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[*] GUI 001-099			
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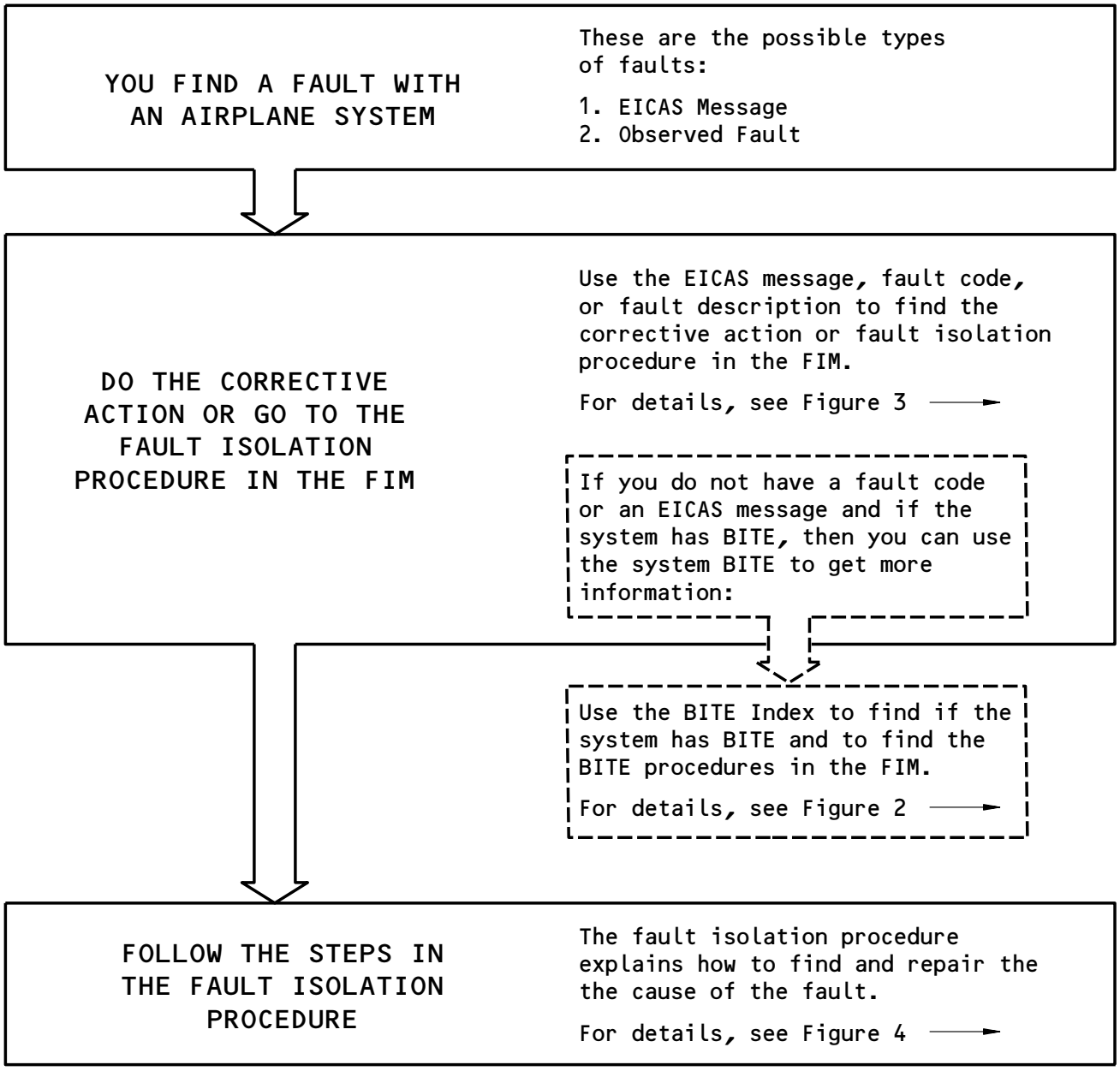

Basic Fault Isolation Process
Figure 1

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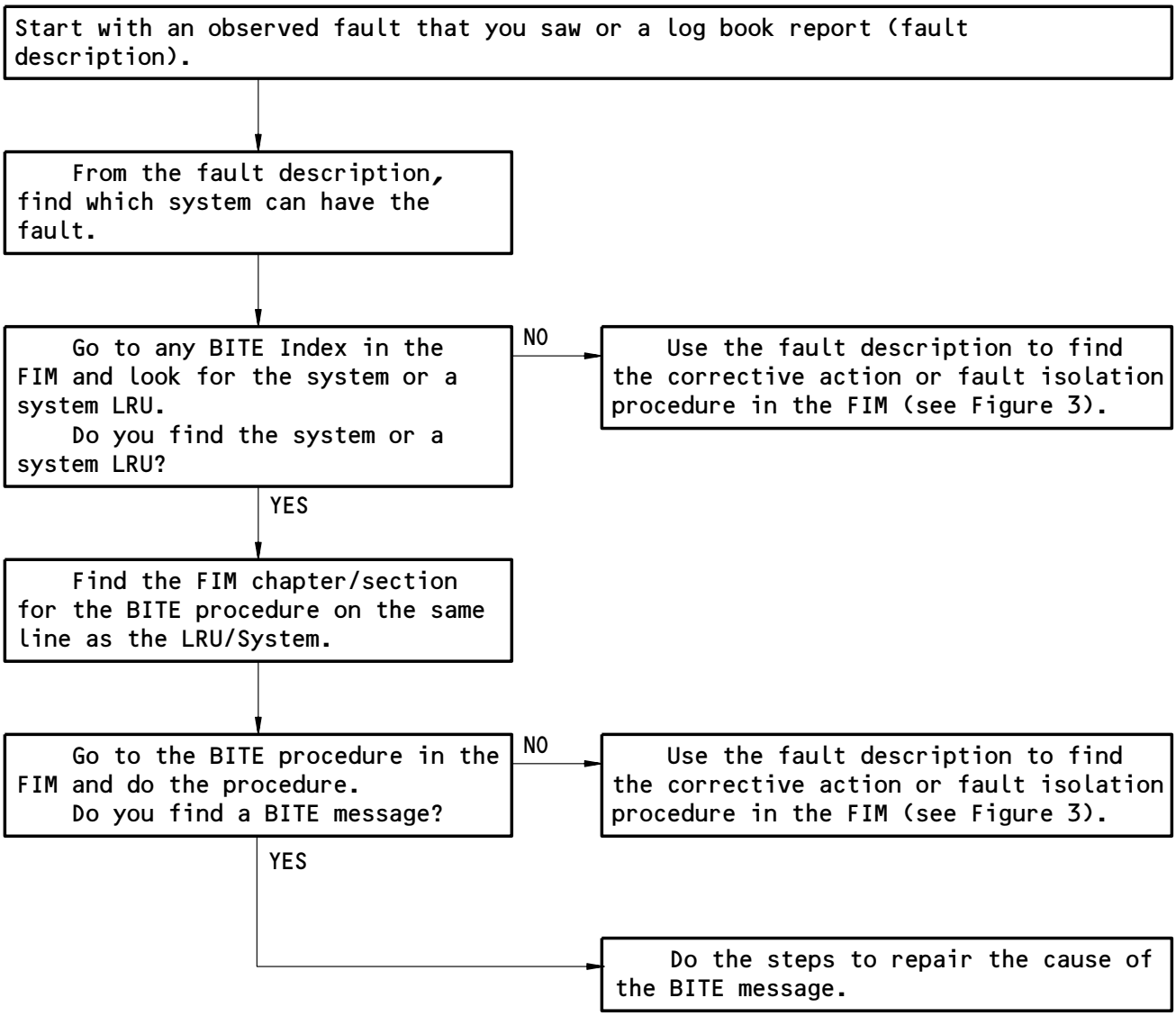

How to Get Fault Information from BITE
Figure 2

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

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

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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

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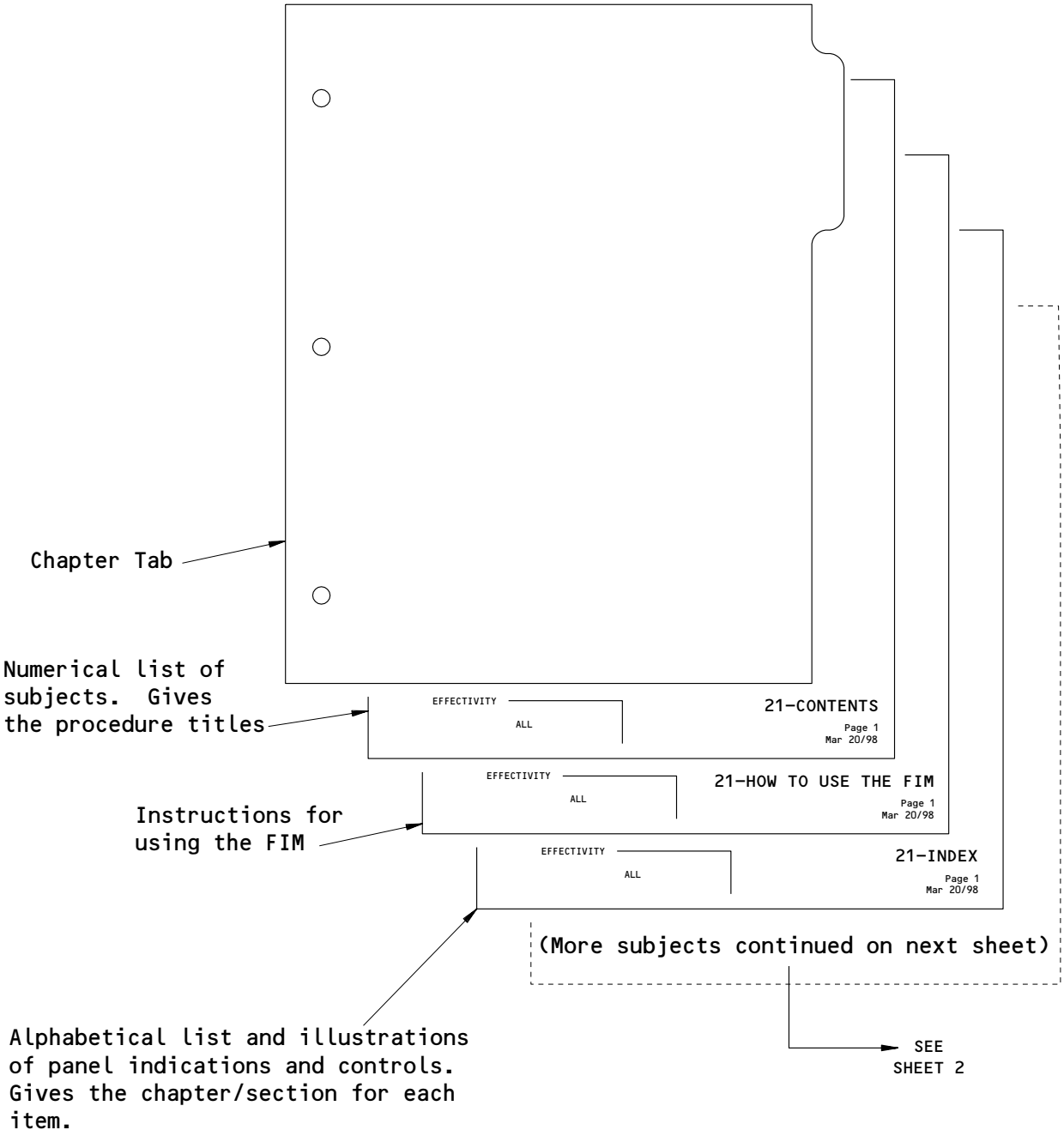

Subjects in Each FIM Chapter
Figure 5 (Sheet 1)

H54329

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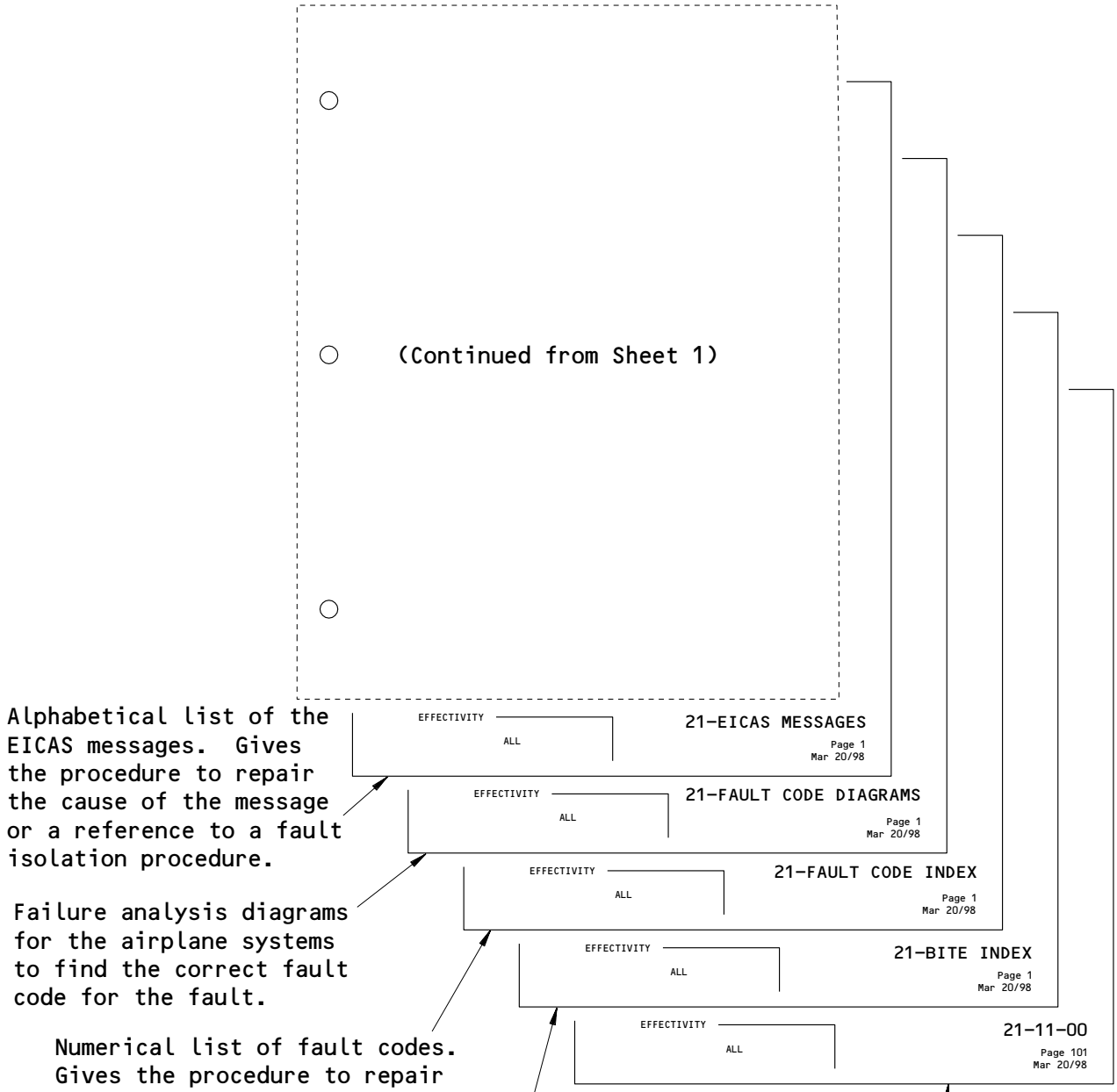

Subjects in Each FIM Chapter
Figure 5 (Sheet 2)

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TITLE	CHAP/SEC
CARGO HEAT	2140
AFT CARGO FAN	2140
FWD CARGO FAN	2140
EQUIPMENT COOLING	2158
ALTN	2158
FAN INOP	2158
OVERHEAT LIGHT	2158
SMOKE LIGHT	2158
TEST	2158
FLIGHT DECK SUPPLEMENTARY HEATERS	2140
FOOT HEATER	2140
SHOULDER HEATER	2140
PACK CONTROL	2151
PACK INOP LIGHT	2151
PACK OFF LIGHT	2151
PRESSURIZATION	2130
AUTO CONTROL	2130
CABIN ALT AUTO	2130
CABIN ALTITUDE	2130
CABIN AUTO INOP	2130
TEMPERATURE CONTROL AND AIR DISTRIBUTION	
AIR CONDITIONING NOISE AND VIBRATION	2120
COLD AREAS	2120
COMPT TEMP INOP LIGHT	2160
COMPT TEMP CONTROL	2160
RECIRCULATION FAN	2120
SMOKE, ELECTRICAL	CHAPTER 24
SMOKE, FUMES FROM APU	CHAPTER 49
TEMPERATURE CONTROL	2160
TRIM AIR	2160

AIR CONDITIONING – INDEX
Figure 1 (Sheet 1)

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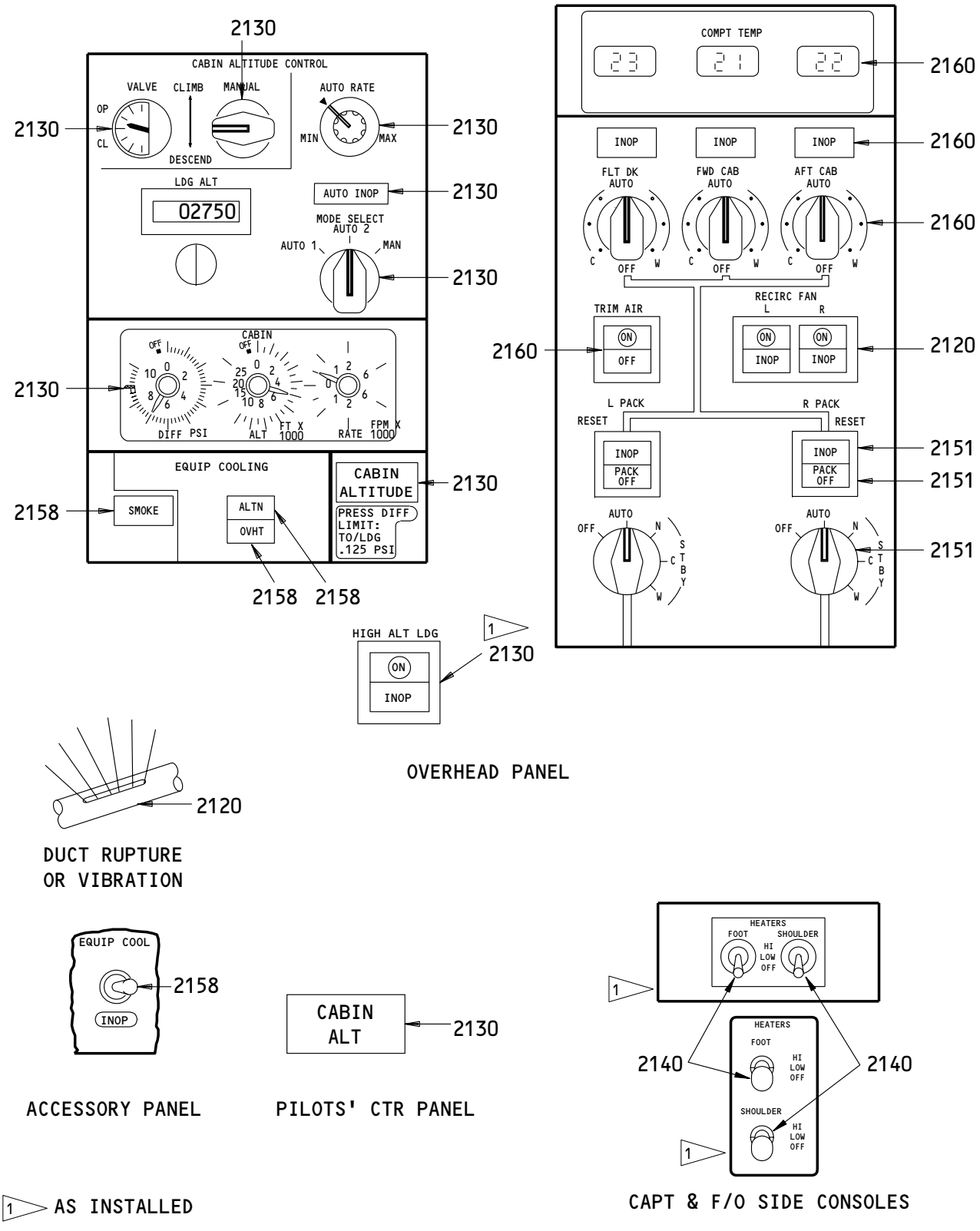

1 AS INSTALLED

AIR CONDITIONING – INDEX
Figure 1 (Sheet 2)

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AIR CONDITIONING - EICAS MESSAGE LIST

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

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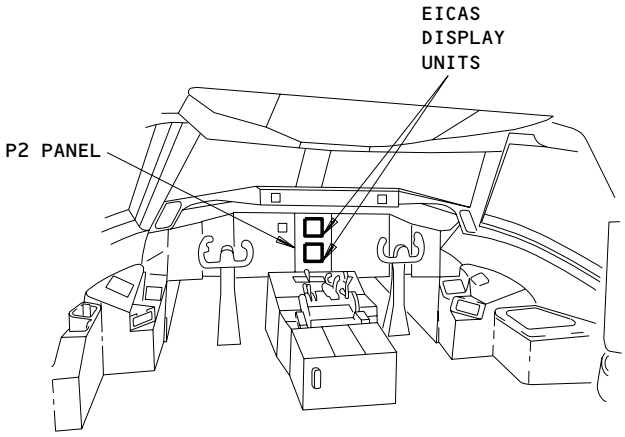
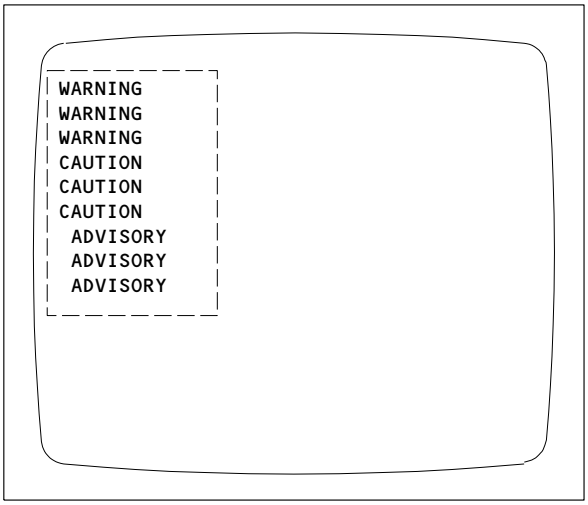
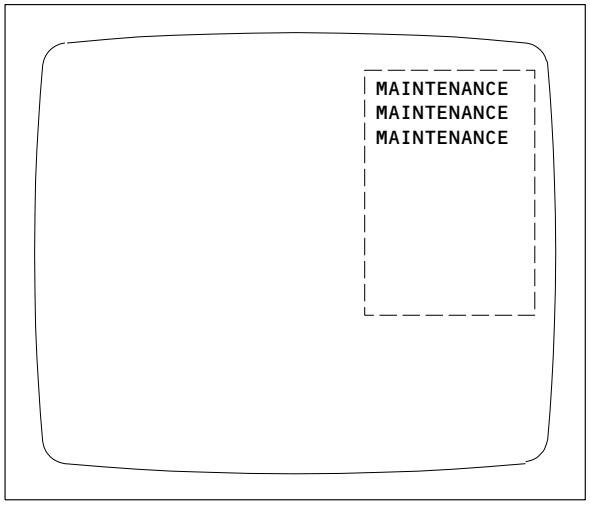


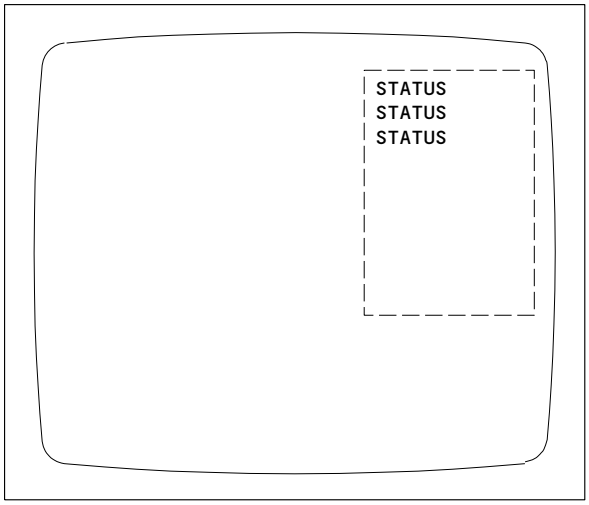
FLIGHT COMPARTMENT



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

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
AFT CABIN TEMP	C	FIM 21-60-00/101, Fig. 105
AFT CARGO FAN	S,M	FIM 21-40-00/101, Fig. 104
AFT EQ EXH FAN 1	M	FIM 21-20-00/101, Fig. 105
AFT EQ EXH FAN 2	M	FIM 21-20-00/101, Fig. 103
AFT EQ FLOW	M	FIM 21-58-00/101, CONFIG 1, Not Used FIM 21-58-00/101, CONFIG 2, Not Used FIM 21-58-00/101, CONFIG 3, Fig. 107 FIM 21-58-00/101, CONFIG 4, Fig. 103 FIM 21-58-00/101, CONFIG 4, Fig. 105 FIM 21-20-00/101, Fig. 103 FIM 21-20-00/101, Fig. 105
CABIN ALTITUDE	A	FIM 21-30-00/101, Fig. 103
CABIN ALT AUTO (1,2)	S,M	FIM 21-30-00/101, Fig. 104
CABIN AUTO INOP	B	FIM 21-30-00/101, Fig. 108
EQPT CLG FAN	S	FIM 21-58-00/101, Fig. 105
EQPT CLG FLOW	S	FIM 21-58-00/101, Fig. 113
EQPT CLG SENSOR	S	FIM 21-58-00/101, Fig. 112

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
EQPT CLG TEST	S,M	FIM 21-58-00/101, Fig. 121
EQPT OVHT	C	FIM 21-58-00/101, Fig. 117
EQPT SMOKE TEST	S	FIM 21-58-00/101, Fig. 124
FLT DK TEMP	C	FIM 21-60-00/101, Fig. 105
FWD CABIN TEMP	C	FIM 21-60-00/101, Fig. 105
FWD CARGO FAN	S,M	FIM 21-40-00/101, Fig. 104
FWD EQ EXH FLOW	M	FIM 21-58-00/101, Fig. 108
FWD EQ EXH SNSR	M	FIM 21-58-00/101, Fig. 111
FWD EQ SUP FAN 1	M	FIM 21-58-00/101, Fig. 109
FWD EQ SUP FAN 2	M	FIM 21-58-00/101, Fig. 110
FWD EQ SUP FLOW	M	FIM 21-58-00/101, Fig. 106

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
FWD EQ SUP SNSR	M	FIM 21-58-00/101, Fig. 104
FWD EQPT DET 1	M	FIM 21-58-00/101, Fig. 122
FWD EQPT DET 2	M	FIM 21-58-00/101, Fig. 123
FWD EQPT EXH DET	M	FIM 21-58-00/101, Fig. 103
FWD EQPT SMOKE	C	FIM 21-58-00/101, Fig. 115 FIM 21-58-00/101, Fig. 116
(L,R) PACK BITE	M	FIM 21-51-00/101, Fig. 104
(L,R) PACK TEMP	C	FIM 21-51-00/101, Fig. 104 FIM 21-51-00/101, Fig. 106 FIM 21-51-00/101, Fig. 107 FIM 21-51-00/101, Fig. 107A FIM 21-51-00/101, Fig. 107B
(L,R) PACK OFF	C	This message does not indicate a failure if pack is selected off. FIM 21-51-00/101, Fig. 107A FIM 21-51-00/101, Fig. 107B
(L,R) RECIR FAN	C	FIM 21-20-00/101, Fig. 104
OVBD EX VAL OPEN	S	FIM 21-58-00/101, Fig. 114
OVBD EX VAL TEST	S	FIM 21-58-00/101, Fig. 120

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
TRIM AIR	C	This message does not indicate a failure.
ZONE TEMP BITE	M	FIM 21-60-00/101, Fig. 104

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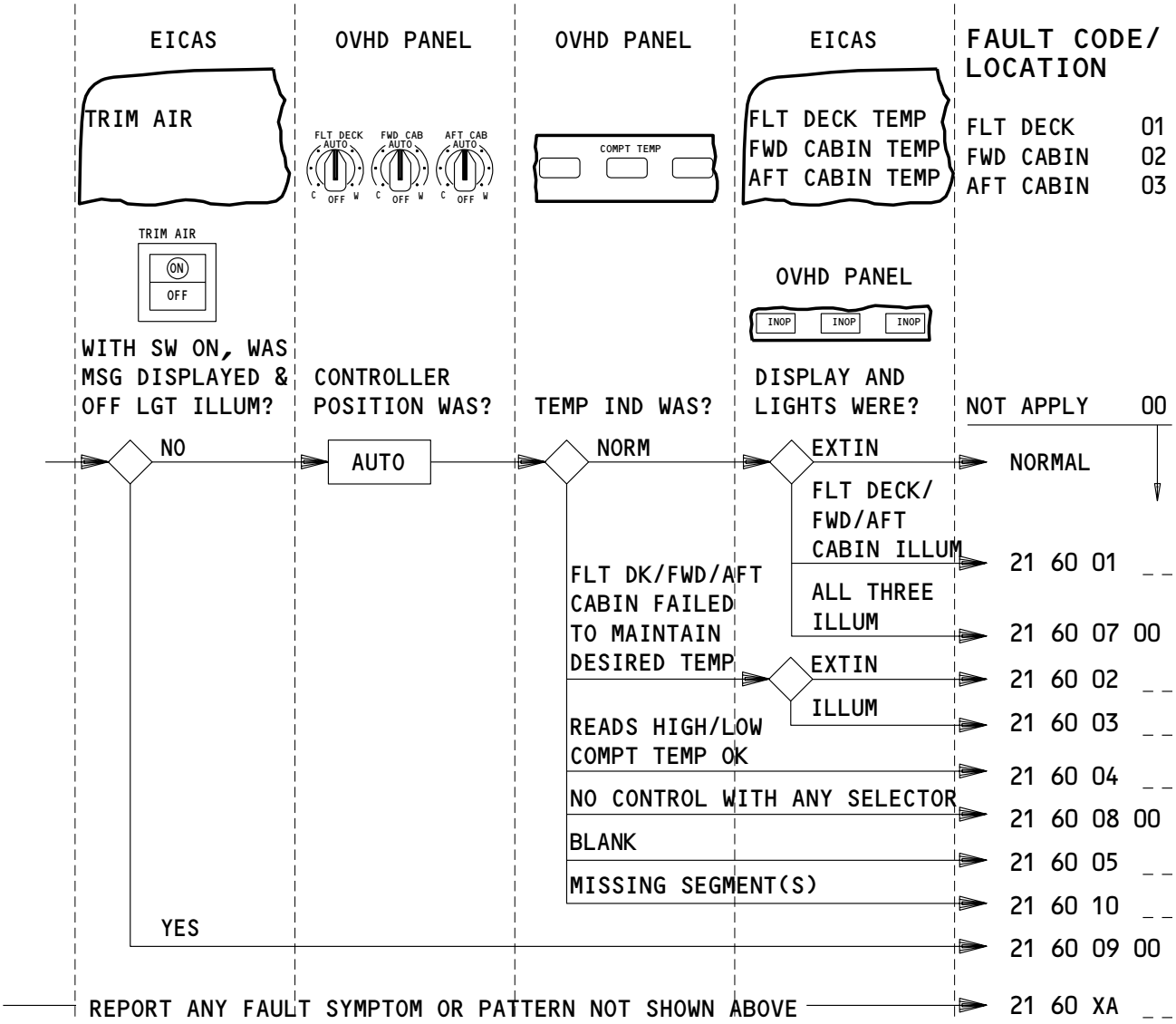

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11N25	ZONE TRIM VLV CLOSE F/D
11N26	ZONE TRIM VLV CLOSE FWD
11N27	ZONE TRIM VLV CLOSE AFT
11N25	ZONE TEMP CONT VLV (CL,CLOSE) (FLT DK, F/D)
11N26	ZONE TEMP CONT VLV (CL,CLOSE) FWD
11N27	ZONE TEMP CONT VLV (CL,CLOSE) AFT
11P15	CABIN TRIM AIR
11P16	CABIN ZONE (CONT,CNTLR)
11P17	CABIN ZONE TEMP IND
11P20	FLT DECK FAN CONT
11P21	ZONE FAN FWD CONT
11P22	ZONE FAN AFT CONT
11P25	ZONE DUCT OVHT (INOP) (FLT DK, F/D)
11P26	ZONE DUCT OVHT (INOP) FWD
11P27	ZONE DUCT OVHT (INOP) AFT

TEMPERATURE CONTROL - FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

58266

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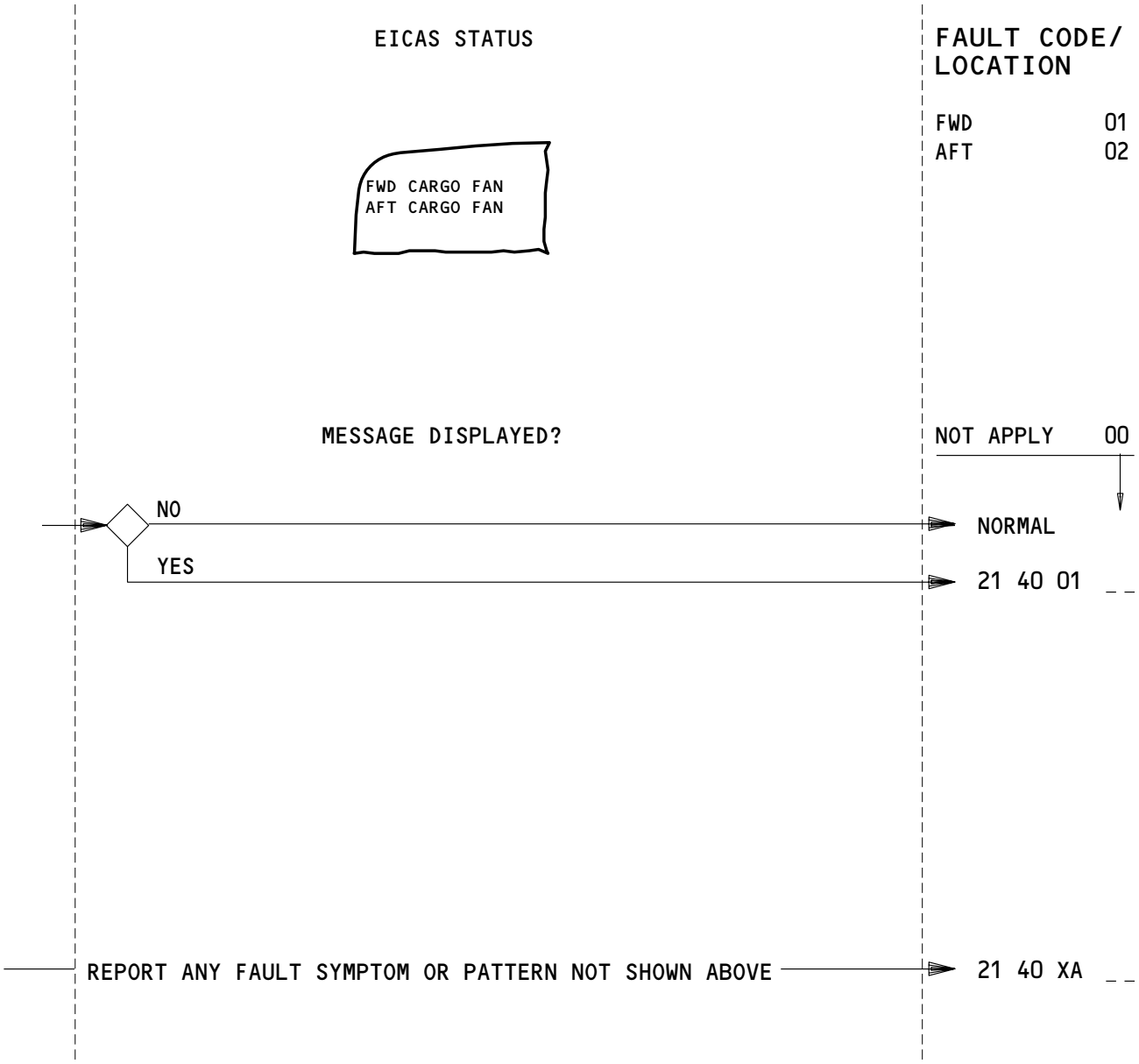

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11N12	FAN CONTROL FWD CARGO	11N21	FAN CONT AFT CARGO
11N17	CARGO HEAT FAN FWD	11N22	CARGO HEAT FAN AFT
11N18	CARGO HEATER AFT	11N22	FAN CONT AFT CARGO
11N18	AFT CARGO HEAT (CONT)		

CARGO HEAT – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

56845

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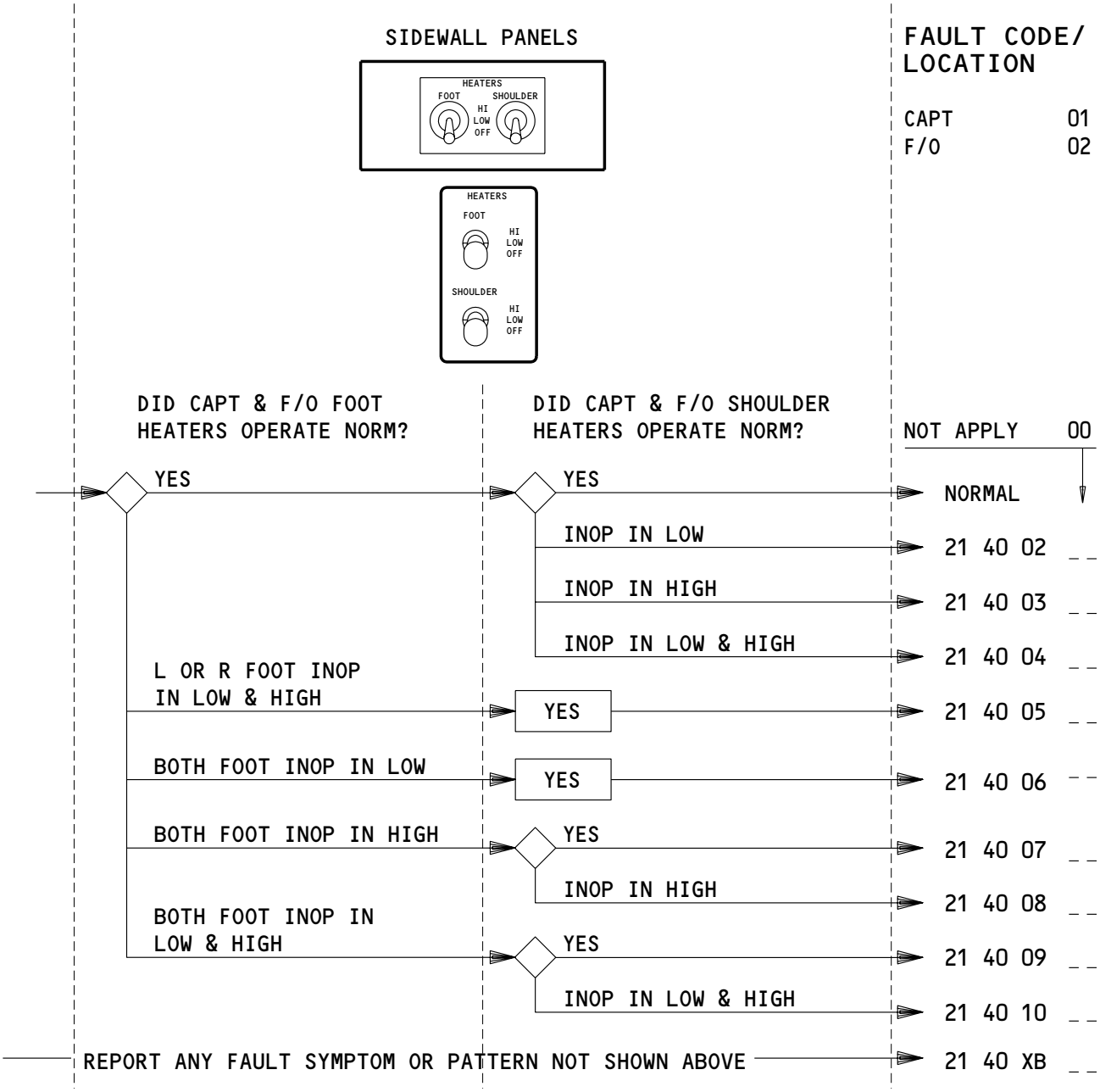

APPLICABLE CIRCUIT BREAKERS

NONE

FLIGHT DECK SUPPLEMENTARY HEATERS – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

K47269

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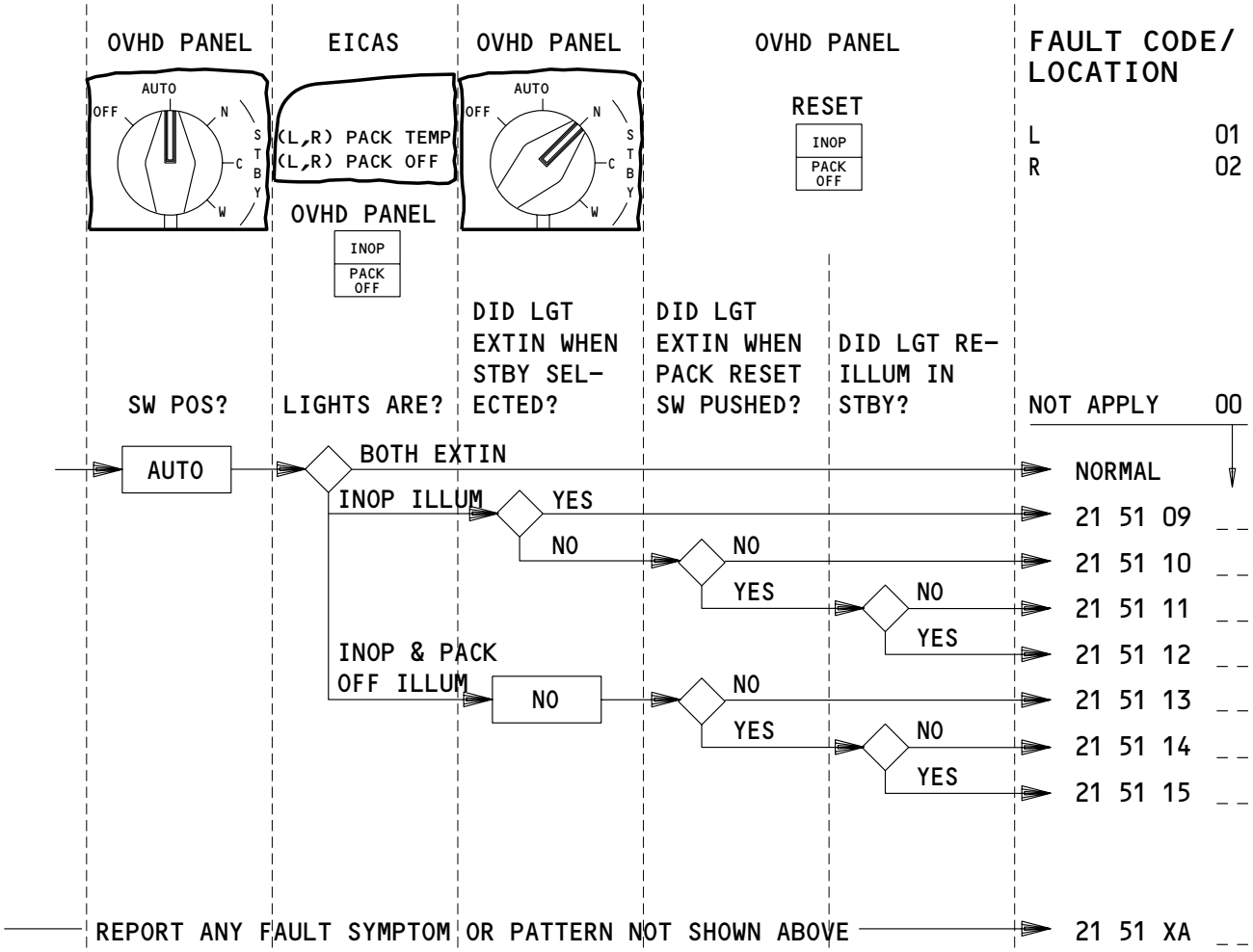

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11A13	(AIR COND PACK) LEFT AUTO CONT	11M11	LEFT PACK AUTO (PWR, POWER)
11A14	(AIR COND PACK) LEFT FLOW CONT	11M13	LEFT PACK FLOW CONT
11A14	LEFT PACK AUTO CONT	11M15	RIGHT PACK STANDBY (PWR, POWER)
11A15	LEFT PACK FLOW CONT	11M16	RIGHT PACK STANDBY CONT
11A15	(AIR COND PACK) RIGHT STBY CONT	11M17	PACK FLOW IND
11A26	(AIR COND PACK) LEFT STBY CONT	11M19	RIGHT PACK AUTO (PWR, POWER)
11A28	(AIR COND PACK) RIGHT AUTO CONT	11M20	RIGHT PACK AUTO CONT
11A29	(AIR COND PACK) RIGHT FLOW CONT	11M22	RIGHT PACK FLOW CONT
11M10	LEFT PACK AUTO PWR	11M24	(LEFT, L) PACK STANDBY (PWR, POWER)
11M11	LEFT PACK AUTO CONT	11M25	(LEFT, L) PACK STANDBY CONT

PACK CONTROL - FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

335471

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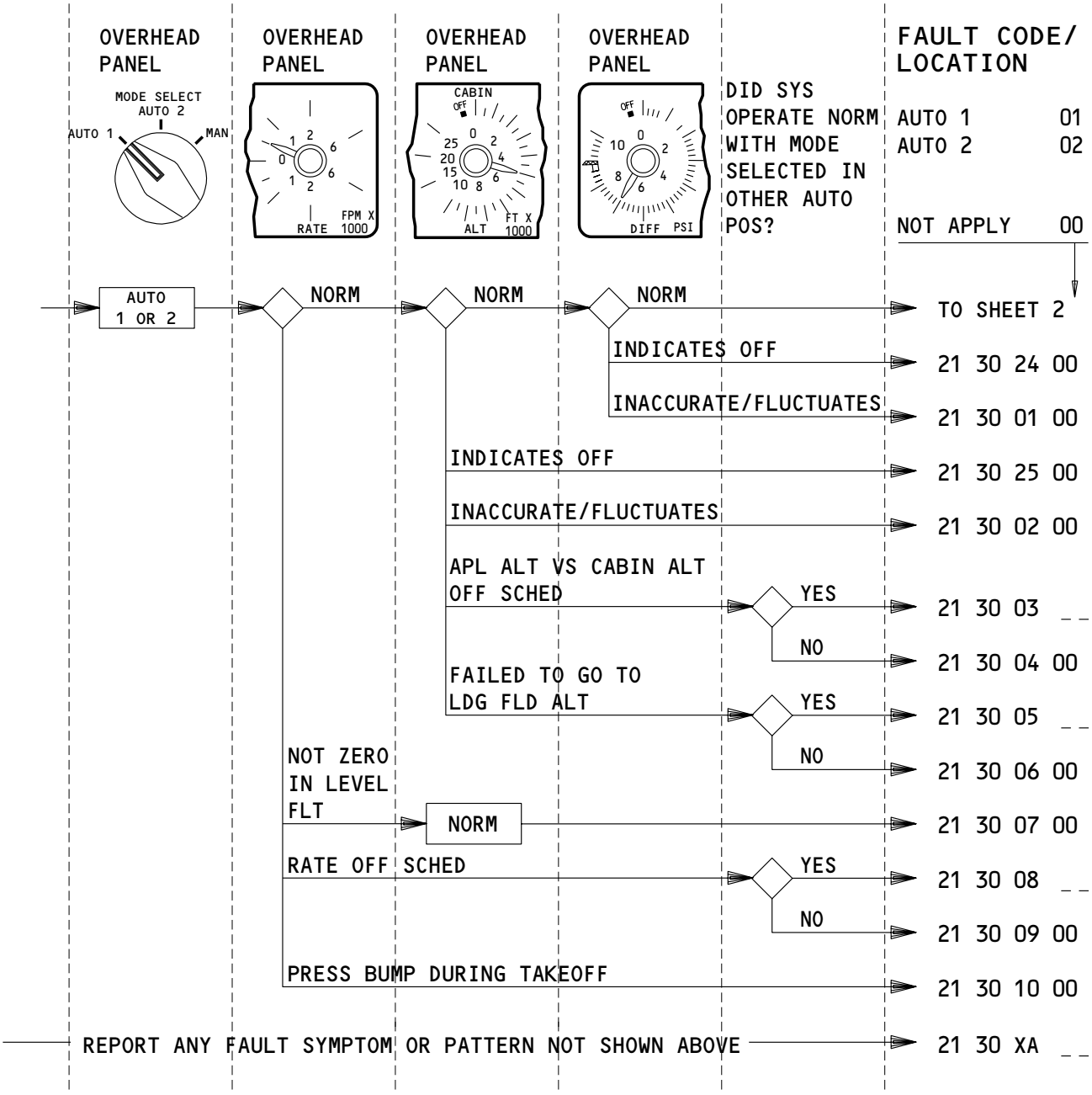

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11B12	CABIN DIFF PRESS IND	11B15	CABIN ALT/PRESS SEL
11B13	CABIN ALTM	11N15	CABIN ALTITUDE CONTROL AUTO 1
11B14	CABIN ALTITUDE CONTROL (MAN, MANUAL)	11N15	CABIN ALT/PRESS AUTO 1
11B14	CABIN ALT/PRESS MAN	11N24	CABIN ALTITUDE CONTROL AUTO 2
11B15	CABIN ALTITUDE CONTROL (SEL, SELECT)	11N24	CABIN ALT/PRESS AUTO 2

AUTO CONTROL (SHEET 1) – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

335473

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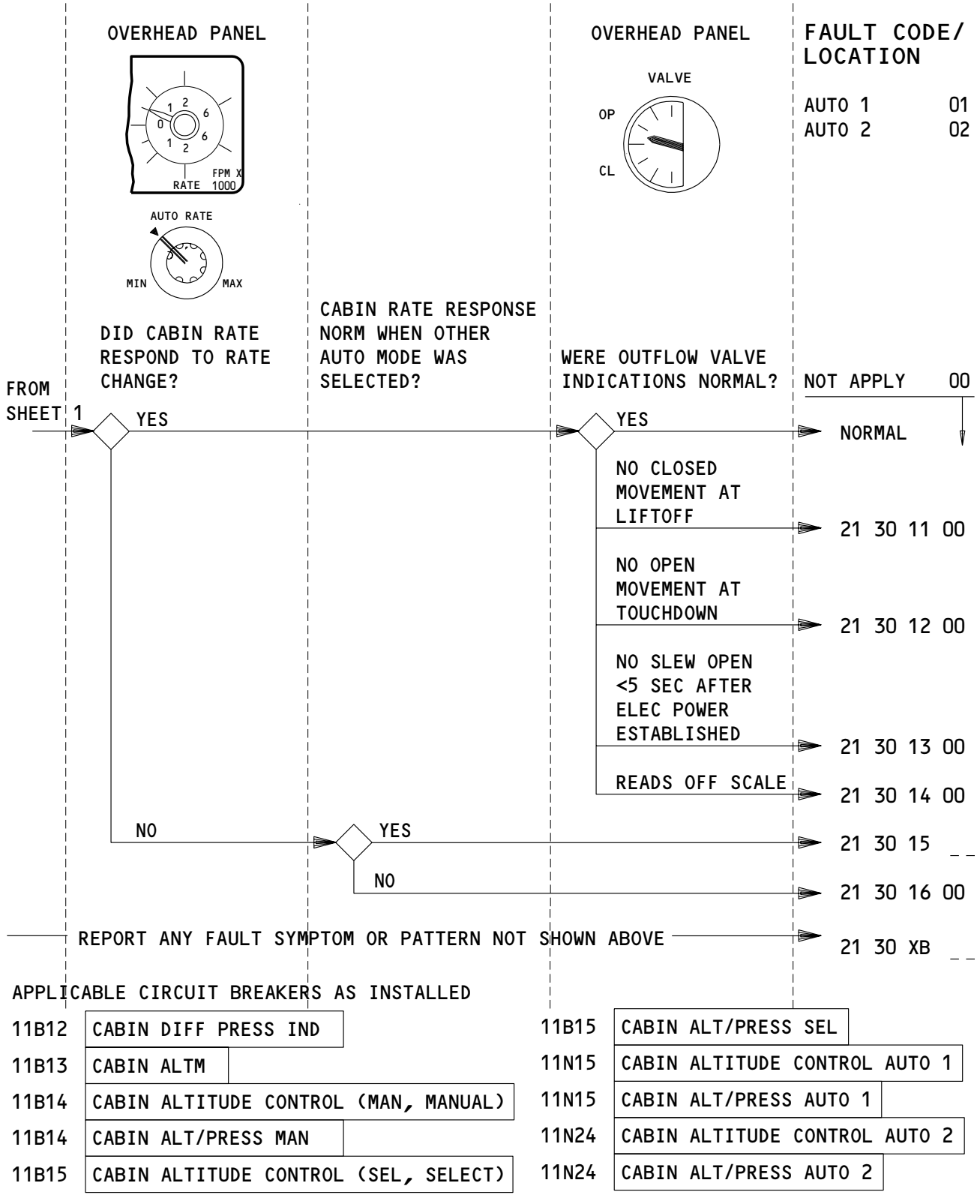

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11B12	CABIN DIFF PRESS IND	11B15	CABIN ALT/PRESS SEL
11B13	CABIN ALTM	11N15	CABIN ALTITUDE CONTROL AUTO 1
11B14	CABIN ALTITUDE CONTROL (MAN, MANUAL)	11N15	CABIN ALT/PRESS AUTO 1
11B14	CABIN ALT/PRESS MAN	11N24	CABIN ALTITUDE CONTROL AUTO 2
11B15	CABIN ALTITUDE CONTROL (SEL, SELECT)	11N24	CABIN ALT/PRESS AUTO 2

AUTO CONTROL (SHEET 2) – FAULT CODES

EFFECTIVITY
ALL

21-FAULT CODE DIAGRAM

335474

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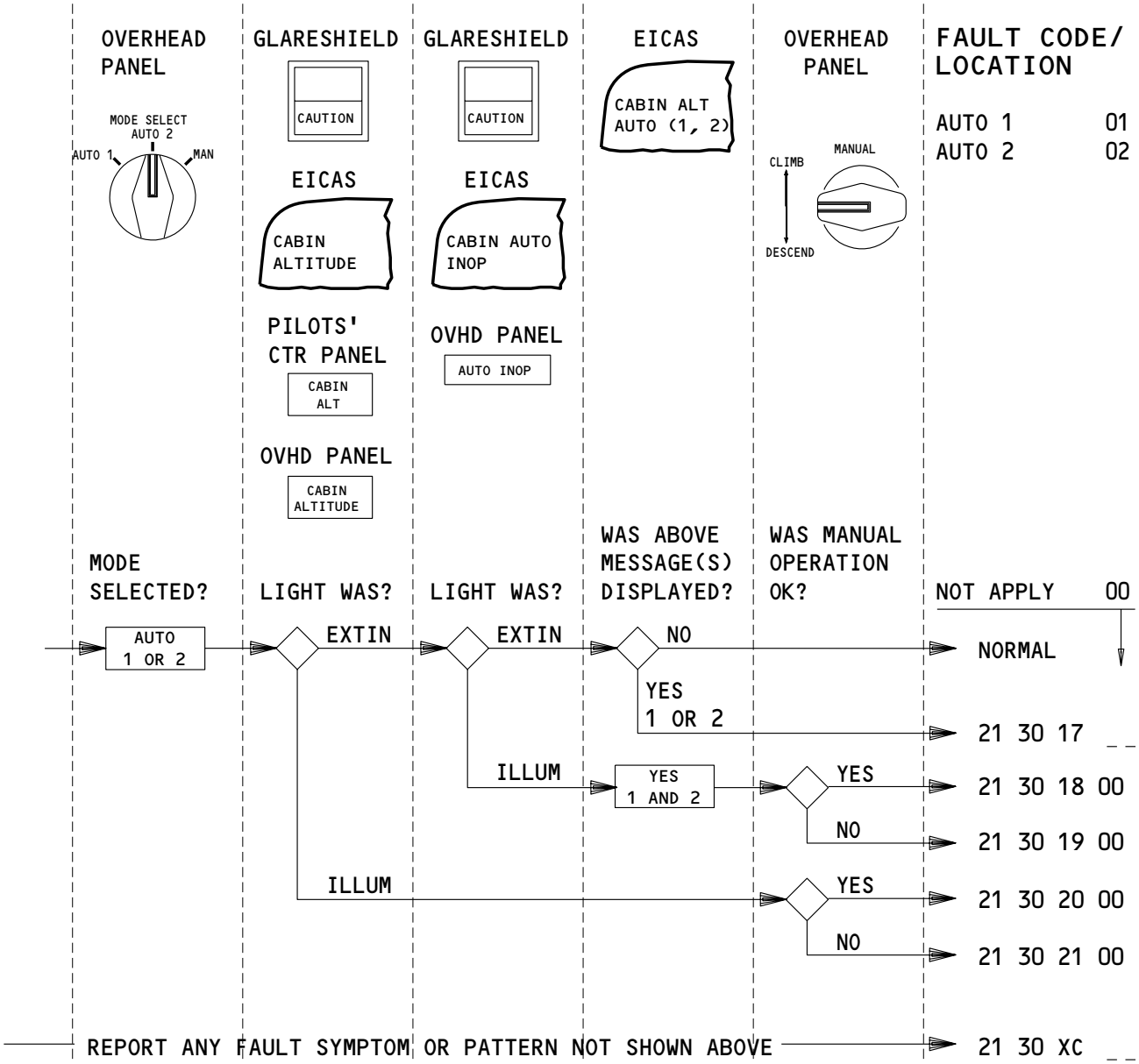

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11B12	CABIN DIFF PRESS IND	11B15	CABIN ALT/PRESS SEL
11B13	CABIN ALTM	11N15	CABIN ALTITUDE CONTROL AUTO 1
11B14	CABIN ALTITUDE CONTROL (MAN, MANUAL)	11N15	CABIN ALT/PRESS AUTO 1
11B14	CABIN ALT/PRESS MAN	11N24	CABIN ALTITUDE CONTROL AUTO 2
11B15	CABIN ALTITUDE CONTROL (SEL, SELECT)	11N24	CABIN ALT/PRESS AUTO 2

CABIN ALTITUDE/AUTO INOP/CABIN ALT AUTO - FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

02

E08403

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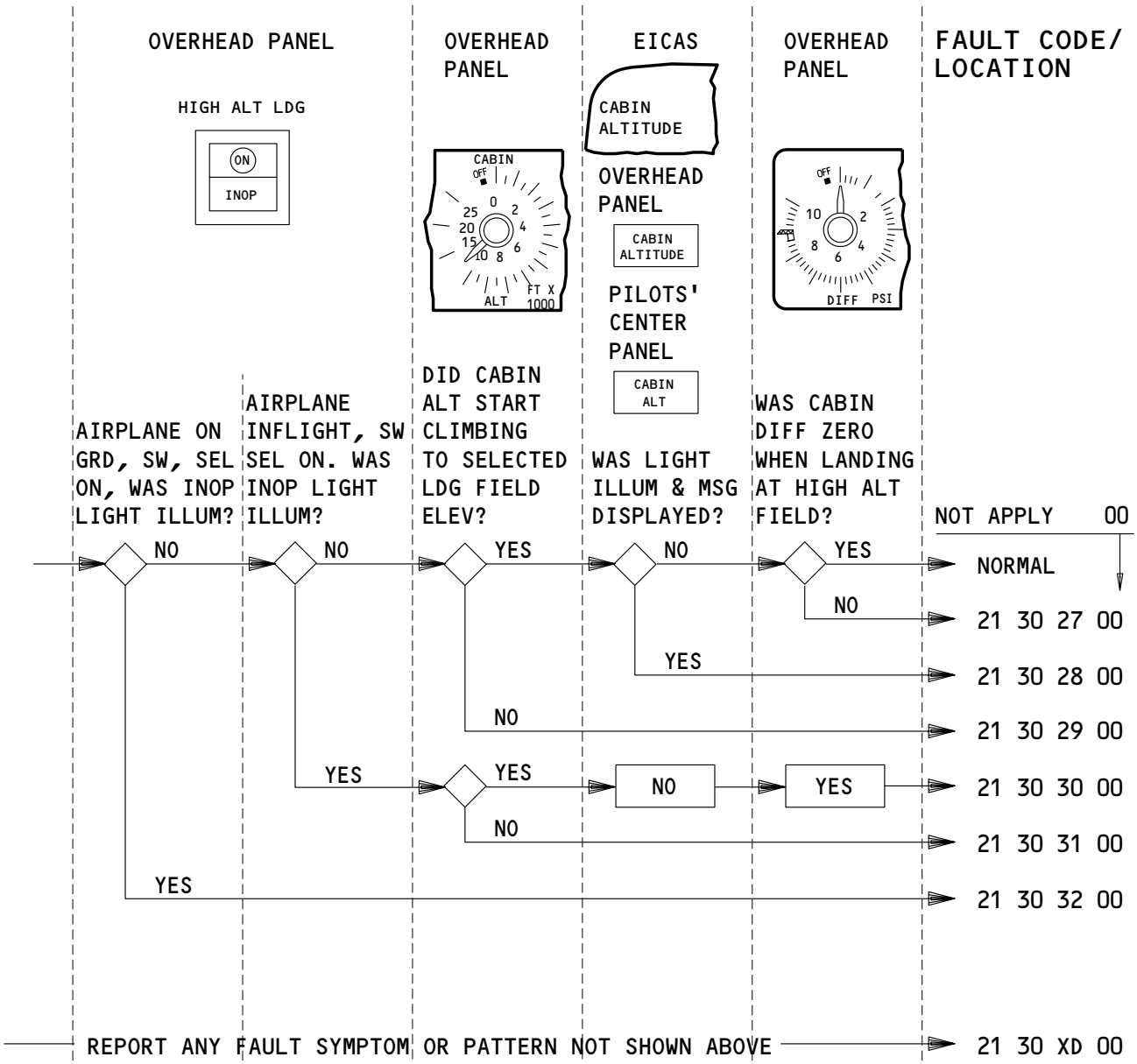

APPLICABLE CIRCUIT BREAKERS

11B14	CABIN ALTITUDE CONTROL (MANUAL, MAN)
11B15	CABIN ALTITUDE CONTROL (SELECT, SEL)
11N15	CABIN ALTITUDE CONTROL AUTO 1
11N24	CABIN ALTITUDE CONTROL AUTO 2

HIGH ALTITUDE LANDING CONTROL & TEST - FAULT CODES

EFFECTIVITY
AIRPLANES WITH HIGH ALTITUDE LANDING SYSTEM

21-FAULT CODE DIAGRAM

E08404

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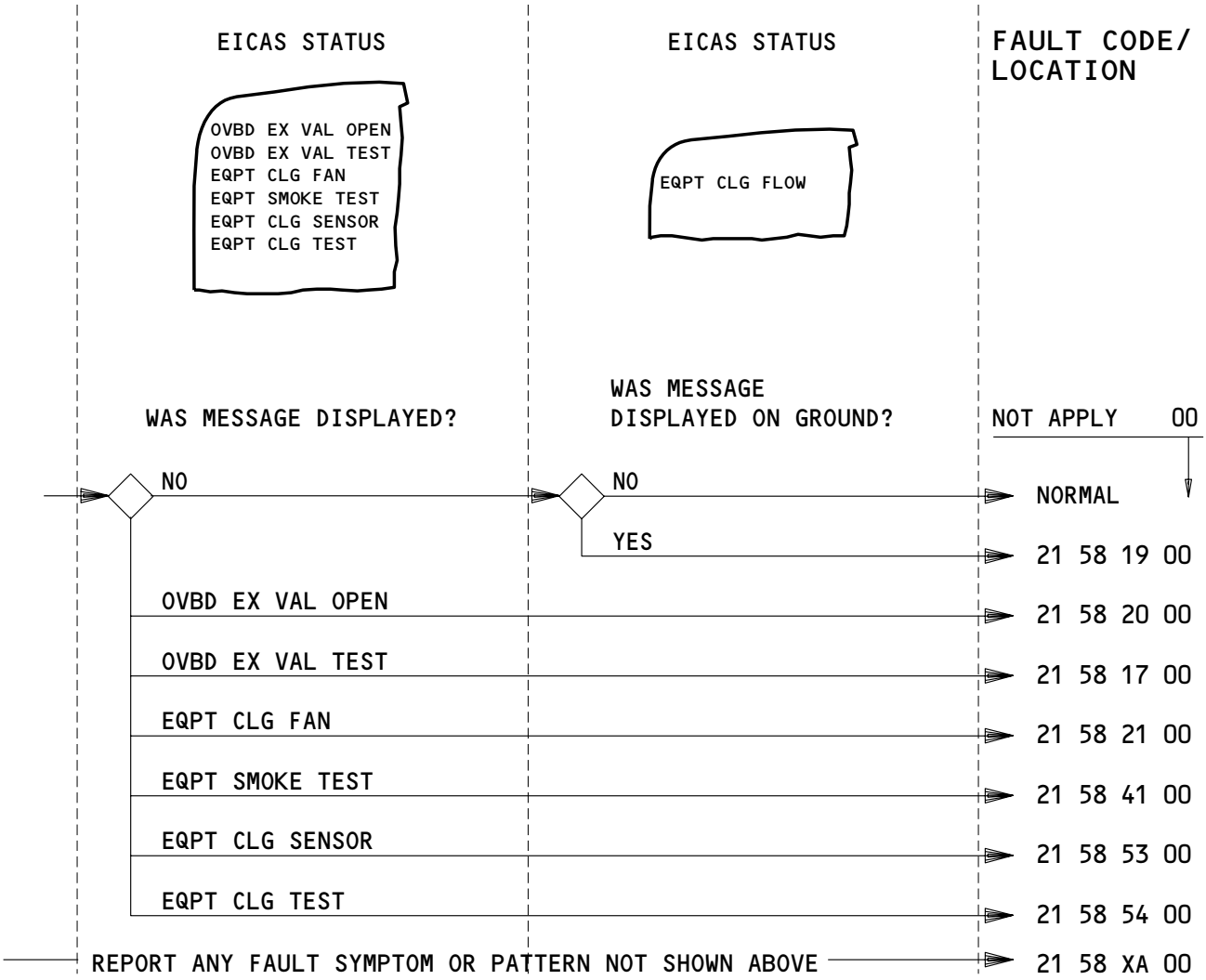

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6D6	EQUIP COOL GND WARN
6D6	EQUIP COOL GND WARN AND TEST
6F17	EQUIP COOL SUPPLY FAN 1
6F17	EQUIP COOL AUX FAN
6F17	FWD EQUIP COOL SUPPLY FAN 1
6F23	EQUIP COOL SUPPLY FAN 2
6F23	FWD EQUIP COOL SUPPLY FAN 2
11C19	SMOKE CLEAR EQUIP COOL
11C20	SMOKE CLEAR INOP
11C20	EQUIP COOL SMOKE DET (CONT)
11C21	EQUIP COOL TEST
11N10	FAN CONTROL AFT EQPT (EXH) 1
11N11	FAN CONTROL FWD (E/E) EQPT COOL SPLY 1
11N11	EQUIP COOLING FAN CONT AFT EXH XFR
11N11	FAN CONT AFT SUPPLY 1
11N12	FAN CONT FWD SUPPLY 1
11N14	FAN CONTROL AFT EQPT SUPPLY 1
11N13/17	EQUIP COOLING LO FLOW DET
11N19	FAN CONT AFT EQUIP (EXH) 2
11N20	FAN CONT FWD EQPT (E/E) COOL SPLY 2
11N20	FAN CONT AFT SUPPLY 2
11N21	FAN CONT FWD SUPPLY 2
11N22	FAN CONT AFT EQPT SPLY 2
11P14	RECIRC CARGO FIRE CONT (LEFT, L)
11P23	RECIRC CARGO FIRE CONT (RIGHT, R)

EQUIPMENT COOLING – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

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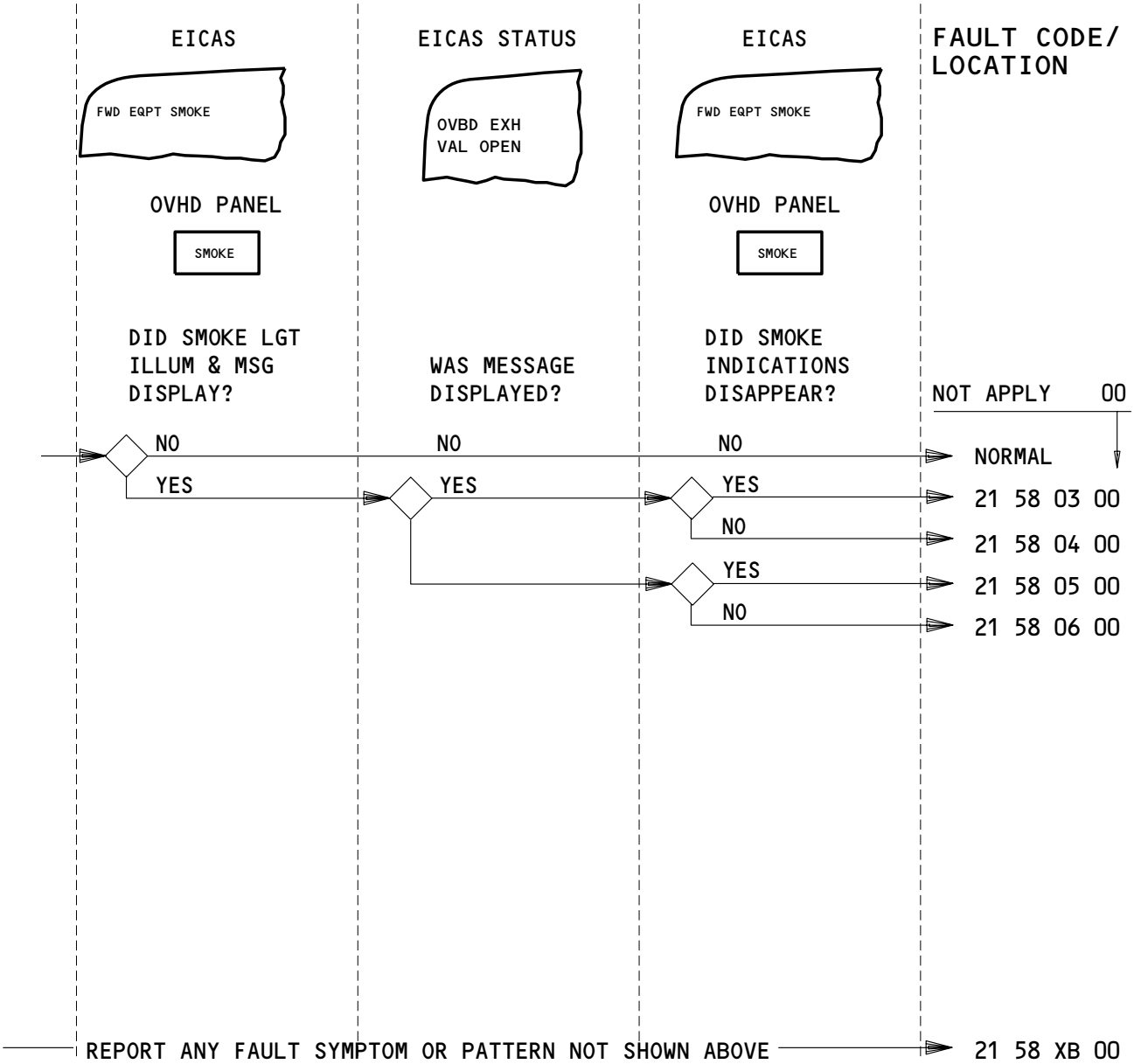

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6D6	EQUIP COOL GND WARN	11N11	EQUIP COOLING FAN CONT AFT EXH XFR
6D6	EQUIP COOL GND WARN AND TEST	11N13/17	EQUIP COOLING LOW FLOW DET
6D17	EQUIP COOL AUX FAN	11P14	RECIRC CARGO FIRE CONT (LEFT, L)
6F17	FWD EQUIP COOL SUPPLY FAN 1	11P23	RECIRC CARGO FIRE CONT (RIGHT, R)
6F23	FWD EQUIP COOL SUPPLY FAN 2		
11C20	EQUIP COOL SMOKE DET CONT		

EQUIPMENT COOLING SMOKE - FAULT CODES

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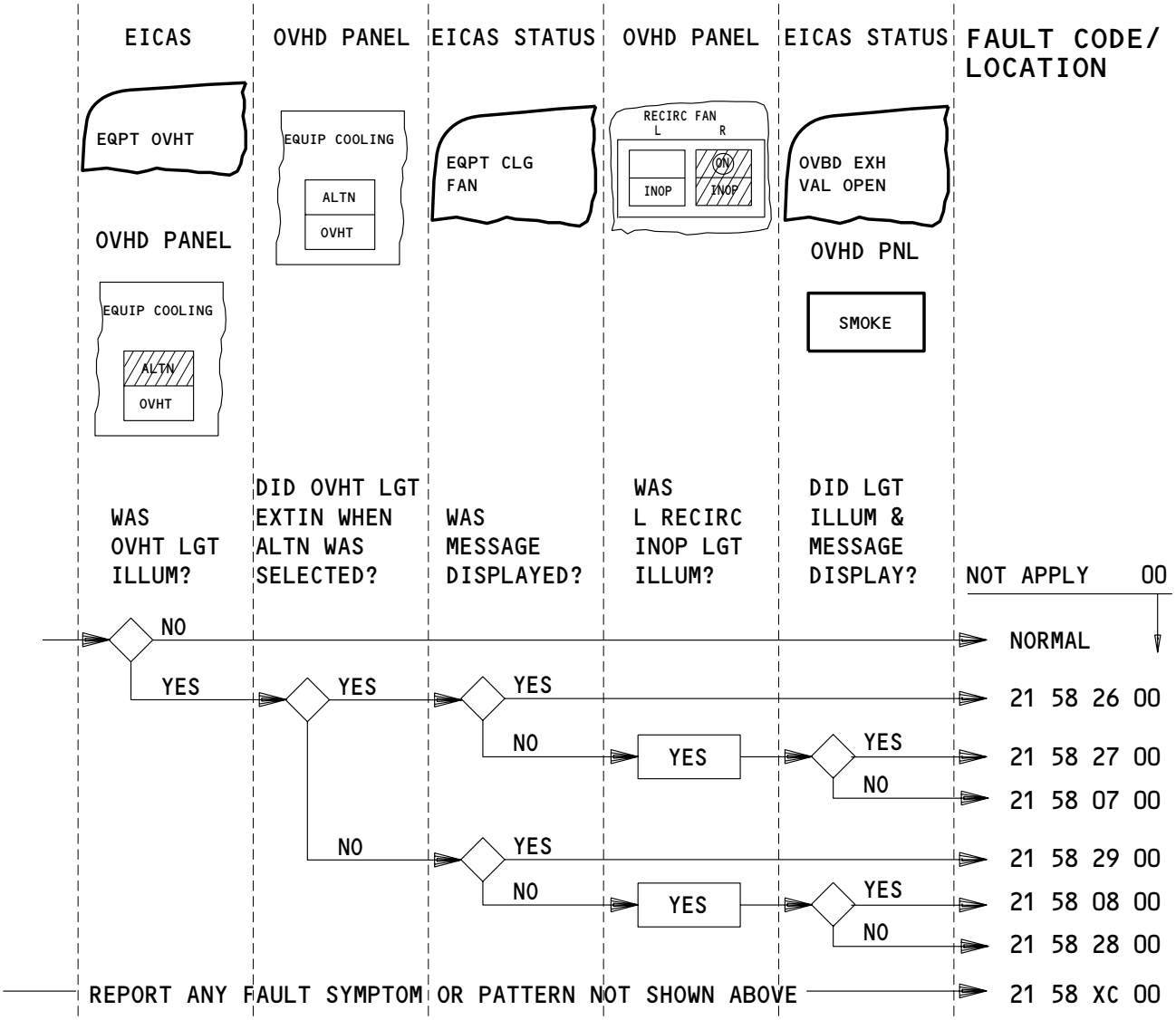

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6D6	EQUIP COOL (GRD WARN, GRD WARN AND TEST)
6D17	EQUIP COOL AUX FAN
6F17	(FWD) EQUIP COOL SUPPLY FAN 1
6F23	(FWD) EQUIP COOL SUPPLY FAN 2
11C19	EQUIP COOL SMOKE CLEAR
11C20	EQUIP COOLING SMOKE DET CONT
11C20	EQUIP COOLING SMOKE DET CONT
11N10	EQUIP COOLING FAN CONT AFT EXH 1
11N10	FAN CONTROL AFT EQUIP
11N11	FAN CONTROL FWD EQPT COOL SUPPLY 1
11N11	EQUIP COOLING FAN CONT AFT (SUPPLY 1, EXH XFER)
11N12	EQUIP COOLING FAN CONT FWD SUPPLY 1
11N13/17	EQUIP COOLING (LO, LOW) FLOW DET
11N14	FAN CONTROL AFT EQUIP SUPPLY
11N19	EQUIP COOLING FAN CONT AFT (EXH, EQUIP) 2
11N20	FAN CONT FWD EQPT COOL SUPPLY 2
11N20	EQUIP COOLING FAN CONT AFT SUPPLY 2
11N21	EQUIP COOLING FAN CONT FWD SUPPLY 2
11N22	FAN CONT AFT EQPT SUPPLY 2
11P14	RECIRC (CARGO FIRE CONT LEFT, FAN L)
11P23	RECIRC (CARGO FIRE CONT RIGHT, FAN R)

EQUIPMENT COOLING OVERHEAT – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

K46588

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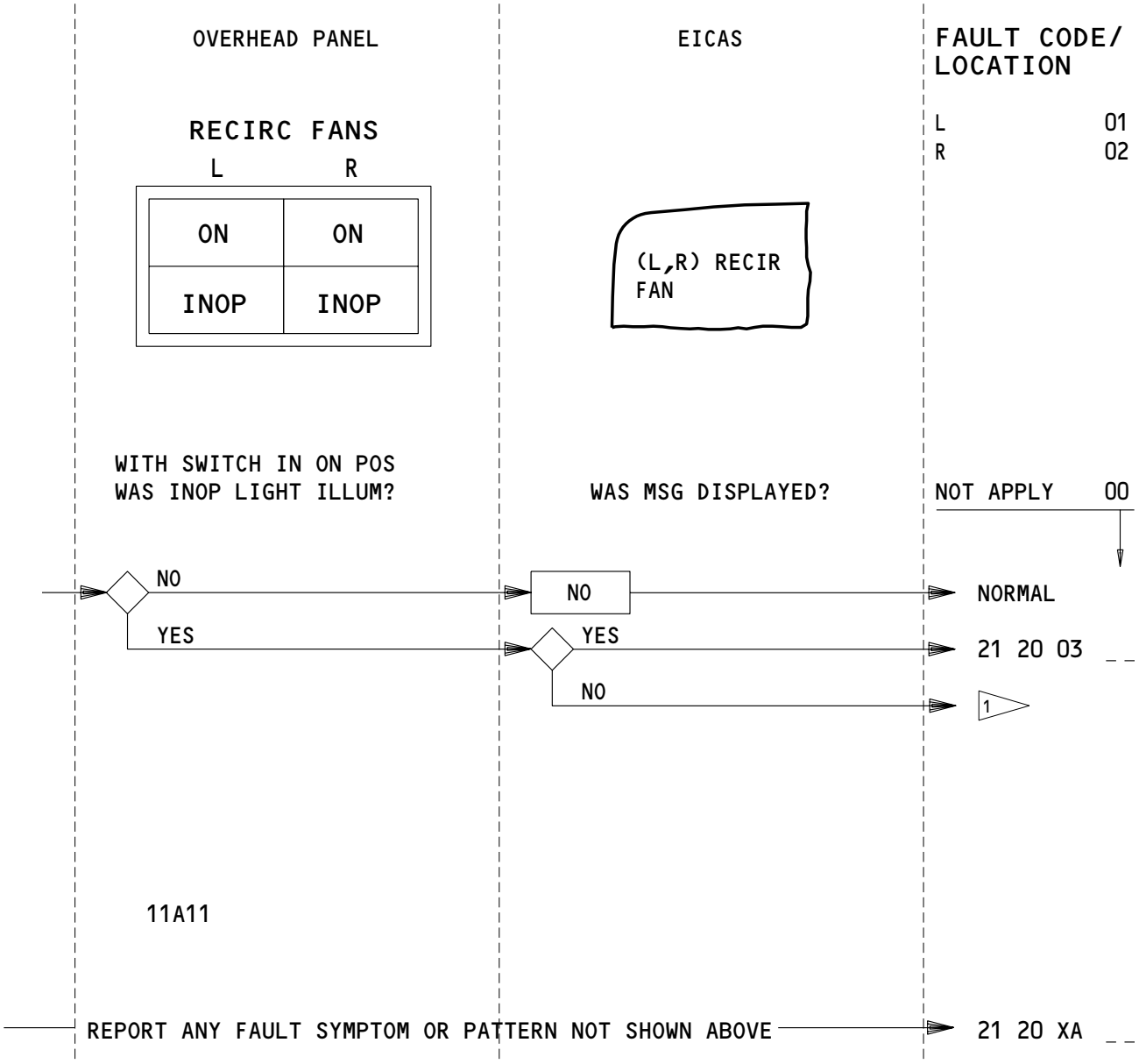

1 SEE "EQUIP COOLING SMOKE" FAULT CODES. EICAS MSG INHIBITED WHEN SMOKE IS DETECTED.

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11P14	RECIRC FAN L	11P23	RECIRC FAN R
11P14	RECIRC CARGO FIRE CONT LEFT	11P23	RECIRC CARGO FIRE CONT RIGHT

RECIRCULATION FAN – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

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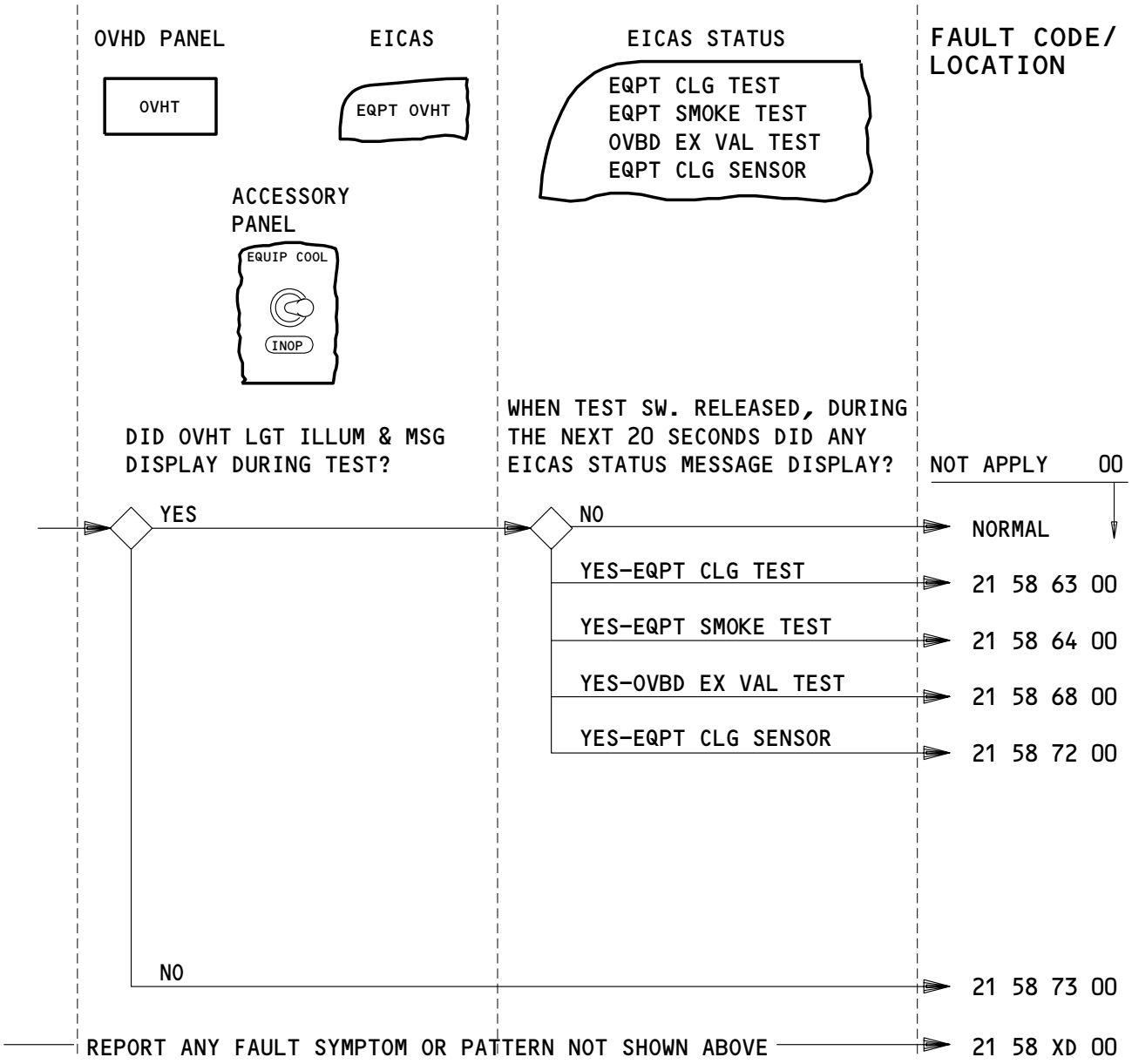

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6D6	EQUIP COOL GRD WARN AND TEST	11N11	EQUIP COOLING FAN CONT AFT EXH XFR
6D17	EQUIP COOL AUX FAN	11N13	EQUIP COOLING LOW FLOW DET
6F17	FWD EQUIP COOL SUPPLY FAN 1	11P14	RECIRC CARGO FIRE CONT (LEFT, L)
6F23	FWD EQUIP COOL SUPPLY FAN 2	11P23	RECIRC CARGO FIRE CONT (RIGHT, R)
11C20	EQUIP COOLING SMOKE DET CONT		

EQUIPMENT COOLING TEST – FAULT CODES

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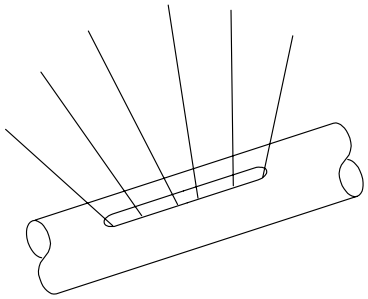

WAS THERE ABNORMAL NOISE OR VIBRATION IN

FLIGHT DECK?

NO

SIDEWALL (FWD/AFT)

CEILING (FWD/AFT)

FLOOR (FWD/AFT)

GLARESHIELD OR WINDSHIELD AREA

MAIN CABIN? 1

NO

SIDEWALL

CEILING

FLOOR

REPORT ANY FAULT SYMPTOM OR PATTERN NOT SHOWN ABOVE

FAULT CODE/ LOCATION	
L	01
R	02
C	03

NOT APPLY	00
NORMAL	
21 20 08	_ _
21 20 09	_ _
21 20 10	_ _
21 20 11	_ _
21 20 12	_ _
21 20 13	_ _
21 20 14	_ _
21 20 XB	_ _

1 IDENTIFY BY NEAREST SEAT ROW, GALLEY OR LAVATORY

APPLICABLE CIRCUIT BREAKERS
NONE

AIR CONDITIONING NOISE AND VIBRATION – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

165427

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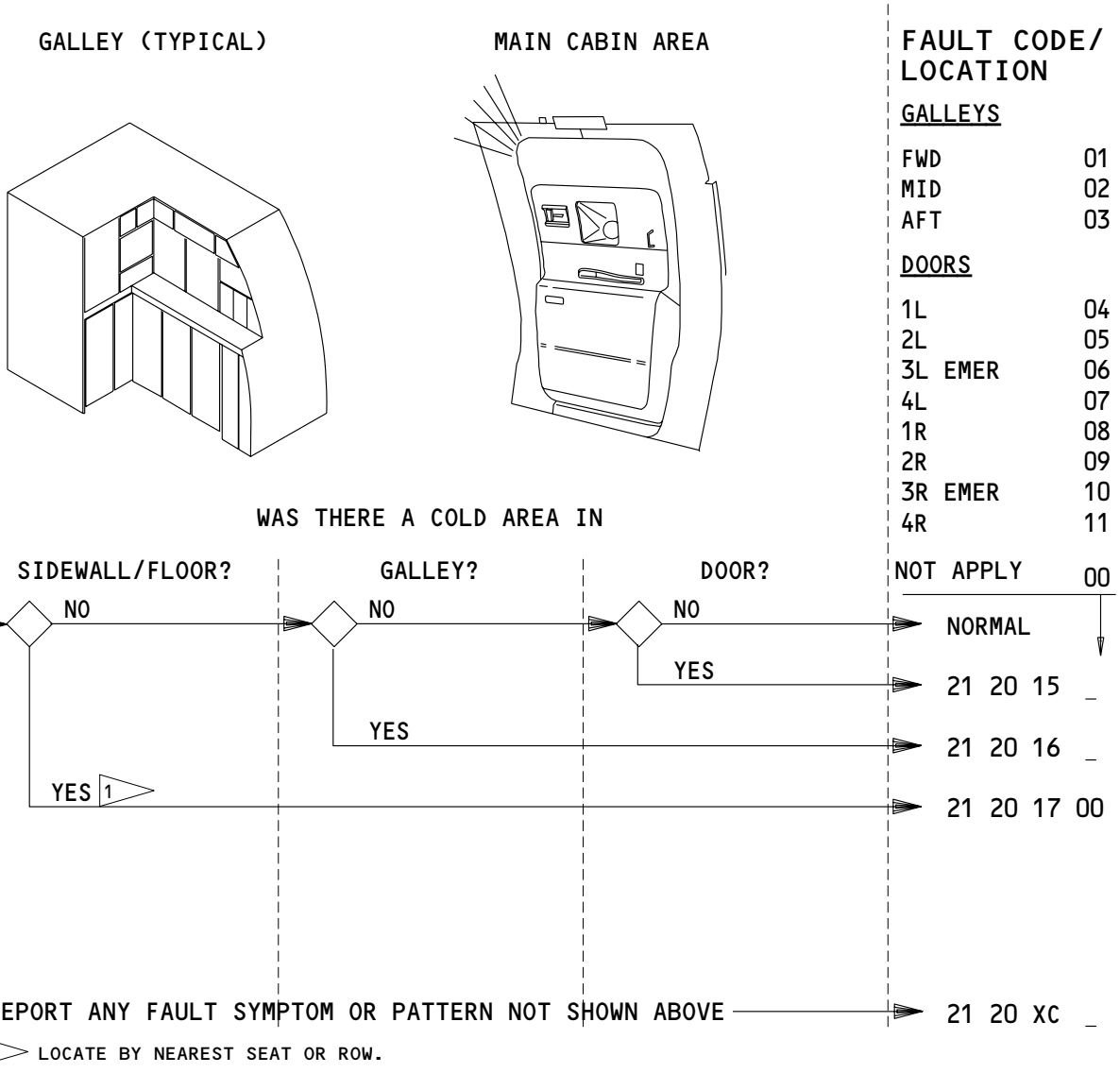

APPLICABLE CIRCUIT BREAKERS

NONE

AIR CONDITIONING COLD AREAS – FAULT CODES

EFFECTIVITY

ALL

21-FAULT CODE DIAGRAM

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 20 XA --	1. A (O1=L, O2=R,) recirculation system failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. Right: SSM 21-25-01 Left: SSM 21-25-02.
21 20 XB --	1. A (O1=L, O2=R, O3=C) duct noise or vibration problem occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. Replace or repair the duct (AMM 21-23-01).
21 20 XC --	1. Local cold areas occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. Make sure the seals and the insulation in the area are in good condition.
21 30 XA --	1. A (O1=AUTO 1, O2=AUTO 2) control failure occurred that did not not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 XB --	1. A (O1=AUTO 1, O2=AUTO 2) control failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 XC --	1. A (O1=AUTO 1, O2= AUTO 2) control failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. FIM 21-30-00/101, Fig. 103, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 40 XA --	1. A (01=FWD, 02=AFT) cargo heat failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. FWD: SSM 21-43-01 AFT: SSM 21-44-01.
21 40 XB --	1. A (01=Capt, 02=F/O) flight deck supplementary heater failure occurred that did not show in the fault code diagrams. (Ref to the fault code diagrams for flight crew action). 2. SSM 21-45-01.
21 51 XA --	1. A (01=L, 02=R) pack control failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew actions). 2. FIM 21-51-00/101, Fig. 104, Block 1.
21 58 XA 00	1. An equipment cooling failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. SSM 21-58-07.
21 58 XB 00	1. An equipment cooling smoke failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. SSM 21-58-02.
21 58 XC 00	1. An equipment cooling overheat failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. SSM 21-58-01.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 58 XD 00	1. An equipment cooling test failure occurred that did not show in the fault code diagrams (Refer to the fault code diagrams for maintenance crew action). 2. SSM 21-58-06.
21 60 XA --	1. An (01=FLT DECK, 02-FWD CABIN, 03=AFT CABIN) temperature control system failure occurred that did not show in the fault code diagrams. (Refer to the fault code diagrams for flight crew action). 2. FIM 21-60-00/101, Fig. 104, Block 1.
21 20 01 00	1. Smoke from air conditioning outlets. Stopped with both utility buses off. (Ref Chapter 24 for Fault Code Diagram). 2. Replace inoperative recirculation air fan (AMM 21-25-01/401).
21 20 02 00	1. Smoke from air conditioning outlets. Continued with both utility buses off. (Ref Chapter 24 for Fault Code Diagram). 2. Isolate the APU or the Engine as the source of smoke: If the APU is the source of smoke, see the APU chapter 49 for Fault Code Diagram. If the engine is the source of smoke, see the engine chapter 71 for Fault Code Diagram. Once the source of smoke is determined and repaired, do the smoke and oil contamination removal procedure (AMM 21-00-21/201).
21 20 03 --	1. EICAS msg (L=01, R=02) RECIRC FAN shown. (L, R) RECIRC FAN INOP light on. 2. FIM 21-20-00/101, Fig. 104, Block 1.
21 20 04 00	1. EICAS msg AFT EQ EXH FAN 1 shown (Refer to Chapter 31 for the the code diagram). 2. FIM 21-20-00/101, Fig. 105, Block 1.
21 20 05 00	1. EICAS msg AFT EQ EXH FAN 2 shown (Refer to Chapter 31 for the fault code diagram). 2. FIM 21-20-00/101, Fig. 103, Block 1.
21 20 06 00	Not Used
21 20 07 00	Not Used
21 20 08 --	1. Too much noise or vibration in the (01=L, 02=R) main cabin sidewall, near the (seat row, galley, or lavatory). 2. Replace or repair the applicable duct (AMM 21-23-01).

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 20 09 --	1. Too much noise or vibration in the (01=L, 02=R, 03=C) main cabin ceiling, near the (seat row, galley, or lavatory). 2. Replace or repair the applicable duct (AMM 21-23-01).
21 20 10 --	1. Too much noise or vibration in the (01=L, 02=R, 03=C) main cabin floor, near the (seat row, galley, or lavatory). 2. Replace or repair the applicable duct (AMM 21-23-01).
21 20 11 --	1. Too much noise or vibration in the (01=L, 02=R) sidewall of the (fwd, aft) flight deck area. 2. Replace or repair the applicable duct (AMM 21-23-01).
21 20 12 --	1. Too much noise or vibration in the (01=L, 02=R, 03=C) ceiling of the (fwd, aft) flight deck area. 2. Replace or repair the applicable duct (AMM 21-23-01).
21 20 13 --	1. Too much noise or vibration in the (01=L, 02=R, 03=C) floor of the (fwd, aft) flight deck area. 2. Replace or repair the applicable duct (AMM 21-23-01).
21 20 14 --	1. Too much noise or vibration around the (01=L, 02=R) (glareshield, windshield) area. 2. Remove the unwanted material from the windshield diffuser.
21 20 15 --	1. Cold area near the (04=1L, 05=2L, 06=3L Emer, 07=4L, 08=1R, 09=2R, 10=3R Emer, 11=4R) door. 2. Make sure the seals and the insulation in the door area are in good condition.
21 20 16 --	1. Cold area around the (01=Fwd, 02=Mid, 03=Aft) galley in the (floor, ceiling, etc) area. 2. Make sure the seals in the refrigeration unit are in good condition.
21 20 17 --	1. Cold area around the (nearest seat or row) in the (sidewall, floor, sidewall/floor) area. 2. Make sure the insulation in the sidewall is in good condition.
21 30 01 00	1. The DIFF pressure gauge is (inaccurate, fluctuates). The CABIN ALT pressure gauge and the RATE pressure gauge are correct. 2. FIM 21-30-00/101, Fig. 110, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 30 02 00	1. The CABIN ALT pressure gauge is (inaccurate, fluctuates). The RATE pressure gauge is correct. 2. Replace the cabin pressure indication and warning module, M19 (AMM 21-33-01).
21 30 03 --	1. The DIFF pressure was off schedule in the (01=AUTO 1, 02=AUTO 2) mode. Operated correctly when the other mode was selected. 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 04 00	1. The DIFF pressure was off schedule in both modes. 2. Replace the cabin pressure indication and warning module, M19 (AMM 21-33-01).
21 30 05 --	1. The CABIN ALT did not go to the landing altitude in the 01=AUTO 1, 02=AUTO 2) mode. Operated correctly when the other mode was selected. 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 06 00	1. The CABIN ALT did not go to the landing altitude in both modes. 2. Replace the cabin pressure indication and warning module, M19 (AMM 21-33-01).
21 30 07 00	1. The CABIN RATE not zero in level flight. The CABIN ALT operated correctly. 2. Replace the cabin pressure indication and warning module, M19 (AMM 21-33-01).
21 30 08 --	1. The CABIN RATE is not the same as the selected rate in the (01=AUTO 1, 02=AUTO 2) mode. Operated correctly when the other mode was selected. 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 09 00	1. The CABIN RATE is not the same as the selected rate in both modes. 2. FIM 21-30-00/101, Fig. 105, Block 1.
21 30 10 00	1. A pressure bump was felt during the takeoff and seen on the CABIN RATE pressure gauge. 2. FIM 21-30-00/101, Fig. 107, Block 1.
21 30 11 00	1. Outflow valve did not move after the liftoff. 2. FIM 21-30-00/101, Fig. 111, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 30 12 00	1. Outflow valve did not fully open after the touchdown. 2. FIM 21-30-00/101, Fig. 111, Block 1.
21 30 13 00	1. Outflow valve did not open within five seconds after the electrical power was supplied. 2. FIM 21-30-00/101, Fig. 111, Block 1.
21 30 14 00	1. Outflow valve indicator reads off scale. 2. Replace the valve position indicator, M13 (AMM 21-31-01).
21 30 15 --	1. When the AUTO RATE selector was moved, there was no change in the RATE gauge when in the (O1=AUTO 1, O2=AUTO 2) mode. Operation was OK when the other mode was selected. 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 16 00	1. When the AUTO RATE selector was moved, there was no change in the RATE gauge, in both AUTO modes. 2. Replace the cabin pressure indicating and warning module, M19 (AMM 21-33-01).
21 30 17 --	1. EICAS msg CABIN ALT AUTO (O1=1, O2=2) shown. Cabin pressure was O.K. 2. FIM 21-30-00/101, Fig. 103, Block 1.
21 30 18 00	1. EICAS msgs CABIN AUTO INOP & CABIN ALT AUTO 1 & 2 shown. AUTO INOP light on. Operation in MANUAL mode was OK. 2. FIM 21-30-00/101, Fig. 103, Block 1. If the problem continues and the airplane is QFE configured, replace the standby altimeter, N23 (AMM 34-13-06/401).
21 30 19 00	1. EICAS msgs CABIN AUTO INOP & CABIN ALT AUTO 1 & 2 shown. AUTO INOP light on. Could not control outflow valve in the MANUAL mode. 2. FIM 21-30-00/101, Fig. 108, Block 1.
21 30 20 00	1. EICAS msg CABIN ALTITUDE shown. CABIN ALT & CABIN ALTITUDE lights on. Operation in the MANUAL mode O.K. 2. FIM 21-30-00/101, Fig. 103, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 30 21 00	1. EICAS msg CABIN ALTITUDE shown. CABIN ALT & CABIN ALTITUDE lights on. Could not control the cabin pressure in the MANUAL mode. (describe cause of depressurization, if known). 2. FIM 21-30-00/101, Fig. 109, Block 1.
21 30 22 00	1. EICAS msg CABIN ALT AUTO 1 shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-30-00/101, Fig. 104, Block 1.
21 30 23 00	1. EICAS msg CABIN ALT AUTO 2 shown. (Ref Chapter 31 forthe fault code diagram). 2. FIM 21-30-00/101, Fig. 104, Block 1.
21 30 24 00	1. DIFF gauge in off position. Other indications were OK. 2. Replace the differential pressure sensor, TS5072 (AMM 21-33-04). If the problem continues, replace the cabin pressurization indicating and warning module, M19 (AMM 21-33-01).
21 30 25 00	1. CABIN ALT gauge in the off position. Other indications were OK. 2. Replace the cabin pressurization indicating and warning module, M19 (AMM 21-33-01).
21 40 01 --	1. EICAS status msg (FWD=01, AFT=02) CARGO FAN displayed. 2. FIM 21-40-00/101, Fig. 104, Block 1.
21 40 02 --	1. (01=Capt, 02=F/O) shoulder heater inop in LOW pos. Operation in HI norm. 2. Replace the Capt (F/O) foot heater switch, S1, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).
21 40 03 --	1. (01=Capt, 02=F/O) shoulder heater inop in HI pos. Operation in LOW norm. 2. Replace the Capt (F/O) foot heater switch, S1, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 40 04 --	1. (O1=Capt, O2=F/O) shoulder heater inop in LOW & HI pos. 2. FIM 21-40-00/101, Fig. 105, Block 1.
21 40 05 --	1. (O1=Capt, O2=F/O) (L, R) foot heater inop in LOW & HI pos. 2. Replace the Capt (F/O) L (R) foot heater B10044, (B10045), (B10046, (B10047)) (AMM 21-45-01).
21 40 06 --	1. (O1=Capt, O2=F/O) L & R foot heater inop in LOW pos. Operation in HI norm. Shoulder heater operates norm. 2. Replace the Capt (F/O) foot heater switch, S2, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).
21 40 07 --	1. (O1=Capt, O2=F/O) L & R foot heater inop in HI pos. Operation in LOW norm. Shoulder heater operates norm. 2. Replace the Capt (F/O) foot heater switch S2, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).
21 40 08 --	1. (O1=Capt, O2=F/O) foot and shoulder heaters inop in HI pos. Operation in LOW norm. 2. Replace the Capt (F/O) heater control module, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).
21 40 09 --	1. (O1=Capt, O2=F/O) foot heaters inop in LOW & HI pos. Shoulder heater operates norm. 2. Replace the Capt (F/O) foot heater switch, S2, M901 (M902), on the Capt (F/O) auxiliary instrument panel, P13 (P14) (WDM 21-45-11).
21 40 10 --	1. (O1=Capt, O2=F/O) foot and shoulder heaters inop in LOW & HI pos. 2. FIM 21-40-00/101, Fig. 106, Block 1.
21 40 11 00	1. EICAS msg AFT CARGO FAN shown (Ref Chapter 31 for the fault code diagram). 2. FIM 21-40-00/101, Fig. 104, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 40 12 00	1. EICAS msg FWD CARGO FAN shown (Ref Chapter 31 for the fault code diagram). 2. FIM 21-40-00/101, Fig. 104, Block 1.
21 51 01 -- thru 21 51 06 --	Not Used
21 51 07 00	1. EICAS msg L PACK BITE shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-51-00/101, Fig. 104, Block 1.
21 51 08 00	1. EICAS msg R PACK BITE shown (Ref Chapter 31 for the fault code diagram). 2. FIM 21-51-00/101, Fig. 104, Block 1.
21 51 09 --	1. EICAS msg (L, R) PACK TEMP displayed. (01=L, 02=R) pack INOP lgt illum. Lgt extin when STBY selected. Operated norm in STBY. 2. FIM 21-51-00/101, Fig. 104, Block 1 If the problem continues, replace the L(R) pack outlet overheat switch, S48 (S49) (AMM 21-51-18).
21 51 10 --	1. EICAS msg (L, R) PACK TEMP displayed. (01=L, 02=R) pack INOP lgt illum. Lgt failed to extin when pack reset sw pushed. 2. Replace the L(R) flow control card, M863 (M864)(AMM 21-51-09). If the problem continues, replace the L(R) PACK RESET switch-light, YNRS04 (YNRS05) (WDM 21-51-15, WDM 21-51-25).
21 51 11 --	1. EICAS msg (L, R) PACK TEMP displayed. (01=L, 02=R) pack INOP lgt illum. Lgt extin when pack reset in STBY. Operated norm in STBY. 2. FIM 21-51-00/101, Fig. 104, Block 1.
21 51 12 --	1. EICAS msg (L, R) PACK TEMP displayed. (01=L, 02=R) pack INOP lgt illum. Lgt re-illum after pack reset in STBY. 2. FIM 21-51-00/101, Fig. 106, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 51 13 --	1. EICAS msg (L, R) PACK OFF & PACK TEMP displayed. (O1=L, O2=R) INOP & PACK off lgts illum. Lgts failed to extin when pack reset sw pushed. 2. Replace the L(R) flow control card, M863, (M864) (AMM 21-51-09). If the problem continues, replace the L(R) PACK RESET switch-light, YNRSO4 (YNRSO5) (WDM 21-51-15, WDM 21-51-25).
21 51 14 --	1. EICAS msg (L, R) PACK OFF & PACK TEMP displayed. (O1=L, O2=R) INOP & PACK off lgts illum. Lgts extin when pack reset sw in STBY. Operation norm in STBY. 2. FIM 21-51-00/101, Fig. 104, Block 1 If the problem continues, do FIM 21-51-00/101, Fig. 107, Block 1.
21 51 15 --	1. EICAS msg (L, R) PACK OFF & PACK TEMP displayed. (O1=L, O2=R) INOP & PACK off lgts illum. Lgt re-illum after pack reset in STBY. 2. 21-51-00/101, Fig. 107, Block 1 If Air Cycle Machine will not operate, do FIM 21-51-00/101, Fig. 107A, Block 1 or FIM 21-51-00/101, Fig. 107B, Block 1.
21 58 01 00 thru 21 58 02 00	Not Used
21 58 03 00	1. EICAS msg FWD EQPT SMOKE displayed. SMOKE lgt illum. OVBD EXH VAL OPEN displayed. Smoke indications disappeared after _____ minutes. 2. FIM 21-58-00/101, Fig. 115, Block 1.
21 58 04 00	1. EICAS msg FWD EQPT SMOKE displayed. SMOKE lgt illum. OVBD EXH VAL OPEN displayed. Smoke indications remained. 2. FIM 21-58-00/101, Fig. 115, Block 1.
21 58 05 00	1. EICAS msg FWD EQPT SMOKE displayed. SMOKE lgt illum. OVBD EXH VAL OPEN not displayed. Smoke indications disappeared after _____ minutes. 2. FIM 21-58-00/101, Fig. 116, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 58 06 00	1. EICAS msg FWD EQPT SMOKE displayed. SMOKE lgt illum. OVBD EXH VAL OPEN not displayed. Smoke indications remained. 2. FIM 21-58-00/101, Fig. 116, Block 1.
21 58 07 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. L RECIRC FAN INOP lgt illum. OVHT lgt extin when ALTN was selected. 2. FIM 21-58-00/101, Fig. 117, Block 1
21 58 08 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. L RECIRC FAN INOP lgt illum. SMOKE lgt and OVBD EXH VAL OPEN message appeared. OVHT lgt remained illum when ALTN was selected. 2. Find and remove the source of smoke. Do the equipment cooling manual test.
21 58 09 00 thru 21 58 11 00	Not Used
21 58 12 00	1. EICAS msg FWD EQ SUP FLOW shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 106, Block 1.
21 58 13 00	Not Used
21 58 14 00	1. EICAS msg FWD EQ EXH FLOW shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 108, Block 1
21 58 15 00	1. EICAS msg FWD EQ SUP FAN 1 shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 109, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 58 16 00	1. EICAS msg FWD EQ SUP FAN 2 shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 110, Block 1.
21 58 17 00	1. EICAS msg OVDB EX VAL TEST displayed. 2. FIM 21-58-00/101, Fig. 120, Block 1.
21 58 18 00	1. EICAS msg FWD EQPT EXH DET shown (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 103, Block 1
21 58 19 00	1. EICAS msg EQPT CLG FLOW displayed on ground. 2. FIM 21-58-00/101, Fig. 113, Block 1.
21 58 20 00	1. EICAS msg OVBD EX VAL OPEN displayed. 2. FIM 21-58-00/101, Fig. 114, Block 1.
21 58 21 00	1. EICAS msg EQPT CLG FAN displayed. 2. FIM 21-58-00/101, Fig. 105, Block 1.
21 58 22 00 thru 21 58 25 00	Not Used
21 58 26 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. EICAS msg EQPT CLG FAN displayed. OVHT lgt extin when ALTN was selected. 2. FIM 21-58-00/101, Fig. 105, Block 1.
21 58 27 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. L RECIRC FAN INOP lgt illum. SMOKE lgt and OVBD EXH VAL OPEN message appeared. OVHT lgt extin when ALTN was selected.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
	2. Find and remove the source of the smoke.
21 58 28 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. L RECIRC FAN INOP lgt illum. OVHT lgt remained illum when ALTN was selected. 2. FIM 21-58-00/101, Fig. 114, Block 1.
21 58 29 00	1. EICAS msg EQPT OVHT displayed. OVHT lgt illum. EICAS msg EQPT CLG FAN displayed. OVHT lgt remained illum when ALTN was selected. 2. FIM 21-58-00/101, Fig. 119, Block 1.
21 58 30 00	1. EICAS msg OVBD EX VAL TEST shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 120, Block 1.
21 58 31 00	1. EICAS msg OVBD EX VAL OPEN shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 114, Block 1.
21 58 32 00	1. EICAS msg FWD EQ SUP SNSR shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 104, Block 1.
21 58 33 00	1. EICAS msg FWD EQ EXH SNSR shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 111, Block 1.
21 58 34 00	1. EICAS msg EQPT CLG TEST shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-58-00/101, Fig. 121, Block 1.
21 58 35 00 thru 21 58 38 00	Not Used
21 58 39 00	1. EICAS msg FWD EQPT DET 1 shown (Ref Chapter 31 for the fault code diagrams). 2. FIM 21-58-00/101, Fig. 122, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 58 40 00	1. EICAS msg FWD EQPT DET 2 shown (Ref Chapter 31 for the fault code diagrams). 2. FIM 21-58-00/101, Fig. 123, Block 1.
21 58 41 00	1. EICAS msg EQPT SMOKE TEST displayed. 2. FIM 21-58-00/101, Fig. 124, Block 1.
21 58 42 00	1. Ground crew call horn sounds continuously. L, R, and C IRS in the OFF position (Ref Chapter 23 for the fault code diagrams). 2. FIM 21-58-00/101, Fig. 118, Block 1.
21 58 43 00 thru 21 58 51 00	Not Used
21 58 52 00	1. EICAS msg EQPT SMOKE TEST shown (Ref Chapter 31 for the fault code diagrams). 2. FIM 21-58-00/101, Fig. 124, Block 1.
21 58 53 00	1. EICAS msg EQPT CLG SENSOR displayed. 2. FIM 21-58-00/101, Fig. 112, Block 1.
21 58 54 00	1. EICAS msg EQPT CLG TEST displayed. 2. FIM 21-58-00/101, Fig. 121, Block 1.
21 58 55 00 thru 21 58 62 00	Not Used
21 58 63 00	1. When EQUIP COOL TEST sw was placed in TEST then released, during the next 20 seconds EICAS msg EQPT CLG TEST displayed. Other indications normal. 2. FIM 21-58-00/101, Fig. 121, Block 1.
21 58 64 00	1. When EQUIP COOL TEST sw was placed in TEST then released, during the next 20 seconds EICAS msg EQPT SMOKE TEST displayed. Other indications normal. 2. FIM 21-58-00/101, Fig. 124, Block 1.
21 58 65 00	1. EQUIP COOL TEST switch was in the TEST position and then released. During the next 20 seconds, the EICAS msg FWD EQ SUP SNSR showed. Other indications were normal. 2. FIM 21-58-00/101, Fig. 104, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 58 66 00	1. EQUIP COOL TEST switch was in the TEST position and then released. During the next 20 seconds, the EICAS msg FWD EQ EXH SNSR showed. Other indications were normal. 2. FIM 21-58-00/101, Fig. 111, Block 1.
21 58 67 00	Not Used
21 58 68 00	1. When EQUIP COOL TEST sw was placed in TEST then released, during the next 20 seconds EICAS msg OVBD EX VAL TEST displayed. Other indications normal. 2. FIM 21-58-00/101, Fig. 120, Block 1.
21 58 69 00	1. EQUIP COOL TEST switch was in the TEST position and then released. During the next 20 seconds, the EICAS msg FWD EQPT DET 1 showed. Other indications were normal. 2. FIM 21-58-00/101, Fig. 122, Block 1.
21 58 70 00	1. EQUIP COOL TEST switch was in the TEST position and then released. During the next 20 seconds, the EICAS msg FWD EQPT DET 2 showed. Other indications were normal. 2. FIM 21-58-00/101, Fig. 123, Block 1.
21 58 71 00	1. EQUIP COOL TEST switch was in the TEST position and then released. During the next 20 seconds, the EICAS msg FWD EQPT EXH DET showed. Other indications were normal. 2. FIM 21-58-00/101, Fig. 103, Block 1.
21 58 72 00	1. When EQUIP COOL TEST sw was placed in TEST then released, during the next 20 seconds EICAS msg EQPT CLG SENSOR displayed. Other indications normal. 2. FIM 21-58-00/101, Fig. 112, Block 1.
21 58 73 00	1. When EQUIP COOL TEST sw was placed in TEST pos EICAS msg EQPT OVHT and OVHT lgt did not display. 2. Replace the miscellaneous test panel, on the P61 panel (WDM 21-58-11).
21 60 01 --	1. EICAS msg (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) TEMP displayed & compt temp INOP light illum with trim air switch selected ON and temp control selectors in AUTO. 2. FIM 21-60-00/101, Fig. 105, Block 1.

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 60 02 --	1. (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) fails to maintain desired temp with trim air switch selected ON and temp control selector in AUTO. INOP lgt extin. 2. FIM 21-60-00/101, Fig. 106, Block 1.
21 60 03 --	1. (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) fails to maintain desired temp with trim air switch selected ON and temp control selector in AUTO. INOP lgt illum. 2. FIM 21-60-00/101, Fig. 105, Block 1.
21 60 04 --	1. (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) indicates high/low with compartment temperature ok. Trim air switch selected ON and temp control selector in AUTO. 2. Replace the applicable zone temperature bulb (YRUTS02, YRWTS02, YRVTS02) (AMM 21-65-02). If the problem continues, replace the temperature indicator, M10078 (AMM 21-65-01).
21 60 05 --	1. (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) compartment temp indicator blank. 2. Replace the applicable zone temperature bulb (YRUTS02, YRWTS02, YRVTS02) (AMM 21-65-02).
21 60 06 00	1. EICAS msg ZONE TEMP BITE shown. (Ref Chapter 31 for the fault code diagram). 2. FIM 21-60-00/101, Fig. 104, Block 1.
21 60 07 00	1. EICAS msgs: FLT DECK TEMP, AFT CABIN TEMP, FWD CABIN TEMP displayed and all three compt temp INOP lgts illum with trim air switch selected ON and temp cont selectors in AUTO. 2. FIM 21-60-00/101, Fig. 105, Block 1.
21 60 08 00	1. With trim air switch selected ON and temp control selectors in AUTO compt temp did not respond with any selector. 2. FIM 21-60-00/101, Fig. 103, Block 1.
21 60 09 00	1. EICAS msg TRIM AIR displayed and OFF light illum with trim air switch selected ON. 2. Replace the TRIM AIR switch-light, YNRS03, M10193, on the P5 panel (AMM 33-13-00).

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FAULT CODE	1. LOG BOOK REPORT 2. FAULT ISOLATION REFERENCE
21 60 10 --	1. (01=FLT DECK, 02=FWD CABIN, 03=AFT CABIN) compartment temp indicator has missing segment(s). 2. Replace the temperature indicator, M10078 (AMM 21-65-01).

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BITE Index

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

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

Bite Index
Figure 1 (Sheet 1)

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

Bite Index
Figure 1 (Sheet 2)

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

Bite Index
Figure 1 (Sheet 3)

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SMOKE OR FUMES REMOVAL FROM THE AIR CONDITIONING SYSTEM - TROUBLESHOOTING

1. General
   A. This procedure has the steps to identify the cause of smoke or fumes in the flight compartment or in the main deck compartment.
   B. Smoke or fumes can go into the flight compartment or the main deck compartment through the air distribution system during flight. This problem is usually caused by contamination of the air by oil, glycol, fuel, or hydraulic fluid.
   C. Smoke or fumes that enter the air conditioning system can be caused by contamination from the engines, the APU, or the hydraulic system.
      (1) Smoke and fumes from engine contamination can be caused by:
         (a) An oil leak in the engine compressor or compressor bearing area.

            NOTE: Oil leaks are not easily detected by monitoring oil consumption trends because the oil consumption may be within acceptable limits.

         (b) An over-filled engine oil system.
         (c) Anti-icing fluid ingested by the engines during cold weather operations.
      (2) Smoke and fumes from APU contamination can be caused by:
         (a) Oil leaks in the inlet plenum and load compressor areas.
         (b) Contaminants puddled in the inlet plenum. This includes oil, anti-icing fluid, or hydraulic fluid.
      (3) Smoke and fumes from hydraulic system contamination can be caused by:
         (a) An over-serviced hydraulic system.

            NOTE: Hydraulic fluid can go into the pneumatic ducts through the hydraulic system pressurization line when over-serviced.

         (b) Petroleum jelly that is used during maintenance of the pneumatic ducts or air distribution ducts.
   D. After the source of the contamination has been identified and eliminated, smoke or fumes may continue because of contamination in the ducts. If this is the case, then do the procedure to remove oil contamination from the air conditioning system (AMM 21-00-01/201).
   E. If the source of the smoke or fumes is in an engine, then the heat exchanger or the precooler may also be contaminated. Do the procedures to inspect these components and clean or replace them if necessary.
   F. Also make sure you examine the ventilation and recirculation filters for contamination and replace them if necessary.
   G. References
      (1) AMM 21-00-00/201, Air Conditioning - General
      (2) AMM 21-00-01/201, Air Conditioning System Oil Contamination (Removal)

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(3) AMM 21-25-00/501, Recirculation System
(4) AMM 21-25-01/401, Cabin Air Recirculation Fan
(5) AMM 21-25-02/401, Recirculation Air Filter
(6) AMM 29-00-00/601, Hydraulic Power
(7) AMM 36-11-00/501, Air Supply Distribution System
(8) AMM 36-11-01/601, Pneumatic Duct
(9) AMM 49-11-00/201, Auxiliary Power Unit
(10) AMM 71-00-00/201, Power Plant (Operation Procedures)
(11) AMM 71-00-00/601, Power Plant
(12) AMM 71-71-00/601, Engine Vents and Drains
(13) AMM 79-00-00/601, Oil

H. Fault isolation is given for the faults that follow:
(1) PROCEDURE 1
(a) Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Stops With the Isolation Valve Closed and the Right Pack Switch Off.
(2) PROCEDURE 2
(a) Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Stops With the Isolation Valve Closed and the Left Pack Switch Off.
(3) PROCEDURE 3
(a) Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Does Not Stop With the Isolation Valve Closed and the Two Pack Switches Off (In Turn).
(4) PROCEDURE 4
(a) Smoke or Fumes in the Flight Compartment or Main Deck Compartment. Smoke Stops with Left/Right Recirculation Fans Off.

2. Prepare for the Test
A. Prepare the left and the right engines for usual operation (AMM 71-00-00/201).
B. Start the left and the right engine (AMM 71-00-00/201).
C. Start the APU (AMM 49-11-00/201).
D. Make sure all of the doors and windows are closed.

NOTE: Do not do these procedures with the people on the airplane, except authorized personnel, because these procedures can cause a high concentration of smoke or fumes in the airplane.

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3. PROCEDURE 1 - Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Stops With the Isolation Valve Closed and the Right Pack Switch Off.
   A. General
      (1) Make sure the fault report shows that the smoke or fumes stopped with the isolation valve closed, the right pack selector switch off, and the left/right recirculation fan switch/lights off. This means that the left engine, the pneumatic air supply from the left engine, the APU air supply, the left air conditioning pack, and the related air distribution ducts were not the source of the smoke or fumes.
      (2) The fault isolation procedure that follows tells you how to find the cause of smoke or fumes in the right engine, the pneumatic air supply from the right engine, the right air conditioning pack, the left/right recirculation system, and the related air distribution ducts.
   B. Possible Causes
      (1) Contamination in the right engine pneumatic system.
      (2) Hydraulic fluid leak.
      (3) Contamination in the air distribution system.
      (4) Overheating of the left/right recirculation fans.
   C. Fault Isolation Procedure
      (1) Do a check of the air recirculation system:
         (a) Remove the recirculation fan filters (AMM 21-25-02/401).
         (b) Examine the air recirculation filters to see if it is necessary to replace them. Replace the recirculation fan filters if necessary (AMM 21-25-02/401).
         (c) Do an operational test of the left/right recirculation system (AMM 21-25-00/501) to see if the left/right recirculation fans or the related wiring are the source of the smoke or fumes.
         (d) If there is smoke from the left/right air recirculation fans or the related wiring, then do the steps that follow:
            1) Repair the defective wiring.
            2) Replace the defective recirculation fan (AMM 21-25-01/401).
            3) Replace the defective left/right recirculation fan (AMM 21-25-01/401).
            4) Do the repair confirmation at the end of this task.
         (e) If there is no smoke or fumes, then continue.
      (2) Do a check of the right engine and the right engine pneumatic system:
         (a) Do the external oil system inspection (AMM 79-00-00/601) and look for indications of oil leaks on the right engine.
         (b) Do the inspection of the engine vents and drains (AMM 71-71-00/601) and look for indications of oil, hydraulic fluid, or fuel fluid, or fuel leaks on the right engine.
         (c) If you find indications of leaks on the right engine, then do the steps that follow:
            1) Do the corrective action shown in the inspection procedures or repair the problems that you find.
            2) Do the repair confirmation at the end of this task.

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(d) If there are no indications of external leaks, then do the power plant fault isolation procedure (FIM 71-05-00 Fig. 125) for the right engine.
(e) If you find indications of leaks in the right engine, then do the steps that follow:
1) Do the corrective action shown in the inspection procedure or repair the problems that you find.
2) Do the repair confirmation at the end of this task.
(f) If there are no indications of leaks in the right engine, then continue.
(g) Do a test of the air supply distribution system (AMM 36-11-00/501) and look for smoke or fumes in the flight compartment or main deck compartment.
(h) If there is smoke or fumes, then do the steps that follow:
1) Do the corrective action in the test procedure or repair the problems that you find.
2) Do the repair confirmation at the end of this task.

(3) Do the steps that follow to do a check for hydraulic fluid leaks:
(a) Do the hydraulic power inspection check (AMM 29-00-00/601).
(b) If you find indications of hydraulic fluid leaks, then do the steps that follow:
1) Do the corrective action shown in the inspection procedure or repair the problems that you find.
2) Do the repair confirmation at the end of this task.
(c) If there are no indications of hydraulic fluid leaks, then continue.

(4) Do a check for contamination in the air distribution system.
(a) Do the task to remove oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201) with the right engine and the right air conditioning pack on.
(b) If there is smoke or fumes, then do a check of the air distribution system for the source of the contamination. Examine the components that follow:
1) Examine each of the components of the right air conditioning pack.
2) Examine the components of the main distribution manifold.
3) Examine the air distribution ducts where the smoke or fumes first appeared.
4) Replace the component or clean the duct that is the source of the smoke or fumes.
5) Do the repair confirmation at the end of this task.
(c) If there is no smoke or fumes, then do all of the task to remove of oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201), with the two engines, the APU, and the two air conditioning packs on.

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(d) If there is smoke or fumes, then do the steps that follow to do a check of the air distribution system for the source of the contamination:
1) Examine each of the components of the two air conditioning packs.
2) Examine the components of the main distribution manifold.
3) Examine the air distribution ducts where the smoke or fumes first appeared.
4) Replace the component or clean the duct that is the source of the smoke or fumes.
5) Do the repair confirmation at the end of this task.
(e) If there is no smoke or fumes, and if the problem does not occur on the subsequent flight, then there was an intermittent fault.

D. Repair Confirmation
(1) Check that smoke amd fumes do not appear in the flight compartment or in the main deck compartment when the air conditioning system operates (AMM 21-00-01/201).
(a) If the procedure to remove oil contamination from the air conditioning system is run until there is no smoke or fumes, and if the problem does not occur on the next flight, then you corrected the problem.
(b) If there is smoke and fumes, then go to PROCEDURE 2 and do the task to remove contamination from the left engine and the left air conditioning pack.

4. PROCEDURE 2 - Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Stops With the Isolation Valve Closed and the Left Pack Switch Off.

A. General
(1) Make sure the fault report shows that the smoke or fumes stopped with the isolation valve closed, the left pack selector switch off, and the left/right recirculation fan switch/lights off. This means that the right engine, the pneumatic air supply from the right engine, the right air conditioning pack, and the related air distribution ducts were not the source of the smoke and fumes.
(2) The fault isolation procedure that follows tells you how to find the cause of smoke or fumes in the APU pneumatic air supply, the left engine, the pneumatic air supply from the left engine, the left air conditioning pack, the left/right recirculation system, and the related air distribution ducts.

NOTE: If the smoke and fumes are only in the flight compartment, then the left engine and left air conditioning pack should be inspected first as possible sources of contamination. If the problem continues, the right engine and right air conditioning pack should be inspected as well.

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B. Possible Causes
(1) Contamination in the left engine pneumatic system.
(2) Contamination in the APU pneumatic system.
(3) Hydraulic fluid leak.
(4) Contamination in the air distribution system.
(5) Overheating of the left/right recirculation fans.

C. Fault Isolation Procedure
(1) Do this check of the left/right air recirculation system.
(a) Remove the recirculation fan filters (AMM 21-25-02/401).
(b) Examine the air recirculation filters to see if it is necessary to replace them. Replace the recirculation fan filters if necessary (AMM 21-25-02/401).
(c) Do an operational test of the left/right recirculation system (AMM 21-25-00/501) to see if the left/right air recirculation fans or the related wiring are the source of the smoke or fumes.
(d) If there is smoke from the left/right air recirculation fans or the related wiring, then do the steps that follow:
1) Repair the defective wiring.
2) Replace the defective left/right recirculation fan (AMM 21-25-01/401).
3) Do the repair confirmation at the end of this task.
(e) If there is no smoke or fumes, then continue.
(2) Do a checks for contamination in the APU pneumatic system.

NOTE: If smoke or fumes appear in the flight compartment or main deck compartment when the APU is running but the engines are shut down, go directly to the APU and bleed air inspection tasks that follow.

(a) Start the APU (AMM 49-11-00/201).
(b) When the APU has stabilized, supply conditioned air to the airplane from the APU through the left air conditioning pack (AMM 21-00-00/201).
(c) If there is smoke or fumes from the APU bleed air supply, then do the steps that follow:
1) Inspect the APU for leaks and oil contamination.
a) If you find indications of leaks, repair the leaks.
2) Do the inspection and check of the APU pneumatic ducts (AMM 36-11-01/601).
3) If you find indications of leaks, then do the steps that follow:
a) Do the corrective action indicated in the procedure.
b) Do the repair confirmation at the end of this task.
(d) If no smoke or fumes come from the APU bleed air supply, and the operational test is satisfactory, then do the APU usual shutdown (AMM 49-11-00/201) and continue.

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(3) Do this check of the left engine pneumatic system:
  (a) Do the external oil system inspection (AMM 79-00-00/601) and look for indication of oil leaks in the left engine.
  (b) Do the inspection of the engine vents and drains (AMM 71-71-00/601) and look for indications of oil, hydraulic fluid, or fuel leaks in the left engine.
  (c) If you find indications of leakage on the left engine, then do the steps that follow:
    1) Do the corrective action shown in the inspection procedures or repair the problems that you find.
    2) Do the repair confirmation at the end of this task.
  (d) If there are no indications of external leaks, then do the power plant fault isolation procedure (FIM 71-05-00 Fig. 125) for the left engine.
  (e) If you find indications of leaks in the left engine, then do the steps that follow:
    1) Do the corrective action shown in the inspection procedure or repair the problems that you find.
    2) Do the repair confirmation at the end of this task.
  (f) If you there are no indications of leaks in the left engine, then continue.
(4) Do the steps that follow to do a check for hydraulic fluid leaks:
  (a) Do the hydraulic power inspection check (AMM 29-00-00/601).
  (b) If you find indications of hydraulic fluid leaks, then do the steps that follow:
    1) Do the corrective action shown in the inspection/check procedure or repair the problems that you find.
    2) Do the repair confirmation at the end of this task.
  (c) If there are no indications of hydraulic fluid leaks, then continue.
(5) Do a check for contamination in the air distribution system.
  (a) Do the task to remove oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201) with left engine and the left air conditioning pack on.
  (b) If there is smoke or fumes, then do a check of the air distribution system for the source of the contamination. Examine the components that follow:
    1) Examine each of the components of the left air conditioning pack.
    2) Examine the components of the main distribution manifold.
    3) Examine the air distribution ducts where the smoke first appeared.
    4) Replace the component or clean the duct that is the source of the smoke or fumes.
    5) Do the repair confirmation at the end of this task.

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(c) If there is no smoke or fumes, then do all of the task to remove oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201), with the two engines, the APU, and the two air conditioning packs on.

(d) If there is smoke or fumes, then do the steps that follow to do a check of the air distribution system for the source of the contamination:

1) Examine each of the components of the two air conditioning packs.
2) Examine the components of the main distribution manifold.
3) Examine the air distribution ducts where the smoke or fumes first appeared.
4) Replace the component or clean the duct that is the source of the smoke or fumes.
5) Do the repair confirmation at the end of this task.

(e) If there is no smoke or fumes, and if the problem does not occur on the subsequent flight, then there was an intermittent fault.

D. Repair Confirmation

(1) Make sure that smoke and fumes do not appear in the flight compartment or in the main deck compartment when the air conditioning system is operates (AMM 21-00-01/201).

(a) If the procedure to remove oil contamination from the air conditioning system is run until there is no smoke or fumes, and if the problem does not occur on the next flight, then you corrected the problem.

(b) If there is smoke or fumes, then go to PROCEDURE 1 and do the task to remove contamination from the right engine, the right air conditioning pack, and the hydraulic system.

5. PROCEDURE 3 - Smoke or Fumes in the Flight Compartment or Main Deck Compartment Reported During Flight. Smoke Does Not Stop With Isolation Valve Closed, Each of the Two Pack Switches Off (In Turn).

A. Possible Causes

(1) Hydraulic fluid leak.
(2) Contamination in the air distribution system.

B. Fault Isolation Procedure

(1) Do the steps that follow to do a check for hydraulic fluid leaks:

(a) Do the hydraulic power inspection check (AMM 29-00-00/601).

(b) If you find indications of hydraulic fluid leaks, then do the steps that follow:

1) Do the corrective action shown in the inspection procedure or repair the problems that you find.
2) Do the repair confirmation at the end of this task.

(c) If there are no indications of hydraulic fluid leaks, then continue.

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(2) Do a check for contamination in the air distribution system.
(a) Do the task to removal oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201).
(b) If there is smoke or fumes, then do a check of the areas in the air distribution system for the source of the contamination. Examine the components that follow:
1) Examine the components of main distribution manifold.
2) Examine the air distribution ducts where the smoke first appeared.
(c) Replace the component or clean the duct that is the source of the smoke or fumes.
(d) Do the repair confirmation at the end of this task.
(3) If there is no smoke or fumes, then there was an intermittent fault.

C. Repair Confirmation
(1) Make sure that smoke amd fumes do not appear in the flight compartment or in the main deck compartment when the air conditioning system operates (AMM 21-00-01/201).
(a) If the procedure to removal oil contamination from the air conditioning and pneumatic systems (AMM 21-00-01/201) is run until there is no smoke or fumes, and if the problem does not occur on the next flight, then you corrected the problem.
(b) If there is smoke or fumes, then go to PROCEDURE 4 and do a check of the recirculation system.

6. PROCEDURE 4 - Smoke or Fumes in the Flight Compartment or Main Deck Compartment. Smoke Stops with Left/Right Recirculation Fans Off.

A. Possible Causes
(1) Overheating of the left/right recirculation fans or the related wiring.

B. Fault Isolation Procedure
(1) Do this check of the left/right air recirculation system:
(a) Remove the left and right air recirculation fan filters (AMM 21-25-02/401).
(b) Examine the left and right air recirculation fan filters to see if it is necessary to replace them.
1) If a filter needs replacement, install a new air recirculation fan filter (AMM 21-25-02/401).
(c) Do an operational test of the left/right recirculation fan system (AMM 21-25-00/501) to see if the left/right air recirculation fan or the related wiring generates smoke while it operates.
(d) If there is smoke or fumes from the left/right air recirculation fan or the related wiring, then do the steps that follow:
1) Repair the applicable wiring.
2) If necessary, replace the left/right air recirculation fan (AMM 21-25-01/401).

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3) Do an operational test of the left/right recirculation fan system (AMM 21-25-00/501).
4) If the operational test is satisfactory and the problem does not occur on the next flight, then you corrected the problem.

(e) If there is no smoke or fumes from the left/right air recirculation fans or the related wiring, and the operational test is satisfactory, then there was an intermittent fault.

7. Put the Airplane Back to its Usual Condition
   A. Shut down the APU if it is no longer needed (AMM 49-11-00/201).
   B. Do the procedure to shut down the left and the right engine (AMM 71-00-00/201).

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Not Used
Figure 101

L77796
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DISTRIBUTION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CIRCUIT BREAKERS	1		FLT COMPT, P11	
EQUIP COOLING FAN CONT AFT EXH XFER, C705		1	11N11	*
RECIRC CARGO FIRE CONT LEFT, C660		1	11P14	*
RECIRC CARGO FIRE CONT RIGHT, C661		1	11P23	*
CIRCUIT BREAKERS	5		119BL, MAIN EQUIP CTR, P37	
AFT EQPT COOLING FAN EXH NO. 1, C333		1	37D5	*
R RECIRC FAN CONT, C4374		1	37D7	*
RECIRC FAN R, C337		1	37J5	*
CIRCUIT BREAKERS	5		119BL, MAIN EQUIP CTR, P70	
AFT EQPT COOLING FAN EXH NO. 2, C334		1	70B2	*
L RECIRC FAN CONT, C4373		1	70B16	*
RECIRC FAN LEFT, C336		1	70C10	*
COMPUTER - (REF 31-41-00, FIG. 101)				
EICAS L, M10181				
EICAS R, M10181				
CONNECTOR - GROUND AIR SERVICE	3	1	821, FWD CARGO COMPT	21-21-02
DIFFUSER - WINDSHIELD	1	1	FLT COMPT	21-22-00
FAN - AFT EQUIPMENT/LAVATORY/GALLEY VENTILATION, B15,B16	2	2	822, AFT CARGO COMPT, AFT BULKHEAD LINING	21-26-01
FAN - L RECIRCULATION AIR, B13	3	1	821, FWD CARGO COMPT	21-25-01
FAN - R RECIRCULATION AIR, B14	3	1	821, FWD CARGO COMPT	21-25-01
FILTER - GALLEY VENTILATION	3	5	GALLEY	21-26-03
FILTER - RECIRCULATION AIR	3	4	821, FWD CARGO COMPT	21-25-02
GASPERS - FLIGHT DECK	1	4	FLT COMPT	21-22-00
GRILLES - RETURN AIR	5		PASSENGER COMPT	21-23-05
MANIFOLD - MAIN DISTRIBUTION	3	1	821, FWD CARGO COMPT	21-21-00
MODULE - (REF 27-58-00)				
FSEU 3, M10333				
OUTLETS - AIR CONDTIONING SYSTEM	2	65	PASSENGER CABIN	21-23-02
OUTLETS - FLOOR	1	4	FLT COMPT	21-22-01
OUTLETS - OVERHEAD	1	1	FLT DOMPT	21-22-03
PANEL - AIR CONDITIONING CONTROL, M10193	1	1	P5, FLT DECK	*
PANEL - (REF 26-22-00, FIG. 101)				
APU/CARGO FIRE CONTROL, M10444				
RELAYS - (REF 31-01-36, FIG. 101)				
AFT CARGO FIRE, K10443				
AFT EQUIP EXH FAN 2, K347				
AIR/GND SYS 1, K124				
AUTO TEST RELAY, K10511				
EXH SMOKE SENSING, K10509				
RECIRC OVERRIDE, K10497				
SUPPLY SMOKE SENSING, K369				

* SEE WM EQUIPMENT LIST

Component Index
Figure 101 (Sheet 1)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
RELAYS - (REF 31-01-37, FIG. 101) AFT EQUIP EXH FAN 1, K346 AFT EQUIP EXH FAN 1 FAIL, K10322 AIR/GND SYS 2, K201 FWD CARGO FIRE, K10432 R RECIRC FAN, K416				
RELAYS - (REF 31-01-70, FIG. 101) L RECIRC FAN, K415				
SWITCH/LIGHT - AFT CARGO FIRE, YQPS2		1	FLT COMPT, P8, APU/CARGO FIRE CONTROL PANEL M10444	*
SWITCH/LIGHT - FWD CARGO FIRE, YQPS1		1	FLT COMPT, P8, APU/CARGO FIRE CONTROL PANEL M10444	*
SWITCH/LIGHT - L RECIRC FAN, YNRS1	1	1	FLT COMPT, P5 AIR COND CONTROL PANEL, M10193	*
SWITCH/LIGHT - R RECIRC FAN, YNRS2	1	1	FLT COMPT, P5 AIR COND CONTROL PANEL, M10193	*
VALVE - AFT EQUIP/LAV/GALLEY VENTILATION CHECK	2	2	822, AFT CARGO COMPT, AFT BULKHEAD LINING	21-26-02
VALVE - CONDITIONED AIR CHECK	3	2	821, FWD CARGO COMPT MIX BAY	21-21-01
VALVE - L RECIRCULATION AIR CHECK	3	1	821, FWD CARGO COMPT	21-25-03
VALVE - R RECIRCULATION AIR CHECK	3	1	821, FWD CARGO COMPT	21-25-03

* SEE WM EQUIPMENT LIST

Component Index
Figure 101 (Sheet 2)

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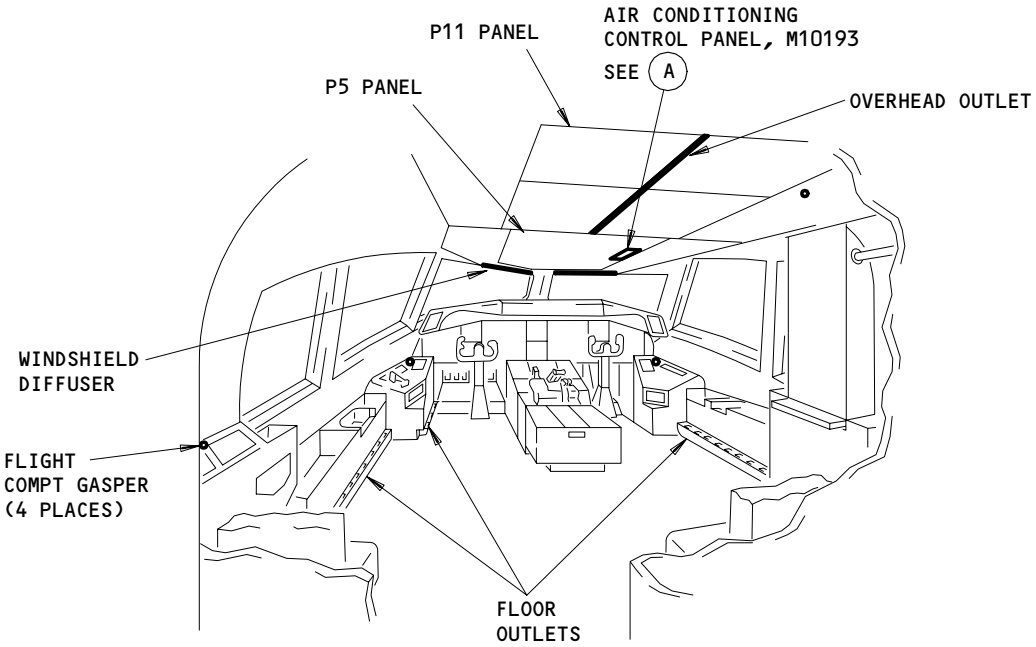
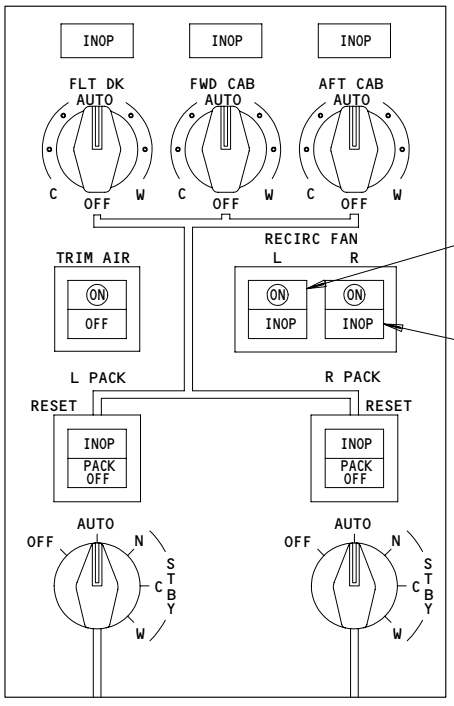


FLT COMPT



L RECIRC FAN SWITCH/LIGHT, YNRS1

R RECIRC FAN SWITCH/LIGHT, YNRS2

AIR CONDITIONING CONTROL PANEL, M10193

A

Component Location
Figure 102 (Sheet 1)

167988
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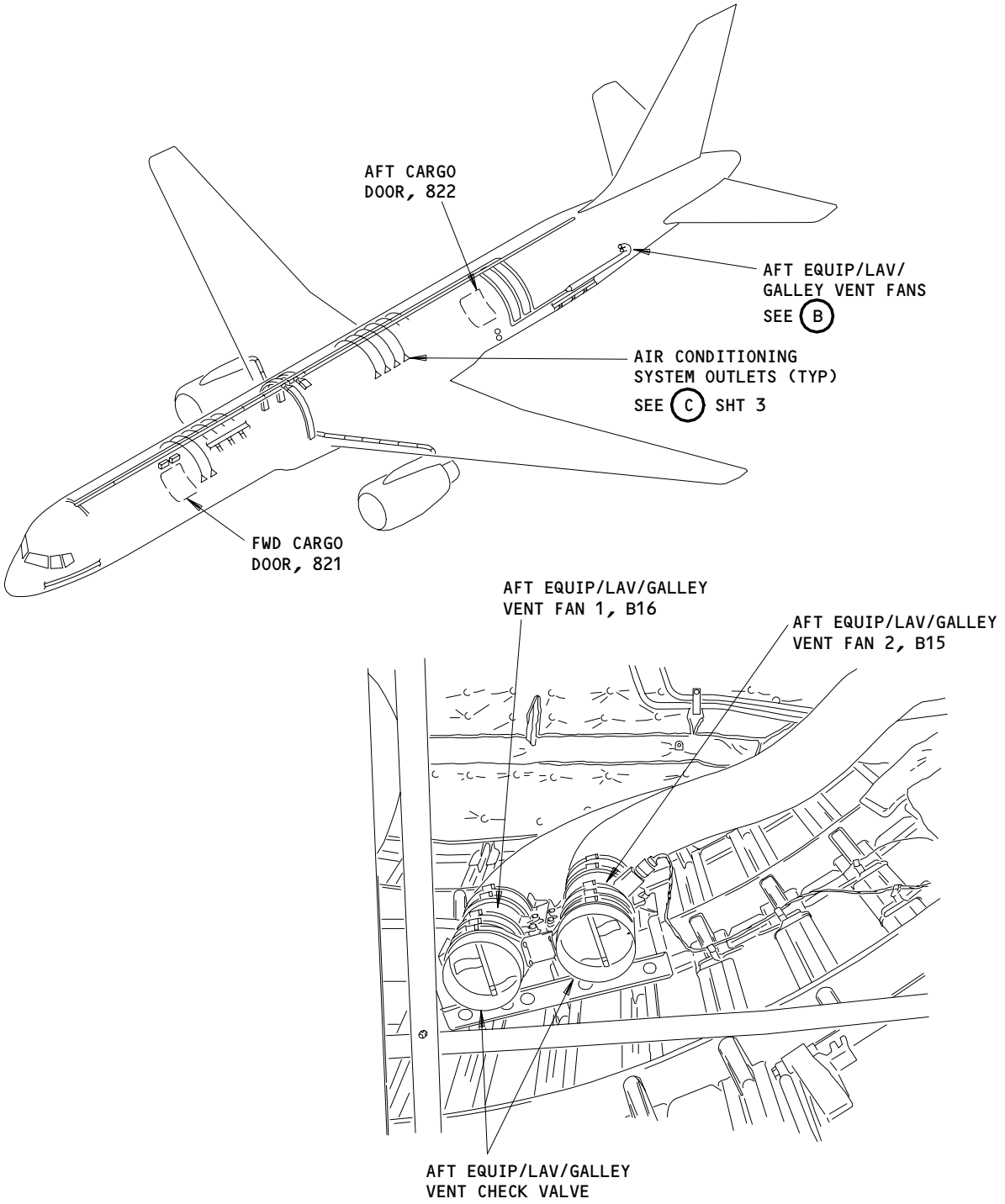

AFT EQUIP/LAV/GALLEY VENT FANS
(VIEW LOOKING AFT)
B

Component Location
Figure 102 (Sheet 2)

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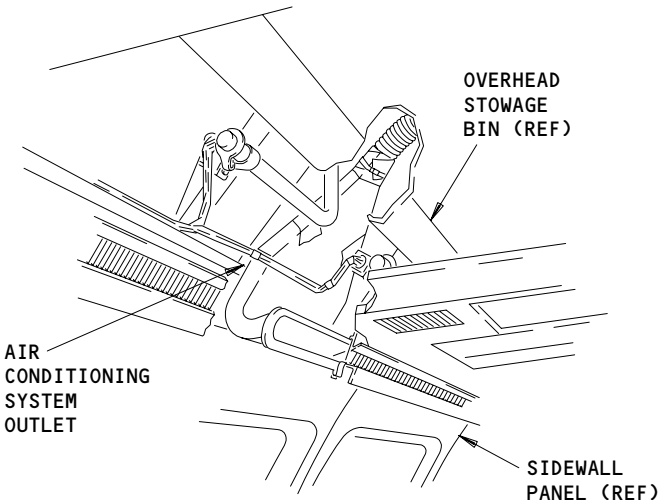
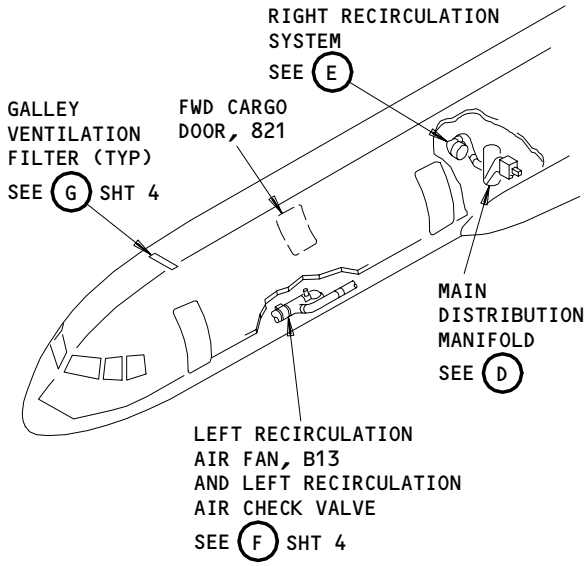
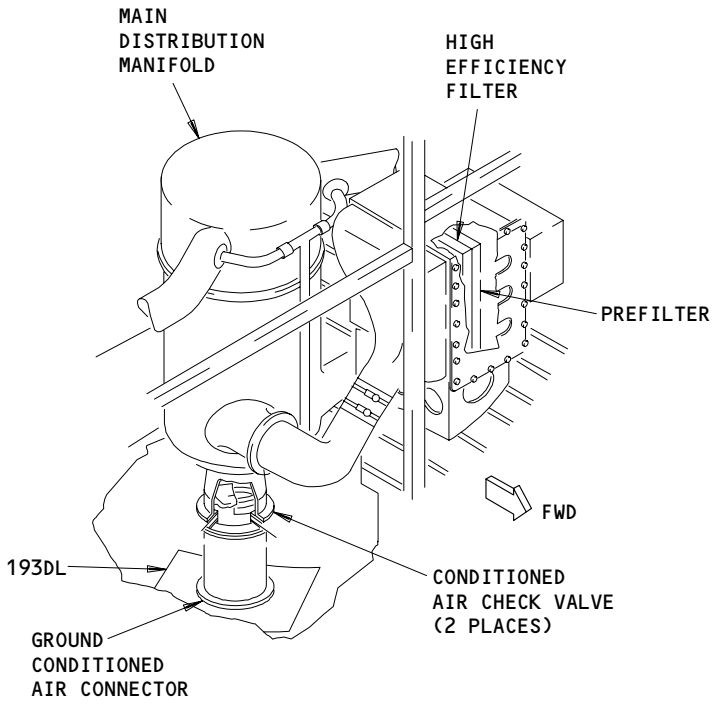


AIR CONDITIONING SYSTEM OUTLETS (TYP)

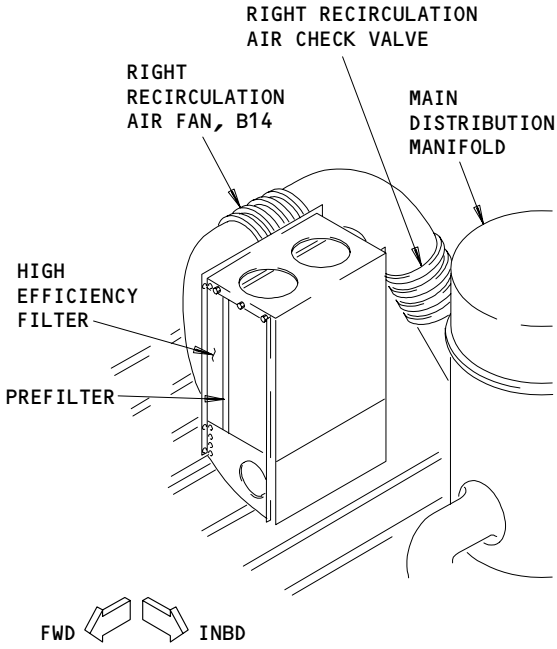
C FROM SHT 2





MAIN DISTRIBUTION MANIFOLD

D



RIGHT RECIRCULATION SYSTEM

E

Component Location
Figure 102 (Sheet 3)

627589

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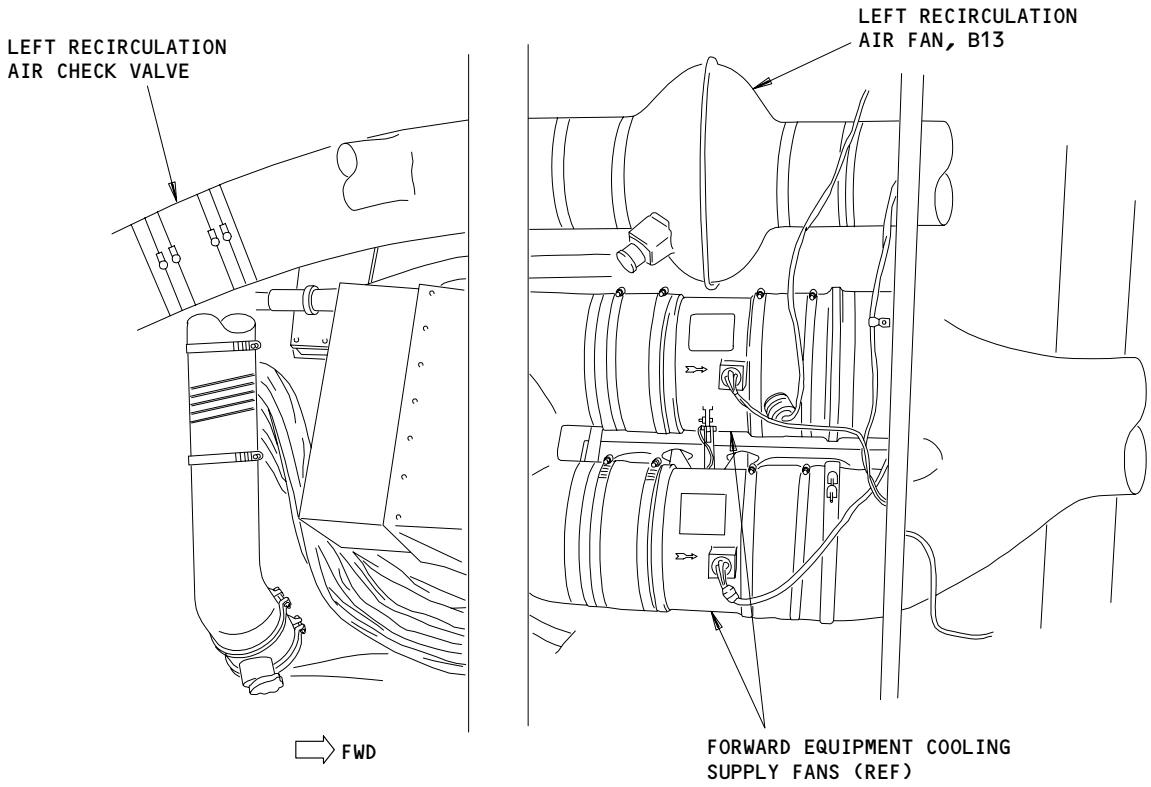
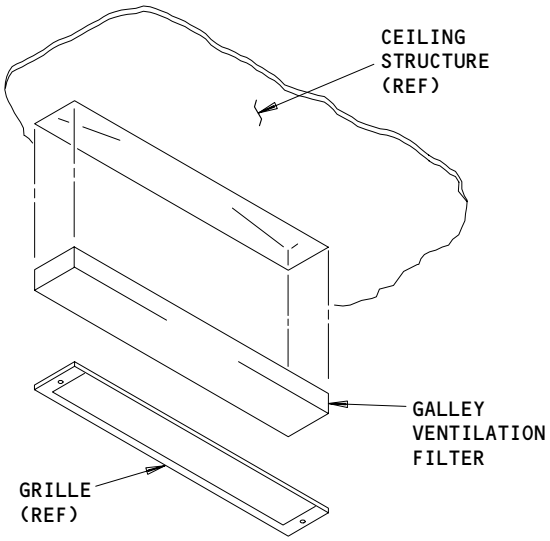


LEFT RECIRCULATION AIR FAN

F



GALLEY VENTILATION FILTER (TYP)

G

Component Location (Details from Sht 3)
Figure 102 (Sheet 4)

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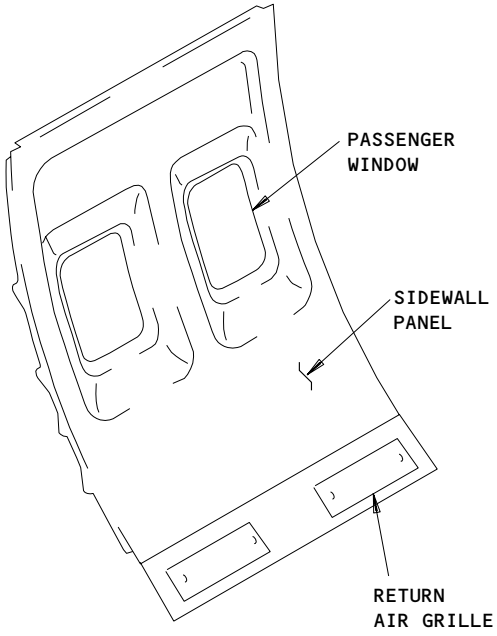

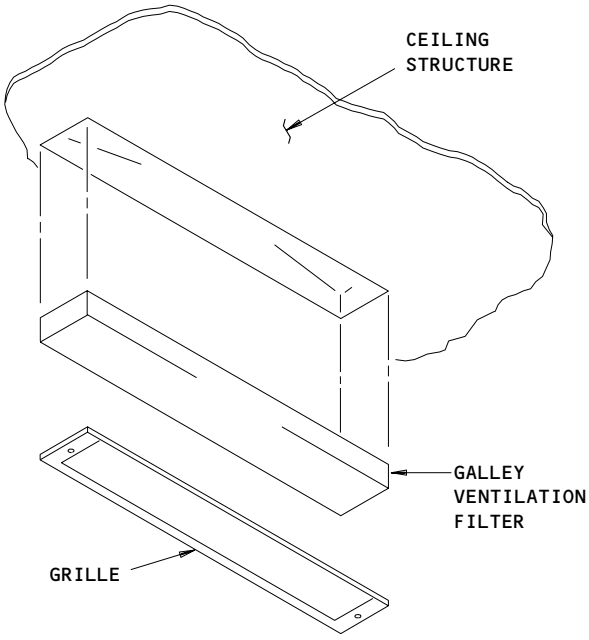

GALLEY VENTILATION FILTER
(EXAMPLE)

G FROM SHT 3

Component Location
Figure 102 (Sheet 5)

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EICAS MSG "AFT EQ EXH FAN 2" DISPLAYED

PREREQUISITES
ELECTRICAL POWER (MM 24-22-00)
CB'S: 11N11,32A8,70B2

1 IS AFT EQUIP/LAV/GALLEY VENT FAN 2 B15 OPERATING?

YES → 30 REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 2 B15 (MM 21-26-01). *[1]

NOTE: FAN OVERHEAT WITH ASSOCIATED FAN THERMAL SWITCH TRIP HAS OCCURRED. THERMAL SWITCHES HAVE RESET, ALLOWING FAN TO OPERATE.

NO

2 REMOVE ELECTRICAL CONNECTOR D2360 FROM AFT EQUIP/LAV/GALLEY VENT FAN 2 B15. JUMPER PINS 5 AND 6 OF ELECTRICAL CONNECTOR. CHECK FOR 115V AC POWER BETWEEN PINS 1 AND 7, 2 AND 7, AND 3 AND 7 AT ELECTRICAL CONNECTOR (WM 21-58-21).
IS 115V AC PRESENT AT ALL 3 LOCATIONS?

YES → 31 REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 2 B15 (MM 21-26-01). *[1]

NO

3 INSTALL FAN ELECTRICAL CONNECTOR D2360. REMOVE AFT EQUIP/LAV/GALLEY VENT FAN 2 RELAY K347 FROM P36 PANEL (WM 21-58-21). CHECK FOR 28V DC POWER BETWEEN PINS X1 AND X2 (D4234).
IS 28V DC PRESENT?

YES → 32 REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 2 RELAY K347 IN P36 (WM 21-58-21). *[1]

NO → 33 INSTALL K347 RELAY. REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 1 FAIL RELAY K10322 IN P37 (WM 21-58-21). *[1]

*[1] PERFORM EICAS MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00, FIG. 109)

EICAS Msg AFT EQ EXH FAN 2 Displayed
Figure 103

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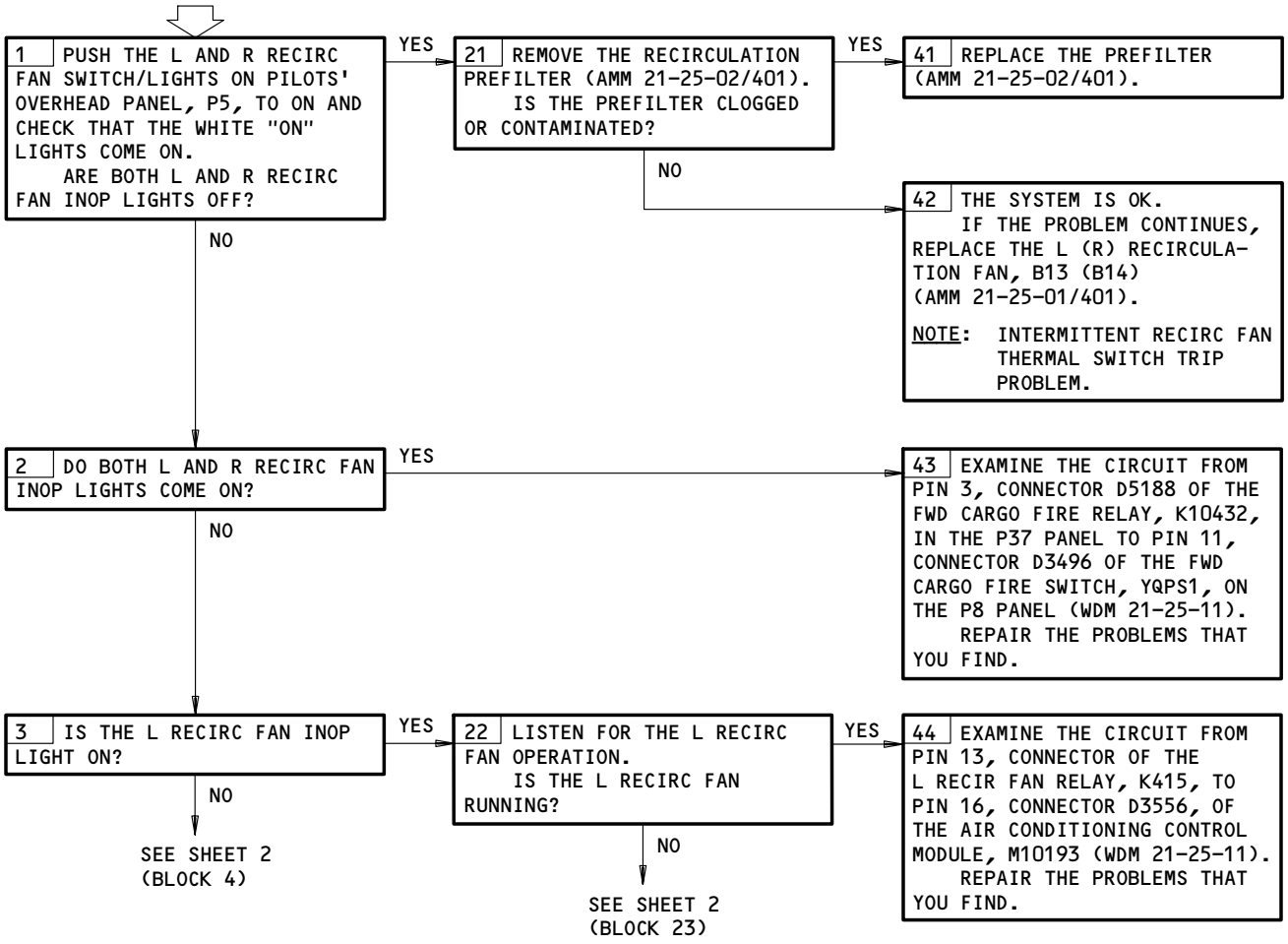
RECIRC FAN "INOP" LIGHT ON, "L (R) RECIR FAN" EICAS MESSAGE DISPLAYED WITH L (R) RECIRC FAN SWITCH/LIGHT "ON"

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11P14,11P23,37D7,37J5,70B16,70C10

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
FWD AND AFT CARGO FIRE SWITCH/LIGHT ON P8 PANEL IN UNARMED POSITION
SLATS RETRACTED



Recirc Fan INOP Light On, L (R) RECIR FAN EICAS Msg Displayed With L (R) Recirc Fan Switch/Light ON
Figure 104 (Sheet 1)

217821
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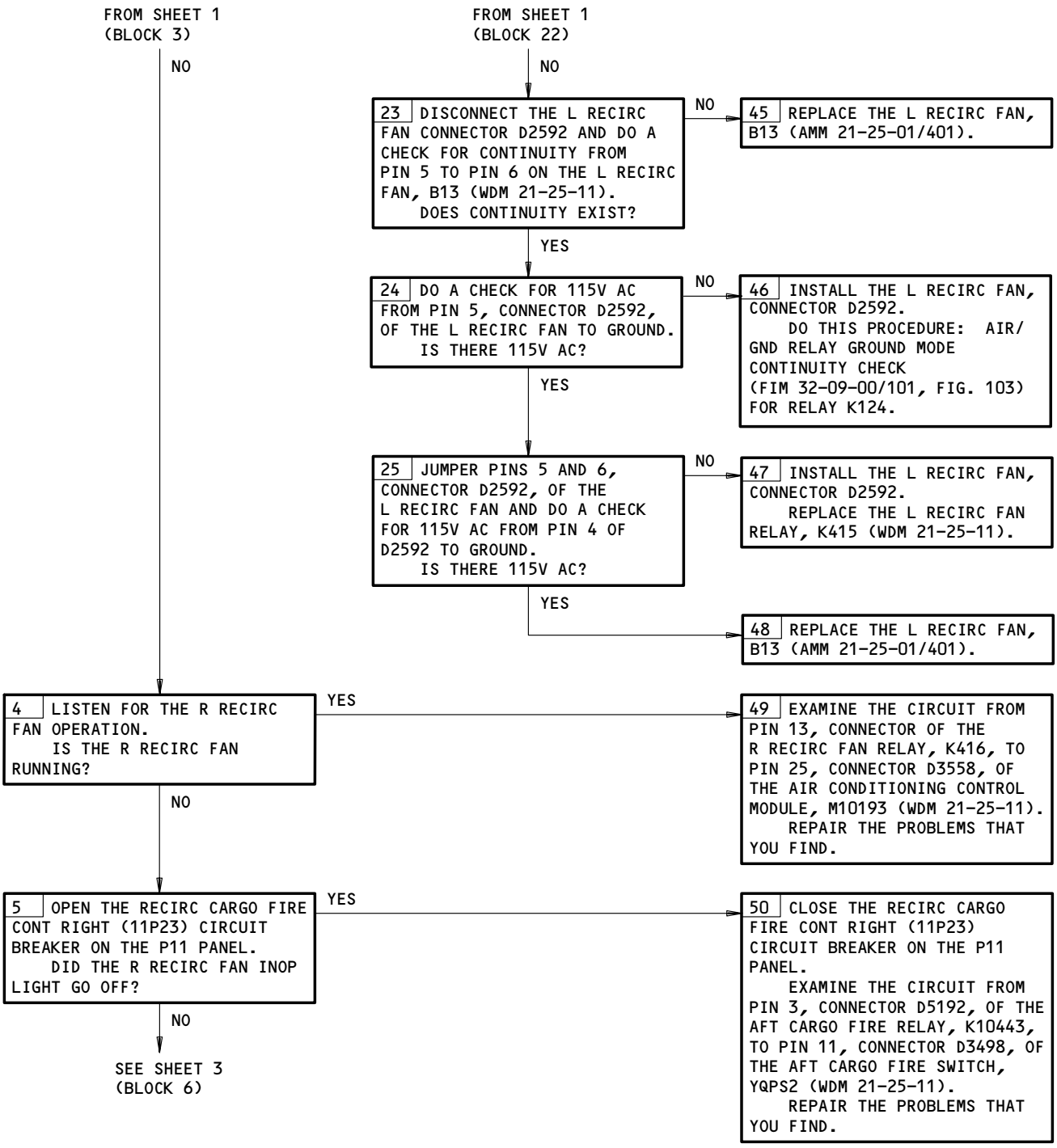

Recirc Fan INOP Light On, L (R) RECIR FAN EICAS Msg Displayed
With L (R) Recirc Fan Switch/Light ON
Figure 104 (Sheet 2)

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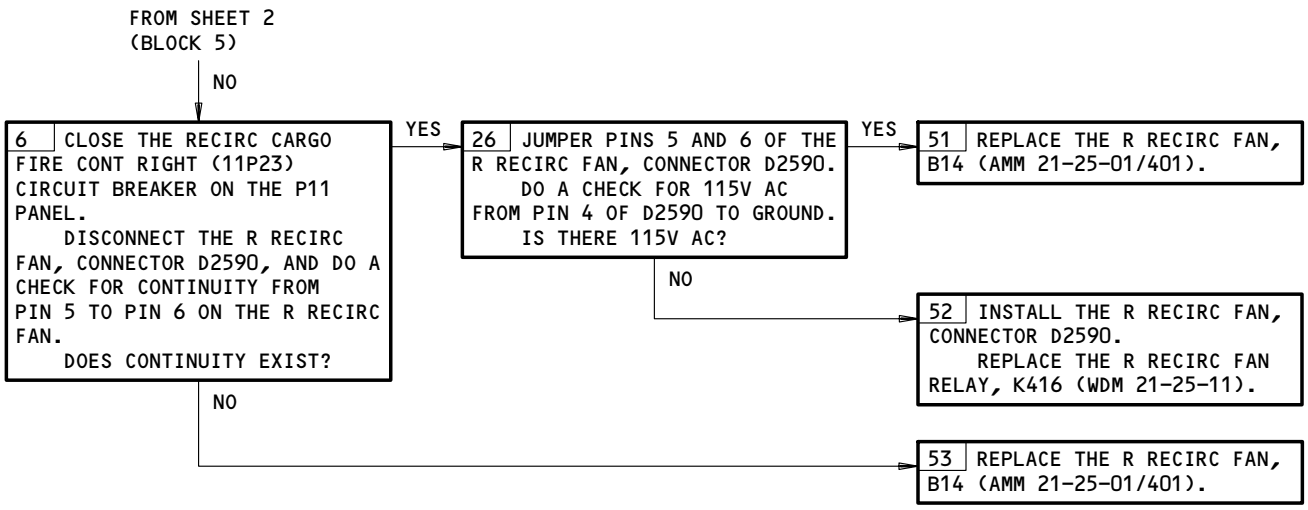

Recirc Fan INOP Light On, L (R) RECIR FAN EICAS Msg Displayed
With L (R) Recirc Fan Switch/Light ON
Figure 104 (Sheet 3)

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PREREQUISITES
ELECTRICAL POWER (MM 24-22-00)
CB'S: 11N11,32A8,37D5

EICAS MSG "AFT EQ EXH FAN 1" DISPLAYED

1 IS AFT EQUIP/LAV/GALLEY VENT FAN 1 B16 OPERATING?

YES → 30 REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 1 B16 (MM 21-26-01). *[1]

NOTE: FAN OVERHEAT WITH ASSOCIATED FAN THERMAL SWITCH TRIP HAS OCCURRED. THERMAL SWITCHES HAVE RESET, ALLOWING FAN TO OPERATE.

NO ↓

2 REMOVE ELECTRICAL CONNECTOR D2358 FROM AFT EQUIP/LAV/GALLEY VENT FAN 1 B16. JUMPER PINS 5 AND 6 OF ELECTRICAL CONNECTOR. CHECK FOR 115V AC POWER BETWEEN PINS 1 AND 7, 2 AND 7, AND 3 AND 7 AT ELECTRICAL CONNECTOR (WM 21-58-21).
IS 115V AC PRESENT AT ALL 3 LOCATIONS?

YES → 31 REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 1 B16 (MM 21-26-01). *[1]

NO → 32 INSTALL FAN ELECTRICAL CONNECTOR D2358.
REPLACE AFT EQUIP/LAV/GALLEY VENT FAN 1 RELAY K346 IN P37 (WM 21-58-21). *[1]

*[1] PERFORM EICAS MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00, FIG. 109)

EICAS Msg AFT EQ EXH FAN 1 Displayed
Figure 105

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PRESSURIZATION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ACTUATOR - CABIN PRESSURE OUTFLOW VALVE, YBWM1	3	1	822, AFT CARGO COMPT, CABIN PRESS OUTFLOW VALVE, V15	21-31-04
CIRCUIT BREAKERS -	2		FLT COMPT, P11	
CABIN ALTITUDE CONTROL AUTO 1, C686		1	11N15	*
CABIN ALTITUDE CONTROL AUTO 2, C701		1	11N24	*
CABIN ALTITUDE CONTROL MANUAL, C683		1	11B14	*
CABIN ALTM, C4205		1	11B13	*
CABIN ALT/PRESS SELECT, C658		1	11B15	*
CABIN DIFF PRESS IND, C4206		1	11B12	*
COMPUTERS - (31-41-00/101)				
EICAS L, M10181				
EICAS R, M10182				
COMPUTERS - (34-12-00/601)				
AIR DATA L, M100				
AIR DATA R, M101				
CONTROLLERS - CABIN PRESSURE			821, FWD CARGO COMPT, E5 RACK	21-31-02
NO. 1, M118	2	1		
NO. 2, M119	2	1		
DIODE - R10315 [1]			119BL, MAIN EQPT CTR, P36	*
MICROSWITCH PACK - (22-32-00/101)				
AUTO THROTTLE, M966				
MODULE - HIGH ALTITUDE WARNING, M10756 [1]	2	1	FLT COMPT, P5	*
MODULE - PRESSURIZATION AND INDICATING WARNING, M19	2	1	FLT COMPT, P5	21-33-01
MOTOR - OUTFLOW VALVE ACTUATOR AC, YBWM2	3	2	822, AFT CARGO COMPT, CABIN PRESS OUTFLOW VALVE, V15	21-31-03
MOTOR - OUTFLOW VALVE ACTUATOR DC	3	1	822, AFT CARGO COMPT, CABIN PRESS OUTFLOW VALVE, V15	21-31-03
PANEL - DISCRETE WARNING DISPLAY, M779	2	1	FLT COMPT, P1	21-33-00
RELAYS - (31-01-36/101)				
HIGH ALT SEL/ENABLE, K10610 [1]				
HIGH ALT SEL/INOP, K10611 [1]				
SYS 1 AIR/GND, K10238				
RELAY - (31-01-37/101)				
SYS 2 AIR/GND, K207				
SELECTOR - CABIN PRESSURE, M13	2	1	FLT COMPT, P5	21-31-01
SENSOR - DIFFERENTIAL PRESSURE, TS5072	3	1	113AL, FWD EQUIP CTR	21-33-04
SWITCH - CABIN ALT WARNING, S431		1	119BL, MAIN EQUIP CTR, P36	*
SWITCH - CABIN HIGH ALT WARNING, S10553 [1]		1	119BL, MAIN EQUIP CTR, P36	*
SWITCH - THROTTLE POSITION, S17	2	1	113AL, FWD EQUIP CTR, MICRO-SWITCH PACK, M966	22-32-04
SWITCH - THROTTLE POSITION, S18	2	1	113AL, FWD EQUIP CTR, MICRO-SWITCH PACK, M966	22-32-04
SWITCH/LIGHT - HIGH ALT LANDING, YTLS1 [1]	2	1	FLT COMPT, P5, HIGH ALTITUDE WARNING MODULE, M10756	*
VALVE - CABIN PRESSURE OUTFLOW, V15	3	1	822, AFT CARGO COMPT	21-31-03
VALVE - POSITIVE PRESSURE RELIEF	1	2	822, AFT CARGO COMPT	21-32-01
VALVE - VACUUM PRESSURE RELIEF	1	2	119BL, MAIN EQUIP CTR	21-32-02

* SEE THE WDM EQUIPMENT LIST

[1] AIRPLANES WITH "HIGH ALT LDG" SWITCH ON THE P5 PANEL

Pressurization - Component Index
Figure 101

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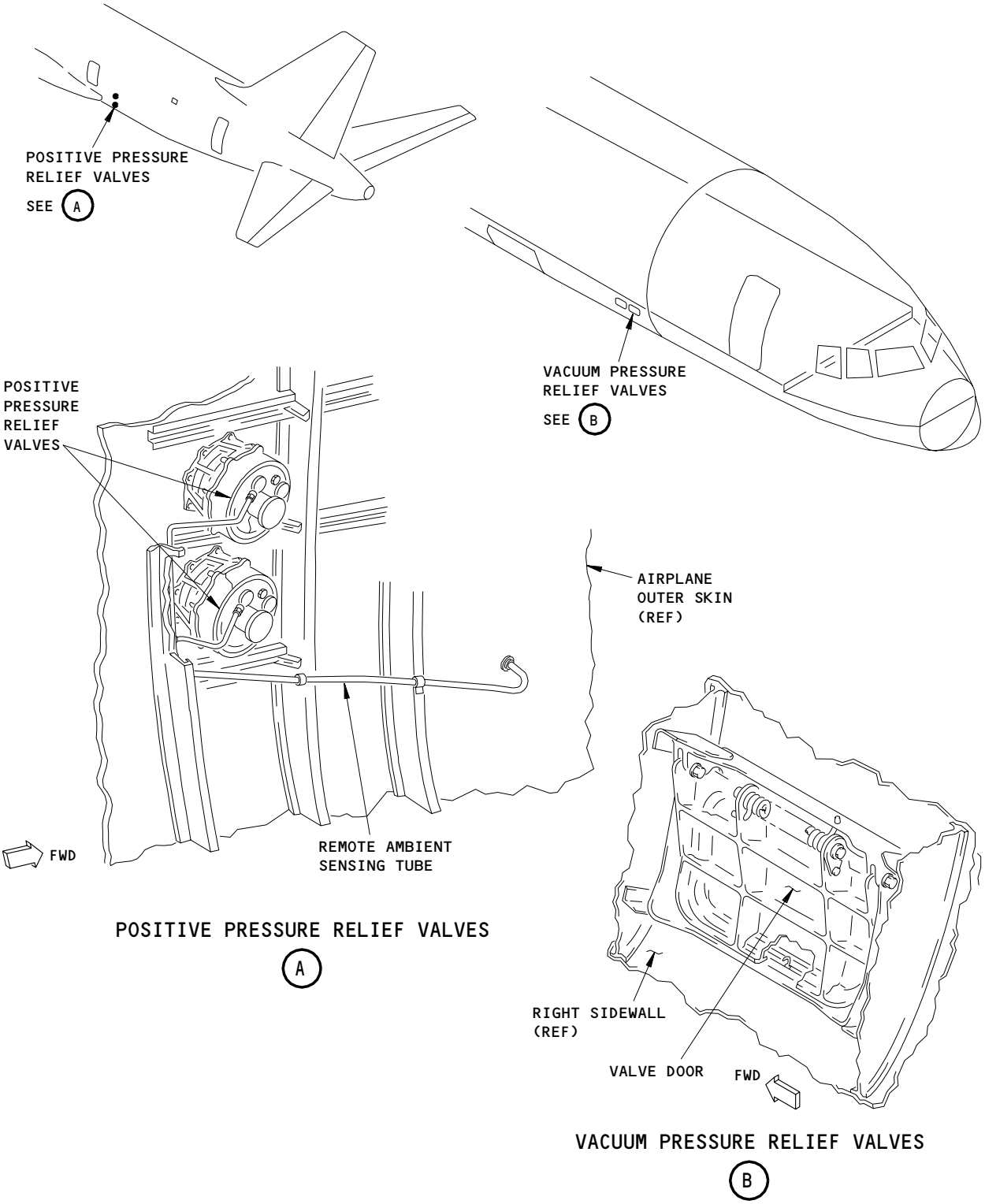

Pressurization – Component Location
Figure 102 (Sheet 1)

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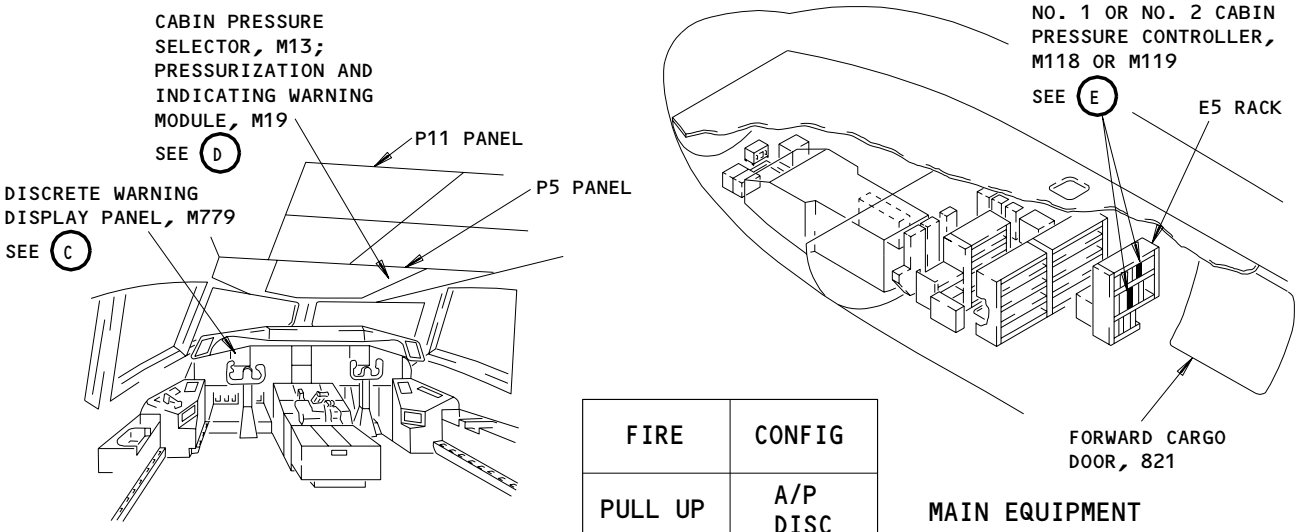


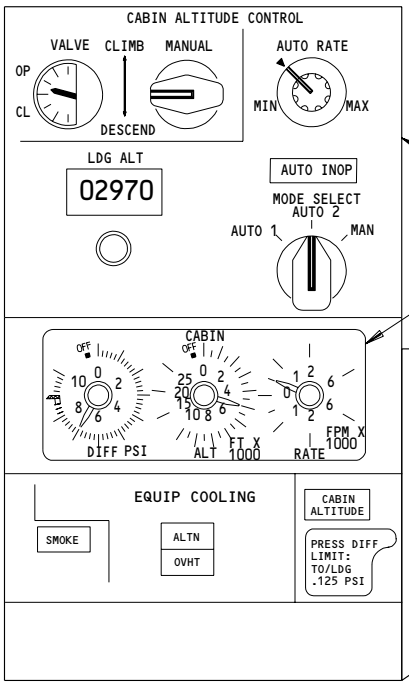
FLIGHT COMPARTMENT

MAIN EQUIPMENT CENTER

FIRE	CONFIG
PULL UP	A/P DISC
CABIN ALT	OVSPD

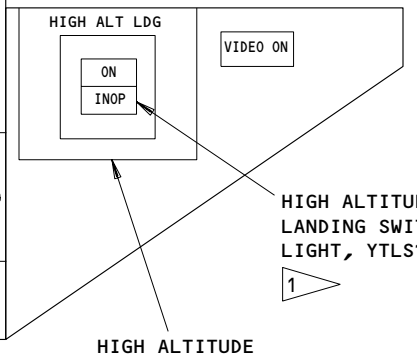
DISCRETE WARNING DISPLAY MODULE, M779

C



CABIN PRESSURE SELECTOR, M13

PRESSURIZATION AND INDICATING WARNING MODULE, M19



HIGH ALTITUDE LANDING SWITCH/ LIGHT, YTLS1

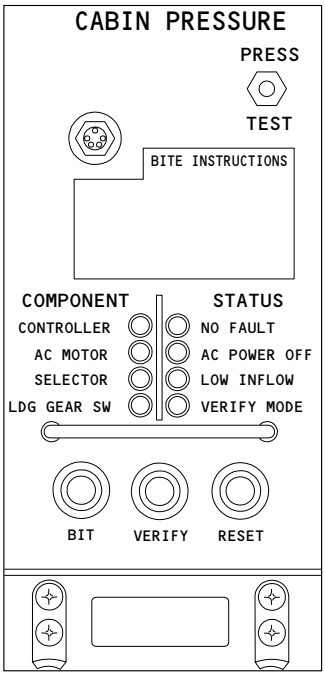
1

HIGH ALTITUDE WARNING MODULE, M10756

1

CABIN PRESSURE SELECTOR, M13; PRESSURIZATION AND INDICATING WARNING MODULE, M19

D



NO. 1 OR NO. 2 CABIN PRESSURE CONTROLLER, M118 OR M119

E

1 AIRPLANES WITH "HIGH ALT LDG" SWITCH ON THE P5 PANEL

Pressurization – Component Location
Figure 102 (Sheet 2)

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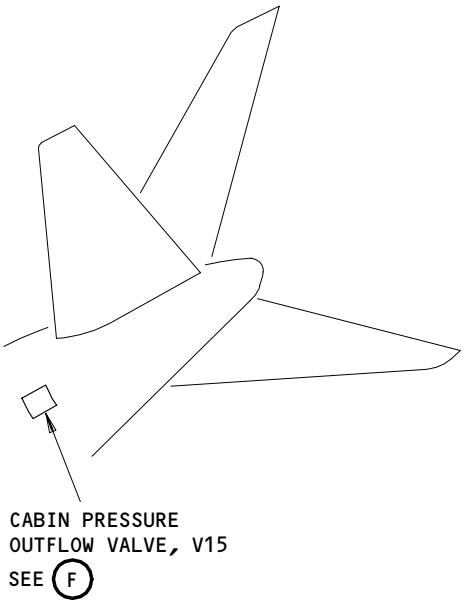
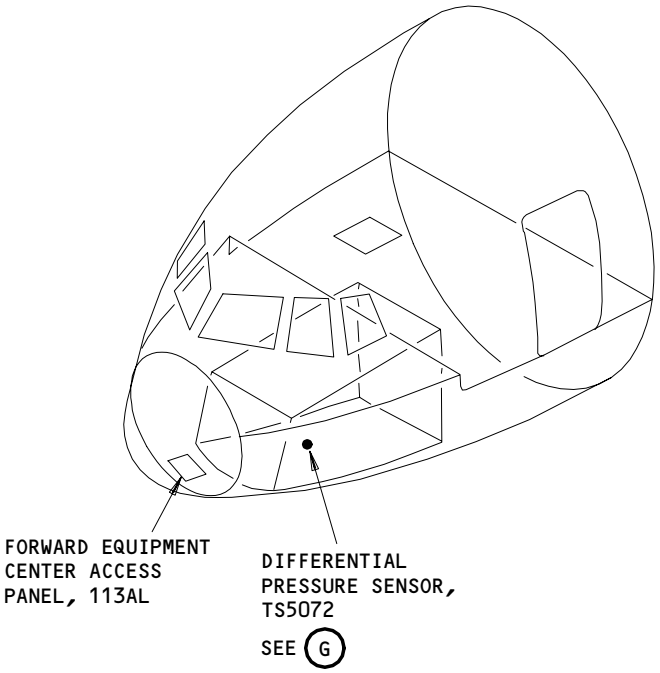
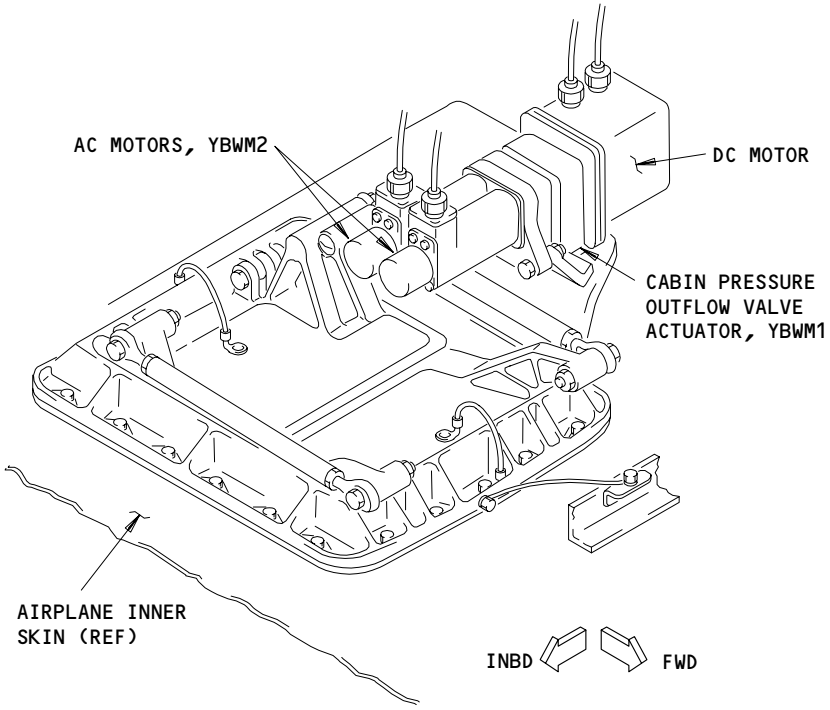
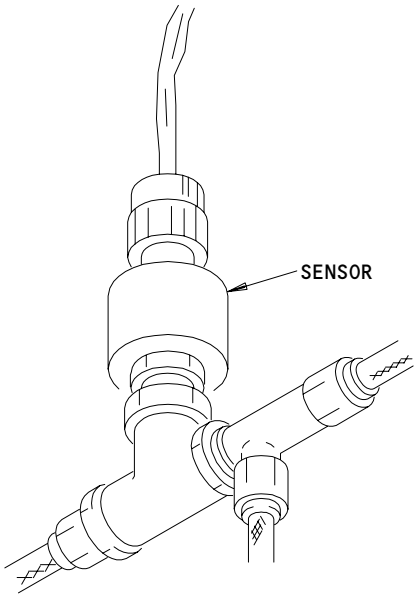






CABIN PRESSURE OUTFLOW VALVE, V15

(F)



DIFFERENTIAL PRESSURE SENSOR, TS5072

(G)

Pressurization - Component Location
Figure 102 (Sheet 3)

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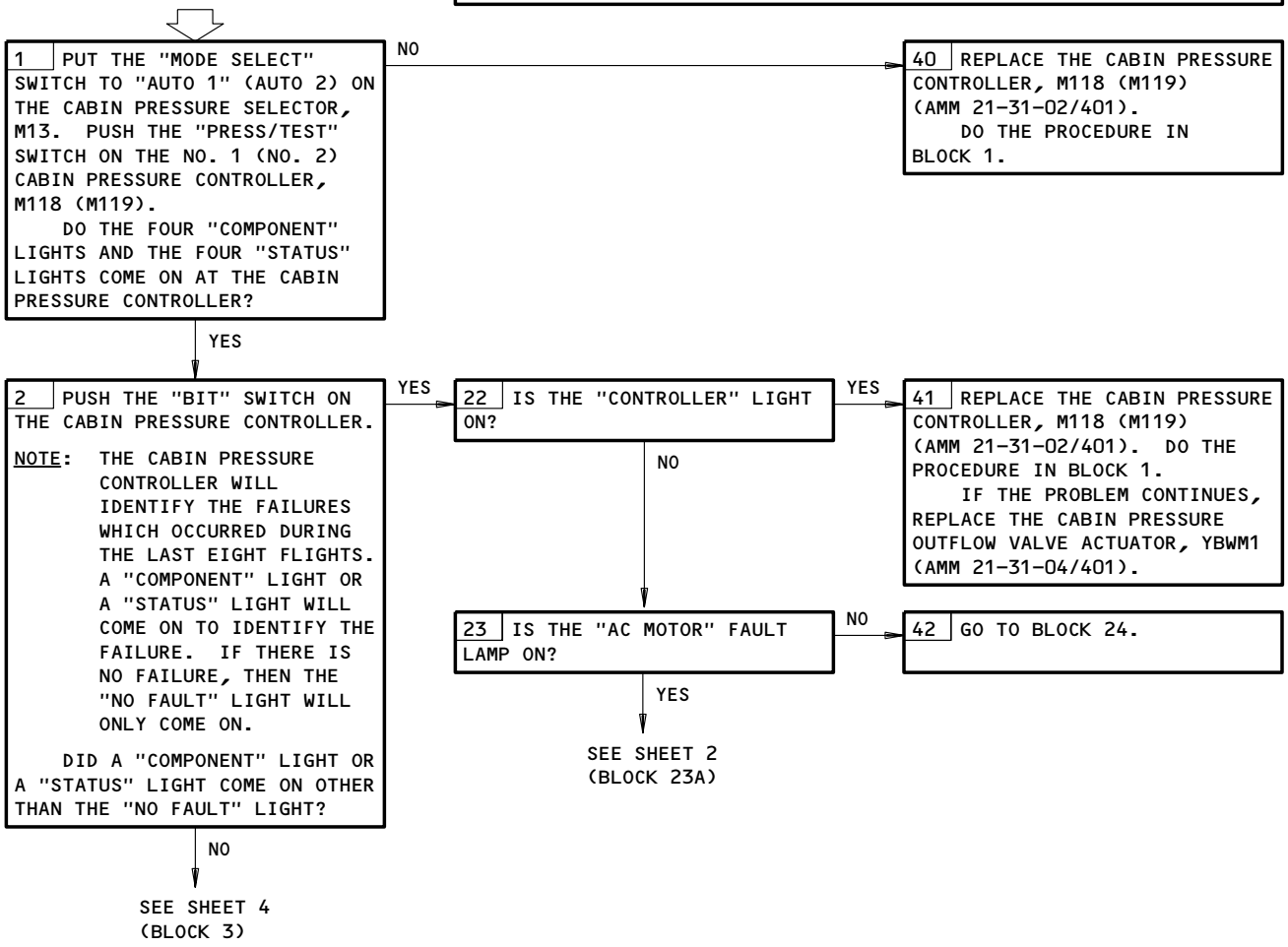
CABIN PRESSURE CONTROLLER BITE PROCEDURE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12, 11B13, 11B14, 11N15, 11N24

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



Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 1)

54125
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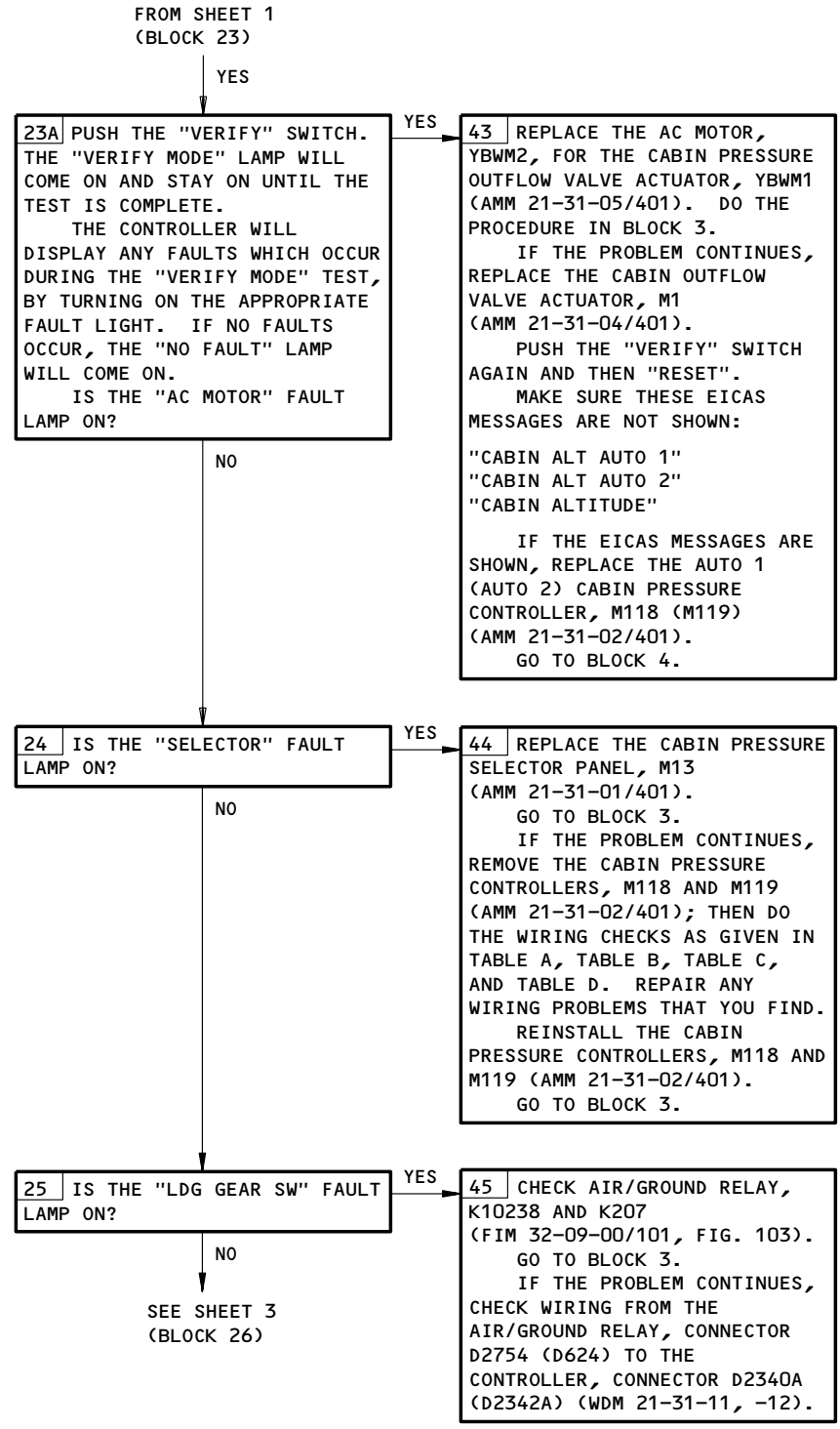

Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 2)

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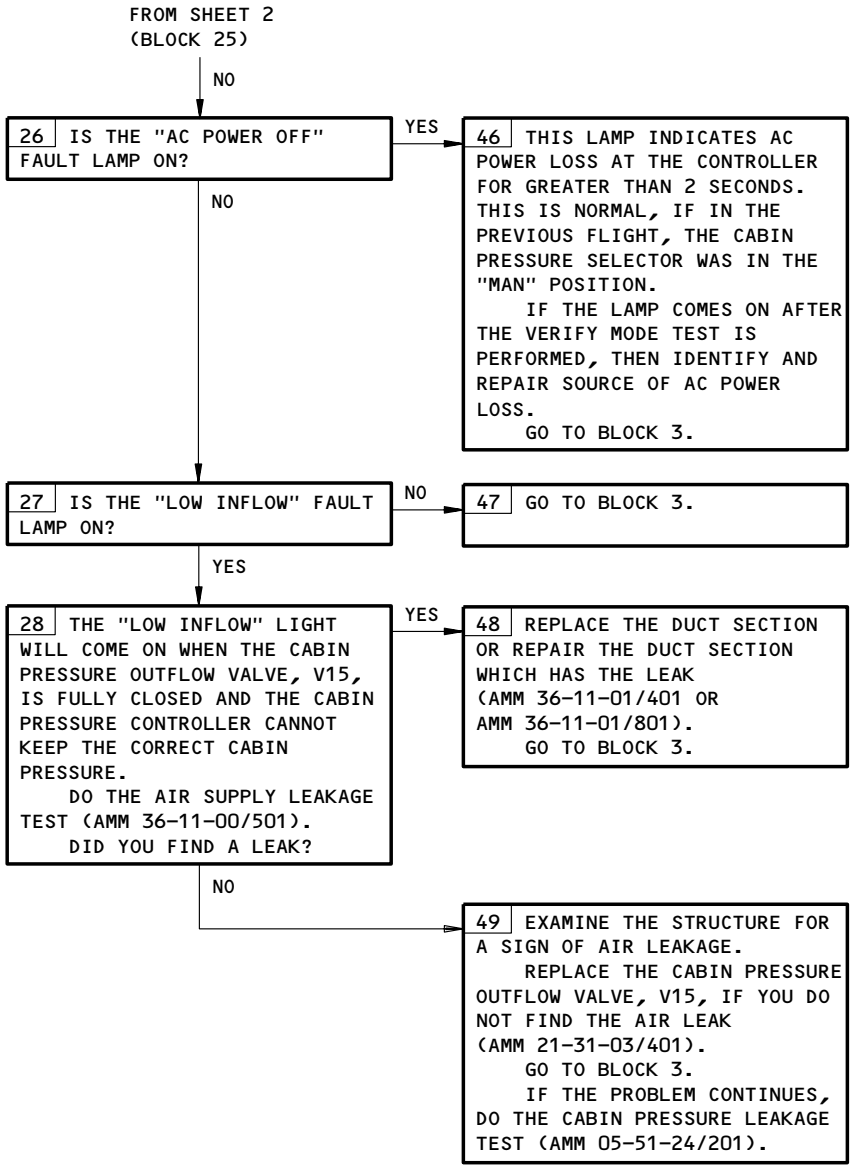

Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 3)

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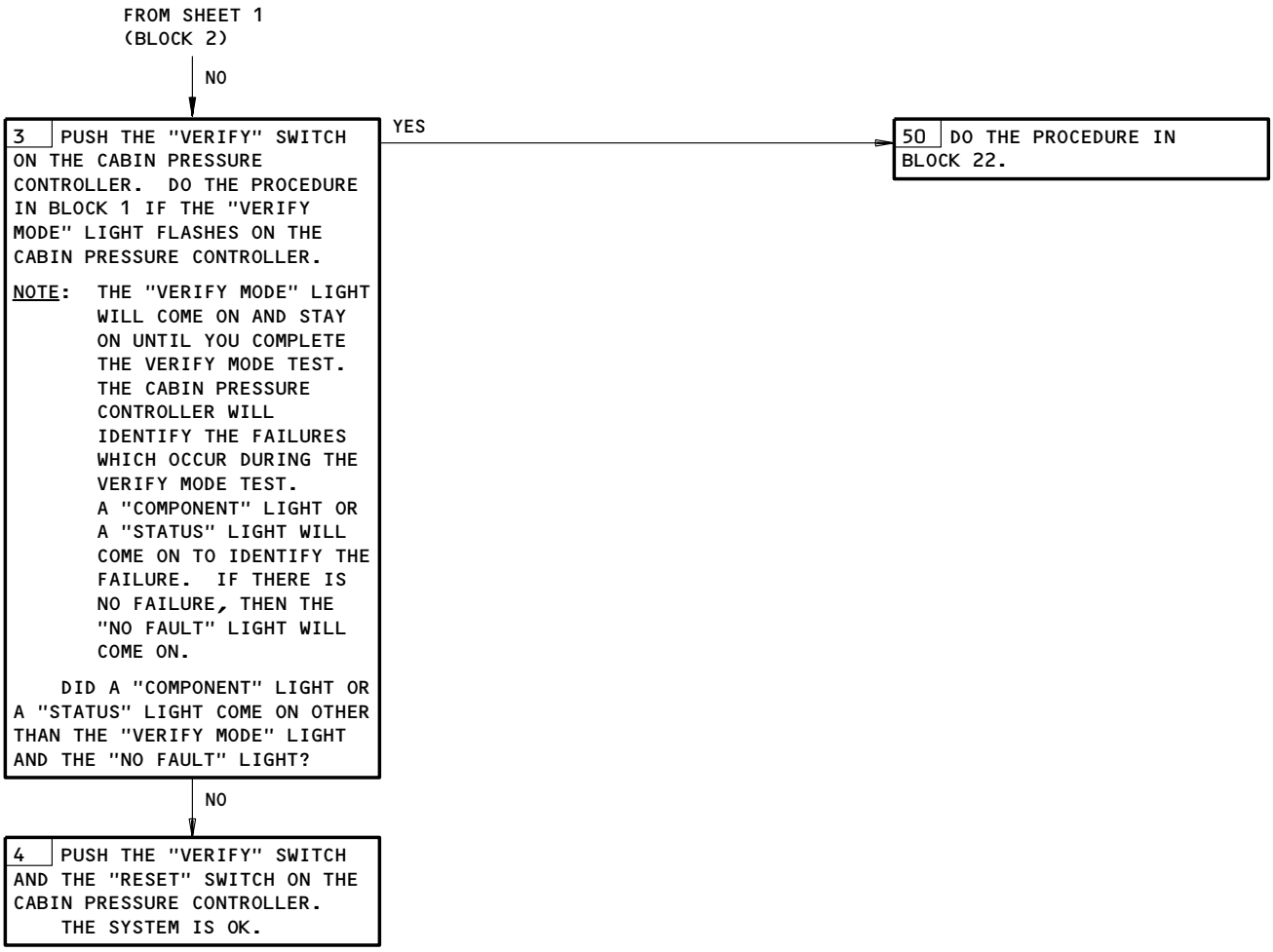

Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 4)

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CABIN PRESSURE CONTROLLER		CABIN PRESSURE SELECTOR	WIRING CHECK ACCEPTANCE
UNIT	CONNECTOR	MODE	
M118 (AUTO 1)	D2340A, PIN A2	AUTO 1	GROUND (DC)
		AUTO 2	OPEN CIRCUIT
		MANUAL	OPEN CIRCUIT
M119 (AUTO 2)	D2342A, PIN A2	AUTO 1	OPEN CIRCUIT
		AUTO 2	GROUND (DC)
		MANUAL	OPEN CIRCUIT

CPC - SELECTOR PANEL WIRING CHECK
TABLE A

CABIN PRESSURE CONTROLLER		WIRING CHECK ACCEPTANCE
M118 (AUTO 1)	M119 (AUTO 2)	
FROM CONNECTOR D2340A	TO CONNECTOR D2342A	
PIN C3	PIN D3	CONTINUITY
PIN C4	PIN D4	CONTINUTIY
PIN D3	PIN C3	CONTINUITY
PIN D4	PIN C4	CONTINUITY

CPC-BUS CROSS-TALK WIRING CHECK
TABLE B

Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 5)

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CABIN PRESSURE CONTROLLER	FROM CONNECTOR	TO CONNECTOR	WIRING CHECK ACCEPTANCE
M118 (AUTO 1)	D2340A, PIN B9	D2340A, PIN B10	OPEN CIRCUIT
M119 (AUTO 2)	D2342A, PIN B9	D2342A, PIN B10	CONTINUITY

CPC TIE-BREAKER WIRING CHECK
TABLE C

CABIN PRESSURE CONTROLLER		CABIN PRESSURE SELECTOR	WIRING CHECK ACCEPTANCE
UNIT	FROM CONNECTOR	TO CONNECTOR	
M118 (AUTO 1)	D2340A, PIN A1	D2344, PIN 21	CONTINUITY
	D2340A, PIN B1	D2344, PIN 9	CONTINUITY
	D2340A, PIN C1	D2344, PIN 20	CONTINUITY
	D2340A, PIN D1	D2344, PIN 8	CONTINUITY
M119 (AUTO 2)	D2342A, PIN A1	D2344, PIN 23	CONTINUITY
	D2342A, PIN B1	D2344, PIN 11	CONTINUITY
	D2342A, PIN C1	D2344, PIN 22	CONTINIUTY
	D2342A, PIN D1	D2344, PIN 10	CONTINUITY

CPC - SELECTOR PANEL POTENTIOMETER WIRING CHECK
TABLE D

Cabin Pressure Controller BITE Procedure
Figure 103 (Sheet 6)

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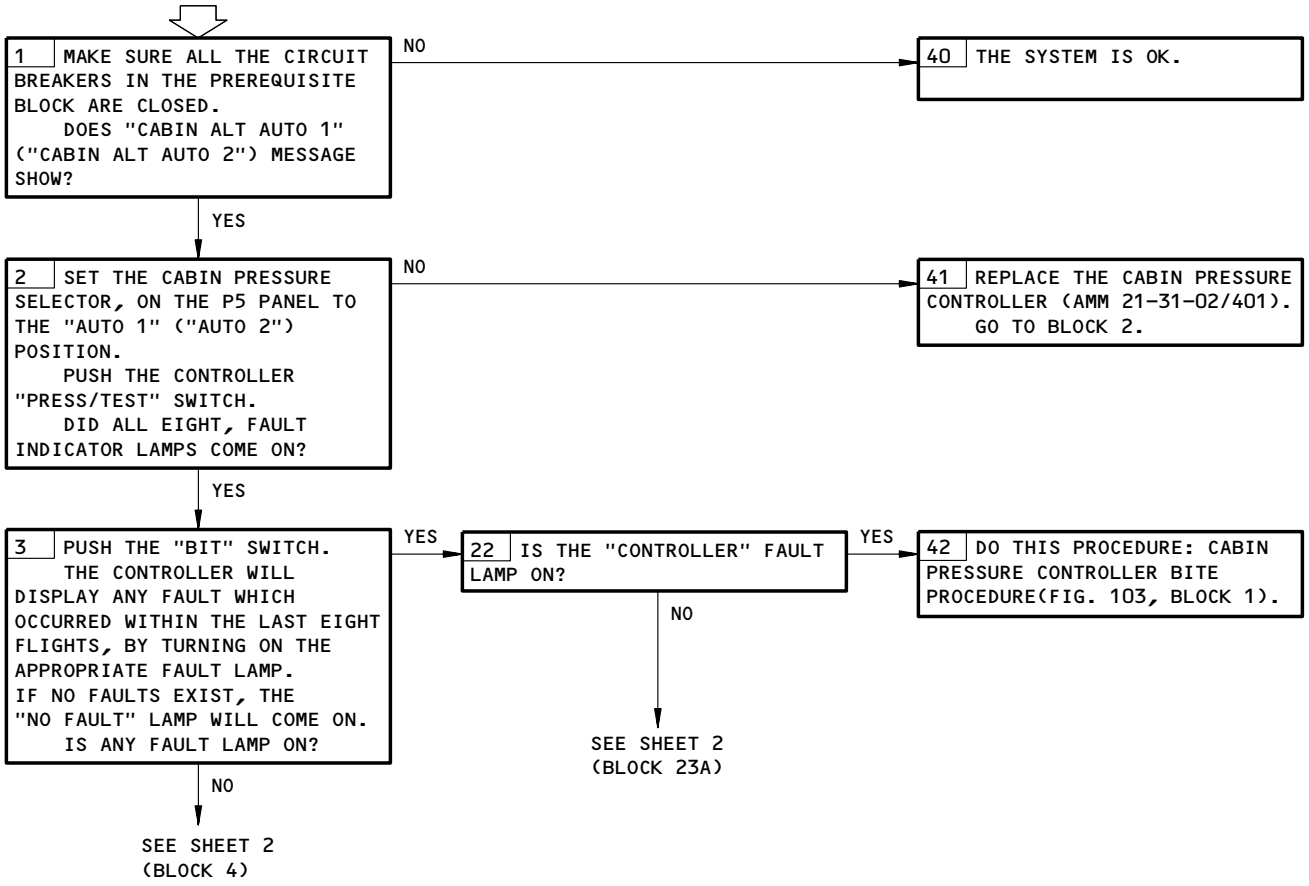
EICAS MESSAGE "CABIN ALT AUTO 1" OR "2" DISPLAYED

PREREQUISITES

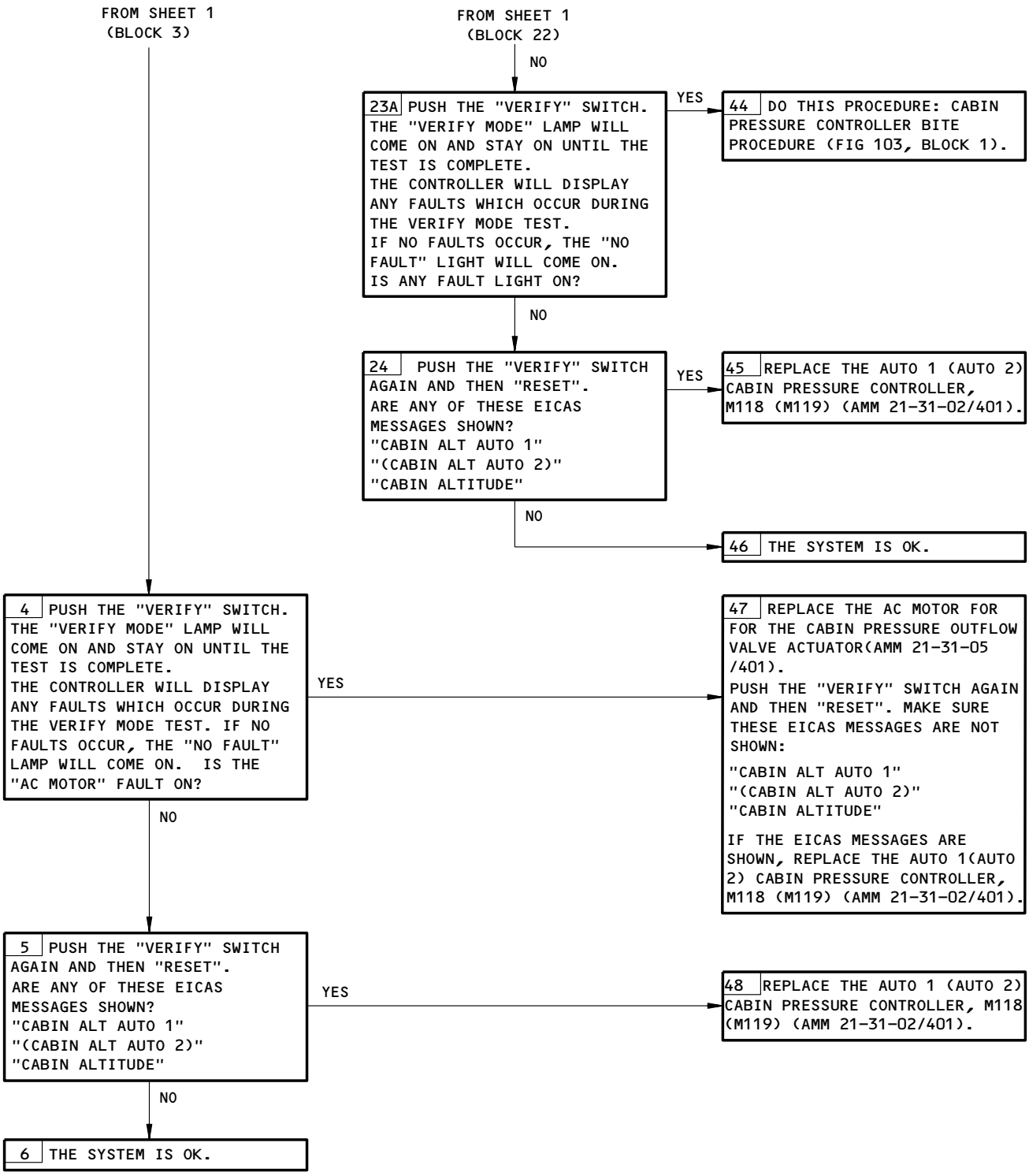
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12, 11B13, 11B14, 11N15, 11N24

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



EICAS Message CABIN ALT AUTO 1 or 2 Displayed
Figure 104 (Sheet 1)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



EICAS Message CABIN ALT AUTO 1 or 2 Displayed
Figure 104 (Sheet 2)

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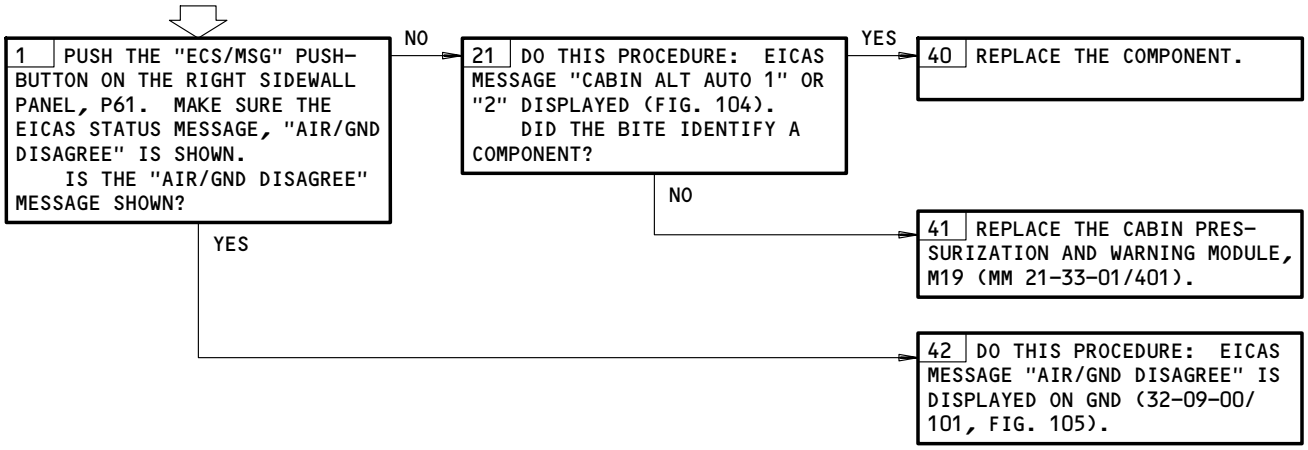
CABIN RATE OFF SCHEDULE IN AUTO. SYSTEM NOT NORMAL IN OTHER AUTO MODE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13,11B14,11B15,11N15,11N24

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



Cabin Rate Off Schedule In Auto. System Not Normal In Other Auto Mode
Figure 105

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Not Used
Figure 106

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PRESSURE BUMP DURING TAKEOFF

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13,11B14,11B15,11N15,11N24

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

1 DO THIS PROCEDURE: EICAS MESSAGE "CABIN ALT AUTO 1" OR "2" DISPLAYED (FIG. 104).
DID THE BITE IDENTIFY A COMPONENT?

YES → 40 REPLACE THE COMPONENT.

NO → 41 DO THIS PROCEDURE: BITE PROCEDURE FOR THE PROXIMITY SWITCH ELECTRONICS UNIT (PSEU) (FIM 32-09-03/101, FIG. 103).
IF THE PROBLEM CONTINUES, REPLACE THE AUTOTHROTTLE MICROSWITCH PACK, M966 (AMM 22-32-04/401).

Pressure Bump During Takeoff
Figure 107

70274
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BOTH "CABIN ALT AUTO" EICAS MESSAGES ILLUM, "CABIN AUTO INOP" EICAS MESSAGE AND "AUTO INOP" LIGHT ON IN AUTO, MANUAL MODE NOT NORMAL

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13,11B14,11B15,11N15,11N24

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

1 DISCONNECT THE OUTFLOW VALVE LINKAGE FROM THE CABIN PRESSURE OUTFLOW VALVE ACTUATOR, YBWM1 (MM 21-31-04/401).
DOES THE CABIN PRESSURE OUTFLOW VALVE, V15, MOVE FREELY?

YES → 40 REPLACE THE CABIN PRESSURE OUTFLOW VALVE ACTUATOR, YBWM1 (MM 21-31-04/401).

NO

2 EXAMINE THE OUTFLOW VALVE LINKAGE FOR DAMAGE.
IS THERE DAMAGE TO THE OUTFLOW VALVE LINKAGE?

YES → 41 REPLACE THE CABIN PRESSURE OUTFLOW VALVE, V15 (21-31-03/401). ERASE THE EICAS MESSAGES "CABIN AUTO FAIL", "CABIN ALT AUTO 1", AND "CABIN ALT AUTO 2" (31-41-00/101, FIG. 109).

NO

3 DO THIS PROCEDURE: EICAS MESSAGE "CABIN ALT AUTO 1" OR "2" DISPLAYED (FIG. 104).
DID THE BITE IDENTIFY A COMPONENT?

YES → 42 REPLACE THE COMPONENT. ERASE THE EICAS MESSAGES "CABIN AUTO FAIL","CABIN ALT AUTO 1", AND "CABIN ALT AUTO 2" (31-41-00/101, FIG. 109).

NO

20 PUT THE "MODE SELECT" SWITCH TO "MAN" ON THE CABIN PRESSURE SELECTOR, M13. PUT THE "CABIN ALTITUDE CONTROL-MANUAL" SWITCH TO "DESCEND" ON THE CABIN PRESSURE SELECTOR, M13. AFTER 20 SECONDS, PUT THE "CABIN ALTITUDE CONTROL-MANUAL" SWITCH TO "CLIMB".
DOES THE CABIN PRESSURE OUTFLOW VALVE, V15, OPEN AND THEN CLOSE?

YES → 43 DO THE PRESSURE AND LEAKAGE TEST (MM 36-11-00/501). ERASE THE EICAS MESSAGES "CABIN AUTO FAIL", "CABIN ALT AUTO 1", AND "CABIN ALT AUTO 2" (31-41-00/101, FIG. 109).

NO → 44 REPLACE THE CABIN PRESSURE OUTFLOW VALVE, V15 (MM 21-31-03/401). ERASE THE EICAS MESSAGES "CABIN AUTO FAIL", "CABIN ALT AUTO 1", AND "CABIN ALT AUTO 2" (31-41-00/101, FIG. 109).

Both CABIN ALT AUTO EICAS Messages Illum, CABIN AUTO INOP EICAS Message and AUTO INOP Light On In Auto, Manual Mode Not Normal
Figure 108

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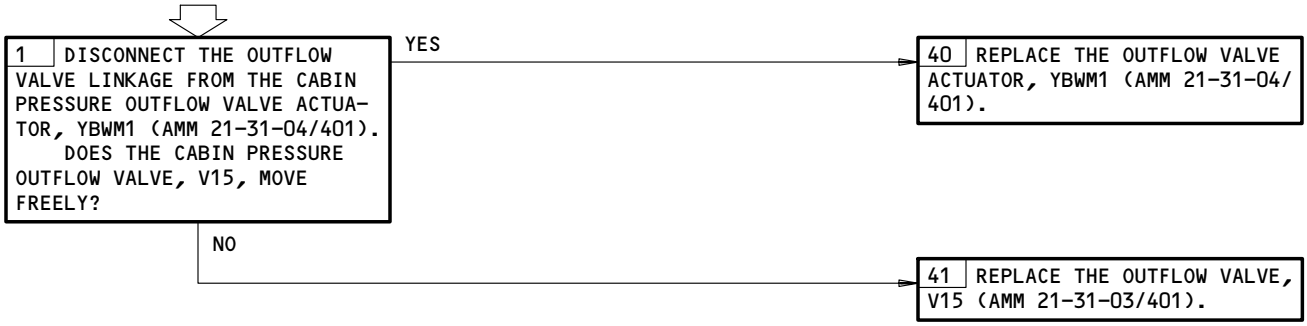
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13,11B14,11B15,11N15,11N24

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

CABIN ALTITUDE INDICATIONS ON IN AUTO. MANUAL OPERATION ABNORMAL

NOTE: IF PNEUMATIC DUCT PRESSURE IS LOW WITH THE ENGINES ON, DO THIS PROCEDURE: "LOW DUCT PRESSURE" PROCEDURE (AMM 36-10-00/101, FIG. 106).



Cabin Altitude Indications On in Auto. Manual Operation Abnormal
Figure 109

155980

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CABIN DIFFERENTIAL PRESSURE INDICATOR INACCURATE/ FLUCTUATES

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13

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

1 REPLACE THE DIFFERENTIAL PRESSURE SENSOR, TS5072 (AMM 21-33-04/401) [1]. IF THE PROBLEM CONTINUES, REPLACE THE CABIN PRESSURIZATION AND WARNING MODULE, M19 (AMM 21-33-01/401) [1]. IF THE PROBLEM CONTINUES, DO THIS PROCEDURE: STATIC SYSTEM PROBLEM (FIM 34-11-00/101, FIG. 103).

[1] THE DIFFERENTIAL PRESSURE SENSOR AND THE PRESSURIZATION INDICATION AND WARNING MODULE OPERATE TOGETHER AS A SET. AN INCORRECT COMBINATION WILL CAUSE AN INCORRECT INDICATION. MAKE SURE THE IPC HAS THE CORRECT PART NUMBER EFFECTIVITY FOR EACH OF THE COMPONENTS.

Cabin Differential Pressure Indicator Inaccurate/Fluctuates
Figure 110

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OUTFLOW VALVE DID NOT BEGIN TO CLOSE AT LIFTOFF

PREREQUISITES
NONE

1	REPLACE THE VALVE POSITION INDICATOR ON THE CABIN PRESSURE SELECTOR, M13 (AMM 21-31-01/401). IF THE PROBLEM CONTINUES, REPLACE THE CABIN PRESSURE OUTFLOW VALVE, V15 (AMM 21-31-03/401).

Outflow Valve Did Not Begin To Close At Liftoff
Figure 111

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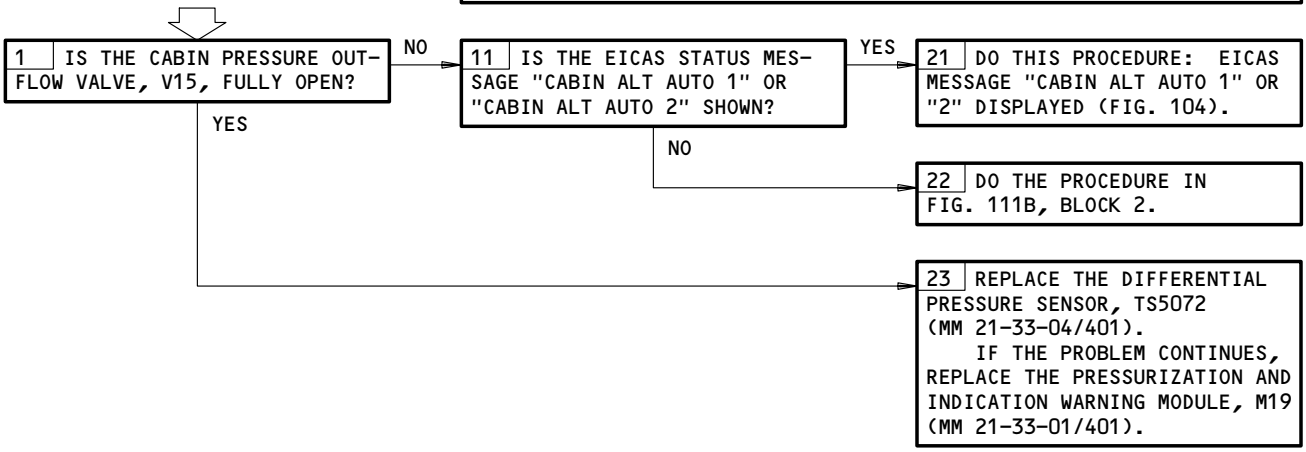
HIGH ALT SW SELECTED "ON". CABIN DIFF PRESS GAUGE WAS NOT ZERO WHEN LANDING AT HIGH ALTITUDE FIELD.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B15,11N15,11N24

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



High Alt Sw Selected ON. Cabin Diff Press Gauge Was Not Zero When Landing at High Altitude Field.
Figure 111A

653746

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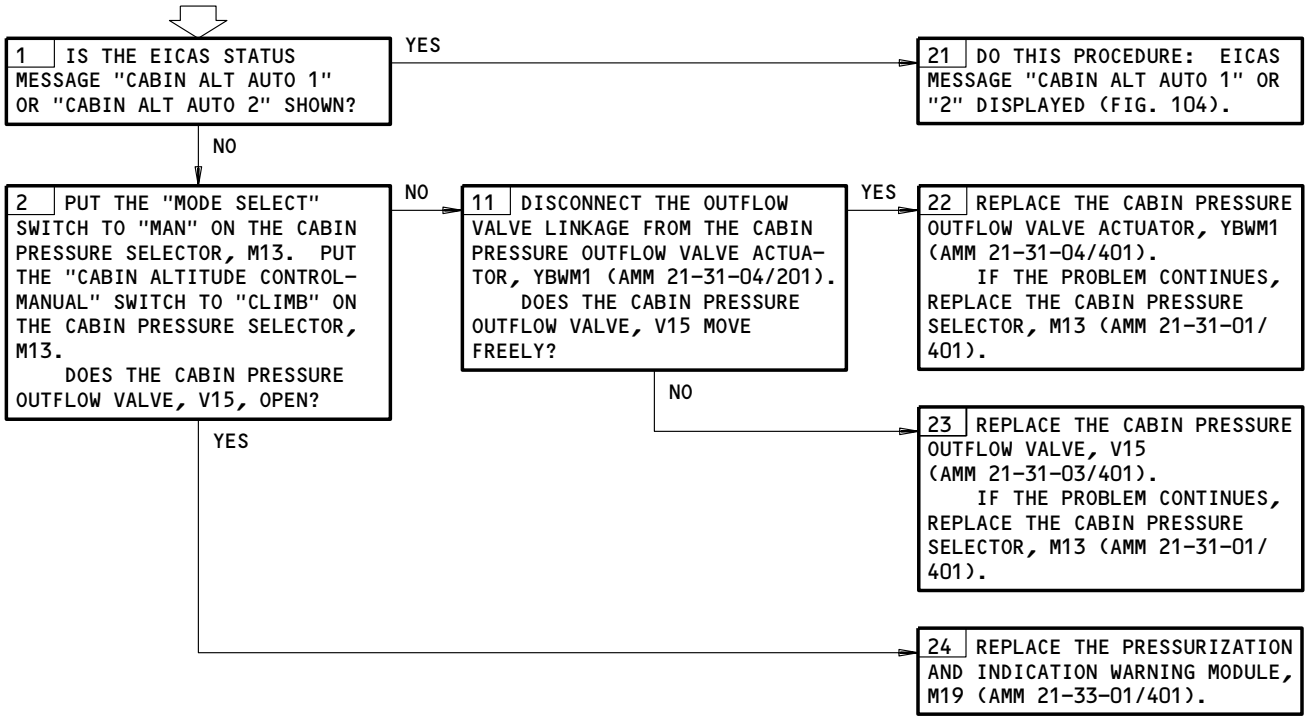
HIGH ALT LDG SW SELECTED "ON". HIGH ALT LDG INOP LIGHT EXTIN. CABIN ALT DID NOT CLIMB TO SELECTED ALTITUDE.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B12,11B13,11B14,11B15,11N15,11N24

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



High Alt Ldg Sw Selected ON. High Alt Ldg Inop Light Extin.
Cabin Alt Did Not Climb To Selected Altitude.
Figure 111B

653747

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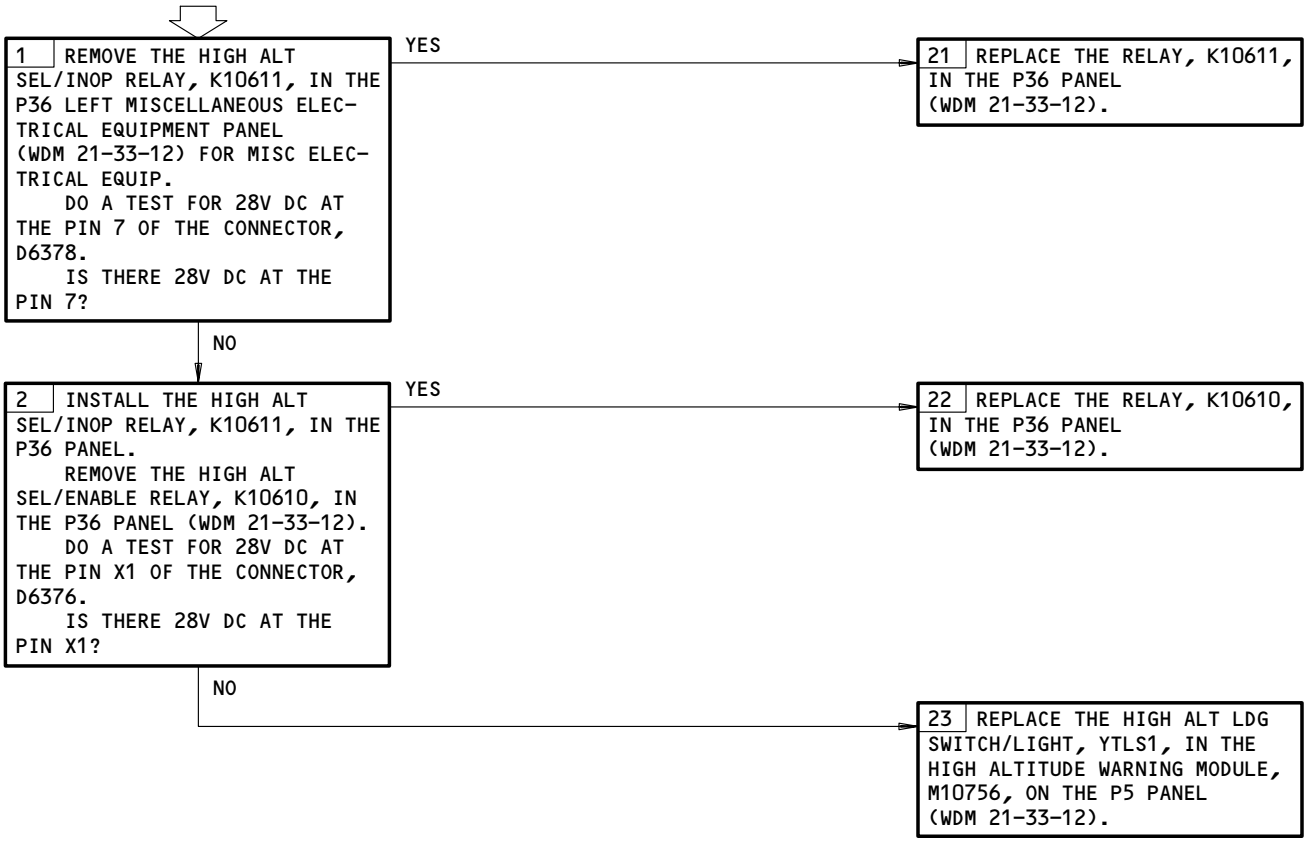
HIGH ALTITUDE LANDING SWITCH SELECTED "ON". HIGH ALTITUDE LANDING "INOP" LIGHT ILLUMINATED.

PREREQUISITES

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
11B15

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)
"HIGH ALT LDG" SWITCH IS SET TO "ON" AT THE HIGH ALTITUDE WARNING MODULE, M10756, ON THE P5 PANEL



High Altitude Landing Switch Selected ON. High Altitude Landing INOP Light Illuminated.
Figure 111C

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HEATING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P11	
CARGO HEATER AFT, C4071		1	11N18	*
CARGO HEATER FAN FWD, C4059		1	11N17	*
FAN CONT AFT CARGO, C4072		1	11N22	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P37	
AFT CARGO FAN, C3010		1	37C2	*
HEATERS F/O AUX HI, C699		1	37F4	*
HEATERS F/O AUX LO, C700		1	37F3	*
CIRCUIT BREAKER –			P70	
AFT CARGO HTR, C3009		1	70C8	*
CAPT AUX HTR HI, C662		1	70A6	*
CAPT AUX HTR LO, C663		1	70A5	*
FWD CARGO FAN, C3002		1	70B8	*
FAN – AFT CARGO HEATING FLOW		1	822, AFT CARGO COMPT	21-44-06
FAN – FWD CARGO HEATING FLOW		1	821, FWD CARGO COMPT	21-43-04
FILTER – AFT CARGO HEAT INLET GRILL		2	822, AFT CARGO COMPT	21-44-06
FILTER – FWD CARGO HEAT INLET GRILL		2	821, FWD CARGO COMPT	21-43-04
HEATER – AFT CARGO		1	822, AFT CARGO COMPT	21-44-05
HEATER – FOOT ELECTRIC SURFACE		4	FLT COMPT	21-45-01
HEATER – SHOULDER AIR SUPPLY		2	FLT COMPT	21-45-02
MODULE – APU/CARGO FIRE CONTROL, M10444		1	FLT COMPT, P8	*
RELAY – (FIM 21-40-00/101				
AFT CARGO FAN CURRENT SENSE, K10598 1		1	119BL, MAIN EQUIP CTR, P37	
FWD CARGO FAN CURRENT SENSE, K10597 1		1	119BL, MAIN EQUIP CTR, P70	
RELAY – (FIM 31-01-36/101)				
AIR/GND SYS 1, K145				
RELAY – (FIM 31-01-37/101)				
AFT CARGO FAN, K10084				
AIR/GND SYS 2, K205				
ON DROP OUT T/D, K10164				
RELAY – (FIM 31-01-70/101)				
AFT CARGO HTR, K10083				
FWD CARGO FAN, K10057				
SENSOR – (FIM 21-40-00/101				
AFT CARGO FAN CURRENT, TS5044 2		1	119BL, MAIN EQUIP CTR, P37	21-44-09
FWD CARGO FAN CURRENT, TS5018 2		1	119BL, MAIN EQUIP CTR, P70	21-43-07
SWITCH – AFT CARGO TEMPERATURE THERMAL		1	822, AFT CARGO COMPT	21-44-07
SWITCH – FWD CARGO TEMPERATURE THERMAL		1	821, FWD CARGO COMPT	21-43-05
SWITCH/LIGHT – AFT CARGO, YQPS2		1	FLT COMPT, P8, APU/CARGO FIRE M10444	*
SWITCH/LIGHT – FWD CARGO, YQPS1		1	FLT COMPT, P8, APU/CARGO FIRE M10444	*

* SEE THE WDM EQUIPMENT LIST

1 NOT ON ALL AIRPLANES – ALTERNATE TO CARGO FAN CURRENT SENSOR

2 NOT ON ALL AIRPLANES – ALTERNATE TO CARGO FAN CURRENT SENSE RELAY

Heating – Component Index
Figure 101

597413
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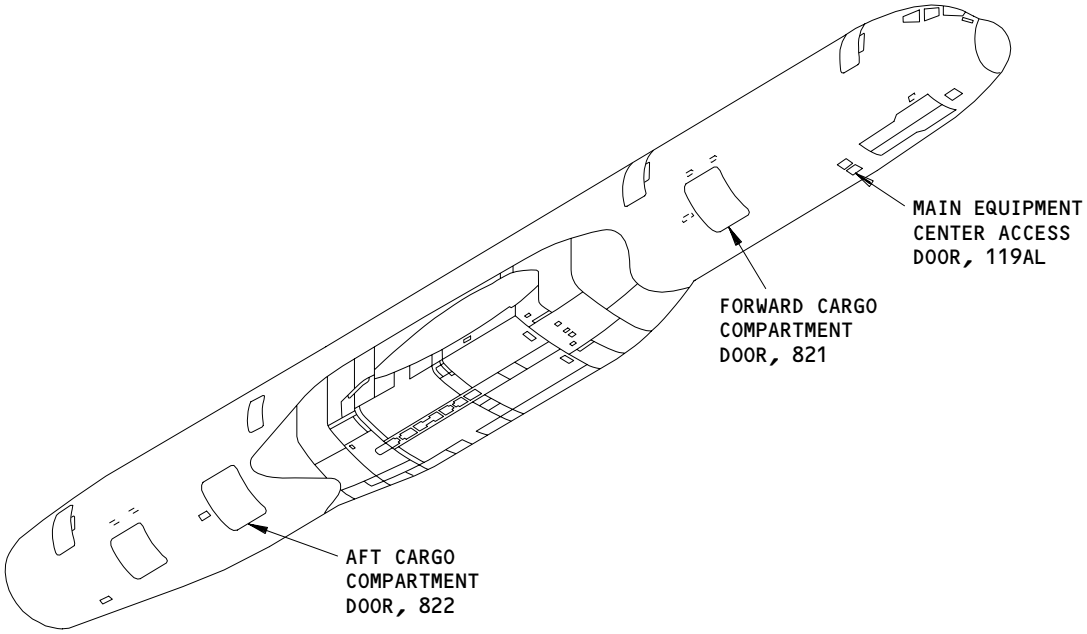

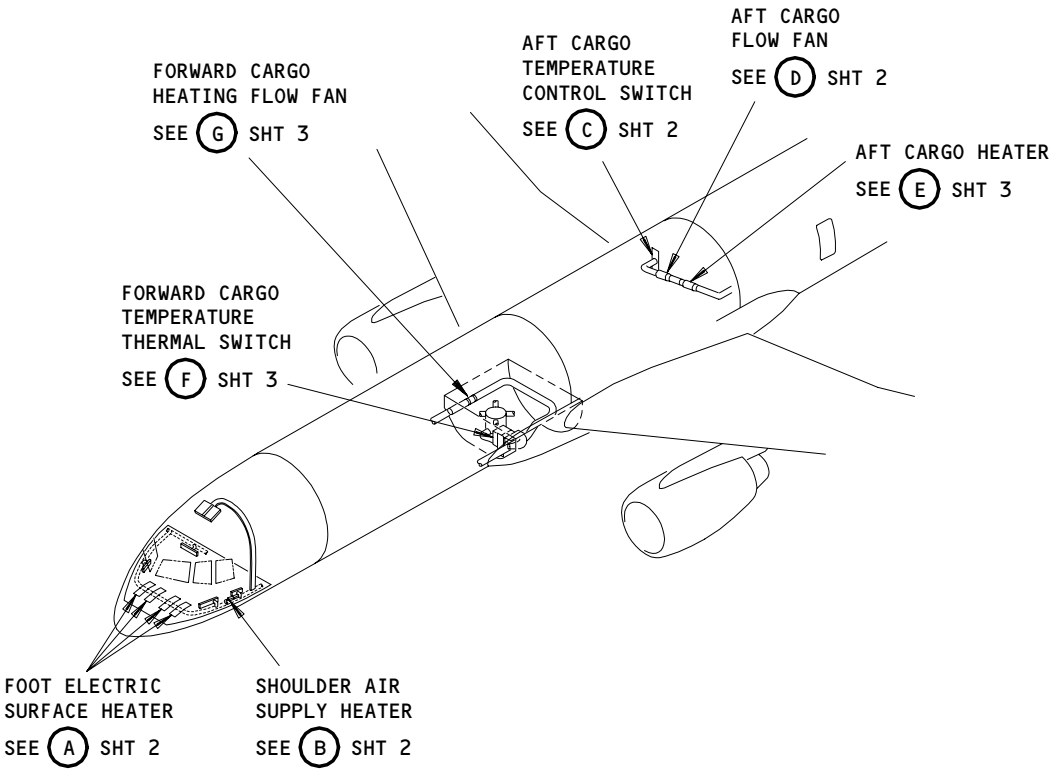

Heating - Component Location
Figure 102 (Sheet 1)

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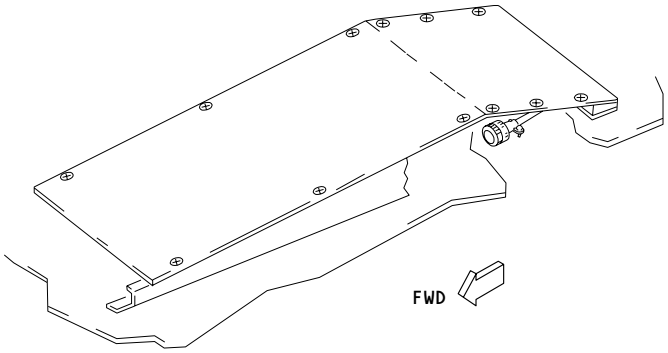
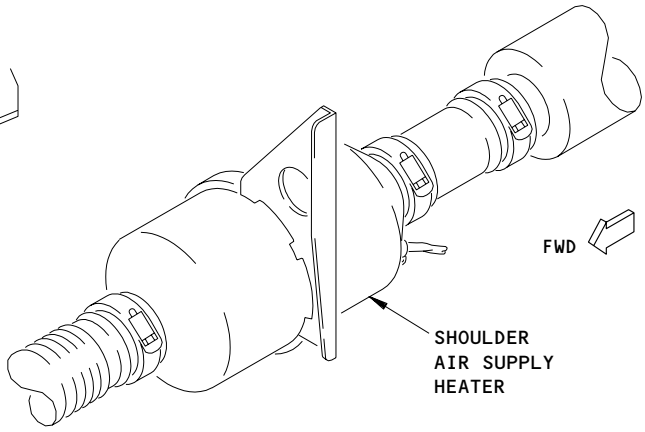


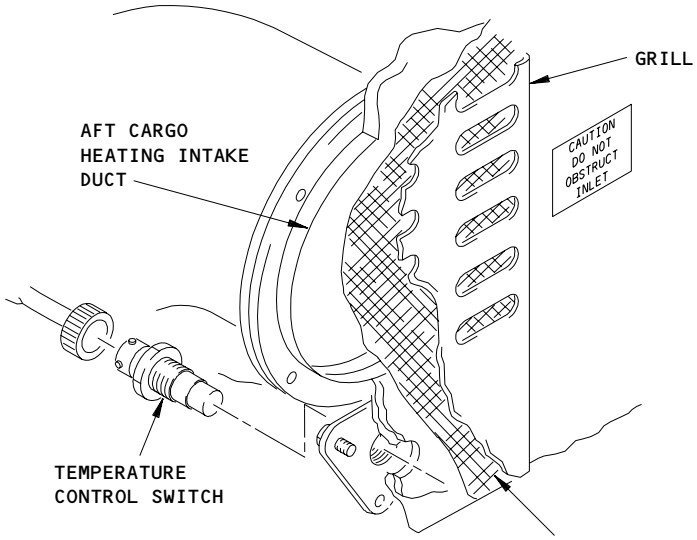
FOOT ELECTRIC SURFACE HEATER

A



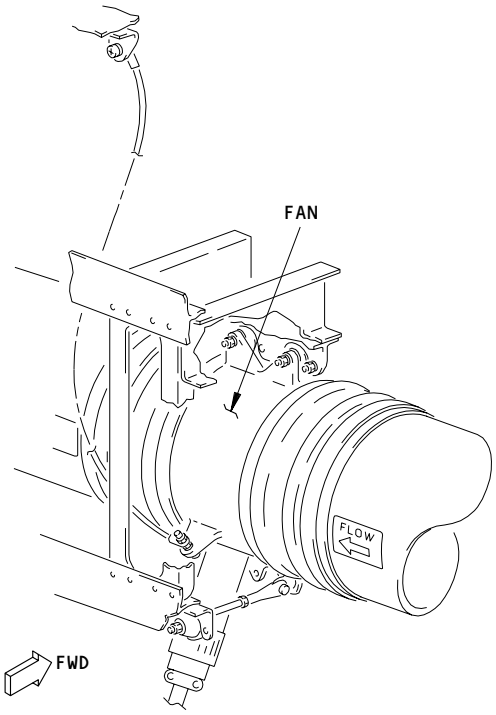
SHOULDER AIR SUPPLY HEATER

B



AFT CARGO TEMPERATURE
CONTROL SWITCH

C



AFT CARGO FLOW FAN

D

Heating – Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

277642

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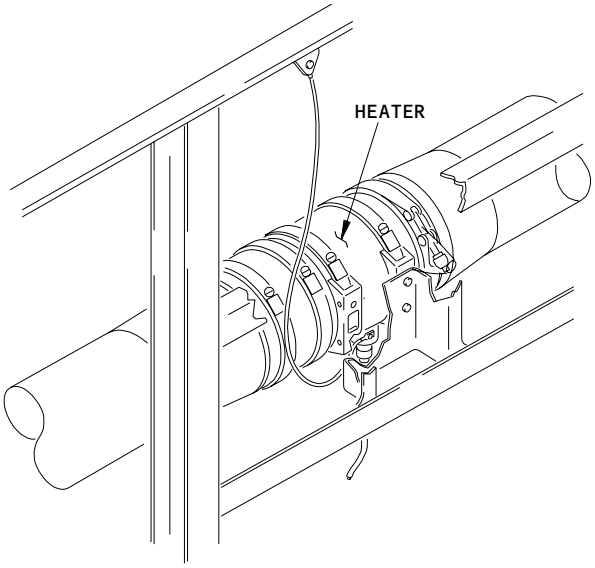
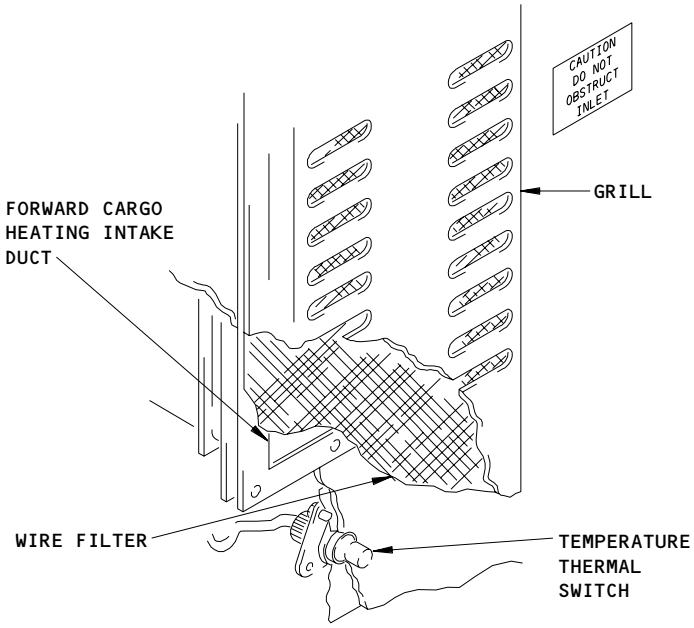


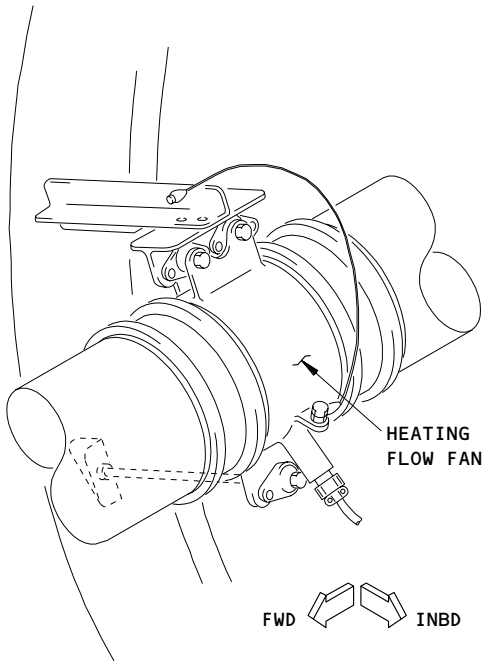
AFT CARGO HEATER

E



FORWARD CARGO TEMPERATURE THERMAL SWITCH

F



FORWARD CARGO HEATING FLOW FAN

G

Heating – Component Location (Details from Sht 1)
Figure 102 (Sheet 3)

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Not Used
Figure 103

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EICAS MSG "FWD (AFT) CARGO FAN" DISPLAYED

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11N17,7OB8 (11N22,37C2)

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

DESCRIPTION:

THE FORWARD (AFT) CARGO HEAT FAN OVERHEATED, OR THERE IS A PROBLEM WITH THE CIRCUIT.

POSSIBLE CAUSES:

1. FWD (AFT) CARGO HEAT FAN, B10003 (B10030)
2. THE APPLICABLE CARGO FAN RELAY IS FAILED:
   - FWD RELAY, K10057 (WDM 21-43-11)
   - AFT RELAY, K10084 (WDM 21-44-11).
3. THE APPLICABLE CARGO FAN CURRENT SENSE RELAY 2 IS FAILED:
   - FWD RELAY, K10597 (WDM 21-43-11)
   - AFT RELAY, K10598 (WDM 21-44-11).
4. THE APPLICABLE CARGO FAN CURRENT SENSOR 2 IS FAILED:
   - FWD CURRENT SENSOR, TS5018 (AMM 21-43-07/401)
   - AFT CURRENT SENSOR, TS5044 (AMM 21-44-09/401).
5. THE AFT CARGO FAN/FAILURE TIME DELAY RELAY IS FAILED:
   - FWD RELAY, K10597 (WDM 21-43-11)
   - AFT RELAY, K10598 (WDM 21-44-11).

FAULT ISOLATION:

1 MAKE SURE THE FWD (AFT) CARGO FIRE SWITCH ON THE P8 PANEL IS "ON" (UNARMED POSITION).
IS THERE CARGO AGAINST THE INLET TO THE FAN?

YES → 41 THE SYSTEM IS OK. 1

NOTE: CARGO AGAINST THE FAN INLET CAN CAUSE THE FAN TO OVERHEAT.

IF THE PROBLEM CONTINUES, GO TO BLOCK 2.

NO → SEE SHEET 2 (BLOCK 2)

EICAS Msg FWD (AFT) CARGO FAN Displayed
Figure 104 (Sheet 1)

G21394

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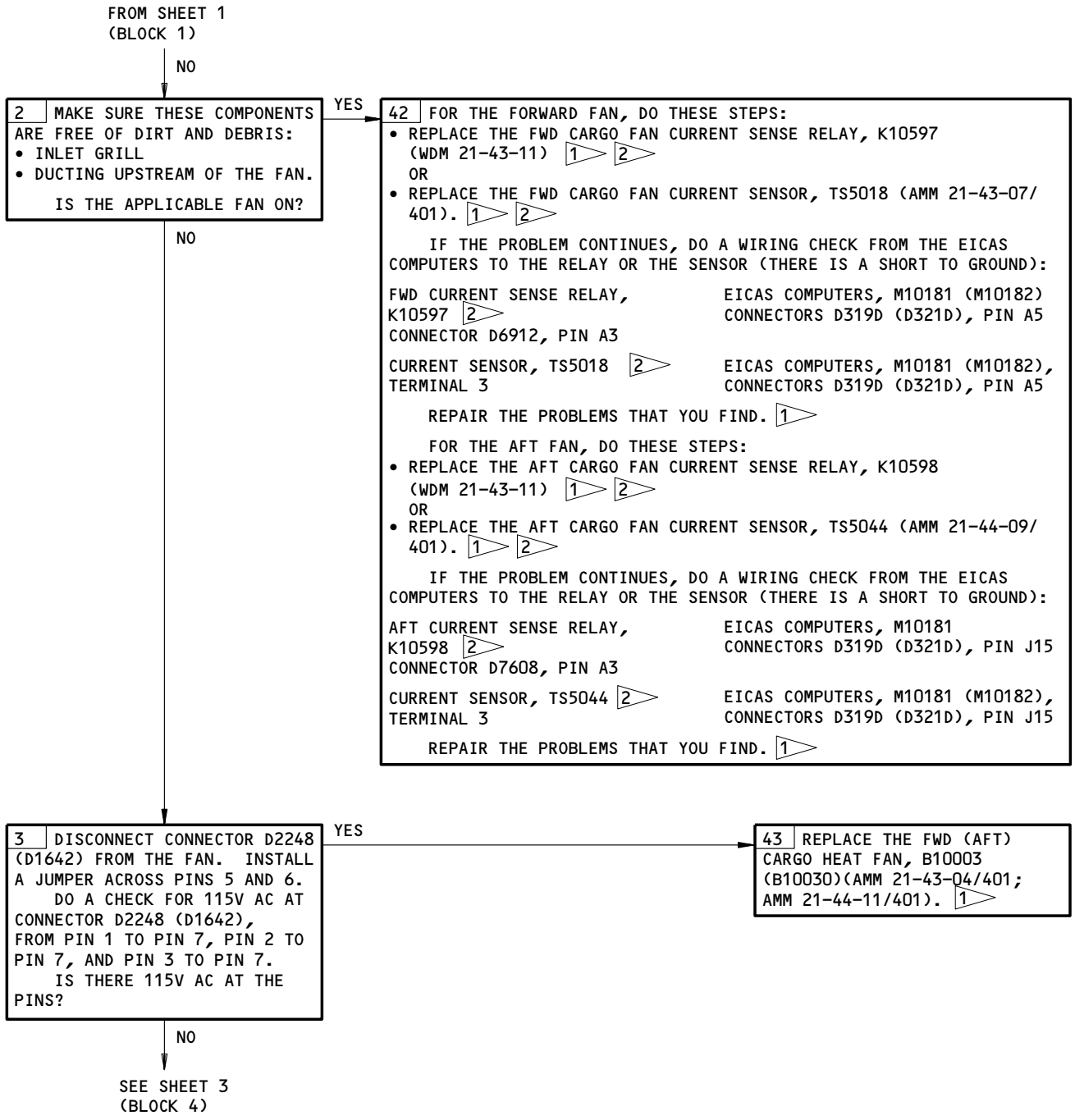

EICAS Msg FWD (AFT) CARGO FAN Displayed
Figure 104 (Sheet 2)

G21401

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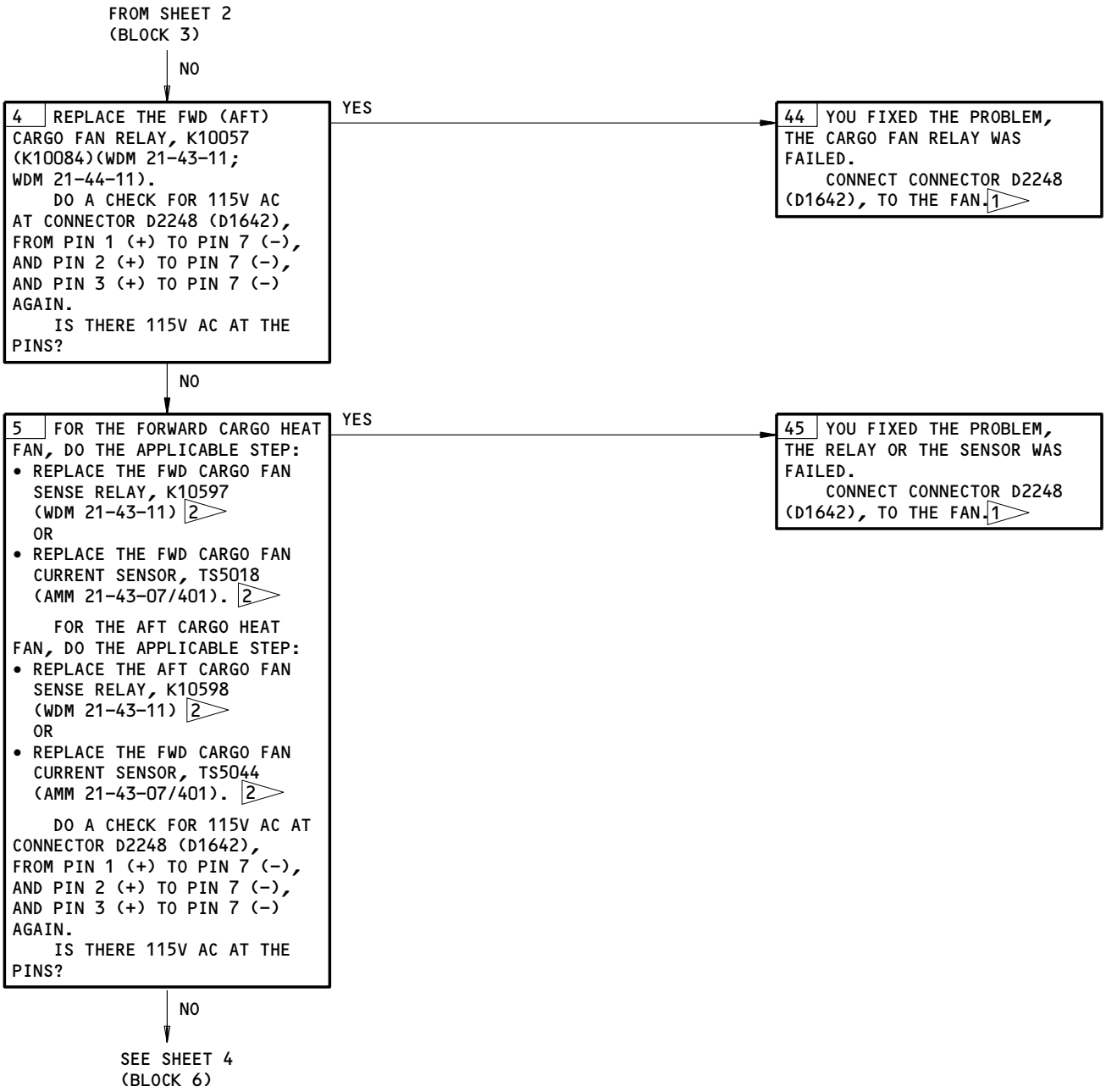

EICAS Msg FWD (AFT) CARGO FAN Displayed
Figure 104 (Sheet 3)

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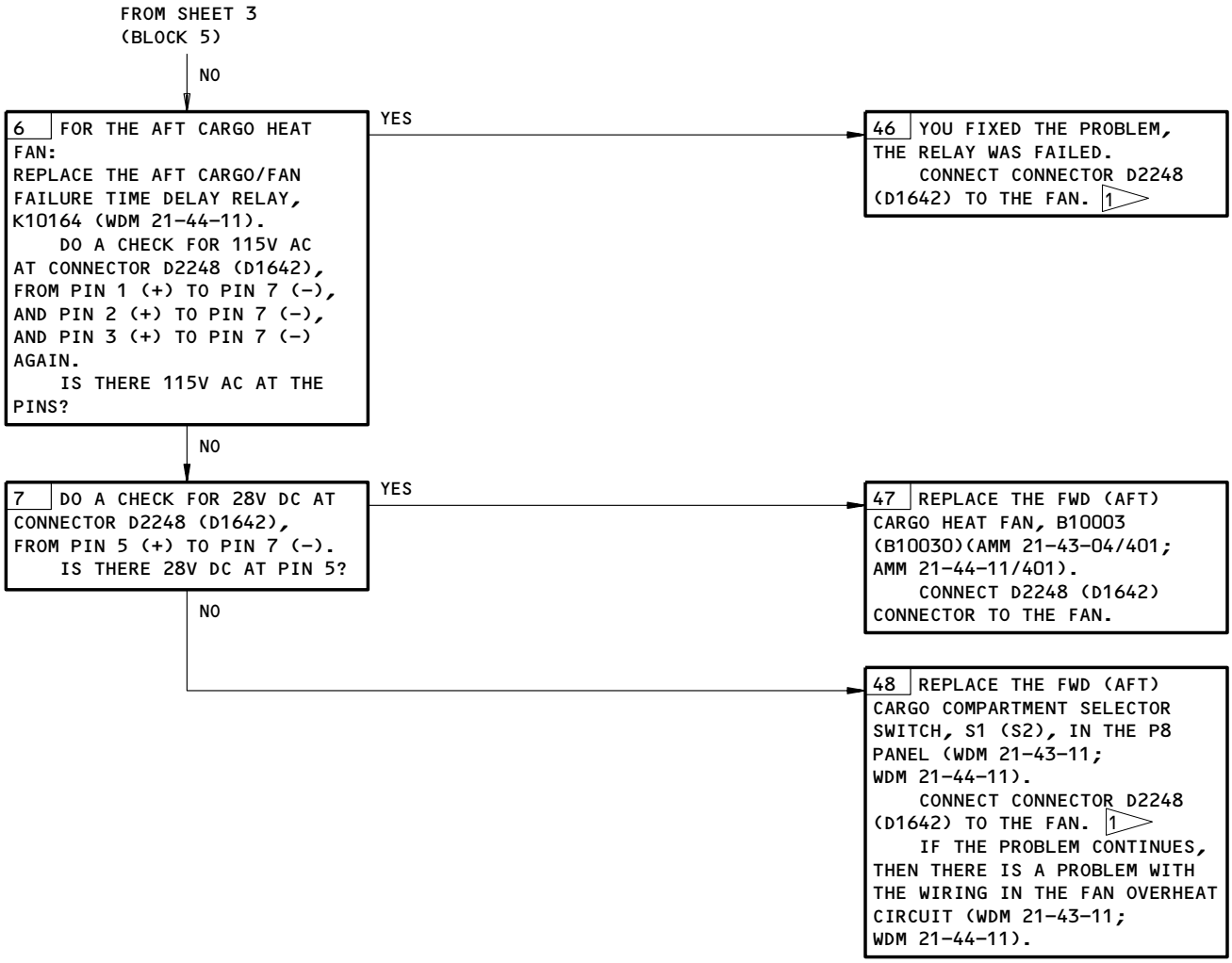

1 CAUTION: MAKE A RECORD OF ALL THE EICAS MESSAGES ON ALL THE ECS/MSG MAINTENANCE PAGES BEFORE YOU ERASE THE "FWD (AFT) CARGO FAN" MESSAGE. IF YOU DO NOT MAKE A RECORD OF THE EICAS MESSAGES, YOU WILL LOSE THE DATA.

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

2 NOT INSTALLED IN ALL AIRPLANES

EICAS Msg FWD (AFT) CARGO FAN Displayed
Figure 104 (Sheet 4)

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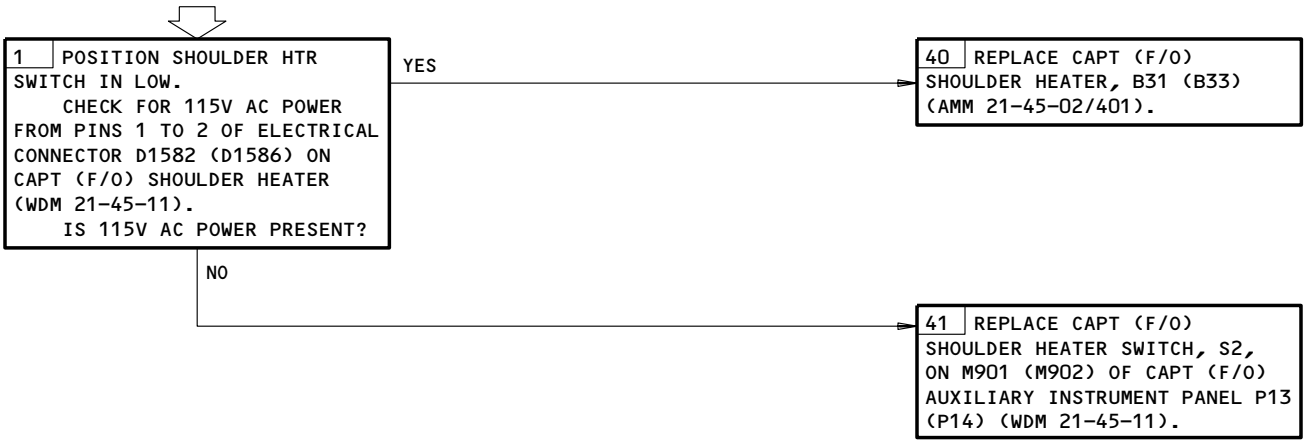
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
37F3,37F4,70A5,70A6

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

SHOULDER HTR INOP IN LOW AND HI



Shoulder Heater Inop in Low and Hi
Figure 105

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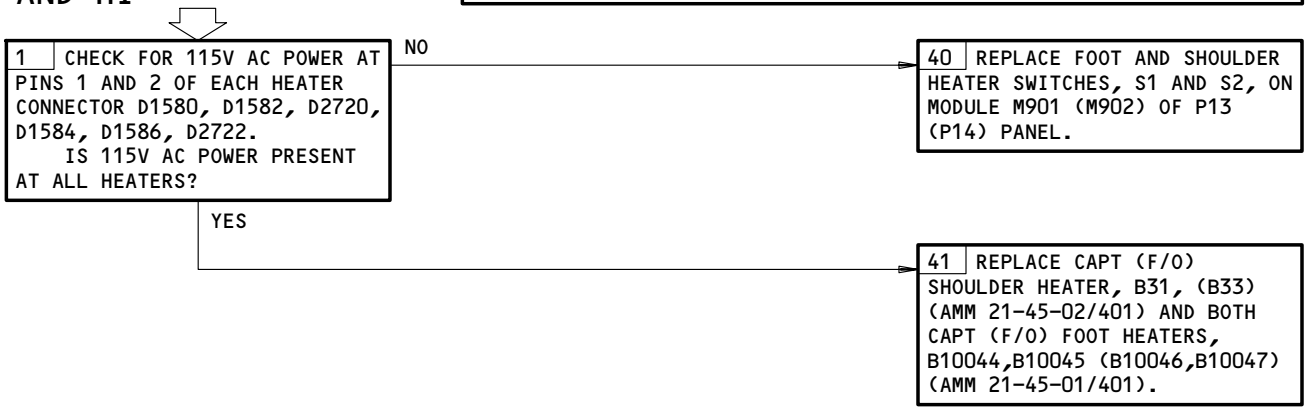
PREREQUISITES

MAKE SURE THESE SYSTEMS WILL OPERATE:
SIMULATE SYSTEM NO. 1 (NO. 2) AIR/GROUND RELAYS IN FLIGHT MODE (AMM 32-09-02/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
37F3,37F4,70A5,70A6

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

FOOT AND SHOULDER HEATERS INOP IN LOW AND HI



Foot and Shoulder Heaters Inop in Low and Hi
Figure 106

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COOLING PACK

COMPONENT	QTY	ACCESS/AREA	REFERENCE
CARD - FLOW CONTROL	2	119BL, MAIN EQUIP CTR, P50	21-51-09
CIRCUIT BREAKERS	1	FLT COMPT, P11	
CONT - AIR COND PACK LEFT STBY, C4037	1	11A26	*
CONT - AIR COND PARK LEFT AUTO, C702	1	11A13	*
CONT - AIR COND PACK LEFT FLOW, C653	1	11A14	*
CONT - AIR COND PACK RIGHT AUTO, C703	1	11A28	*
CONT - AIR COND PACK RIGHT FLOW, C704	1	11A29	*
CONT - AIR COND PACK RIGHT STBY, C4039	1	11A15	*
PWR - LEFT PACK AUTO, C673	1	11M11	*
PWR - LEFT PACK STANDBY, C4036	1	11M24	*
PWR - RIGHT PACK AUTO, C674	1	11M19	*
PWR - RIGHT PACK STANDBY, C4038	1	11M15	*
CONDENSER	2	193HL, 194ER	21-51-10
CONTROLLER - PACK STANDBY	1	119BL, MAIN EQUIP CTR, E3	21-51-14
CONTROLLER - PACK TEMPERATURE	2	119BL, MAIN EQUIP CTR, E3	21-51-14
EXCHANGER - HEAT	4	193HL, 194ER	21-51-02
EXTRACTOR - WATER	2	193HL, 194ER	21-51-04
FAN/AIR PLENUM/DIFFUSER	2	193HL, 194ER	21-51-16
MACHINE - AIR CYCLE	2	193HL, 194ER	21-51-03
REHEATER - PACK	2	193HL, 194ER	21-51-07
RELAYS - (REF 31-01-36, FIG. 101)			
L PACK AUTO/MAN 3, K10315	1		*
L PACK AUTO/MAN 2, K58	1		*
L PACK AUTO/MAN 1, K57	1		*
L PACK EXIT DOOR OPEN MAN, K59	1		*
L PACK EXIT DOOR CLOSE MAN, K60	1		*
L PACK INLET DOOR OPEN MAN, K61	1		*
L PACK INLET DOOR CLOSE MAN, K62	1		*
L PACK TEMP CONT VALVE OPEN MAN, K63	1		*
L PACK TEMP CONT VALVE OPEN MAN, K64	1		*
L PACK LOW LIMIT VALVE, K10317	1		*
RELAYS - (REF 31-01-37, FIG. 101)			
R PACK AUTO/MAN 3, K10316	1		*
R PACK AUTO/MAN 2, K50	1		*
R PACK AUTO/MAN 1, K49	1		*
R PACK EXIT DOOR OPEN MAN, K51	1		*
R PACK EXIT DOOR CLOSE MAN, K52	1		*
R PACK INLET DOOR OPEN MAN, K53	1		*
R PACK INLET DOOR CLOSE MAN, K54	1		*
R PACK TEMP CONT VALVE OPEN MAN, K55	1		*
R PACK TEMP CONT VALVE CLOSE MAN, K56	1		*
R PACK LOW LIMIT VALVE, K10318	1		*
SENSOR - COMPRESSOR OUTLET	2	193HL, 194ER	25-51-06
SENSOR - PACK TEMPERATURE	2	193HL, 194ER	21-51-08
SWITCH - ALTITUDE	1	193HL	21-51-17
SWITCH - COMPRESSOR OUTLET OVERHEAT	2	193HL, 194ER	21-51-05
SWITCH - PACK OVERHEAT	2	193HL, 194ER	21-51-18
VALVE - CABIN AIR SUPPLY CHECK	2	193HL, 194ER	21-51-15
VALVE - FLOW CONTROL AND SHUTOFF	2	193HL, 194ER	21-51-01
VALVE - PACK LOW LIMIT CONTROL	2	193HL, 194ER	21-51-11
VALVE - PACK TEMPERATURE CONTROL	2	193HL, 194ER	21-51-12

* SEE WM EQUIPMENT LIST

Component Index
Figure 101

289916
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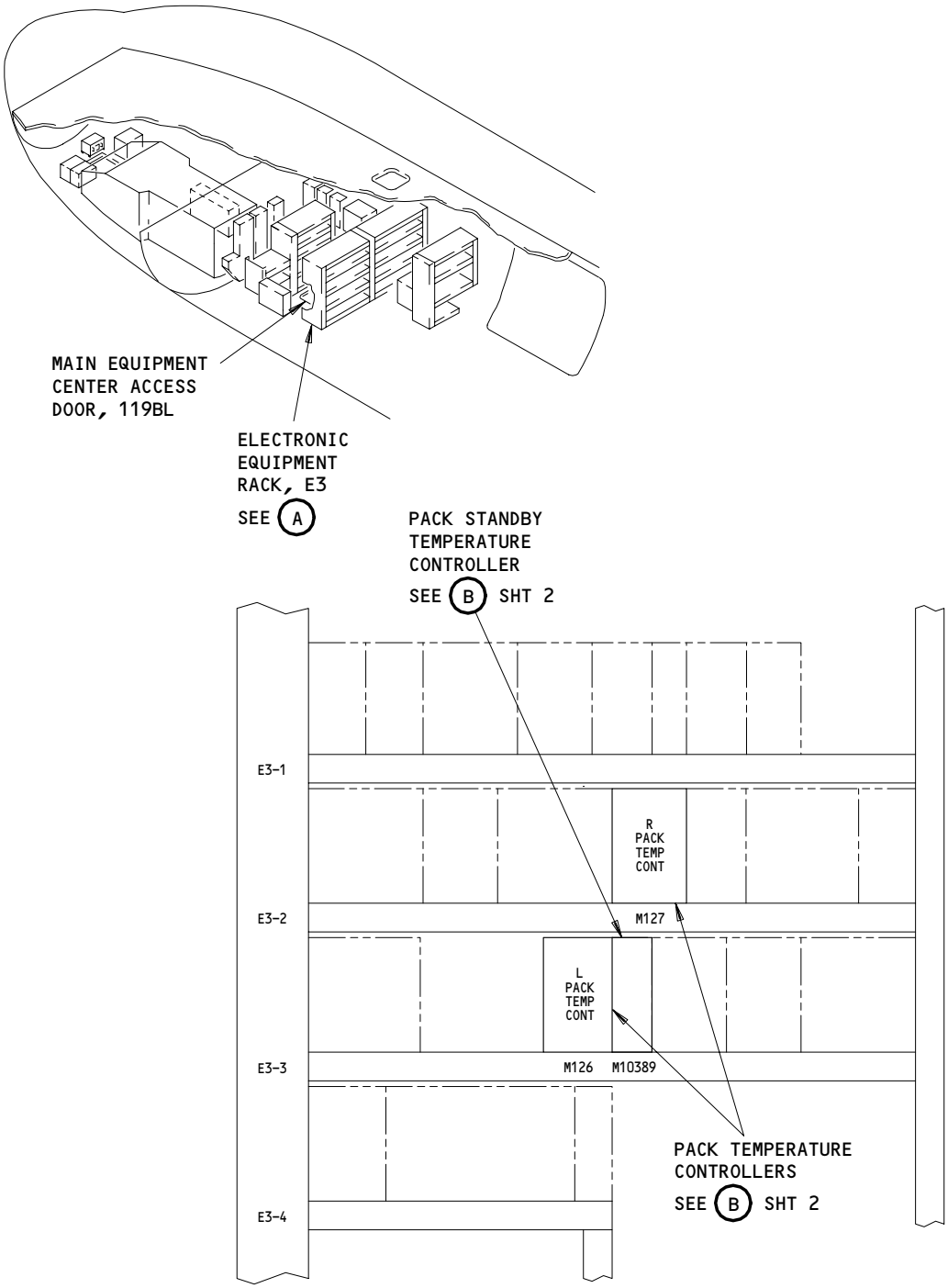

ELECTRONIC EQUIPMENT RACK, E3
(VIEW IN THE AFT DIRECTION)

A

Cooling Pack - Component Location
Figure 102 (Sheet 1)

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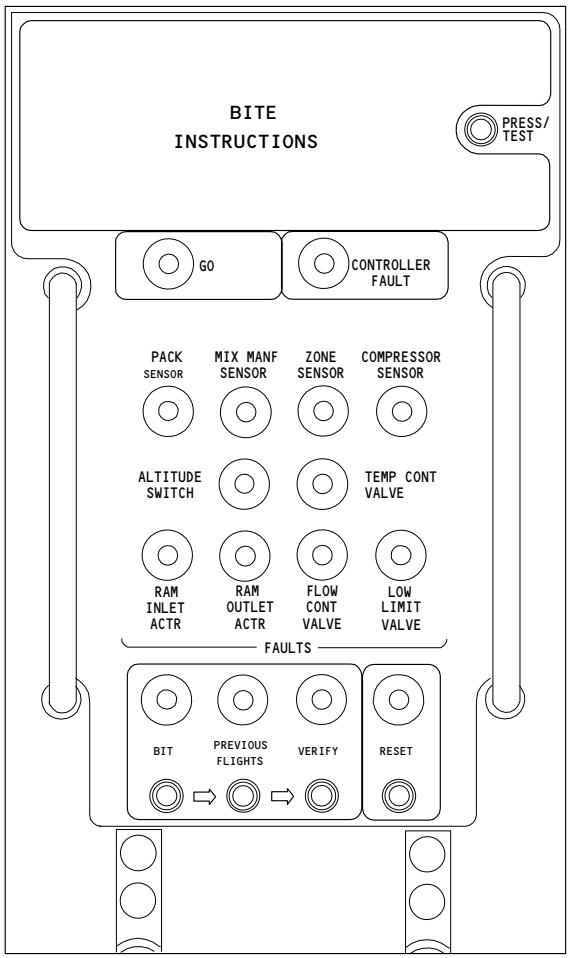
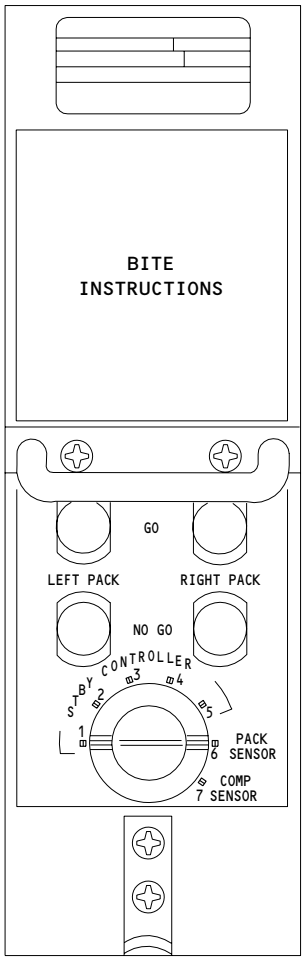


PACK TEMPERATURE
CONTROLLER



PACK STANDBY TEMPERATURE
CONTROLLER

B

Cooling Pack - Component Location
Figure 102 (Sheet 2)

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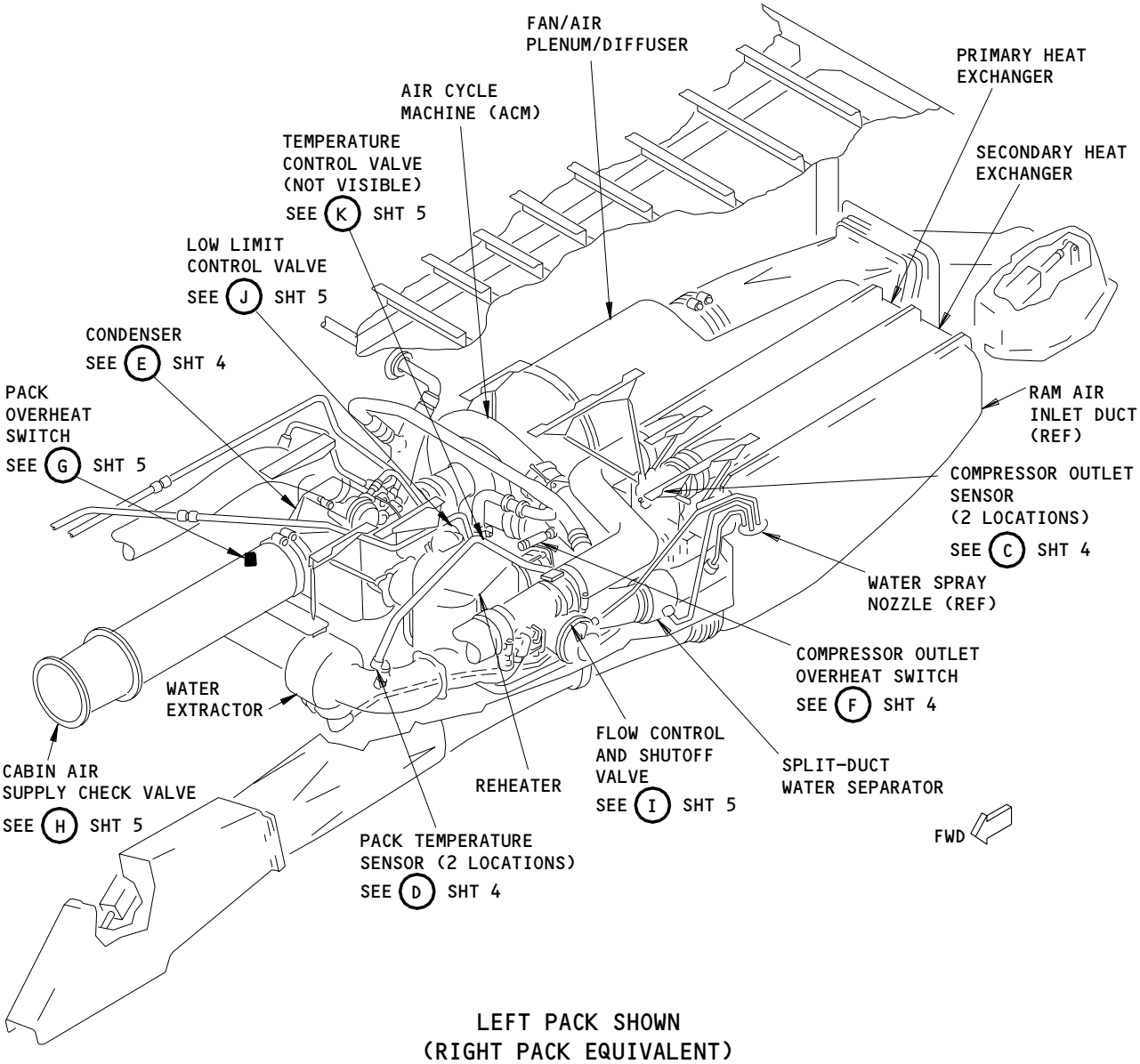

LEFT PACK SHOWN
(RIGHT PACK EQUIVALENT)

Cooling Pack - Component Location
Figure 102 (Sheet 3)

56803
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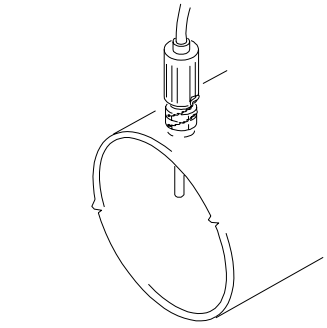
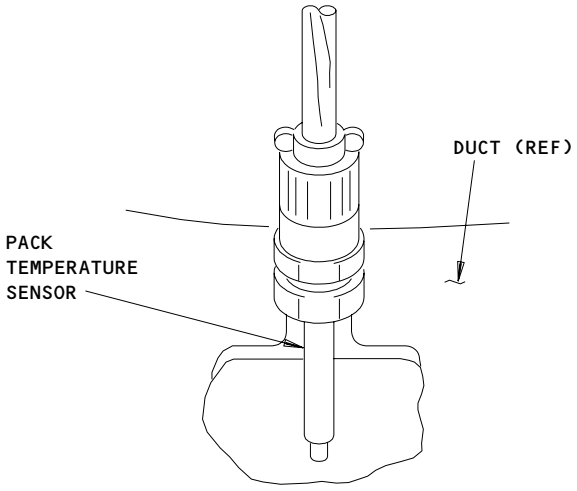
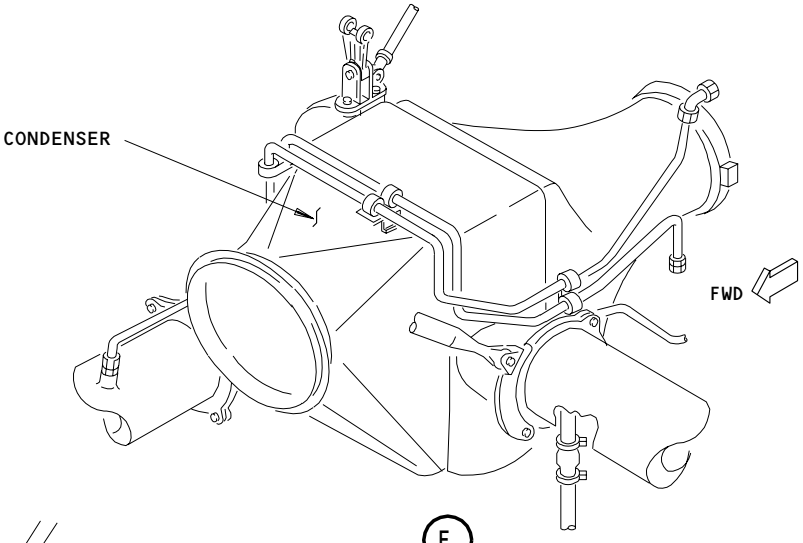


COMPRESSOR OUTLET SENSOR

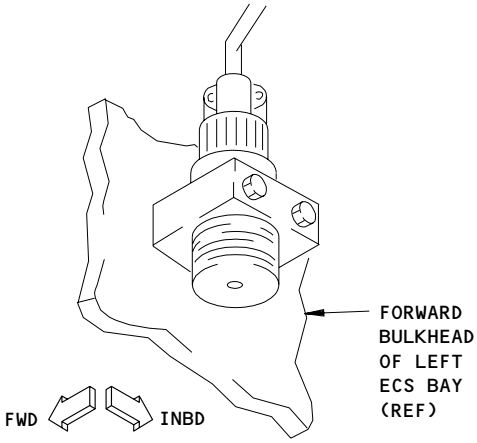
C



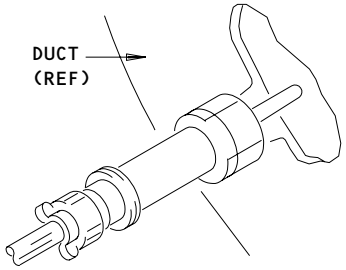
D



E



ALTITUDE SWITCH



COMPRESSOR OUTLET OVERHEAT SWITCH

F

Cooling pack – Component Location (Details from Sht 3)
Figure 102 (Sheet 4)

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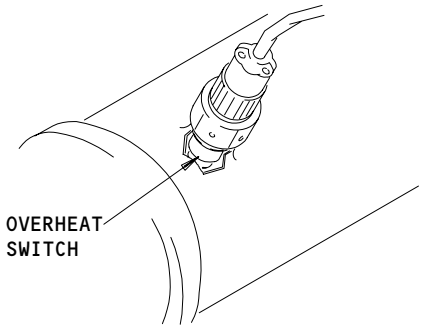
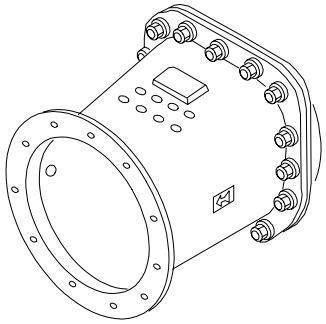


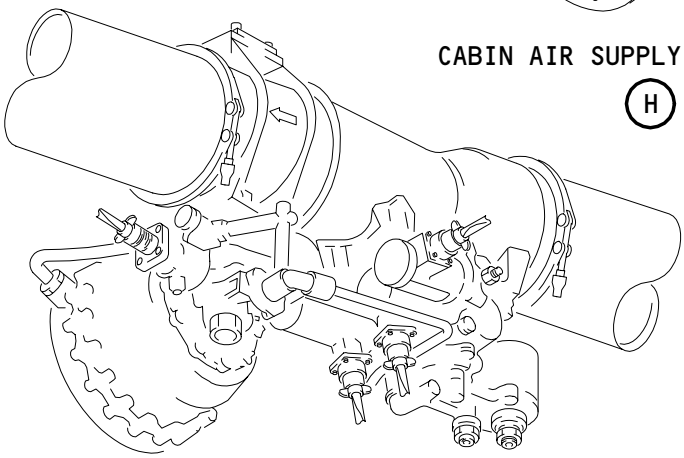
PACK OVERHEAT SWITCH

(G)



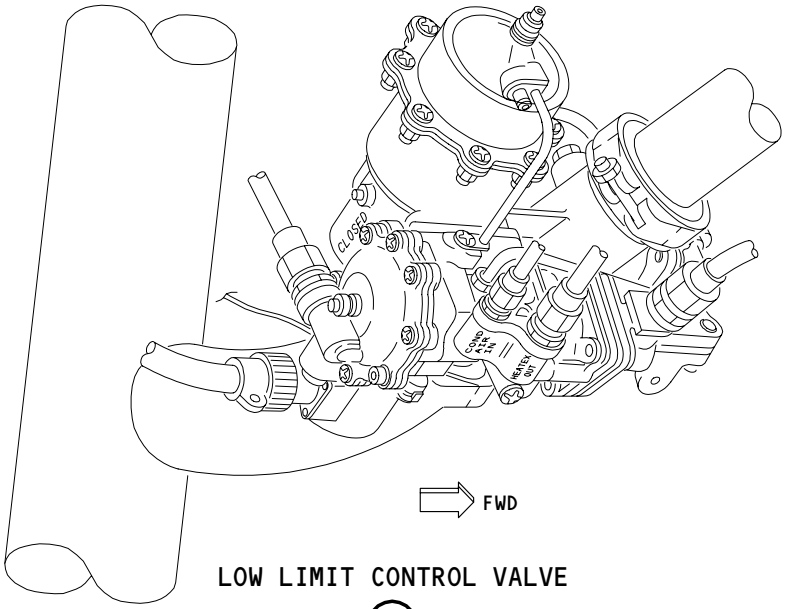
CABIN AIR SUPPLY CHECK VALVE

(H)



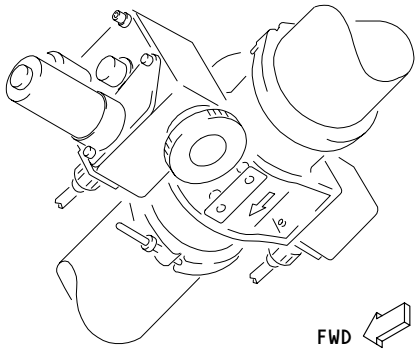
FLOW CONTROL AND SHUTOFF VALVE

(I)



LOW LIMIT CONTROL VALVE

(J)



TEMPERATURE CONTROL VALVE

(K)

Cooling Pack - Component Location (Details from Sht 3)
Figure 102 (Sheet 5)

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COOLING PACK SYSTEM - FAULT ISOLATION

1. General
   A. This procedure has the steps to troubleshoot cooling pack problems.
   B. To do these Fault Isolation procedures, electrical power and EICAS must be available.
2. Fault Isolation Procedures

   Fig. 103 - NOT USED

   Fig. 104 - PACK TEMPERATURE CONTROLLER BITE PROCEDURE

   Fig. 104A - L (R) PACK BITE CONTINUES TO FIND AN ALTITUDE SWITCH FAULT

   Fig. 105 - PACK STANDBY CONTROLLER BITE PROCEDURE (GROUND)

   Fig. 106 - PACK "INOP" LIGHT ILLUM IN AUTO; COULD NOT RESET

   Fig. 107 - "INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO; COULD NOT RESET. PACK DID NOT OPERATE NORMAL IN STBY

   Fig. 107A - "INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO, AND AIR CYCLE MACHINE (ACM) WILL NOT OPERATE WITH ENGINES ON.

   Fig. 107B - "INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO, AND AIR CYCLE MACHINE (ACM) WILL NOT OPERATE WITH APU ON.

   Fig. 108 - "PACK OFF" LIGHT EXTIN. & "PACK OFF" EICAS MSG NOT DISPLAYED WITH PACK SW IN "OFF"

3. Pack Temperature Controller Bite Description (Fig. 104)
   A. General
      (1) The purpose of the pack temperature controller (PTC) is to control the pack outlet temperature. The PTC controls the ram air doors, and the temperature control valve to keep the pack out temperature at the desired level. The PTC monitors the pack demand signal from the zone temperature controller and monitors various temperature sensors.
      (2) The PTC BITE test is done on the front of the controller.
      (3) The PTC does a BITE test of these components:
         (a) Pack Temperature Controller (self test)
         (b) Pack Temperature Sensor
         (c) Mix Manifold Temperature Sensor
         (d) Zone Temperature Sensor
         (e) Compressor Discharge Temperature Sensor
         (f) Altitude Switch
         (g) Temperature Control Valve
         (h) Ram Inlet Door Actuator
         (i) Ram Outlet Door Actuator
         (j) Low Limit Valve

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B. Pack Temperature Controller BITE Description:
(1) Controller Fault:
(a) There are two types of pack temperature controller faults, critical and non critical.
(b) Critical Faults:
1) Critical faults are internal PTC faults. Critical faults affect the ability of the PTC to control the pack outlet temperature. These faults include power supply problems, A/D converter problems, memory problems, and processor problems.
2) When the PTC has a critical fault, the pack will default to these parameters:
a) The temperature control valve will hold its position.
b) The ram air doors will hold their positions.
c) The flow control valve will move to the normal flow position.
d) The low limit valve will close.
3) Critical faults have these flight deck effects:
a) The left (right) pack "INOP" light on the P5 overhead panel comes on.
b) The L (R) PACK TEMP EICAS Advisory Message shows.
c) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.
(c) Non-Critical Faults:
1) Non-critical faults are internal PTC faults. Non-critical faults affect the performance of the pack. These faults include signal conditioner problems and driver circuit faults.
2) If the signal condtioner circuit for the compreessor outlet temperature sensor has a problem, the pack will default to these parameters:
a) The torque motor driver circuit for the flow control valve is disableled.
b) The low limit valve moves to 30% open.
3) Non-critical faults have this flight deck effect:
a) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.
(2) PACK SENSOR
(a) The PTC detects that the input signal from the sensor is out of range (less than 0.15V or more than 1.60V).
(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.
(3) MIX MANF SENSOR
(a) The PTC detects that the input signal from the sensor is out of range (less than 0.15V or more than 1.60V).
(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.
(4) ZONE SENSOR
(a) The PTC detects that the input signal from the sensor is out of range (less than 0.67V or more than 3.51V).

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(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(5) COMPRESSOR SENSOR

(a) The PTC detects that the input signal from the sensor is out of range (less than 1.63V or more than 3.38V).

(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(6) ALTITUDE SWITCH

(a) The PTC can detect two different altitude switch faults.

1) The PTC detects an open circuit in both of the switch contacts in the altitude switch.

2) The PTC compares the weight on wheels switch to the low altituded switch contact. If the altitude switch indicates high altitude and there is weight on wheels, then the fault is set.

(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(7) TEMP CONTROL VALVE

(a) The PTC can detect three different temperature control valve faults.

1) The PTC detects an open circuit in the potentiometer for the valve.

2) The PTC detects an open circuit in both limit switches.

NOTE: In normal operation, one of the limit switches is always closed.

3) The valve position does not follow the command.

NOTE: The position test is only done when the BIT VERIFY switch on the PTC is pushed.

(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(8) RAM INLET ACTR

(a) The PTC can detect three different ram air inlet door actuator faults.

1) The PTC detects an open circuit in the potentiometer for the actuator.

2) The PTC detects an open circuit in both limit switches.

NOTE: In normal operation, one of the limit switches is always closed.

3) The actuator position does not follow the command.

NOTE: The position test is only done when the BIT VERIFY switch on the PTC is pushed.

(b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

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(9) RAM OUTLET ACTR
  (a) The PTC can detect three different ram air outlet door actuator faults.
    1) The PTC detects an open circuit in the potentiometer for the actuator.
    2) The PTC detects an open circuit in both limit switches.

      NOTE: In normal operation, one of the limit switches is always closed.

    3) The actuator position does not follow the command.

      NOTE: The position test is only done when the BIT VERIFY switch on the PCT is pushed.

  (b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(10) FLOW CONTROL VALVE
  (a) The PTC detects an open or a short circuit in the flow control valve.
  (b) The L (R) PACK BITE EICAS Maintenance Message will show on the EICAS maintenance page.

(11) LOW LIMIT VALVE
  (a) The PTC detects two different low limit valve faults; one without pneumatic power applied and one with pneumatic power applied.
    1) With pneumatic power off, the PTC detects an open or a short in the torque motor circuit of the low limit valve when the VERIFY button is pressed.
    2) With pneumatic power applied, the PTC performs a dynamic test of the low limit valve when the VERIFY button is pressed.
  (b) The PTC does this dynamic test on the low limit valve when pneumatic power is applied:

    NOTE: To do the low limit valve dynamic test, there must be pneumatic power (APU bleed valve open), and the other pack must be off.

      The dynamic test can take up to three minutes to complete.

    1) When the VERIFY switch is pushed, the temperature control valve moves to the 50% open position.
    2) After 10 seconds, the PTC does a BITE check.
    3) The PTC makes a record of the pack outlet temperature.
    4) The PTC commands the low limit valve to the 33% open position.
    5) After 10 seconds the PTC makes a record of the pack outlet temperature and compares it to the first temperature.

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6) If the new pack out temperature is more than 10 deg. F above the first pack out temperature, then the low limit valve passes the test.
7) If the temperature difference is less than 10 deg. F, the PTC commands the low limit valve to 78% open.
8) The PTC makes another record the the pack out temperature and compares it to the first record.
9) If the temperature difference is more than 10 deg. F, the low limit valve passes the test.
10) If the temperature difference is less than 10 deg. F, the PTC commands the valve to 100% open and does the temperature comparison test again.
11) If the temperature difference is less than 10 deg. F, the PTC determines that the low limit valve has a problem.

4. Standby-Pack-Temperature Controller BITE Description (Fig. 105)
   A. General:
      (1) The purpose of the standby-pack-temperature controller is to control the pack outlet temperature when the pack temperature controller (PTC) has a critical failure.
      (2) When the pack selector is in the STBY N position, the PTC is disconnected from the ram air doors and the pack valves. The temperature control valve moves to the closed position and the ram air doors move to the open position. The standby-pack-temperature controller controls the torque motor for the low limit valve to maintain a 40 deg. F pack out temperature. If the compressor discharge temperature exceeds 450 deg. F, then the low limit valve opens to keep the compressor discharge temperature at 450 deg. F.
      (3) The controller monitors the pack temperature sensor and the compressor discharge temperature sensor.
      (4) The BITE test for the standby-pack-temperature controller is done on the front of the controller with the airplane in ground mode.
      (5) The standby-pack-temperature controller does a BITE test of these components:
         (a) Standby-Pack-Temperature Controller (self test)
         (b) Pack Temperature Sensor
         (c) Compressor Discharge Temperature Sensor
   B. Standby-Pack-Temperature Contrller BITE description:
      (1) STBY CONTROLLER (position 1 through position 5):
         (a) The standby-pack-temperature controller detects an internal fault in the controller. These faults include power supply problems and current output problems.
      (2) PACK SENSOR (position 6):
         (a) The standby-pack-temperature controller detects that the resistance of the pack temperature sensor is out of range.
      (3) COMP SENSOR (position 7):
         (a) The standby-pack-temperature controller detects that the resistance of the compressor discharge temperature sensor is out of range.

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Not Used
Figure 103

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A13,11A14,11A28,11M11,11M19

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
PNEUMATIC SYSTEM IS OFF (AMM 36-00-00/201)
"L PACK" AND "R PACK" SELECTORS, ON THE P5 PANEL, ARE IN THE "AUTO" POSITION
"TRIM AIR" SWITCH-LIGHT, ON THE P5 PANEL, IS ON
ZONE TEMPERATURE SELECTORS, ON THE P5 PANEL, ARE IN THE AUTO (12 O'CLOCK) POSITION
RECIRC FANS ARE ON

NOTE: THE BUILT-IN-TEST EQUIPMENT (BITE) DOES AN ELECTRICAL CHECK OF THE PACK TEMPERATURE CONTROLLER, THE AUTO PACK TEMPERATURE SENSOR, THE AUTO COMPRESSOR OUTLET SENSOR, THE MIX MANIFOLD TEMP SENSOR, THE ZONE TEMP SENSOR, THE ALTITUDE SWITCH, AND THE TORQUE MOTOR OF THE FLOW CONTROL AND SHUTOFF VALVE. THE BITE DOES AN OPERATIONAL CHECK OF THE TEMPERATURE CONTROL VALVE, THE RAM AIR INLET ACTUATOR, THE RAM EXHAUST ACTUATOR, AND THE LOW LIMIT VALVE.

NOTE: BITE DOES NOT KNOW THE DIFFERENCE BETWEEN A COMPONENT FAULT AND AN AIRPLANE WIRING FAULT. MAKE SURE THE CIRCUIT IS CORRECT AND THE CONNECTOR IS IN GOOD CONDITION BEFORE YOU REPLACE A COMPONENT.

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 1)

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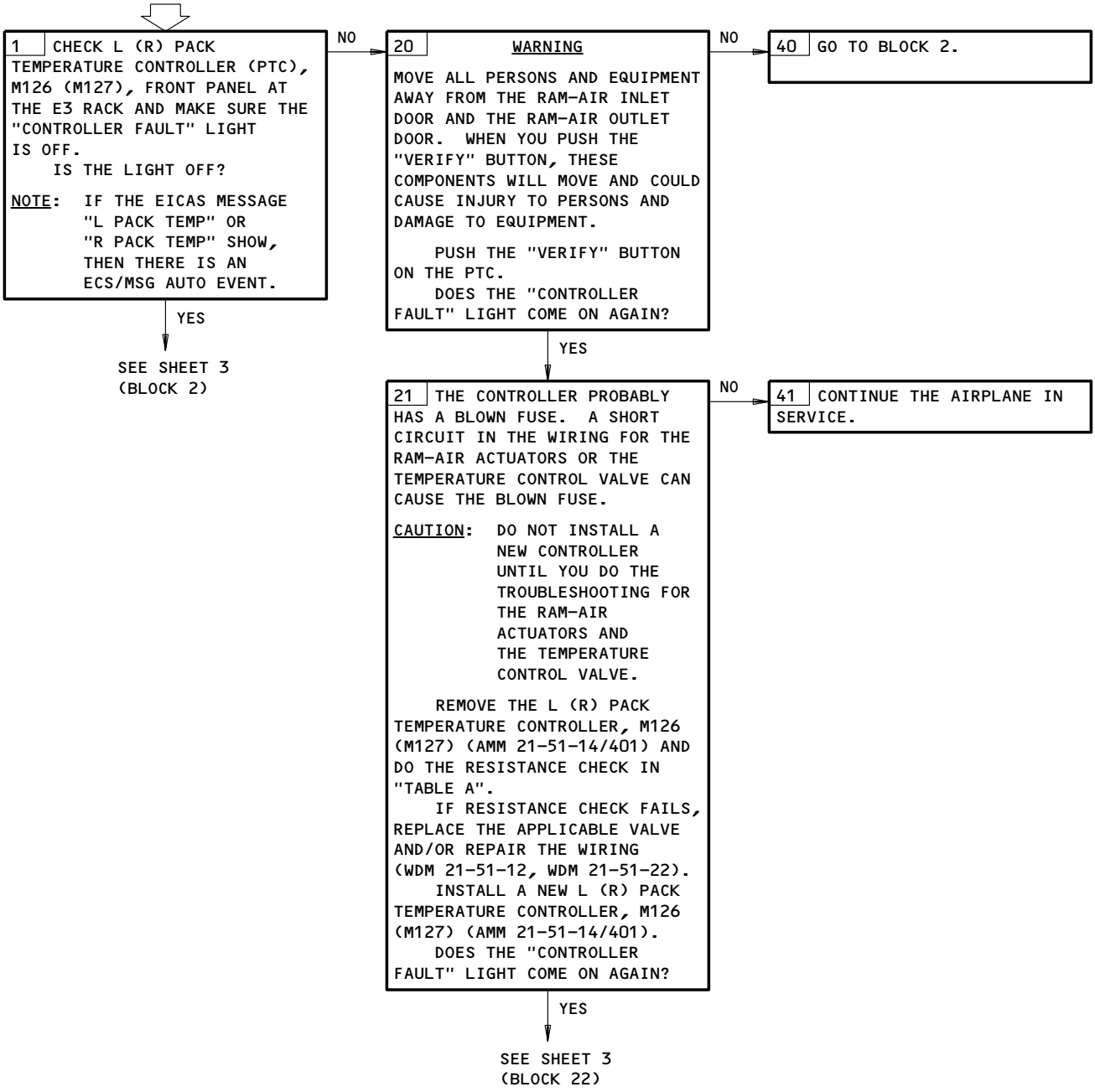
PACK TEMPERATURE CONTROLLER BITE PROCEDURE



Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 2)

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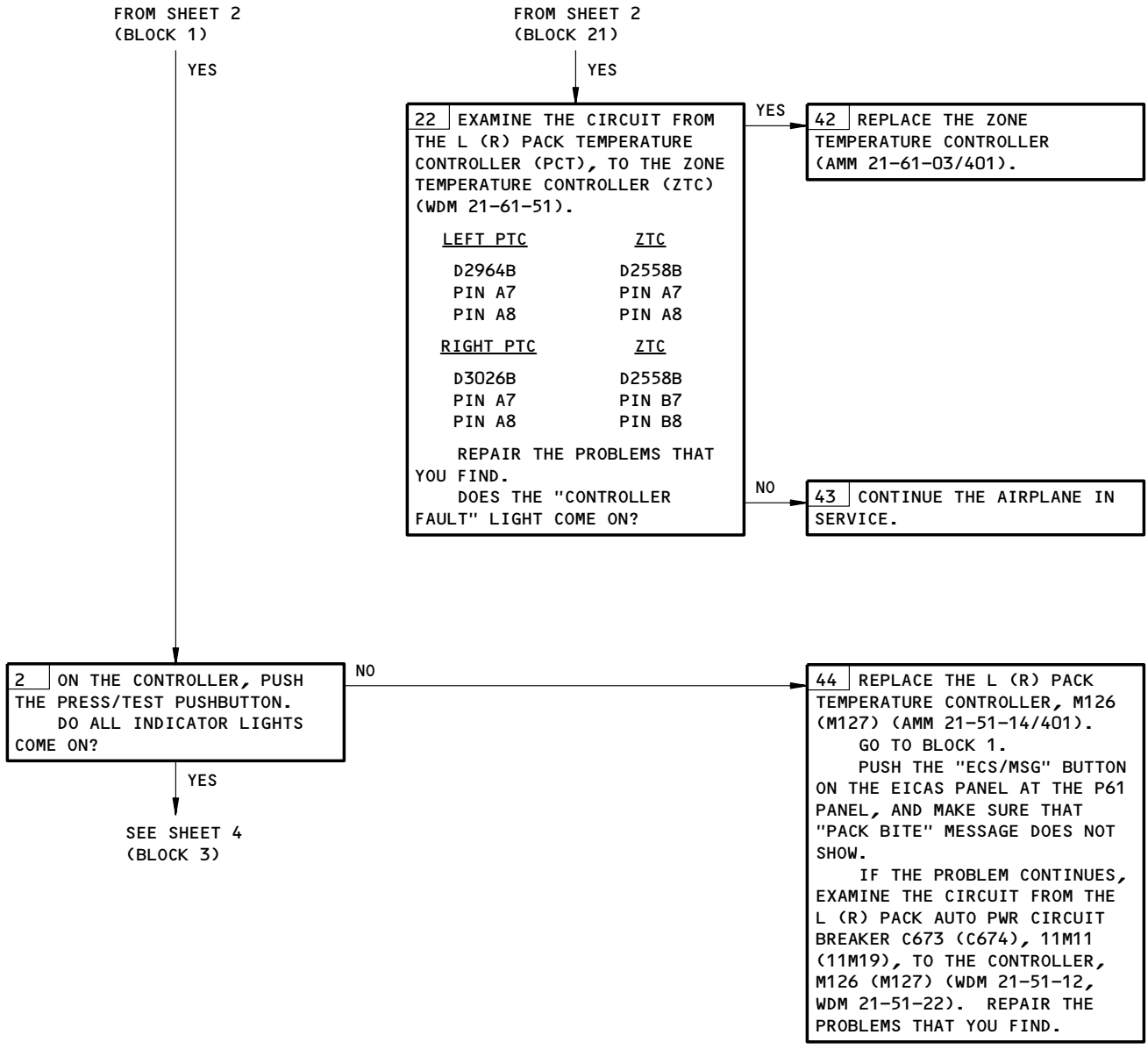

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 3)

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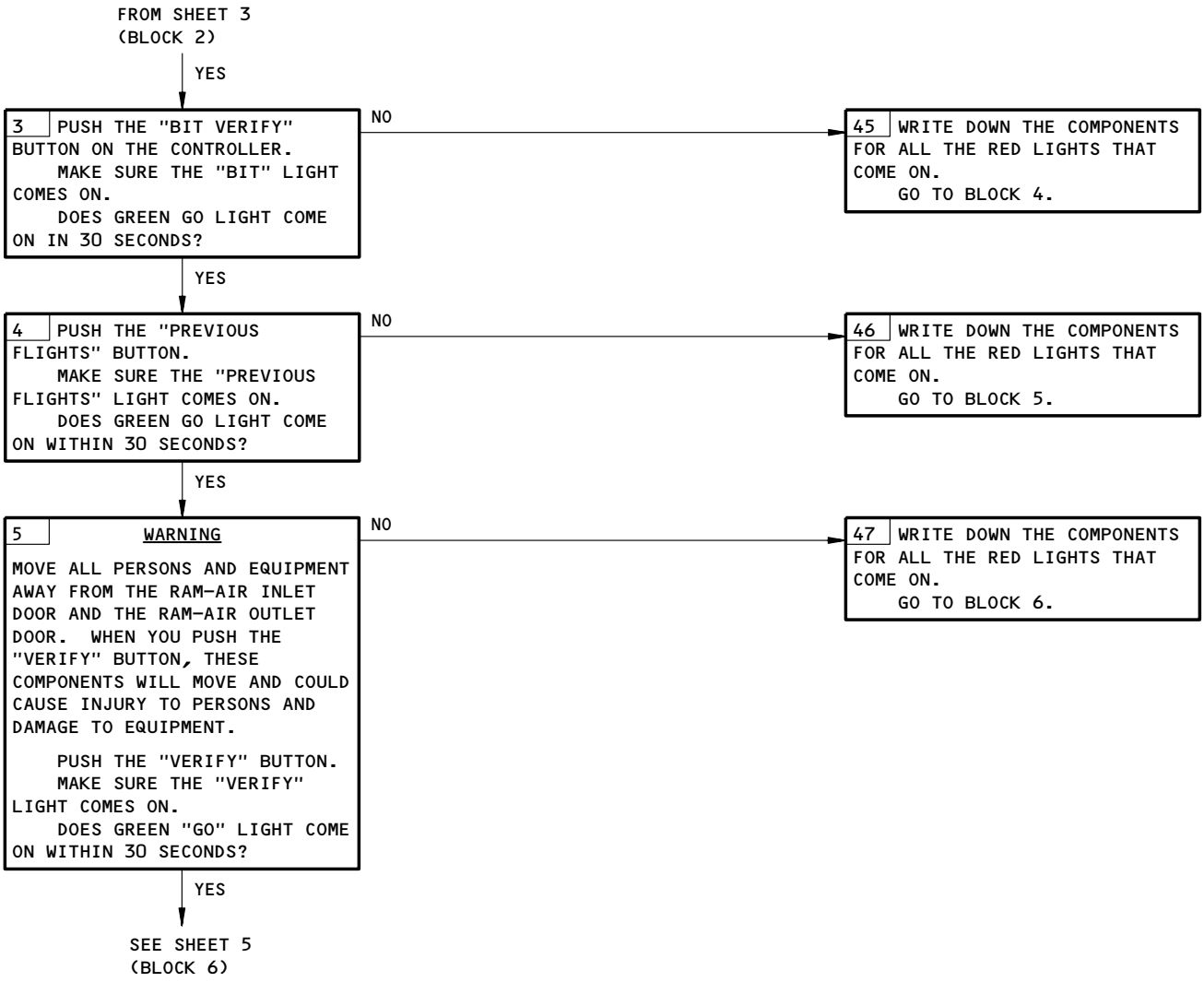

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 4)

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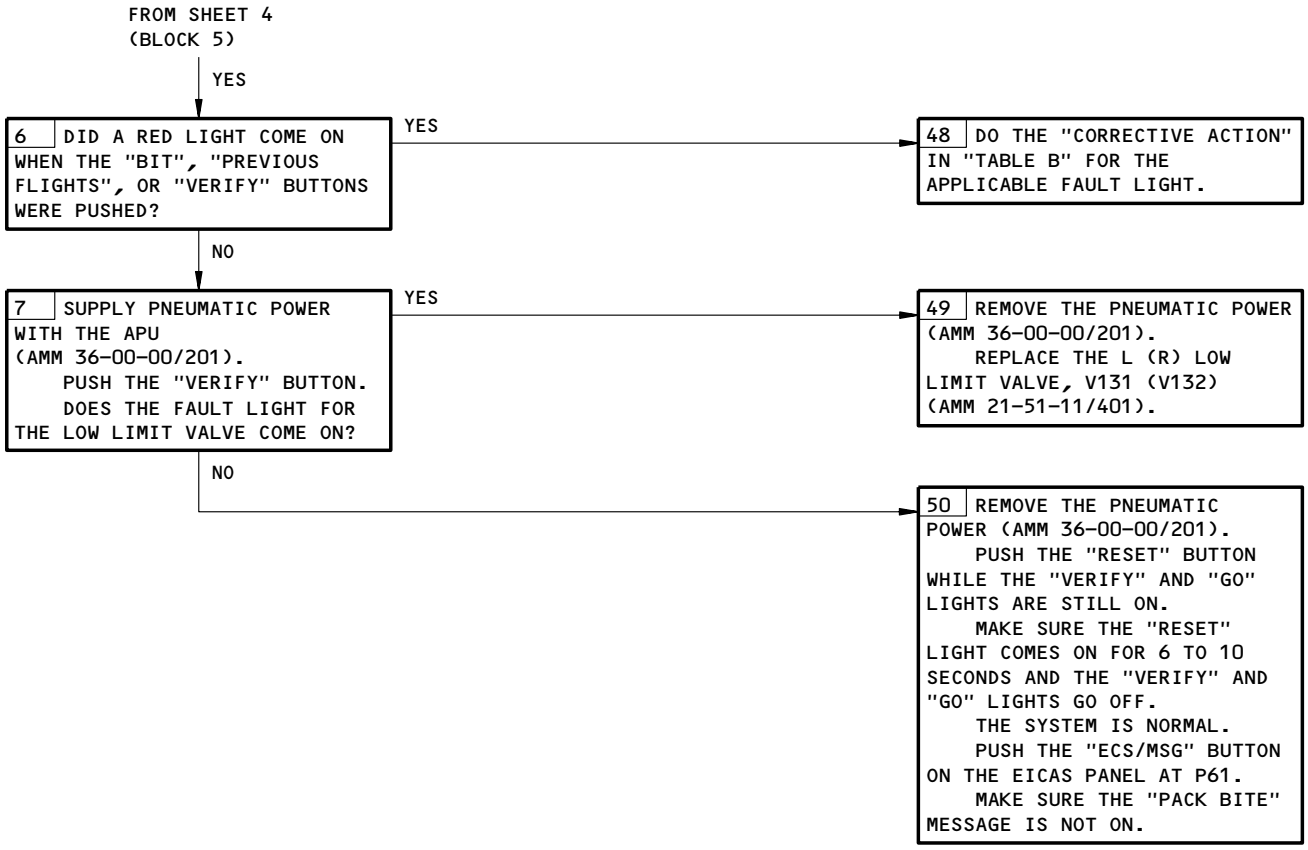

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 5)

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COMPONENT CHECKED	FROM CONNECTOR D2964B (D3026B)	TO CONNECTOR D2964C (D3026C)	ACCEPTABLE RESISTANCE (OHMS)
TEMPERATURE CONTROL VALVE, V18 (V19) (WDM 21-51-12,-22) (AMM 21-51-12/401)	PIN A13	PIN 4	70-105
	PIN A15	PIN 4	70-105
RAM AIR INLET ACTUATOR, M322 (M323) (WDM 21-51-12,-22) (AMM 21-53-03/401)	PIN B13	PIN 4	15-30
	PIN B15	PIN 4	15-30
RAM AIR EXHAUST ACTUATOR, M320 (M321) (WDM 21-51-12,-22) (AMM 21-53-04/401)	PIN C13	PIN 4	15-30
	PIN C15	PIN 4	15-30

LEFT (RIGHT) PACK TEMPERATURE CONTROLLER RESISTANCE CHECK
TABLE A

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 6)

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BITE MESSAGE	CORRECTIVE ACTION
CONTROLLER FAULT	1. DO THE RESISTANCE CHECK IN "TABLE A". 2. IF THE WIRING IS OK, REPLACE THE PACK TEMPERATURE CONTROLLER, M126 (M127) (AMM 21-51-14/401).
PACK SENSOR	1. MAKE SURE THE AIR CYCLE MACHINE IS NOT SEIZED. 2. REPLACE THE LEFT (RIGHT) PACK TEMPERATURE SENSOR, TS198 (TS199) (AMM 21-51-08/401). 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS A4 AND A5, TO THE LEFT PACK TEMPERATURE SENSOR, TS198, CONNECTOR D2952, PINS 1 AND 2 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS A4 AND A5, TO THE RIGHT PACK TEMPERATURE SENSOR, TS199, CONNECTOR D2952, PINS 1 AND 2 (WDM 21-51-22).
MIX MANF SENSOR	1. REPLACE THE SENSOR: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - REPLACE THE LEFT MIX MANIFOLD TEMPERATURE SENSOR (TS200) (AMM 21-61-02/401). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - REPLACE THE RIGHT MIX MANIFOLD TEMPERATURE SENSOR (TS201) (AMM 21-61-02/401). 2. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS B4 AND B5, TO THE MIX MANIFOLD TEMPERATURE SENSOR 1, TS200, CONNECTOR D2954, PINS 1 AND 2 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS B4 AND B5, TO THE MIX MANIFOLD TEMPERATURE SENSOR 2, TS201, CONNECTOR D3012, PINS 1 AND 2 (WDM 21-51-22).
ZONE SENSOR	1. REPLACE THE SENSOR: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - REPLACE THE FLIGHT DECK ZONE TEMPERATURE SENSOR, YRUTS01 (AMM 21-61-08/401). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - REPLACE THE FORWARD CABIN TEMPERATURE SENSOR, YRWTS01 (AMM 21-61-08/401). 2. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS C4 AND C5, TO THE FLIGHT DECK TEMP SENSOR MODULE, M10452 (YRU), CONNECTOR D2554, PINS 4 AND 3 (WDM 21-61-11). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS C4 AND C5, TO THE FWD CABIN TEMP SENSOR MODULE, M10025 (YRW), CONNECTOR D2568, PINS 3 AND 4 (WDM 21-61-21).

PACK TEMPERATURE CONTROLLER - FAULT LIGHT TROUBLESHOOTING
TABLE B

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 7)

F49342
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BITE MESSAGE	CORRECTIVE ACTION
COMPRESSOR SENSOR	1. REPLACE THE LEFT (RIGHT) PACK COMPRESSOR OUTLET TEMPERATURE SENSOR, TS41 (TS42)(AMM 21-51-06/401). 2. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS D4 AND D5, TO THE LEFT PACK COMPRESSOR OUTLET TEMPERATURE SENSOR, TS41, CONNECTOR D2966, PINS 1 AND 2 (WDM 21-51-15). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE RIGHT PACK COMPRESSOR OUTLET TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS D4 AND D5, TO THE RIGHT PACK COMPRESSOR OUTLET TEMPERATURE SENSOR, TS42, CONNECTOR D3028, PINS 1 AND 2 (WDM 21-51-25).
ALTITUDE SWITCH	1. REPLACE THE LEFT (RIGHT) PACK ALTITUDE SWITCH, S10305 (S397) (AMM 21-51-17/401). 2. IF THE PROBLEM CONTINUES, DO THIS PROCEDURE: "L (R) PACK BITE CONTINUES TO FIND AN ALTITUDE SWITCH FAULT" (FIG. 104A).
TEMP CONT VALVE	1. DO THE STEPS THAT FOLLOW: A. MOVE THE L (R) PACK SELECTOR TO "STBY N" AND WAIT 30 SECONDS. B. MOVE THE L (R) PACK SELECTOR TO "STBY W". C. REPEAT THE ABOVE STEPS 3 TIMES. NOTE: A NOT EQUAL DISTRIBUTION OF THE LUBRICATION IN THE TCV POTENTIOMETER CAN CAUSE AN INTERMITTENT OPEN CIRCUIT. D. MOVE THE L (R) PACK SELECTOR TO "AUTO". E. PUSH THE "VERIFY" SWITCH ON THE PACK TEMP CONTROLLER. IF THE "TEMP CONT VALVE" FAULT LIGHT DOES NOT SHOW, THEN THE TEMPERATURE CONTROL VALVE IS OK. 2. IF THE STEPS ABOVE DID NOT FIX THE PROBLEM, THEN REPLACE THE LEFT (RIGHT) PACK TEMPERATURE CONTROL VALVE, V18 (V19)(AMM 21-51-12/401). 3. REPLACE THE LEFT (RIGHT) PACK AUTO/MANUAL RELAY 1, K57 (K49)(WDM 21-51-12, -22). 4. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING FOR THE LIMIT SWITCHES: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS A10,A11, AND A12, TO THE LEFT PACK TEMPERATURE CONTROL VALVE, V18, CONNECTOR D2962, PINS 4,5, AND 12 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS A10,A11, AND A12, TO THE RIGHT PACK TEMPERATURE CONTROL VALVE, V19, CONNECTOR D3014, PINS 4,5, AND 12 (WDM 21-51-22). 5. DO A CHECK OF THE WIRING FOR THE POTENTIOMETER: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS A1,A2, AND A3, TO THE LEFT PACK TEMPERATURE CONTROL VALVE, V18, CONNECTOR D2946, PINS 2,4, AND 6 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS A1,A2, AND A3, TO THE RIGHT PACK TEMPERATURE CONTROL VALVE, V19, CONNECTOR D3004, PINS 2,4, AND 6 (WDM 21-51-22).

PACK TEMPERATURE CONTROLLER – FAULT LIGHT TROUBLESHOOTING
TABLE B

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 8)

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BITE MESSAGE	CORRECTIVE ACTION
TEMP CONT VALVE (CONTINUED)	6. DO A CHECK OF THE WIRING FOR THE VALVE DRIVER CIRCUIT: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964B, PINS A13 AND A15, TO THE LEFT PACK TEMPERATURE CONTROL VALVE, V18, CONNECTOR D2962, PINS 1,2, AND 3 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026B, PINS A13 AND A15, TO THE RIGHT PACK TEMPERATURE CONTROL VALVE, V19, CONNECTOR D3014, PINS 1,2, AND 3 (WDM 21-51-22).
RAM INLET ACTR	1. REPLACE THE LEFT (RIGHT) RAM AIR INLET DOOR ACTUATOR, M322 (M323) (AMM 21-53-03/401). 2. REPLACE THE LEFT (RIGHT) PACK AUTO/MANUAL RELAY 1 AND 2, K57 AND K58 (K49 AND K50)(WDM 21-51-12,-22). 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING FOR THE LIMIT SWITCHES: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS B10,B11, AND B12, TO THE LEFT RAM AIR INLET ACTUATOR, M322, CONNECTOR D2944, PINS 11,10, AND 12 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS B10,B11, AND B12, TO THE RIGHT RAM AIR INLET ACTUATOR, M323, CONNECTOR D3002, PINS 11,10, AND 12 (WDM 21-51-22). 4. DO A CHECK OF THE WIRING FOR THE POTENTIOMETER: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS B1,B2, AND B3, TO THE LEFT RAM AIR INLET ACTUATOR, M322, CONNECTOR D2944, PINS 6,5, AND 4 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS B1,B2, AND B3, TO THE RIGHT RAM AIR INLET ACTUATOR, M323, CONNECTOR D3002, PINS 6,5, AND 4 (WDM 21-51-22). 5. DO A CHECK OF THE WIRING FOR THE VALVE DRIVER CIRCUIT: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964B, PINS B13 AND B15, TO THE LEFT RAM AIR INLET ACTUATOR, M322, CONNECTOR D2944, PINS 2 AND 3 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026B, PINS B13 AND B15, TO THE RIGHT RAM AIR INLET ACTUATOR, M323, CONNECTOR D3002, PINS 2 AND 3 (WDM 21-51-22).
RAM OUTLET ACTR	1. REPLACE THE LEFT (RIGHT) RAM AIR OUTLET DOOR ACTUATOR, M320 (M321) (AMM 21-53-04/401). 2. REPLACE THE LEFT (RIGHT) PACK AUTO/MANUAL RELAY 2, K58 (K50)(WDM 21-51-12, -22). 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING FOR THE LIMIT SWITCHES: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS C10,C11, AND C12, TO THE LEFT RAM AIR OUTLET ACTUATOR, M320, CONNECTOR D2942, PINS 11,10, AND 12 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: – EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS C10,C11, AND C12, TO THE RIGHT RAM AIR OUTLET ACTUATOR, M321, CONNECTOR D3000, PINS 11,10, AND 12 (WDM 21-51-22).

PACK TEMPERATURE CONTROLLER – FAULT LIGHT TROUBLESHOOTING
TABLE B

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 9)

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BITE MESSAGE	CORRECTIVE ACTION
RAM OUTLET ACTR (CONTINUED)	4. DO A CHECK OF THE WIRING FOR THE POTENTIOMETER: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964A, PINS C1,C2, AND C3, TO THE LEFT RAM AIR OUTLET ACTUATOR, M320, CONNECTOR D2942, PINS 6,5, AND 4 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026A, PINS B1,B2, AND B3, TO THE RIGHT RAM AIR OUTLET ACTUATOR, M321, CONNECTOR D3000, PINS 6,5, AND 4 (WDM 21-51-22). 5. DO A CHECK OF THE WIRING FOR THE VALVE DRIVER CIRCUIT: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964B, PINS C13 AND C15, TO THE LEFT RAM AIR OUTLET ACTUATOR, M320, CONNECTOR D2942, PINS 2 AND 3 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026B, PINS C13 AND C15, TO THE RIGHT RAM AIR OUTLET ACTUATOR, M321, CONNECTOR D3000, PINS 2 AND 3 (WDM 21-51-22).
FLOW CONT VALVE	1. REPLACE THE LEFT (RIGHT) PACK AUTO/MANUAL RELAY 3, K10315 (K10316) (WDM 21-51-12,-22). 2. IF THE PROBLEM CONTINUES, REPLACE THE L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17)(AMM 21-51-01/201). 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964B, PINS B1 AND B2, TO THE LEFT PACK FLOW CONTROL AND SHUTOFF VALVE, V16, CONNECTOR D4128, PINS 3 AND 1 (WDM 21-51-12). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026B, PINS B1 AND B2, TO THE RIGHT PACK FLOW CONTROL AND SHUTOFF VALVE, V17, CONNECTOR D4236, PINS 3 AND 1 (WDM 21-51-22).
LOW LIMIT VALVE	1. REPLACE THE LEFT (RIGHT) PACK LOW LIMIT VALVE RELAY, K10317 (K10318) (WDM 21-51-14,-24). 2. IF THE PROBLEM CONTINUES, REPLACE THE L (R) LOW LIMIT VALVE, V16 (V17) (AMM 21-51-11/201). 3. IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING: • FOR THE LEFT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M126, CONNECTOR D2964B, PINS C1 AND C2, TO THE LEFT PACK LOW LIMIT VALVE, V10077, CONNECTOR D4136, PINS 3 AND 1 (WDM 21-51-14). • FOR THE RIGHT PACK TEMPERATURE CONTROLLER: - EXAMINE THE CIRCUIT FROM THE PACK TEMPERATURE CONTROLLER, M127, CONNECTOR D3026B, PINS C1 AND C2, TO THE RIGHT PACK LOW LIMIT VALVE, V10076, CONNECTOR D4058, PINS 3 AND 1 (WDM 21-51-24).

PACK TEMPERATURE CONTROLLER - FAULT LIGHT TROUBLESHOOTING
TABLE B

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 10)

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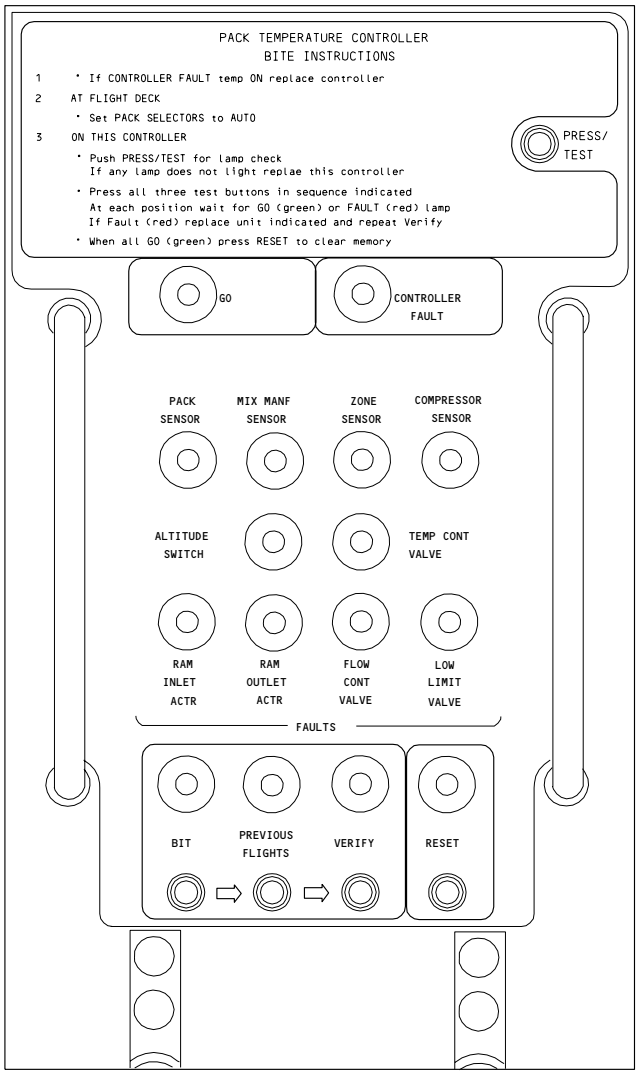

PACK TEMPERATURE
CONTROLLER

Pack Temperature Controller BITE Procedure
Figure 104 (Sheet 11)

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L (R) PACK BITE CONTINUES TO FIND AN ALTITUDE SWITCH FAULT

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11C30,11S15

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
L (R) PACK CONTROLLER IS REMOVED (AMM 21-51-14/401)

1 DO THESE STEPS TO MAKE SURE THAT THERE IS NO SHORT FROM THE CONTROLLER TO A POWER SOURCE:
1. MEASURE THE AC AND DC VOLTAGES FROM THE L (R) CONNECTOR D2964 (D3026), PINS BA9,BA10 AND BA11, TO THE AIRPLANE STRUCTURE
2. MAKE SURE THE AC VOLTAGES ARE LESS THAN 20V AC
3. MAKE SURE THE DC VOLTAGES ARE LESS THAN 10V DC
4. ARE THE VOLTAGES SATISFACTORY?

NO → 30 EXAMINE THESE WIRES FOR A SHORT:
- BETWEEN PIN BA9 AND PIN 2 ON THE L (R) ALTITUDE SWITCH, S10305 (S397)
- BETWEEN PIN BA10 AND PIN 1 ON THE ALTITUDE SWITCH, S10305 (S397)
- BETWEEN PIN BA11 AND PIN 3 ON THE ALTITUDE SWITCH, S10305 (S397).

(WDM 21-51-12; 21-51-22).

YES ↓

2 DO THESE STEPS TO MAKE SURE THAT THERE IS NO SHORT FROM THE CONTROLLER TO A POWER SOURCE:
1. MEASURE THE AC AND DC VOLTAGES FROM THE L (R) CONNECTOR D2964 (D3026), PINS BD5 AND BD6 TO THE AIRPLANE STRUCTURE
2. MAKE SURE THE AC VOLTAGES ARE LESS THAN 20V AC
3. MAKE SURE THE DC VOLTAGES ARE LESS THAN 10V DC
4. ARE THE VOLTAGES SATISFACTORY?

NO → 31 EXAMINE THESE WIRES FOR A SHORT:
- BETWEEN PIN BD5 OR PIN BD6 AND THE L (R) AIR/GROUND RELAY, K140 (K214) (WDM 21-51-12; 21-51-22).

YES ↓

3 DO THESE STEPS TO MAKE SURE THAT THE AIR/GROUND RELAY IS IN THE GROUND POSITION:
1. DO A CONTINUITY CHECK ON THE L (R) CONNECTOR D2964 (D3026) FROM PIN BD5 TO PIN BD6
2. IS THE CONTINUITY GREATER THAN 1 MEGOHM?

NO → 32 REPLACE THE L (R) AIR/GROUND RELAY, K140 (K214) (AMM 32-09-02/201).
IF THE PROBLEM CONTINUES, LOOK FOR A SHORT BETWEEN THE TWO WIRES THAT GO FROM THE CONTROLLER TO THE L (R) AIR/GROUND RELAY, K140 (K214) (WDM 21-51-12; 21-51-22).
IF THE PROBLEM CONTINUES, DO A CHECK OF THE AIR/GROUND SYSTEM (WDM 32-09-11,-12).

YES ↓

SEE SHEET 2
(BLOCK 4)

L (R) Pack Bite Continues to Find an Altitude Switch Fault
Figure 104A (Sheet 1)

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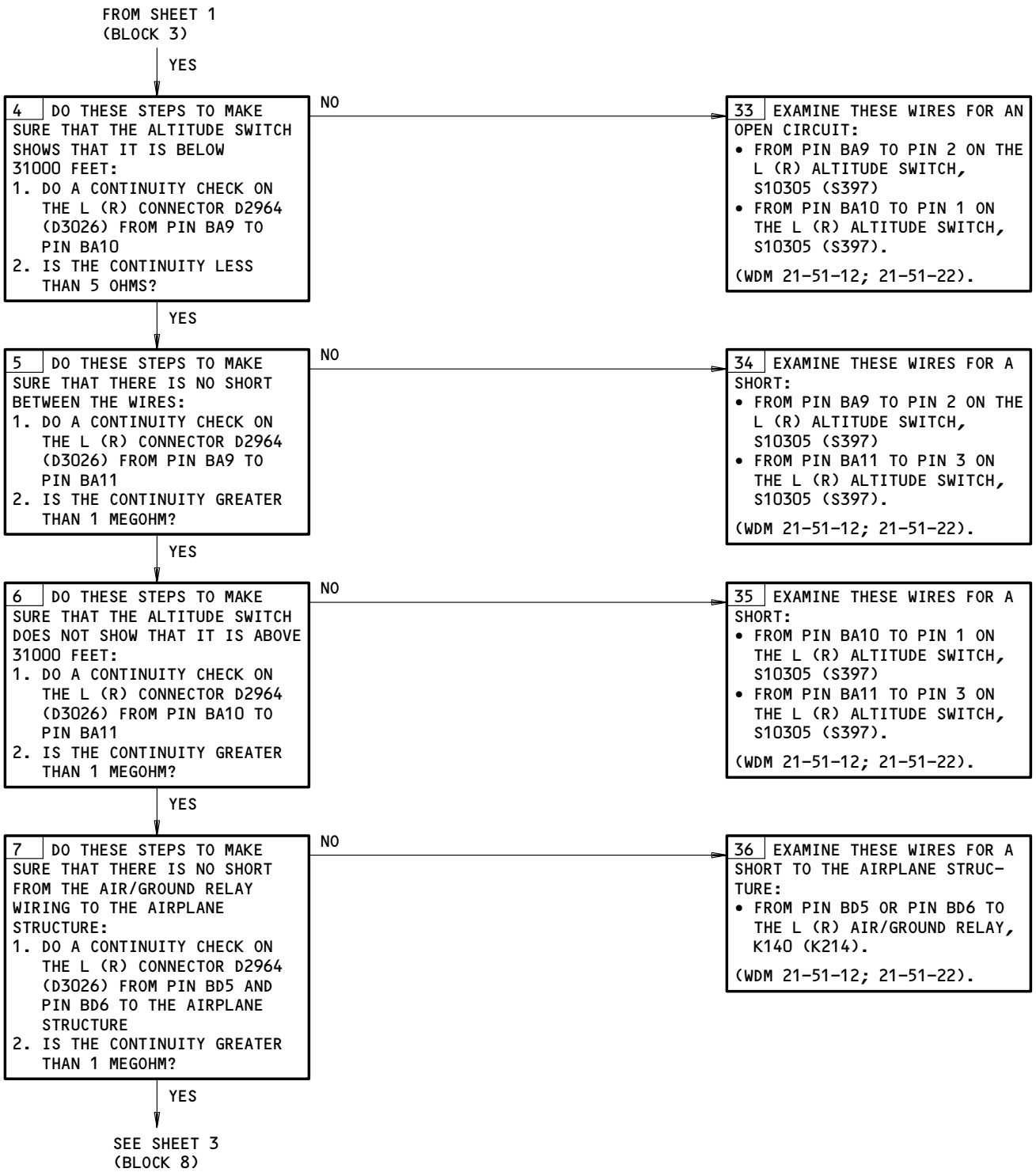

L (R) Pack Bite Continues to Find an Altitude Switch Fault
Figure 104A (Sheet 2)

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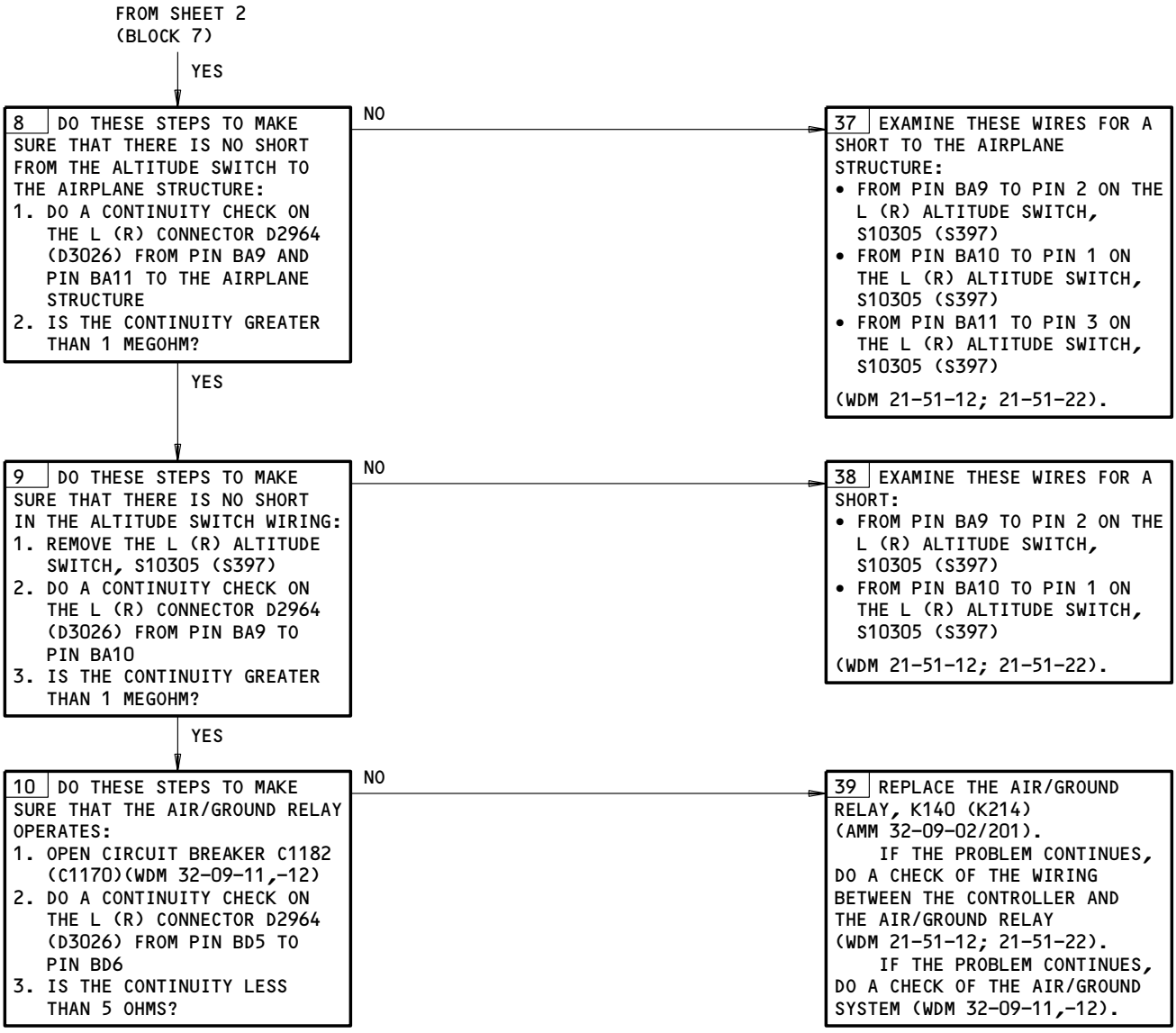

L (R) Pack Bite Continues to Find an Altitude Switch Fault
Figure 104A (Sheet 3)

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PACK STANDBY CONTROLLER BITE PROCEDURE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A15,11A26,11M15,11M24

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

1 PLACE BOTH PACK SELECTORS ON P5 PANEL IN "STBY-N".
PRESS ALL "GO" AND "NO GO" LAMPS ON PACK STANDBY CONTROLLER.
DO ALL LAMPS COME ON?

NO → 40 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES

2 ROTATE "TEST SWITCH" TO POSITION 1. PRESS "TEST SWITCH" AND WAIT FOR STEADY LAMP INDICATION.
DOES "GO" LAMP COME ON FOR BOTH L AND R PACKS?

NO → 41 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES

3 ROTATE "TEST SWITCH" TO POSITION 2. PRESS "TEST SWITCH" AND WAIT FOR STEADY LAMP INDICATION.
DOES "GO" LAMP COME ON FOR BOTH PACKS?

NO → 42 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES

4 ROTATE "TEST SWITCH" TO POSITION 3. PRESS "TEST SWITCH" AND WAIT FOR STEADY LAMP INDICATION.
DOES "GO" LAMP COME ON FOR BOTH PACKS?

NO → 43 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES

5 ROTATE "TEST SWITCH" TO POSITION 4. PRESS "TEST SWITCH" AND WAIT FOR STEADY LAMP INDICATION.
DOES "GO" LAMP COME ON FOR BOTH PACKS?

NO → 44 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES

6 ROTATE "TEST SWITCH" TO POSITION 5. PRESS "TEST SWITCH" AND WAIT FOR STEADY LAMP INDICATION.
DOES "GO" LAMP COME ON FOR BOTH PACKS?

NO → 45 REPLACE PACK STANDBY TEMPERATURE CONTROLLER M10389 (AMM 21-51-14).

YES → TO SHEET 2 (BLOCK 7)

Pack Standby Controller BITE Procedure (Ground)
Figure 105 (Sheet 1)

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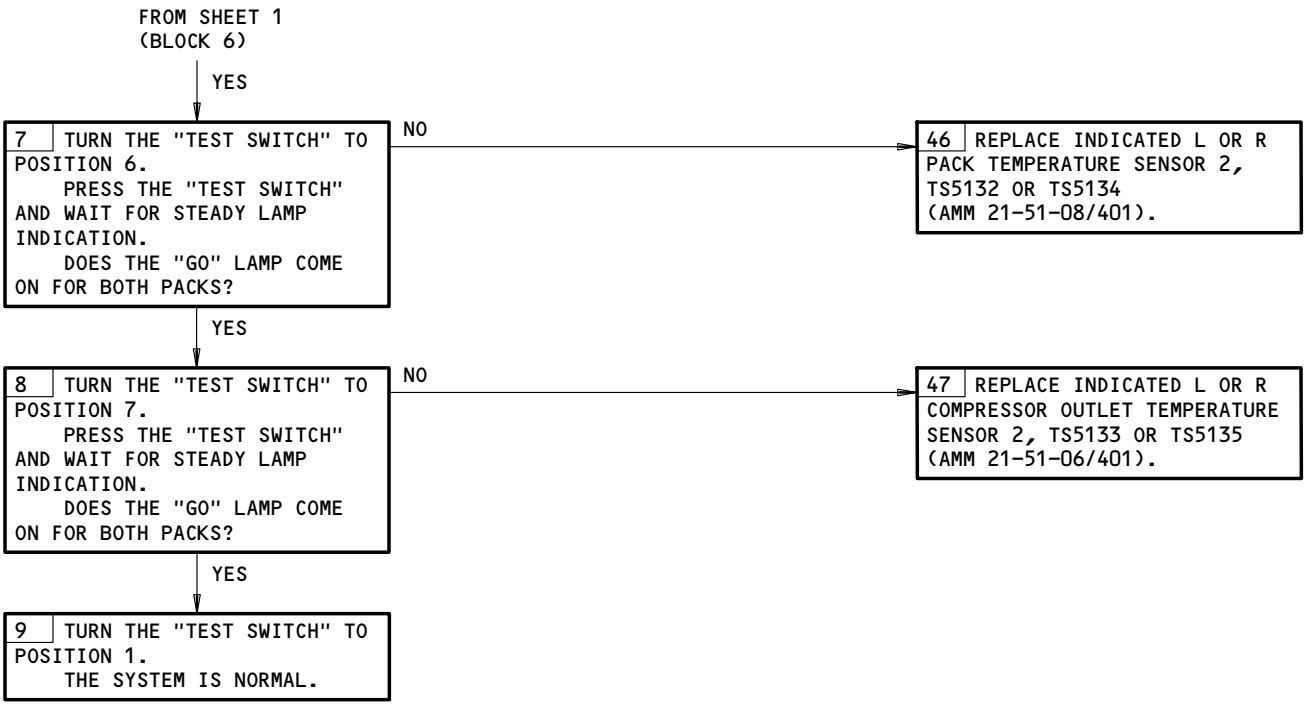

Pack Standby Controller BITE Procedure (Ground)
Figure 105 (Sheet 2)

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PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A13,11A14,11A15,11A26,11A28,11M11,11M15,11M19,
11M24

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

PACK "INOP" LIGHT ILLUM IN AUTO; COULD NOT RESET

1 REMOVE CONNECTOR D2968 (D3030) FROM L (R) PACK OVERHEAT SWITCH, S48 (S49).
CHECK FOR CONTINUITY BETWEEN PINS 1 AND 2 OF L (R) PACK OVERHEAT SWITCH, S48 (S49)(WDM 21-51-15,-25).
DOES CONTINUITY EXIST?

YES → 40 REPLACE L (R) PACK OVERHEAT SWITCH, S48 (S49) (AMM 21-51-18).

NO

2 INSTALL CONNECTOR D2968 (D3030) TO THE L (R) PACK OVERHEAT SWITCH, S48 (S49).
REMOVE CONNECTOR D4194 (D4098) FROM L (R) COMPRESSOR OUTLET OVERHEAT SWITCH, S10325 (S10326).
CHECK FOR CONTINUITY BETWEEN PINS 1 AND 2 OF L (R) COMPRESSOR OUTLET OVERHEAT SWITCH, S10325 (S10326) (WDM 21-51-15,-25).
DOES CONTINUITY EXIST?

YES → 41 REPLACE L (R) COMPRESSOR OUTLET OVERHEAT SWITCH, S10325 (S10326)(AMM 21-51-05).

NO

3 INSTALL CONNECTOR D4194 D4098) TO THE L (R) COMPRESSOR OUTLET OVERHEAT SWITCH, S10325 (S10326).
REMOVE L (R) PACK AUTO/MAN RELAY, K10315 (K10316).
CHECK FOR GROUND AT PIN 8 OF THE RELAY PANEL, CONNECTOR D4052 (D4096)(WDM 21-51-12, -22).
DOES GROUND EXIST?

YES → 42 INSTALL L (R) PACK AUTO/MAN RELAY, K10315 (K10316).
DO THE PACK TEMP CONTROLLER BITE PROCEDURE (FIG. 104, BLOCK 1).

NO → 43 INSTALL L (R) PACK AUTO/MAN RELAY, K10315 (K10316).
REPLACE LEFT (RIGHT) PACK FLOW CONTROL MODULE, M863 (M864)(AMM 21-51-09).

Pack INOP Light Illum In Auto; Could Not Reset
Figure 106

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"INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO; COULD NOT RESET. PACK DID NOT OPERATE NORMAL IN STBY

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A13,11A14,11A15,11A26,11A28,11A29,11M11,11M15, 11M19,11M24

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

NOTE: IF PNEUMATIC DUCT PRESSURE IS LOW WITH THE ENGINES ON, DO THIS PROCEDURE: "LOW DUCT PRESSURE" PROCEDURE (AMM 36-10-00/101, FIG. 106).

1 CHECK VISUAL INDICATOR ON L (R) PACK TEMPERATURE CONTROL VALVE, V18 (V19), IN ECS BAY.
IS THE INDICATOR IN FULLY CLOSED POSITION?

NO → 40 REPLACE PACK TEMPERATURE CONTROL VALVE, V18 (V19) (AMM 21-51-12/401).

YES

2 DISCONNECT CONNECTOR FROM COMPRESSOR OUTLET SENSOR NO. 2. CHECK VISUAL INDICATOR ON L (R) LOW LIMIT CONTROL VALVE, V10077 (V10076), MOVES TO OPEN.
IS INDICATOR IN FULL OPEN POSITION?

NO → 41 REPLACE L (R) LOW LIMIT CONTROL VALVE, V10077 (V10076) (AMM 21-51-11/201).

YES → 42 DO THIS PROCEDURE: "INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO, AND AIR CYCLE MACHINE (ACM) WILL NOT OPERATE WITH ENGINES/APU ON (FIG. 107A OR 107B).
IF THE PROBLEM CONTINUES, REPLACE L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17) (AMM 21-51-01/201).

INOP and PACK OFF Lights Illum in Auto; Could Not Reset.
Pack Did Not Operate Normal in STBY
Figure 107

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PREREQUISITES

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

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ENGINES ARE ON
ENGINE BLEED AIR SWITCHES ARE IN THE "ON" POSITION

"INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO, AND AIR CYCLE MACHINE (ACM) WILL NOT OPERATE WITH ENGINES ON.

NOTE: CONTAMINATION OF THE ACM TURBINE THRUST BEARING CAN CAUSE THE ACM IMPELLER SHAFT NOT TO TURN. THIS PROCEDURE CAN HELP YOU START THE ACM IF IT HAS CONTAMINATION.

1

1. TURN L (R) PACK SELECTOR TO "OFF"
2. WAIT 2-5 MINUTES FOR PACK TO COOL
3. TURN PACK SELECTOR TO THE "AUTO" POSITION
4. PUSH THE PACK RESET PUSH-BUTTON
5. MAKE SURE THAT THE "INOP" AND "PACK OFF" LIGHTS ARE OFF
6. MAKE SURE THAT THE EICAS MESSAGE "L/R PACK TEMP" DOES NOT SHOW
7. PUSH THE EICAS ECS/MSG PUSH-BUTTON
8. SET THESE SWITCHES AS FOLLOWS:
   - PACK SELECTOR TO "OFF"
   - L AND R RECIRC FAN TO "ON"
   - ENGINE BLEED AIR SWITCH TO "ON"
   - PACK SELECTOR TO "AUTO"
   - TRIM AIR SWITCH TO "ON"
   - FLT DK/FWD CAB/AFT CAB ZONE TEMPERATURE SELECTORS TO "AUTO".

CAUTION: MAKE SURE THAT THE PACK OUT TEMPERATURE IS LESS THAN 140°F (60°C).

9. LOOK AT THE EICAS ECS MAINTENANCE PAGE TO SEE IF THE PACK OUT TEMPERATURE IS LESS THAN 140°F (60°C).

NOTE: IF THE PACK OUT TEMPERATURE IS HOTTER THAN 140°F (60°C), TURN THE PACK SELECTOR TO "OFF".

10. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → 20 THE PACK IS OK.

NO → SEE SHEET 2 (BLOCK 2)

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Operate With Engines On.
Figure 107A (Sheet 1)

C23649

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FROM SHEET 1
(BLOCK 1)

NO

2

1. TURN THE TRIM AIR SWITCH TO "OFF"
2. ADVANCE THE THROTTLES UNTIL THE BLEED AIR DUCT PRESSURE IS APPROXIMATELY 45 PSIG
3. TURN THE PACK SELECTOR TO "STBY C"

NOTE: HIGHER BLEED AIR PRESSURE IS DIRECTED TO THE ACM WHEN THE TRIM AIR IS OFF AND THE PACK SELECTOR IS SET TO "STBY C".

4. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → **21** SET THE PACK SELECTOR TO THE "AUTO" POSITION. THE PACK IS OK.

NO

3

1. GET ACCESS TO THE ENVIRONMENTAL CONTROL SYSTEMS PACK
2. TURN THE PACK SELECTOR TO THE "AUTO" POSITION.

CAUTION: DO NOT HIT THE ACM WITH A METAL OBJECT. DAMAGE CAN OCCUR.

3. LIGHTLY HIT THE TURBINE ANTI-ICE MUFF WITH A PLASTIC HAMMER OR RUBBER MALLET.
4. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → **22** THE PACK IS OK.

NO

4

1. REMOVE THE ACM (AMM 21-51-03/401)
2. PUT THE ACM IN A HORIZONTAL POSITION
3. TORQUE THE IMPELLER SHAFT AT THE TURBINE END OF THE ACM IN THE CLOCKWISE DIRECTION
4. MAKE SURE THE BREAKAWAY TORQUE IS LESS THAN 90 INCH-POUNDS.

CAUTION: DO NOT TURN THE IMPELLER SHAFT MORE THAN TWO ROTATIONS, OR YOU CAN DAMAGE THE BEARINGS.

5. MAKE SURE YOU CAN CONTINUE TO TURN THE IMPELLER SHAFT WITH LESS THAN 35 INCH-POUNDS OF TORQUE.

WAS THE BREAKAWAY TORQUE LESS THAN 90 INCH-POUNDS AND THE RUN-ON TORQUE LESS THAN 35 INCH-POUNDS?

NOTE: CHECK THE ACM ROTOR FOR ICE IMPINGEMENT DAMAGE AND REPLACE THE ACM IF NECESSARY. DO THE TEST OF THE WATER EXTRACTION SYSTEM AND THE TURBINE ANTI-ICE SYSTEM.

YES → **23** REINSTALL THE ACM (AMM 21-51-03/401).

NO → **24** REPLACE THE ACM (AMM 21-51-03/401).

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Operate with Engines On.
Figure 107A (Sheet 2)

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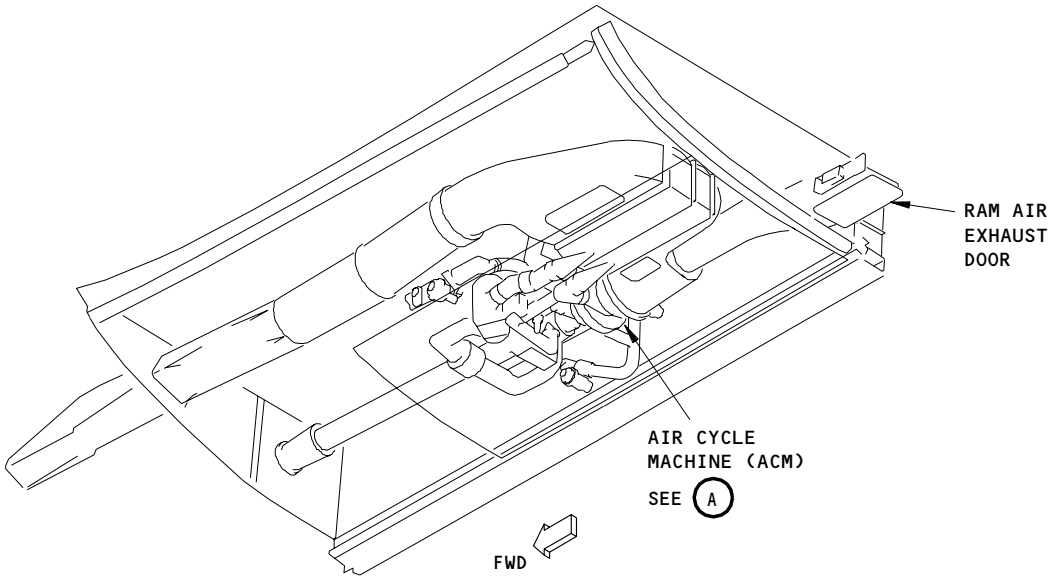
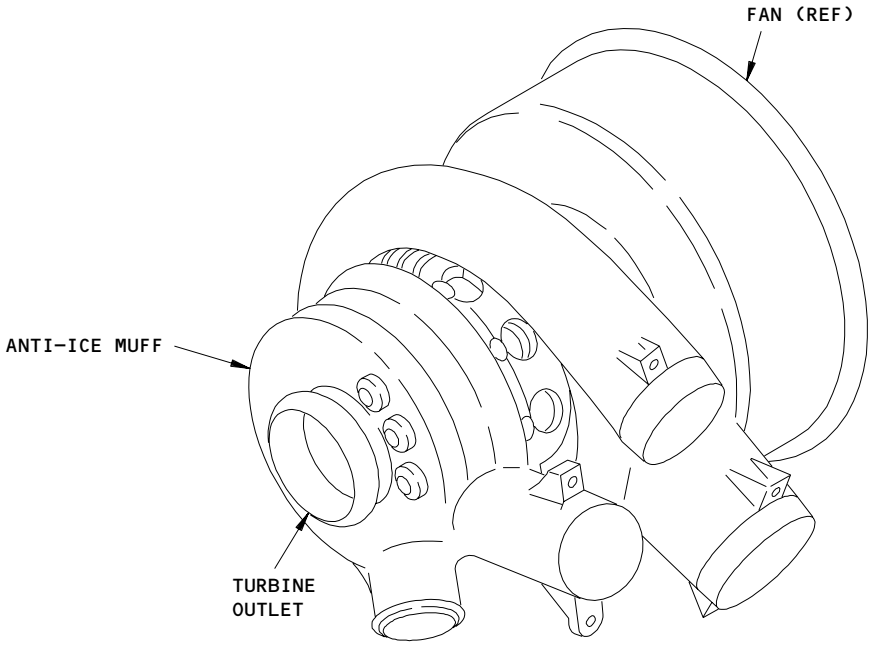


AIR CONDITIONING PACK



AIR CYCLE MACHINE (ACM)

A

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Turn with Engines On.
Figure 107A (Sheet 3)

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PREREQUISITES

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

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
APU IS ON
APU BLEED AIR SWITCH IS IN THE "ON" POSITION

"INOP" AND "PACK OFF" LIGHTS ILLUM IN AUTO, AND AIR CYCLE MACHINE (ACM) WILL NOT OPERATE WITH APU ON.

NOTE: CONTAMINATION OF THE ACM TURBINE THRUST BEARING CAN CAUSE THE ACM IMPELLER SHAFT NOT TO TURN. THIS PROCEDURE CAN HELP YOU START THE ACM IF IT HAS CONTAMINATION.

1

1. TURN L (R) PACK SELECTOR TO "OFF"
2. WAIT 2-5 MINUTES FOR PACK TO COOL
3. TURN PACK SELECTOR TO THE "AUTO" POSITION
4. PUSH THE PACK RESET PUSH-BUTTON
5. MAKE SURE THAT THE "INOP" AND "PACK OFF" LIGHTS ARE OFF
6. MAKE SURE THAT THE EICAS MESSAGE "L/R PACK TEMP" DOES NOT SHOW
7. PUSH THE EICAS ECS/MSG PUSH-BUTTON
8. SET THESE SWITCHES AS FOLLOWS:
   - PACK SELECTOR TO "OFF"
   - L AND R RECIRC FAN TO "ON"
   - APU BLEED AIR SWITCH TO "ON"
   - TRIM AIR SWITCH TO "ON"
   - FLT DK ZONE TEMPERATURE SELECTOR TO "AUTO"
   - FWD CAB/AFT CAB ZONE TEMPERATURE SELECTORS TO "OFF"
   - PACK SELECTOR TO "AUTO".

CAUTION: MAKE SURE THAT THE PACK OUT TEMPERATURE IS LESS THAN 140°F (60°C).

9. LOOK AT THE EICAS ECS MAINTENANCE PAGE TO SEE IF THE PACK OUT TEMPERATURE IS LESS THAN 140°F (60°C).

NOTE: IF THE PACK OUT TEMPERATURE IS HOTTER THAN 140°F (60°C), TURN THE PACK SELECTOR TO "OFF".

10. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → 20 THE PACK IS OK.

NO → SEE SHEET 2 (BLOCK 2)

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Operate With APU On.
Figure 107B (Sheet 1)

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FROM SHEET 1
(BLOCK 1)

NO

2

1. IF AMBIENT TEMPERATURE IN THE AIRPLANE IS HOTTER THAN 75°F (24°C), SET THE FLT DK ZONE TEMPERATURE SELECTOR TO FULL COLD.
2. IF AMBIENT TEMPERATURE IN THE AIRPLANE IS LESS THAN 75°F (24°C), SET THE FLT DK ZONE TEMPERATURE SELECTOR TO FULL HOT.
3. IF THE OPPOSITE PACK IS OPERATING, SET THE OPPOSITE PACK SELECTOR TO "OFF".
4. TURN THE PACK SELECTOR TO "STBY C".

NOTE: HIGHER BLEED AIR PRESSURE IS DIRECTED TO THE ACM WHEN THE OPPOSITE PACK IS OFF AND THE PACK SELECTOR IS SET TO "STBY C".

4. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → 21 SET THE PACK SELECTOR TO THE "AUTO" POSITION. THE PACK IS OK.

NO

3

1. GET ACCESS TO THE ENVIRONMENTAL CONTROL SYSTEMS PACK
2. TURN THE PACK SELECTOR TO THE "AUTO" POSITION

CAUTION: DO NOT HIT THE ACM WITH A METAL OBJECT. DAMAGE CAN OCCUR.

3. LIGHTLY HIT THE TURBINE ANTI-ICE MUFF WITH A PLASTIC HAMMER OR RUBBER MALLET
4. GO TO THE RAM AIR EXHAUST DOOR AND MAKE SURE THERE IS AIRFLOW.

NOTE: WHEN THE ACM OPERATES, AIRFLOW WILL COME OUT OF THE RAM AIR EXHAUST DOOR.

DOES THE ACM OPERATE?

NOTE: IF THE ACM DOES NOT OPERATE, TURN THE PACK SELECTOR SWITCH IMMEDIATELY TO "OFF" TO PREVENT AN OVERHEAT.

YES → 22 THE PACK IS OK.

NO

4

1. REMOVE THE ACM (AMM 21-51-03/401)
2. PUT THE ACM IN A HORIZONTAL POSITION
3. TORQUE THE IMPELLER SHAFT AT THE TURBINE END OF THE ACM IN THE CLOCKWISE DIRECTION
4. MAKE SURE THE BREAKAWAY TORQUE IS LESS THAN 90 INCH-POUNDS

CAUTION: DO NOT TURN THE IMPELLER SHAFT MORE THAN TWO ROTATIONS, OR YOU CAN DAMAGE THE BEARINGS.

5. MAKE SURE YOU CAN CONTINUE TO TURN THE IMPELLER SHAFT WITH LESS THAN 35 INCH-POUNDS OF TORQUE.

WAS THE BREAKAWAY TORQUE LESS THAN 90 INCH-POUNDS AND THE RUN-ON TORQUE LESS THAN 35 INCH-POUNDS?

NOTE: CHECK THE ACM ROTOR FOR ICE IMPINGEMENT DAMAGE AND REPLACE THE ACM IF NECESSARY. DO THE TEST OF THE WATER EXTRACTION SYSTEM AND THE TURBINE ANTI-ICE SYSTEM.

YES → 23 REINSTALL THE ACM (AMM 21-51-03/401).

NO → 24 REPLACE THE ACM (AMM 21-51-03/401).

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Operate With APU On.
Figure 107B (Sheet 2)

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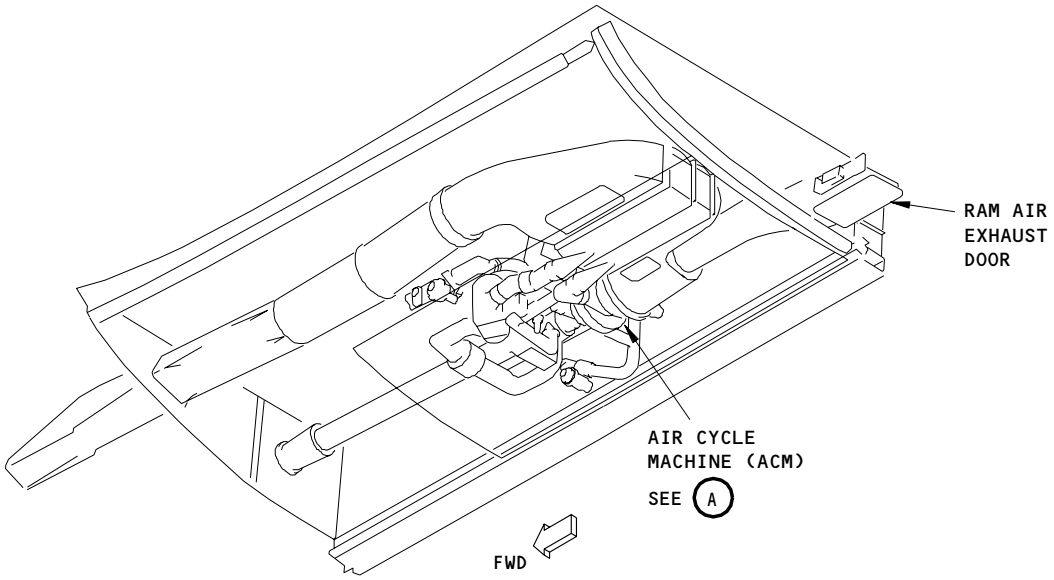
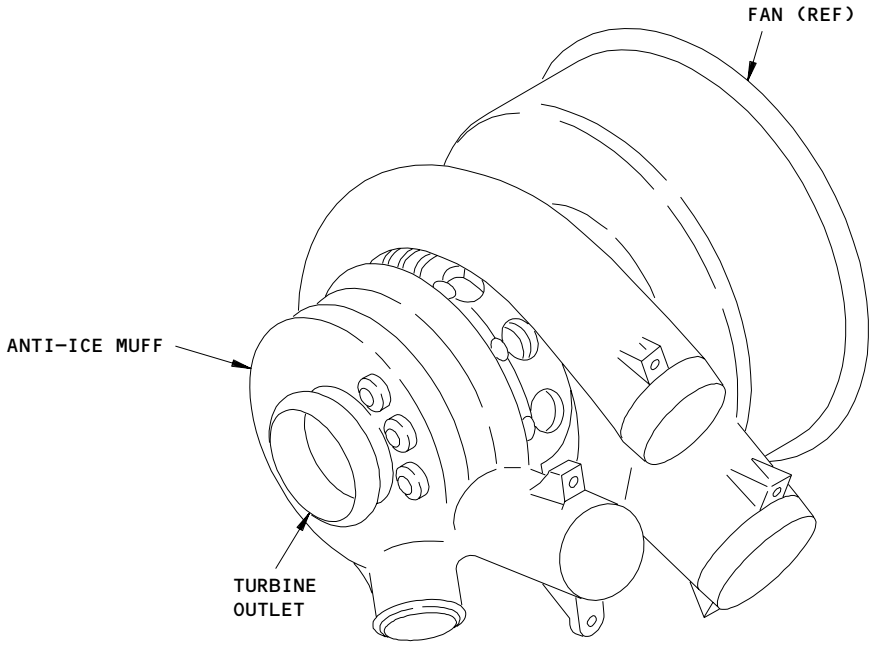


AIR CONDITIONING PACK



AIR CYCLE MACHINE (ACM)

A

INOP and PACK OFF Lights Illum in Auto, and Air Cycle Machine (ACM) Will Not Turn with APU On.
Figure 107B (Sheet 3)

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"PACK OFF" LIGHT EXTIN. & "PACK OFF" EICAS MSG NOT DISPLAYED WITH PACK SW IN "OFF"

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11A14,11A29

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

1 PUT L (R) PACK SELECTOR ON P5 PANEL TO "OFF".
PUSH "ECS/MSG" SWITCH ON EICAS PANEL AT P61, DO A CHECK OF THE VISUAL POSITION INDICATOR ON THE L (R) FLOW CONTROL VALVE.
DOES IT SHOW THAT THE FLOW CONTROL VALVE IS IN THE OPEN POSITION?

YES → 21 INTERCHANGE L (R) FLOW CONTROL CARDS, M863 (M864), IN P50 CARD FILE (AMM 21-51-09/201).
DOES THE PROBLEM CONTINUE?

NO → 41 REPLACE ORIGINAL L (R) FLOW CONTROL CARD, M863 (M864) (AMM 21-51-09/401).

YES → 22 REMOVE CONNECTOR D1928 (D1934) FROM SOLENOID B ON L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17) (WDM 21-51-11,-21).
POSITION PACK SELECTOR ON P5 TO "AUTO" OR "STBY" THEN TURN PACK SELECTOR BACK TO "OFF".
MEASURE THE VOLTAGE FROM PIN 1 TO PIN 3.
IS VOLTAGE GREATER THAN 20V AFTER 3 SECONDS?

YES → 42 REPLACE L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17)(AMM 21-51-01/201).

NO → 43 CONNECT D1928 (D1934) TO SOLENOID B.
REPLACE L (R) PACK SELECTOR, YBFS9 (YBFS10), ON AIR CONDITIONING CONTROL MODULE, M14 (WDM 21-51-11).

NO → 2 REMOVE CONNECTOR D1930 (D1936) FROM L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17), POSITION SWITCH (WDM 21-51-11).
DO A CONTINUITY CHECK FROM PIN 1 TO PIN 2.
IS THERE CONTINUITY?

NO → 44 REPLACE L (R) FLOW CONTROL AND SHUTOFF VALVE, V16 (V17)(AMM 21-51-01/201).

YES → 45 CONNECT D1930 (D1936) TO VALVE, V16 (V17), POSITION SWITCH.
REPLACE L (R) FLOW CONTROL CARD, M863 (M864) (AMM 21-51-09/401).

PACK OFF Light Extin. & PACK OFF EICAS Msg Not Displayed with PACK Sw in OFF
Figure 108

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PACK TEMPERATURE INDICATION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BULB - COMPRESSOR OUTLET TEMPERATURE 1				21-52-01
LEFT PACK, TS5089	1	1	193HL	
RIGHT PACK, TS5090		1	194ER	
BULB - PACK OUTLET TEMPERATURE				21-52-06
LEFT PACK, TS5002	1	1	193HL	
RIGHT PACK, TS5003		1	194ER	
BULB - PRIMARY HEAT EXCHANGER INLET (PACK INLET) TEMPERATURE 1				21-52-10
LEFT PACK, TS5085	1	1	193HL	
RIGHT PACK, TS5086		1	194ER	
BULB - PRIMARY HEAT EXCHANGER OUTLET 1				21-52-09
LEFT PACK, TS5087	1	1	193HL	
RIGHT PACK, TS5088		1	194ER	
BULB - SECONDARY HEAT EXCHANGER OUTLET 1				21-52-05
LEFT PACK, TS5091	1	1	193HL	
RIGHT PACK, TS5092		1	194ER	
BULB - TURBINE INLET TEMPERATURE 1				21-52-07
LEFT PACK, TS5263	1	1	193HL	
RIGHT PACK, TS5264		1	194ER	
CIRCUIT BREAKERS	3		FLT COMPT, P11 PANEL	
PACK FLOW IND, C709		1	11M17	*
PROCESSOR - PACK FLOW SENSOR SIGNAL, M916	3	1	119BL, MAIN EQUIP CTR, E4-2	21-52-04
SENSOR - PACK FLOW				21-52-03
LEFT PACK, TS285	2	1	193HL	
RIGHT PACK, TS286	2	1	194ER	

* SEE THE WDM EQUIPMENT LIST

1 GUI 001-099

Pack Temperature Indication - Component Index
Figure 101

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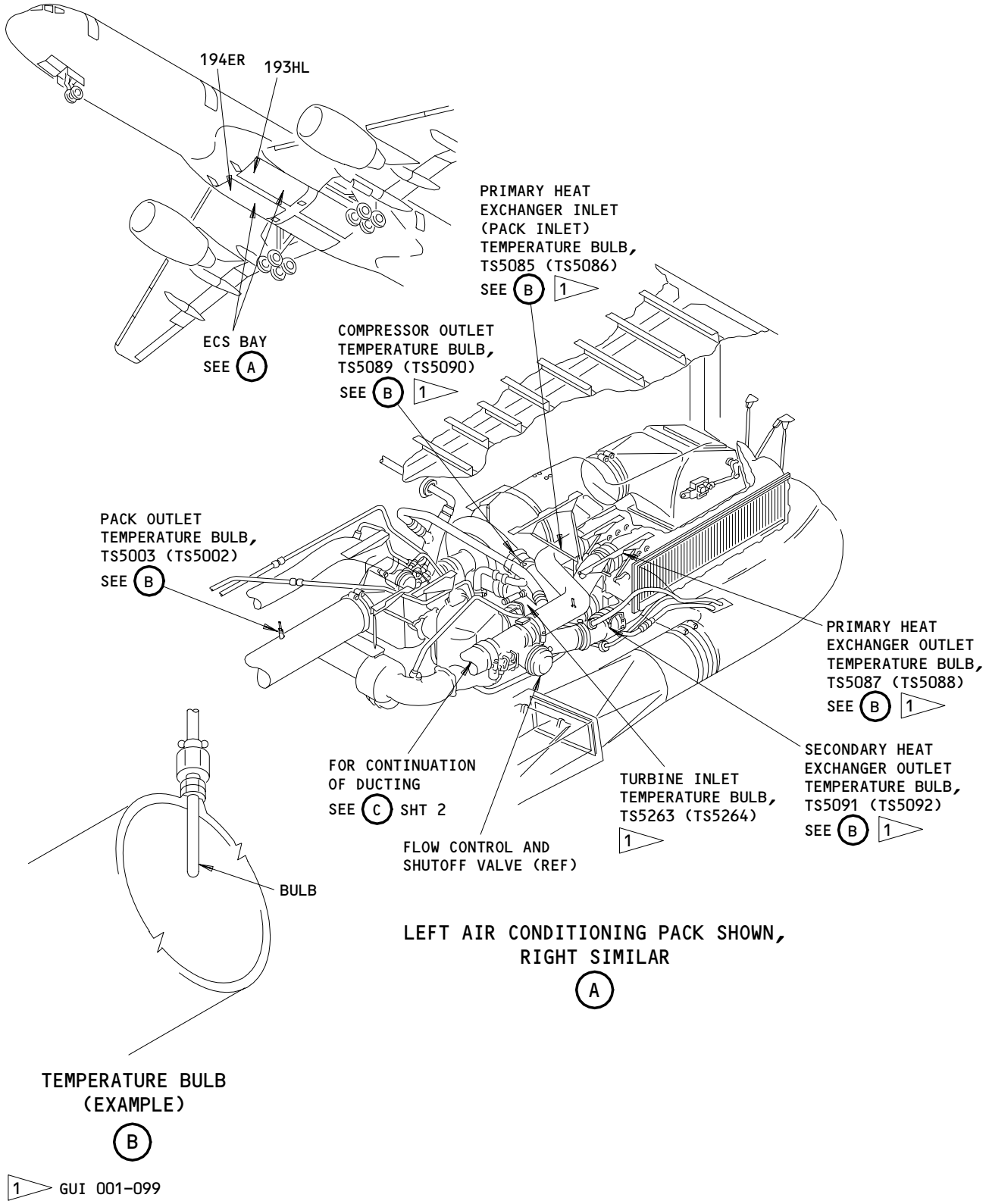

Pack Temperature Indication - Component Location
Figure 102 (Sheet 1)

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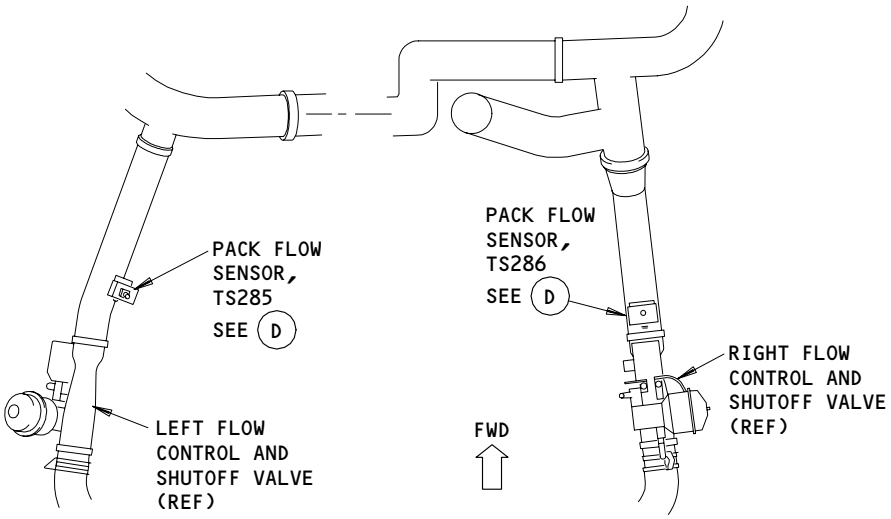

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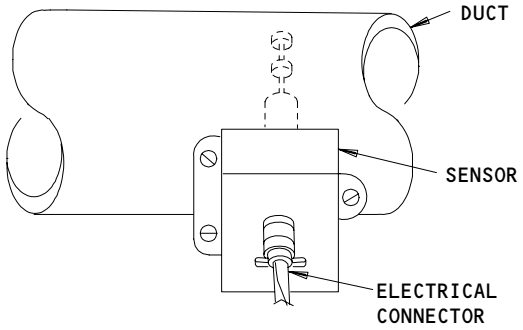

PACK FLOW SENSOR, TS285 (TS286)

D

Component Location
Figure 102 (Sheet 2)

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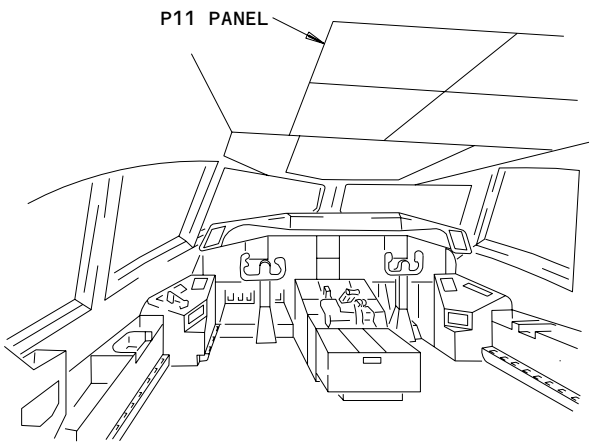
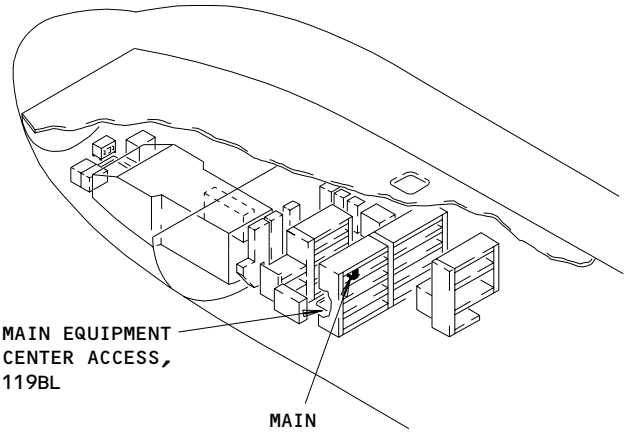
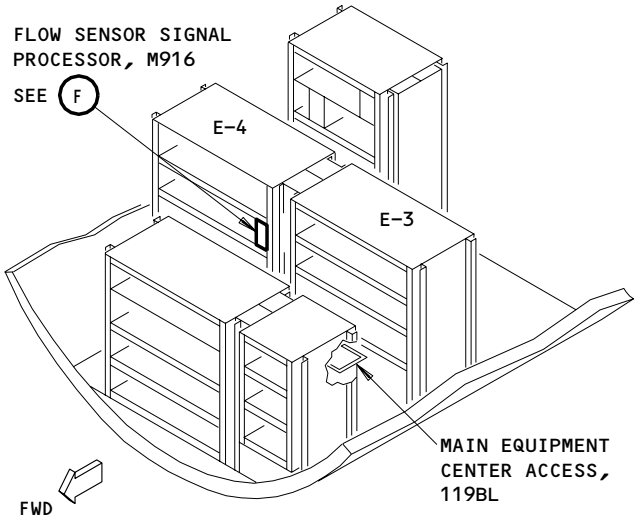


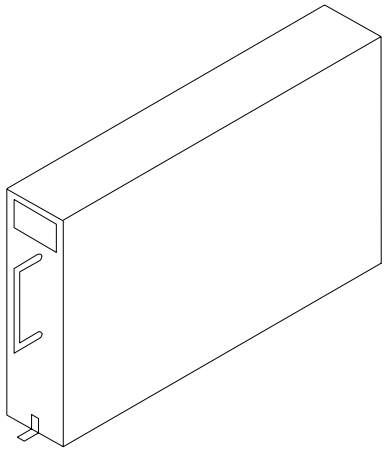
FLIGHT COMPARTMENT





MAIN EQUIPMENT CENTER

(E)



FLOW SENSOR SIGNAL PROCESSOR, M916

(F)

Component Location
Figure 102 (Sheet 3)

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RAM AIR SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR - RAM AIR EXHAUST DOOR	2	2	193HL,194ER	21-53-04
ACTUATOR - RAM AIR INLET DOOR	2	2	193BL,194BR	21-53-03
CARD - TEMPERATURE CONTROL, M10403,M10404	2	2	119BL,P50	21-53-06
DOOR - RAM AIR EXHAUST	1	2	193HL,194ER	21-53-02
DOOR - RAM AIR INLET	1	2	193HL,194ER	21-53-01
NOZZLE - WATER SPRAY	2	2	193HL,194ER	21-53-05

Ram Air System - Component Index
Figure 101

E07069
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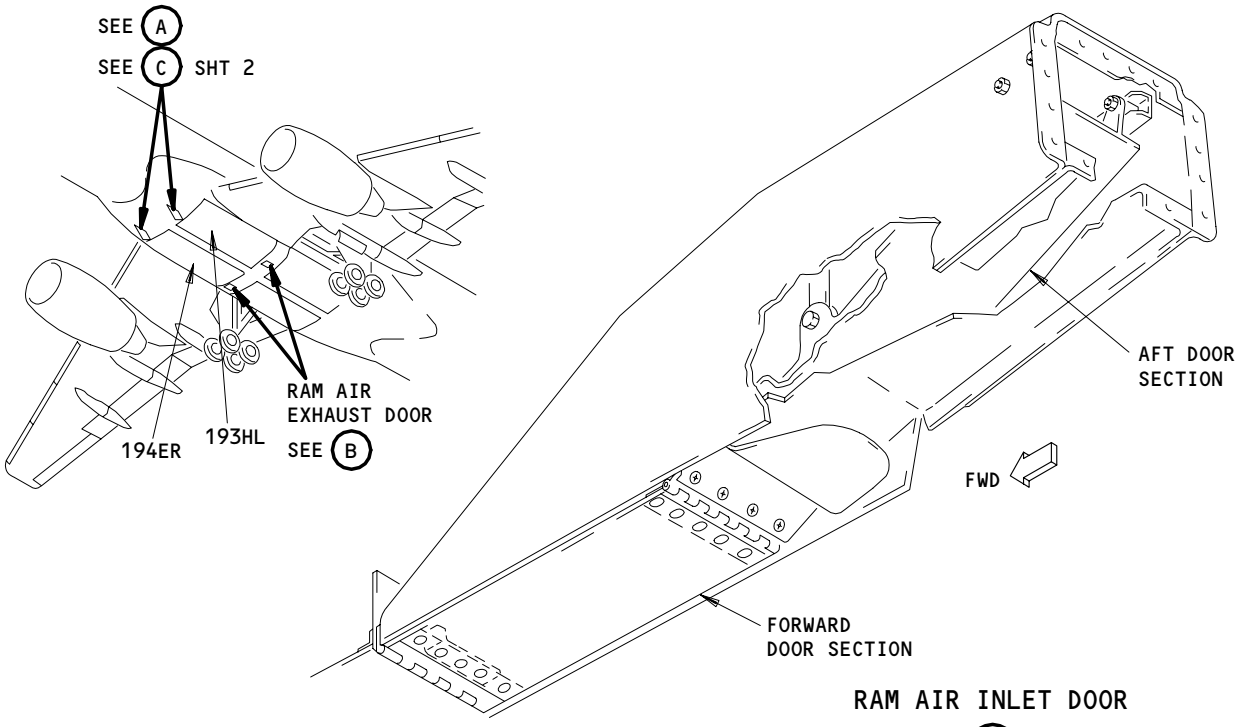
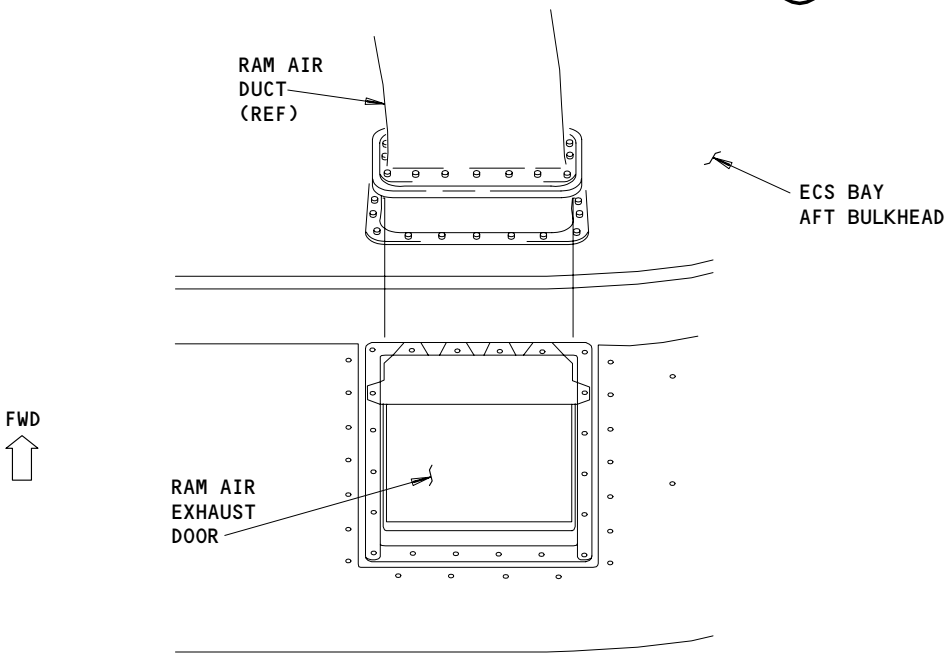


RAM AIR INLET DOOR

A



RAM AIR EXHAUST DOOR

B

Ram Air System - Component Location
Figure 102 (Sheet 1)

197667
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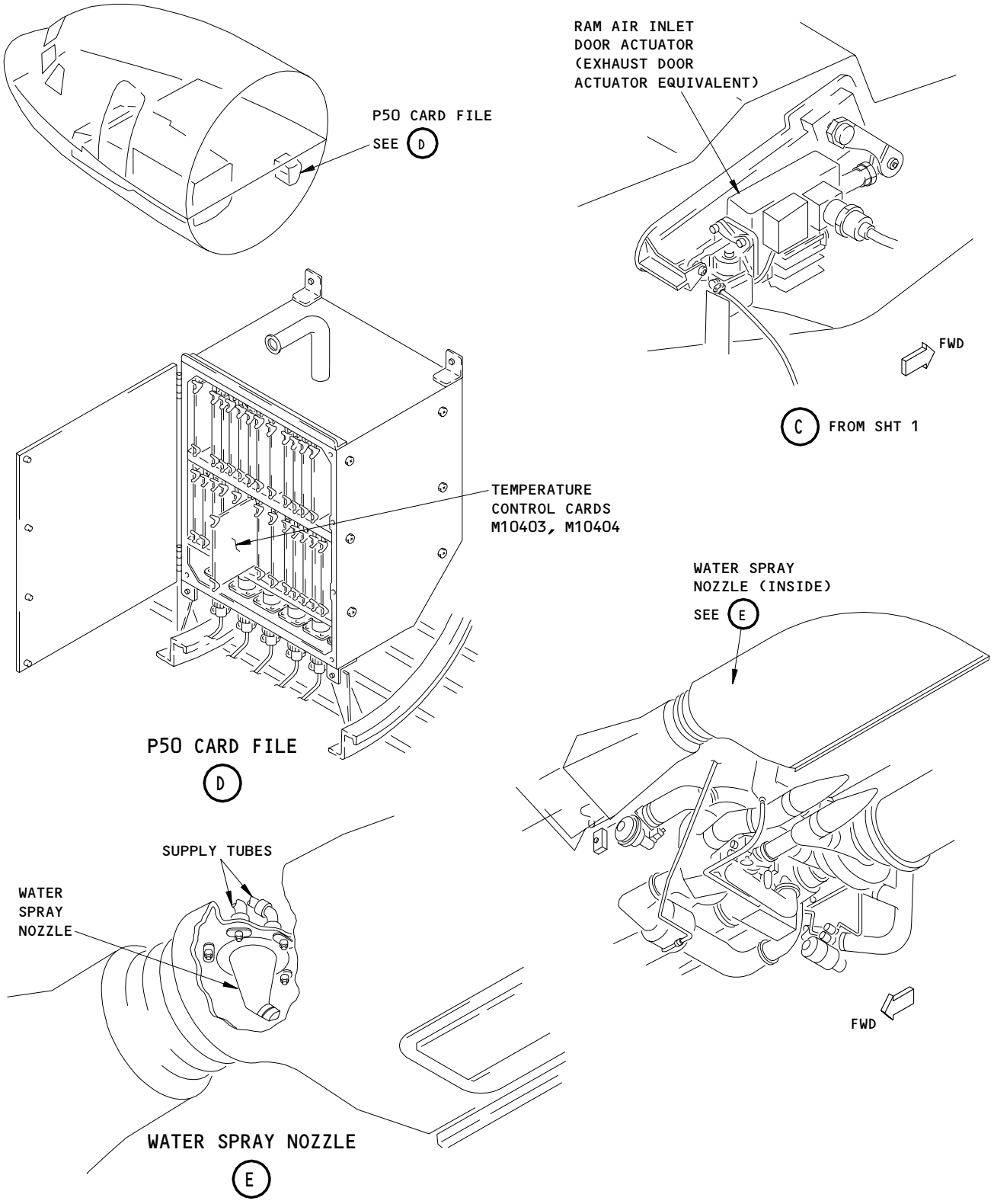

Ram Air System - Component Location
Figure 102 (Sheet 2)

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EQUIPMENT COOLING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P6	
EQPT COOL GND WARN AND TEST, C4070		1	6D6	*
EQUIP COOL SUPPLY FAN 1, C331		1	6F17	*
EQUIP COOL SUPPLY FAN 2, C332		1	6F23	*
EQUIP COOLING AUX FAN, C3044		1	6D17	*
CIRCUIT BREAKER –	1		FLT COMPT, P11	
EQUIP COOLING FAN CONT AFT EXH XFER, C705		1	11N11	*
EQUIP COOLING LOW FLOW DET, C4069		1	11N13	*
EQUIP COOLING SMOKE DET CONT, C4085		1	11C20	*
RECIRC CARGO FIRE CONT LEFT, C660		1	11P14	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P37	
AFT EQPT COOLING FAN EXH NO. 1, C333		1	37D5	*
AFT EQPT COOLING FAN SPLY NO. 1, C3029		1	37D2	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P70	
AFT EQPT COOLING FAN EXH NO. 2, C334		1	70B2	*
AFT EQPT COOLING FAN SPLY NO. 2, C3028		1	70B5	*
RECIRC FAN LEFT, C336		1	70C10	*
LEFT RECIRC FAN CONT, C4373		1	70B16	*
CLEANER – EQUIPMENT COOLING AIR, AFT	4	1	822, AFT CARGO COMPT	21-58-21
CLEANER – EQUIPMENT COOLING AIR, FWD	3	1	821, FWD CARGO COMPT	21-58-21
COMPUTER – (FIM 31-41-00/101)				
EICAS LEFT, M10181				
EICAS RIGHT, M10182				
DIODE – (FIM 31-01-36/101)				
R10044,R10096,R10171,R10172,R10173,R10174, R10180,R10181,R10204,R10218,R10221,R10223, R10227,R10230,R10235				
DIODE – (FIM 31-01-37/101)				
R10074,R10179,R10224,R10225,R10226				
FAN – AFT EQUIP COOLING SUPPLY 1, B10061	4	1	822, AFT CARGO COMPT	21-58-21
FAN – AFT EQUIP COOLING SUPPLY 2, B10062	4	1	822, AFT CARGO COMPT	21-58-10
FAN – AFT EQUIP/LAV/GALLEY VENT 1, B16	5	1	822, AFT CARGO COMPT	21-26-01
FAN – AFT EQUIP/LAV/GALLEY VENT 2, B15	5	1	822, AFT CARGO COMPT	21-26-01
FAN – EQUIP COOLING AUXILIARY, B10133	5	1	119BL, MAIN EQUIP CTR	21-58-22
FAN – FWD EQUIP COOLING SUPPLY 1, B10	3	1	821, FWD CARGO COMPT	21-58-06
FAN – FWD EQUIP COOLING SUPPLY 2, B11	3	1	821, FWD CARGO COMPT	21-58-06
FAN – LEFT RECIRCULATION AIR, B13	3	1	821, FWD CARGO COMPT	21-25-01
FILTER – LEFT RECIRCULATION AIR	4	2	821, FWD CARGO COMPT	21-25-02
LIGHT – SMOKE, YNML1	1	1	FLT COMPT, P5 EQUIP COOLING PANEL, M10067	*
MODULE – (FIM 27-51-00/101)				
FSEU3, M10333				
PANEL – AIR CONDITIONING CONTROL, M10193	1	1	FLT COMPT, P5	
PANEL – (FIM 26-22-00/101)				
APU/CARGO FIRE CONTROL, M10444				
PANEL – EQUIP COOLING, M10067	1	1	FLT COMPT, P5	
PANEL – (FIM 34-21-00/101)				
IRS MODE SEL, M59				
PANEL – MISC TEST, M10399	1	1	FLT COMPT, P61	
PANEL – (FIM 23-42-00/101)				
PILOT CALL, M51				

* SEE THE WDM EQUIPMENT LIST

Equipment Cooling – Component Index
Figure 101 (Sheet 1)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
RELAYS - (FIM 31-01-36/101)				
AFT EQUIP COOL SUPPLY FAN 1, K10323				
AFT EQUIP/LAV/GALLEY VENT FAN 1, K347				
AIR/GND SYS NO. 1, K124				
AIR/GND SYS NO. 1, K148				
ALTN MODE, K10506				
AUTO TEST, K10511				
EXHAUST SMOKE SENSING, K10509				
FWD EQUIP SUPPLY FAN 1, K343				
HORN, K10080				
OEV INHIBIT, K10167				
OVBD EXH VLV, K10442				
OVHT LT INHIBIT, K10507				
PWR XFR, K10079				
RECIRC OVERRIDE, K10497				
SUPPLY SMOKE SENSING, K369				
SUPPLY SMOKE SHUT DOWN, K10360				
RELAYS - (FIM 31-01-37/101)				
AFT EQUIP COOLING SUPPLY FAN 2, K10324				
AFT EQUIP EXH FAN 1, FAIL, K10322				
AFT EQUIP/LAV/GALLEY VENT FAN 2, K346				
AIR/GND SYS NO. 2, K201				
EQUIP COOL AUX FAN, K10569				
FWD CARGO FIRE, K10432				
FWD EQUIP COOLING SUPPLY FAN 2, K344				
LEFT ENG OUT NO. 3, K10339				
OEV OPEN IND, K10086				
RIGHT ENG OUT NO. 3, K10342				
RELAYS - (FIM 31-01-70/101)				
LEFT RECIRC FAN, K415				
SENSOR - AFT EQUIP COOLING LOW FLOW, TS5138	4	1	822, AFT CARGO COMPT	21-58-17
SENSOR - FWD EQUIP EXH LOW FLOW, TS5156 1	2	1	113AL, FWD ACCESS DOOR	21-58-17
SENSOR - FWD EQUIP EXH SMOKE, TS164	3	1	821, FWD CARGO COMPT	21-58-19
SENSOR - FWD EQUIP SUPPLY LOW FLOW, TS5155	2	1	113AL, FWD ACCESS DOOR	21-58-17
SENSOR - FWD EQUIP SUPPLY SMOKE 1, TS5267	3	1	821, FWD CARGO COMPT	21-58-19
SENSOR - FWD EQUIP SUPPLY SMOKE 2, TS5268	3	1	821, FWD CARGO COMPT	21-58-19
SWITCH - SMOKE/LOW FLOW TEST, YPHS9	1	1	FLT COMPT, P61, MISC TEST PNL, M10398	*
SWITCH/LIGHT - ALTERNATE COOLING/OVHT, YNMS1	1	1	FLT COMPT, P5, EQUIP COOLING PANEL, M10067	*
SWITCH/LIGHT - LEFT RECIRC FAN, YNRS1	1	1	FLT COMPT, P5, AIR CONDITIONING CONT PANEL, M10193	*
TIME DELAY - (FIM 31-01-36/101)				
OEV POWER RESET, M10689				
SMOKE AUTO TEST RESET, M10691				
SMOKE LIGHT, M10690				
TIME DELAY - (FIM 31-01-37/101)				
OEV DRIVE, M10688				
VALVE - (FIM 21-20-00/101)				
AFT EQUIP/LAV/GALLEY VENT CHECK				
VALVE - AFT SUPPLY FAN CHECK	4	2	822, AFT CARGO COMPT	21-58-02
VALVE - AUXILIARY FAN CHECK	5	1	119BL, MAIN EQUIP CTR	21-58-02
VALVE - FORWARD SUPPLY FAN CHECK	3	2	821, FWD CARGO COMPT	21-58-02
VALVE - (FIM 21-20-00/101)				
LEFT RECIRCULATION AIR CHECK				
VALVE - OVERBOARD EXHAUST, V95	3	1	821, FWD CARGO COMPT	21-58-05

* SEE THE WDM EQUIPMENT LIST

1 NOT INSTALLED ON ALL AIRPLANES

Equipment Cooling - Component Index
Figure 101 (Sheet 2)

K78496

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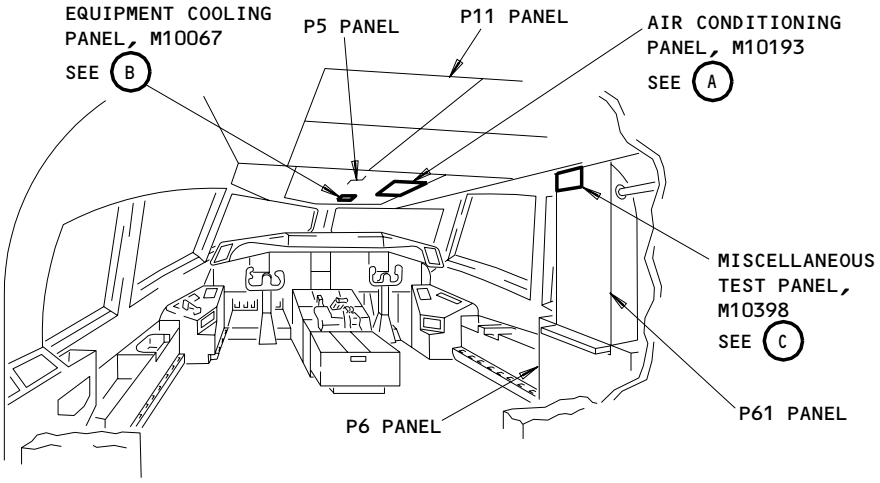
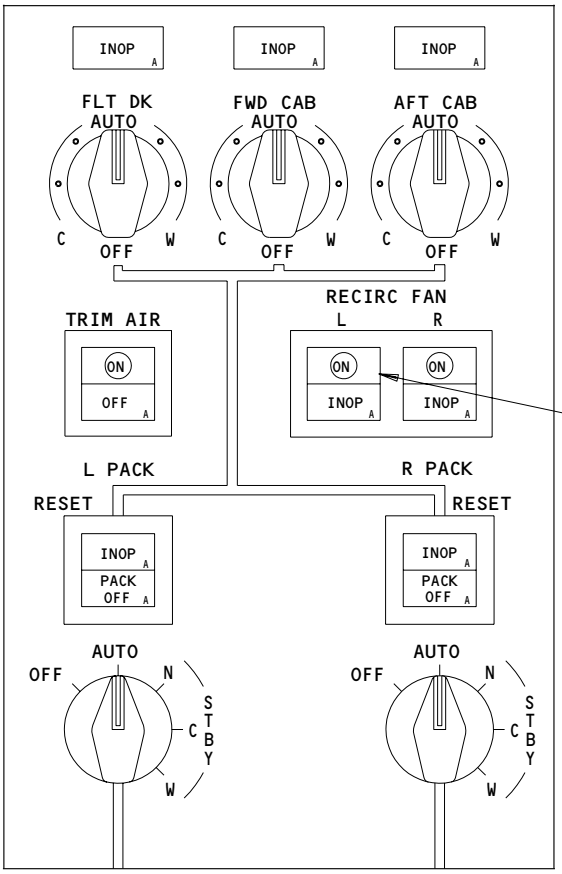
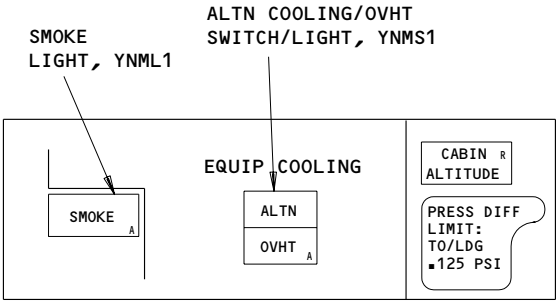


FLIGHT COMPARTMENT



AIR CONDITIONING PANEL, M10193

C

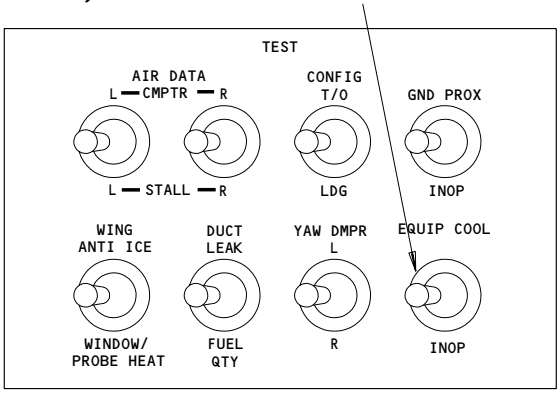


EQUIPMENT COOLING PANEL, M10067

B

LEFT RECIRCULATION FAN SWITCH/LIGHT, YNRS1

SMOKE/LOW FLOW TEST SWITCH, YPHS9



MISCELLANEOUS TEST PANEL, M10398

C

Equipment Cooling - Component Location
Figure 102 (Sheet 1)

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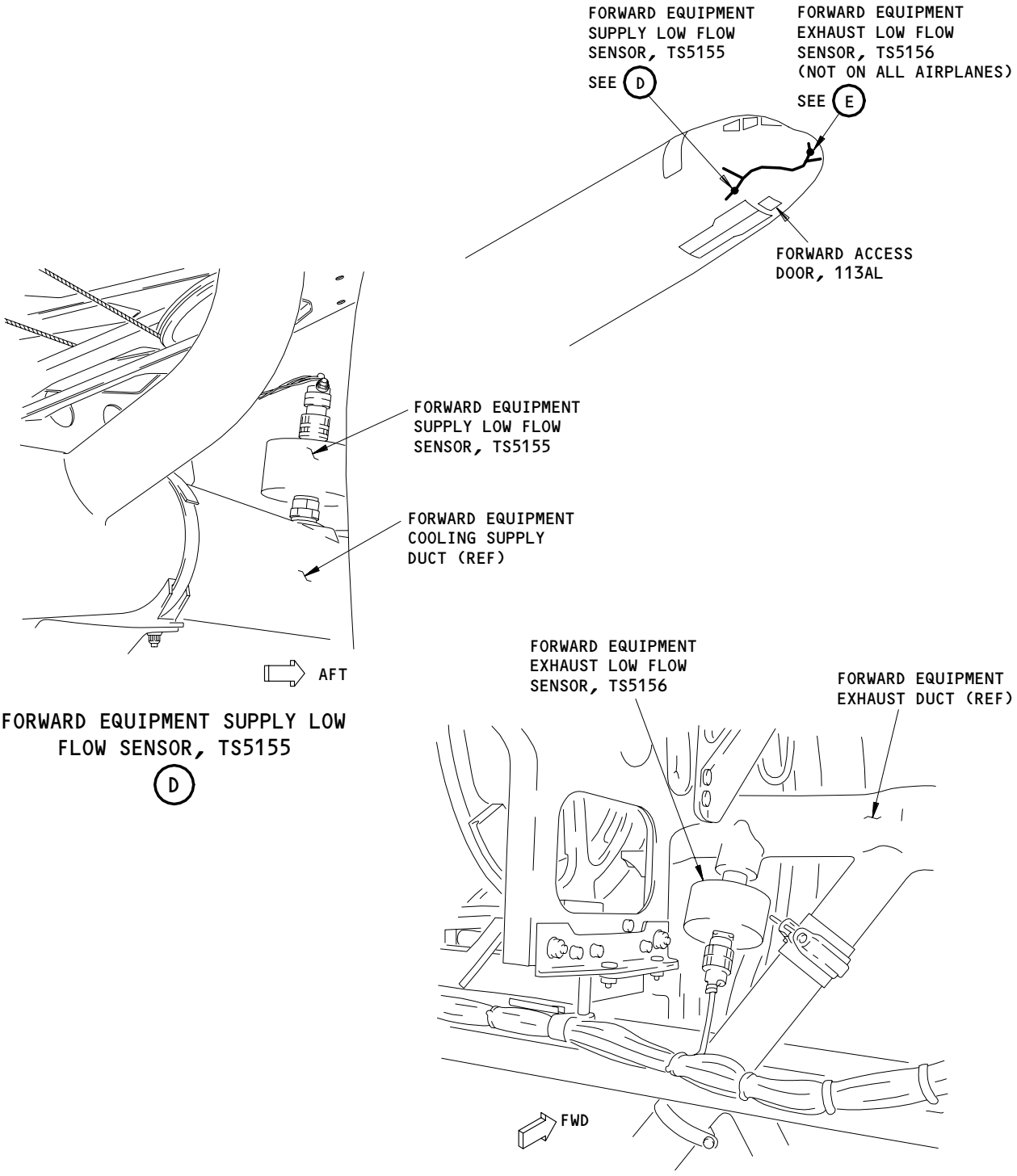

Equipment Cooling - Component Location
Figure 102 (Sheet 2)

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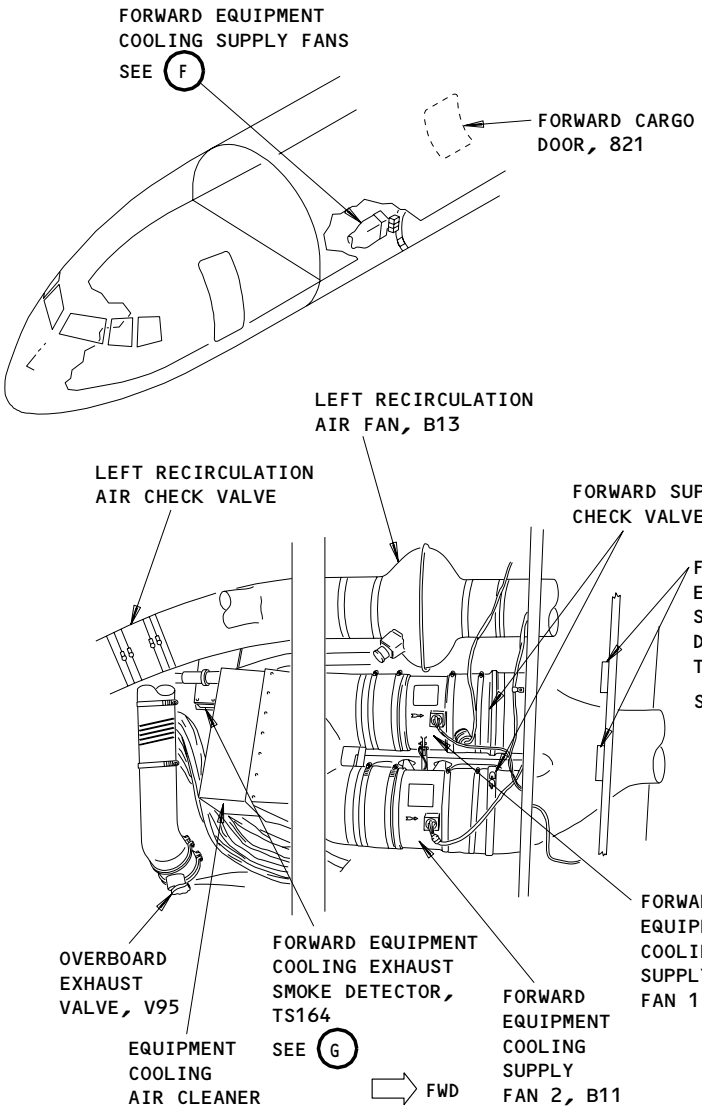
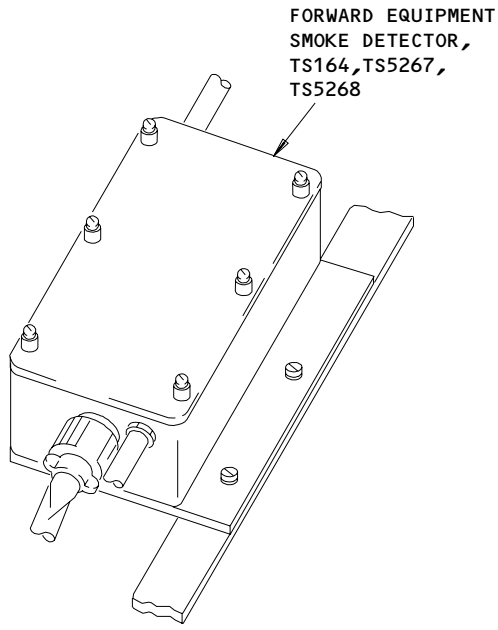


FORWARD EQUIPMENT COOLING SUPPLY FANS

F



FORWARD EQUIPMENT COOLING SMOKE DETECTOR
(EXAMPLE)

G

Equipment Cooling - Component Location
Figure 102 (Sheet 3)

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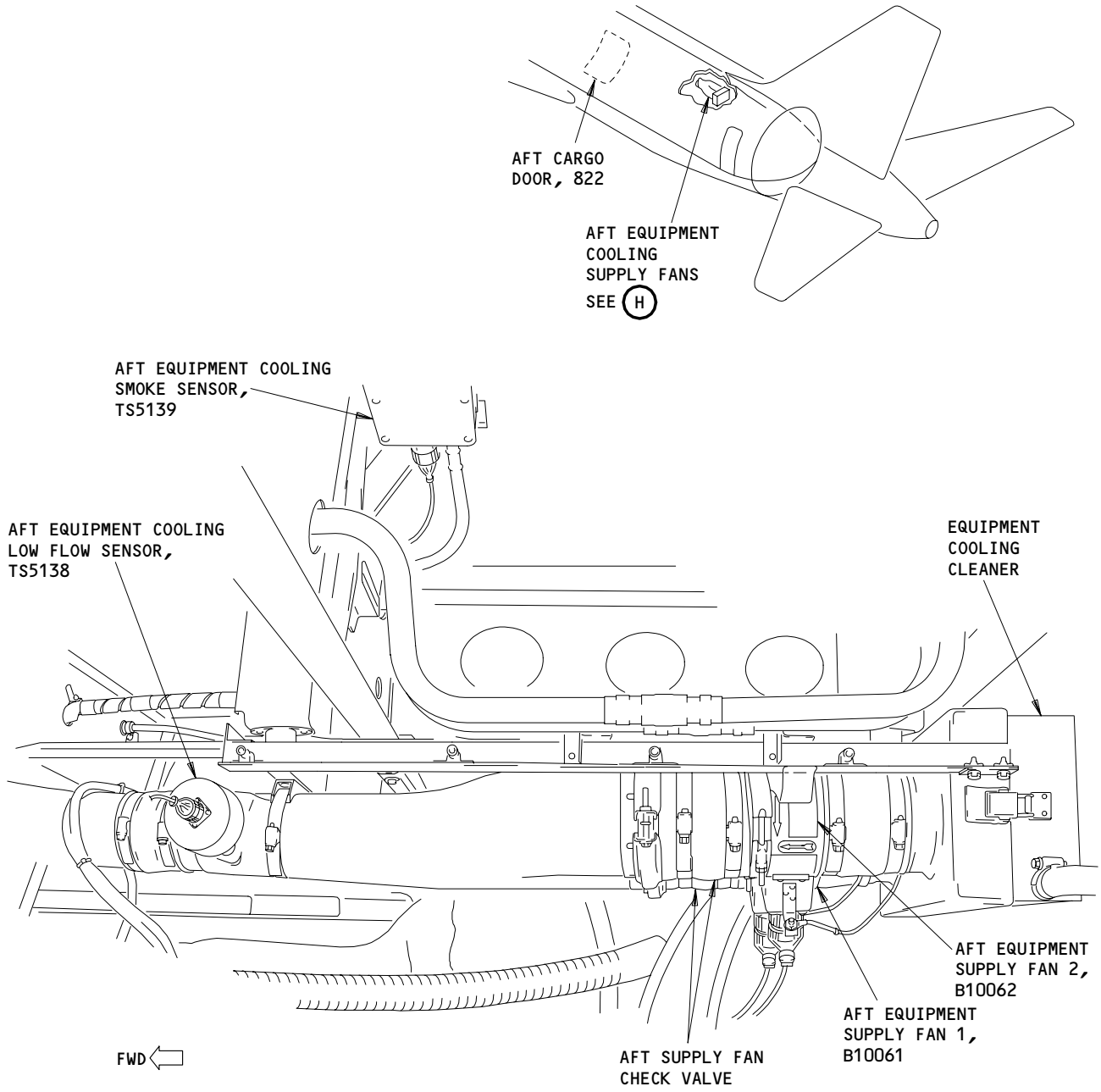

AFT EQUIPMENT COOLING SUPPLY FANS
H

Equipment Cooling – Component Location
Figure 102 (Sheet 4)

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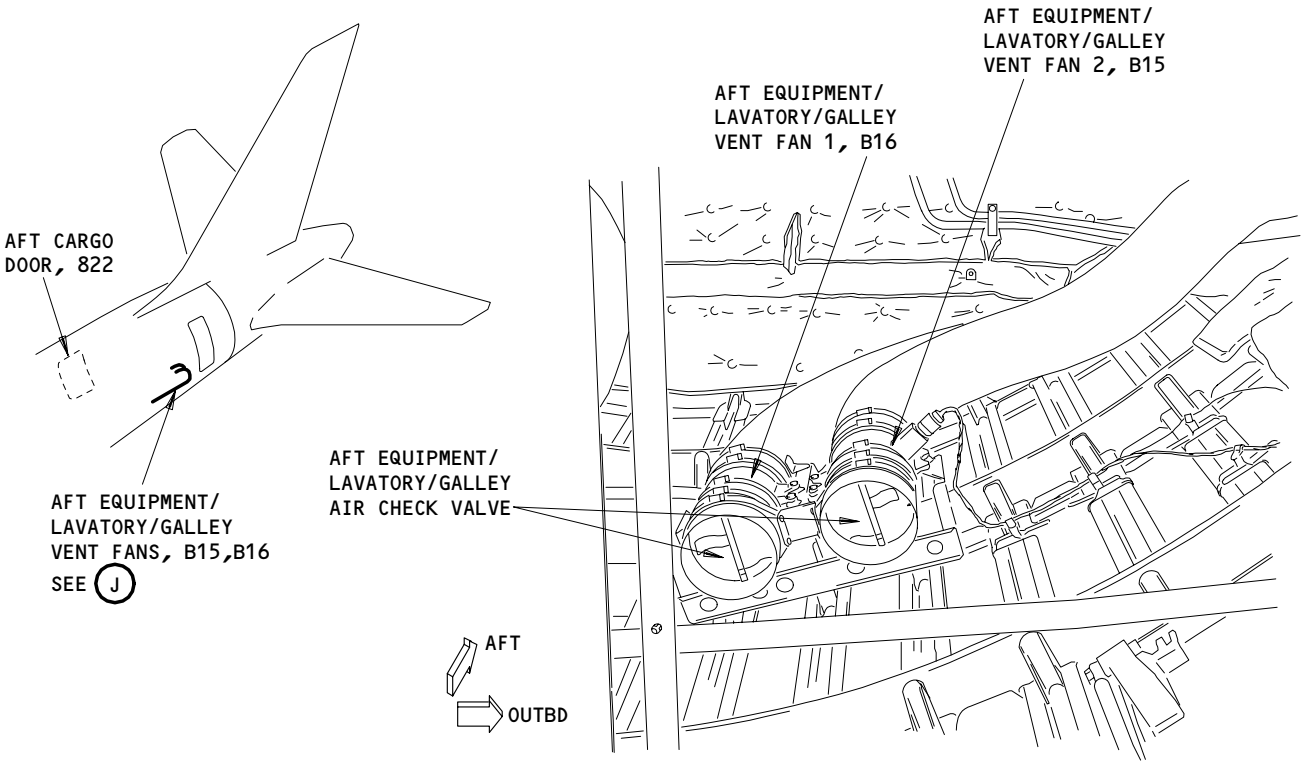
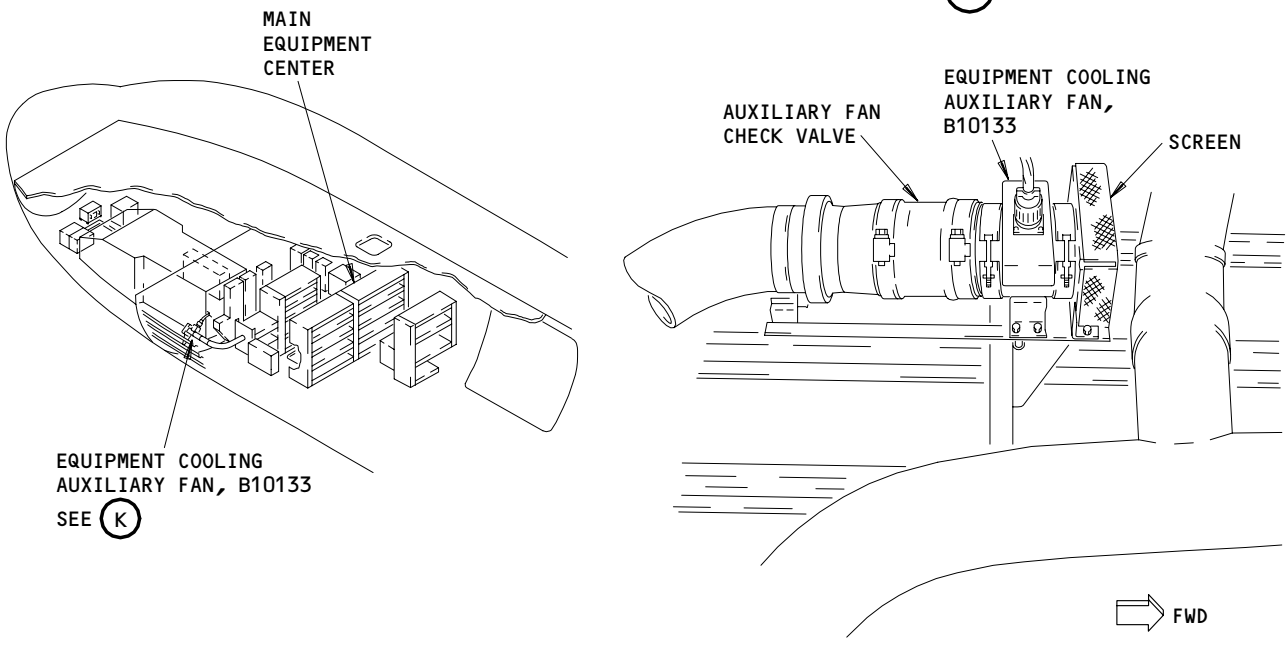


AFT EQUIPMENT/LAVATORY/GALLEY VENT FANS

J



EQUIPMENT COOLING AUXILIARY FAN

K

Equipment Cooling - Component Location
Figure 102 (Sheet 5)

290779

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT EXH DET" DISPLAYED

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "EQPT CLG TEST" EICAS MESSAGE SHOW?

NO → 20 CLEAN THE FORWARD EQUIPMENT EXHAUST SMOKE DETECTOR, TS164 (AMM 21-58-19/201).
IF THE PROBLEM CONTINUES, REPLACE THE LAMP ON THE FORWARD EQUIPMENT EXHAUST SMOKE DETECTOR, TS164 (AMM 21-58-19/201).
IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT EXHAUST SMOKE DETECTOR, TS164 (AMM 21-58-19/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLE-SHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT EXH DET" DOES NOT SHOW.

EICAS Msg FWD EQPT EXH DET Displayed
Figure 103

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQ SUP SNSR" DISPLAYED

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "EQPT CLG TEST" EICAS MESSAGE SHOW?

NO → 20 REPLACE THE FORWARD EQUIPMENT SUPPLY LOW FLOW SENSOR, TS5155 (AMM 21-58-17/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP SNSR" DOES NOT SHOW.

EICAS Msg FWD EQ SUP SNSR Displayed
Figure 104

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

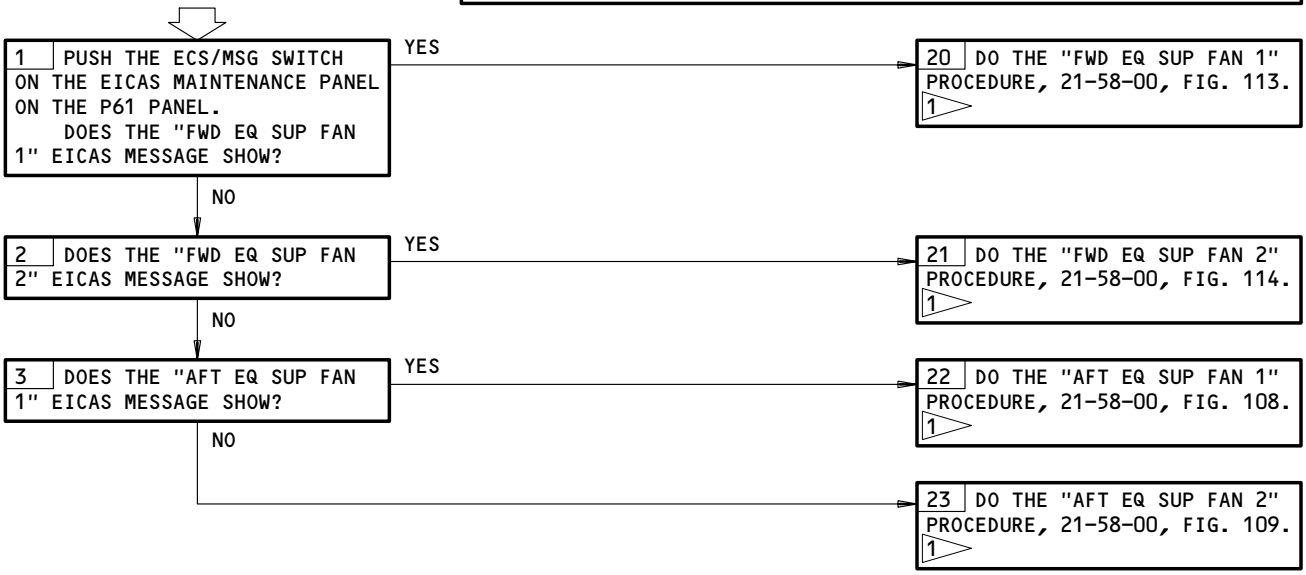
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,37D2,70B5

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

EICAS MSG "EQPT CLG FAN" DISPLAYED



1 MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG FAN" DOES NOT SHOW.

EICAS Msg EQPT CLG FAN Displayed
Figure 105

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "AFT EQ SNSR" DISPLAYED

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61. DOES THE "EQPT CLG TEST" EICAS MESSAGE SHOW?

NO → 20 REPLACE THE AFT EQUIPMENT LOW FLOW SENSOR, TS5138 (AMM 21-58-17/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLE-SHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "AFT EQ SNSR" DOES NOT SHOW.

EICAS Msg AFT EQ SNSR Displayed
Figure 106

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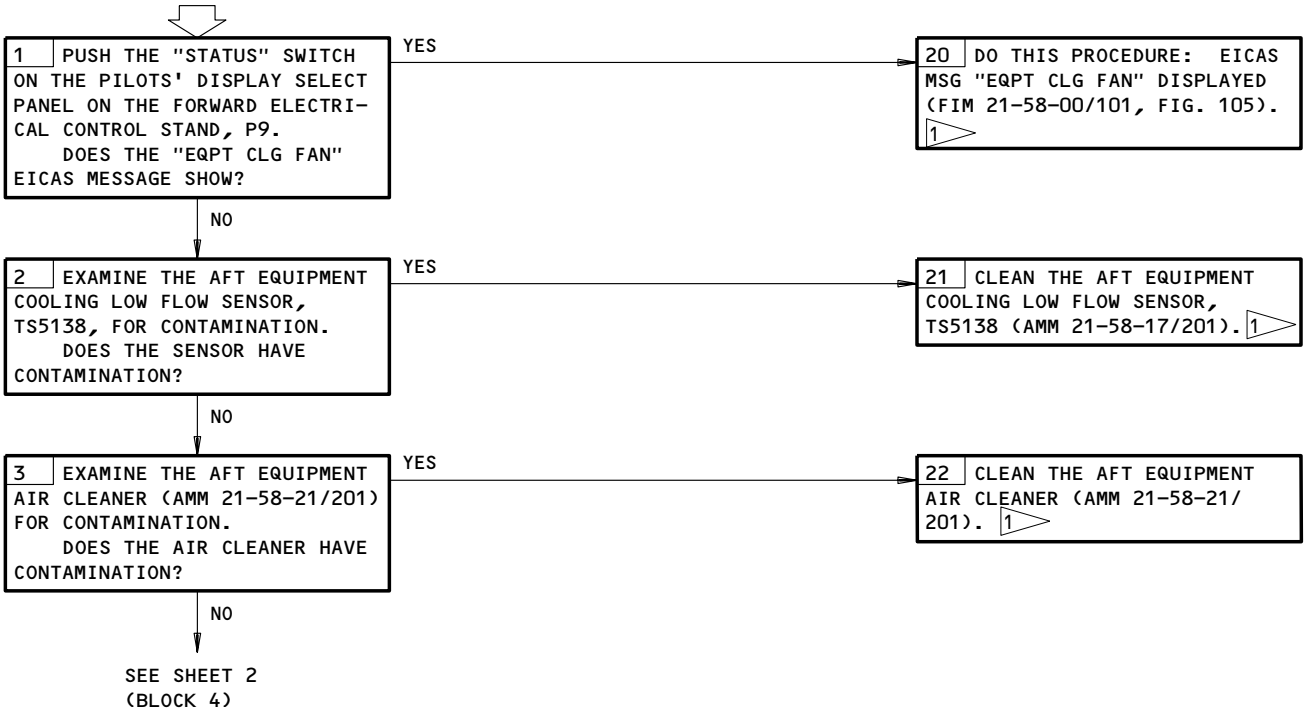
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11N13,37D2,7OB5

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

EICAS MSG "AFT EQ FLOW" DISPLAYED



1 MAKE SURE THAT THE EICAS MESSAGE "AFT EQ FLOW" DOES NOT SHOW.

EICAS Msg AFT EQ FLOW Displayed
Figure 107 (Sheet 1)

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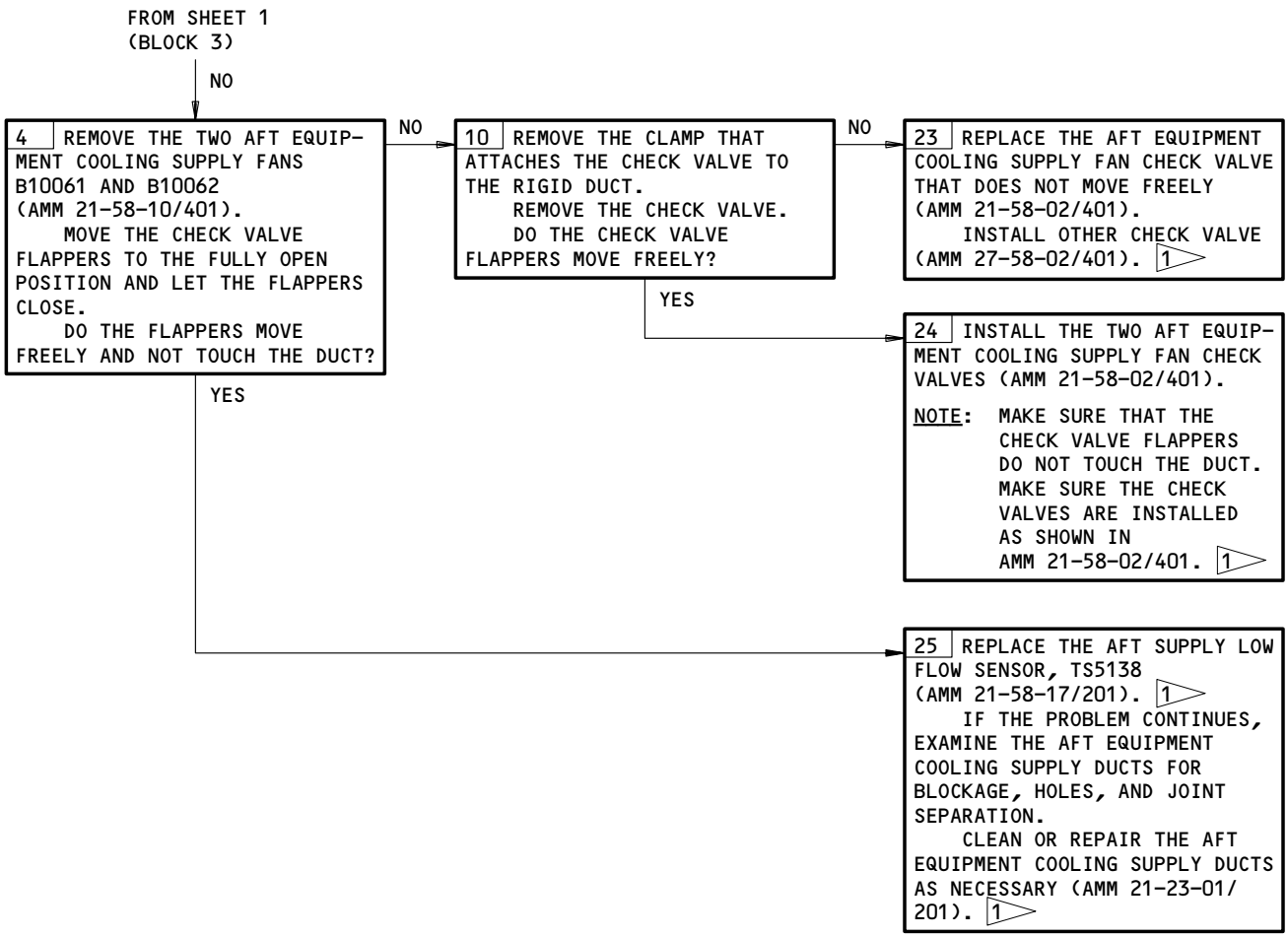

EICAS Msg AFT EQ FLOW Displayed
Figure 107 (Sheet 2)

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11C20,37D2,70B5

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

EICAS MSG "AFT EQ SUP FAN 1" DISPLAYED

1 MAKE SURE THAT THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IS IN THE OUT POSITION.
DISCONNECT CONNECTOR D4216 FROM THE AFT SUPPLY FAN 1, B10061.
INSTALL A JUMPER BETWEEN PIN 5 AND PIN 6 ON CONNECTOR D4216.
IS THERE 115V AC BETWEEN PINS 1,2,3 AND PIN 7 OF CONNECTOR D4216 (WDM 21-58-24)?

YES → 20 REPLACE THE AFT SUPPLY FAN 1, B10061 (AMM 21-58-10/401).
DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). 1

NO → 21 REMOVE THE JUMPER FROM PINS 5 AND 6 OF CONNECTOR D4216.
INSTALL CONNECTOR D4216 TO THE FAN 1, B10061.
REPLACE THE AFT EQUIPMENT SUPPLY FAN 1 RELAY, K10324, IN THE P37 PANEL (WDM 21-58-24).
DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). WITH THE "EQUIPMENT COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE OUT POSITION ("ALTN" LIGHT OFF), MAKE SURE THAT THE EICAS MESSAGE "AFT EQ SUP FAN 1" DOES NOT SHOW.

EICAS Msg AFT EQ SUP FAN 1 Displayed
Figure 108

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,11C20

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

EICAS MSG "AFT EQ SUP FAN 2" DISPLAYED

1 PUSH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ALTN" POSITION.
PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL.
DOES THE "AFT EQ SUP FAN 1" EICAS MESSAGE SHOW?

YES → 20 REPLACE THE ALTN MODE RELAY, K10506, IN THE P36 PANEL (WDM 21-58-24). 1

NO

2 REMOVE CONNECTOR D4214 FROM THE AFT SUPPLY FAN 2, B10062.
INSTALL A JUMPER BETWEEN PIN 5 AND PIN 6 ON THE CONNECTOR D4214.
IS THERE 115V AC BETWEEN PINS 1,2,3 AND PIN 7 OF THE CONNECTOR D4214 (WDM 21-58-24)?

YES → 21 REPLACE THE AFT SUPPLY FAN 2, B10062 (AMM 21-58-10/401). 1

NO

3 REMOVE THE JUMPER FROM PIN 6 OF CONNECTOR D4214 AND CONNECT IT TO A GROUND.
IS THERE 115V AC BETWEEN PINS 1,2,3 AND PIN 7 OF CONNECTOR D4214?

NO → 22 REMOVE THE JUMPER FROM PIN 5 OF CONNECTOR D4214.
INSTALL CONNECTOR D4214 TO THE FAN 2, B10062.
REPLACE THE AFT EQUIPMENT SUPPLY FAN 2 RELAY, K10323, IN THE P36 PANEL (WDM 21-58-24). 1

YES → 23 REMOVE THE JUMPER FROM PIN 5 OF CONNECTOR D4214.
INSTALL CONNECTOR D4214 TO THE FAN 2, B10062.
REPLACE THE AFT EQUIPMENT SUPPLY FAN 1 RELAY, K10324, IN THE P37 PANEL (WDM 21-58-24). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLE-SHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). WITH THE "EQUIPMENT COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE "ALTN" POSITION, MAKE SURE THAT THE EICAS MESSAGE "AFT EQ SUP FAN 2" DOES NOT SHOW.

EICAS Msg AFT EQ SUP FAN 2 Displayed
Figure 109

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,11N13

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

EICAS MSG "FWD EQ SUP FLOW" DISPLAYED

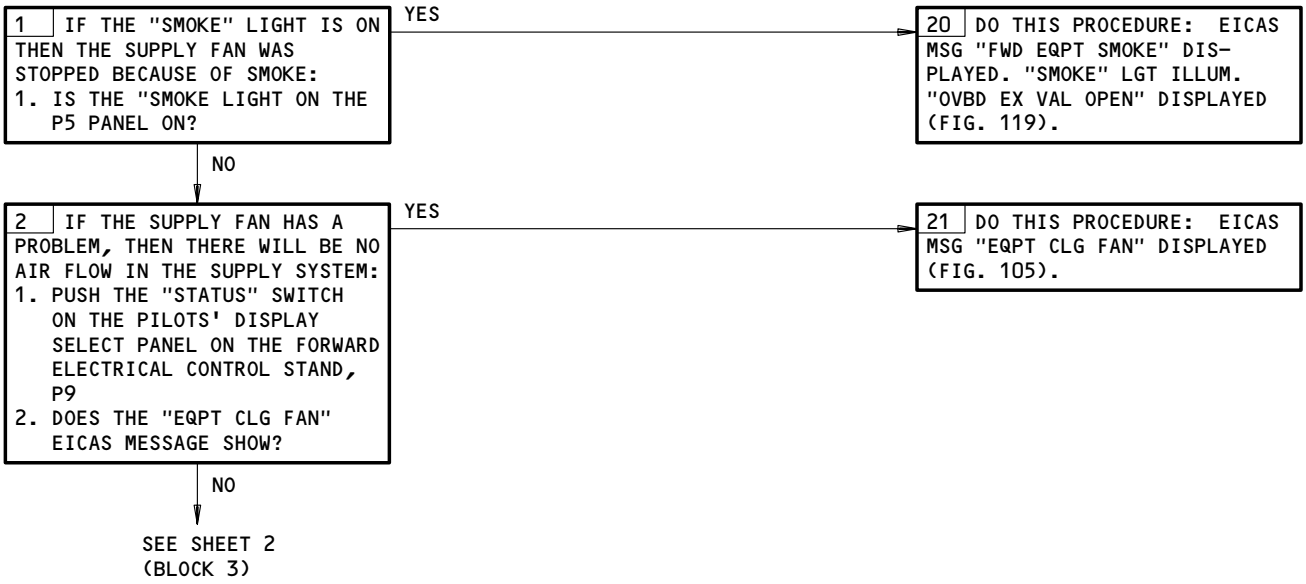
DESCRIPTION:

THE LOW FLOW SENSOR FOUND A LOW FLOW CONDITION IN THE FORWARD EQUIPMENT COOLING SUPPLY SYSTEM.

POSSIBLE CAUSES:

1. THE SMOKE DETECTORS IN THE FORWARD EQUIPMENT COOLING SUPPLY SYSTEM FOUND SMOKE, AND STOPPED THE EQUIPMENT COOLING SUPPLY FAN.
2. THE SUPPLY FAN HAS A PROBLEM
3. THE LOW FLOW SENSOR HAS CONTAMINATION OR HAS A PROBLEM
4. THE SUPPLY AIR CLEANER HAS CONTAMINATION
5. A FORWARD EQUIPMENT COOLING SUPPLY DUCT IS BROKEN OR BLOCKED.

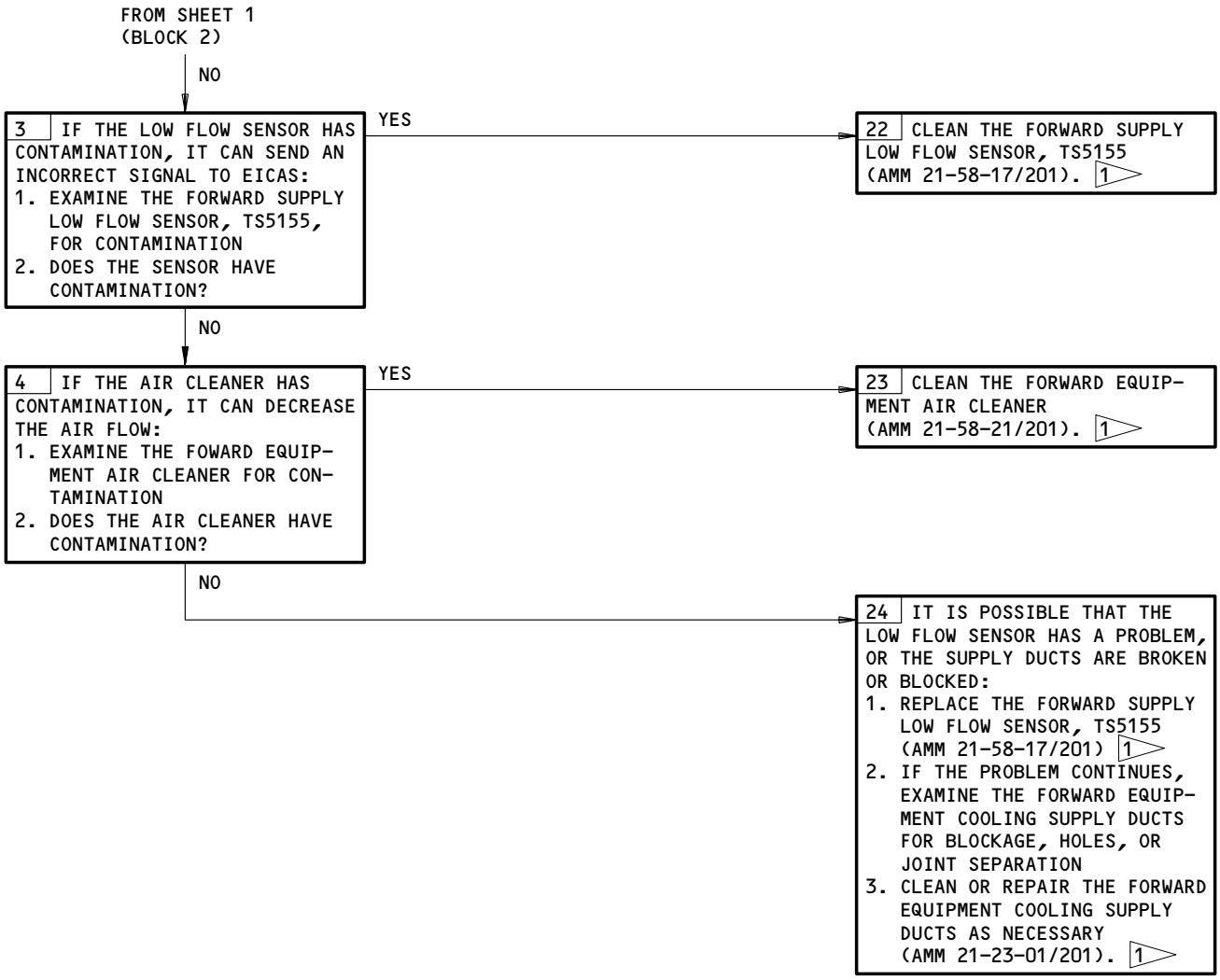
FAULT ISOLATION:



1 MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FLOW" DOES NOT SHOW.

EICAS Msg FWD EQ SUP FLOW Displayed
Figure 110 (Sheet 1)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



EICAS Msg FWD EQ SUP FLOW Displayed
Figure 110 (Sheet 2)

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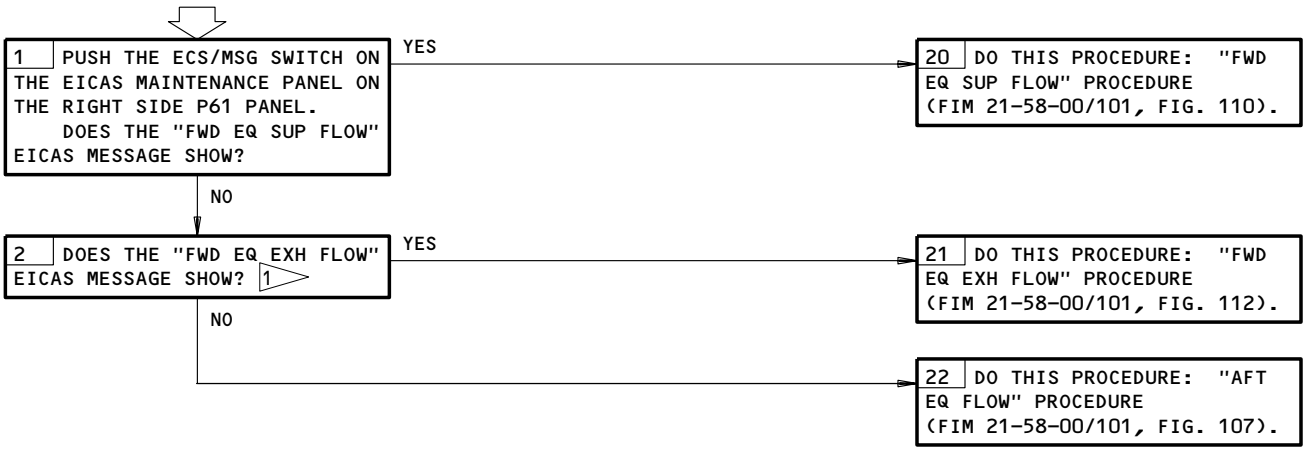
EICAS MSG "EQPT OVHT" DISPLAYED. "OVHT" LGT ILLUM. "OVHT" LGT REMAINED ILLUM WHEN "ALTN" SELECTED. EICAS MSGS "EQPT CLG FAN" AND "OVBD EX VAL OPEN" NOT DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F17, 6F23, 11C20, 11N11, 11N13, 11P14, 37D2, 70B5, 70C10

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



1 AIRPLANES PRE-SB 21-64

EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. OVHT Lgt Retained Illum When ALTN Selected. EICAS Msgs EQPT CLG FAN and OVBD EX VAL OPEN Not Displayed.
Figure 111

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11N13, 11P14, 70C10

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

EICAS MSG "FWD EQ EXH FLOW" DISPLAYED [2]

DESCRIPTION:

THE LOW FLOW SENSOR FOUND UNSATISFACTORY AIR FLOW IN THE FORWARD EQUIPMENT COOLING EXHAUST SYSTEM.

POSSIBLE CAUSES:

1. THE LEFT RECIRCULATION FAN IS SET TO THE "OFF" POSITION
2. THE LEFT RECIRCULATION FAN HAS A PROBLEM
3. THE LOW FLOW SENSOR HAS CONTAMINATION OR HAS A PROBLEM
4. THE LEFT RECIRCULATION FILTER HAS CONTAMINATION
5. A FORWARD EQUIPMENT COOLING EXHAUST DUCT IS BROKEN OR BLOCKED.

FAULT ISOLATION:

1 IF THE LEFT RECIRCULATION FAN IS SET TO "OFF" OR DOES NOT OPERATE, THERE WILL BE NO AIRFLOW IN THE EXHAUST SYSTEM:
1. PUSH THE "L RECIRC FAN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ON" POSITION.
2. DOES THE "L RECIRC FAN INOP" LIGHT GO OFF?

NO → 40 DO THIS PROCEDURE: RECIRC FAN "INOP" LIGHT ON, "L RECIRC FAN" EICAS MESSAGE DISPLAYED WITH RECIRC FAN SWITCH/LIGHT ON (FIM 21-20-00/101, FIG. 104).

YES

SEE SHEET 2
(BLOCK 2)

[1] MAKE SURE THAT THE EICAS MESSAGE "FWD EQ EXH FLOW" DOES NOT SHOW.

[2] AIRPLANES PRE-SB 21-61

EICAS Msg FWD EQ EXH FLOW Displayed
Figure 112 (Sheet 1)

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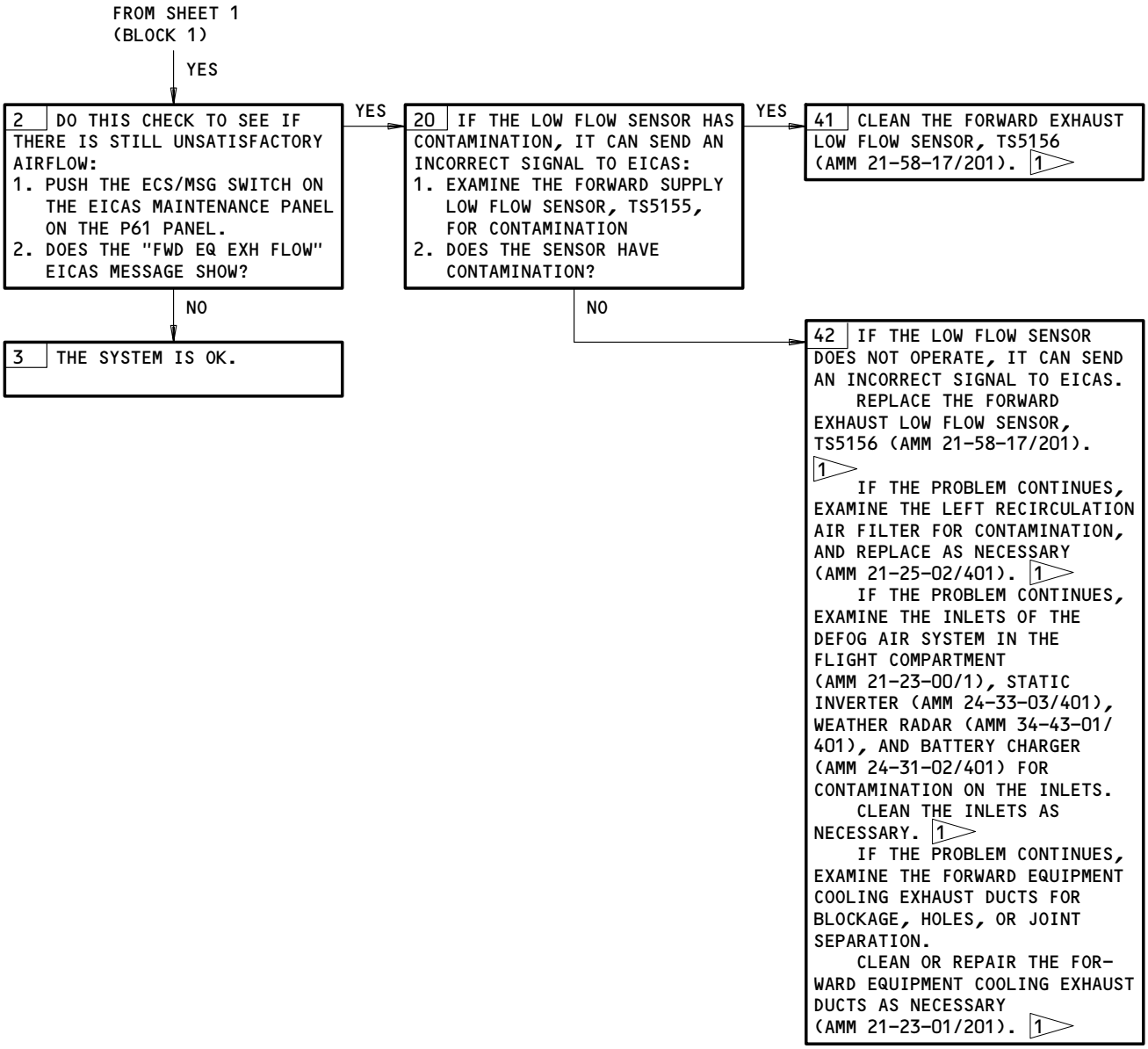

EICAS Msg FWD EQ EXH FLOW Displayed
Figure 112 (Sheet 2)

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EICAS MSG "FWD EQ SUP FAN 1" DISPLAYED

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,11C20

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

DESCRIPTION:

THE FORWARD EQUIPMENT SUPPLY FAN 1 WILL NOT OPERATE AND SMOKE IS NOT PRESENT.

POSSIBLE CAUSES:

1. THE SUPPLY FAN HAS A PROBLEM
2. THERE IS A PROBLEM IN THE FAN CONTROL SYSTEM
3. THERE IS A PROBLEM IN THE SMOKE DETECTION SYSTEM.

FAULT ISOLATION:

1 IF TWO FANS WILL NOT OPERATE, THEN THE PROBLEM IS IN THE FAN CONTROL SYSTEM. DO THESE STEPS TO SEE IF THE TWO FANS WILL NOT OPERATE:
1. PUSH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ALTN" POSITION
2. PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL.

DOES "FWD EQ SUP FAN 2" SHOW?

YES → 20 REPLACE THE ALTERNATE MODE RELAY, K10506, IN THE P36 PANEL (WDM 21-58-13). 1

NO → SEE SHEET 2 (BLOCK 2)

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). WITH THE "EQUIPMENT COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE USUAL POSITION, MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FAN 1" DOES NOT SHOW.

EICAS Msg FWD EQ SUP FAN 1 Displayed
Figure 113 (Sheet 1)

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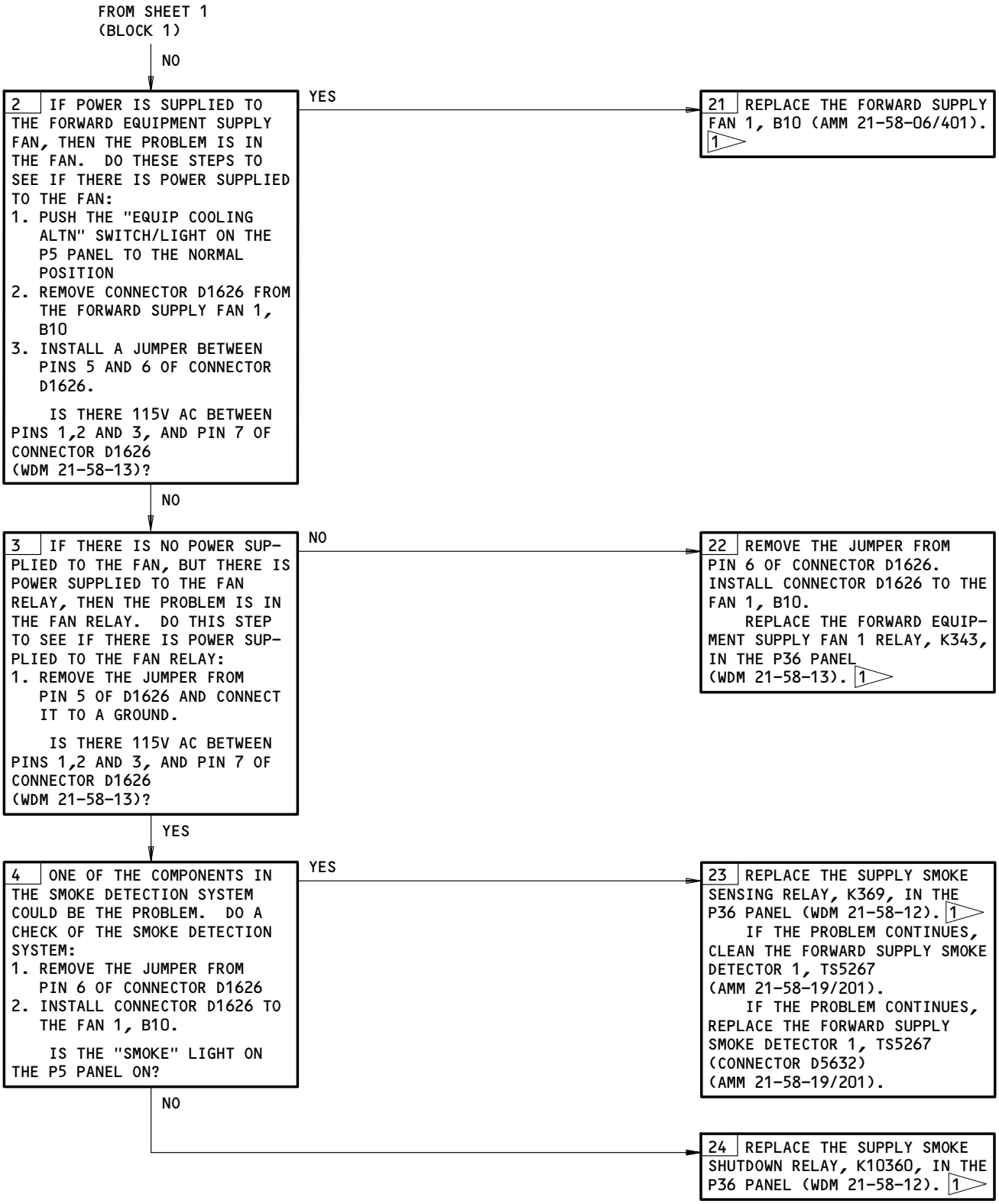

EICAS Msg FWD EQ SUP FAN 1 Displayed
Figure 113 (Sheet 2)

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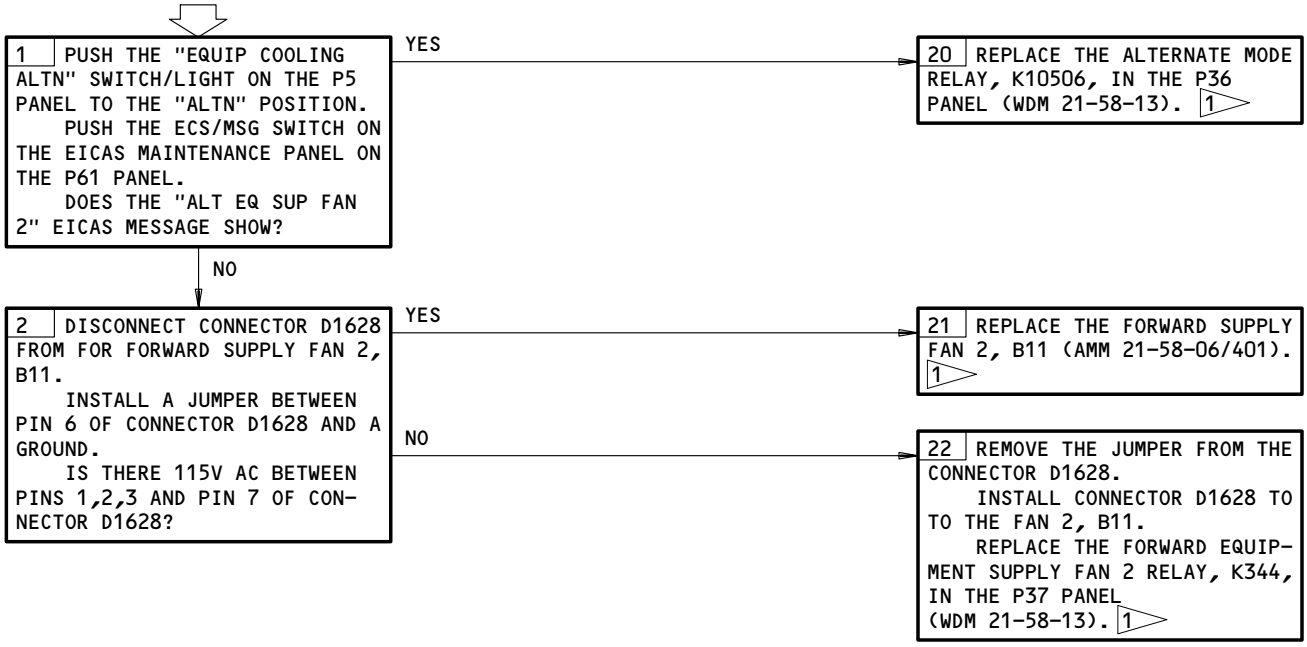
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F23,11C20

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

EICAS MSG "FWD EQ SUP FAN 2" DISPLAYED



1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). WITH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE "ALTN" POSITION, MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FAN 2" DOES NOT SHOW.

EICAS Msg FWD EQ SUP FAN 2 Displayed
Figure 114

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F17, 6F23, 11C20, 11N11, 11N13

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

EICAS MSG
"FWD EQ EXH SNSR"
DISPLAYED 2

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "EQPT CLG TEST" EICAS MESSAGE?

NO → 20 REPLACE THE FORWARD EQUIPMENT EXHAUST LOW FLOW SENSOR, TS5156 (AMM 21-58-17/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP SNSR" DOES NOT SHOW.

2 AIRPLANES PRE-SB 21-61

EICAS Msg FWD EQ EXH SNSR Displayed
Figure 115

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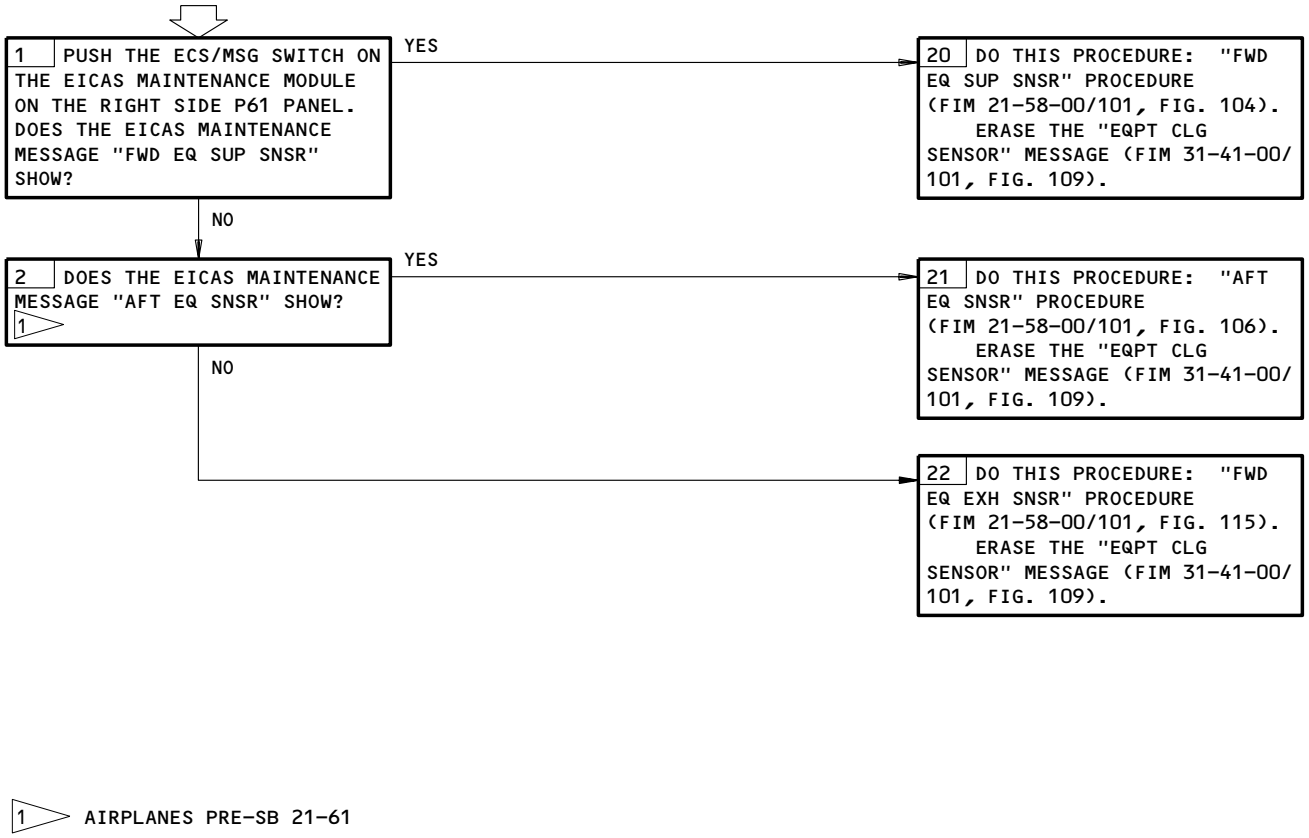
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 11N13

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

EICAS MSG "EQPT CLG SENSOR" DISPLAYED



1 AIRPLANES PRE-SB 21-61

EICAS Msg EQPT CLG SENSOR Displayed
Figure 116

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EICAS MSG "EQPT CLG FLOW" DISPLAYED

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F2, 6F17, 11N11, 11N13, 11P14, 37D2, 70B5, 70C10

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

1 DID THE "EQPT OVHT" EICAS MESSAGE SHOW AND DID THE "OVHT" LIGHT COME ON?

NO → 40 CLEAN THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268 (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267 (CONNECTOR D5632) (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 2, TS5268 (CONNECTOR D5634) (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE SMOKE-AUTO-TEST-RESET-TIME-DELAY MODULE, M10691 (WDM 21-58-12).

YES

2 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE P61 PANEL.
DOES THE "FWD EQ SUP FLOW" EICAS MESSAGE SHOW?

YES → 41 DO THIS PROCEDURE: EICAS MSG "FWD EQ SUP FLOW" DISPLAYED (FIG. 110). 1

NO

3 DOES THE "FWD EQ EXH FLOW" EICAS MESSAGE SHOW? 2

YES → 42 DO THIS PROCEDURE: EICAS MSG "FWD EQ EXH FLOW" DISPLAYED (FIG. 112). 1

NO → 43 DO THIS PROCEDURE: EICAS MSG "AFT EQ FLOW" DISPLAYED (FIG. 107).

1 MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG FLOW" DOES NOT SHOW.

2 AIRPLANES PRE-SB 21-61

EICAS Msg EQPT CLG FLOW Displayed
Figure 117

L02731

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11C20,11P14,70C10

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

EICAS MSG "OVBD EX VAL OPEN" DISPLAYED

DESCRIPTION:

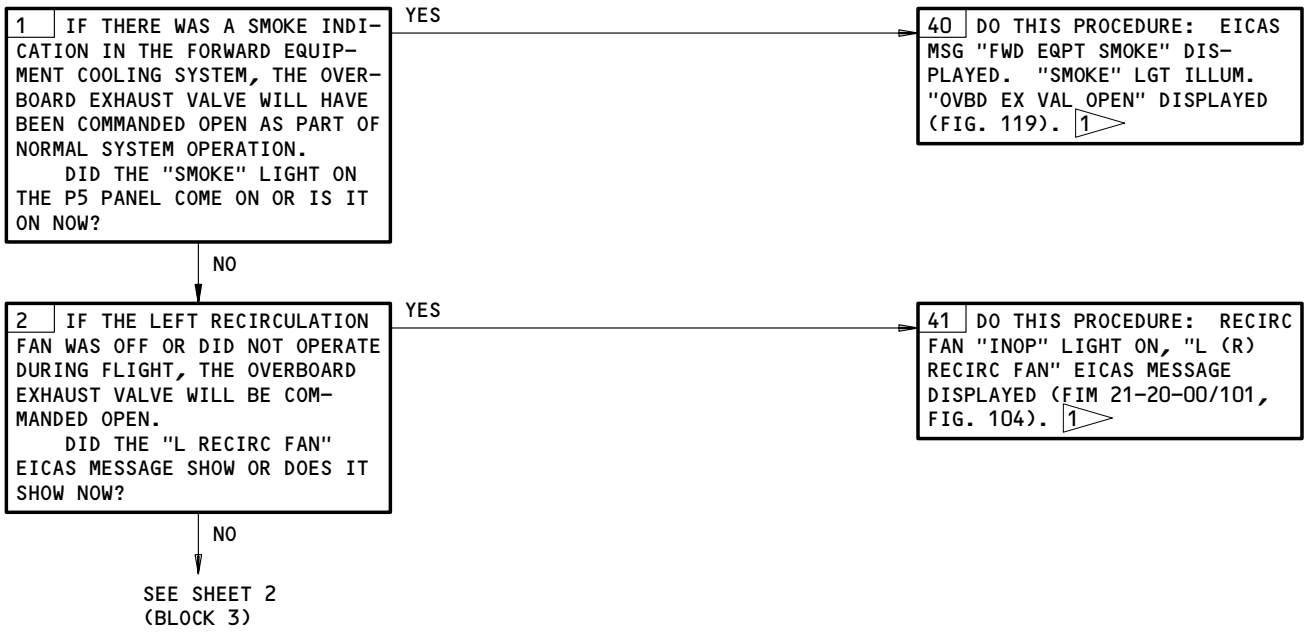
THE OVERBOARD EXHAUST VALVE (OEV) WAS COMMANDED OPEN.

NOTE: THE OVERBOARD EXHAUST VALVE WILL BE COMMANDED OPEN IF THE LEFT RECIRCULATION FAN WAS OFF OR DID NOT OPERATE DURING FLIGHT.

POSSIBLE CAUSES:

1. THERE WAS SMOKE IN THE FORWARD EQUIPMENT COOLING SYSTEM.
2. THE LEFT RECIRCULATION FAN DID NOT OPERATE.
3. THERE IS A PROBLEM WITH THE "EQUIP COOLING ALTN" SWITCH/LIGHT, YNMS1.
4. THERE IS A PROBLEM WITH THE OEV COMMAND RELAY, K10442.
5. THERE IS A PROBLEM WITH THE OVERBOARD EXHAUST VALVE, V95.
6. THERE IS A PROBLEM WITH THE OEV OPEN INDICATION RELAY, K10086.

FAULT ISOLATION:



1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL POSITION" FOR 5 SECONDS AND THEN RELEASE. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "OVBD EX VAL OPEN" DOES NOT SHOW.

EICAS Msg OVBD EX VAL OPEN Displayed
Figure 118 (Sheet 1)

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FROM SHEET 1
(BLOCK 2)

NO

3 THE "EQUIP COOLING ALTN" SWITCH/LIGHT, ON THE P5 PANEL, AFFECTS THE OPERATION OF THE OVERBOARD EXHAUST VALVE. MAKE SURE THE SWITCH/LIGHT OPERATES CORRECTLY AS FOLLOWS:
1. PUSH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL TO "ALTN" AND THEN TO THE OUT POSITION.

DOES THE "ALTN" LIGHT COME ON AND THEN GO OFF?

NO → 42 REPLACE THE "EQUIP COOLING ALTN" SWITCH/LIGHT, YNMS1, ON THE EQUIPMENT COOLING PANEL, M10067 (AMM 33-13-00/401) OR M10067 (WDM 21-58-12). 1

YES

4 THE OEV COMMAND RELAY, K10442, CAN SEND AN INCORRECT OPEN COMMAND TO THE OVERBOARD EXHAUST VALVE.
1. REMOVE CONNECTOR D578 FROM THE OVERBOARD EXHAUST VALVE, V95 (WDM 21-58-12).

IS THERE 28V DC AT PIN 1 OF CONNECTOR D578?

YES → 43 INSTALL THE CONNECTOR D578 TO THE OVERBOARD EXHAUST VALVE, V95.
REPLACE THE OEV COMMAND RELAY, K10442, IN THE P36 PANEL (WDM 21-58-12). 1

NO

5 IF THE OVERBOARD EXHAUST VALVE OPERATES CORRECTLY, THEN THERE IS A PROBLEM WITH THE OEV OPEN INDICATION RELAY, K10086. THE OEV OPEN INDICATION RELAY, K10086, CAN SEND A SIGNAL TO THE EICAS COMPUTER THAT THE OVERBOARD EXHAUST VALVE IS OPEN WHEN THE VALVE IS NOT OPEN. DO THESE STEPS TO SEE IF THE OVERBOARD EXHAUST VALVE OPERATES CORRECTLY:
1. INSTALL CONNECTOR D578 TO THE OVERBOARD EXHAUST VALVE, V95
2. PUSH THE "L RECIRC FAN" SWITCH/LIGHT ON THE P5 PANEL TO THE OFF POSITION FOR 20 SECONDS AND THEN TO THE "ON" POSITION.

DOES THE OVERBOARD EXHAUST VALVE POSITION INDICATOR MOVE FROM THE "NORMAL" TO THE "SMOKE" TO THE "NORMAL" POSITION? 2

NO → 44 REPLACE THE OVERBOARD EXHAUST VALVE, V95 (AMM 21-58-05/401). 1

YES → 45 REPLACE THE OEV OPEN INDICATION RELAY, K10086, IN THE P37 PANEL (WDM 21-58-12). 1

2 THE OVERBOARD EXHAUST VALVE IS SPRING-LOADED OPEN ON THE GROUND. THE VALVE ACTUATOR ONLY WILL MOVE, THE VALVE FLAPPER WILL NOT MOVE.

EICAS Msg OVBD EX VAL OPEN Displayed
Figure 118 (Sheet 2)

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EICAS MSG "FWD EQPT SMOKE" DISPLAYED. "SMOKE" LGT ILLUM. "OVBD EX VAL OPEN" DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,7OC10

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

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL. HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE THE SWITCH.
DOES THE "FWD EQPT EXH DET" EICAS MESSAGE SHOW IN 20 SECONDS OR LESS?

YES → 20 DO THIS PROCEDURE: EICAS MSG "FWD EQPT EXH DET" DISPLAYED (FIG. 103). 1

NO

2 DOES THE "FWD EQPT DET 1" EICAS MESSAGE SHOW?

YES → 21 DO THIS PROCEDURE: EICAS MSG "FWD EQPT DET 1" DISPLAYED (FIG. 126). 1

NO

3 DOES THE "FWD EQPT DET 2" EICAS MESSAGE SHOW?

YES → 22 DO THIS PROCEDURE: EICAS MSG "FWD EQPT DET 2" DISPLAYED (FIG. 127). 1

NO → 23 FIND AND REPAIR THE SOURCE OF THE SMOKE. CLEAN THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268, IF YOU CAN NOT FIND THE SOURCE OF THE SMOKE (AMM 21-58-19/201).
IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 (CONNECTOR D5632) AND TS5268 (CONNECTOR D5634) (AMM 21-58-19/201).

1 MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT SMOKE" DOES NOT SHOW.

EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Displayed.
Figure 119

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PREREQUISITES

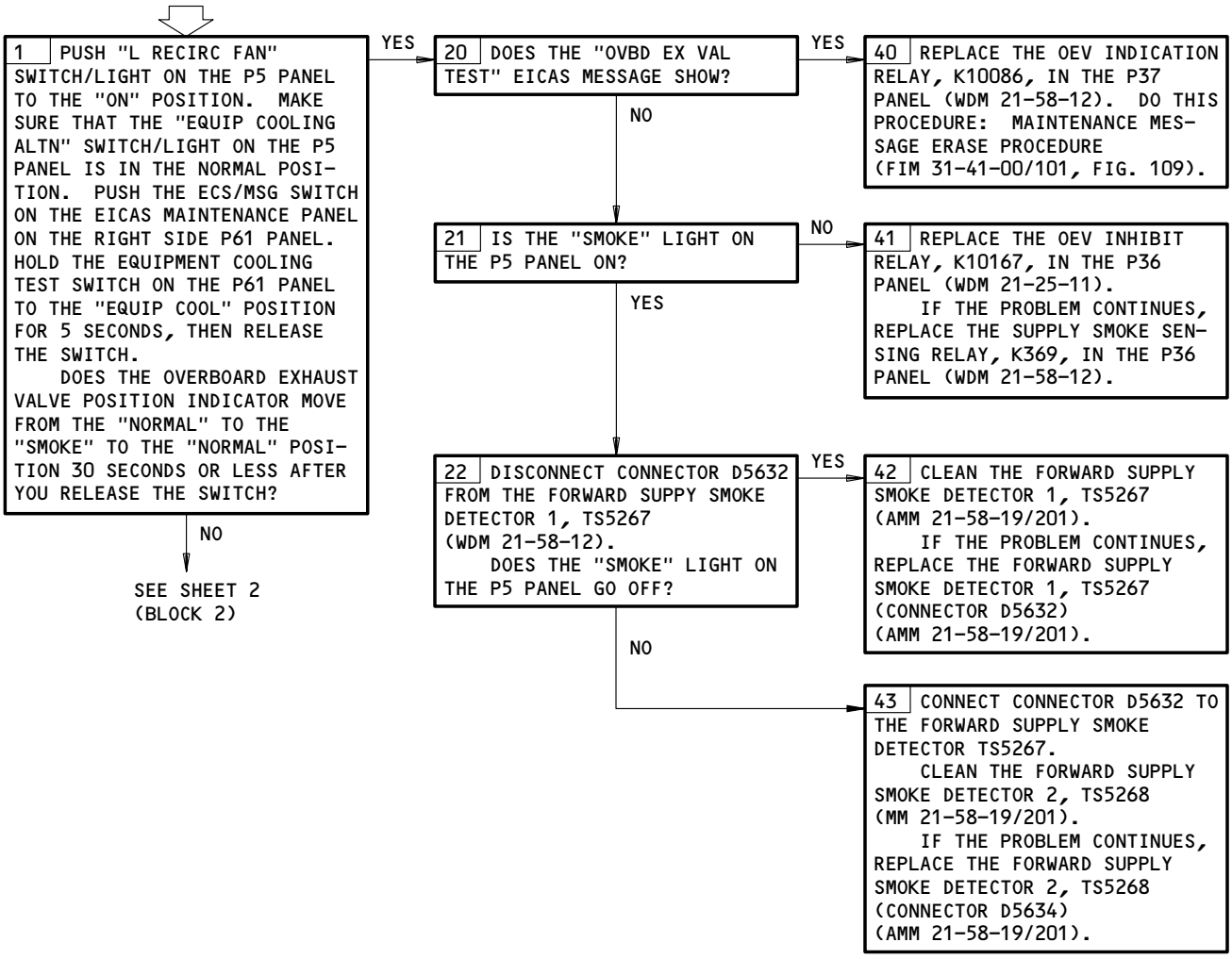
MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,70C10

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

EICAS MSG "FWD EQPT SMOKE" DISPLAYED. "SMOKE" LGT ILLUM. "OVBD EX VAL OPEN" NOT DISPLAYED.

NOTE: THERE MAY BE A SMOKE CONDITION. FIND AND REPAIR THE SOURCE OF THE SMOKE. DO THE BLOCK 1 ACTION. IF YOU CAN NOT FIND THE SOURCE OF THE SMOKE.



EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Not Displayed.
Figure 120 (Sheet 1)

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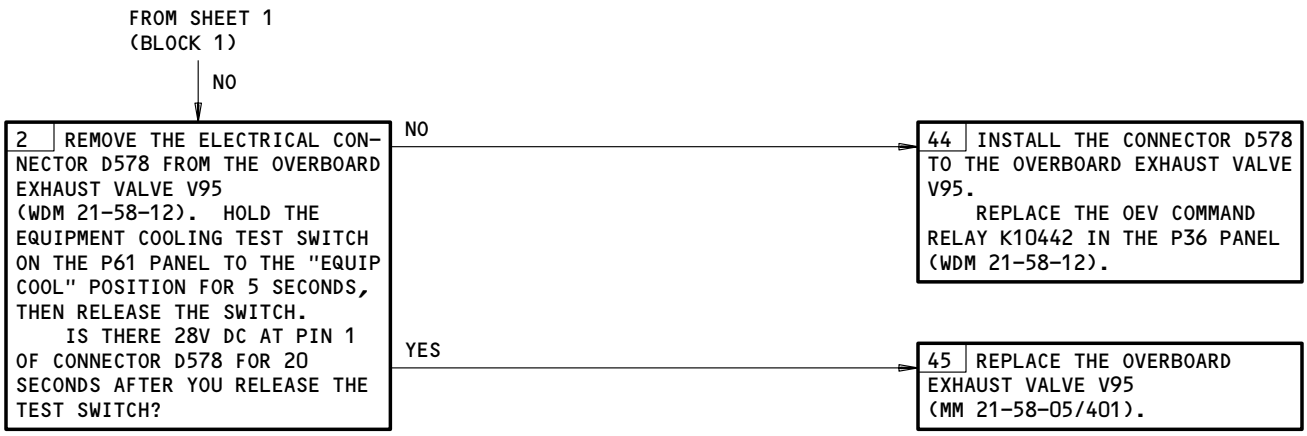

EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Not Displayed.
Figure 120 (Sheet 2)

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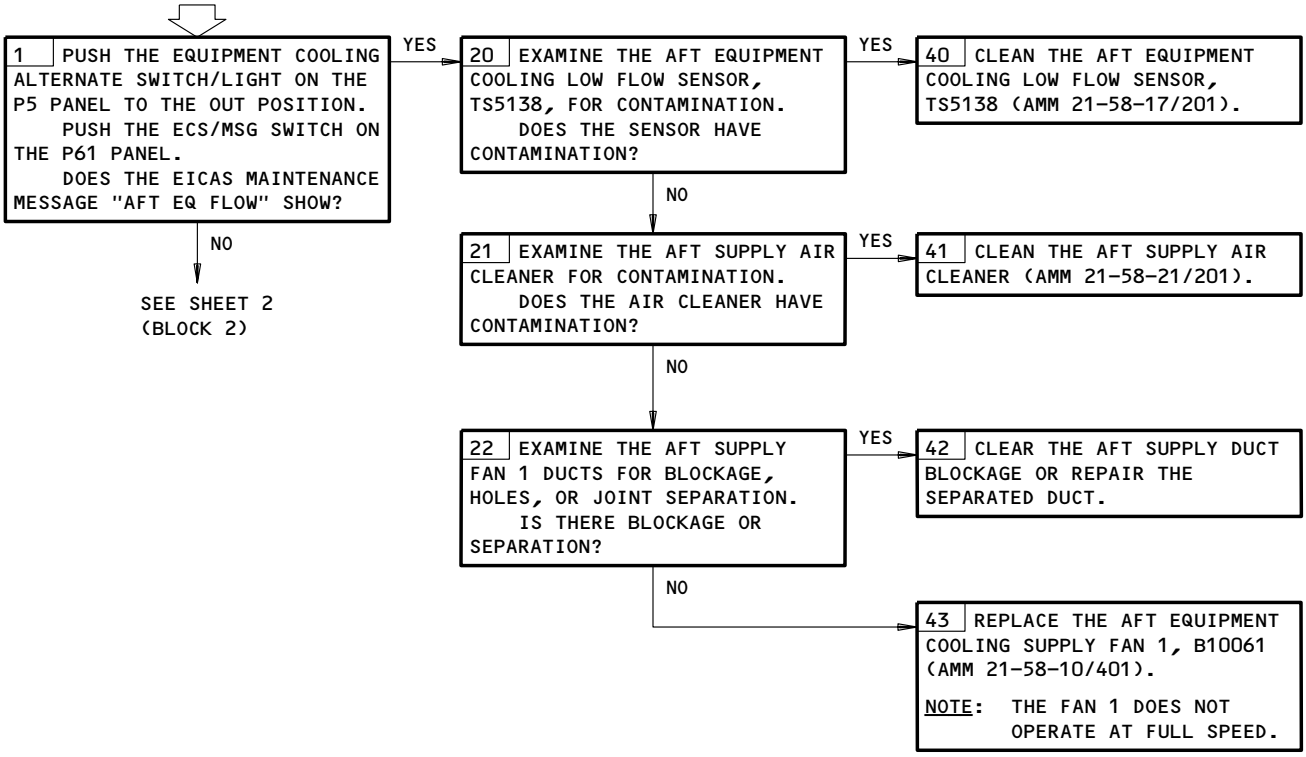
EICAS MSG "EQPT OVHT" DISPLAYED. "OVHT" LGT ILLUM. "L RECIRC FAN INOP" LGT ILLUM. "OVHT" LGT EXTIN WHEN "ALTN" WAS SELECTED. EICAS MSGS "EQPT CLG FAN" AND "OVBD EX VAL OPEN" NOT DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,70C10

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



EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. L RECIRC INOP Lgt Illum.
OVHT Lgt Extin When ALTN Was Selected. EICAS Msgs EQPT CLG FAN and
OVBD EX VAL OPEN Not Displayed.
Figure 121 (Sheet 1)

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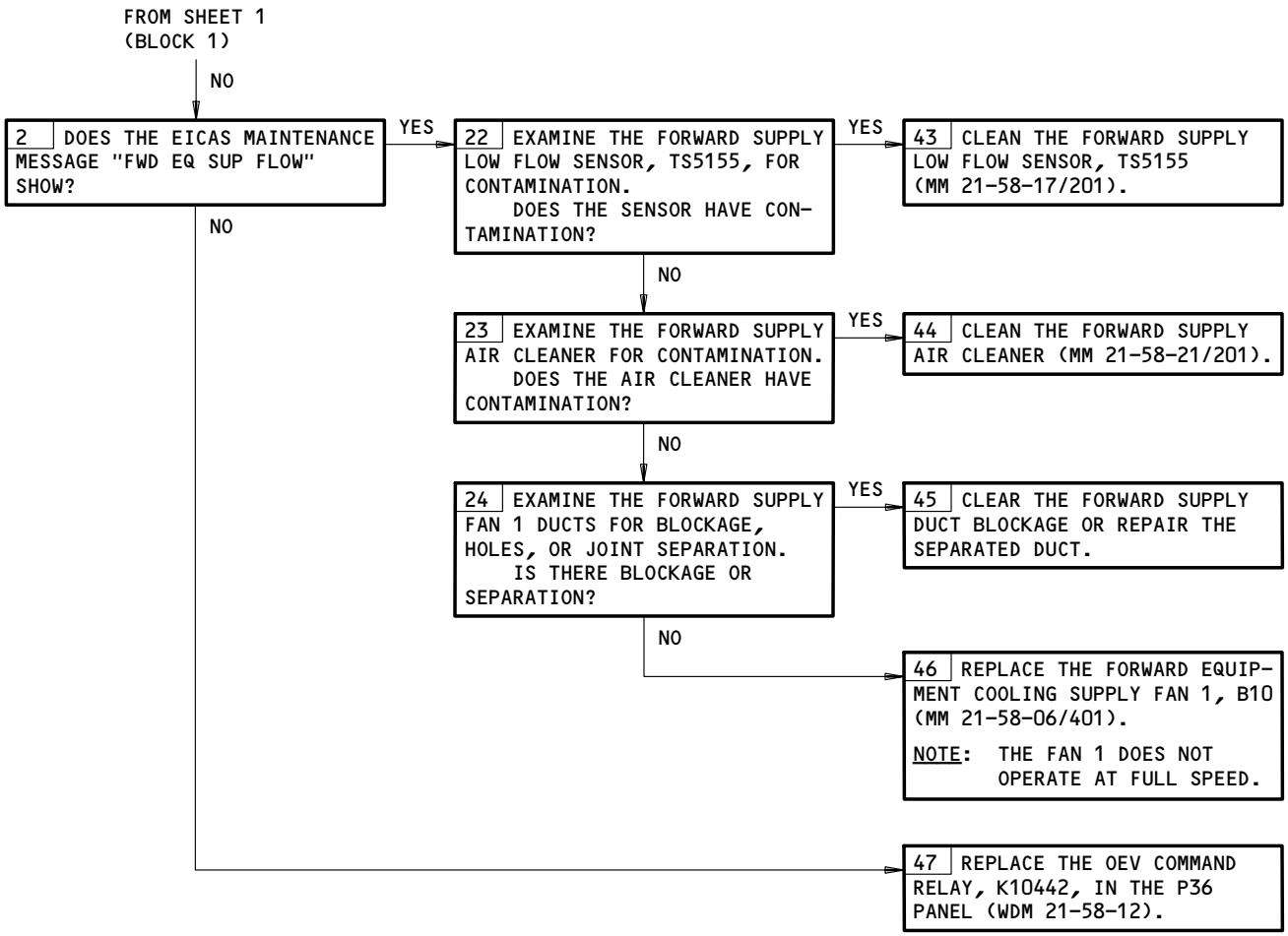

EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. L RECIRC INOP Lgt Illum.
OVHT Lgt Extin When ALTN Was Selected. EICAS Msgs EQPT CLG FAN and
OVBD EX VAL OPEN Not Displayed.
Figure 121 (Sheet 2)

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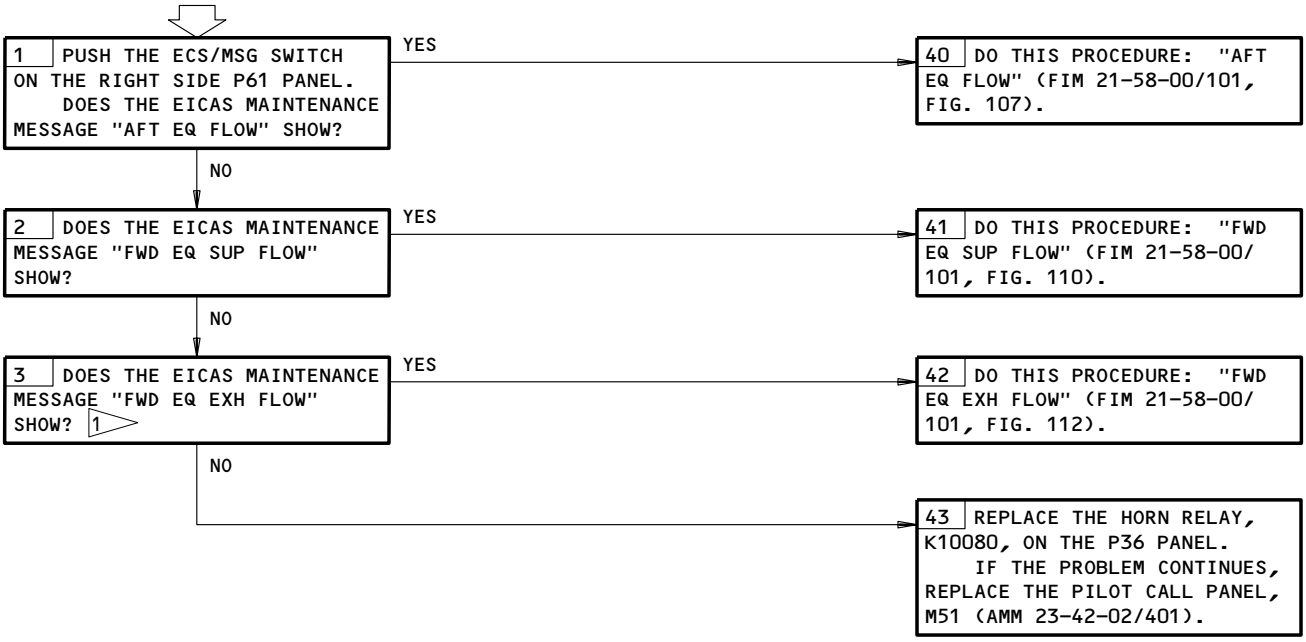
GROUND CREW CALL HORN SOUNDS CONTINUOUSLY. C IRS, L IRS, OR R IRS NOT SELECTED ON.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 11N13

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



1 AIRPLANES PRE-SB 21-61

Ground Crew Call Horn Sounds Continuously. C IRS, L IRS, or R IRS Not Selected ON.
Figure 122

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EICAS MSG "EQPT OVHT" DISPLAYED.
"OVHT" LGT ILLUM.
EICAS MSG "EQPT CLG FAN" DISPLAYED.
"OVHT" LIGHT REMAINED ILLUM WHEN "ALTN" WAS SELECTED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,37D2,70B5,70C10

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

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "FWD EQ SUP FAN 1" OR THE "FWD EQ SUP FAN 2" EICAS MESSAGE SHOW?

YES → 20 EXAMINE THE FORWARD SUPPLY LOW FLOW SENSOR, TS5155, FOR CONTAMINATION.
DOES THE SENSOR HAVE CONTAMINATION?

YES → 40 CLEAN THE FORWARD SUPPLY LOW FLOW SENSOR, TS5155 (AMM 21-58-17/201). 1

NO → 21 EXAMINE THE FORWARD SUPPLY AIR CLEANER (AMM 21-58-07/401) FOR CONTAMINATION.
DOES THE AIR CLEANER OR FILTER HAVE CONTAMINATION?

YES → 41 CLEAN THE FORWARD SUPPLY AIR CLEANER (AMM 21-58-07/201) 1

NO → 42 REMOVE THE BLOCKAGE FROM THE FORWARD SUPPLY DUCTS OR REPAIR THE SEPARATED OR DAMAGED DUCT. 1

NO → 2 EXAMINE THE AFT EQUIPMENT COOLING LOW FLOW SENSOR, TS5138, FOR CONTAMINATION.
DOES THE SENSOR HAVE CONTAMINATION?

YES → 43 CLEAN THE AFT EQUIPMENT COOLING LOW FLOW SENSOR, TS5138 (AMM 21-58-17/201). 1

NO → 3 EXAMINE THE AFT SUPPLY AIR FILTER (AMM 21-58-07/401) FOR CONTAMINATION.
DOES THE AIR CLEANER OR FILTER HAVE CONTAMINATION?

YES → 44 REPLACE THE AFT SUPPLY AIR FILTER (AMM 21-58-07/401). 1

NO → 45 REMOVE THE BLOCKAGE FROM THE AFT SUPPLY DUCTS OR REPAIR THE SEPARATED OR DAMAGED DUCT. 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

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

EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. EICAS Msg EQPT CLG FAN Displayed. OVHT Lgt Remained Illum When ALTN Was Selected.
Figure 123

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F17, 6F23, 11C20, 11N11, 11N13 OR 11N17, 11P23, 37D7, 37J5

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

EICAS MSG "OVBD EX VAL TEST" DISPLAYED

1 PUSH THE "EQUIP COOLING ALTN" SWITCH ON THE P5 PANEL TO THE "ALTN" POSITION AND THEN BACK TO THE "OFF" POSITION.
DOES THE "EQUIP COOLING ALTN" LIGHT COME ON AND THEN GO OFF?

NO → 40 REPLACE THE EQUIPMENT COOLING ALTERNATE SWITCH, YNMS1 ON THE EQUIPMENT COOLING PANEL, M10067 (AMM 33-13-00/401) OR M10067 (WDM 21-58-12). 1

YES

2 DO THE EICAS ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). IN THE FORWARD CARGO COMPARTMENT, REMOVE THE LEFT SIDEWALL LINING 4 FEET AFT OF FORWARD ENDWALL AND FIND THE OVERBOARD EXHAUST VALVE (AMM 25-50-02/401). USE A MIRROR TO VIEW THE OVERBOARD EXHAUST VALVE ACTUATOR POSITION INDICATOR. HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE THE SWITCH.
DOES THE OVERBOARD EXHAUST VALVE MOVE TO THE "SMOKE" POSITION 20 SECONDS OR LESS AFTER YOU RELEASE THE SWITCH AND THEN TO THE "NORMAL" POSITION AFTER 20 SECONDS? 2

NO → 20 REMOVE THE ELECTRICAL CONNECTOR D578 FROM THE OVERBOARD EXHAUST VALVE, V95 (WDM 21-58-12).
HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE THE SWITCH.
IS THERE 28V DC AT PIN 1 OF CONNECTOR, D578 20 SECONDS OR LESS AFTER YOU RELEASE THE TEST SWITCH?

YES → 41 REPLACE THE OVERBOARD EXHAUST VALVE, V95 (AMM 21-58-05/401). 1

NO

21 INSTALL CONNECTOR D578 TO THE OVERBOARD EXHAUST VALVE, V95.
IS THERE 28V DC AT PIN B OF THE TIME DELAY, M10689 IN THE P36 PANEL (WDM 21-58-12)?

YES → 42 REPLACE THE OVERBOARD EXHAUST VALVE COMMAND RELAY, K10442 IN THE P36 PANEL (WDM 21-58-12). 1

NO → 43 REPLACE THE TIME DELAY, M10689 IN THE P36 PANEL (WDM 21-58-12). 1

YES

SEE SHEET 2
(BLOCK 3)

1 DO THE EICAS "ERASE PROCEDURE" (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS AND THEN RELEASE THE SWITCH. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "OVBD EX VAL TEST" DOES NOT SHOW.

2 ONLY THE OVERBOARD EXHAUST VALVE ACTUATOR WILL MOVE. THE VALVE FLAPPERS WILL NOT MOVE. THEY ARE SPRING-LOADED OPEN ON THE GROUND.

EICAS Msg OVBD EX VAL TEST Displayed
Figure 124 (Sheet 1)

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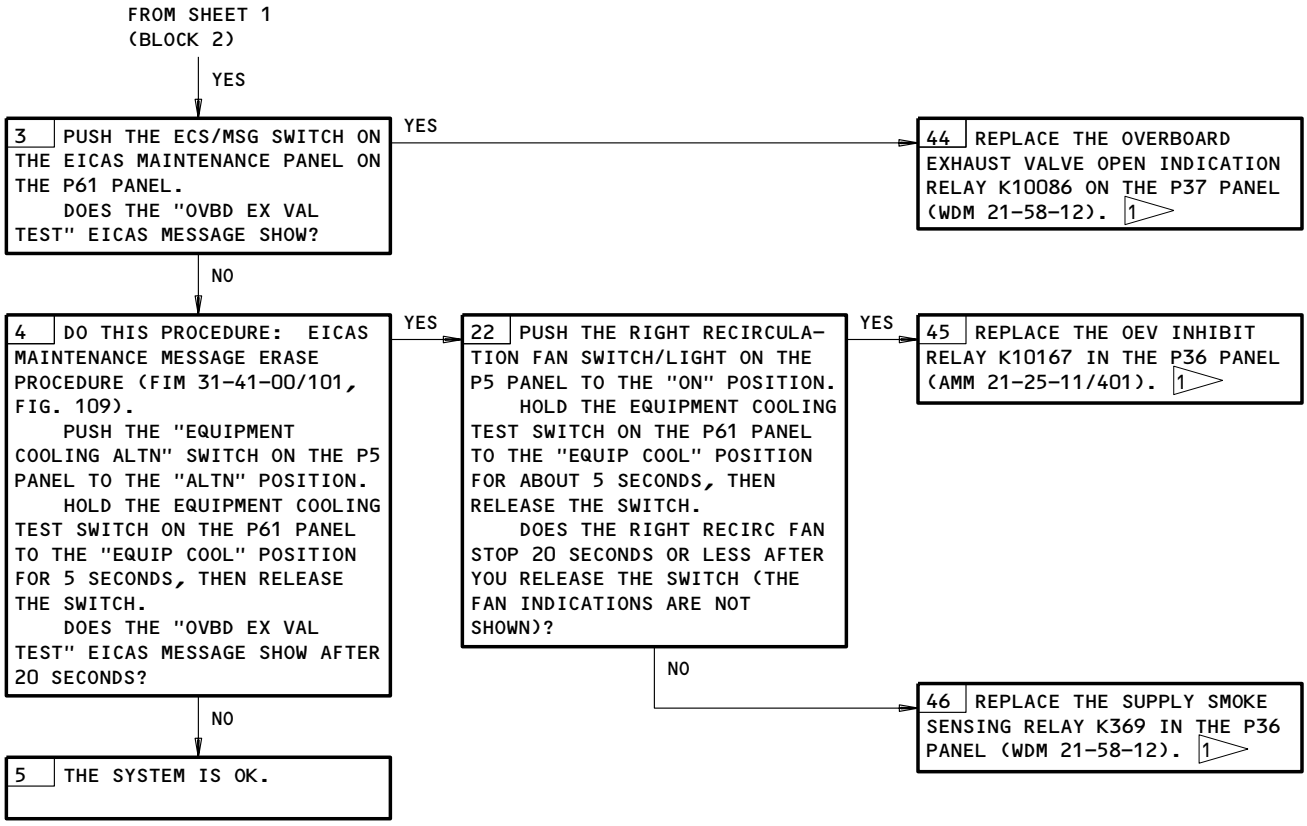

EICAS Msg OVBD EX VAL TEST Displayed
Figure 124 (Sheet 2)

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PREREQUISITES

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

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6D6

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

EICAS MSG "EQPT CLG TEST" DISPLAYED

NOTE: THIS IS USUALLY A NUISANCE MESSAGE. IT IS USUALLY CAUSED BY OSCILLATIONS FROM THE ENGINE SPEED CARD.

1 DID EICAS MESSAGE "ENG SPEED CARD" ALSO SHOW?
- YES → 40 DO THIS PROCEDURE: EICAS "L (R) ENG SPEED CARD" MESSAGE DISPLAYED (FIM 77-12-00/101, FIG. 103).
- NO ↓

2 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).
HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS AND THEN RELEASE THE SWITCH.

NOTE: TO MAKE SURE THAT THE TEST OCCURS, LISTEN FOR THE EQUIPMENT COOLING SUPPLY FAN TO SHUT OFF FOR APPROXIMATELY 20 SECONDS AFTER YOU RELEASE THE TEST SWITCH.

DOES THE "OVHT" LIGHT ON THE P5 PANEL COME ON WHEN YOU HOLD THE TEST SWITCH AND GO OFF WHEN YOU RELEASE THE TEST SWITCH?
- NO → 41 REPLACE THE EQUIPMENT COOLING TEST SWITCH, YPHS9, ON THE P61 PANEL, M10398 (WDM 21-58-12).
- YES ↓

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). DO THIS PROCEDURE: SIMULATED ENGINE RUNNING PROCEDURE (AMM 77-12-03/201). MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG TEST" DOES NOT SHOW.

3 DID THE FORWARD EQUIPMENT COOLING SUPPLY FAN SHUT OFF FOR APPROXIMATELY 20 SECONDS AFTER YOU RELEASED THE TEST SWITCH?
- NO → 22 REMOVE THE AUTO TEST RELAY, K10511, IN THE P36 PANEL (WDM 21-58-12).
  IS THERE 28V DC AT PIN X1 OF CONNECTOR D5626?
  - YES → 42 REPLACE THE AUTO TEST RELAY, K10511 (WDM 21-58-12). 1
  - NO → 23 INSTALL THE AUTO TEST RELAY, K10511, IN THE P36 PANEL.
    REMOVE THE RIGHT ENG OUT RELAY, K10342, IN THE P37 PANEL (WDM 77-12-42).
    IS THERE 28V DC AT PIN 6 OF CONNECTOR D4246?
    - YES → 43 REPLACE THE RIGHT ENG OUT RELAY, K10342 (WDM 77-12-42). 1
    - NO → 44 REPLACE THE LEFT ENG OUT RELAY, K10339 (WDM 77-12-41). 1
- YES ↓

4 THE SYSTEM IS OK.

EICAS Msg EQPT CLG TEST Displayed
Figure 125

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT DET 1" DISPLAYED

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "EQPT CLG TEST" EICAS MESSAGE SHOW?

NO → 20 REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267 (CONNECTOR D5632) (AMM 21-58-19/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125).

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLE-SHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO "EQUIP COOL" POSITION FOR 5 SECONDS AND THEN RELEASE THE SWITCH. WAIT 20 SECONDS. MAKE SURE THAT EICAS MESSAGE "FWD EQPT DET 1" DOES NOT SHOW.

EICAS Msg FWD EQPT DET 1 Displayed
Figure 126

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT DET 2" DISPLAYED

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE "EQPT CLG TEST" EICAS MESSAGE SHOW?

NO → 20 REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 2, TS5268 (CONNECTOR D5634) (AMM 21-58-19/201). 1

YES → 21 DO THIS PROCEDURE: EICAS MSG "EQPT CLG TEST" DISPLAYED (FIG. 125). 1

1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT DET 2" DOES NOT SHOW.

EICAS Msg FWD EQPT DET 2 Displayed
Figure 127

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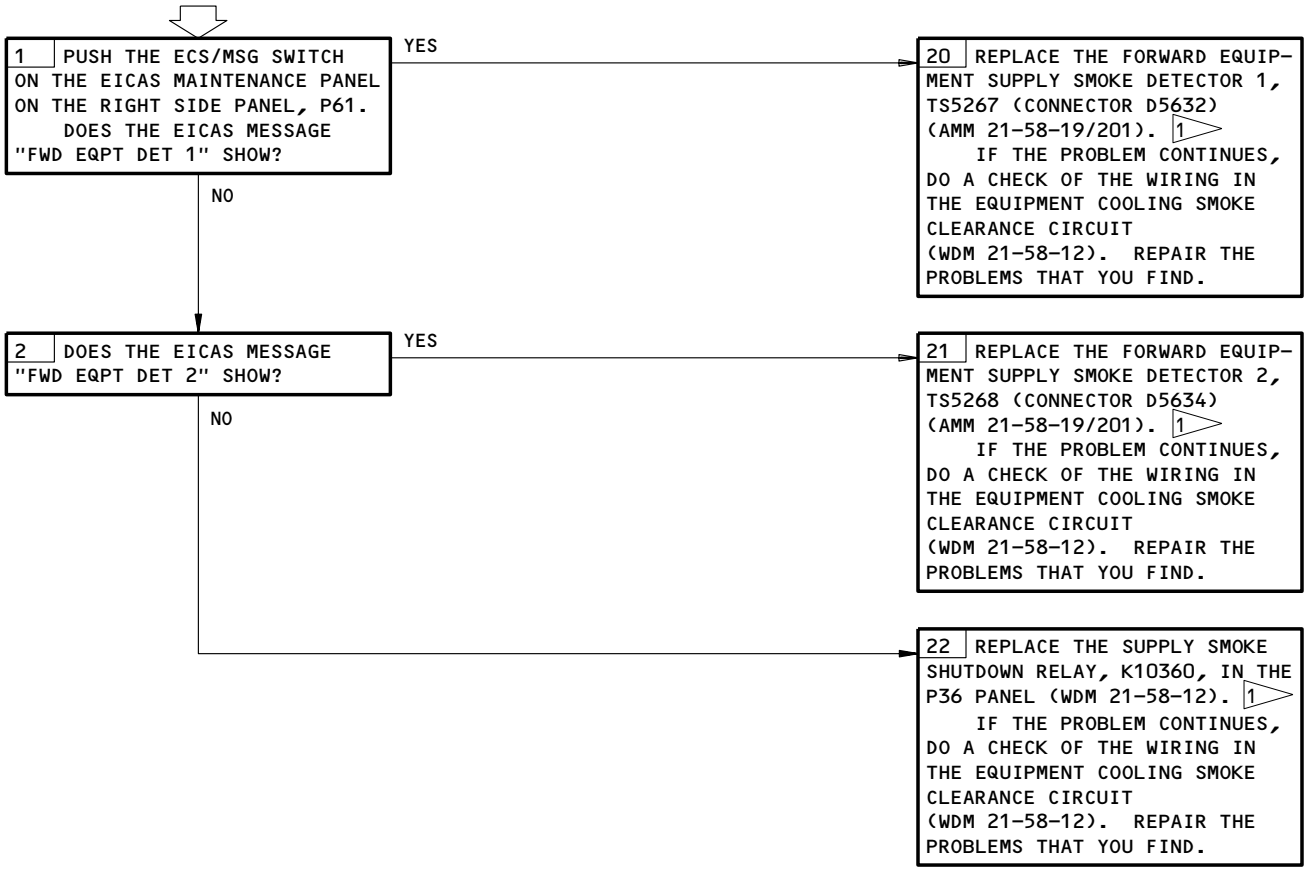
EICAS MSG "EQPT SMOKE TEST" DISPLAYED

PREREQUISITES

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

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6D6

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



1 CAUTION: IF OTHER MESSAGES SHOW ON THE ECS/MSG PAGES, MAKE A RECORD OF THESE MESSAGES FOR TROUBLESHOOTING REFERENCE. ALL OF THE MESSAGES WHICH SHOW ON THE ECS/MSG PAGES WILL BE ERASED WHEN YOU DO THE ERASE PROCEDURE.

DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "EQPT SMOKE TEST" DOES NOT SHOW.

EICAS Msg EQPT SMOKE TEST Displayed
Figure 128

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EQUIPMENT COOLING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P6	
EQPT COOL GND WARN AND TEST, C4070		1	6D6	*
EQUIP COOLING AUX FAN, C3044		1	6D17	*
EQUIP COOL SUPPLY FAN 1, C331		1	6F17	*
EQUIP COOL SUPPLY FAN 2, C332		1	6F23	*
CIRCUIT BREAKER –	1		FLT COMPT, P11	
EQUIP COOLING FAN CONT AFT EXH XFER, C705		1	11N11	*
EQUIP COOLING LOW FLOW DET, C4069		1	11N13	*
EQUIP COOLING SMOKE DET CONT, C4085		1	11C20	*
RECIRC CARGO FIRE CONT LEFT, C660		1	11P14	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P37	
AFT EQPT COOLING FAN EXH NO. 1, C333		1	37D5	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P70	
AFT EQPT COOLING FAN EXH NO. 2, C334		1	70B2	*
RECIRC FAN LEFT, C336		1	70C10	*
LEFT RECIRC FAN CONT, C4373		1	70B16	*
CLEANER – EQUIPMENT COOLING AIR, FWD	3	1	821, FWD CARGO COMPT	21-58-21
COMPUTER – (FIM 31-41-00/101)				
EICAS LEFT, M10181				
EICAS RIGHT, M10182				
DIODE – (FIM 31-01-36/101)				
R10044,R10096,R10171,R10172,R10173,R10174, R10180,R10181,R10204,R10218,R10221,R10223, R10230				
DIODE – (FIM 31-01-37/101)				
R10074,R10179,R10224,R10225,R10226				
FAN – AFT EQUIP/LAV/GALLEY VENT 1, B16	4	1	822, AFT CARGO COMPT	21-26-01
FAN – AFT EQUIP/LAV/GALLEY VENT 2, B15	4	1	822, AFT CARGO COMPT	21-26-01
FAN – EQUIP COOLING AUXILIARY FAN, B10133	5	1	119BL, MAIN EQUIP CTR	21-58-22
FAN – FWD EQUIP COOLING SUPPLY 1, B10	3	1	821, FWD CARGO COMPT	21-58-06
FAN – FWD EQUIP COOLING SUPPLY 2, B11	3	1	821, FWD CARGO COMPT	21-58-06
FAN – LEFT RECIRCULATION AIR, B13	3	1	821, FWD CARGO COMPT	21-25-01
FILTER – LEFT RECIRCULATION AIR	4	2	821, FWD CARGO COMPT	21-25-02
LIGHT – SMOKE, YNML1	1	1	FLT COMPT, P5 EQUIP COOLING PANEL, M10067	
MODULE – (FIM 27-51-00/101)				
FSEU3, M10333				
PANEL – AIR CONDITIONING CONTROL, M10193	1	1	FLT COMPT, P5	*
PANEL – (FIM 26-22-00/101)				
APU/CARGO FIRE CONTROL, M10444				
PANEL – EQUIP COOLING, M10067	1	1	FLT COMPT, P5	
PANEL – (FIM 34-21-00/101)				
IRS MODE SELECT, M59				
PANEL – MISC TEST, M10399	1	1	FLT COMPT, P61	

* SEE THE WDM EQUIPMENT LIST

Equipment Cooling – Component Index
Figure 101 (Sheet 1)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
PANEL - (23-42-00/101)				
PILOT CALL, M51				
RELAY - (31-01-36/101)				
AFT EQUIP/LAV/GALLEY VENT FAN 1, K347				
AIR/GND SYS NO. 1, K124				
AIR/GND SYS NO. 1, K148				
ALTN MODE, K10506				
AUTO TEST, K10511				
EXHAUST SMOKE SENSING, K10509				
FWD EQUIP SUPPLY FAN 1, K343				
HORN, K10080				
OEV INHIBIT, K10167				
OVBD EXH VLV, K10442				
OVHT LT INHIBIT, K10507				
PWR XFR, K10079				
RECIRC OVERRIDE, K10497				
SUPPLY SMOKE SENSING, K369				
SUPPLY SMOKE SHUT DOWN, K10360				
RELAY - (31-01-37/101)				
AFT EQUIP EXH FAN 1, FAIL, K10322				
AFT EQUIP/LAV/GALLEY VENT FAN 2, K346				
AIR/GND SYS NO. 2, K201				
EQUIP COOL AUX FAN, K10569 1				
FWD CARGO FIRE, K10432				
FWD EQUIP COOLING SUPPLY FAN 2, K344				
LEFT ENG OUT NO. 3, K10339				
OEV OPEN IND, K10086				
RIGHT ENG OUT NO. 3, K10342				
RELAY - (31-01-70/101)				
LEFT RECIRC FAN, K415				
SENSOR - FWD EQUIP EXH LOW FLOW, TS5156 2	2	1	113AL, FWD ACCESS DOOR	21-58-17
SENSOR - FWD EQUIP EXH SMOKE, TS164	3	1	821, FWD CARGO COMPT	21-58-19
SENSOR - FWD EQUIP SUPPLY LOW FLOW, TS5155	2	1	113AL, FWD ACCESS DOOR	21-58-17
SENSOR - FWD EQUIP SUPPLY SMOKE 1, TS5267	3	1	821, FWD CARGO COMPT	21-58-19
SENSOR - FWD EQUIP SUPPLY SMOKE 2, TS5268	3	1	821, FWD CARGO COMPT	21-58-19
SWITCH - SMOKE/LOW FLOW TEST, YPHS9	1	1	FLT COMPT, P61, MISC TEST PNL, M10398	*
SWITCH/LIGHT - ALTERNATE COOLING/OVHT, YNMS1	1	1	FLT COMPT, P5, EQUIP COOLING PANEL, M10067	*
SWITCH/LIGHT - LEFT RECIRC FAN, YNRS1	1	1	FLT COMPT, P5, AIR CONDITIONING CONT PANEL, M10193	*
TIME DELAY - (31-01-36/101)				
OEV POWER RESET, M10689				
SMOKE AUTO TEST RESET, M10691				
SMOKE LIGHT, M10690				
TIME DELAY - (FIM 31-01-37/101)				
OEV DRIVE, M10688				
VALVE - (21-20-00/101)				
AFT EQUIP/LAV/GALLEY VENT CHECK				
LEFT RECIRCULATION AIR CHECK				
VALVE - AUXILIARY FAN CHECK 1	5	1	119BL, MAIN EQUIP CTR	
VALVE - ETOPS ISOLATION CHECK 1	6	1	119BL, MAIN EQUIP CTR	
VALVE - FORWARD SUPPLY FAN CHECK	3	2	821, FWD CARGO COMPT	21-58-02
VALVE - OVERBOARD EXHAUST, V95	3	1	821, FWD CARGO COMPT	21-58-05

* SEE THE WDM EQUIPMENT LIST

2 NOT INSTALLED ON ALL AIRPLANES

Equipment Cooling - Component Index
Figure 101 (Sheet 2)

K78592

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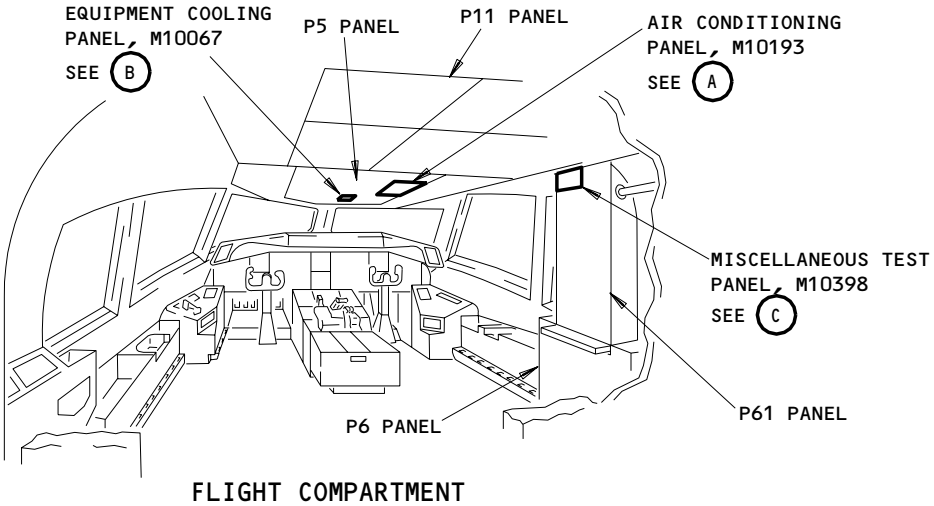
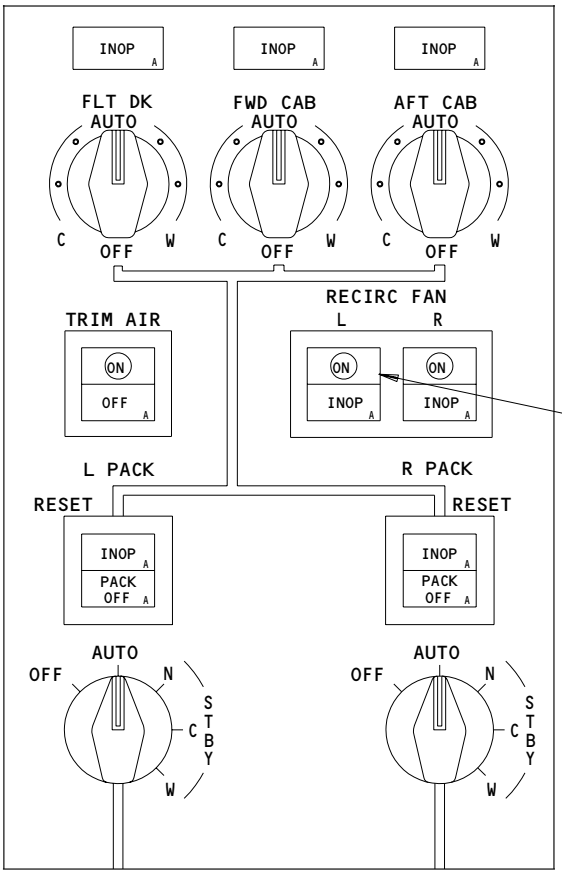
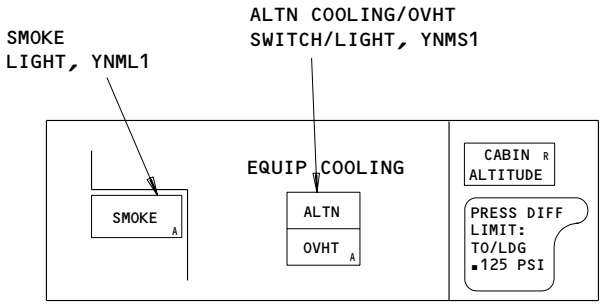


FLIGHT COMPARTMENT



AIR CONDITIONING PANEL, M10193

A

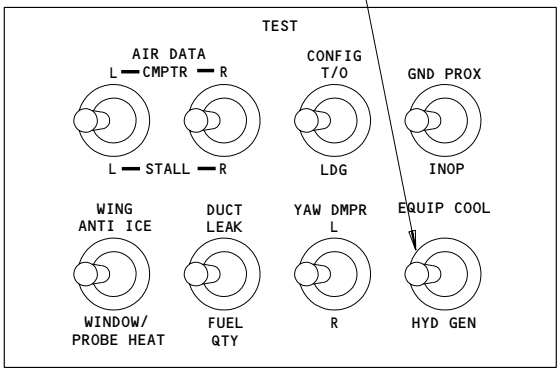


EQUIPMENT COOLING PANEL, M10067

B

LEFT RECIRCULATION
FAN SWITCH/LIGHT,
YNRS1

SMOKE/LOW FLOW
TEST SWITCH, YPHS9



MISCELLANEOUS TEST PANEL, M10398

C

Equipment Cooling - Component Location
Figure 102 (Sheet 1)

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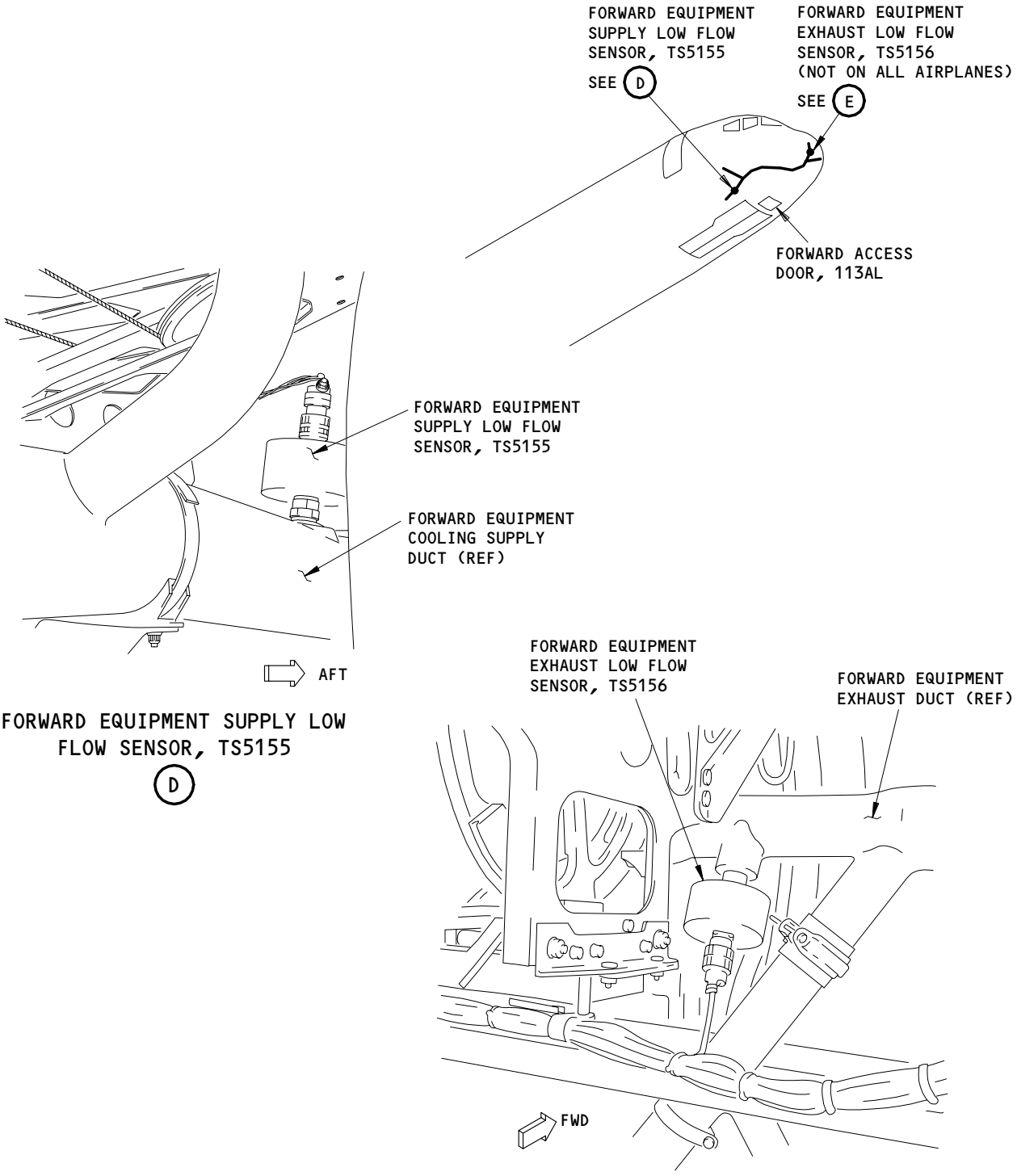

Equipment Cooling - Component Location
Figure 102 (Sheet 2)

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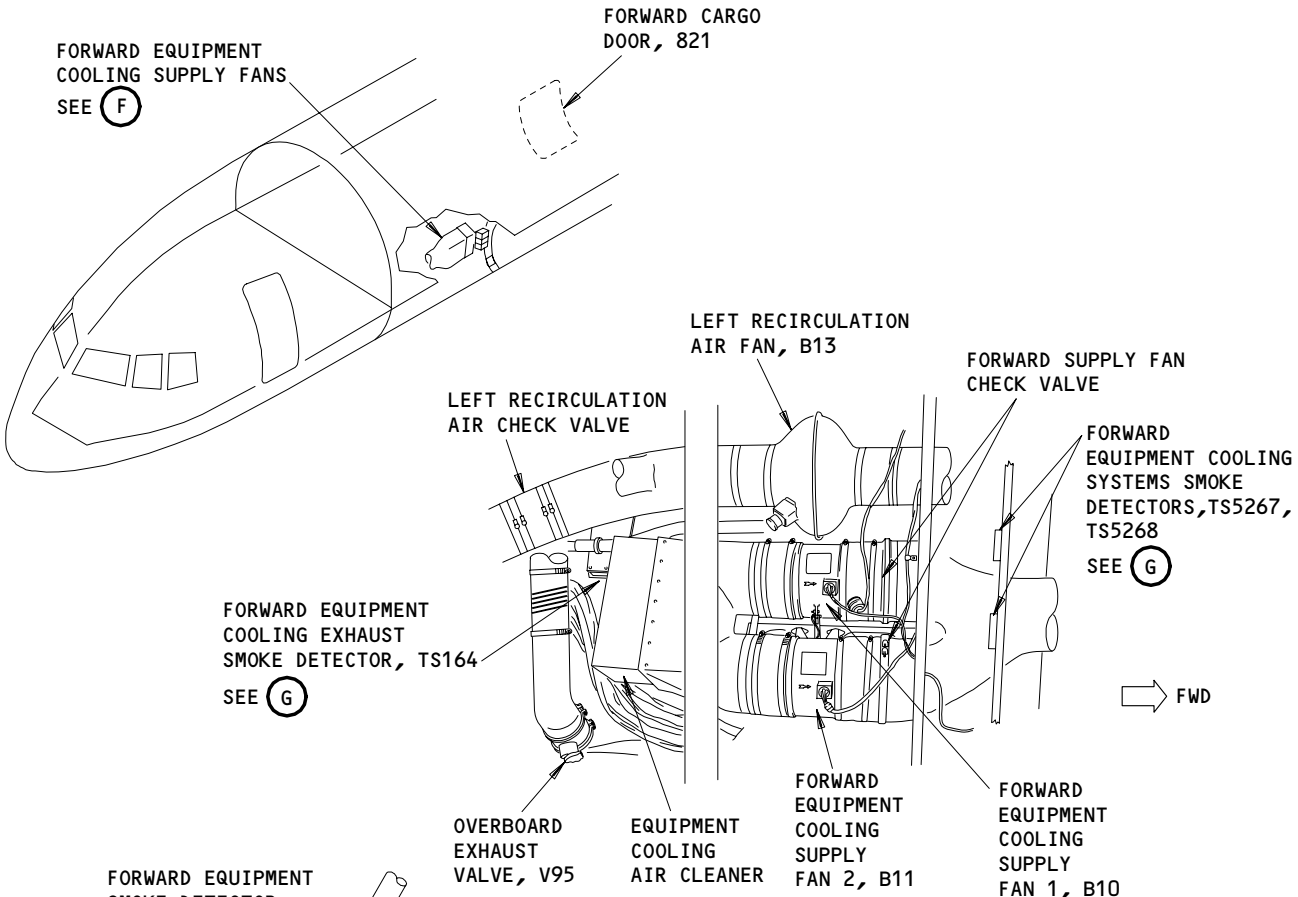
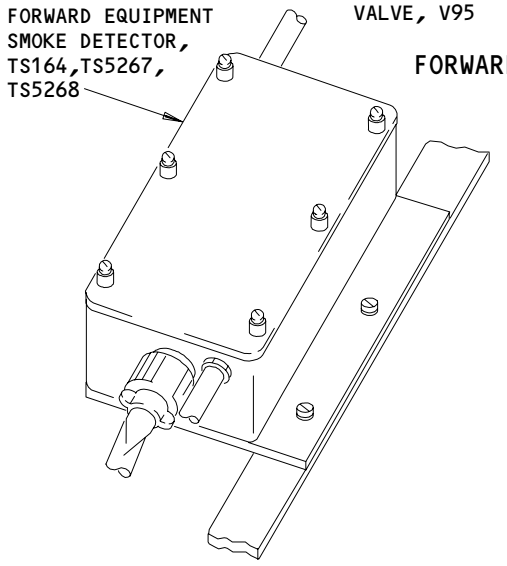


FORWARD EQUIPMENT COOLING SUPPLY FANS

F



FORWARD EQUIPMENT COOLING
SMOKE DETECTOR
(EXAMPLE)

G

Equipment Cooling - Component Location
Figure 102 (Sheet 3)

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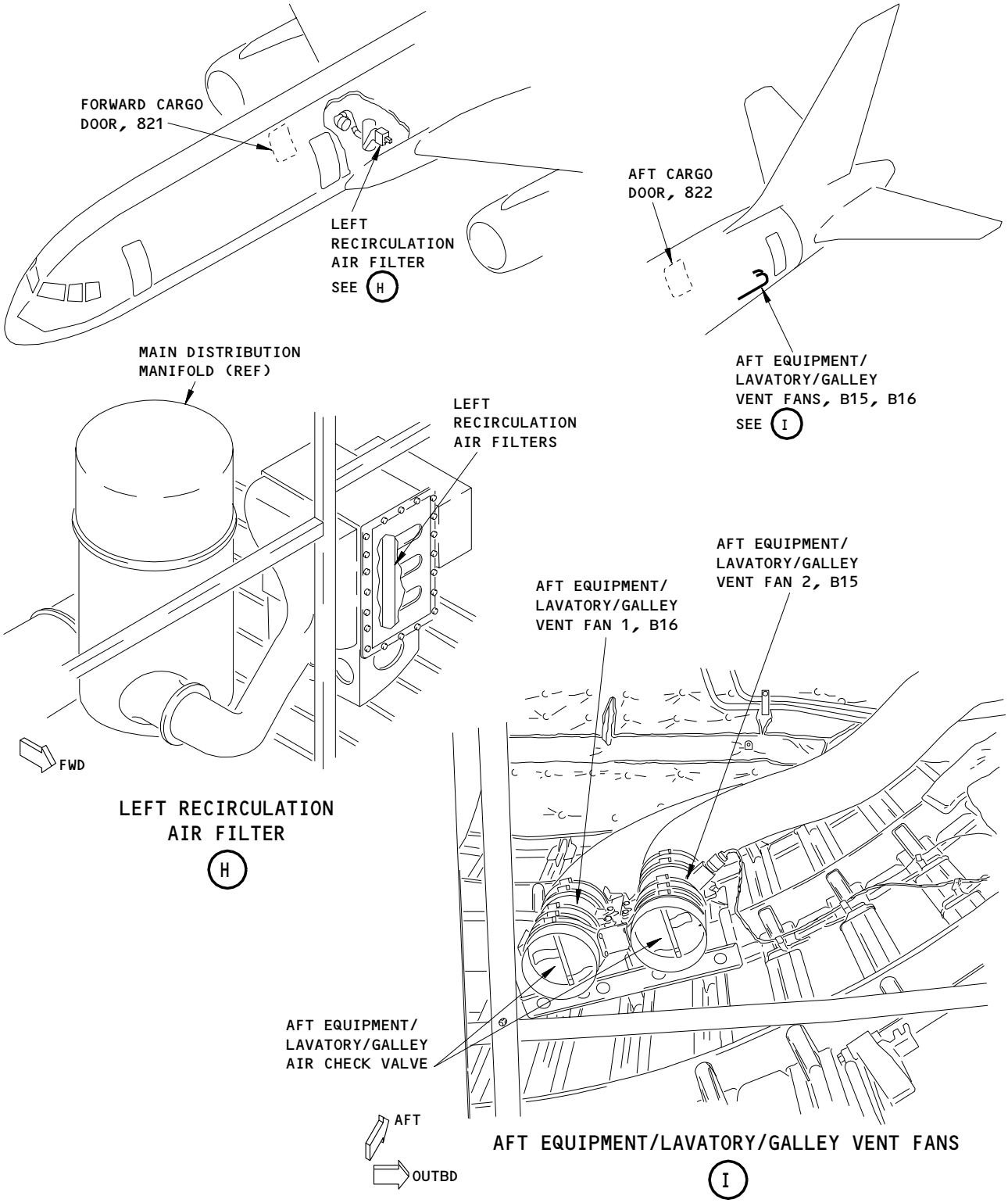

Equipment Cooling - Component Location
Figure 102 (Sheet 4)

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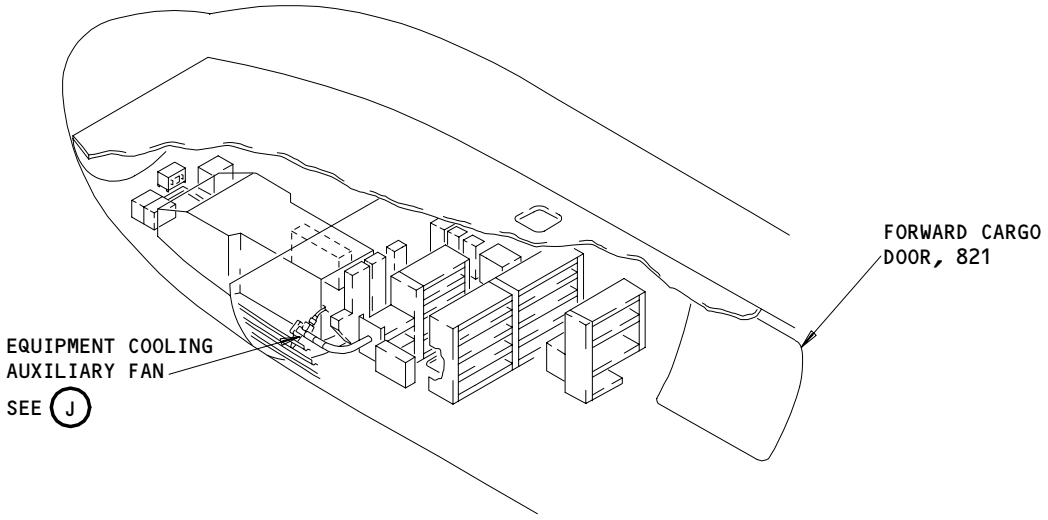
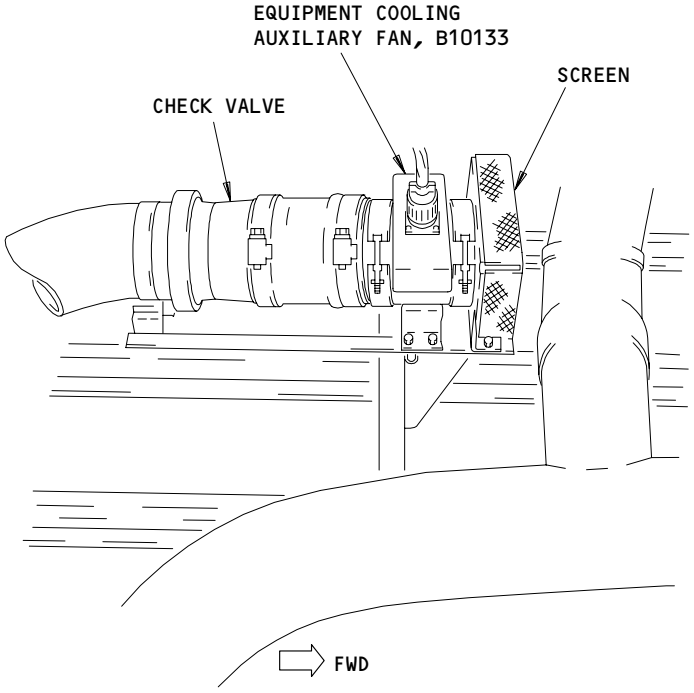


MAIN EQUIPMENT CENTER



EQUIPMENT COOLING AUXILIARY FAN

J

Equipment Cooling – Component Location
Figure 102 (Sheet 5)

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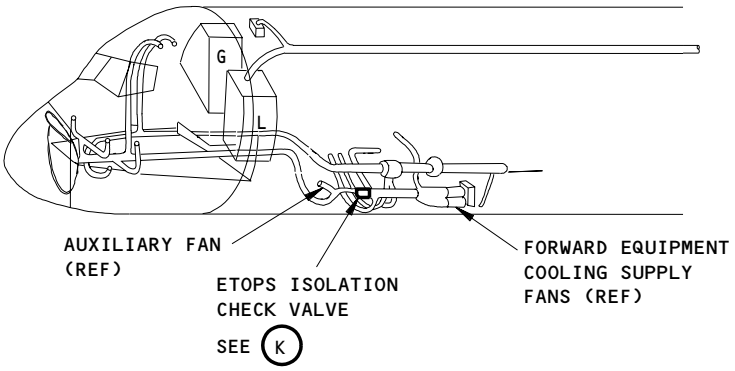

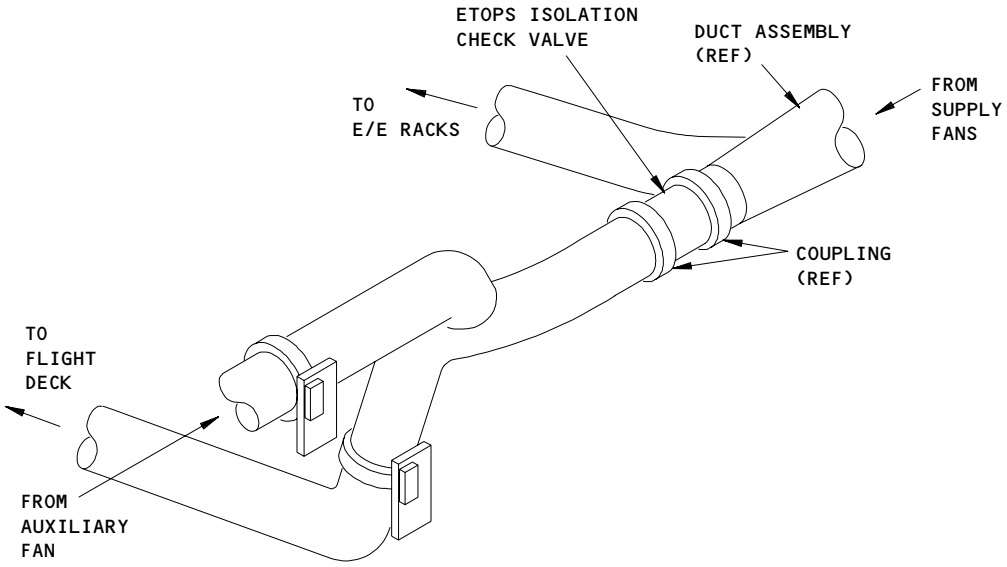

ETOPS ISOLATION CHECK VALVE

K

Equipment Cooling - Component Location
Figure 102 (Sheet 6)

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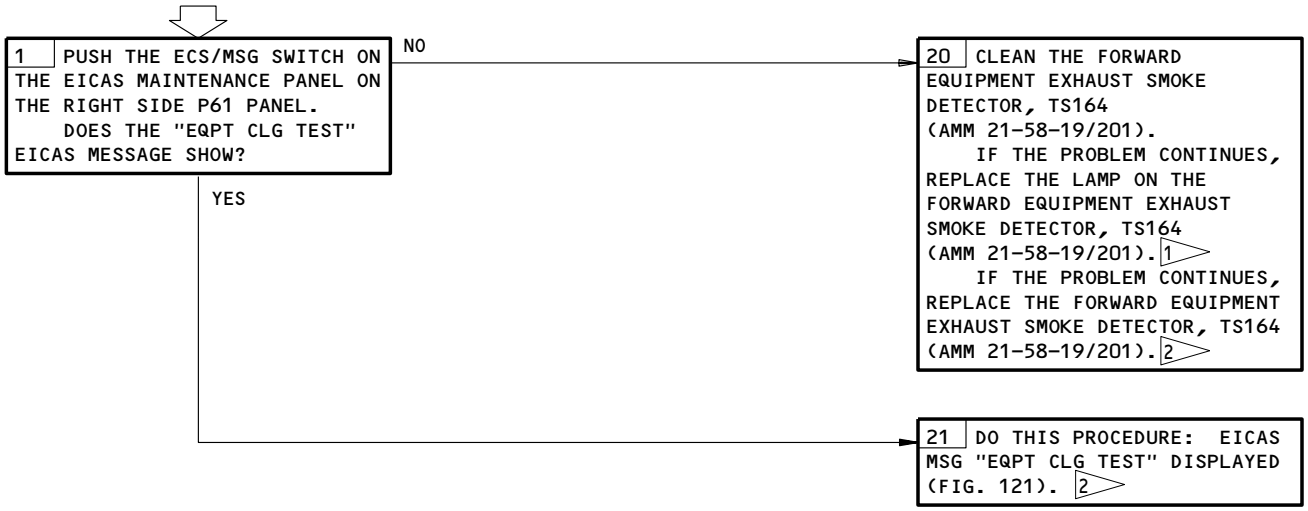
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT EXH DET" DISPLAYED



1 YOU CAN REPLACE THE LAMP ON THE SMOKE DETECTOR WITH PART NUMBER 2156-204A.

2 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT EXH DET" DOES NOT SHOW.

EICAS Msg FWD EQPT EXH DET Displayed
Figure 103

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

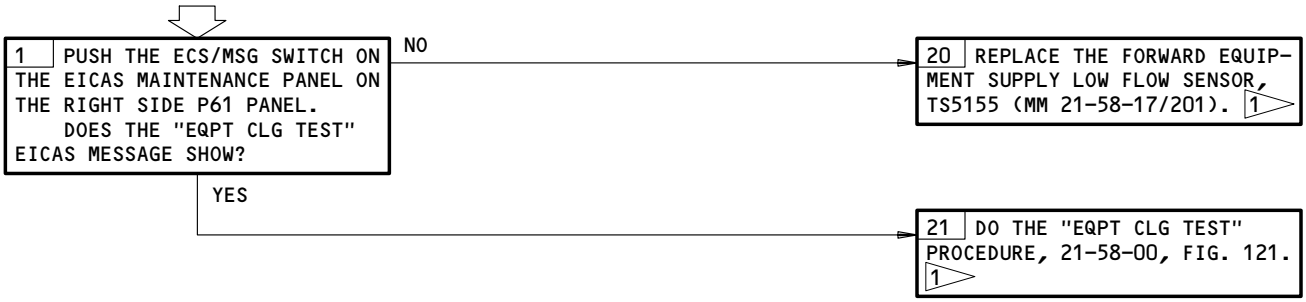
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQ SUP SNSR" DISPLAYED



1 DO THE EICAS ERASE PROCEDURE (31-41-00, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" FOR 5 SECONDS, THEN RELEASE. WAIT 20 SECONDS. CHECK THAT THE EICAS MESSAGE "FWD EQPT EXH DET" DOES NOT SHOW.

EICAS Msg FWD EQ SUP SNSR Displayed
Figure 104

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

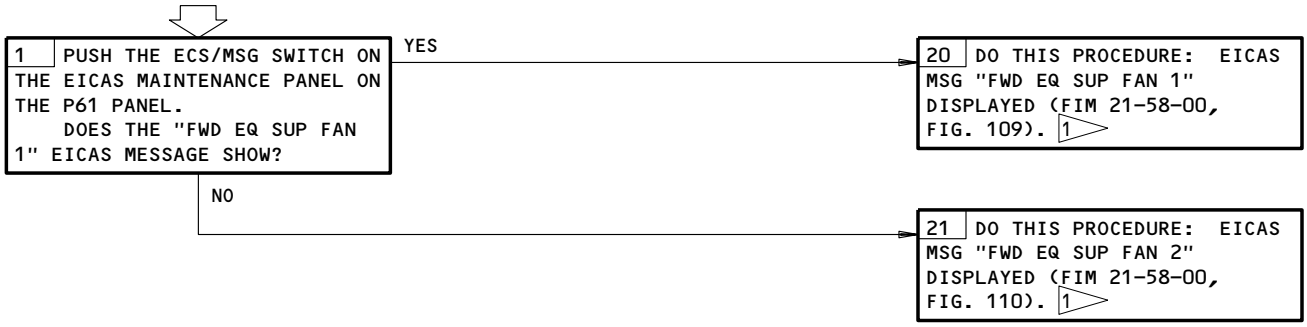
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17, 6F23, 37D2, 70B5

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

EICAS MSG "EQPT CLG FAN" DISPLAYED



1 MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG FAN" DOES NOT SHOW.

EICAS Msg EQPT CLG FAN Displayed
Figure 105

264177

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,11N13

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

EICAS MSG "FWD EQ SUP FLOW" DISPLAYED

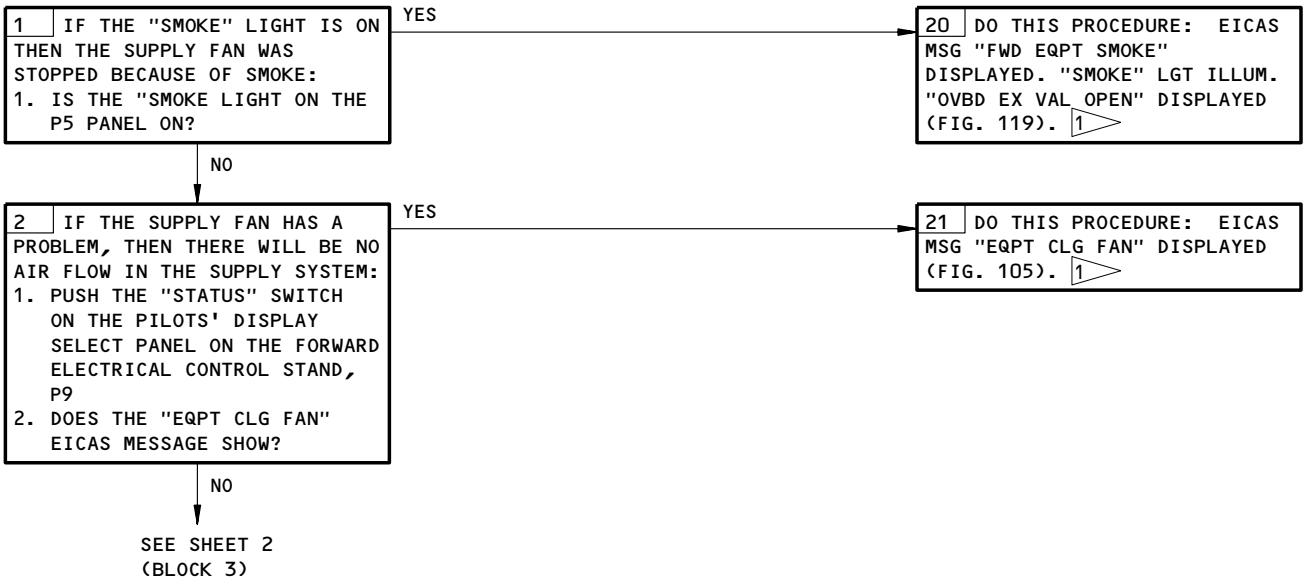
DESCRIPTION:

THE LOW FLOW SENSOR FOUND A LOW FLOW CONDITION IN THE FORWARD EQUIPMENT COOLING SUPPLY SYSTEM.

POSSIBLE CAUSES:

1. THE SMOKE DETECTORS IN THE FORWARD EQUIPMENT COOLING SUPPLY SYSTEM FOUND SMOKE, AND STOPPED THE EQUIPMENT COOLING SUPPLY FAN.
2. THE SUPPLY FAN HAS A PROBLEM
3. THE LOW FLOW SENSOR HAS CONTAMINATION OR HAS A PROBLEM
4. THE EQUIPMENT COOLING AIR CLEANER HAS CONTAMINATION
5. A FORWARD EQUIPMENT COOLING SUPPLY DUCT IS BROKEN OR BLOCKED.

FAULT ISOLATION:



1 MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FLOW" DOES NOT SHOW.

EICAS Msg FWD EQ SUP FLOW Displayed
Figure 106 (Sheet 1)

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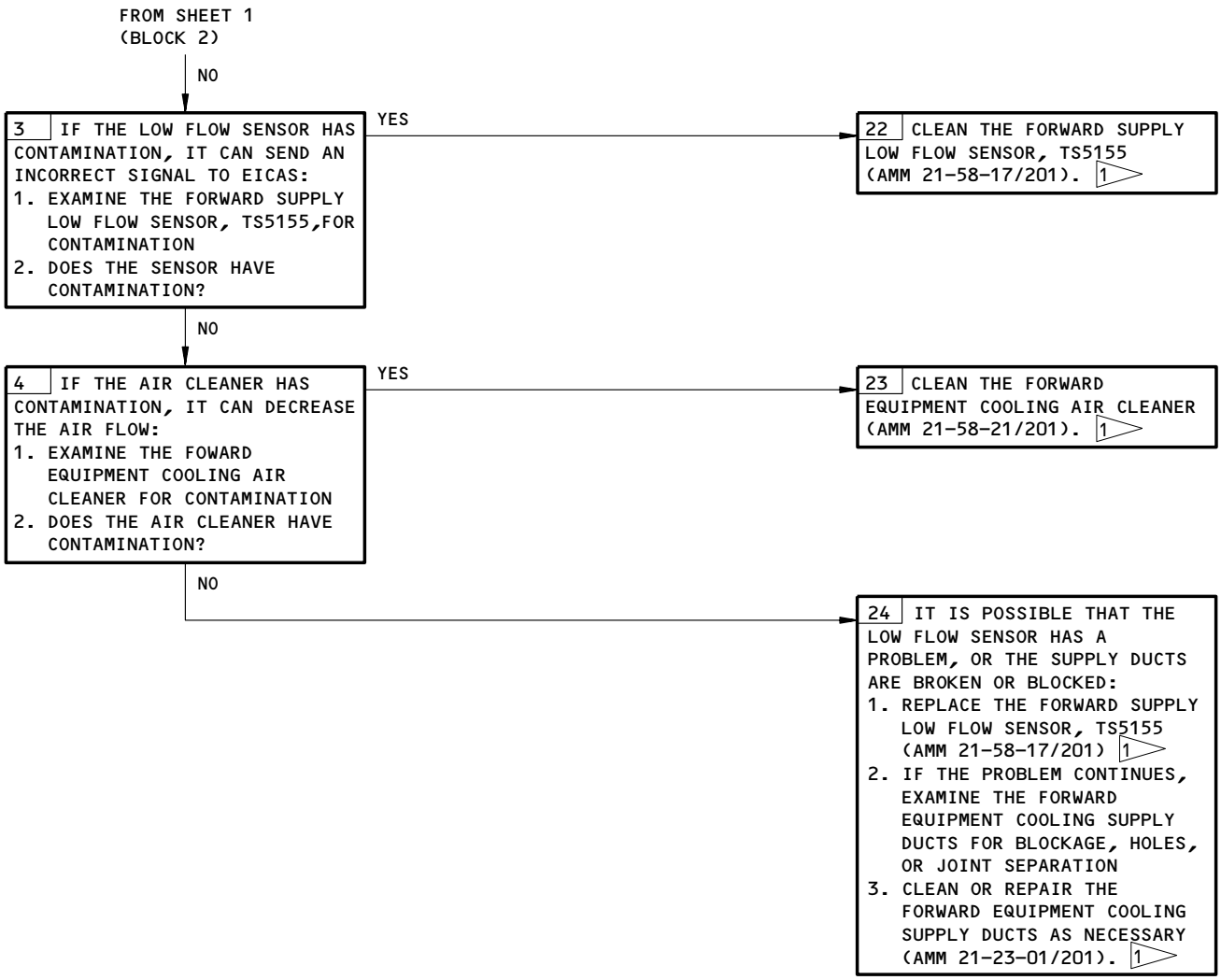

EICAS Msg FWD EQ SUP FLOW Displayed
Figure 106 (Sheet 2)

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C99480

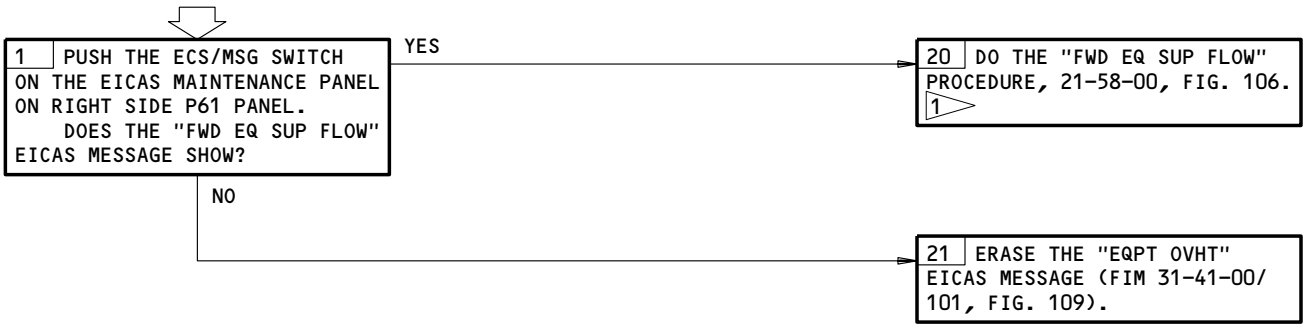
EICAS MSG "EQPT OVHT" DISPLAYED. "OVHT" LGT ILLUM. "OVHT" LGT REMAINED ILLUM WHEN "ALTN" SELECTED. EICAS MSGS "EQPT CLG FAN" AND "OVBD EX VAL OPEN" NOT DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,37D2,70B5, 70C10

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



1 MAKE SURE THAT THE EICAS MESSAGE "EQPT OVHT" DOES NOT SHOW.

EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. OVHT Lgt Remained Illum When ALTN Selected. EICAS Msgs EQPT CLG FAN and OVBD EX VAL OPEN Not Displayed.
Figure 107

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11N13, 11P14, 70C10

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

EICAS MSG "FWD EQ EXH FLOW" DISPLAYED [2]

DESCRIPTION:

THE LOW FLOW SENSOR FOUND UNSATISFACTORY AIR FLOW IN THE FORWARD EQUIPMENT COOLING EXHAUST SYSTEM.

POSSIBLE CAUSES:

1. THE LEFT RECIRCULATION FAN IS SET TO THE "OFF" POSITION
2. THE LEFT RECIRCULATION FAN HAS A PROBLEM
3. THE LOW FLOW SENSOR HAS CONTAMINATION OR HAS A PROBLEM
4. THE LEFT RECIRCULATION FILTER HAS CONTAMINATION
5. A FORWARD EQUIPMENT COOLING EXHAUST DUCT IS BROKEN OR BLOCKED.

FAULT ISOLATION:

1 IF THE LEFT RECIRCULATION FAN IS SET TO "OFF" OR DOES NOT OPERATE, THERE WILL BE NO AIRFLOW IN THE EXHAUST SYSTEM:
1. PUSH THE "L RECIRC FAN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ON" POSITION.
2. DOES THE "L RECIRC FAN INOP" LIGHT GO OFF?

NO → 40 DO THIS PROCEDURE: RECIRC FAN "INOP" LIGHT ON, "L RECIRC FAN" EICAS MESSAGE DISPLAYED WITH RECIRC FAN SWITCH/LIGHT ON (FIM 21-20-00/101, FIG. 104). [1]

YES

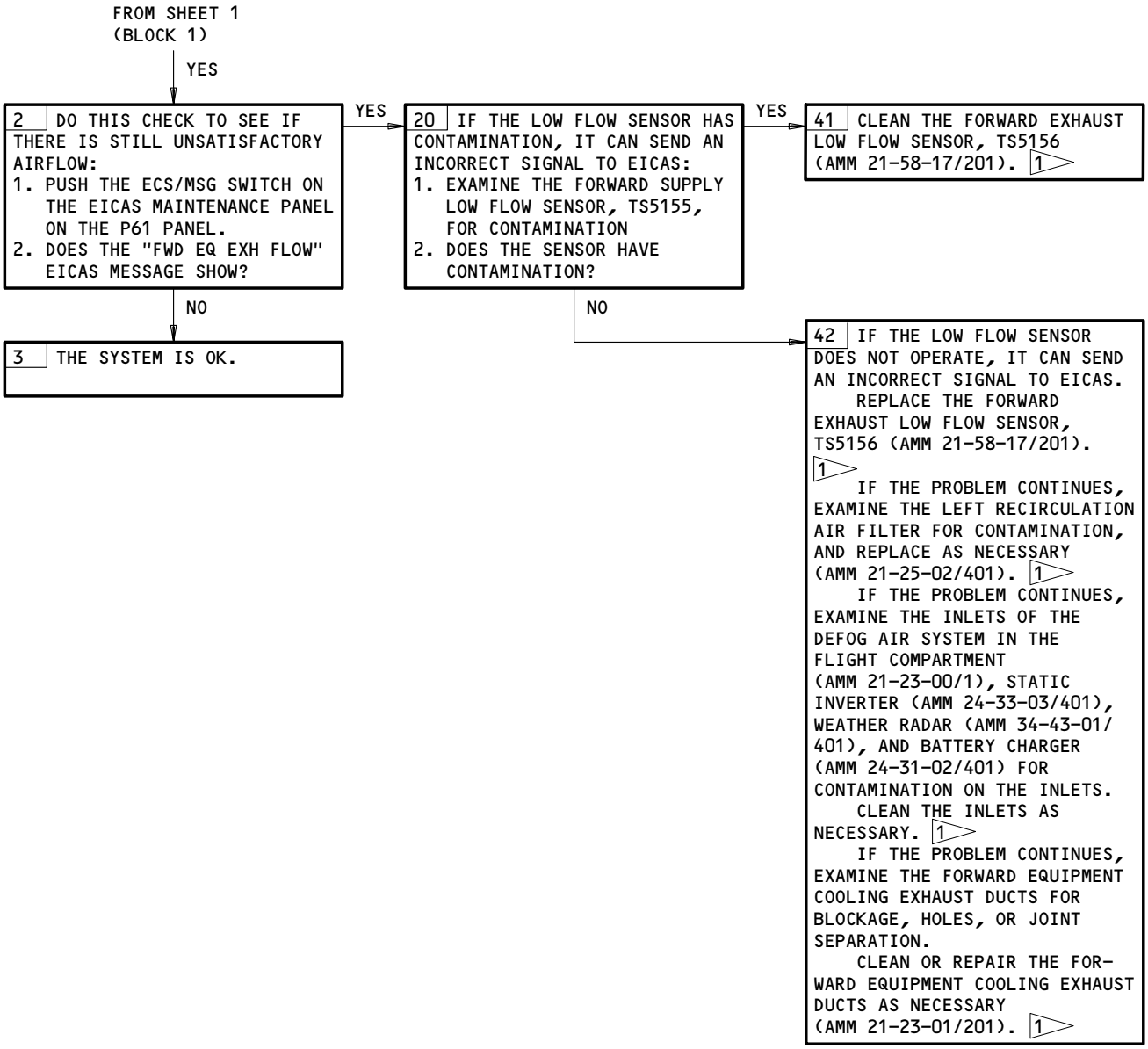
SEE SHEET 2
(BLOCK 2)

[1] MAKE SURE THAT THE EICAS MESSAGE "FWD EQ EXH FLOW" DOES NOT SHOW.

[2] AIRPLANES PRE-SB 21-61

EICAS Msg FWD EQ EXH FLOW Displayed
Figure 108 (Sheet 1)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



EICAS Msg FWD EQ EXH FLOW Displayed
Figure 108 (Sheet 2)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

EICAS MSG "FWD EQ SUP FAN 1" DISPLAYED

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F17,6F23,11C20

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

DESCRIPTION:

THE FORWARD EQUIPMENT SUPPLY FAN 1 WILL NOT OPERATE AND SMOKE IS NOT PRESENT.

POSSIBLE CAUSES:

1. THE SUPPLY FAN HAS A PROBLEM
2. THERE IS A PROBLEM IN THE FAN CONTROL SYSTEM
3. THERE IS A PROBLEM IN THE SMOKE DETECTION SYSTEM.

FAULT ISOLATION:

1 IF TWO FANS WILL NOT OPERATE, THEN THE PROBLEM IS IN THE FAN CONTROL SYSTEM. DO THESE STEPS TO SEE IF THE TWO FANS WILL NOT OPERATE:
1. PUSH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ALTN" POSITION
2. PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL.

DOES "FWD EQ SUP FAN 2" SHOW?

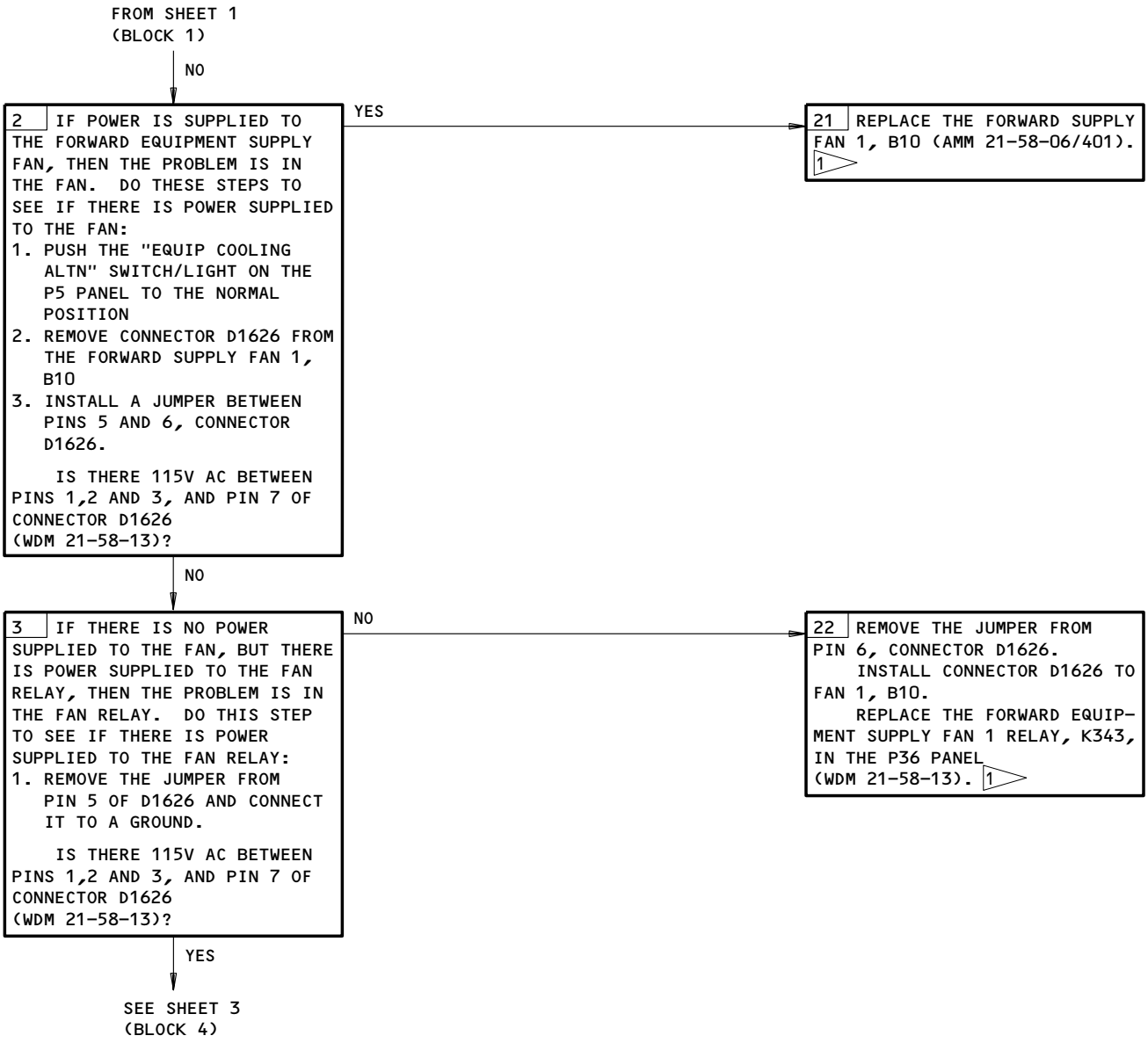
YES → 20 REPLACE THE ALTERNATE MODE RELAY, K10506, IN THE P36 PANEL (WDM 21-58-13). 1

NO → SEE SHEET 2 (BLOCK 2)

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00/101, FIG. 109). WITH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE USUAL POSITION, MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FAN 1" DOES NOT SHOW.

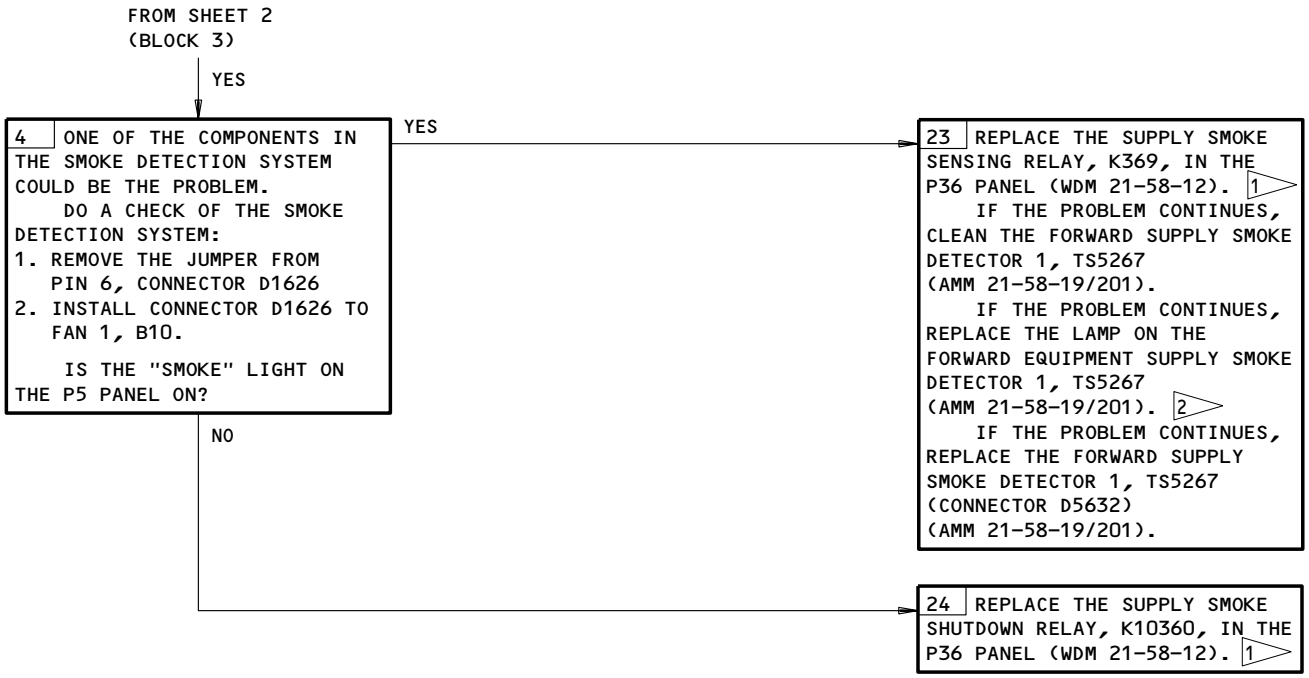
EICAS Msg FWD EQ SUP FAN 1 Displayed
Figure 109 (Sheet 1)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



EICAS Msg FWD EQ SUP FAN 1 Displayed
Figure 109 (Sheet 2)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



2 YOU CAN REPLACE THE LAMPS ON THE SMOKE DETECTOR WITH PART NUMBER 2156-204A.

EICAS Msg FWD EQ SUP FAN 1 Displayed
Figure 109 (Sheet 3)

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6F23,11C20

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

EICAS MSG "FWD EQ SUP FAN 2" DISPLAYED

1 PUSH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL TO THE "ALTN" POSITION.
PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL.
DOES THE "AFT EQ SUP FAN 2" EICAS MESSAGE SHOW?

YES → 20 REPLACE THE ALTERNATE MODE RELAY K10506 IN THE P36 PANEL (WDM 21-58-13). 1

NO

2 DISCONNECT ELECTRICAL CONNECTOR D1628 FROM THE FORWARD SUPPLY FAN 2, B11. INSTALL A JUMPER BETWEEN PIN 6 OF CONNECTOR D1628 AND A GROUND.
IS THERE 115V AC BETWEEN PINS 1,2, & 3 AN PIN 7 OF CONNECTOR D1628?

YES → 21 REPLACE THE FORWARD SUPPLY FAN 2, B11 (MM 21-58-06/401). 1

NO → 22 REMOVE THE JUMPER FROM CONNECTOR D1628. INSTALL THE CONNECTOR D1628 TO THE FAN 2, B11.
REPLACE THE FORWARD EQUIPMENT SUPPLY FAN 2 RELAY K344 IN THE P37 PANEL (WDM 21-58-13). 1

1 DO THE EICAS ERASE PROCEDURE (31-41-00, FIG. 109). WITH THE "EQUIP COOLING ALTN" SWITCH/LIGHT ON THE P5 PANEL IN THE "ALTN" POSITION, MAKE SURE THAT THE EICAS MESSAGE "FWD EQ SUP FAN 2" DOES NOT SHOW.

EICAS Msg FWD EQ SUP FAN 2 Displayed
Figure 110

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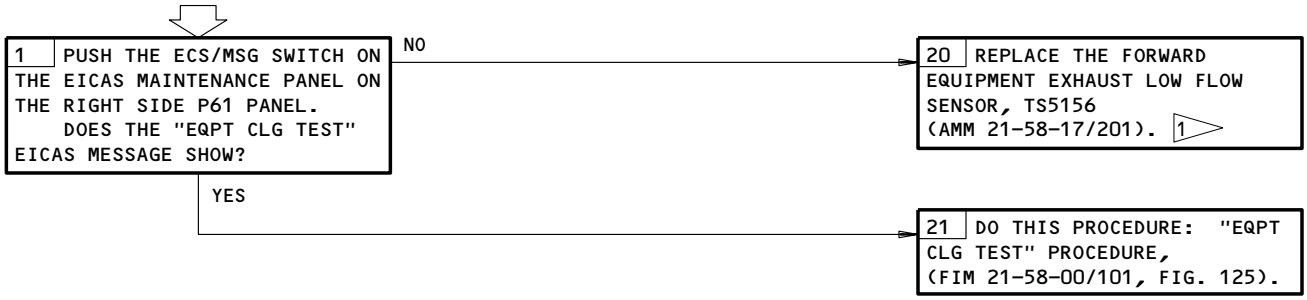
EICAS MSG
"FWD EQ EXH SNSR"
DISPLAYED 2

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F17, 6F23, 11C20, 11N11, 11N13

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



1 DO THE EICAS ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQ EXH SNSR" DOES NOT SHOW.

2 AIRPLANES PRE-SB 21-61

EICAS Msg FWD EQ EXH SNSR Displayed
Figure 111

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

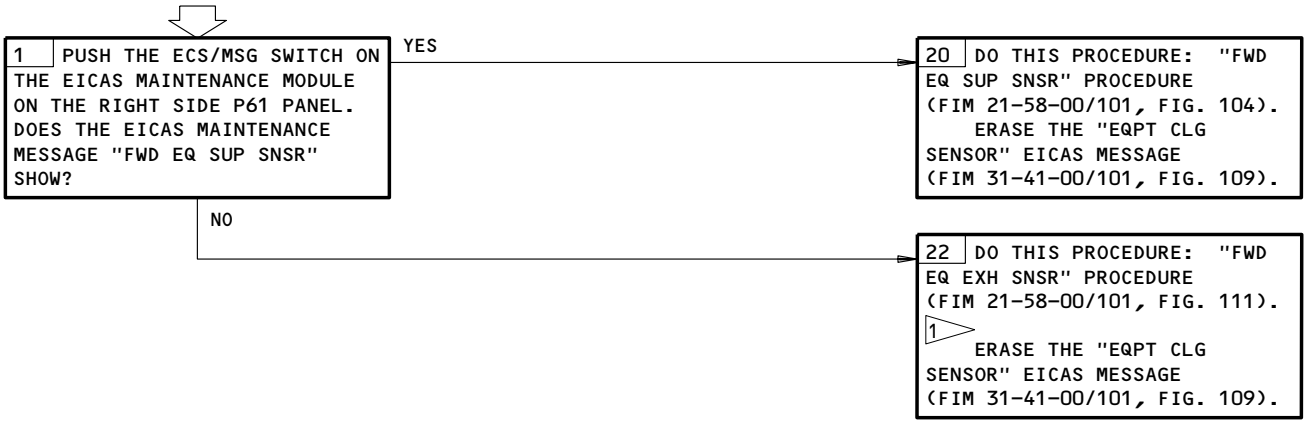
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 11N13

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

EICAS MSG "EQPT CLG SENSOR" DISPLAYED



1 AIRPLANES PRE-SB 21-61

EICAS Msg EQPT CLG SENSOR Displayed
Figure 112

L02788

BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F2,6F17,11N11,11N13,11P14,37D2,70B5,70C10

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

EICAS MSG "EQPT CLG FLOW" DISPLAYED

1 DID THE "EQPT OVHT" EICAS MESSAGE SHOW AND THE "OVHT" LIGHT COME ON?

NO → 40 CLEAN THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268 (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE LAMPS ON THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268 (AMM 21-58-19/201). 2

IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267 (CONNECTOR D5632) (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 2, TS5268 (CONNECTOR D5634) (AMM 21-58-19/201). 1

IF THE PROBLEM CONTINUES, REPLACE THE SMOKE-AUTO-TEST-RESET-TIME-DELAY MODULE, M10691 (WDM 21-58-12).

YES

2 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE P61 PANEL.
DOES THE "FWD EQ SUP FLOW" EICAS MESSAGE SHOW?

YES → 41 DO THIS PROCEDURE: EICAS MSG "FWD EQ SUP FLOW" DISPLAYED (FIG. 106). 1

NO → 42 DO THIS PROCEDURE: EICAS MSG "FWD EQ EXH FLOW" DISPLAYED (FIG. 108). 1

1 MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG FLOW" DOES NOT SHOW.

2 YOU CAN REPLACE THE LAMPS ON THE SMOKE DETECTORS WITH PART NUMBER 2156-204A.

EICAS Msg EQPT CLG FLOW Displayed
Figure 113

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11C20,11P14,70C10

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

EICAS MSG "OVBD EX VAL OPEN" DISPLAYED

DESCRIPTION:

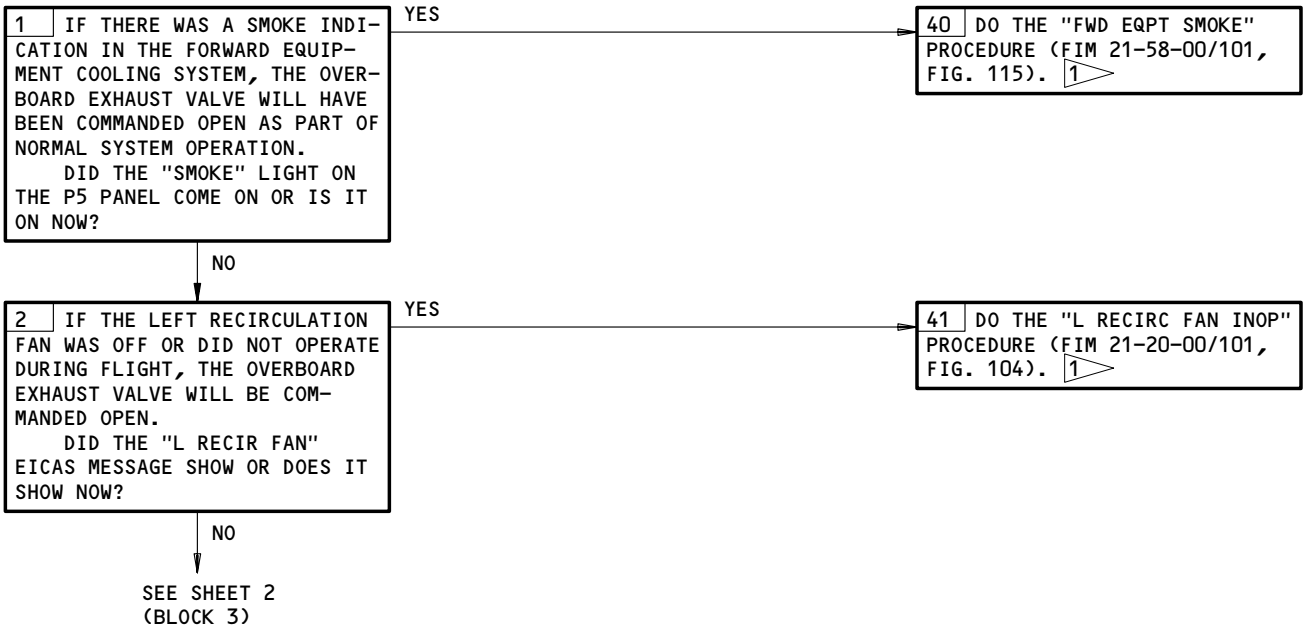
THE OVERBOARD EXHAUST VALVE (OEV) WAS COMMANDED OPEN.

NOTE: THE OVERBOARD EXHAUST VALVE WILL BE COMMANDED OPEN IF THE LEFT RECIRCULATION FAN WAS OFF OR DID NOT OPERATE DURING FLIGHT.

POSSIBLE CAUSES:

1. THERE WAS SMOKE IN THE FORWARD EQUIPMENT COOLING SYSTEM.
2. THE LEFT RECIRCULATION FAN DID NOT OPERATE.
3. THERE IS A PROBLEM WITH THE "EQUIP COOLING ALTN" SWITCH/LIGHT, YNMS1.
4. THERE IS A PROBLEM WITH THE OEV COMMAND RELAY, K10442.
5. THERE IS A PROBLEM WITH THE OVERBOARD EXHAUST VALVE, V95.
6. THERE IS A PROBLEM WITH THE OEV OPEN INDICATION RELAY, K10086.

FAULT ISOLATION:



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL POSITION" FOR 5 SECONDS AND THEN RELEASE. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "OVBD EX VAL TEST" DOES NOT SHOW.

EICAS Msg OVBD EX VAL OPEN Displayed
Figure 114 (Sheet 1)

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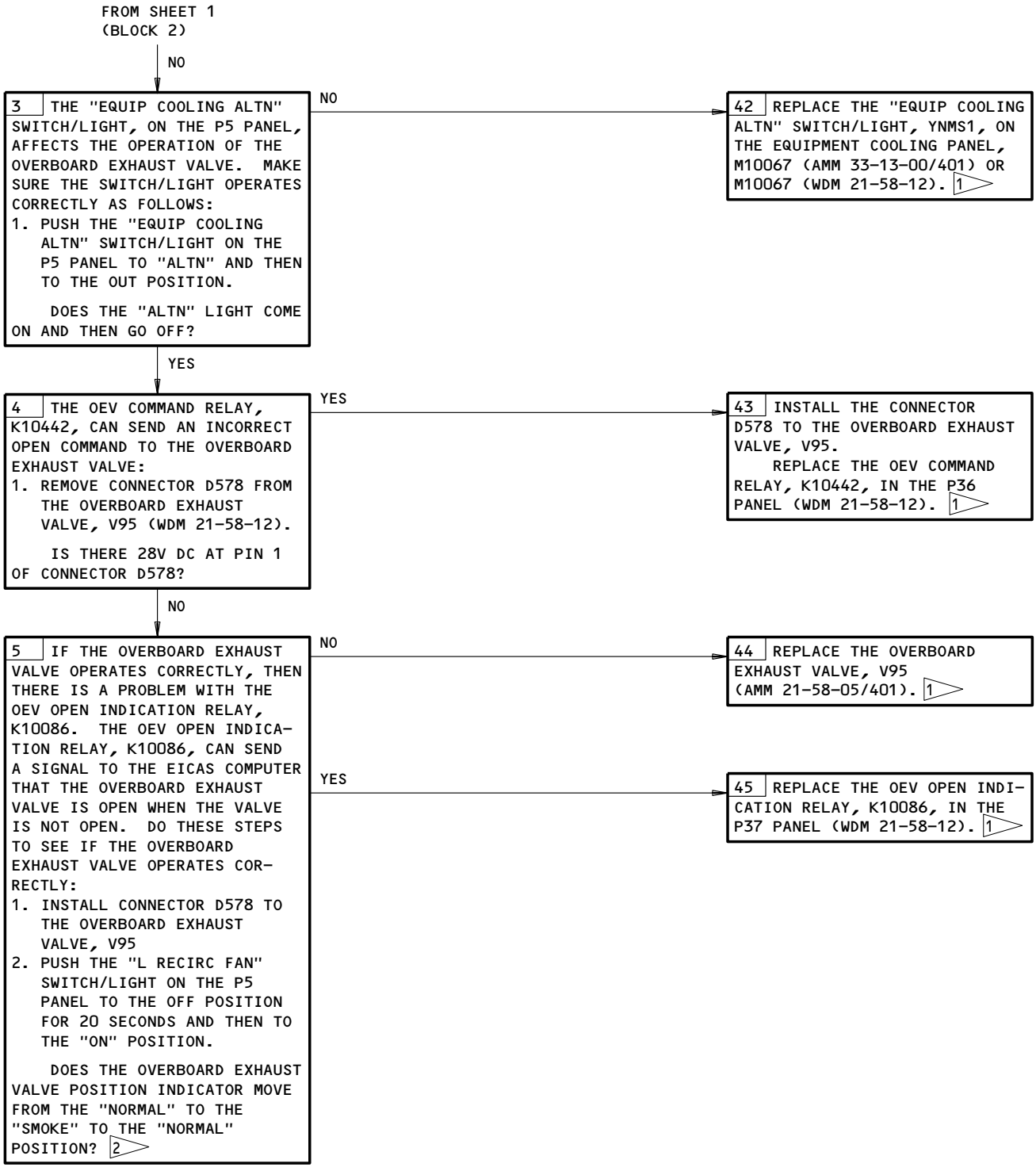

2 THE OVERBOARD EXHAUST VALVE IS SPRING-LOADED OPEN ON THE GROUND. THE VALVE ACTUATOR ONLY WILL MOVE, THE VALVE FLAPPER WILL NOT MOVE.

EICAS Msg OVBD EX VAL OPEN Displayed
Figure 114 (Sheet 2)

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EICAS MSG "FWD EQPT SMOKE" DISPLAYED. "SMOKE" LGT ILLUM. "OVBD EX VAL OPEN" DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,70C10

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

1 PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE P61 PANEL. HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT.
DOES THE "FWD EQPT EXH DET" EICAS MESSAGE SHOW IN 20 SECONDS OR LESS?

YES → 20 DO THIS PROCEDURE: EICAS MSG "FWD EQPT EXH DET" DISPLAYED (FIG. 103). 1

NO

2 DOES THE "FWD EQPT DET 1" EICAS MESSAGE SHOW?

YES → 21 DO THIS PROCEDURE: EICAS MSG "FWD EQPT DET 1" DISPLAYED (FIG. 122). 1

NO

3 DOES THE "FWD EQPT DET 2" EICAS MESSAGE SHOW?

YES → 22 DO THIS PROCEDURE: EICAS MSG "FWD EQPT DET 2" DISPLAYED (FIG. 123). 1

NO → 23 FIND AND REPAIR THE SOURCE OF THE SMOKE.
IF YOU CANNOT FIND THE SOURCE OF THE SMOKE, CLEAN THE FORWARD SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268 (AMM 21-58-19/201).
IF THE PROBLEM CONTINUES, REPLACE THE LAMPS ON THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 AND TS5268 (AMM 21-58-19/201). 2
IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTORS 1 AND 2, TS5267 (CONNECTOR D5632) AND TS5268 (CONNECTOR D5634)(AMM 21-58-19/201).

1 MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT SMOKE" DOES NOT SHOW.

2 YOU CAN REPLACE THE LAMPS ON THE SMOKE DETECTORS WITH PART NUMBER 2156-204A.

EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Displayed.
Figure 115

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PREREQUISITES

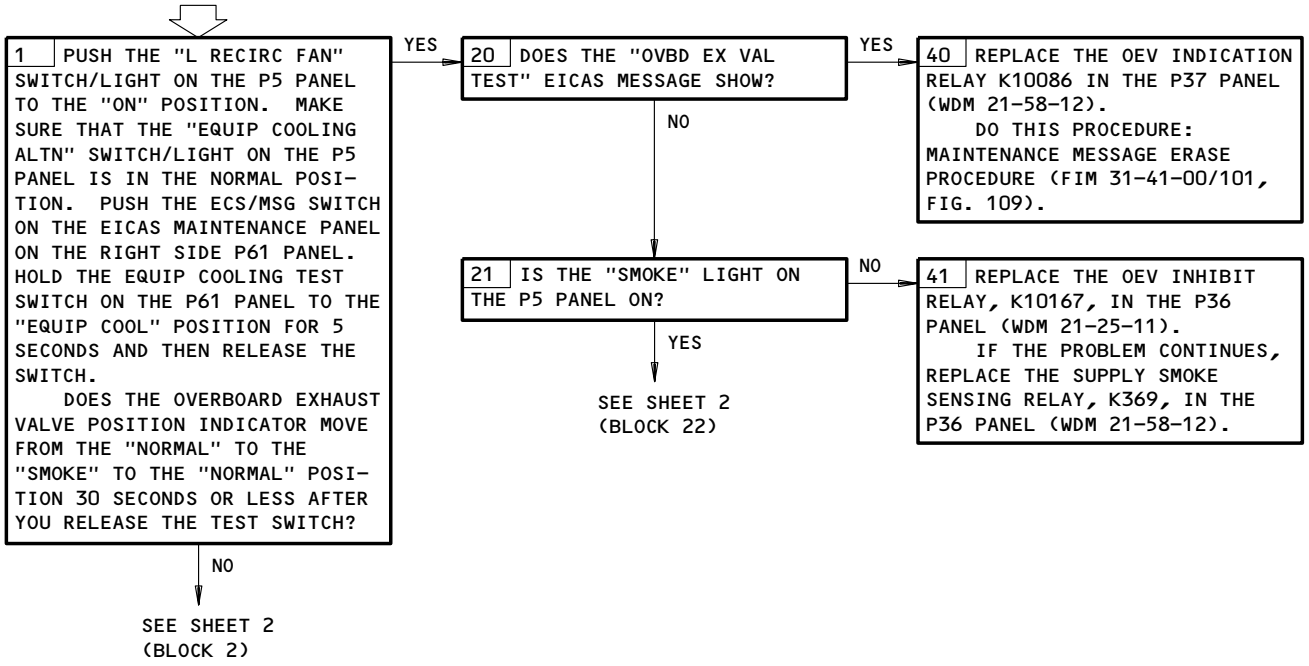
MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13,11P14,70C10

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

EICAS MSG "FWD EQPT SMOKE" DISPLAYED. "SMOKE" LGT ILLUM. "OVBD EX VAL OPEN" NOT DISPLAYED.

NOTE: THERE MAY BE A SMOKE CONDITION. FIND AND REPAIR THE SOURCE OF THE SMOKE. IF YOU CANNOT FIND THE SOURCE OF THE SMOKE DO THE BLOCK 1 ACTION.



EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Not Displayed.
Figure 116 (Sheet 1)

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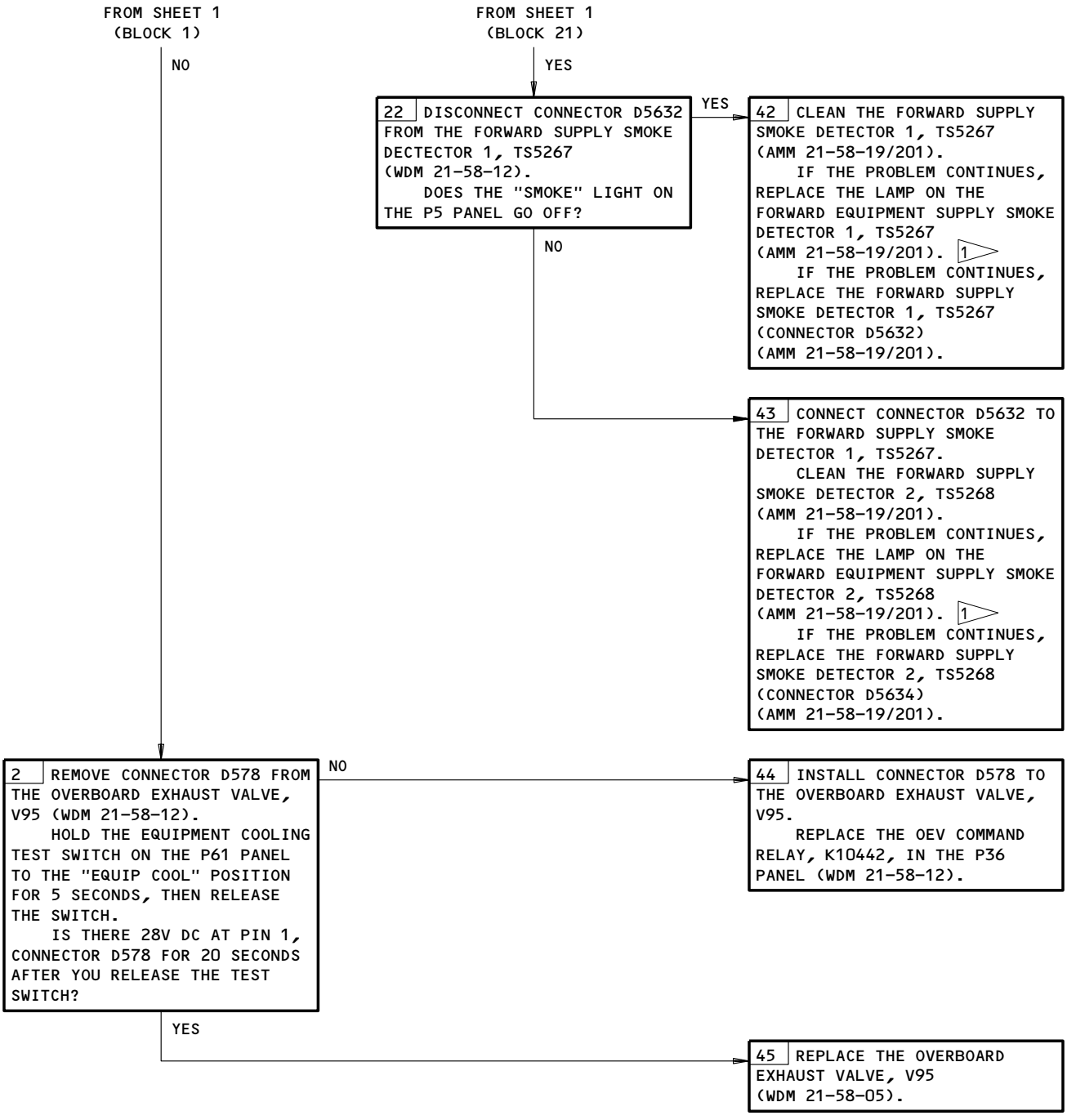

EICAS Msg FWD EQPT SMOKE Displayed. SMOKE Lgt Illum.
OVBD EX VAL OPEN Not Displayed.
Figure 116 (Sheet 2)

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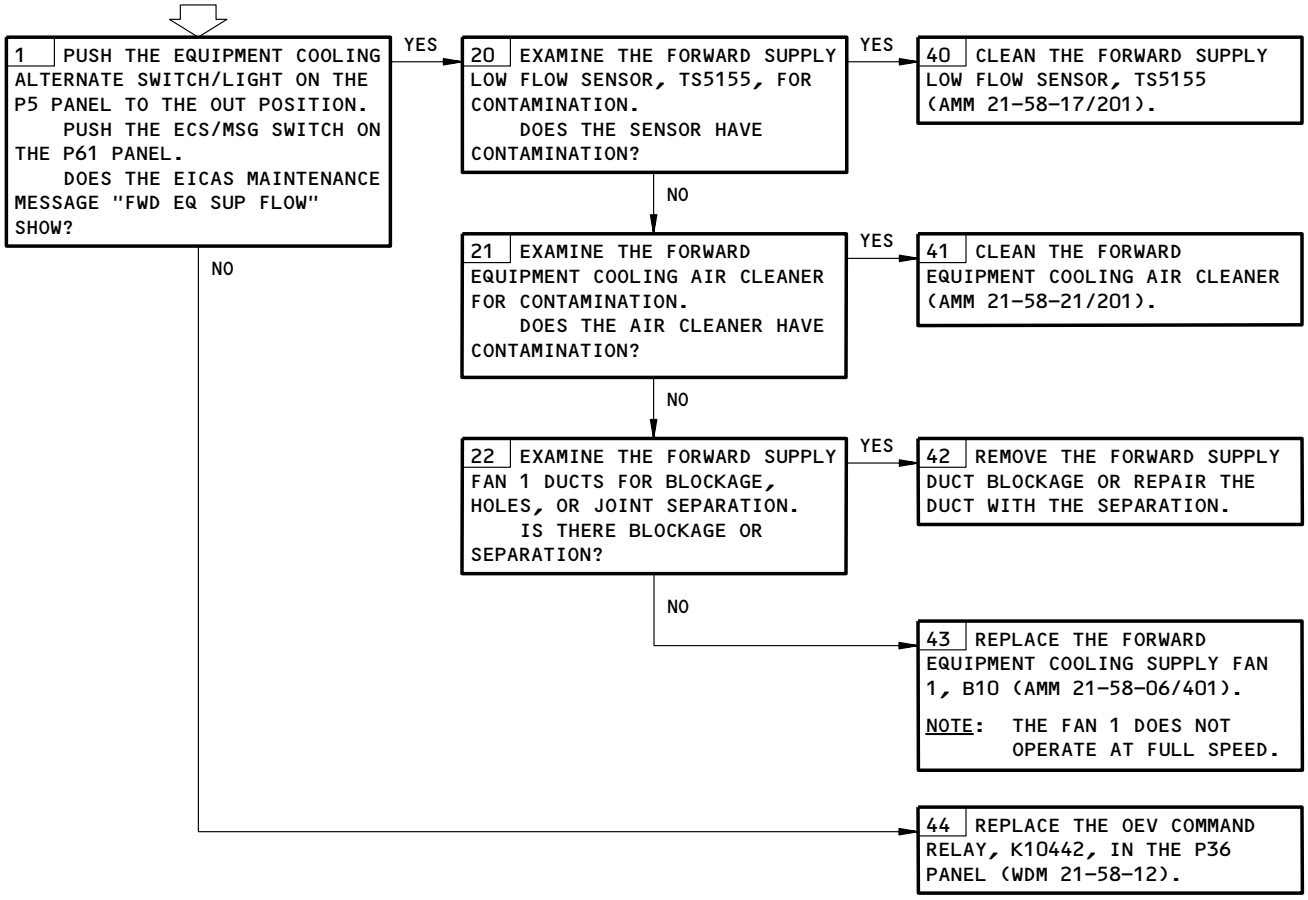
EICAS MSG "EQPT OVHT" DISPLAYED. "OVHT" LGT ILLUM. "L RECIRC FAN INOP" LGT ILLUM. "OVHT" LGT EXTIN WHEN "ALTN" WAS SELECTED. EICAS MSGS "EQPT CLG FAN" AND "OVBD EX VAL OPEN" NOT DISPLAYED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6 ,6F17 ,6F23 ,11C20, 11N11, 11N13, 11P14, 37D2, 70B5, 70C10

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



EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. L RECIRC INOP Lgt Illum. OVHT Lgt Extin When ALTN Was Selected. EICAS Msgs EQPT CLG FAN and OVBD EX VAL OPEN Not Displayed.
Figure 117

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 11N13

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

GROUND CREW CALL HORN SOUNDS CONTINUOUSLY. C IRS, L IRS, OR R IRS NOT SELECTED ON.

1 AIRPLANES PRE-SB 21-61

Ground Crew Call Horn Sounds Continuously. C IRS, L IRS, or R IRS Not Selected ON.
Figure 118

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EICAS MSG "EQPT OVHT" DISPLAYED.
"OVHT" LGT ILLUM.
EICAS MSG "EQPT CLG FAN" DISPLAYED.
"OVHT" LIGHT REMAINED ILLUM WHEN "ALTN" WAS SELECTED.

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6 ,6F17, 6F23, 11C20, 11N11, 11N13, 11P14, 37D2, 70B5, 70C10

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

1 EXAMINE THE FORWARD EQUIPMENT COOLING AIR CLEANER FOR CONTAMINATION.
DOES THE CLEANER HAVE CONTAMINATION?

YES → 40 CLEAN THE FORWARD EQUIPMENT COOLING AIR CLEANER (AMM 21-58-21/201). 1

NO → 41 REMOVE THE BLOCKAGE FROM THE FORWARD SUPPLY DUCTING OR REPAIR THE DUCT WITH THE HOLES OR THE SEPARATION. 1

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

EICAS Msg EQPT OVHT Displayed. OVHT Lgt Illum. EICAS Msg EQPT CLG FAN Displayed. OVHT Lgt Remained Illum When ALTN Was Selected.
Figure 119

264123

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6, 6F17, 6F23, 11C20, 11N11, 11N13 OR 11N17, 11P23, 37D7, 37J5

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

EICAS MSG "OVBD EX VAL TEST" DISPLAYED

1 PUSH THE "EQUIP COOLING ALTN" SWITCH ON THE P5 PANEL TO THE "ALTN" POSITION AND THEN BACK TO THE "OFF" POSITION.
DOES THE "EQUIP COOLING ALTN" LIGHT COME ON AND THEN GO OFF?

NO → 40 REPLACE THE EQUIPMENT COOLING ALTERNATE SWITCH, YNMS1 ON THE EQUIPMENT COOLING PANEL, M10067 (AMM 33-13-00/401) OR M10067 (WDM 21-58-12). 1

YES

2 DO THE EICAS ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). IN THE FORWARD CARGO COMPARTMENT, REMOVE THE LEFT SIDEWALL LINING 4 FEET AFT OF FORWARD ENDWALL AND FIND THE OVERBOARD EXHAUST VALVE (AMM 25-50-02/401). USE A MIRROR TO VIEW THE OVERBOARD EXHAUST VALVE ACTUATOR POSITION INDICATOR. HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE THE SWITCH.
DOES THE OVERBOARD EXHAUST VALVE MOVE TO THE "SMOKE" POSITION 20 SECONDS OR LESS AFTER YOU RELEASE THE SWITCH AND THEN TO THE "NORMAL" POSITION AFTER 20 SECONDS? 2

NO → 20 REMOVE THE ELECTRICAL CONNECTOR D578 FROM THE OVERBOARD EXHAUST VALVE, V95 (WDM 21-58-12).
HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE THE SWITCH.
IS THERE 28V DC AT PIN 1 OF CONNECTOR, D578 20 SECONDS OR LESS AFTER YOU RELEASE THE TEST SWITCH?

YES → 41 REPLACE THE OVERBOARD EXHAUST VALVE, V95 (AMM 21-58-05/401). 1

NO

21 INSTALL CONNECTOR D578 TO THE OVERBOARD EXHAUST VALVE, V95.
IS THERE 28V DC AT PIN B OF THE TIME DELAY, M10689 IN THE P36 PANEL (WDM 21-58-12)?

YES → 42 REPLACE THE OVERBOARD EXHAUST VALVE COMMAND RELAY, K10442 IN THE P36 PANEL (WDM 21-58-12). 1

NO → 43 REPLACE THE TIME DELAY, M10689 IN THE P36 PANEL (WDM 21-58-12). 1

YES

SEE SHEET 2
(BLOCK 3)

1 DO THE EICAS "ERASE PROCEDURE" (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS AND THEN RELEASE THE SWITCH. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "OVBD EX VAL TEST" DOES NOT SHOW.

2 ONLY THE OVERBOARD EXHAUST VALVE ACTUATOR WILL MOVE. THE VALVE FLAPPERS WILL NOT MOVE. THEY ARE SPRING-LOADED OPEN ON THE GROUND.

EICAS Msg OVBD EX VAL TEST Displayed
Figure 120 (Sheet 1)

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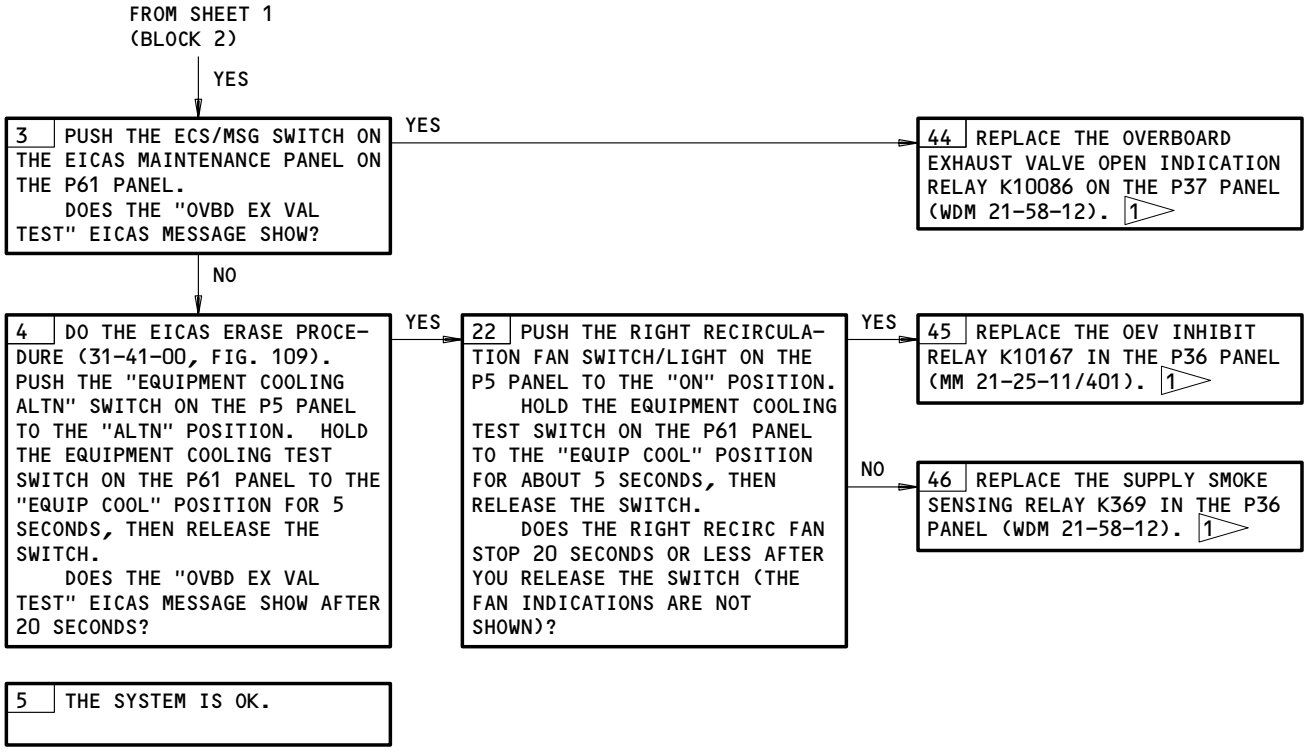

EICAS Msg OVBD EX VAL TEST Displayed
Figure 120 (Sheet 2)

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PREREQUISITES

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

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6D6

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

EICAS MSG "EQPT CLG TEST" DISPLAYED

NOTE: THIS IS USUALLY A NUISANCE MESSAGE. IT IS USUALLY CAUSED BY OSCILLATIONS FROM THE ENGINE SPEED CARD.

1 DID EICAS MESSAGE "ENG SPEED CARD" ALSO SHOW?
- YES → 40 DO THIS PROCEDURE: EICAS "L (R) ENG SPEED CARD" MESSAGE DISPLAYED (77-12-00/101, FIG. 103).
- NO ↓

2 DO THE EICAS ERASE PROCEDURE (31-41-00, FIG. 109).
HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS AND THEN RELEASE THE SWITCH.

NOTE: TO MAKE SURE THAT THE TEST OCCURS, LISTEN FOR THE EQUIPMENT COOLING SUPPLY FAN TO SHUT OFF FOR APPROXIMATELY 20 SECONDS AFTER YOU RELEASE THE TEST SWITCH.

DOES THE "OVHT" LIGHT ON THE P5 PANEL COME ON WHEN YOU HOLD THE TEST SWITCH AND GO OFF WHEN YOU RELEASE THE TEST SWITCH?
- NO → 41 REPLACE THE EQUIPMENT COOLING TEST SWITCH, YPHS9, ON THE P61 PANEL, M10398 (WDM 21-58-12). 1
- YES ↓

3 DID THE FORWARD EQUIPMENT COOLING SUPPLY FAN SHUT OFF FOR APPROXIMATELY 20 SECONDS AFTER YOU RELEASED THE TEST SWITCH?
- NO → 22 REMOVE THE AUTO TEST RELAY, K10511, IN THE P36 PANEL (WDM 21-58-12).
  IS THERE 28V DC AT PIN X1 OF CONNECTOR D5626?
  - YES → 42 REPLACE THE AUTO TEST RELAY, K10511 (WDM 21-58-12). 1
  - NO → 23 INSTALL THE AUTO TEST RELAY, K10511, IN THE P36 PANEL.
    REMOVE THE RIGHT ENG OUT RELAY, K10342, IN THE P37 PANEL (WDM 77-12-42).
    IS THERE 28V DC AT PIN 6 OF CONNECTOR D4246?
    - YES → 43 REPLACE THE RIGHT ENG OUT RELAY, K10342 (WDM 77-12-42). 1
    - NO → 44 REPLACE THE LEFT ENG OUT RELAY, K10339 (WDM 77-12-41). 1
- YES ↓

4 THE SYSTEM IS OK.

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00/101, FIG. 109). DO THE SIMULATED ENGINE RUNNING PROCEDURE (77-12-03/201). MAKE SURE THAT THE EICAS MESSAGE "EQPT CLG TEST" DOES NOT SHOW.

EICAS Msg EQPT CLG TEST Displayed
Figure 121

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT DET 1" DISPLAYED

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT DET 1" DOES NOT SHOW.

2 YOU CAN REPLACE THE LAMPS ON THE SMOKE DETECTOR WITH PART NUMBER 2156-204A.

EICAS Msg FWD EQPT DET 1 Displayed
Figure 122

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PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6D6,6F17,6F23,11C20,11N11,11N13

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

EICAS MSG "FWD EQPT DET 2" DISPLAYED

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS, THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "FWD EQPT DET 1" DOES NOT SHOW.

2 YOU CAN REPLACE THE LAMPS ON THE SMOKE DETECTOR WITH PART NUMBER 2156-204A.

EICAS Msg FWD EQPT DET 2 Displayed
Figure 123

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PREREQUISITES

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

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED:
6D6

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

EICAS MSG "EQPT SMOKE TEST" SHOWN

DESCRIPTION:

THE EQUIPMENT COOLING SELF-TEST FOUND A PROBLEM WITH A COMPONENT OF THE SMOKE DETECTION SYSTEM.

POSSIBLE CAUSES:

1. THERE IS A PROBLEM WITH THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267.
2. THERE IS A PROBLEM WITH THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 2, TS5268.
3. THERE IS A PROBLEM WITH THE FORWARD EQUIPMENT EXHAUST SMOKE DETECTOR, TS164.
4. THE SMOKE SHUTDOWN RELAY, K10360, DOES NOT OPERATE.

FAULT ISOLATION:

1 IT IS POSSIBLE THAT THE FORWARD SUPPLY SMOKE DETECTOR 1 DOES NOT OPERATE:
1. PUSH THE ECS/MSG SWITCH ON THE EICAS MAINTENANCE PANEL ON THE RIGHT SIDE P61 PANEL.
2. DOES THE EICAS MESSAGE "FWD EQ DET 1" SHOW?

YES → 20 REPLACE THE LAMP ON THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267 (AMM 21-58-19/201). 2
IF THE PROBLEM CONTINUES, REPLACE THE FORWARD EQUIPMENT SUPPLY SMOKE DETECTOR 1, TS5267 (CONNECTOR D5632) (AMM 21-58-19/201).
IF THE PROBLEM CONTINUES, DO A CHECK OF THE WIRING IN THE EQUIPMENT COOLING SMOKE CLEARANCE CIRCUIT (WDM 21-58-12). REPAIR THE PROBLEMS THAT YOU FIND.

NO → SEE SHEET 2 (BLOCK 2)

1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109). HOLD THE EQUIPMENT COOLING TEST SWITCH ON THE P61 PANEL TO THE "EQUIP COOL" POSITION FOR 5 SECONDS THEN RELEASE IT. WAIT 20 SECONDS. MAKE SURE THAT THE EICAS MESSAGE "EQUIP SMOKE TEST" DOES NOT SHOW.

2 YOU CAN REPLACE THE LAMP ON SMOKE DETECTORS WITH PART NUMBER 2156-204A.

EICAS Msg EQPT SMOKE TEST Shown
Figure 124 (Sheet 1)

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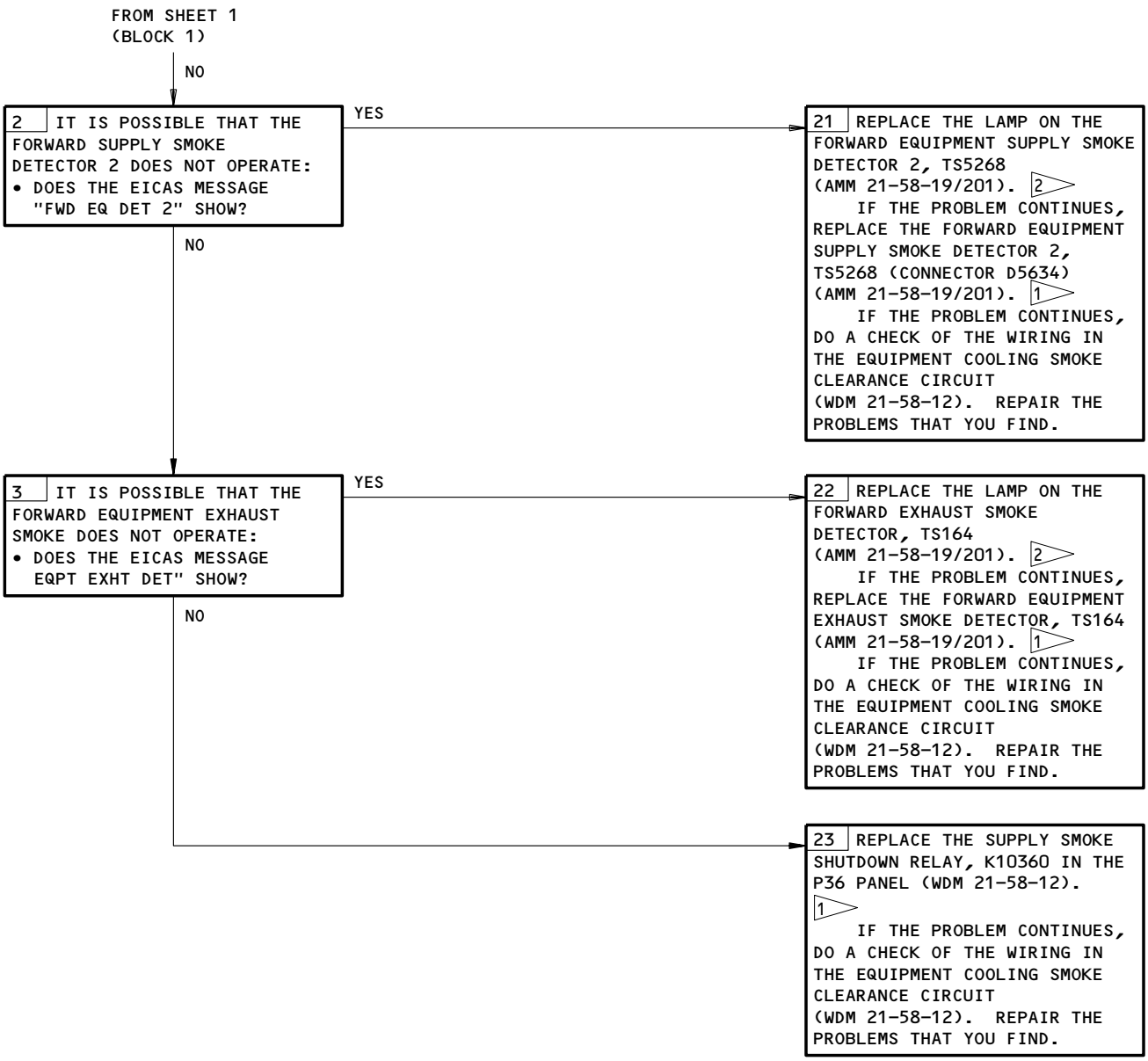

EICAS Msg EQPT SMOKE TEST Shown
Figure 124 (Sheet 2)

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TEMPERATURE CONTROL

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BULB – ZONE DUCT TEMPERATURE				
FLIGHT COMPARTMENT ZONE, TS184	4	1	119BL, MAIN EQUIP CTR, LEFT SIDEWALL	21-65-04
FORWARD ZONE, TS185	4	1	SCULPTURED CEILING PANEL	21-65-04
AFT ZONE, TS186	4	1	SCULPTURED CEILING PANEL	21-65-04
BULB – ZONE TEMPERATURE				
FLIGHT COMPARTMENT ZONE, YRUTS02	5	1	CEILING PANEL, FLIGHT COMPARTMENT ZONE TEMPERATURE SENSOR MODULE, M10452	21-65-02
FORWARD ZONE, YRWTS02	5	1	STOWAGE BIN BULLNOSE, FORWARD ZONE TEMPERATURE SENSOR MODULE, M10025	21-65-02
AFT ZONE, YRVTS02	5	1	STOWAGE BIN BULLNOSE, AFT ZONE TEMPERATURE SENSOR MODULE, M10024	21-65-02
CIRCUIT BREAKERS –	1		FLT COMPT, P11	
CABIN TRIM AIR, C670		1	11P15	*
CABIN ZONE CNTLR, C667		1	11P16	*
ZONE DUCT OVHT/INOP AFT, C4031		1	11P27	*
ZONE DUCT OVHT/INOP FLT DK, C4029		1	11P25	*
ZONE DUCT OVHT/INOP FWD, C4030		1	11P26	*
ZONE TEMP CONT VLV CL AFT, C4186		1	11N27	*
ZONE TEMP CONT VLV CL FLT DK, C4184		1	11N25	*
ZONE TEMP CONT VLV CL FWD, C4185		1	11N26	*
ZONE TEMP IND, C4019		1	11P17	*
COMPUTER – (REF 31-41-00, FIG. 101)				
EICAS LEFT, M10181				
EICAS RIGHT, M10182				
CONTROLLER – (REF 21-51-00, FIG. 101)				
LEFT PACK TEMP, M126				
RIGHT PACK TEMP, M127				
CONTROLLER – ZONE TEMPERATURE, M195	1	1	119BL, MAIN EQUIP CTR, E3-3	21-61-03
FAN – ZONE TEMPERATURE SENSOR				
FLIGHT COMPARTMENT ZONE, YRUM001	5	1	CEILING PANEL, FLIGHT COMPARTMENT ZONE TEMPERATURE SENSOR MODULE, M10452	21-61-09
FORWARD ZONE, YRWM001	5	1	STOWAGE BIN BULLNOSE, FORWARD ZONE TEMPERATURE SENSOR MODULE, M10025	21-61-09
AFT ZONE, YRVM001	5	1	STOWAGE BIN BULLNOSE, AFT ZONE TEMPERATURE SENSOR MODULE, M10024	21-61-09
INDICATOR – COMPARTMENT TEMPERATURE, M10078	1		FLT COMPT, P5	21-65-01
LIGHTS – AFT ZONE INOP, YNRL3	1	1	FLT COMPT, P5, AIR COND MODULE, M10193	*
LIGHTS – FLIGHT COMPARTMENT ZONE INOP, YNRL1	1	1	FLT COMPT, P5, AIR COND MODULE, M10193	*
LIGHTS – FORWARD ZONE INOP, YNRL2	1	1	FLT COMPT, P5, AIR COND MODULE, M10193	*

* SEE THE WDM EQUIPMENT LIST

Temperature Control – Component Index
Figure 101 (Sheet 1)

334831
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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
MODULE – AIR CONDITIONING CONTROL, M10193	1	1	FLT COMPT P5	*
MODULE – ZONE TEMPERATURE SENSOR				
FLIGHT COMPARTMENT ZONE, M10452	4	1	FLT COMPT, CEILING PANEL	*
FORWARD ZONE, M10025	4	1	PASS COMPT, STOWAGE BIN BULLNOSE	*
AFT ZONE, M10024	4	1	PASS COMPT, STOWAGE BIN BULLNOSE	*
MUFFLER – TRIM AIR	6	2	821, FWD CARGO COMPT, AFT LINING, MIX BAY	21-61-12
PANEL – (REF 31-41-00, FIG. 101)				
EICAS MAINTENANCE, M10372				
RELAY – (REF 31-01-36, FIG. 101)				
AIR/GND SYS 1, K141				
RELAYS – (REF 31-01-37, FIG. 101)				
AFT ZONE AUTO/OFF, K10313				
AFT ZONE DUCT OVHT, K240				
AFT ZONE INOP, K10364				
FLT DK ZONE AUTO/OFF, K10311				
FLT DK ZONE DUCT OVHT, K238				
FLT DK ZONE INOP, K10362				
FWD ZONE AUTO/OFF, K10312				
FWD ZONE DUCT OVHT, K239				
FWD ZONE INOP, K10363				
SELECTOR – ZONE TEMPERATURE			FLT COMPT P5, AIR COND MODULE, M10193	
FLIGHT COMPARTMENT ZONE, YNRS6	1	1		21-61-04
FORWARD ZONE, YNRS7	1	1		21-61-04
AFT ZONE, YNRS8	1	1		21-61-04
SENSOR – DUCT AIR TEMPERATURE				
FLIGHT COMPARTMENT ZONE, TS175	4	1	119BL, MAIN EQUIP CTR, LEFT SIDEWALL	21-61-02
FORWARD ZONE, TS177	4	1	SCULPTURED CEILING PANEL	21-61-02
AFT ZONE, TS179	4	1	SCULPTURED CEILING PANEL	21-61-02
MIX MANIFOLD 1, TS200	4	1	821, FWD CARGO COMPT, AFT LINING, MIX MANIFOLD	21-61-02
MIX MANIFOLD 2, TS201	4	1	821, FWD CARGO COMPT, AFT LINING, MIX MANIFOLD	21-61-02
SENSOR – ZONE TEMPERATURE				
FLIGHT COMPARTMENT ZONE, YRUTS01	5	1	CEILING PANEL, FLIGHT COMPARTMENT ZONE TEMPERATURE SENSOR MODULE, M10452	21-61-08
FORWARD ZONE, YRWTS01	5	1	STOWAGE BIN BULLNOSE, FORWARD ZONE TEMPERATURE SENSOR MODULE, M10025	21-61-08
AFT ZONE, YRVTS01	5	1	STOWAGE BIN BULLNOSE, AFT ZONE TEMPERATURE SENSOR MODULE, M10024	21-61-08
SWITCH – ZONE DUCT OVHT				
FLIGHT COMPARTMENT ZONE, S21	4	1	119BL, LEFT SIDEWALL	21-61-01
FORWARD ZONE, S22	4	1	SCULPTURED CEILING PANEL	21-61-01
AFT ZONE, S23	4	1	SCULPTURED CEILING PANEL	21-61-01

* SEE THE WDM EQUIPMENT LIST

Temperature Control – Component Index
Figure 101 (Sheet 2)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
SWITCH-LIGHT - TRIM AIR, YNRS3	1	1	FLT COMPT, P5, AIR COND MODULE M10193	21-61-01
UNIT - (REF 49-61-00, FIG. 101)				
APU CONTROL, M206				
VALVE - TRIM AIR MODULATING				
FLIGHT COMPARTMENT ZONE, V1	3	1	821, FWD CARGO COMPT, AFT LINING	21-61-07
FORWARD ZONE, V2	3	1	821, FWD CARGO COMPT, AFT LINING	21-61-07
AFT ZONE, V3	3	1	821, FWD CARGO COMPT, AFT LINING	21-61-07
VALVE - TRIM AIR PRESSURE REGULATING, V4	2	1	193HL, LEFT ECS BAY	21-61-06
VALVE - LEFT TRIM AIR SUPPLY CHECK	2	1	193HL, LEFT ECS BAY	21-61-05
VALVE - RIGHT TRIM AIR SUPPLY CHECK	2	1	194ER, RIGHT ECS BAY	21-61-05

* SEE THE WDM EQUIPMENT LIST

Temperature Control - Component Index
Figure 101 (Sheet 3)

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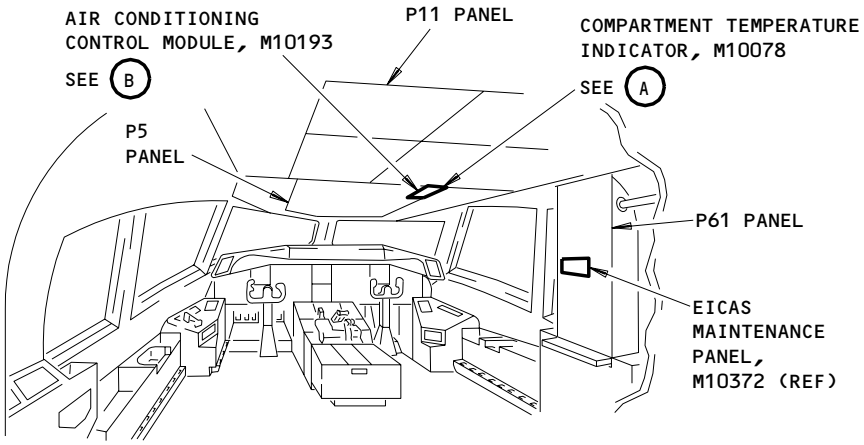
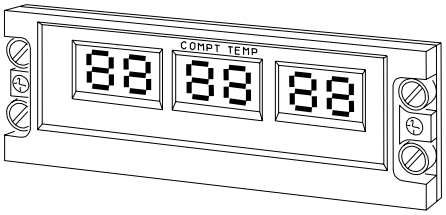
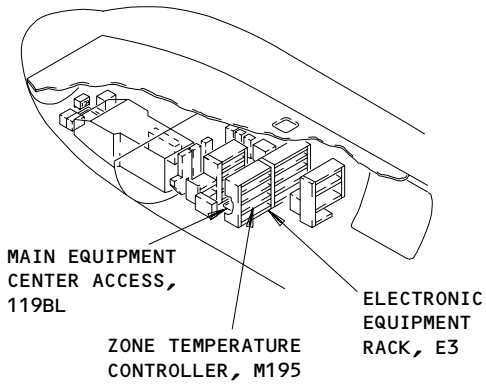


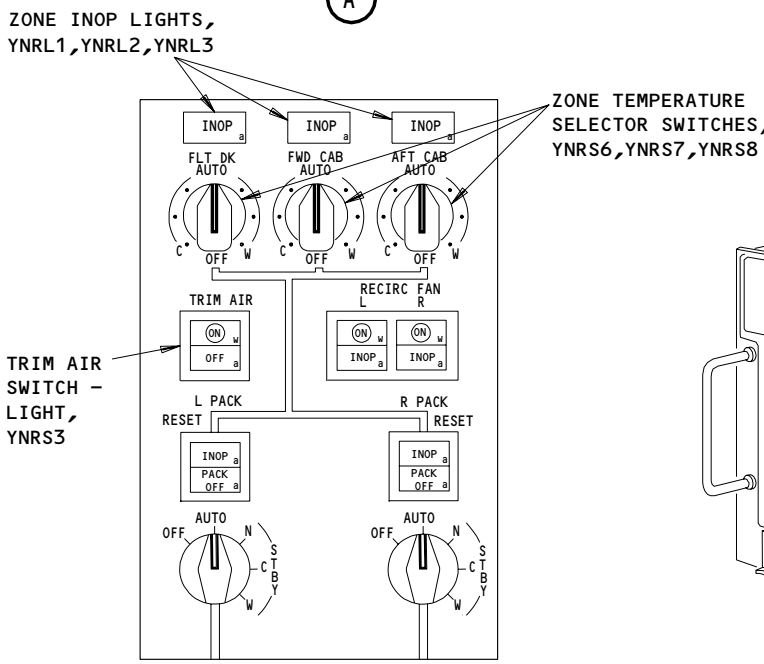
FLIGHT COMPARTMENT



COMPARTMENT TEMPERATURE INDICATOR, M10078

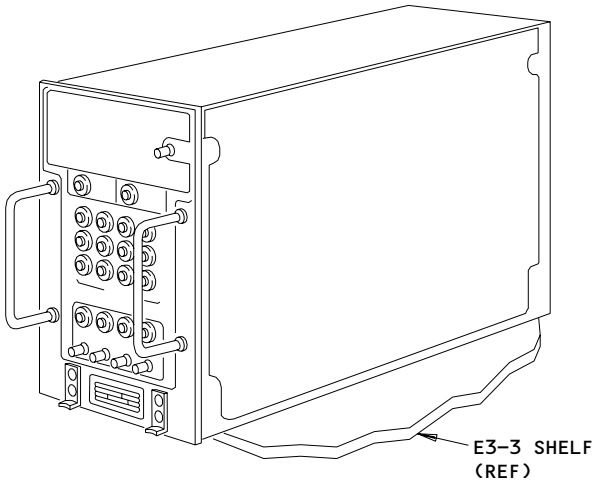
A





AIR CONDITIONING CONTROL MODULE, M10193

B



ZONE TEMPERATURE CONTROLLER, M195

C

Temperature Indication – Component Location
Figure 102 (Sheet 1)

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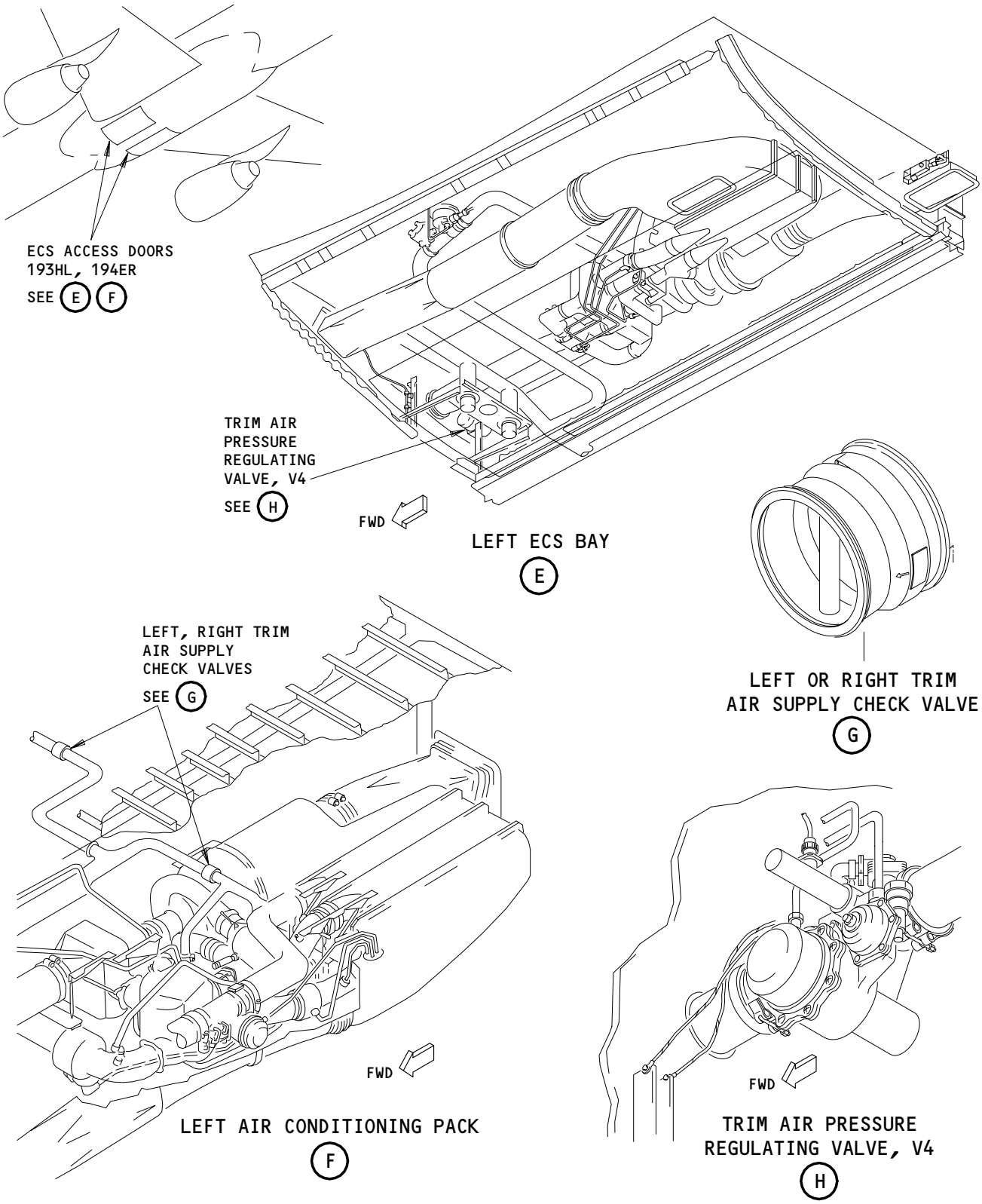

Temperature Indication - Component Location
Figure 102 (Sheet 2)

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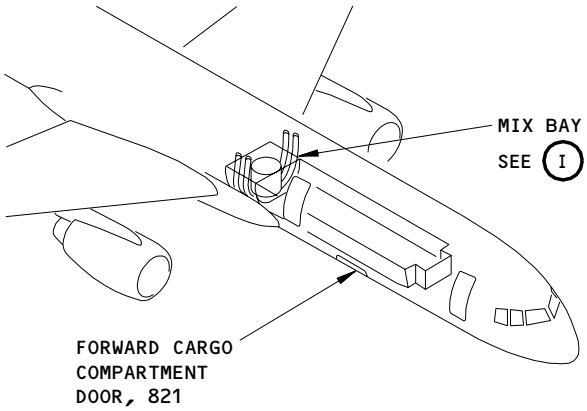
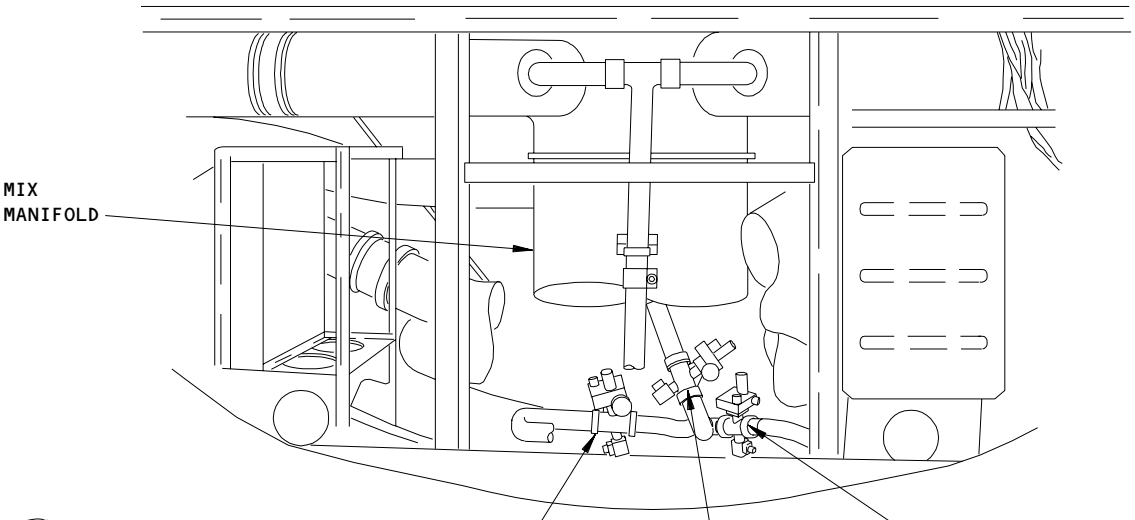
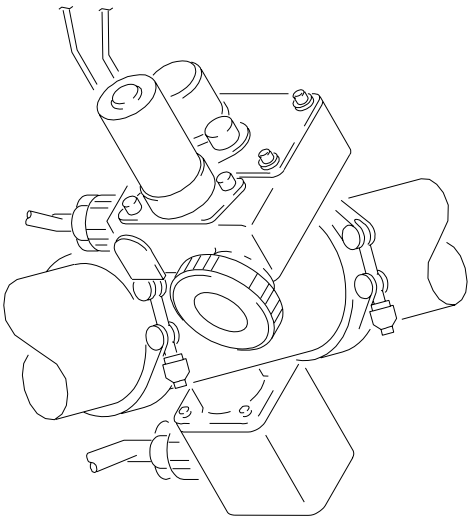




MIX BAY
(VIEW IN THE AFT DIRECTION)
(I)



TRIM AIR MODULATING
VALVE, V1,V2,V3
(J)

Temperature Indication - Component Location
Figure 102 (Sheet 3)

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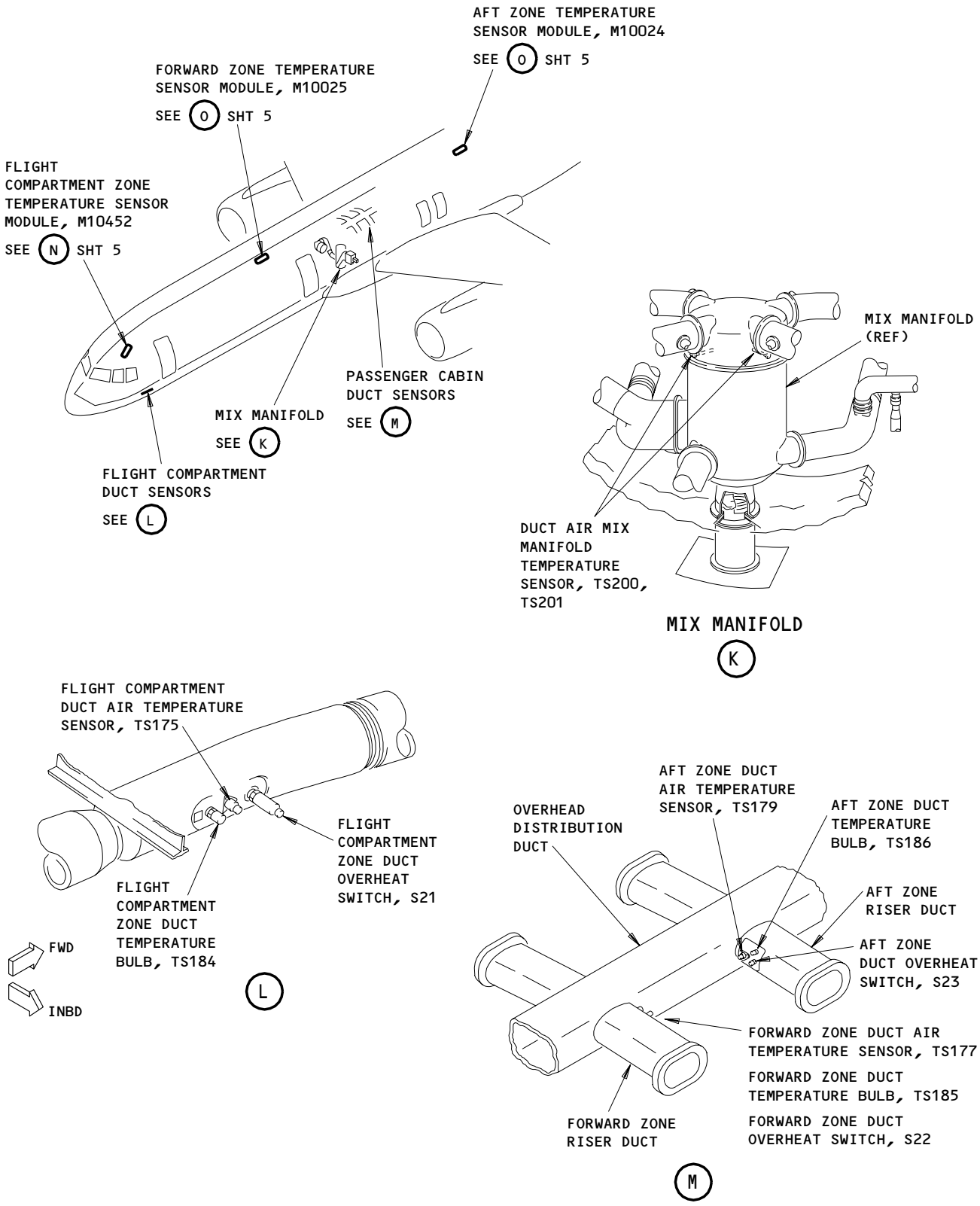

Temperature Indication - Component Location
Figure 102 (Sheet 4)

187443

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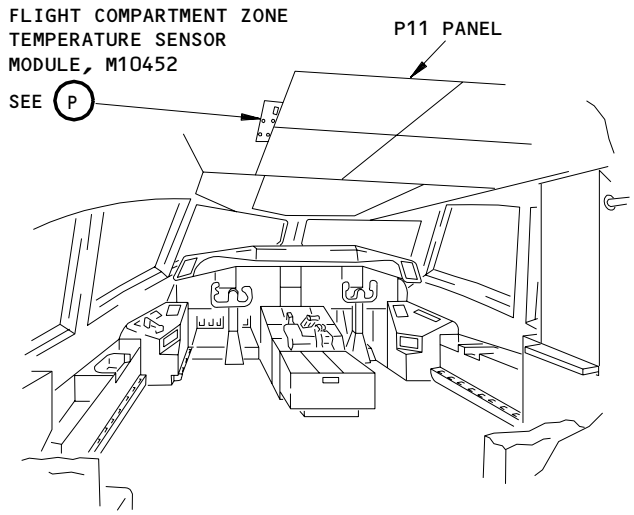
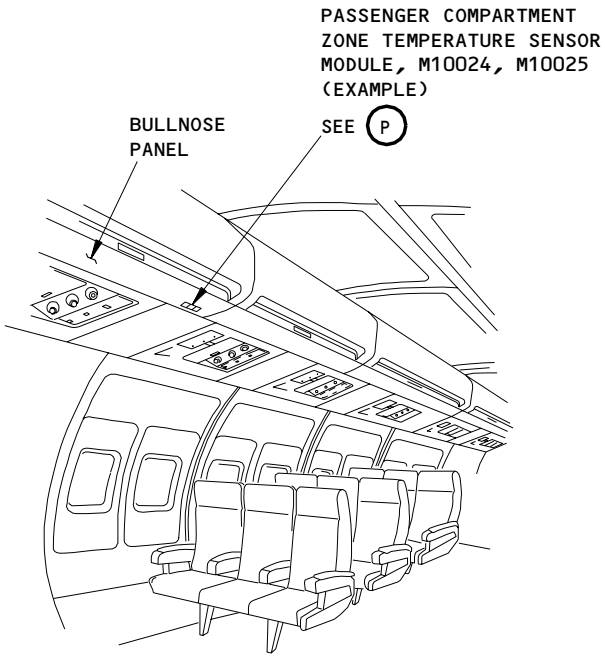


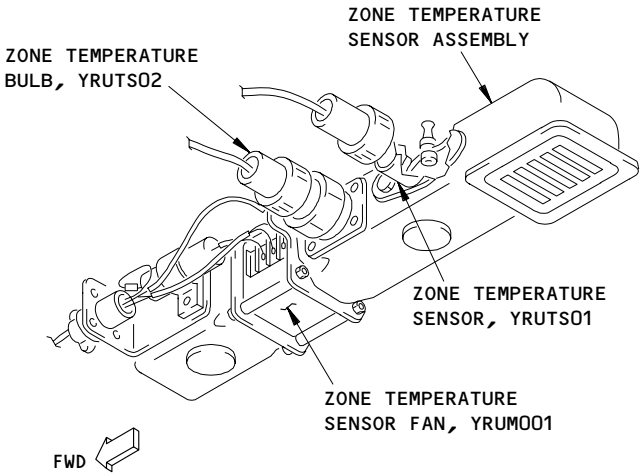
FLIGHT COMPARTMENT

(N) FROM SHT 4



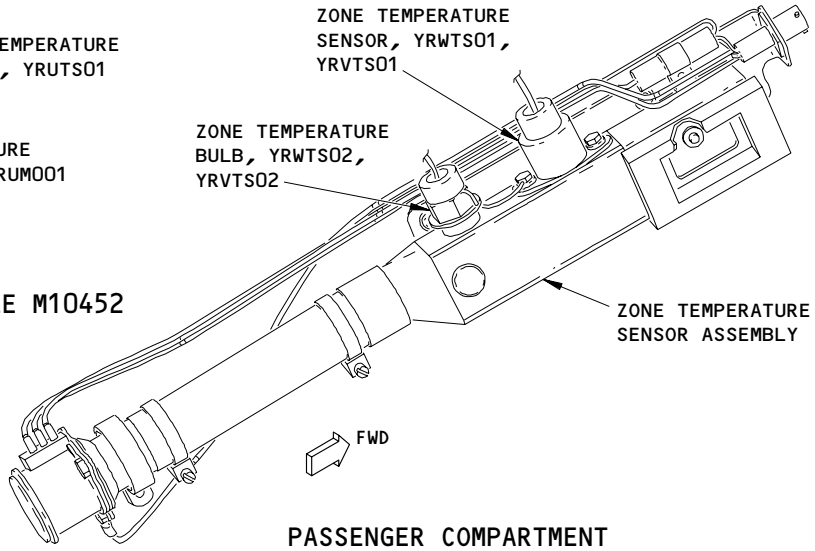
PASSENGER COMPARTMENT

(O) FROM SHT 4



FLIGHT COMPARTMENT
ZONE TEMPERATURE SENSOR MODULE M10452

(P)



PASSENGER COMPARTMENT
ZONE TEMPERATURE SENSOR MODULE, M10024,M10025 (EXAMPLE)

(P)

Temperature Indication - Component Location
Figure 102 (Sheet 5)

H54844

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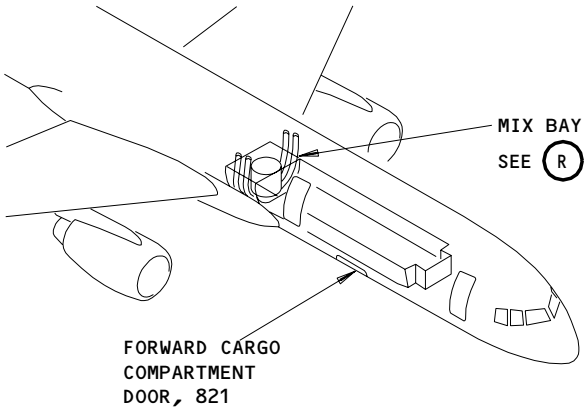

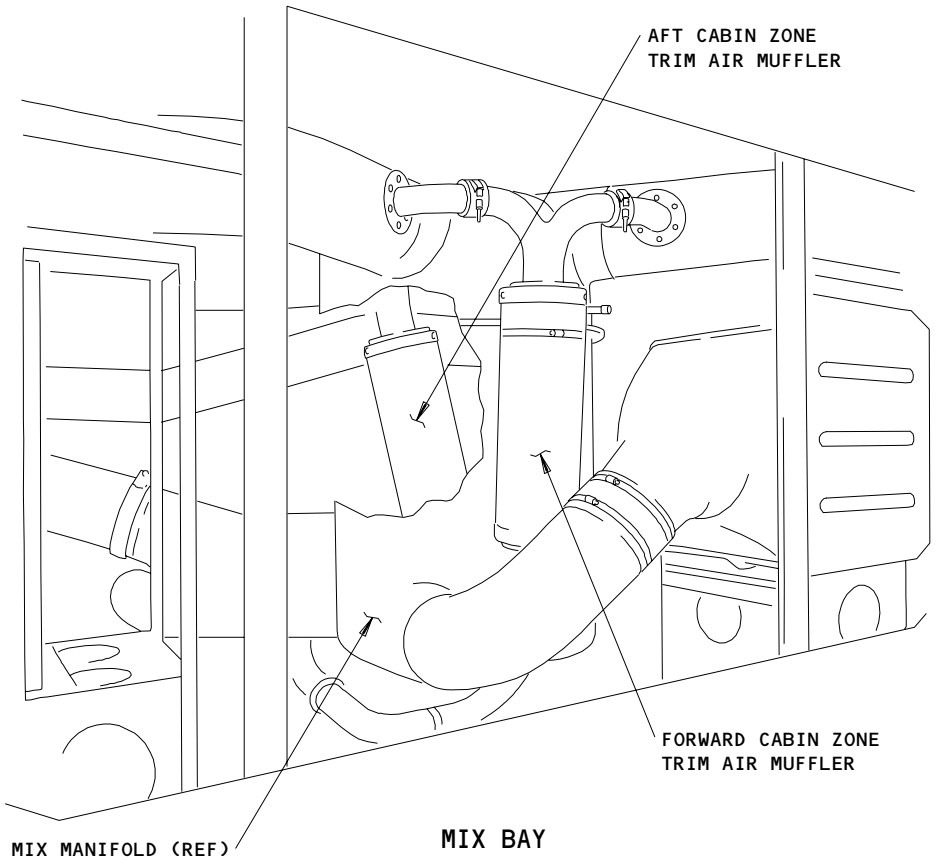

MIX BAY
(VIEW IN THE AFT DIRECTION)
R

Temperature Indication - Component Location
Figure 102 (Sheet 6)

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TEMPERATURE CONTROL - FAULT ISOLATION

1. General
   A. This procedure has the steps to troubleshoot temperature control problems in the cabin.
   B. To do these Fault Isolation procedures, electrical power and EICAS must be available.
   C. Inspect and replace all clogged or dirty zone temperature sensor filters before performing fault isolation procedures.
2. Fault Isolation Procedures

   Fig. 103 - FLT DECK, FWD CABIN, AND AFT CABIN TEMP DOES NOT RESPOND WITH TRIM AIR SWITCH "ON" AND ALL ZONE TEMPERATURE SELECTORS IN "AUTO"

   Fig. 104 - ZONE TEMPERATURE CONTROLLER BITE PROCEDURE

   Fig. 105 - ("FLT DECK TEMP", "FWD CABIN TEMP", "AFT CABIN TEMP" EICAS MESSAGES DISPLAYED AND ZONE TEMPERATURE "INOP" LIGHT ILLUMINATED

   Fig. 106 - FLT DECK / FWD CABIN / AFT CABIN FAILS TO MAINTAIN DESIRED TEMP WITH TRIM AIR SWITCH SELECTED "ON" AND TEMP CONTROL IN "AUTO". "INOP" LGT EXTN.

   Fig. 107 - TEMPERATURE SENSOR CALIBRATION PROBLEMS

3. Zone Temperature Controller BITE Procedure (Fig. 104)
   A. General
      (1) The purpose of the zone temperature controller (ZTC) is to regulate the temperature of the three cabin zones.
      (2) The ZTC controls the trim air system and the demand signals to the APU and the pack temperature controller.
      (3) The ZTC determines the zone that has the largest cooling requirement. The requirment is sent to the pack temperature controller as a demand signal to adjust the pack outlet temperature. The ZTC commands the trim air system to heat the other two zones.
      (4) The ZTC sends a demand signal to the APU electronic control unit (ECU) to control the pneumatic output of the APU. If the temperature of the zone with the most heating or cooling cannot be maintained, then the ZTC will increase the demand signal to the APU ECU.
      (5) The ZTC BITE procedure is done on the front of the controller.
      (6) The ZTC does a BITE test of these components:
         (a) Zone temperature controller (self test)
         (b) Temperatue Selector (flight deck, forward zone, aft zone)
         (c) Zone Temperatue Sensor (flight deck, forward zone, aft zone)
         (d) Duct Temperature Sensor (flight deck, forward zone, aft zone)
         (e) Trim Air Modulating Valve (flight deck, forward zone, aft zone)

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B. Zone Temperature Controller BITE Description:
(1) Controller Fault:
(a) There are two types of zone temperature controller faults, critical and non-critical.
(b) Critical Faults:
1) Critical faults are internal ZTC faults that affect the temperatue control of all three zones. These faults include power supply problems, A/D converter problems, memory problems, and processor problems.
2) Critical faults have these flight deck effects:
a) All three zone INOP lights on the P5 overhead panel will come on.
b) AFT CABIN TEMP, FWD CABIN TEMP, and FLT DECK TEMP EICAS Advisory messages will show.
3) ZONE TEMP BITE EICAS Maintence Message will show on the EICAS maintenance page.
(c) Non-Critical Faults:
1) Non-critical faults are internal ZTC faults that affect the temperature control of one zone. These faults include signal conditioner problems and valve driver problems.
2) Non-critical faults have these flight deck effects:
a) The applicable INOP light on the P5 overhead panel will come on.
b) The applicable EICAS Advisory message will show (AFT CABIN TEMP, FWD CABIN TEMP, FLT DECK TEMP)
3) The ZONE TEMP BITE EICAS Maintence Message will show on the EICAS maintenance page.
(2) SELECTOR (Flight Deck, FWD Zone, AFT Zone)
(a) The ZTC detects that the input signal from the selector is out of range (less than 2.5V or more than 7.5V).
(b) The ZONE TEMP BITE EICAS Maintence Message will show on the EICAS maintenance page.
(3) ZONE SENSOR (FLT DECK, FWD ZONE, AFT ZONE)
(a) The ZTC detects that the input signal from the zone temperature sensor is out of range (less than 0.67V or more than 3.51V).
(b) The ZONE TEMP BITE EICAS Maintence Message will show on the EICAS maintenance page.
(4) DUCT SENSOR (FLT DECK, FWD ZONE, AFT ZONE)
(a) The ZTC detects that the input signal from the duct temperature sensor is out of range (less than 0.15V or more than 1.60V).
(b) The ZONE TEMP BITE EICAS Maintence Message will show on the EICAS maintenance page.
(5) TRIM VALVE (FLT DECK, FWD ZONE, AFT ZONE)
(a) The ZTC can detect two different trim air modulating valve faults:
1) The ZTC detects an open circuit in both of the limit switches in the trim air modulating valve.

NOTE: In normal operation, one of limit switches is always closed.

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2) The trim air modulating valve takes more than 60 seconds to open or close. The valve is electrically or mechanically inoperative.

NOTE: This test for the trim air modulating valve is done when the VERIFY switch on the ZTC is pushed or when the valve is commanded full open or full closed.

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FLT DECK, FWD CABIN, AND AFT CABIN TEMP DOES NOT RESPOND WITH TRIM AIR SWITCH "ON" AND ALL ZONE TEMPERATURE SELECTORS IN "AUTO"

PREREQUISITES

ELECTRICAL POWER (AMM 24-22-00)

CB'S: 11N25,11N26,11N27,11P15,11P16,11P17,11P25,11P26, 11P27

1 DO THE ZONE TEMPERATURE CONTROL BITE PROCEDURE (21-60-00, FIG. 104).
DID THE PROCEDURE IDENTIFY THE DEFFECTIVE COMPONENT(S) AND GIVE TEMP CONTROL BACK TO ALL THE TEMP ZONES?

NO → 5 REPLACE THE TRIM AIR PRESSURE REGULATING VALVE, V4 (AMM 21-61-06/401).

YES ↓

2 THE SYSTEM IS NORMAL.

Flt Deck, Fwd Cabin, and Aft Cabin Temp does not Respond with Trim Air Switch ON and all Zone Temperature Selectors in AUTO
Figure 103

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PREREQUISITES

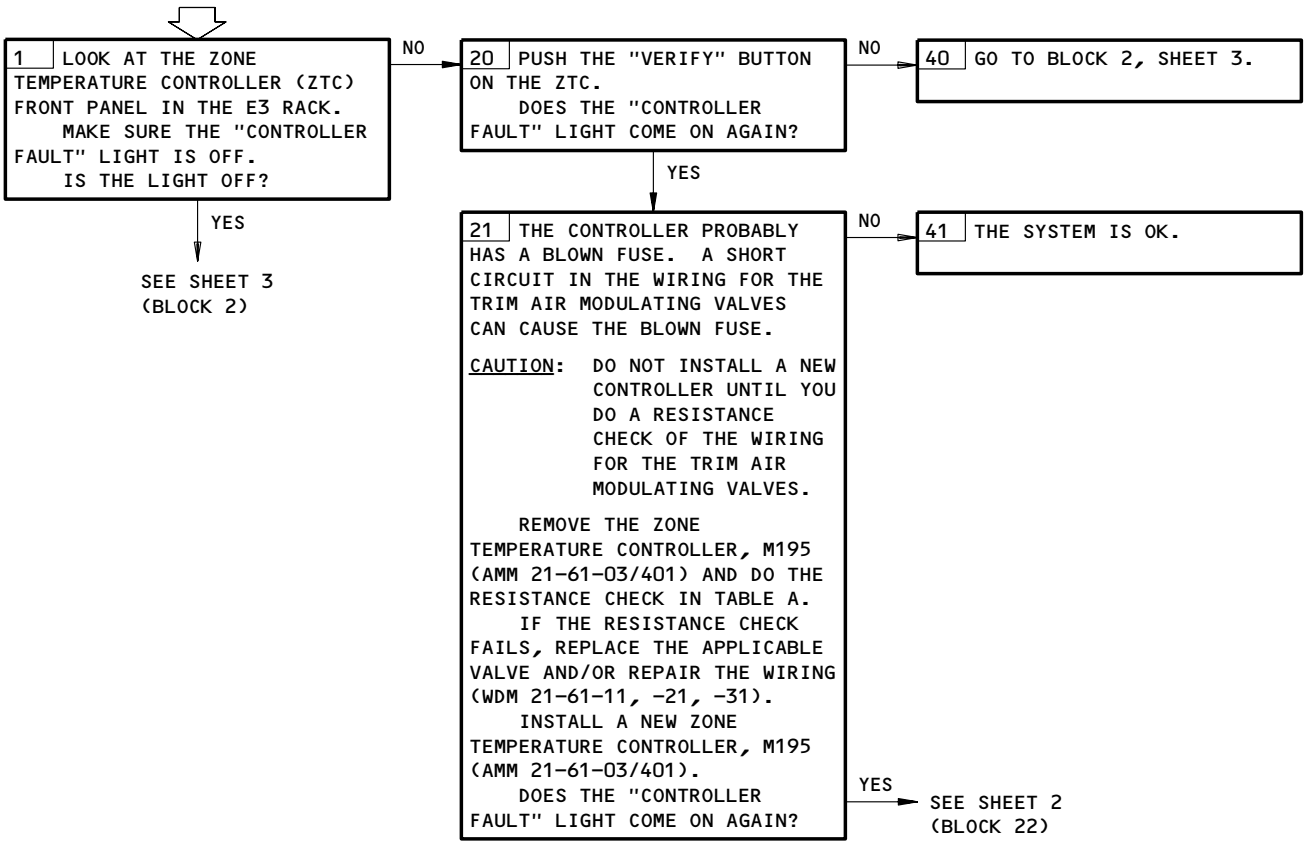
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11N25, 11N26, 11N27, 11P15, 11P16, 11P17, 11P25, 11P26, 11P27

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

NOTE: THE BUILT-IN-TEST EQUIPMENT (BITE) DOES AN ELECTRICAL CHECK OF THE ZONE TEMPERATURE CONTROLLER, TEMPERATURE SELECTORS, ZONE TEMPERATURE SENSORS, AND DUCT TEMPERATURE SENSORS. THE BITE DOES AN OPERATIONAL CHECK OF THE TRIM AIR MODULATING VALVES.

NOTE: BITE DOES NOT KNOW THE DIFFERENCE BETWEEN A COMPONENT FAULT AND AN AIRPLANE WIRING FAULT. MAKE SURE THE CIRCUIT IS CORRECT AND THE CONNECTOR IS IN GOOD CONDITION BEFORE YOU REPLACE A COMPONENT.

ZONE TEMPERATURE CONTROLLER BITE PROCEDURE



Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 1)

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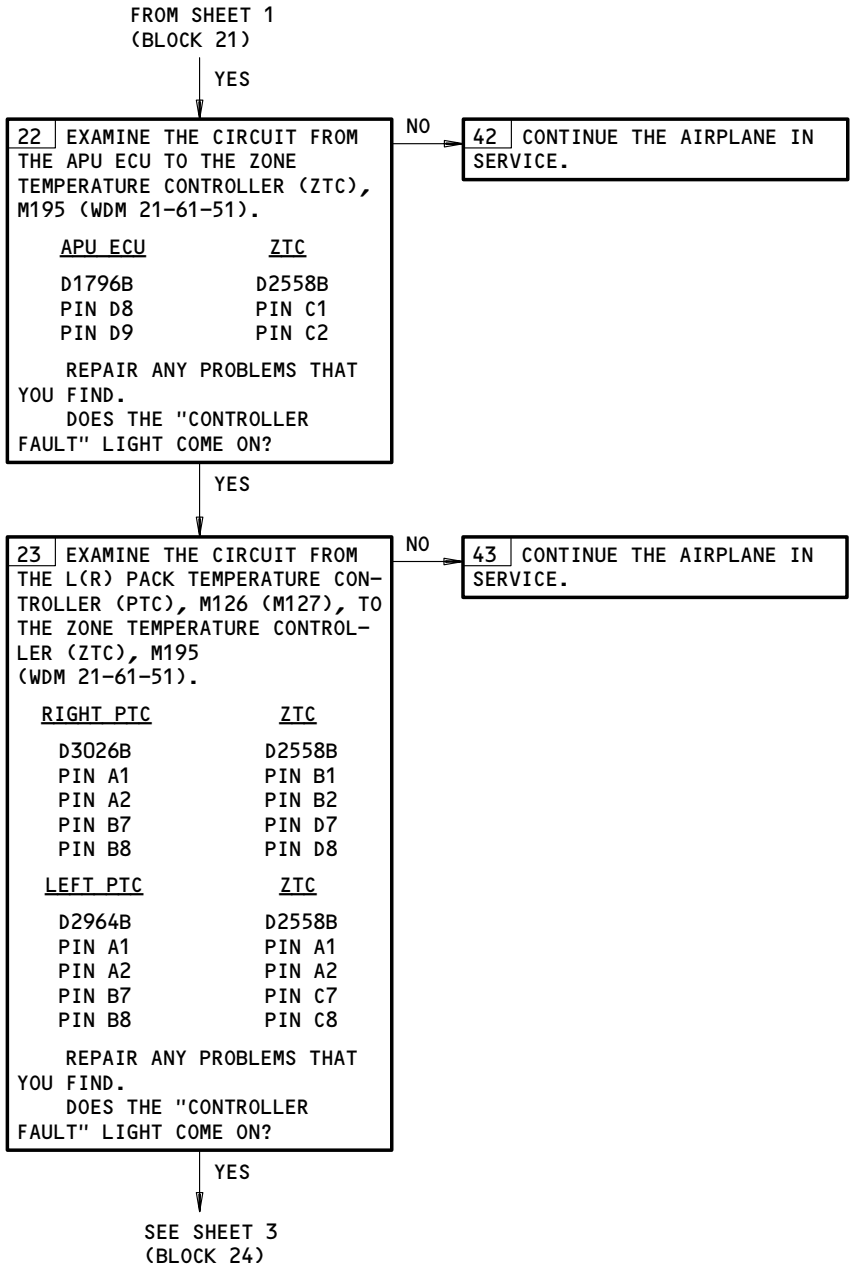

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 2)

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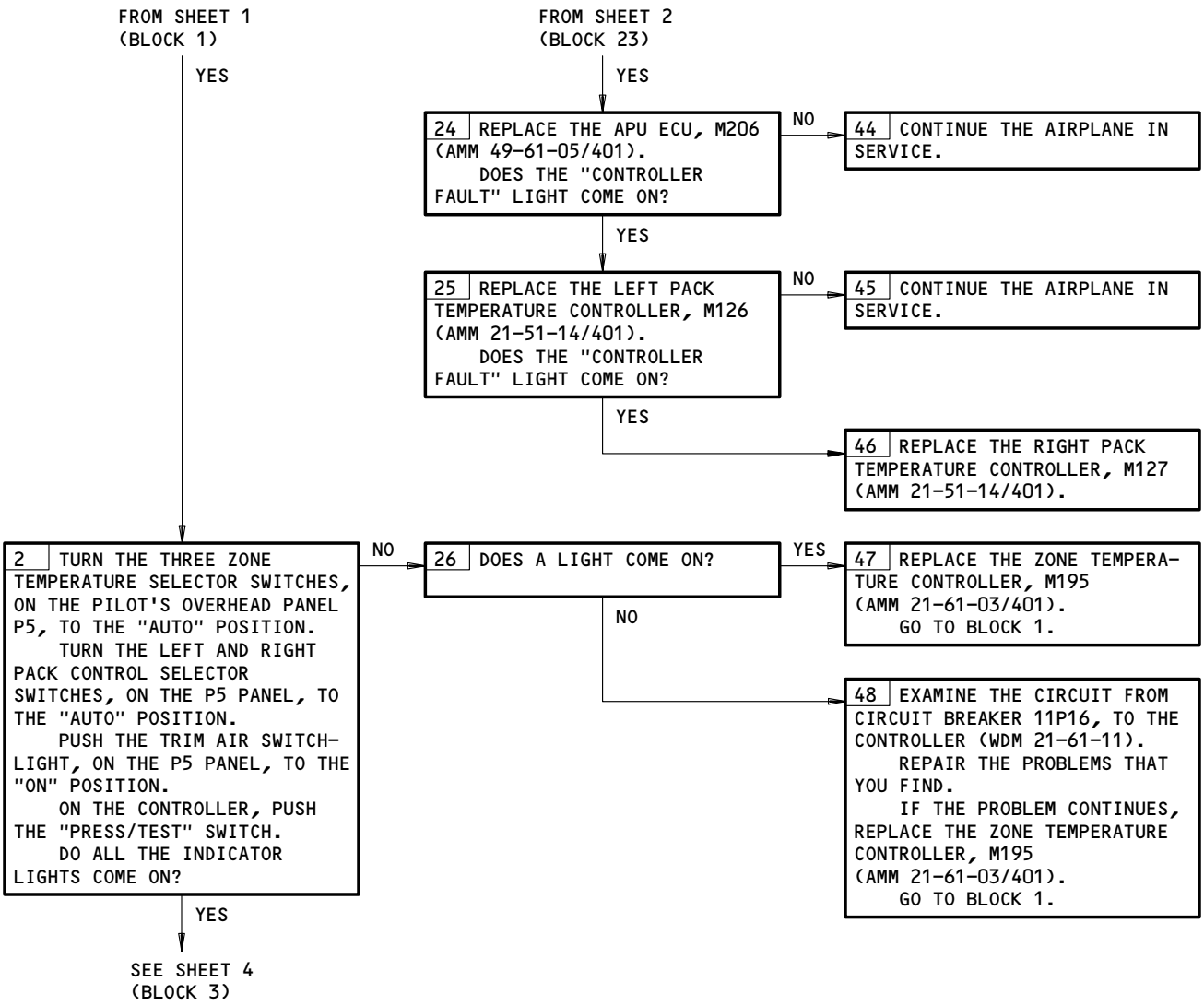

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 3)

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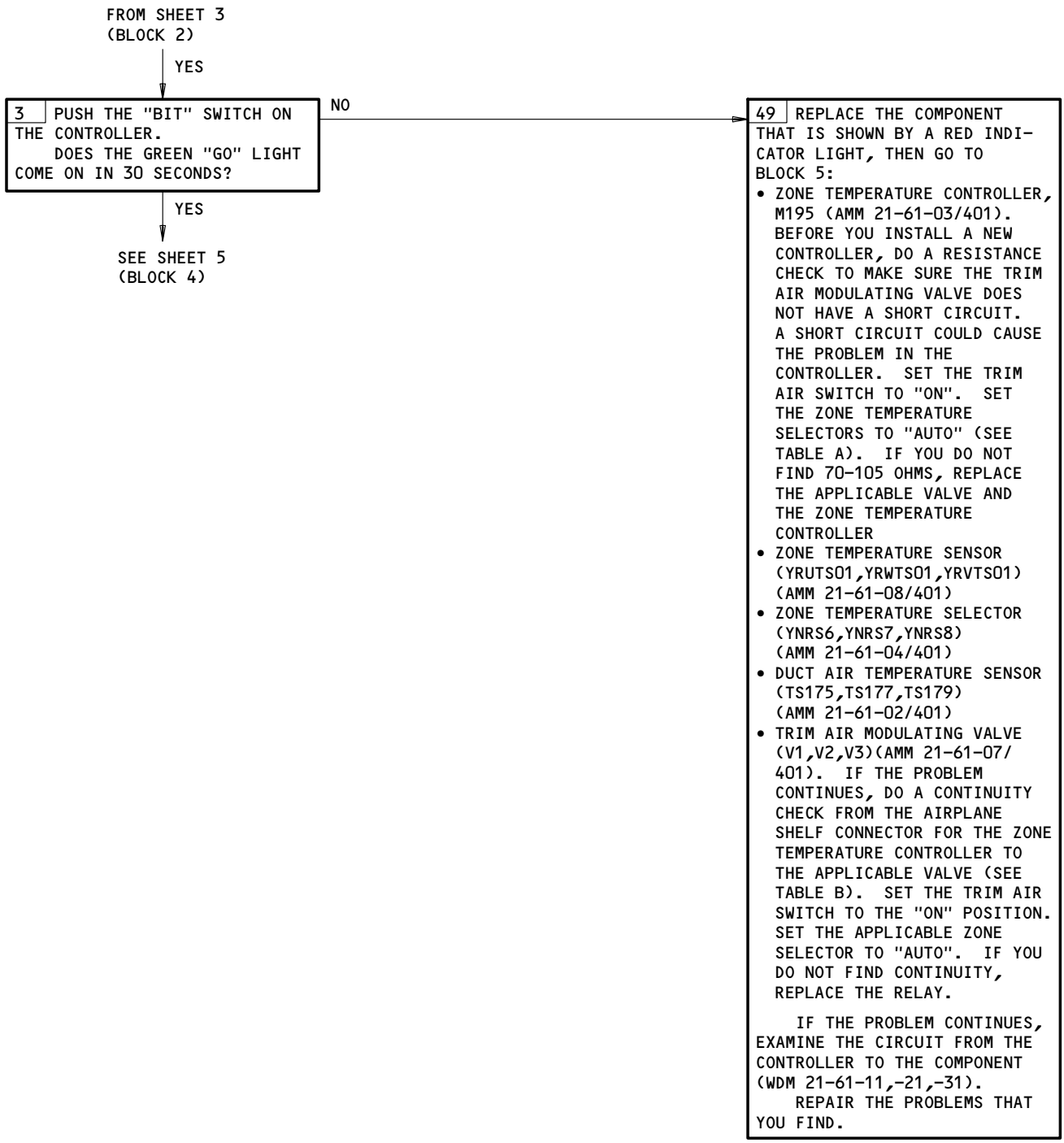

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 4)

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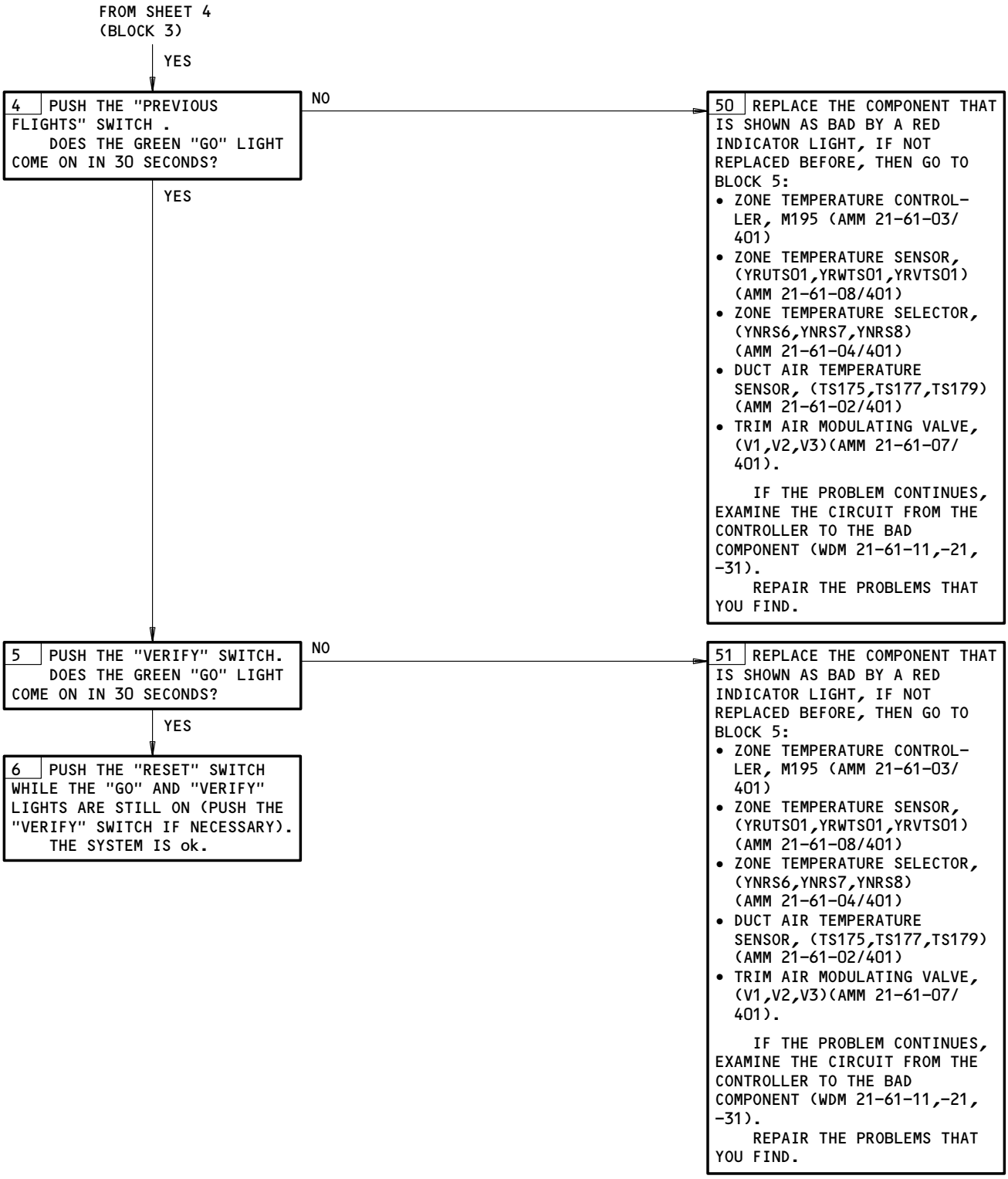

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 5)

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VALVE CHECKED	FROM CONNECTOR D2558B	TO CONNECTOR D2558C	ACCEPTABLE RESISTANCE (OHMS)
FLIGHT DECK TRIM AIR MODULATING VALVE, V1 (WDM 21-61-11)	PIN A13 PIN A15	PIN 4 PIN 4	70-105 70-105
FORWARD ZONE TRIM AIR MODULATING VALVE, V2 (WDM 21-61-21)	PIN B13 PIN B15	PIN 4 PIN 4	70-105 70-105
AFT ZONE TRIM AIR MODULATING VALVE, V3 (WDM 21-61-31)	PIN C13 PIN C15	PIN 4 PIN 4	70-105 70-105

ZONE TEMPERATURE CONTROLLER RESISTANCE CHECK
TABLE A

ZONE	AIRPLANE SHELF CONNECTOR	PIN	VALVE	CONNECTOR	PIN	RELAY TO REPLACE
FLIGHT DECK	D2558B	A13 A15	V1	D2546	1 2	K238
FORWARD	D2558B	B13 B15	V2	D2560	1 2	K239
AFT	D2558B	C13 C15	V3	D2574	1 2	K240

TRIM AIR MODULATING VALVE RELAY CONTINUITY CHECK
TABLE B

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 6)

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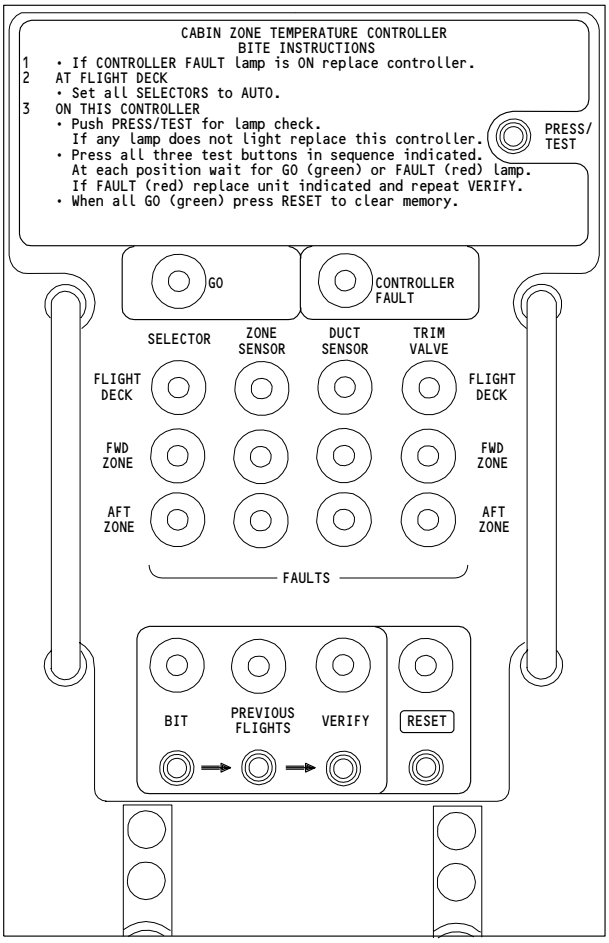

ZONE TEMPERATURE CONTROLLER, M195

Zone Temperature Controller BITE Procedure
Figure 104 (Sheet 7)

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("FLT DECK TEMP", "FWD CABIN TEMP", "AFT CABIN TEMP") EICAS MESSAGE DISPLAYED AND ZONE TEMPERATURE "INOP" LIGHT ILLUMINATED

PREREQUISITES

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

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

NOTE: "FLT DECK TEMP", "FWD CABIN TEMP", AND "AFT CABIN TEMP" EICAS MESSAGES WILL CAUSE AN ECS/MSG AUTO EVENT.

DESCRIPTION:

THE DUCT TEMPERATURE FOR THE FLIGHT DECK, THE FORWARD ZONE, OR THE AFT ZONE, IS MORE THAN 190°F (88°C). THE "INOP" LIGHT ON THE P5 PANEL AND THE EICAS ADVISORY MESSAGE "FLT DECK TEMP", "FWD CABIN TEMP", OR "AFT CABIN TEMP" SHOWS.

POSSIBLE CAUSES:

1. THE "TRIM AIR" SWITCH, ON THE P5 PANEL, IS IN THE OFF POSITION
2. THE TEMPERATURE SELECTOR, ON THE P5 PANEL, FOR THE APPLICABLE ZONE IS IN THE "OFF" POSITION
3. THE APPLICABLE DUCT OVERHEAT SWITCH IS FAILED (AMM 21-61-01/401):
   - FLIGHT DECK OVHT SWITCH, S21
   - FWD OVHT SWITCH, S22
   - AFT OVHT SWITCH, S23
4. THE APPLICABLE DUCT OVERHEAT RELAY IS FAILED (WDM 21-61-11,-21,-31):
   - FLIGHT DECK OVHT RELAY, K238
   - FWD ZONE OVHT RELAY, K239
   - AFT OVHT RELAY, K240
5. THE APPLICABLE ZONE AUTO/OFF RELAY IS FAILED (WDM 21-61-11,-21,-31):
   - FLIGHT DECK ZONE AUTO/OFF RELAY, K10311
   - FWD ZONE AUTO/OFF RELAY, K10312
   - AFT ZONE AUTO/OFF RELAY, K10313
6. THE APPLICABLE ZONE INOP RELAY IS FAILED (WDM 21-61-11,-21,-31):
   - FLIGHT DECK ZONE INOP RELAY, K10362
   - FWD ZONE INOP RELAY, K10363
   - AFT ZONE INOP RELAY, K10364
7. THERE IS AN OVERHEAT CONDITION FOR THE TRIM AIR DUCT:
   A. TRIM AIR MODULATING VALVE FAILS TO CLOSE (AMM 21-61-07/401)
   B. THE ZONE TEMPERATURE CONTROLLER HAS A PROBLEM, M195 (AMM 21-61-03/401)
8. THE TEMPERATURE SENSOR FOR THE APPLICABLE ZONE OR DUCT IS OUT OF CALIBRATION
9. THE APPLICABLE ZONE TEMPERATURE SELECTOR IS FAILED
10. WIRING:
    - FLIGHT DECK (WDM 21-61-11)
    - FWD ZONE (WDM 21-61-21)
    - AFT ZONE (WDM 21-61-31)
11. ZONE TEMPERATURE CONTROLLER, M195 (AMM 21-61-03/401).

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 1)

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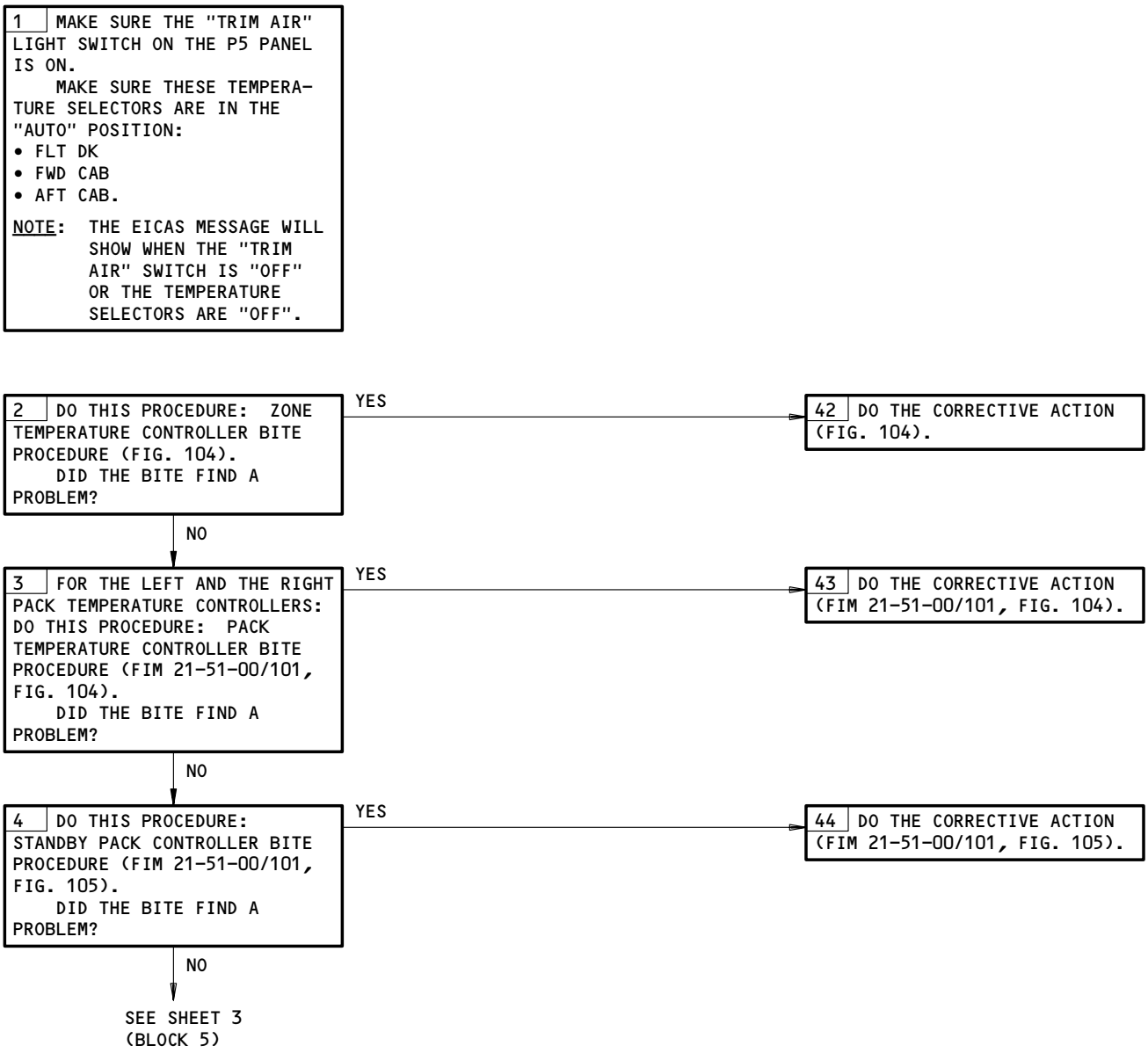
FAULT ISOLATION:



(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 2)

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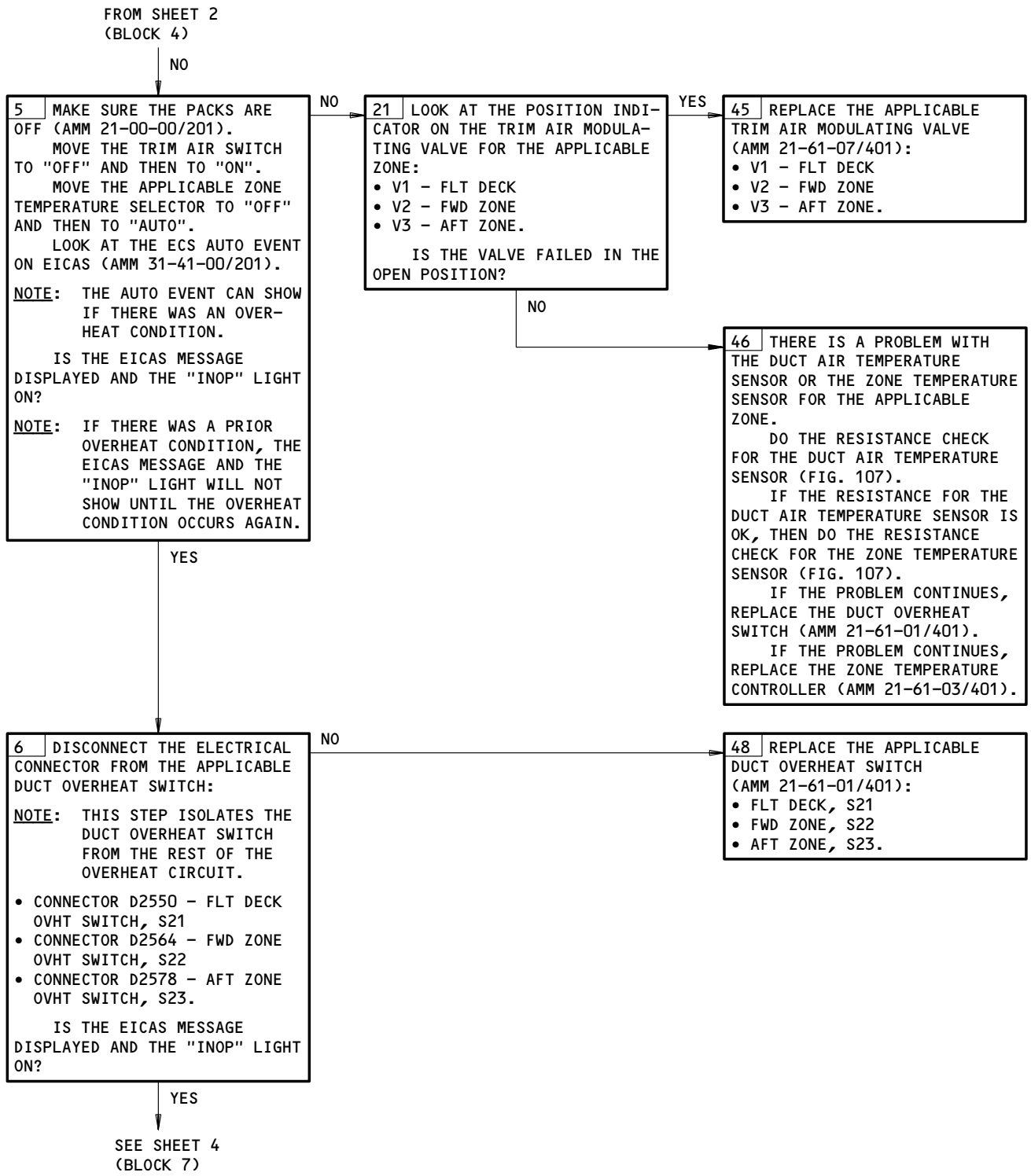

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 3)

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FROM SHEET 3
(BLOCK 4)

NO

7 RECONNECT THE ELECTRICAL CONNECTOR TO THE APPLICABLE DUCT OVERHEAT SWITCH:
- CONNECTOR D2550 - FLT DECK OVHT SWITCH, S21
- CONNECTOR D2564 - FWD ZONE OVHT SWITCH, S22
- CONNECTOR D2578 - AFT ZONE OVHT SWITCH, S23.

OPEN THE APPLICABLE ZONE DUCT OVHT/INOP CIRCUIT BREAKER:
- FLT DECK, 11P25
- FWD CABIN, 11P26
- AFT CABIN, 11P27

NOTE: THIS STEP ISOLATES THE DUCT OVERHEAT RELAY COIL FROM THE CIRCUIT.

IS THE EICAS MESSAGE DISPLAYED AND THE "INOP" LIGHT ON?

YES

NO

SEE SHEET 5
(BLOCK 8)

49 REPLACE THE APPLICABLE ZONE DUCT OVHT RELAY AND CLOSE THE APPLICABLE ZONE DUCT OVHT/INOP CIRCUIT BREAKER:
- FLT DECK, K238
- FWD ZONE, D239
- AFT ZONE, K240

IF THE PROBLEM CONTINUES, EXAMINE THE CIRCUIT FROM THE APPLICABLE ZONE DUCT OVHT RELAY TO THE "INOP" LIGHT IN THE P5 PANEL (WDM 21-61-11, -21,-31):

• FLT DECK RELAY, K238, CONNECTOR D2548, PIN A1	AIR COND PANEL, M10193, CONNECTOR D3558, PIN 38
• FWD ZONE RELAY, K239, CONNECTOR D2562, PIN A1	AIR COND PANEL, M10193, CONNECTOR D3558, PIN 45
• AFT ZONE RELAY, K240, CONNECTOR D2576, PIN A1	AIR COND PANEL, M10193, CONNECTOR D3558, PIN 21.

DO A CHECK FOR A SHORT CIRCUIT FROM THE APPLICABLE ZONE DUCT OVHT RELAY TO THE LEFT AND RIGHT EICAS COMPUTERS IN THE E4-2 SHELF (WDM 21-61-11,-21,-31):

• FLT DECK RELAY, K238, CONNECTOR D2548, PIN A1	EICAS COMPUTERS, CONNECTOR D319D (D321D), PIN A14
• FWD ZONE RELAY, K239, CONNECTOR D2562, PIN A1	EICAS COMPUTERS, CONNECTOR D319F (D321F), PIN K9
• AFT ZONE RELAY, K240, CONNECTOR D2576, PIN A1	EICAS COMPUTERS, CONNECTOR D319E (D321E), PIN J10.

REPAIR ANY PROBLEMS THAT YOU FIND.

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 4)

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FROM SHEET 4
(BLOCK 7)

NO

8 CLOSE THE APPLICABLE ZONE DUCT OVHT/INOP CIRCUIT BREAKER:
- FLT DECK, 11P25
- FWD CABIN, 11P26
- AFT CABIN, 11P27

REMOVE THE APPLICABLE ZONE DUCT INOP RELAY (WDM 21-61-11, -21,-31):
- FLT DECK, K10362
- FWD CABIN, K10363
- AFT CABIN, K10364.

REMOVE THE APPLICABLE AUTO/OFF RELAY (WDM 21-61-11, -21,-31):
- FLT DECK, K10311
- FWD CABIN, K10312
- AFT CABIN, K10313.

NOTE: THIS STEP ISOLATES THE ZONE DUCT INOP RELAY AND THE AUTO/OFF RELAY FROM THE OVERHEAT CIRCUIT.

IS THE EICAS MESSAGE DISPLAYED AND THE "INOP" LIGHT ON?

YES

50 THERE IS A SHORT TO GROUND IN THE DUCT OVERHEAT CIRCUIT.
MAKE SURE THE "TRIM AIR" SWITCH ON THE P5 PANEL IS ON.
OPEN THE APPLICABLE ZONE DUCT OVHT/INOP CIRCUIT BREAKER:
- FLT DECK, 11P25
- FWD ZONE, 11P26
- AFT ZONE, 11P27

DISCONNECT THE ELECTRICAL CONNECTOR FROM THE OVERHEAT SWITCH.
DO A CONTINUITY CHECK FROM THE DUCT OVERHEAT SWITCH CONNECTOR TO STRUCTURE GROUND (WDM 21-61-11,-21,-31):
- CONNECTOR D2550 - FLT DECK, PIN 1
- CONNECTOR D2564 - FWD ZONE, PIN 1
- CONNECTOR D2578 - AFT ZONE, PIN 1.

REPAIR THE PROBLEMS THAT YOU FIND.
REINSTALL THE APPLICABLE ZONE DUCT INOP RELAY (WDM 21-61-11,-21,-31):
- FLT DECK, K10362
- FWD CABIN, K10363
- AFT CABIN, K10364.

REINSTALL THE APPLICABLE AUTO/OFF RELAY (WDM 21-61-11,-21,-31):
- FLT DECK, K10311
- FWD CABIN, K10312
- AFT CABIN, K10313.

CLOSE THE APPLICABLE ZONE DUCT OVHT/INOP CIRCUIT BREAKER:
- FLT DECK, 11P25
- FWD CABIN, 11P26
- AFT CABIN, 11P27

NO

SEE SHEET 6
(BLOCK 9)

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 5)

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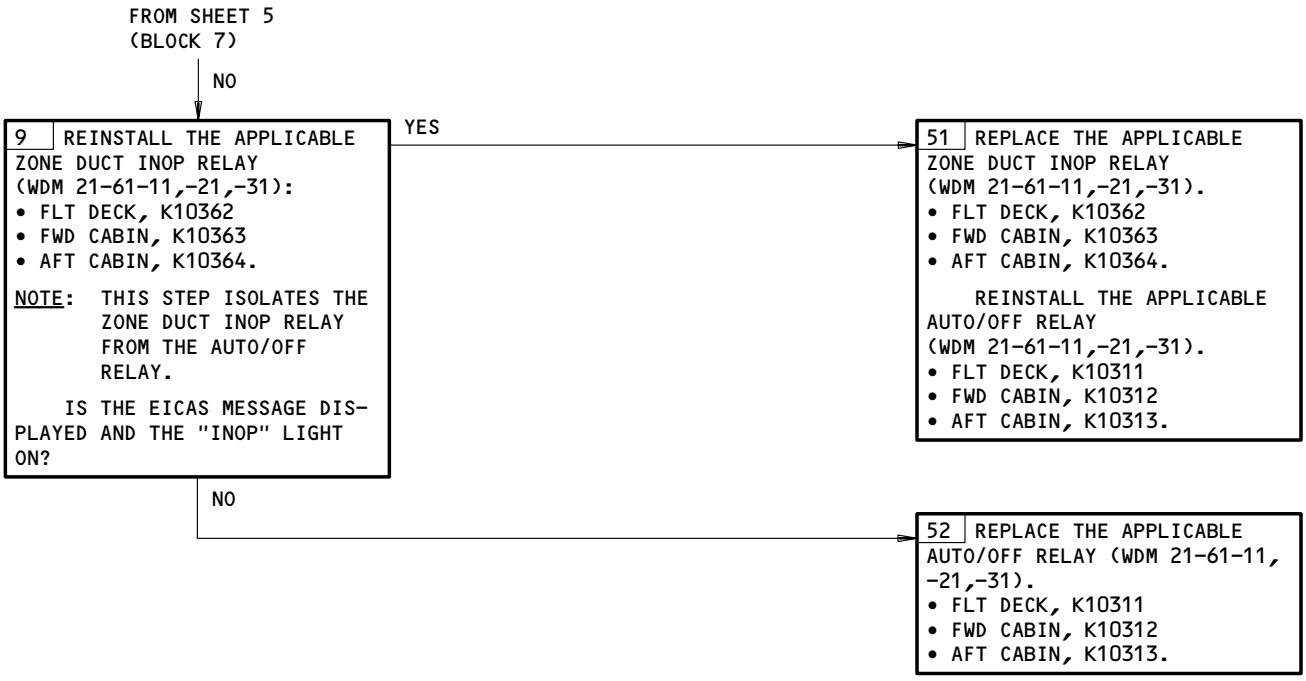

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 6)

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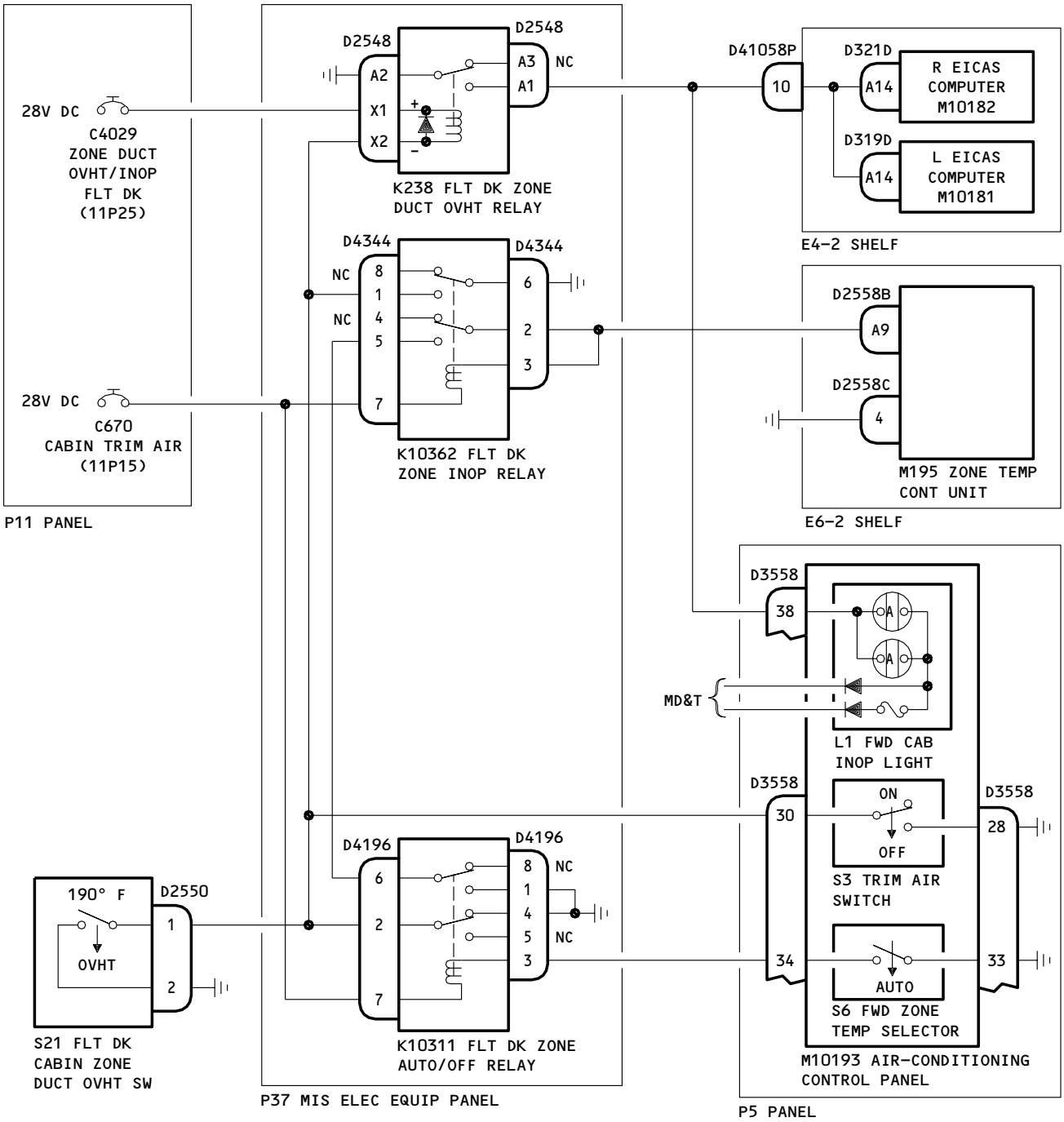

"INOP" LIGHT CIRCUIT FOR THE FIGHT DECK ZONE
(WDM 21-61-11, 21-51-61)

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message
Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 7)

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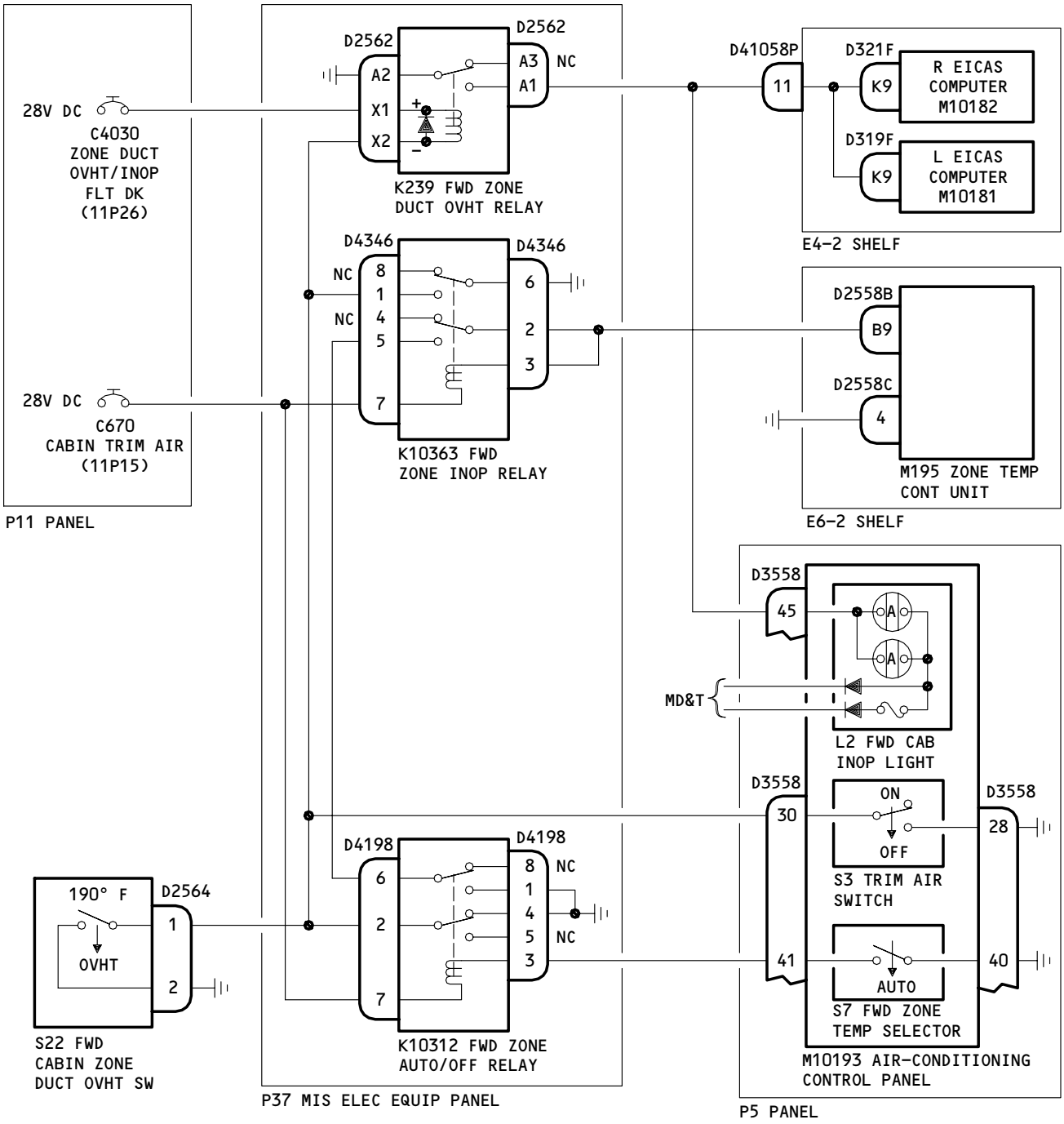

"INOP" LIGHT CIRCUIT FOR THE FORWARD ZONE
(WDM 21-61-21)

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message
Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 8)

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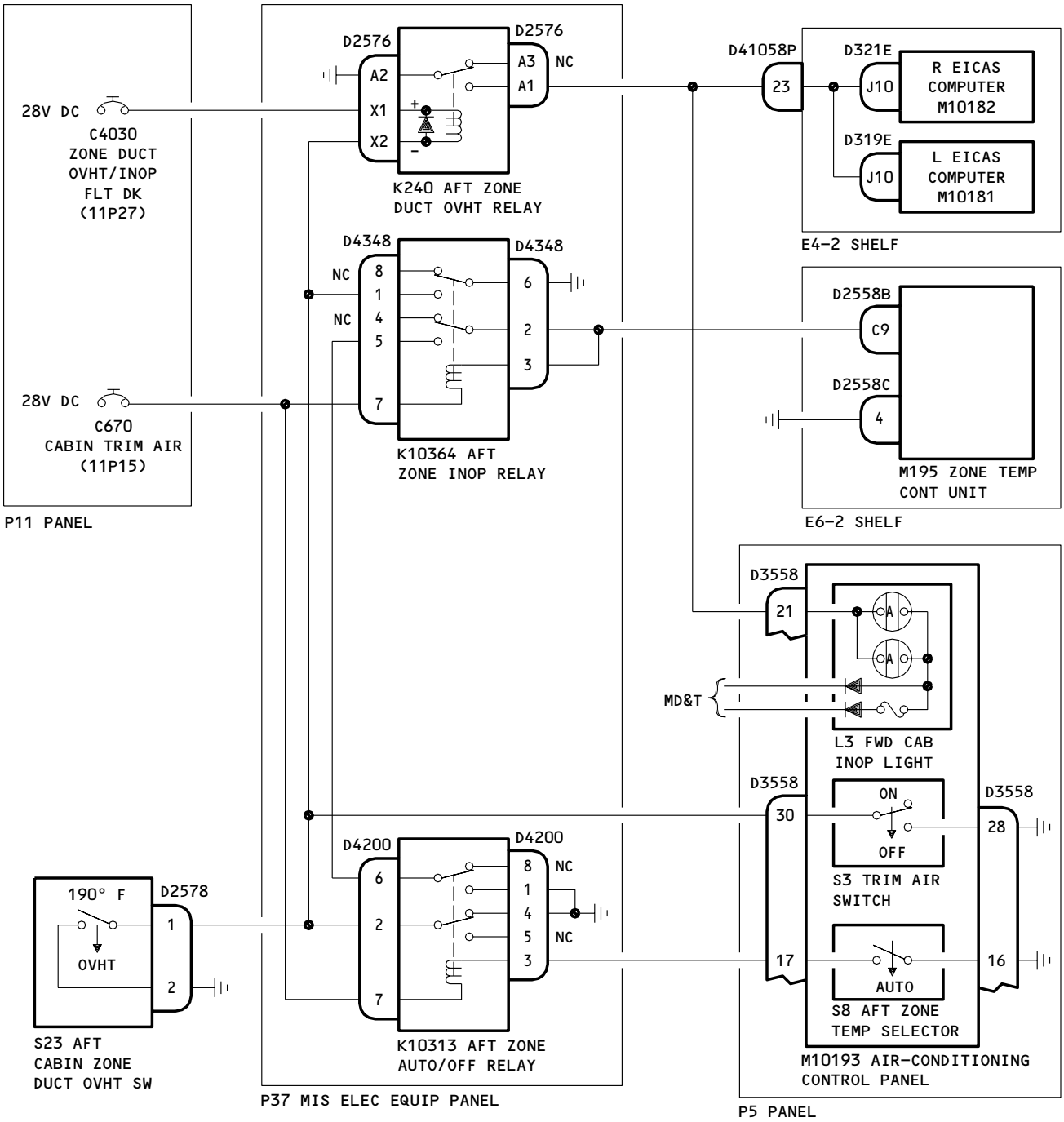

"INOP" LIGHT CIRCUIT FOR THE AFT ZONE
(WDM 21-61-31)

(FLT DECK TEMP, FWD CABIN TEMP, AFT CABIN TEMP) EICAS Message
Displayed and Zone Temperature INOP Light Illuminated
Figure 105 (Sheet 9)

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PREREQUISITES

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

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

FLT DECK/FWD CABIN/AFT CABIN FAILS TO MAINTAIN DESIRED TEMP WITH TRIM AIR SWITCH SELECTED "ON" AND TEMP CONTROL IN "AUTO". "INOP" LGT EXTIN.

NOTE: IF THE REPORT IN THE LOG BOOK SHOWS THE FLIGHT DECK AS THE ZONE THAT HAS THE PROBLEM, THEN DO THE STEPS FOR THE LEFT PACK. IF THE REPORT IN THE LOG BOOK SHOWS THE FORWARD OR AFT ZONE AS THE ZONE THAT HAS THE PROBLEM, DO THE STEPS FOR THE RIGHT PACK FIRST, THEN DO THE STEPS FOR THE LEFT PACK, IF NECESSARY.

DESCRIPTION:

THE TEMPERATURE IN THE APPLICABLE ZONE DOES NOT AGREE WITH THE SELECTED TEMPERATURE.

POSSIBLE CAUSES:

1. THE TRIM AIR PRESSURE REGULATING VALVE, V4 (AMM 21-61-06/401)(IF THE TEMPERATURE CONTROL PROBLEM EXISTS FOR ALL THREE ZONES)
2. THE TRIM AIR MODULATING VALVE (AMM 21-61-07/401):
   - FLIGHT DECK, V1
   - FWD ZONE, V2
   - AFT ZONE, V3.
3. THE AIR CYCLE MACHINE IS SEIZED (FIM 21-51-00/101, FIG. 107A OR 107B)
4. THE ZONE TEMPERATURE SENSOR MODULE:
   - FLIGHT DECK MODULE, M10452
   - FWD ZONE MODULE, M10025
   - AFT ZONE MODULE, M10024
   - THE TEMPERATURE SENSOR IS OUT OF CALIBRATION (AMM 21-61-08/601)
   - THE FAN IS FAILED (AMM 21-61-09/401)
   - THE FILTER AND PLENUM ARE CLOGGED (AMM 21-61-11/701).
5. THE DUCT TEMPERATURE SENSOR IS OUT OF CALIBRATION (AMM 21-61-02/601)
   - FLIGHT DECK DUCT, TS175
   - FWD ZONE DUCT, TS177
   - AFT ZONE DUCT, TS179.
6. THE PACK TEMPERATURE SENSOR IS OUT OF CALIBRATION (AMM 21-51-08/601)
   - LEFT PACK, TS198
   - RIGHT PACK, TS199.
7. FWD OR AFT ZONE:
   - MIX MANIFOLD TEMPERATURE SENSOR, TS200 (TS201)(AMM 21-61-02/401).
8. THE ZONE TEMPERATURE CONTROLLER, M195 (AMM 21-61-03/401)
9. THE ZONE TEMPERATURE SELECTOR, S7 (AMM 21-61-04/401)
10. FLIGHT DECK ZONE:
    - LEFT PACK TEMPERATURE CONTROLLER, M126 (AMM 21-51-14/401).

    FWD OR AFT ZONES:
    - RIGHT PACK TEMPERATURE CONTROLLER, M127 (AMM 21-51-14/401).
11. THE PACK FLOW CONTROL AND SHUTOFF VALVE (AMM 21-51-01/201).
    - LEFT PACK FLOW CONTROL AND SHUTOFF VALVE, V16
    - RIGHT PACK FLOW CONTROL AND SHUTOFF VALVE, V17.
12. WIRING.

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 1)

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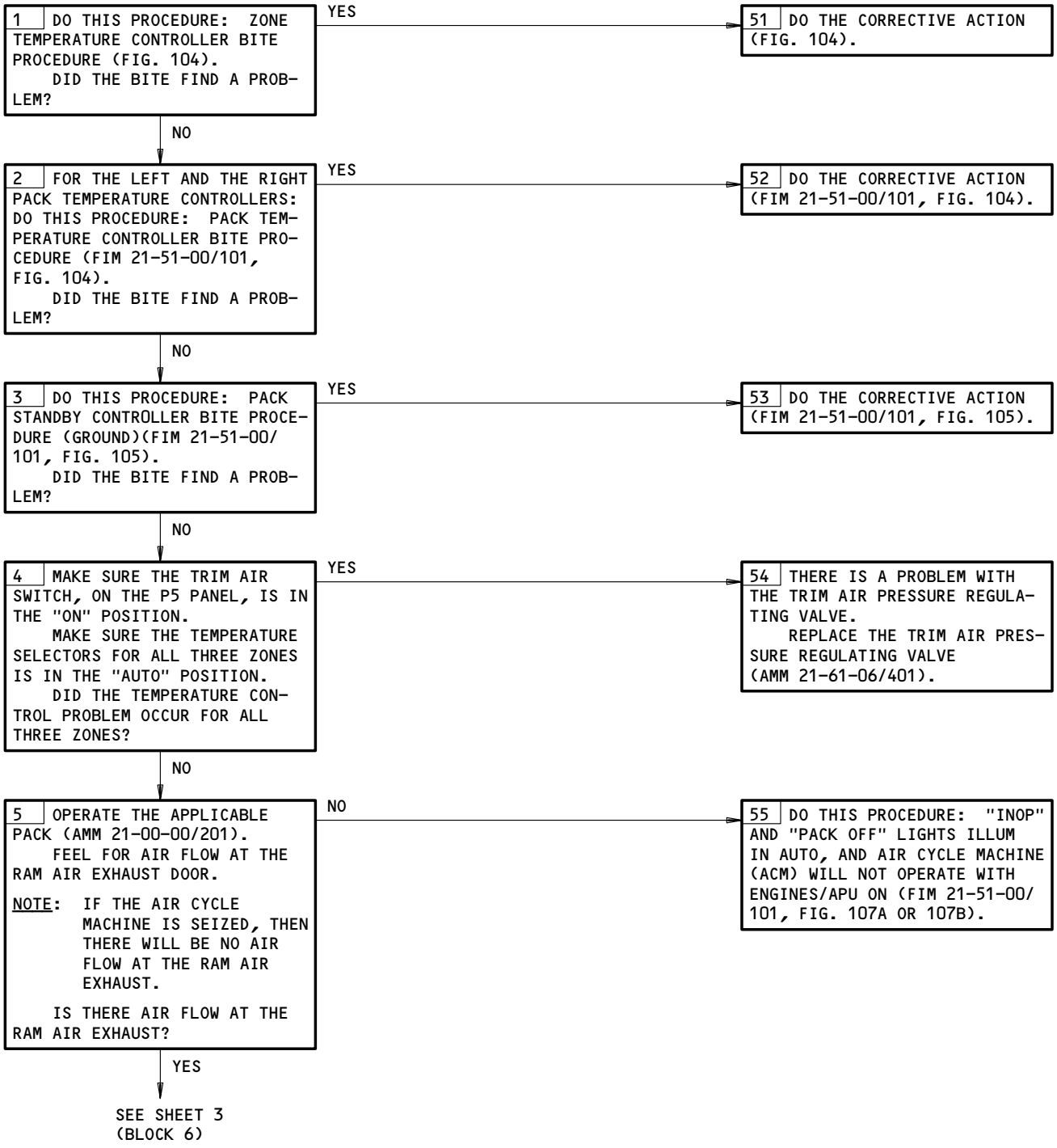
FAULT ISOLATION:



Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 2)

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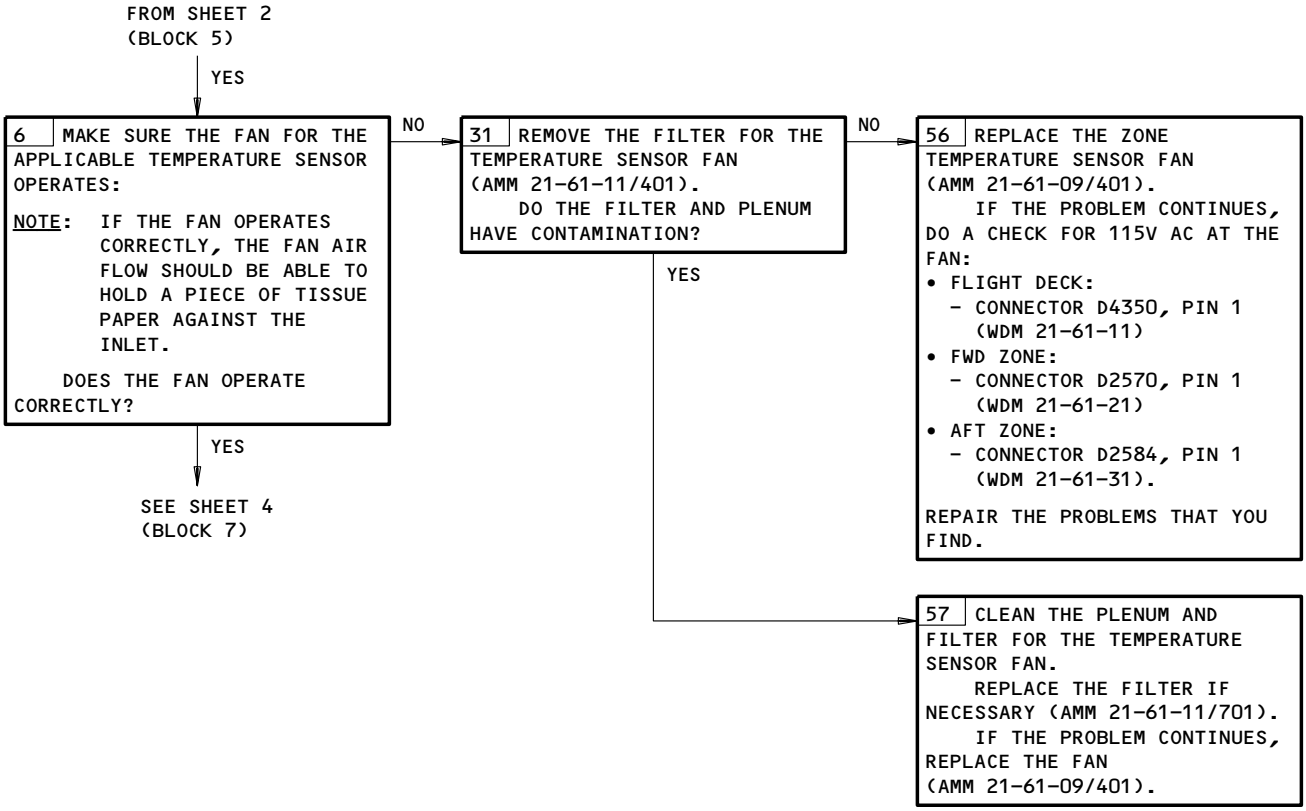

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 3)

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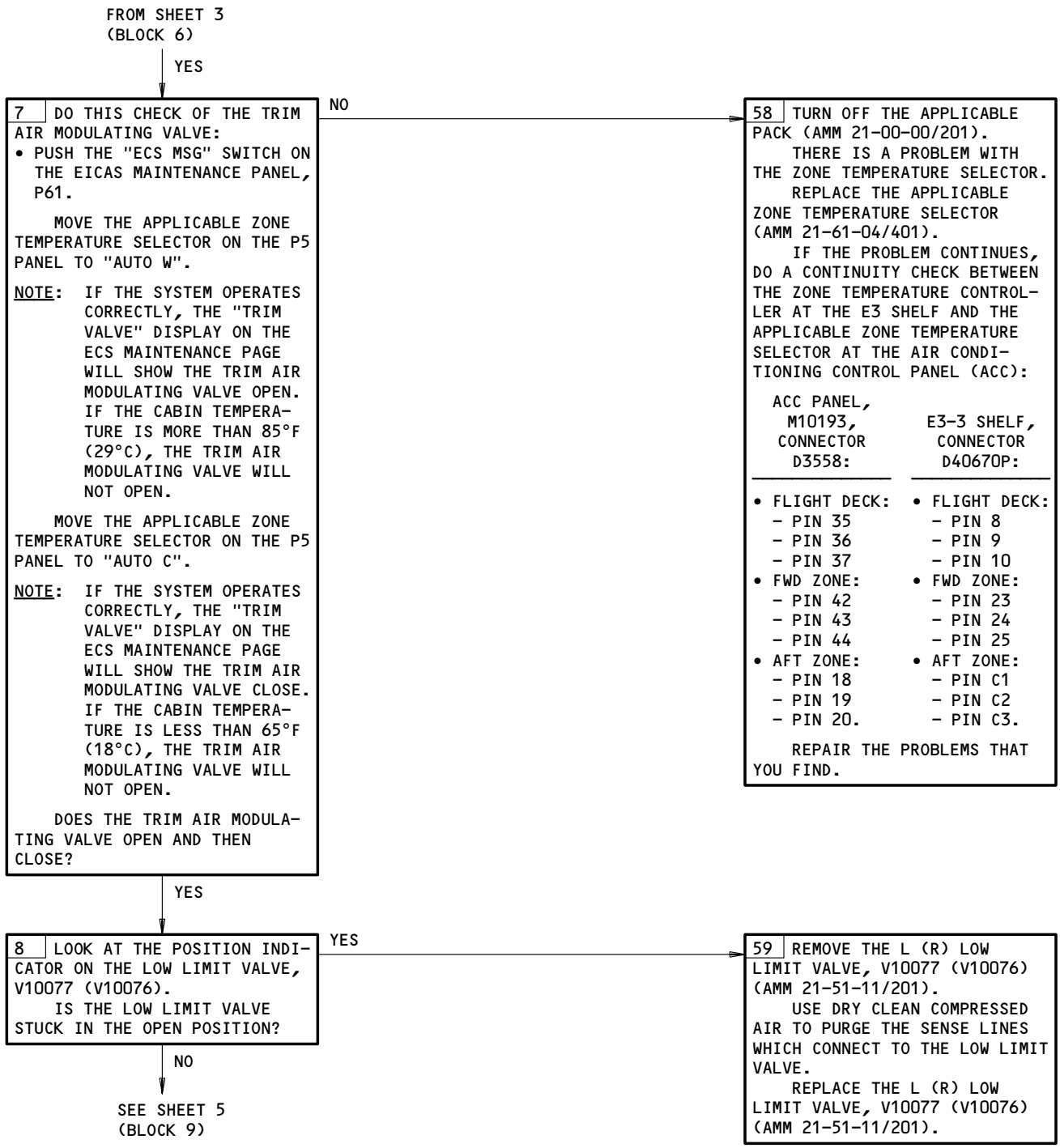

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 4)

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FROM SHEET 4
(BLOCK 8)

NO

9 MOVE THE APPLICABLE PACK TEMPERATURE SELECTOR TO THE "STBY W" POSITION
LOOK AT THE "TEMP VALVE" DISPLAY ON THE EICAS ECS MAINTENANCE PAGE.
DOES THE "TEMP VALVE" DISPLAY SHOW THAT THE TEMPERATURE CONTROL VALVE MOVES TO THE OPEN POSITION (0.95-1.00)?

NO → 32 DISCONNECT CONNECTOR D2962 (D3014) FROM THE TEMPERATURE CONTROL VALVE, V18 (V19) (WDM 21-51-12,-22).
DO A CHECK FOR 115V AC AT PIN 1 OF CONNECTOR D2962 (D3014).
IS THERE 115V AC AT PIN 1?

YES → 60 REPLACE THE PACK TEMPERATURE CONTROL VALVE, V18 (V19) (AMM 21-51-12/401).

NO

33 REPLACE THE BACKUP TEMPERATURE CONTROL CARD, M10403 (M10404)(AMM 21-53-06/401).
DO A CHECK FOR 115V AC AT PIN 1 OF CONNECTOR D2962 (D3014).
IS THERE 115V AC AT PIN 1?

YES → 61 THE BACKUP TEMPERATURE CONTROL CARD WAS FAILED.
CONNECT CONNECTOR D2962 (D3014) TO THE TEMPERATURE CONTROL VALVE, V18 (V19).
CONTINUE THE AIRPLANE IN SERVICE.

NO

34 REPLACE THE L (R) PACK TEMP CONT VLV OPEN MAN RELAY, K63 (K55)(WDM 21-51-13,-23).
DO A CHECK FOR 115V AC AT PIN 1 OF CONNECTOR D2962 (D3014).
IS THERE 115V AC AT PIN 1?

YES → 62 THE L (R) PACK TEMP CONT VLV OPEN MAN RELAY, K63 (K55) WAS FAILED.
CONNECT CONNECTOR D2962 (D3014) TO THE TEMPERATURE CONTROL VALVE, V18 (V19).
CONTINUE THE AIRPLANE IN SERVICE.

NO

63 REPLACE THE L (R) PACK AUTO/MANUAL 1 RELAY, K57 (K49) (WDM 21-51-13,-23).
DO A CHECK FOR 115V AC AT PIN 1 OF CONNECTOR D2962 (D3014).
IF THERE IS 115V AC AT PIN 1, THEN YOU FIXED THE PROBLEM.
IF THERE IS NOT 115V AC AT PIN 1, THEN THERE IS A PROBLEM WITH THE WIRING.
REPAIR THE WIRING BETWEEN THE PACK TEMPERATURE SELECTOR AND THE TEMPERATURE CONTROL VALVE (WDM 21-51-13,-23).
CONNECT CONNECTOR D2962 (D3014) TO THE TEMPERATURE CONTROL VALVE, V18 (V19).

YES

SEE SHEET 6
(BLOCK 10)

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 5)

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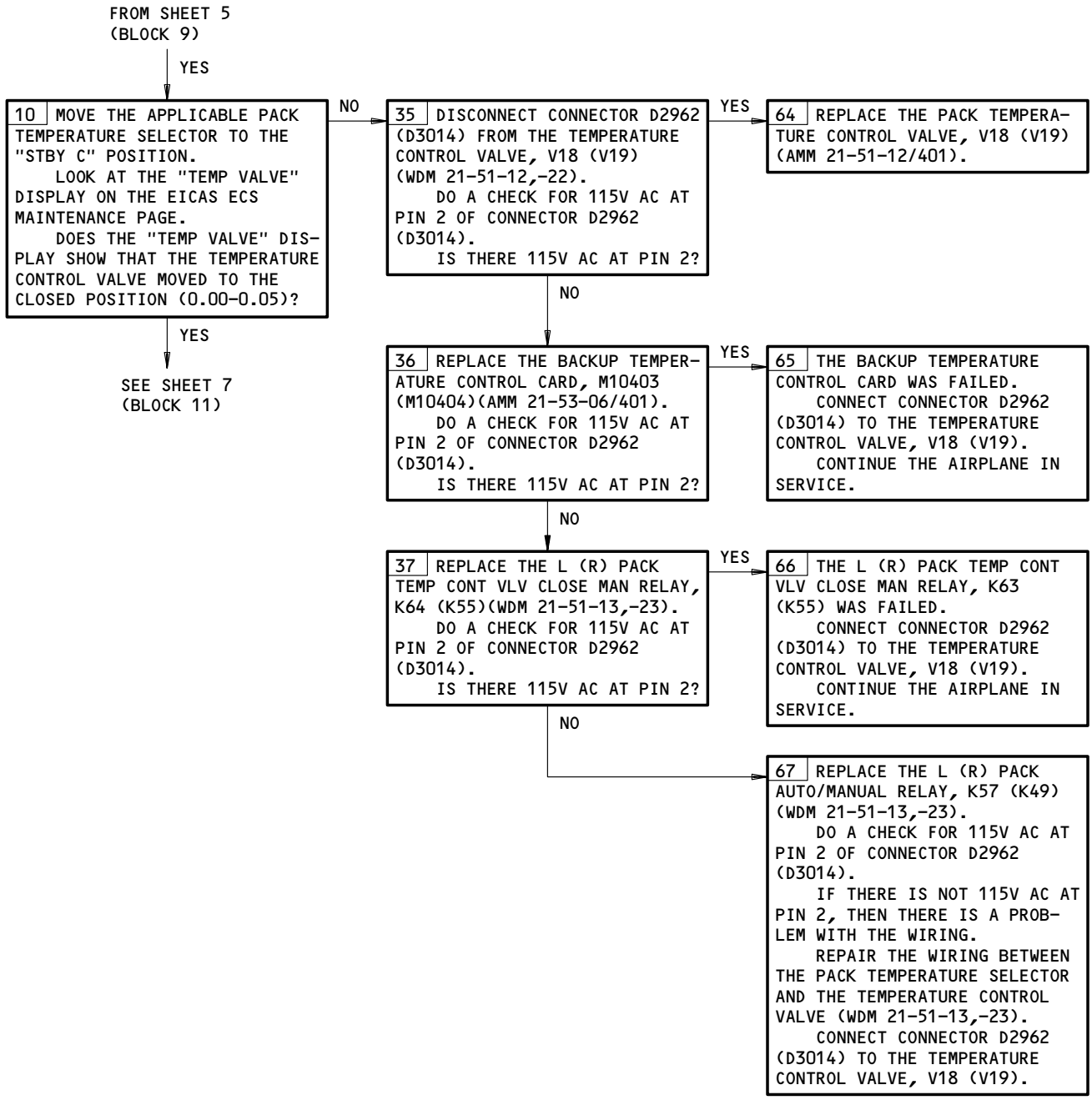

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 6)

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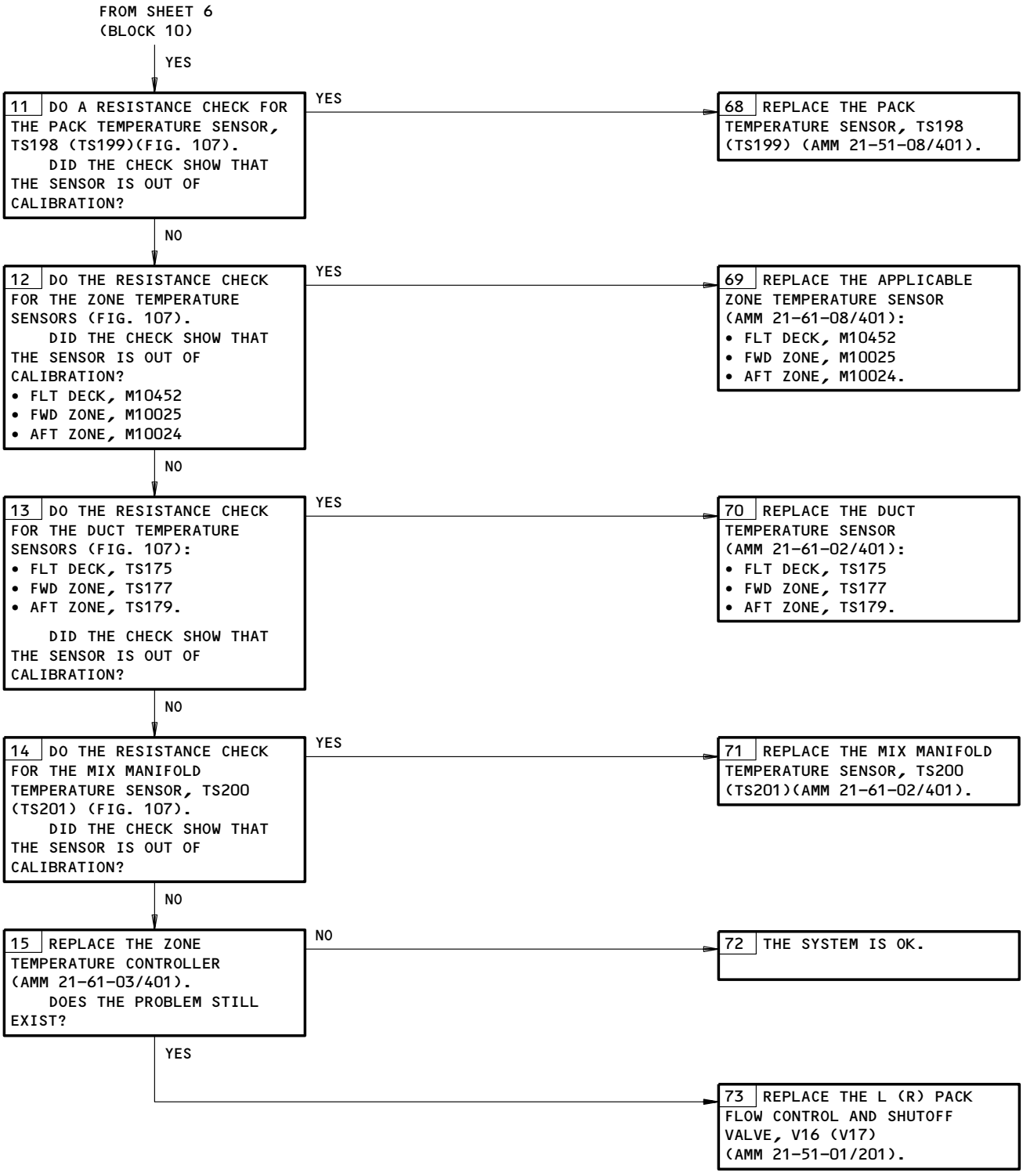

Flt Deck/Fwd Cabin/Aft Cabin Fails to Maintain Desired Temp with Trim Air Switch Selected ON and Temp Control in AUTO. INOP Lgt Extin.
Figure 106 (Sheet 7)

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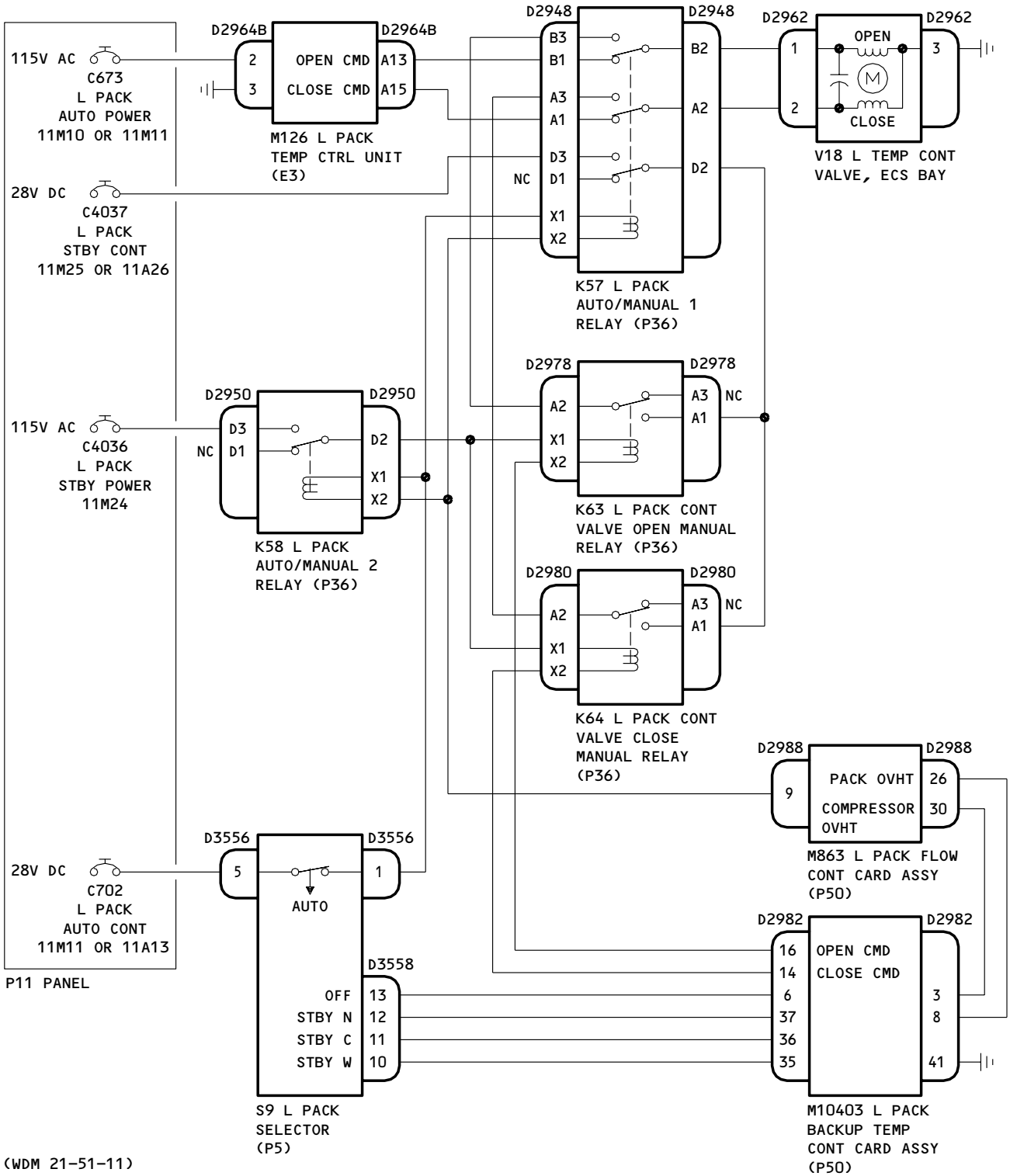

(WDM 21-51-11)
(WDM 21-51-12)
(WDM 21-51-13)

LEFT PACK TEMPERATURE CONTROL VALVE CIRCUIT

Flt Deck/Fwd Cabin/Aft Cabin Fails To Maintain Desired Temp with Trim Air Switch Selected "ON" and Temp Control in "AUTO". "INOP" Lgt Extin.
Figure 106 (Sheet 8)

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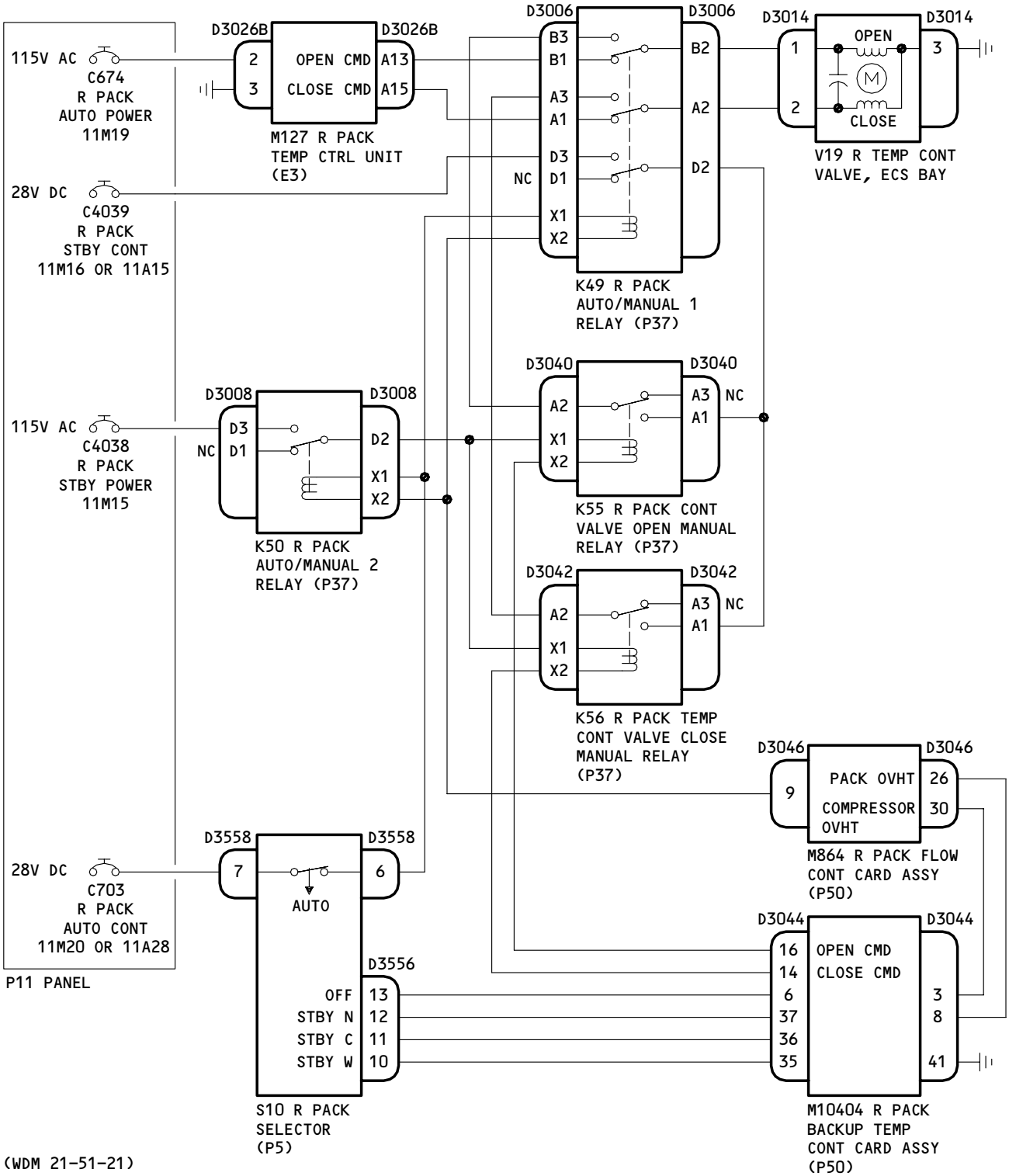

(WDM 21-51-21)
(WDM 21-51-22)
(WDM 21-51-23)

RIGHT PACK TEMPERATURE CONTROL VALVE CIRCUIT

Flt Deck/Fwd Cabin/Aft Cabin Fails To Maintain Desired Temp with Trim Air Switch Selected "ON" and Temp Control in "AUTO". "INOP" Lgt Extin.
Figure 106 (Sheet 9)

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PREREQUISITES

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

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

EQUIPMENT: DIGITAL MULTIMETER, HEWLETT PACKARD MODEL, 3465A
DIGITAL MULTIMETER, HIGH IMPEDANCE (ALTERNATIVE)

THERMOMETER (CAPABLE OF MEASURING TEMPERATURES TO AN ACCURACY OF ±1 DEG. F FROM -40 TO 140°F)

NOTE: THE DIGITAL MULTIMETER MUST LIMIT THE CURRENT THROUGH THE SENSOR TO LESS THAN 100 MICROAMPERES. IF THE CURRENT IS MORE THAN 100 MICROAMPERES, THE SENSOR TIP WILL HEAT UP AND YOU WILL GET AN ERROR IN THE RESISTANCE MEASUREMENT.

TEMPERATURE SENSOR CALIBRATION PROBLEMS

DESCRIPTION:

THIS PROCEDURE DOES A CALIBRATION CHECK OF THESE TEMPERATURE SENSORS:
- FLIGHT DECK ZONE TEMPERATURE SENSOR, M10452
- FORWARD ZONE TEMPERATURE SENSOR, M10025
- AFT ZONE TEMPERATURE SENSOR, M10024
- FLIGHT DECK DUCT TEMPERATURE SENSOR, TS175
- FORWARD ZONE DUCT TEMPERATURE SENSOR, TS177
- AFT ZONE DUCT TEMPERATURE SENSOR, TS179
- FORWARD ZONE MIX MANIFOLD TEMPERATURE SENSOR, TS200
- AFT ZONE MIX MANIFOLD TEMPERATURE SENSOR, TS201
- COMPRESSOR OUTLET TEMPERATURE SENSOR, TS41 (TS42)
- STANDBY COMPRESSOR OUTLET TEMPERATURE SENSOR, TS5133 (TS5135)
- PACK TEMPERATURE SENSOR, TS1198 (TS199)
- STANDBY PACK TEMPERATURE SENSOR, TS5132 (TS5134).

BECAUSE YOU CAN NOT ACCURATELY FIND THE AMBIENT TEMPERATURE OF THE SENSOR, THIS CHECK IS FOR TROUBLESHOOTING ONLY.

Temperature Sensor Calibration Problems
Figure 107 (Sheet 1)

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FAULT ISOLATION:

1 MAKE SURE THE PACK HAS BEEN OFF FOR 20 MINUTES OR UNTIL THE APPLICABLE SENSOR REACHES AMBIENT TEMPERATURE.

MEASURE THE AMBIENT TEMPERATURE NEAR THE SENSOR THAT YOU THINK HAS AN ERROR.

REMOVE THE APPLICABLE CONTROLLER:

- PACK TEMPERATURE CONTROLLER (AMM 21-51-14/401)
- STANDBY PACK TEMPERATURE CONTROLLER (AMM 21-51-14/401)
- ZONE TEMPERATURE CONTROLLER (AMM 21-61-03/401).

MEASURE THE RESISTANCE BETWEEN THE PINS GIVEN IN TABLE A.

GO TO THE RESISTANCE VS. TEMPERATURE GRAPH AND FIND THE ACCEPTABLE RESISTANCE RANGE.

IS THE RESISTANCE OF THE SENSOR IN THE ACCEPTABLE RANGE?

NO

51 REPLACE THE APPLICABLE SENSORS:

- FLIGHT DECK ZONE TEMPERATURE SENSOR, M10452 (AMM 21-61-08/401)
- FORWARD ZONE TEMPERATURE SENSOR, M10025 (AMM 21-61-08/401)
- AFT ZONE TEMPERATURE SENSOR, M10024 (AMM 21-61-08/401)
- FLIGHT DECK DUCT TEMPERATURE SENSOR, TS175 (AMM 21-61-02/401)
- FORWARD ZONE DUCT TEMPERATURE SENSOR, TS177 (AMM 21-61-02/401)
- AFT ZONE DUCT TEMPERATURE SENSOR, TS179 (AMM 21-61-02/401)
- FORWARD ZONE MIX MANIFOLD TEMPERATURE SENSOR, TS200 (AMM 21-61-02/401)
- AFT ZONE MIX MANIFOLD TEMPERATURE SENSOR, TS201 (AMM 21-61-02/401)
- COMPRESSOR OUTLET TEMPERATURE SENSOR, TS41 (TS42) (AMM 21-51-06/401)
- STANDBY COMPRESSOR OUTLET TEMPERATURE SENSOR, TS5133 (TS5135)(AMM 21-51-06/401)
- PACK TEMPERATURE SENSOR, TS198 (TS199)(AMM 21-51-08/401)
- STANDBY PACK TEMPERATURE SENSOR, TS5132 (TS5134) (AMM 21-51-08/401).

YES

52 THE TEMPERATURE SENSOR IS OK.

Temperature Sensor Calibration Problems
Figure 107 (Sheet 2)

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SENSOR	AMBIENT TEMPERATURE MEASUREMENT	APPLICABLE CONTROLLER	CONNECTOR	PINS	TEMPERATURE VS. RESISTANCE GRAPH
FLIGHT DECK DUCT TEMPERATURE SENSOR, TS175 (WDM 21-61-11)	FLIGHT DECK	ZONE TEMPERATURE CONTROLLER, M195	D2558A	A6 TO A7	A
FORWARD ZONE DUCT TEMPERATURE SENSOR, TS177 (WDM 21-61-21)	NEXT TO THE OVERHEAD DISTRI-BUTION DUCT	ZONE TEMPERATURE CONTROLLER, M195	D2558A	B6 TO B7	A
AFT ZONE DUCT TEMPERATURE SENSOR, TS179 (WDM 21-61-31)	NEXT TO THE OVERHEAD DISTRI-BUTION DUCT	ZONE TEMPERATURE CONTROLLER, M195	D2558A	C6 TO C7	A
FORWARD ZONE MIX MANI-FOLD TEMPERATURE SENSOR, TS200 (WDM 21-51-12)	NEXT TO THE MIX MANIFOLD	LEFT PACK TEMPERATURE CONTROLLER, M126	D2964A	B4 TO B5	A
AFT ZONE MIX MANIFOLD TEMPERATURE SENSOR, TS201 (WDM 21-51-22)	NEXT TO THE MIX MANIFOLD	RIGHT PACK TEMPERATURE CONTROLLER, M127	D3026A	B4 TO B5	A
FLIGHT DECK ZONE TEMPERATURE SENSOR (PRIMARY ELEMENT), M10452 (WDM 21-61-11)	FLIGHT DECK	ZONE TEMPERATURE CONTROLLER, M195	D2558A	A4 TO A5	B
FORWARD ZONE TEMPERATURE SENSOR (PRIMARY ELEMENT), M10025 (WDM 21-61-21)	FORWARD ZONE	ZONE TEMPERATURE CONTROLLER, M195	D2558A	B4 TO B5	B
AFT ZONE TEMPERATURE SENSOR (PRIMARY ELEMENT), M10024 (WDM 21-61-31)	AFT ZONE	ZONE TEMPERATURE CONTROLLER, M195	D2558A	C4 TO C5	B

TEMPERATURE SENSOR CALIBRATION CHECK
(TABLE A)

Temperature Sensor Calibration Problems
Figure 107 (Sheet 3)

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SENSOR	AMBIENT TEMPERATURE MEASUREMENT	APPLICABLE CONTROLLER	CONNECTOR	PINS	TEMPERATURE VS. RESISTANCE GRAPH
FLIGHT DECK ZONE TEMPERATURE SENSOR (BACKUP ELEMENT), M10452 (WDM 21-61-11)	FLIGHT DECK	LEFT PACK TEMPERATURE CONTROLLER, M126	D2964A	C4 TO C5	C
FORWARD ZONE TEMPERATURE SENSOR (BACKUP ELEMENT), M10025 (WDM 21-61-21)	FORWARD ZONE	RIGHT PACK TEMPERATURE CONTROLLER, M127	D3026A	C4 TO C5	C
COMPRESSOR OUTLET TEMPERATURE SENSOR, TS41 (TS42) (WDM 21-51-15,-25)	LEFT (RIGHT) PACK BAY NEXT TO THE SENSOR	LEFT (RIGHT) PACK TEMPERATURE CONTROLLER, M126 (M127)	D2964A (D3026A)	D4 TO D5	D
STANDBY COMPRESSOR OUTLET TEMPERATURE, TS5133 (TS5135) (WDM 21-51-14,-24)	LEFT (RIGHT) PACK BAY NEXT TO THE SENSOR	STANDBY PACK TEMPERATURE CONTROLLER, M10389	D4130A (D4130B)	A10 TO B10	D
PACK TEMPERATURE SENSOR, TS198 (TS199) (WDM 21-51-12,-22)	LEFT (RIGHT) PACK BAY NEXT TO THE SENSOR	LEFT (RIGHT) PACK TEMPERATURE CONTROLLER, M126 (M127)	D2964A (D3026A)	A4 TO A5	E
STANDBY PACK TEMPERATURE SENSOR, TS5132 (TS5134) (WDM 21-51-14,-24)	LEFT (RIGHT) PACK BAY NEXT TO THE SENSOR	STANDBY PACK TEMPERATURE CONTROLLER, M10389	D4130A (D4130B)	A9 TO B9	E

TEMPERATURE SENSOR CALIBRATION CHECK
(TABLE A)

TEMPERATURE SENSOR CALIBRATION CHECK (TABLE A)

Temperature Sensor Calibration Problems
Figure 107 (Sheet 4)

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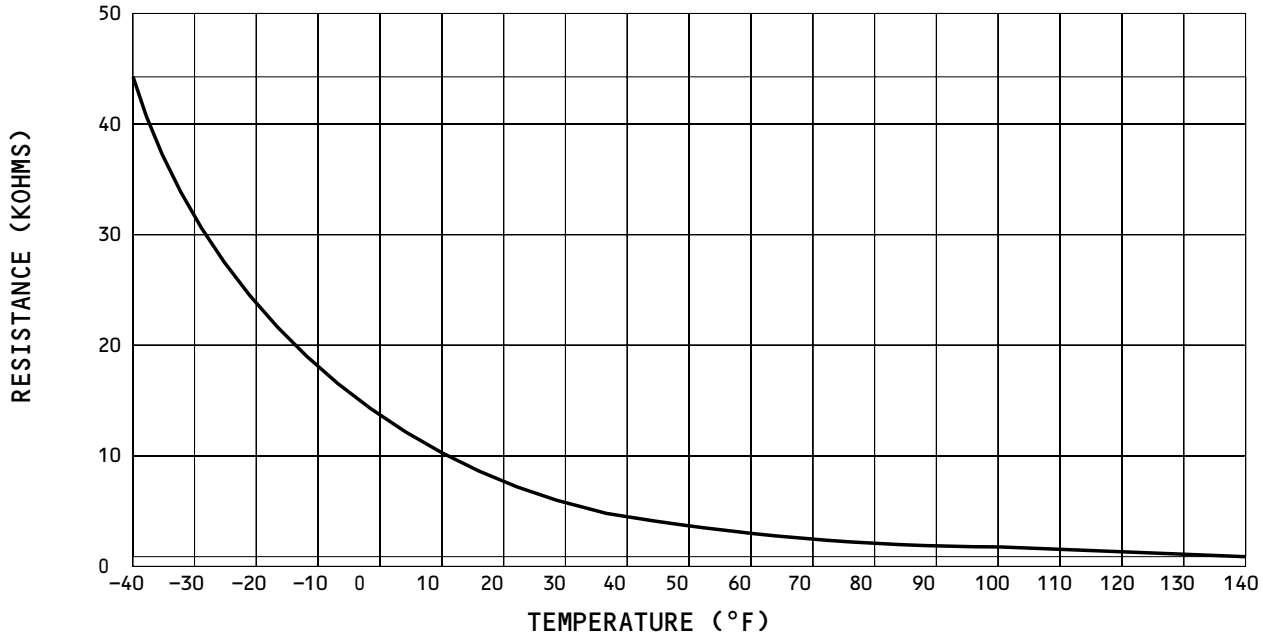
°F	OHMS
-40	43030-45210
-35	36690-38550
-30	31360-32960
-25	26930-28230
-20	23140-24260
-15	19940-20900
-10	17220-18050
-5	14890-15580
0	12950-13550
5	11310-11780
10	9870-10290
15	8640-9000
20	7520-7900
25	6660-6940
30	5870-6120
35	5180-5400
40	4580-4770
45	4060-4230
50	3600-3750

°F	OHMS
55	3200-3340
60	2850-2980
65	2550-2660
70	2290-2390
75	2040-2130
80	1830-1920
85	1650-1730
90	1480-1560
95	1340-1400
100	1210-1270
105	1100-1150
110	990-1040
115	900-950
120	820-860
125	740-790
130	680-720
135	620-660
140	560-600



DUCT TEMPERATURE SENSOR
RESISTANCE VS TEMPERATURE GRAPH A

Temperature Sensor Calibration Problems
Figure 107 (Sheet 5)

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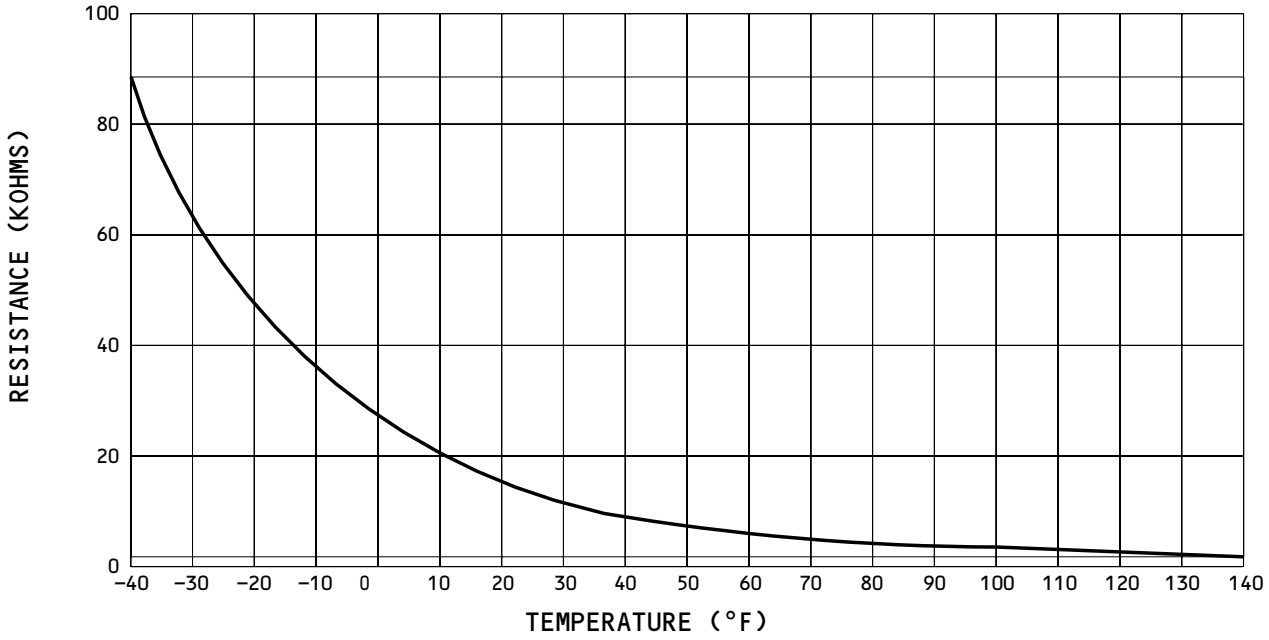
°F	OHMS
-40	87350-89130
-35	74480-76000
-30	63670-64970
-25	54600-55720
-20	46920-47880
-15	40430-41250
-10	34910-35630
-5	30160-30780
0	26240-26780
5	22850-23320
10	19950-20370
15	17460-17820
20	15310-15630
25	13460-13750
30	11860-12110
35	10470-10690
40	9250-9450
45	8200-8380
50	7270-7430

°F	OHMS
55	6470-6610
60	5770-5900
65	5150-5270
70	4610-4710
75	4130-4220
80	3710-3790
85	3330-3410
90	3000-3070
95	2710-2780
100	2450-2510
105	2220-2270
110	2010-2060
115	1830-1870
120	1660-1700
125	1510-1550
130	1380-1410
135	1260-1290
140	1150-1180
145	1050-1080

MAIN ELEMENT



ZONE TEMPERATURE SENSOR
RESISTANCE VS TEMPERATURE GRAPH B

Temperature Sensor Calibration Problems
Figure 107 (Sheet 6)

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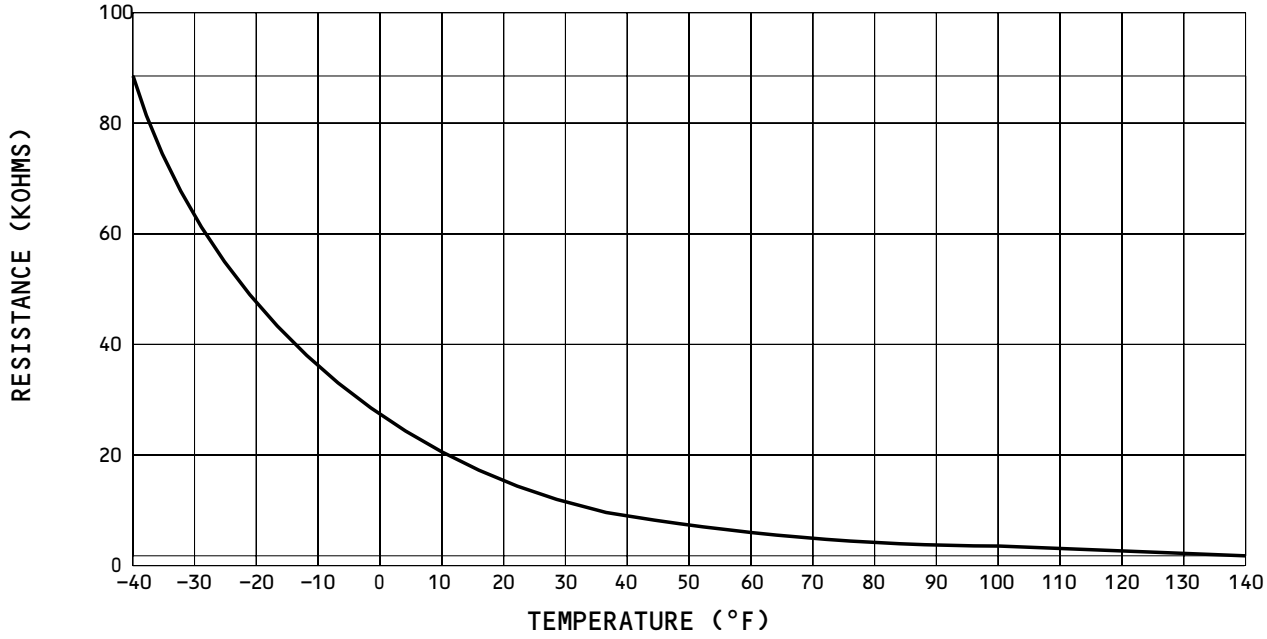
°F	OHMS
-40	85850-90630
-35	73200-77280
-30	62580-66060
-25	53670-56650
-20	46120-48680
-15	39730-41950
-10	34310-36230
-5	29640-31300
0	25790-27230
5	22460-23720
10	19610-20710
15	17160-18120
20	15050-15890
25	13230-13980
30	11660-12310
35	10290-10870
40	9090-9610
45	8060-8520
50	7150-7560

°F	OHMS
55	6360-6720
60	5670-5990
65	5060-5350
70	4530-4790
75	4060-4290
80	3640-3860
85	3280-3470
90	2950-3130
95	2660-2820
100	2410-2550
105	2180-2310
110	1980-2100
115	1790-1900
120	1630-1730
125	1480-1580
130	1350-1440
135	1240-1310
140	1130-1200
145	1030-1100

BACKUP ELEMENT



ZONE TEMPERATURE SENSOR
RESISTANCE VS TEMPERATURE GRAPH C

Temperature Sensor Calibration Problems
Figure 107 (Sheet 7)

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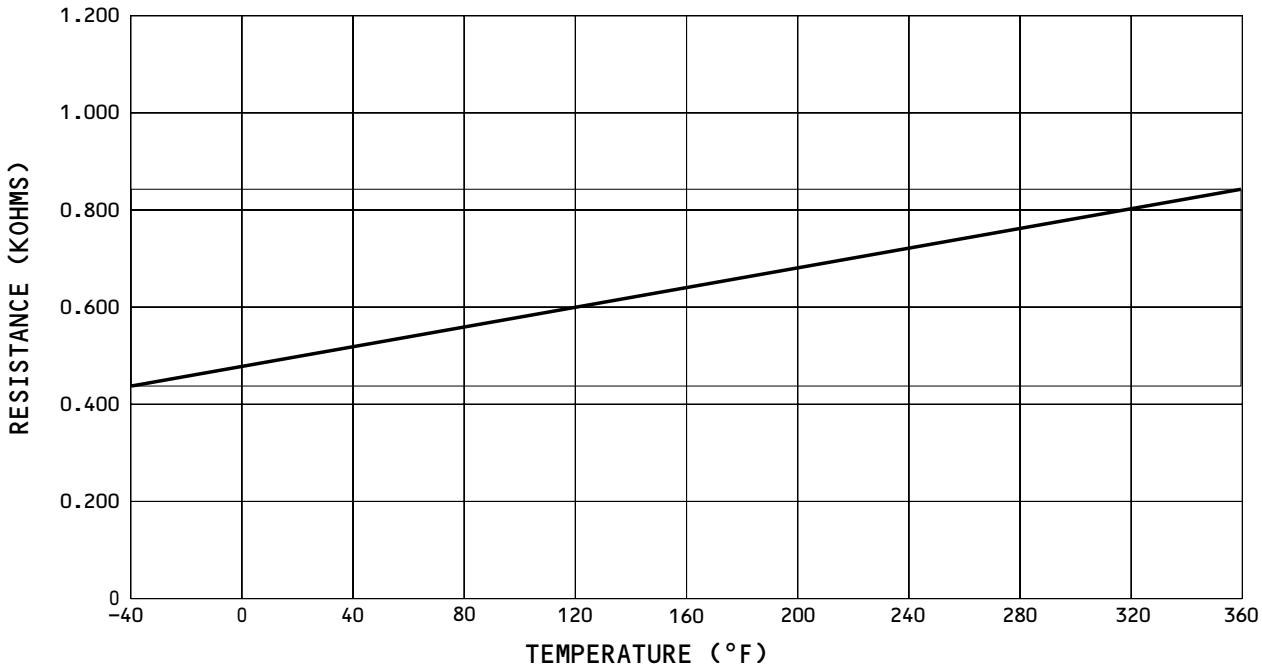
°F	OHMS
-40	418-424
-20	440-446
0	462-468
20	484-490
40	506-511
60	528-533
80	549-555
100	571-576
120	592-598
140	614-619
160	635-640
180	657-662
200	678-683
220	699-704
240	720-725
260	741-746
280	762-767
300	783-788
320	803-809
340	824-829



COMPRESSOR OUTLET TEMPERATURE SENSOR
RESISTANCE VS TEMPERATURE GRAPH D

Temperature Sensor Calibration Problems
Figure 107 (Sheet 8)

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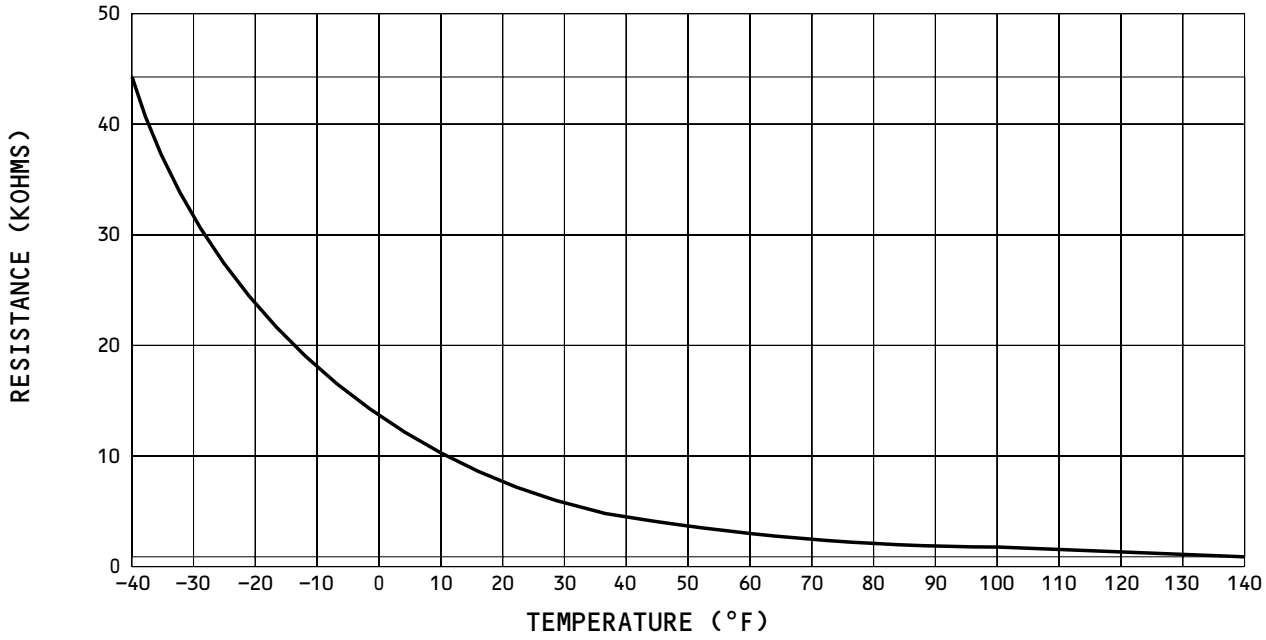
°F	OHMS
-40	43030-45210
-35	36690-38550
-30	31360-32960
-25	26930-28230
-20	23140-24260
-15	19940-20900
-10	17220-18050
-5	14890-15580
0	12950-13550
5	11310-11780
10	9870-10290
15	8640-9000
20	7520-7900
25	6660-6940
30	5870-6120
35	5180-5400
40	4580-4770
45	4060-4230
50	3600-3750

°F	OHMS
55	3200-3340
60	2850-2980
65	2550-2660
70	2290-2390
75	2040-2130
80	1830-1920
85	1650-1730
90	1480-1560
95	1340-1400
100	1210-1270
105	1100-1150
110	990-1040
115	900-950
120	820-860
125	740-790
130	680-720
135	620-660
140	560-600



PACK TEMPERATURE SENSOR
RESISTANCE VS TEMPERATURE GRAPH E

Temperature Sensor Calibration Problems
Figure 107 (Sheet 9)

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