GPA Group plc

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105	SEP 20/94	R01
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CHAPTER 77 - ENGINE INDICATING

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CHAPTER 77 - ENGINE INDICATING

TABLE OF CONTENTS

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
77 12 XA --	(O1=L,O2=R) N1, N2, N3 indicators and eng speed card problems were encountered by the flight crew which is not covered in the fault code diagrams.	SSM 77-00-00, SSM 77-11-01, SSM 77-12-01 thru SSM 77-12-05, SSM 77-20-00, SSM 77-31-01
77 41 XA --	(O1=L,O2=R) EPR, EGT and vibration indication problems were enountered by the flight crew which is not covered in the fault code diagrams.	SSM 77-00-00, SSM 77-11-01, SSM 77-12-01 thru SSM 77-12-05, SSM 77-20-00, SSM 77-31-01
77 11 01 --	(O1=L,O2=R) Engine EPR ind (blank, zero, fluctuates). Standby eng ind also abnormal.	FIM 77-11-00/101, Fig. 103, Block 1
77 11 02 --	(O1=L,O2=R) Engine EPR reads (high, low). With same EPRs set, eng parameters differ. Engine parameters same with engines at same N1.	FIM 77-11-00/101, Fig. 103, Block 1
77 11 03 --	(O1=L,O2=R) Engine EPR on EICAS and stby eng ind differs. EICAS reads ____, stby eng ind ____.	FIM 77-11-00/101, Fig. 104, Block 1
77 11 04 --	(O1=L,O2=R) EPR reads (high, low). Other eng parameters normal.	FIM 77-11-00/101, Fig. 105, Block 1
77 11 05 --	(L,R) Engine EPR indication (blank, zero, fluctuates) using (O1=L,O2=R) EICAS computer. EPR normal using other computer.	Remove L(R) EICAS computer, M10181 (M10182)(AMM 31-41-02). Check and repair circuit from TB207 pins Z19 (Z18) and Z20 (Z17) to connectors D319A (D319D) pins J4 and J3 (J5) at left EICAS computer M10181, and connectors D321A (D321D) pins J4 and J3 (J5) at right EICAS computer M10182 (WDM 77-11-11). Install EICAS computer. If fault persists, replace applicable L(R) EICAS computer M10181 (M10182)(AMM 31-41-02).
77 12 01 --	EICAS MSG: (O1=L,O2=R) ENG SPEED CARD displayed. Engine ind were normal.	FIM 77-12-00/101, Fig. 103, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
77 12 02 --	(01=L,02=R) Engine prim N1 ind (blank, high, low, zero, fluctuates). Engine stby ind also abnormal. Vibration shows BB INOP.	FIM 77-12-00/101, Fig. 104, Block 1
77 12 03 --	(L,R) Engine N2 ind (blank, high, low, zero, fluctuates) using (01=L,02=R) EICAS computer. N2 normal using other computer.	FIM 77-12-00/101, Fig. 104A, Block 1
77 12 04 --	(01=L,02=R) Engine N3 ind (blank, high, low, zero, fluctuates). Standby eng ind abnormal. EICAS MSG: (L,R) ENG SPEED CARD displayed.	FIM 77-12-00/101, Fig. 105, Block 1
77 12 05 --	(01=L,02=R) Engine N1 on EICAS and stby eng ind differs. EICAS ____% N1, stby eng ind____% N1.	FIM 77-12-00/101, Fig. 106
77 12 06 --	(01=L,02=R) Engine N3 on EICAS and stby eng ind differs. EICAS ____% N3, stby eng ind ____% N3.	FIM 77-12-00/101, Fig. 107
77 12 07 --	(L,R) Engine N1 ind (blank, high, low, zero, fluctuates) using (01=L,02=R) EICAS computer. N1 normal using other computer.	FIM 77-12-00/101, Fig. 108
77 12 08 --	(L,R) Engine N3 ind (blank, high, low, zero, fluctuates) using (01-L, 02=R) EICAS computer. N3 normal using other computer.	FIM 77-12-00/101, Fig. 109
77 12 09 00	EICAS msg L ENG SPEED CARD displayed.	FIM 77-12-00/101, Fig. 103, Block 1
77 12 10 00	EICAS msg R ENG SPEED CARD displayed.	FIM 77-12-00/101, Fig. 103, Block 1
77 21 01 --	(01=L,02=R) Engine EGT ind (blank, high, low, zero, fluctuates). Standby ind eng ind also abnormal.	FIM 77-21-00/101, Fig. 103, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
77 21 02 --	(01=L,02=R) Engine EGT on EICAS and stby eng ind differs. EICAS reads ____°, stby eng ind ____°.	FIM 77-21-00/101, Fig. 104
77 21 03 --	(L,R) Engine EGT indication (blank, high, low, zero, fluctuates) using (01=L,02=R) EICAS computer. EGT normal using other computer.	FIM 77-21-00/101, Fig. 103, Block 1
77 31 01 --	(01=L,02=R) Engine VIB indicator has BB above indication.	FIM 77-31-00/101, Fig. 103, Block 1
77 31 02 --	(01=L,02=R,03=L N1,04=L N2, 05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration indication reads (BB, high, blank or fluctuates, etc.) using either EICAS computer (describe BB or track position). Other engine parameters normal.	FIM 77-31-00/101, Fig. 103, Block 1
77 31 05 00	EICAS msg L ENG VIB BITE displayed.	FIM 77-31-00/101, Fig. 103, Block 1
77 31 06 00	EICAS msg R ENG VIB BITE displayed.	FIM 77-31-00/101, Fig. 103, Block 1
77 31 07 --	EICAS msg: (01=L,02=R) ENG VIB displayed.	FIM 77-31-00/101, Fig. 105, Block 1
77 31 08 00	EICAS msg R ENG BB VIB displayed.	FIM 77-31-00/101, Fig. 104, Block 1
77 31 09 00	EICAS msg L ENG BB VIB displayed.	FIM 77-31-00/101, Fig. 104, Block 1
77 41 01 --	(01=L,02=R) Standby eng EPR ind reads (blank, zero, high/low or segment missing).	FIM 77-41-00/101, Fig. 103, Block 1
77 41 02 --	(01=L,02=R) Engine stby N1 ind reads (blank, zero, high/low or segment missing).	FIM 77-41-00/101, Fig. 103, Block 1
77 41 03 --	(01=L,02=R) Standby eng EGT ind reads (blank, zero, high/low or segment missing).	FIM 77-41-00/101, Fig. 103, Block 1

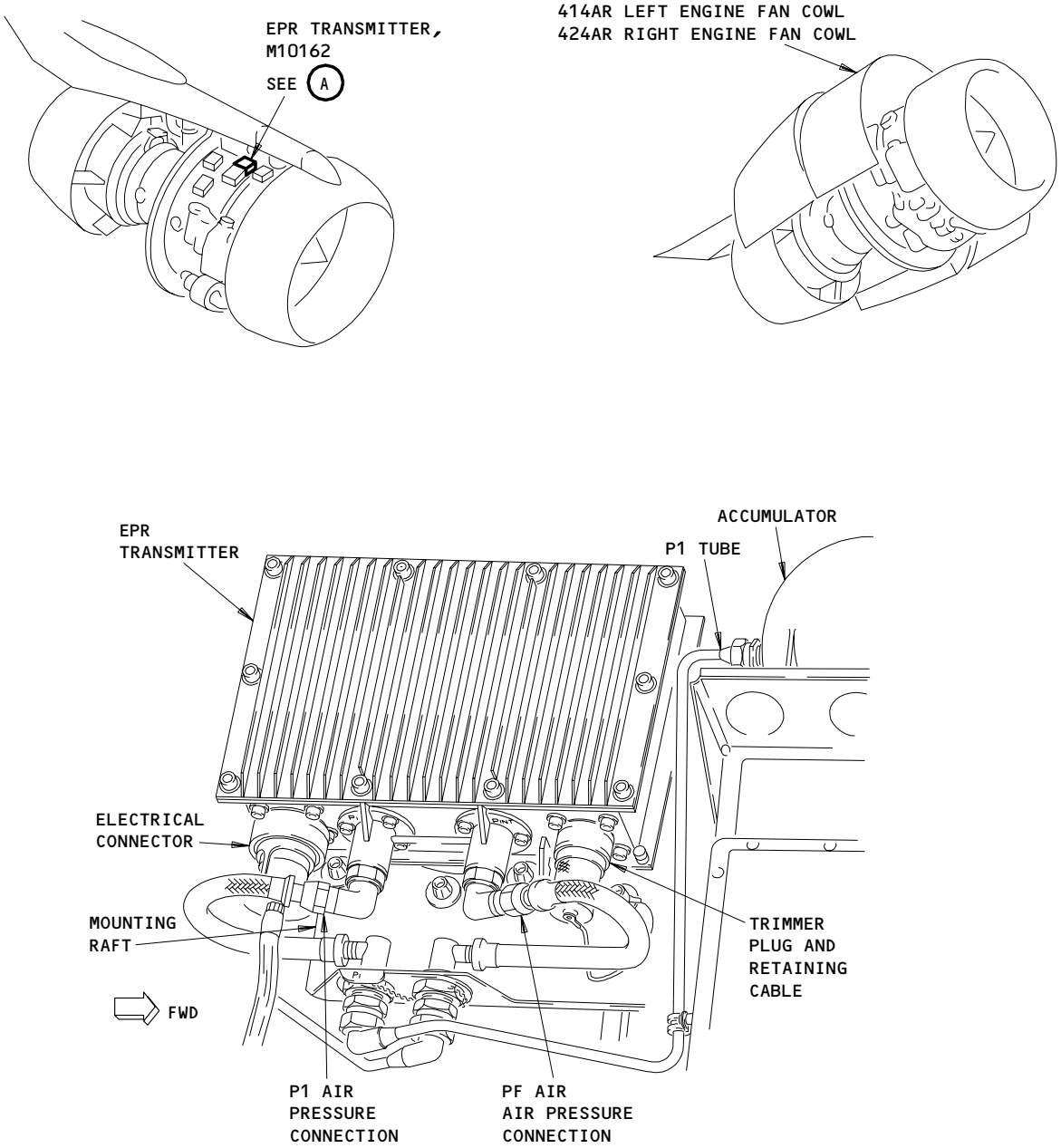
FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
77 41 04 --	(01=L,02=R) Engine stby N3 ind reads (blank, zero, high/low or segment missing).	FIM 77-41-00/101, Fig. 103, Block 1

ENGINE PRESSURE RATIO (EPR) INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
TRANSMITTER - EPR, M10162	--	2	414AR L ENG FAN COWL 424AR R ENG FAN COWL	77-11-01

Engine Pressure Ratio (EPR) Indicating System - Component Index
Figure 101

E49045



EPR TRANSMITTER, M10162

A

NOTE: ON AIRPLANES WITH RB211-535E4 ENGINES, THE PF AIR LINE IS CONNECTED TO THE FITTING WITH THE PINT PLACARD ON THE EPR TRANSMITTER

69706-A

Engine Pressure Ratio (EPR) Indicating System - Component Location
Figure 102

EPR INDICATION PROBLEM

PREREQUISITES
NONE

1 CHECK THE P1 PROBE, FAN AND EXHAUST PRESSURE LINES FOR CRACKS, KINKS, BLOCKAGE, OR LOOSE CONNECTIONS.
IS LINE FAULTY?

YES → 21 REPAIR OR REPLACE THE LINE.

NO ↓

2 DO THE EPR INDICATING SYSTEM ADJUSTMENT TEST (AMM 77-11-00/501).
DOES TRANSMITTER TEST OK?

YES → 22 REPLACE THE P1 PROBE (AMM 73-21-04/401).

NO → 23 REPLACE THE EPR TRANSMITTER (AMM 77-11-01/401).
IF THE PROBLEM CONTINUES, EXAMINE THE CIRCUIT FROM THE EPR TRANSMITTER, CONNECTOR D1368, PIN 12 AND 4, TO TERMINAL BLOCK TB207, PIN Z17 (Z19) AND Z18 (Z20) (WDM 71-51-11 AND 77-11-11).
REPAIR THE PROBLEMS THAT YOU FIND.

EPR Indication Problem
Figure 103

EICAS AND STBY ENG IND "EPR" DIFFERS

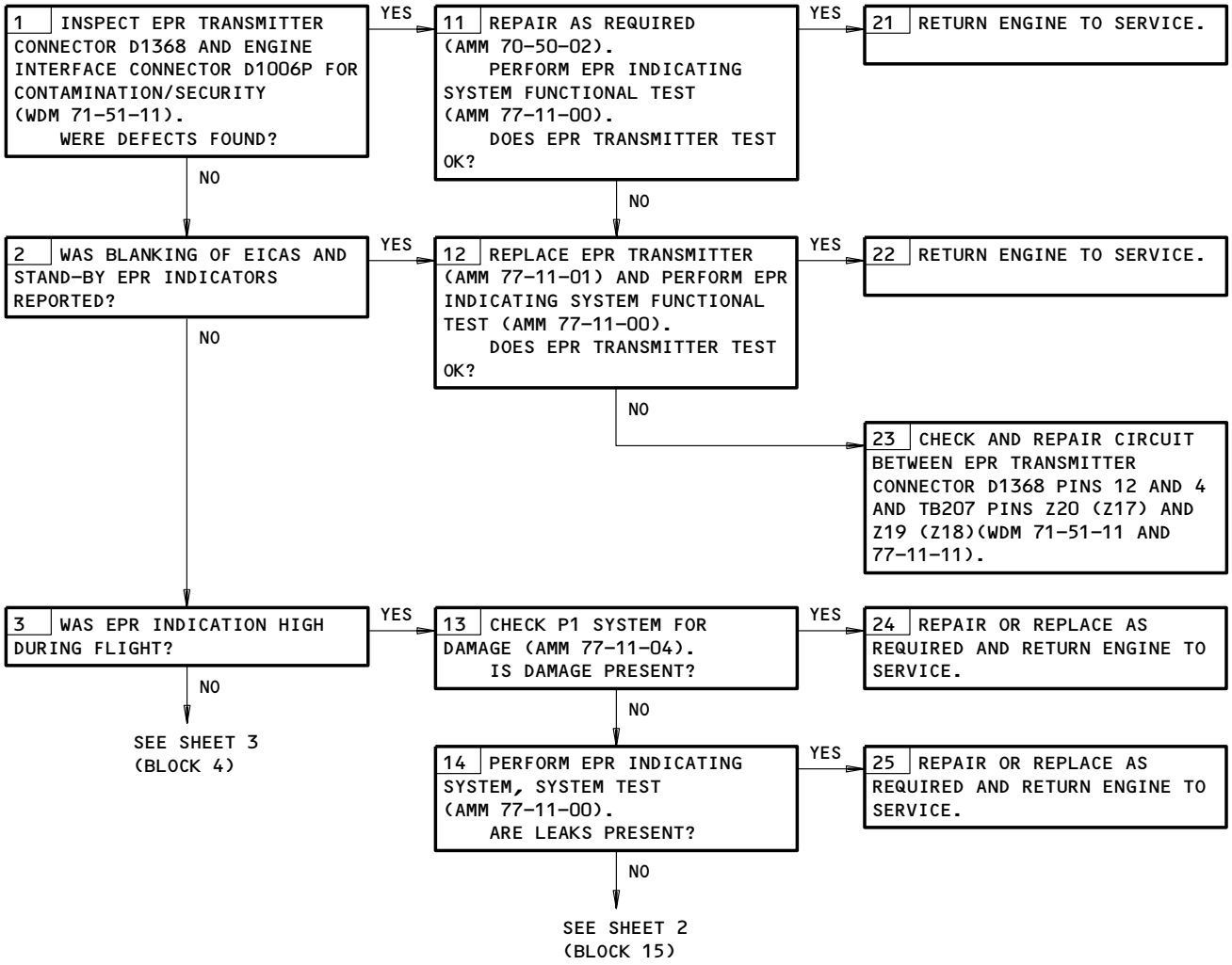
PREREQUISITES
NONE

1 DO THIS PROCEDURE: STANDBY ENGINE INDICATOR BITE PROCEDURE (FIM 77-41-00/101, FIG. 103).
IF THE PROBLEM CONTINUES, REMOVE THE L (R) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401).
EXAMINE THE CIRCUIT FROM THE L EICAS COMPUTER, CONNECTOR D319A (D319D), PIN J4 AND J3 (J5), TO PIN Z19 (Z18) AND Z20 (Z17)(WDM 77-11-11). REPAIR THE PROBLEMS THAT YOU FIND.
EXAMINE THE CIRCUIT FROM THE R EICAS COMPUTER, CONNECTOR D321A (D321D), PIN J4 AND J3 (J5) TO PIN Z19 (Z18) AND Z20 (Z17). REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTER.

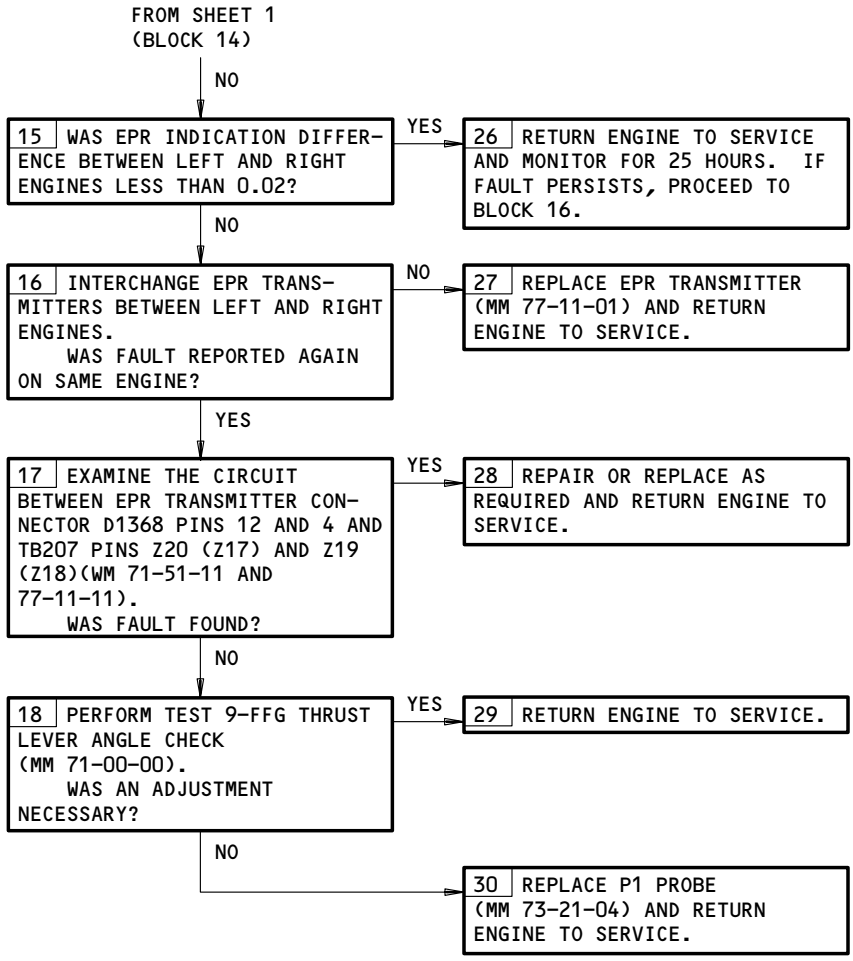
EICAS and Stby Eng Ind EPR Differ
Figure 104

HIGH/LOW EPR INDICATION, OTHER ENGINE PARAMETERS NORMAL

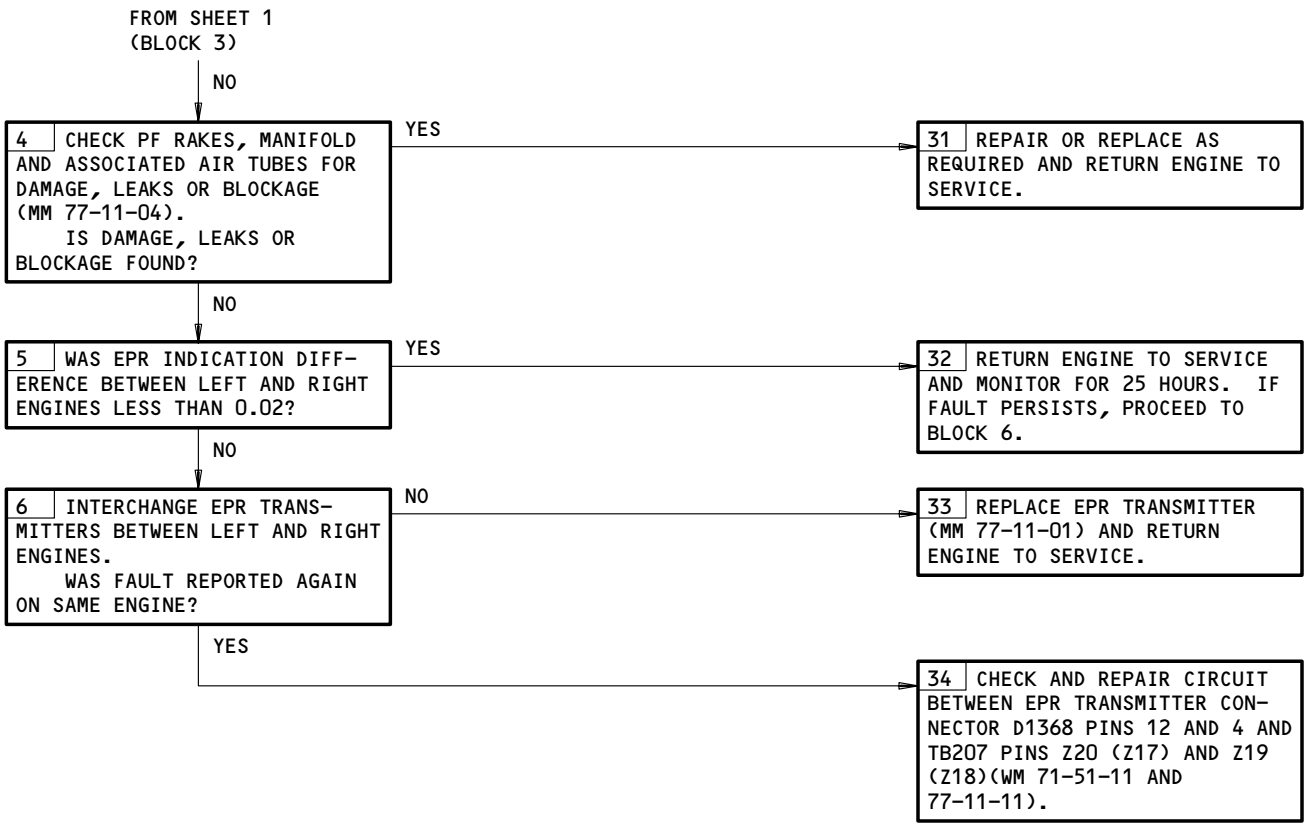
PREREQUISITES
NONE



High/Low EPR Indication, Other Engine Parameters Normal
Figure 105 (Sheet 1)



High/Low EPR Indication, Other Engine Parameters Normal
Figure 105 (Sheet 2)

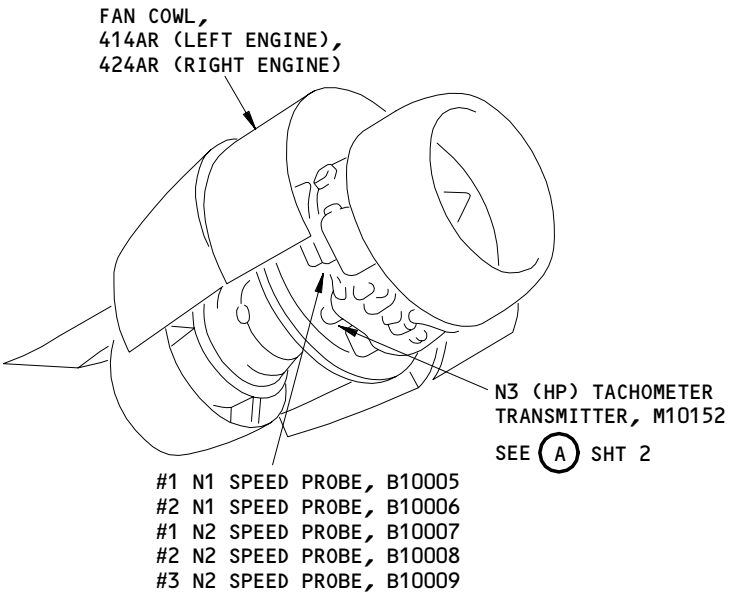


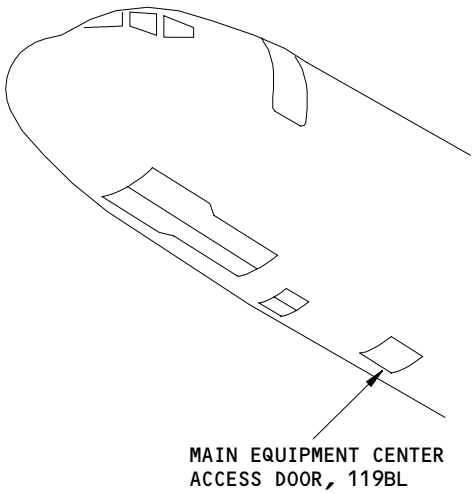
High/Low EPR Indication, Other Engine Parameters Normal
Figure 105 (Sheet 3)

ENGINE TACHOMETER SYSTEM

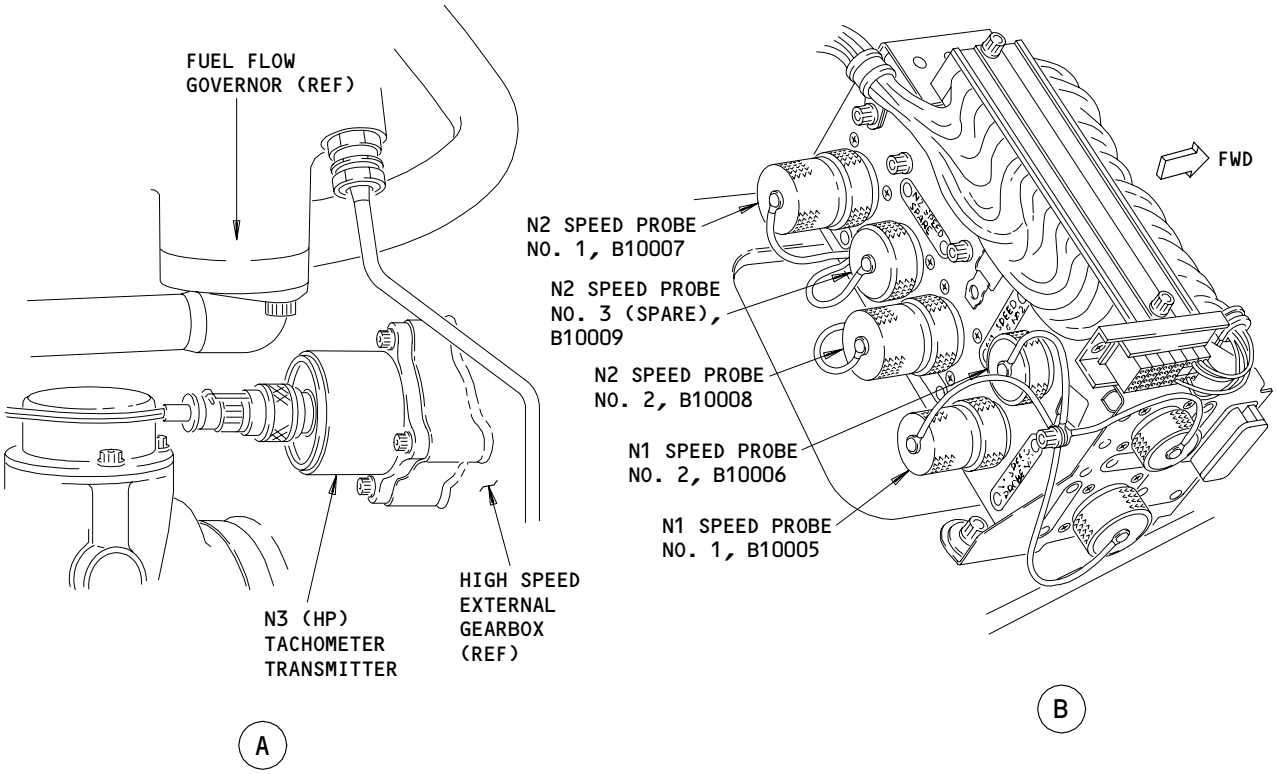
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CARD - LEFT ENGINE SPEED, M10298	2	1	119BL, MAIN EQUIP CTR, P50	77-12-03
CARD - RIGHT ENGINE SPEED, M10311	2	1	119BL, MAIN EQUIP CTR, P50	77-12-03
PROBE - #1 N1 SPEED, B10005	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-01
PROBE - #2 N1 SPEED, B10006	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-01
PROBE - #1 N2 SPEED, B10007	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-01
PROBE - #2 N2 SPEED, B10008	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-01
PROBE - #3 N2 SPEED, B10009	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-01
RELAY - (FIM 31-01-36/101) L ENG OUT 1, K10337 L ENG OUT 4, K10398 R ENG OUT 1, K10340 RELAY - (FIM 31-01-37/101) L ENG OUT 2, K10338 L ENG OUT 3, K10339 L ENG OUT 5, K10446 R ENG OUT 2, K10341 R ENG OUT 3, K10342 R ENG OUT 4, K10399 R ENG OUT 5, K10444 R ENG OUT 6, K10448				
TRANSMITTER - N3 (HP) TACHOMETER 2	2	2	414AR, L ENG FAN COWL 424AR, R ENG FAN COWL	77-12-02

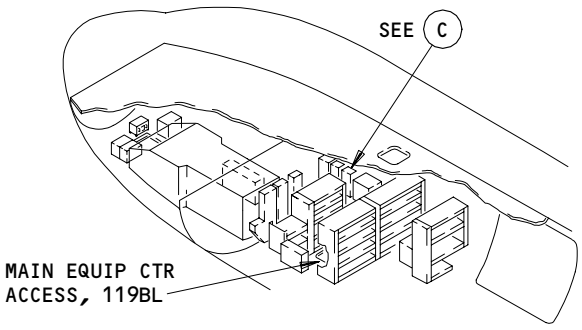
Engine Tachometer System - Component Index
Figure 101



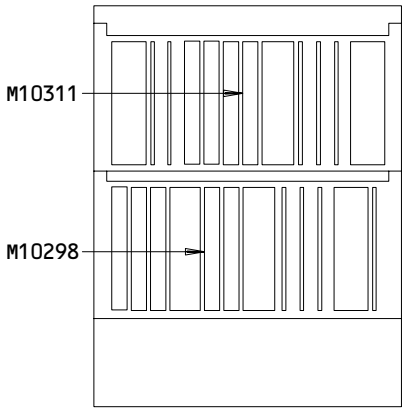


Engine Tachometer System - Component Location
Figure 102 (Sheet 1)





MAIN EQUIP CTR



ELEC SYS CARD FILE P50

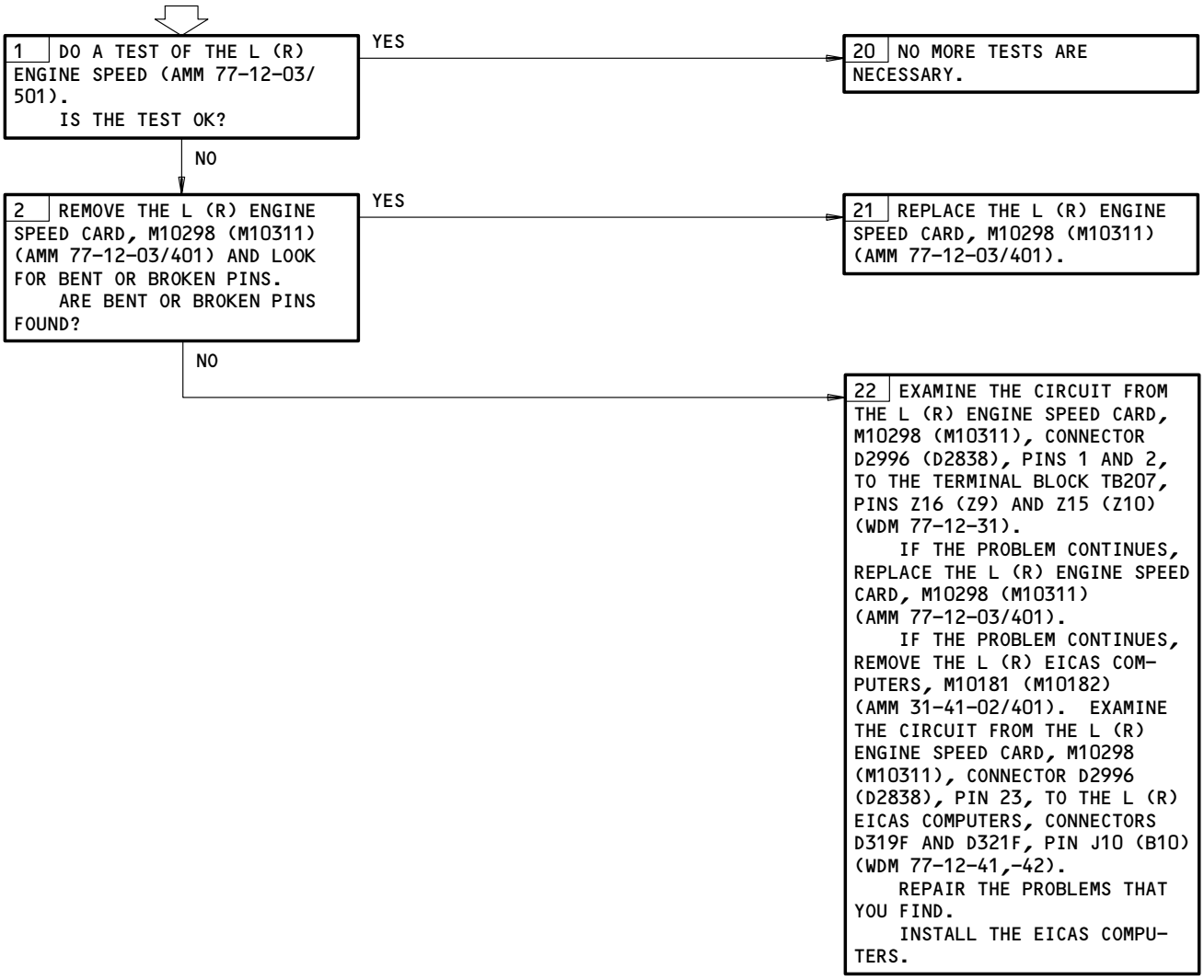
C

Component Location
Figure 102 (Sheet 2)

EICAS "L (R) ENG SPEED CARD" MESSAGE SHOWS

PREREQUISITES

NONE



EICAS L (R) ENG SPEED CARD Message Shows
Figure 103

N1 INDICATION PROBLEM

PREREQUISITES

NONE

1 CONNECT THE ALTERNATE N1 SPEED PROBE (AMM 77-12-01/201).
DOES THE PROBLEM CONTINUE?

YES → 11 REPLACE THE AVM (AMM 77-31-03/401).

NO

2 EXAMINE THE CONDITION OF CONNECTOR D1428.
ARE THE CONTACTS OK?

NO → 12 REPAIR OR REPLACE CONNECTOR D1428.

YES → 13 EXAMINE THE CIRCUIT FROM CONNECTOR D1428, PINS 2, 6, AND 7, TO TERMINAL BLOCK TB207, PINS Z111 (Z106) AND Z112 (Z107) (WDM 71-51-11; 77-12-11).
REPAIR THE PROBLEMS THAT YOU FIND.
DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIM 71-05-00/101, FIG. 111).

N1 Indication Problem
Figure 104

N2 INDICATION READS ZERO/FLUCTUATES

PREREQUISITES

NONE

1 CONNECT THE ALTERNATE N2 PULSE PROBE (AMM 77-12-01/201). DRY MOTOR THE ENGINE (AMM 71-00-00/201) AND MONITOR N2 SPEED.
IS N2 SPEED SHOWN?

YES → 11 CONTINUE THE ENGINE IN SERVICE.

NO → 12 RECONNECT THE ORIGINAL N2 PULSE PROBE (AMM 77-12-01/201).
EXAMINE THE CIRCUIT FROM CONNECTOR D1432, PINS 3,4 AND 6 FOR THE NO. 1 PROBE OR D1434, PINS 8,10 AND 12 FOR THE NO. 2 PROBE TO THE TERMINAL BLOCK TB207, PIN YC7 (YA7) AND YC8 (YA8)(WDM 71-51-11; 77-12-21).
REPAIR THE PROBLEMS THAT YOU FIND.

N2 Indicator Reads Zero/Flucutates
Figure 104A

N3 INDICATION PROBLEM

PREREQUISITES
NONE

1 MAKE SURE CONNECTOR D1338 AT THE N3 TACHOMETER TRANSMITTER IS TIGHT.
IS THE CONNECTOR TIGHT?

NO → 11 TIGHTEN CONNECTOR D1338.

YES ↓

3 REPLACE THE N3 TACHOMETER TRANSMITTER (AMM 77-12-02/401).
IS N3 OK?

YES → 13 PUT THE AIRPLANE IN SERVICE.

NO ↓

5 EXAMINE THE CONDITION OF CONNECTOR D1338.
USE A NEW PIN OR SOCKET TO EXAMINE THE FIT OF EACH CONTACT.
EXAMINE THE TENSION OF EACH CONTACT BY FEEL.
ARE THE CONTACTS OK?

NO → 15 REPAIR OR REPLACE CONNECTOR D1338.

YES ↓

17 EXAMINE THE CIRCUIT FROM CONNECTOR D1338, TO PIN Z16 (Z9), Z15 (Z10), ON TB207 (WDM 71-51-11 AND 77-12-31).
REPAIR THE PROBLEMS THAT YOU FIND.
DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIM 71-05-00/101, FIG. 111).

N3 Indication Problem
Figure 105

EICAS AND STBY ENG IND "ENG N1" DIFFERS

PREREQUISITES
NONE

1 DO THIS PROCEDURE: STANDBY ENGINE INDICATOR BITE PROCEDURE (FIM 77-41-00/101, FIG. 103).
IF THE PROBLEM CONTINUES, REMOVE L (R) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401). EXAMINE THE CIRCUIT FROM L EICAS COMPUTER, CONNECTOR D319B (D319E), PIN D1 (A14), D2 (B14), TO PIN Z111 (Z106), Z112 (Z107) ON TB207 (WDM 77-12-11). REPAIR THE PROBLEMS THAT YOU FIND. EXAMINE THE CIRCUIT FROM R EICAS COMPUTER, CONNECTOR D321B (D321E), PIN D1 (A14), D2 (B14), TO PIN Z111 (Z106),Z112 (Z107) ON TB207. REPAIR THE PROBLEMS THAT YOU FIND. INSTALL EICAS COMPUTER.

EICAS and Stby Eng Ind ENG N3 Differ
Figure 106

EICAS AND STBY ENG IND "ENG N3" DIFFERS

PREREQUISITES
NONE

1	DO THIS PROCEDURE: STANDBY ENGINE INDICATOR BITE PROCEDURE (FIM 77-41-00/101, FIG. 103). IF THE PROBLEM CONTINUES, REMOVE L (R) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401). EXAMINE THE CIRCUIT FROM L EICAS COMPUTER, CONNECTOR D319A (D319D), PIN F11 (A7),D12 (E8), TO PIN Z15 (Z10), Z16 (Z9) ON TB207 (WDM 77-12-31). REPAIR THE PROBLEMS THAT YOU FIND. EXAMINE THE CIRCUIT FROM R EICAS COMPUTER, CONNECTOR D321A (D321D), PIN F11 (A7),D12 (E8), TO PIN Z15 (Z10),Z16 (Z9) ON TB207. REPAIR THE PROBLEMS THAT YOU FIND. INSTALL EICAS COMPUTER.

EICAS and Stby Eng Ind ENG N3 Differ
Figure 107

"N1" INDICATION PROBLEM ON EICAS

PREREQUISITES
NONE

1 REMOVE L (R) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401). EXAMAINE THE CIRCUIT FROM L EICAS COMPUTER, CONNECTOR D319B (D319E), PIN D1 (A14),D2 (B14), TO PIN Z111 (Z106),Z112 (Z107) ON TB207 (WDM 77-12-11). REPAIR THE PROBLEMS THAT YOU FIND. EXAMINE THE CIRCUIT FROM R EICAS COMPUTER, CONNECTOR D321B (D321E), PIN D1 (A14),D2 (D14), TO PIN Z111 (Z106),Z112 (Z107) ON TB207. REPAIR THE PROBLEMS THAT YOU FIND. INSTALL THE EICAS COMPUTER.

N1 Indication Problem on EICAS
Figure 108

"N3" INDICATION PROBLEM ON EICAS

PREREQUISITES
NONE

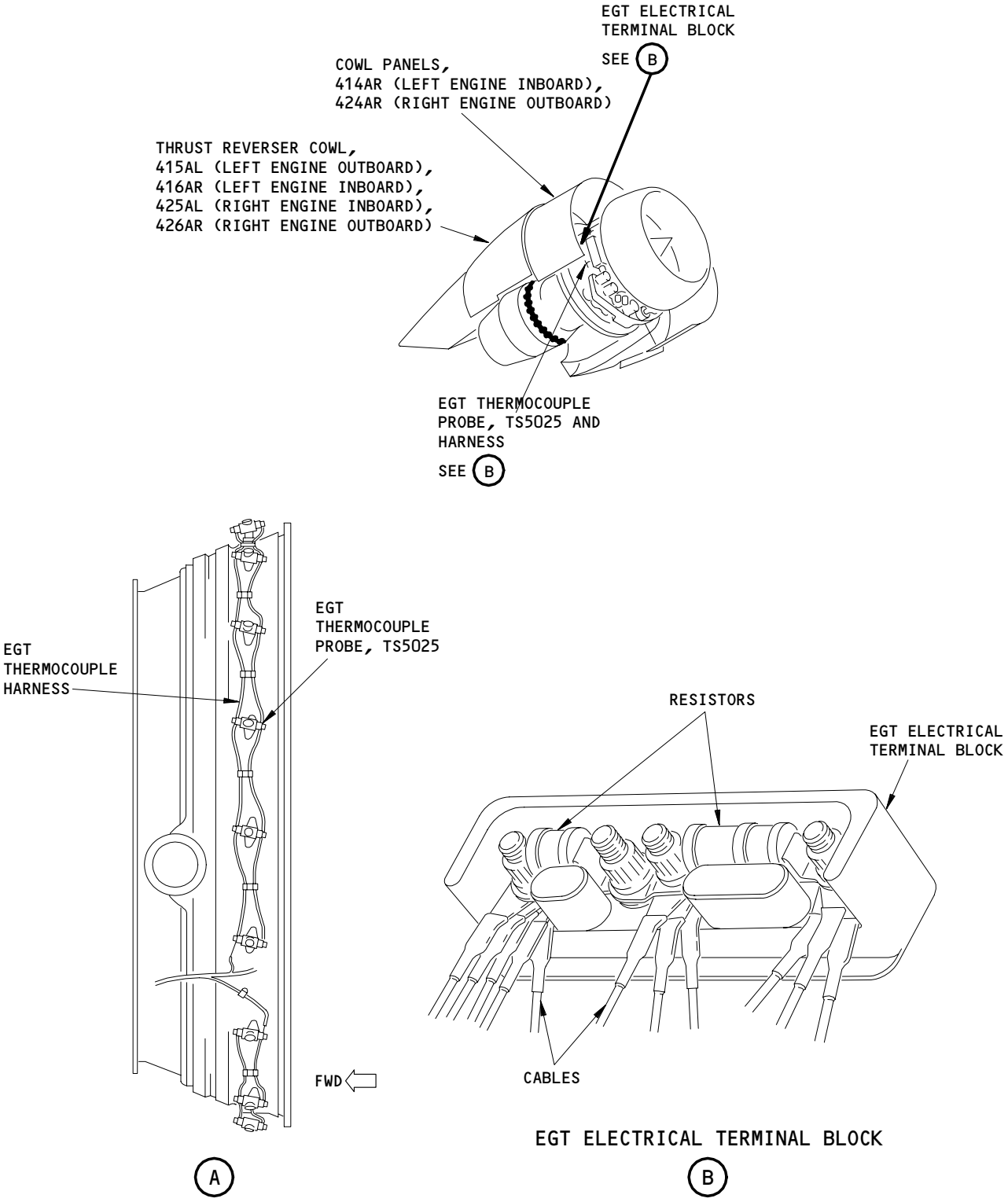
1 REMOVE L (R) EICAS COMPUTER, M10181 (M10182)(AMM 31-41-02/401). EXAMINE THE CIRCUIT FROM L EICAS COMPUTER, CONNECTOR D319A (D319D), PIN F11 (A7),D12 (E8), TO PIN Z15 (Z10),Z16 (Z9) ON TB207 (WDM 77-12-31). REPAIR THE PROBLEMS THAT YOU FIND. EXAMINE THE CIRCUIT FROM R EICAS COMPUTER, CONNECTOR D321A (D321D), PIN F11 (A7),D12 (E8), TO PIN Z15 (Z10),Z16 (Z9) ON TB207. REPAIR THE PROBLEMS THAT YOU FIND. INSTALL EICAS COMPUTER.

N3 Indication Problem on EICAS
Figure 109

EXHAUST GAS TEMPERATURE (EGT) INDICATING SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BLOCK - EGT ELECTRICAL CABLES AND RESISTORS TERMINAL	--	2	414AR,424AR COWL PANELS	77-21-03
HARNESS - EGT THERMOCOUPLE	--	2	415AL,425AL,416AR,426AR COWL PANELS	77-21-02
PROBE - EGT THERMOCOUPLE, TS5025	--	34	415AL,425AL,416AR,426AR COWL PANELS	77-21-01

Exhaust Gas Temperature (EGT) Indicating System - Component Index
Figure 101



Exhaust Gas Temperature (EGT) Indicating System - Component Location
Figure 102

EGT INDICATION PROBLEM

PREREQUISITES
NONE

1 DO THE EGT INDICATING SYSTEM TEST (AMM 77-21-00/501).
IS THE TEST OK?

NO → 20 REMOVE THE L (R) EICAS COMPUTER, M10181 (M10182) (AMM 31-41-02/401).
EXAMINE THE CIRCUIT FROM THE ENGINE AIRFRAME/INTERFACE, CONNECTOR D1110J (D1210J), PINS 6 AND 7, TO THE L (R) EICAS, CONNECTORS D319B (D219E), PINS A15 AND B15 TO D321B (D321E), PINS A15 AND B15 (WDM 71-51-11 AND 77-21-11).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTER. 1

YES

2 MEASURE THE RESISTANCE VALUE OF THE BALLAST AND TRIM RESISTORS (AMM 77-21-03/501).
IS THE VALUE OK?

NO → 21 REPLACE THE RESISTORS (AMM 77-21-03/401). 1

YES

22 REPLACE THE EGT THERMOCOUPLE HARNESS (AMM 77-21-02/401).
IF THE PROBLEM CONTINUES, DO THE EGT THERMOCOUPLE PROBE TEST (AMM 77-21-01/501) FOR EACH PROBE.
REPLACE THE FAULTY PROBES (AMM 77-21-01/401). 2
IF THE PROBLEM CONTINUES, EXAMINE THE CIRCUIT FROM THE EGT TERMINAL BLOCK TO THE ENGINE AIRFRAME/INTERFACE, CONNECTOR D1010P (WDM 71-51-11). 1
REPAIR THE PROBLEMS THAT YOU FIND.

1 DO THE PROCEDURE IN FIM 71-05-00, FIG. 111
2 FAULTY EGT PROBES CAN CAUSE LOWER EGT INDICATIONS.

EGT Indication Problem
Figure 103

EICAS AND STBY ENG IND "EGT" DIFFER

PREREQUISITES
NONE

1	PERFORM STANDBY ENGINE INDICATOR BITE PROCEDURE (77-41-00, FIG. 103). IF FAULT PERSISTS, REMOVE L (R) EICAS COMPUTER M10181 (M10182)(MM 31-41-02). CHECK AND REPAIR CIRCUIT BETWEEN L EICAS COMPUTER CONNECTORS D319B (D319E) PIN B15 AND A15 AND PIN YC70 (YA69) AND YC69 (YA70) ON TB207 (WM 77-21-11). CHECK AND REPAIR CIRCUIT BETWEEN R EICAS COMPUTER CONNECTORS D321B (D321E) PIN B15 AND A15 AND PIN YC70 (YA69) AND YC69 (YA70) ON TB207. INSTALL EICAS COMPUTER.

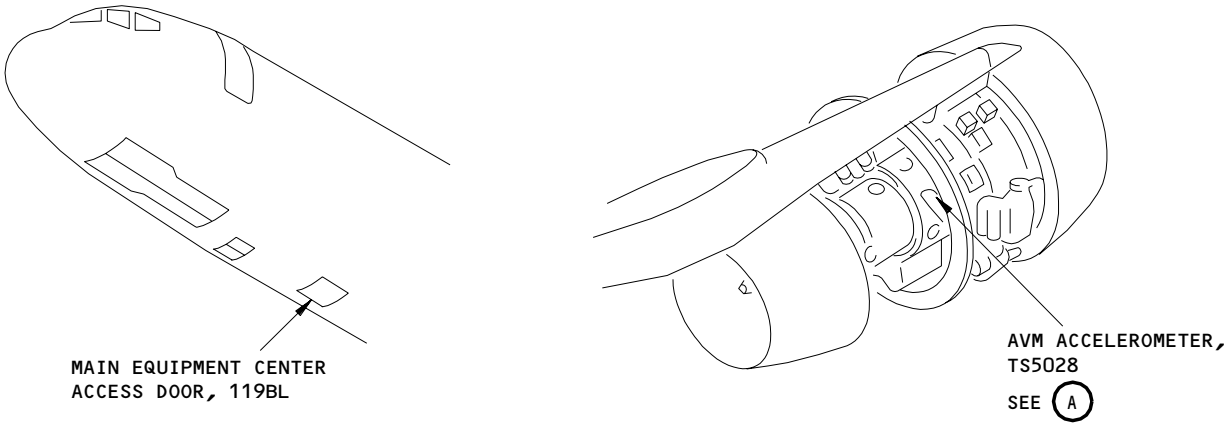
EICAS and Stby Eng Ind EGT Differ
Figure 104

AIRBORNE VIBRATION MONITORING (AVM) SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACCELEROMETER - AVM, TS5028	2	2	425AL, R ENG FAN C-DUCT AND THRUST REVERSER	77-31-01
BOX - AVM JUNCTION	2	2	425AL, R ENG FAN C-DUCT AND THRUST REVERSER	77-31-04
CONDITIONER, LEFT AVM SIGNAL, M132	2	1	119BL, MAIN EQUIP CTR, E4-2	77-31-03
CONDITIONER, RIGHT AVM SIGNAL, M10571	2	1	119BL, MAIN EQUIP CTR, E4-2	77-31-03

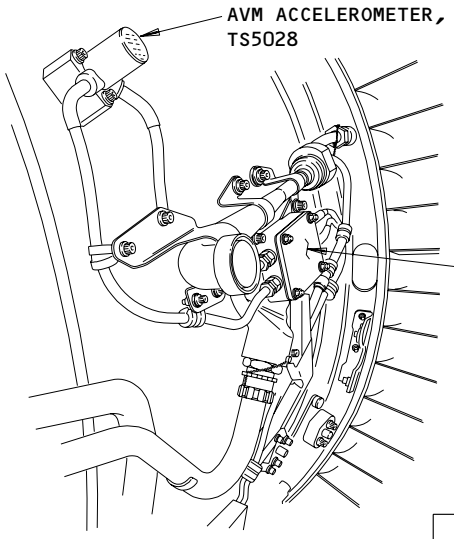
Airborne Vibration Monitoring System (AVM) - Component Location
Figure 101

E48334

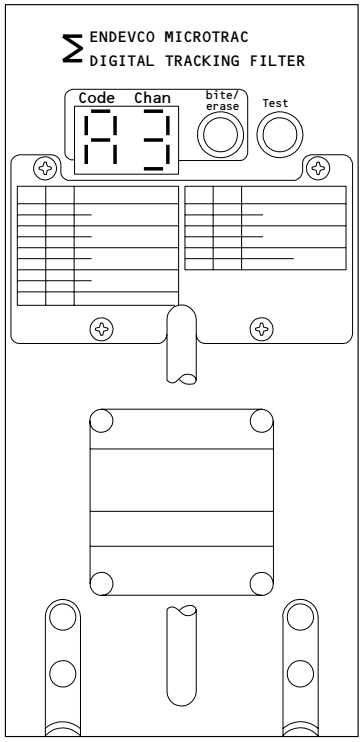


MAIN EQUIPMENT CENTER

Airborne Vibration Monitoring System (AVM) - Component Location
Figure 102 (Sheet 1)

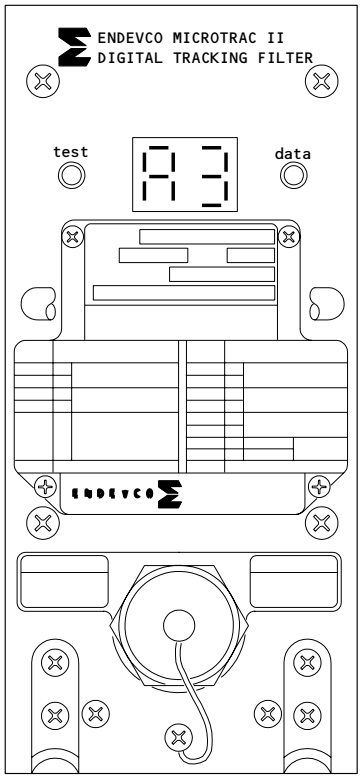


A



AIRBORNE VIBRATION MONITOR
SIGNAL CONDITIONER, M132 OR M10571

B 1



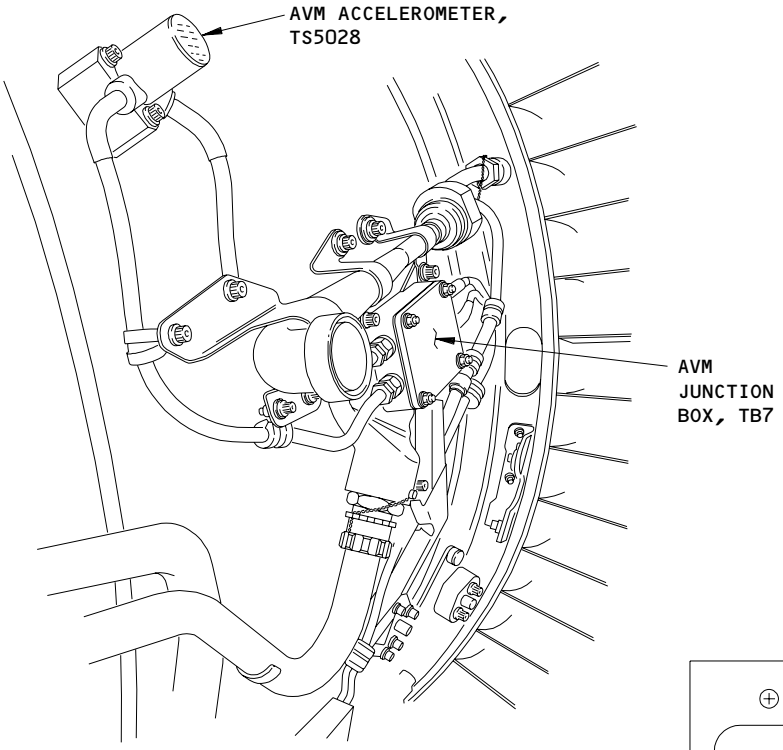
AIRBORNE VIBRATION MONITOR
SIGNAL CONDITIONER, M132 OR M10571

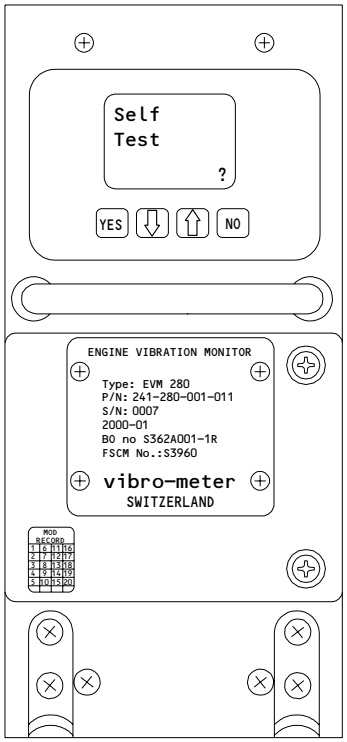
B 2

1 AIRPLANES WITH -18 OR -20 AVM SIGNAL CONDITIONER

2 AIRPLANES WITH -451 AVM SIGNAL CONDITIONER

Airborne Vibration Monitoring System (AVM) - Component Location
(Details from Sht 1)
Figure 102 (Sheet 2)





LEFT (RIGHT) AVM SIGNAL CONDITIONER, M132 (M10571)

B

Airborne Vibration Monitoring (AVM) System - Component Location
(Details from Sht 1)
Figure 102 (Sheet 3)

M56785

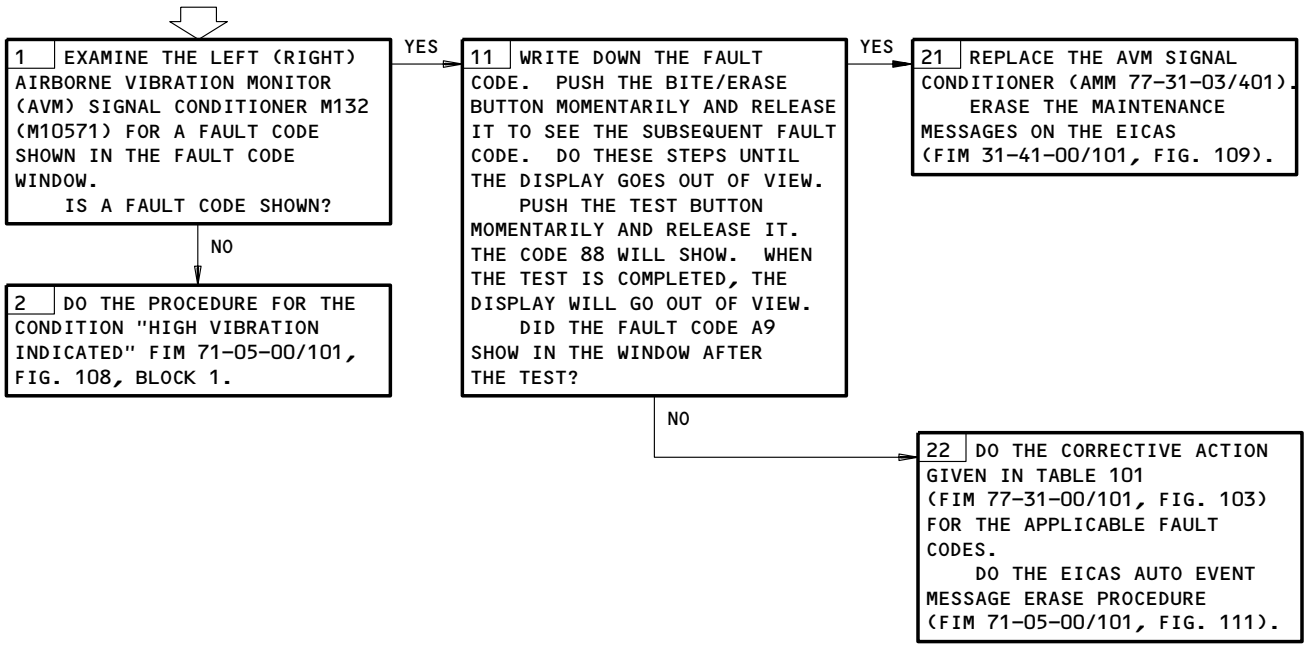
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11K2, 11K28

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

AVM BITE PROCEDURE



AVM BITE Procedure
Figure 103 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH -18 OR -20
AVM SIGNAL CONDITIONER

811559

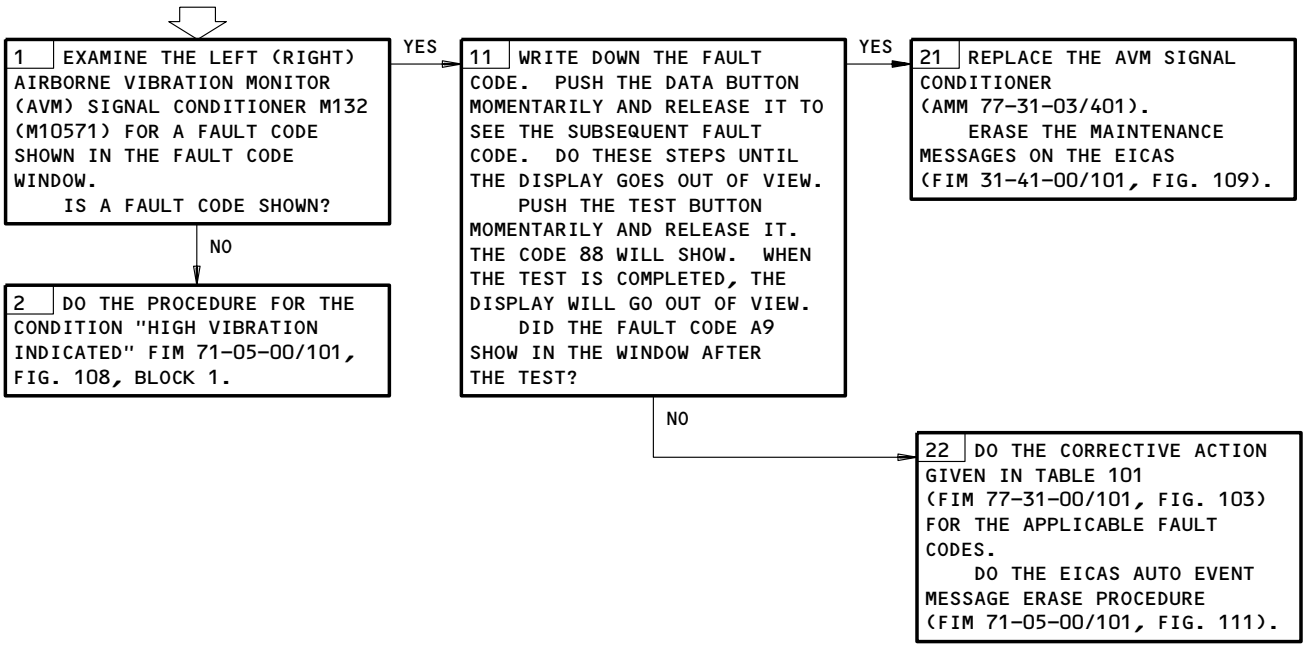
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11K2, 11K28

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

AVM BITE PROCEDURE



AVM BITE Procedure
Figure 103 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH
-451 AVM SIGNAL CONDITIONER

811571

TABLE 101

MESSAGE			CORRECTIVE ACTION
CODE	CHAN	FAULT	
A	9	SIG COND INOPERABLE FAULT	REPLACE L (R) AVM SIGNAL CONDITIONER M132 (M10571) (AMM 77-31-03/401).
A	8	R ENG SIG LOSS ACCEL B/CABLE	1. REMOVE THE ACCELEROMETER LEADS FROM THE TERMINAL POSTS 1,2,3 AND 4 IN THE AVM JUNCTION BOX TB7. 2. INSTALL A 1000-PICOFARAD CAPACITOR ACROSS THE TERMINAL POSTS 1 AND 2 AND THE TERMINAL POSTS 3 AND 4. 3. WARNING: USE AMM 71-00-00/201 TO OPERATE THE POWER PLANT. IF YOU DO NOT USE THIS PROCEDURE, YOU CAN CAUSE DAMAGE TO EQUIPMENT OR INJURY TO PERSONS. USE THE POWER PLANT OPERATION (NORMAL) PROCEDURE TO START THE ENGINE (AMM 71-00-00/201). 4. PUSH THE PERF/APU BUTTON ON THE EICAS MAINTENANCE PANEL, P61. 5. SLOWLY MOVE THE THRUST LEVER FORWARD TO THE TAKEOFF POWER POSITION AND LET THE ENGINE BECOME STABLE FOR 15 SECONDS. NOTE: WHEN N1 IS MORE THAN 65%, CHANNEL "A" AND CHANNEL "B" SIGNAL LOSS WILL SHOW IN THE FAULT CODE WINDOW ON THE L (R) AVM SIGNAL CONDITIONER AND THE MESSAGE L (R) ENG VIB WILL SHOW ON THE EICAS DISPLAY. 6. SLOWLY MOVE THE THRUST LEVER REARWARD TO THE IDLE POSITION. 7. MAKE SURE THE ENGINE VIBRATION INDICATIONS BB,N1,N2, AND N3 STAY AT 0.1 UNITS OR LESS DURING THE ACCELERATION AND DECELERATION. WRITE DOWN ALL INDICATIONS THAT ARE MORE THAN 0.0 UNITS. NOTE: IF THE EICAS MODEL NUMBER IS S242N701-105,-106,-107, -108,-109, DO STEPS 8-12. IF NOT, GO TO STEP 13. 8. DISCONNECT THE TACHOMETER INPUT TO THE AVM SIGNAL. DISCONNECT THE TACHOMETER INPUT OF THE ROTOR THAT SHOWS THE LOWEST VIBRATION IN STEP 7. IF ALL THE VIBRATION LEVELS ARE APPROXIMATELY EQUAL, DISCONNECT THE N2 TACHOMETER INPUT. 9. SLOWLY MOVE THE THRUST LEVER FORWARD TO THE TAKEOFF POWER POSITION AND LET THE ENGINE BECOME STABLE FOR 15 SECONDS. NOTE: WHEN N1 IS MORE THAN 65%, CHANNEL "A" AND CHANNEL "B" SIGNAL LOSS WILL SHOW IN THE FAULT CODE WINDOW ON THE L (R) AVM SIGNAL CONDITIONER AND THE MESSAGE L (R) ENG VIB WILL SHOW ON THE EICAS DISPLAY. 10. MAKE SURE THE ENGINE VIBRATION INDICATIONS (TRACKED AND BROADBAND) STAY AT 0.1 UNITS OR LESS DURING THE ACCELERATION AND DECELERATION. WRITE DOWN ALL INDICATIONS THAT ARE MORE THAN 0.0 UNITS.
A	7	R ENG SIG LOSS ACCEL A/CABLE	
A	6	L ENG SIG LOSS ACCEL B/CABLE	
A	5	L ENG SIG LOSS ACCEL A/CABLE	
A	4	R ENG HI NOISE ACCEL B/CABLE	
A	3	R ENG HI NOISE ACCEL A/CABLE	
A	2	L ENG HI NOISE ACCEL B/CABLE	
A	1	L ENG HI NOISE ACCEL A/CABLE	
B	8	R ENG-ACCEL A ≠ B	
B	7	L ENG-ACCEL A ≠ B	

(CONTINUE)

AVM BITE Procedure
Figure 103 (Sheet 3)

TABLE 101

MESSAGE			CORRECTIVE ACTION
CODE	CHAN	FAULT	
(CONT)	(CONT)		11. SLOWLY MOVE THE THRUST LEVER REARWARD TO THE IDLE POSITION. 12. CONNECT THE TACHOMETER INPUT TO THE AVM SIGNAL CONDITIONER. 13. USE THE POWER PLANT OPERATION (NORMAL) PROCEDURE TO DO THE ENGINE SHUTDOWN (AMM 71-00-00/201). 14. REMOVE THE CAPACITOR FROM THE TERMINAL POSTS 1 AND 2, AND THE TERMINAL POSTS 3 AND 4. 15. IF VIBRATION INDICATION IS MORE THAN 0.1 UNITS, EXAMINE AND REPAIR THE CIRCUIT BETWEEN THE AVM JUNCTION BOX AND L (R) AVM SIGNAL CONDITIONER M132 (M10571)(WDM 71-51-11 OR WDM 71-51-21 OR WDM 71-51-22 AND WDM 77-31-11): 1 AVM JUNCTION BOX TB7 TERMINAL POSTS — TO — AVM SIGNAL CONDITIONER CONNECTOR D4240B (D5602B) 1 — A1 2 — B1 3 — A4 4 — B4 MAKE SURE THE L (R) AVM SIGNAL CONDITIONER M132 (M10571) IS INSTALLED CORRECTLY (AMM 77-31-03/401). 16. IF THE VIBRATION INDICATION STAYS AT 0.1 UNITS OR LESS, CONNECT THE ACCELEROMETER LEADS TO THE TERMINAL POSTS 1,2,3, AND 4 IN THE AVM JUNCTION BOX TB7 AND REPLACE THE AVM ACCELEROMETER TS5028 (AMM 77-31-01). 17. IF THE FAULT CONTINUES, EXAMINE THE GEARBOX FOR LOOSE COMPONENTS AND BORESCOPE THE ENGINE (AMM 72-00-00/601).

1 INCLUDE THE SHIELD, GROUND, AND CONNECTORS. CLEAN THE CONNECTORS (WDM 20-60-01) BEFORE YOU CONNECT THEM.

AVM BITE Procedure
Figure 103 (Sheet 4)

TABLE 101

MESSAGE			CORRECTIVE ACTION
CODE	CHAN	FAULT	
B	6	R ENG N3 TACH	EXAMINE THE CIRCUIT FROM PIN Z9 AND Z10 ON TB207 AND R AVM SIGNAL CONDITIONER M10571 CONNECTOR D5602B PINS A12 AND C12 (WDM 77-12-31). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 105, BLOCK 1 ACTION.
B	5	R ENG N2 TACH	EXAMINE THE CIRCUIT FROM PIN YA8 AND YA7 ON TB207 AND R AVM SIGNAL CONDITIONER M10571 CONNECTOR D5602B PINS D10 AND C10 (WDM 77-12-21). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 104A, BLOCK 1 ACTION.
B	4	R ENG N1 TACH	EXAMINE THE CIRCUIT FROM PIN Z106 AND Z107 ON TB207 AND R AVM SIGNAL CONDITIONER M10571 CONNECTOR D5602B PINS A8 AND B8 (WDM 77-12-11). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 104, BLOCK 1 ACTION.
B	3	L ENG N3 TACH	EXAMINE THE CIRCUIT FROM PIN Z15 AND Z16 ON TB207 AND L AVM SIGNAL CONDITIONER M132 CONNECTOR D4240A PINS C12 AND A12 (WDM 77-12-11). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 105, BLOCK 1 ACTION.
B	2	L ENG N2 TACH	EXAMINE THE CIRCUIT FROM PIN YC8 AND YC7 ON TB207 AND L AVM SIGNAL CONDITIONER M132 CONNECTOR D4240A PINS D10 AND C10 (WDM 77-12-21). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 104A, BLOCK 1 ACTION.
B	1	L ENG N1 TACH	EXAMINE THE CIRCUIT FROM PIN Z111 AND Z112 ON TB207 AND L AVM SIGNAL CONDITIONER M132 CONNECTOR D4240A PINS A8 AND B8 (WDM 77-12-11). REPAIR THE PROBLEMS THAT YOU FIND. IF THE PROBLEMS CONTINUES, DO THIS PROCEDURE: FIM 77-12-00/101, FIG. 104, BLOCK 1 ACTION.

AVM BITE Procedure
Figure 103 (Sheet 5)

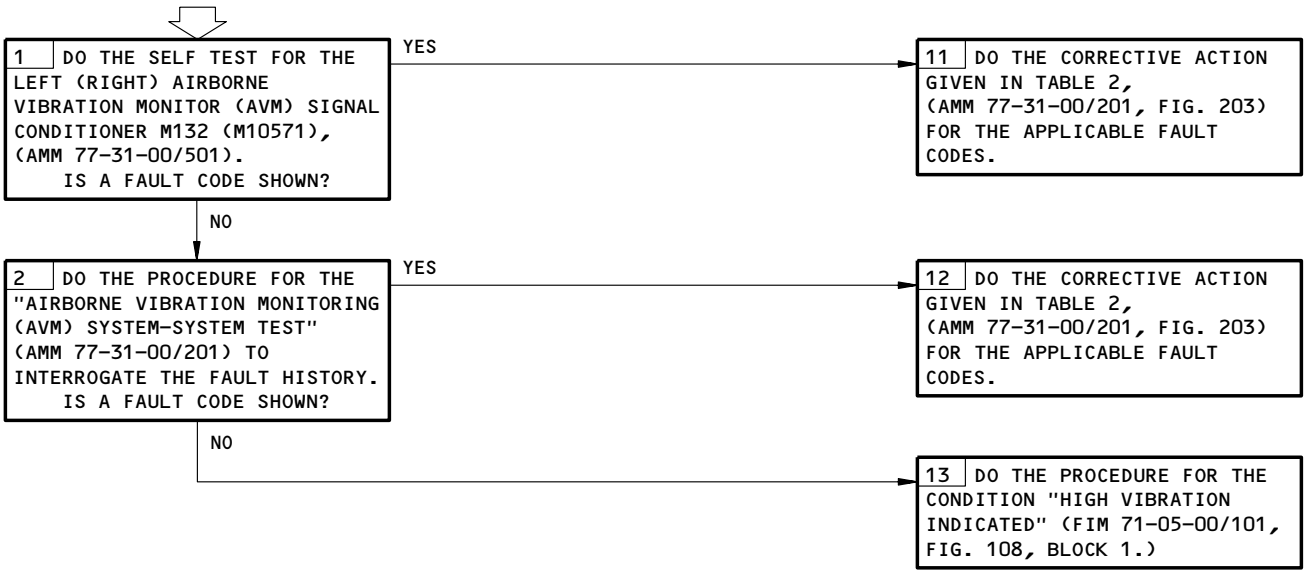
PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11K2, 11K28

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

AVM BITE PROCEDURE



AVM BITE Procedure
Figure 103A

EFFECTIVITY
AIRPLANES WITH S362A001 UNIVERSAL AVM SIGNAL CONDITIONER

M56792

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11J2, 11J3, 11J31, 11J32, 11J29, 11J30

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

EICAS MSG
L (R) "ENG BB VIB"
DISPLAYED

1 EXAMINE THE ECS/MSG PAGE FOR L (R) "ENG VIB BITE" MESSAGE.
IS MESSAGE DISPLAYED?

YES → 20 DO THIS PROCEDURE: AVM BITE PROCEDURE (FIM 77-31-00/101, FIG. 103).

NO

2 EXAMINE THE MAGNETIC CHIP DETECTORS AND OIL FILTERS (AMM 79-21-00).
IS INSPECTION OK?

NO → 21 REPLACE THE ENGINE (AMM 71-00-02).

YES

3 EXAMINE THESE COMPONENTS FOR EVIDENCE OF FOD AND/OR DEBRIS:

1. ENGINE INLET COWL
2. LP COMPRESSOR BLADES (AMM 72-31-11)
3. EXHAUST SYSTEM (AMM 78-11-00).

IS DAMAGE OR DEBRIS EVIDENT?

YES → 11 IS DAMAGE WITHIN ACCEPTABLE LIMITS?

NO → 22 REPLACE THE ENGINE (AMM 71-00-02).

YES

12 EXAMINE THE COMPRESSORS AND TURBINES (AMM 72-00-00).
IS DAMAGE WITHIN LIMITS?

NO → 23 REPLACE THE ENGINE (AMM 71-00-02).

YES

13 REPAIR/REPLACE DAMAGE FOUND IN BLOCK 3:

1. ENGINE INLET COWL (AMM 71-11-01)
2. LP COMPRESSOR BLADES (AMM 72-31-11).

DO THE VIBRATION TEST (AMM 71-00-00).
IS THE TEST OK?

YES → 24 RETURN THE ENGINE TO SERVICE.

NO

NO

4 EXAMINE THE AIRPLANE/ENGINE FOR:

1. LOOSE VIBRATION SIGNAL CABLES OR CLAMPS (CABLE MOVEMENT CAN CAUSE FALSE VIBRATION INDICATION)
2. OXIDATION OF VIBRATION WIRE AND CONNECTOR PINS
3. PUSH-BACK OF ANY VIBRATION WIRE CONNECTOR PINS.

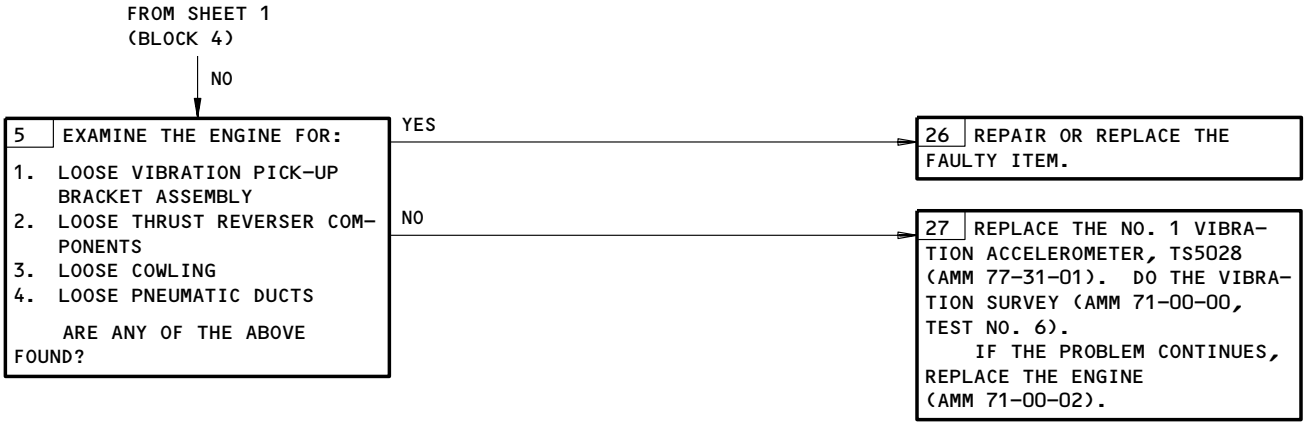
ARE ANY OF THE ABOVE FOUND?

YES → 25 REPAIR OR REPLACE THE FAULTY ITEM.

NO

SEE SHEET 2
(BLOCK 5)

EICAS Msg L (R) ENG BB VIB Displayed
Figure 104 (Sheet 1)



EICAS Msg L (R) ENG BB VIB Displayed
Figure 104 (Sheet 2)

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11J2, 11J3, 11J29, 11J30, 11J31, 11J32

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

EICAS STATUS MSG "L (R) ENG VIB" SHOWN

1 EXAMINE THE L (R) AVM SIGNAL CONDITIONER M132 (M10571) FOR A FAULT CODE DISPLAYED IN THE WINDOW.
WRITE DOWN THE FAULT CODE.
PUSH THE BITE (DATA) BUTTON MOMENTARILY AND RELEASE IT TO SEE THE SUBSEQUENT FAULT CODE.
DO THESE STEPS UNTIL THE DISPLAY GOES OUT OF VIEW.
PUSH THE TEST BUTTON MOMENTARILY AND RELEASE IT. THE CODE 88 WILL SHOW. WHEN THE TEST IS COMPLETED, THE DISPLAY WILL GO OUT OF VIEW.
DID THE FAULT CODE A9 SHOW IN THE WINDOW AFTER THE TEST?

YES → 21 REPLACE THE AVM SIGNAL CONDITIONER (AMM 77-31-03/401).
ERASE THE MAINTENANCE MESSAGES ON THE EICAS (FIM 31-41-00/101, FIG. 109).

NO ↓

2 DID THE FAULTS A1 AND A2 (L ENG), OR A3 AND A4 (R ENG) SHOW IN THE WINDOW?

YES → 22 DO THE CORRECTIVE ACTION GIVEN IN TABLE 101 (FIM 77-31-00/101, FIG. 103) FOR THESE FAULT CODE COMBINATIONS:
- A7 AND A8 (R ENG)
- A5 AND A6 (L ENG)
- A8 AND A3 (R ENG)
- A6 AND A1 (L ENG)
- A7 AND A4 (R ENG)
- A5 AND A2 (L ENG)

IF THERE WERE OTHER FAULT CODES SHOWN, DO THE CORRECTIVE ACTION GIVEN IN TABLE 101 FOR THAT FAULT.
DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE ERASE PROCEDURE (FIM 71-05-00/101, FIG. 111).

NO ↓

3 BORESCOPE THE LEADING EDGE, PLATFORM, AND ROTOR PATH OF THE HP COMPRESSOR STAGE 3 BLADE FOR SIGNS OF OIL STAINS.
ARE THERE OIL LEAKS?

YES → 23 REPLACE THE ENGINE (AMM 71-00-02/401).

NO → 24 DO THE CORRECTIVE ACTION FOR THE EICAS MESSAGE "ENG BB VIB" (FIM 77-31-00/101, FIG. 104).

EICAS Status Msg L (R) ENG VIB Shown
Figure 105

788786

PREREQUISITES

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

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11J2, 11J3, 11J29, 11J30, 11J31, 11J32

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

EICAS STATUS MSG "L (R) ENG VIB" SHOWN

1 LOOK FOR THE EICAS MESSAGE "L (R) ENG VIB" (AMM 31-41-00/201).
WAS THE MESSAGE SHOWN ON EICAS?

YES → 10 PUSH AND RELEASE ONE OF THE FOUR BUTTONS ON THE AVM SIGNAL CONDITIONER FOR THE SELF-TEST (AMM 77-31-00/501).
THE DISPLAY WILL BLANK, THEN SHOW "SELF-TEST?" PUSH AND RELEASE THE "YES" BUTTON.
UPON A SUCCESSFUL TEST COMPLETION (APPROXIMATELY 15 SECONDS), THE DISPLAY WILL SHOW "TEST OK".
DOES "XX FAULTS DISPLAY" SHOW OR IS THE DISPLAY BLANK?

NO → 20 DO ONE OF THESE PROCEDURE:
AVM SYSTEM - SYSTEM TEST (AMM 77-31-00/201).
ERASE THE EICAS MAINTENANCE MESSAGES (AMM 31-41-00/201).

YES → 21 REPLACE THE AVM SIGNAL CONDITIONER, M132 (M10571) (AMM 77-31-03/401).

NO → 2 DID THE FAULTS A1 AND A2 (L ENG), OR A3 AND A4 (R ENG) SHOW IN THE WINDOW?

YES → 22 DO THE CORRECTIVE ACTION GIVEN IN TABLE 101 (FIM 77-31-00/101, FIG. 103) FOR THESE FAULT CODE COMBINATIONS:
- A7 AND A8 (R ENG)
- A5 AND A6 (L ENG)
- A8 AND A3 (R ENG)
- A6 AND A1 (L ENG)
- A7 AND A4 (R ENG)
- A5 AND A2 (L ENG)

IF THERE WERE OTHER FAULT CODES SHOWN, DO THE CORRECTIVE ACTION GIVEN IN TABLE 101 FOR THAT FAULT.
DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE ERASE PROCEDURE (FIM 71-05-00/101, FIG. 111).

NO → 3 BORESCOPE THE LEADING EDGE, PLATFORM, AND ROTOR PATH OF THE HP COMPRESSOR STAGE 3 BLADE FOR SIGNS OF OIL STAINS.
ARE THERE OIL LEAKS?

YES → 23 REPLACE THE ENGINE (AMM 71-00-02/401).

NO → 24 DO THE CORRECTIVE ACTION FOR THE EICAS MESSAGE "ENG BB VIB" (FIM 77-31-00/101, FIG. 104).

EICAS Status Msg L (R) ENG VIB Shown
Figure 105A

1. ARINC 429 Data Bus Charts
   A. General
      (1) ARINC 429 data bus charts provide information needed to analyze ARINC 429 transmitters, receivers, and data buses.

      CAUTION: DO NOT PROBE CONNECTORS. USE A BREAKOUT BOX OR CONNECTORS MAY BE DAMAGED.

      (2) Testing is accomplished at available terminal blocks or at LRU connectors using a breakout box.
   B. Equipment
      (1) Standard multi-meter
      (2) Interface Technology model 429-2 Data Bus Analyzer
      (Alternate to ARINC 429 Data Bus Analyzer, JC Air Model 429EB)
      (3) ARINC 429 Data Bus Analyzer, JC Air Model 429EB
      (Alternate to Interface Technology model 429-2 Data Bus Analyzer)
      (4) Breakout box A34011-1 (Preferred)
      A34011-112 (Optional)
   C. Procedure
      (1) ARINC 429 Data Bus Charts

AVM							
DIGITAL OUTPUT BUS CHART							
BUS NAME							
SOURCE	TYPE	BUS	CON	PINS	BUS FORMAT	BIT RATE	DATA BUS
AVM (L / R)	A	1	A	C06 D06	429	LO	AVM DATA

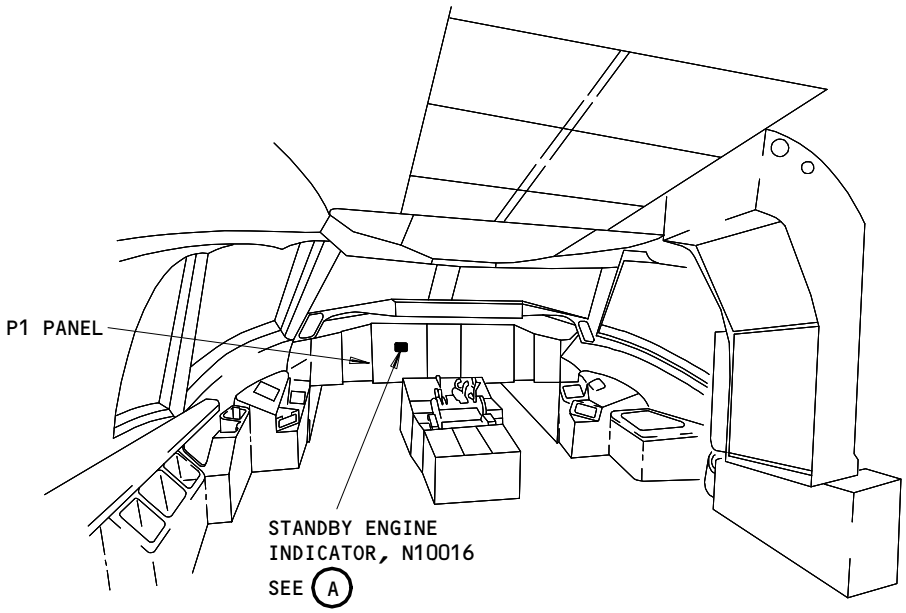
AVM ID=UNDEFINED								
OCTAL LABELS CHART								
SIGNAL	TYPE	LABEL	FORMAT	MIN UPDATE RATE	SDI 9/10	BINARY RANGE	POSITIVE SENSE	UNITS
ENGINE VIBRATION-L	A	353	BNR	5	10	5.00	ALWAYS POS	N/A
ENGINE VIBRATION-R	A	353	BNR	5	01	5.00	ALWAYS POS	N/A
N 1 VIB-L	A	354	BNR	5	10	5.00	ALWAYS POS	N/A
N 1 VIB-R	A	354	BNR	5	01	5.00	ALWAYS POS	N/A
N 2 VIB-L	A	355	BNR	5	10	5.00	ALWAYS POS	N/A
N 2 VIB-R	A	355	BNR	5	01	5.00	ALWAYS POS	N/A
N 3 VIB-L	A	356	BNR	5	10	5.00	ALWAYS POS	N/A
N 3 VIB-R	A	356	BNR	5	01	5.00	ALWAYS POS	N/A
STATUS WORD	A	270	DIS	5		N/A	N/A	N/A
BROADBAND VIB-L	A	357	BNR	5	10	5.00	A/P	N/A
BROADBAND VIB-R	A	357	BNR	5	01	5.00	A/P	N/A

AVM				
DISCRETE OCTAL LABELS/BIT CHART				
SIGNAL	OCTAL LABEL	BIT	ONE-STATE	ZERO-STATE
L ENG AVM FAULT	270	11	FAULT	OK
R ENG AVM FAULT	270	12	FAULT	OK
L ENG B/BAND ALERT	270	13	ALERT	NOT ALERT
R ENG B/BAND ALERT	270	14	ALERT	NOT ALERT
L ENG AVM DBL CHNL FAULT	270	15	FAULT	OK
R ENG AVM DBL CHNL FAULT	270	16	FAULT	OK
L ENG TRACK FILTER ALERT	270	17	ALERT	NOT ALERT
R ENG TRACK FILTER ALERT	270	18	ALERT	NOT ALERT
L ENG HIGH B/BAND ALERT	270	19	ALERT	NOT ALERT
R ENG HIGH B/BAND ALERT	270	20	ALERT	NOT ALERT

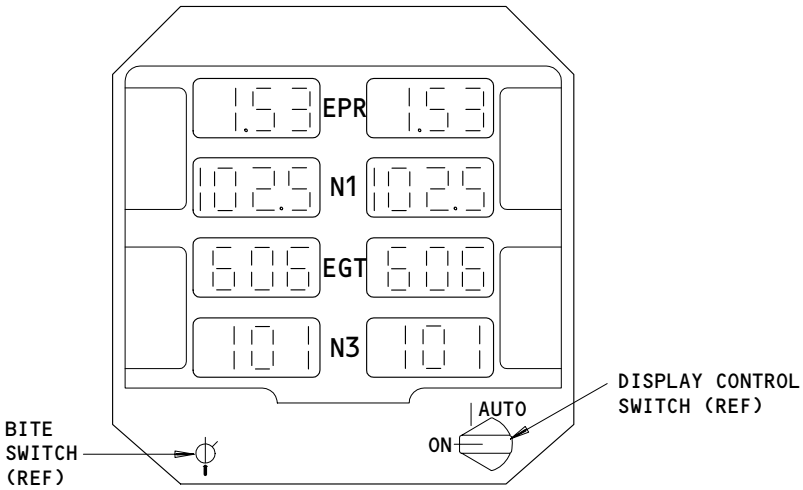
STANDBY ENGINE INDICATION SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
INDICATOR - STANDBY ENGINE, N10016	--	1	FLT COMPT, P1 PANEL	77-41-01

Standby Engine Indication System - Component Index
Figure 101



FLIGHT COMPARTMENT



STANDBY ENGINE INDICATOR, N10016

(A)

Standby Engine Indication System - Component Location
Figure 102

STANDBY ENGINE INDICATOR BITE PROCEDURE

PREREQUISITES
ELECTRICAL POWER (MM 24-22-00)
CB'S: 11D23

1 SET STANDBY ENGINE INDICATOR DISPLAY CONTROL SWITCH TO THE ON POSITION. SET BITE SWITCH TO THE ON POSITION.
CHECK THAT EPR INDICATION READS 1.88, N1 INDICATION READS 88.8, EGT INDICATION READS 1888, AND N3 INDICATION READS 188.
ARE ALL THE ABOVE VALUES PRESENT?

NO → 21 REPLACE STANDBY ENGINE INDICATOR, N10016 (MM 77-41-01).

YES

2 WAS EPR INDICATION READING FAULTY?

YES → 22 CHECK CIRCUIT BETWEEN STANDBY ENGINE INDICATOR CONNECTOR D2208 (D2210) PIN 18 AND 19 AND PIN Z19 (Z18) AND Z20 (Z17) ON TB207 (WM 77-11-11). REPAIR AS REQUIRED.

NO

3 WAS N1 INDICATION READING FAULTY?

YES → 23 CHECK CIRCUIT BETWEEN STANDBY ENGINE INDICATOR CONNECTOR D2208 (D2210) PIN 15 AND 16 AND PIN Z111 (Z106) AND Z112 (Z107) ON TB207 (WM 77-12-11). REPAIR AS REQUIRED.

NO

4 WAS EGT INDICATION READING FAULTY?

YES → 24 CHECK CIRCUIT BETWEEN STANDBY ENGINE INDICATOR CONNECTOR D2208 (D2210) PIN 21 AND 22 AND PIN YC69 (YA69) AND YC70 (YA70) ON TB207 (WM 77-21-11). REPAIR AS REQUIRED.

NO → 25 CHECK CIRCUIT BETWEEN STANDBY ENGINE INDICATOR CONNECTOR D2208 (D2210) PIN 23 AND 24 AND PIN Z15 (Z10) AND Z16 (Z9) ON TB207 (WM 77-12-31). REPAIR AS REQUIRED.

Standby Engine Indicator BITE Procedure
Figure 103