

GPA Group plc

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CHAPTER 71 - POWER PLANT

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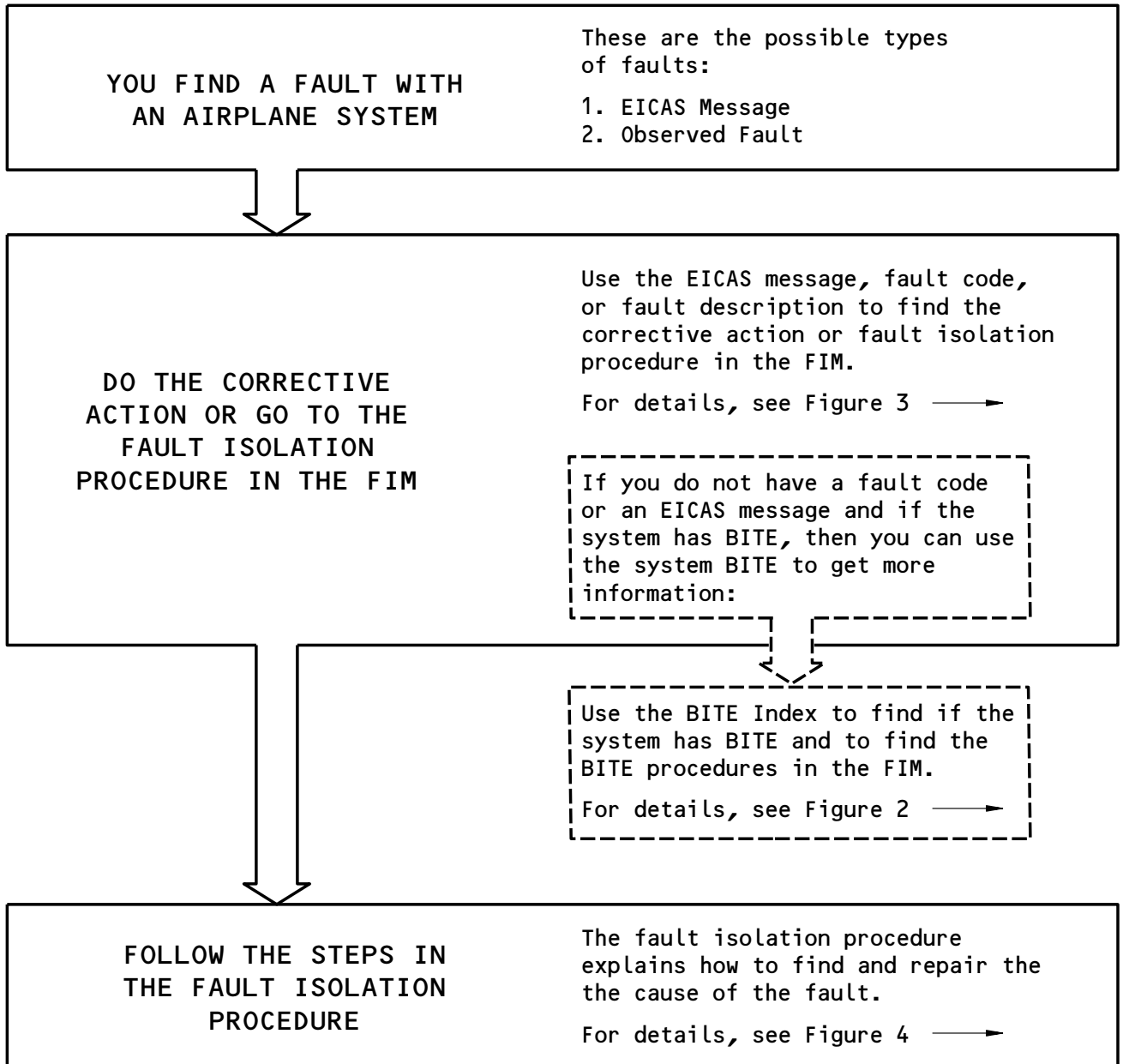
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Basic Fault Isolation Process
Figure 1

EFFECTIVITY

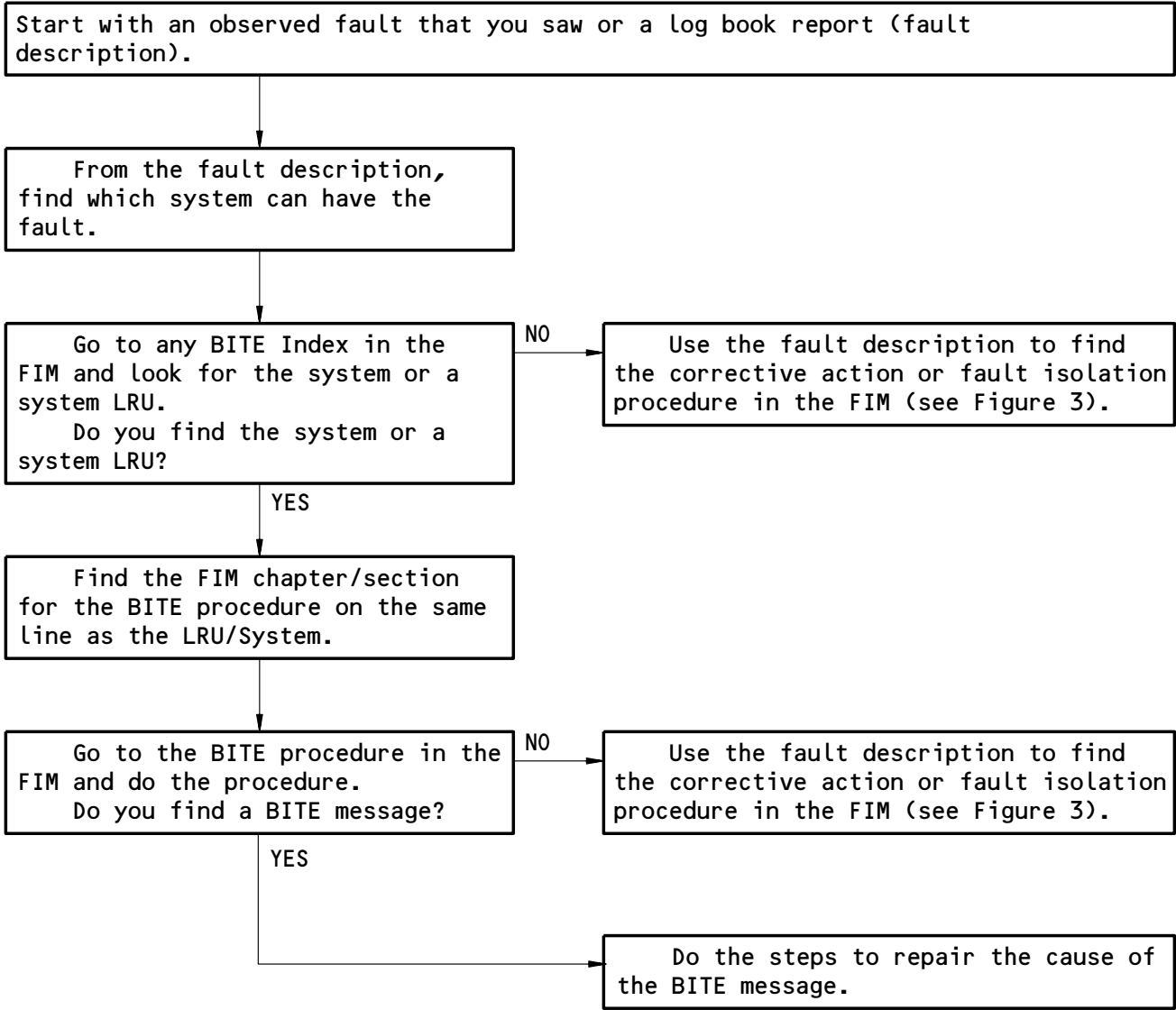
ALL

71-HOW TO USE THE FIM

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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.

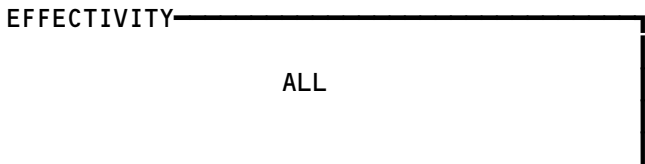
If you do not know the chapter of the EICAS message, then do these steps:
 - A. Go to FIM EICAS MESSAGE LIST and find the EICAS message in the table.

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



71-HOW TO USE THE FIM

- ASSUMED CONDITIONS AT START OF TASK
- External electrical power is OFF
 - Hydraulic power and pneumatic power are OFF
 - Engines are shut down
 - Circuit breakers for the system are closed
 - No equipment in the system is deactivated

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

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

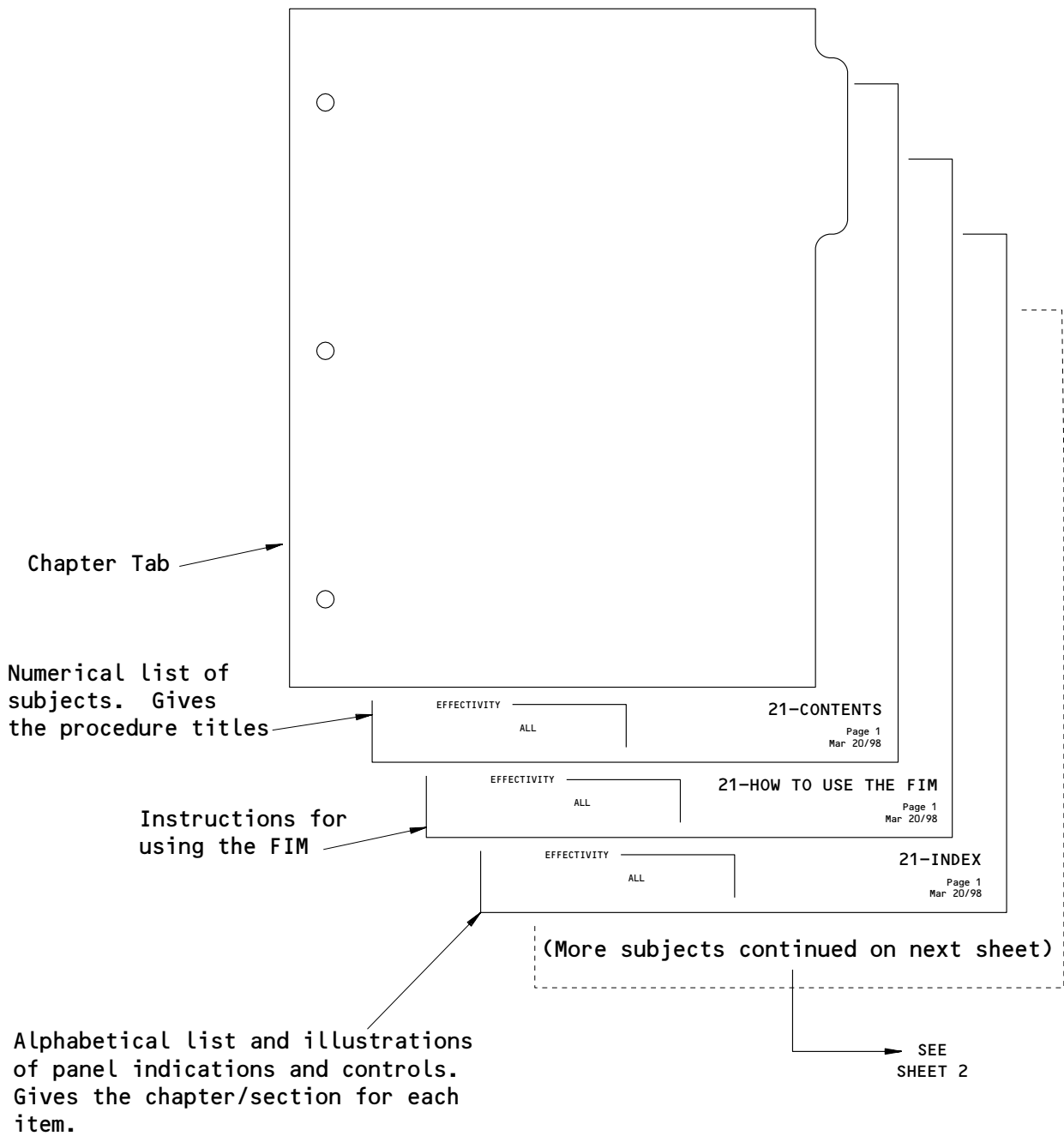
Do the Fault Isolation Procedure
Figure 4

EFFECTIVITY	ALL
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71-HOW TO USE THE FIM

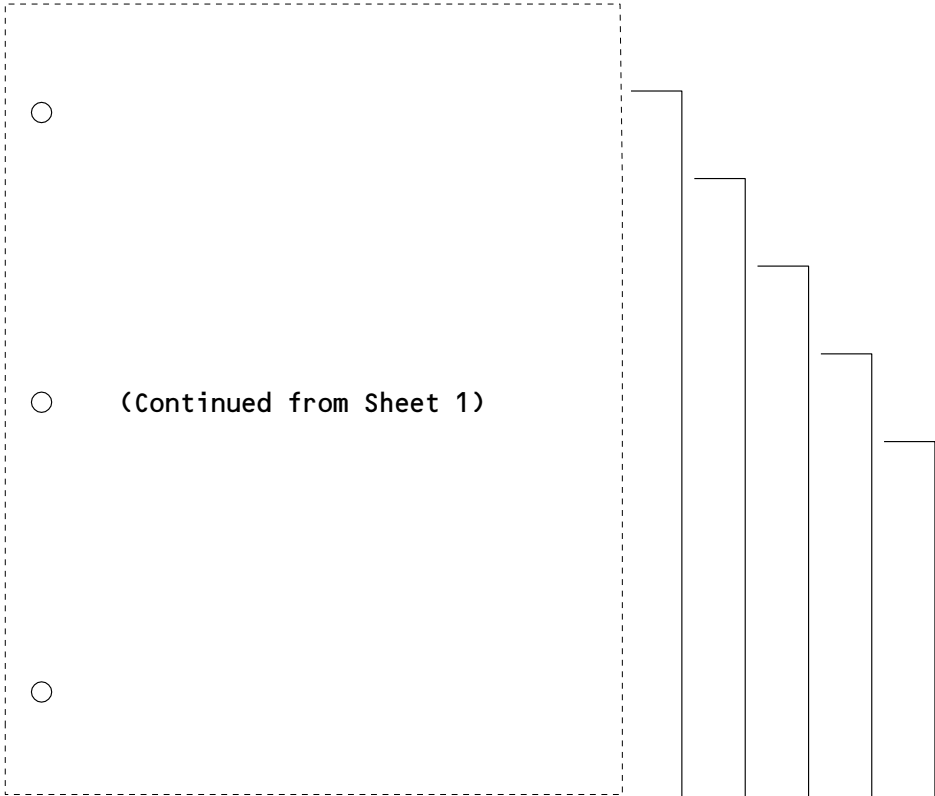
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Subjects in Each FIM Chapter
Figure 5 (Sheet 1)

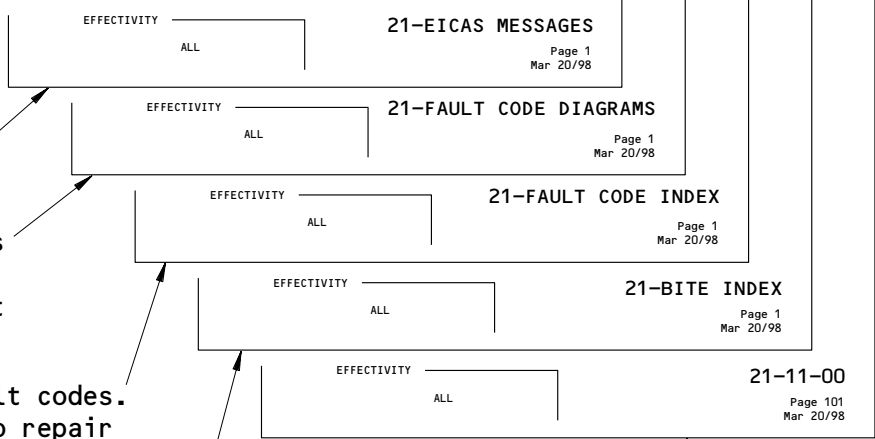
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Alphabetical list of the EICAS messages. Gives the procedure to repair the cause of the message or a reference to a fault isolation procedure.

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

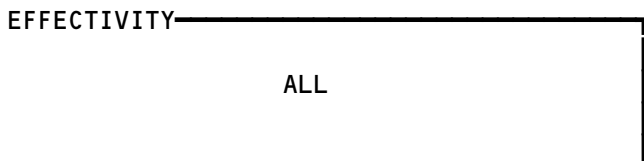
Numerical list of fault codes. Gives the procedure to repair the cause of the fault or a reference to a fault isolation procedure.



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

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

Subjects in Each FIM Chapter
Figure 5 (Sheet 2)



71-HOW TO USE THE FIM

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FAULT ISOLATION/MAINT MANUAL

////////////////////////////////////
 / RB.211 ENGINES /
 //////////////////////////////////////

<u>TITLE</u>	<u>CHAP/SEC</u>	<u>TITLE</u>	<u>CHAP/SEC</u>
ENGINE CHARTS		ENGINE OPERATION	
EGT RISE FOR OPEN BLEED VALVE		BIRD STRIKE	7105
(CHART 2).....	7106	ENG ACCEL/AUTO DECEL	7106
VARIABLE ENG OIL PRESS LIMITS		FLAMEOUT.....	7105
(CHART 1).....	7932	(MIN/APPR) IDLE RPM/EGT/SELECT.....	7321
ENGINE CHECKS		OVERLIMITS	7105
(MIN/APPR) IDLE RPM		POWER FLUCTUATES.....	7106
(CHECK 1).....	7321	SAME EPR, OTHER	
ENGINE SURGE BLEED VALVE		PARAMETERS NOT EQUAL	7106
(CHECK 2).....	7321	SURGE (STALL) ACCEL, DECEL,	
ENGINE CONTROLS		CONT MSG.....	7106
ELECTRONIC ENGINE CONTROL (EEC)...	7321	SURGE (STALL) T.O. & CONSTANT	
THRUST MANAGEMENT		POWER	7106
SYSTEM	CHAPTER 22	T.O./CLIMB EPR UNATTAINABLE	7106
THRUST LEVER		VIBRATION HIGH.....	7105
MOVEMENT DIFFICULT	7611	ENGINE REVERSER	
LOST MOTION.....	7611	REV (AMBER).....	7834
OUT OF ALIGNMENT.....	7611	REV ISLN VAL.....	7834
ENGINE FUEL		REVERSER DEPLOY.....	7834
ENG LP PUMP.....	7311	REVERSER STOW.....	7834
FUEL CONTROL SWITCH.....	7321	REVERSER THRUST EPR.....	7106
FUEL FLOW (HIGH/LOW)	7331	ENGINE STARTING	
ENGINE INDICATORS		DUCT PRESS LOW.....	8011
EGT.....	7711	ENG VALVE LIGHT.....	7321
EPR.....	7712	IMPENDING HOT/HOT START	7105
N1.....	7712	MAX MOTORING LOW.....	8011
N2.....	7712	NO EGT RISE/WET START	7321
N3.....	7712	NO N1 ROTATION.....	7105
VIB.....	7731	NO N2 ROTATION.....	7105
ENGINE OIL		NO N3 ROTATION.....	7105
OIL FILTER BYPASS.....	7921	NO STARTER CUTOUT.....	7321
OIL INDICATORS.....	7931	SLOW ACCEL TO IDLE/	
OIL PRESSURE.....	7932	HUNG START.....	7321
OIL QUANTITY &		SPAR VALVE LIGHT.....	2822
TEMPERATURE.....	7931	STARTING FUEL FLOW.....	7331
		START SWITCH.....	8011
		START VALVE LIGHT.....	8011

POWER PLANT - INDEX

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POWER PLANT - 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) An Airplane 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.

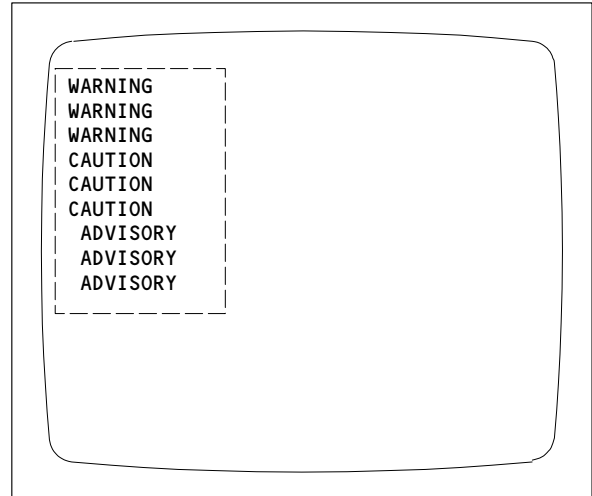
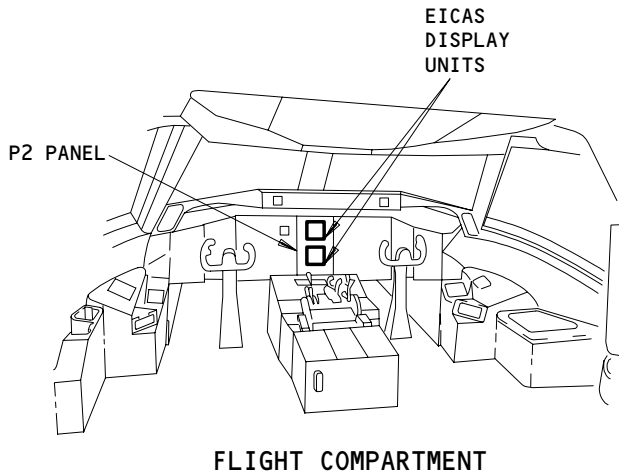
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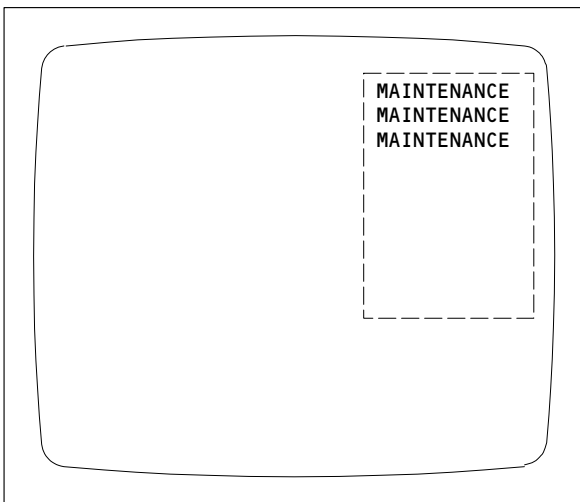
71-EICAS MESSAGES

R01

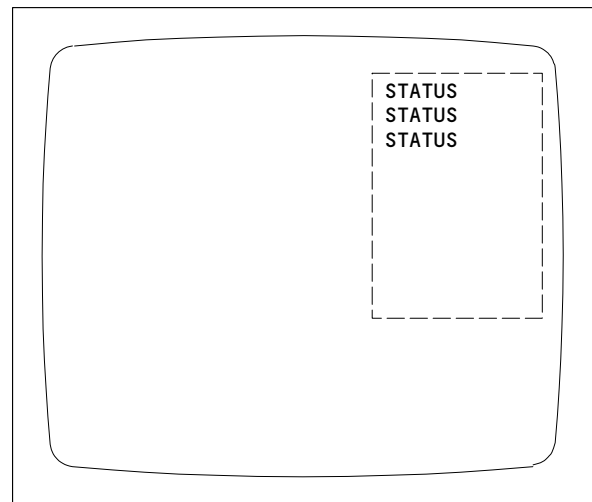
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ENGINE PRIMARY PAGE OR COMPACTED PAGE
(TOP DISPLAY UNIT)



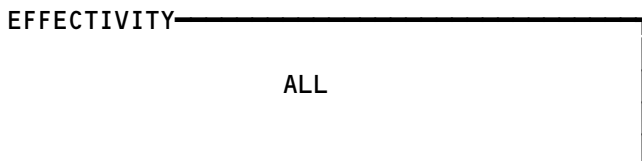
ECS/MSG PAGE
(BOTTOM DISPLAY UNIT)



STATUS PAGE
(BOTTOM DISPLAY UNIT)

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

EICAS Message Locations
Figure 1



71-EICAS MESSAGES

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
(L,R) EEC	C	FIM 73-21-00/101, Fig. 103.
(L,R) EEC BITE	M	FIM 73-21-00/101, Fig. 103.
(L,R) EEC OFF	B	No procedure is necessary.
(L,R) ENG ANTI-ICE	C	Go to 30-EICAS MESSAGES.
(L,R) ENG BB VIB	M	FIM 77-31-00/101, Fig. 104.
(L,R) ENG BLEED OFF	C	Go to 36-EICAS MESSAGES.
(L,R) ENG BLEED VAL	B	Go to 36-EICAS MESSAGES.
(L,R) ENG EEC	B	FIM 73-21-00/101, Fig. 115.
(L,R) ENG FIRE LP 1	S,M	Go to 26-EICAS MESSAGES.
(L,R) ENG FIRE LP 2	S,M	Go to 26-EICAS MESSAGES.
(L,R) ENG FUEL FILT	C,S,M	FIM 73-11-00/101, Fig. 103. C-level messages are only displayed on airplanes post SB 757-31-0059.
(L,R) ENG FUEL VAL	C	Go to 73-FAULT CODE INDEX and look at the fault codes: 73 21 03, 73 21 04, 73 21 11, 73 21 34.
(L,R) ENG HI STAGE	C	Go to 36-EICAS MESSAGES.

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 ALL

71-EICAS MESSAGES

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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
(L,R) ENG HYD OVHT	C	Go to 29-EICAS MESSAGES.
(L,R) ENG LIMITER	C	FIM 73-21-00/101, Fig. 115.
(L,R) ENG LOW N1	S,M	FIM 73-21-00/101, Fig. 109A.
(L,R) ENG LP PUMP	S,M	FIM 73-11-00/101, Fig. 104.
(L,R) ENG OIL PRESS	B	Go to 79-FAULT CODE INDEX and look at the fault codes: 79 32 03, 79 32 08, 79 32 09.
(L,R) ENG OH LP 1	S,M	Go to 26-EICAS MESSAGES.
(L,R) ENG OH LP 2	S,M	Go to 26-EICAS MESSAGES.
(L,R) ENG OVHT	B	Go to 26-EICAS MESSAGES.
(L,R) ENG PROBE HEAT	S,M	Go to 30-EICAS MESSAGES.
(L,R) ENG SHUTDOWN	B	No procedure is necessary.
(L,R) ENG SPEED CARD	S,M	Go to 77-FAULT CODE INDEX and look at the fault codes: 77 12 01, 77 12 04.
(L,R) ENG STARTER	C	FIM 80-11-00/101, Fig. 105.
(L,R) ENG TAI VALVE	S,M	Go to 30-EICAS MESSAGES.

EFFECTIVITY

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71-EICAS MESSAGES

R01

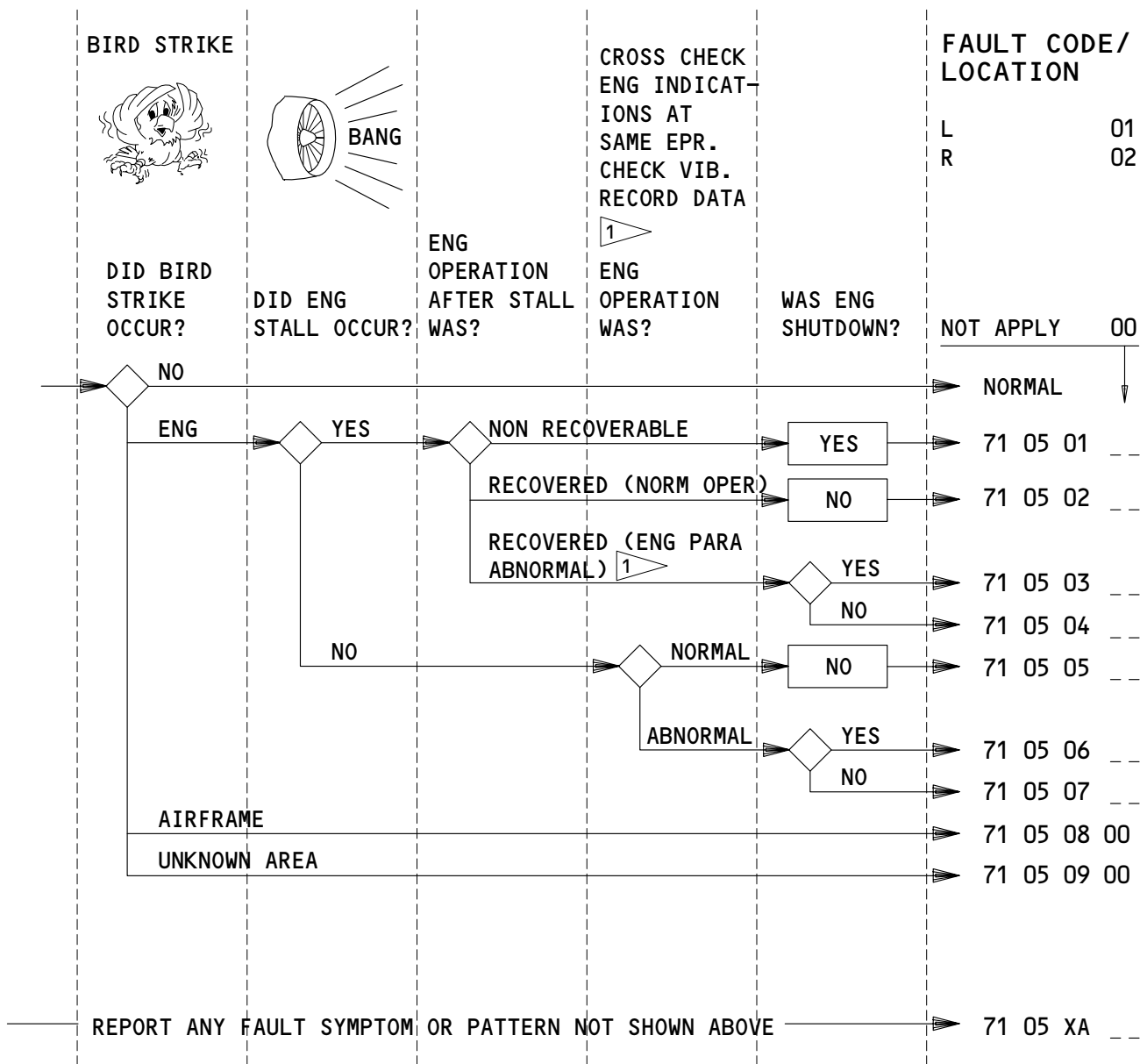
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EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
(L,R) STARTER CUTOUT	B	FIM 80-11-00/101, Fig. 107.
(L,R) SURGE BITE	M	FIM 75-32-00/101, Fig. 107.
(L,R) SURGE CONT	S,M	AIRPLANES WITHOUT SB 75-5; FIM 75-32-00/101, Fig. 106. AIRPLANES WITH SB 75-5 DO NOT HAVE THE "(L,R) SURGE CONT" STATUS OR MAINTENANCE MESSAGE.
(L,R) TURB OH DET 1	S,M	Go to 26-EICAS MESSAGES.
(L,R) TURB OH DET 2	S,M	Go to 26-EICAS MESSAGES.

EFFECTIVITY _____

ALL

71-EICAS MESSAGES



1 RECORD EPR, N1, N2, N3, F/F, EGT & VIB AT SAME EPR.

APPLICABLE CIRCUIT BREAKERS

NONE

BIRD STRIKE - FAULT CODES

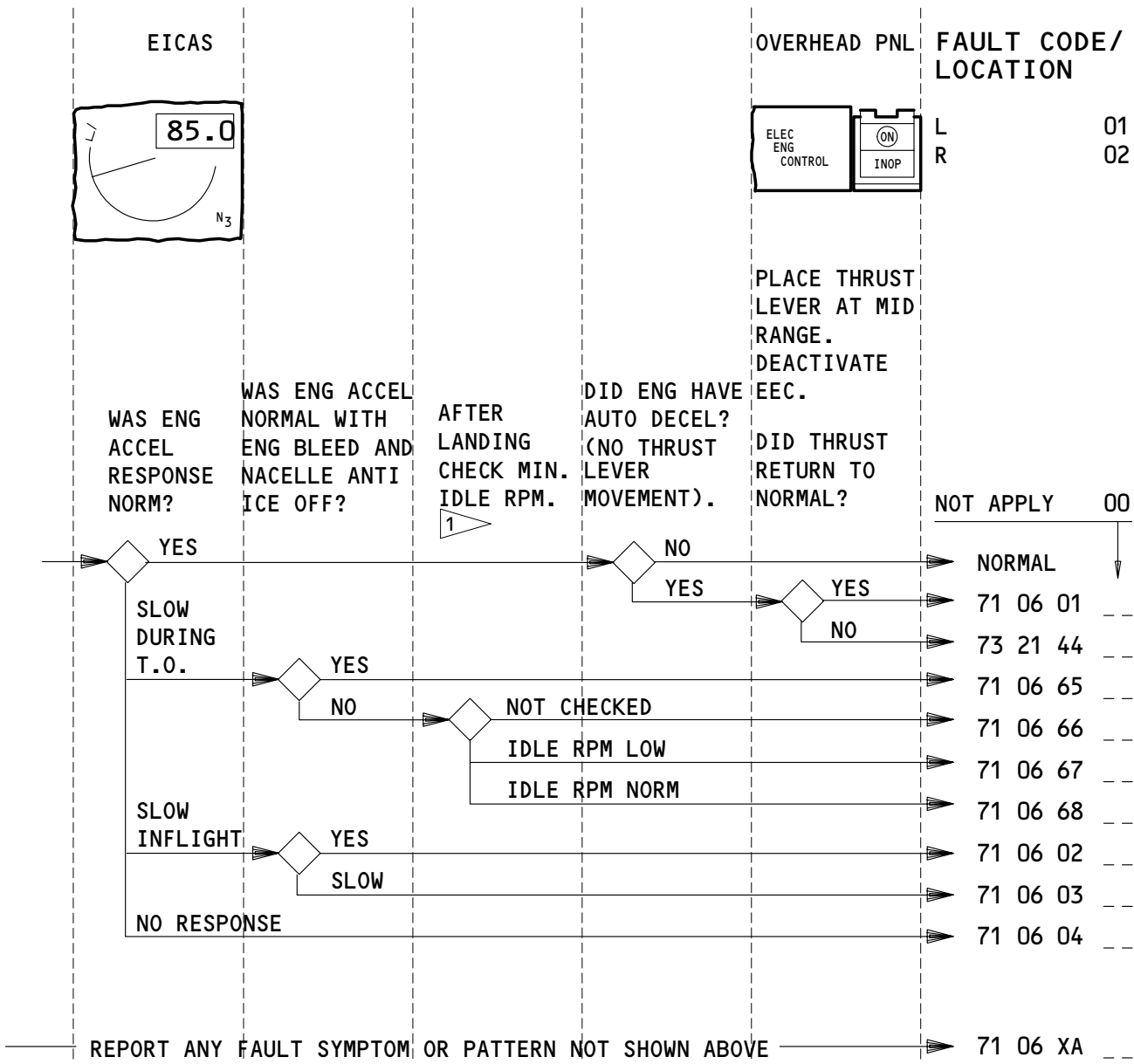
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71-FAULT CODE DIAGRAM

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1 SEE CHECK 1 "MIN/APPR IDLE RPM CHECK".

APPLICABLE CIRCUIT BREAKERS

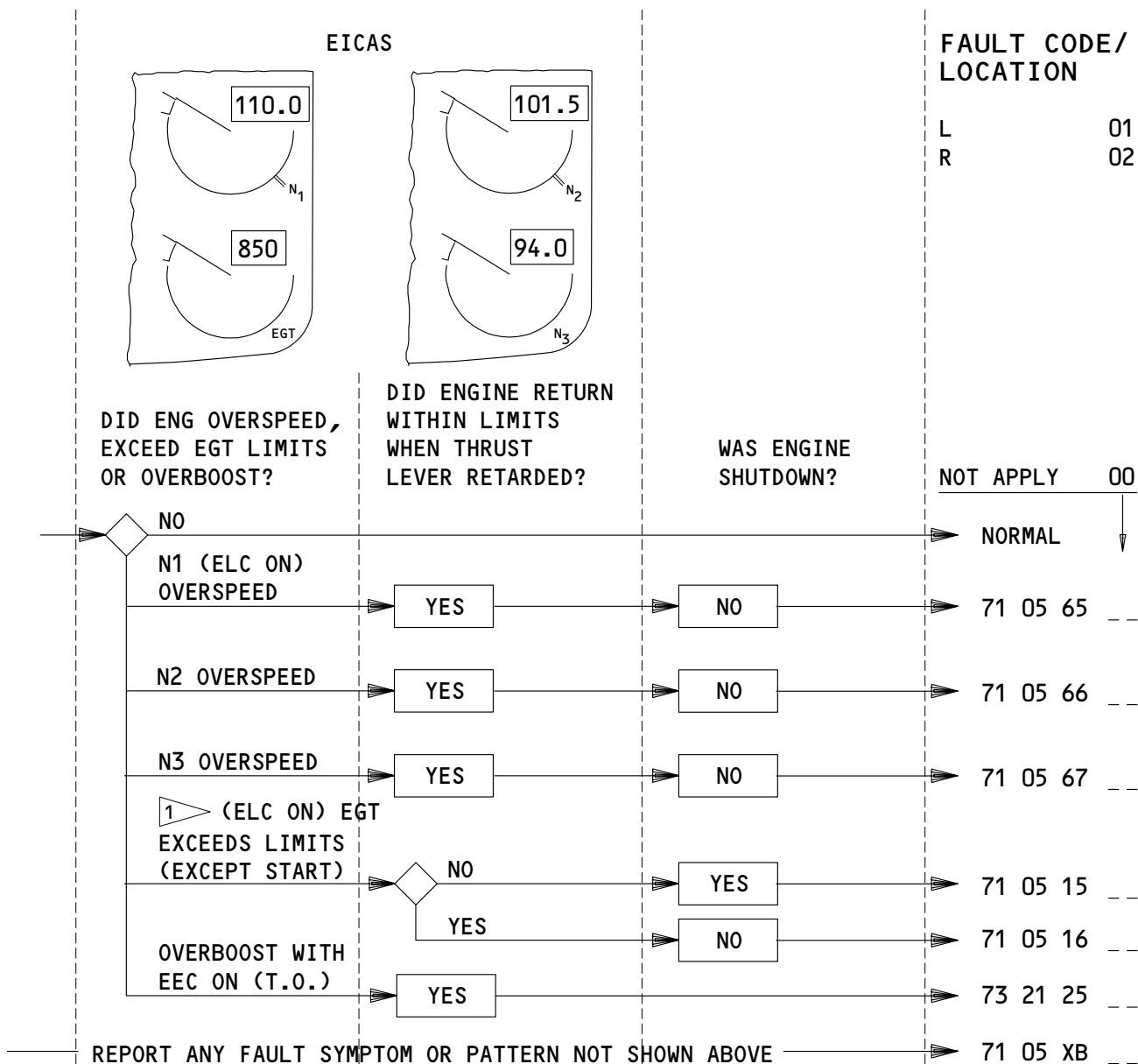
NONE

ENG ACCEL RATE/AUTO DECEL - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

649230



1 SEE "SURGE (STALL) T.O. & CONSTANT POWER" OR "SURGE (STALL) ACCEL, DECEL, CONT MSG" FAULT CODES. T.O. & CONSTANT POWER" OR "SURGE (STALL) ACCEL, DECEL, CONT MSG" FAULT CODES. EGT START LIMITS REMAIN FOR 30 SEC. AFTER ENG START. THRUST LEVER ADVANCEMENT PRIOR TO 30 SEC. MAY CAUSE EGT OVERLIMIT. THIS USUALLY HAPPENS DURING INFLIGHT START.

APPLICABLE CIRCUIT BREAKERS

11L4	LEFT ELECTRONIC ENGINE CONTROL LIMITER
11L5	LEFT ELECTRONIC ENGINE CONTROL SUPV
11L31	RIGHT ELECTRONIC ENGINE CONTROL LIMITER
11L32	RIGHT ELECTRONIC ENGINE CONTROL SUPV

ENGINE OVERLIMITS (NOT STARTING) - FAULT CODES

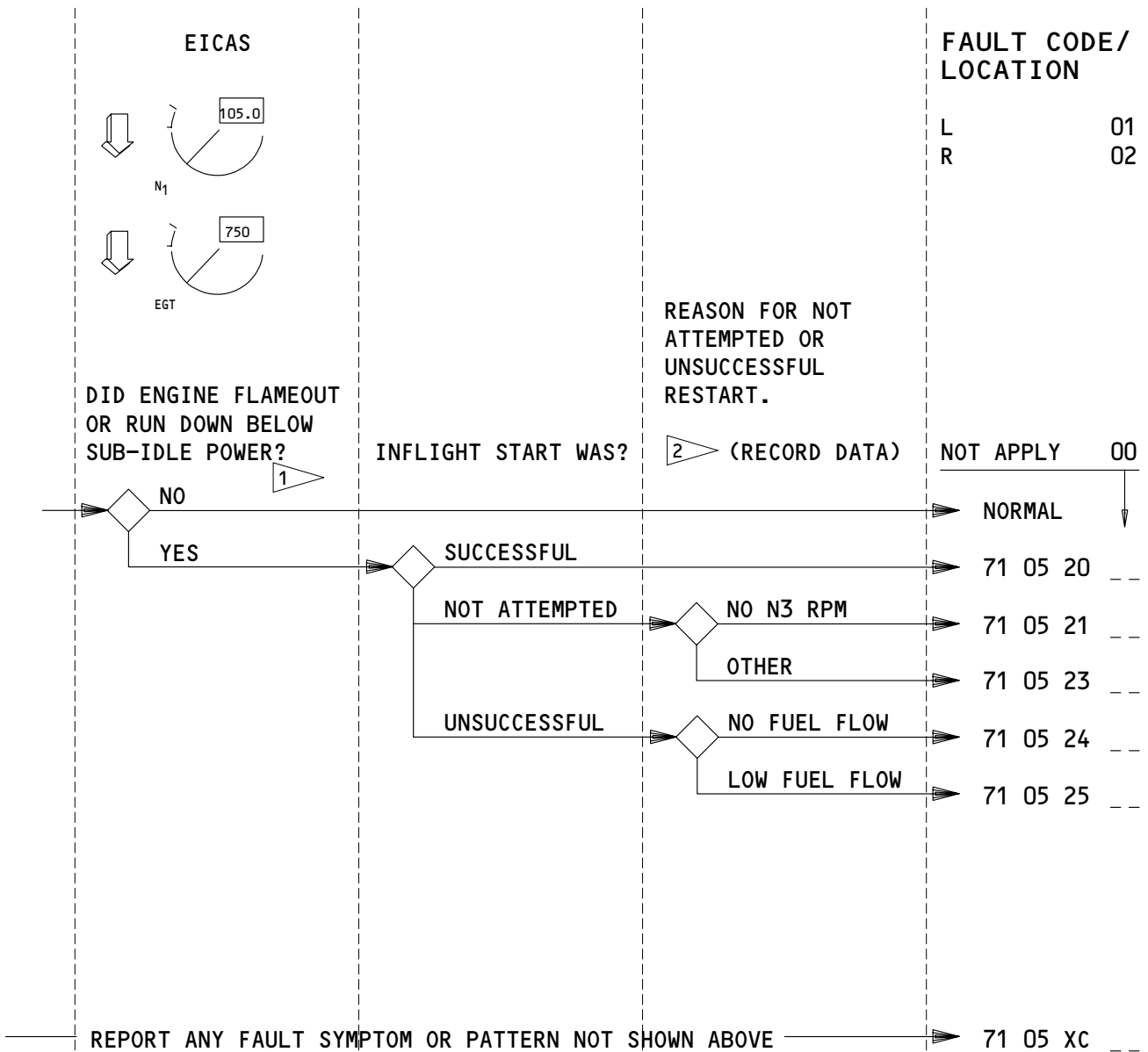
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R04

Page 3
Jun 20/90



1 IF FLAMEOUT PRECEDED BY A SURGE, SEE "SURGE (STALL) T.O. & CONSTANT POWER" OR "SURGE (STALL) ACCEL, DECEL, CONT MSG" FAULT CODES.

2

<u>ENG DATA</u>	<u>FLIGHT CONDITIONS</u>
FUEL TEMP ____ EPR ____	ALT ____ TAT ____
FUEL FLOW ____	AIRSPEED ____
RECORD WHICH TANK WAS SUPPLYING ENG & HOW LONG.	ICING CONDITIONS ____
ENG WAS { ACCEL DECEL STEADY STATE	TURBULENCE ____

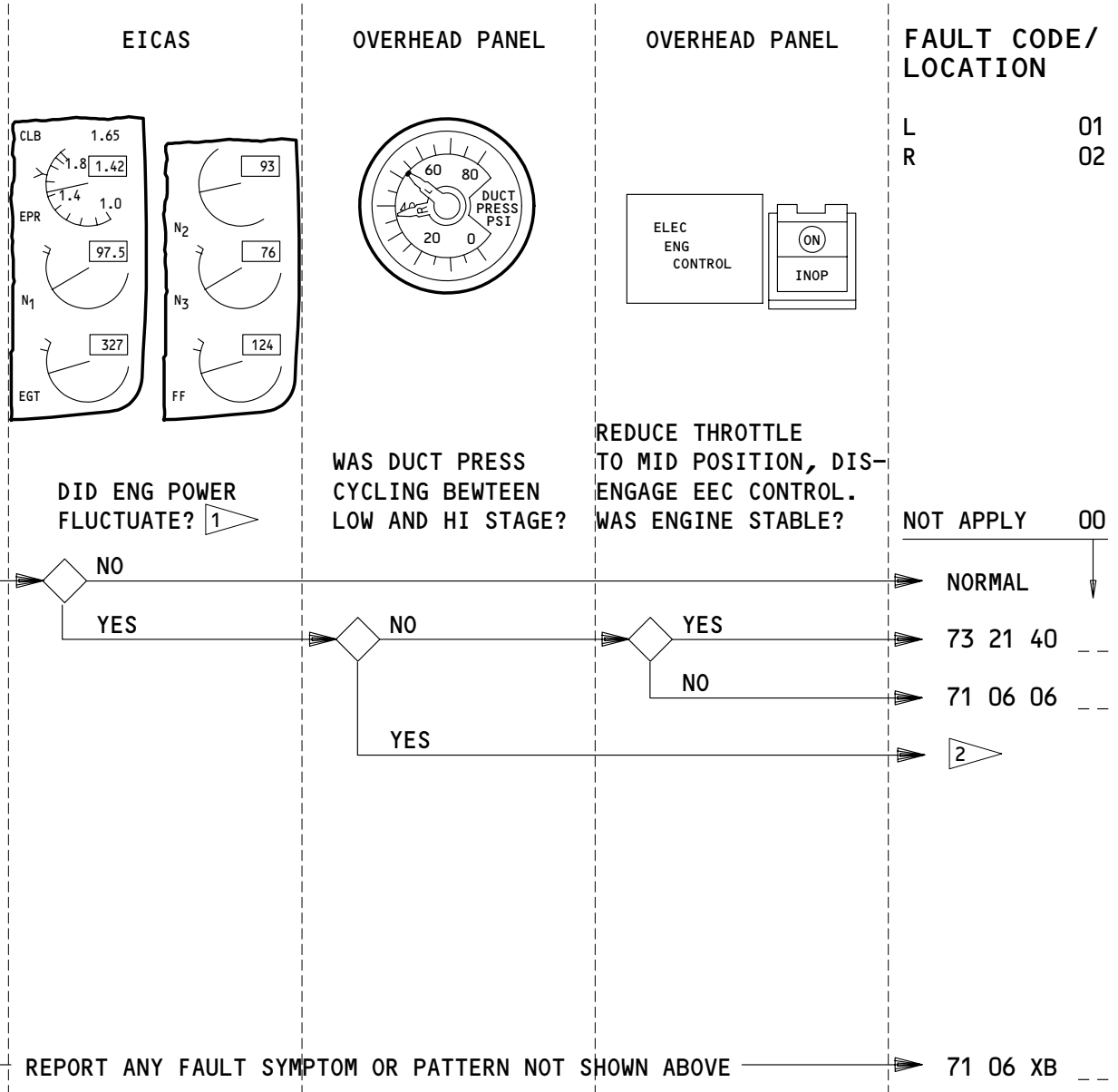
APPLICABLE CIRCUIT BREAKERS
NONE

FLAMEOUT - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

54283



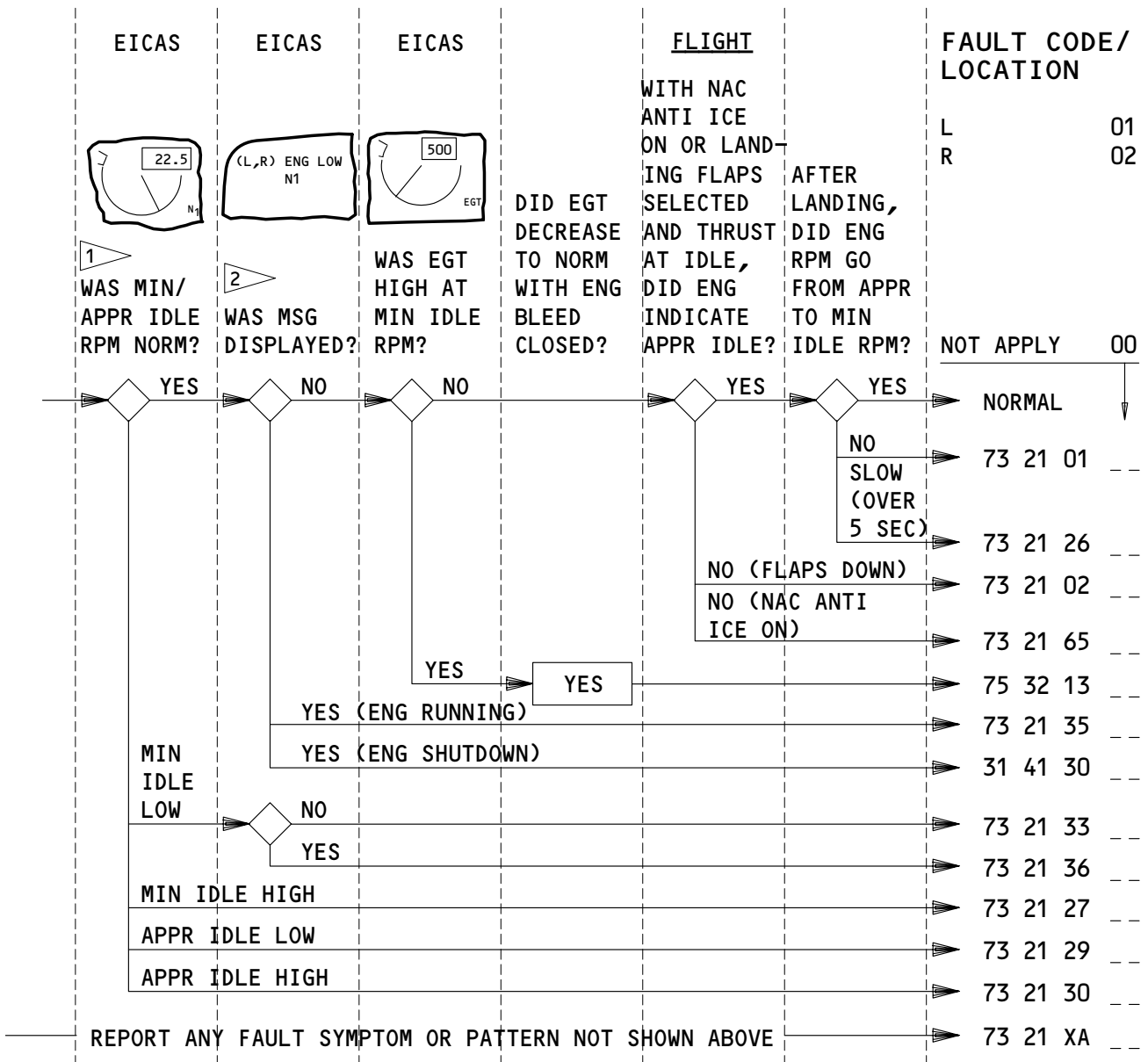
¹ ENG PARAMETERS MAY FLUCTUATE DURING HEAVY RAIN.
² SEE PNEUMATICS CHAPTER, "ENGINE PNEUMATIC SUPPLY" FAULT CODES.

- APPLICABLE CIRCUIT BREAKERS
- 11L5 LEFT ELECTRONIC ENGINE CONTROL SUPV
 - 11L32 RIGHT ELECTRONIC ENGINE CONTROL SUPV

POWER FLUCTUATES - FAULT CODES

EFFECTIVITY ALL **71-FAULT CODE DIAGRAM**

597867



1 SEE (MIN/APPR) IDLE RPM CHECK. MIN IDLE SHOULD BE KEPT ABOVE 21.2% N1 (535E4).
2 MSG WILL DISPLAY IF N1 IS BELOW 21.2% (535E4).

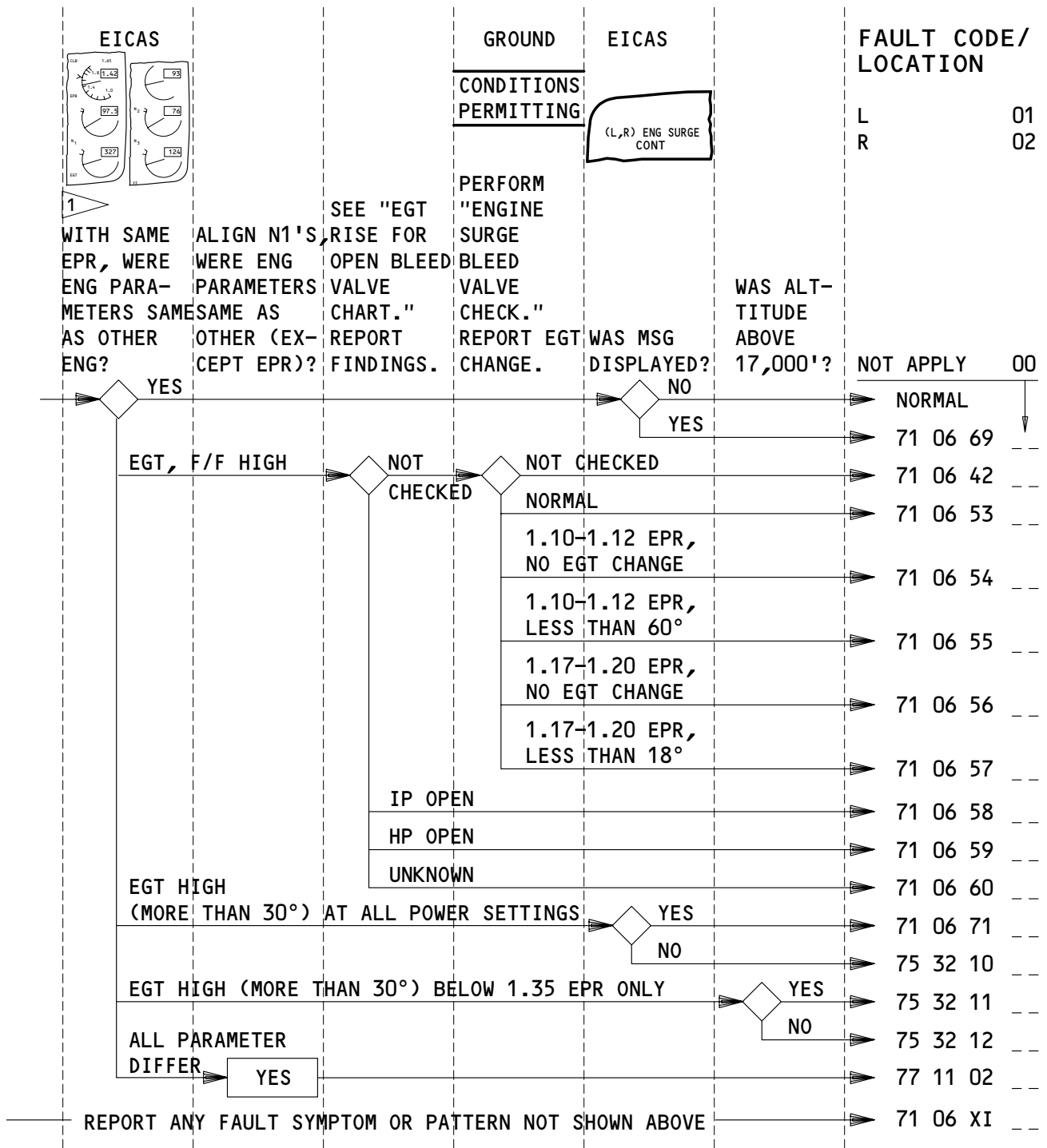
- APPLICABLE CIRCUIT BREAKERS
- 11L7 LEFT ENGINE IDLE CONT
 - 11L33 RIGHT ENGINE IDLE CONT

(MIN/APPR) IDLE RPM/EGT/SELECT - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

187848



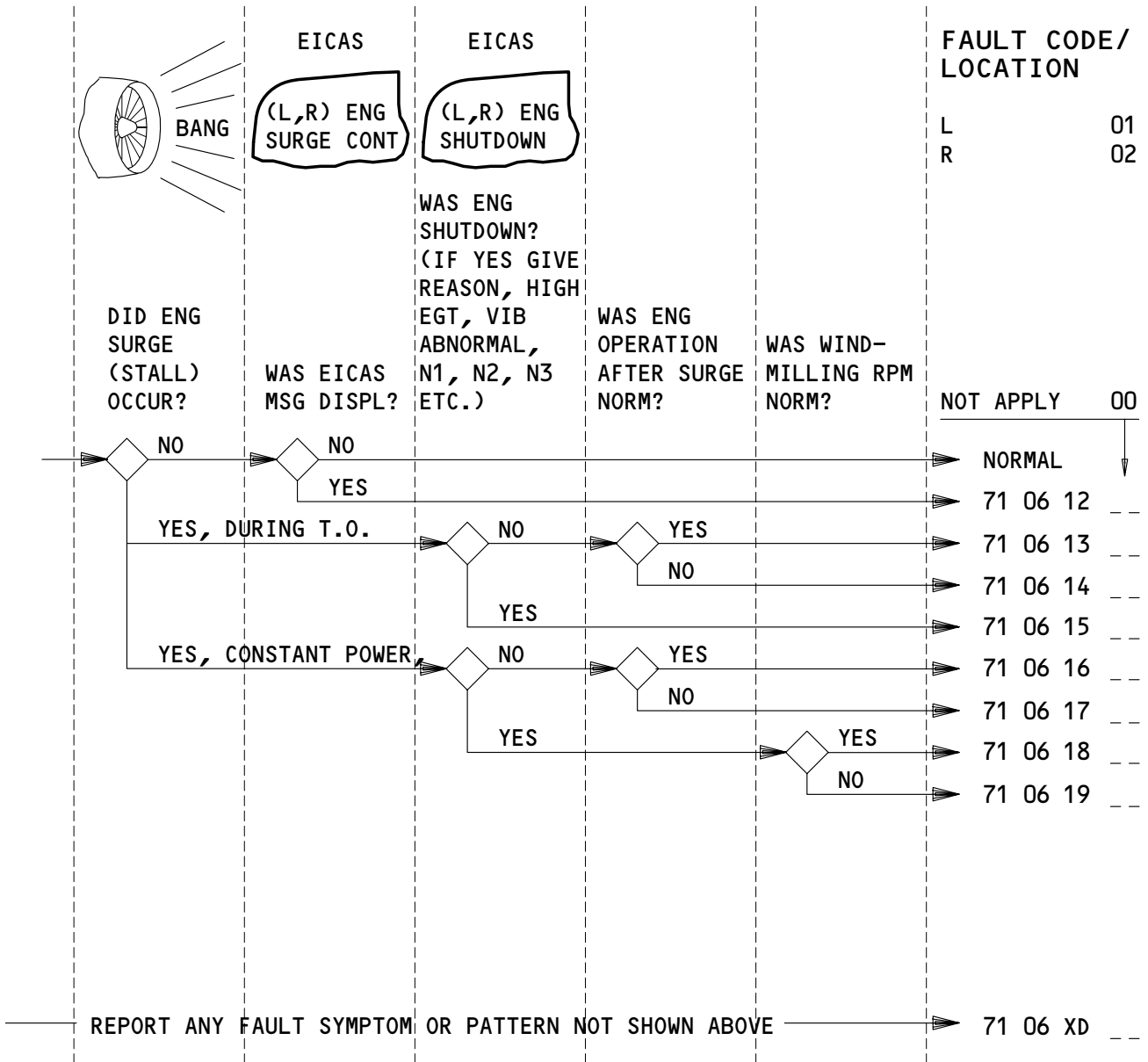
1 RECORD ENG PARAMETERS (EPR, N1, N2, N3, EGT & F/F)

APPLICABLE CIRCUIT BREAKERS
NONE

SAME EPR, OTHER PARAMETERS NOT EQUAL - FAULT CODES

EFFECTIVITY ALL **71-FAULT CODE DIAGRAM**

187849



APPLICABLE CIRCUIT BREAKERS

- 11D21 HP BLD VLV LEFT
- 11D22 HP BLD VLV RIGHT

SURGE (STALL) T.O. & CONSTANT POWER - FAULT CODES

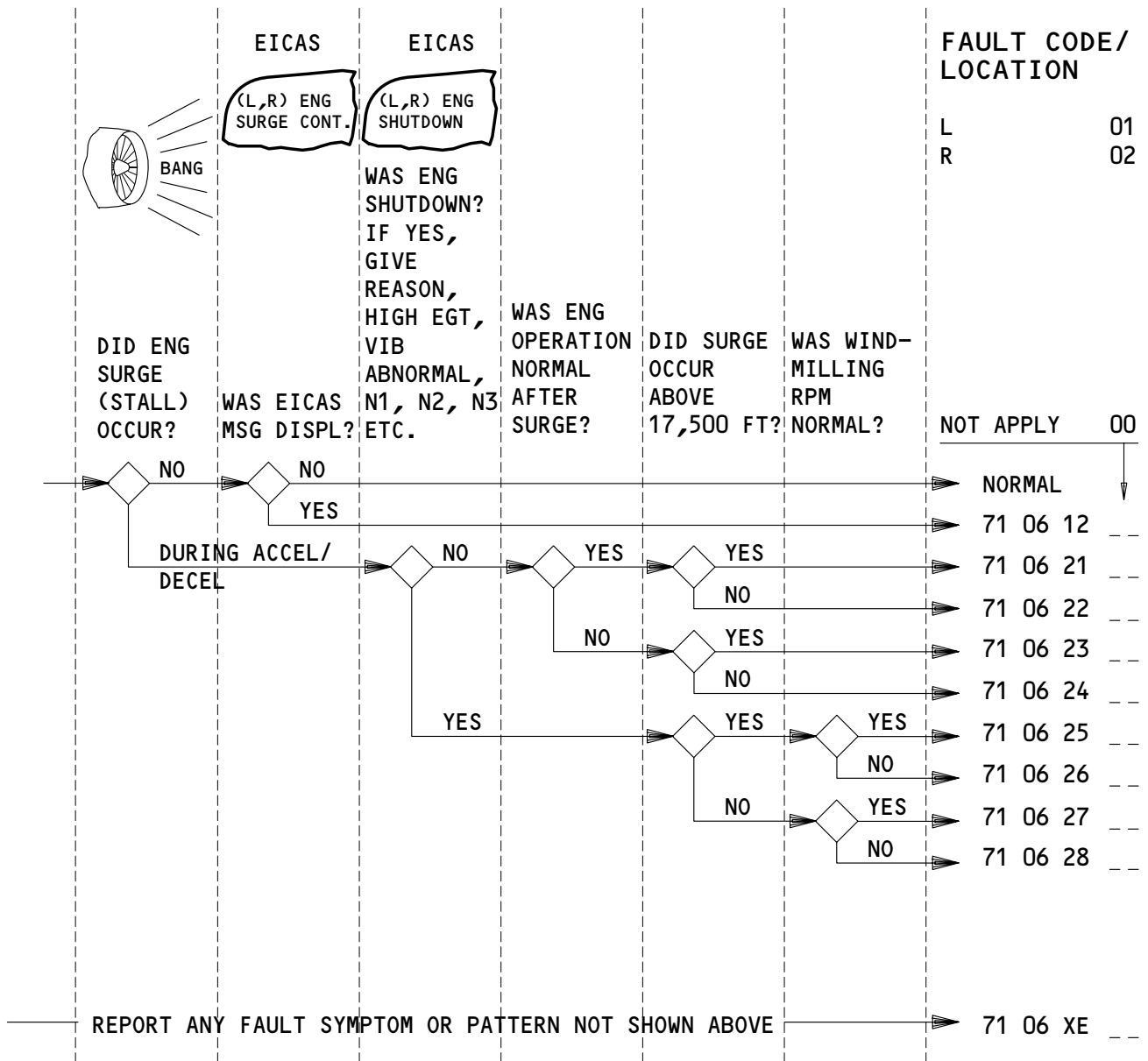
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R03

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Sep 15/85



APPLICABLE CIRCUIT BREAKERS

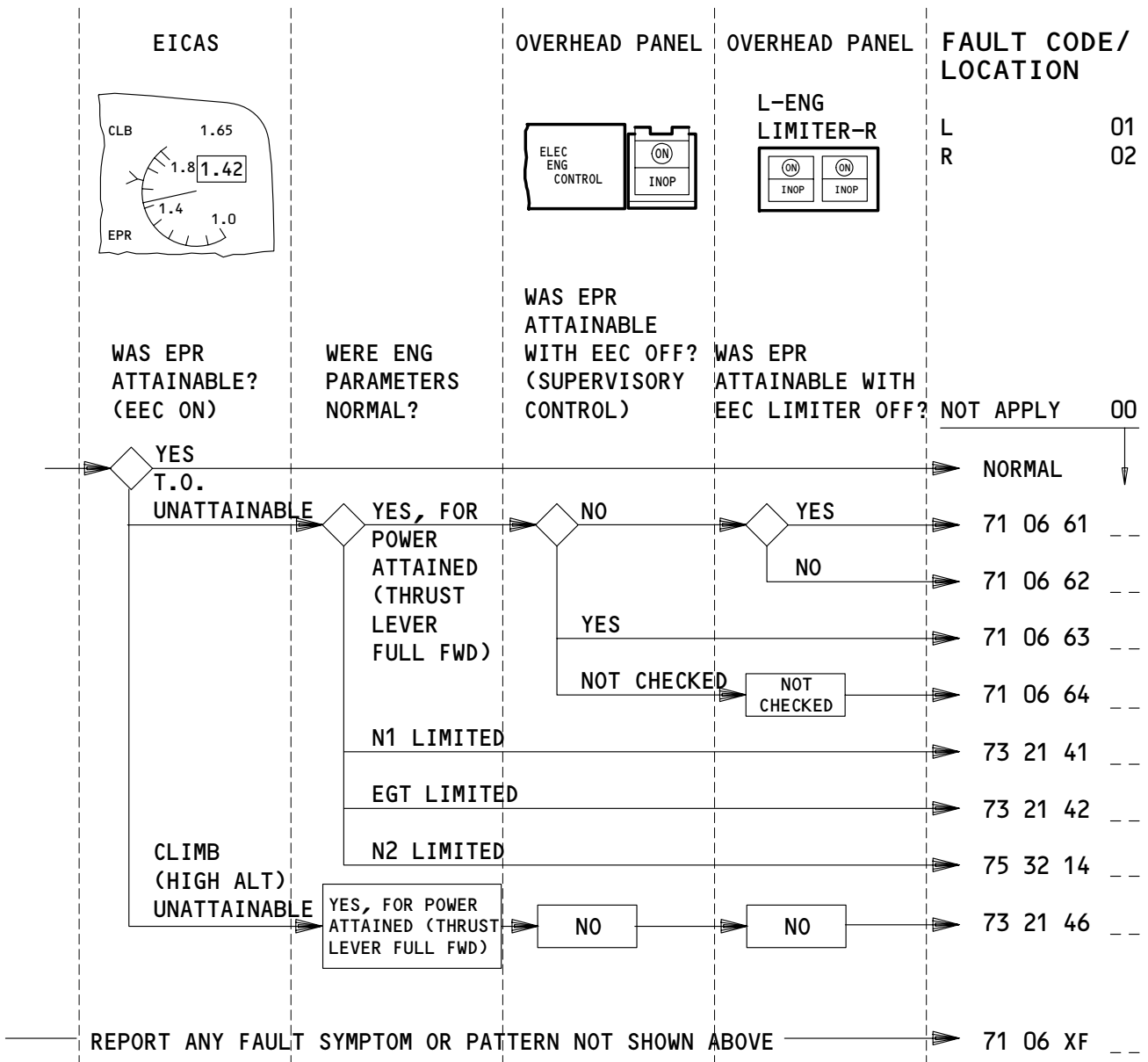
- 11D21 HP BLD VLV LEFT
- 11D22 HP BLD VLV RIGHT

SURGE (STALL) ACCEL, DECEL, CONT MSG – FAULT CODES

EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM



APPLICABLE CIRCUIT BREAKERS

- 11L4 LEFT ELECTRONIC ENGINE CONTROL LIMITER
- 11L5 LEFT ELECTRONIC ENGINE CONTROL SUPV
- 11L31 RIGHT ELECTRONIC ENGINE CONTROL LIMITER
- 11L32 RIGHT ELECTRONIC ENGINE CONTROL SUPV

T.O./CLIMB EPR UNATTAINABLE - FAULT CODES

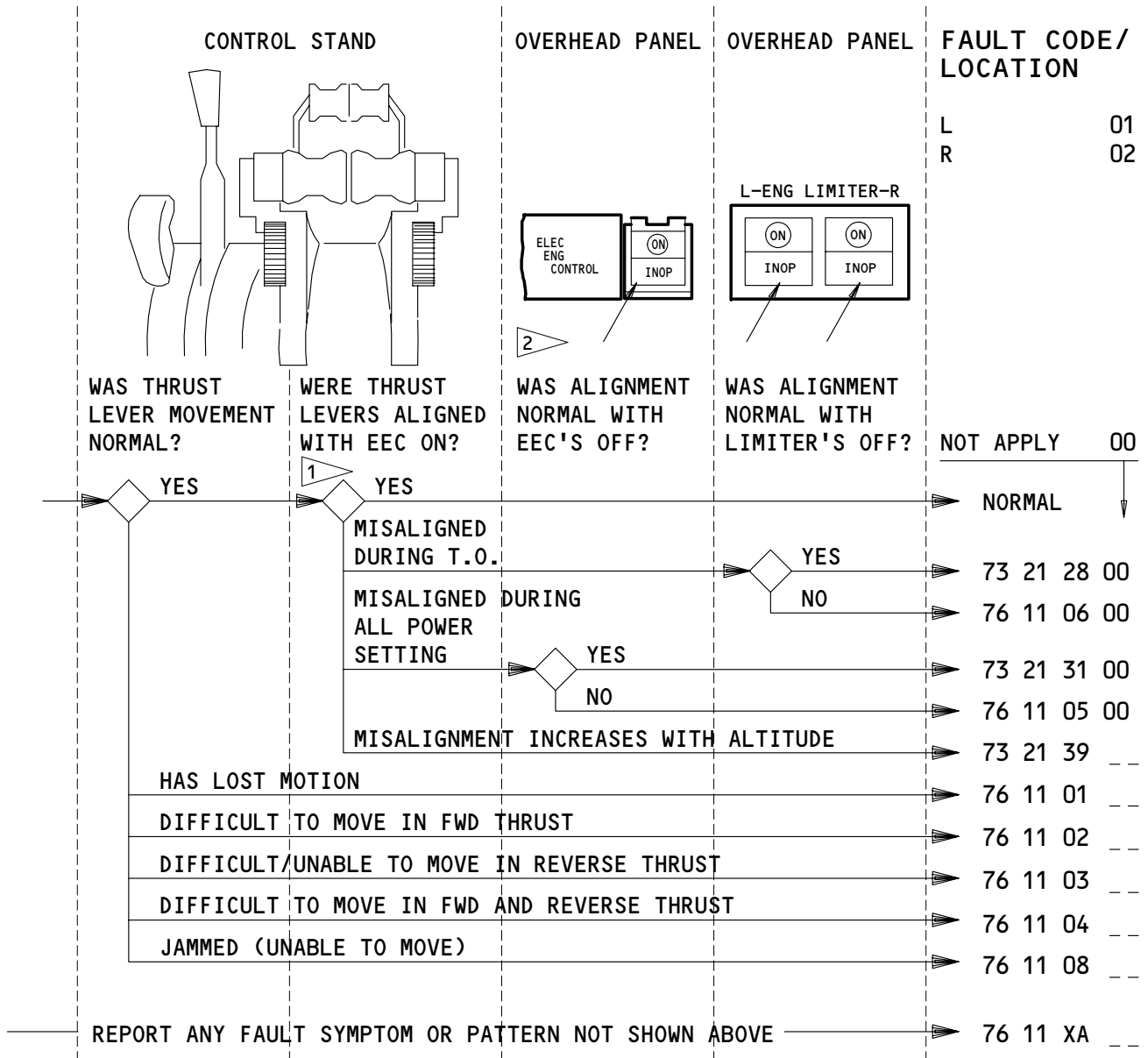
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R07

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Dec 20/88



1 BELOW 35000 FEET THRUST LEVERS SHOULD BE ALIGNED WITHIN 3/4 KNOB. 35000 FEET AND ABOVE THRUST LEVERS SHOULD BE ALIGNED WITHIN 1-1/4 KNOBS.

2 REDUCE POWER TO 80% N3 OR LOWER BEFORE TURNING EEC OFF.

APPLICABLE CIRCUIT BREAKERS

11L4	LEFT ELECTRONIC ENGINE CONTROL LIMITER
11L5	LEFT ELECTRONIC ENGINE CONTROL SUPV
11L31	RIGHT ELECTRONIC ENGINE CONTROL LIMITER
11L32	RIGHT ELECTRONIC ENGINE CONTROL SUPV

THRUST LEVER MOVEMENT DIFFICULT, LOST MOTION, OUT OF ALIGNMENT - FAULT CODES

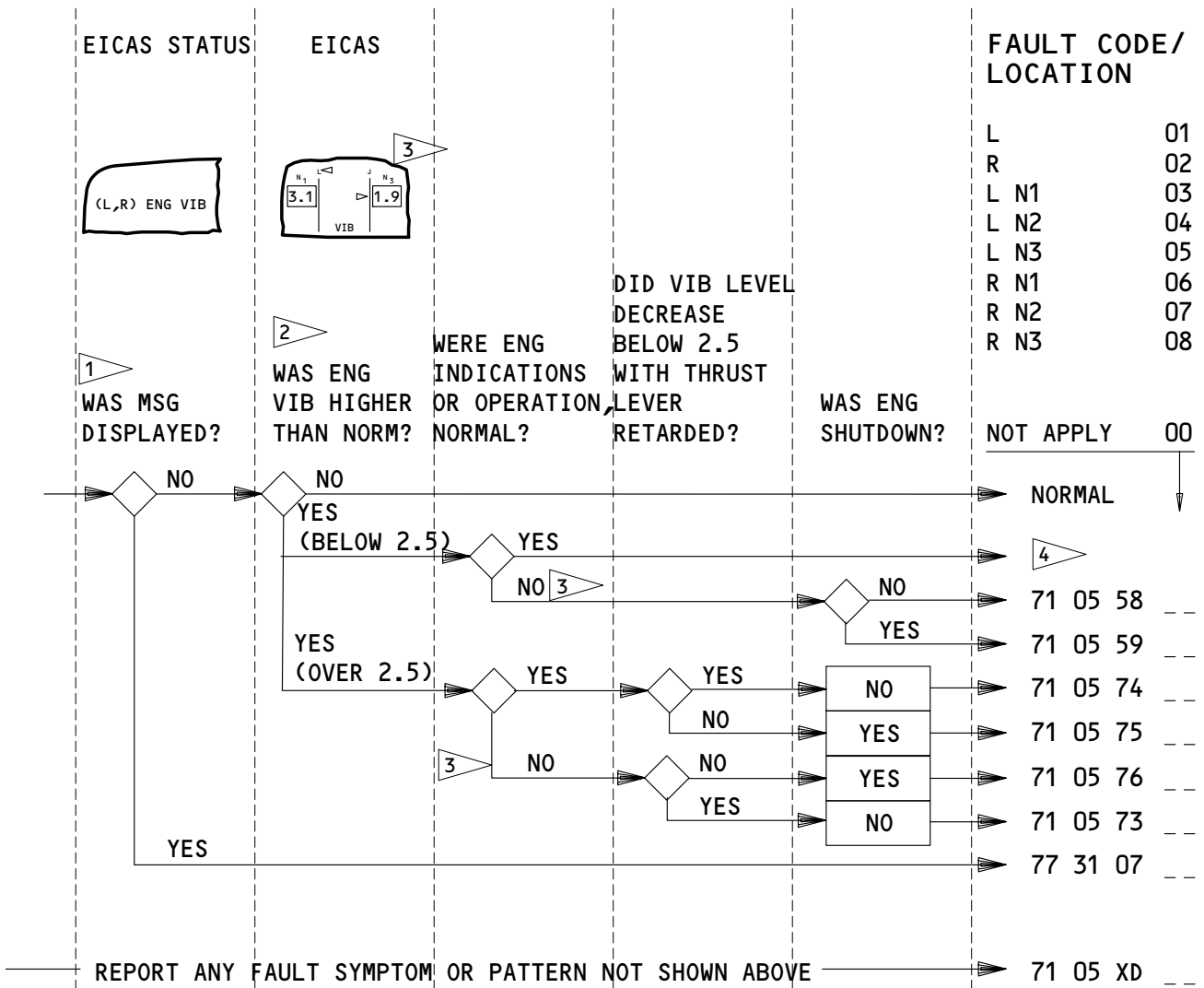
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R08

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Dec 20/88



- 1 (L, R) ENG VIB IS INDICATION PROBLEM .
- 2 SEVERE ICING MAY CAUSE HIGH VIBRATION. DO NOT REPORT.
- 3 ABNORMAL INDICATIONS
 - ENG SURGE
 - OIL FILTER MSG
 - INDICATIONS FOLLOW THRUST LEVER MOVEMENTS
 - ABNORMAL ENGINE INDICATIONS (PARAMETERS, OIL PRESS & OIL TEMP)
 - AIRPLANE, THRUST LEVER VIBRATION
- 4 SEE "EPR, EGT, VIBRATION INDICATOR" FAULT CODES.

APPLICABLE CIRCUIT BREAKERS

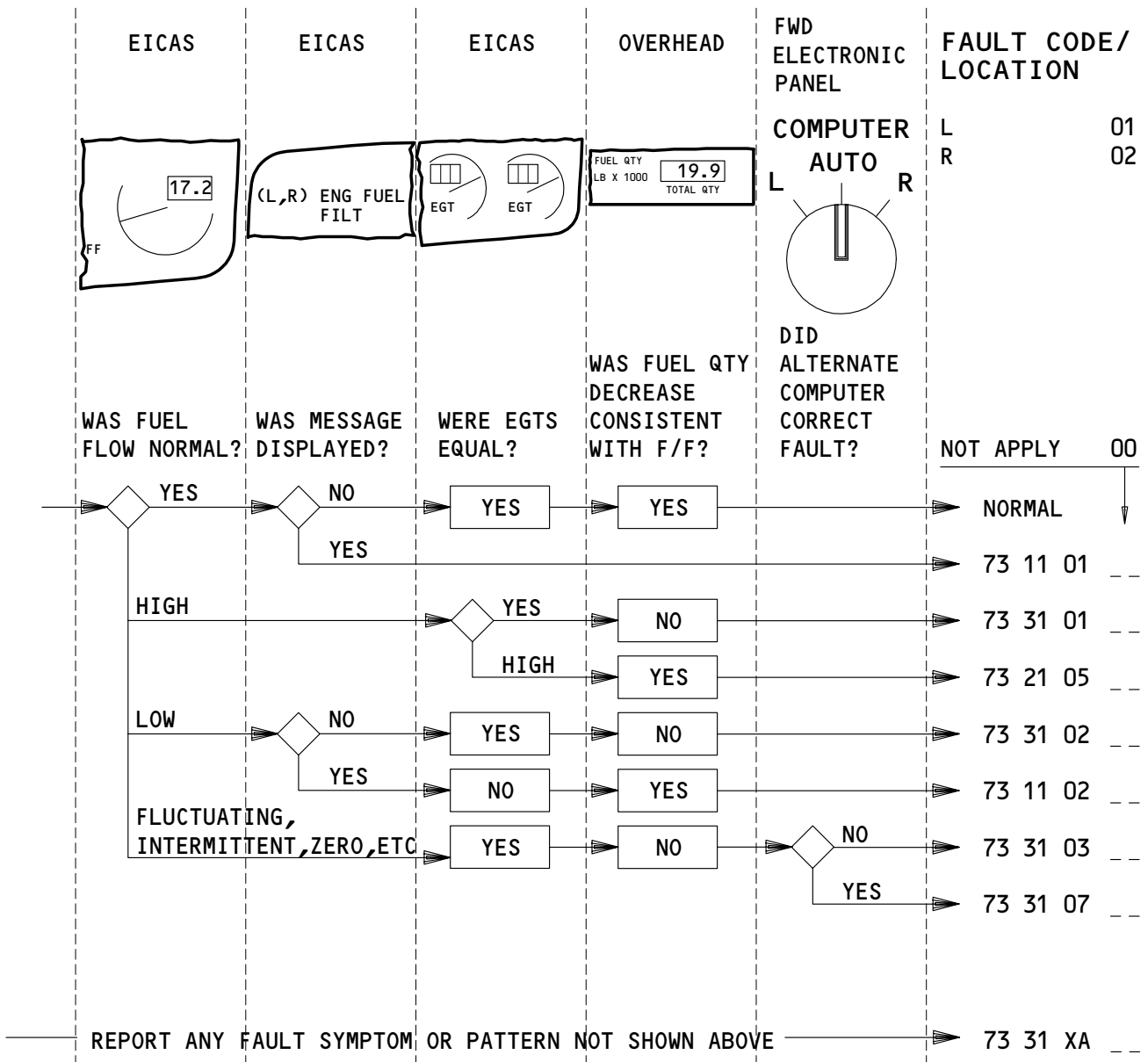
- 11K2 VIB MONITOR LEFT
- 11K28 VIB MONITOR RIGHT

VIBRATION HIGH - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

649237



APPLICABLE CIRCUIT BREAKERS

NONE

HIGH/LOW FUEL FLOW, ENG FUEL FILTER & INDICATORS - FAULT CODES

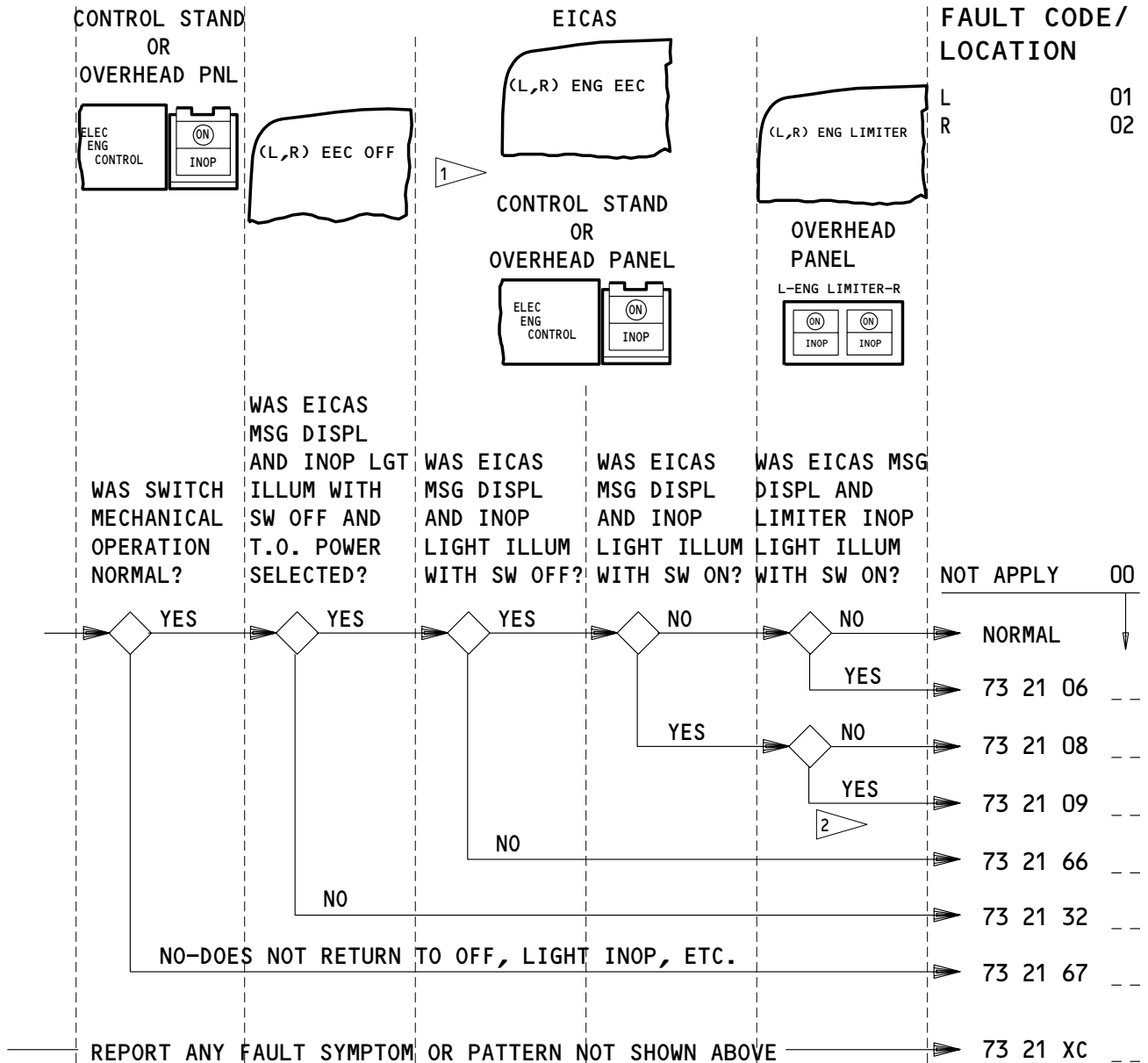
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R01

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- 1 (L, R) ENG EEC MSG WILL DISPLAY AND INOP LIGHT WILL ILLUM IF EEC SWITCHED OFF AND ENGINES RUNNING. THIS MESSAGE WILL BE INHIBITED BY RESPECTIVE EEC OFF MSG.
- 2 RECORD ENGINE EPR, N1, N2, N3, EGT AND FF IF BOTH EEC AND LIMITER ARE INOP.

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

11L4 LEFT ELECTRONIC ENGINE CONTROL LIMITER	11L31 RIGHT ELECTRONIC ENGINE CONTROL LIMITER
11L4 LEFT ENGINE EEC LIMITER	11L31 RIGHT ENGINE EEC LIMITER
11L5 LEFT ELECTRONIC ENGINE CONTROL SUPV	11L32 RIGHT ELECTRONIC ENGINE CONTROL SUPV
11L5 LEFT ENGINE EEC SUPV	11L32 RIGHT ENGINE EEC SUPV

ELECTRONIC ENGINE CONTROL (EEC)- FAULT CODES

EFFECTIVITY

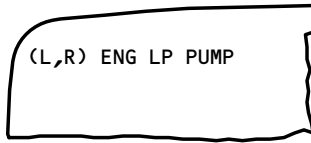
ALL

71-FAULT CODE DIAGRAM

R03

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Jan 28/00

EICAS



FAULT CODE/
LOCATION

L 01
R 02

WAS EICAS MSG DISPL?

NOT APPLY 00



(L,R) ENG LP PUMP DISPLAYED

NORMAL

73 11 05

REPORT ANY FAULT SYMPTOM OR PATTERN NOT SHOWN ABOVE

73 11 XA

APPLICABLE CIRCUIT BREAKERS

NONE

ENG LP PUMP - FAULT CODES

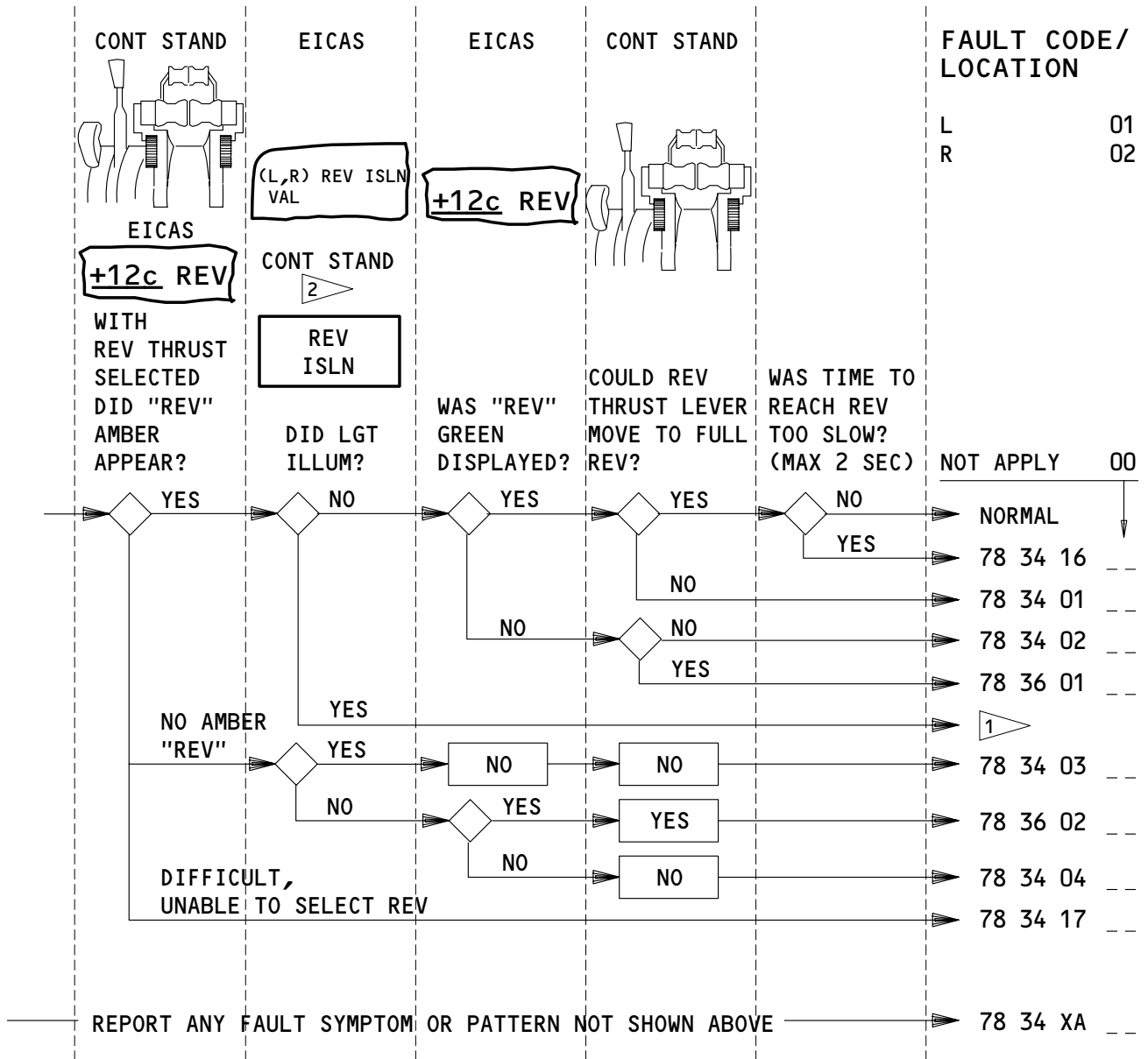
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R05

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Jan 28/00



1 SEE "REV ISLN VAL & REV AMBER DISPLAY" FAULT CODES.
2 IF INSTALLED

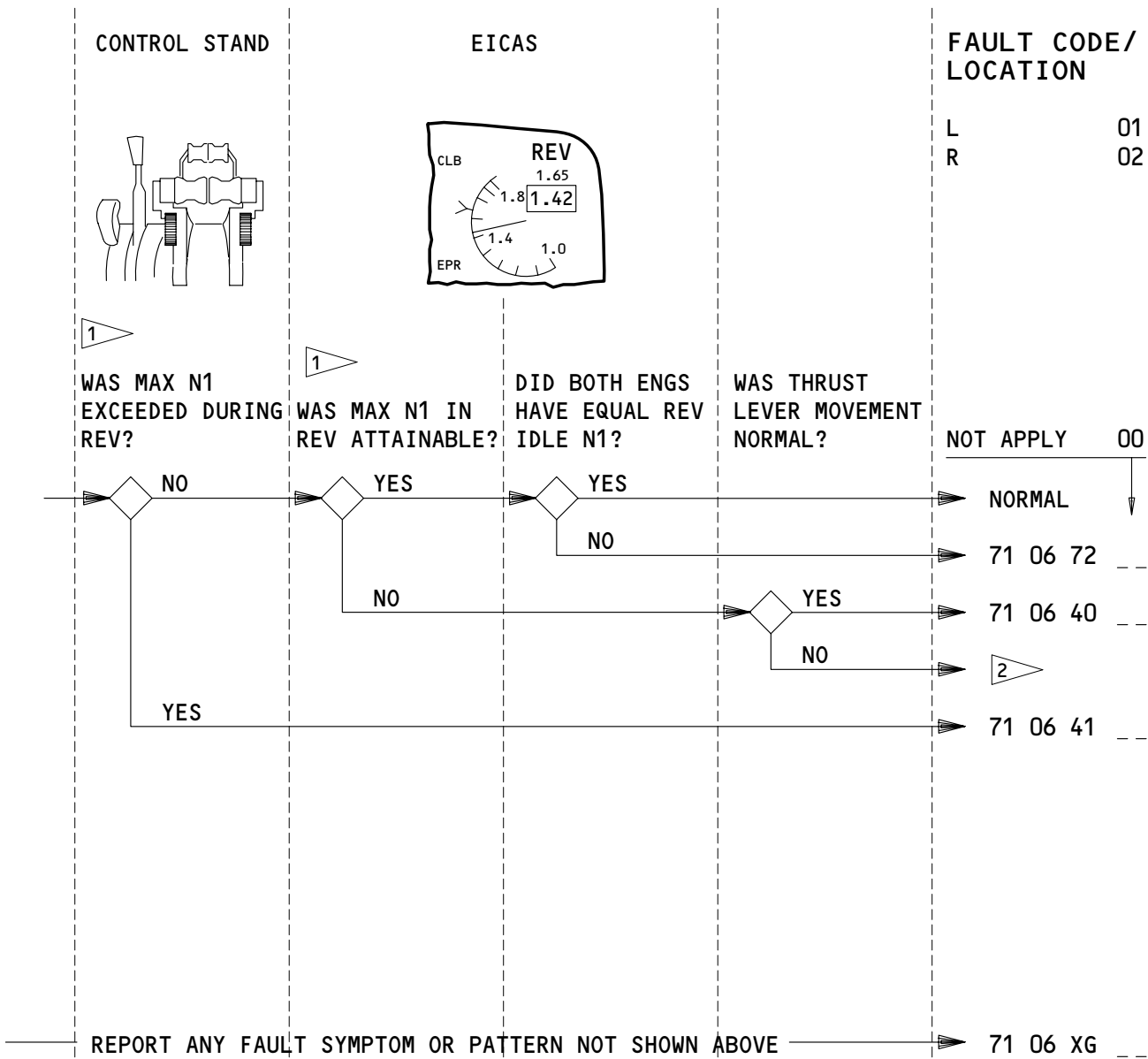
APPLICABLE CIRCUIT BREAKERS

6C12	L ENG SYNC LOCK (BAT BUS)	2	11D11	LEFT T/R IND	
6D12	R ENG SYNC LOCK (BAT BUS)	2	11D12	LEFT T/R CONT	
11B29	RIGHT T/R IND		11K32	RIGHT ENGINE SYNC LOCK	2
11B30	RIGHT T/R CONT				
11B30	RIGHT ENGINE T/R CONT ALTN	2			

REVERSER DEPLOY - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM



1 MAX N₁ IN REVERSE IS 108.4

2 SEE "THRUST LEVER MOVEMENT DIFFICULT, LOST MOTION, OUT OF ALIGNMENT" FAULT CODES.

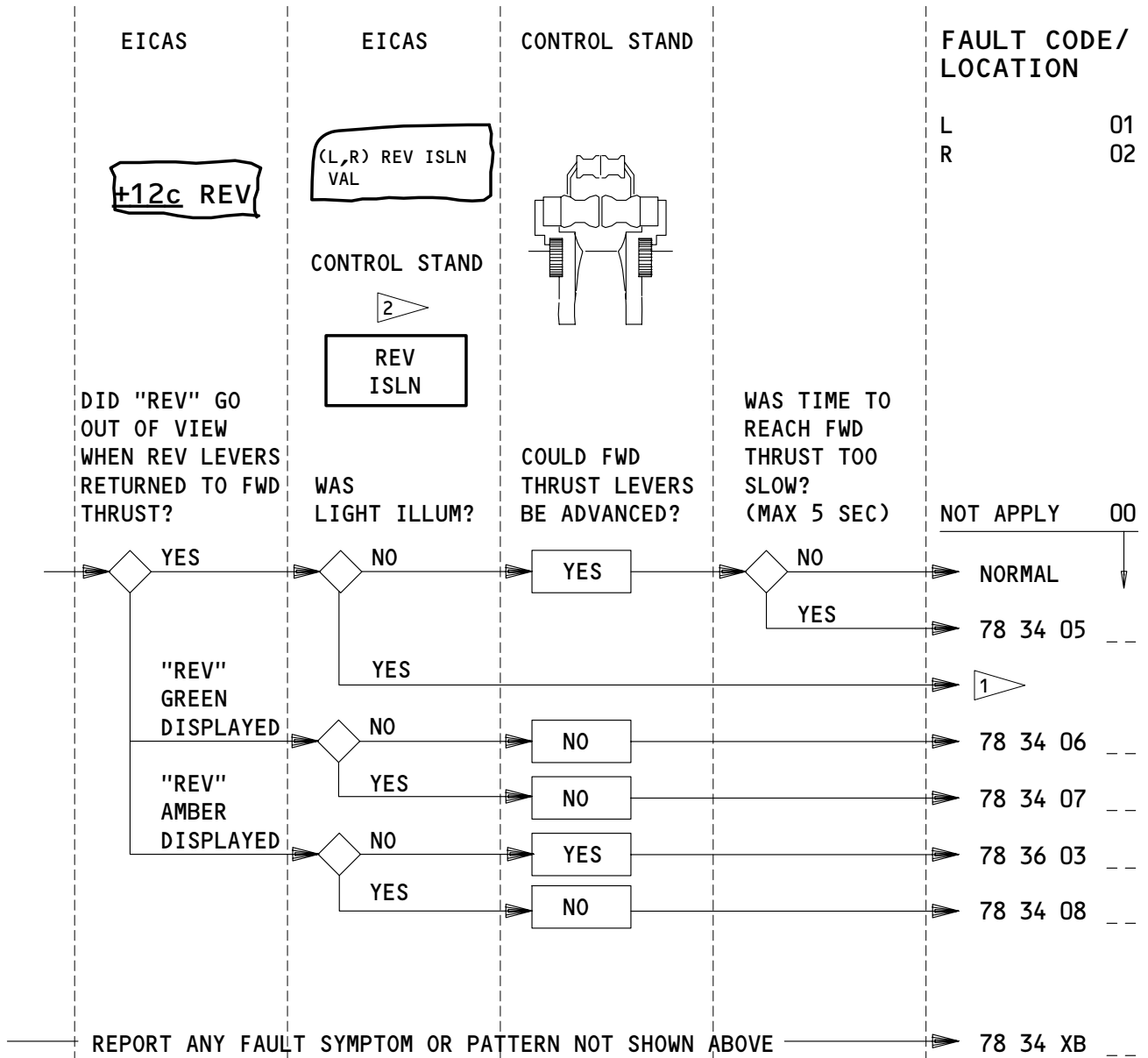
APPLICABLE CIRCUIT BREAKERS
NONE

REVERSE THRUST N1 - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

187860



1 SEE "REV ISLN VAL & REV AMBER DISPLAY" FAULT CODES.
2 IF INSTALLED

APPLICABLE CIRCUIT BREAKERS

6C12	L ENG SYNC LOCK (BAT BUS)	2	11D11	LEFT T/R IND	
6D12	R ENG SYNC LOCK (BAT BUS)	2	11D12	LEFT T/R CONT	
11B29	RIGHT T/R IND		11K32	RIGHT ENGINE SYNC LOCK	2
11B30	RIGHT T/R CONT				
11B30	RIGHT ENGINE T/R CONT ALTN	2			

REVERSER STOW - FAULT CODES

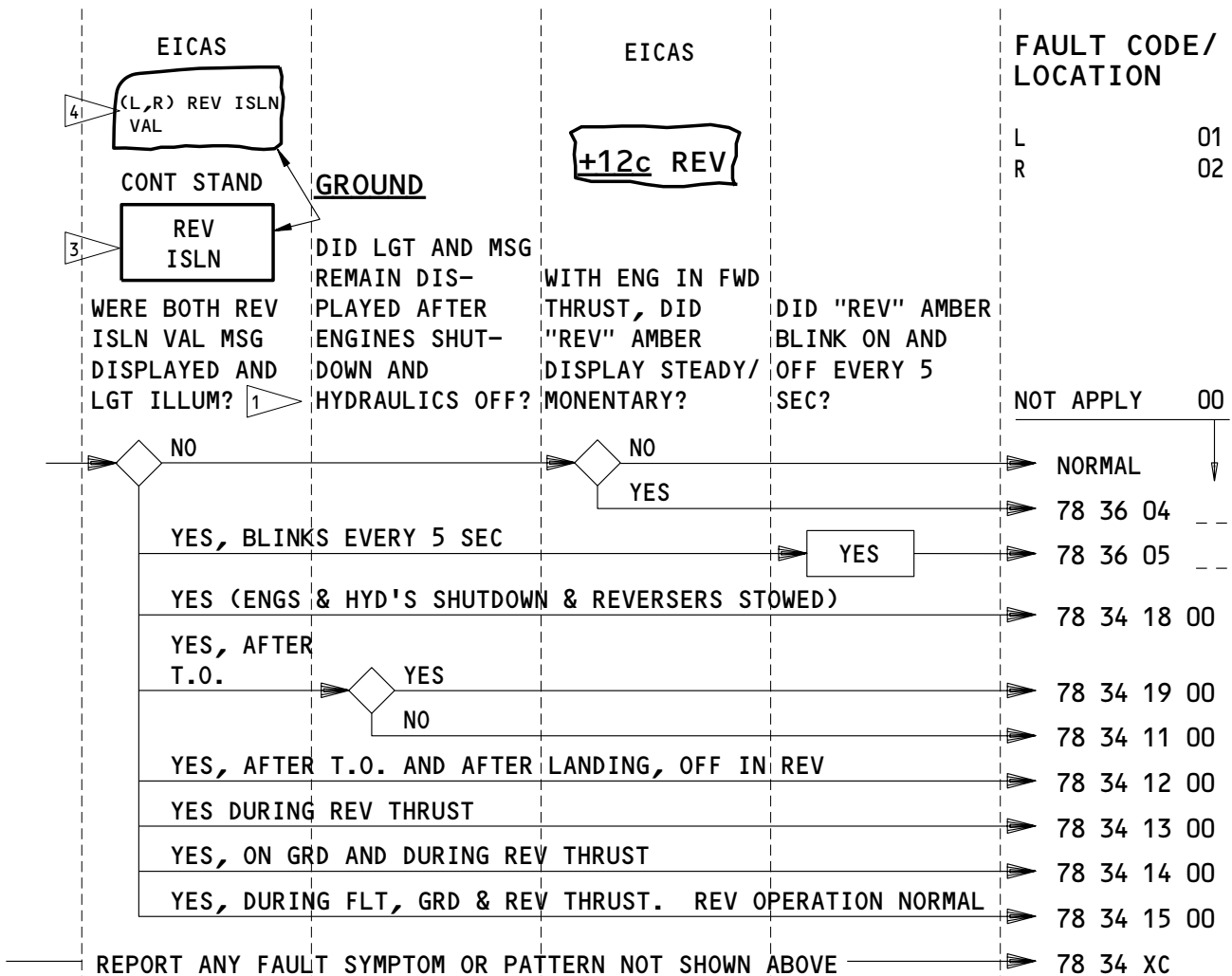
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R11

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Mar 20/95



1 IN FLIGHT
REVERSE THRUST PROTECTION MAY BE INOPERATIVE. DO NOT LIFT THE REVERSE THRUST LEVER.
AFTER LANDING
REVERSE THRUST MAY BE INOP.
GROUND
INSPECT REVERSER IS STOWED & LOCKED BEFORE TAKEOFF.

2 IF CB IS TRIPPED, POWER IS REMOVED FROM REV ISLN VAL. VALVE SHOULD CLOSE & REV THRUST WILL BE INOP.

3 AS INSTALLED

4 DISPLAYED GROUND ONLY SOME AIRPLANES

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6C12 L ENG SYNC LOCK (BAT BUS)	11D11 T/R L IND
6D12 R ENG SYNC LOCK (BAT BUS)	11D12 T/R L CONT
11B29 T/R R IND	11K6 LEFT ENGINE THRUST REVERSER CONT
11B30 RIGHT (ENGINE) T/R CONT ALTN	11K32 RIGHT ENGINE THRUST REVERSER IND
11B30 T/R R CONT	11K32 RIGHT ENGINE SYNC LOCK
11K5 LEFT ENGINE THRUST REVERSER IND	11K33 RIGHT ENGINE THRUST REVERSER CONT

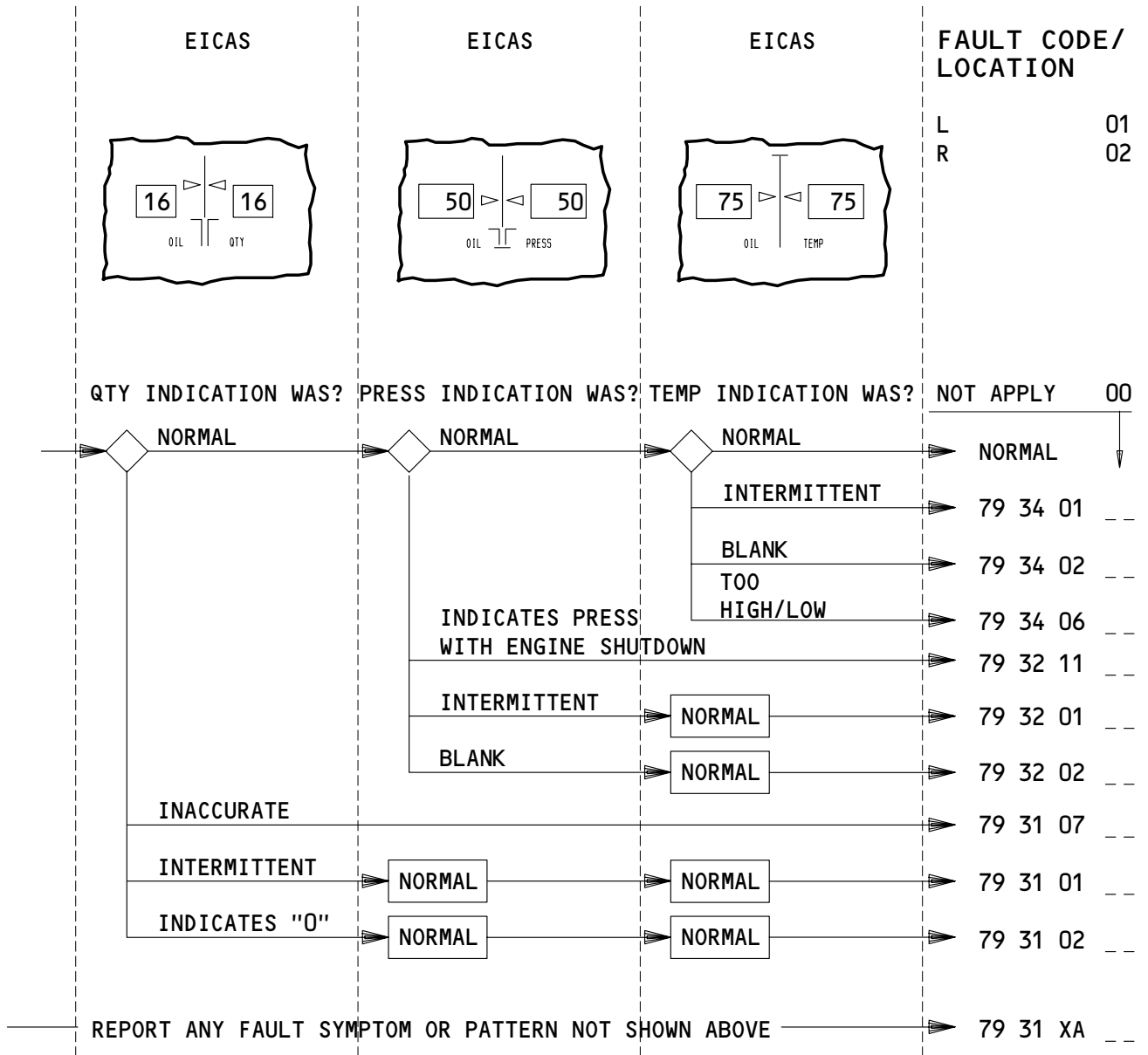
REV ISLN VAL & REV AMBER DISPLAY - FAULT CODES

EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

79501



APPLICABLE CIRCUIT BREAKERS

- 11K9 LEFT ENGINE OIL PRESS
- 11K35 RIGHT ENGINE OIL PRESS

OIL INDICATORS - FAULT CODES

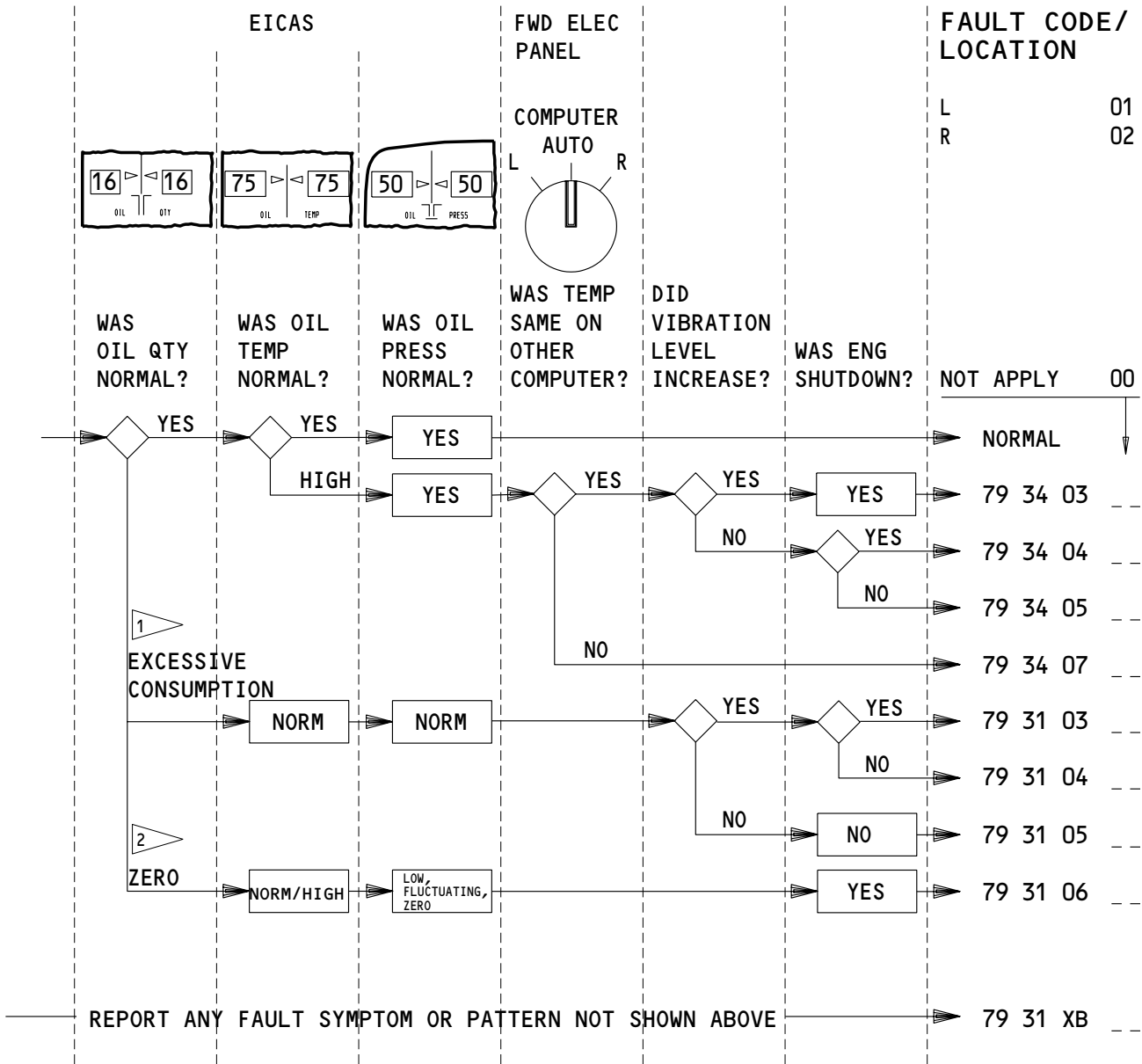
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R01

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Mar 20/95



- 1 OVER 2.2 PINTS (US) OR 1.05 LITERS PER HOUR OIL CONSUMPTION IS CAUSE FOR INVESTIGATION
- 2 IF START ABORTED UNDER COLD WEATHER CONDITIONS AND OIL QUANTITY IS REDUCED OR GOES TO ZERO AND LOW OIL PRESSURE IS INDICATED, DO NOT REPLENISH TANK. FURTHER STARTS MAY BE ATTEMPTED. IF START IS SUCCESSFUL INSURE INDICATORS RETURN TO NORMAL.

APPLICABLE CIRCUIT BREAKERS

NONE

OIL QUANTITY AND TEMPERATURE - FAULT CODES

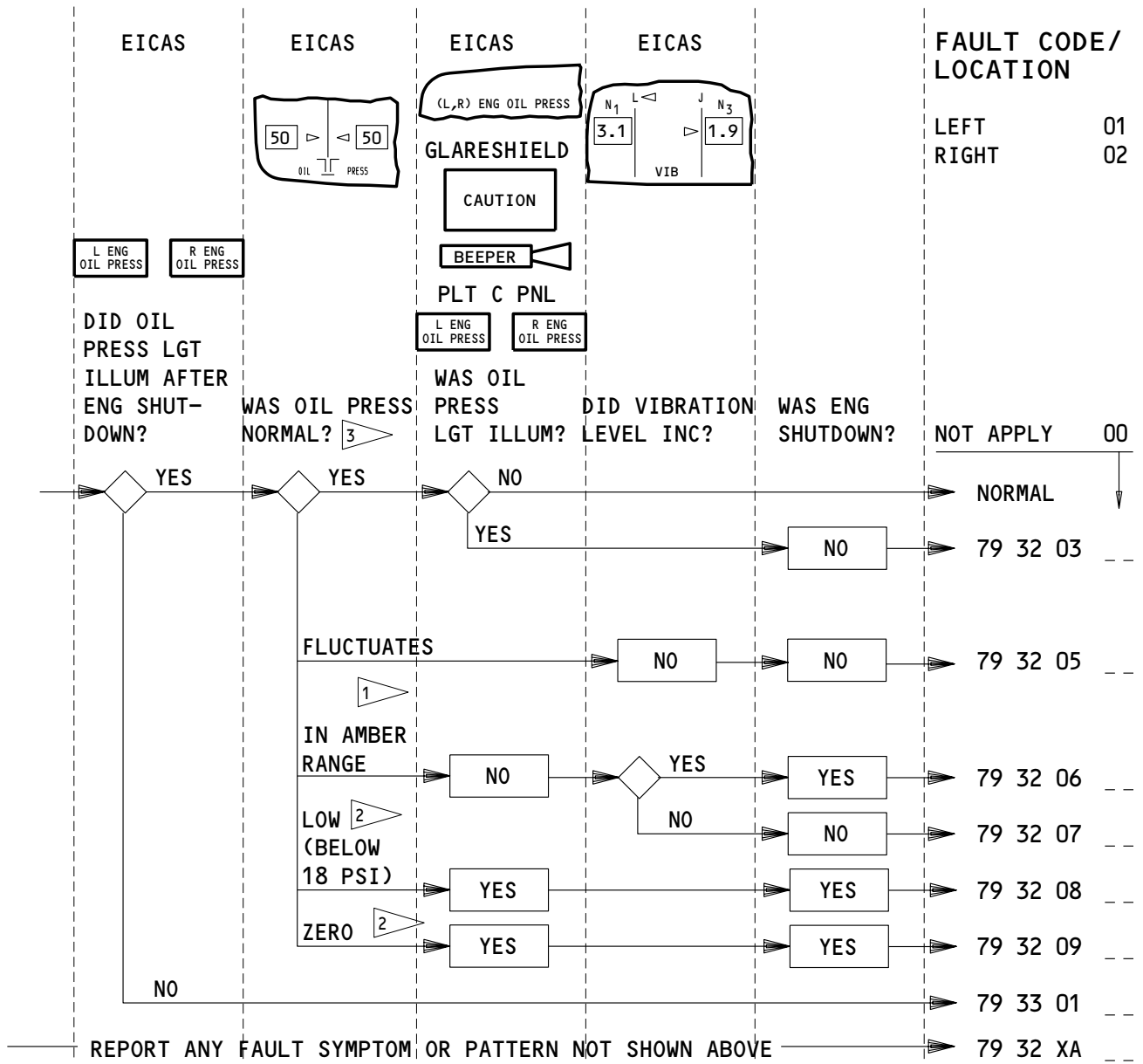
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R01

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Sep 28/06



- 1 LARGE REDUCTIONS IN ENGINE POWER TO BELOW 70% N3 MAY RESULT IN OIL PRESSURE BELOW 25 PSI TEMPORARILY. THIS REDUCTION IS ACCEPTABLE PROVIDING OIL PRESSURE DOES NOT GO BELOW 18 PSI AND RECOVERS TO AT LEAST 25 PSI WITHIN 5 MINUTES.
- 2 IF QUANTITY ZERO SEE "OIL QUANTITY AND TEMPERATURE" FAULT CODES. DURING ELECTRICAL POWER TRANSFER, OIL PRESSURE INDICATION MAY DROP MOMENTARILY.
- 3 REFER TO VARIABLE ENG OIL PRESS LIMITS (RB211-535) CHART.

APPLICABLE CIRCUIT BREAKERS

11K9	LEFT ENGINE OIL PRESS
11K35	RIGHT ENGINE OIL PRESS

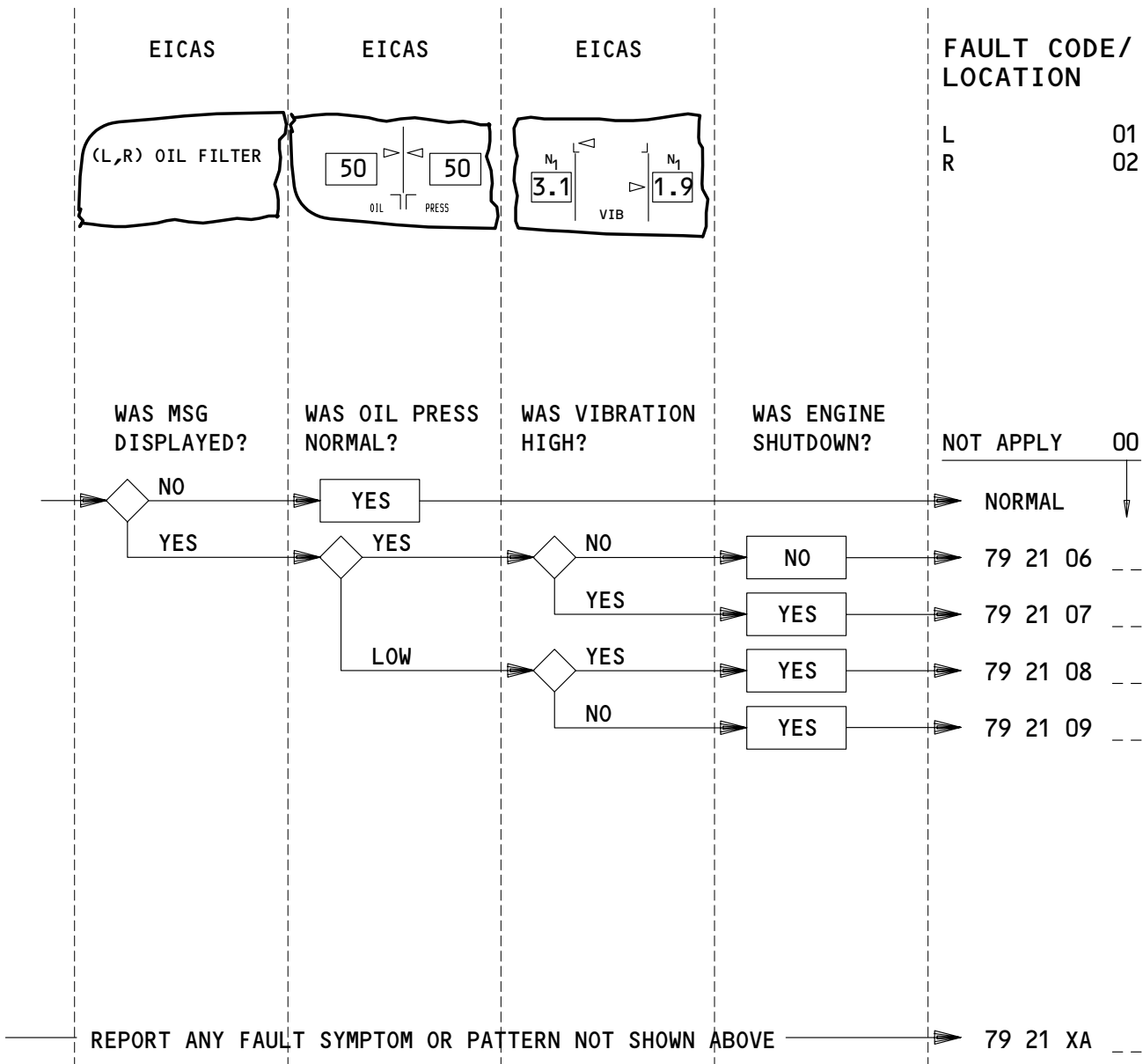
OIL PRESSURE - FAULT CODES

EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

196232



APPLICABLE CIRCUIT BREAKERS

11K9	LEFT ENGINE OIL PRESS
11K35	RIGHT ENGINE OIL PRESS

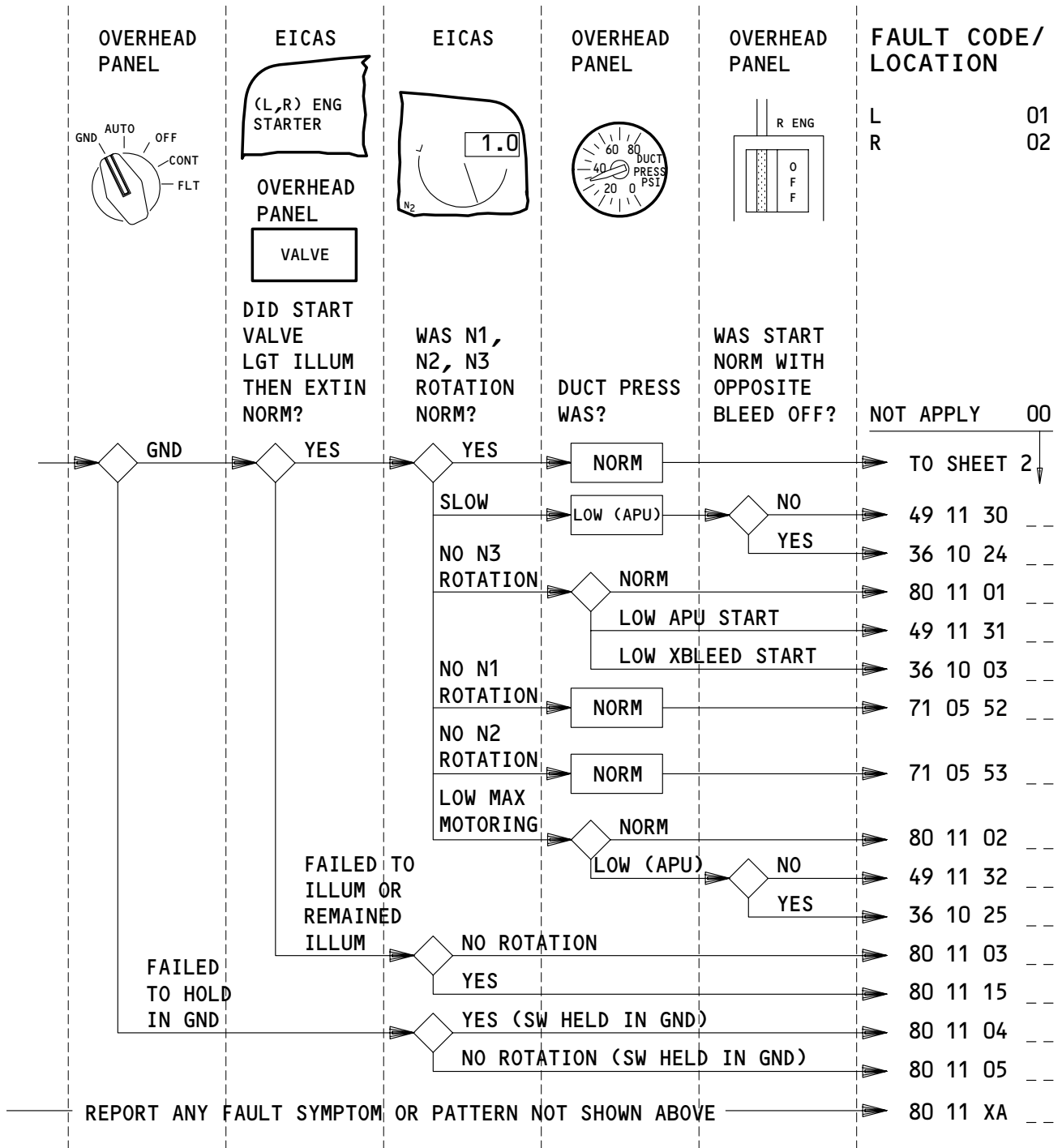
OIL FILTER BYPASS - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

R01

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Mar 20/95



APPLICABLE CIRCUIT BREAKERS

- | | | | |
|-------|------------------|-------|-------------|
| 11D19 | START CONT LEFT | 11Q10 | ENG BLD L |
| 11D20 | START CONT RIGHT | 11Q19 | R ENG BLEED |

STARTING (SHEET 1) - FAULT CODES

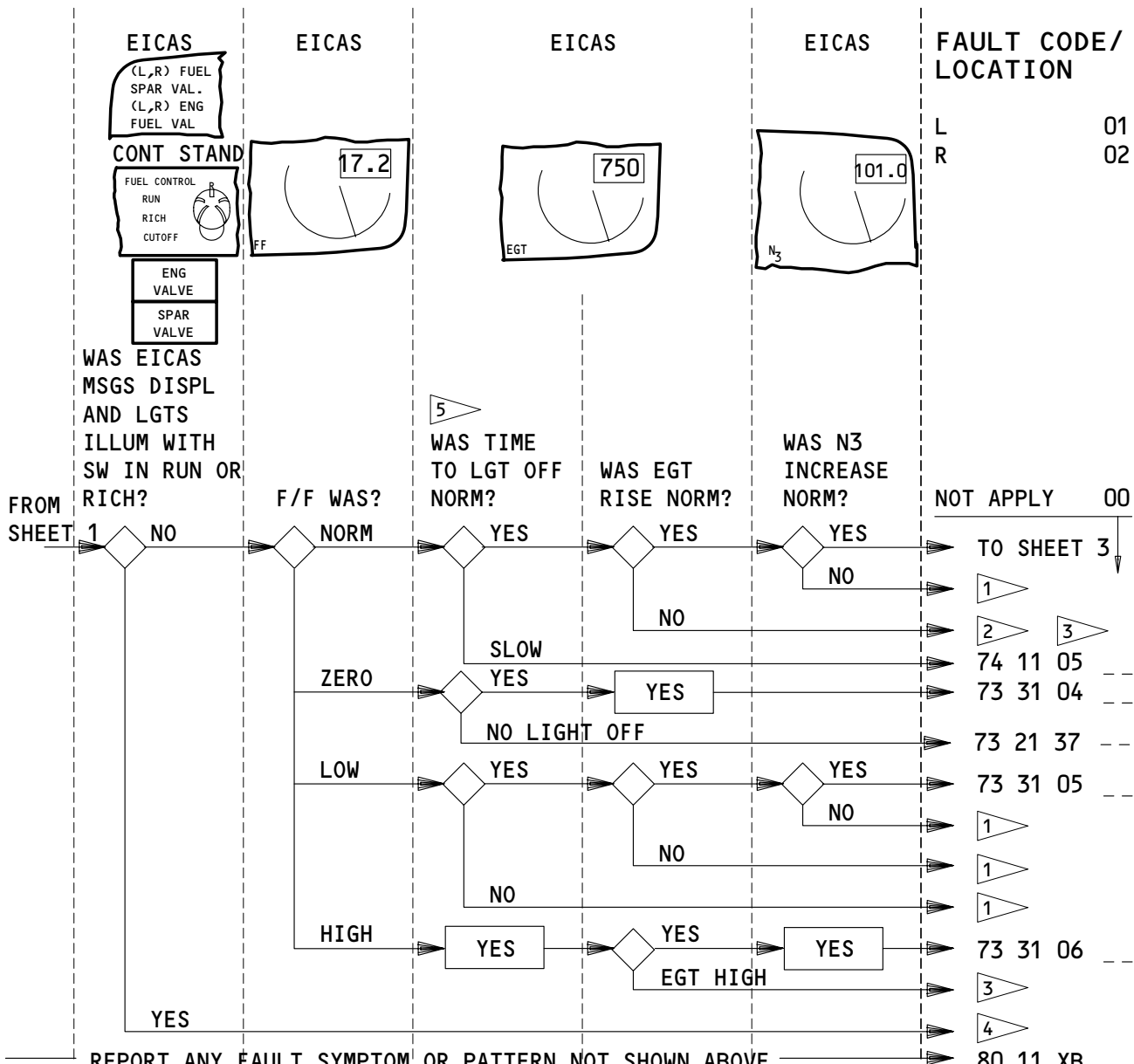
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R05

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- 1 SEE "SLOW ACCEL TO IDLE/HUNG START" FAULT CODES.
- 2 SEE "NO EGT RISE/WET START" FAULT CODES.
- 3 SEE "IMPENDING HOT START" OR "HOT START" FAULT CODES.
- 4 SEE "FUEL CONTROL SWITCH" FAULT CODES.
- 5 NORMAL TIME TO LIGHT OFF IS 10 SEC AFTER RUN/RICH SELECTED.

APPLICABLE CIRCUIT BREAKERS

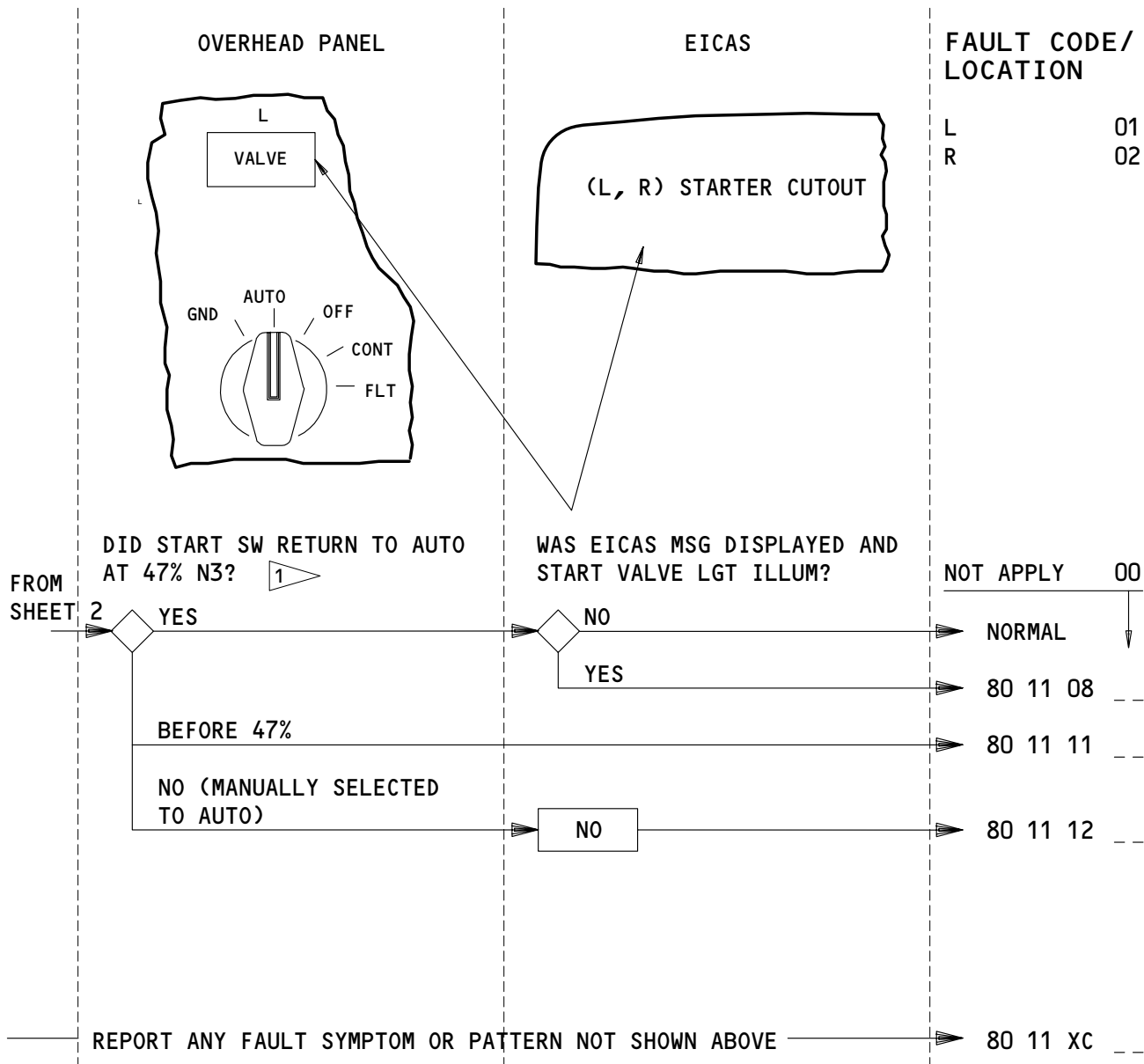
6C1	L FUEL COND CONT	11D7	STBY IGN L 1	11D19	START CONT L
6C2	R FUEL COND CONT	11D8	STBY IGN L 2	11D20	START CONT R
6E1	L SPAR FUEL VALVES	11D9	STBY IGN R 1	11L1	LEFT ENGINE IGN 1
6E2	R SPAR FUEL VALVES	11D10	STBY IGN R 2	11L28	RIGHT ENGINE IGN 1

STARTING (SHEET 2) - FAULT CODES

EFFECTIVITY
ALL

71-FAULT CODE DIAGRAM

187864



1 START SW SHOULD RETURN TO AUTO BY 50% N3

APPLICABLE CIRCUIT BREAKERS

- 11D19 START CONT LEFT
- 11D20 START CONT RIGHT

STARTING (SHEET 3) - FAULT CODES

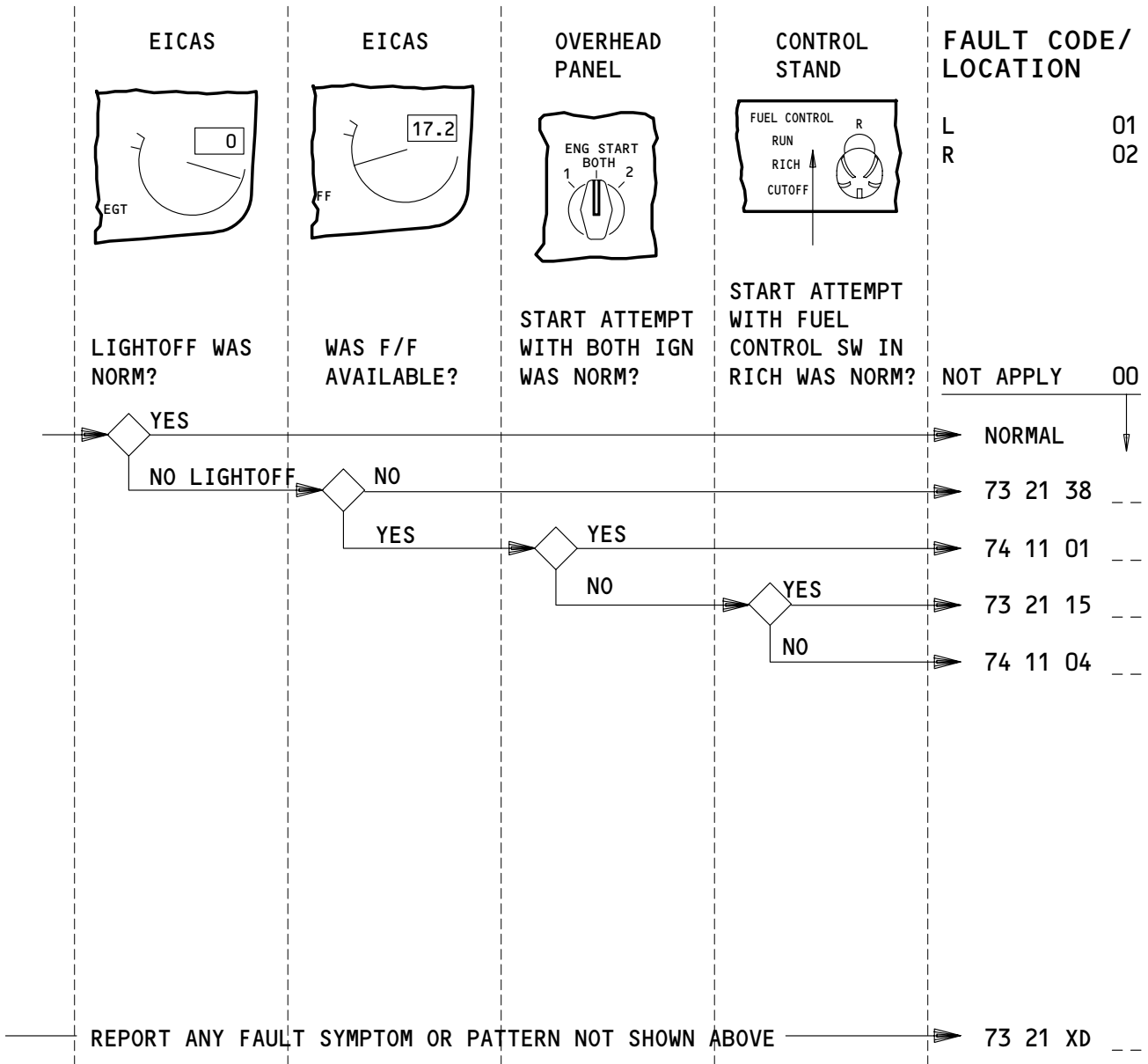
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R04

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Mar 20/95



APPLICABLE CIRCUIT BREAKERS

11D7	STBY IGNITION LEFT 1	11D10	STBY IGNITION RIGHT 2
11D8	STBY IGNITION LEFT 2	11L1	LEFT ENGINE IGN 1
11D9	STBY IGNITION RIGHT 1	11L28	RIGHT ENGINE IGN 1

NO EGT RISE/WET START - FAULT CODES

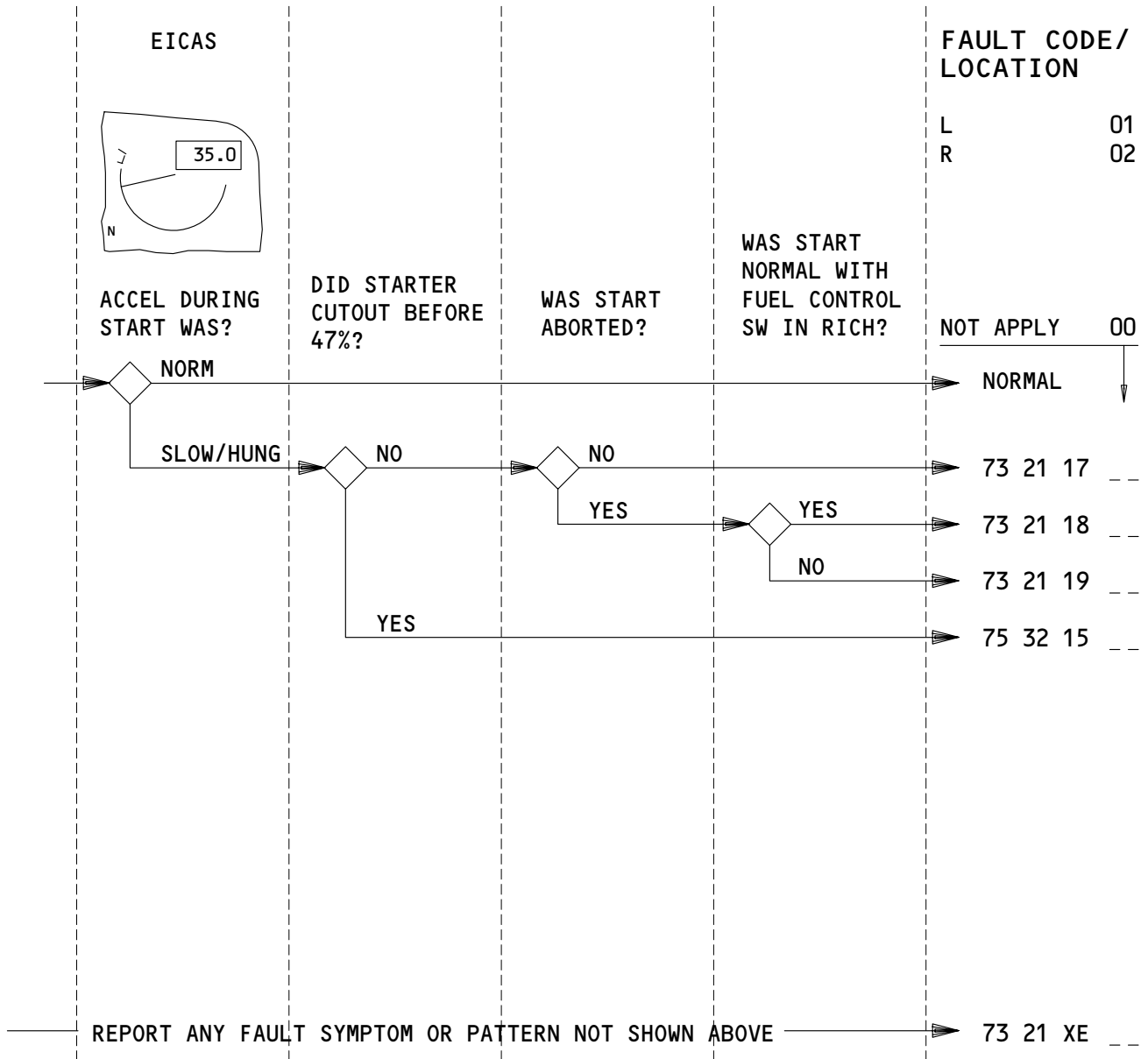
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R03

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Dec 20/87



APPLICABLE CIRCUIT BREAKERS

NONE

SLOW ACCEL TO IDLE/HUNG START - FAULT CODES

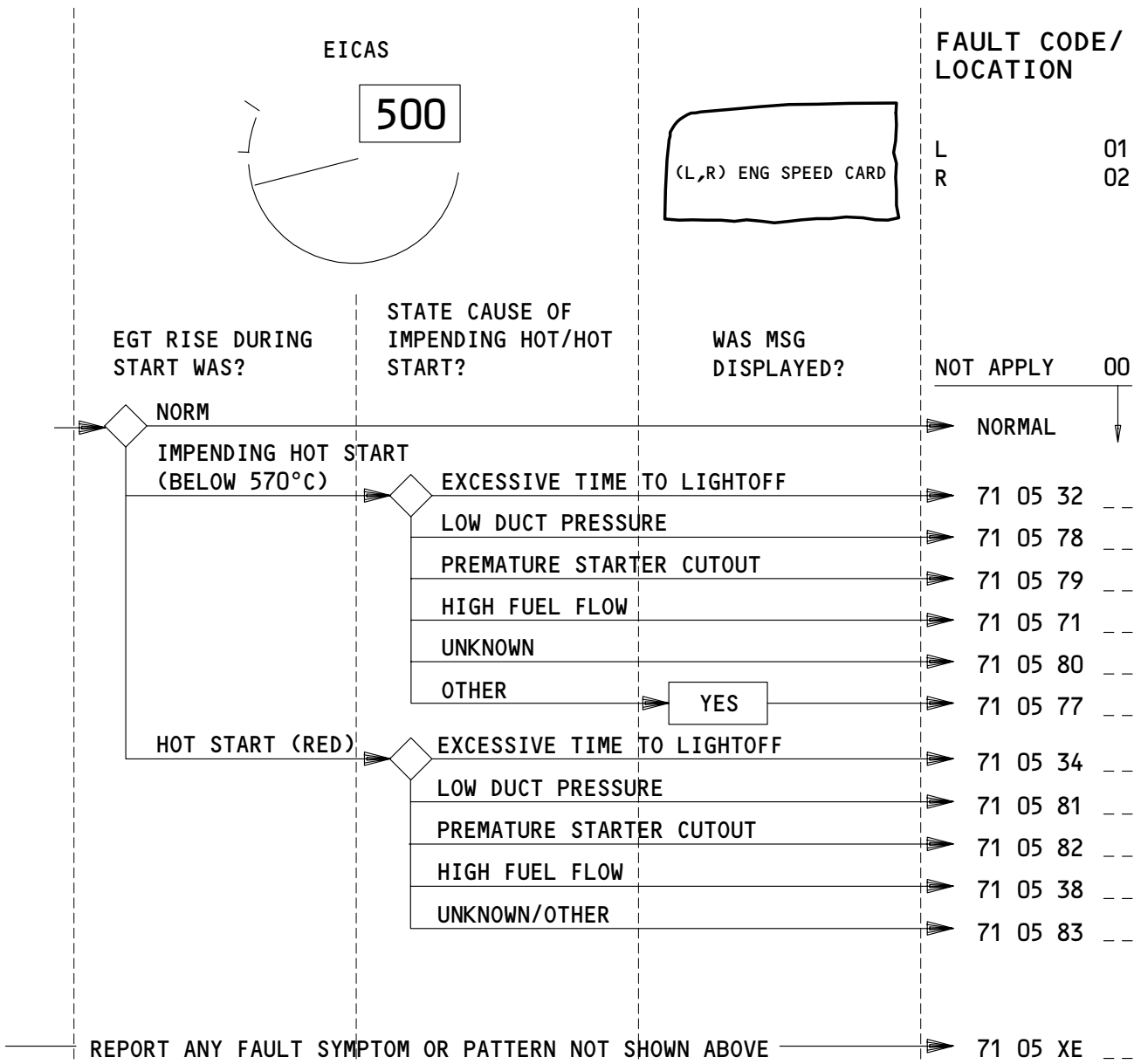
EFFECTIVITY

ALL

71-FAULT CODE DIAGRAM

R02

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Mar 20/89



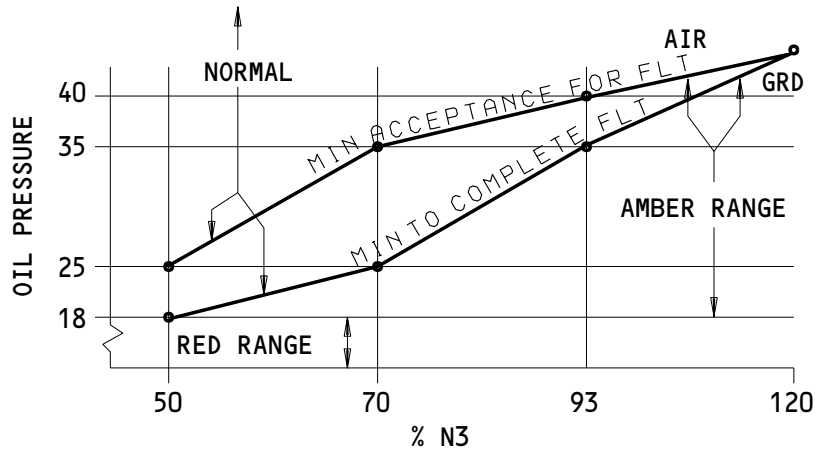
APPLICABLE CIRCUIT BREAKERS
NONE

IMPENDING HOT/HOT START - FAULT CODES

EFFECTIVITY
ALL

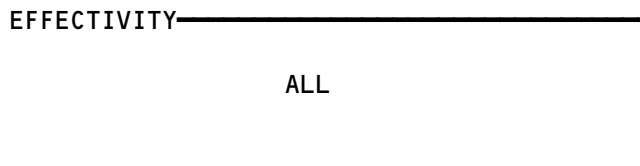
71-FAULT CODE DIAGRAM

54336

CHART 1
VARIABLE ENG OIL PRESS LIMITS (RB211-535)

CHART 2
EGT RISE FOR OPEN BLEED VALVE

RB211-535 E4				
ENG POWER	NAME OF VALVE	NO. OF VALVES OPEN		
		1	2	3
APPROX EGT RISE				
T.O., CLIMB	H.P.	41°	103°	164° ¹
	I.P.	27°	81°	148°
CRUISE M.80 35,000'	H.P.	34°	84°	133° ¹
	I.P.	25°	73°	133°

¹ 2 HP3 + 1 HP2 VALVE

ENGINE CHARTS

71-FAULT CODE DIAGRAM

CHECK 1

MIN/APPR IDLE RPM CHECK

PERFORM THIS CHECK IF MIN OR APPR IDLE RPM IS ABNORMAL. (CHECK IS PERFORMED ON THE GROUND).

CAUTION: ENGINE WILL ACCELERATE RAPIDLY TO APPR IDLE WHEN APPROPRIATE IDLE CONT CB 11L7 OR 11L33 IS PULLED. INSURE ADEQUATE BRAKING EXISTS AND THAT JET BLAST IS NO HAZARD TO PERSONNEL OR EQUIPMENT.

CLOSE ENGINE BLEED AIR VALVE AND NACELLE ANTI-ICE VALVE.

TO CHECK MIN IDLE N1 RPM
RECORD IDLE N1 RPM AND OAT/TAT.

TO CHECK APPR IDLE RPM
PULL APPROPRIATE IDLE CONT CB (11L7 OR 11L33). SEE CAUTION.
RECORD IDLE N1 RPM AND OAT/TAT.
RESET CB.

OPEN ENGINE BLEED AIR VALVE. OPEN NACELLE ANTI-ICE VALVE IF REQUIRED.

ENGINE CHECKS

EFFECTIVITY

ALL

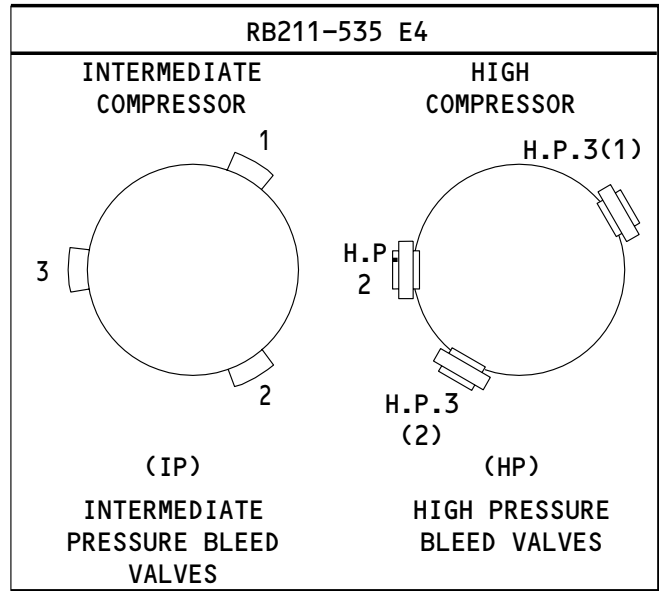
71-FAULT CODE DIAGRAM

R02

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Sep 28/01

CHECK 2

ENGINE SURGE BLEED VALVE CHECK (GROUND)



TO CHECK SURGE BLEED VALVE SCHEDULE, SLOWLY MOVE THRUST LEVER TOWARD CHART EPR. SUDDEN EPR AND EGT CHANGES INDICATE VALVES OPERATING. RECORD EPR AND AMOUNT OF EGT CHANGE. DIFFERENCES BETWEEN CHART EPR & EGT CHANGE TO ACTUAL CHANGES MAY INDICATE A MALFUNCTION.

RB211-535 E4			
ACTION	EPR	BLEED VALVES	~ EGT CHANGE
ADVANCE THRUST LEVERS TO CLOSE VALVES	1.08-1.15	HP VALVES CLOSE	DECREASE 10-20°C
	1.17-1.24	IP VALVES CLOSE	DECREASE 10-20°C
RETARD THRUST LEVERS TO OPEN VALVES	1.21-1.14	IP VALVES OPEN	INCREASE 10-20°C
	1.14-1.04	HP VALVES OPEN	INCREASE 10-20°C

ENGINE CHECKS

EFFECTIVITY _____
ALL

71-FAULT CODE DIAGRAM

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 XA --	A (01=L,02=R) bird strike problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-05-00/101, Fig. 105, Block 1
71 05 XB --	An (01=L,02=R) engine overlimits (not starting) problem was encountered by the flight crew which is not covered by the fault code diagrams.	Borescope engine (AMM 72-00-00).
71 05 XC --	A (01=L,02=R) flameout problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-05-00/101, Fig. 106, Block 1 FIM 71-05-00/101, Fig. 107, Block 1
71 05 XD --	A (01=L,02=R) vibration problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 XE --	An (01=L,02=R) impending hot start problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-05-00/101, Fig. 114, Block 4
71 05 XF --	An (01=L,02=R) impending hot start problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-05-00/101, Fig. 114, Block 1
71 05 XG --	A (01=L,02=R) reverse thrust limit problem was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 78-34-01
71 06 XA --	An (01=L,02=R) engine accel rate/auto decel problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-06-00/101, Fig. 101, Block 1

EFFECTIVITY

ALL

71-FAULT CODE INDEX

R01

 Page 1
 Sep 20/08

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 XB --	An (01=L,02=R) engine power fluctuation problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-06-00/101, Fig. 102, Block 1
71 06 XC --	A (01=L,02=R) problem where an engine had the same EPR with other parameters not equal was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 73-21-01
71 06 XD --	An (01=L,02=R) engine having a surge (stall) T.O. and constant power problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-06-00/101, Fig. 103, Block 1
71 06 XE --	An (01=L,02=R) engine having a surge (stall) accel, decel, cont msg symptoms problem was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 75-32-01
71 06 XF --	A (01=L,02=R) T.O./climb EPR unattainable problem was encountered by the flight crew which is not covered by the fault code diagrams.	FIM 71-06-00/101, Fig. 106, Block 1
71 06 XG --	A (01=L,02=R) reverse thrust EPR problem was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 73-21-04, SSM 73-21-05
71 05 01 --	(01=L,02=R) Engine had bird strike. Engine had nonrecoverable stall and was shut down.	FIM 71-05-00/101, Fig. 101, Block 1
71 05 02 --	(01=L,02=R) Engine had bird strike. Engine stalled momentarily, then recovered with normal operation.	FIM 71-05-00/101, Fig. 102, Block 1

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71-FAULT CODE INDEX

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 03 --	(01=L,02=R) Engine had bird strike. Engine stalled momentarily. Engine parameters abnormal after stall. Engine was shut down (record data).	FIM 71-05-00/101, Fig. 101, Block 1
71 05 04 --	(01=L,02=R) Engine had bird strike. Engine stalled momentarily. Engine parameters abnormal after stall. Engine was not shut down (record data).	FIM 71-05-00/101, Fig. 101, Block 1
71 05 05 --	(01=L,02=R) Engine had bird strike. Engine operation normal.	FIM 71-05-00/101, Fig. 103, Block 1
71 05 06 --	(01=L,02=R) Engine had bird strike. Engine parameters abnormal. Engine was shut down (record data).	FIM 71-05-00/101, Fig. 104, Block 1
71 05 07 --	(01=L,02=R) Engine had bird strike. Engine parameters abnormal. Engine was not shut down (record data).	FIM 71-05-00/101, Fig. 104, Block 1
71 05 08 00	Airplane had bird strike (state area).	FIM 71-05-00/101, Fig. 105, Block 2
71 05 09 --	Airplane had bird strike, area unknown.	FIM 71-05-00/101, Fig. 105, Block 1
71 05 15 --	(01=L,02=R) Engine EGT exceeded limits. Temp did not decrease when thrust lever retarded. Engine was shut down.	FIM 71-05-00/101, Fig. 116, Block 1
71 05 16 --	(01=L,02=R) Engine EGT exceeded limits with Engine Limiter Control (ELC) on. EGT returned to within limits when thrust reduced. Engine not shut down.	FIM 71-05-00/101, Fig. 116, Block 1
71 05 20 --	(01=L,02=R) Engine flameout or rundown below sub-idle power. Engine had normal restart.	FIM 71-05-00/101, Fig. 106, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 21 --	(01=L,02=R) Engine flameout or rundown below sub-idle power. Restart not attempted due to no N3 RPM.	FIM 71-05-00/101, Fig. 107
71 05 23 --	(01=L,02=R) Engine flameout or rundown below sub-idle power. Restart not attempted (note reason for no attempt).	FIM 71-05-00/101, Fig. 107, Block 1
71 05 24 --	(01=L,02=R) Engine flameout or rundown below sub-idle power. Restart unsuccessful due to no fuel flow.	FIM 71-05-00/101, Fig. 107, Block 11
71 05 25 --	(01=L,02=R) Engine flameout or rundown below sub-idle power. Restart unsuccessful due to low fuel flow.	FIM 71-05-00/101, Fig. 107, Block 11
71 05 32 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. Time to lightoff was ____ sec.	FIM 71-05-00/101, Fig. 112, Block 1
71 05 32 --	(01=L,02=R) Engine had hot hot start. Time to lightoff was ____ sec.	FIM 71-05-00/101, Fig. 114, Block 1
71 05 38 --	(01=L,02=R) Engine had hot start. F/F was high, ____ lb/hr (kg/hr).	FIM 71-05-00/101, Fig. 114
71 05 52 --	(01=L,02=R) Engine N1 failed to rotate during start attempt.	FIM 71-05-00/101, Fig. 109, Block 1
71 05 53 --	(01=L,02=R) Engine N2 failed to rotate during start attempt.	FIM 71-05-00/101, Fig. 110, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 58 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration higher than normal, reads _____. Engine had surge, indications followed thrust lever movements, indications abnormal, high oil temp, low oil pressure, oil filter msg, airplane/thrust lever vibration. Engine was not shut down.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 59 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration higher than normal, reads _____. Engine had surge, indications followed thrust lever movements, indications abnormal, high oil temp, low oil pressure, oil filter msg, airplane/thrust lever vibration. Engine was shut down.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 65 --	(01=L,02=R) Engine N1 RPM went to overspeed with ELC on.	FIM 71-05-00/101, Fig. 115, Block 1
71 05 66 --	(01=L,02=R) Engine N2 RPM went to overspeed.	FIM 71-05-00/101, Fig. 115, Block 1
71 05 67 --	(01=L,02=R) Engine N3 RPM went to overspeed.	FIM 71-05-00/101, Fig. 115, Block 1
71 05 71 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. Fuel flow was high, ____ lbs/kgs/hr.	FIM 71-05-00/101, Fig. 113, Block 1
71 05 73 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration high, reads _____. Engine had engine surge, oil filter msg, abnormal indication, high oil temp, low oil pressure, airplane/thrust lever vibration, etc. Vibration returned below 2.5 with thrust lever retarded.	FIM 71-05-00/101, Fig. 108, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 74 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration high, reads _____. Engine indications normal. Vibration returned below 2.5 with thrust lever retarded. Engine was not shut down.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 75 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration high, reads _____. Engine indications normal. Vibration remained above 2.5 with thrust lever retarded to idle. Engine was shut down.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 76 --	(03=L N1,04=L N2,05=L N3,06=R N1,07=R N2,08=R N3) Engine vibration high, reads _____. Engine had engine surge, oil filter msg, abnormal indication, high oil temp, low oil pressure, airplane/thrust lever vibration, etc. Vibration remained above 2.5 with thrust retarded to idle. Engine was shut down.	FIM 71-05-00/101, Fig. 108, Block 1
71 05 77 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. (L,R) ENG SPEED CARD EICAS msg displayed.	FIM 77-12-00/101, Fig. 103, Block 1
71 05 78 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. Duct pressure was low, ____ psi during start.	FIM 71-05-00/101, Fig. 114, Block 1
71 05 79 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. Starter cutout early, at ____% N3.	FIM 71-05-00/101, Fig. 114, Block 8
71 05 80 --	(01=L,02=R) Engine had impending hot start. EGT peaked below 570°C. Impending hot start cause, unknown.	FIM 71-05-00/101, Fig. 114, Block 4

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 05 81 --	(01=L,02=R) Engine had hot start. Duct press was low, ____ psi during start.	FIM 71-05-00/101, Fig. 114, Block 1
71 05 82 --	(01=L,02=R) Engine had hot start. Starter cutout early, at ____% N3.	FIM 71-05-00/101, Fig. 114, Block 1
71 05 83 --	(01=L,02=R) Engine had hot start. Hot start cause, state cause/unknown.	FIM 71-05-00/101, Fig. 114, Block 1
71 06 01 --	(01=L,02=R) Engine had auto decel with no thrust lever movement. Engine operation normal with EEC off.	FIM 71-06-00/101, Fig. 108, Block 1
71 06 02 --	(01=L,02=R) Engine was slow to accel during takeoff or in flight. Acceleration rate was normal with engine bleedoff.	FIM 71-06-00/101, Fig. 101, Block 2
71 06 03 --	(01=L,02=R) Engine was slow to accel during takeoff or in flight. Acceleration still slow with engine bleedoff.	FIM 71-06-00/101, Fig. 101, Block 2
71 06 04 --	(01=L,02=R) Engine would not accel.	FIM 71-06-00/101, Fig. 101A, Block 1
71 06 06 --	(01=L,02=R) Engine power fluctuates. Engine still unstable with EEC off. Duct pressure not cycling between low and hi stage.	FIM 71-06-00/101, Fig. 102, Block 1
71 06 12 --	EICAS MSG (01=L,02=R) ENG SURGE CONT displayed.	FIM 75-32-00/101, Fig. 106, Block 1
71 06 13 --	(01=L,02=R) Engine surged during T.O. Engine operation normal after surge.	FIM 71-06-00/101, Fig. 103, Block 1
71 06 14 --	(01=L,02=R) Engine surged during T.O. Engine operation abnormal. Engine was not shut down (give abnormal indication).	FIM 71-06-00/101, Fig. 103, Block 1

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R06

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 15 --	(01=L,02=R) Engine surged during T.O. Engine shutdown.	FIM 71-06-00/101, Fig. 103, Block 1
71 06 16 --	(01=L,02=R) Engine surged during constant power at _____ feet. Engine operation normal after surge.	FIM 71-06-00/101, Fig. 104, Block 1
71 06 17 --	(01=L,02=R) Engine surged during constant power at _____ feet. Engine operation abnormal. Engine was not shut down (give abnormal ind).	FIM 71-06-00/101, Fig. 104A, Block 1
71 06 18 --	(01=L,02=R) Engine surged during constant power at _____ feet. Engine shutdown. Windmilling RPM was normal.	FIM 71-06-00/101, Fig. 104A, Block 1
71 06 19 --	(01=L,02=R) Engine surged during constant power at _____ feet. Engine shutdown. Windmilling RPM was abnormal (give normal vs windmilling RPM).	FIM 71-06-00/101, Fig. 104A, Block 1
71 06 21 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (above 17,500 feet). Engine operation normal after surge.	FIM 71-06-00/101, Fig. 105, Block 1
71 06 22 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (below 17,500 feet). Engine operation normal after surge.	FIM 71-06-00/101, Fig. 105A, Block 1
71 06 23 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (above 17,500 feet). Engine operation abnormal after surge. Engine was not shut down (give abnormal indications).	FIM 71-06-00/101, Fig. 105, Block 1
71 06 24 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (below 17,500 feet). Engine operation abnormal after surge. Engine was not shut down (give abnormal indications).	FIM 71-06-00/101, Fig. 105A, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 25 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (above 17,500 ft). Engine shutdown. Engine windmilling rpm was normal.	FIM 71-06-00/101, Fig. 105, Block 1
71 06 26 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (above 17,500 feet). Engine shutdown. Engine windmilling rpm not normal (give normal vs windmilling rpm).	FIM 71-06-00/101, Fig. 105, Block 1
71 06 27 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (below 17,500 feet). Engine shutdown. Engine windmilling rpm not normal.	FIM 71-06-00/101, Fig. 105A, Block 1
71 06 28 --	(01=L,02=R) Engine surged during (accel, decel) at _____ feet (below 17,500 feet). Engine shutdown. Engine windmilling rpm not normal (give normal vs windmilling rpm).	FIM 71-06-00/101, Fig. 105A, Block 1
71 06 40 --	(01=L,02=R) Engine would not attain max rev (EPR/N1). _____ N1 was reached. Thrust lever movement was normal.	Perform Power Plant Test No. 15 (AMM 71-00-00). If unable to adjust within limits, replace fuel flow governor (AMM 73-21-01).
71 06 41 --	(01=L,02=R) Engine exceeded MAX REV (N1). _____ N1 was reached.	Perform Power Plant Test No. 15 (AMM 71-00-00). If unable to adjust within limits, replace fuel flow governor (AMM 73-21-01).
71 06 42 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise).	FIM 71-06-00/101, Fig. 104, Block 2
71 06 53 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Surge bleed valve check was normal.	FIM 71-06-00/101, Fig. 104, Block 2

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 54 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Surge bleed valve check shows no EGT change between 1.10-1.12 EPR.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 55 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Surge bleed valve check shows less than 60° EGT changed between 1.10-1.12 EPR.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 56 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Surge bleed valve check shows no EGT change between 1.17-1.20 EPR.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 57 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Surge bleed valve check less than 18° EGT change between 1.17-1.20 EPR.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 58 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Check indicates IP valve(s) open.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 59 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Check indicates HP valve(s) open.	FIM 71-06-00/101, Fig. 104, Block 2
71 06 60 --	(01=L,02=R) Engine F/F and EGT is _____°C higher than other eng at same EPR during (T.O., climb, cruise). Unable to determine faulty valve.	FIM 71-06-00/101, Fig. 104, Block 2

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 61 --	(01=L,02=R) Engine would not reach T.O. EPR with thrust lever full fwd and Engine Limiter ON. T.O. power available with Engine Limiter OFF.	FIM 71-06-00/101, Fig. 106, Block 11
71 06 62 --	(01=L,02=R) Engine would not reach T.O. EPR with thrust lever full fwd and EEC or Engine Limiter ON or OFF. Engine parameters were normal for low EPR.	FIM 71-06-00/101, Fig. 106, Block 1
71 06 63 --	(01=L,02=R) Engine would not reach T.O. EPR with thrust lever full fwd and EEC ON. T.O. power available with EEC OFF.	FIM 71-06-00/101, Fig. 106, Block 11
71 06 64 --	(01=L,02=R) Engine would not reach T.O. EPR with EEC and Engine Limiter ON. Engine parameters normal for low EPR. T.O. with EEC and Engine Limiter OFF not checked.	FIM 71-06-00/101, Fig. 106, Block 1
71 06 65 --	(01=L,02=R) Engine was slow to accel during T.O. Acceleration rate was normal with eng bleed off.	FIM 71-06-00/101, Fig. 107, Block 3
71 06 66 --	(01=L,02=R) Engine was slow to accel during T.O. Acceleration still slow with eng bleed off. Minimum idle rpm not checked.	FIM 71-06-00/101, Fig. 107, Block 1
71 06 67 --	(01=L,02=R) Engine was slow to accel during T.O. Acceleration still slow with eng bleed off. Minimum idle rpm is low ____%N1.	FIM 71-06-00/101, Fig. 107, Block 1
71 06 68 --	(01=L,02=R) Engine was slow to accel during T.O. Acceleration still slow with eng bleed off. Minimum idle rpm is normal.	FIM 71-06-00/101, Fig. 106, Block 1
71 06 69 --	EICAS msg (01=L,02=R) ENG SURGE CONT displayed. Engine parameters normal.	FIM 75-32-00/101, Fig. 106, Block 1

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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
71 06 71 --	(01=L,02=R) Engine EGT is ____°C higher than other eng at same EPR during all power settings. EICAS msg (L,R) ENG SURGE CONT was displayed.	FIM 75-32-00/101, Fig. 106, Block 1
71 06 72 --	(01=L,02=R) Engine rev idle N1 higher than other eng (record N1 both engines).	Perform Power Plant Test No. 15 (AMM 71-00-00). If unable to adjust within limits, replace fuel flow governor (AMM 73-21-01).

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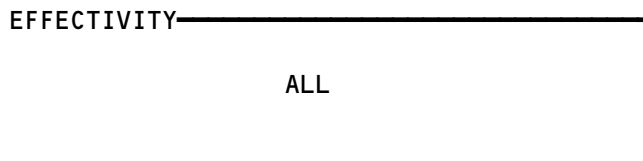
BITE Index

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.

<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
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

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Figure 1 (Sheet 1)



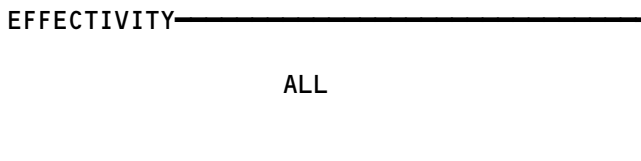
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<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
Engine Turbine Cooling Overheat Detection System (RR Engines)		26-13
Enhanced Ground Proximity Warning Computer	EGPWC	34-46
Flap/Slat Accessory Module	FSAM	27-51
Flap/Slat Electronic Unit	FSEU	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

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Figure 1 (Sheet 2)



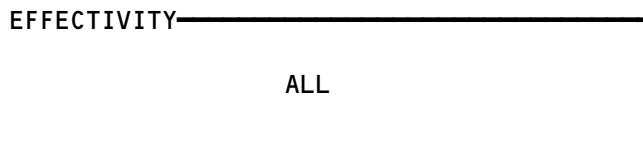
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<u>LRU/System Name</u>	<u>Acronym</u>	<u>FIM Reference</u>
Thrust Management Computer/Autothrottle	TMC	22-00
Traffic Alert and Collision Avoidance Computer	TCAS	34-45
VHF (Very High Frequency) Communication		23-12
VOR/Marker Beacon Receiver	VOR/MKR	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

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Figure 1 (Sheet 3)



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POWER PLANT (NONPOWER RELATED) - FAULT ISOLATION

1. General

- A. This section contains nonpower related Power Plant fault isolation procedures. For power related Power Plant fault isolation procedures, refer to 71-06-00.

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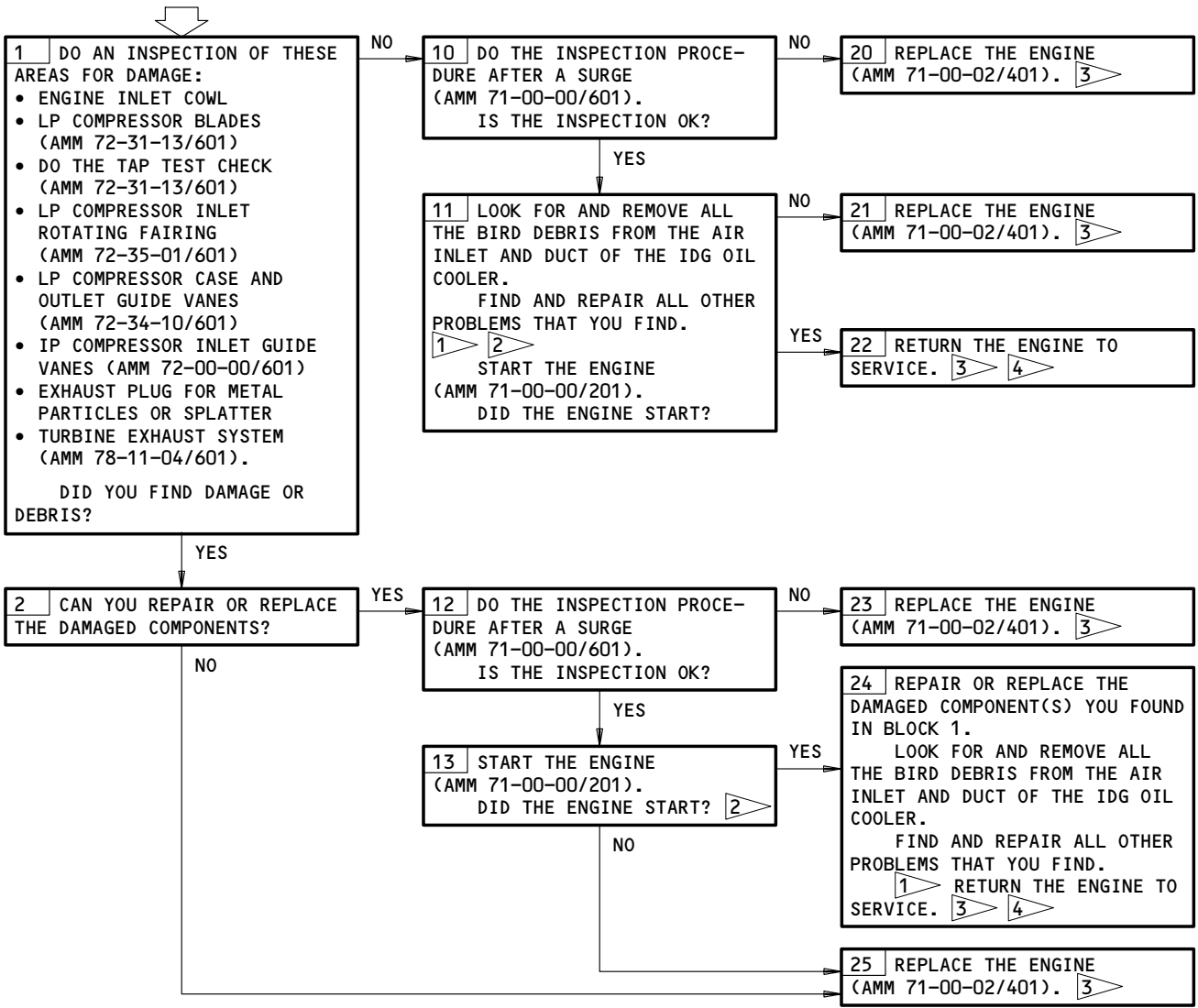
71-05-00

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BIRDSTRIKE WITH SURGE AND ABNORMAL ENGINE INDICATIONS

PREREQUISITES
NONE



- 1 YOU CAN IGNORE ALL OTHER ENGINE PARAMETER MALFUNCTIONS FROM THE RECORD IN THE EICAS IF THESE CONDITIONS OCCUR:
1. THE MALFUNCTIONS ONLY OCCURRED MOMENTARILY
2. THE ENGINE PARAMETERS WERE NORMAL IMMEDIATELY AFTER THE BIRDSTRIKE.
- 2 YOU CAN RUN THE ENGINE WITH BENT LP COMPRESSOR BLADES IF THE ENGINE TURNS FREELY AND THE GROUND IDLE IS NOT HIGHER THAN THE LIMITS. A HOT START AFTER A BIRDSTRIKE IS A SIGN OF DAMAGE TO THE STAGE 1 HP COMPRESSOR.
- 3 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIG. 111).
- 4 ERASE THE TPU FAULT CODES IF YOU FIND THE FAULT CODE 40 (AMM 75-32-15/201).

Birdstrike with Surge and Abnormal Engine Indications
Figure 101

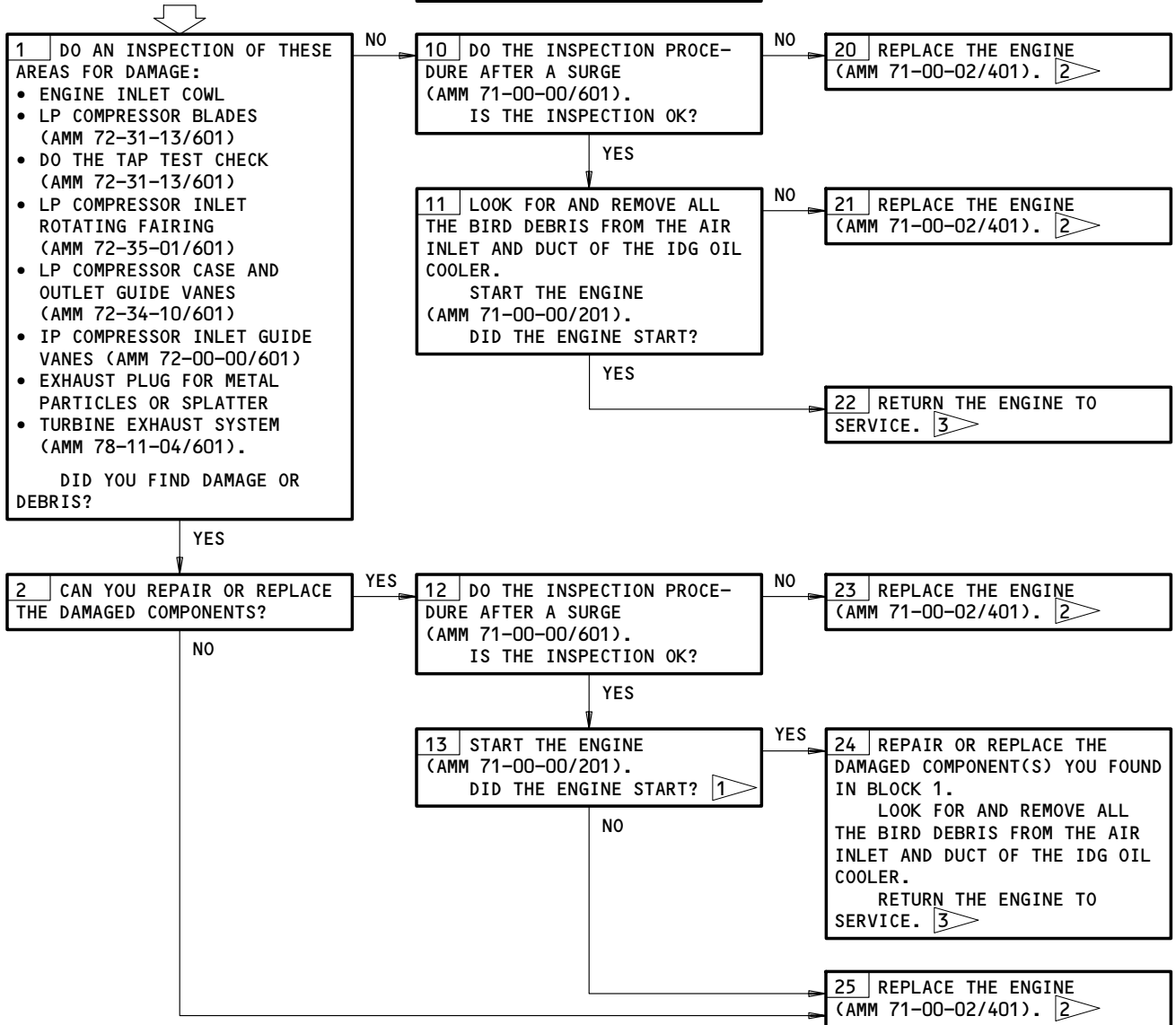
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71-05-00

187533

BIRDSTRIKE WITH SURGE, THEN RECOVER

PREREQUISITES
NONE



- 1 YOU CAN RUN THE ENGINE WITH BENT LP COMPRESSOR BLADES IF THE ENGINE TURNS FREELY AND THE GROUND IDLE IS NOT HIGHER THAN THE LIMITS. A HOT START AFTER A BIRDSTRIKE IS A SIGN OF DAMAGE TO THE STAGE 1 HP COMPRESSOR.
- 2 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIG. 111).
- 3 ERASE THE TPU FAULT CODES IF YOU FIND THE FAULT CODE 40 (AMM 75-32-15/201).

Birdstrike with Surge, then Recover
Figure 102

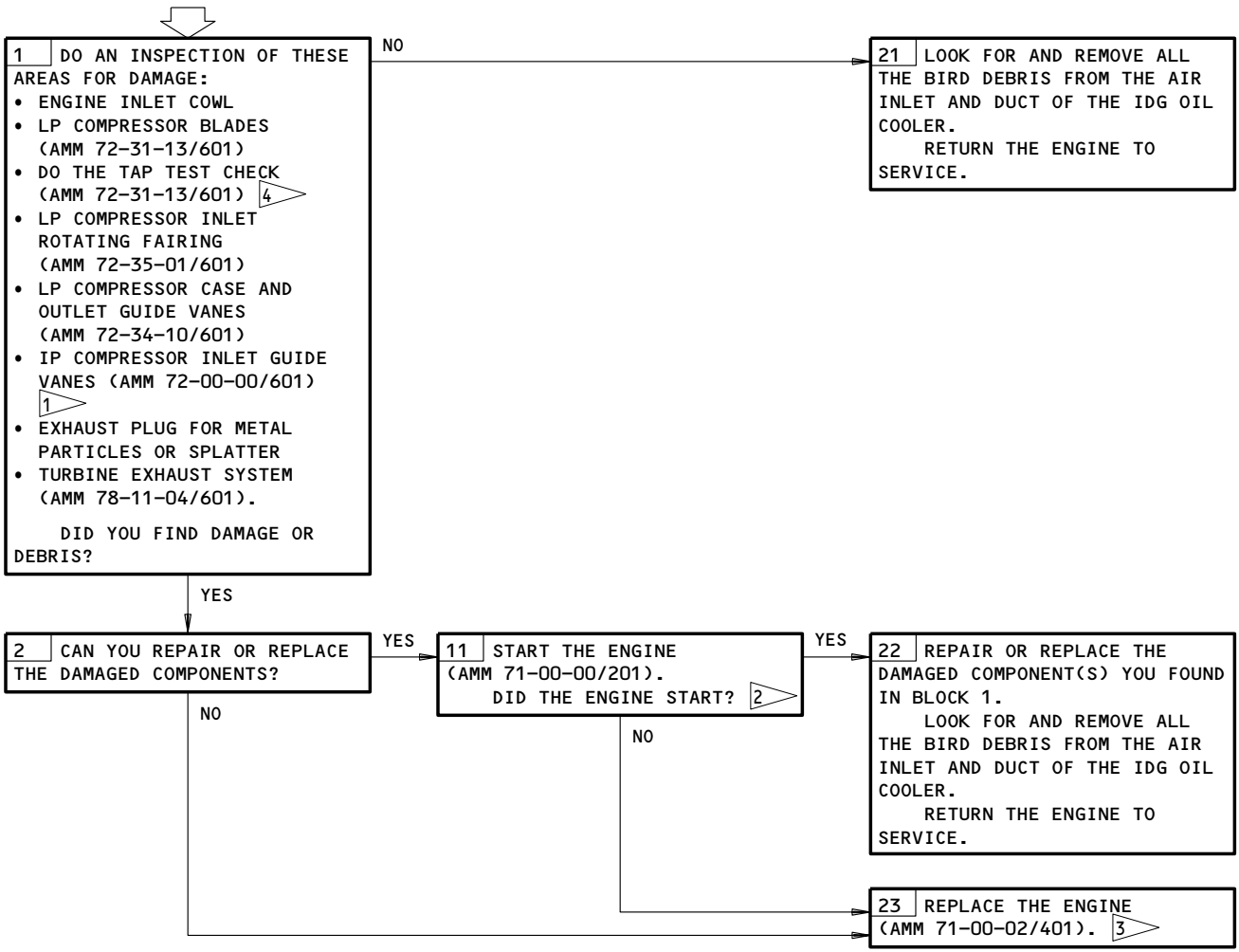
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71-05-00

187534

BIRDSTRIKE WITHOUT SURGE, ENGINE INDICATIONS NORMAL

PREREQUISITES
NONE



- 1 WHEN YOU DO THE INSPECTION OF THE INLET GUIDE VANES OF THE IP COMPRESSOR, IF YOU SEE OR THINK THAT DEBRIS HAVE GONE THROUGH THE GAS GENERATOR, DO AN INSPECTION OF THE STAGE 1 ROTOR BLADES OF THE IP AND HP COMPRESSOR (AMM 72-00-00/601). IF THE DAMAGE IS NOT MORE THAN THE INSPECTION LIMITS, DO AN INSPECTION OF THE METER PANEL OF THE COMBUSTION CHAMBER FOR BOWING AND/OR DISTORTION (AMM 72-00-00/601). ONE SIGN THAT A BIRDSTRIKE IN THE GAS GENERATOR HAS OCCURRED IS AN UNUSUAL ODOR IN THE CABIN.
- 2 YOU CAN RUN THE ENGINE WITH BENT LP COMPRESSOR BLADES IF THE ENGINE TURNS FREELY AND THE GROUND IDLE IS NOT HIGHER THAN THE LIMITS. A HOT START AFTER A BIRDSTRIKE IS A SIGN OF DAMAGE TO THE STAGE 1 HP COMPRESSOR.
- 3 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIG. 111).
- 4 UP TO 5 MORE FLIGHTS ARE PERMISSIBLE BEFORE TAP TEST CHECK MUST BE DONE.

Birdstrike without Surge, Engine Indications Normal
Figure 103

EFFECTIVITY

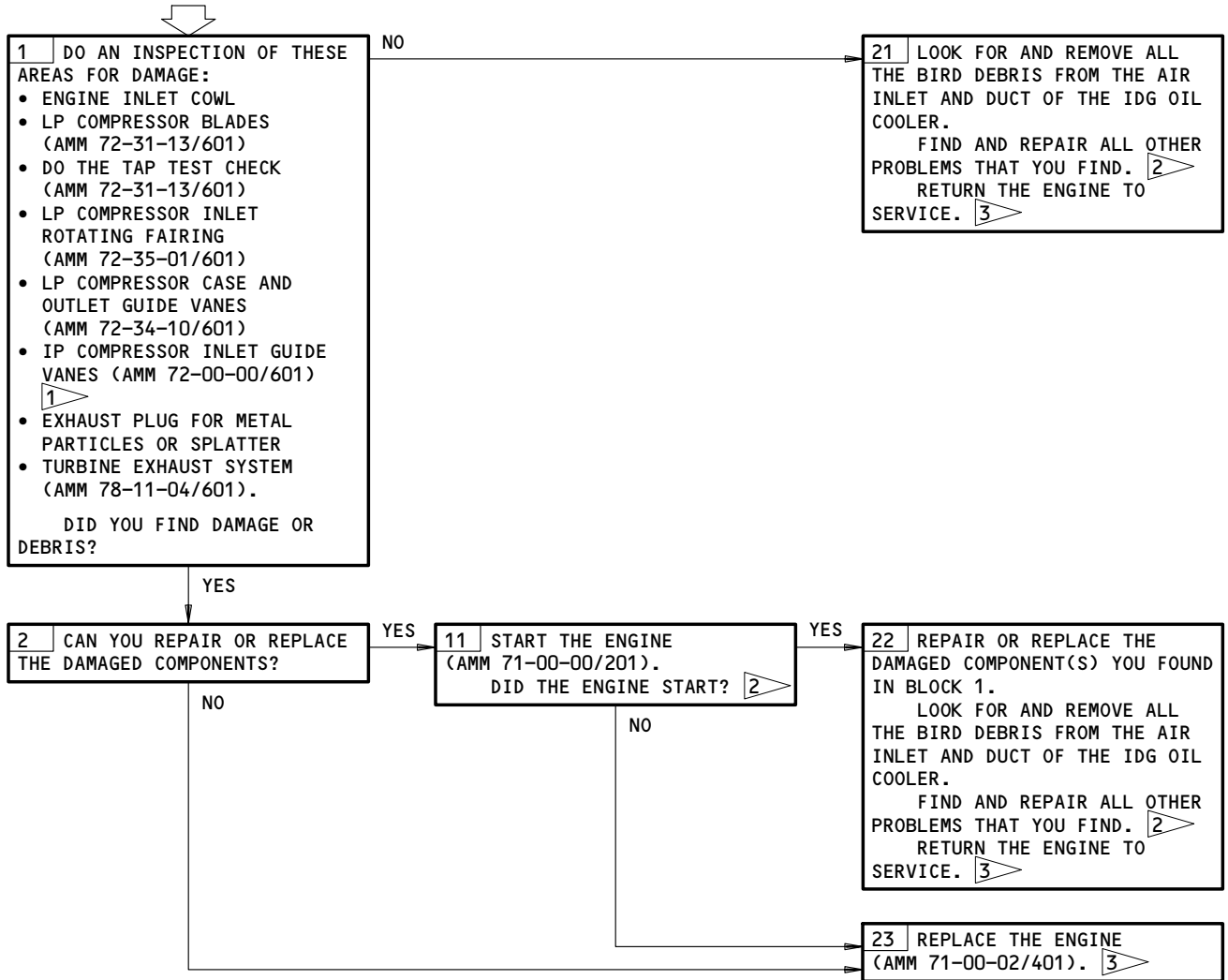
ALL

71-05-00

B13484

BIRDSTRIKE WITHOUT SURGE, ENGINE INDICATIONS ABNORMAL

PREREQUISITES
NONE



- 1 WHEN YOU DO THE INSPECTION OF THE INLET GUIDE VANES OF THE IP COMPRESSOR, IF YOU SEE OR THINK THAT DEBRIS HAVE GONE THROUGH THE GAS GENERATOR, DO AN INSPECTION OF THE STAGE 1 ROTOR BLADES OF THE IP AND HP COMPRESSOR (AMM 72-00-00/601). IF THE DAMAGE IS NOT MORE THAN THE INSPECTION LIMITS, DO AN INSPECTION OF THE METER PANEL OF THE COMBUSTION CHAMBER FOR BOWING AND/OR DISTORTION (AMM 72-00-00/601). ONE SIGN THAT A BIRDSTRIKE IN THE GAS GENERATOR HAS OCCURRED IS AN UNUSUAL ODOR IN THE CABIN.
- 2 YOU CAN RUN THE ENGINE WITH BENT LP COMPRESSOR BLADES IF THE ENGINE TURNS FREELY AND THE GROUND IDLE IS NOT HIGHER THAN THE LIMITS. A HOT START AFTER A BIRDSTRIKE IS A SIGN OF DAMAGE TO THE STAGE 1 HP COMPRESSOR.
- 3 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (FIG. 111).

Birdstrike without Surge, Engine Indications Abnormal
Figure 104

EFFECTIVITY	ALL
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71-05-00

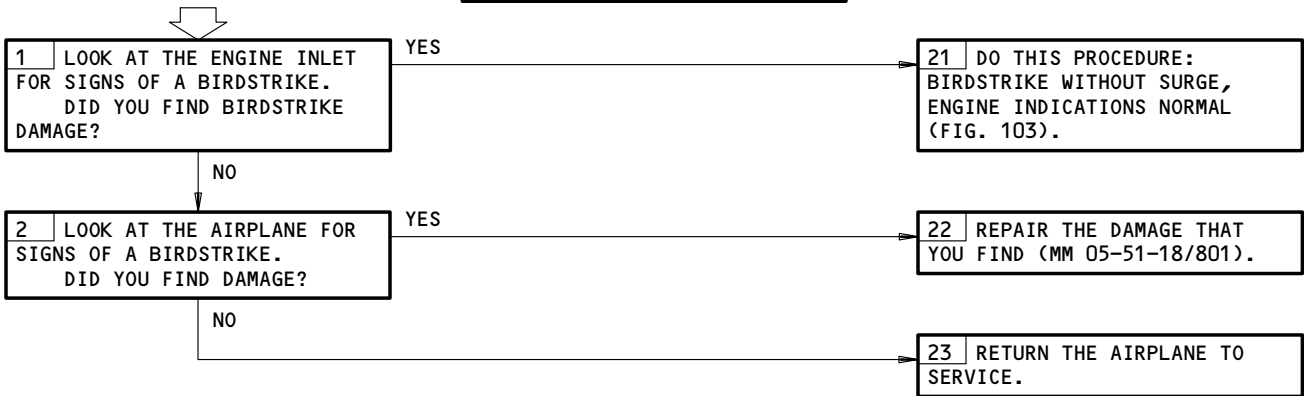
R01

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B13738

BIRDSTRIKE ON AIRPLANE

PREREQUISITES
NONE



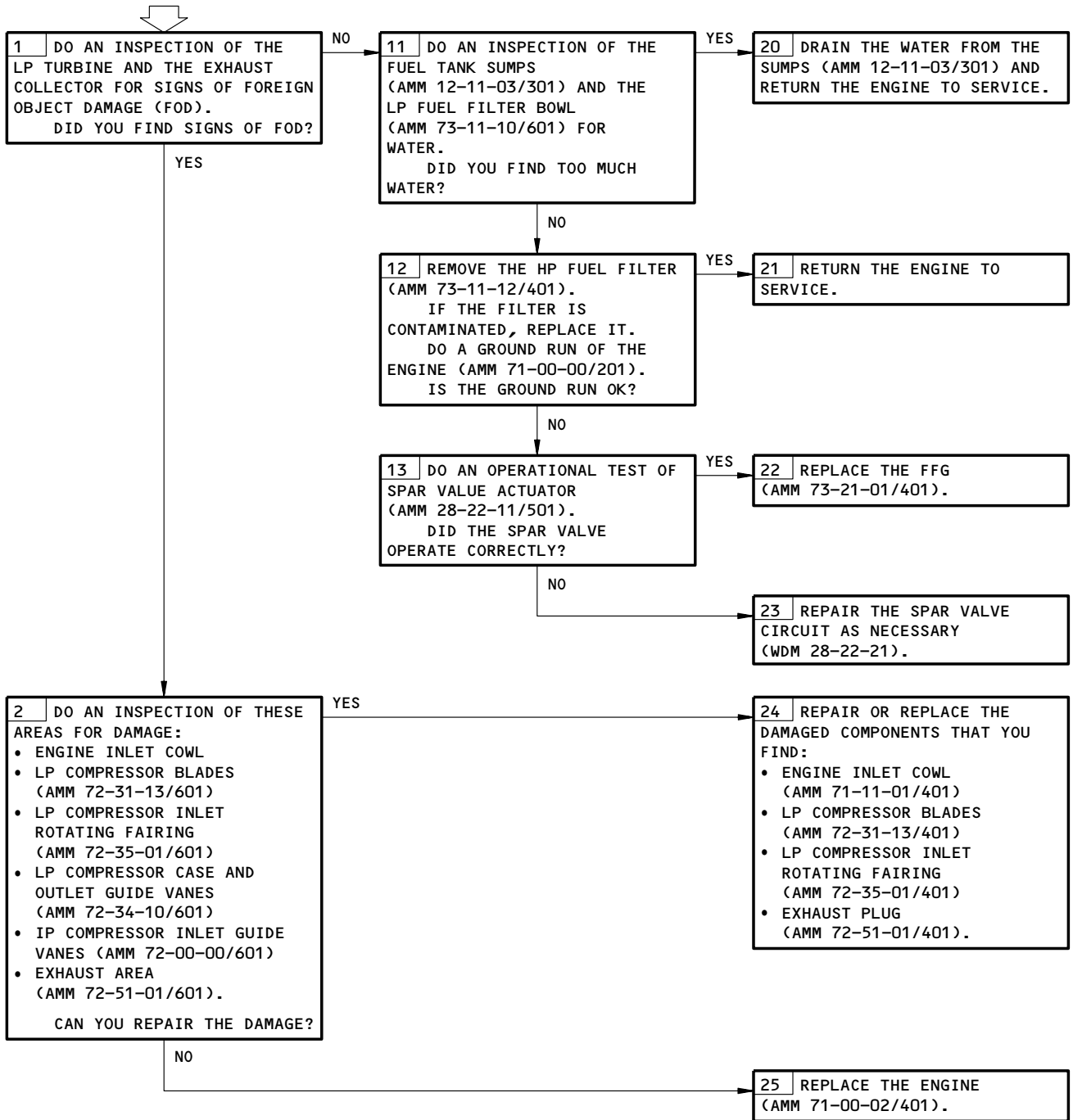
Birdstrike on Airplane
Figure 105

EFFECTIVITY	ALL
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71-05-00

ENGINE FLAMEOUT WITH RESTART

PREREQUISITES
NONE



Engine Flameout with Restart
Figure 106

EFFECTIVITY

ALL

71-05-00

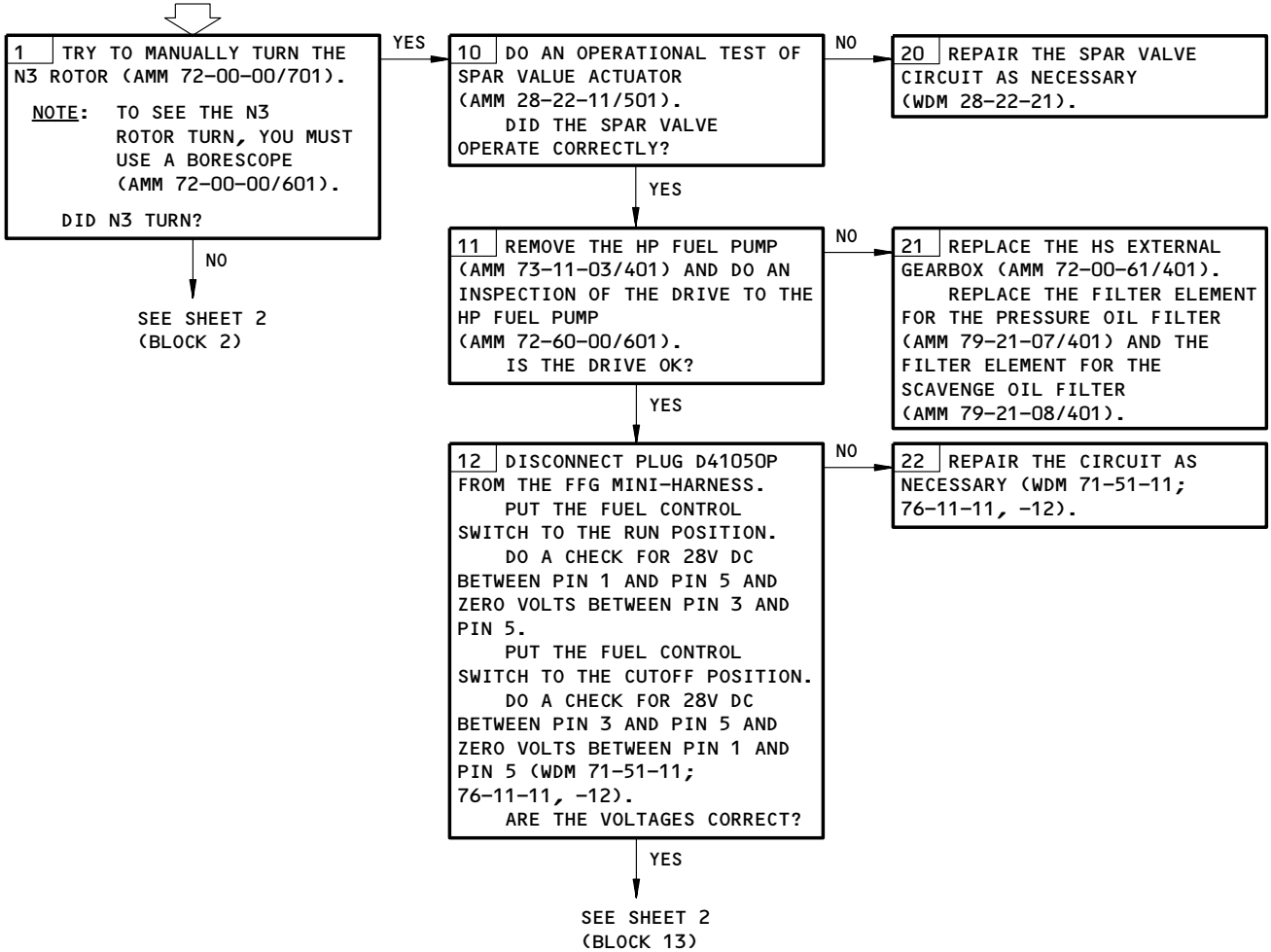
R01

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B13741

**ENGINE FLAMEOUT OR
RUNDOWN BELOW SUB-
IDLE POWER**

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

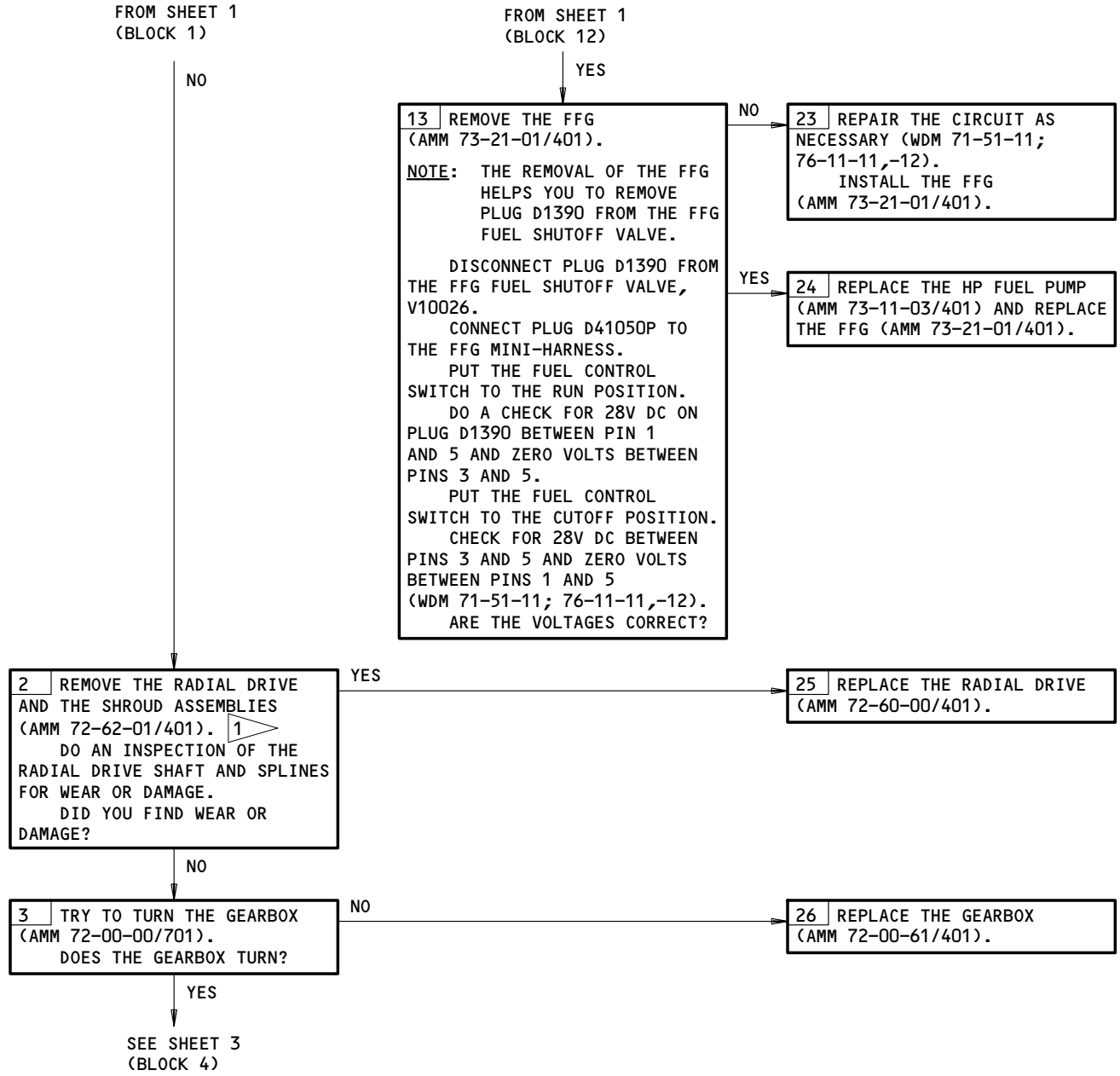


Engine Flameout or Rundown Below Sub-Idle Power
Figure 107 (Sheet 1)

EFFECTIVITY

ALL

71-05-00



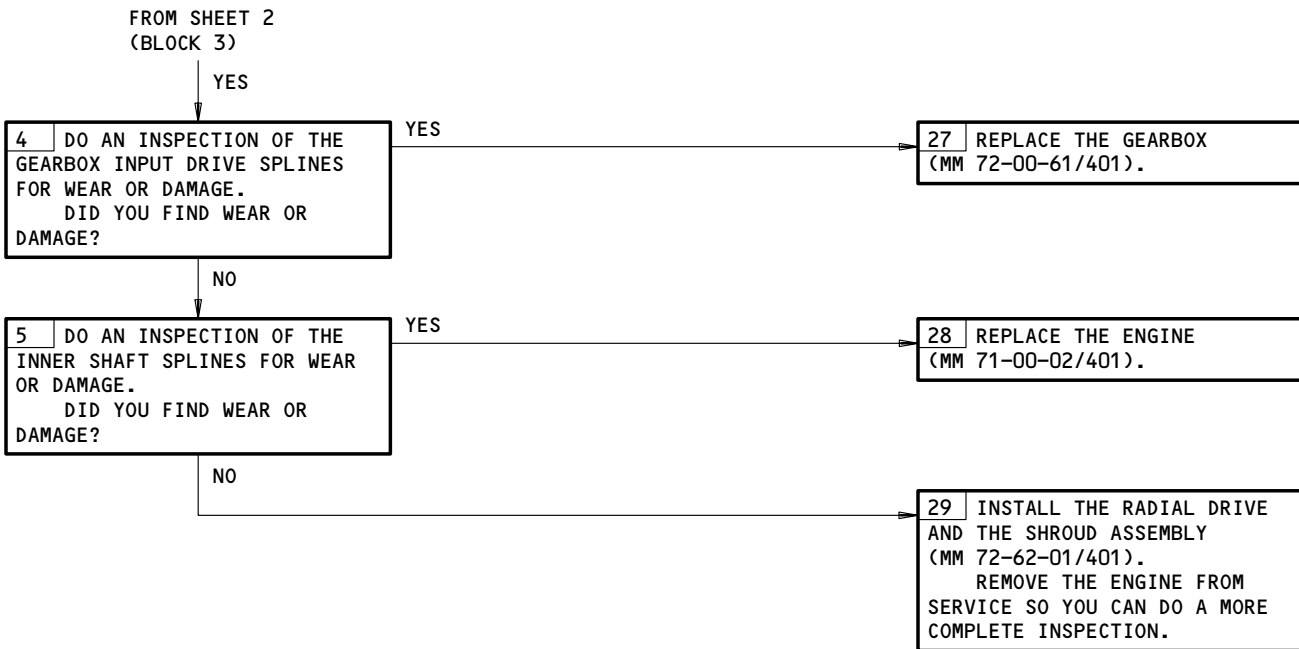
1 IF A STARTER ASSISTED RELIGHT OR A GROUND START OF THE ENGINE RESULTS IN A FAILED RADIAL DRIVE, THERE CAN BE OIL LEAKS INTO THE HP DRUM. REPLACE THE ENGINE.

Engine Flameout or Rundown Below Sub-Idle Power
Figure 107 (Sheet 2)

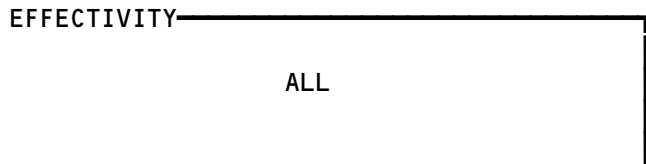
EFFECTIVITY ————
ALL

71-05-00

E71500



Engine Flameout or Rundown Below Sub-Idle Power
 Figure 107 (Sheet 3)

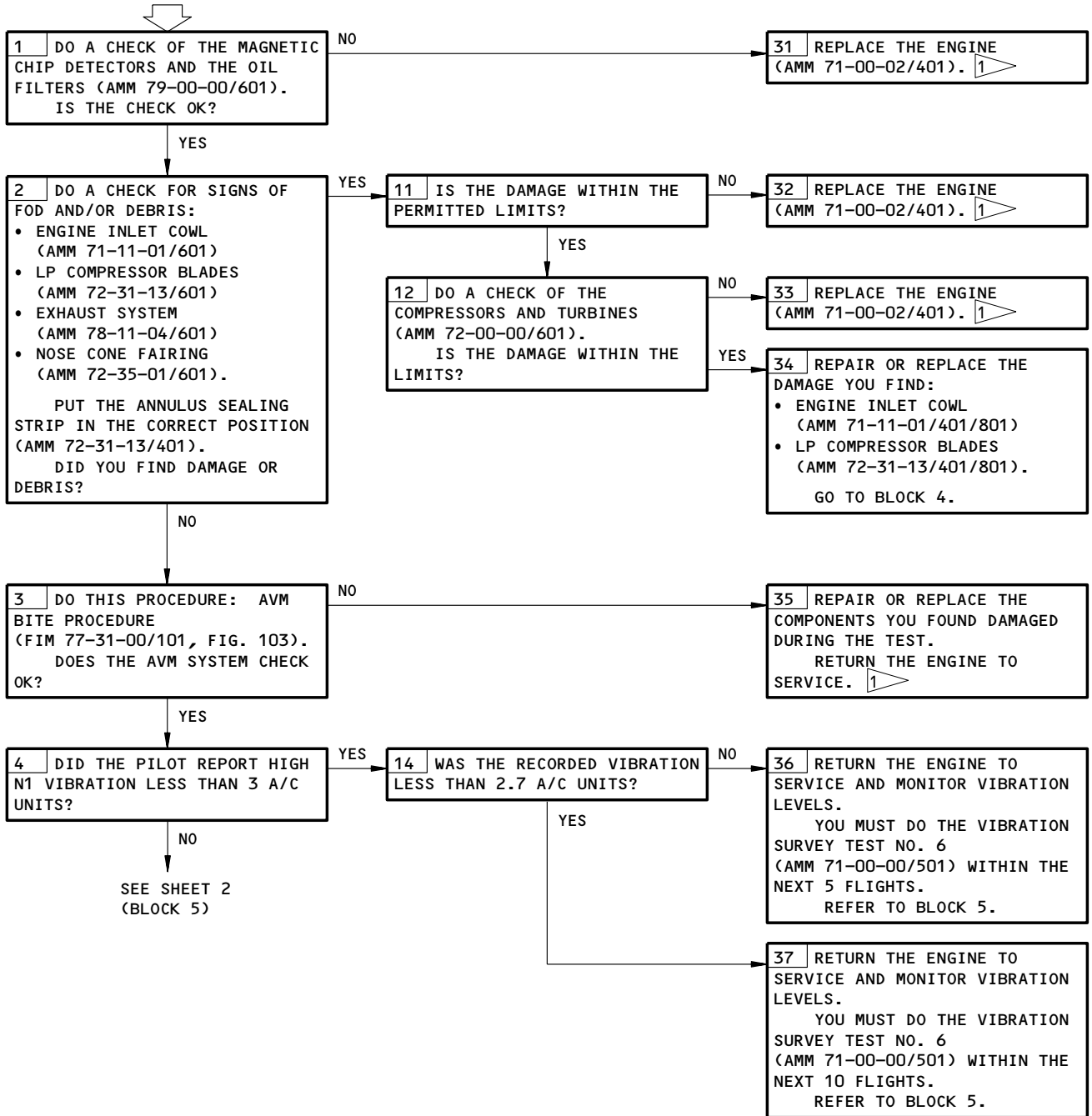


71-05-00

B17430

HIGH VIBRATION INDICATED

PREREQUISITES
NONE



1 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATIONS/ERASE PROCEDURE (FIM 71-05-00/101, FIG. 111).

High Vibration Indicated
Figure 108 (Sheet 1)

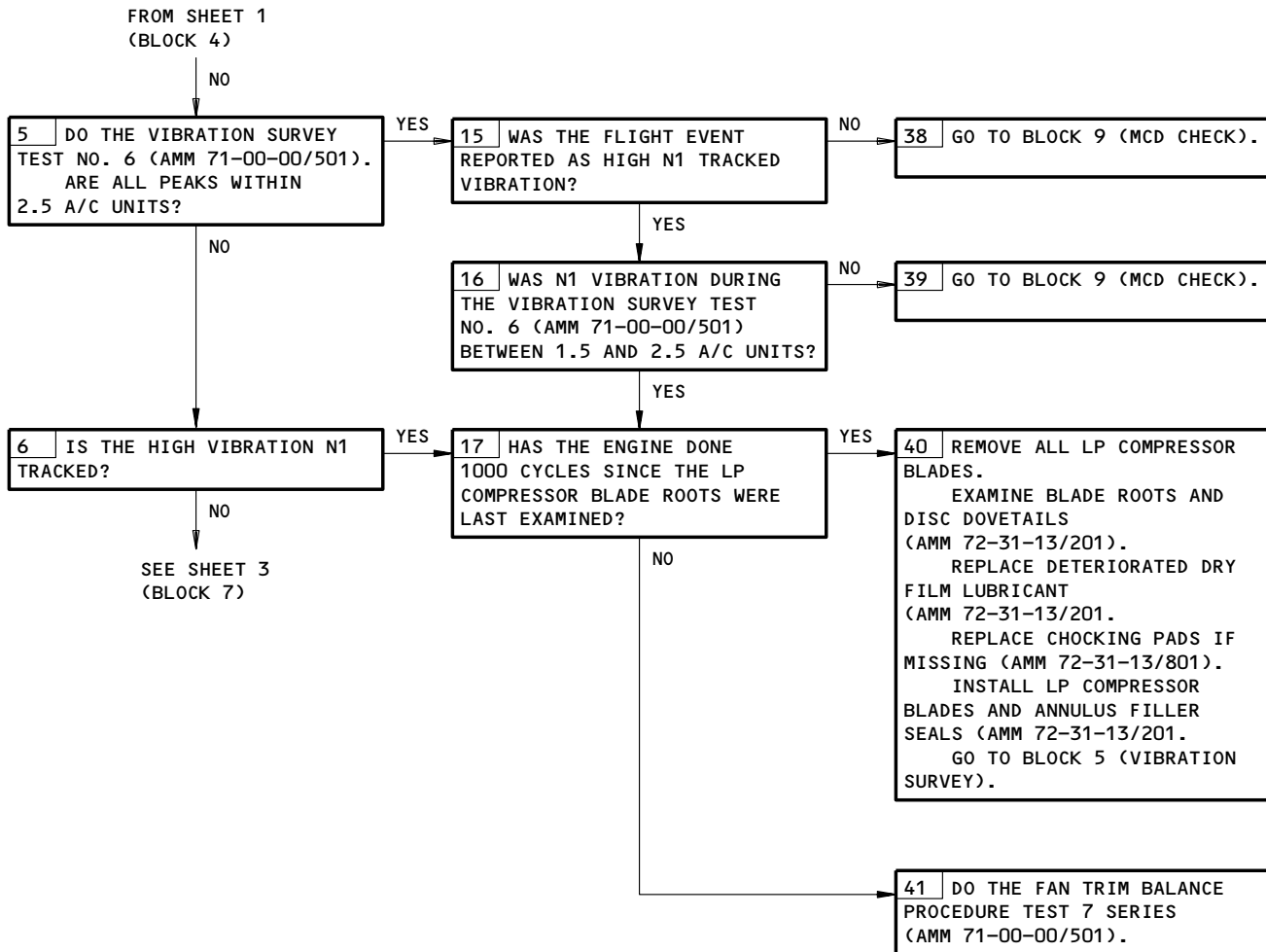
EFFECTIVITY

ALL

71-05-00

R01

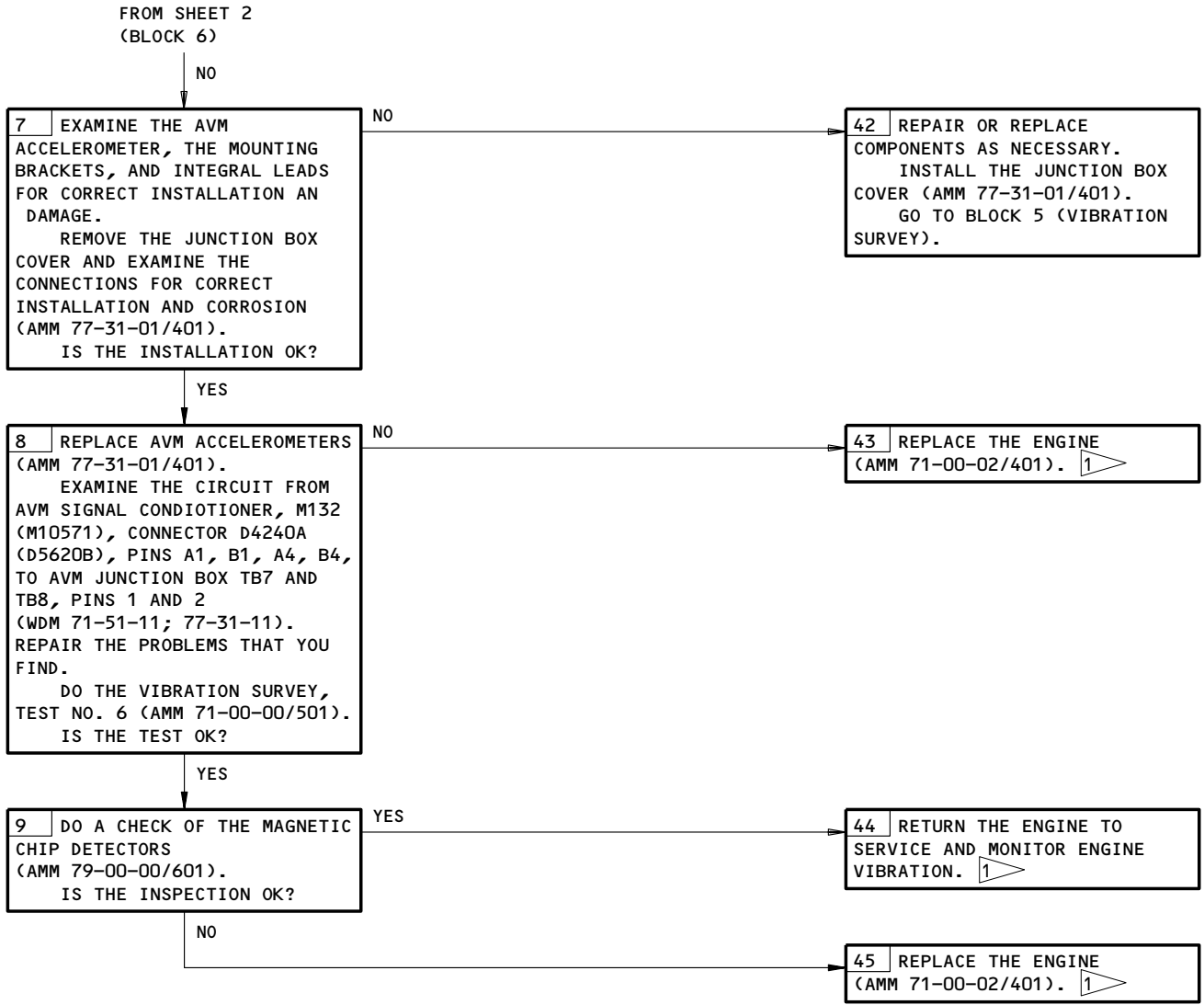
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High Vibration Indicated
Figure 108 (Sheet 2)

EFFECTIVITY	ALL
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71-05-00



High Vibration Indicated
Figure 108 (Sheet 3)

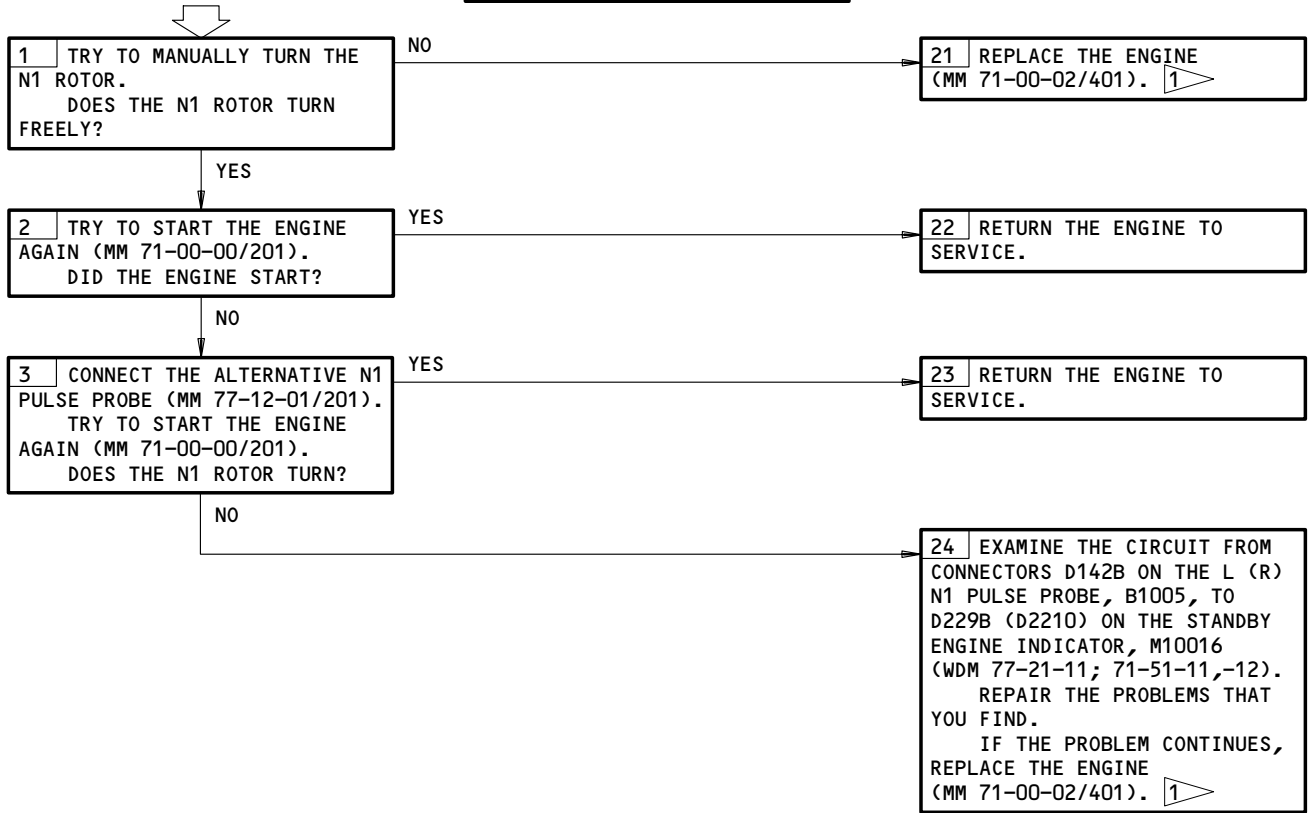
EFFECTIVITY ————
ALL

71-05-00

E34282

PREREQUISITES
NONE

NO N1 ROTATION



1 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (71-05-00/101, FIG. 111).

No N1 Rotation
Figure 109

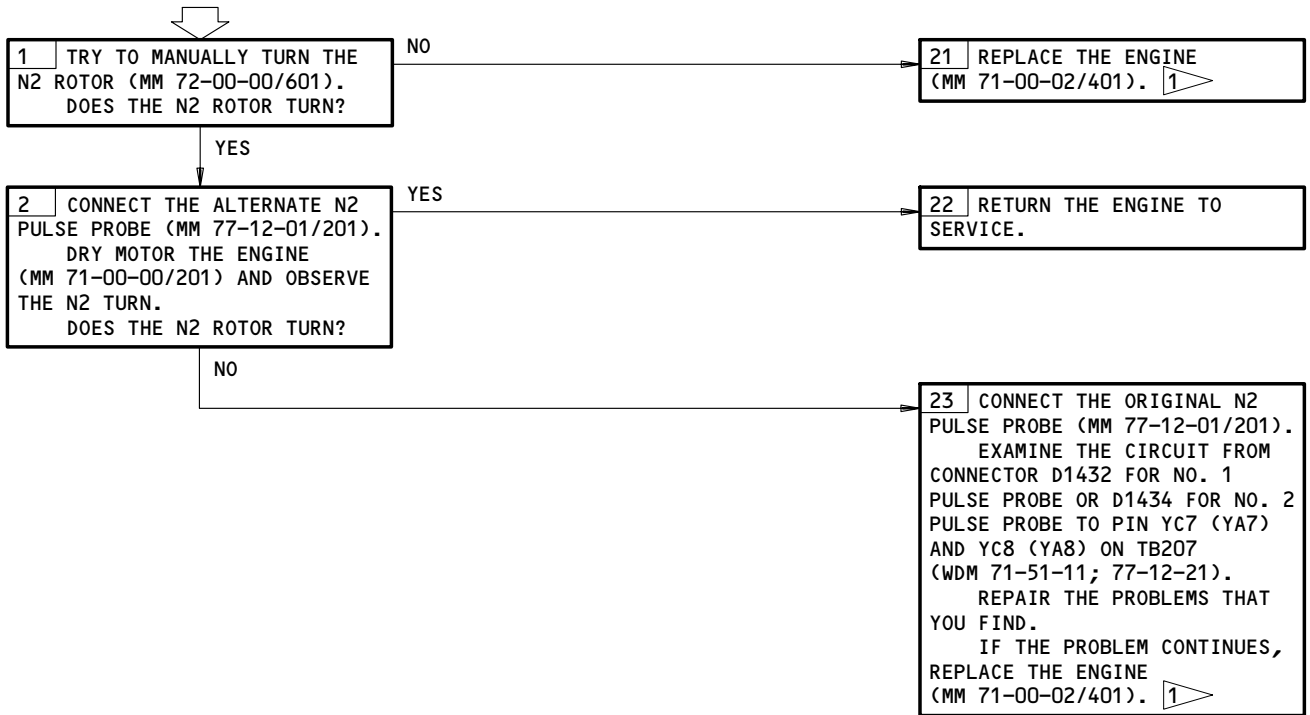
EFFECTIVITY

ALL

71-05-00

PREREQUISITES
NONE

NO N2 ROTATION



1 DO THIS PROCEDURE: EICAS AUTO EVENT MESSAGE VERIFICATION/ERASE PROCEDURE (71-05-00/101, FIG. 111).

No N2 Rotation
Figure 110

EFFECTIVITY

ALL

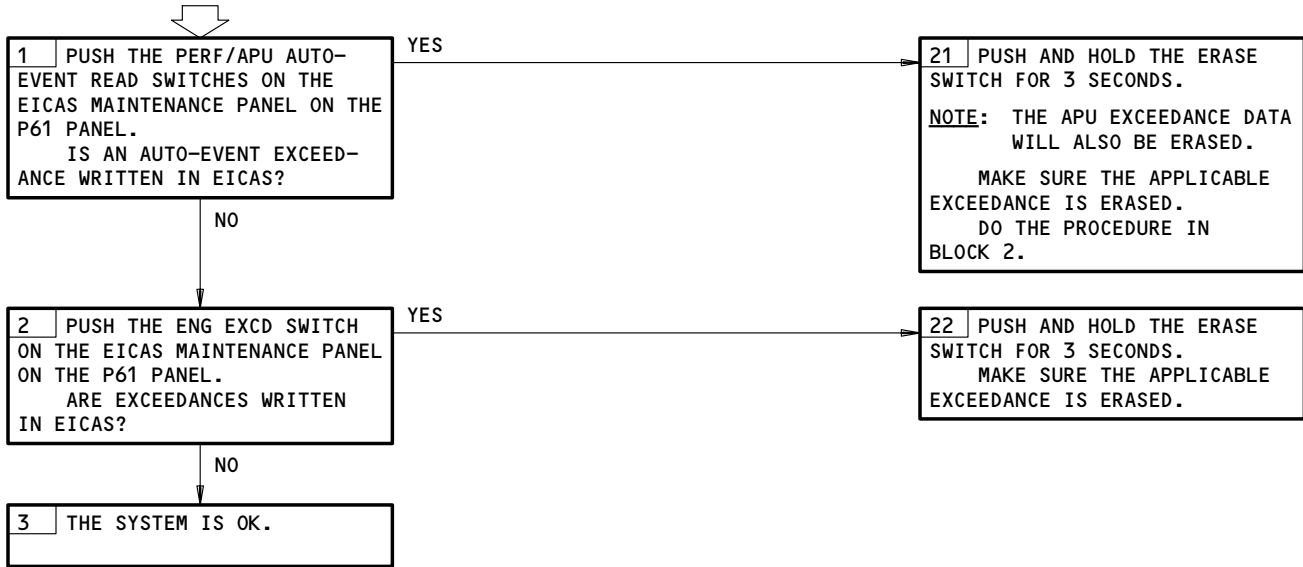
71-05-00

**EICAS AUTO EVENT
MESSAGE VERIFICATION/
ERASE PROCEDURE**

PREREQUISITES

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

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



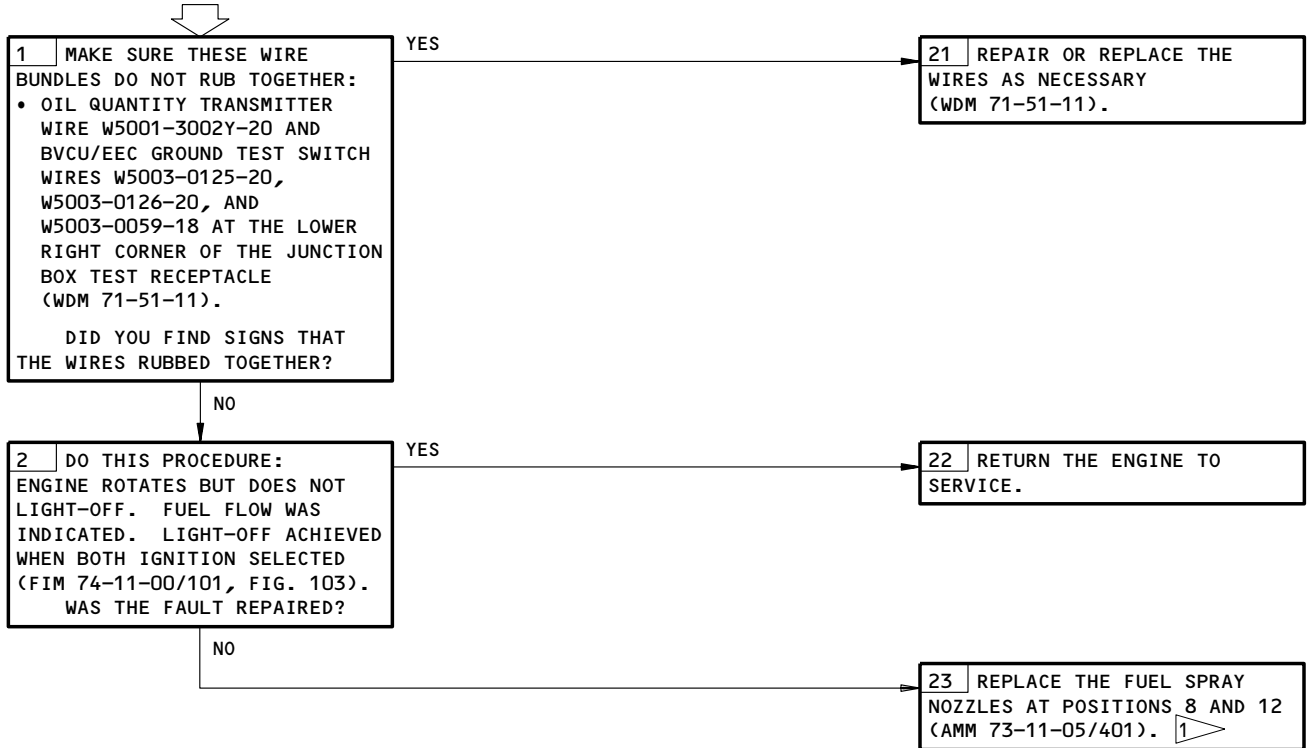
EICAS Auto Event Message Verification/Erase Procedure
Figure 111

EFFECTIVITY	ALL
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71-05-00

**IMPENDING HOT/HUNG
START WITH
EXCESSIVE TIME TO
LIGHT-OFF**

PREREQUISITES
NONE



1 CAUTION: WHEN YOU REPLACE THE FUEL SPRAY NOZZLES, YOU MUST OBEY THE PROCEDURE IN AMM 73-11-05/401. IF YOU INSTALL THE FUEL SPRAY NOZZLE INCORRECTLY, A SERIOUS ENGINE FIRE CAN OCCUR WHEN YOU OPERATE THE ENGINE. YOU WILL ALSO CAUSE DISTORTION OF THE FUEL MANIFOLD TO BURNER FUEL TUBE.

Impending Hot/Hung Start with Excessive Time to Light-Off
Figure 112

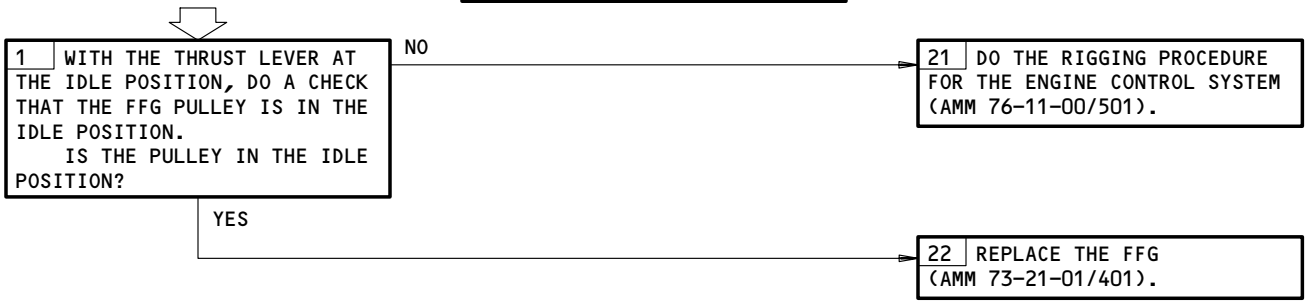
EFFECTIVITY

ALL

71-05-00

**IMPENDING HOT START
WITH HIGH FUEL FLOW**

PREREQUISITES
NONE



Impending Hot Start with High Fuel Flow
Figure 113

EFFECTIVITY	ALL
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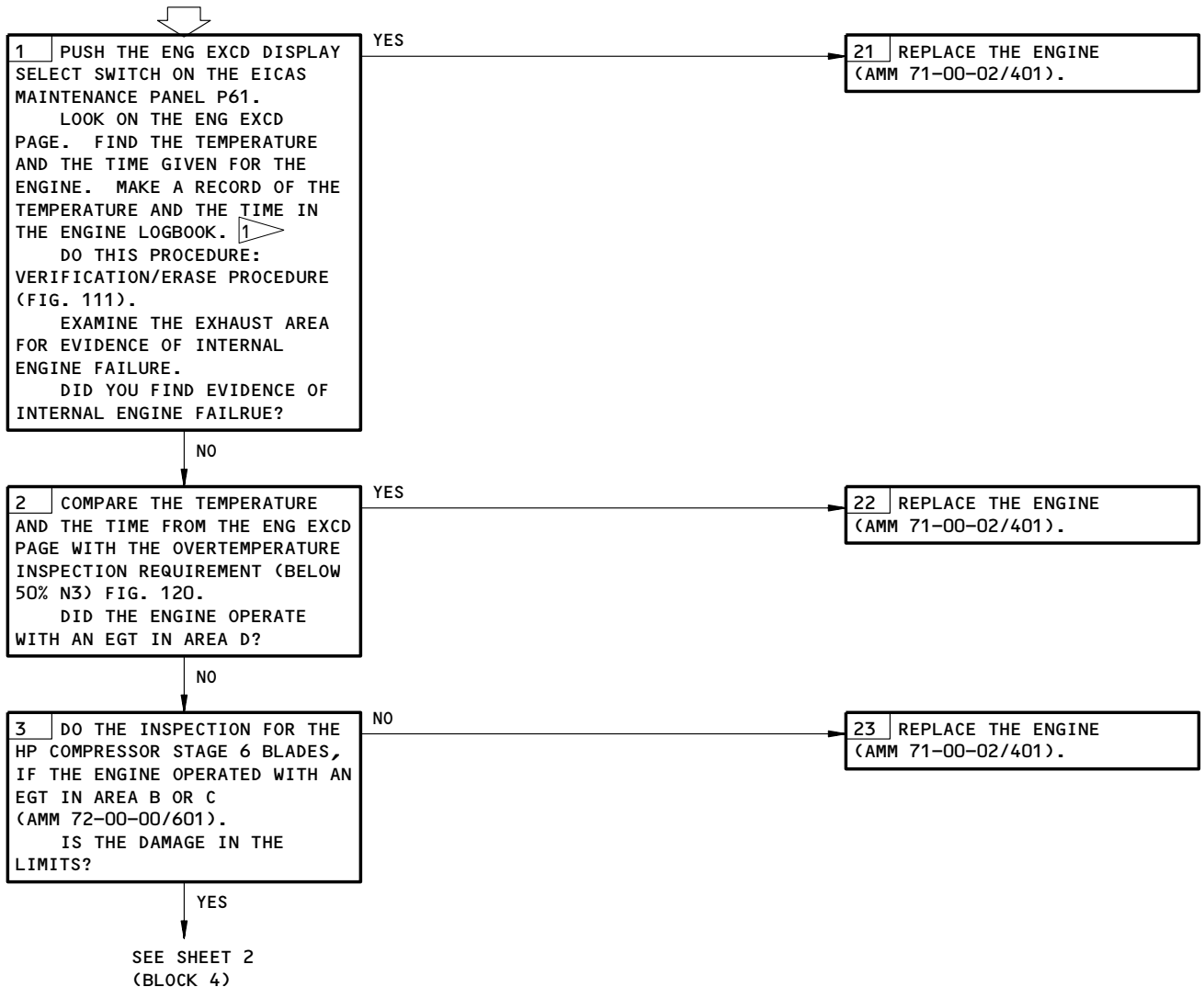
71-05-00

PREREQUISITES

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

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

ENGINE HAD A HOT START



THE TEMPERATURE SHOWN ON THE ENG EXCD PAGE IS THE HIGHEST EGT AT WHICH THE ENGINE OPERATED. THE TIME SHOWN WITH THE EGT IS THE MEASURE OF TIME THE ENGINE OPERATED WITH THE EGT MORE THAN THE LIMIT.

DO NOT USE THE EICAS TEMPERATURE PROFILE DATA TO DETERMINE THE OVERTEMP INSPECTION REQUIREMENTS

Engine Had a Hot Start
Figure 114 (Sheet 1)

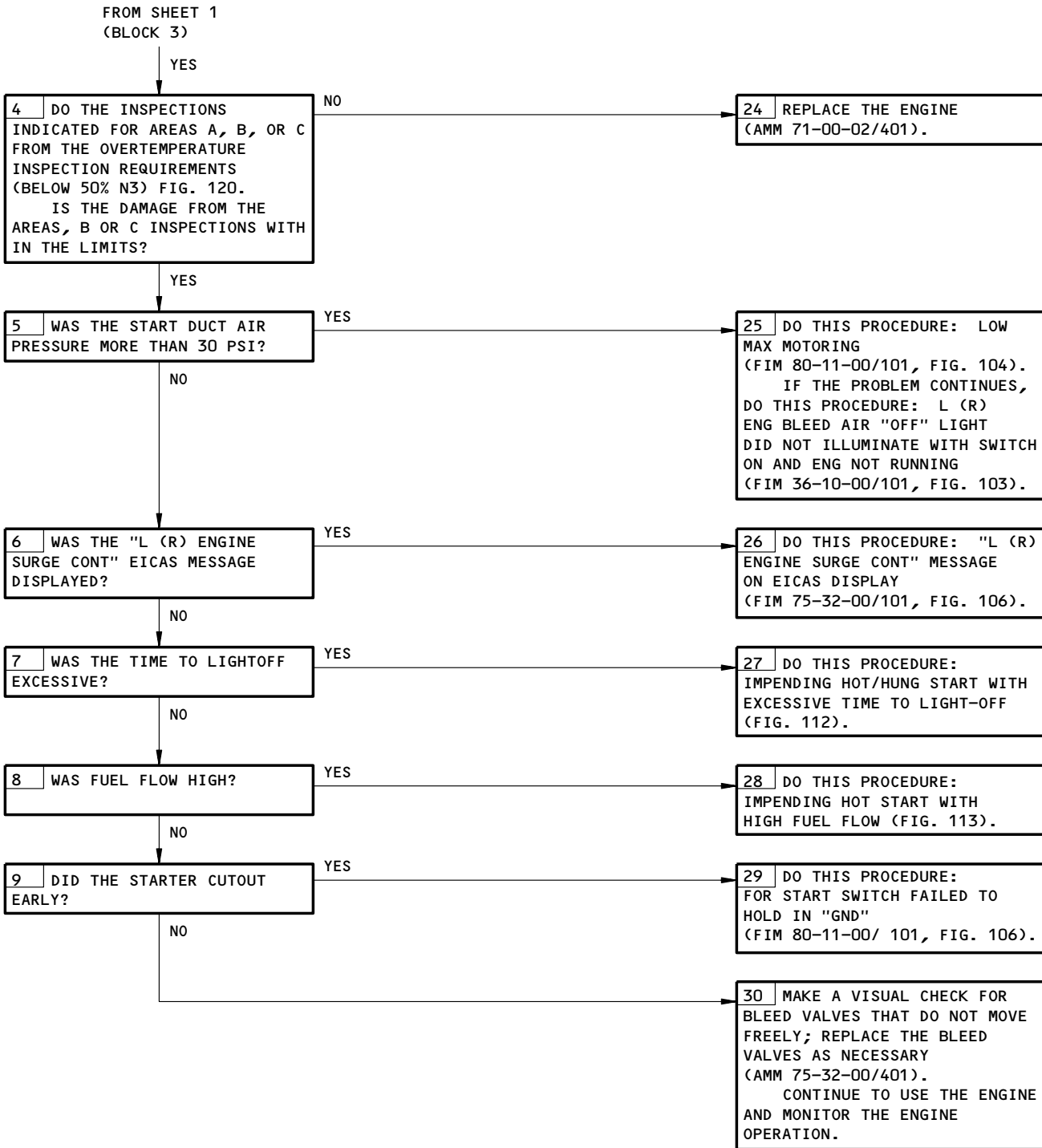
EFFECTIVITY

ALL

71-05-00

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Engine Had a Hot Start
Figure 114 (Sheet 2)

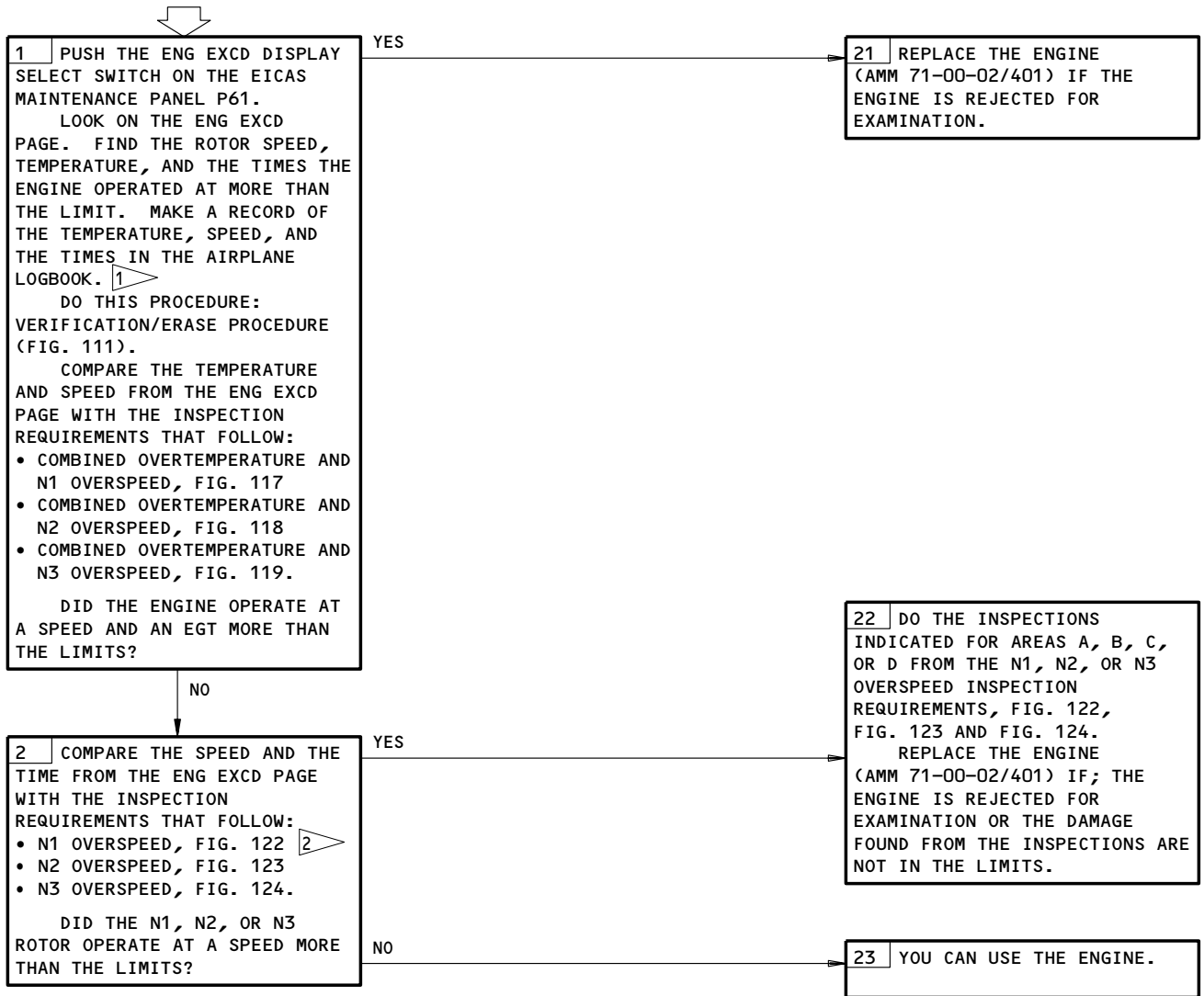
EFFECTIVITY

ALL

71-05-00

N1,N2 OR N3 ROTOR SPEED WAS MORE THAN THE LIMIT

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)



1 THE SPEED SHOWN ON THE ENG EXCD PAGE IS THE HIGHEST SPEED AT WHICH EACH ROTOR OPERATED. THE TIME SHOWN WITH THE ROTOR SPEED IS THE MEASURE OF TIME THE ROTOR OPERATED AT A SPEED MORE THAN THE LIMIT.

2 IT IS POSSIBLE TO EXPERIENCE NUISANCE "N1" OVERSPEED INDICATIONS WHEN THE ENGINE IS SHUTDOWN DUE TO NOISE ON THE "EICAS" INPUT FOR THE "N1" SIGNAL. IF AN "N1" OVERSPEED OCCURS BUT THE ENGINE "N2, N3", AND OIL PRESSURE INDICATIONS ON THE "EICAS ENG EXCD" SHOW THAT THE ENGINE WAS NOT OPERATING, NO TROUBLESHOOTING IS REQUIRED. FOR ADDITIONAL INFORMATION REGARDING THIS NUISANCE "N1" OVERSPEED INDICATION, SEE MAINTENANCE TIP 757 MT 31-004.

**N1,N2, or N3 Rotor Speed was More than the Limit
Figure 115**

EFFECTIVITY

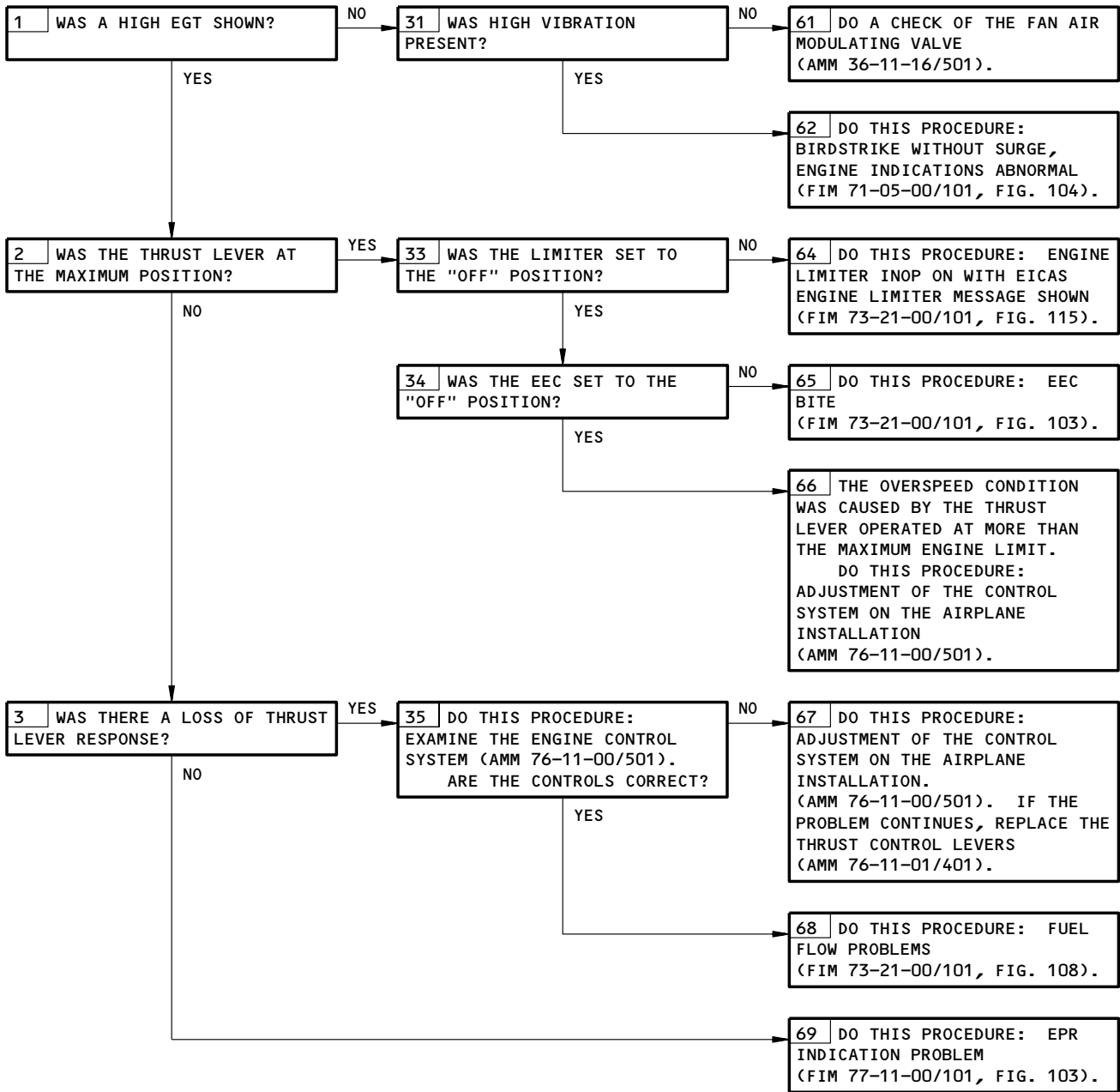
ALL

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N1 OVERSPEED 

PREREQUISITES
NONE



 REFER TO FIGURE 122 FOR OVERSPEED INSPECTION REQUIREMENTS.

N1 Overspeed - Fault Isolation
Figure 115A

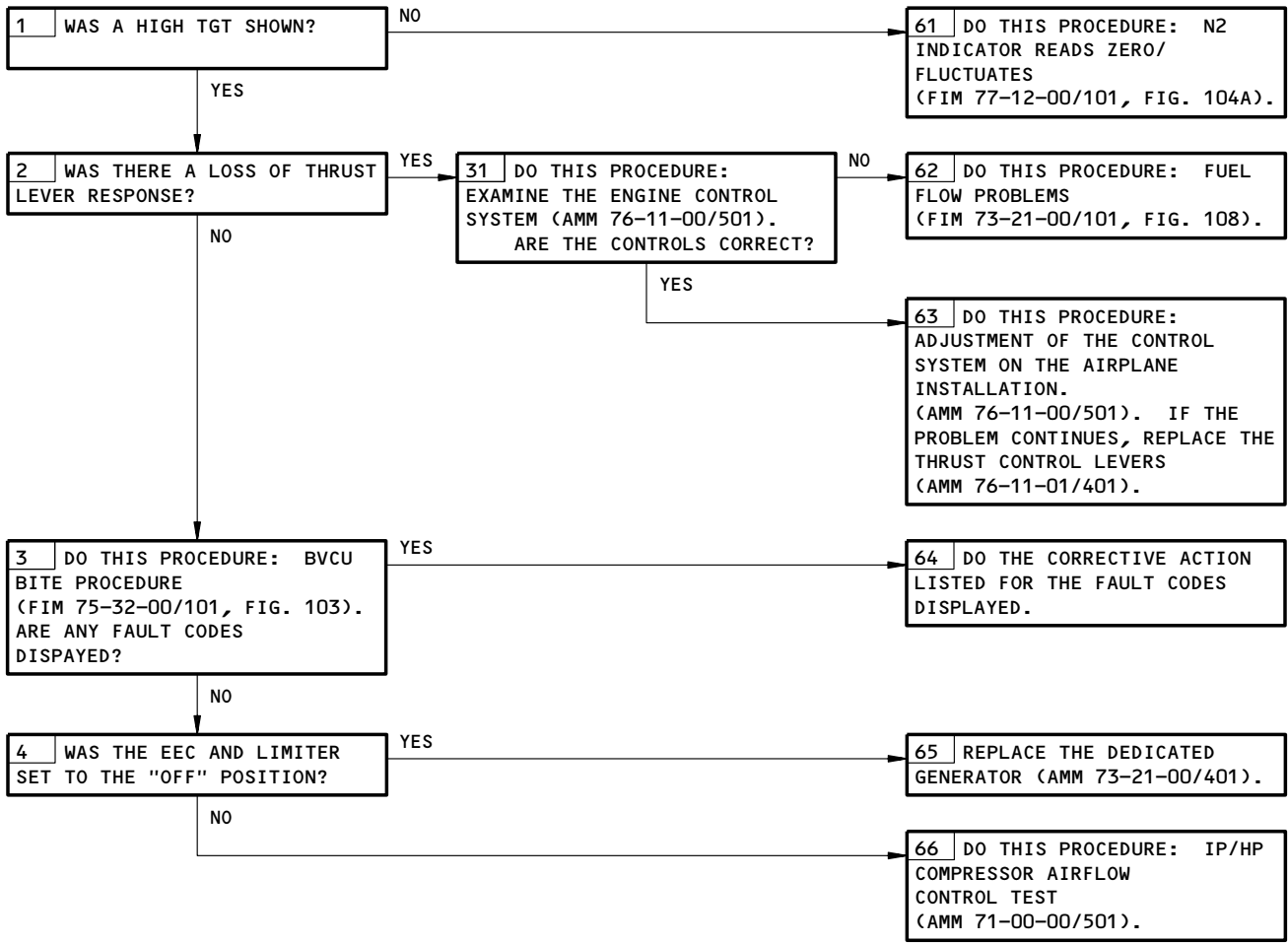
EFFECTIVITY

ALL

71-05-00

N2 OVERSPEED 1

PREREQUISITES
NONE



1 REFER TO FIGURE 123 FOR OVERSPEED INSPECTION REQUIREMENTS.

N2 Overspeed - Fault Isolation
Figure 115B

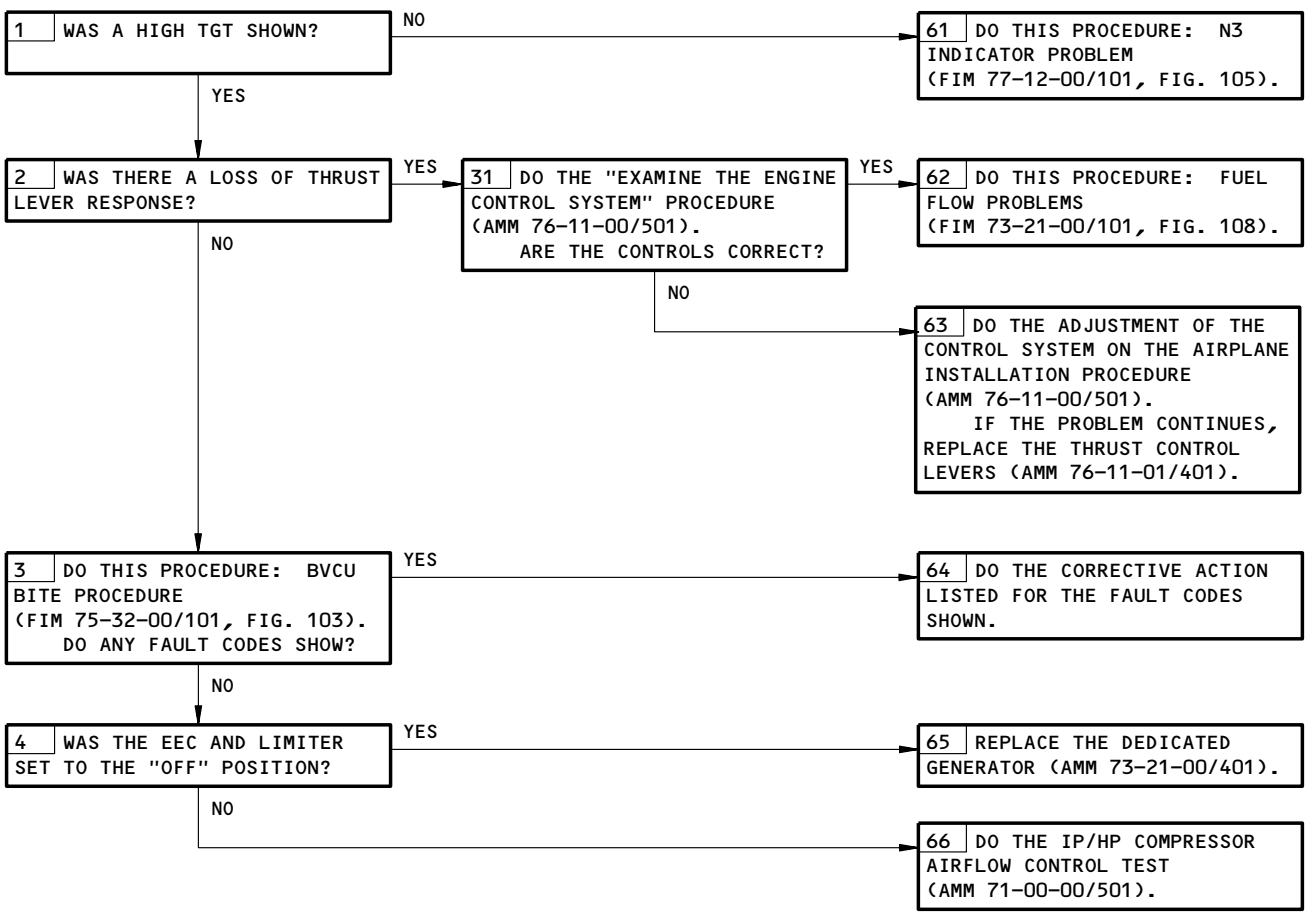
EFFECTIVITY —————
ALL

71-05-00

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PREREQUISITES
 NONE

N3 OVERSPEED 



 REFER TO FIGURE 124 FOR OVERSPEED INSPECTION REQUIREMENTS.

N3 Overspeed - Fault Isolation
Figure 115C

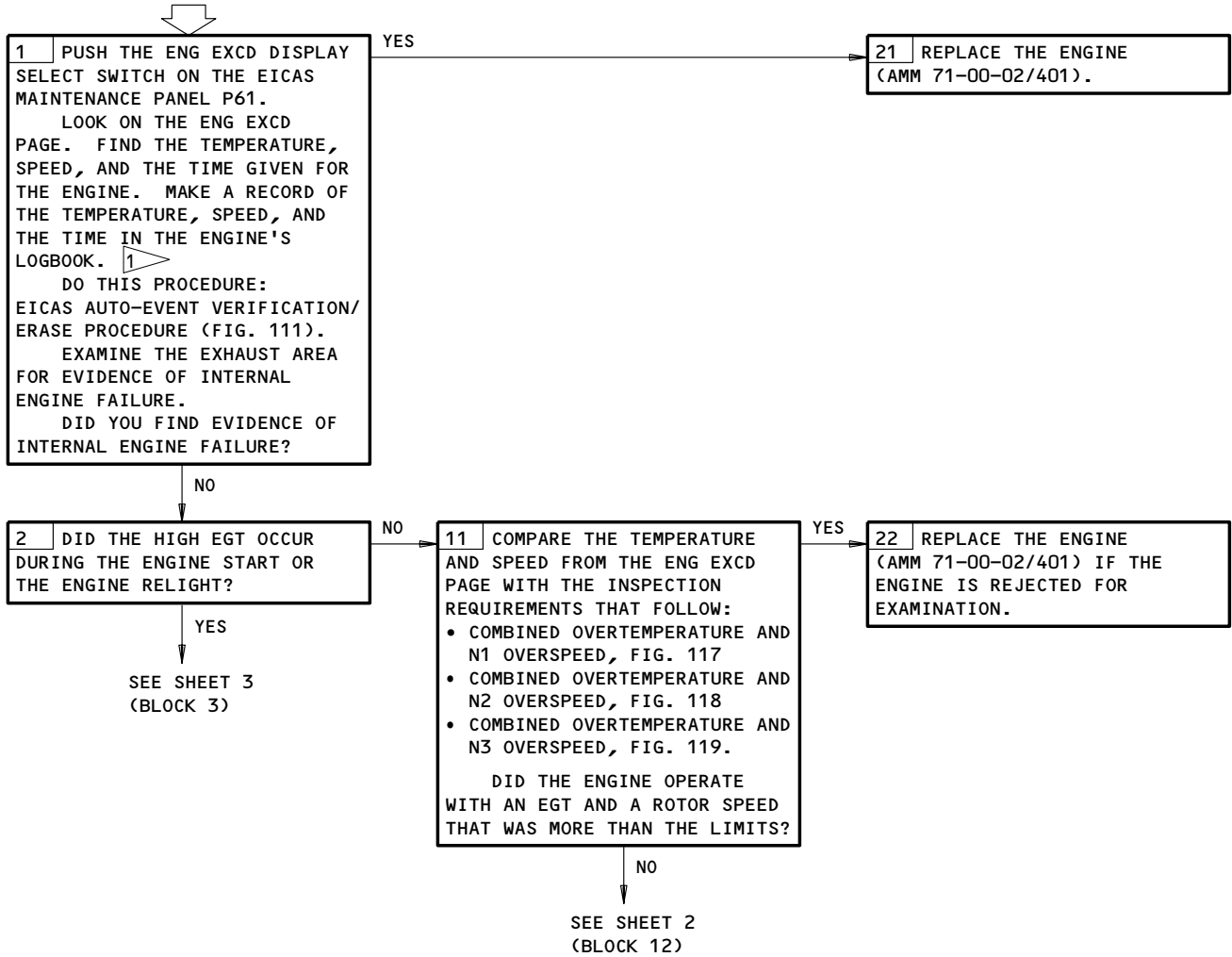
EFFECTIVITY

ALL

71-05-00

ENGINE EGT WAS MORE THAN THE LIMIT

PREREQUISITES
MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/501)
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)



- THE TEMPERATURE SHOWN ON THE ENG EXCD PAGE IS THE HIGHEST EGT AT WHICH THE ENGINE OPERATED. THE N1, N2 AND N3 SPEEDS SHOWN ON THE EXCD PAGE ARE THE HIGHEST SPEEDS AT WHICH EACH ROTOR OPERATED. THE TIME SHOWN WITH N1, N2 AND N3 SPEEDS ARE THE MEASURE OF TIME THE ENGINE OPERATED WITH THE ROTOR SPEED MORE THAN THE LIMIT. THE TIME SHOWN WITH THE EGT IS THE MEASURE OF TIME THE ENGINE OPERATED WITH THE EGT MORE THAN THE LIMIT.
- DO NOT USE THE EICAS TEMPERATURE PROFILE DATA TO DETERMINE THE OVERTEMP INSPECTION REQUIREMENTS.

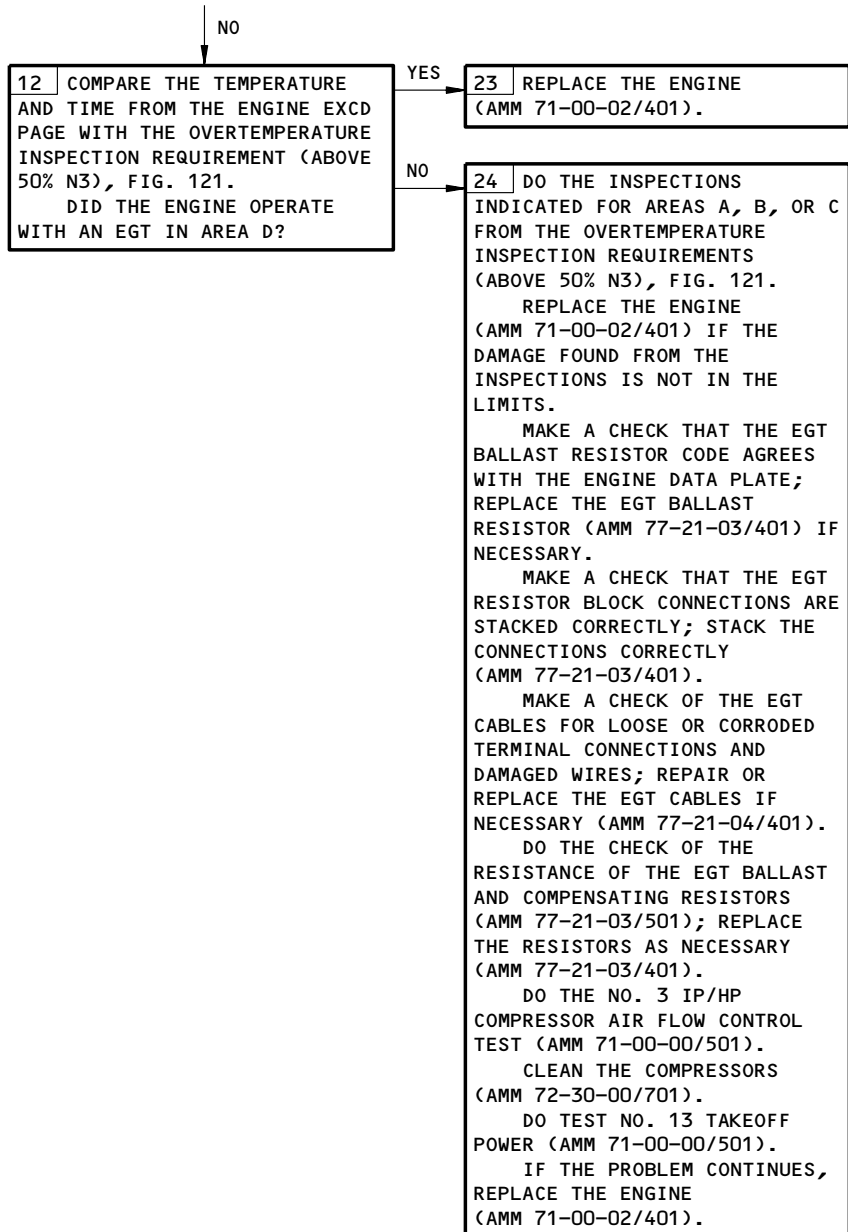
Engine EGT Was More Than the Limit
Figure 116 (Sheet 1)

EFFECTIVITY	ALL
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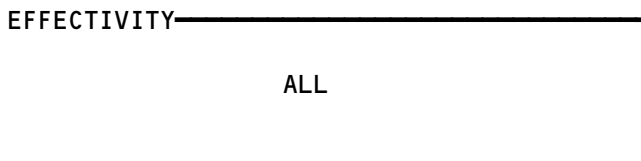
71-05-00

767513

FROM SHEET 1
(BLOCK 11)



Engine EGT Was More Than the Limit
Figure 116 (Sheet 2)

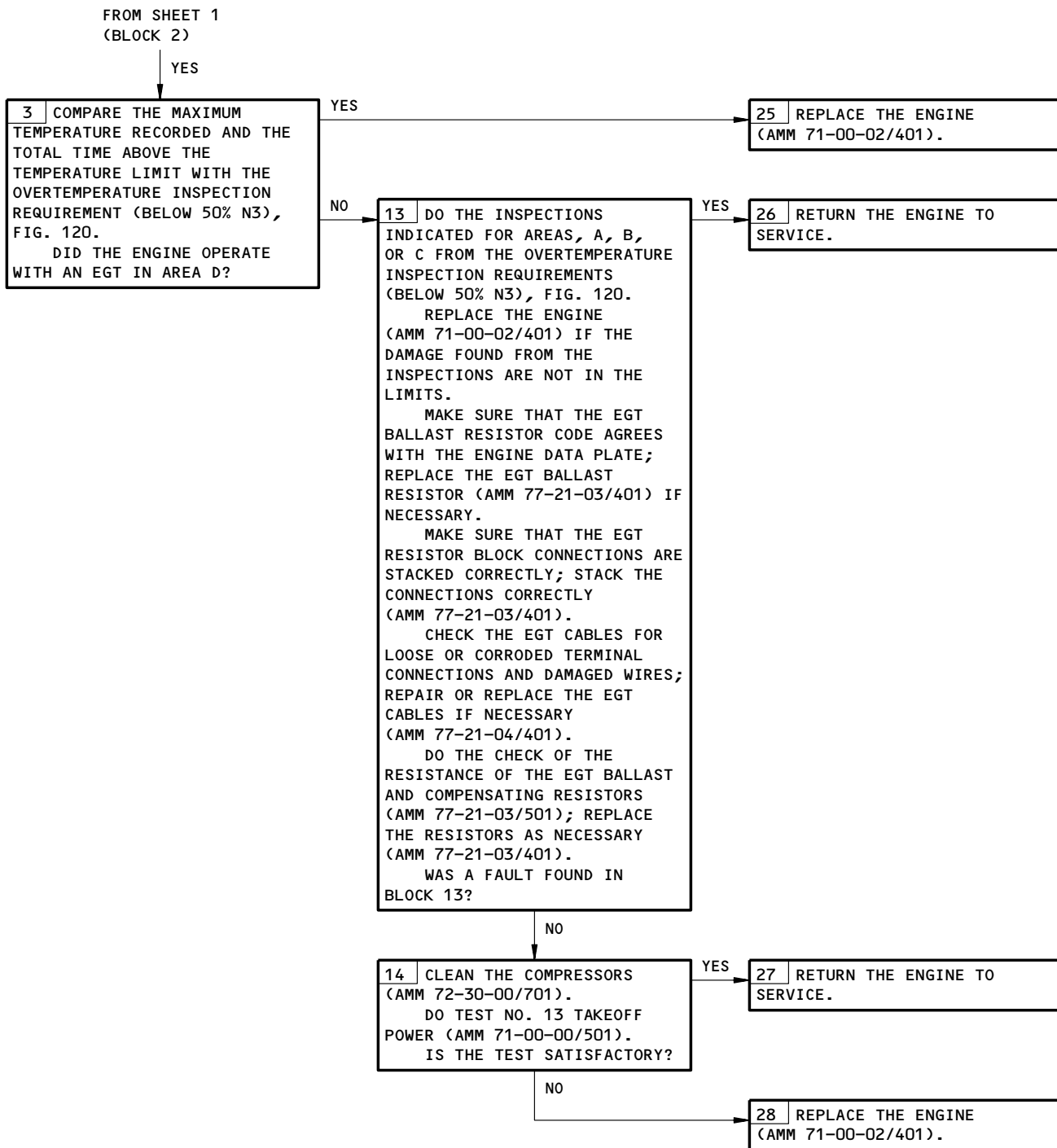


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767515

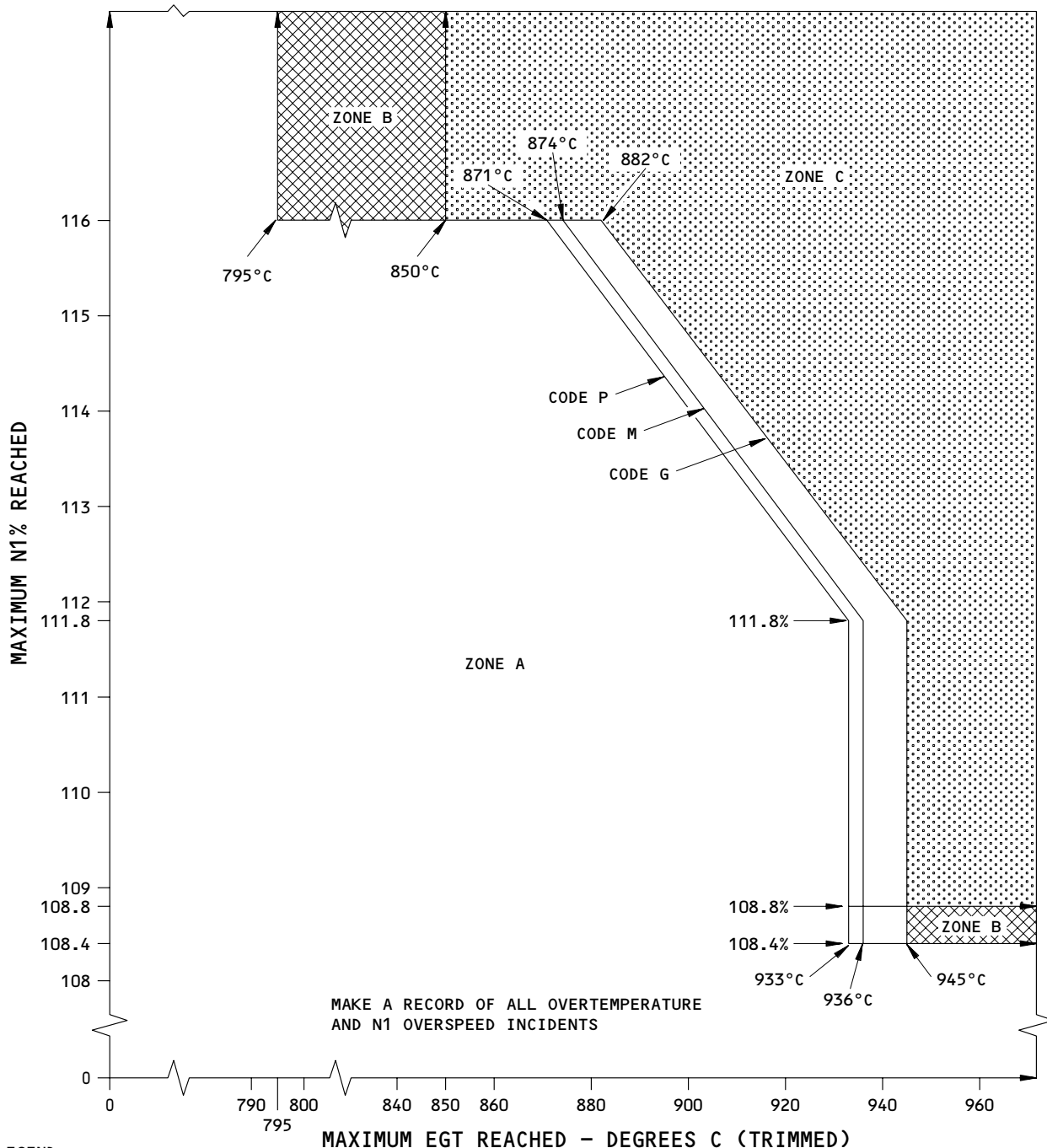


Engine EGT Was More Than the Limit
Figure 116 (Sheet 3)

EFFECTIVITY ————

ALL

71-05-00



LEGEND:

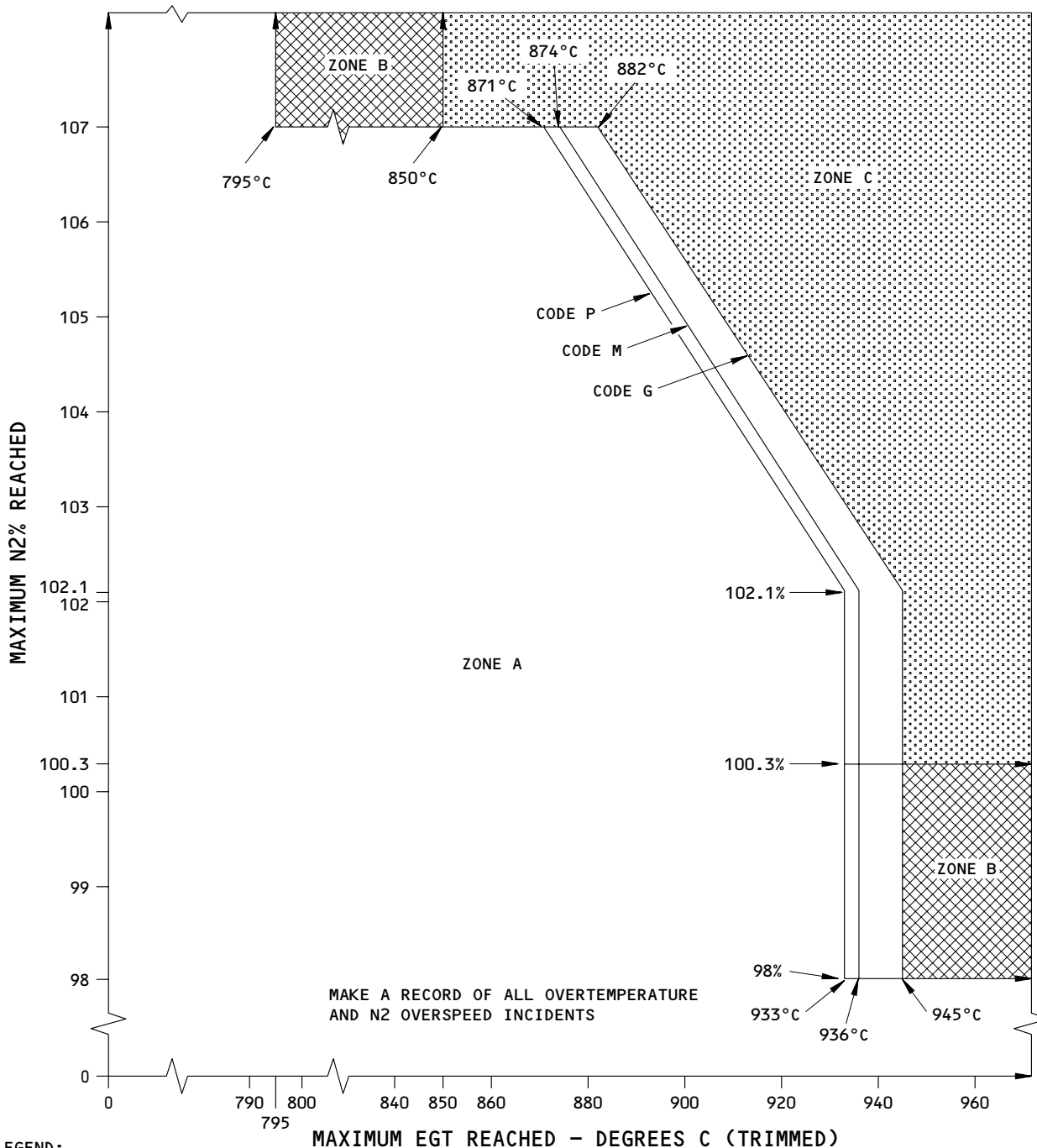
- ZONE A REFER TO EGT/TIME (FIG. 121) AND N1/TIME (FIG. 122).
- ZONE B IF THE TIME OF THE INCIDENT IS MORE THAN 10 MINUTES, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR ENGINE MANUAL 72-00-00/201).
- ZONE C REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR ENGINE MANUAL 72-00-00/201).

c7909

**Combined Overtemperature (Above 50% N3) and N1 Overspeed Inspection Requirements
Figure 117**

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODES G, M, P

71-05-00



LEGEND:

- ZONE A REFER TO EGT/TIME (FIG. 121) AND N2/TIME (FIG. 123).
- ZONE B IF THE TIME OF THE INCIDENT IS MORE THAN 10 MINUTES, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR EMM 72-00-00/201).
- ZONE C REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR EMM 72-00-00/201).

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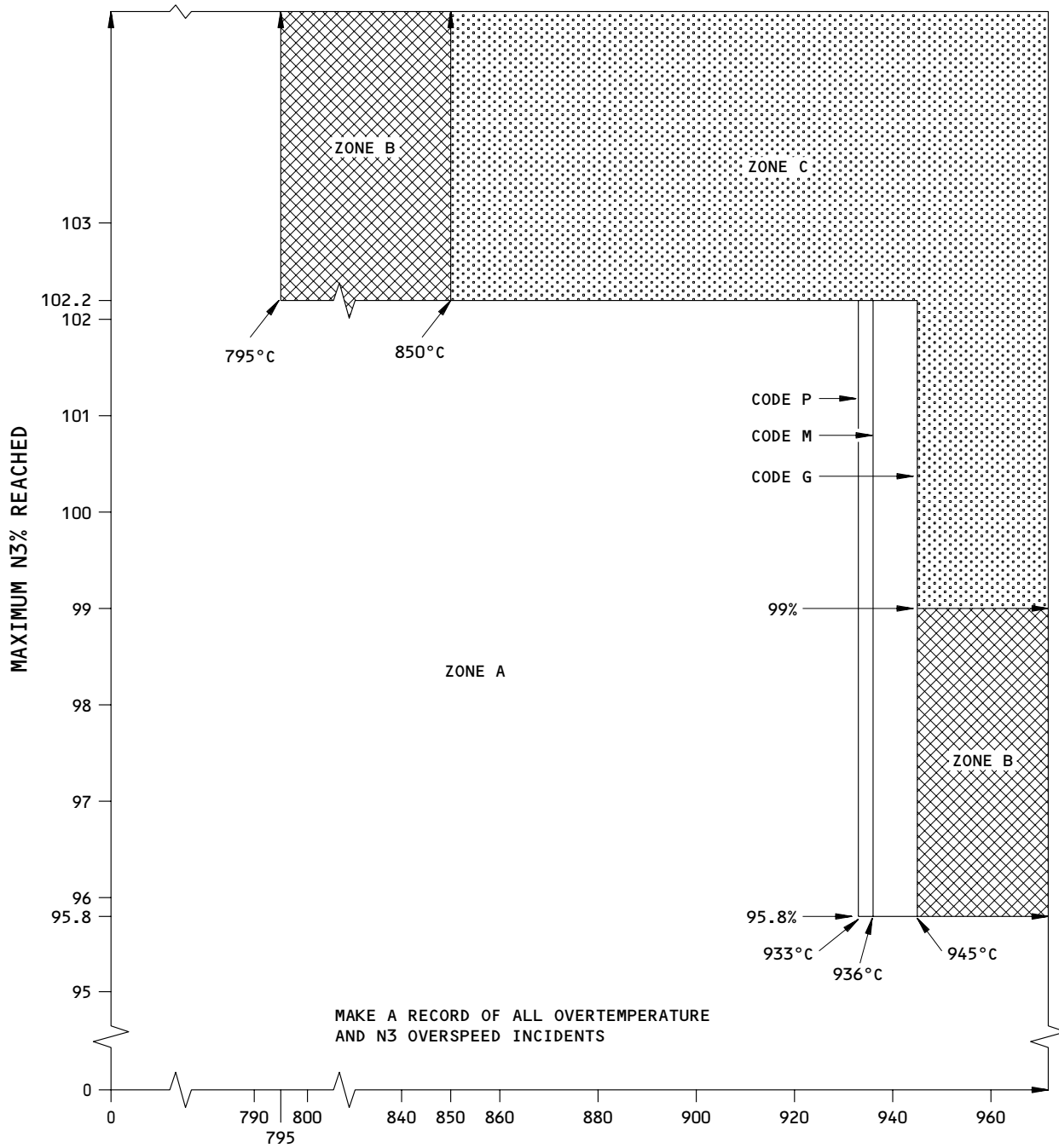
**Combined Overtemperature (Above 50% N3) and N2 Overspeed Inspection Requirements
Figure 118**

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODES G, M, P

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R01

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LEGEND:

MAXIMUM EGT REACHED - DEGREES C (TRIMMED)

ZONE A REFER TO EGT/TIME (FIG. 121) AND N3/TIME (FIG. 124).

ZONE B IF THE TIME OF THE INCIDENT IS MORE THAN 10 MINUTES, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR EMM 72-00-00/201).

ZONE C REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (RR EMM 72-00-00/201).

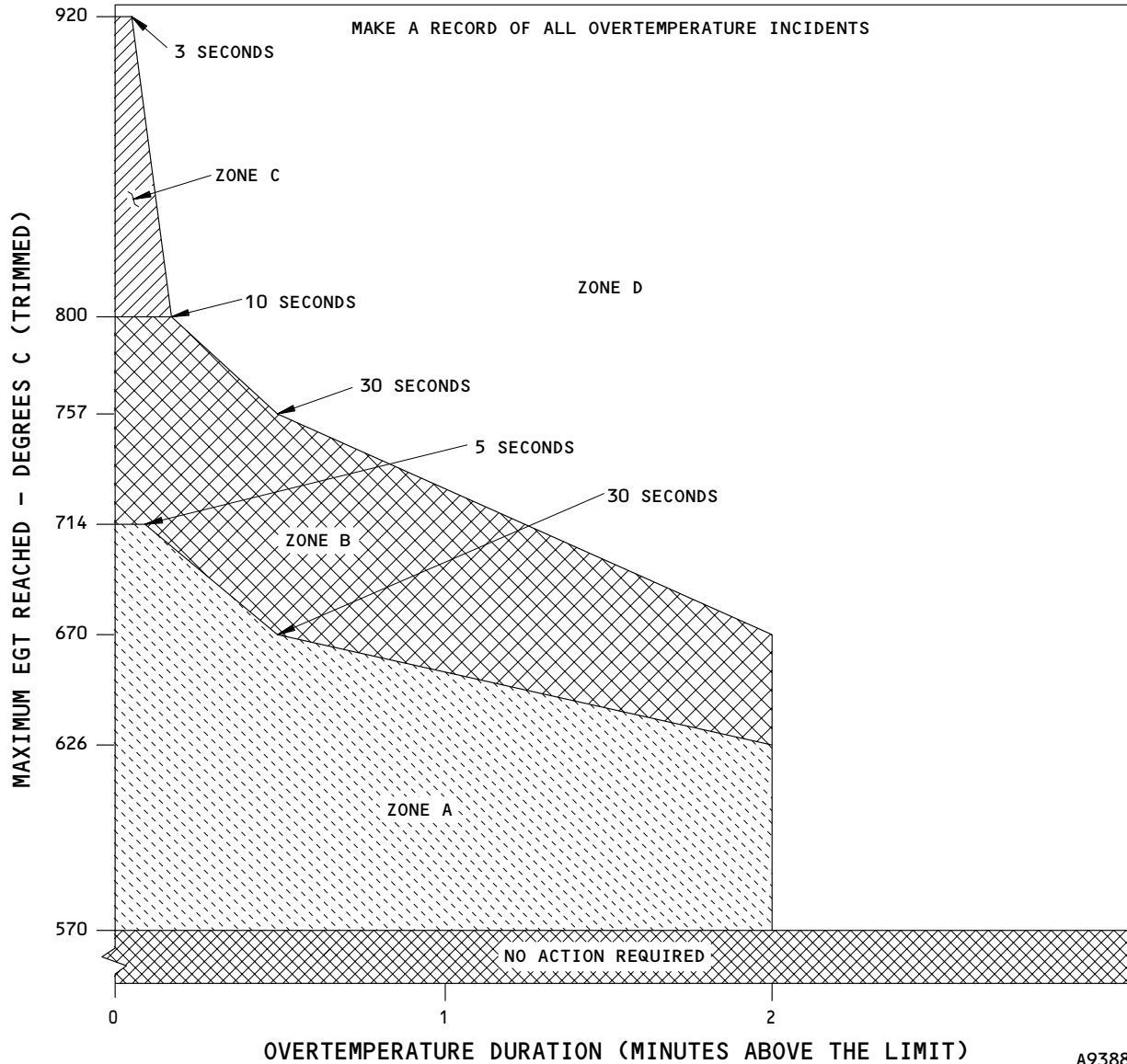
DEE0006644A

Combined Overtemperature (Above 50% N3) and N3 Overspeed Inspection Requirements
Figure 119

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODES G, M, P

71-05-00

766330



A9388

LEGEND:

- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. DO A VISUAL INSPECTION OF THE L.P. TURBINE AND THE INTERNAL PART OF THE EXHAUST COLLECTOR (AMM 78-11-04/601) FOR DAMAGE.
- ZONE B DO THE PROCEDURE FOR ZONE A. DO A BORESCOPE INSPECTION OF THE H.P., I.P. AND L.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C DO THE PROCEDURE FOR ZONE A AND ZONE B. DO A BORESCOPE INSPECTION OF THE I.P. TURBINE SYSTEM (AMM 72-00-00/601). IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, YOU CAN CONTINUE TO USE THE ENGINE IF THE ENGINE IS REMOVED IN 60 FLIGHT HOURS TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).
- ZONE D ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).

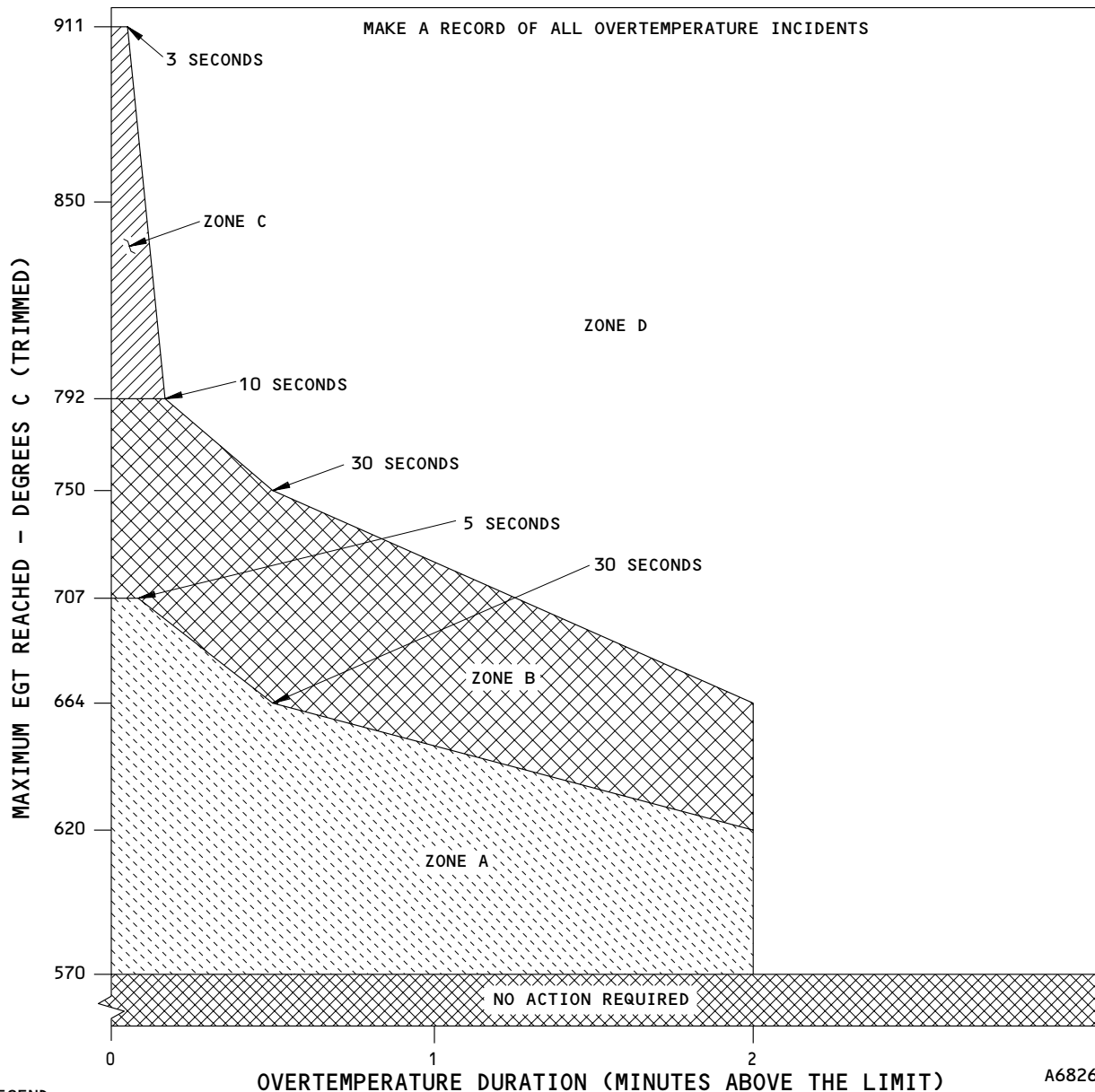
Overtemperature Inspection Requirements (Below 50% N3)
Figure 120 (Sheet 1)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE G

71-05-00

R01

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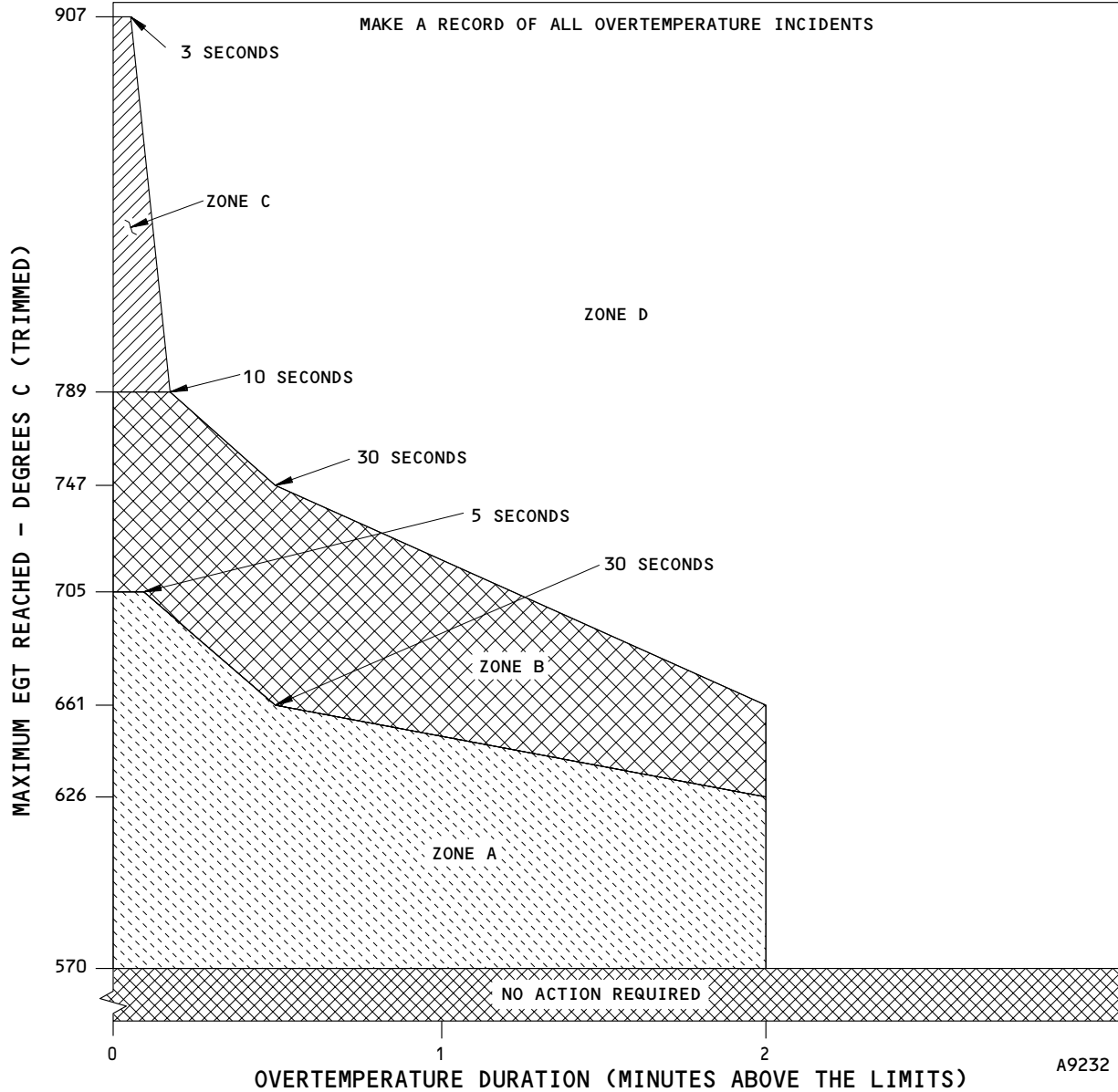
LEGEND:

- ZONE A** [diagonal lines] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. DO A VISUAL INSPECTION OF THE L.P. TURBINE AND THE INTERNAL PART OF THE EXHAUST COLLECTOR (AMM 78-11-04/601) FOR DAMAGE.
- ZONE B** [cross-hatch] DO THE PROCEDURE FOR ZONE A. DO A BORESCOPE INSPECTION OF THE H.P., I.P. AND L.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C** [diagonal lines] DO THE PROCEDURE FOR ZONE A AND ZONE B. DO A BORESCOPE INSPECTION OF THE I.P. TURBINE SYSTEM (AMM 72-00-00/601). IF IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 60 FLIGHT HOURS TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).
- ZONE D** [white box] ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).

Overtemperature Inspection Requirements (Below 50% N3)
Figure 120 (Sheet 2)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE M

71-05-00



LEGEND:

- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. DO A VISUAL INSPECTION OF THE L.P. TURBINE AND THE INTERNAL PART OF THE EXHAUST COLLECTOR (AMM 78-11-04/601) FOR DAMAGE.
- ZONE B DO THE PROCEDURE FOR ZONE A. DO A BORESCOPE INSPECTION OF THE H.P., I.P. AND L.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C DO THE PROCEDURE FOR ZONE A AND ZONE B. DO A BORESCOPE INSPECTION OF THE I.P. TURBINE SYSTEM (AMM 72-00-00/601). IF IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 60 FLIGHT HOURS TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).
- ZONE D ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).

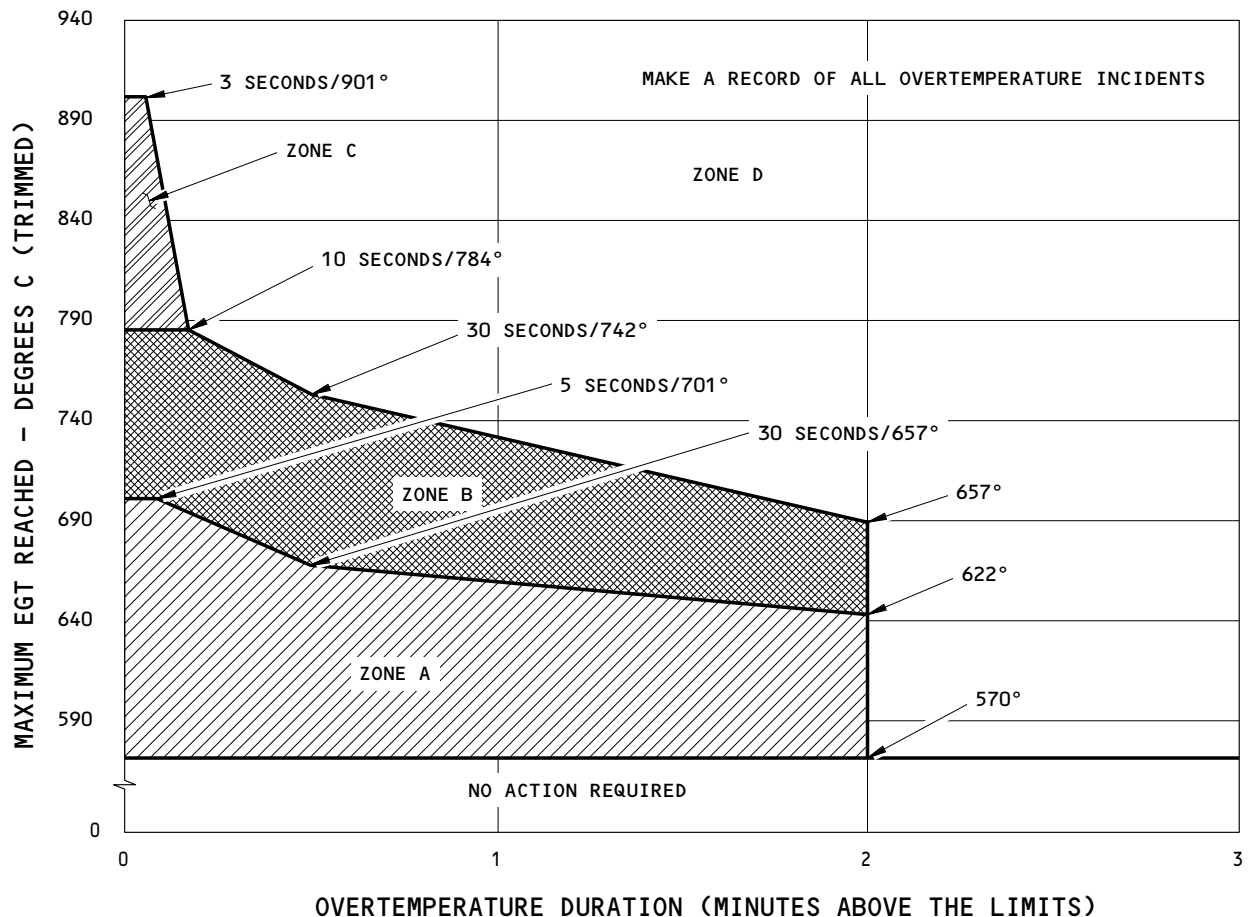
Overtemperature Inspection Requirements (Below 50% N3)
Figure 120 (Sheet 3)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE P;
RB211-535E4 POST-RR-SB 72-C230
WITH BALLAST RESISTOR CODE M

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R01

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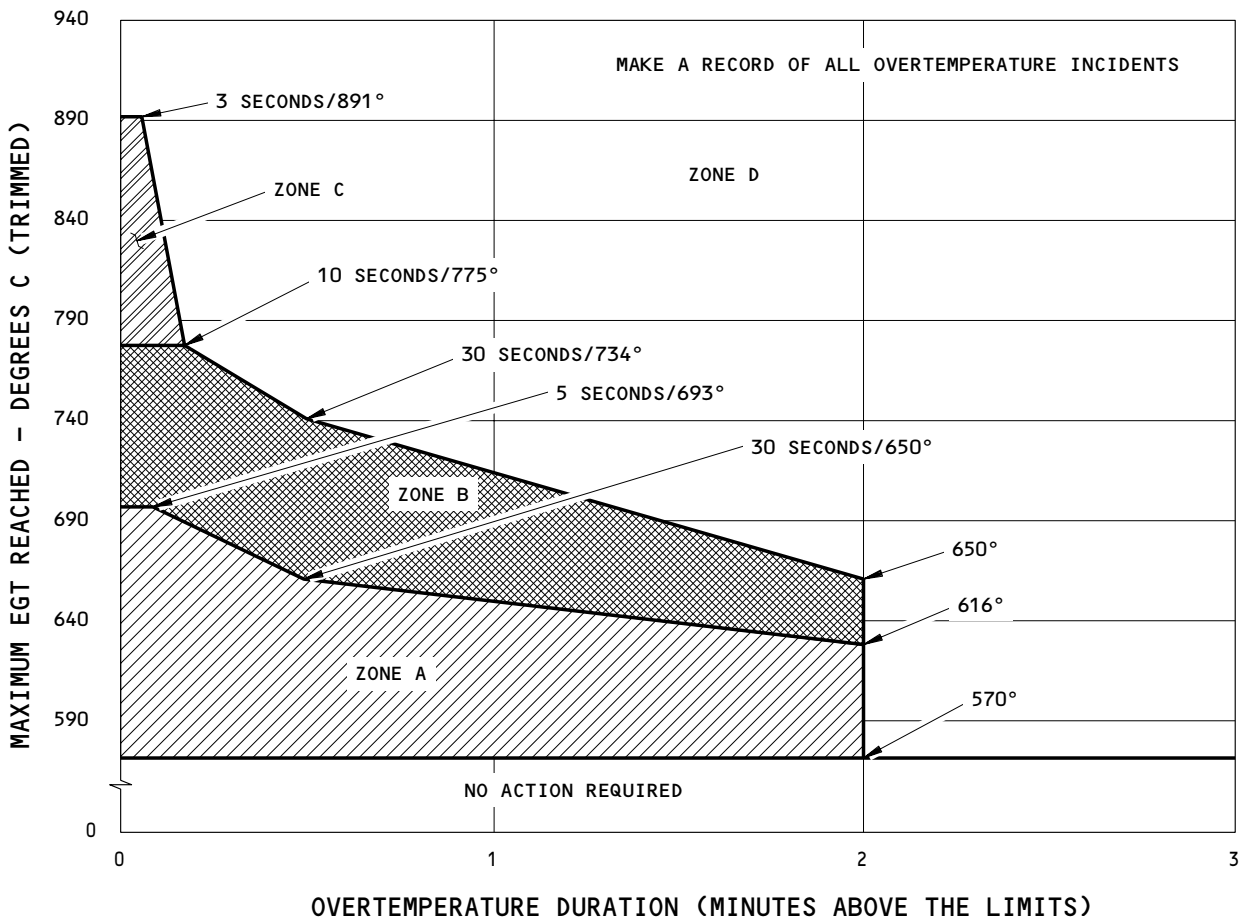
- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. DO A VISUAL INSPECTION OF THE L.P. TURBINE AND THE INTERNAL PART OF THE EXHAUST COLLECTOR (AMM 78-11-00/601) FOR DAMAGE.
- ZONE B DO THE PROCEDURE FOR ZONE A. DO A BORESCOPE INSPECTION OF THE H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601). IF IN THE LIMITS, DO THE BORESCOPE INSPECTION AGAIN BETWEEN 25 AND 50 FLIGHT HOURS.
- ZONE C DO THE PROCEDURE FOR ZONE A AND ZONE B. DO A BORESCOPE INSPECTION OF THE I.P. TURBINE SYSTEM (AMM 72-00-00/601). IF IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 60 FLIGHTS HOURS TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).
- ZONE D ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).

DEE0008019

Overtemperature Inspection Requirements (Below 50% N3)
Figure 120 (Sheet 4)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE U

71-05-00



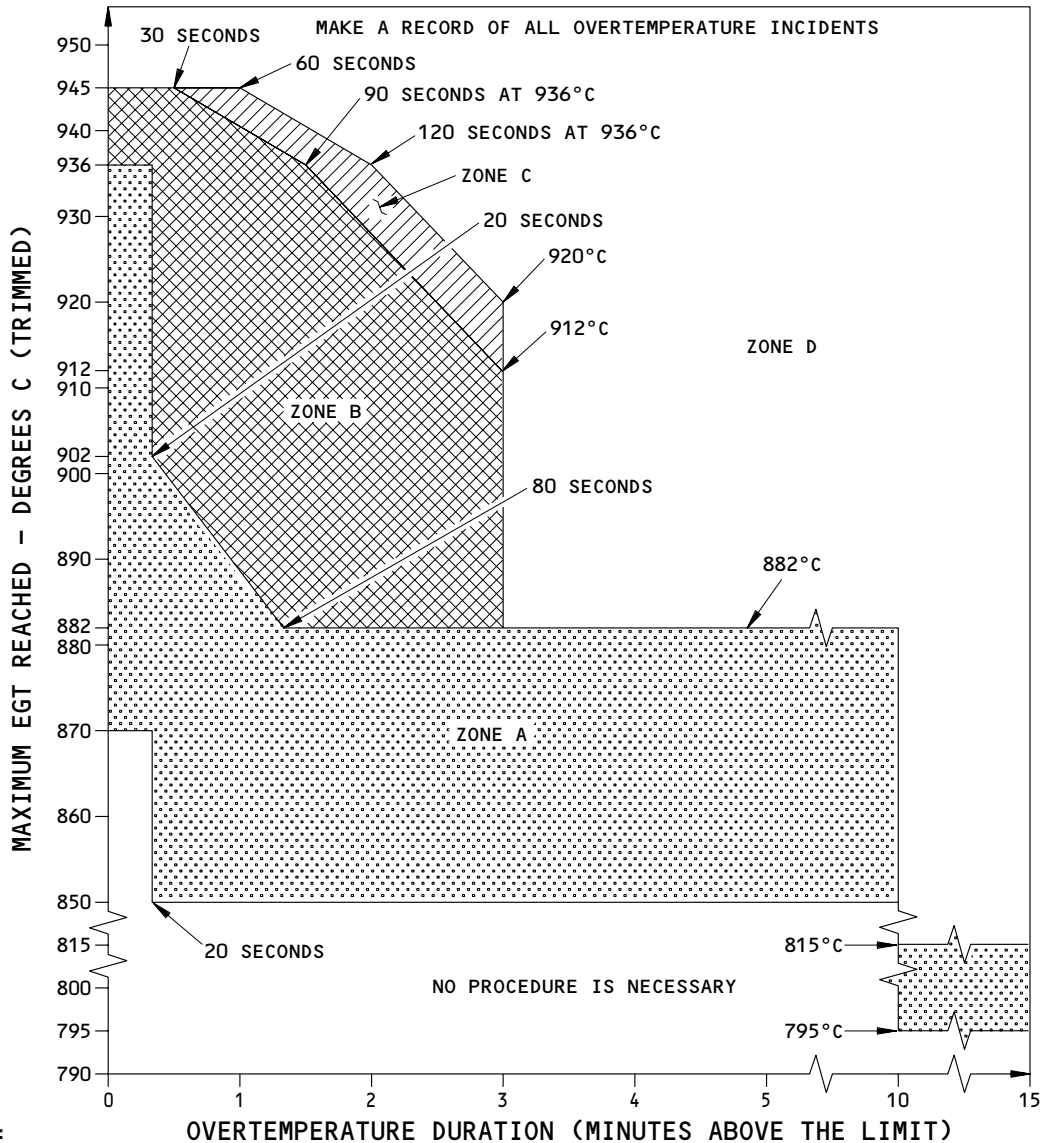
- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. DO A VISUAL INSPECTION OF THE L.P. TURBINE AND THE INTERNAL PART OF THE EXHAUST COLLECTOR (AMM 78-11-00/601) FOR DAMAGE.
- ZONE B DO THE PROCEDURE FOR ZONE A. DO A BORESCOPE INSPECTION OF THE H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601). IF IN THE LIMITS, DO THE BORESCOPE INSPECTION AGAIN BETWEEN 25 AND 50 FLIGHT HOURS.
- ZONE C DO THE PROCEDURE FOR ZONE A AND ZONE B. DO A BORESCOPE INSPECTION OF THE I.P. TURBINE SYSTEM (AMM 72-00-00/601). IF IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 60 FLIGHTS HOURS TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).
- ZONE D ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/SPECIAL PROCEDURES).

DEE0008020

Overtemperature Inspection Requirements (Below 50% N3)
Figure 120 (Sheet 5)

EFFECTIVITY
RB211-535E4 ENGINES POST
SB72-C230 WITH BALLAST RESISTOR
CODE AA

71-05-00



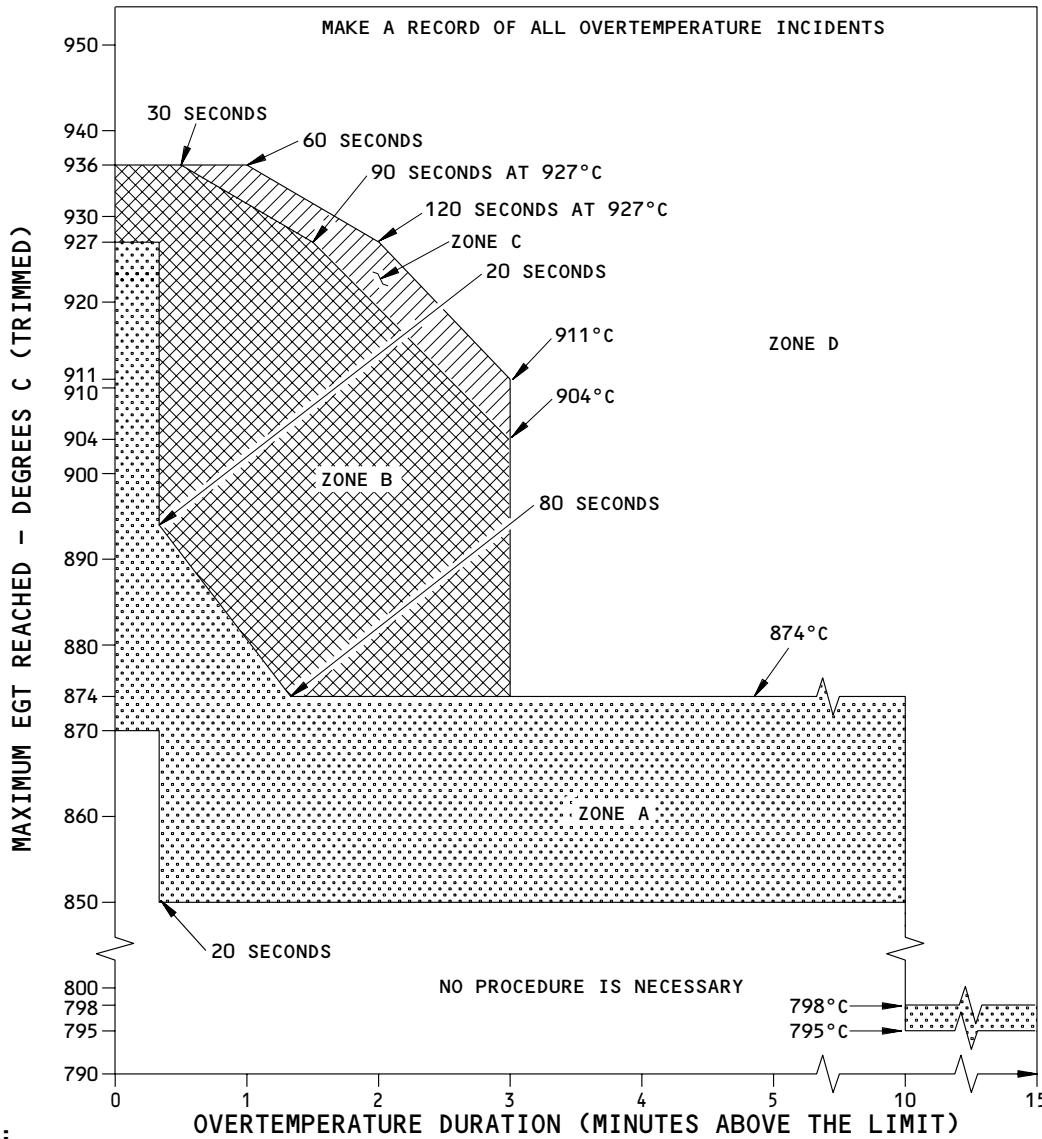
LEGEND:

- ZONE A** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C** [Pattern] DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
- ZONE D** [Pattern] ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 1)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE G

71-05-00



LEGEND:

- ZONE A** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C** [Pattern] DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
- ZONE D** [Pattern] ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

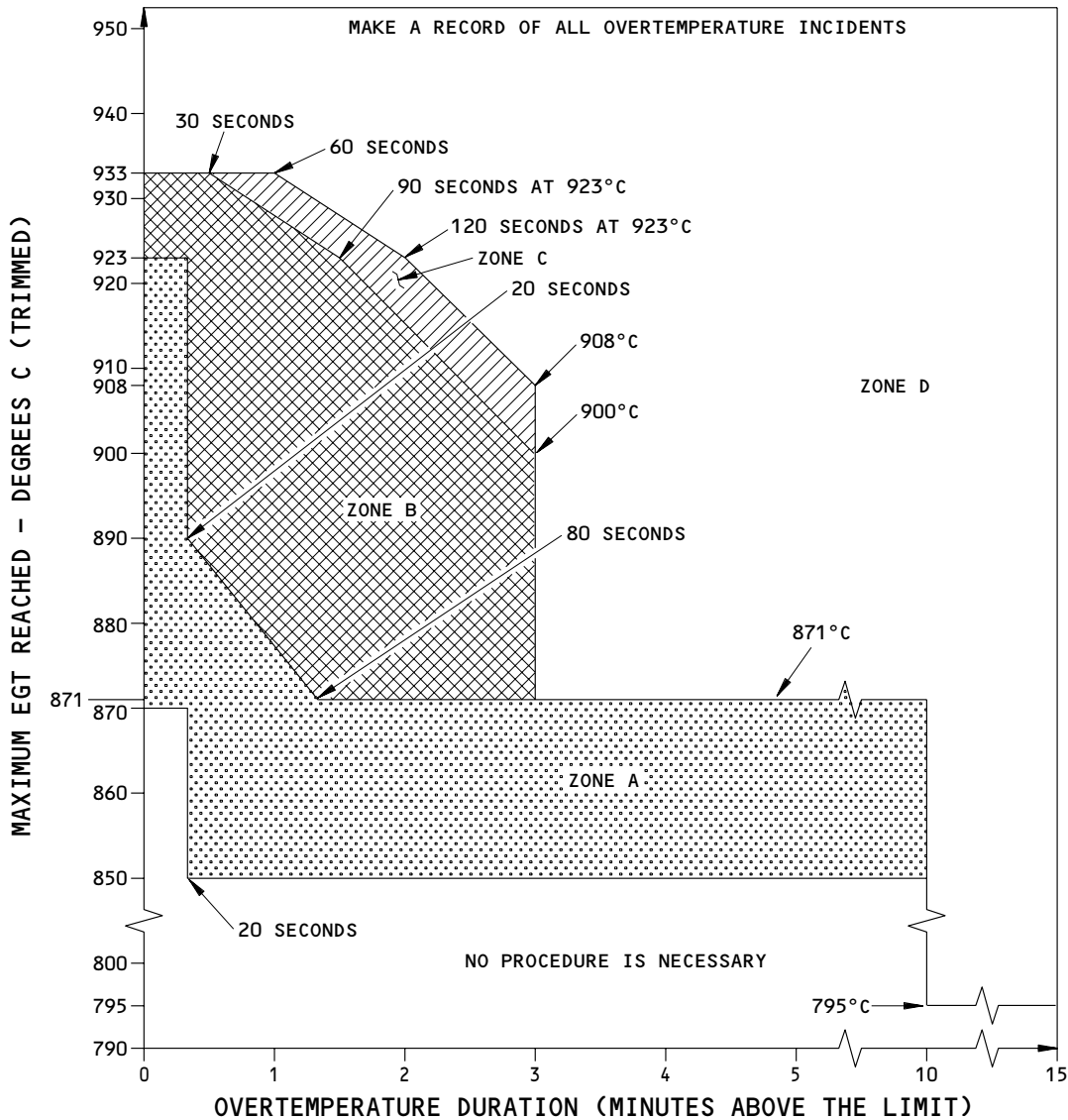
Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 2)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE M

71-05-00

R01

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C7920

LEGEND:

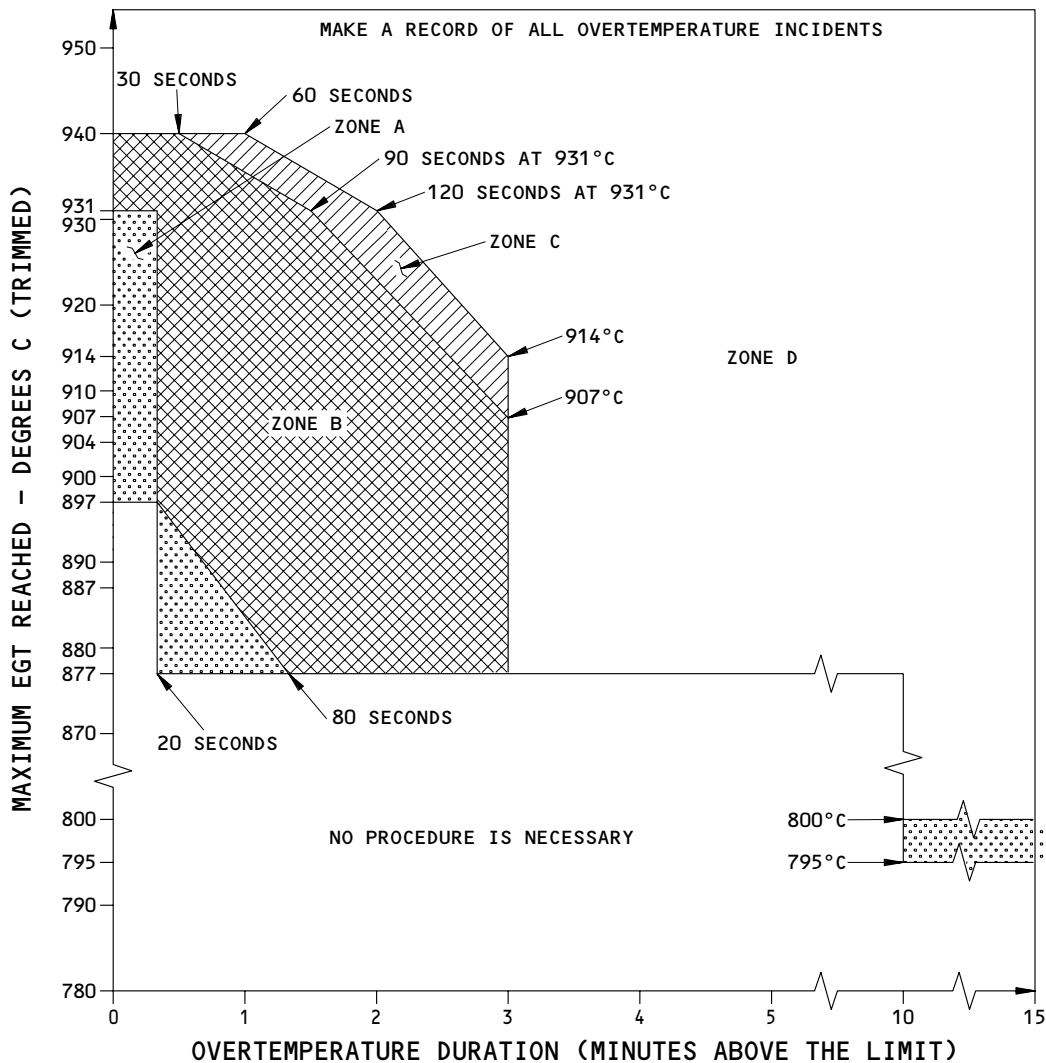
- ZONE A** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** [Pattern] FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C** [Pattern] DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
- ZONE D** [Pattern] ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 3)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE P

71-05-00

850521



c7921

LEGEND:

- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
- ZONE D ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

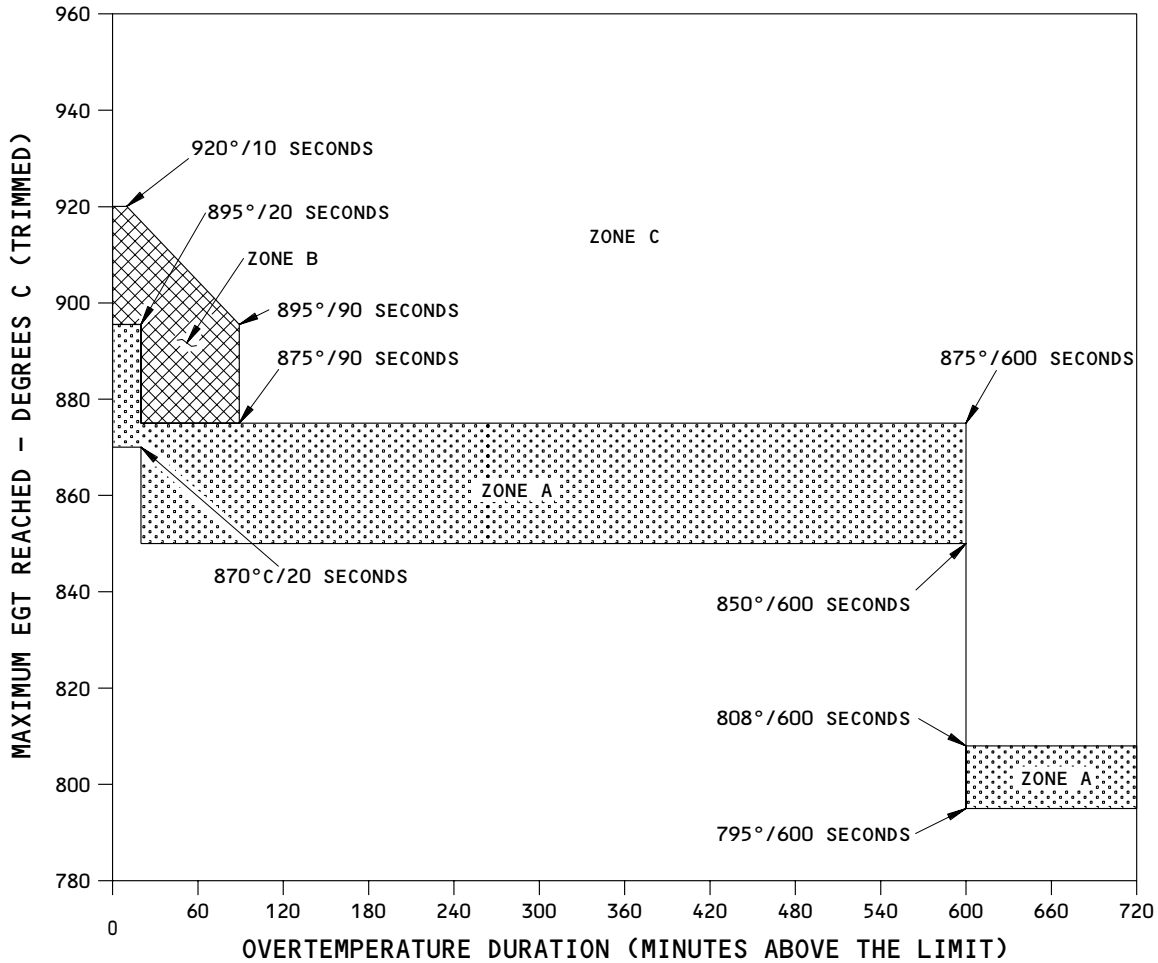
Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 4)

EFFECTIVITY
RB211-535E4-B ENGINES WITH
BALLAST RESISTOR CODE K

71-05-00

R01

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LEGEND:

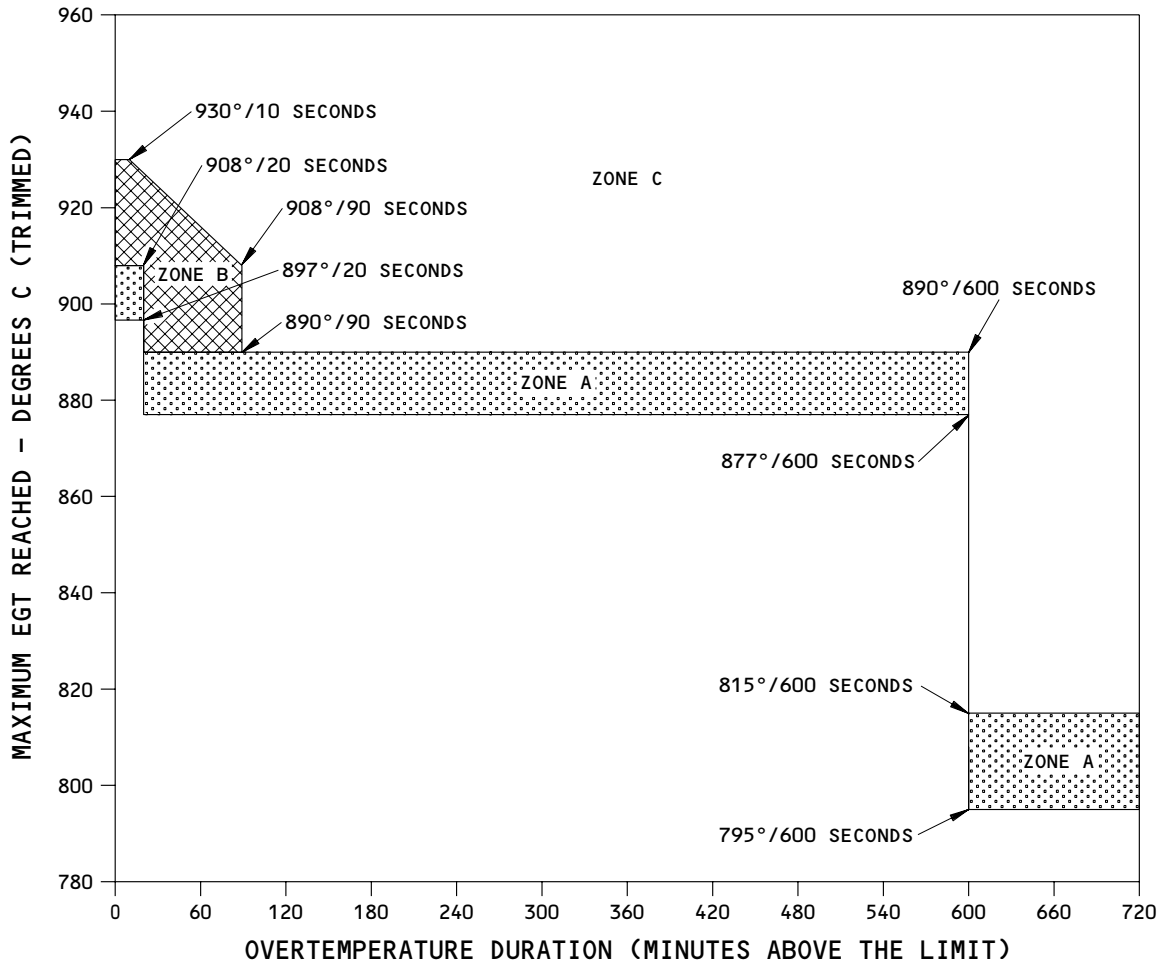
- ZONE A** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601). IF NO DAMAGE IS FOUND OUTSIDE THE MANUAL LIMITS, RETURN THE ENGINE TO SERVICE.
- ZONE C** ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

DEE0004300

Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 5)

EFFECTIVITY
RB211-535E4 ENGINES POST-RR-SB
72-C230 (M TRIMMER)

71-05-00



LEGEND:

- ZONE A FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601). IF NO DAMAGE IS FOUND OUTSIDE THE MANUAL LIMITS, RETURN THE ENGINE TO SERVICE.
- ZONE C ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201). DEE0004301

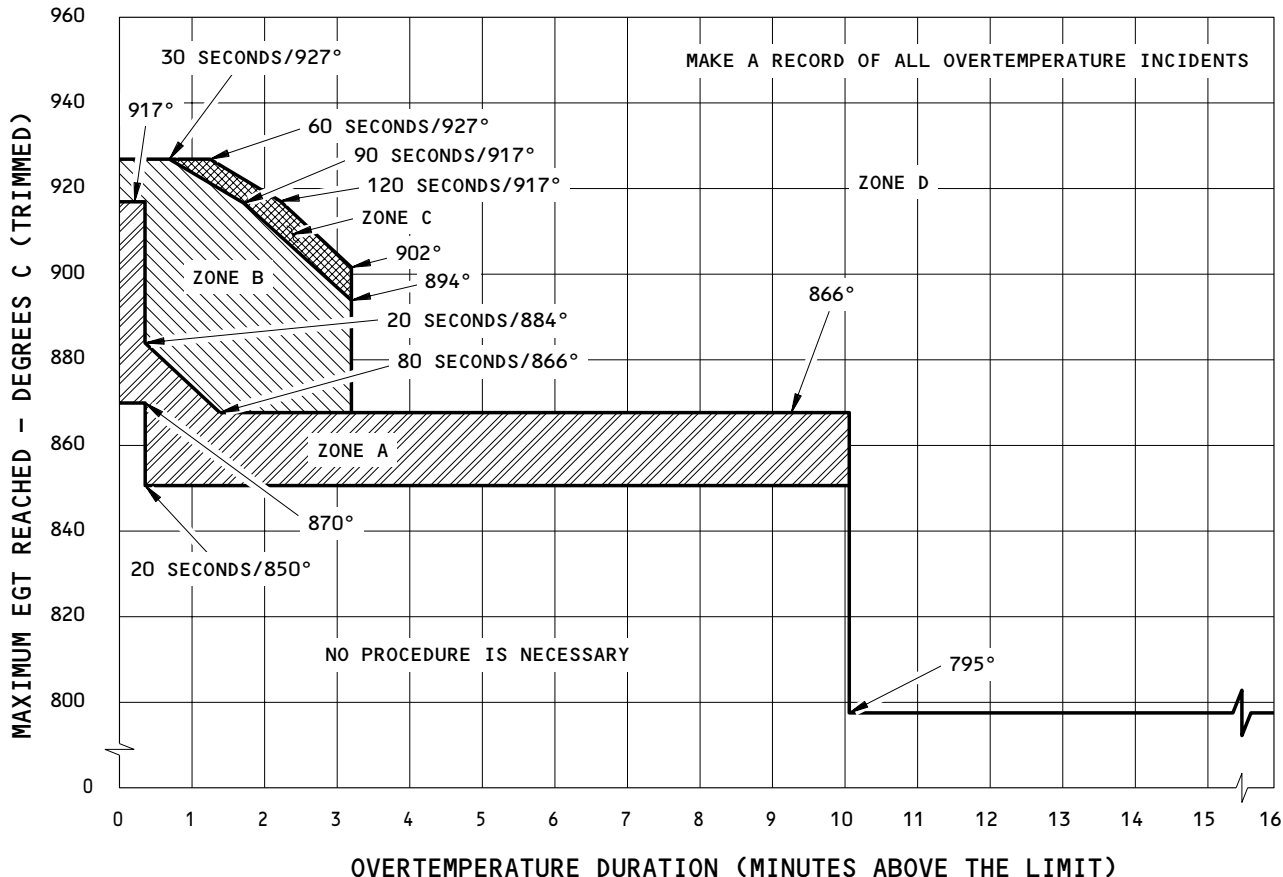
Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 6)

EFFECTIVITY
RB211-535E4-B ENGINES POST-RR-SB
72-C230 (F TRIMMER)

71-05-00

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- ZONE A** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG. 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS. IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE IS FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601).
- ZONE C** DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
- ZONE D** ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

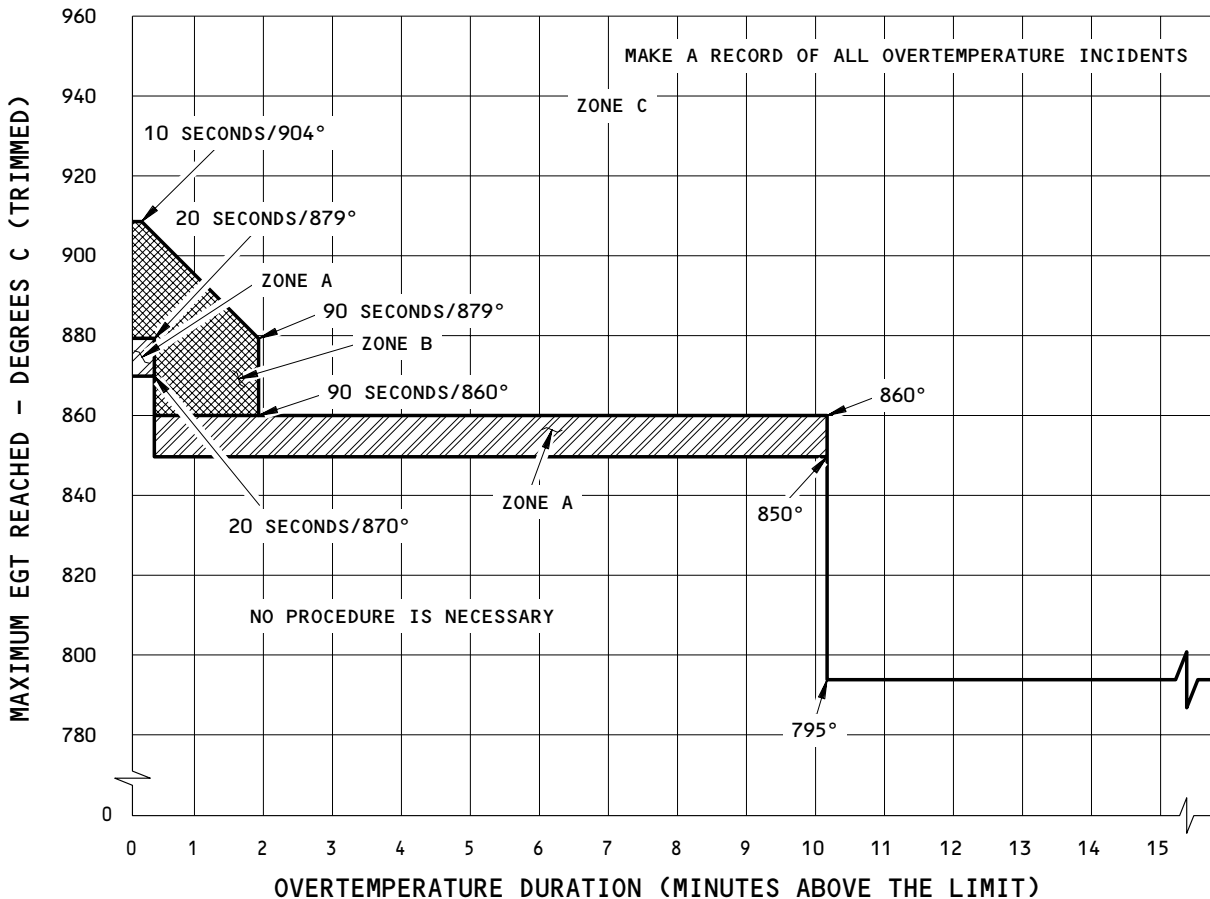
DEE0008021

Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 7)

EFFECTIVITY
RB211-535E4 ENGINES WITH BALLAST
RESISTOR CODE U

71-05-00

1543279



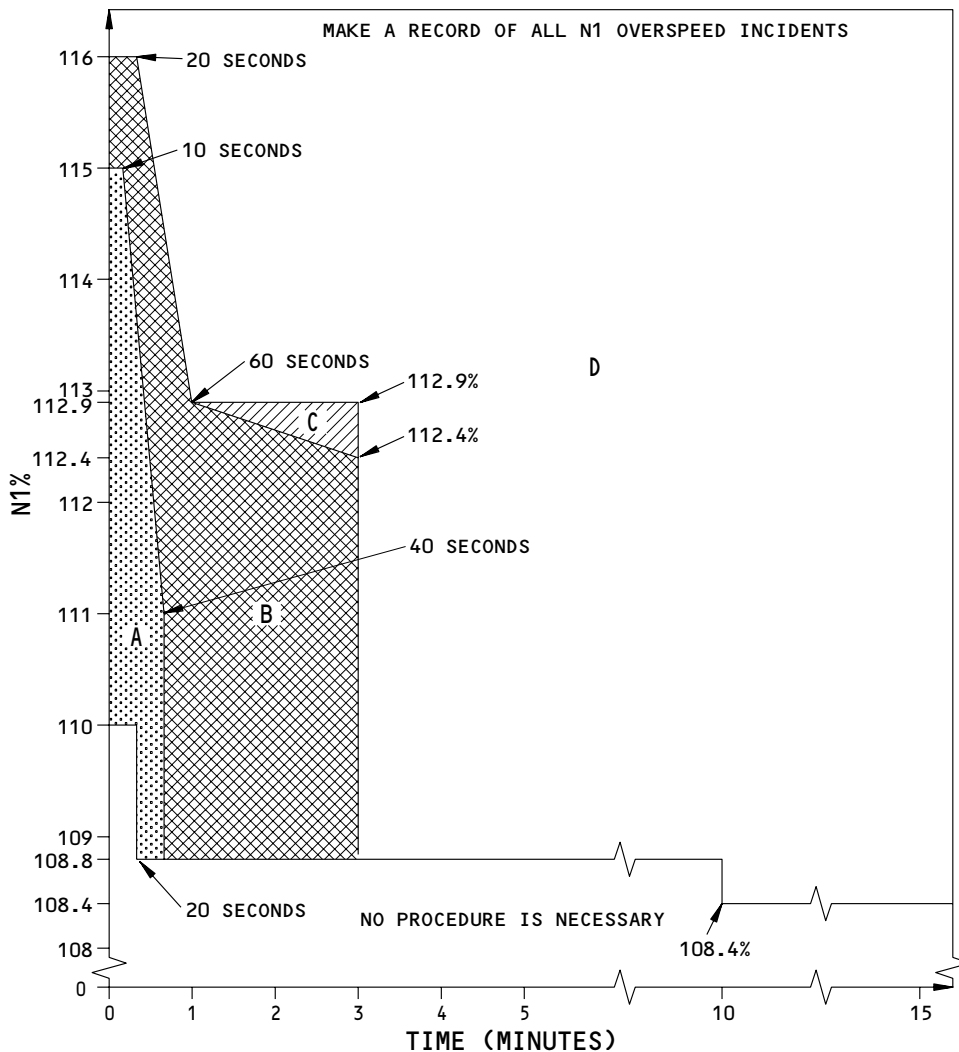
- ZONE A** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT (FIG. 116). IF AN ENGINE HAS MORE THAN 5 EXCURSIONS INTO ZONE A WITHOUT THE CAUSE BEING FOUND WITHIN 90 DAYS, DO THE PROCEDURE FOR ZONE B IN 5 FLIGHTS OR LESS. IF AN ENGINE IS DECLARED SERVICEABLE AFTER THE INSPECTION PROCEDURE FOR ZONE B IS DONE, A FURTHER PERIOD OF 90 DAYS STARTS FROM THIS TIME.
- ZONE B** FIND THE CAUSE OF THE OVERTEMPERATURE AND CORRECT IT. IF NO CAUSE IS FOUND, DO A VISUAL INSPECTION OF THE L.P. TURBINE. IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE I.P. TURBINE, H.P. TURBINE AND COMBUSTION SYSTEMS (AMM 72-00-00/601). IF NO DAMAGE IS FOUND OUTSIDE THE MANUAL LIMITS, RETURN THE ENGINE TO SERVICE
- ZONE C** ALL OVERTEMPERATURE INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

DEE0008022

Overtemperature Inspection Requirements (Above 50% N3)
Figure 121 (Sheet 8)

EFFECTIVITY
RB211-535E4 ENGINES POST SB
72-C230 WITH BALLAST RESISTOR
CODE AA

71-05-00



NOTE: FROM THE ENG EXCD PAGE, USE THE RPM AND THE LENGTH OF TIME SHOWN TO FIND THE APPLICABLE INSPECTION INSTRUCTION. FLIGHT RECORDER DATA MAY BE USED TO KNOW MAX RPM AND TIME DATA.
EXAMPLE: EICAS ENG EXCD PAGE DISPLAYS
RPM TIME
110% 30 SEC
PLOT 30 SECONDS AT 110%

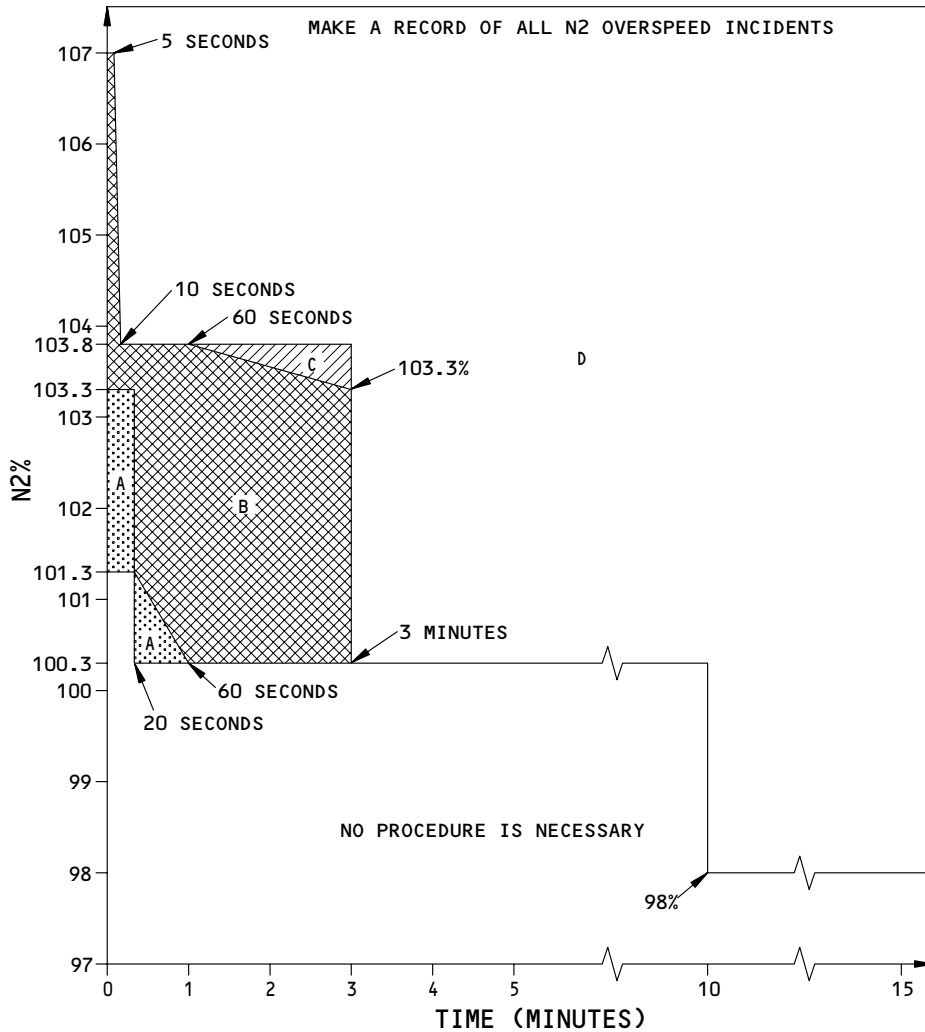
- ZONE**
- A FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT (FIG. 115A).
 - B IF THERE WAS A SURGE, DO THE "INSPECTION FOLLOWING ENGINE SURGE" (AMM 71-00-00/601). FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT. IF NO CAUSE FOUND, DO A VISUAL INSPECTION OF THE L.P. COMPRESSOR (AMM 72-31-13/601). IF THE DAMAGE IS MORE THAN THE LIMITS, REJECT THE ENGINE. IF THE DAMAGE IS IN THE LIMITS, DO A BORESCOPE INSPECTION OF THE L.P. TURBINE SYSTEM (AMM 72-00-00/601).
 - C DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
 - D ALL OVERSPEED INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

C7915

**N1 Overspeed Inspection Requirements
Figure 122**

EFFECTIVITY
RB211-535E4, RB211-535E4-B AND
RB211-535E4-C ENGINES

71-05-00



NOTE: FROM THE ENG EXCD PAGE, USE THE RPM AND THE LENGTH OF TIME SHOWN TO FIND THE APPLICABLE INSPECTION INSTRUCTION. FLIGHT RECORDER DATA MAY BE USED TO KNOW MAX RPM AND TIME DATA.
EXAMPLE: EICAS ENG EXCD PAGE DISPLAYS
RPM TIME
102% 30 SEC
PLOT 30 SECONDS AT 102%

- ZONE**
- A FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT (FIG. 115B).
 - B IF THERE WAS A SURGE, DO THE "INSPECTION FOLLOWING ENGINE SURGE" (AMM 71-00-00/601). FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT. IF NO CAUSE FOUND, DO A BORESCOPE INSPECTION OF THE I.P. COMPRESSOR AND I.P. TURBINE SYSTEMS (AMM 72-00-00/601).
 - C DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
 - D ALL OVERSPEED INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

C7916

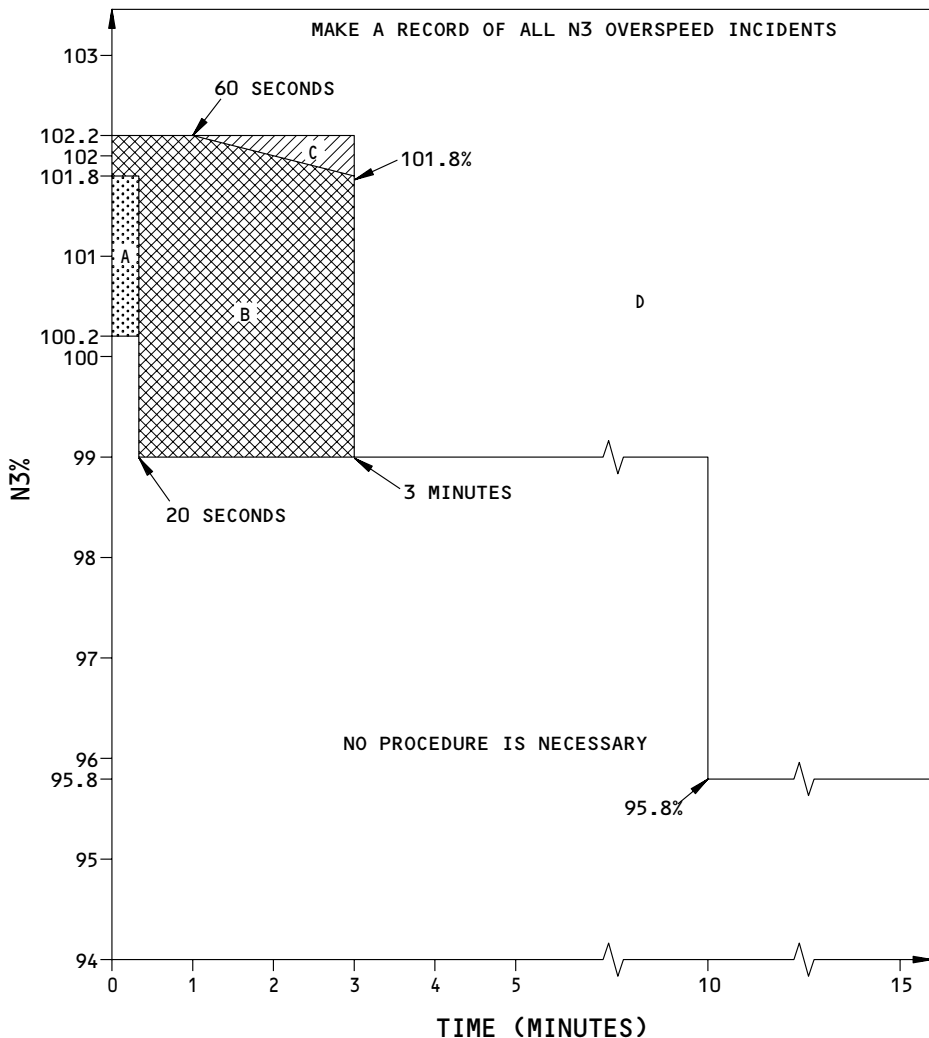
**N2 Overspeed Inspection Requirements
Figure 123**

EFFECTIVITY
RB211-535E4 AND RB211-535E4-B
ENGINES

71-05-00

R01

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NOTE: FROM THE ENG EXCD PAGE, USE THE RPM AND THE LENGTH OF TIME SHOWN TO FIND THE APPLICABLE INSPECTION INSTRUCTION. FLIGHT RECORDER DATA MAY BE USED TO KNOW MAX RPM AND TIME DATA.
EXAMPLE: EICAS ENG EXCD PAGE DISPLAYS
RPM TIME
101% 30 SEC
PLOT 30 SECONDS AT 101%

- ZONE**
- A FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT (FIG. 115C).
 - B IF THERE WAS A SURGE, DO THE "INSPECTION FOLLOWING ENGINE SURGE" (AMM 71-00-00/601). FIND THE CAUSE OF THE OVERSPEED AND CORRECT IT. IF NO CAUSE FOUND, DO A BORESCOPE INSPECTION OF THE H.P. COMPRESSOR AND H.P. TURBINE SYSTEM (AMM 72-00-00/601).
 - C DO THE PROCEDURE FOR ZONE B. IF THE DAMAGE IS IN THE LIMITS, AND ONLY ONE ENGINE IS AFFECTED, THE ENGINE MAY CONTINUE IN SERVICE IF THE ENGINE IS REMOVED IN 25 HOURS OR 6 FLIGHTS (WHICHEVER OCCURS FIRST) TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).
 - D ALL OVERSPEED INCIDENTS THAT ARE MORE THAN THE LIMITS SHOWN, REJECT THE ENGINE TO PERMIT AN ENGINE STRIP EXAMINATION (REFER TO RR ENGINE MANUAL 72-00-00/201).

C7917

**N3 Overspeed Inspection Requirements
Figure 124**

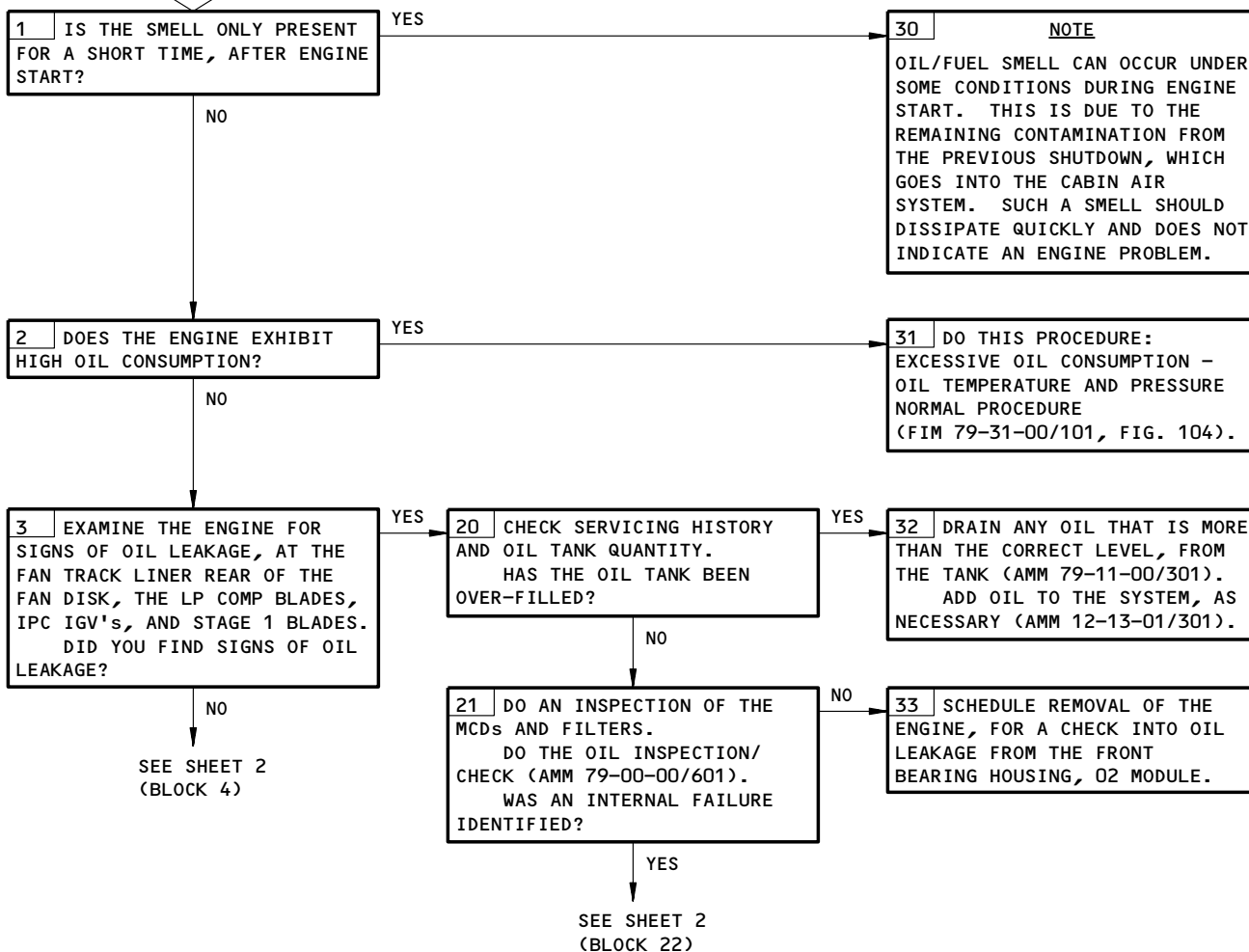
EFFECTIVITY
RB211-535E4 AND RB211-535E4-B
ENGINES

71-05-00

766520

**ENGINE OIL/FUEL
SMELL IDENTIFIED
IN CABIN**

PREREQUISITES
NONE



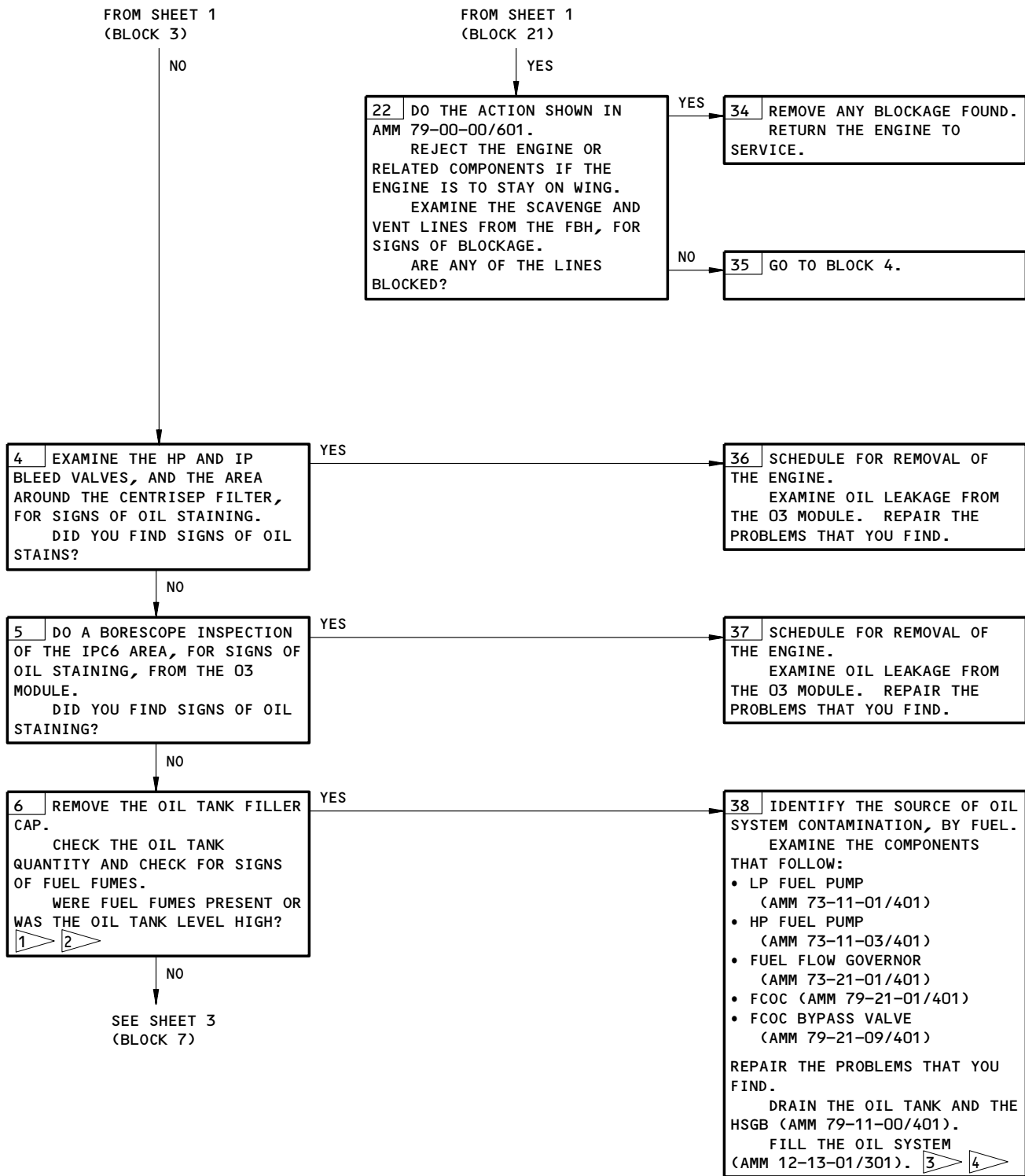
NOTE: A SMALL QUANTITY OF OIL, CAN STAY IN THE AIRPLANE PNEUMATIC SYSTEM AND CAUSE REPORTS OF CABIN ODOURS. THESE REPORTS CAN CONTINUE AFTER THE SOURCE OF THE OIL IS REMOVED. IF THE CAUSE OF THE CABIN ODOUR IS ENGINE OIL, REMOVE THE SOURCE. AFTER THE SOURCE IS REMOVED, REMOVE THE CONTAMINATION FROM THE AIR CONDITIONING SYSTEM (AMM 21-00-01/201).

- 1 ▷ RR TOOL NUMBERS, 1013832 AND 1013833, SHOULD BE USED TO MEASURE FUEL FUMES.
- 2 ▷ ALTERNATIVELY, A COMBUSTABLE GAS DETECTOR RR PART NUMBER, 1018157, CAN BE USED (AMM 12-13-01/301).
- 3 ▷ EXAMINE THE CONDITION OF THE MAGNETIC CHIP DETECTORS, BEFORE AND AFTER THE NEXT FLIGHT.
- 4 ▷ IF THE SOURCE OF FUEL IS FROM THE FUEL FLOW GOVERNOR, THE HP FUEL PUMP OR LP FUEL PUMP, REMOVE AND INSPECT THE APPLICABLE UNIT DRAIN TUBE FOR BLOCKAGE.
- 5 ▷ STATIC DRAIN, DOWN FROM THE OIL TANK, IS USUALLY ASSOCIATED WITH A FAULTY OIL PUMP CARBON SEAL.

Engine Oil/Fuel Smell Identified in Cabin
Figure 125 (Sheet 1)

EFFECTIVITY
RB211-535E4, RB211-535E4-B AND
RB211-535E4-C ENGINES

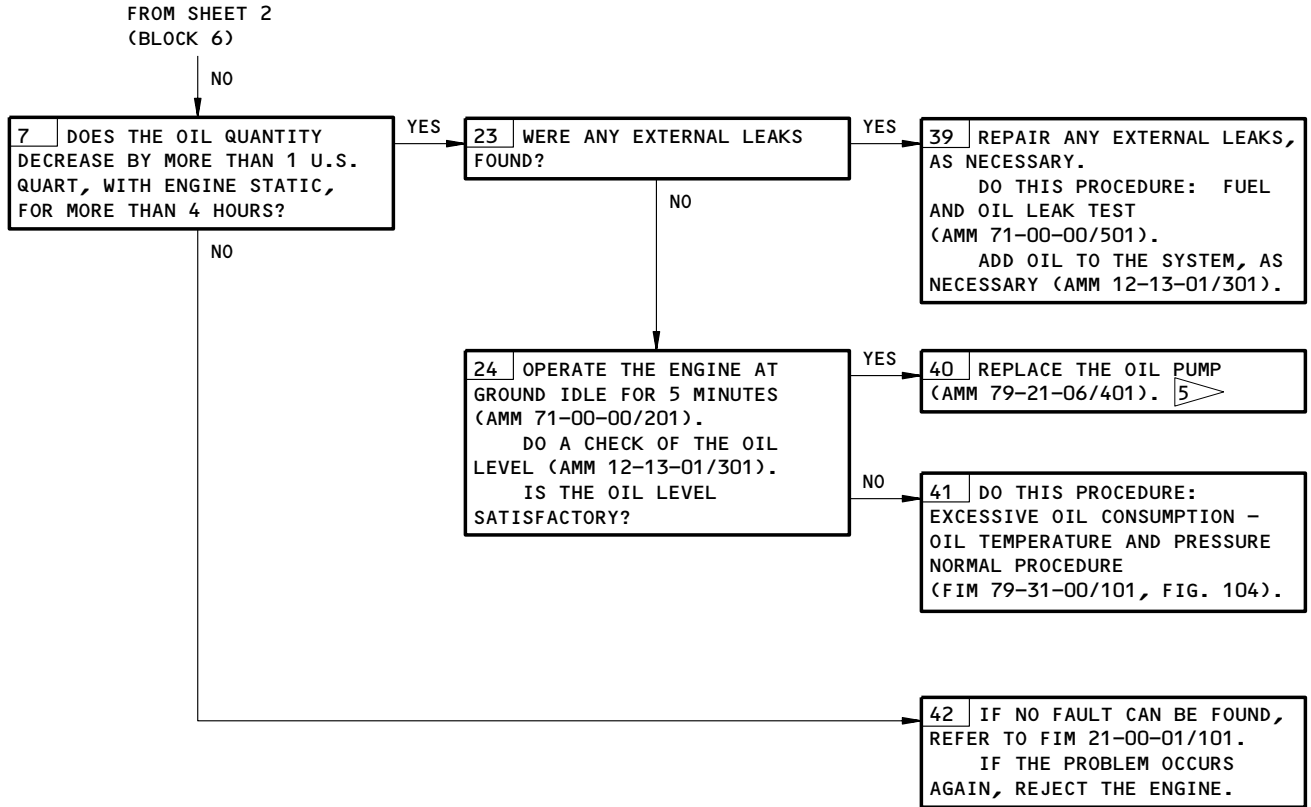
71-05-00



Engine Oil/Fuel Smell Identified in Cabin
Figure 125 (Sheet 2)

EFFECTIVITY
RB211-535E4, RB211-535E4-B AND
RB211-535E4-C ENGINES

71-05-00



Engine Oil/Fuel Smell Identified in Cabin
Figure 125 (Sheet 3)

EFFECTIVITY
RB211-535E4, RB211-535E4-B AND
RB211-535E4-C ENGINES

71-05-00

R01

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POWER PLANT (POWER RELATED) - FAULT ISOLATION

1. General

- A. This section contains power related Power Plant fault isolation procedures. For nonpower related Power Plant fault isolation procedures, refer to (FIM 71-05-00/101).

EFFECTIVITY _____
ALL

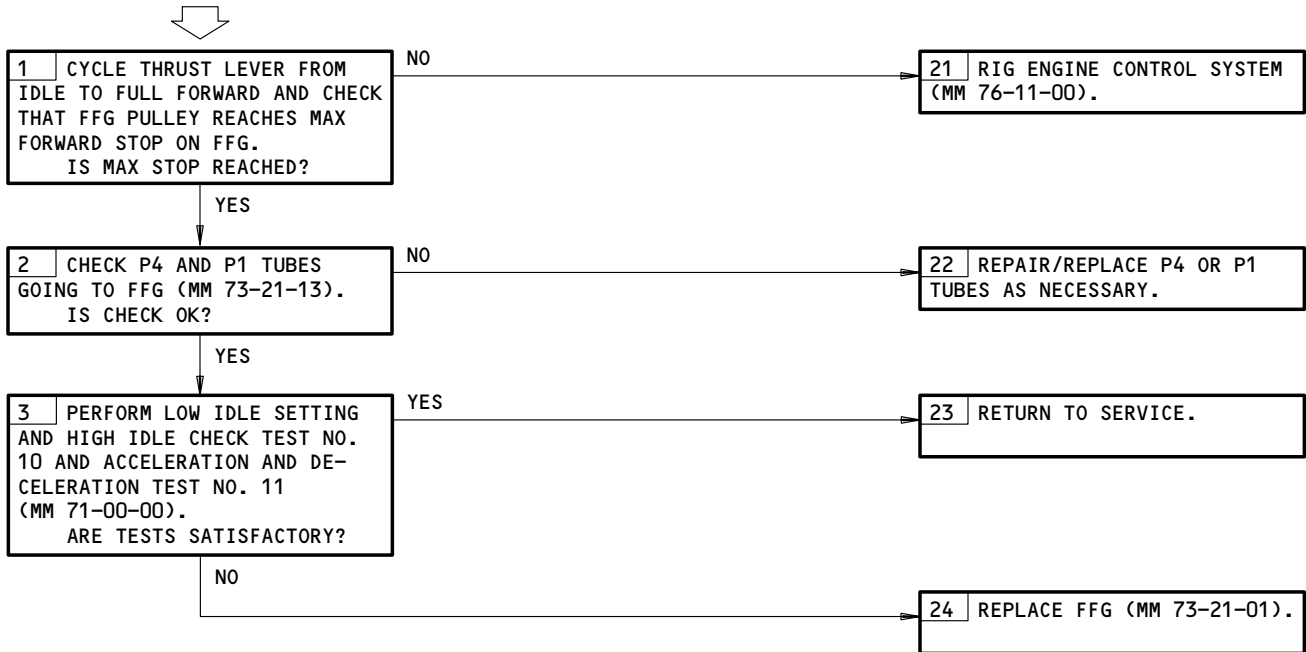
71-06-00

R01

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SLOW RESPONSE TO THRUST LEVER MOVEMENT

PREREQUISITES
 NONE



Slow Response to Thrust Lever Movement
Figure 101

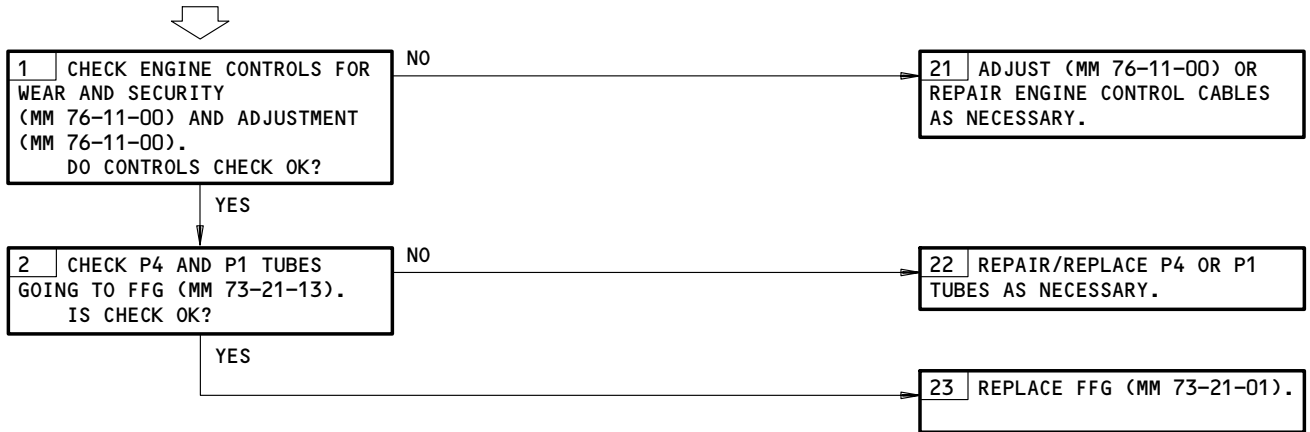
EFFECTIVITY

ALL

71-06-00

NO RESPONSE TO
THRUST LEVER MOVE-
MENT

PREREQUISITES
NONE



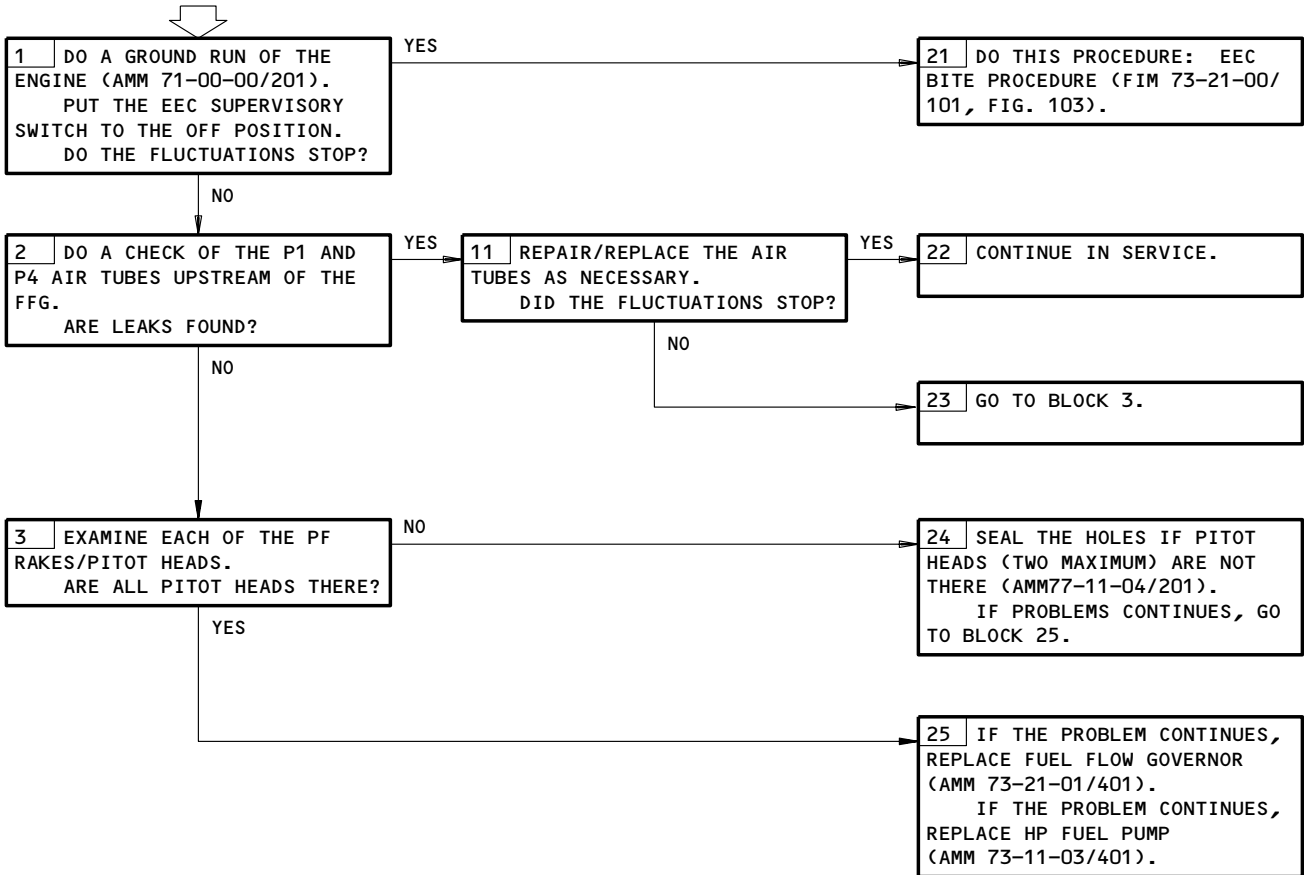
No Response to Thrust Lever Movement
Figure 101A

EFFECTIVITY _____
ALL

71-06-00

**ENGINE POWER
FLUCTUATES**

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



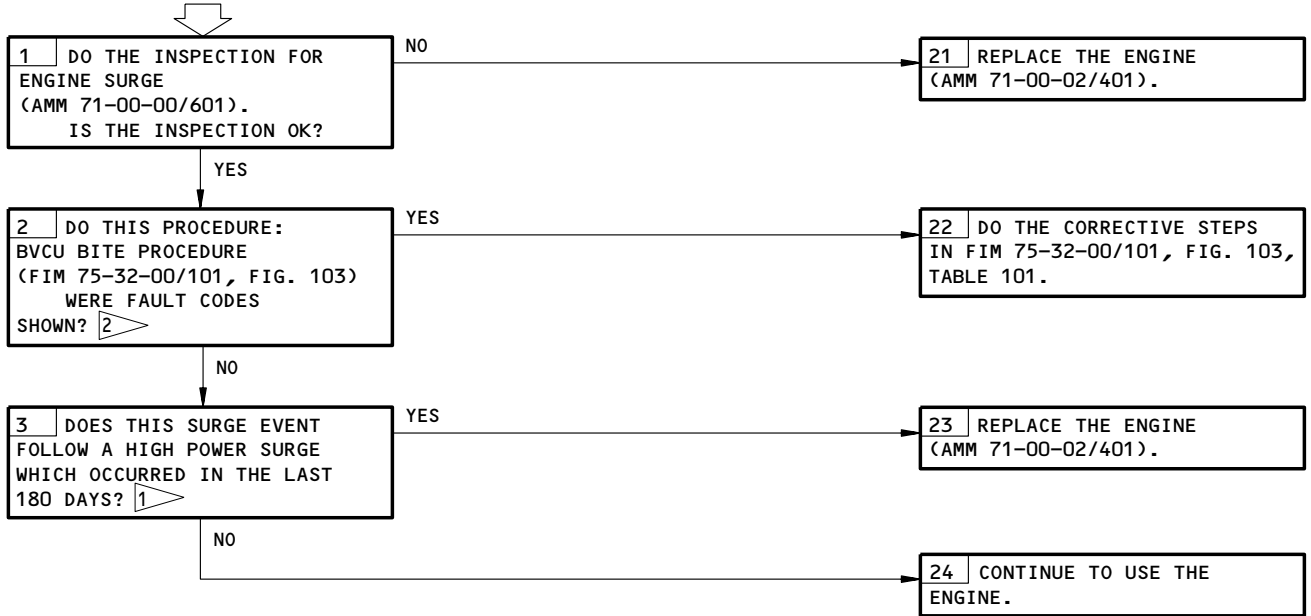
Engine Power Fluctuates
Figure 102

EFFECTIVITY ————
ALL

71-06-00

PREREQUISITES
NONE

**ENGINE SURGE (STALL)
DURING TAKEOFF/CLIMB**



- 1 "HIGH POWER SURGE" IS DEFINED AS A SURGE AT CRUISE POWER AND ABOVE. TOP OF DESCENT DECEL SURGES ARE NOT INCLUDED.
- 2 IF ONLY CODE 04 ON BVCU AND CODE 40 ON TPU ARE SHOWN, NO CORRECTIVE ACTION IS NECESSARY. THEY ARE AN INDICATION OF THE SURGE AND NOT THE CAUSE.

Engine Surge (Stall) During Takeoff/Climb
Figure 103

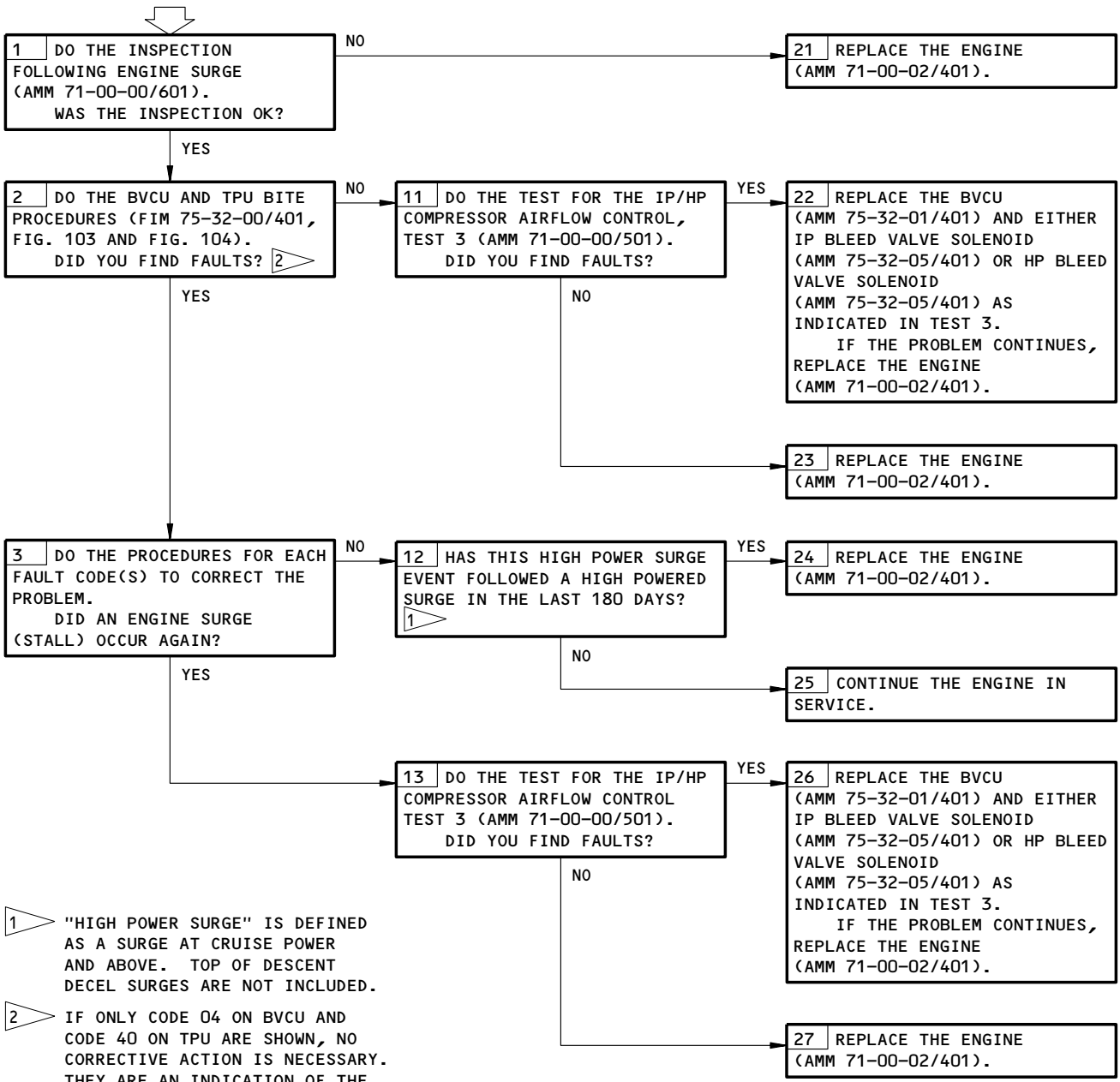
EFFECTIVITY

ALL

71-06-00

**ENGINE SURGE (STALL)
DURING CONSTANT
POWER OPERATION**

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



1 "HIGH POWER SURGE" IS DEFINED AS A SURGE AT CRUISE POWER AND ABOVE. TOP OF DESCENT DECEL SURGES ARE NOT INCLUDED.

2 IF ONLY CODE 04 ON BVCU AND CODE 40 ON TPU ARE SHOWN, NO CORRECTIVE ACTION IS NECESSARY. THEY ARE AN INDICATION OF THE SURGE AND NOT THE CAUSE.

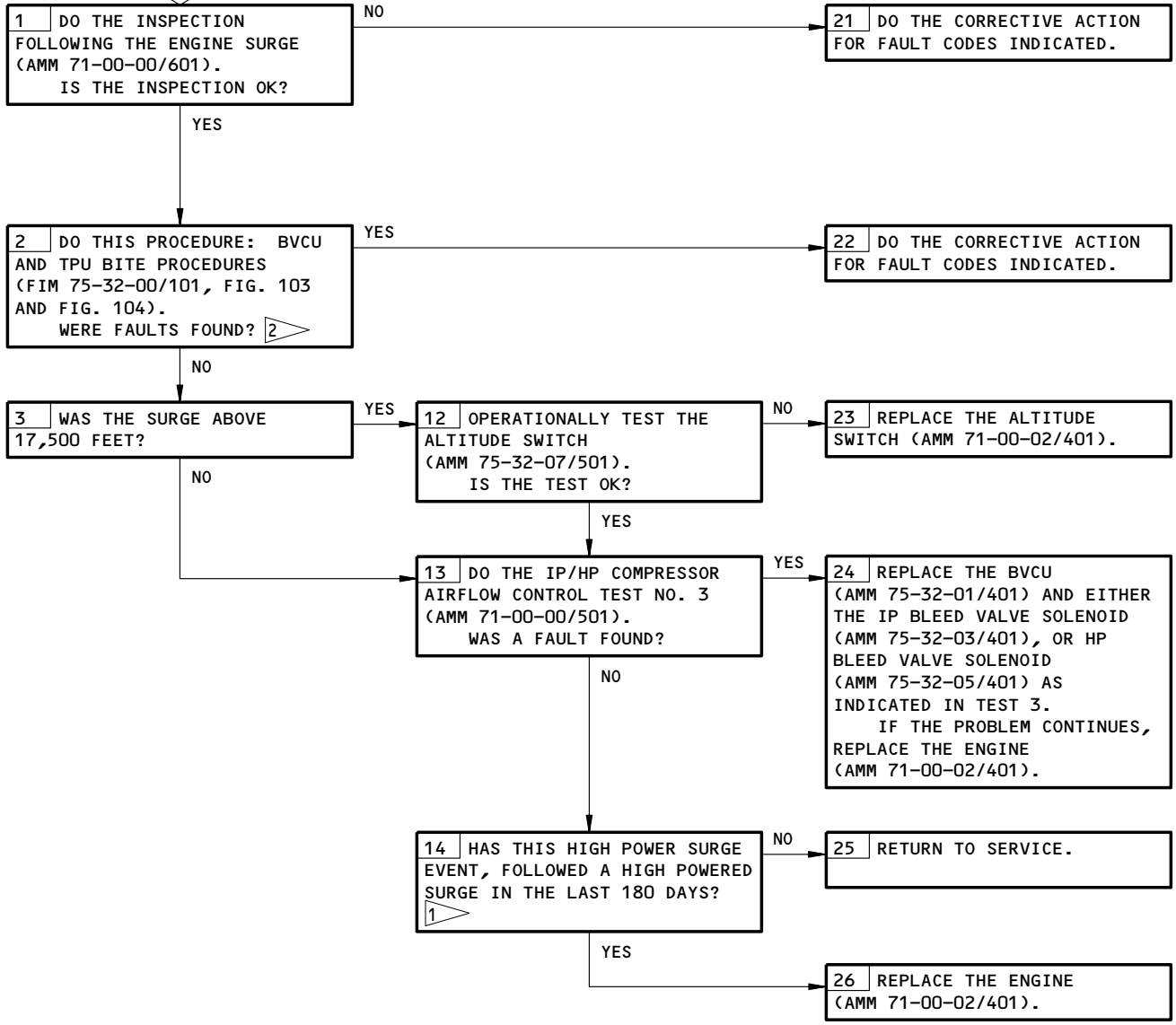
Engine Surge (Stall) During Constant Power Operation
Figure 104

EFFECTIVITY ————
ALL

71-06-00

**ENGINE SURGE (STALL)
IN FLIGHT DURING
ACCEL/DECEL**

PREREQUISITES
NONE



1 "HIGH POWER SURGE" IS DEFINED AS A SURGE AT CRUISE POWER AND ABOVE. TOP OF DESCENT DECEL SURGES ARE NOT INCLUDED.

2 IF ONLY CODE 04 ON BVCU AND CODE 40 ON TPU ARE SHOWN, NO CORRECTIVE ACTION IS NECESSARY. THEY ARE AN INDICATION OF THE SURGE AND NOT THE CAUSE.

Engine Surge (Stall) in Flight During Accel/Decel
Figure 105

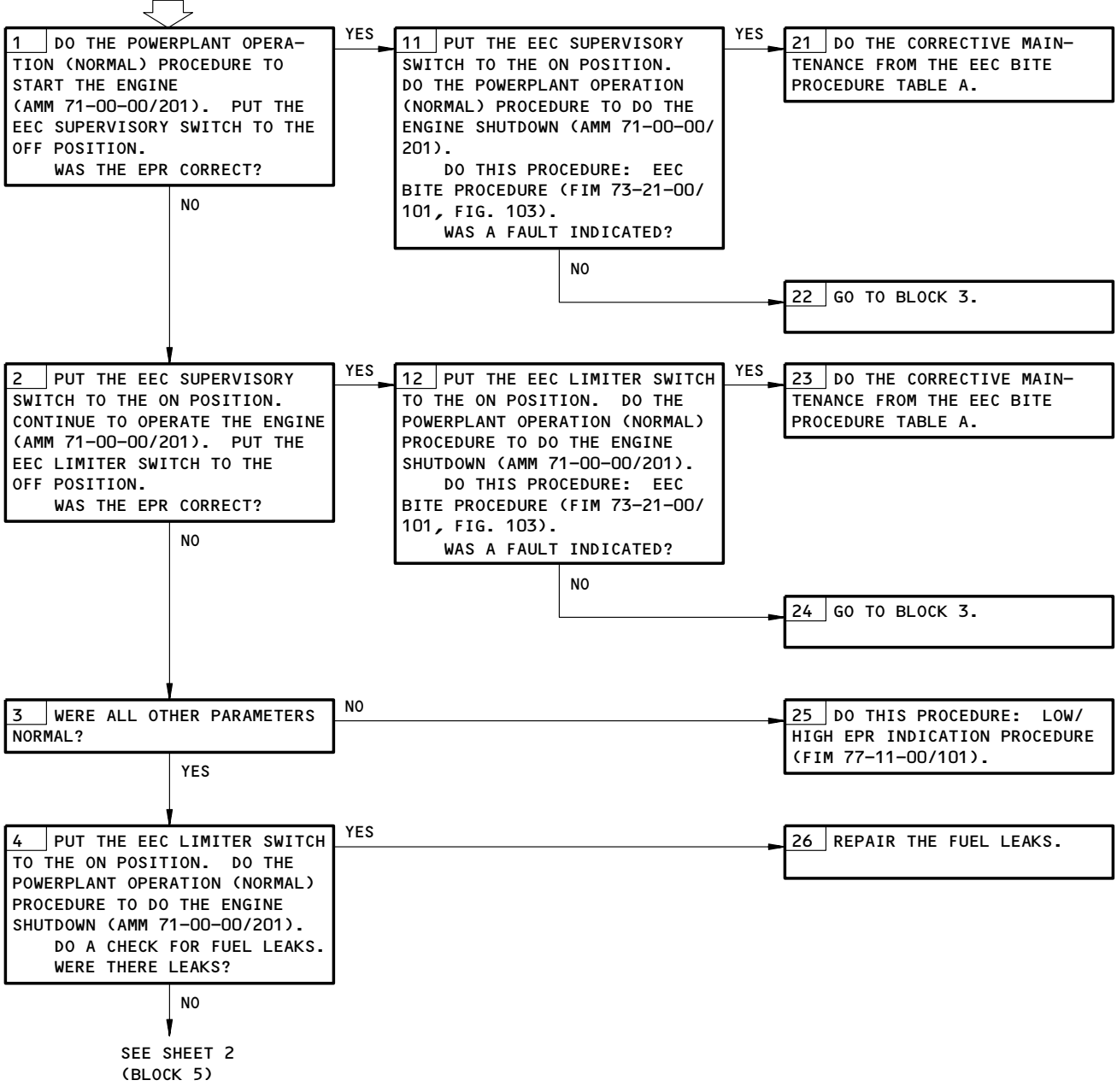
EFFECTIVITY

ALL

71-06-00

TAKEOFF EPR LIMITED
WHEN THRUST LEVER
FULLY ADVANCED,
OTHER PARAMETERS
NORMAL FOR THE
POWER ATTAINED

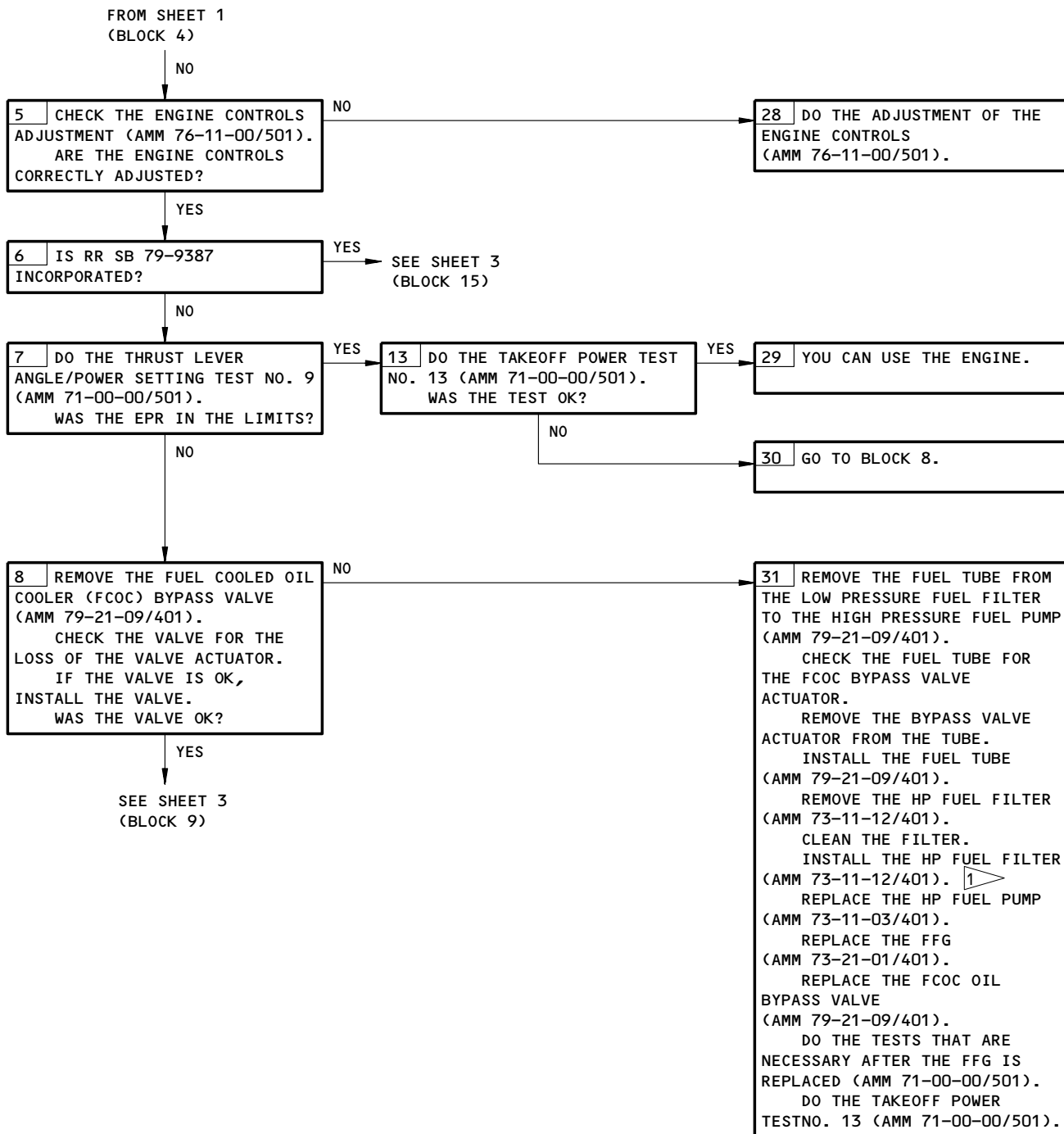
PREREQUISITES
NONE



Takeoff EPR Limited When Thrust Lever Fully Advanced,
Other Parameters Normal for the Power Attained
Figure 106 (Sheet 1)

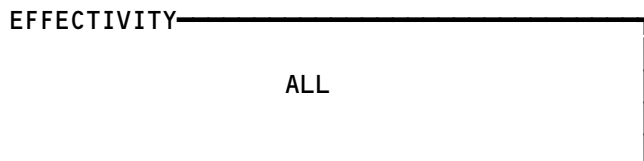
EFFECTIVITY
ALL

71-06-00

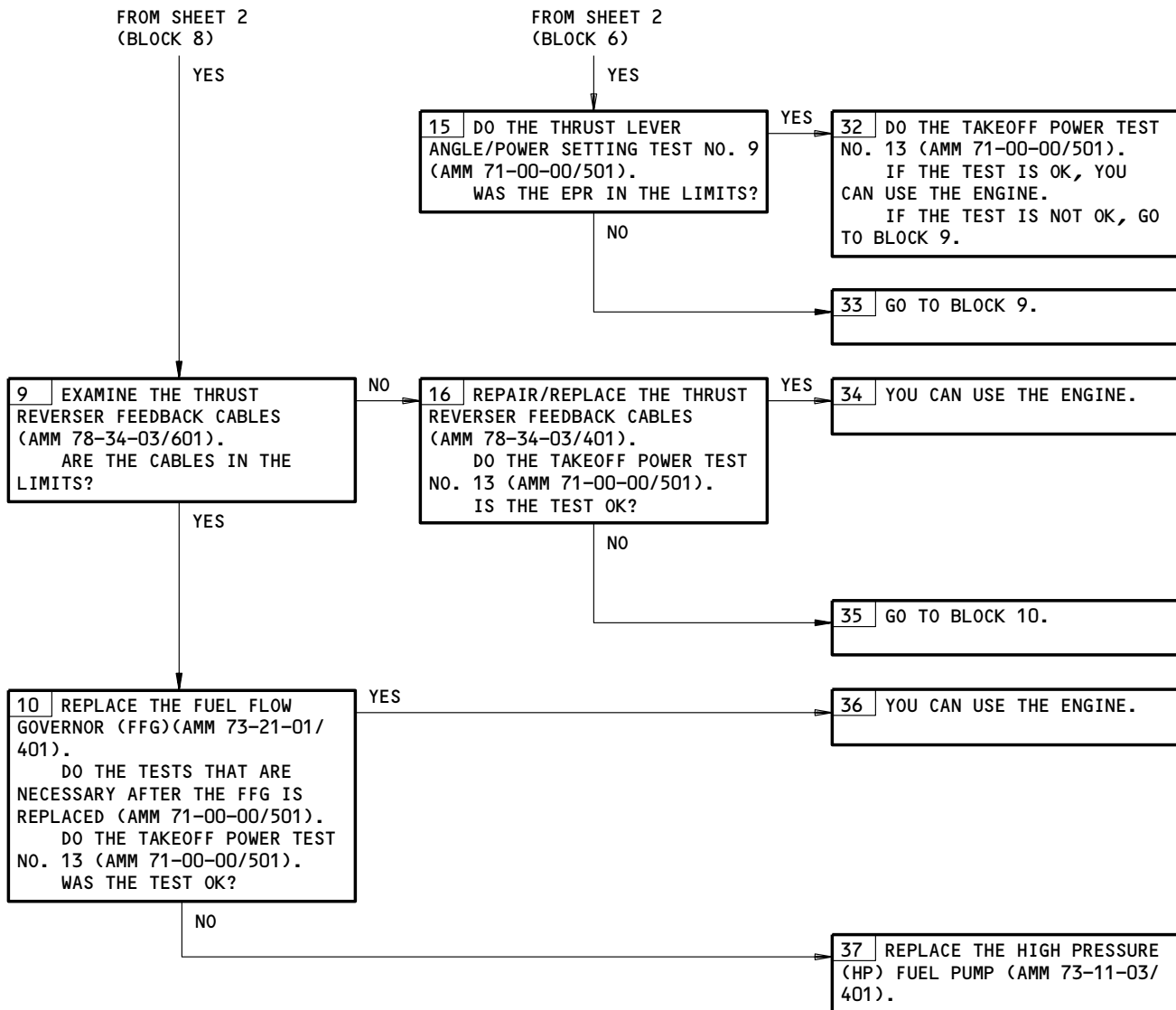


1 CAVITATION DAMAGE TO THE HP FUEL PUMP CAN OCCUR IF THE LP FUEL TUBE TO THE PUMP BECOMES BLOCKED. UNWANTED MATERIALS FROM THE DAMAGED PUMP WILL GO INTO THE FFG AND THE HP FUEL FILTER.

Takeoff EPR Limited When Thrust Lever Fully Advanced,
Other Parameters Normal for the Power Attained
Figure 106 (Sheet 2)



71-06-00



Takeoff EPR Limited When Thrust Lever Fully Advanced,
Other Parameters Normal for the Power Attained
Figure 106 (Sheet 3)

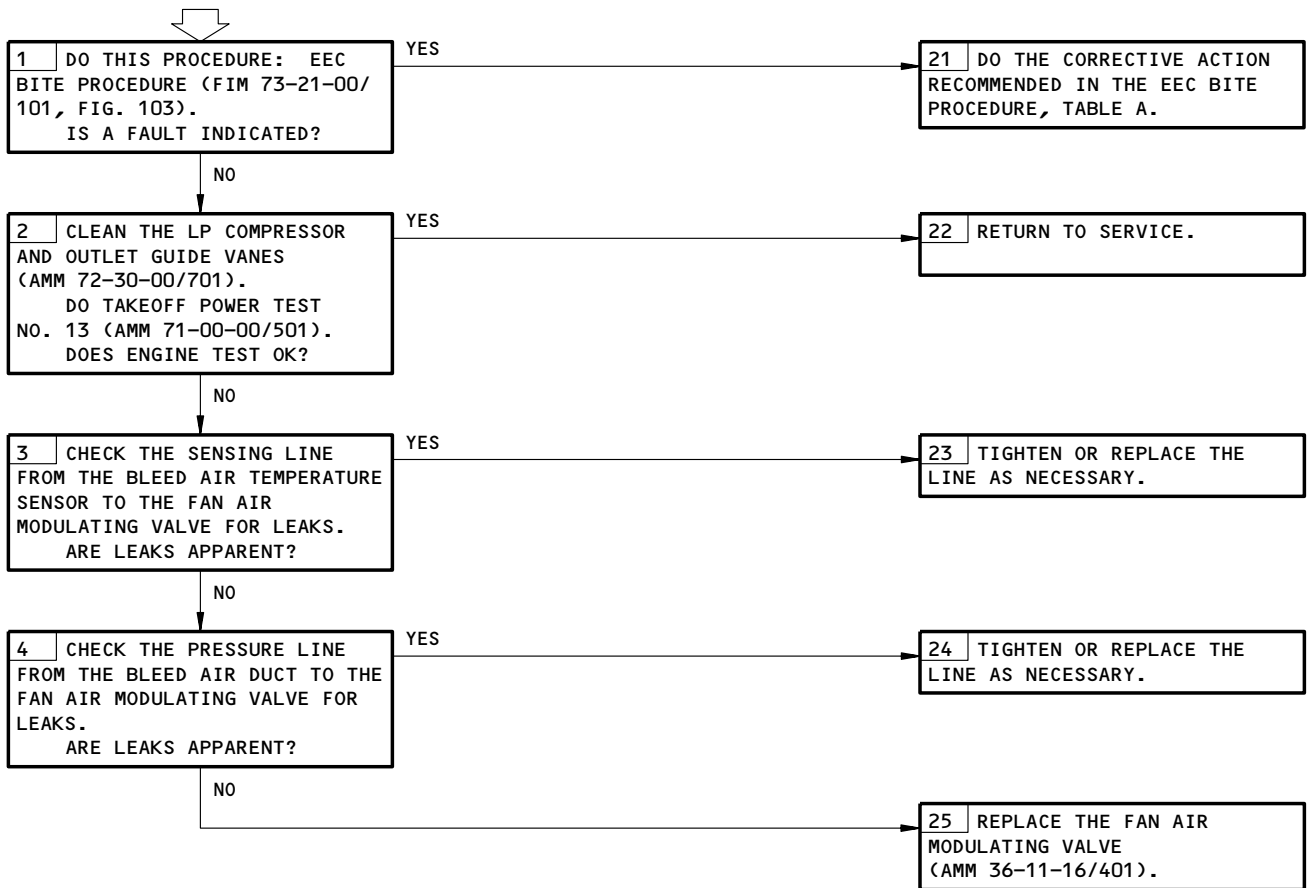
EFFECTIVITY

ALL

71-06-00

LOW POWER AT TAKE-OFF N1 LIMITED

PREREQUISITES
NONE



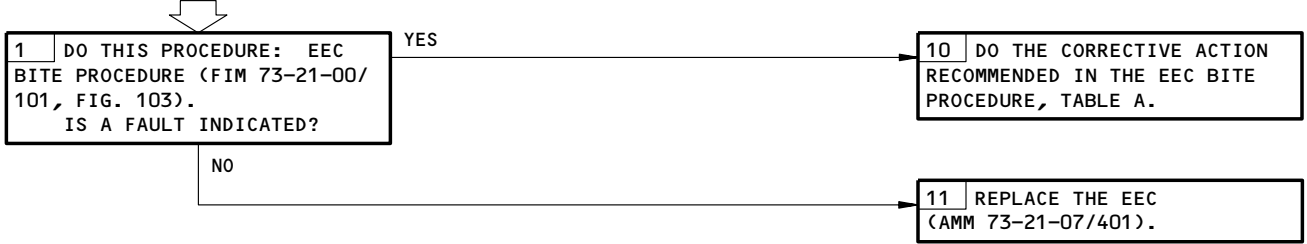
Low Power at Takeoff, N1 Limited
Figure 107

EFFECTIVITY ————
ALL

71-06-00

ENGINE HAD AUTO
DECELERATION, POWER
RESTORED WHEN EEC
SWITCHED OFF

PREREQUISITES
NONE



Engine Had Auto Deceleration, Power Restored When EEC Switched Off
Figure 108

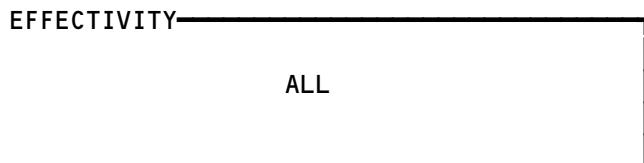
EFFECTIVITY	ALL
-------------	-----

71-06-00

ENGINE COWLING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
COWL - INLET	---	2		71-11-01
LATCH - FAN COWL PANEL	---	8	413AL,414AR,423AL,424AR	71-11-05
PANELS - FAN COWL	---	4	413AL,414AR,423AL,424AR	71-11-04

Engine Cowling - Component Index
Figure 101



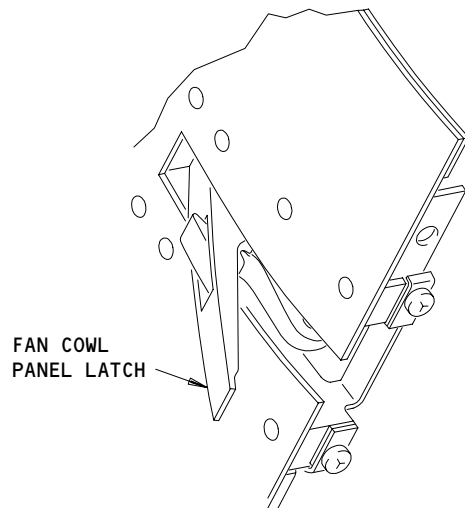
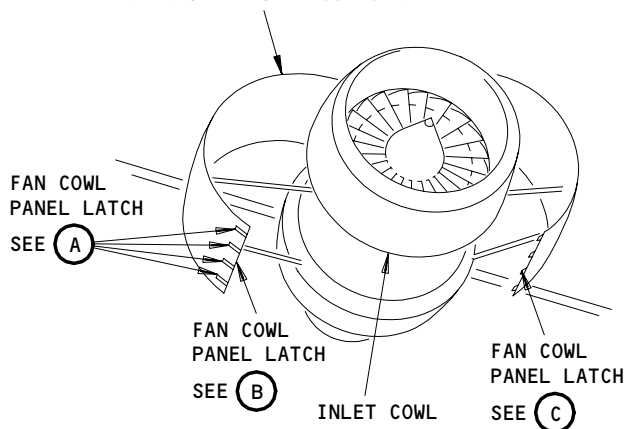
E46820

71-11-00

R01

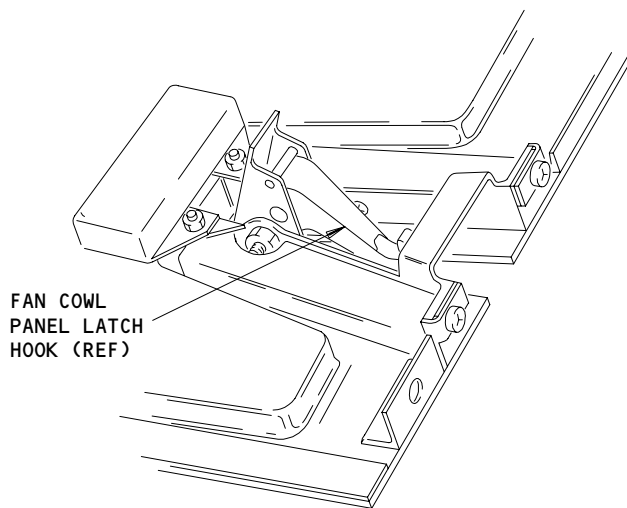
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FAN COWL,
413AL (LEFT ENGINE OUTBOARD),
414AR (LEFT ENGINE INBOARD),
423AL (RIGHT ENGINE INBOARD),
424AR (RIGHT ENGINE OUTBOARD)



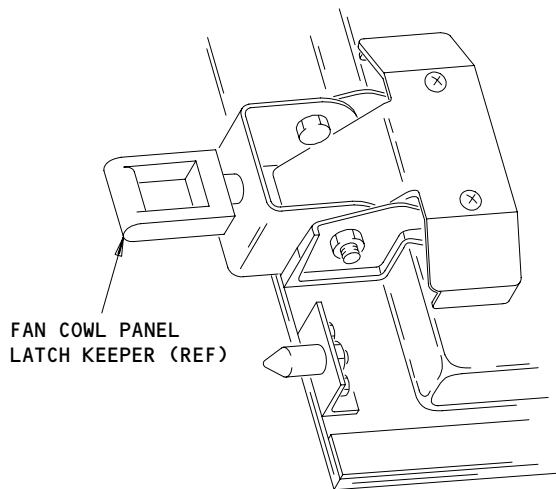
FAN COWL PANEL LATCH

(A)



FAN COWL PANEL LATCH

(B)



FAN COWL PANEL LATCH

(C)

Engine Cowling - Component Location
Figure 102

EFFECTIVITY	
	ALL

71-11-00

R01

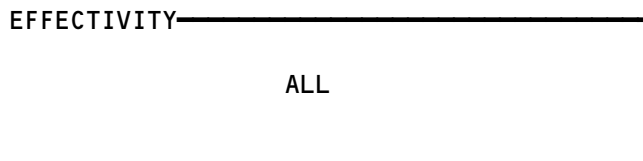
Page 102
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54120

ENGINE MOUNTS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
MOUNT - AFT	--	2	415AL,416AR,425AL,426AR T/R COWL	71-21-02
MOUNT - FORWARD	--	2	413AL,414AR,423AL,424AR, FAN COWL	71-21-01

Engine Mounts - Component Index
Figure 101



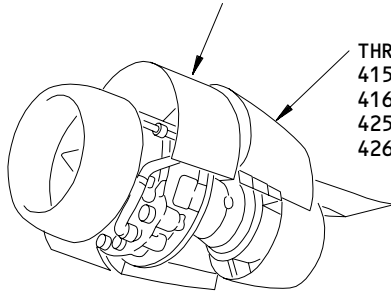
71-21-00

R01

Page 101
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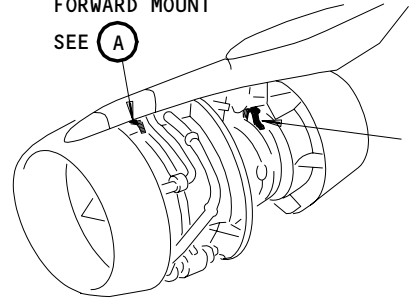
E46817

FAN COWL,
413AL (LEFT ENGINE OUTBOARD),
414AR (LEFT ENGINE INBOARD),
423AL (RIGHT ENGINE INBOARD),
424AR (RIGHT ENGINE OUTBOARD)

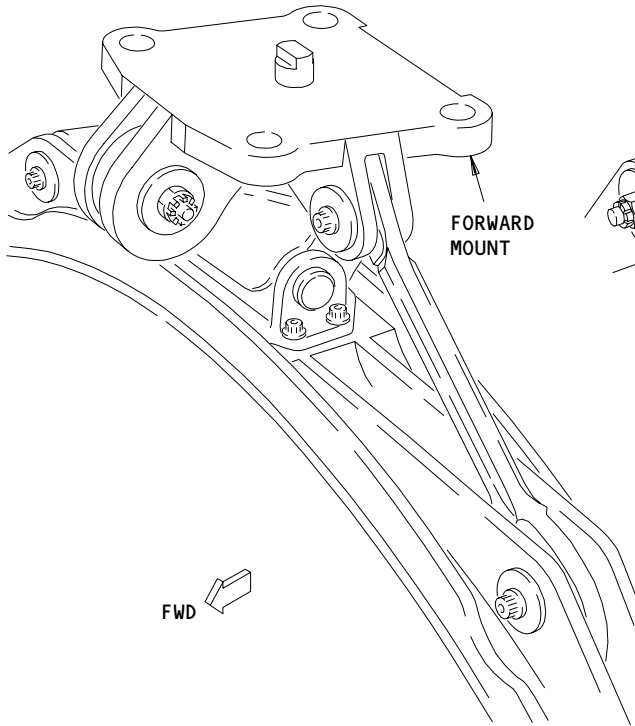


THRUST REVERSER COWL,
415AL (LEFT ENGINE OUTBOARD),
416AR (LEFT ENGINE INBOARD),
425AL (RIGHT ENGINE INBOARD),
426AR (RIGHT ENGINE OUTBOARD)

FORWARD MOUNT
SEE (A)



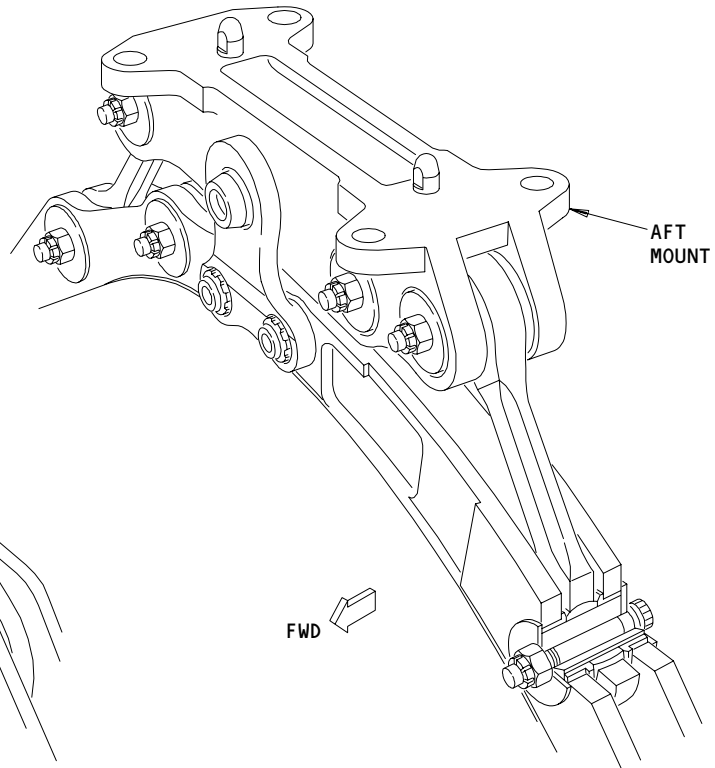
AFT MOUNT
SEE (B)



FORWARD MOUNT

FWD

FORWARD MOUNT
(A)



AFT MOUNT

FWD

AFT MOUNT
(B)

Engine Mounts - Component Location
Figure 102

EFFECTIVITY	
ALL	

71-21-00

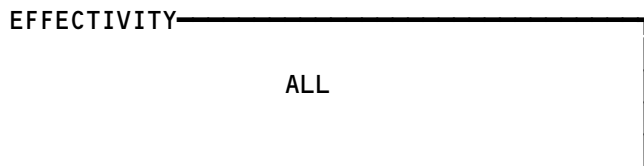
R01

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ENGINE VENTS AND DRAINS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
TANK - FUEL DRAINS	--	2	413AL, 423AL, FAN COWL	71-71-01
VALVE - FUEL DRAINS TANK	--	2	413AL, 423AL, FAN COWL	71-71-04

Engine Vents and Drains - Component Index
Figure 101



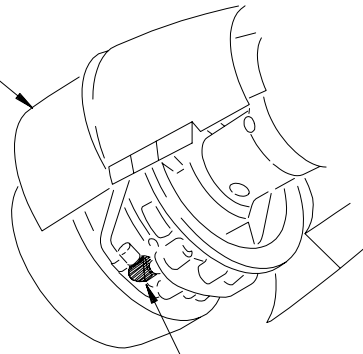
71-71-00

R01

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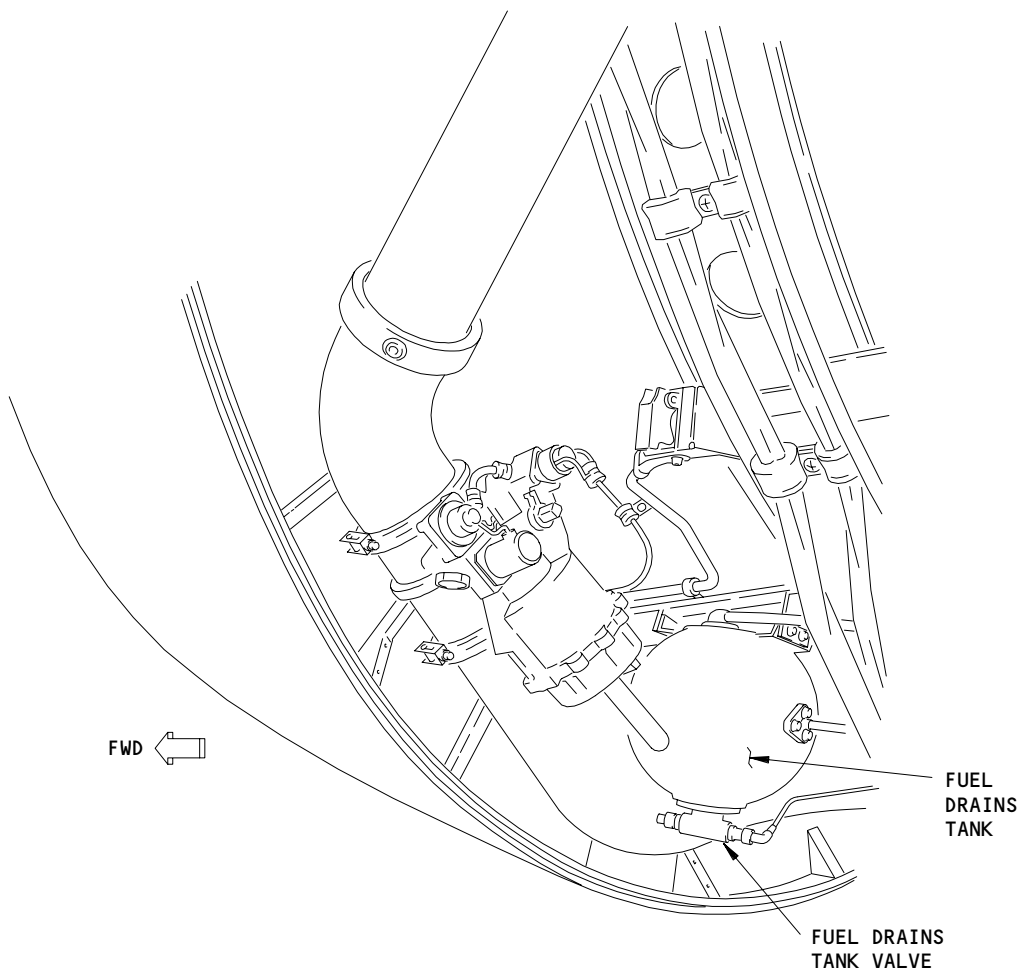
E46819

FAN COWL,
413AL (LEFT ENGINE OUTBOARD),
423AL (RIGHT ENGINE INBOARD)



FUEL DRAINS TANK
AND VALVE

SEE (A)



(A)

Engine Vents and Drains - Component Location
Figure 102

EFFECTIVITY	
	ALL

71-71-00

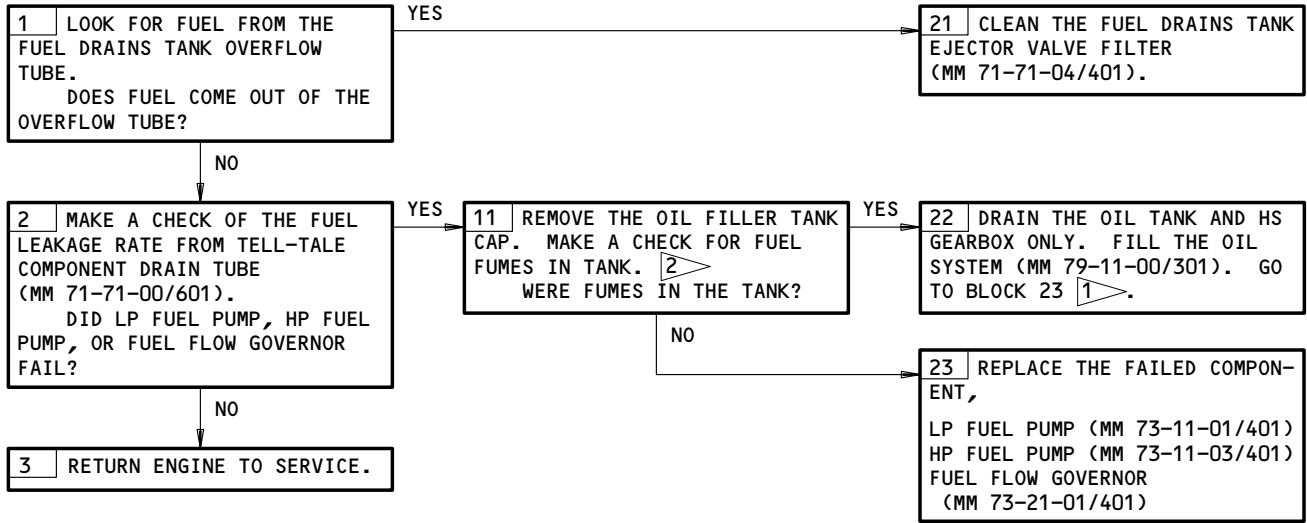
R01

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196719

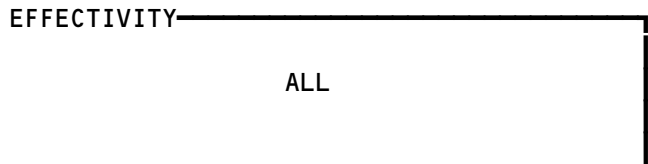
FUEL LEAKAGE FROM ACCESSORIES DRAIN

PREREQUISITES
NONE



- 1** MAKE A CHECK AND A RECORD OF THE MAGNETIC CHIP DETECTORS BEFORE AND AFTER THE NEXT FLIGHT
- 2** IT IS RECOMMENDED THAT A DRAEGER HAND PUMP (ROLLS-ROYCE 1013832) WITH A HYDROCARBON 2 TUBE (ROLLS-ROYCE 1013833) IS USED WITH THE MANUFACTURERS INSTRUCTIONS TO DO THIS CHECK

Fuel Leakage From Accessories Drain
Figure 103



71-71-00