AIRPLANES WITH PRIMARY ICE DETECTION SYSTEM; EICAS msg (01=L, 02=R) ICE DETECTOR displayed. ICE DET light illuminated. (Ref Chapter 31 for fault code diagram). 2. FIM 30-81-00/101, Fig. 103

BITE Index

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

LRU/System Name	Acronym	FIM Reference
ACARS Management Unit		23-22
Air Data Computer	ADC	34-12
Air Data Inertial Reference Unit	ADIRU	34-26
Air Supply Control and Test Unit	ASCTU	36-20
Air Traffic Control Transponder	ATC	34-53
Airborne Vibration Monitor Signal Conditioner	AVM	77-31
Antiskid/Autobrake Control Unit	AACU	32-42
APU Fire Detection System		26-15
Automatic Direction Finder Receiver	ADF	34-57
APU Control Unit (or Electronic Control Unit)	ECU	49-11
Autopilot/Flight Director	AFDS	22-00
Auxiliary Zone Temperature Controller	AZTC	2160/21-61
Brake Temperature Monitor Unit	BTMU	32-46
Bus Power Control Unit	BPCU	24-20
Cabin Pressure Controller	CPC	21-30/21-31
Cabin Temperature Controller	CTC	21-61
Digital Flight Data Acquisition Unit	DFDAU	31-31
Distance Measuring Equipment Interrogator	DME	34-55
Duct Leak (Wing and Body)		26-18
E/E Cooling Control Card (If cards installed)		21-58
ECS Bleed Configuration Card		36-10
Electronic Control Unit	ECU	49-11
Electronic Engine Control Monitor Unit (Non-FADEC Engines)	EECM	71-EECM Message Index
Electronic Flight Instrument System	EFIS	34-22

Bite Index
Figure 1 (Sheet 1)

K42778

LRU/System Name	Acronym	FIM Reference
Engine Fire/Overheat Detection System		26-11
Engine Indication and Crew Alerting System Computer	EICAS	31-41
Enhanced Ground Proximity Warning Computer	EGPWC	34-46
Equipment Cooling Systen Controller		21-58
Equipment Cooling Temperature Controller		21-58
Flap/Slat Electronic Unit	FSEU	27-51
Flap/Stabilizer Position Module	FSPM	27-58
Flight Management Computer	FMC	34-61
Fuel Quantity Indicating System Processor	FQIS	28-41
Ground Proximity Warning Computer	GPWC	34-46
HF (High Frequency) Communication		23-11
In-Flight Entertainment Equipment Cooling Card		21-58
Inertial Reference Unit	IRU	34-21
Instrument Comparator Unit	ICU	34-25
Instrument Landing System Receiver	ILS	34-31
Large Format Display System	LFDS	31-63
Lower Cargo Compartment Smoke Detection System		26-16
Maintenance Control Display Panel	MCDP	22-00
Multi-Mode Receiver	MMR	34-31
PA (Passenger Address) Amplifier		23-31
Pack Standby Temperature Controller	PSTC	21-51
Pack Temperature Controller	PTC	21-51
Passenger Entertainment System	PES	23-34
Power Supply Module (Control System Electronics Units)	PSM	27-09
Propulsion Interface and Monitor Unit (FADEC Engines)	PIMU	71-PIMU Message Index
Proximity Switch Electronics Unit	PSEU	32-09

Bite Index
Figure 1 (Sheet 2)

K42804

LRU/System Name	Acronym	FIM Reference
Radio Altimeter Transmitter/Receiver	RA	34-33
Rudder Ratio Changer Module	RRCM	27-09
Satellite Data Unit	SDU	23-25
Spoiler Control Module	SCM	27-09
Stabilizer Trim/Elevator Asymmetry Limit Module	SAM	27-09
Stall Warning Computer/Module (in Warning Electronic Unit)	SWC	27-32
Strut Overheat Detection System (RR Engines)		26-12
Thrust Management Computer/Autothrottle	TMC	22-00
Traffic Alert and Collision Avoidance Computer	TCAS	34-45
VHF (Very High Frequency) Communication		23-12
VOR/Marker Beacon Receiver	VOR/MKR	34-51
Warning Electronic Unit BITE Module (Stall Warning)	WEU	27-32
Weather Radar Transceiver	WXR	34-43
Wheel Well Fire Detection		26-17
Window Heat Control Unit	WHCU	30-41
Yaw Damper Module	YDM	22-21
Yaw Damper/Stabilizer Trim Module	YSM	27-09
Zone Temperature Controller	ZTC	21-60/21-61

Bite Index
Figure 1 (Sheet 3)

WING THERMAL ANTI-ICING

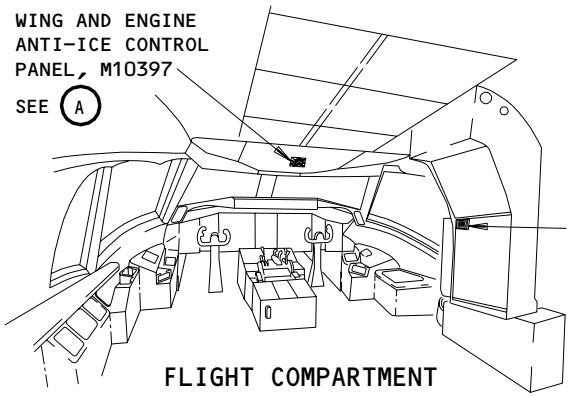
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	
ANTI-ICE WING, C1132		1	11A31	*
COMPUTER –				
EICAS L, M10181				*
EICAS R, M10182				*
DIODE –				
R455, R490, R491 2		3	119AL, MAIN EQUIPMENT CTR, P33	*
DUCTING – WING THERMAL ANTI-ICE	2	2	WING OUTBOARD LEADING EDGE	30-11-00
LIGHT – L VALVE INDICATOR, L1	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397	*
LIGHT – R VALVE INDICATOR, L2	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397	*
PANEL –				
MISCELLANEOUS TEST, M10398				
PANEL – WING AND ENGINE ANTI-ICE CONTROL, M10397	1	1	FLT COMPT, P5	*
RELAY –				
GND TEST TIME DELAY, K2115 2		1	119AL, MAIN EQUIPMENT CTR, P33	*
L WING TAI DISAGREE, K1156		1		*
R WING TAI DISAGREE, K1155		1		*
RLY AUTO TEST, K2116 2		1		*
SYSTEM 2 AIR/GROUND, K520		1		*
WING TAI CONT, K414		1		*
WING TAI CONT T/D, K319		1		*
SWITCH – WING ANTI-ICE, S3	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PANEL, M10397	*
SWITCH – L WING TAI OVERHEAT, S398 1	2	1	521ANB, L WING FIXED LEADING EDGE	30-11-03
SWITCH – L WING TAI PRESSURE, S400	2	1	521ANB, L WING FIXED LEADING EDGE	30-11-04
SWITCH – R WING TAI OVERHEAT, S399 1	2	1	621ANB, R WING FIXED LEADING EDGE	30-11-03
SWITCH – R WING TAI PRESSURE, S401	2	1	621ANB, R WING FIXED LEADING EDGE	30-11-04
SWITCH – WING ANTI-ICE WINDOW/PROBE HT TEST, S5	1	1	FLT COMPT, P61, MISC TEST PANEL, M10398	*
VALVE – L WING TAI, V52	2	1	511ST, LEFT WING FIXED LEADING EDGE	30-11-02
VALVE – R WING TAI, V57	2	1	611ST, RIGHT WING FIXED LEADING EDGE	30-11-02

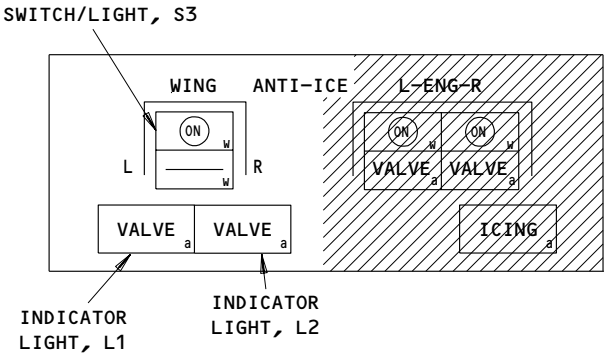
* SEE THE WDM EQUIPMENT LIST

1 AIRPLANES WITHOUT PRIMARY ICE DETECTION.

2 AIRPLANES WITH PRIMARY ICE DETECTION.

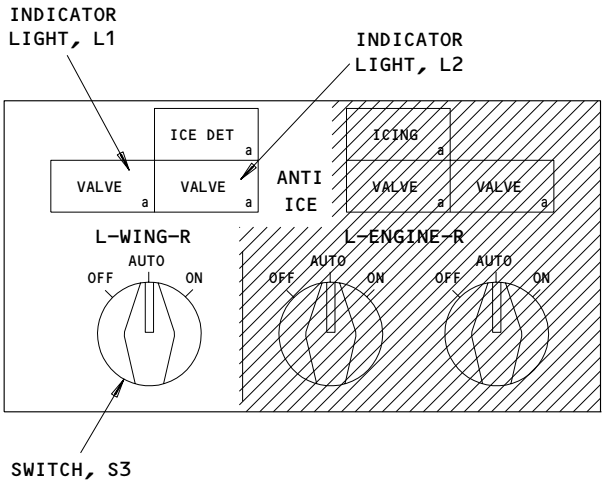
Wing Thermal Anti-Icing – Component Index
Figure 101





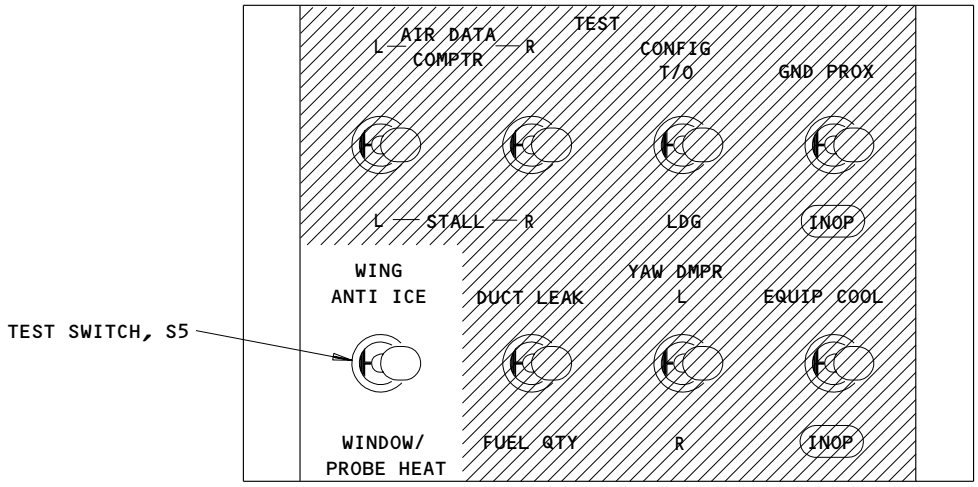
WING AND ENGINE ANTI-ICE
CONTROL PANEL, M10397

A 1



WING AND ENGINE ANTI-ICE
CONTROL PANEL, M10397

A 2



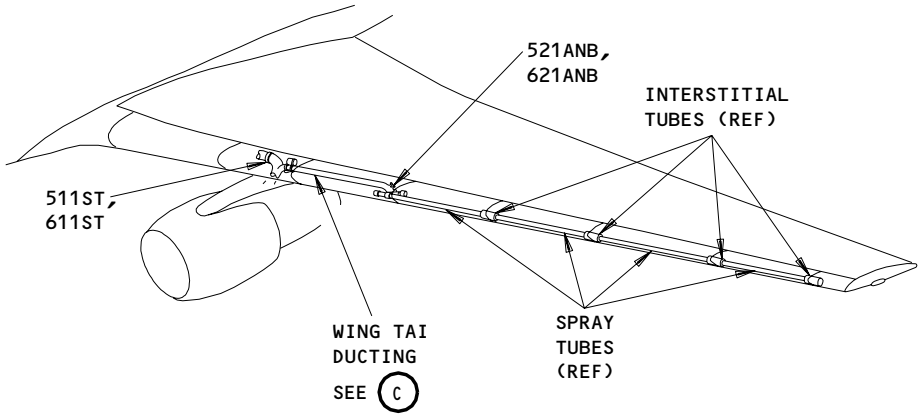
MISCELLANEOUS TEST PANEL, M10398

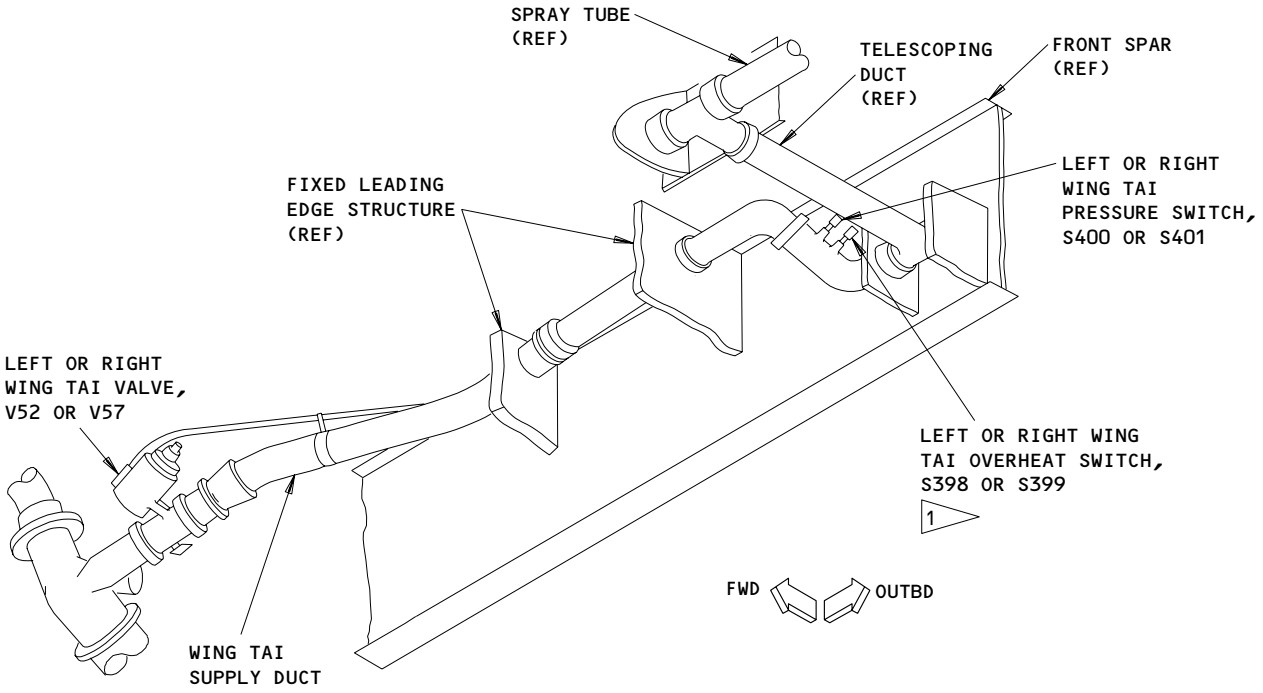
B

1 AIRPLANES WITHOUT PRIMARY ICE DETECTION

2 AIRPLANES WITH PRIMARY ICE DETECTION

Wing Thermal Anti-Icing - Component Location
Figure 102 (Sheet 1)





WING TAI DUCTING
(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)
C

1 AIRPLANES WITHOUT PRIMARY ICE DETECTION

Wing Thermal Anti-Icing - Component Location
Figure 102 (Sheet 2)

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)
MASTER DIM AND TEST (AMM 33-16-00/501)

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
PNEUMATIC DUCTS ARE PRESSURIZED (AMM 36-00-00/201)

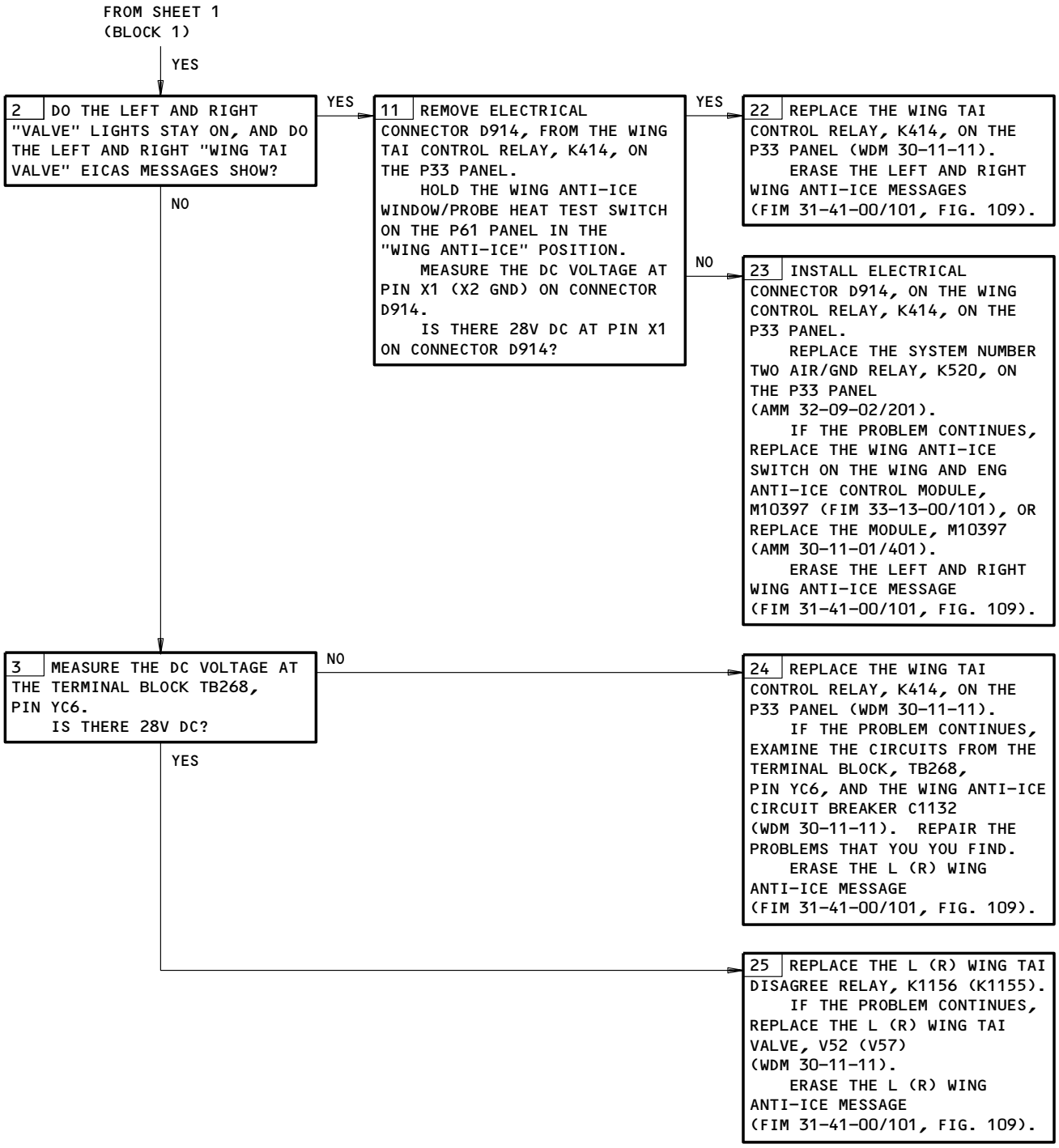
WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

NOTE: ON GROUND WITH THE TEST PANEL SWITCH (P61) SET TO "WING ANTI-ICE", THE WING TAI TEMPERATURE SWITCH WILL OPEN IF THE DUCT AIR TEMPERATURE IS MORE THAN 200°F (93°C). THE WING TAI VALVE WILL THEN CLOSE.

EICAS MESSAGE "L (R) WING ANTI-ICE" DISPLAYED AND "VALVE" LIGHT ILLUM WITH WING ANTI-ICE SWITCH "ON", TEST PANEL SWITCH TO "WING ANTI-ICE"

EICAS Message L (R) WING ANTI-ICE Displayed and VALVE Light Illuminated with Wing Anti-Ice Switch ON, Test Panel Switch to WING ANTI-ICE
Figure 103 (Sheet 1)



EICAS Message L (R) WING ANTI-ICE Displayed and VALVE Light Illuminated With Wing Anti-Ice Switch ON, Test Panel Switch to WING ANTI-ICE
Figure 103 (Sheet 2)

668267

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/501)

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

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

EICAS MESSAGE "L (R) WING TAI VALVE" DISPLAYED

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).
SET THE L (R) WING ANTI-ICE SWITCH ON THE P5 PANEL TO THE "ON" POSITION.
DOES THE EICAS MESSAGE "L (R) WING TAI VALVE" STAY ON?

YES → 11 REMOVE CONNECTOR D2388 (D2386) FROM THE L (R) WING PRESSURE SWITCH, S400 (S401).
MEASURE THE RESISTANCE FROM PIN 2 TO PIN 3 OF THE SWITCH.
DOES THE RESISTANCE MEASURE ZERO OHMS?

NO → 21 INSTALL CONNECTOR D2388 (D2386) ON THE L (R) WING PRESSURE SWITCH, S400 (S401).
REPLACE THE L (R) WING TAI VALVE, V52 (V57) (AMM 30-11-02/401).
ERASE THE "L (R) WING TAI VALVE" EICAS MESSAGE (FIM 31-41-00/101, FIG. 109).
IF THE PROBLEM CONTINUES, REMOVE THE L (R) EICAS COMPUTERS, M10181 (M10182) (AMM 31-41-02/401).
EXAMINE THE CIRCUIT FOR A SHORT TO GROUND FROM CONNECTOR D2388, PIN 3 (S400), TO CONNECTOR D881F, PIN K1 (L EICAS), AND CONNECTOR D883F, PIN K1 (R EICAS); OR FROM CONNECTOR D2386, PIN 3 (S401), TO CONNECTOR D881F, PIN H1 (L EICAS), AND CONNECTOR D883F, PIN H1 (R EICAS) (WDM 30-11-11).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS (AMM 31-41-02/401).
ERASE THE "L (R) WING TAI VALVE" EICAS MESSAGE (FIM 31-41-00/101, FIG. 109).

NO → 2 THE SYSTEM IS OK.

YES → 22 REPLACE THE L (R) WING TAI PRESSURE SWITCH, S400 (S401) (AMM 30-11-04/401).
ERASE THE "L (R) WING TAI VALVE" EICAS MESSAGE (FIM 31-41-00/101, FIG. 109).

EICAS Message L (R) WING TAI VALVE Displayed
Figure 104

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
MASTER DIM AND TEST (AMM 33-16-00/501)

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

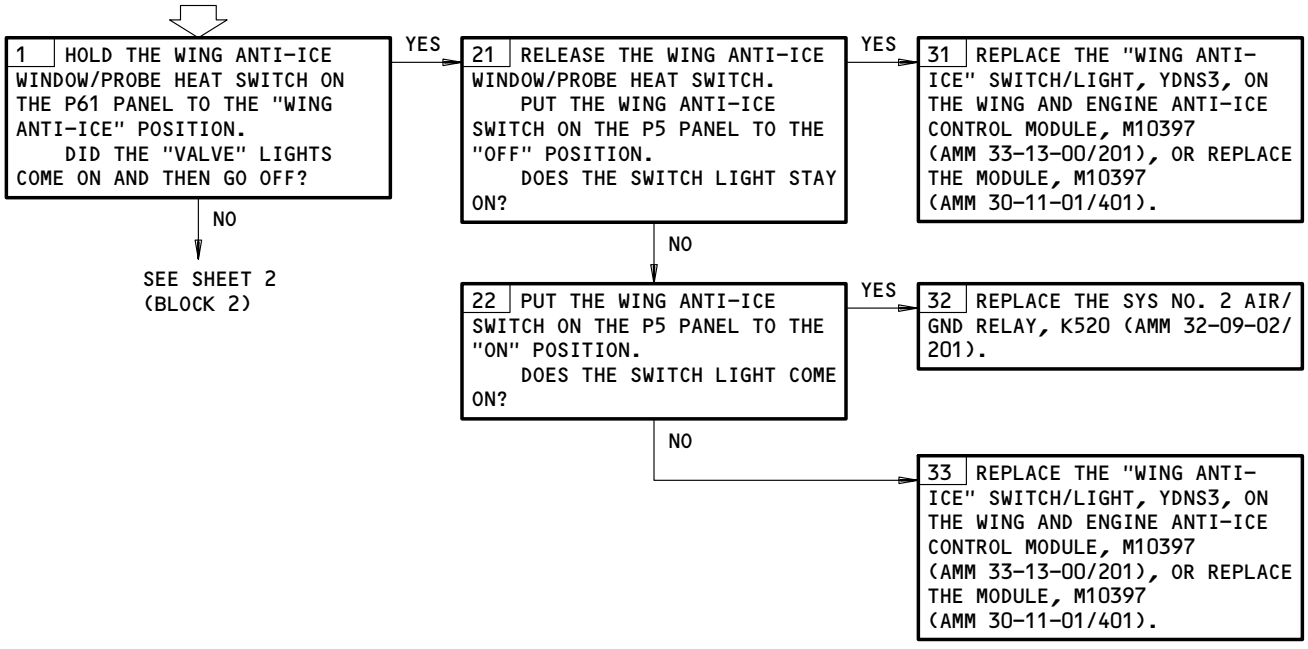
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
PNEUMATIC DUCTS ARE PRESSURIZED (AMM 36-00-00/201)

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

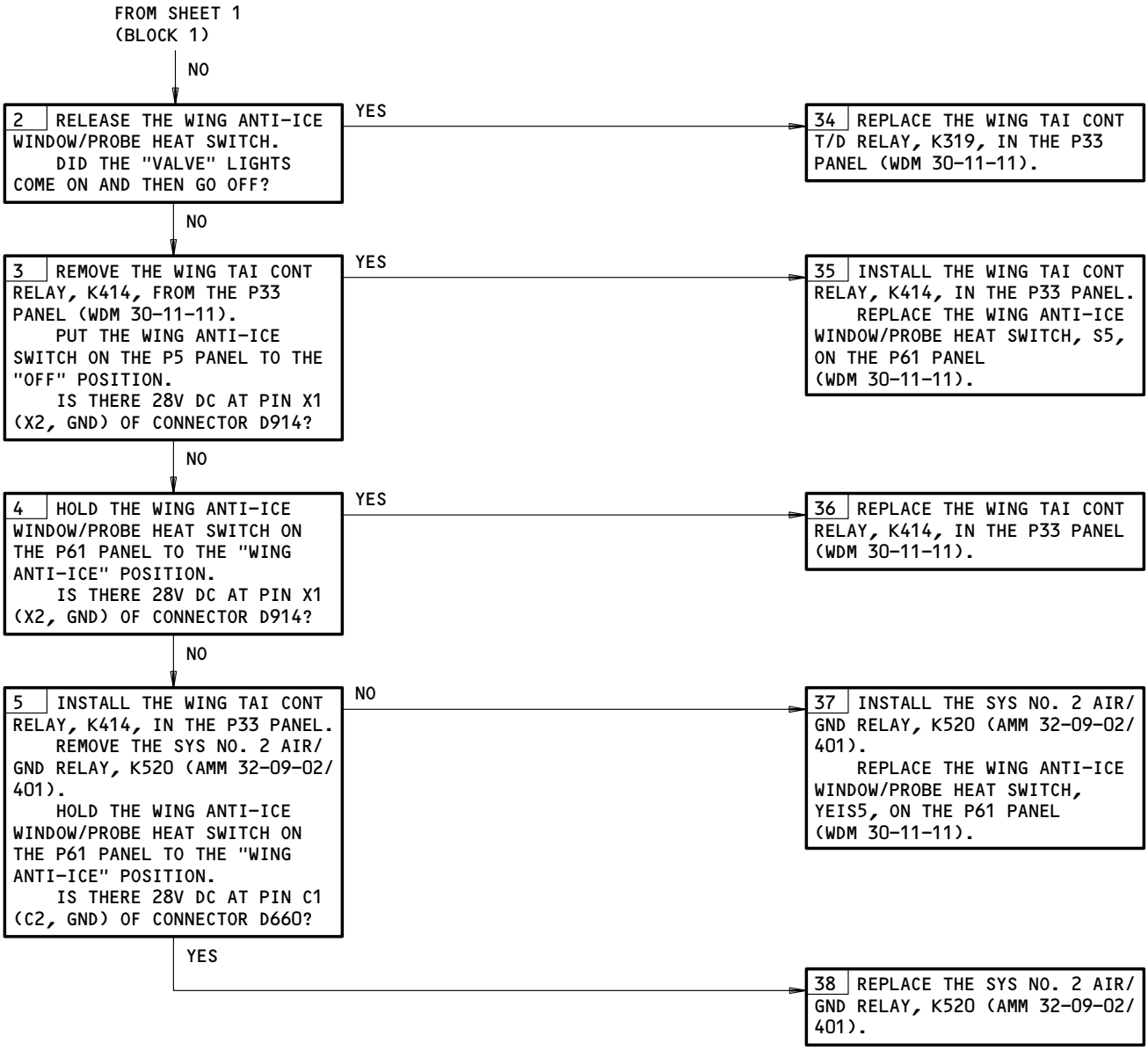
CAUTION: REMOVE THE POWER THAT GOES TO AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

NOTE: ON THE GROUND WITH THE TEST PANEL SWITCH SET TO "WING ANTI-ICE", THE WING TAI TEMPERATURE SWITCH WILL OPEN IF THE DUCT AIR TEMPERATURE IS MORE THAN 200°F (93°C). THE WING TAI VALVE WILL THEN CLOSE.

WING ANTI-ICE "VALVE" LIGHT REMAINED EXTINGUISHED WITH WING ANTI-ICE SWITCH "ON", TEST PANEL SWITCH TO "WING ANTI-ICE"



Wing Anti-Ice VALVE Light Remained Extinguished with Wing Anti-Ice Switch ON, Test Panel Switch to WING ANTI-ICE
Figure 104A (Sheet 1)



Wing Anti-Ice VALVE Light Remained Extinguished with Wing Anti-Ice Switch ON, Test Panel Switch to WING ANTI-ICE
Figure 104A (Sheet 2)

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)
MASTER DIM AND TEST (AMM 33-16-00/501)

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

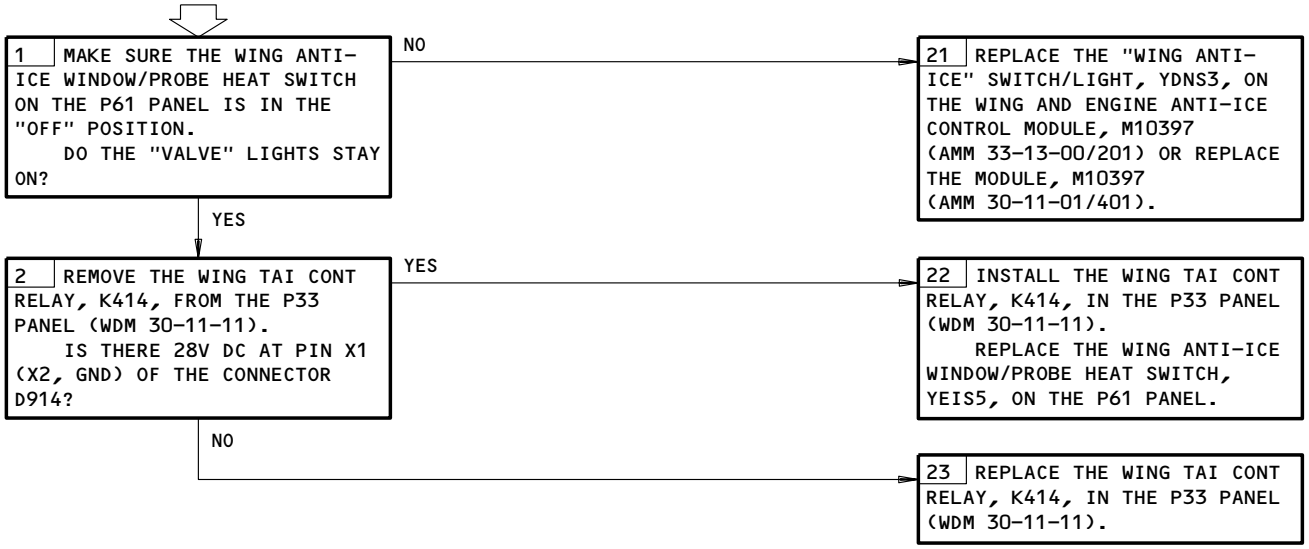
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
PNEUMATIC DUCTS ARE PRESSURIZED (AMM 36-00-00/201)

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

WING ANTI-ICE "VALVE" LIGHT REMAINED ILLUMINATED WITH SWITCH "OFF". EICAS MESSAGE DISPLAYED "WING ANTI-ICE".

NOTE: ON THE GROUND WITH THE TEST PANEL SWITCH SET TO "WING ANTI-ICE", THE WING TAI TEMPERATURE SWITCH WILL OPEN IF THE DUCT AIR TEMPERATURE IS MORE THAN 200°F (93°C). THE WING TAI VALVE WILL THEN CLOSE.



Wing Anti-Ice VALVE Light Remained Illuminated with Switch OFF. EICAS Message Displayed WING ANTI-ICE.
Figure 104B

EICAS MESSAGE "L (R) WING ANTI-ICE" SHOWS AND THE "VALVE" LIGHT COMES ON WITH THE ANTI-ICE SWITCH "OFF" AND THE TEST PANEL SWITCH SET TO "WING ANTI-ICE"

PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)
PNEUMATIC DUCTS ARE PRESSURIZED (MM 36-00-00/201)

1 PUSH THE "ECS/MSG" SWITCH ON THE EICAS MAINTENANCE PANEL. MAKE SURE THE MAINTENANCE LEVEL MESSAGES SHOW ON THE BOTTOM DISPLAY.
DO THE EICAS STATUS/-MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00/101, FIG. 109).
DOES THE EICAS MESSAGE "L (R) WING TAI VALVE" SHOW ON THE BOTTOM DISPLAY?

NO → 21 DID THE LEFT AND THE RIGHT "VALVE" LIGHTS ON THE P5 PANEL COME ON FOR APPROXIMATELY 2 SECONDS AND THEN GO OFF?

NO → 41 DO THE PROCEDURE IN FIG. 106.

YES → 42 THE SYSTEM IS OK.

YES → 2 ARE THE LEFT AND THE RIGHT "VALVE" LIGHTS ON, AND DO THE EICAS MESSAGES "L WING TAI VALVE" AND "R WING TAI VALVE" SHOW ON THE BOTTOM DISPLAY?

NO → 22 ARE THE LEFT AND THE RIGHT "VALVE" LIGHTS ON?

YES → 43 EXAMINE AND REPAIR THE CIRCUIT BETWEEN THE PINS 5 AND 6 ON CONNECTOR D10220 FOR THE M10397 MODULE AT THE P5 PANEL, AND THE CONNECTORS D881F AND D883F FOR THE LEFT AND RIGHT EICAS COMPUTERS, M10181, M10182, AT THE EICAS RACK, E8 (WDM 30-11-11).

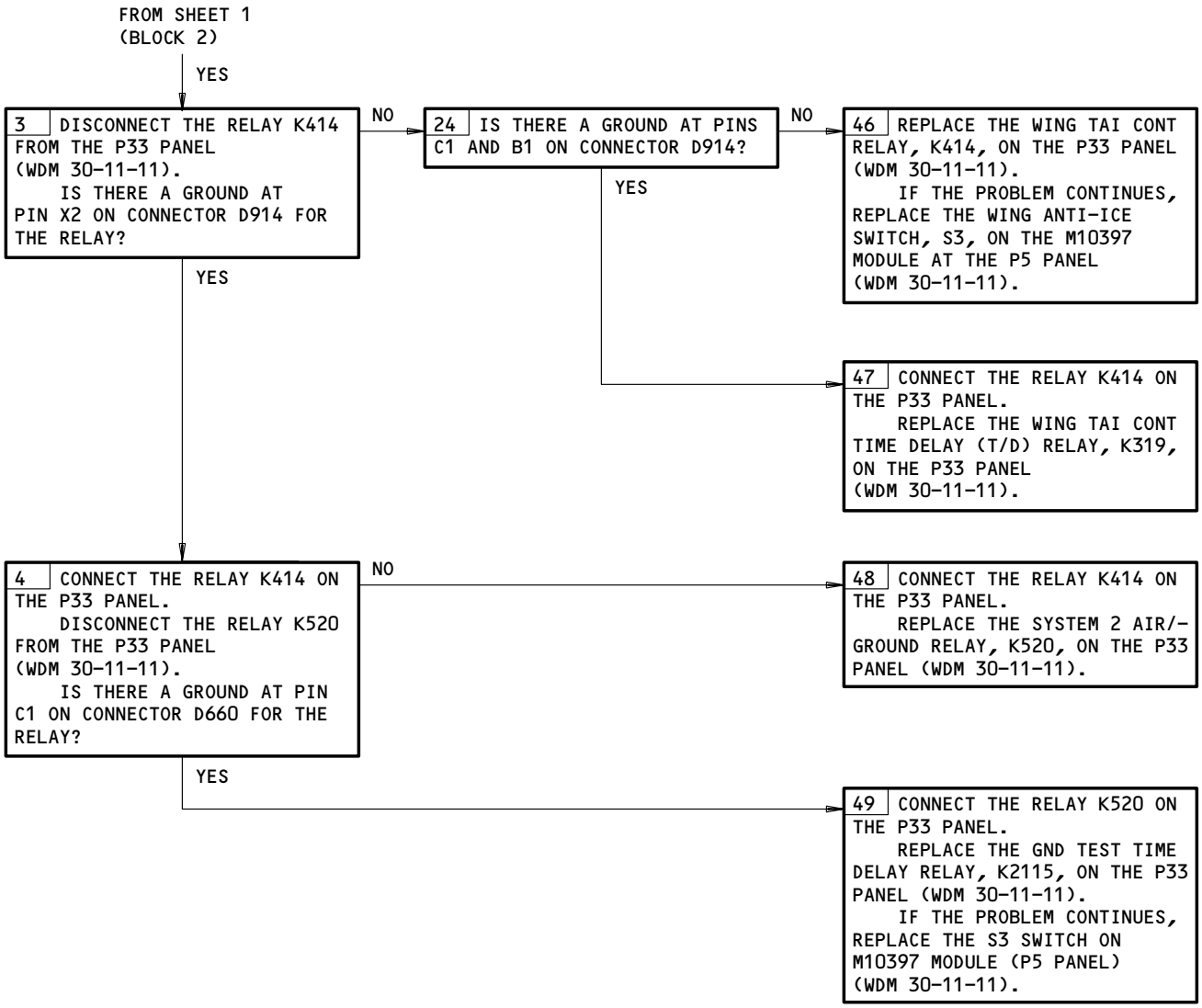
NO → 23 FOR THE SAME SIDE WITH THE "VALVE" LIGHT ON, DISCONNECT THE APPLICABLE RELAY, K1156 (K1155), FROM THE P33 PANEL.
IS THERE A GROUND AT PIN X2 ON CONNECTOR D12004 (D12002) FOR THE RELAY?

NO → 44 CONNECT THE APPLICABLE RELAY, K1156 (K1155), ON THE P33 PANEL.
REPLACE THE WING TAI CONT RELAY, K414, ON THE P33 PANEL (WDM 30-11-11).
IF THE PROBLEM CONTINUES, REPLACE THE APPLICABLE L (R) WING TAI VALVE, V52 (V57) (MM 30-11-02/401).

YES → 45 REPLACE THE APPLICABLE L (R) WING TAI DISAGREE RELAY, K1156 (K1155), ON THE P33 PANEL (WDM 30-11-11).

YES → SEE SHEET 2 (BLOCK 3)

EICAS Message L (R) WING ANTI-ICE Shows and the VALVE Light Comes On With the Anti-Ice Switch OFF and the Test Panel Switch Set to WING ANTI-ICE
Figure 105 (Sheet 1)



EICAS Message L (R) WING ANTI-ICE Shows and the VALVE Light Comes On With the Anti-Ice Switch OFF and the Test Panel Switch Set to WING ANTI-ICE
Figure 105 (Sheet 2)

WING ANTI-ICE "VALVE" LIGHTS STAY OFF WITH THE WING ANTI-ICE SWITCH "OFF" AND THE TEST PANEL SWITCH SET TO "WING ANTI-ICE"

PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11A31

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)
PNEUMATIC DUCTS ARE PRESSURIZED (MM 36-00-00/201)

1 DISCONNECT THE RELAY K414 FROM THE P33 PANEL (WDM 30-11-11). HOLD THE WING TAI/WINDOW PROBE HT TEST SWITCH TO THE "WING ANTI-ICE" POSITION.
IS THERE A GROUND AT PIN X2 ON CONNECTOR D914 FOR THE RELAY?

YES → 31 REPLACE THE WING ANTI-ICE RELAY, K414, ON THE P33 PANEL (WDM 30-11-11).

NO → 11 CONNECT THE RELAY K414 ON THE P33 PANEL.
DISCONNECT THE RELAY K2115 FROM THE P33 PANEL (WDM 30-11-11). HOLD THE WING TAI/WINDOW PROBE HT TEST SWITCH TO THE "WING ANTI-ICE" POSITION.
IS THERE A GROUND AT PIN 3 ON CONNECTOR D12152 FOR THE RELAY?

YES → 32 REPLACE THE GND TEST TIME DELAY RELAY, K2115, ON THE P33 PANEL (WDM 30-11-11).
IF THE PROBLEM CONTINUES, REPLACE THE SYSTEM 2 AIR/GROUND RLY, K520, ON THE P33 PANEL (WDM 30-11-11).

NO → 12 CONNECT THE RELAY K2115 ON THE P33 PANEL.
DISCONNECT THE RELAY K2116 FROM THE P33 PANEL (WDM 30-11-11). HOLD THE WING TAI/WINDOW PROBE HT TEST SWITCH TO THE "WING ANTI-ICE" POSITION.
IS THERE A GROUND AT PIN 7 ON CONNECTOR D12154 FOR THE RELAY?

YES → 33 REPLACE THE RLY AUTO TEST RELAY, K2116, ON THE P33 PANEL (WDM 30-11-11).
IF THE PROBLEM CONTINUES, REPLACE THE SWITCH, S3, ON THE M10397 MODULE (P5) (WDM 30-11-11).

NO → 13 CONNECT THE RELAY K2116 ON THE P33 PANEL.
DISCONNECT THE RELAY K520 FROM THE P33 PANEL (WDM 30-11-11). HOLD THE WING TAI/WINDOW PROBE HT TEST SWITCH TO THE "WING ANTI-ICE" POSITION.
IS THERE A GROUND AT PIN B2 ON CONNECTOR D660 FOR THE RELAY?

YES → 34 REPLACE THE SYSTEM 2 AIR/GROUND RELAY, K520, ON THE P33 PANEL (WDM 30-11-11).

NO → 35 REPLACE THE WING ANTI-ICE WINDOW/PROBE HT TEST SWITCH, S5, ON THE TEST PANEL MODULE, M10398 (P61)(WDM 30-11-11).

Wing Anti-Ice VALVE Lights Stay OFF With the Wing Anti-Ice Switch OFF and the Test Panel Switch Set to WING ANTI-ICE
Figure 106

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/201)
MASTER DIM AND TEST (AMM 33-16-00/501)

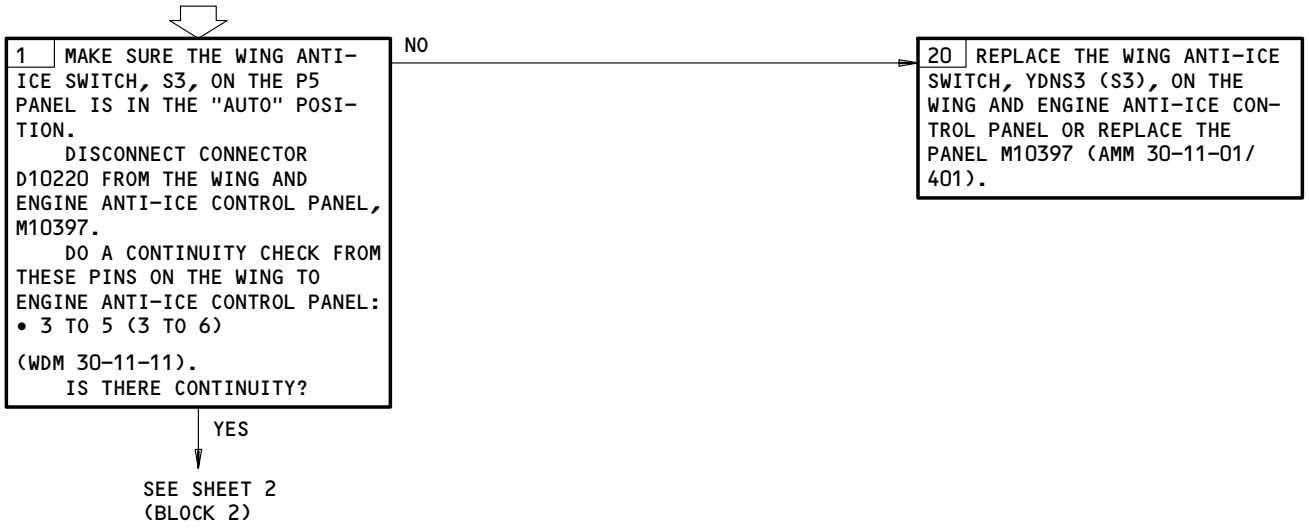
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A16,11A30,11T19

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

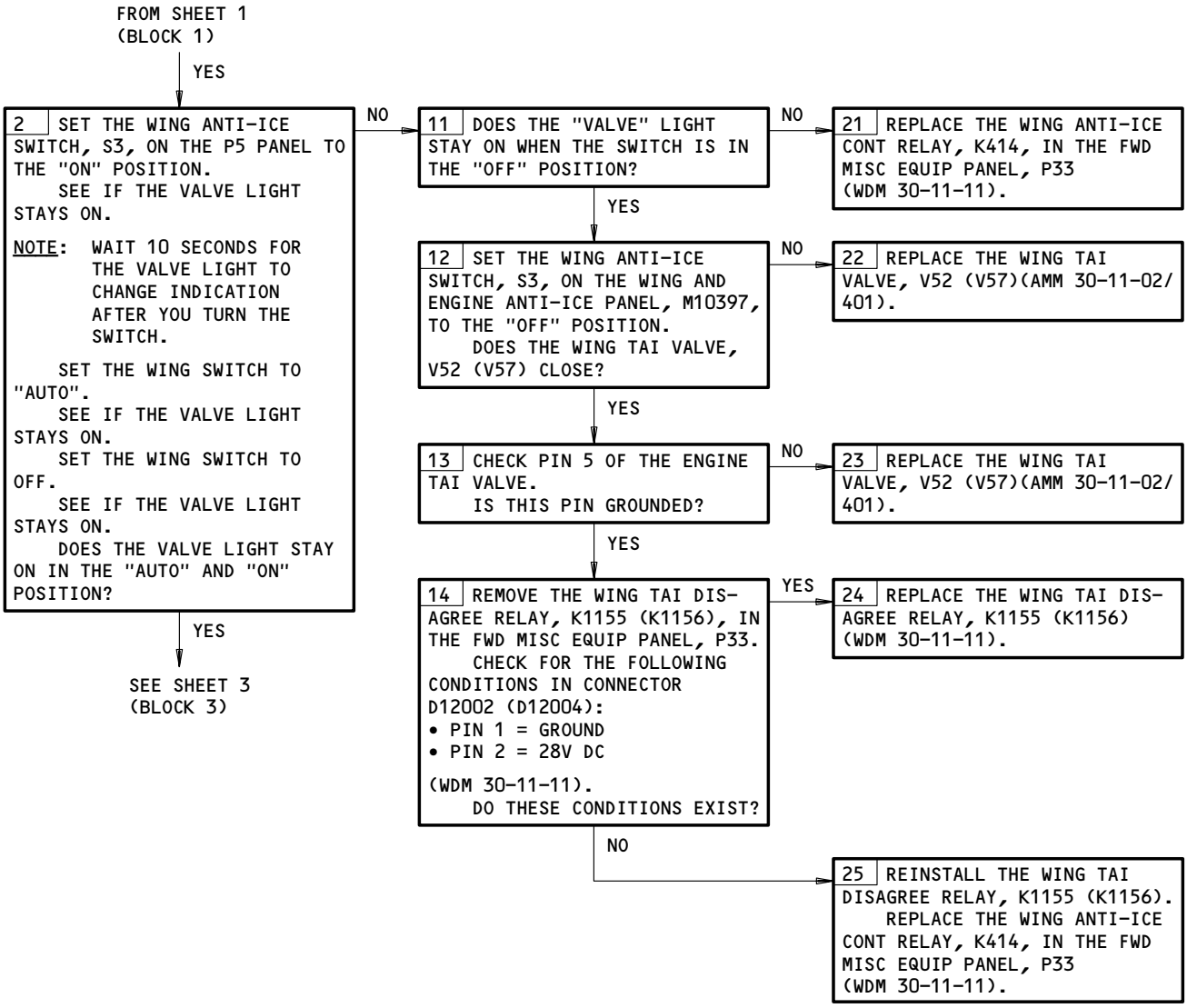
WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

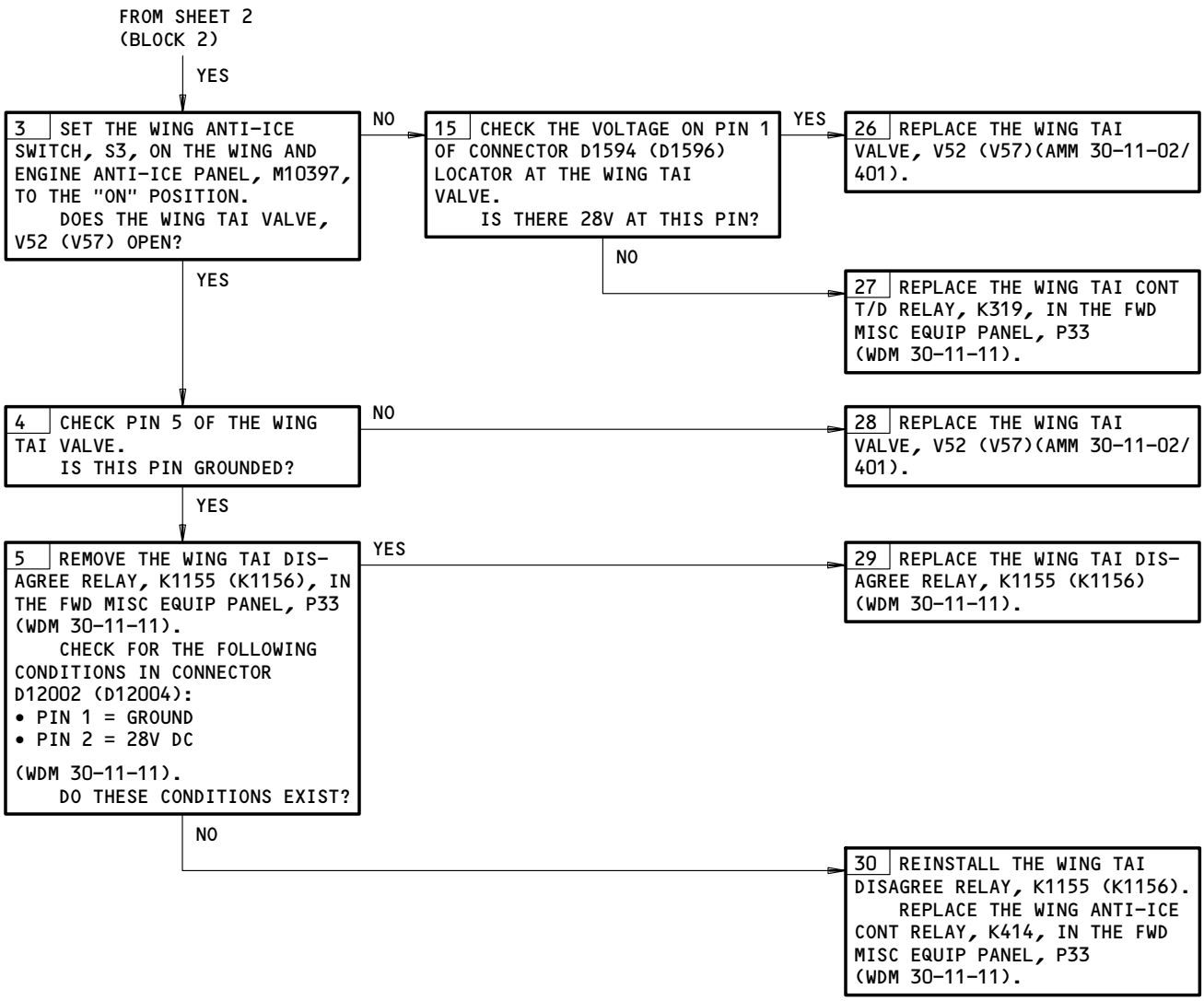
"WING ANTI-ICE" EICAS MESSAGE AND "VALVE" LIGHT ILLUM WITH "ANTI-ICE" SWITCH SET TO "AUTO"



WING ANTI-ICE EICAS Message and VALVE Light Illum with
ANTI-ICE Switch Set to AUTO
Figure 107 (Sheet 1)



WING ANTI-ICE EICAS Message and VALVE Light Illum with
ANTI-ICE Switch Set to AUTO
Figure 107 (Sheet 2)



WING ANTI-ICE EICAS Message and VALVE Light Illum with
ANTI-ICE Switch Set to AUTO
Figure 107 (Sheet 3)

F69185

ENGINE INLET THERMAL ANTI-ICING

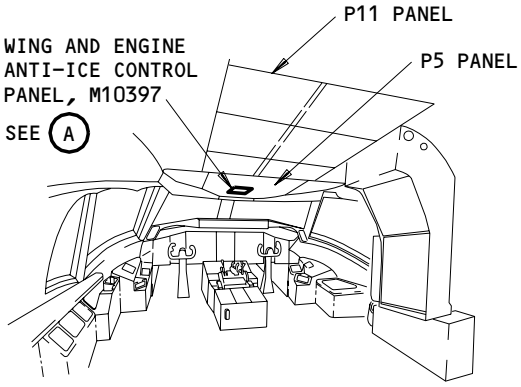
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1		FLT COMPT, P11	
ANTI-ICE ALT R ENG, C1140		1	11A30	*
ANTI-ICE ENG L, C1147		1	11A16	*
ANTI-ICE ENG R, C1148		1	11T19	*
COMPUTER - (FIM 31-41-00/101)				
EICAS L, M10181				
EICAS R, M10182				
DIODE -			MAIN EQUIPMENT CTR, P33	
R451,R452,R476,R477 2		4		*
DIODE -			MAIN EQUIPMENT CTR, P36	
ISLN EEC OVHT, R732		1		*
DIODE -			MAIN EQUIPMENT CTR, P37	
ISLN EEC OVHT, R373		1		*
LIGHT - L ENGINE ANTI-ICE VALVE, YDNL3 2	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
LIGHT - R ENGINE ANTI-ICE VALVE, YDNL4 2	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
PANEL - (FIM 30-11-00/101)				
WING AND ENGINE ANTI-ICE CONTROL, M10397				
RELAY -			FLT COMPT, P11	
28V DC R BUS PWR SENSE 1, K853				*
RELAY -			MAIN EQUIPMENT CTR, P36	
L ENGINE ANTI-ICE COMMAND, K2103 2		1		*
L ENGINE AUTO ANTI-ICE, K2105 2		1		*
L ENGINE AUTO DISAGREE, K2107 2		1		*
L ENGINE FAN CASE OVHT, K1077		1		*
L ENGINE TAI CONTROL T/D, K650		1		*
L ICE DETECTOR ISOLATION, K2109 2		1		*
RELAY -			MAIN EQUIPMENT CTR, P37	
R ENGINE ANTI-ICE COMMAND, K2104 2		1		*
R ENGINE AUTO ANTI-ICE, K2106 2		1		*
R ENGINE AUTO DISAGREE, K2108 2		1		*
R ENGINE FAN CASE OVHT, K1078		1		*
R ENGINE TAI CONTROL T/D, K649		1		*
R ICE DETECTOR ISOLATION, K2120 2		1		*
RELAY - L DISAGREE, K1 1		1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
RELAY - R DISAGREE, K2 1		1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
SWITCH - L ENGINE EEC OVHT, S1606	3	1	424AR, L ENGINE FAN COWL	30-21-04
SWITCH - R ENGINE EEC OVHT, S1616	3	1	414AR, R ENGINE FAN COWL	30-21-04
SWITCH - L ENGINE INLET TAI PRESSURE, S524	2	1	431BT, L ENGINE STRUT	30-21-01
SWITCH - R ENGINE INLET TAI PRESSURE, S525	2	1	441BT, R ENGINE STRUT	30-21-01
SWITCH - L ENGINE, YDNS1	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
SWITCH - R ENGINE, YDNS2	1	1	FLT COMPT, P5, WING/ENGINE ANTI-ICE CONTROL PNL, M10397 (REF)	*
VALVE - L ENGINE INLET TAI, V115	2	1	432CL,432CR, L ENGINE STRUT	30-21-03
VALVE - R ENGINE INLET TAI, V117	2	1	442CL,442CR, R ENGINE STRUT	30-21-03

* SEE THE WDM EQUIPMENT LIST

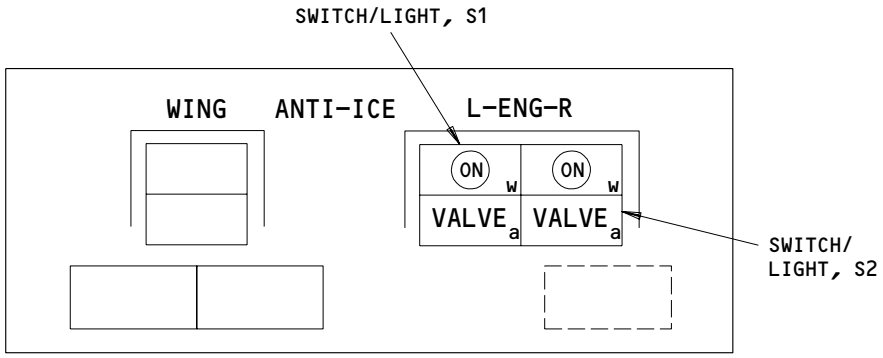
1 SAS 150-154 WITHOUT SB 30-17; MTH ALL

2 SAS 150-154 WITH SB 30-17, AND SAS 050-149,155-274

Engine Inlet Thermal Anti-Icing - Component Index
Figure 101

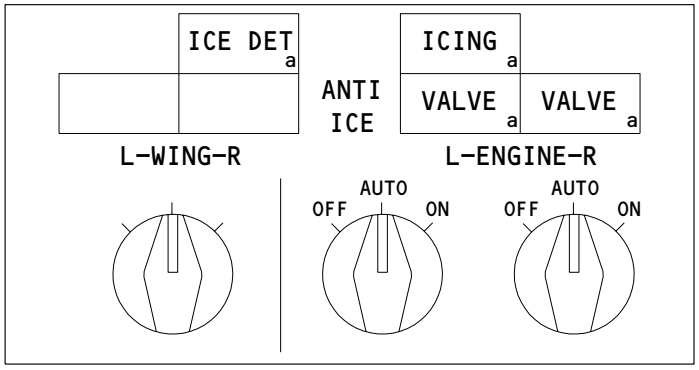


FLIGHT COMPARTMENT



WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397

A 1



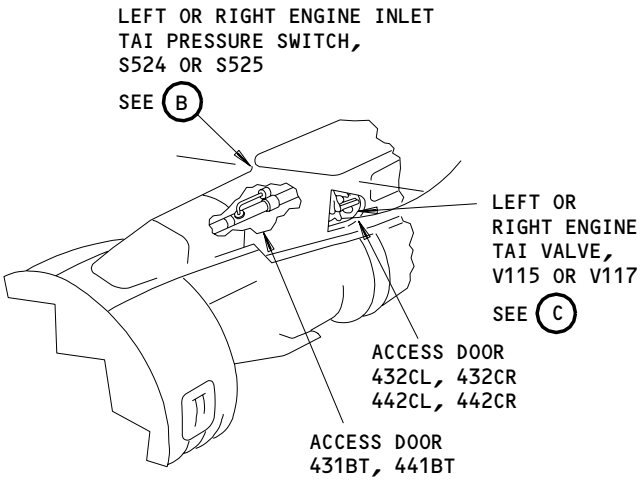
WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397

A 2

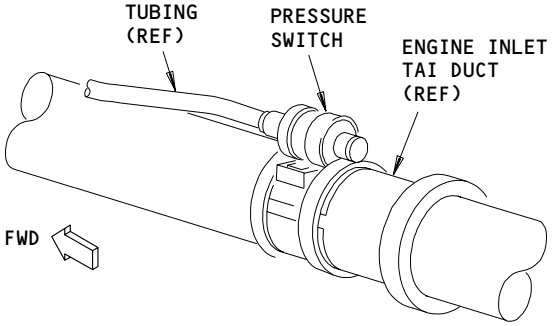
1 SAS 150-154 WITHOUT SB 30-17; MTH 275-999

2 SAS 150-154 WITH SB 30-17 AND
SAS 050-149,155-274

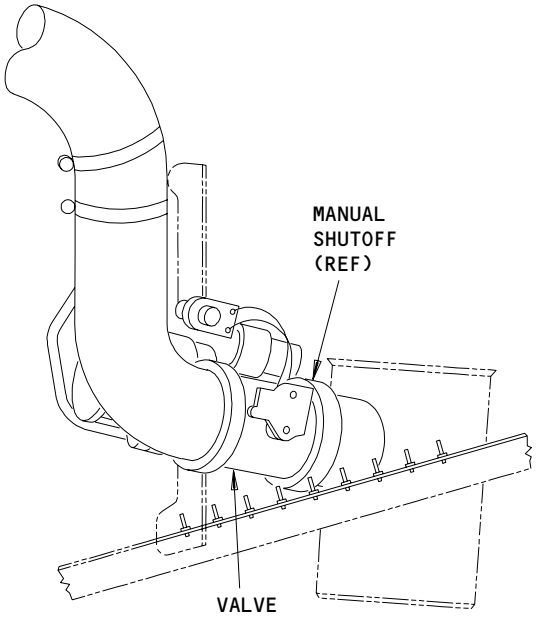
Engine Inlet Thermal Anti-Icing - Component Location
Figure 102 (Sheet 1)



ENGINE STRUT

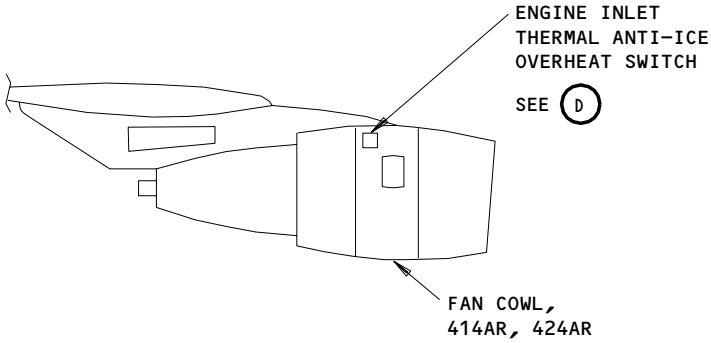


L OR R ENGINE INLET
TAI PRESSURE SWITCH,
S524 OR S525
B

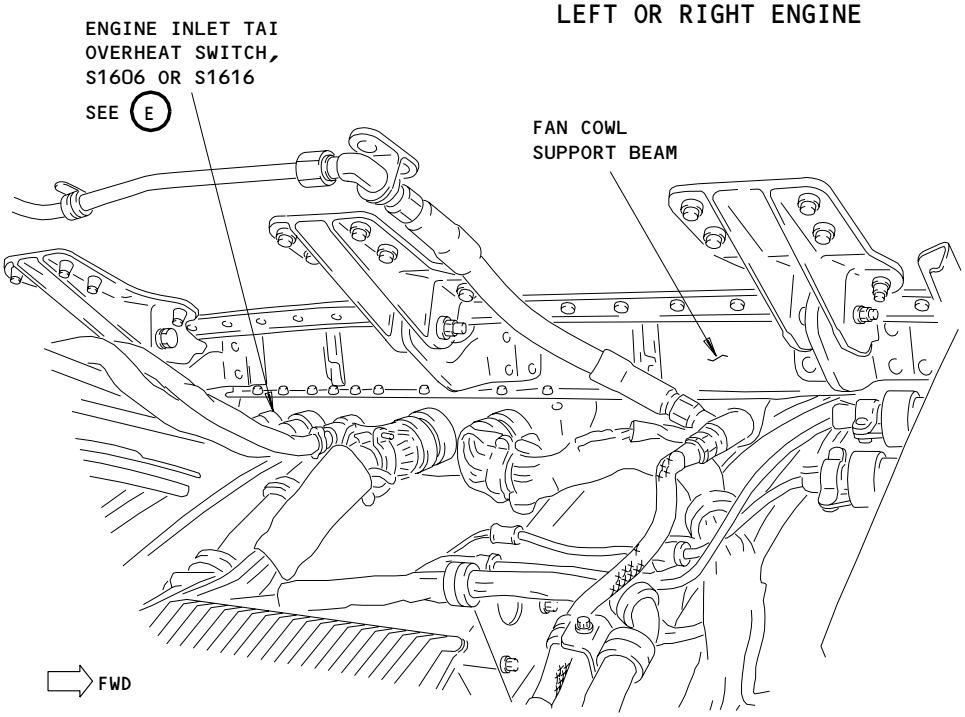


L OR R ENGINE INLET
TAI VALVE, V115 OR V117
C

Engine Inlet Thermal Anti-Icing - Component Location
Figure 102 (Sheet 2)

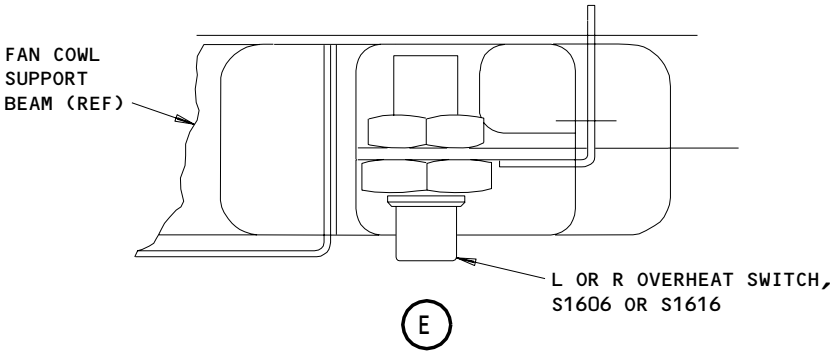


LEFT OR RIGHT ENGINE



ENGINE INLET THERMAL ANTI-ICE OVERHEAT SWITCH

D



E

Engine Inlet Thermal Anti-Ice Overheat Switch Location
Figure 102 (Sheet 3)

"L (R) ENG ANTI-ICE" EICAS MESSAGE AND "VALVE" LIGHT ILLUM WITH "ANTI-ICE" SWITCH/LIGHT "OFF"

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (MM 31-41-00/201)
MASTER DIM AND TEST (MM 33-16-00/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A16,11A30,11T19

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

1 MAKE SURE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, S1 (S2), ON THE P5 PANEL IS IN THE "OFF" POSITION.
DISCONNECT CONNECTOR D888 (D890) FROM THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397.
DO A CONTINUITY TEST FROM PIN 12 TO PIN 13 (6 AND 15) ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL.
IS THERE CONTINUITY?

NO → 20 REPLACE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, YDNS1 (S2), ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397 (MM 33-13-00/201), OR REPLACE THE PANEL, M10397 (MM 30-11-01/401).

YES

2 PUSH THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, S1 (S2), ON THE P5 PANEL TO THE "ON" POSITION.
DO A CONTINUITY TEST FROM PIN 11 TO PIN 12 (5 AND 6) ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL.
IS THERE CONTINUITY?

NO → 21 REPLACE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, YDNS1 (S2), ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397 (MM 33-13-00/201), OR REPLACE THE PANEL, M10397 (MM 30-11-01/401).

YES

SEE SHEET 2
(BLOCK 3)

L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch/Light OFF
Figure 103 (Sheet 1)

FROM SHEET 1
(BLOCK 2)

YES

3 CONNECT CONNECTOR D888 (D890) TO THE WING AND ENGINE ANTI-ICE CONTROL PANEL.
MAKE SURE THE ENGINE ANTI-ICE SWITCH ON THE P5 PANEL IS IN THE "OFF" POSITION.
DISCONNECT CONNECTOR D2670 (D2760) FROM THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (WDM 30-21-11).
DOES THE VALVE LIGHT GO OFF?

YES

22 DO THIS PROCEDURE: PRESSURE REGULATING VALVE PROBLEMS WHEN ENGINE COWL ANTI-ICE IS SELECTED ON (FIM 36-10-00/101, FIG. 128).
IF THE PROBLEM CONTINUES, REPLACE THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (AMM 30-21-03/401).

NO

23 REMOVE THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397, ON THE P5 PANEL (AMM 30-11-01/401).
FOR THE LEFT ENGINE: EXAMINE THE CIRCUIT FROM THE WING AND ENGINE CONTROL PANEL, CONNECTOR D888, PIN 13, TO THE LEFT ENGINE INLET TAI VALVE, V115, CONNECTOR D2670, PIN 5 (WDM 30-21-11).
FOR THE RIGHT ENGINE: EXAMINE THE CIRCUIT FROM THE WING AND ENGINE CONTROL PANEL, CONNECTOR D890, PIN 15, TO THE RIGHT ENGINE INLET TAI VALVE, V117, CONNECTOR D2760, PIN 5 (WDM 30-21-11; 75-11-11).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397 (AMM 30-11-01/401).

L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch/Light OFF
Figure 103 (Sheet 2)

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (MM 31-41-00/201)
MASTER DIM AND TEST (MM 33-16-00/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A16,11A30,11T19

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

NOTE: IT IS POSSIBLE THAT ENGINE OPERATION WILL BE NECESSARY IN THIS PROCEDURE (MM 71-00-00/201).

EICAS "L ENG TAI VALVE" OR "R ENG TAI VALVE" MESSAGE DISPLAYED

1 ERASE THE EICAS MESSAGES (31-41-00/101, FIG. 109).
DOES "L ENG TAI VALVE" OR "R ENG TAI VALVE" COME BACK?

YES → 5 DISCONNECT CONNECTOR D758 (D742) FROM THE L (R) ENGINE INLET TAI PRESSURE SWITCH, S524 (S525).
DO A CONTINUITY TEST FROM PIN 1 TO PIN 2 OF THE PRESSURE SWITCH.
IS THERE CONTINUITY?

YES → 10 REPLACE THE L (R) ENGINE INLET TAI PRESSURE SWITCH, S524 (S525)(MM 30-21-01/401).
ERASE THE EICAS MESSAGES (31-41-00/101, FIG. 109).

NO → 11 REMOVE THE L (R) EICAS COMPUTERS, M10181 (M10182) (MM 31-41-02/401).
EXAMINE THE CIRCUIT FROM CONNECTOR D758, PIN 1 (S524), TO D881F, PIN G5 (L EICAS), AND D883F, PIN G5 (R EICAS), OR FROM CONNECTOR D742, PIN 1 (S525) TO D881F, PIN G8 (L EICAS), AND D883F, PIN G8 (R EICAS)(WDM 30-21-11).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS (MM 31-41-02/401).
CONNECT CONNECTOR D758 (D742) ON THE L (R) ENGINE INLET TAI PRESSURE SWITCH, S524 (S525).
ERASE THE EICAS MESSAGES (31-41-00/101, FIG. 109).

NO → 2 START THE L OR R ENGINE.
MAKE SURE THE DUCT PRESSURE STAYS AT 30 PSI OR MORE (MM 71-00-00/201).
PUSH THE L (R) ENGINE ANTI-ICE SWITCH ON THE P5 PANEL TO "ON".
DOES "L ENG TAI VALVE" OR "R ENG TAI VALVE" COME BACK?

YES → 12 DO THE "PRESSURE REGULATING VALVE PROBLEMS WHEN ENGINE COWL ANTI-ICE IS SELECTED ON" PROCEDURE (36-10-00/101, FIG. 128).
IF THE PROBLEM CONTINUES, REPLACE THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (MM 30-21-03/401).
ERASE THE EICAS MESSAGES (31-41-00/101, FIG. 109).

NO → 3 THE SYSTEM IS OK.

EICAS L ENG TAI VALVE or R ENG TAI VALVE Message Displayed
Figure 104

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/201)
MASTER DIM AND TEST (AMM 33-16-00/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A16,11A30,11T19

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

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

"L (R) ENG ANTI-ICE" EICAS MESSAGE AND "VALVE" LIGHT ILLUM WITH "ANTI-ICE" SWITCH/LIGHT "ON"

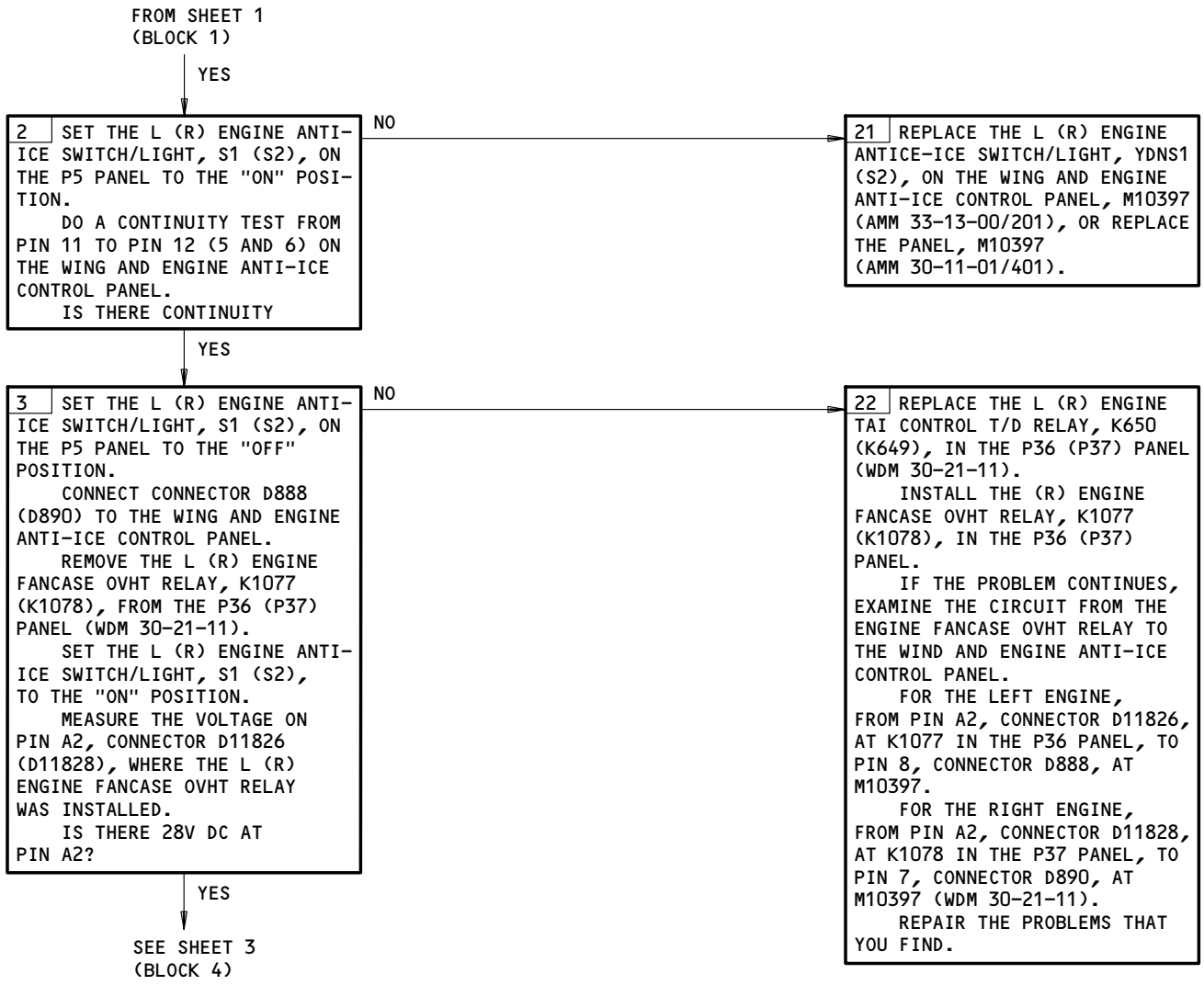
1 MAKE SURE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, S1 (S2), ON THE P5 PANEL IS IN THE "OFF" POSITION.
DISCONNECT CONNECTOR D888 (D890) FROM THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397.
DO A CONTINUITY TEST FROM PIN 12 TO PIN 13 (6 AND 15) ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL.
IS THERE CONTINUITY?

NO → 20 REPLACE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, YDNS1 (S2), ON THE WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397 (AMM 33-13-00/201), OR REPLACE THE PANEL, M10397 (AMM 30-11-01/401).

YES

SEE SHEET 2
(BLOCK 2)

L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch/Light ON
Figure 105 (Sheet 1)



L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch/Light ON
Figure 105 (Sheet 2)

FROM SHEET 2
(BLOCK 3)

YES

4 SET THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, S1 (S2), TO THE "OFF" POSITION.
INSTALL THE L (R) ENGINE FANCASE OVHT RELAY, K1077 (K1078) IN THE P36 (P37) PANEL.
DISCONNECT CONNECTOR D2670 (D2760) FROM THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (WDM 30-21-11).
SET THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, S1 (S2), TO THE "ON" POSITION,
DOES THE L (R) VALVE LIGHT GO OFF?

YES → 23 CONNECT CONNECTOR D2670 (D2760) TO THE L (R) ENGINE INLET VALVE, V115 (V117).
DO THIS PROCEDURE: PRESSURE REGULATING VALVE PROBLEMS WHEN ENGINE COWL ANTI-ICE IS SELECTED ON (FIM 36-10-00/101, FIG. 128).
IF THE PROBLEM CONTINUES, REPLACE THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (AMM 30-21-03/401).
IF THE PROBLEM CONTINUES, REPLACE THE L (R) ENGINE FANCASE OVHT RELAY, K1077 (K1078) (WDM 30-21-11).

NO → 24 EXAMINE THE CIRCUIT FROM THE ENGINE INLET TAI VALVE TO THE WING AND ENGINE ANTI-ICE CONTROL PANEL.
FOR THE LEFT ENGINE, FROM PIN 5, CONNECTOR D2670, TO PIN 13, CONNECTOR D888.
FOR THE RIGHT ENGINE, FROM PIN A2, CONNECTOR D2760, TO PIN 13, CONNECTOR D890.
REPAIR THE PROBLEMS THAT YOU FIND.

L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch/Light ON
Figure 105 (Sheet 3)

ENGINE ANTI-ICE SWITCH POSITIONED TO "ON", "VALVE" LIGHT REMAINED EXTINGUISHED AND NO EICAS MESSAGE DISPLAYED

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
- EICAS (MM 31-41-00/201)
- MASTER DIM AND TEST (MM 33-16-00/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
- 11A16,11A30,11T19

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
- ELECTRICAL POWER IS ON (MM 24-22-00/201)
- PNEUMATIC DUCTS ARE PRESSURIZED (MM 36-00-00/201)

1 SET THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, YDNS1 (YDNS2), TO THE "ON" AND THEN THE "OFF" POSITION.
DID THE L (R) ENGINE ANTI--ICE "VALVE" LIGHT COME ON?

NO → 21 REPLACE THE LAMP (MM 33-13-00/201).
IF THE PROBLEM CONTINUES, REPLACE THE DIODE/FUSE CARD (MM 33-13-00/201).

YES ↓

2 DISCONNECT CONNECTOR D888 (D890) FROM THE WING AND ENGINE ANTI-ICE CONTROL MODULE, M10397, ON THE P5 PANEL (WDM 30-21-11).
IS THERE CONTINUITY FROM PIN 12 (PIN 6) TO PIN 11 (PIN 5) WITH THE SWITCH/LIGHT IN THE "ON" POSITION?

NO → 22 REPLACE THE L (R) ENGINE ANTI-ICE SWITCH/LIGHT, YDNS1 (YDNS2), ON THE WING AND ENGINE ANTI-ICE CONTROL MODULE, M10397 (MM 33-13-00/201, OR REPLACE THE MODULE, M10397 (MM 30-11-01/401).

YES ↓

3 CONNECT CONNECTOR D888 (D890) ON THE WING AND ENGINE ANTI-ICE CONTROL MODULE, M10397, ON P5 PANEL (WDM 30-21-11).
DISCONNECT CONNECTOR D2670 (D2760) FROM THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (WDM 30-21-11).
IS THERE A GROUND AT CONNECTOR D2670 (D2760), PIN 4 (PIN 4)?

NO → 23 EXAMINE THE CIRCUIT FROM CONNECTOR D2670 (D2760), PIN 4 (PIN 4), TO GROUND (WDM 30-21-11).
REPAIR THE PROBLEMS THAT YOU FIND.

YES → 24 DO THIS PROCEDURE: "PRESSURE REGULATING VALVE PROBLEMS WHEN ENGINE COWL ANTI-ICE IS SELECTED ON" (36-10-00/101, FIG. 128).
IF THE PROBLEM CONTINUES, REPLACE THE L (R) ENGINE INLET TAI VALVE, V115 (V117) (MM 30-21-03/401).
IF THE PROBLEM CONTINUES, EXAMINE THE CIRCUIT FROM CONNECTOR D2670 (D2760), PIN 5 (PIN 5), TO CONNECTOR D888 (D890), PIN 13 (PIN 15) (WDM 30-21-11).
REPAIR THE PROBLEMS THAT YOU FIND.

Engine Anti-Ice Switch Positioned to ON, VALVE Light Remained Extinguished and No EICAS Message Displayed
Figure 105A

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)
MASTER DIM AND TEST (AMM 33-16-00/501)

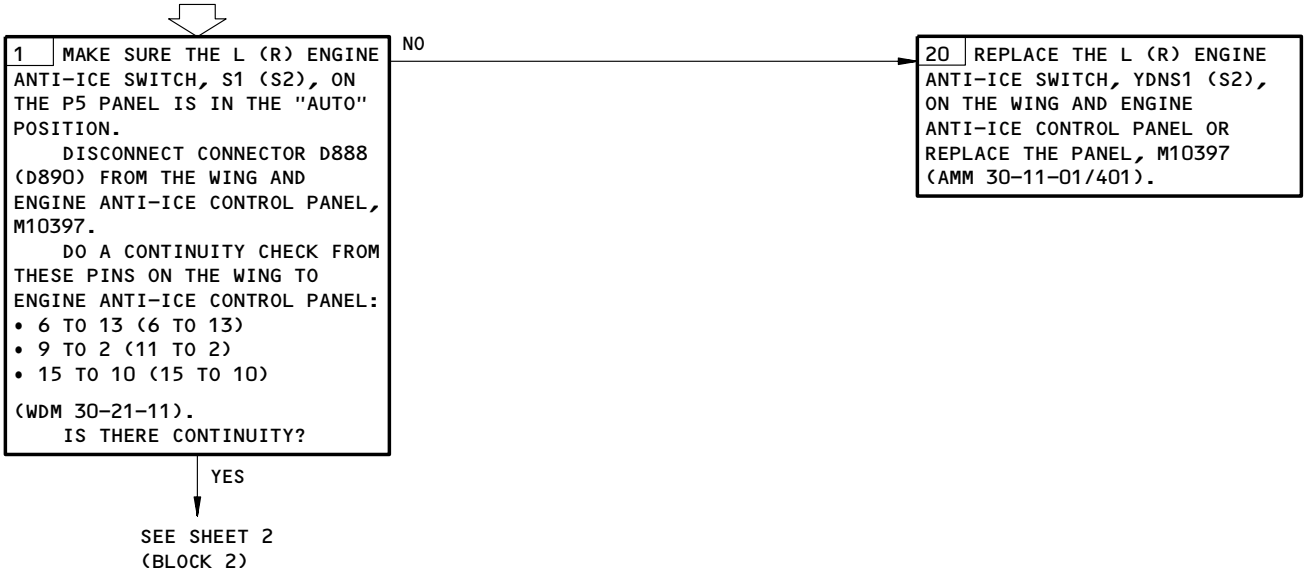
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A16, 11A30, 11T19

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

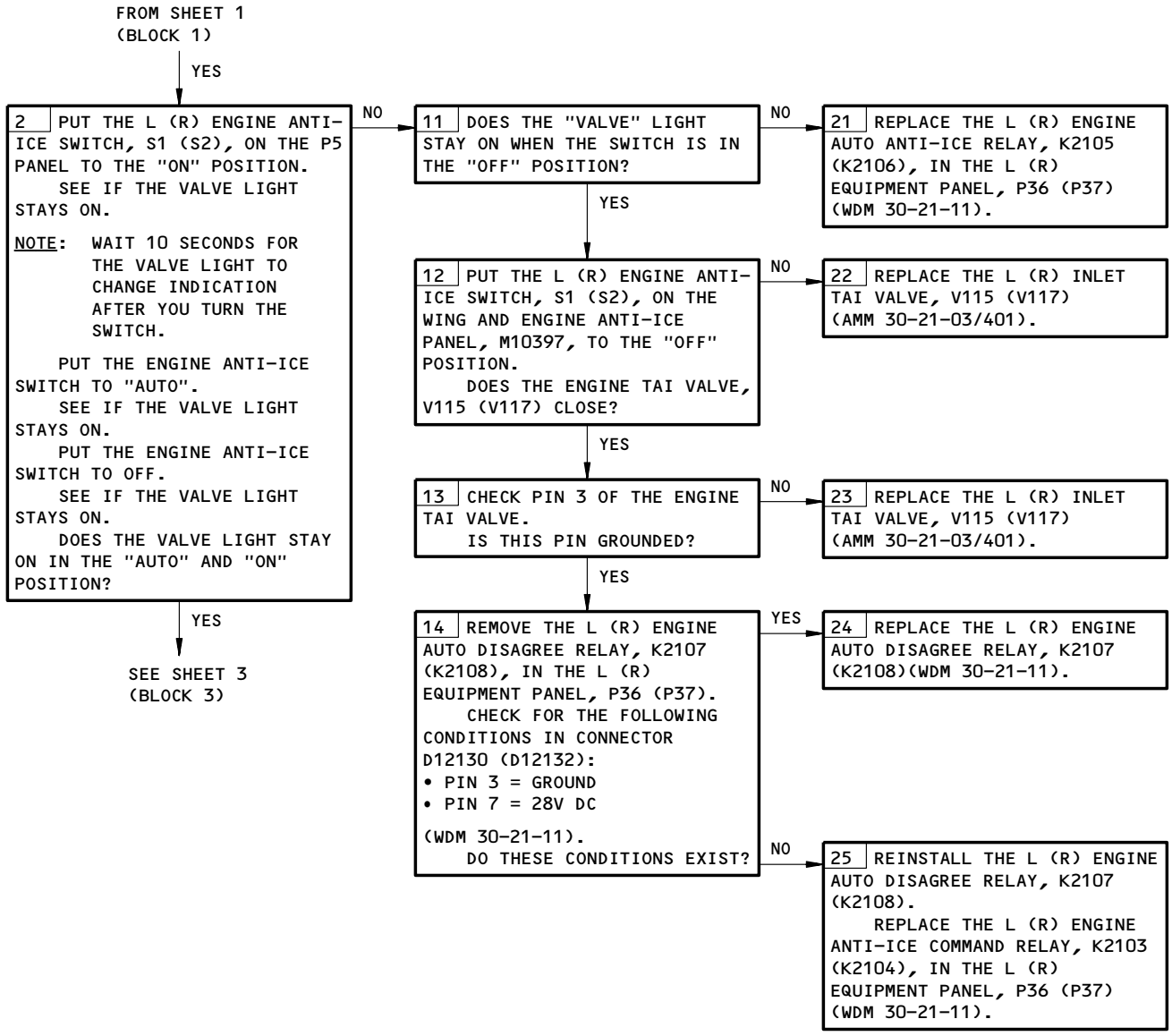
WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

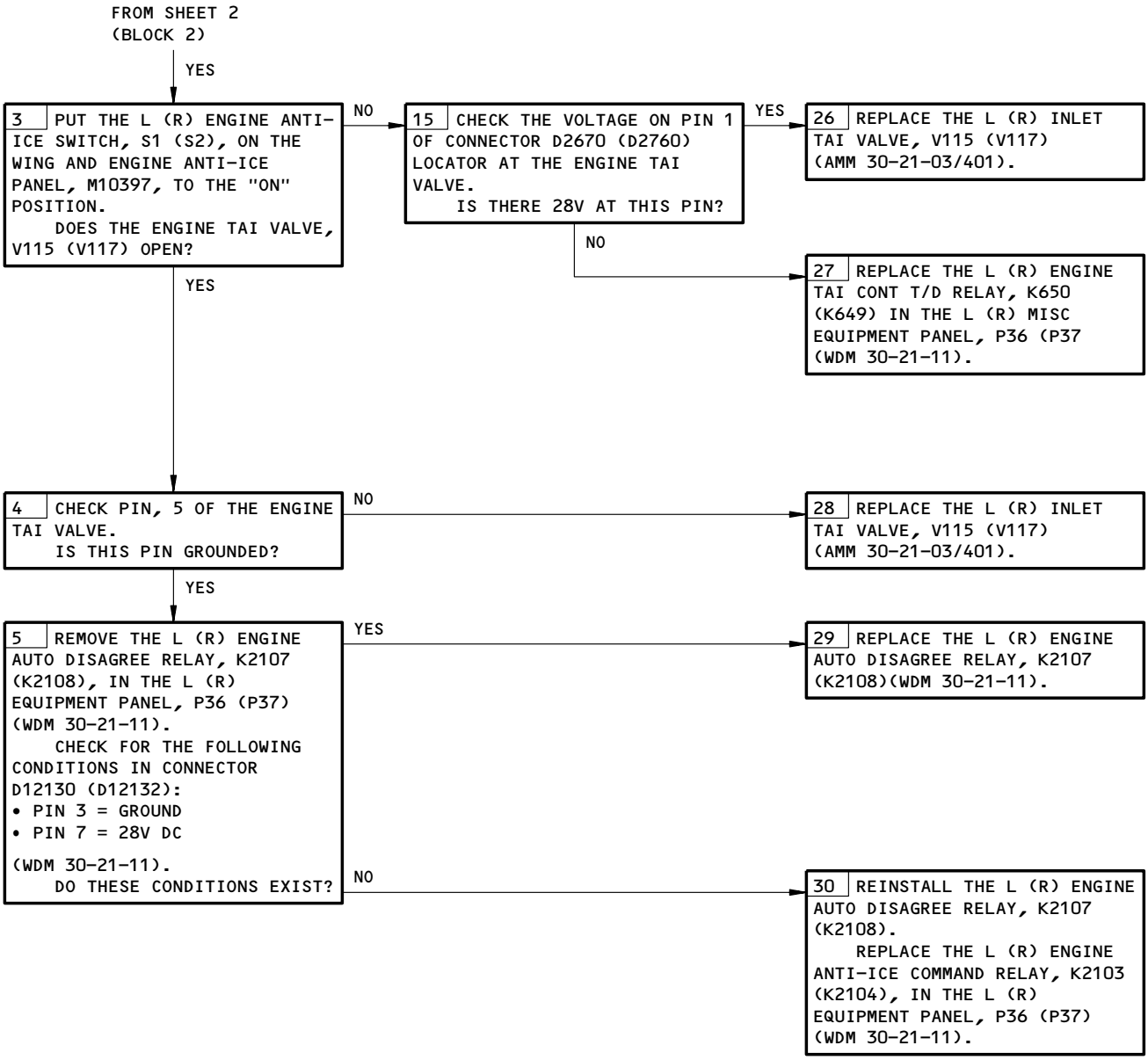
"L (R) ENG ANTI-ICE" EICAS MESSAGE AND "VALVE" LIGHT ILLUM WITH "ANTI-ICE" SWITCH SET TO "AUTO"



L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch Set to AUTO
Figure 106 (Sheet 1)



L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with ANTI-ICE Switch Set to AUTO
Figure 106 (Sheet 2)



L (R) ENG ANTI-ICE EICAS Message and VALVE Light Illum with
ANTI-ICE Switch Set to AUTO
Figure 106 (Sheet 3)

PITOT-STATIC PROBE ANTI-ICING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1		FLT COMPT, P6	
PITOT HEAT CAPT ϕA, C1110		1	6K14	*
PITOT HEAT CAPT ϕB, C1111		1	6K15	*
PITOT HEAT F/O ϕA, C1116		1	6K23	*
PITOT HEAT F/O ϕB, C1117		1	6K22	*
PITOT HEAT L AUX ϕB, C1114		1	6K21	*
PITOT HEAT L AUX ϕC, C1115		1	6K20	*
PITOT HEAT R AUX ϕB, C1112		1	6K16	*
PITOT HEAT R AUX ϕC, C1113		1	6K17	*
CIRCUIT BREAKER -			FLT COMPT, P11	
PROBE HEAT IND L, C1120		1	11A15	*
PROBE HEAT IND R, C1121		1	11A28	*
COMPUTER - (FIM 31-41-00/101)				
EICAS L, M10181				
EICAS R, M10182				
LIGHT - CAPT PITOT ANNUNCIATOR, L5	1	1	FLT COMPT, P5, MISCELLANEOUS ANNUNCIATOR PNL, M10394	*
LIGHT - F/O PITOT ANNUNCIATOR, L6	1	1	FLT COMPT, P5, MISCELLANEOUS ANNUNCIATOR PNL, M10394	*
LIGHT - L AUX PITOT ANNUNCIATOR, L9	1	1	FLT COMPT, P5, MISCELLANEOUS ANNUNCIATOR PNL, M10394	*
LIGHT - R AUX PITOT ANNUNCIATOR, L10	1	1	FLT COMPT, P5, MISCELLANEOUS ANNUNCIATOR PNL, M10394	*
PANEL - (FIM 28-43-00/101)				
MISC TEST, M10398				
PANEL - MISCELLANEOUS ANNUNCIATOR, M10394	1	1	FLT COMPT, P5	*
PROBE - (FIM 34-11-00/101)				
CAPT PITOT-STATIC, B26				
F/O PITOT-STATIC, B28				
L AUX PITOT-STATIC, B29				
R AUX PITOT-STATIC, B27				
RELAY -	--		MAIN EQUIP CTR, P33 PANEL	
AIR/GND SYS 1, K515		1		*
AIR/GND SYS 1, K516		1		*
AIR/GND SYS 2, K522		1		*
AIR/GND SYS 2, K528		1		*

* SEE THE WDM EQUIPMENT LIST

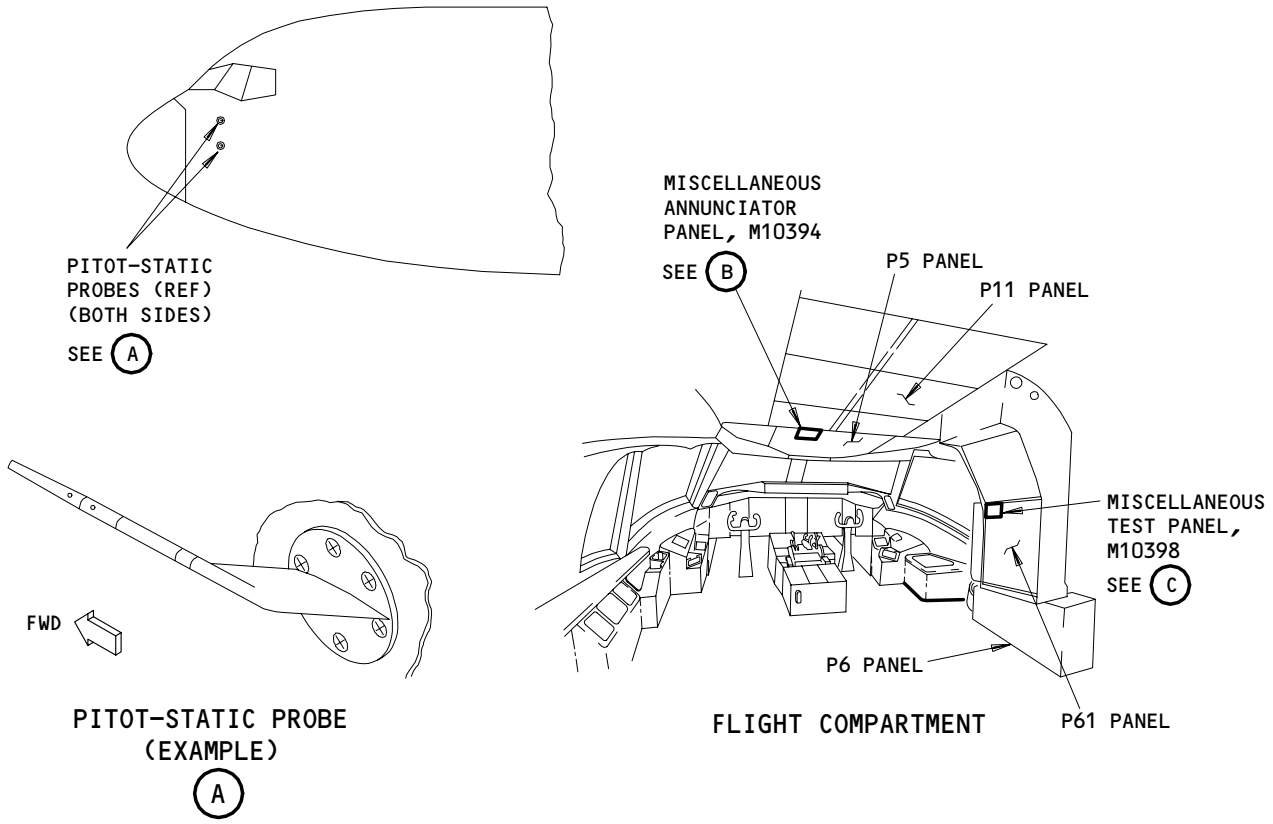
Pitot-Static Probe Anti-Icing - Component Index
Figure 101 (Sheet 1)

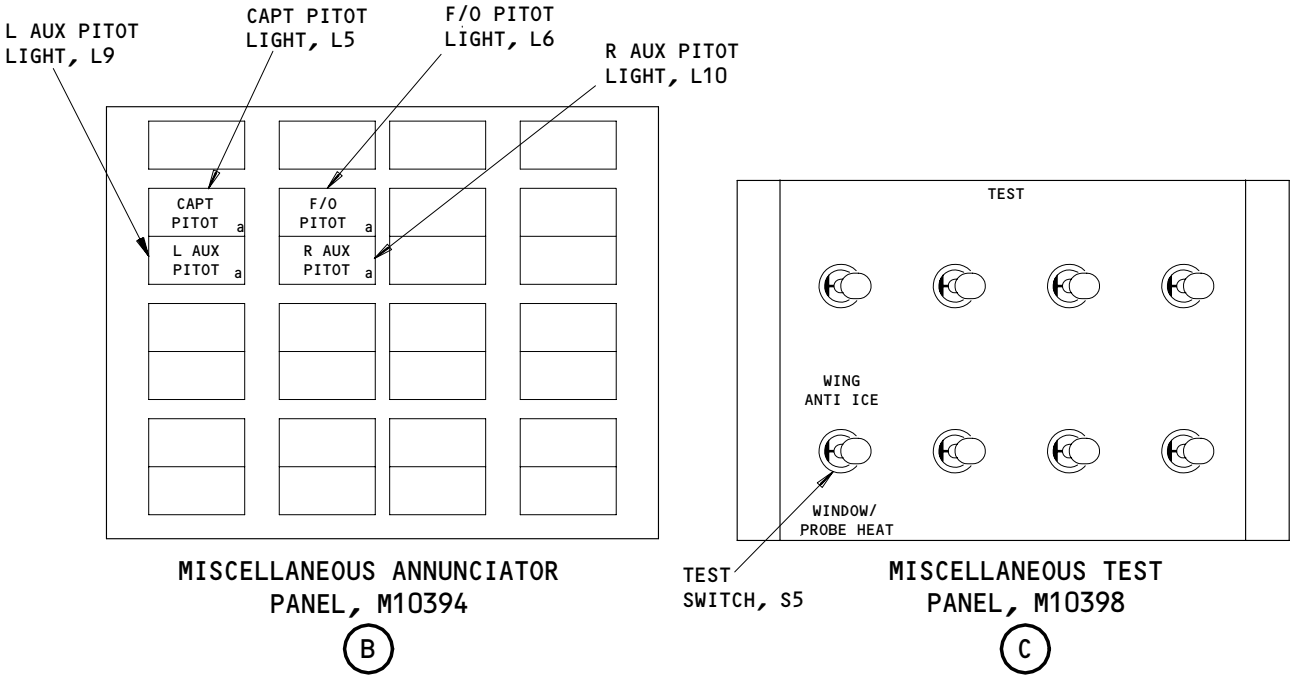
160752

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
RELAY -	--		MAIN EQUIP CTR, P33 PANEL	
CAPT P/S CURRENT SENSING, K241		1		*
F/O P/S CURRENT SENSING, K310		1		*
L AUX P/S CURRENT SENSING, K312		1		*
R AUX P/S CURRENT SENSING, K243		1		*
L PROBE HT N2, K644		1		*
L PROBE HT TEST, K643		1		*
R PROBE HT N2, K646		1		*
R PROBE HT TEST, K645		1		*
SPEED CARD - (FIM 73-21-00/101)				
L N2 ENGINE, M1093				
R N2 ENGINE, M1092				
SWITCH - WINDOW/PROBE HEAT TEST, YEIS5	1	1	FLT COMPT, P61, MISC TEST PANEL, M10398	*

* SEE THE WDM EQUIPMENT LIST

Pitot-Static Probe Anti-Icing - Component Index
Figure 101 (Sheet 2)





Pitot-Static Probe Anti-Icing - Component Location
Figure 102

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K14,6K15,6K22,6K23,11A15,11A28,11U24

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

CAUTION: DO NOT OPERATE THE PROBE HEATERS FOR LONGER THAN 30 SECONDS MAXIMUM WITH THE TEST SWITCH ON THE MISCELLANEOUS TEST PANEL. STOP FOR 5 MINUTES MINIMUM BETWEEN THE PROBE HEATER OPERATION. PROBE DAMAGE CAN RESULT.

NOTE: THE LIGHT(S) ON THE MISCELLANEOUS ANNUNCIATOR PANEL WILL USUALLY BE ON UNTIL N2 IS GREATER THAN 50%.

"CAPT (F/O) PITOT" LIGHT ILLUMINATED (IN FLIGHT OR ON GND, ENGS RUNNING)

1 AT THE MISCELLANEOUS TEST PANEL, M10398, ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.
DOES THE CAPT (F/O) PITOT LIGHT GO OFF?

NO → 10 ON THE P33 PANEL, DO THE STEPS THAT FOLLOW:
1. PUT THE K516 AIR/GND RELAY IN THE PLACE OF THE K528 AIR/GND RELAY
2. PUT THE K528 AIR/GND RELAY IN THE PLACE OF THE K516 AIR/GND RELAY
3. AT THE MISCELLANEOUS TEST PANEL, M10398, ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.

IS THE OPPOSITE SIDE LIGHT, F/O (CAPT) PITOT, NOW ON?

YES → 20 REPLACE THE AIR/GND RELAY THAT WAS INSTALLED IN THE K516 (K528) POSITION (AMM 32-09-02/201).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.

YES

SEE SHEET 2 (BLOCK 2)

NO

11 ON THE P33 PANEL, DO THE STEPS THAT FOLLOW:
1. PUT THE CURRENT SENSING RELAY, K310, IN THE PLACE OF THE CURRENT SENSING RELAY, K241
2. PUT THE CURRENT SENSING RELAY, K241, IN THE PLACE OF THE CURRENT SENSING RELAY, K310
3. AT THE MISCELLANEOUS TEST PANEL, M10398, ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.

IS THE OPPOSITE SIDE LIGHT, F/O (CAPT) PITOT, NOW ON?

YES → 21 REPLACE THE CURRENT SENSING RELAY THAT WAS INSTALLED IN THE K241 (K310) POSITION (WDM 30-31-11,-21).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.

NO → 22 REPLACE THE CAPT (F/O) PITOT-STATIC PROBE, B26 (B28) (AMM 34-11-01/401).

CAPT (F/O) PITOT Light Illuminated (In Flight or on Gnd, Engs Running)
Figure 103 (Sheet 1)

FROM SHEET 1
(BLOCK 1)

YES

2 OPEN THE CB 6K14 (6K23) AND THE CB 6K15 (6K22). REMOVE THE CONNECTOR D1010 (D574) FROM THE PITOT STATIC PROBE B26 (B28). EXAMINE THE RESISTANCE BETWEEN PIN A OR B ON THE PITOT HEATER AND GROUND.
IS THE RESISTANCE ABOVE 100 MEGAOHMS?

NO → 23 REPLACE THE CAPT (F/O) PITOT STATIC PROBE B26 (B28) (AMM 34-11-01/401).

YES

3 ON THE P33 PANEL DO THE STEPS THAT FOLLOW:
PUT THE K516 AIR/GND RELAY IN THE PLACE OF THE K528 AIR/GND RELAY.
PUT THE K528 AIR/GND RELAY IN THE PLACE OF THE K516 AIR/GND RELAY.
PUT BOTH THE CHANNEL 1 AND CHANNEL 2 TEST SWITCHES ON THE LEFT N2 ENG SPEED CARD M1093 IN THE P50 PANEL TO THE "TEST" POSITION.

NOTE: ALL THE PROBE HEAT LIGHTS SHOULD EXTINGUISH.

IS THE OPPOSITE SIDE LIGHT, F/O (CAPT) PITOT, NOW ON?

YES → 24 REPLACE THE AIR/GND RELAY THAT WAS INSTALLED IN THE K528 (K516) POSITION (AMM 32-09-02/201).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION. 1 2

NO

4 INSTALL THE CONNECTOR D1010 (D574) ON THE PITOT STATIC PROBE B26 (B28). CLOSE THE CB 6K14 (6K23) AND THE CB 6K15 (6K22).
ON THE P33 PANEL DO THE STEPS THAT FOLLOW:
PUT THE PROBE HEAT RELAY K644 IN THE PLACE OF THE PROBE HEAT RELAY K646.
PUT THE PROBE HEAT RELAY K646 IN THE PLACE OF THE PROBE HEAT RELAY K644.
PUT BOTH THE CHANNEL 1 AND 2 TEST SWITCHES ON THE LEFT N2 ENG SPEED CARD M1093 IN THE P50 PANEL TO THE "TEST" POSITION.
IS THE OPPOSITE SIDE LIGHT, F/O (CAPT) PITOT, NOW ON?

YES → 25 REPLACE THE PROBE HEAT N2 RELAY THAT WAS INSTALLED IN THE K644 (K646) POSITION (WDM 30-31-11,-21).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION. 1 2

NO → 26 REPLACE THE CAPT (F/O) PITOT STATIC PROBE B26 (B28) (AMM 34-11-01/401).
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION. 1 2

1 IF YOU DO NOT PUT THE CHANNEL 1 TEST SWITCH IN THE "NORMAL" POSITION THE ENGINE WILL NOT START.

2 ERASE "L ENGINE SPEED" EICAS STATUS AND MAINTENANCE MESSAGES AFTER TEST.

CAPT (F/O) PITOT Light Illuminated (In Flight or On Gnd, Engs Running)
Figure 103 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K16,6K17,6K20,6K21,11A15,11A28,11U24

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

CAUTION: DO NOT OPERATE THE PROBE HEATERS FOR MORE THAN 30 SECONDS MAXIMUM WITH THE TEST SWITCH ON THE MISCELLANEOUS TEST PANEL. STOP FOR 5 MINUTES MINIMUM BETWEEN THE PROBE HEATER OPERATION. PROBE DAMAGE CAN RESULT.

NOTE: THE LIGHT(S) ON THE MISCELLANEOUS ANNUNCIATOR PANEL WILL USUALLY BE ON UNTIL N2 IS GREATER THAN 50%.

"L (R) AUX PITOT" LIGHT ILLUMINATED (IN FLIGHT OR ON GND, ENGS RUNNING)

1 AT THE MISCELLANEOUS TEST PANEL M10398 ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.
DOES THE LEFT (RIGHT) AUX PITOT LIGHT GO OFF?

NO → 10 ON THE P33 PANEL, DO THE STEPS THAT FOLLOW:
1. PUT THE K522 AIR/GND RELAY IN THE PLACE OF THE K515 AIR/GND RELAY
2. PUT THE K515 AIR/GND RELAY IN THE PLACE OF THE K522 AIR/GND RELAY
3. AT THE MISCELLANEOUS TEST PANEL, M10398, ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.

IS THE OPPOSITE SIDE LIGHT, RIGHT (LEFT) AUX PITOT, NOW ON?

YES → 20 REPLACE THE AIR/GND RELAY THAT WAS INSTALLED IN THE K522 (K515) POSITION (AMM 32-09-02/201).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.

YES

SEE SHEET 2
(BLOCK 2)

NO

11 ON THE P33 PANEL, DO THE STEPS THAT FOLLOW:
1. PUT THE CURRENT SENSING RELAY, K243, IN THE PLACE OF THE CURRENT SENSING RELAY, K312
2. PUT THE CURRENT SENSING RELAY, K312, IN THE PLACE OF THE CURRENT SENSING RELAY, K243
3. AT THE MISCELLANEOUS TEST PANEL, M10398, ON THE P61 PANEL, HOLD THE TEST SWITCH IN THE "WINDOW/PROBE HEAT" POSITION.

IS THE OPPOSITE SIDE LIGHT, RIGHT (LEFT) AUX PITOT, NOW ON?

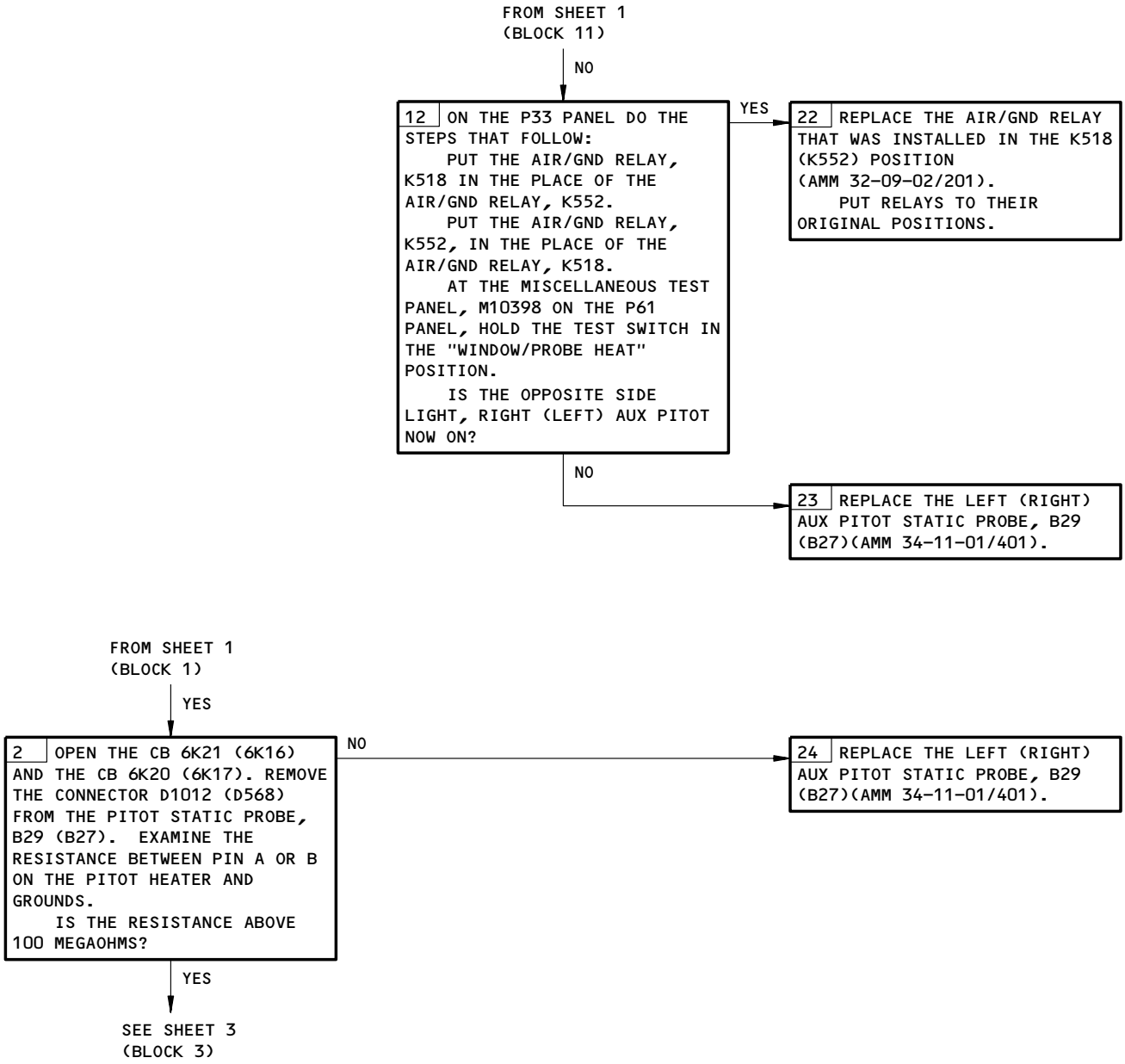
YES → 21 REPLACE THE CURRENT SENSING RELAY THAT WAS INSTALLED IN THE K312 (K243) POSITION (WDM 30-31-23,-13).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.

NO

SEE SHEET 2
(BLOCK 12)

L (R) AUX PITOT Light Illuminated (In Flight or on Gnd, Engs Running)
Figure 104 (Sheet 1)

164514



L (R) AUX PITOT Light Illuminated (In Flight or On Gnd, Engs Running)
Figure 104 (Sheet 2)

FROM SHEET 2
(BLOCK 2)

YES

3 ON THE P33 PANEL DO THE STEPS THAT FOLLOW:
PUT THE AIR/GND RELAY, K522, IN THE PLACE OF THE AIR/GND RELAY, K515.
PUT THE AIR/GND RELAY, K515, IN THE PLACE OF THE AIR/GND RELAY, K522.
PUT BOTH THE CHANNEL 1 AND CHANNEL 2 TEST SWITCHES ON THE LEFT N2 ENG SPEED CARD M1093 IN THE P50 PANEL TO THE "TEST" POSITION.

NOTE: ALL THE PROBE HEAT LIGHTS SHOULD EXTINGUISH.

IS THE OPPOSITE SIDE LIGHT, RIGHT (LEFT) AUX PITOT, NOW ON?

YES → 25 REPLACE THE AIR/GND RELAY THAT WAS INSTALLED IN THE K515 (K522) POSITION (AMM 32-09-02/201).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION 1 2.

NO

4 INSTALL THE CONNECTOR D1012 (D568) ON THE PITOT STATIC PROBE B29 (B27). CLOSE THE CB 6K21 (6K16) AND THE CB 6K20 (6K17).
ON THE P33 PANEL DO THE STEPS THAT FOLLOW:
PUT THE PROBE HEAT RELAY, K644 IN THE PLACE OF THE PROBE HEAT RELAY K646.
PUT THE PROBE HEAT RELAY, K646, IN THE PLACE OF THE PROBE HEAT RELAY, K644.
PUT BOTH THE CHANNEL 1 AND 2 TEST SWITCHES ON THE LEFT N2 ENG SPEED CARD M1093 IN THE P50 PANEL TO THE "TEST" POSITION.
IS THE OPPOSITE SIDE LIGHT, RIGHT (LEFT) AUX PITOT, NOW ON?

YES → 26 REPLACE THE PROBE HEAT N2 RELAY THAT WAS INSTALLED IN THE K646 (K644) POSITION (WDM 30-31-11,-21).
PUT THE RELAYS TO THEIR ORIGINAL POSITIONS.
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION 1 2.

NO → 27 REPLACE THE LEFT (RIGHT) AUX PITOT STATIC PROBE B29 (B27)(AMM 34-11-01/401).
PUT THE CHANNEL 1 TEST SWITCH ON THE LEFT N2 ENG SPEED CARD M1093 TO THE "NORMAL" POSITION 1 2.

1 IF YOU DO NOT PUT THE CHANNEL 1 TEST SWITCH IN THE NORMAL POSITION THE ENGINE WILL NOT START.

2 ERASE "L ENGINE SPEED" EICAS STATUS AND MAINTENANCE MESSAGES AFTER TEST.

L (R) PITOT Light Illuminated (In Flight or On Gnd, Engs Running)
Figure 104 (Sheet 3)

164517

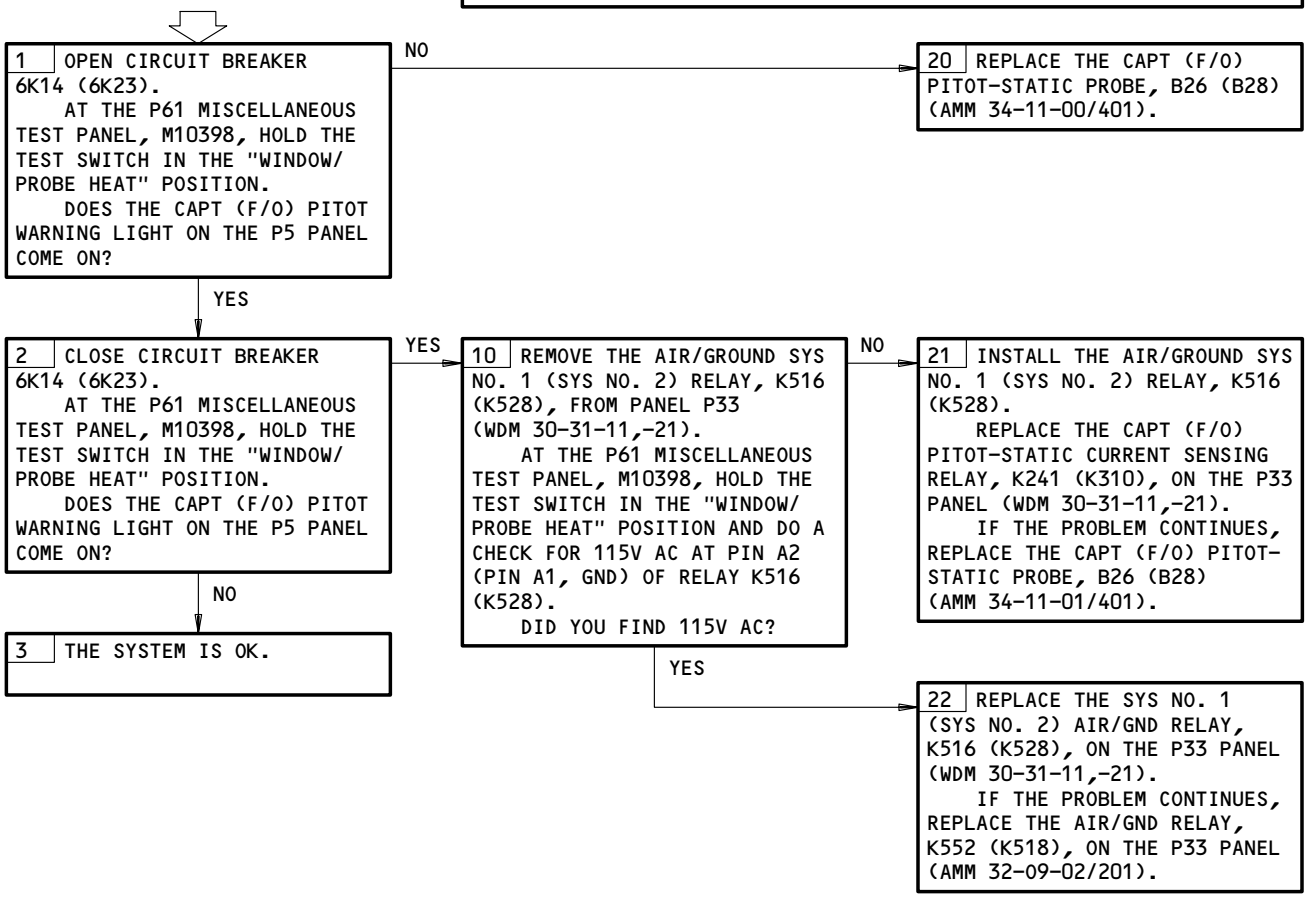
CAPT (F/O) PITOT-STATIC PROBE HEAT PROBLEMS (IN FLIGHT)

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K14,6K15,6K22,6K23,11A15,11A28,11U24

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



Capt (F/O) Pitot-Static Probe Heat Problems (In Flight)
Figure 105

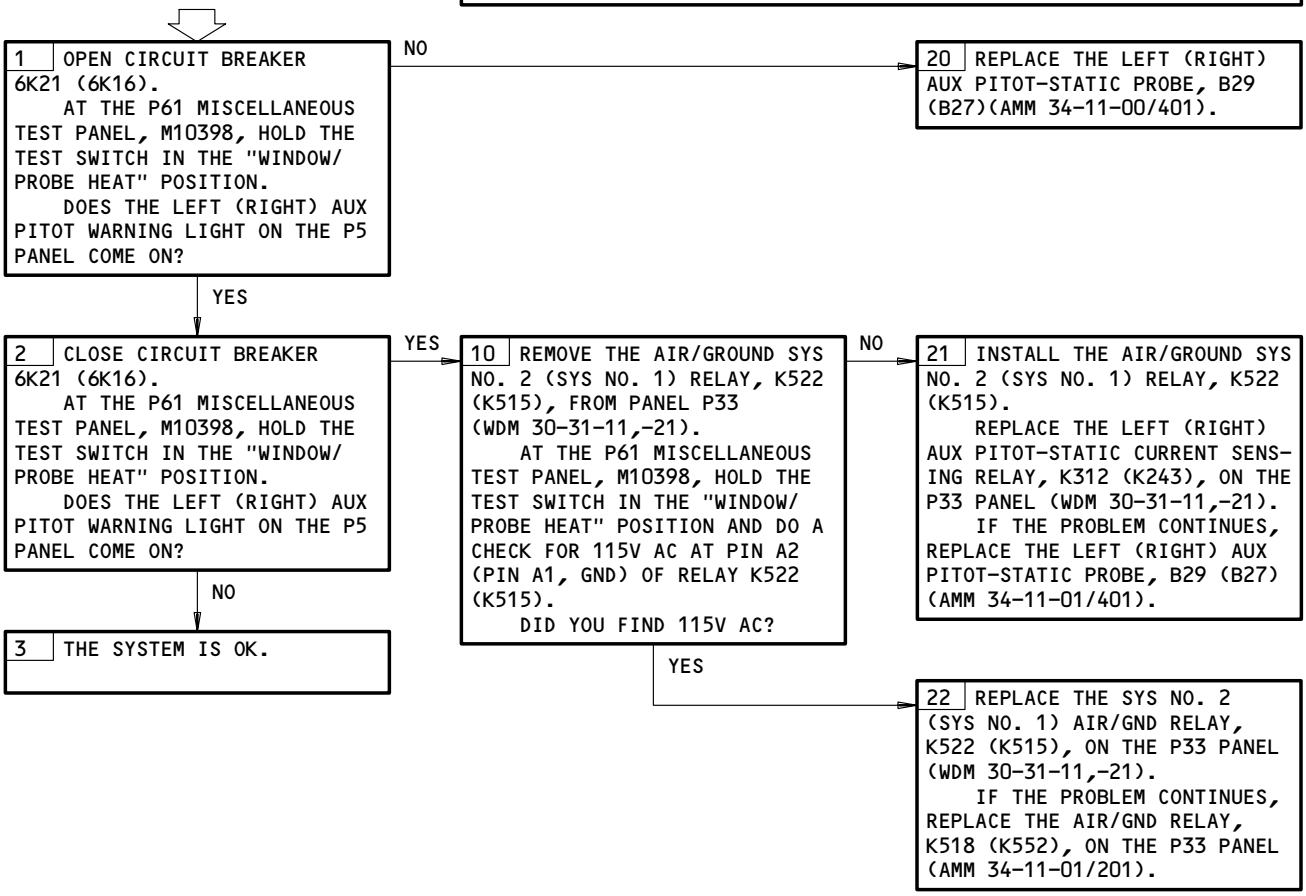
AUX PITOT-STATIC PROBE HEAT PROBLEMS (IN FLIGHT)

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K16,6K17,6K20,6K21,11A15,11A28,11U24

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



Aux Pitot-Static Probe Heat Problems (In Flight)
Figure 106

EICAS MESSAGE "PROBE HEAT" DISPLAYED DURING PROBE HEAT TEST (ON GRD, ENGS OFF)

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K14,6K15,6K20,6K21,6K22,6K23,6K24,6L17,6L18,11A15, 11A28,11U24

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

1 AT THE P61 MISCELLANEOUS TEST PANEL M10398, HOLD THE TEST SWITCH IN THE "WINDOW/ PROBE HEAT" POSITION. MONITOR THE "CAPT PITOT", "F/O PITOT", "L AUX PITOT", "R AUX PITOT", "L AOA", "R AOA", AND "TAT" ANNUNCIATOR LIGHTS ON THE P5 PANEL.
DO ALL SEVEN LIGHTS STAY ON?

YES → 21 REPLACE THE MISCELLANEOUS TEST PANEL M10398 AT THE P61 PANEL (SWITCH [S5] IS FAULTY) (WDM 30-31-11).

NO ↓

2 HOLD THE TEST SWITCH IN THE WINDOW/PROBE HEAT POSITION. MONITOR THE "CAPT PITOT", "R AUX PITOT", "L AOA", AND "TAT" ANNUNCIATOR LIGHTS ON THE P5 PANEL.
DO ALL FOUR LIGHTS STAY ON?

YES → 22 REPLACE THE LEFT PROBE HEAT TEST RELAY K643 IN THE P33 PANEL (WDM 32-09-13).

NO ↓

3 HOLD THE TEST SWITCH IN THE WINDOW/PROBE HEAT POSITION. MONITOR THE "F/O PITOT", "LEFT AUX PITOT", AND "RIGHT AOA" ANNUNCIATOR LIGHTS ON THE P5 PANEL.
DO ALL THREE LIGHTS STAY ON?

YES → 23 REPLACE THE RIGHT PROBE HEAT TEST RELAY K645 IN THE P33 PANEL (WDM 32-09-13).

NO → 24 IF BOTH THE "LEFT AOA" AND THE "TAT" ANNUNCIATOR LIGHTS COME ON, REPLACE THE AIR/GND RELAY K514 IN THE P33 PANEL (MM 32-09-02/201).
IF THE PROBLEM CONTINUES, REPLACE THE AIR/GND RELAY K552 IN THE P33 PANEL (MM 32-09-02/201).

EICAS Message PROBE HEAT Displayed During Probe Heat Test (On Gnd, Engs Off)
Figure 107

PREREQUISITES

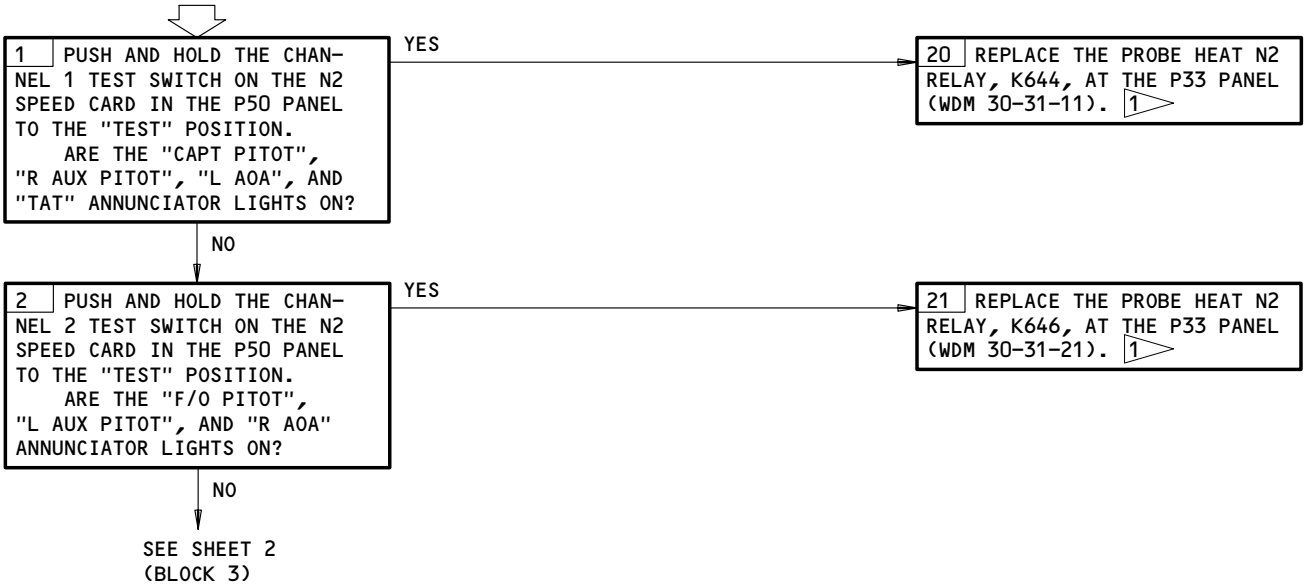
MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K14,6K15,6K20,6K21,6K22,6K23,6K24,6K25,6L17,6L18,
6L19,11A15,11A28,11U24

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

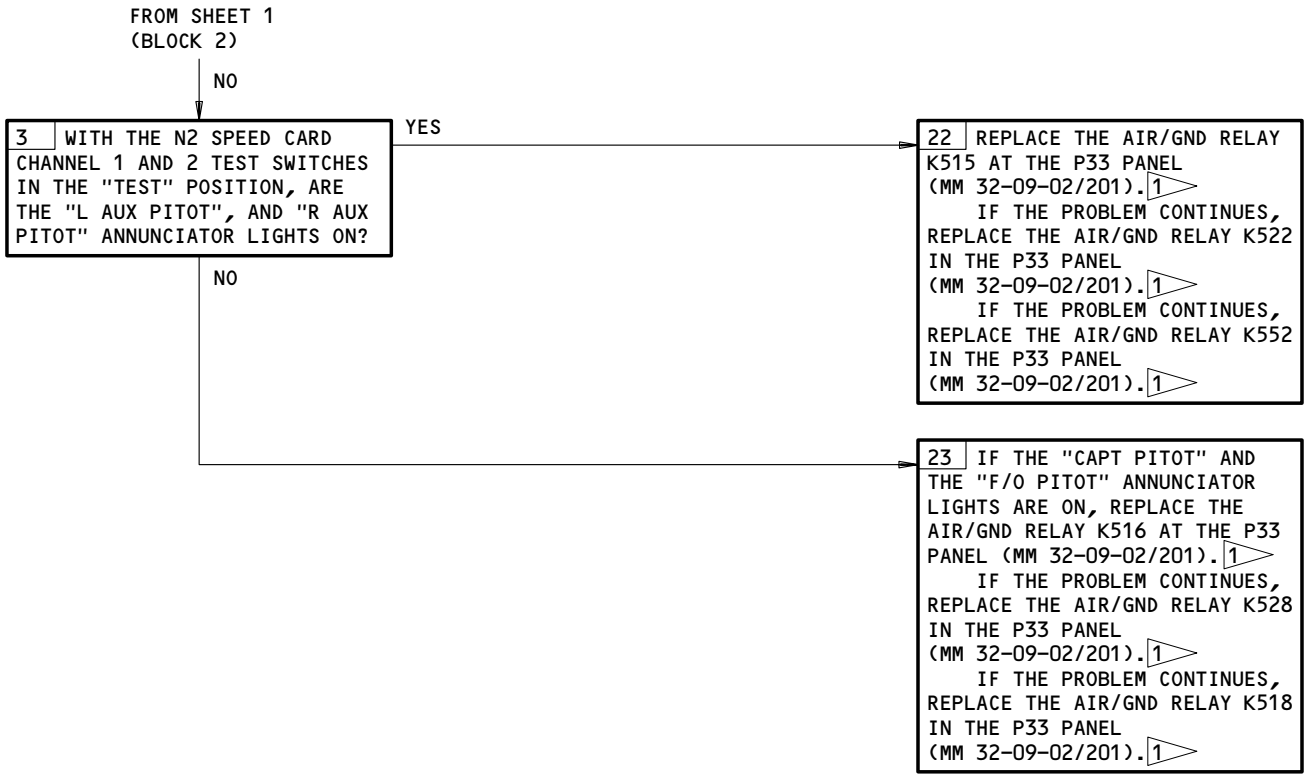
EICAS MESSAGE "PROBE HEAT" DISPLAYED (ON GND, ENG RUNNING)

NOTE: THE EICAS MESSAGE WILL USUALLY SHOW UNTIL THE N2 IS GREATER THAN 50%.



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109)

EICAS Message PROBE HEAT Displayed (on Gnd, Eng Running)
Figure 108 (Sheet 1)



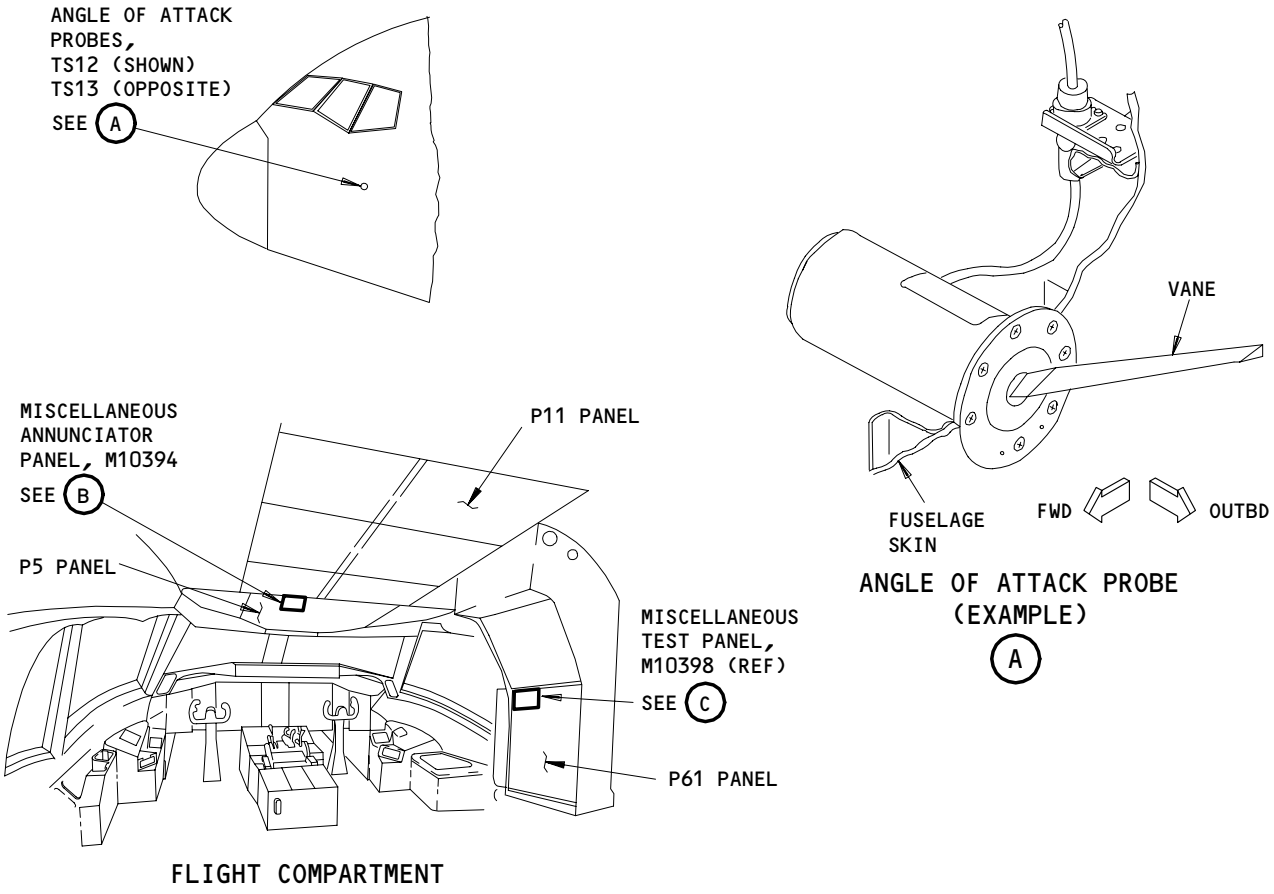
EICAS Message PROBE HEAT Displayed (On Gnd, Eng Running)
Figure 108 (Sheet 2)

ANGLE OF ATTACK PROBE HEAT

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1		FLIGHT COMPARTMENT, P6	
PROBE HEAT LEFT AOA, C1133		1	6L17	*
PROBE HEAT RIGHT AOA, C1141		1	6K24	*
CIRCUIT BREAKER -			FLIGHT COMPARTMENT, P11	
PROBE HEAT IND LEFT, C1120		1	11A15	*
PROBE HEAT IND RIGHT, C1121		1	11A28	*
COMPUTER - (FIM 31-41-00/101)				
EICAS LEFT, M10181				
EICAS RIGHT, M10182				
LIGHT - LEFT AOA ANNUNCIATOR, L7	1	1	FLIGHT COMPARTMENT, P5, MISCEL-LANEOUS ANNUNCIATOR PANEL, M10394	*
LIGHT - RIGHT AOA ANNUNCIATOR, L8	1	1	FLIGHT COMPARTMENT, P5, MISCEL-LANEOUS ANNUNCIATOR PANEL, M10394	*
PANEL - (FIM 28-43-00/101)				
MISCELLANEOUS TEST, M10398				
PANEL - (FIM 30-31-00/101)				
MISCELLANEOUS ANNUNCIATOR, M10394				
RELAY -	--		MAIN EQUIP CTR, P33 PANEL	
LEFT AOA PROBE CURRENT SENSING, K400		1		*
LEFT PROBE HT N2, K644		1		*
RIGHT AOA PROBE CURRENT SENSING, K401		1		*
RIGHT PROBE HT N2, K646		1		*
SYS 1 AIR/GND, K514		1		*
SYS 2 AIR/GND, K517		1		*
SENSOR - (FIM 34-12-00/101)				
LEFT AOA, TS12				
RIGHT AOA, TS13				
SPEED CARD - (FIM 73-21-00/101)				
LEFT N2 ENGINE, M1093				
RIGHT N2 ENGINE, M1092				
SWITCH - (FIM 30-31-00/101)				
WINDOW/PROBE HEAT, YEIS5				

* SEE THE WDM EQUIPMENT LIST

Angle of Attack Probe Heat - Component Index
Figure 101



Angle of Attack Probe Heat - Component Location
Figure 102

AOA PROBE HEAT LIGHT ILLUMINATED DURING PROBE HEAT TEST (ON GND, ENGS OFF)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K24,6L17,11A15,11A28

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

1 REMOVE THE LEFT (RIGHT) ANGLE OF ATTACK PROBE CURRENT SENSING RELAY, K400 (K401), FROM THE P33 PANEL.
DOES THE "L (R) AOA" LIGHT STAY ON, ON THE OVERHEAD PANEL P5?

YES

20 REMOVE THE LEFT (RIGHT) EICAS COMPUTERS, M10181 (M10182)(MM 31-41-02/401).
EXAMINE THE CIRCUIT FROM CONNECTOR D3916 (D468), PIN D2, OF THE AOA PROBE CURRENT SENSING RELAY, TO CONNECTOR D2888 (D1678), PIN 6 (PIN 10), ON THE MISCELLANEOUS ANNUNCIATOR PANEL, M10394.
REPAIR THE PROBLEMS THAT YOU FIND.
EXAMINE CONNECTORS D881D, D883D (D881E,D883E), PIN B5 (PIN A7), ON THE LEFT AND RIGHT EICAS COMPUTERS (WDM 30-32-11,-21).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS AND THE LEFT AND RIGHT ANGLE OF ATTACK PROBE CURRENT SENSING RELAY, K400 (K401), IN THE P33 PANEL.

NO

2 HOLD THE TEST SWITCH (S5) ON PANEL P61 IN THE "WINDOW/PROBE HEAT" POSITION.
DO A CHECK FOR 115V AC AT CONNECTOR D3916 (D468), PIN C1, AT THE LEFT (RIGHT) AOA PROBE CURRENT SENSING RELAY, K400 (K401).
DOES 115V AC SHOW?

YES

21 REPLACE THE LEFT (RIGHT) ANGLE OF ATTACK PROBE CURRENT SENSING RELAY, K400 (K401), IN THE P33 PANEL (WDM 30-32-11, -21).

NO

3 INSTALL THE LEFT (RIGHT) ANGLE OF ATTACK PROBE CURRENT SENSING RELAY, K400 (K401), IN THE P33 PANEL.
HOLD TEST SWITCH, S5, ON THE PANEL P61 IN THE "WINDOW/PROBE HEAT" POSITION.
DO A CHECK FOR 115V AC AT TB196, PIN YC7, FOR THE LEFT AOA (WDM 30-32-11), OR TB90, PIN YC5, FOR THE RIGHT AOA (WDM 30-32-21).
DOES 115V AC SHOW?

NO

22 REPLACE THE AIR/GROUND RELAY, K514 (K517), ON THE P33 PANEL (AMM 32-09-02/201).

YES

23 REPLACE THE BROKEN LEFT (RIGHT) ANGLE OF ATTACK SENSOR, TS12 (TS13) (AMM 34-12-03/401).

AOA Probe Heat Light Illuminated During Probe Heat Test (on Gnd, Engs Off)
Figure 103

159856

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K24,6L17,11A15,11A28

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

AOA PROBE HEAT PROBLEMS (ON GND, ENGS RUNNING)

NOTE: THE AOA PROBE HEAT LIGHT WILL USUALLY STAY ON UNTIL THE N2 SPEED IS GREATER THAN 50 PERCENT.

1 HOLD TEST SWITCH, S5, ON THE PANEL P61 IN THE "WINDOW/ PROBE HEAT" POSITION.
DOES THE "L (R) AOA" LIGHT ON THE OVERHEAD PANEL P5 GO OFF?

YES → 20 REPLACE THE LEFT (RIGHT) PROBE HEAT N2 RELAY, K644 (K646), IN THE P33 PANEL (WDM 30-32-11,-21).

NO ↓

2 RETURN THE TEST SWITCH (S5) TO THE NEUTRAL POSITION.
REMOVE THE LEFT (RIGHT) AOA PROBE CURRENT SENSING RELAY, K400 (K401), FROM THE P33 PANEL (WDM 30-32-11,-21).
PUSH AND HOLD THE CHANNEL 2 TEST SWITCH ON THE N2 SPEED CARD IN THE P50 PANEL TO THE "TEST" POSITION.
DO A CHECK FOR 115V AC AT CONNECTOR D3916 (D468), PIN C1 (WDM 30-32-11,-21).
DOES 115V AC SHOW?

NO → 21 INSTALL THE LEFT (RIGHT) AOA PROBE CURRENT SENSING RELAY, K400 (K401), IN THE P33 PANEL (WDM 30-32-11,-21).
REPLACE THE BROKEN LEFT (RIGHT) ANGLE OF ATTACK SENSOR, TS12 (TS13) (AMM 34-12-03/401).

YES → 22 REPLACE THE LEFT (RIGHT) AOA PROBE CURRENT SENSING RELAY, K400 (K401), IN THE P33 PANEL (WDM 30-32-11,-21).
IF THE PROBLEM CONTINUES, REMOVE THE LEFT (RIGHT) EICAS COMPUTERS, M10181 (M10182) (AMM 31-41-02/401).
EXAMINE THE CIRCUIT THAT FOLLOWS:

- CONNECTOR D3916 (D468), PIN D2, ON THE AOA PROBE CURRENT SENSING RELAY, TO CONNECTOR D2888 (D1678), PIN 6 (PIN 10), ON THE MISCELLANEOUS ANNUNCIATOR PANEL, M10394. ALSO, INCLUDE CONNECTORS D881D, D883D (D881E,D883E), PIN B5 (PIN A7), ON THE LEFT (RIGHT) EICAS COMPUTERS (WDM 30-32-11,-21).

REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS.

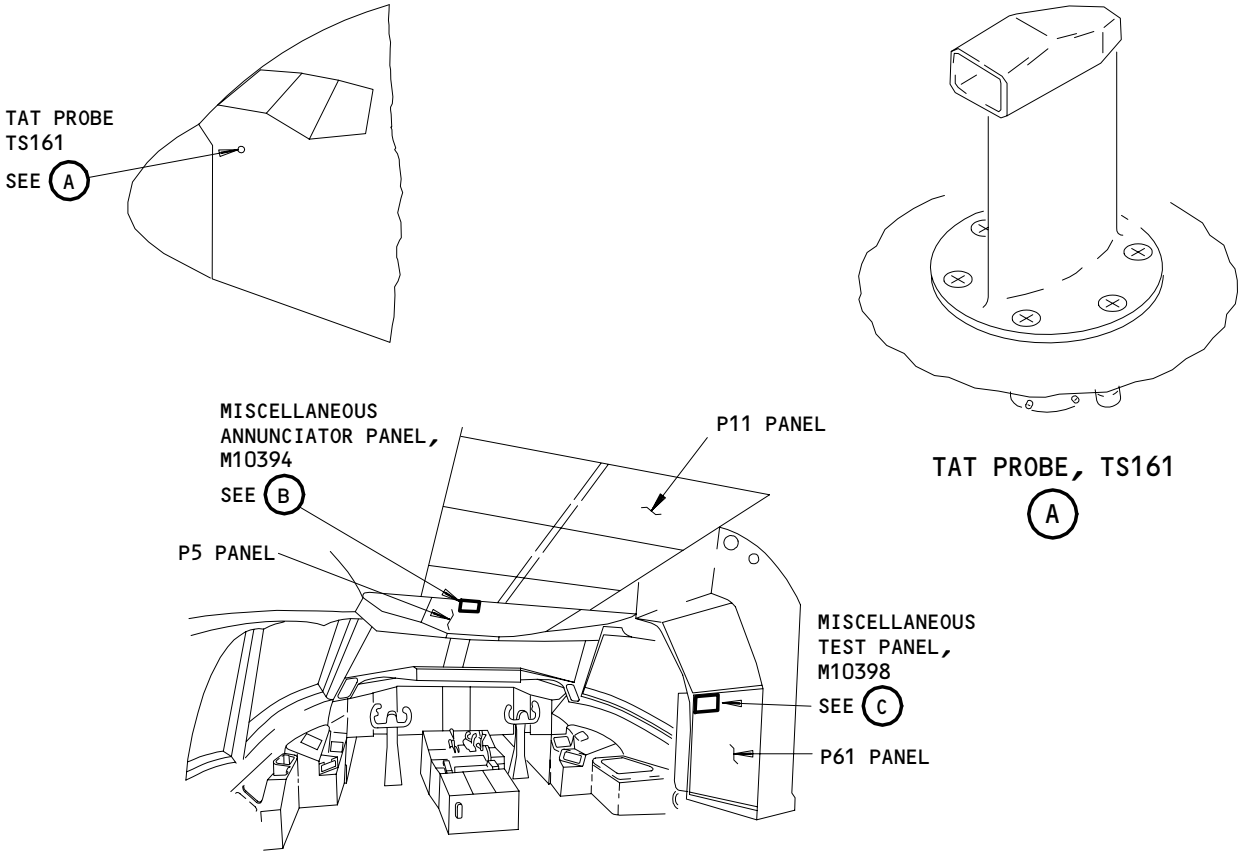
AOA Probe Heat Problems (on Gnd, Engs Running)
Figure 104

TOTAL AIR TEMPERATURE PROBE HEAT

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLIGHT COMPARTMENT, P11	
PROBE HEAT IND LEFT, C1120		1	11A15	*
CIRCUIT BREAKER –			FLIGHT COMPARTMENT, P6	
PROBE HEAT TAT, C1138		1	6L18	*
COMPUTER –				
EICAS LEFT, M10181				
EICAS RIGHT, M10182				
LIGHT – TAT ANNUNCIATOR, L11	1	1	FLIGHT COMPARTMENT, P5, MISCELLANEOUS ANNUNCIATOR PANEL, M10394	
PANEL –				
MISCELLANEOUS TEST, M10398				
PANEL –				
MISCELLANEOUS ANNUN., M10394				
PROBE –				
TAT, TS161				
RELAY –	--		MAIN EQUIP CTR, P33 PANEL	
LEFT PROBE HT N2, K644		1		*
LEFT TAT PROBE CURRENT SENSING, K411		1		*
SYS 1 AIR/GND, K514		1		*
SYS 2 AIR/GND, K517		1		*
SWITCH –				
WINDOW/PROBE HEAT TEST, YEIS5				

* SEE THE WDM EQUIPMENT LIST

Total Air Temperature Probe Heat – Component Index
Figure 101



Total Air Temperature Probe Heat - Component Location
Figure 102

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6L18,11A15

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

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

TAT PROBE HEAT LIGHT ILLUMINATED DURING PROBE HEAT TEST (ON GND, ENGS OFF)

TAT Probe Heat Light Illuminated during Probe Heat Test (on Gnd, Engs Off)
Figure 103 (Sheet 1)

FROM SHEET 1
(BLOCK 1)

NO

2 PUT AND HOLD THE TEST SWITCH ON THE P61 PANEL TO THE "WINDOW/PROBE HEAT" POSITION.
DO A CONTINUITY CHECK FROM TERMINAL XA15 TO TERMINAL XB15 ON TB196 IN THE P33 PANEL (WDM 30-33-11).
IS THERE CONTINUITY?

NO → 21 REPLACE THE SYS NO. 1 AIR/GROUND RELAY, K514, IN THE P33 PANEL (AMM 32-09-02/201).

YES → 22 REPLACE THE LEFT TAT PROBE CURRENT SENSING RELAY, K411, IN THE P33 PANEL (WDM 30-33-11).
IF THE PROBLEM CONTINUES, REMOVE THE LEFT AND RIGHT EICAS COMPUTERS, M10181, M10182 (AMM 31-41-02/401).
EXAMINE THE CIRCUIT THAT FOLLOWS:

- PIN C2 ON THE SYSTEM NO. 2 AIR/GROUND RELAY, K517, CONNECTOR D628, TO PIN 8, ON THE MISCELLANEOUS ANNUNCIATOR PANEL, M10394, CONNECTOR D2888. ALSO, INCLUDE PIN A4 ON THE LEFT AND RIGHT EICAS COMPUTERS, CONNECTORS D881E AND D883E (WDM 30-33-11)

REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS.

Left TAT Probe Heat Light Illuminated during Probe Heat Test (on Gnd, Engs Off)
Figure 103 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6L18,11A15

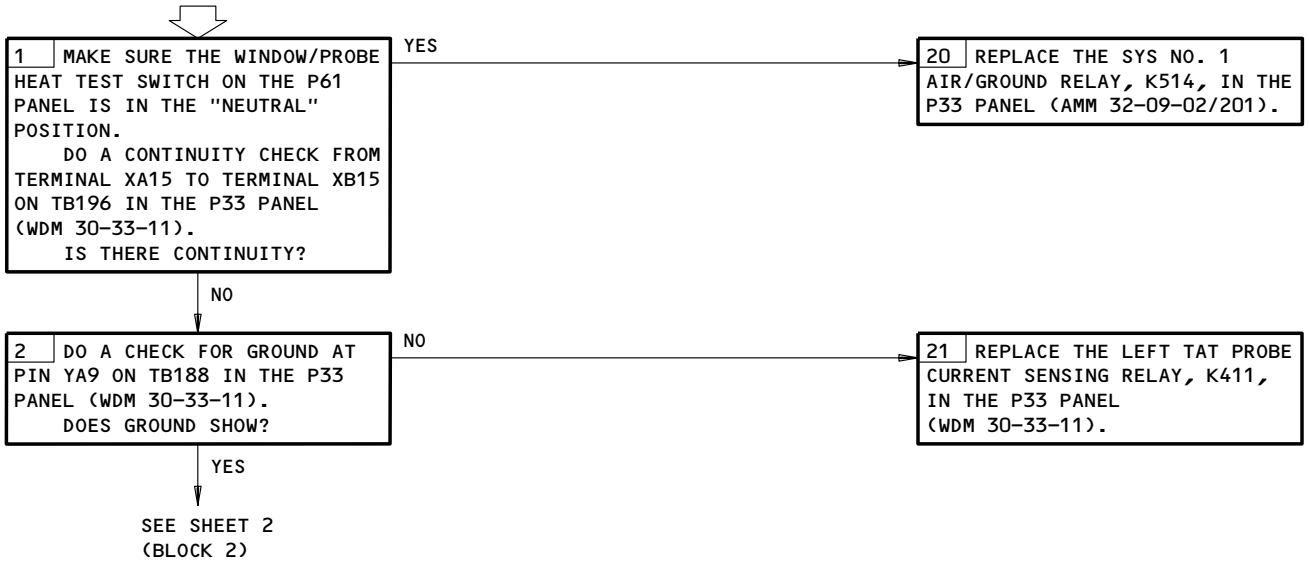
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: LIGHT WILL USUALLY STAY ON UNTIL THE ENGINE N2 SPEED IS GREATER THAN 50%.

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

TAT PROBE HEAT LIGHT ILLUMINATED (ON GND, ENGS RUNNING)



1 FAILURE TO PLACE CHANNEL ONE TEST SWITCH IN NORMAL POSITION WILL PREVENT ENGINE START.

TAT Probe Heat Light Illuminated (on Gnd, Engs Running)
Figure 104 (Sheet 1)

FROM SHEET 1
(BLOCK 2)

YES

3 PUT THE "CH. 1" SWITCH ON THE RIGHT ENGINE SPEED CARD, M1092, ON THE CARD FILE PANEL, P50, TO THE "TEST" POSITION.
DO A CHECK FOR GROUND AT TERMINAL XC15 ON TB196 IN THE P33 PANEL (WDM 30-33-11).
DOES GROUND SHOW?

NO

22 PUT THE "CH. 1" SWITCH ON THE RIGHT ENGINE SPEED CARD, M1092, TO THE "NORMAL" POSITION 1.
REPLACE SYS NO. 2 AIR/GROUND RELAY K517 IN THE P33 PANEL (AMM 32-09-02/201).
IF THE PROBLEM CONTINUES, REMOVE THE LEFT AND RIGHT EICAS COMPUTERS, M10181, M10182 (AMM 31-41-02/401).
EXAMINE THE CIRCUIT THAT FOLLOWS:
- PIN C2 ON THE SYSTEM NO. 2 AIR/GROUND RELAY, K517, CONNECTOR D628, TO PIN 8, ON THE MISCELLANEOUS ANNUNCIATOR PANEL, M10394, CONNECTOR D2888. ALSO, INCLUDE PIN A4 ON THE LEFT AND RIGHT EICAS COMPUTERS, CONNECTORS D881E AND D883E (WDM 30-33-11).

REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS (AMM 31-41-02/401).

YES

23 PUT THE "CH. 1" SWITCH ON THE RIGHT ENGINE SPEED CARD, M1092, TO THE "NORMAL" POSITION 1. REPLACE THE LEFT PROBE HEAT N2 RELAY, K644 IN THE P33 PANEL (WDM 30-33-11).

TAT Probe Heat Light Illuminated (on Gnd, Engs Running)
Figure 104 (Sheet 2)

PREREQUISITES

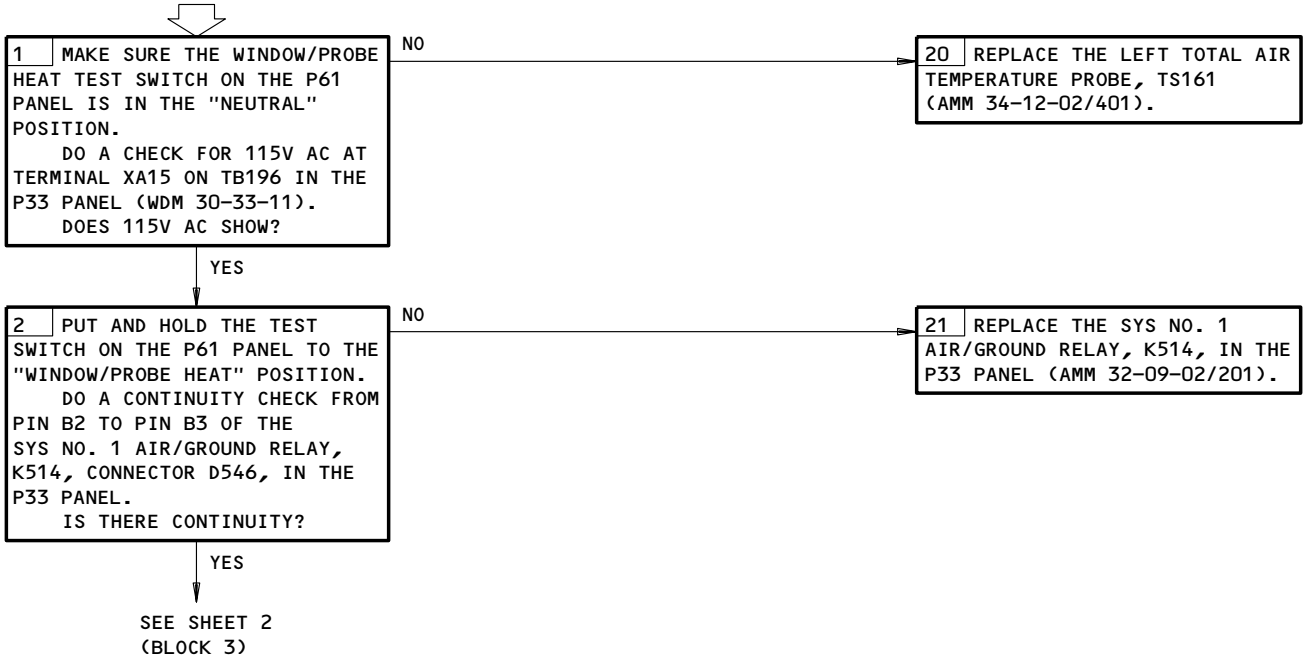
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6L18,11A15

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

WARNING: YOU MUST BE VERY CAREFUL WHEN YOU DO MAINTENANCE IN THE ELECTRICAL PANEL WITH POWER ON. DO NOT TOUCH EXPOSED TERMINALS OR CROSS-CONNECT WIRES IN THE PANEL. DO NOT PERMIT TOOLS TO FALL IN THE PANEL. INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: REMOVE THE POWER THAT GOES TO, AND THRU A RELAY BEFORE YOU REMOVE OR INSTALL IT. DAMAGE TO THE RELAY OR SYSTEM CAN OCCUR.

TAT PROBE HEAT LIGHT ILLUMINATED (IN FLIGHT)



TAT Probe Heat Light Illuminated (in Flight)
Figure 105 (Sheet 1)

FROM SHEET 1
(BLOCK 2)

YES

3 PUT AND HOLD THE TEST SWITCH ON THE P61 PANEL TO THE "WINDOW/PROBE HEAT" POSITION.
DO A CHECK FOR GROUND AT TERMINAL YA9 ON TB188 IN THE P33 PANEL (WDM 30-33-11).
DOES GROUND SHOW?

YES → 22 REPLACE THE LEFT TAT PROBE CURRENT SENSING RELAY, K411, IN THE P33 PANEL (WDM 30-33-11).

NO → 23 REPLACE THE SYS NO. 2 AIR/GROUND RELAY, K517, IN THE P33 PANEL (AMM 32-09-02/201).
IF THE PROBLEM CONTINUES, REMOVE THE LEFT AND RIGHT EICAS COMPUTERS, M10181, M10182 (AMM 31-41-02/401).
EXAMINE THE CIRCUIT THAT FOLLOWS:

- PIN C2 ON THE SYSTEM NO. 2 AIR/GROUND RELAY, K517, CONNECTOR D628, TO PIN 8, ON THE MISCELLANEOUS ANNUNCIATOR PANEL, M10394, CONNECTOR D2888. ALSO, INCLUDE PIN A4 ON THE LEFT AND RIGHT EICAS COMPUTERS, CONNECTORS D881E AND D883E (WDM 30-33-11).

REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTERS (AMM 31-41-02/401).

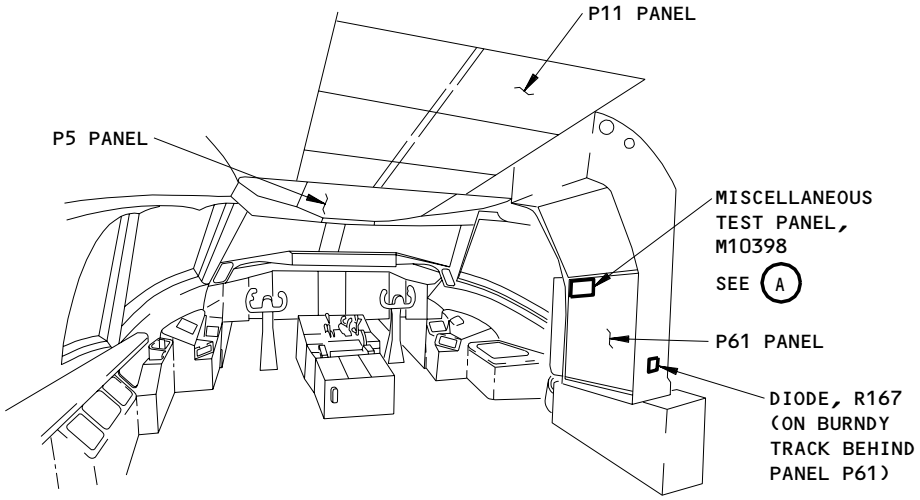
TAT Probe Heat Light Illuminated (in Flight)
Figure 105 (Sheet 2)

ENGINE PROBE HEAT

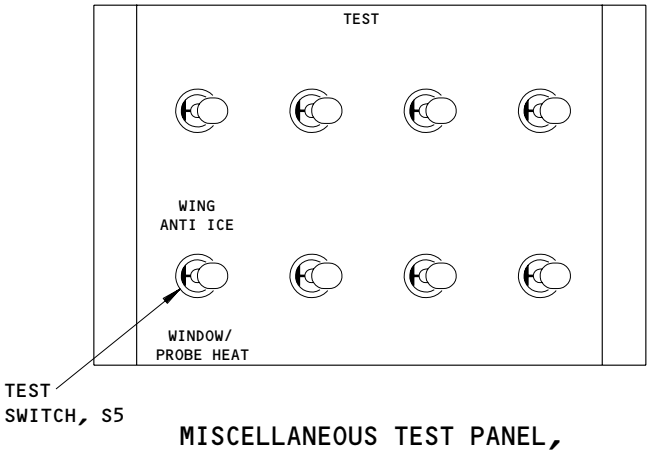
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CARD – (FIM 73-21-00/101)				
LEFT N2 ENGINE SPEED, M1093				
RIGHT N2 ENGINE SPEED, M1092				
CIRCUIT BREAKER –	1		FLT COMPT, P6	
PROBE HEAT L ENG, C1122		1	6L19	*
PROBE HEAT R ENG, C1123		1	6K25	*
CIRCUIT BREAKER –	1		FLT COMPT, P11	
L ENG EEC DISCRETES, C1404		1	11D17	*
R ENG EEC DISCRETES, C1405		1	11M32	*
PROBE HT IND L, C1120		1	11A15	*
PROBE HT IND R, C1121		1	11A28	*
CIRCUIT BREAKER –	1		FLT COMPT, P34	
EEC GND TEST-L, C1422		1	34P2	*
EEC GND TEST-R, C1423		1	34P3	*
COMPUTER – (FIM 22-31-00/101)				
L THRUST MGMT, M183				
COMPUTER – (FIM 31-41-00/101)				
EICAS L, M10181				
EICAS R, M10182				
DIODE –				
R167	3	1	FLT COMPT, P61	*
DIODE – (FIM 31-01-33/101)				
R166				
R172				
R173				
PANEL – (FIM 28-43-00/101)				
MISCELLANEOUS TEST, M10398				
PANEL – (FIM 30-31-00/101)				
MISC ANNUNCIATOR, M10394				
PROBE – (FIM 73-21-00/101)				
ENG EEC PT2/TT2, T867				
RELAY –	--		MAIN EQUIP CTR, P33 PANEL	
L ENG PROBE CURRENT SENSING, K402		1		*
R ENG PROBE CURRENT SENSING, K403		1		*
PROBE HT L N2, K648		1		*
PROBE HT R N2, K670		1		*
SYS 1 AIR/GND, K514		1		*
SYS 1 AIR/GND, K516		1		*
SYS 2 AIR/GND, K517		1		*
SYS 2 AIR/GND, K528		1		*
RESISTOR –	--		MAIN EQUIP CTR, P33 PANEL	
R552		1		*
SWITCH – (FIM 30-31-00/101)				
WINDOW/PROBE HEAT TEST, YEIS5				

* SEE THE WDM EQUIPMENT LIST

Engine Probe Heat – Component Index
Figure 101



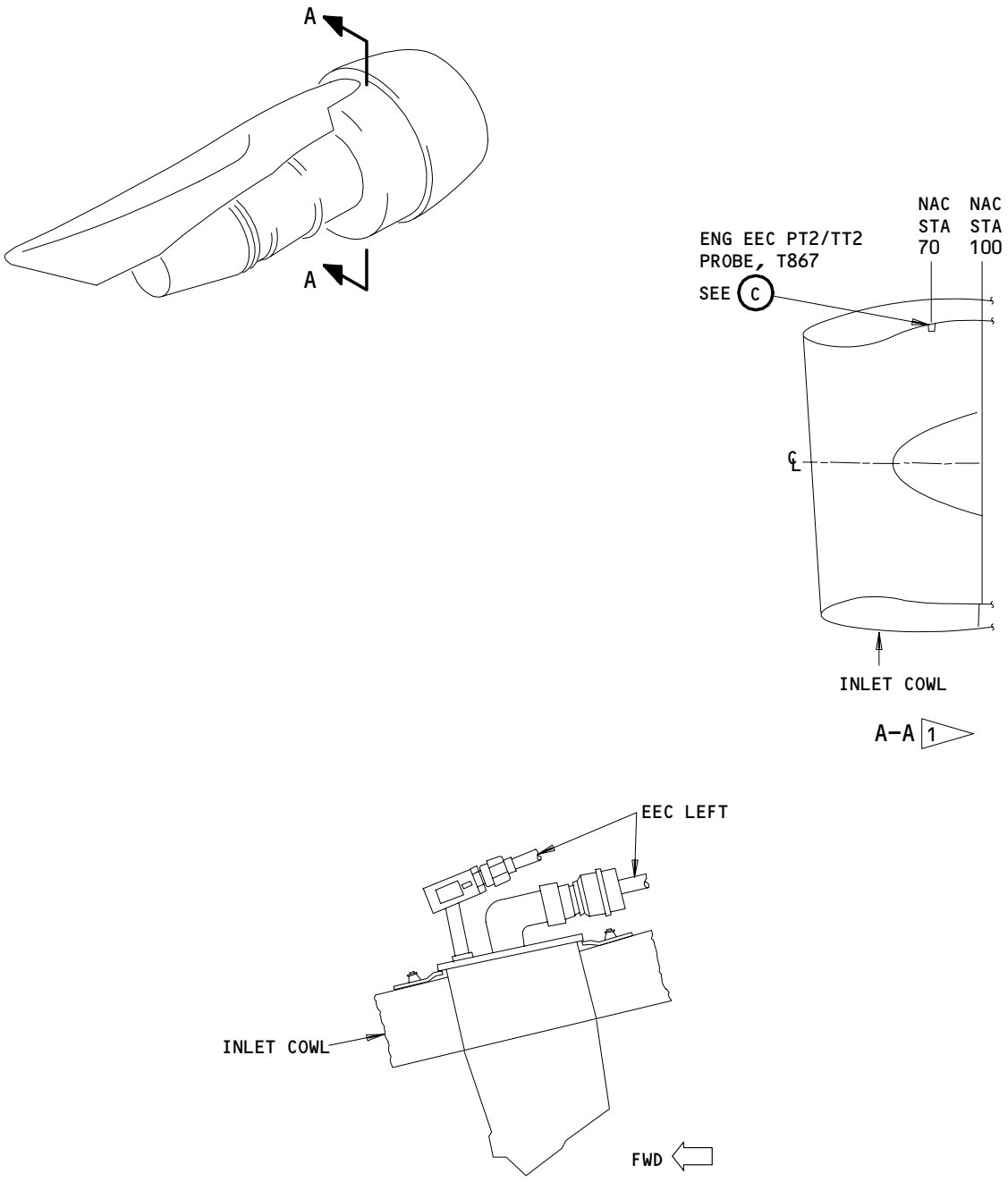
FLIGHT COMPARTMENT



MISCELLANEOUS TEST PANEL,
M10398
A

NOT USED
B

Engine Probe Heat - Component Location
Figure 102 (Sheet 1)



ENG EEC PT2/TT2 PROBE, T867 (EXAMPLE)

C

1 PROBES AT THIS LOCATION HAVE HEATING PROVISIONS

Engine Probe Heat - Component Location
Figure 102 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6K25, 6L19, 7G23, 7G24, 11A15, 11A28

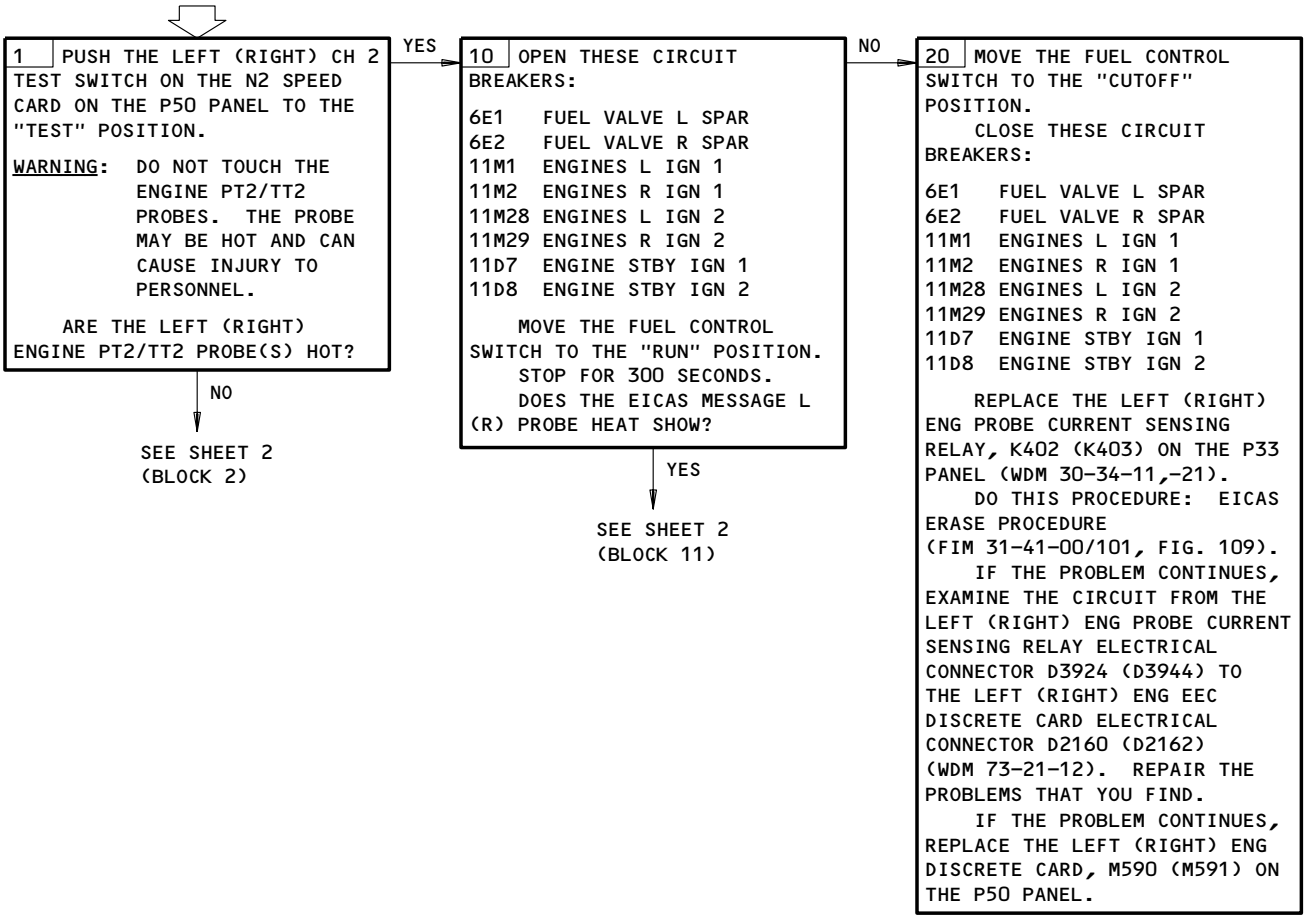
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
NO. 1 HYDRAULIC POWER IS ON (AMM 29-11-00/201)

CAUTION: CONTINUOUS POWER IN AIR THAT DOES NOT MOVE CAN CAUSE DAMAGE TO THE PT2/TT2 PROBE.

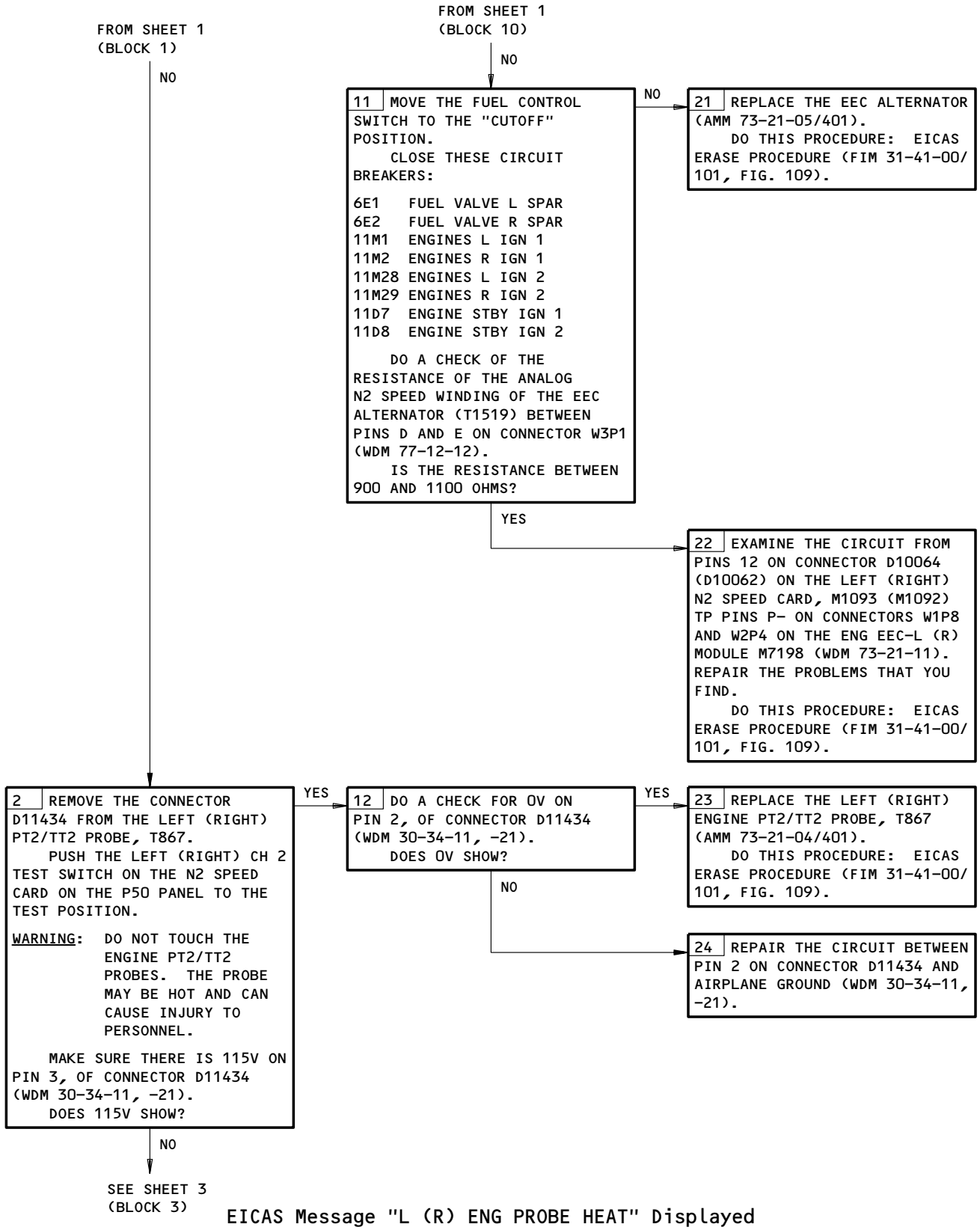
YOU CAN HOLD THE "N2 SPEED CARD-CHAN 2" TEST SWITCH IN THE "TEST" POSITION FOR A MAXIMUM OF 30 SECONDS - "OFF" POSITION FOR 5 MINUTES TO PERMIT THE PROBE TO COOL.

EICAS MESSAGE "L (R) ENG PROBE HEAT" DISPLAYED

NOTE: ENGINE(S) MUST OPERATE AT N2 GREATER THAN 50% TO GET PROBE HEAT. THE TEST SWITCH ON THE N2 SPEED CARD MAKES THE PROBE HEAT CONDITION.



EICAS Message "L (R) ENG PROBE HEAT" Displayed
Figure 103 (Sheet 1)



EICAS Message "L (R) ENG PROBE HEAT" Displayed
Figure 103 (Sheet 2)

FROM SHEET 2
(BLOCK 2)

NO

3 CONNECT THE ELECTRICAL CONNECTOR D11434, TO THE PROBE, T867.
REMOVE THE CONNECTOR D10230 (D10232) FROM THE PROBE HT L (R) RELAY, K648 (K670).
PUSH THE LEFT (RIGHT) CH 2 TEST SWITCH ON THE N2 SPEED CARD ON THE P50 PANEL TO THE TEST POSITION.

WARNING: DO NOT TOUCH THE ENGINE PT2/TT2 PROBES. THE PROBE MAY BE HOT AND CAN CAUSE INJURY TO PERSONNEL.

MAKE SURE THERE IS 0V ON PIN X3, OF CONNECTOR D10230 (D10232)(WDM 30-34-11, -21).
DOES 0V SHOW?

NO

25 REPLACE THE LEFT (RIGHT) N2 ENGINE SPEED CARD, M1093 (M1092)(AMM 77-12-01/401).
IF THE PROBLEM CONTINUES, REPAIR THE CIRCUIT FROM PIN X2, ON CONNECTOR D10230 (D10232) TO PIN 32 ON CONNECTOR D10064 (D10062) (WDM 30-34-11, -21).
IF THE PROBLEM CONTINUES, REPAIR THE CIRCUIT BETWEEN PIN 62 ON CONNECTOR D10064 (D10062) AND AIRPLANE GROUND (WDM 30-34-11,-21).

YES

4 MAKE SURE THERE IS 28V ON PIN X1, OF CONNECTOR D10230 (D10232) ON THE PROBE HEAT L (R) N2 RELAY, K648 (K670).
DOES 28V SHOW?

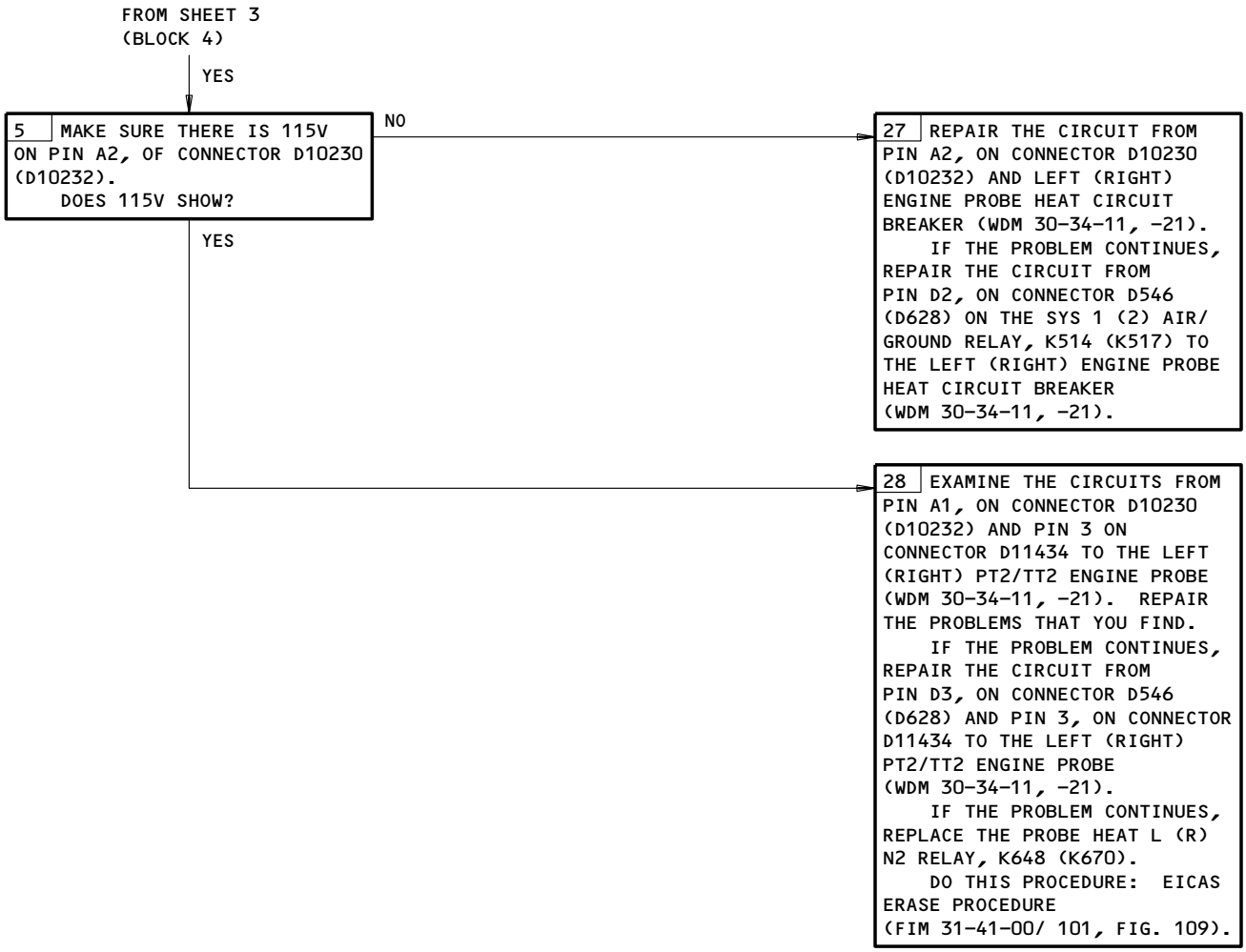
NO

26 REPAIR THE CIRCUIT FROM PIN X1, ON CONNECTOR D10230 (D10232) TO LEFT (RIGHT) PROBE HEAT IND CIRCUIT BREAKER C1120 (C1121)(WDM 30-31-11, -21; 30-34-11, -21).
IF THE PROBLEM CONTINUES, REPAIR THE CIRCUIT FROM PIN X1, ON CONNECTOR D3924 (D3946)ON THE LEFT (RIGHT) ENGINE PROBE CURRENT SENSING RELAY, K402 (K403) AND THE LEFT (RIGHT) PROBE HEAT IND CIRCUITBREAKER C1120 (C1121) (WDM 30-31-11, -21; 30-34-11, -21).

YES

SEE SHEET 4
(BLOCK 5)

EICAS Message "L (R) ENG PROBE HEAT" Displayed
Figure 103 (Sheet 3)



EICAS Message "L (R) ENG PROBE HEAT" Displayed
Figure 103 (Sheet 4)

Not Used
Figure 104

Not Used
Figure 105

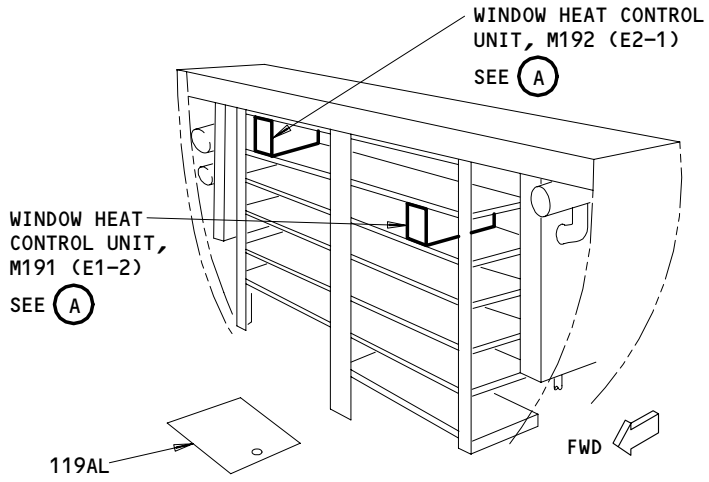
FLIGHT COMPARTMENT WINDOW ANTI-ICING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -			FLT COMPT, P11	
WINDOW HEAT TEST, C1128		1	11T15	*
CIRCUIT BREAKER -			119AL, MAIN EQUIP CTR, P36	
ICE/RAIN WINDOW HEAT 1L, C391		1	1 > 36H4 OR 36L5	*
ICE/RAIN WINDOW HEAT 2R, C1125		1	1 > 36H2 OR 36H6	*
ICE/RAIN WINDOW HEAT 3R, C1127		1	1 > 36H1 OR 36H7	*
CIRCUIT BREAKER -			119AL, MAIN EQUIP CTR, P37	
ICE/RAIN WINDOW HEAT 1R, C392		1	1 > 37D2 OR 37F4	*
ICE/RAIN WINDOW HEAT 2L, C1124		1	1 > 37E1 OR 37H7	*
ICE/RAIN WINDOW HEAT 3L, C1126		1	1 > 37E2 OR 37H6	*
COMPUTER -				
EICAS L, M10181				
EICAS R, M10182				
PANEL - MISCELLANEOUS TEST, M10398				
PANEL - WINDOW HEAT CONTROL, M10395	--	1	FLT COMPT, P5	30-41-02
SWITCH - L FWD CONTROL, S3	--	1	FLT COMPT, P5, WINDOW HEAT CONTROL PANEL, M10395	*
SWITCH - L SIDE CONTROL, S4	--	1	FLT COMPT, P5, WINDOW HEAT CONTROL PANEL, M10395	*
SWITCH - R FWD CONTROL, S2	--	1	FLT COMPT, P5, WINDOW HEAT CONTROL PANEL, M10395	*
SWITCH - R SIDE CONTROL, S1	--	1	FLT COMPT, P5, WINDOW HEAT CONTROL PANEL, M10395	*
SWITCH - WINDOW/PROBE HEAT, S5	--	1	FLT COMPT, P5, WINDOW HEAT CONTROL PANEL, M10395	*
UNIT - LEFT FWD AND RIGHT SIDE WINDOW HEAT CONTROL, M191	--	1	119AL, MAIN EQUIP CTR, E1-2	30-41-01
UNIT - RIGHT FWD AND LEFT SIDE WINDOW HEAT CONTROL, M192	--	1	119AL, MAIN EQUIP CTR, E2-2	30-41-01

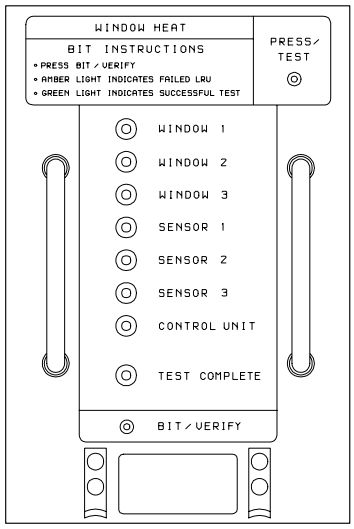
* SEE THE WDM EQUIPMENT LIST

1 > THIS CIRCUIT BREAKER CAN BE IN ONE OF TWO LOCATIONS

Flight Compartment Window Anti-Icing - Component Index
Figure 101

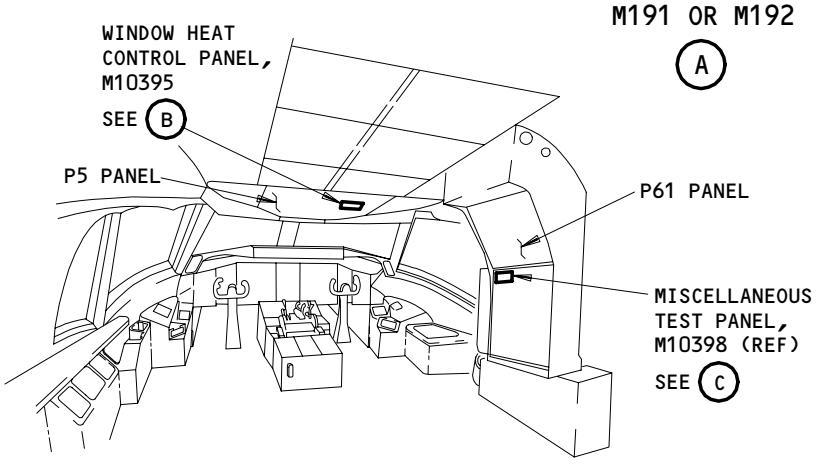


MAIN EQUIPMENT CENTER

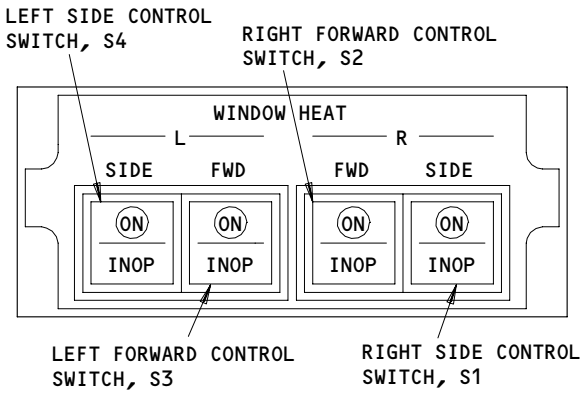


WINDOW HEAT CONTROL UNIT, M191 OR M192

A

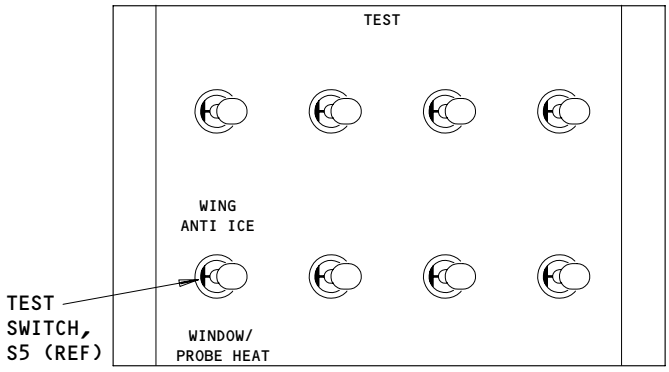


FLIGHT COMPARTMENT



WINDOW HEAT CONTROL PANEL, M10395

B



MISCELLANEOUS TEST PANEL, M10398 (REF)

C

Flight Compartment Window Anti-Icing - Component Location
Figure 102

PREREQUISITES

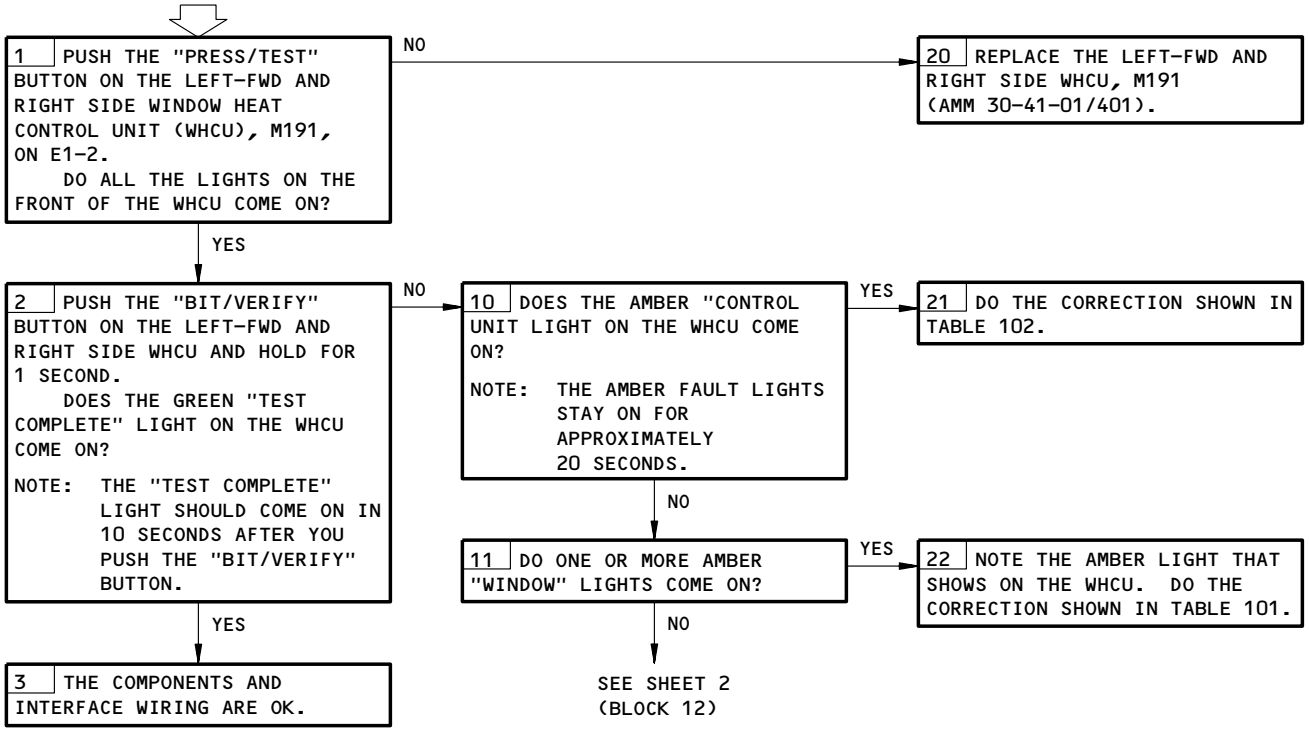
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11T15; A 36H4 OR 36L5; B 36H2 OR 36H6;
C 36H1 OR 36H7

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

CAUTION: D SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN OR LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS.

TIGHTEN THE SCREWS ON THE POWER TERMINAL TO 25-30 POUND-INCHES. TIGHTEN THE SCREWS ON THE SENSOR TERMINALS TO 12-15 POUND-INCHES. TOO MUCH TORQUE CAN CAUSE THE TERMINALS TO BREAK AWAY FROM THE WINDOW.

LEFT FWD OR RIGHT SIDE WINDOW ANTI-ICING BITE PROCEDURE



NOTE: BITE DOES A TEST OF THESE SYSTEM COMPONENTS:
- WINDOWS
- TEMPERATURE SENSORS
- WINDOW HEAT CONTROL UNIT

BITE DOES NOT DO A TEST OF THIS SYSTEM COMPONENT:
- WINDOW HEAT CONTROL PANEL

A THE "ICE/RAIN WINDOW HEAT 1L" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

B THE "ICE/RAIN WINDOW HEAT 2R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS

C THE "ICE/RAIN WINDOW HEAT 3R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

D AIRPLANES PRE-SB 30-39

Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 1)

FROM SHEET 1
(BLOCK 11)

NO

12 SEE IF THE WIRING FROM THE WHCU IS CONNECTED TO THE MAIN OR SPARE SENSOR FOR THE APPLICABLE AMBER "SENSOR" LIGHT. SEE TABLE 103.
IS THE MAIN SENSOR WIRED TO THE WHCU?

YES

23 IF THIS IS THE FIRST FAILURE OF THE MAIN SENSOR, DO THE STEPS THAT FOLLOW. IF THIS FAILURE IS NOT THE FIRST, DO THE STEPS IN BLOCK 14.
DISCONNECT THE WIRES FROM THE WHCU TO THE MAIN SENSOR. CONNECT THE WIRES TO THE SPARE SENSOR, AS APPLICABLE.

NOTE: MATCH THE WIRE COLORS AT THE TERMINAL BLOCKS.

THE SYSTEM WILL OPERATE, BUT THE SENSOR OR WIRING IS BAD.

REPAIR WHEN CONVENIENT.

NO

13 DISCONNECT THE SPARE SENSOR WIRING AT THE WINDOW:
- LEFT #1 WINDOW – D1898
- RIGHT #2 WINDOW – D1902
- RIGHT #3 WINDOW – D1908

MEASURE THE SENSOR RESISTANCE.
IS THE RESISTANCE BETWEEN 165 AND 375 OHMS?

YES

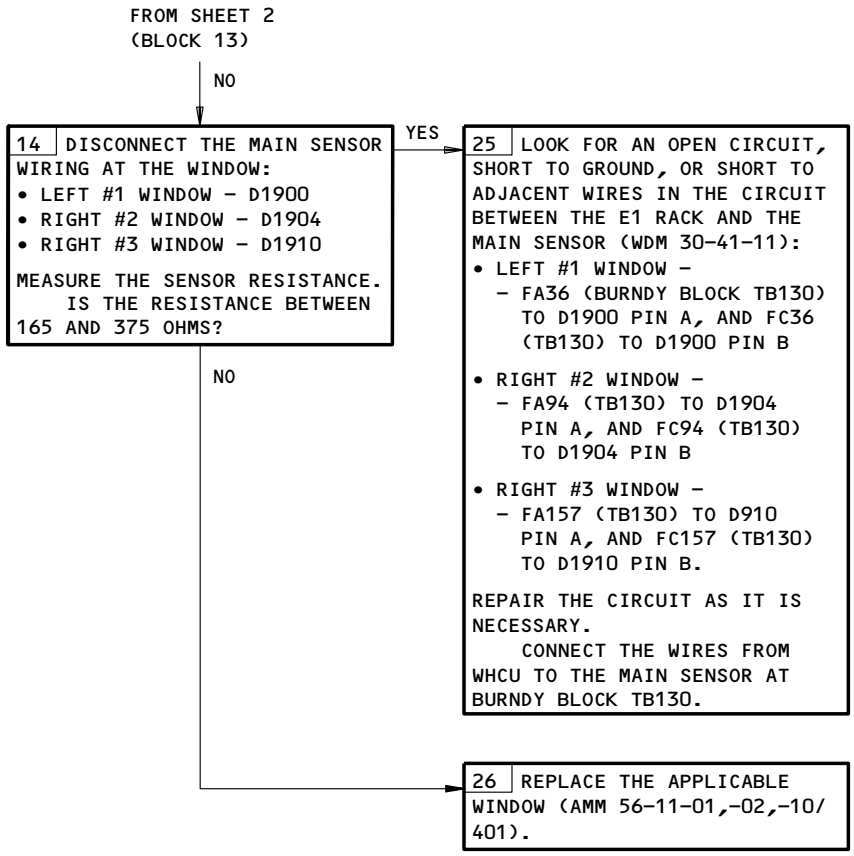
24 LOOK FOR AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRES IN THE CIRCUIT BETWEEN THE WHCU AND SPARE SENSOR (WDM 30-41-11):
- LEFT #1 WINDOW
  - D2916A PIN 19 (WHCU) TO D1898 PIN A, AND D2916A PIN 20 (WHCU) TO D1898 PIN B
- RIGHT #2 WINDOW
  - D2916A PIN 13 (WHCU) TO D1902 PIN A, AND D2916A PIN 14 (WHCU) TO D1902 PIN B
- RIGHT #3 WINDOW
  - D2916A PIN 17 (WHCU) TO D1908 PIN A, AND D2916A PIN 18 (WHCU) TO D1908 PIN B

REPAIR THE CIRCUIT AS IT IS NECESSARY.

NO

SEE SHEET 3
(BLOCK 14)

Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 2)



Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 3)

LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
WINDOW 1	CAUTION: (D) SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE CORRECT SCREW TORQUES. 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-11): COMPONENT / PIN / COMPONENT / PIN L FWD & R SIDE WHCU (M191) / D2916B PIN 4 / L #1 WINDOW / D1656 OR D1658 L FWD & R SIDE WHCU (M191) / D2916B PIN 5 / L #1 WINDOW / D1660 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE LEFT FORWARD AND RIGHT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE LEFT #1 WINDOW (AMM 56-11-01/401).
WINDOW 2	CAUTION: (D) SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE CORRECT SCREW TORQUES. 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-11): COMPONENT / PIN / COMPONENT / PIN L FWD & R SIDE WHCU (M191) / D2916A PIN 11 / R #2 WINDOW / D1906 PIN C R #2 WINDOW / D1906 PIN D / GROUND / --- 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE LEFT FORWARD AND RIGHT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE RIGHT #2 WINDOW (AMM 56-11-02/401).

TABLE 101

Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 4)

LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
WINDOW 3	CAUTION: SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE CORRECT SCREW TORQUES. (D) 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-11): COMPONENT / PIN / COMPONENT / PIN L FWD & R SIDE WHCU (M191) / D2916A PIN 16 / R #3 WINDOW / D1662 R #3 WINDOW / D892 / GROUND / --- 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE LEFT FORWARD AND RIGHT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE RIGHT #3 WINDOW (AMM 56-11-10/401).

TABLE 101

Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 5)

WINDOW HEAT ELEMENT RESISTANCE TEST

LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
CONTROL UNIT	1. REMOVE THE PROTECTIVE CAPS FROM THE ELECTRICAL CONNECTORS FOR THE APPLICABLE FLIGHT COMPARTMENT WINDOW. DO A TEST OF THE WINDOW HEAT RESISTANCE BETWEEN THESE POINTS (WDM 30-41-11). NOTE: YOU CAN DO THE RESISTANCE CHECKS DIRECTLY TO THE SCREWS ON THE CONNECTORS: D

WINDOW	MEASURE RESISTANCE BETWEEN		RESISTANCE RANGE (OHM)	
	POINT 1	POINT 2	MIN	MAX
1L	PIN 1 OF J4, CONN D1658	PIN 1 OF J5, CONN D1660	9.12	11.15
1L (OPTIONAL)	PIN 1 OF J1, CONN D1656	PIN 1 OF J5, CONN D1660	9.12	11.15
2R 1	PIN C OF J8, CONN D1906	PIN D OF J8, CONN D1906	17.43	23.59
2R 2	PIN C OF J8, CONN D1906	PIN D OF J8, CONN D1906	16.60	20.28
3R	PIN 1 OF J9, CONN D1662	PIN 1 OF J12, CONN D892	19.48	26.35

2. IF THE WINDOW HEAT RESISTANCE FOR A WINDOW IS NOT IN THE SPECIFIED RESISTANCE RANGE, REPLACE THE WINDOW 3. OTHERWISE, REPLACE THE LEFT FWD AND RIGHT SIDE WHCU, M191 (AMM 30-41-01/401).

WARNING: MAKE SURE ALL THE ELECTRICAL CONNECTORS ON THE WINDOW TERMINAL HAVE PROTECTIVE COVERS. OPEN ELECTRICAL CONNECTORS ARE AT HIGH VOLTAGE POTENTIALS AND CAN CAUSE INJURY.

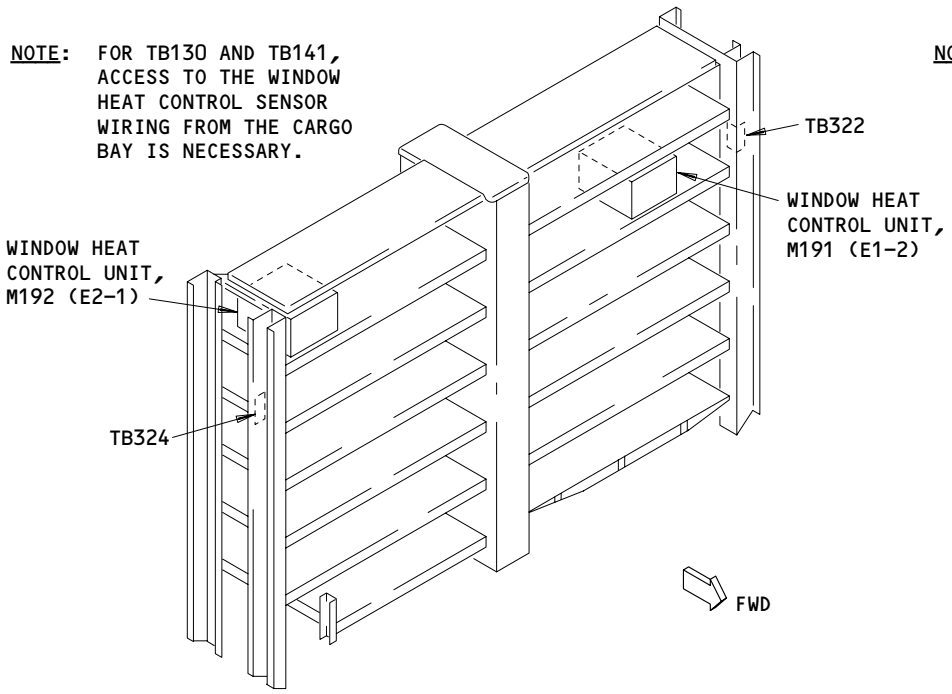
3. MAKE SURE THE PROTECTIVE COVERS ARE INSTALLED ON ALL THE WINDOW TERMINAL ELECTRICAL CONNECTORS. REPLACE COVERS THAT ARE NOT THERE.

TABLE 102

1 ACRYLIC WINDOWS
2 GLASS WINDOWS
3 NO. 1L (AMM 56-11-01/401)
NO. 2R (AMM 56-11-02/401)
NO. 3R (AMM 56-11-10/401)

Troubleshooting Chart
Figure 103 (Sheet 6)

NOTE: FOR TB130 AND TB141, ACCESS TO THE WINDOW HEAT CONTROL SENSOR WIRING FROM THE CARGO BAY IS NECESSARY.



NOTE: SOME AIRPLANES HAVE THE SENSOR WIRES INSTALLED AT TERMINAL BLOCK TB130. OTHER AIRPLANES WILL HAVE TB322 INSTALLED, AND THE SENSOR WIRES INSTALLED THERE. LOOK FOR TB322 TO FIND WHICH CONFIGURATION YOU HAVE.

MAIN EQUIPMENT CENTER

TABLE 103

MAIN AND SPARE SENSOR WIRE CONNECTIONS

SENSOR	WIRE NO.	MAIN PIN NO.	SPARE PIN NO.
SENSOR 1 - 4 LEFT NO. 1 WINDOW	205B-24 205R-24	FA36 FC36	FA34 FC34
SENSOR 2 - 4 RIGHT NO. 2 WINDOW	204B-24 204R-24	FA94 FC94	FA93 FC93
SENSOR 3 - 4 RIGHT NO. 3 WINDOW	203B-24 203R-24	FA157 FC157	FA156 FC156
SENSOR 1 - 5 LEFT NO. 1 WINDOW	214B-24 214R-24	FA6 FC6	FA5 FC5
SENSOR 2 - 5 RIGHT NO. 2 WINDOW	213B-24 213R-24	FA4 FC4	FA3 FC3
SENSOR 3 - 5 RIGHT NO. 3 WINDOW	212B-24 212R-24	FA2 FC2	FA1 FC1

4 AIRPLANES WITHOUT TERMINAL BLOCK TB322 (SENSOR WIRES AT TB130)

5 AIRPLANES WITH TERMINAL BLOCK TB322

Left Fwd or Right Side Window Anti-Icing BITE Procedure
Figure 103 (Sheet 7)

A60869

PREREQUISITES

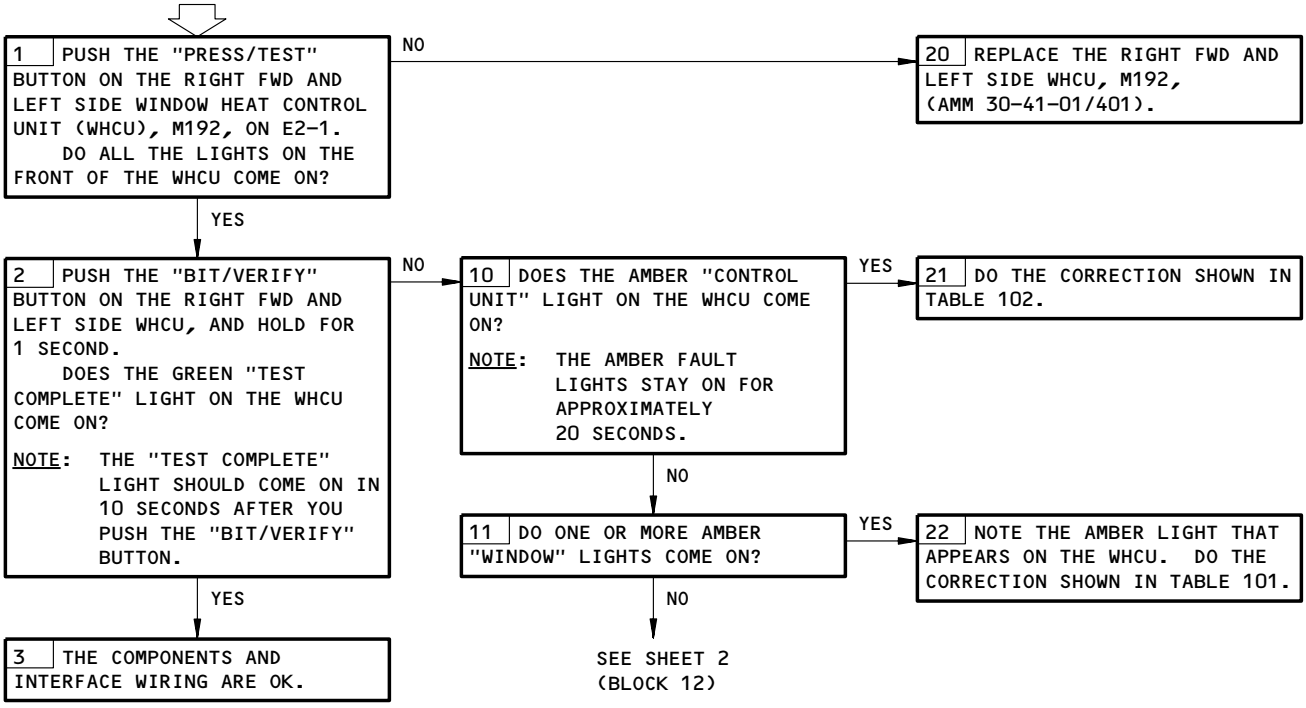
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11T15; A 37D2 OR 37F4; B 37E1 OR 37H7;
C 37E2 OR 37H6

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

CAUTION: D SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN OR LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS.

TIGHTEN THE SCREWS ON THE POWER TERMINAL TO 25-30 POUND-INCHES. TIGHTEN THE SCREWS ON THE SENSOR TERMINALS TO 12-15 POUND-INCHES. TOO MUCH TORQUE CAN CAUSE THE TERMINALS TO BREAK AWAY FROM THE WINDOW.

RIGHT FWD OR LEFT SIDE WINDOW ANTI-ICING BITE PROCEDURE



NOTE: BITE DOES A TEST OF THESE SYSTEM COMPONENTS:
- WINDOWS
- TEMPERATURE SENSORS
- WINDOW HEAT CONTROL UNIT

BITE DOES NOT DO A TEST OF THIS SYSTEM COMPONENT:
- WINDOW HEAT CONTROL PANEL

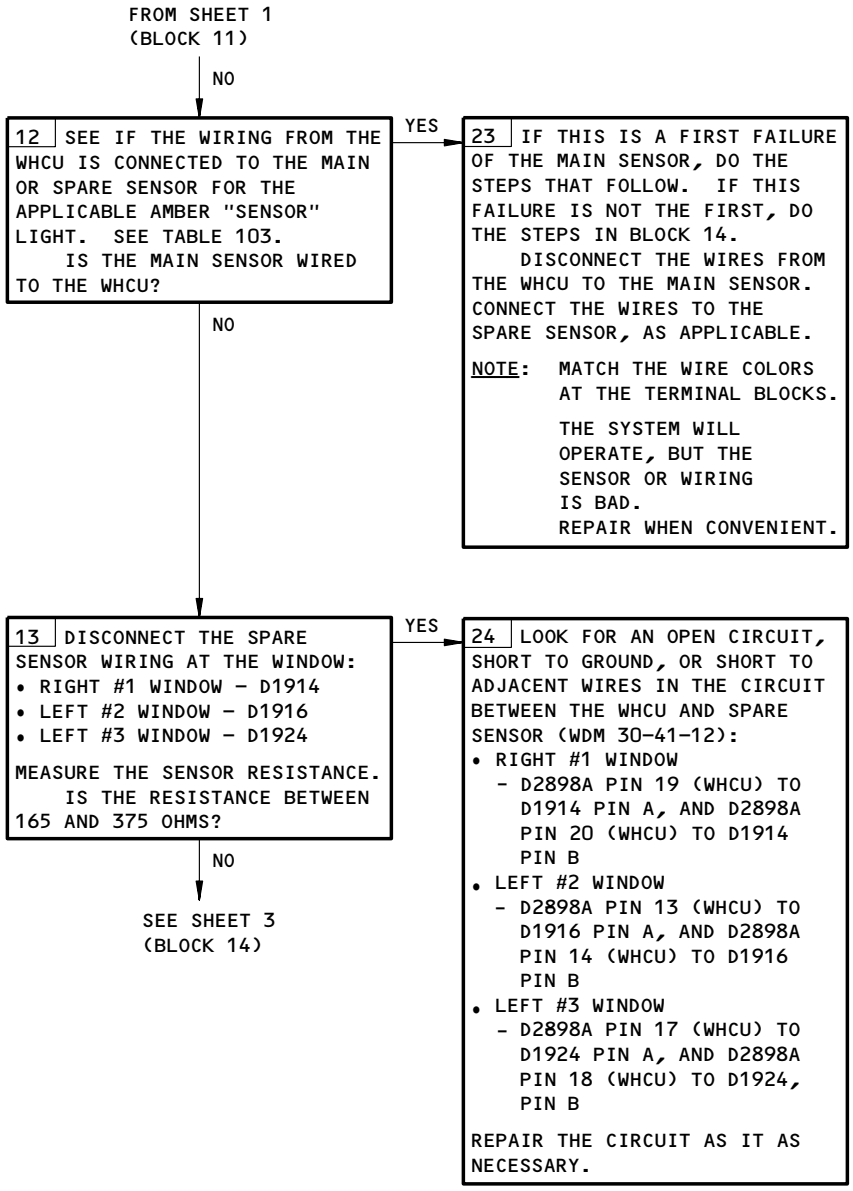
A THE "ICE/RAIN WINDOW HEAT 1L" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

B THE "ICE/RAIN WINDOW HEAT 2R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS

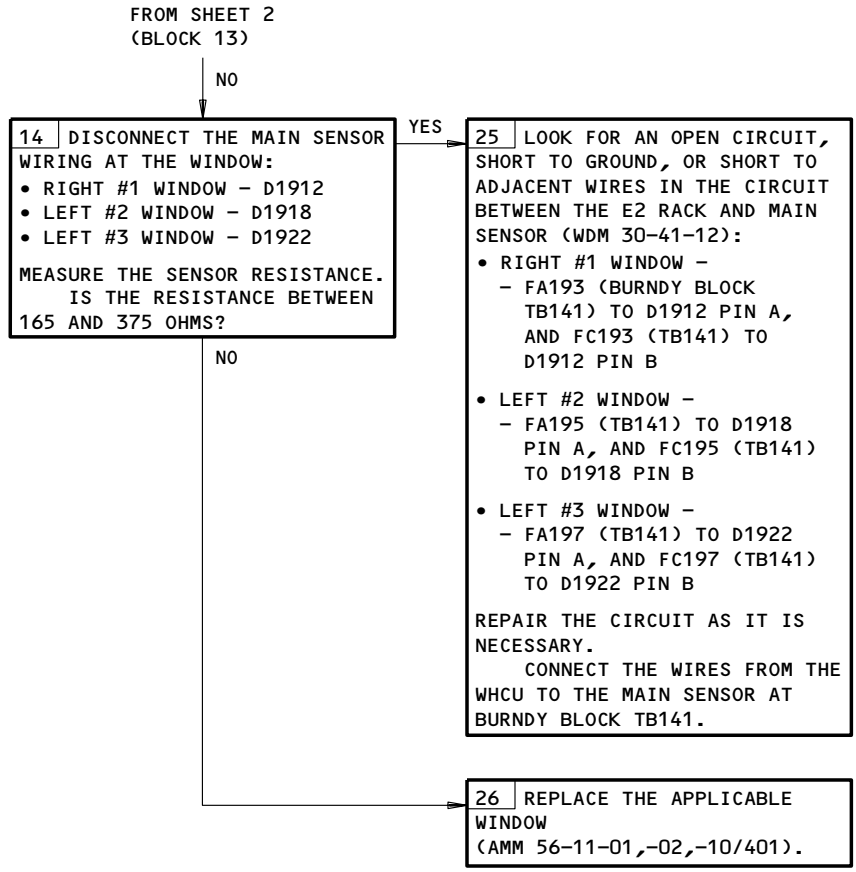
C THE "ICE/RAIN WINDOW HEAT 3R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

D AIRPLANES PRE-SB 30-39

Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 1)



Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 2)



Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 3)

LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
WINDOW 1	CAUTION: SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE SCREW TORQUE VALUES. (D) 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-12): COMPONENT / PIN / COMPONENT / PIN R FWD & L SIDE WHCU (M192) / D2898B PIN 4 / R #1 WINDOW / D1666 R FWD & L SIDE WHCU (M192) / D2898B PIN 4 / R #1 WINDOW / D1668 R FWD & L SIDE WHCU (M192) / D2898B PIN 5 / R #1 WINDOW / D1670 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE RIGHT FORWARD AND LEFT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE RIGHT #1 WINDOW (AMM 56-11-01/401).
WINDOW 2	CAUTION: SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE SCREW TORQUE VALUES. (D) 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-12): COMPONENT / PIN / COMPONENT / PIN R FWD & L SIDE WHCU (M192) / D2898A PIN 11 / L #2 WINDOW / D1920 PIN C L #2 WINDOW / D1920 PIN D / GROUND / --- 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE RIGHT FORWARD AND LEFT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE LEFT #2 WINDOW (AMM 56-11-02/401).

TABLE 101

Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 4)

LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
WINDOW 3	CAUTION: SUPPORT THE WINDOW HEAT TERMINAL BLOCKS WHEN YOU TIGHTEN AND LOOSEN THE SCREWS. SUPPORT PREVENTS DAMAGE TO THE TERMINALS ON THE WINDOWS. SEE SHEET 1 FOR THE SCREW TORQUE VALUES. (D) 1) CORRECT AN OPEN CIRCUIT, SHORT TO GROUND, OR SHORT TO ADJACENT WIRING BETWEEN THESE POINTS (WDM 30-41-12): COMPONENT: R FWD & L SIDE WHCU (M192) — PIN: D2898A PIN 16 — COMPONENT: L #3 WINDOW — PIN: D1672 2) PUSH THE "BIT/VERIFY" BUTTON ON THE FRONT OF THE RIGHT FORWARD AND LEFT SIDE WHCU, AND HOLD FOR 1 SECOND. 3) THE SYSTEM IS FUNCTIONAL IF THE GREEN "TEST COMPLETE" LIGHT ON THE WHCU COMES ON. NOTE: THE "TEST COMPLETE" LIGHT SHOULD COME ON IN 10 SECONDS AFTER YOU PUSH THE "BIT/VERIFY" BUTTON. IF THE PROBLEM CONTINUES, REPLACE THE LEFT #3 WINDOW (AMM 56-11-02/401).

TABLE 101

Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 5)

WINDOW HEAT ELEMENT RESISTANCE TEST	
LIGHT ON WINDOW HEAT CONTROL UNIT	CORRECTION
CONTROL UNIT	1. REMOVE THE PROTECTIVE CAPS FROM THE ELECTRICAL CONNECTORS FOR THE APPLICABLE FLIGHT COMPARTMENT WINDOW. DO A TEST OF THE WINDOW HEAT RESISTANCE BETWEEN THESE POINTS (WDM 30-41-12). NOTE: YOU CAN DO THE RESISTANCE CHECKS DIRECTLY TO THE SCREWS ON THE CONNECTORS: D 2. IF THE WINDOW HEAT RESISTANCE FOR A WINDOW IS NOT IN THE SPECIFIED RESISTANCE RANGE, REPLACE THE WINDOW 3. OTHERWISE, REPLACE THE RIGHT FWD AND LEFT SIDE WHCU, M192 (AMM 30-41-01/401). WARNING: MAKE SURE ALL THE ELECTRICAL CONNECTORS ON THE WINDOW TERMINAL HAVE PROTECTIVE COVERS. OPEN ELECTRICAL CONNECTORS ARE AT HIGH VOLTAGE POTENTIALS AND CAN CAUSE INJURY. 3. MAKE SURE THE PROTECTIVE COVERS ARE INSTALLED ON ALL THE WINDOW TERMINAL ELECTRICAL CONNECTORS. REPLACE COVERS THAT ARE NOT THERE.

WINDOW	MEASURE RESISTANCE BETWEEN		RESISTANCE RANGE (OHM)	
	POINT 1	POINT 2	MIN	MAX
1R	PIN 1 OF J4, CONN D1666	PIN 1 OF J5, CONN D1670	9.12	11.15
1R (OPTIONAL)	PIN 1 OF J4, CONN D1668	PIN 1 OF J5, CONN D1670	9.12	11.15
2L 1	PIN C OF J8, CONN D1920	PIN D OF J8, CONN D1920	17.43	23.59
2L 2	PIN C OF J8, CONN D1920	PIN D OF J8, CONN D1920	16.60	20.28
3L	PIN 1 OF J9, CONN D1672	PIN 1 OF J12, CONN D872	19.48	26.35

TABLE 102

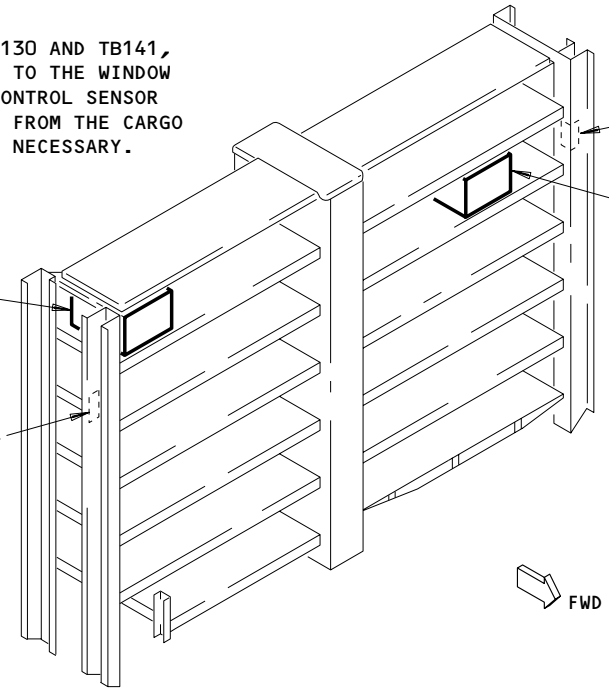
1 ACRYLIC WINDOWS

2 GLASS WINDOWS

3 NO. 1R (AMM 56-11-01/401)
NO. 2L (AMM 56-11-02/401)
NO. 3L (AMM 56-11-10/401)

Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 6)

NOTE: FOR TB130 AND TB141, ACCESS TO THE WINDOW HEAT CONTROL SENSOR WIRING FROM THE CARGO BAY IS NECESSARY.



NOTE: SOME AIRPLANES HAVE THE SENSOR WIRES INSTALLED AT TERMINAL BLOCK TB141. OTHER AIRPLANES WILL HAVE TB324 INSTALLED, AND THE SENSOR WIRES INSTALLED THERE. LOOK FOR TB324 TO FIND WHICH CONFIGURATION YOU HAVE.

MAIN EQUIPMENT CENTER

TABLE 103

MAIN AND SPARE SENSOR WIRE CONNECTIONS

SENSOR	WIRE NO.	MAIN PIN NO.	SPARE PIN NO.
SENSOR 1 – 4	204B-24	FA193	FA192
RIGHT NO. 1 WINDOW	204R-24	FC193	FC192
SENSOR 2 – 4	205B-24	FA195	FA194
LEFT NO. 2 WINDOW	205R-24	FC195	FC194
SENSOR 3 – 4	206B-24	FA197	FA196
LEFT NO. 3 WINDOW	206R-24	FC197	FC196
SENSOR 1 – 5	215B-24	FA2	FA1
RIGHT NO. 1 WINDOW	215R-24	FC2	FC1
SENSOR 2 – 5	216B-24	FA4	FA3
LEFT NO. 2 WINDOW	216R-24	FC4	FC3
SENSOR 3 – 5	217B-24	FA6	FA5
LEFT NO. 3 WINDOW	217R-24	FC6	FC5

4 AIRPLANES WITHOUT TERMINAL BLOCK TB324 (SENSOR WIRES AT TB141)

5 AIRPLANES WITH TERMINAL BLOCK TB324

Right Fwd or Left Side Window Anti-Icing BITE Procedure
Figure 104 (Sheet 7)

TEST SWITCH IN "WINDOW/PROBE HEAT" POSITION AND "L FWD" OR "R SIDE" INOP LIGHT IS EXTINGUISHED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A32, 11R2, 11R5, 11T15; A 36H4 OR 36L5;
B 36H2 OR 36H6; C 36H1 OR 36H7

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

NOTE: WHEN YOU USE THE WINDOW/PROBE TEST SWITCH, MAKE SURE THE "L FWD" AND "R SIDE" WINDOW HEAT SWITCHES ARE "ON".

1 PUT THE "IND LTS" SWITCH TO "BRT". PUSH THE "TEST" BUTTON ON THE RIGHT LIGHTING CONTROL MODULE, M10057, AT THE P5 PANEL.
DO THE "L FWD" AND "R SIDE" INOP LIGHTS ON THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL, COME ON?

NO → 11 DO THE "L FWD" AND "R SIDE" INOP LIGHTS ON THE WINDOW HEAT CONTROL PANEL GO OFF?

YES → 21 REMOVE THE WINDOW HEAT CONTROL PANEL, M10395 (AMM 30-41-02/401).
EXAMINE THE CIRCUIT FROM PIN 2, ON THE MAIN POWER DISTRIBUTION PANEL, CONNECTOR D6154P, TO PIN 3 ON THE WINDOW HEAT CONTROL PANEL, CONNECTOR D876 (WDM 33-16-17). REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE WINDOW HEAT CONTROL PANEL.

YES → SEE SHEET 2 (BLOCK 13)

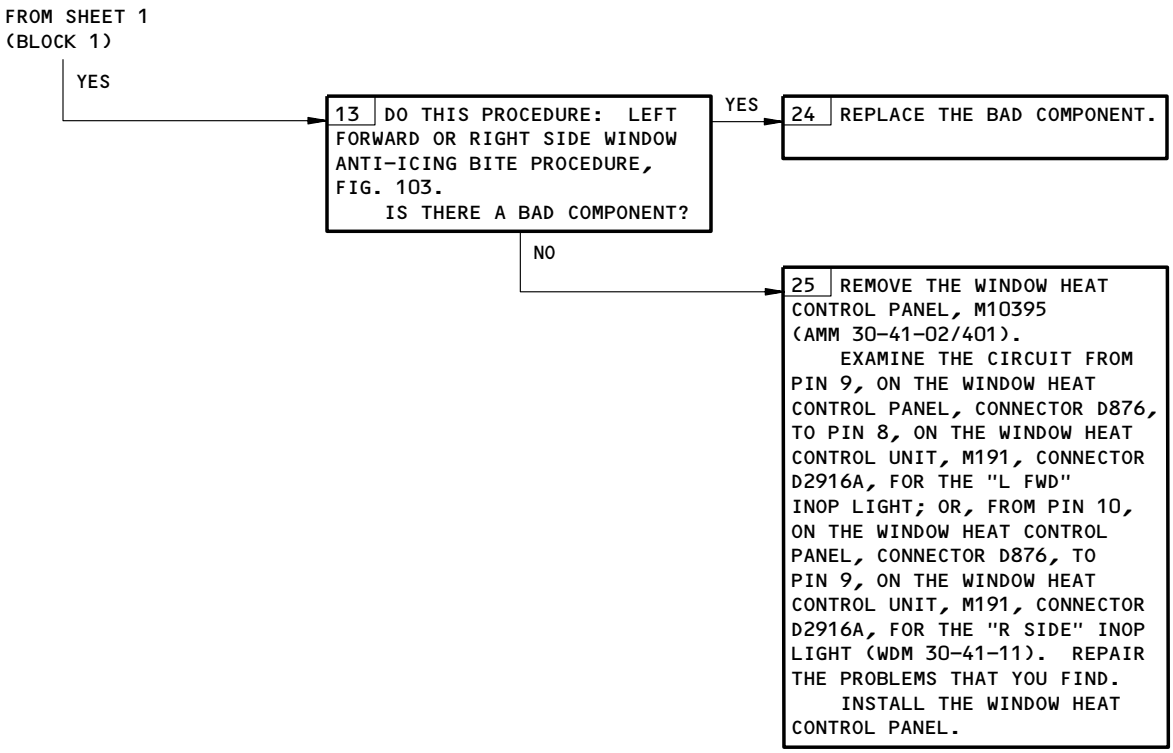
NO → 12 DOES THE "L FWD" INOP LIGHT ON THE WINDOW HEAT CONTROL PANEL COME ON?

YES → 22 REPLACE THE ANNUNCIATOR DIODE/FUSE CARD FOR THE SWITCH-LIGHT ANNUNCIATOR (AMM 33-13-00/201).
IF THE PROBLEM CONTINUES, REPLACE THE "R SIDE" SWITCH-LIGHT, YDMS1 (AMM 33-13-00/201), OR THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL (AMM 30-41-02/401).

NO → 23 REPLACE THE ANNUNCIATOR DIODE/FUSE CARD FOR THE SWITCH-LIGHT ANNUNCIATOR (AMM 33-13-00/201).
IF THE PROBLEM CONTINUES, REPLACE THE "L FWD" SWITCH-LIGHT, YDMS3 (AMM 33-13-00/201), OR THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL (AMM 30-41-02/401).

A THE "ICE/RAIN WINDOW 1L" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.
B THE "ICE/RAIN WINDOW HEAT 2R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.
C THE "ICE/RAIN WINDOW HEAT 3R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

Test Switch in WINDOW/PROBE HEAT Position and L FWD or R SIDE Inop Light is Extinguished
Figure 105 (Sheet 1)



Test Switch in WINDOW/PROBE HEAT Position and L FWD or R SIDE Inop Light is Extinguished
Figure 105 (Sheet 2)

TEST SWITCH IN "WINDOW/PROBE HEAT" POSITION AND "R FWD" OR "L SIDE" INOP LIGHT IS EXTINGUISHED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A32, 11R2, 11R5, 11T15; A 37D2 OR 37F4;
B 37E1 OR 37H7; C 37E2 OR 37H6

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

NOTE: WHEN YOU USE THE WINDOW/PROBE TEST SWITCH, MAKE SURE THE "L FWD" AND "R SIDE" WINDOW HEAT SWITCHES ARE "ON".

1 PUSH THE "IND LTS" SWITCH TO THE "BRT" POSITION. PUSH THE "TEST" BUTTON ON THE RIGHT LIGHTING CONTROL MODULE, M10057, AT THE P5 PANEL.
DO THE "R FWD" AND "L SIDE" INOP LIGHTS ON THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL, COME ON?

NO → 11 DO THE "R FWD" AND "L SIDE" INOP LIGHTS ON THE WINDOW HEAT CONTROL PANEL, GO OFF?

YES → 21 REMOVE THE WINDOW HEAT CONTROL PANEL, M10395 (AMM 30-41-02/401).
EXAMINE THE CIRCUIT FROM PIN 4, ON THE MAIN POWER DISTRIBUTION PANEL, CONNECTOR D6158P, TO PIN 3, ON THE WINDOW HEAT CONTROL PANEL, CONNECTOR D878 (WDM 33-16-17). REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE WINDOW HEAT CONTROL PANEL.

NO → 12 DOES THE "R FWD" INOP LIGHT ON THE WINDOW HEAT CONTROL PANEL, COME ON?

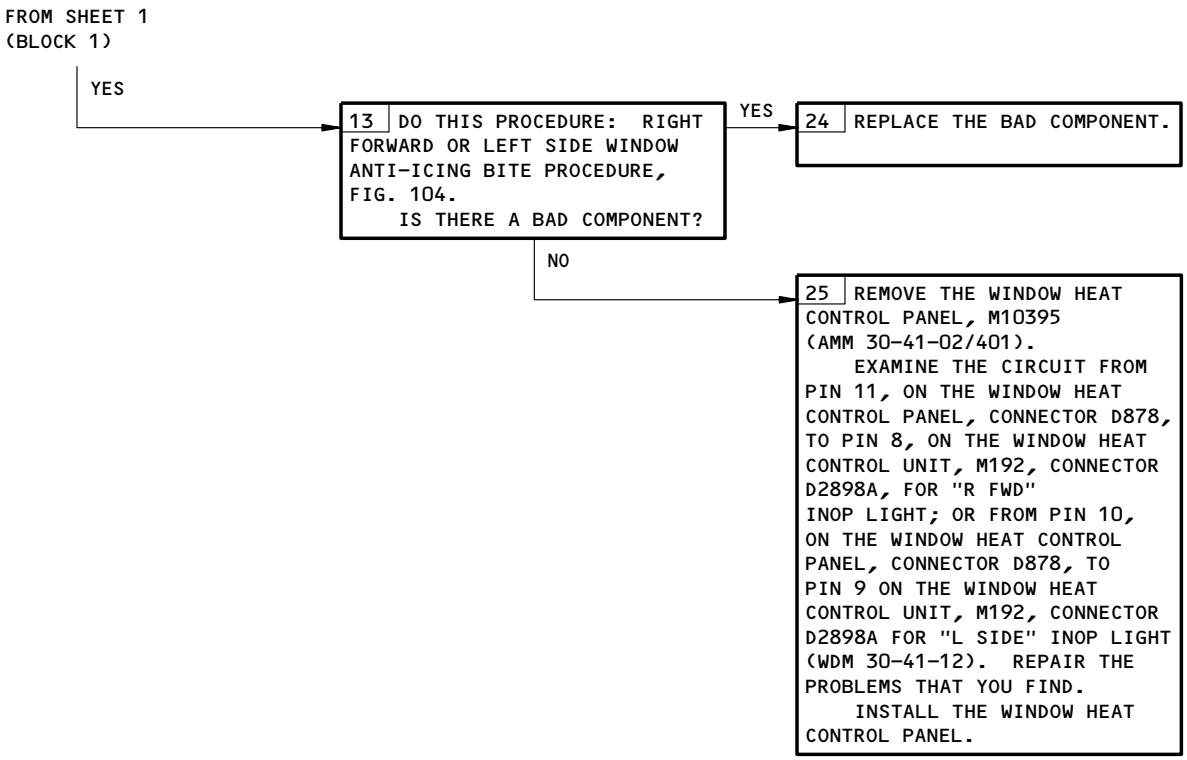
YES → 22 REPLACE THE ANNUNCIATOR DIODE/FUSE CARD FOR THE SWITCH-LIGHT ANNUNCIATOR (AMM 33-13-00/201).
IF THE PROBLEM CONTINUES, REPLACE THE "L SIDE" SWITCH-LIGHT, YDMS4 (AMM 33-13-00/201), OR THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL (AMM 30-41-02/401).

NO → 23 REPLACE THE ANNUNCIATOR DIODE/FUSE CARD FOR THE SWITCH-LIGHT ANNUNCIATOR (AMM 33-13-00/201).
IF THE PROBLEM CONTINUES, REPLACE THE "L FWD" SWITCH-LIGHT, YDMS2 (AMM 33-13-00/201), OR THE WINDOW HEAT CONTROL PANEL, M10395, ON THE P5 PANEL (AMM 30-41-02/401).

YES → SEE SHEET 2 (BLOCK 13)

A THE "ICE/RAIN WINDOW HEAT 1R" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.
B THE "ICE/RAIN WINDOW HEAT 2L" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS
C THE "ICE/RAIN WINDOW HEAT 3L" CIRCUIT BREAKER CAN BE IN ONE OF THESE TWO LOCATIONS.

Test Switch in WINDOW/PROBE HEAT Position and R FWD or L SIDE Inop Light is Extinguished
Figure 106 (Sheet 1)



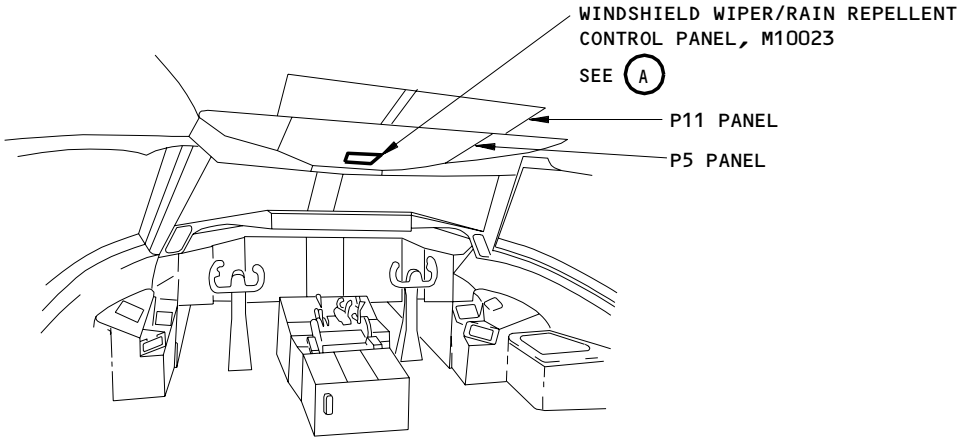
Test Switch in WINDOW/PROBE HEAT Position and R FWD or L SIDE Inop Light is Extinguished
Figure 106 (Sheet 2)

WINDSHIELD WIPER SYSTEM

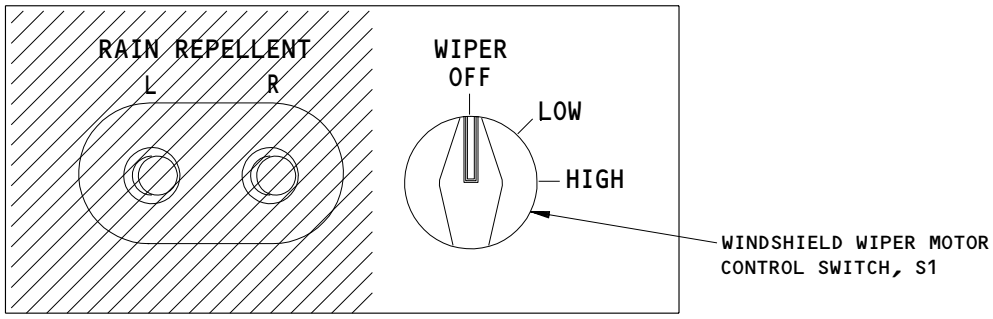
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ARM - WINDSHIELD WIPER	2	2		30-42-00
BLADE - WINDSHIELD WIPER	2	2		30-42-00
CIRCUIT BREAKER -			FLT COMPT, P11	
WSHLD WIPER L, C1143	--	1	11T13	*
WSHLD WIPER R, C1144	--	1	11T22	*
MOTOR/CONVERTER - WINDSHIELD WIPER L, M237	2	1	L FWD WINDOW SILL	30-42-02
MOTOR/CONVERTER - WINDSHIELD WIPER R, M238	2	1	R FWD WINDOW SILL	30-42-02
PANEL - WINDSHIELD WIPER/RAIN REPELLENT CONTROL, M10023	1	1	FLT COMPT, P5	30-42-01
SWITCH - WINDSHIELD WIPER MOTOR CONTROL, S1	1	1	FLT COMPT, P5, WINDSHIELD WIPER/ RAIN REPELLENT CONTROL PANEL, M10023	*

* SEE THE WDM EQUIPMENT LIST

Windshield Wiper System - Component Index
Figure 101



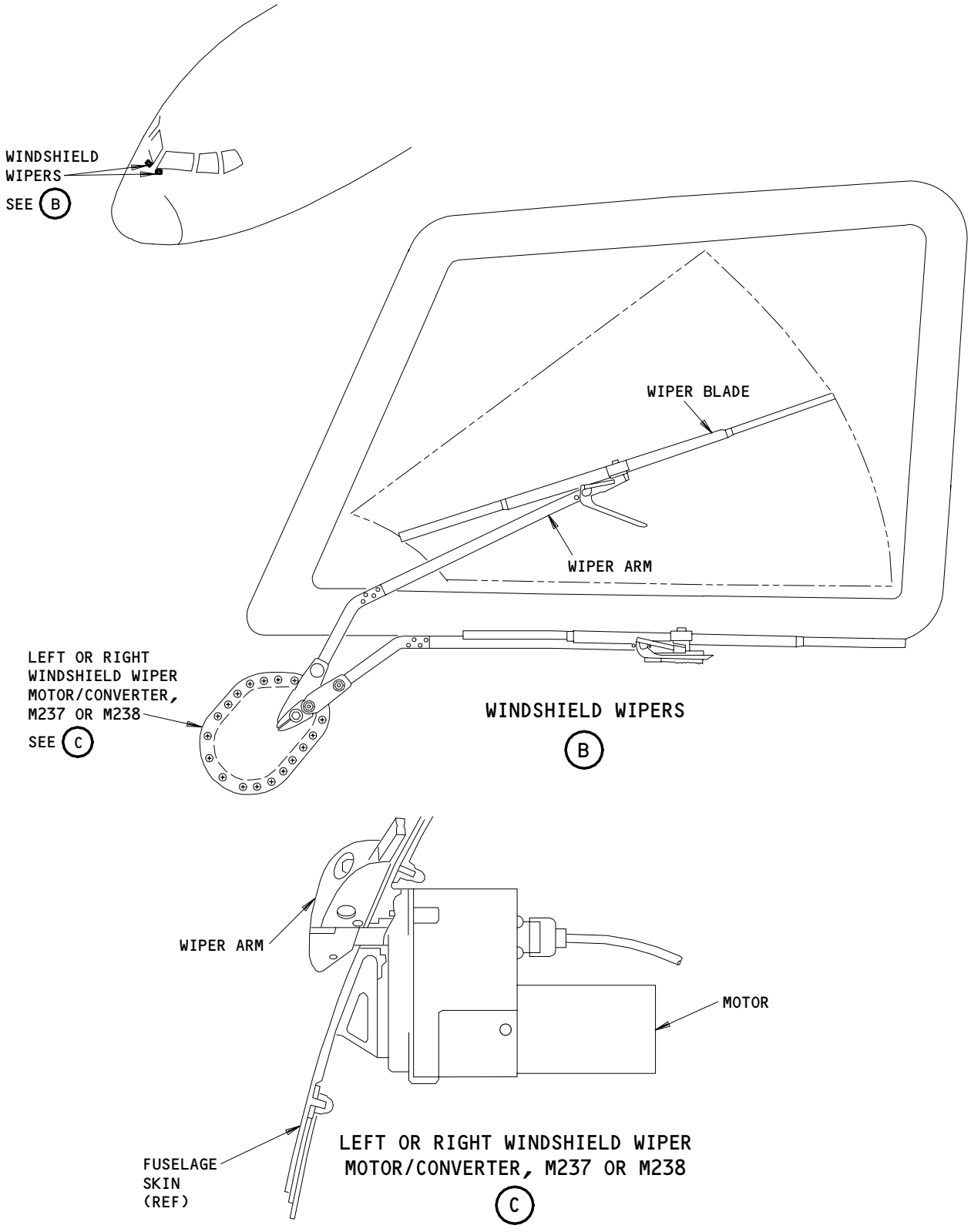
FLIGHT COMPARTMENT



WINDSHIELD WIPER/RAIN REPELLENT CONTROL PANEL, M10023

(A)

Windshield Wiper System – Component Location
Figure 102 (Sheet 1)



Windshield Wiper System - Component Location
Figure 102 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11T13, 11T22

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

WINDSHIELD WIPER DOES NOT OPERATE CORRECTLY

CAUTION: DO NOT LET THE WINDSHIELD WIPERS OPERATE ON A DRY WINDSHIELD. THEY CAN CAUSE DAMAGE TO THE WINDSHIELD.

1 REMOVE AND EXAMINE THE FUSE ON THE WINDSHIELD WIPER MOTOR/CONVERTER.
DOES THE FUSE OPERATE CORRECTLY?

NO → 20 REPLACE THE FUSE.

YES

2 DISCONNECT CONNECTOR D570 (D562), FROM THE RIGHT (LEFT) WINDSHIELD WIPER MOTOR/CONVERTER.
MEASURE THE VOLTAGE FROM PIN 1 TO PIN 5.
IS THE VOLTAGE 28VDC?

NO → 21 EXAMINE THE CIRCUIT FROM THE P11, CIRCUIT BREAKER PANEL TO PIN 1, D570 (D562) (WDM 30-42-11). REPAIR THE PROBLEMS THAT YOU FIND.

YES

3 SET THE WINDSHIELD WIPER SWITCH TO THE "LOW" POSITION.
MEASURE THE VOLTAGE FROM PIN 2 TO PIN 5.
IS THE VOLTAGE 28VDC?

NO → 22 SET THE WINDSHIELD WIPER SWITCH TO OFF.
REPLACE THE WINDSHIELD WIPER CONTROL PANEL, M10023 (AMM 30-42-01/401).
CONNECT CONNECTOR D570 (D562).

YES

4 MEASURE THE VOLTAGE FROM PIN 3 TO PIN 5.
IS THE VOLTAGE 28VDC?

NO → 23 SET THE WINDSHIELD WIPER SWITCH TO OFF.
REPLACE THE WINDSHIELD WIPER CONTROL PANEL, M10023 (AMM 30-42-01/401).
CONNECT CONNECTOR D570 (D562).

YES

5 SET THE WINDSHIELD WIPER SWITCH TO THE "HIGH" POSITION.
MEASURE THE VOLTAGE FROM PIN 2 TO PIN 5.
IS THE VOLTAGE 28VDC?

NO → 24 SET THE WINDSHIELD WIPER SWITCH TO OFF.
REPLACE THE WINDSHIELD WIPER CONTROL PANEL, M10023 (AMM 30-42-01/401).
CONNECT CONNECTOR D570 (D562).

YES → 25 SET THE WINDSHIELD WIPER SWITCH TO OFF.
REPLACE THE WINDSHIELD WIPER MOTOR/CONVERTER (AMM 30-42-02/401).
CONNECT THE CONNECTOR D570 (D562).

Windshield Wiper Does Not Operate Correctly
Figure 103

WINDSHIELD RAIN REPELLENT SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ACCUMULATOR – WINDSHIELD RAIN REPELLENT	2	1	FLT COMPT, BEHIND P1 PANEL	30-43-04
BOTTLE – RAIN REPELLENT	1	1	FLT COMPT, ON WALL BEHIND CAPT	30-43-00
CIRCUIT BREAKERS			FLT COMPT, P11	
RAIN REPEL L, C1145		1	11T21	*
RAIN REPEL R, C1136		1	11T12	*
GAGE – PRESSURE	1	1	FLT COMPT, ON WALL BEHIND CAPT	30-43-00
NOZZLE – SPRAY	2	2	FLT COMPT, BEHIND P1,P2,P3 PANELS	30-43-01
PANEL – (REF 30-42-00, FIG. 101) WINDSHIELD WIPER/RAIN REPELLENT CONTROL, M10023				
RESERVOIR – VISUAL	1	1	FLT COMPT, ON WALL BEHIND CAPT	30-43-00
SWITCH – L WINDSHIELD RAIN REPELLENT, S2	3	1	FLT COMPT, P5, WINDSHIELD WIPER/ RAIN REPELLENT CONTROL PANEL M10023	*
SWITCH – R WINDSHIELD RAIN REPELLENT, S3	3	1	FLT COMPT, P5, WINDSHIELD WIPER/ RAIN REPELLENT CONTROL PANEL M10023	*
VALVE – CHECK	2	2	FLT COMPT, BEHIND P1,P2,P3 PANELS	30-43-03
VALVE – L WINDSHIELD RAIN REPELLENT SOLENOID, V27	2	1	FLT COMPT, BEHIND P1,P2,P3 PANELS	30-43-02
VALVE – R WINDSHIELD RAIN REPELLENT SOLENOID, V28	2	1	FLT COMPT, BEHIND P1,P2,P3 PANELS	30-43-02

* SEE THE WDM EQUIPMENT LIST

Windshield Rain Repellent System – Component Index
Figure 101

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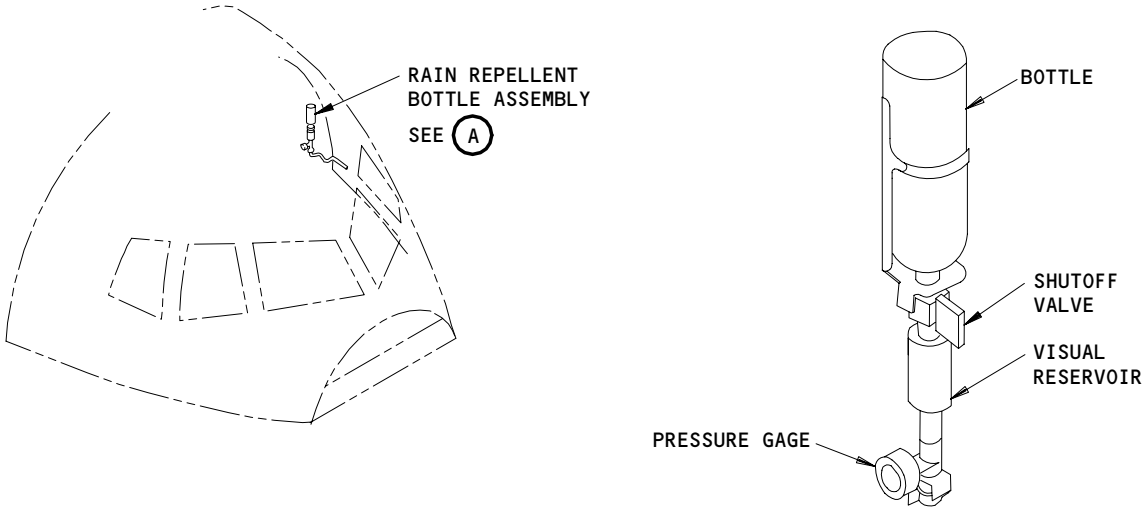
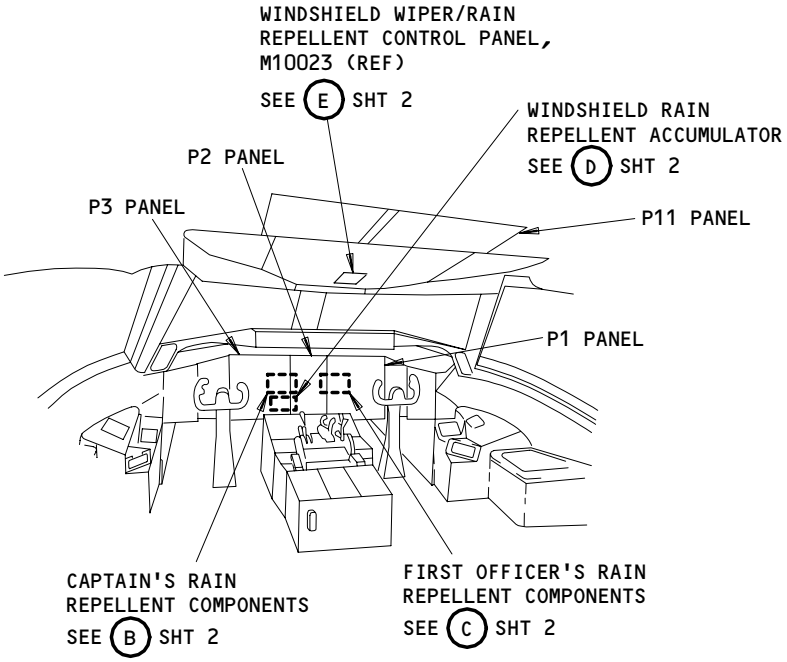
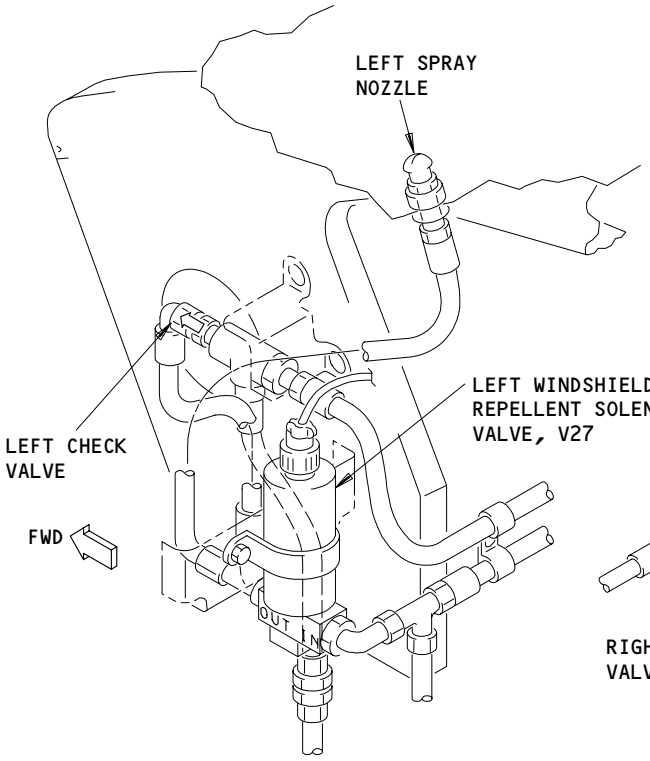


WINDSHIELD
RAIN REPELLENT BOTTLE
A



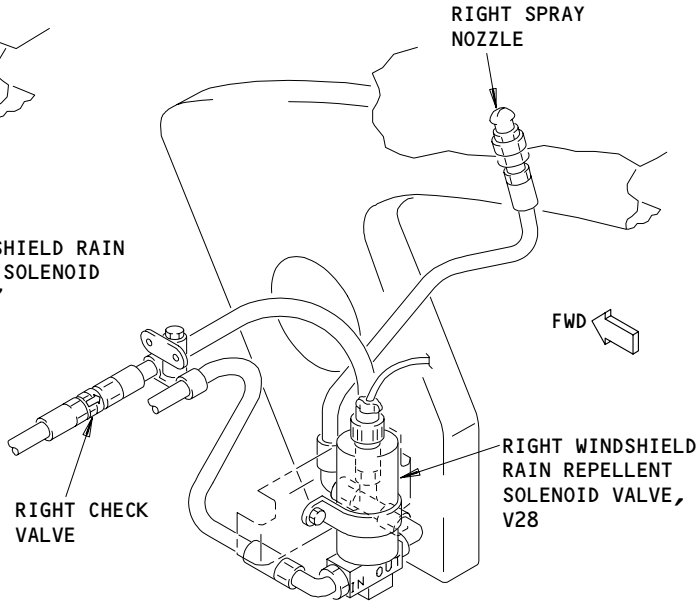
FLIGHT COMPARTMENT

Windshield Rain Repellent System – Component Location
Figure 102 (Sheet 1)



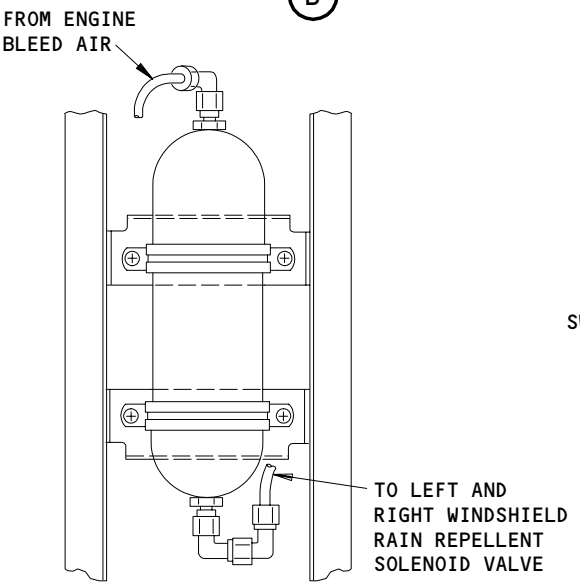
CAPTAIN'S RAIN REPELLENT COMPONENTS

B



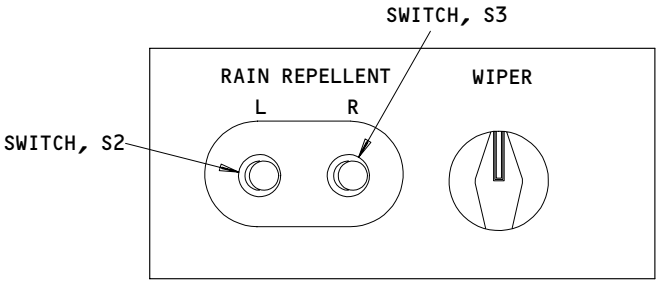
FIRST OFFICER'S RAIN REPELLENT COMPONENTS

C



WINDSHIELD RAIN REPELLENT ACCUMULATOR

D



WINDSHIELD WIPER/RAIN REPELLENT CONTROL PANEL, M10023 (REF)

E

Windshield Rain Repellent System – Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

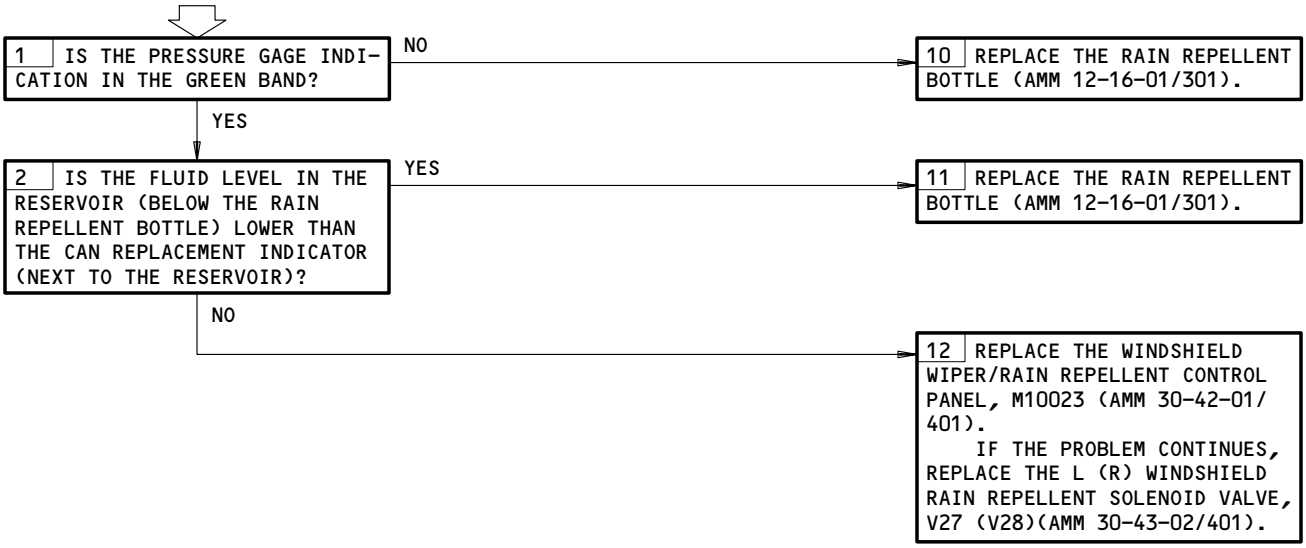
61664

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11T12,11T21

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

RAIN REPELLENT SYSTEM INOPERATIVE



Rain Repellent System Inoperative
Figure 103

E71584

RAIN REPELLENT BOTTLE LEAKAGE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11T12,11T21

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

1 CLOSE THE VALVE BELOW THE BOTTLE RECEPTACLE AND REMOVE THE BOTTLE.
EXAMINE THE O-RING SEAL.
IS THE SEAL BAD?

YES → 10 REPLACE THE O-RING SEAL. INSTALL THE BOTTLES AND TIGHTEN WITH YOUR FINGERS ONLY (AMM 12-16-01/301).

NO → 11 INSTALL THE REPLACEMENT BOTTLE. TIGHTEN WITH YOUR FINGERS ONLY. TOO MUCH TORQUE CAN CAUSE LEAKAGE (AMM 12-16-01/301).

Rain Repellent Bottle Leakage
Figure 104

48646

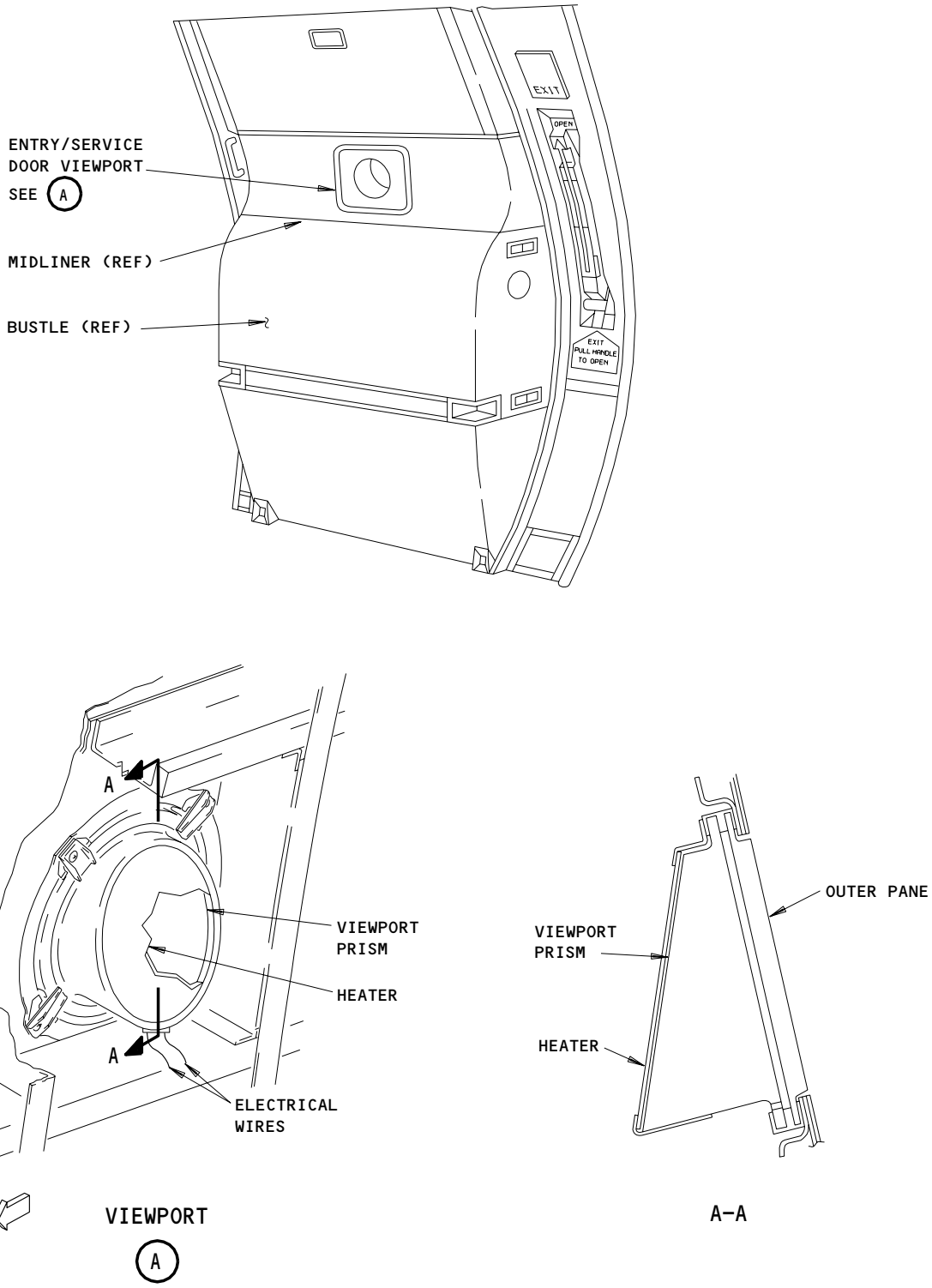
ENTRY/SERVICE DOOR VIEWPORT HEATERS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P11	
HEATER – DOOR WINDOW, C1130		1	11U32	*
HEATER –	--			
L AFT DOOR VIEWPORT, B285		1	833	56-31-01
L FWD DOOR VIEWPORT, B283		1	831	56-31-01
R AFT DOOR VIEWPORT, B286		1	843	56-31-01
R FWD DOOR VIEWPORT, B284		1	841	56-31-01

* SEE THE WDM EQUIPMENT LIST

Entry/Service Door Viewport Heaters – Component Index
Figure 101

G52124



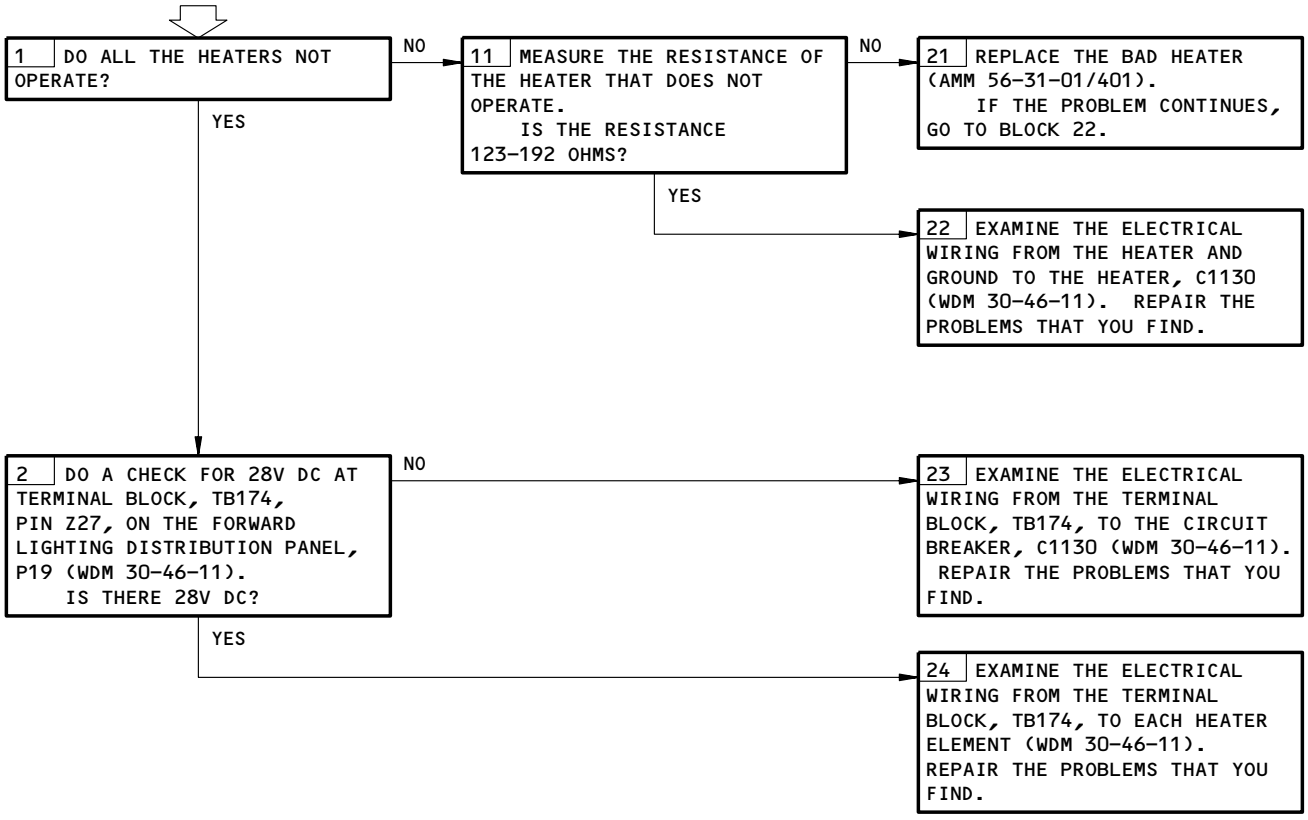
Entry/Service Door Viewport Heaters - Component Location
Figure 102

ENTRY/SERVICE DOOR VIEWPORT HEATER(S) INOPERATIVE

PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11U32

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



Entry/Service Door Viewport Heater(s) Inoperative
Figure 103

WATER AND DRAIN LINE HEATERS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKERS –	1		119AL, MAIN EQUIP CTR, P33	
DRAIN MAST HTG – FLT, C1142		1	33A2	*
DRAIN MAST HTG – GND, C1165		1	33A1	*
WATER LINE HTRS – AFT 1, C1151		1	33G5	*
WATER LINE HTRS – AFT 2, C1156		1	33G6	*
WATER LINE HTRS – AFT 3, C1166		1	33G7	*
WATER LINE HTRS – FWD, C1149		1	33F1	*
WATER LINE HTRS – MID 1, C1150		1	33G1	*
WATER LINE HTRS – MID 2, C1157		1	33G2	*
WATER LINE HTRS – MID 3, C1155		1	33G3	*
WATER LINE HTRS – MID 4, C1158		1	33G4	*
HEATERS –				
AFT DRAIN MST, B42	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-01
AFT DRAIN PIPE GASKET, B44	2	1	SECTION 46, WASTE DISPOSAL SERVICE PANEL	30-71-03
FWD DRAIN MST, B41	2	1	SECTION 41, BOTTOM OF FUSELAGE	30-71-01
WASTE TANK FITTING, B212,B213	2	2	SECTION 46, BOTTOM OF FUSELAGE	30-71-07
WATER FILL CONNECTION, B149	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-05
HEATER TAPES/INSULATION/RIBBON HEATERS				
AFT DRAIN LINE, B88	2	1	SECTION 46, LWR FUSELAGE DRAIN LINE	30-71-01
AFT SUPPLY LINE, B87,B95,B98,B99,B100,B102, B110,B112,B132,B158,B233,B237,B241	2	13	SECTION 46, LWR FUSELAGE SUPPLY LINE	30-71-01
FWD DRAIN LINE, B97,B107,B133,B346	2	4	SECTION 41, LWR FUSELAGE DRAIN LINE	30-71-01
FWD SUPPLY LINE, B43,B90,B109,B118,B270, B347,B363,B364,B365,B366,B415 1	2	10/11	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-01
MID DRAIN LINE, B260,B351	2	2	SECTION 43, LWR FUSELAGE DRAIN LINE	30-71-01
MID DRAIN LINE, B367,B368,B369	2	3	SECTION 45, LWR FUSELAGE DRAIN LINE	30-71-01
MID SUPPLY LINE, B119,B120,B350,B353,B373, B374,B375	2	7	SECTION 43, LWR FUSELAGE SUPPLY LINE	30-71-01
MID SUPPLY LINE, B96,B108,B151,B159,B160, B161,B370,B371,B372	2	9	SECTION 45, LWR FUSELAGE SUPPLY LINE	30-71-01
RELAY – (AMM 31-01-33, FIG. 101)				
SYS NO. 2 AIR/GND, K205				
RELAY – (AMM 31-01-37, FIG. 101)				
AFT WATERLINE HEATERS, K376				
FWD WATERLINE HEATERS, K372,K398,K1069				
MID WATERLINE HEATERS, K373,K374				
THERMOSTATS –				
AFT HEATER TAPE/RIBBON HEATER CONTROL, B93, B104	2	2	SECTION 46, LWR FUSELAGE DRAIN AND SUPPLY LINES	30-71-02
FWD HEATER TAPE/RIBBON HEATER CONTROL, B91, B264,B269	2	3	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-02
MID HEATER TAPE/RIBBON HEATER CONTROL, B92	2	1	SECTION 45, LWR FUSELAGE SUPPLY LINE	30-71-02

* SEE THE WDM EQUIPMENT LIST

1 SAS 155-169

Water And Drain Line Heaters – Component Index
Figure 101

WATER AND DRAIN LINE HEATERS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKERS –	1		119AL, MAIN EQUIP CTR, P33,P37	
HEATERS 3 AFT WATER LINE, C1166		1	1> 37H4; 2> 33G7	*
DRAIN MAST HTG – FLT, C1142		1	33A2	*
DRAIN MAST HTG – GND, C1165		1	33A1	*
WATER LINE HEATERS – AFT 1, C1151		1	1> 37J6; 2> 33G5	*
WATER LINE HEATERS – AFT 2, C1156		1	1> 37J7; 2> 33G6	*
WATER LINE HEATERS – FWD, C1149		1	1> 37J1; 2> 33F1	*
WATER LINE HEATERS – MID 1, C1150		1	1> 37J2; 2> 33G1	*
WATER LINE HEATERS – MID 2, C1157		1	1> 37J3; 2> 33G2	*
WATER LINE HEATERS – MID 3, C1155		1	1> 37J4; 2> 33G3	*
WATER LINE HEATERS – MID 4, C1158		1	1> 37J5; 2> 33G4	*
HEATERS –				
AFT DRAIN MST, B42	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-01
AFT DRAIN PIPE GASKET, B44	2	1	SECTION 46, WASTE DISPOSAL SERVICE PANEL	30-71-03
FWD DRAIN MST, B41	2	1	SECTION 41, BOTTOM OF FUSELAGE	30-71-01
WASTE TANK FITTING, B212,B213	2	2	SECTION 46, BOTTOM OF FUSELAGE	30-71-07
WATER FILL CONNECTION, B149	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-05
HEATER TAPES/INSULATION/RIBBON HEATERS				
AFT DRAIN LINE, B88	2	1	SECTION 46, LWR FUSELAGE DRAIN LINE	30-71-01
AFT SUPPLY LINE, B87,B100,B101,102,B110, B112,B158,B233,B237,B241	2	10	SECTION 46, LWR FUSELAGE SUPPLY LINE	30-71-01
FWD DRAIN LINE, B97,B107,B133	2	3	SECTION 41, LWR FUSELAGE DRAIN LINE	30-71-01
FWD SUPPLY LINE, B43,B90,B109,B118	2	4	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-01
MID DRAIN LINE, B120	2	1	SECTION 43, LWR FUSELAGE DRAIN LINE	30-71-01
MID DRAIN LINE, B413	2	1	SECTION 45, LWR FUSELAGE DRAIN LINE	30-71-01
MID SUPPLY LINE, B119	2	1	SECTION 43, LWR FUSELAGE SUPPLY LINE	30-71-01
MID SUPPLY LINE, B96,B108,B115,B116,B159, B160,B164,B234,B256,B411,B412,B414	2	12	SECTION 45, LWR FUSELAGE SUPPLY LINE	
RELAY – (AMM 31-01-33, FIG. 101)				
SYS NO. 2 AIR/GND, K205				
RELAY – (AMM 31-01-37, FIG. 101)				
AFT WATERLINE HEATERS, K376				
FWD WATERLINE HEATERS, K372,K1069				
MID WATERLINE HEATERS, K373,K374				
THERMOSTATS –				
AFT HEATER TAPE/RIBBON HEATER CONTROL, B93,	2	1	SECTION 46, LWR FUSELAGE DRAIN AND SUPPLY LINES	30-71-02
FWD HEATER TAPE/RIBBON HEATER CONTROL, B91, B264,B269	2	3	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-02
MID HEATER TAPE/RIBBON HEATER CONTROL, B92	2	1	SECTION 45, LWR FUSELAGE SUPPLY LINE	30-71-02

* SEE THE WDM EQUIPMENT LIST

1> MTH 275

2> MTH 276-999

3> AIRPLANES WITH HEATER TAPE ON THE WATER SUPPLY AND DRAIN LINES

Water And Drain Line Heaters – Component Index
Figure 101A

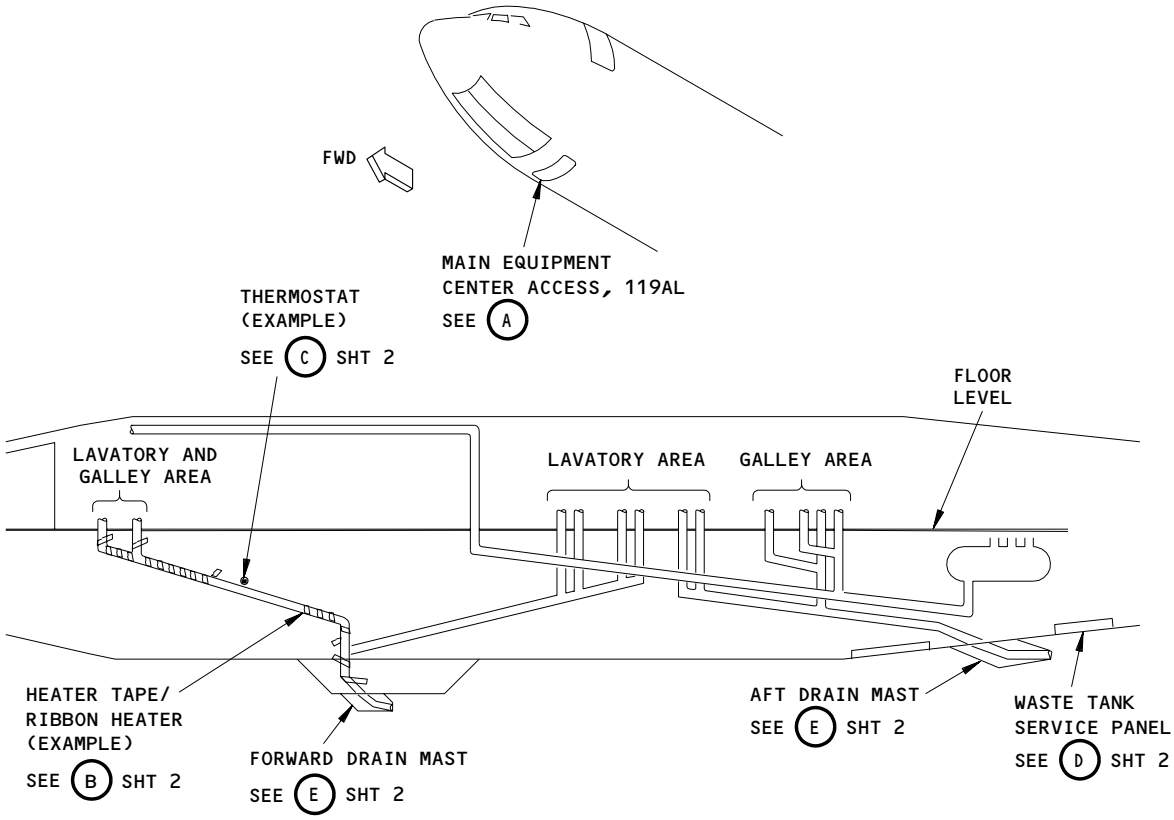
WATER AND DRAIN LINE HEATERS

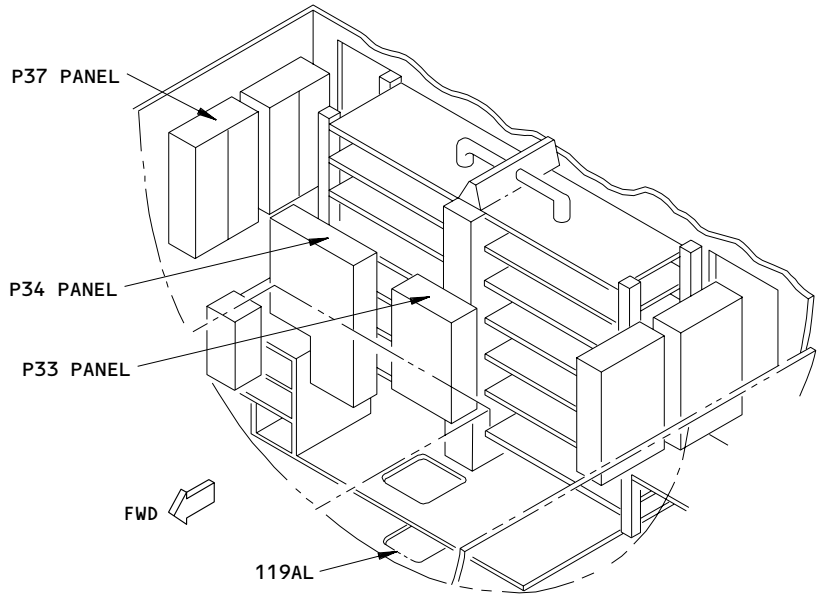
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKERS –	1		119AL, MAIN EQUIP CTR, P33	
DRAIN MAST HTG – FLT, C1142		1	33A2	*
DRAIN MAST HTG – GND, C1165		1	33A1	*
WATER LINE HTRS – AFT 1, C1151		1	33G5	*
WATER LINE HTRS – AFT 2, C1156		1	33G6	*
WATER LINE HTRS – AFT 3, C1166		1	33G7	*
WATER LINE HTRS – FWD, C1149		1	33F1	*
WATER LINE HTRS – MID 1, C1150		1	33G1	*
WATER LINE HTRS – MID 2, C1157		1	33G2	*
WATER LINE HTRS – MID 3, C1155		1	33G3	*
WATER LINE HTRS – MID 4, C1158		1	33G4	*
HEATERS –				
AFT DRAIN MST, B42	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-01
AFT DRAIN PIPE GASKET, B44	2	1	SECTION 46, WASTE DISPOSAL SERVICE PANEL	30-71-03
FWD DRAIN MST, B41	2	1	SECTION 41, BOTTOM OF FUSELAGE	30-71-01
WASTE TANK FITTING, B212,B213	2	2	SECTION 46, BOTTOM OF FUSELAGE	30-71-07
WATER FILL CONNECTION, B149	2	1	SECTION 46, BOTTOM OF FUSELAGE	30-71-05
HEATER TAPES/INSULATION/RIBBON HEATERS				
AFT DRAIN LINE, B88	2	1	SECTION 46, LWR FUSELAGE DRAIN LINE	30-71-01
AFT SUPPLY LINE, B87,B95,B98,B99,B100,B102, B110,B112,B132,B158,B233,B237,B241	2	13	SECTION 46, LWR FUSELAGE SUPPLY LINE	30-71-01
FWD DRAIN LINE, B97,B107,B133,B346	2	4	SECTION 41, LWR FUSELAGE DRAIN LINE	30-71-01
FWD SUPPLY LINE, B43,B90,B109,B118,B270, B347,B363,B364,B365,B366,B415	2	11	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-01
MID DRAIN LINE, B131,B135,B421,B422,B423	2	5	SECTION 45, LWR FUSELAGE DRAIN LINE	30-71-01
MID SUPPLY LINE, B111,B113,B115,B119,B120	2	5	SECTION 43, LWR FUSELAGE SUPPLY LINE	30-71-01
MID SUPPLY LINE, B96,B108,B114,B151,B159, B160,B164,B205,B234,B372,B424	2	11	SECTION 45, LWR FUSELAGE SUPPLY LINE	30-71-01
RELAY – (AMM 31-01-33, FIG. 101)				
SYS NO. 2 AIR/GND, K205				
RELAY – (AMM 31-01-37, FIG. 101)				
AFT WATERLINE HEATERS, K376				
FWD WATERLINE HEATERS, K372,K398,K1069				
MID WATERLINE HEATERS, K373,K374				
THERMOSTATS –				
AFT HEATER TAPE/RIBBON HEATER CONTROL, B93, B104	2	2	SECTION 46, LWR FUSELAGE DRAIN AND SUPPLY LINES	30-71-02
FWD HEATER TAPE/RIBBON HEATER CONTROL, B91, B264,B269	2	3	SECTION 41, LWR FUSELAGE SUPPLY LINE	30-71-02
MID HEATER TAPE/RIBBON HEATER CONTROL, B92	2	1	SECTION 45, LWR FUSELAGE SUPPLY LINE	30-71-02

* SEE THE WDM EQUIPMENT LIST

Water And Drain Line Heaters – Component Index
Figure 101B

693362

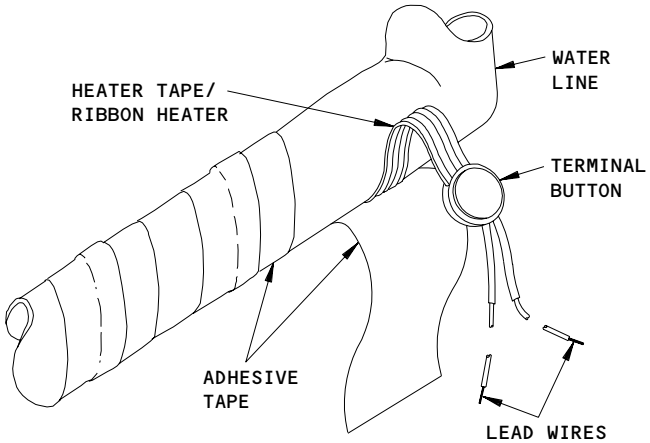




MAIN EQUIPMENT CENTER

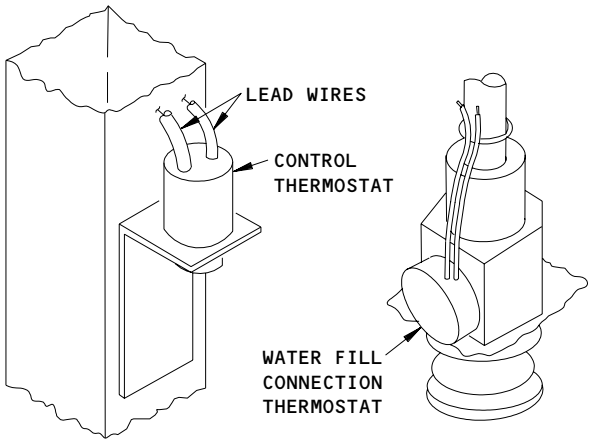
A

Water and Drain Line Heaters - Component Location
Figure 102 (Sheet 1)



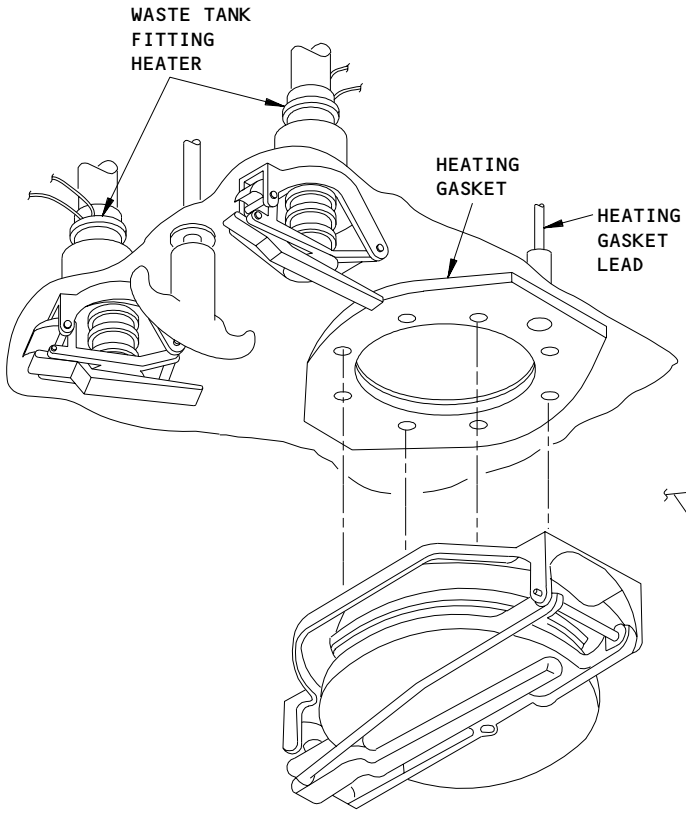
WATER LINE HEATER TAPE/
RIBBON HEATER
(EXAMPLE)

B



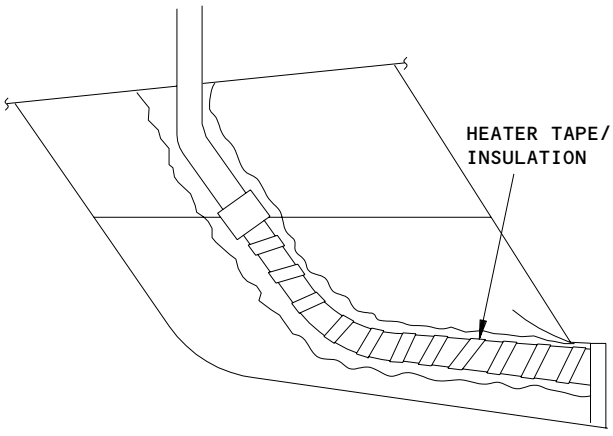
CONTROL THERMOSTATS
(EXAMPLE)

C



WASTE TANK SERVICE PANEL

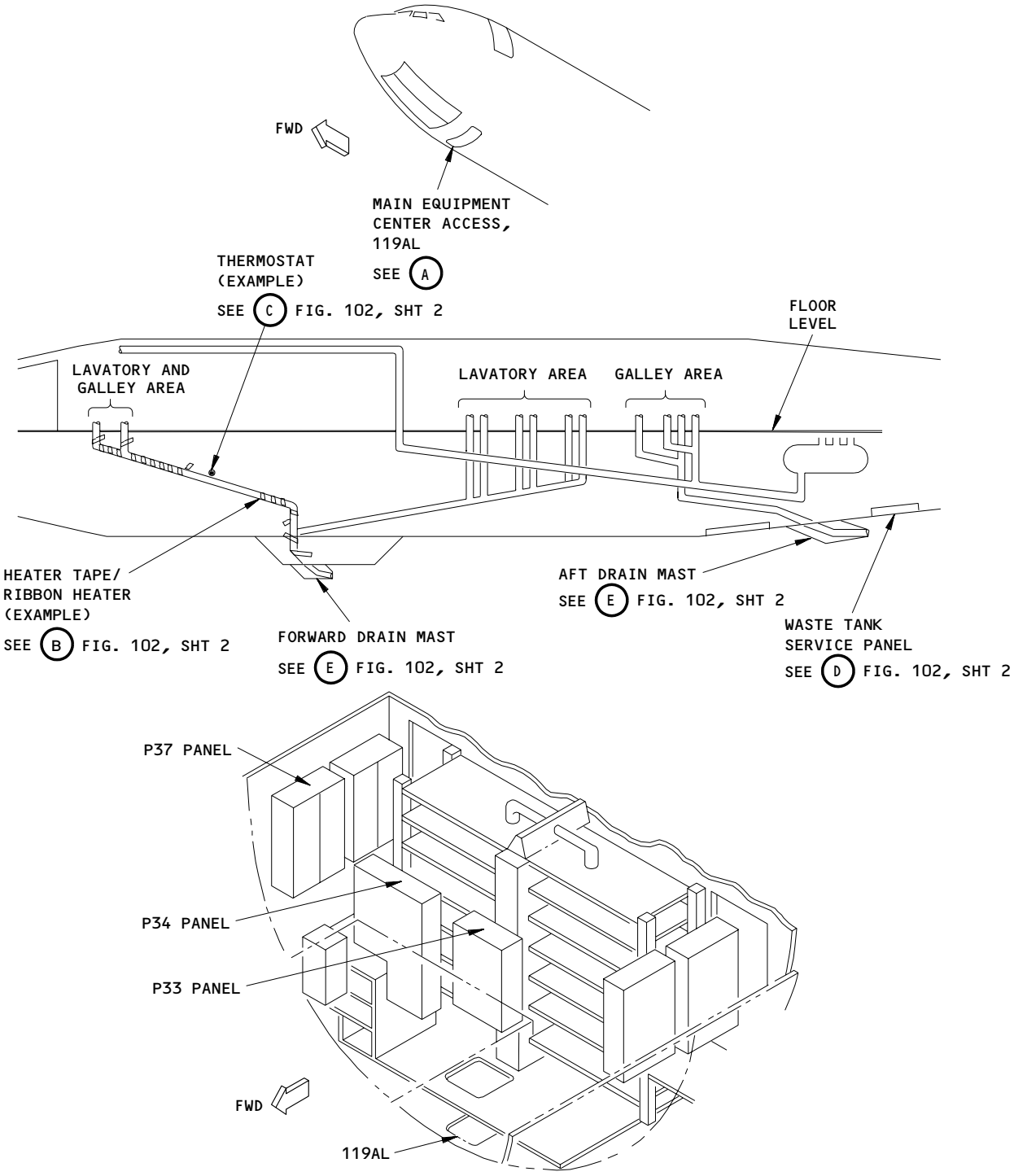
D



DRAIN MAST
(EXAMPLE)

E

Water and Drain Line Heaters – Component Location
Figure 102 (Sheet 2)



MAIN EQUIPMENT CENTER

A

Water and Drain Line Heaters - Component Location
Figure 102A

PREREQUISITES

ELECTRICAL POWER (AMM 24-22-00)

CB'S: SEE TABLE 101

NOTE: COOL APPROPRIATE THERMOSTAT(S) WITH DRY ICE BELOW 30°F (-1°C) BEFORE TESTING HEATERS.

TABLE 101

INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B43 WATER SUP LINE B90 WATER SUP LINE B97 DRAIN LINE 4 B107 DRAIN LINE 4 B118 WATER SUP LINE B133 DRAIN LINE 4 B270 WATER SUP LINE B346 DRAIN LINE 4 B347 WATER SUP LINE B363 WATER SUP LINE B364 WATER SUP LINE B365 WATER SUP LINE B366 WATER SUP LINE B415 WATER SUP LINE 3	C1149, HEATER WTR LINE - FWD (33F1)	IF ALL THE HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B91 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATERLINE HEATERS RELAY K372 ON P33 PANEL. 2
B109 WATER SUP LINE	C1149, HEATER WTR LINE - FWD (33F1)	CHECK THERMOSTAT B269 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE REPLACE HEATER TAPE/RIBBON HEATER (AMM 30-71-01). IF FAULT PERSISTS, REPLACE WATERLINE HEATER RELAY K1069 ON P33 PANEL.
B96 WATER SUP LINE B159 WATER SUP LINE B370 WATER SUP LINE B371 DRAIN LINE 4	C1150, WATER LINE HTRS - MID 1 (33G1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B92 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATERLINE HEATERS RELAY K374 ON P33 PANEL. 2
B367 DRAIN LINE 4 B368 DRAIN LINE 4 B369 DRAIN LINE 4	C1157, WATER LINE HTRS - MID 2 (33G2)	
B108 WATER SUP LINE B151 WATER SUP LINE B160 WATER SUP LINE B161 WATER SUP LINE B372 WATER SUP LINE B375 WATER SUP LINE	C1158, WATER LINE HTRS - MID 4 (33G4) AND C1155, WATER LINE HTRS - MID 3 (33G3)	

(CONTINUED ON NEXT PAGE)

1 IF AN ELEMENT IS OVERHEATING, IT SHOULD BE REPLACED IN ACCORDANCE WITH APPLICABLE REMOVAL/INSTALLATION PROCEDURE. IF NOT HEATING, OR HEATING IMPROPERLY, FOLLOW INSTRUCTIONS IN TABLE 101. IF FAULT PERSISTS, REPAIR CIRCUIT AS NECESSARY BETWEEN HEATING ELEMENT AND THE APPLICABLE CIRCUIT BREAKER (WDM 30-71-11,-21,-22,-23,-24).

2 IF ONLY ONE HEATER TAPE/RIBBON HEATER IS INOPERATIVE, REPLACE THE FAULTY HEATER TAPE/RIBBON HEATER (AMM 30-71-01).

3 SAS 155-169

4 AIRPLANES WITH HEATER TAPE ON THE WATER SUPPLY AND DRAIN LINES

Heater and Thermostat Fault Isolation
Figure 103 (Sheet 1)

642581

TABLE 101		
INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B87 WATER SUP LINE B88 DRAIN LINE 4 B102 WATER SUP LINE B110 WATER SUP LINE B233 WATER SUP LINE B237 WATER SUP LINE B241 WATER FILL LINE	C1151, WATER LINE HTRS – AFT 1 (33G5)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B93 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATERLINE HEATERS RELAY K376 ON P33 PANEL. 2
B100 WATER SUP LINE B112 WATER SUP LINE B132 WATER SUP LINE B158 WATER SUP LINE	C1156, WATER LINE HTRS – AFT 2 (33G6)	
B119 WATER SUP LINE B120 WATER SUP LINE B260 DRAIN LINE 4 B350 WATER SUP LINE B351 DRAIN LINE 4 B353 WATER SUP LINE B373 WATER SUP LINE B374 WATER SUP LINE	C1155, WATER LINE HTRS – MID 3 (33G3)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B264 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATERLINE HEATERS RELAY K373 ON P33 PANEL. 2
B95 WATER SUP LINE B98 WATER SUP LINE B99 WATER SUP LINE	C1166, WATER LINE HTRS – AFT 3 (33G7)	IF ALL THREE HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B104 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATERLINE HEATERS RELAY K398 ON P33 PANEL. 2

Heater and Thermostat Fault Isolation
Figure 103 (Sheet 2)

PREREQUISITES

ELECTRICAL POWER (AMM 24-22-00)

CB'S: SEE TABLE 101

NOTE: COOL APPROPRIATE THERMOSTAT(S) WITH DRY ICE BELOW 30°F (-1°C) BEFORE TESTING HEATERS.

TABLE 101

INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B43 WATER SUP LINE B90 WATER SUP LINE B97 DRAIN LINE 5 B107 DRAIN LINE 5 B118 WATER SUP LINE B133 DRAIN LINE 5	C1149, WATER LINE HEATERS - FWD 3 (37J1); 4 (33F1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B91 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K372 ON P33 PANEL. 2
B96 WATER SUP LINE B414 WATER SUP LINE	C1150, WATER LINE HEATERS - MID 1 3 (37J2); 4 (33G1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B92 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K374 ON P33 PANEL. 2
B108 WATER SUP LINE B412 WATER SUP LINE	C1157, WATER LINE HEATERS - MID 2 3 (37J3); 4 (33G2) AND C1155, WATER LINE HEATERS - MID 3 3 (37J4); 4 (33G3)	
B115 WATER SUP LINE B164 WATER SUP LINE B234 WATER SUP LINE B411 WATER SUP LINE	C1155, WATER LINE HEATERS - MID 3 3 (37J4); 4 (33G3)	
B116 WATER SUP LINE B159 WATER SUP LINE B160 WATER SUP LINE B256 WATER SUP LINE B413 DRAIN LINE 5	C1158, WATER LINE HEATERS - MID 4 3 (37J5); 4 (33G4) AND C1155, WATER LINE HEATERS - MID 3 3 (37J4); 4 (33G3)	

(CONTINUED ON NEXT PAGE)

1 IF AN ELEMENT IS OVERHEATING, IT SHOULD BE REPLACED IN ACCORDANCE WITH APPLICABLE REMOVAL/INSTALLATION PROCEDURE. IF NOT HEATING, OR HEATING IMPROPERLY, FOLLOW INSTRUCTIONS IN TABLE 101. IF FAULT PERSISTS, REPAIR CIRCUIT AS NECESSARY BETWEEN HEATING ELEMENT AND THE APPLICABLE CIRCUIT BREAKER (WDM 30-71-11,-21,-22,-23,-24).

2 IF ONLY ONE HEATER TAPE/RIBBON HEATER IS INOPERATIVE, REPLACE THE FAULTY HEATER TAPE/RIBBON HEATER (AMM 30-71-01).

3 MTH 275

4 MTH 276-999

5 AIRPLANES WITH HEATER TAPE ON THE WATER SUPPLY AND DRAIN LINES

6 AIRPLANES WITH RIBBON HEATERS ON THE WATER SUPPLY LINES

Heater and Thermostat Fault Isolation
Figure 103A (Sheet 1)

TABLE 101

INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B119 WATER SUP LINE B120 DRAIN LINE 5	C1149, WATER LINE HEATERS – FWD 3 (37J1); 4 (33F1)	IF BOTH HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B264 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K373 ON P33 PANEL. 2 5 IF THE RIBBON HEATER IS INOPERATIVE, FIRST CHECK THE RIBBON HEATER ITSELF FOR PROPER OPERATION, THEN CHECK THE THERMOSTAT, AND THEN THE WATER LINE HEATER RELAY. 6
B109 WATER SUP LINE	C1149, WATER LINE HEATERS – FWD 3 (37J1); 4 (33F1)	CHECK THERMOSTAT B269 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K1069 ON P33 PANEL. 2
B87 WATER SUP LINE B88 DRAIN LINE 5 B112 WATER SUP LINE B237 WATER SUP LINE	C1151, WATER LINE HEATERS – AFT 1 3 (37J6); 4 (33G5)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B93 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K376 ON P33 PANEL. 2
B100 WATER SUP LINE B102 WATER SUP LINE B158 WATER SUP LINE B233 WATER SUP LINE	C1156, WATER LINE HEATERS – AFT 2 3 (37J7); 4 (33G6) AND C1151, WATER LINE HEATERS – AFT 1 3 (37J6); 4 (33G5)	
B101 WATER SUP LINE B110 WATER SUP LINE B241 WATER FILL LINE HTR	C1166, AFT WTR LN HTRS 3 3 (37H4); 4 (33G7) AND C1151, WATER LINE HEATERS – AFT 1 3 (37J6); 4 (33G5)	
B41 FWD DRAIN MAST HTR B42 AFT DRAIN MAST HTR	C1165, DRAIN MAST HTG – GND (33A1) OR C1142, DRAIN MAST HTG – FLT (33A2)	IF BOTH DRAIN MAST HEATERS ARE INOPERATIVE, CHECK AIR/GROUND SYS NO. 2 RELAY K205 ON P37 PANEL FOR PROPER OPERATION (AMM 32-09-00, FIG. 103, BLOCK 1). REPLACE RELAY IF FAULTY. IF ONLY ONE HEATER FAILED, REPLACE DRAIN MAST HEATER (AMM 38-31-01).
B149 WATER FILL CONNECTION HTR	C1166, AFT WTR LN HTRS 3 3 (37H4); 4 (33G7)	REPLACE FILL CONNECTION HEATER (AMM 30-71-05).
B212 WASTE TANK SVCE FLT HTR B213 WASTE TANK SVCE FIT HTR	C1166, AFT WTR LN HTRS 3 3 (37H4); 4 (33G7)	REPLACE WASTE TANK SERVICE FITTING HEATER (AMM 30-71-07).
B44 AFT DRAIN PIPE GASKET HTR	C1166, AFT WTR LN HTRS 3 3 (37H4); 4 (33G7)	REPLACE AFT DRAIN PIPE GASKET HEATER (AMM 30-71-03).

Heater and Thermostat Fault Isolation
Figure 103A (Sheet 2)

PREREQUISITES

ELECTRICAL POWER (AMM 24-22-00)

CB'S: SEE TABLE 101

NOTE: COOL APPROPRIATE THERMOSTAT(S) WITH DRY ICE BELOW 30°F (-1°C) BEFORE TESTING HEATERS.

TABLE 101

INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B43 WATER SUP LINE B90 WATER SUP LINE B97 DRAIN LINE 3 B107 DRAIN LINE 3 B118 WATER SUP LINE B133 DRAIN LINE 3 B346 DRAIN LINE 3 B363 WATER SUP LINE B364 WATER SUP LINE B365 WATER SUP LINE B366 WATER SUP LINE	C1149, HEATER WTR LINE - FWD (33F1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B91 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K372 ON P33 PANEL. 2
B109 WATER SUP LINE B270 WATER SUP LINE B347 WATER SUP LINE B415 WATER SUP LINE	C1149, HEATER WTR LINE - FWD (33F1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B269 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K1069 ON P33 PANEL. 2
B96 WATER SUP LINE B131 DRAIN LINE 3 B135 DRAIN LINE 3 B159 WATER SUP LINE	C1150, WATER LINE HTRS - MID 1 (33G1)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B92 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K374 ON P33 PANEL. 2
B108 WATER SUP LINE B234 WATER SUP LINE B421 DRAIN LINE 3 B422 DRAIN LINE 3 B424 WATER SUP LINE	C1157, WATER LINE HTRS - MID 2 (33G2)	
B114 WATER SUP LINE B160 WATER SUP LINE B164 WATER SUP LINE B205 WATER SUP LINE B372 WATER SUP LINE B423 DRAIN LINE 3	C1158, WATER LINE HTRS - MID 4 (33G4) AND C1155, WATER LINE HTRS - MID 3 (33G3)	

(CONTINUED ON NEXT PAGE)

1 IF AN ELEMENT IS OVERHEATING, IT SHOULD BE REPLACED IN ACCORDANCE WITH APPLICABLE REMOVAL/INSTALLATION PROCEDURE. IF NOT HEATING, OR HEATING IMPROPERLY, FOLLOW INSTRUCTIONS IN TABLE 101. IF FAULT PERSISTS, REPAIR CIRCUIT AS NECESSARY BETWEEN HEATING ELEMENT AND THE APPLICABLE CIRCUIT BREAKER (WDM 30-71-11,-21,-22,-23,-24).

2 IF ONLY ONE HEATER TAPE/RIBBON HEATER IS INOPERATIVE, REPLACE THE FAULTY HEATER TAPE/RIBBON HEATER (AMM 30-71-01).

3 AIRPLANES WITH HEATER TAPE ON THE WATER SUPPLY AND DRAIN LINES

Heater and Thermostat Fault Isolation
Figure 103B (Sheet 1)

693720

TABLE 101		
INOPERATIVE HEATER	CIRCUIT BREAKER	CORRECTIVE ACTION 1
B88 DRAIN LINE 3 B98 WATER SUP LINE B102 WATER SUP LINE B233 WATER SUP LINE B237 WATER SUP LINE B241 WATER FILL LINE	C1151, WATER LINE HTRS - AFT 1 (33G5)	IF ALL HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B104 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K376 ON P33 PANEL. 2
B95 WATER SUP LINE B99 WATER SUP LINE B112 WATER SUP LINE	C1156, WATER LINE HTRS - AFT 2 (33G6)	
B111 WATER SUP LINE B113 WATER SUP LINE B115 WATER SUP LINE B119 WATER SUP LINE B120 WATER SUP LINE	C1155, WATER LINE HTRS - MID 3 (33G3)	IF ALL FIVE HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B103 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K373 ON P33 PANEL. 2
B87 WATER SUP LINE B100 WATER SUP LINE B110 WATER SUP LINE B158 WATER SUP LINE	C1166, WATER LINE HTRS - AFT 3 (33G7)	IF ALL FOUR HEATER TAPES/RIBBON HEATERS ARE INOPERATIVE, CHECK THERMOSTAT B93 FOR PROPER OPERATION (AMM 30-71-02). REPLACE IF FAULTY; OTHERWISE, REPLACE WATER LINE HEATERS RELAY K398 ON P33 PANEL. 2

Heater and Thermostat Fault Isolation
Figure 103B (Sheet 2)

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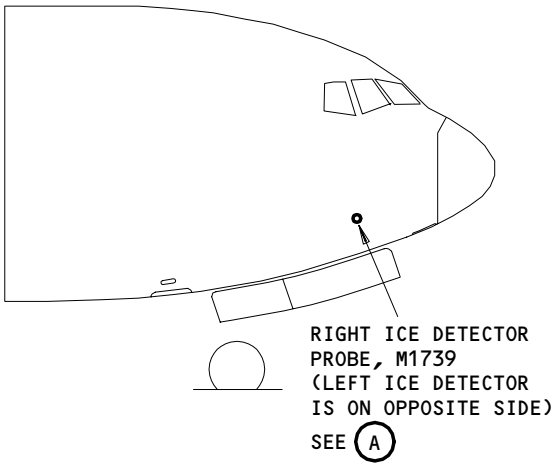
ICE DETECTION SYSTEM

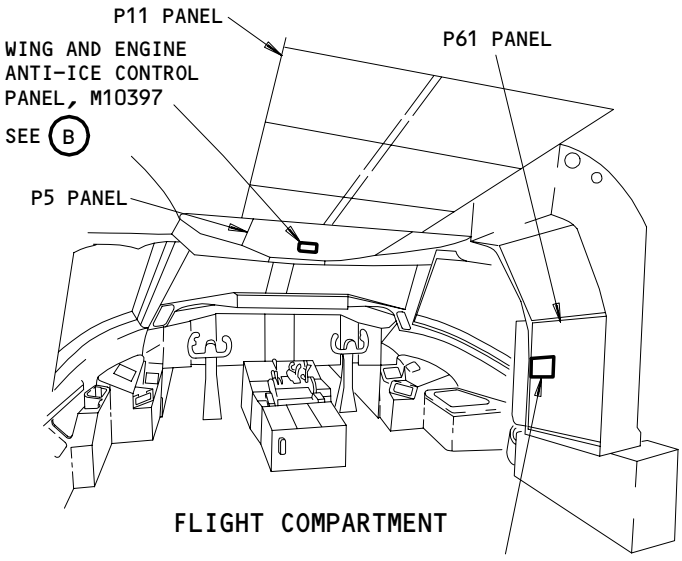
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	*
LEFT ICE DET, C1118		1	11T14	*
RIGHT ICE DET, C1119		1	11T23	
COMPUTER –				
EICAS – L, M10181				
EICAS – R, M10182				
DIODE –				
R448–R454, R481–R483, R490, R491				
LIGHT – ICE DETECT, L5	1	1	FLT COMPT, P5, WING AND ENGINE ANTI–ICE CONT PANEL, M10397	*
LIGHT – ICING, L6	1	1	FLT COMPT, P5, WING AND ENGINE ANTI–ICE CONT PANEL, M10397	*
PANEL –				
WING AND ENGINE ANTI–ICE CONTROL, M10397				
PROBES –				
L ICE DETECTOR, M1739	1	1	LEFT NOSE SECTION	30–81–01
R ICE DETECTOR, M1740	1	1	RIGHT NOSE SECTION	30–81–01
RELAY –				
L DET FAIL, K2113				
L ENG SW OFF, K2111				
R DET FAIL, K2114				
R ENG SW OFF, K2112				
SYS NO. 2 AIR/GND, K520				
WING SW OFF, K2110				
RELAY –				
SYS NO. 1 AIR/GND, K177				
RELAY –				
SYS NO. 2 AIR/GND, K202				
RESISTOR –				
L WING PULL–UP, R674				
R WING PULL–UP, R675				
SWITCH – ICE DET TEST, M1753	1	1	FLT COMPT, P61, RIGHT SIDE PANEL	

* SEE THE WDM EQUIPMENT LIST

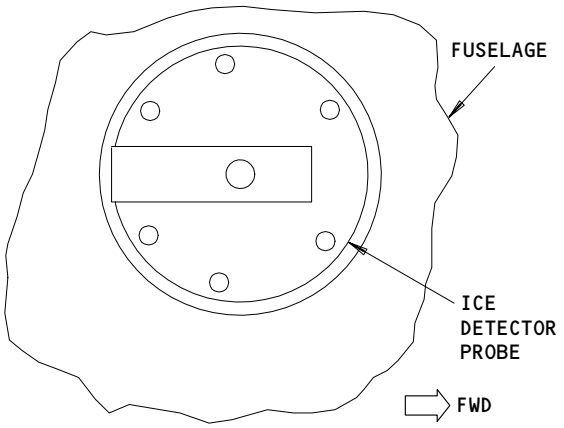
Ice Detection System – Component Index
Figure 101

691513



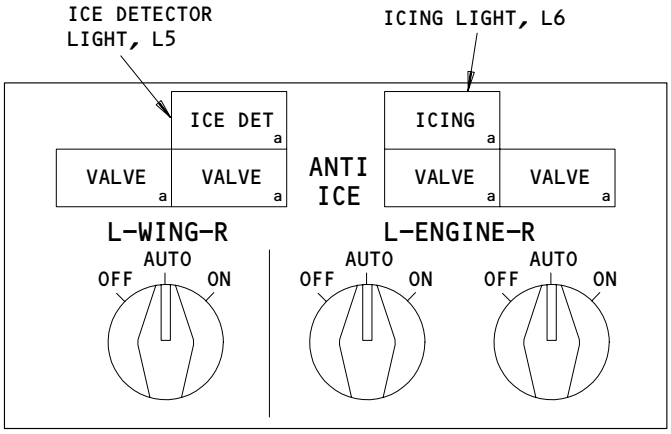


FLIGHT COMPARTMENT



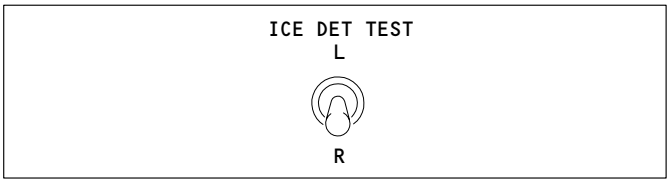
LEFT OR RIGHT ICE DETECTOR PROBE, M1739 OR M1740

A



WING AND ENGINE ANTI-ICE CONTROL PANEL, M10397

B



ICE DETECTOR TEST SWITCH, M1753

C

Ice Detection System - Component Location
Figure 102

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)

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

EICAS MESSAGE "ICE DETECTORS" SHOWN

EICAS Message ICE DETECTORS Shown
Figure 103

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)

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

EICAS MESSAGE
"R ICE DETECTOR"
SHOWN

EICAS Message R ICE DETECTOR Shown
Figure 104

K45706

PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
EICAS (AMM 31-41-00/501)

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

EICAS MESSAGE
"L ICE DETECTOR"
SHOWN

EICAS Message L ICE DETECTOR Shown
Figure 105

K45710