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FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
78 34 XA --	(O1=L,O2=R) Reverser deploy problem was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 78-34-01, SSM 78-34-02, SSM 78-36-01
78 34 XB --	(O1=L,O2=R) Reverser stow problem was encountered by the flight crew which is not covered by the fault code diagrams.	SSM 78-34-01, SSM 78-34-02, SSM 78-36-01
78 34 XC --	(O1=L,O2=R) REV ISLN VAL and REV ISLN lgt display problem was encountered by the flight crew which is not covered by the fault code diagrams.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 114, FIM 78-36-00/101, Fig. 106 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 107, FIM 78-36-00/101, Fig. 106
78 34 01 --	(O1=L,O2=R) Rev thrust lever could not be moved to rev thrust from rev idle. REV green was displayed.	FIM 78-34-00/101, Fig. 103, Block 1
78 34 02 --	(O1=L,O2=R) Engine REV amber in view with rev selected. No REV green indication. Rev lever would not move to full reverse.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 104, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 105, Block 1
78 34 03 --	(O1=L,O2=R) Engine would not reverse. REV ISLN light was on. EICAS msg: REV ISLN VAL displayed.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 106, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 105, Block 1
78 34 04 --	(O1=L,O2=R) Engine would not go to rev thrust. REV amber display missing. Rev thrust lever would not move to rev position.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 107, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 105, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
78 34 05 --	(01=L,02=R) Engine time from rev to fwd thrust too slow, ____ sec.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 110, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 106, Block 1
78 34 06 --	(01=L,02=R) Engine stuck in rev. REV green displayed and fwd thrust levers could not be advanced.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 108, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 110, Block 1
78 34 07 --	(01=L,02=R) Engine stuck in full rev. REV ISLN lgt is on. EICAS msg: REV ISLN VAL displayed. Fwd thrust levers could not be advanced.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 105, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 110, Block 1
78 34 08 --	(01=L,02=R) Engine stuck in rev. REV ISLN lgt on. EICAS msg: REV ISLN VAL displayed. Fwd thrust lever could not be advanced.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 105, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 110, Block 1
78 34 09 00	EICAS msg L REV ISLN VAL displayed.	FIM 78-34-00/101, Fig. 107, Block 1, FIM 78-34-00/101, Fig. 109, Block 1
78 34 10 00	EICAS msg R REV ISLN VAL displayed.	FIM 78-34-00/101, Fig. 107, Block 1, FIM 78-34-00/101, Fig. 109, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
78 34 11 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on after takeoff.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 110, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 107, Block 1
78 34 12 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on after takeoff and after landing. Msg and lgt norm in rev.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 111, Block 1
78 34 12 00	EICAS msg L(R) REV ISLN VAL displayed and REV ISLN light on during rev thrust.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 112, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 109, Block 1
78 34 14 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on, on ground and during rev thrust.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 113, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 109, Block 1
78 34 15 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on during all operations. Rev thrust is normal.	WITHOUT THRUST REVERSER SYNC LOCKS; Replace L(R) thrust reverser isolation detect relay K10358 (K10359)(WDM 78-36-11, WDM 78-36-21). If fault persists, check circuit between D2148 pin 28 and D4336 (D4256) pin 4. Repair as required.
78 34 16 --	(01=L,02=R) Engine was slow to reach reverse, _____ sec.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 109, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 108, Block 1

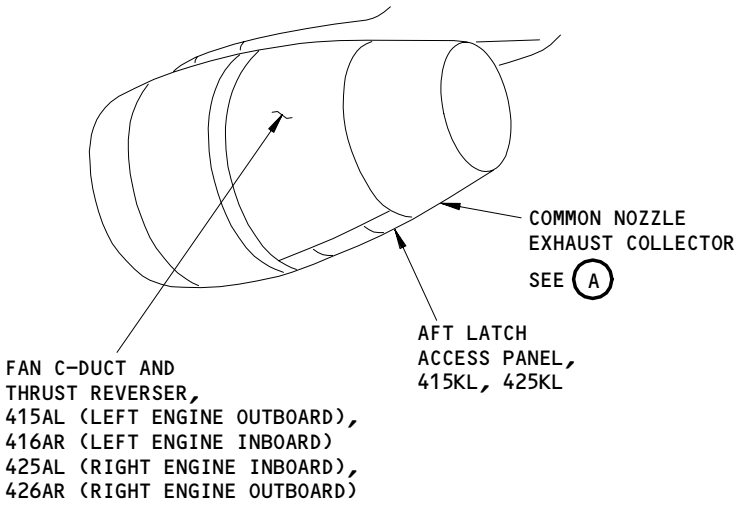
FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
78 34 17 --	(01=L,02=R) Engine rev thrust lever (difficult, unable) to select rev position.	FIM 78-34-00/101, Fig. 103, Block 1
78 34 18 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on with eng(s) shutdown and hyd pumps off. Reversers were stowed.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 114, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 107, Block 1
78 34 19 00	EICAS msg REV ISLN VAL displayed and REV ISLN lgt on after takeoff and after eng shutdown with hyd pumps off. Reversers were stowed.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 111, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-34-00/101, Fig. 107, Block 1
78 34 20 00	AIRPLANES WITHOUT SYNC LOCKS; EICAS msg L(R) REV ISLN VAL displayed (as a GROUND FAULT) when electical power was applied to the airplane.	Clear the REV ISLN VAL message (FIM 31-41-00/101, Fig. 109). Open and close the applicable thrust reverser (AMM 78-31-00/201). Examine the EICAS for the L(R) REV ISLN VAL message. If the message does not show, no corrective action is necessary. If the message shows, do the corrective action for FIM 78-34-00/101, Fig. 106A, Block 1.
78 36 01 --	(01=L,02=R) Engine REV amber displayed with rev selected. Reverse lever could be moved toward full reverse.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-36-00/101, Fig. 103, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-36-00/101, Fig. 103, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
78 36 02 --	(01=L,02=R) REV amber did not display. REV green did display during reverse thrust.	WITHOUT THRUST REVERSER SYNC LOCKS; FIM 78-36-00/101, Fig. 104, Block 1 WITH THRUST REVERSER SYNC LOCKS; FIM 78-36-00/101, Fig. 104, Block 1
78 36 03 --	(01=L,02=R) Engine REV amber display remained after fwd thrust selected. FWD thrust levers could be advanced.	FIM 78-36-00/101, Fig. 105, Block 1
78 36 04 --	(01=L,02=R) Engine REV amber displayed (steady, momentary) during fwd thrust.	FIM 78-36-00/101, Fig. 105, Block 1
78 36 05 --	(01=L,02=R) Engine REV amber blinks on and off every 5 seconds during fwd thrust.	FIM 78-36-00/101, Fig. 106, Block 1

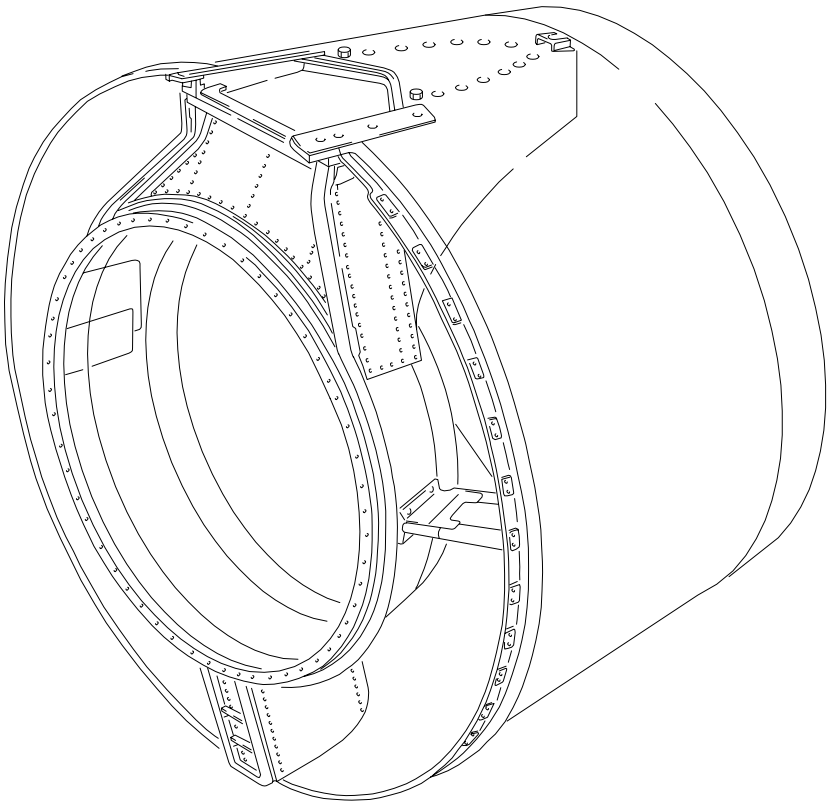
TURBINE EXHAUST SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
EXHAUST COLLECTOR - COMMON NOZZLE		2	415KL,425KL, AFT LATCH ACCESS PANEL	78-11-04

Turbine Ehaust System - Component Index
Figure 101



AFT LATCH ACCESS PANEL



COMMON NOZZLE EXHAUST COLLECTOR

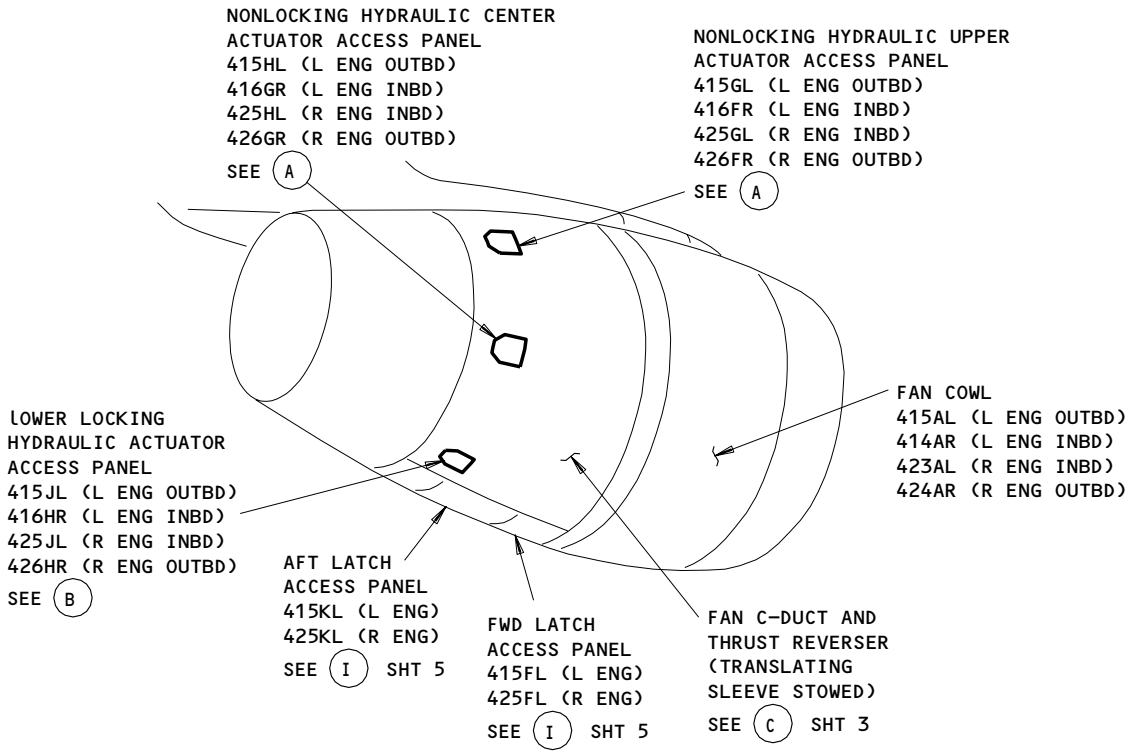
A

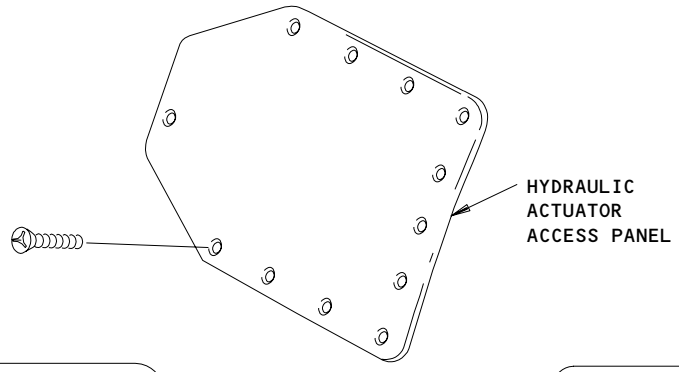
Turbine Exhaust System - Component Location
Figure 102

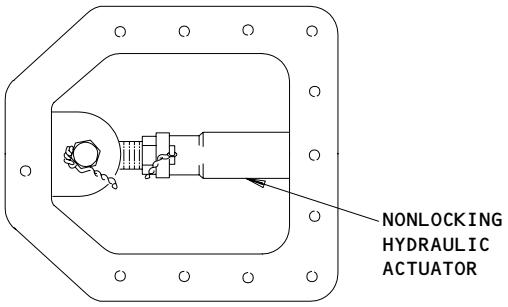
THRUST REVERSER SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ACTUATOR - L ENGINE FAN C-DUCT HYDRAULIC OPENING	6	2	415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-31-25
ACTUATOR - R ENGINE FAN C-DUCT HYDRAULIC OPENING	6	2	425AL,426AR, FAN C-DUCT AND THRUST REVERSER	78-31-25
ACTUATOR - L ENGINE T/R HYDRAULIC LOCKING	3	2	415JL,416HR,415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-31-26
ACTUATOR - R ENGINE T/R HYDRAULIC LOCKING	3	2	425JL,426HR,425AL,426AR, FAN C-DUCT AND THRUST REVERSER	78-31-26
ACTUATOR - L ENGINE T/R HYDRAULIC NONLOCKING	3	4	415GL,415HL,416FR,416GR,415AL, 416AR, FAN C-DUCT AND THRUST REVERSER	78-31-26
ACTUATOR - R ENGINE T/R HYDRAULIC NONLOCKING	3	4	425AL,425GL,425HL,426AR,426FR, 426GR, FAN C-DUCT AND THRUST REVERSER	78-31-26
CASCADE SEGMENTS - L ENGINE	3	16	415AL,416AR, FAN C-DUCT AND THRUST REVERSER, TRANSLATE COWL	78-31-05
CASCADE SEGMENTS - R ENGINE	3	16	425AL,426AR, FAN C-DUCT AND THRUST REVERSER, TRANSLATE COWL	78-31-05
COWL - THRUST REVERSER TRANSLATING	3	2	415AL,416AR, FAN C-DUCT AND THRUST REVERSER, LEFT ENGINE	78-31-23
	3	2	425AL,426AR, FAN C-DUCT AND THRUST REVERSER, RIGHT ENGINE	78-31-23
DOORS - L ENGINE T/R BLOCKER	3	12	415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-31-24
DOORS - R ENGINE T/R BLOCKER	3	12	425AL,426AR, FAN C-DUCT AND THRUST REVERSER	78-31-24
LATCH - L ENGINE, FAN C-DUCT	3	5	415KL, T/R ACCESS DOOR	78-31-00
LATCH - R ENGINE, FAN C-DUCT	3	5	425KL, T/R ACCESS DOOR	78-31-00
LINKS - DRAG, L ENGINE BLOCKER DOOR	3	12	415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-31-27
LINKS - DRAG, R ENGINE BLOCKER DOOR	3	12	425AL,425AR, FAN C-DUCT AND THRUST REVERSER	78-31-27
REVERSER - FAN C-DUCT AND THRUST (HALVES)	3	2	LEFT ENGINE	78-31-20
	3	2	RIGHT ENGINE	78-31-20
TUBING - L ENGINE T/R ROTARY FLEX SHAFT AND	3	4	415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-31-26
TUBING - R ENGINE T/R ROTARY FLEX SHAFT AND	3	4	425AL,426AR, FAN C-DUCT AND THRUST REVERSER	78-31-26

Component Index
Figure 101

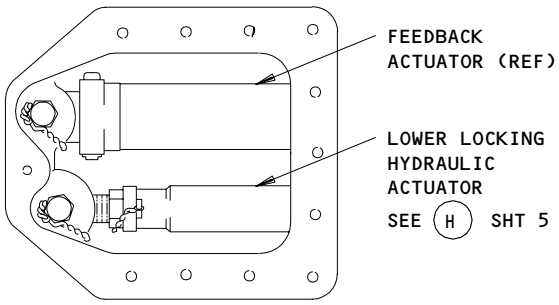






CENTER AND UPPER NONLOCKING HYDRAULIC ACTUATOR DISCONNECT INTERFACE

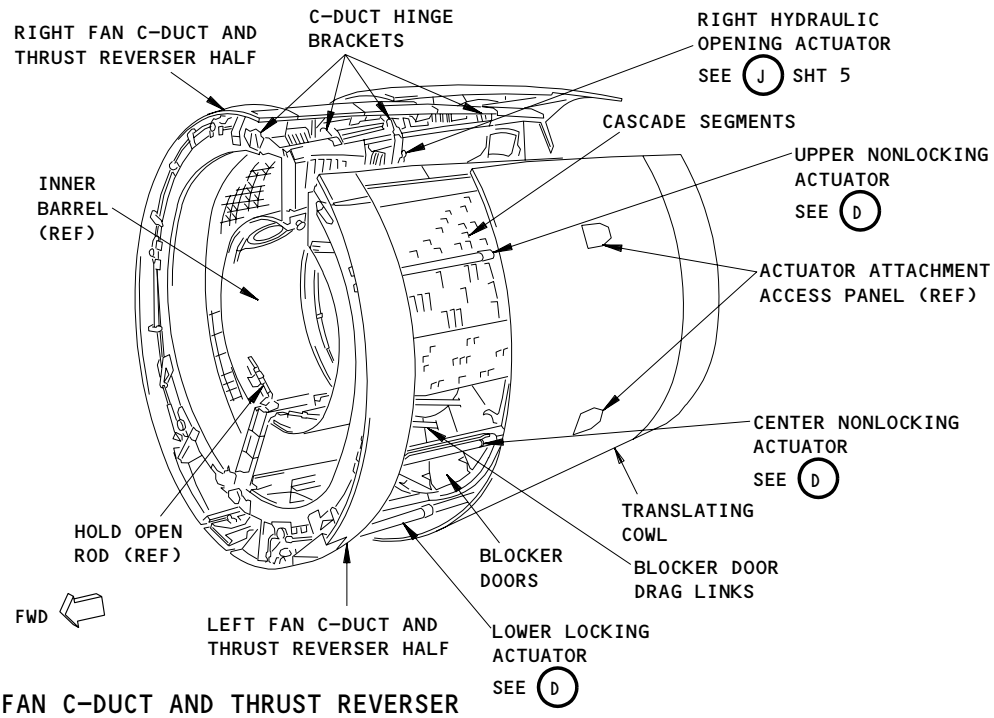
A



LOWER LOCKING HYDRAULIC ACTUATOR DISCONNECT INTERFACE

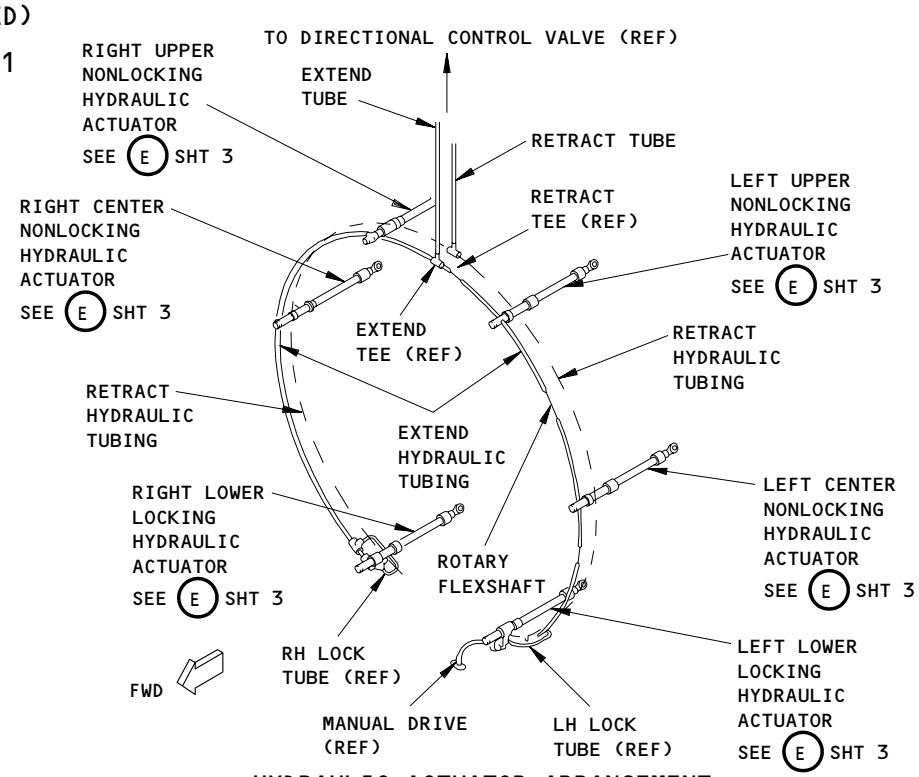
B

Component Location
Figure 102 (Sheet 1)



FAN C–DUCT AND THRUST REVERSER
(TRANSATING COWL DEPLOYED)

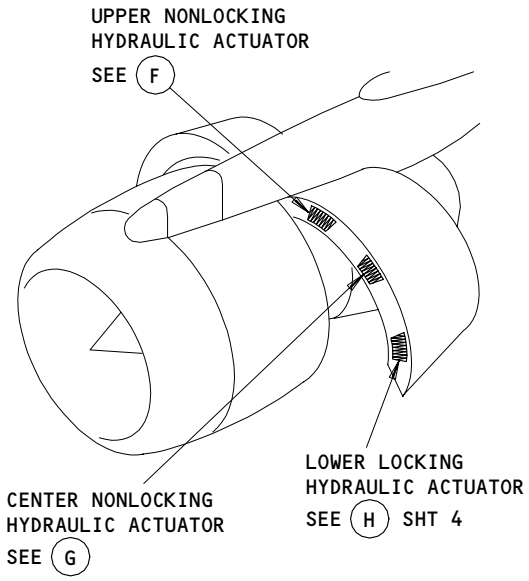
C FROM SHT 1



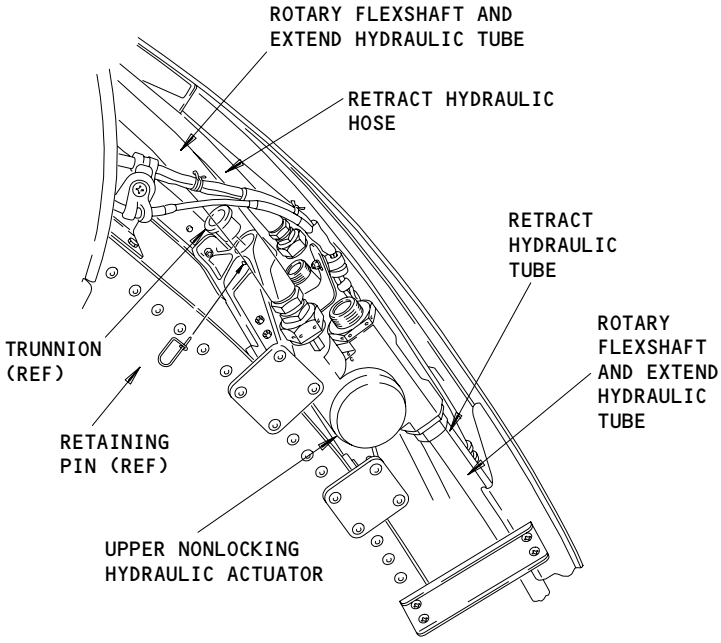
HYDRAULIC ACTUATOR ARRANGEMENT

D

Component Location
Figure 102 (Sheet 2)

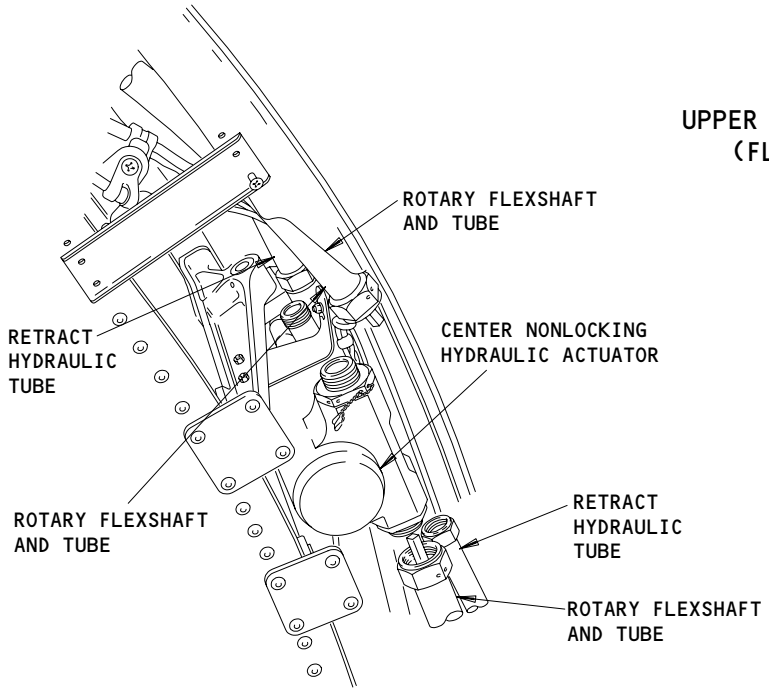


E FROM SHT 1



UPPER NONLOCKING HYDRAULIC ACTUATOR
(FLEXSHAFT SHOWN DISCONNECTED)

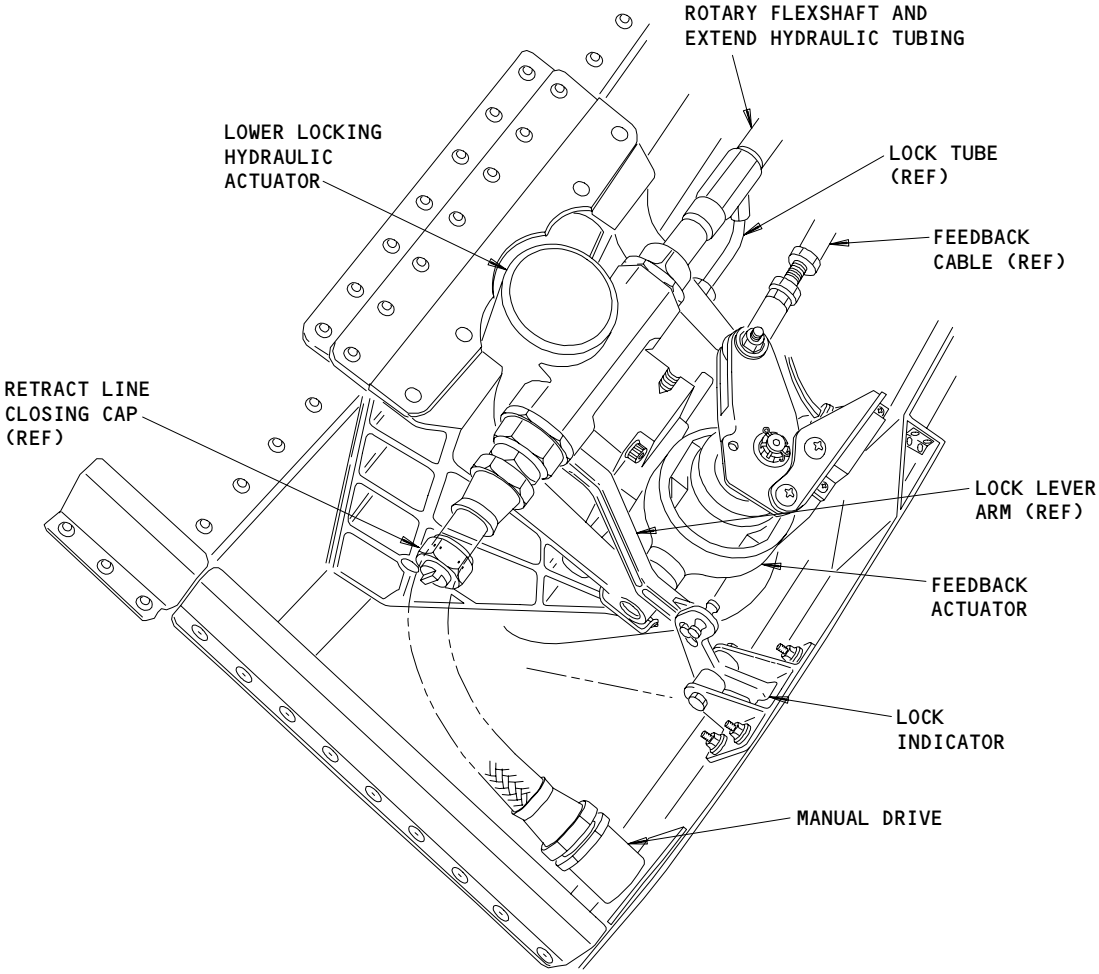
F



CENTER NONLOCKING HYDRAULIC ACTUATOR
(FLEXSHAFT SHOWN DISCONNECTED)

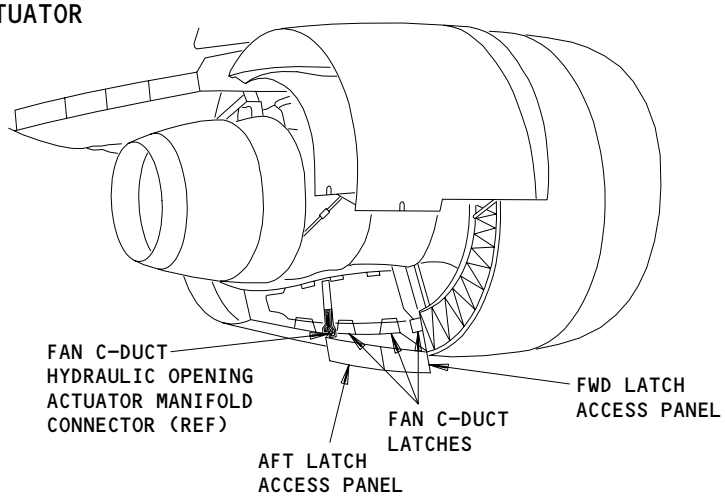
G

Component Location
Figure 102 (Sheet 3)



LOWER LOCKING HYDRAULIC ACTUATOR

(H) FROM SHT 3

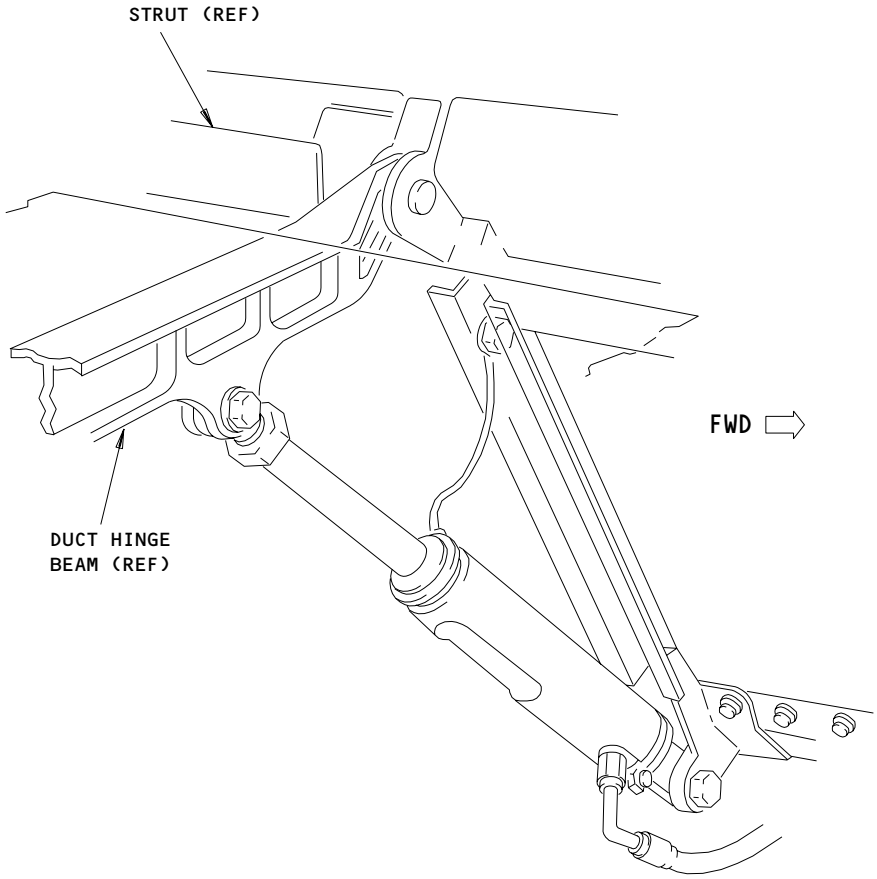


FAN C–DUCT (UNDERSIDE)

(I) FROM SHT 1

Component Location
Figure 102 (Sheet 4)

127717



FAN C–DUCT OPENING ACTUATOR

(J) FROM SHT 2

Component Location
Figure 102 (Sheet 5)

THRUST REVERSER CONTROL SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR – L ENGINE, THRUST REVERSER FEEDBACK	3	2	415AL,416AR, AT THRUST REVERSER LOCKING ACTUATOR	78-34-06
ACTUATOR – R ENGINE, THRUST REVERSER FEEDBACK	3	2	425AL,426AR, AT THRUST REVERSER LOCKING ACTUATOR	78-34-06
CABLE – L ENGINE THRUST REVERSER FEEDBACK	4	2	433AL, STRUT CONTROL DRUM ACCESS, 415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-34-03
CABLE – R ENGINE THRUST REVERSER FEEDBACK	4	2	STRUT CONTROL DRUM ACCESS, 443AL, STRUT CONTROL DRUM ACCESS, 425AL, 426AR, STRUT CONTROL DRUM ACCESS	78-34-03
CIRCUIT BREAKER –	5		FLT COMPT, P11	
L ENGINE T/R CONT, C1482		1	11D12	*
R ENGINE T/R CONT, C1483		1	11B30	*
LEVER – (FIM 76-11-00/101)				
THRUST, M985				
RELAY – (FIM 31-01-36/101)				
SYS NO. 1 AIR/GND, K199				
L ENG T/R STOW, K26		1		*
L T/R DISAGREE, K10234		1		*
L T/R HYD ISLN VALVE, K10236		1		*
RELAY – (FIM 31-01-37/101)				
SYS NO. 2 AIR/GND, K203				
R ENG T/R STOW, K27		1		*
R T/R DISAGREE, K10235		1		*
R T/R HYD ISLN VALVE, K10237		1		*
SENSOR – L ENGINE, L T/R AUTO RESTOW PROXIMITY, S10105	1	1	415AL, LEFT FORWARD BULKHEAD, AT LH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – L ENGINE, R T/R AUTO RESTOW PROXIMITY, S10108	1	1	416AR, RIGHT FORWARD BULKHEAD, AT RH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – R ENGINE, L T/R AUTO RESTOW PROXIMITY, S10105	1	1	425AL, LEFT FORWARD BULKHEAD, AT LH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – R ENGINE, R T/R AUTO RESTOW PROXIMITY, S10108	1	1	426AR, RIGHT FORWARD BULKHEAD, AT RH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – (FIM 78-36-00/101)				
L ENGINE, LH SLEEVE DEPLOY PROX, S166				
L ENGINE, RH SLEEVE DEPLOY PROX, S167				
R ENGINE, LH SLEEVE DEPLOY PROX, S166				
R ENGINE, RH SLEEVE DEPLOY PROX, S167				
SWITCH – (FIM 26-21-00/101)				
L ENGINE FIRE, S37				
R ENGINE FIRE, S38				
SWITCH – L T/R CONT, S134	5	1	FLT COMPT, P10, THRUST LEVER ASSY M985	*

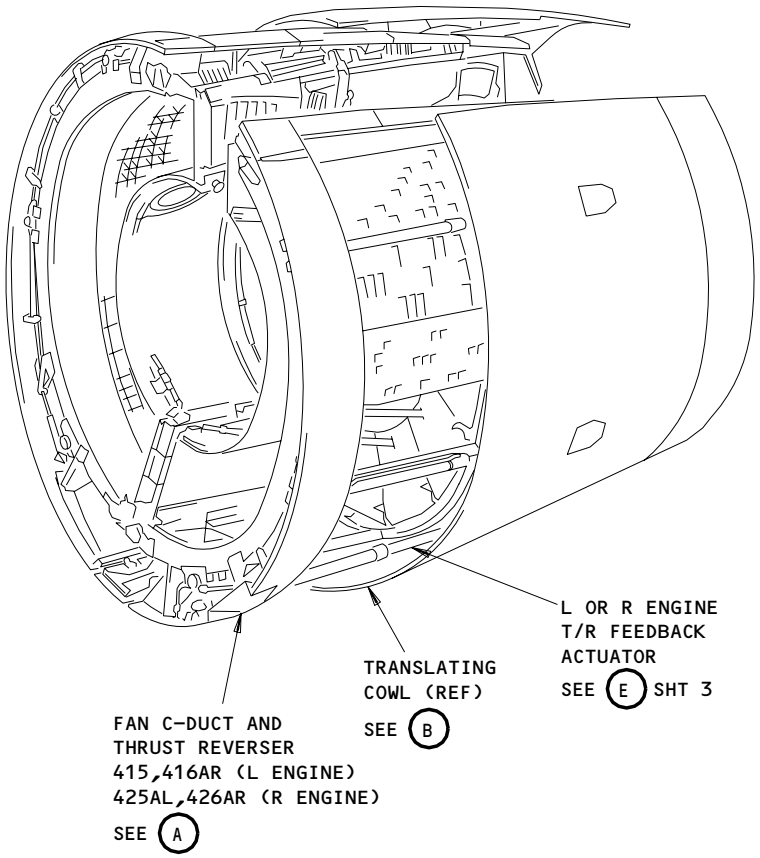
* SEE WDM EQUIPMENT LIST

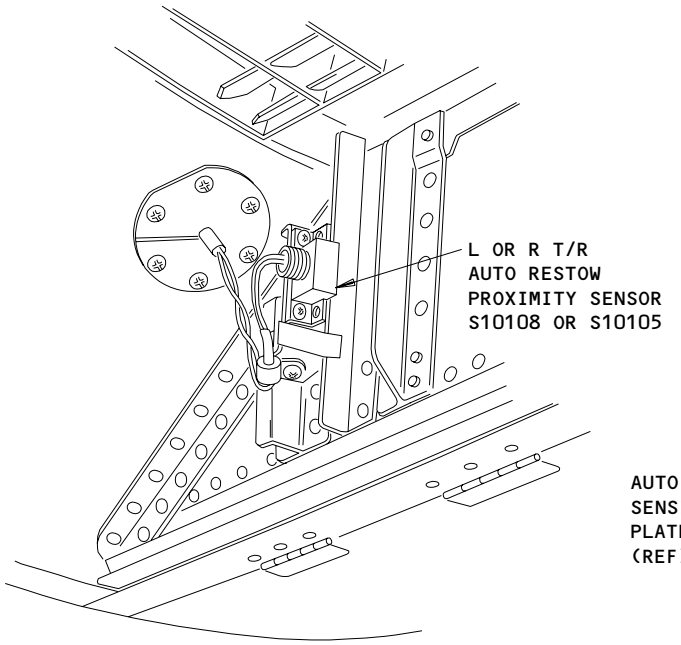
Thrust Reverser Control System – Component Index
Figure 101 (Sheet 1)

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
SOLENOID – L ENG T/R ISOLATION VALVE	2	1	434AL, ISOLATION VALVE V106	*
SOLENOID – R ENG T/R ISOLATION VALVE	2	1	444AL, ISOLATION VALVE V107	*
SWITCH – (FIM 78-36-00/101) L T/R HYD PRESS, S330 R T/R HYD PRESS, S331				
SWITCH – R T/R CONT, S135	5	1	FLT COMPT, P10, THRUST LEVER M985	*
UNIT 1 – (FIM 32-09-00/101) PROXIMITY SWITCH ELECTRONICS, M162				
VALVE – L ENGINE, THRUST REVERSER DIRECTIONAL CONTROL	3	1	432AL	78-34-01
VALVE – L ENGINE, T/R ISOLATION, V106	2	1	434AL	78-34-05
VALVE – R ENGINE, T/R ISOLATION, V107	2	1	444AL	78-34-05
VALVE – R ENGINE, THRUST REVERSER DIRECTIONAL CONTROL	3	1	442AL	78-34-01

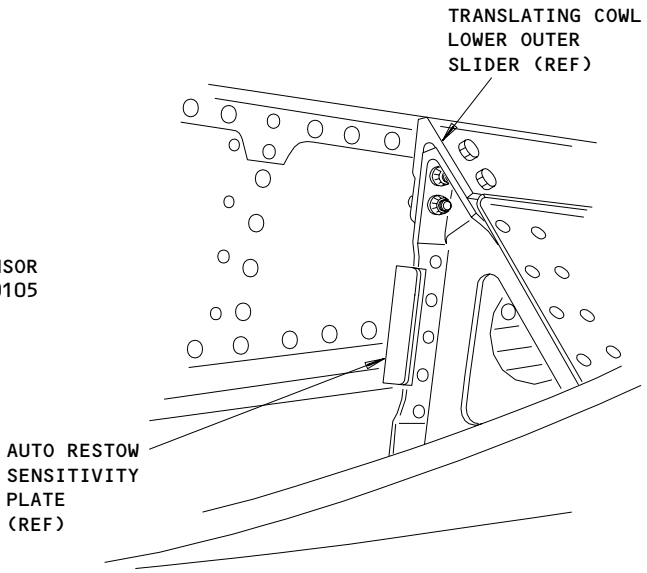
* SEE WM EQUIPMENT LIST

Thrust Reverser Control System –Component Index
Figure 101 (Sheet 2)





FAN C-DUCT AND THRUST REVERSER
A



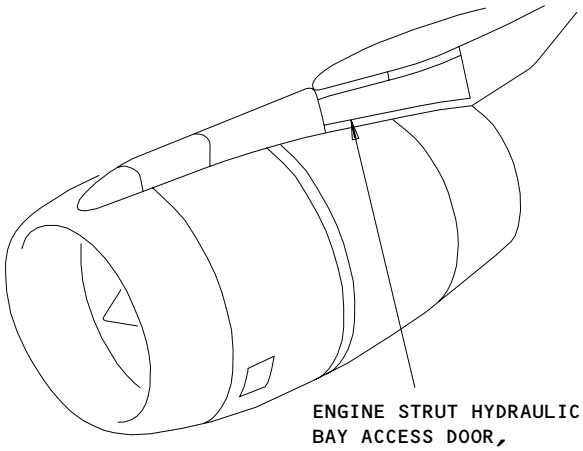
TRANSLATING COWL (REF)
B

51945

Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H64280

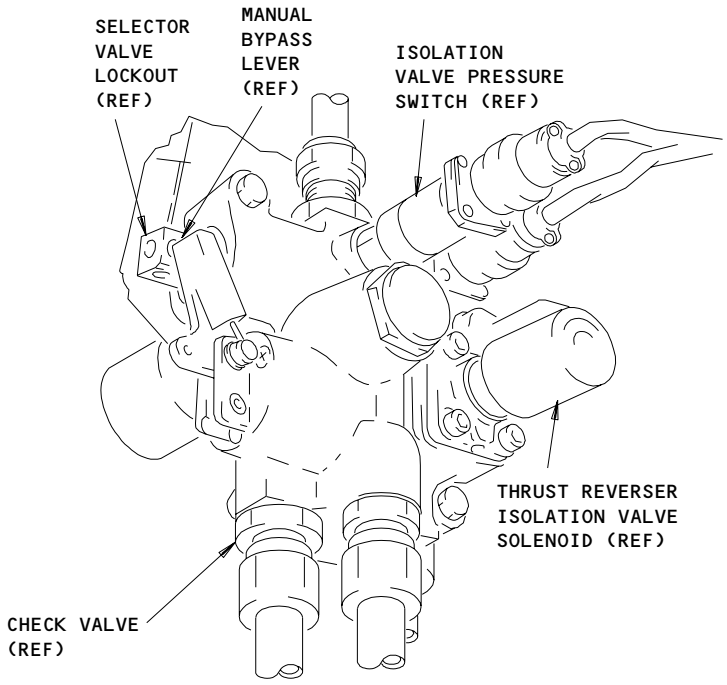


ENGINE STRUT HYDRAULIC BAY ACCESS DOOR, 434AL (LEFT ENGINE), 444AL (RIGHT ENGINE)

SEE (D)

NOT USED

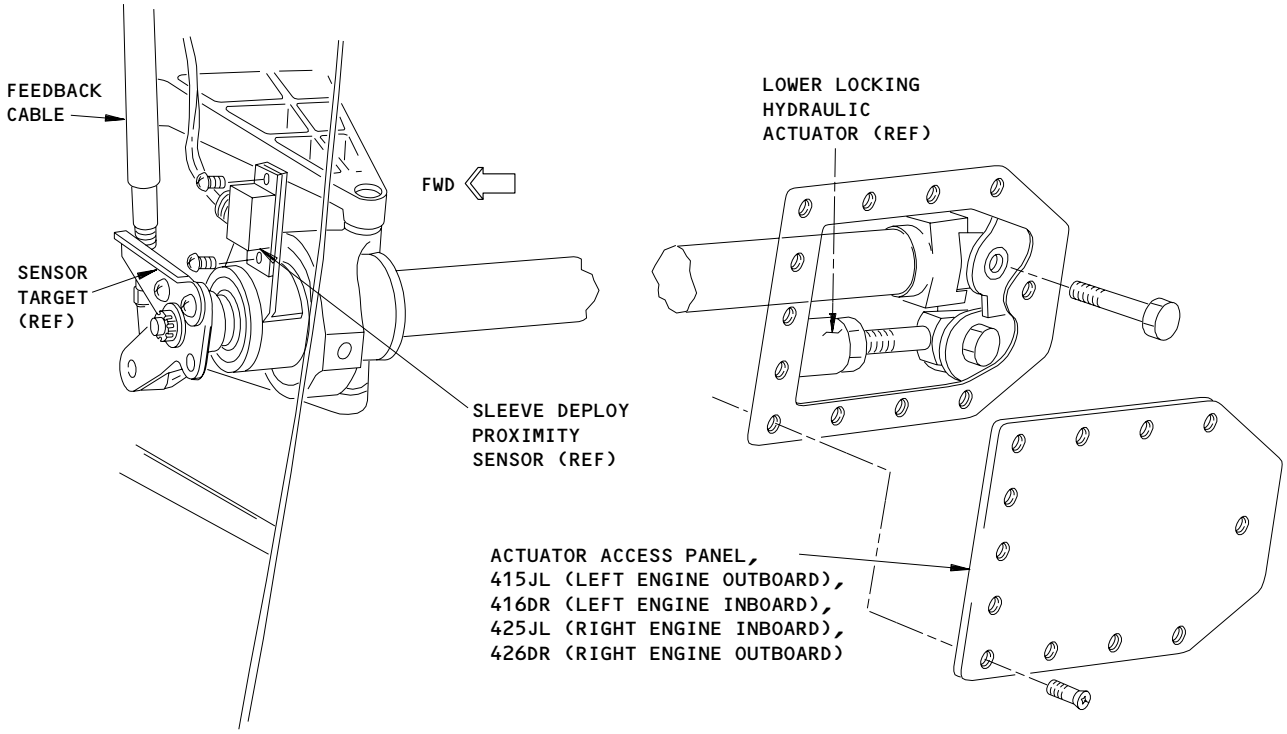
(C)



LEFT OR RIGHT ENGINE T/R ISOLATION VALVE

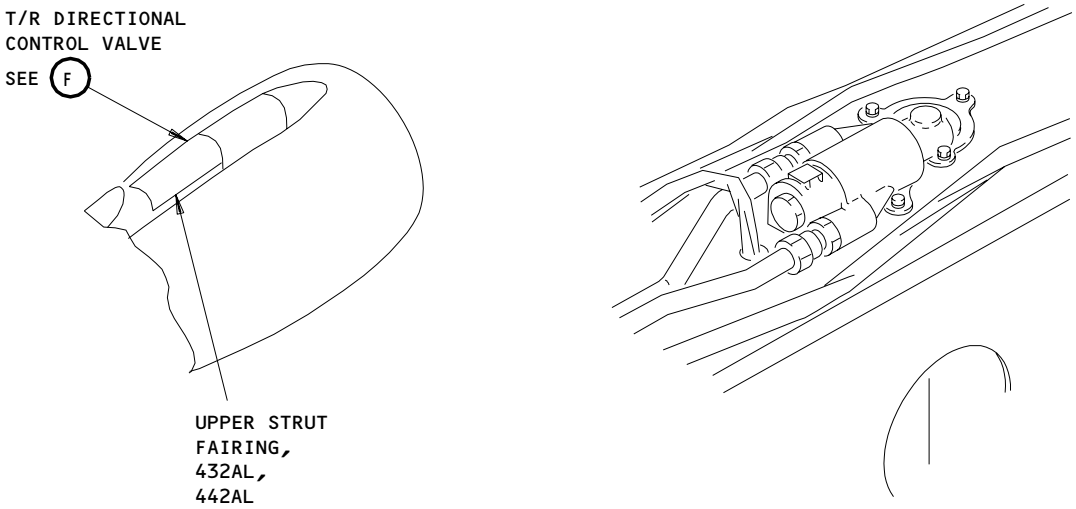
(D)

Thrust Reverser Control System – Component Location
Figure 102 (Sheet 2)



LEFT OR RIGHT ENGINE T/R FEEDBACK ACTUATOR HYDRAULIC

(E) FROM SHT 1



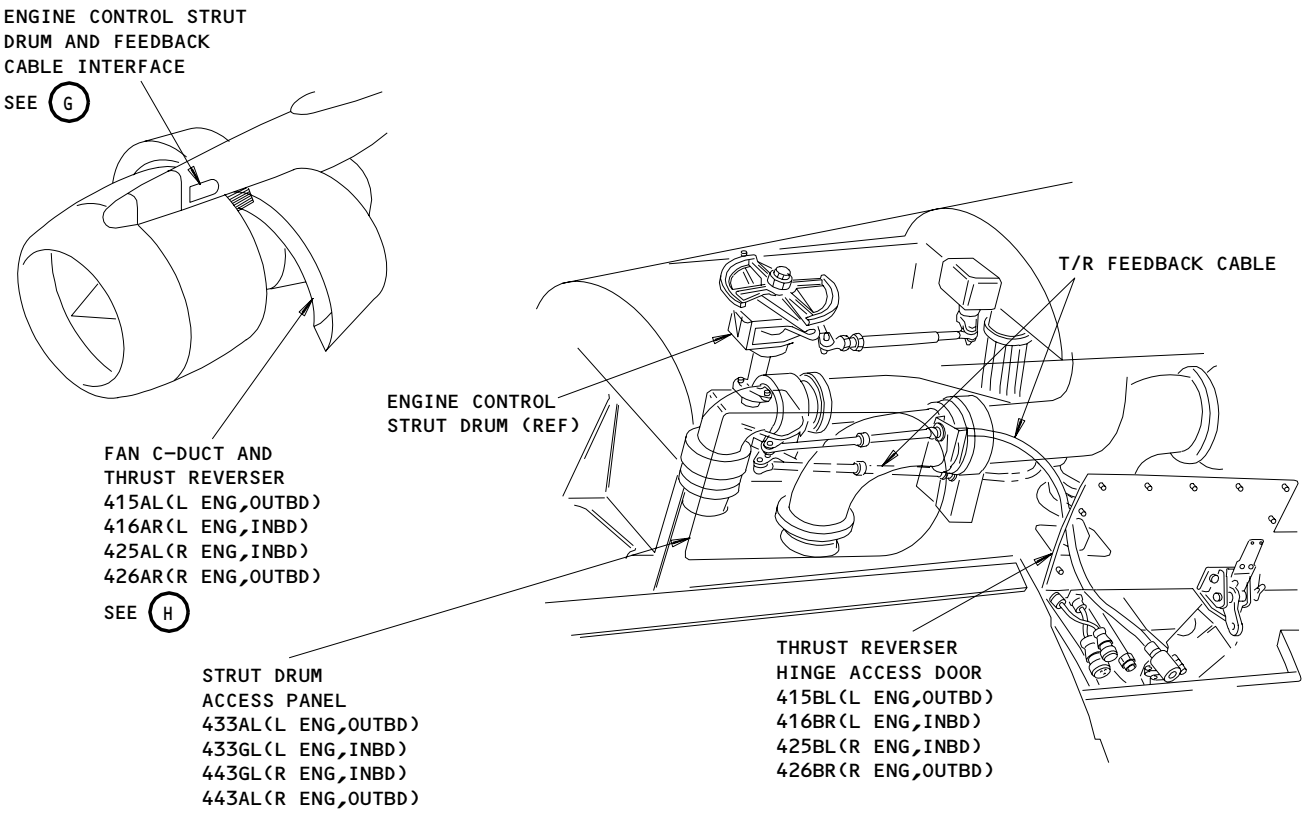
LEFT OR RIGHT ENGINE T/R DIRECTIONAL CONTROL VALVE

(F)

Thrust Reverser Control System – Component Location
Figure 102 (Sheet 3)

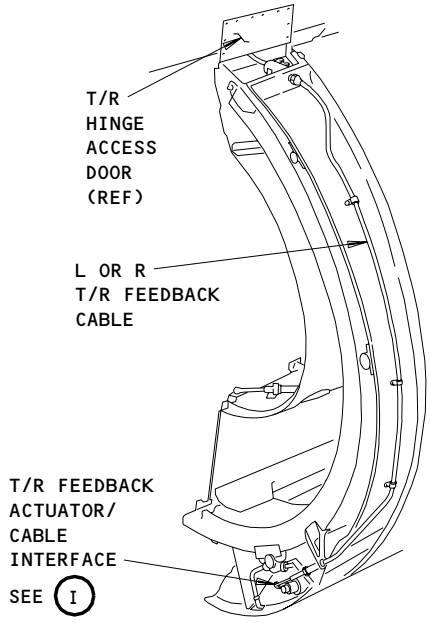
EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H64474



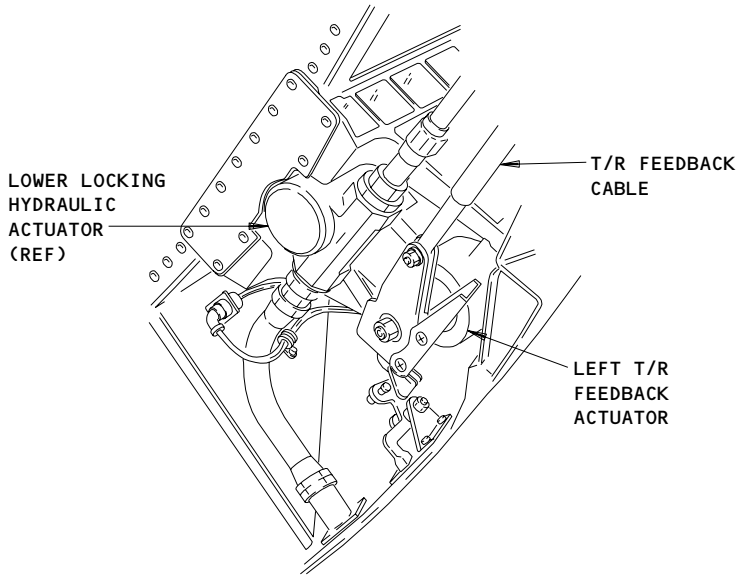
ENGINE CONTROL STRUT DRUM AND FEEDBACK CABLE INTERFACE

G



FAN C-DUCT AND THRUST REVERSER

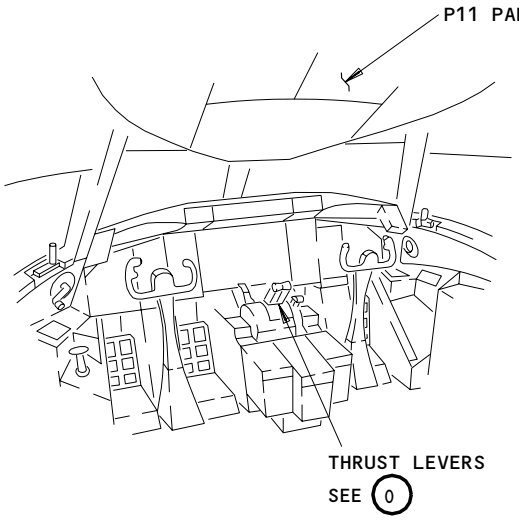
H



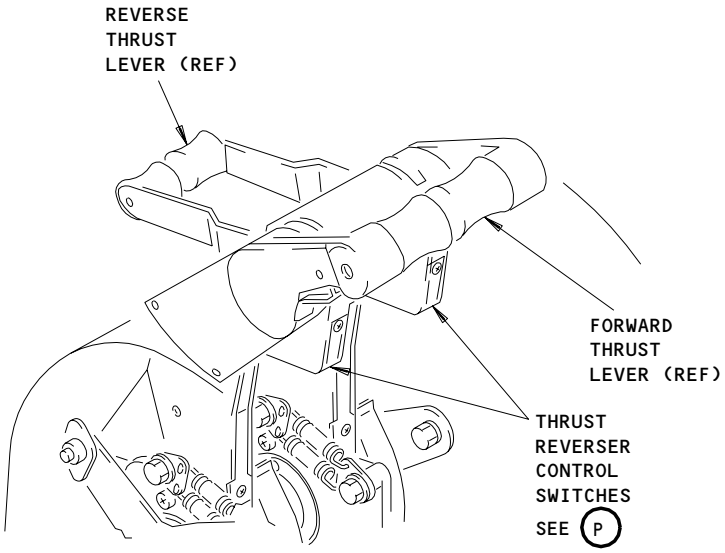
T/R FEEDBACK ACTUATOR/CABLE INTERFACE

I

Component Location
Figure 102 (Sheet 4)

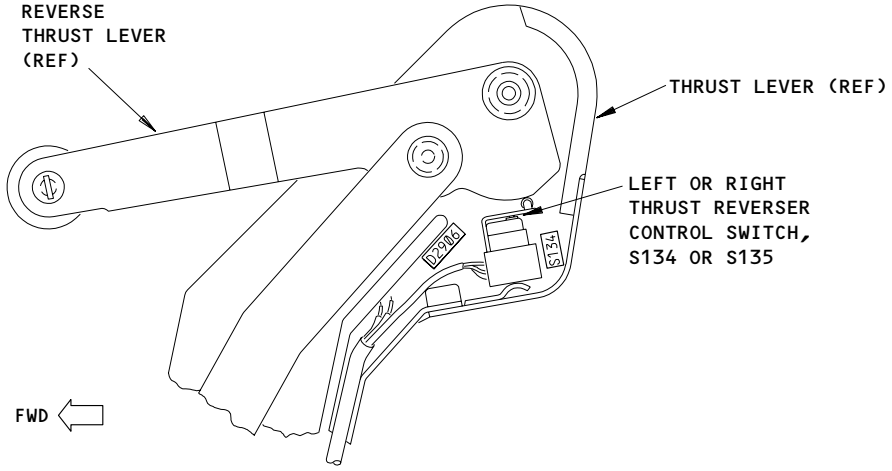


FLIGHT COMPARTMENT



THRUST LEVERS

(0)



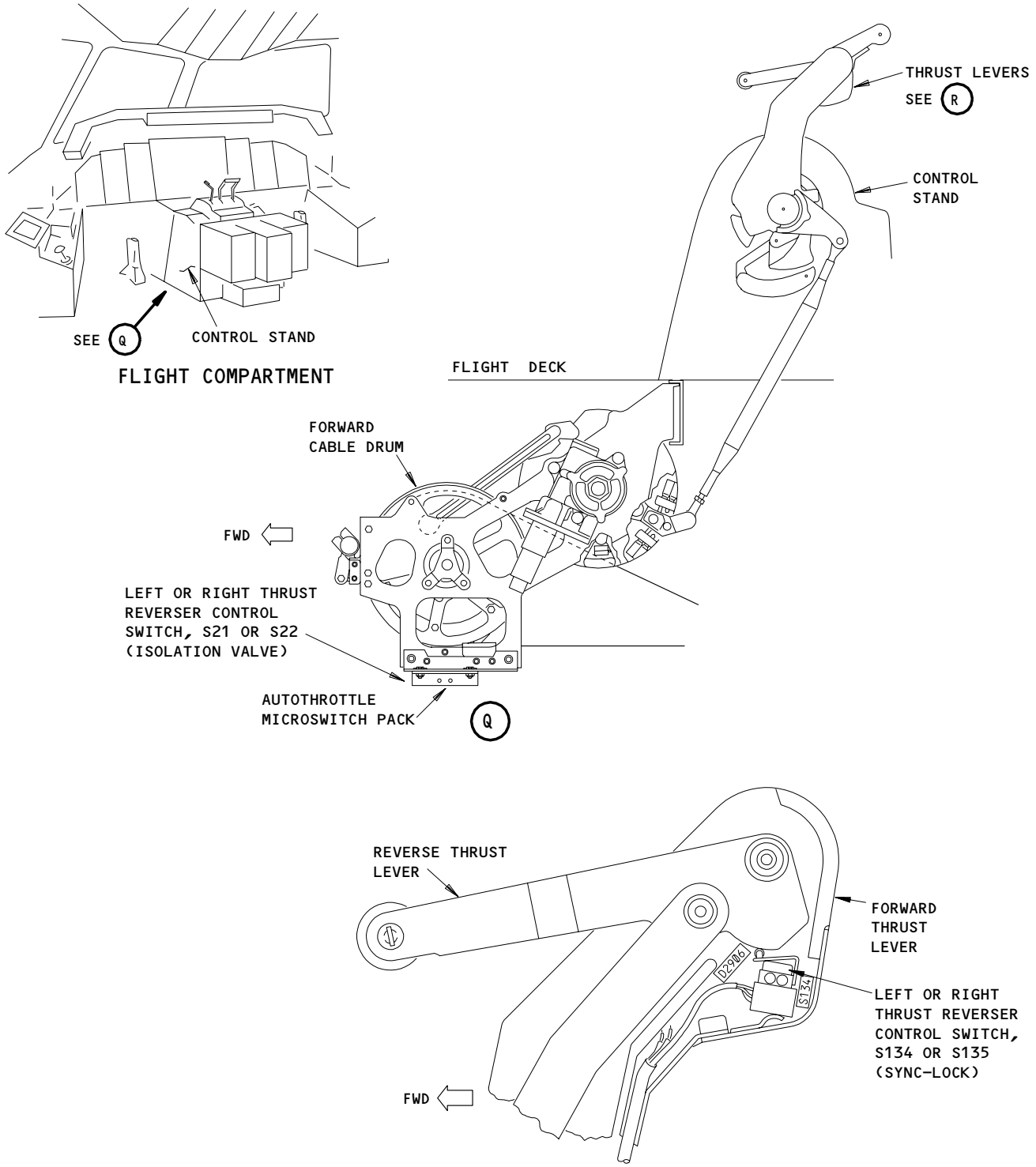
AIRPLANES WITH TITANIUM THRUST LEVERS

(P)

Component Location
Figure 102 (Sheet 5)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

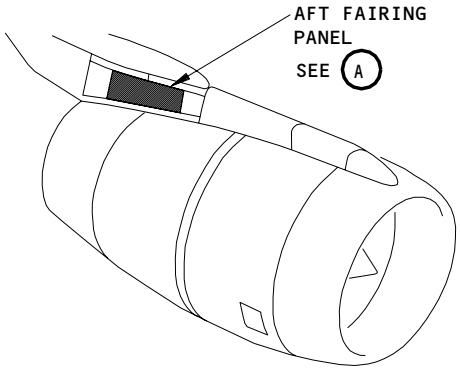
H64542

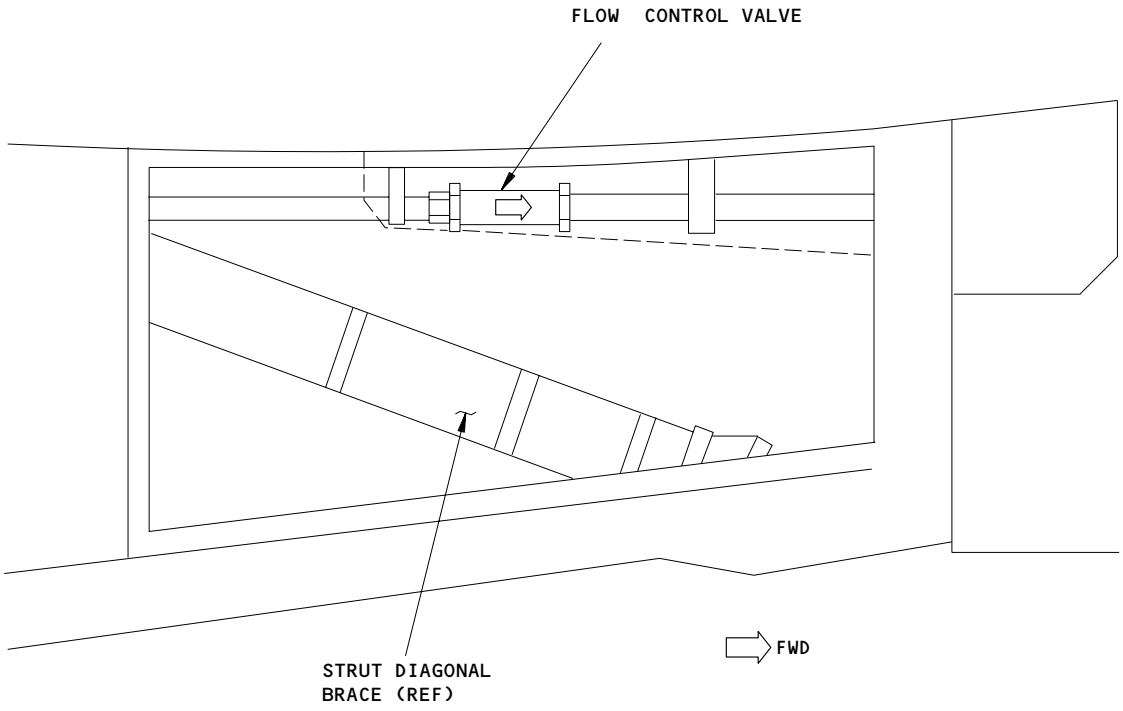


Component Location
Figure 102 (Sheet 6)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H64561





FLOW CONTROL VALVE LOCATION
A

Flow Control Valve Location
Figure 102 (Sheet 7)

T/R DEPLOYED, REVERSE THRUST COULD NOT BE ADVANCED BEYOND IDLE

PREREQUISITES

NONE

1 CHECK THAT LEFT AND RIGHT THRUST REVERSER FEEDBACK CABLES ARE ATTTACHED TO ENGINE CONTROL STRUT DRUM AND FEED-BACK ACTUATOR.
ARE CABLES ATTACHED?

NO → 21 REATTACH CABLES (AMM 78-34-03/401).

YES

2 CHECK THAT FEEDBACK CABLES ARE RIGGED CORRECTLY (AMM 78-34-03/201).
ARE CABLES RIGGED?

NO → 22 RIG CABLES (AMM 78-34-03/401).

YES

3 DISCONNECT LEFT AND RIGHT FEEDBACK CABLES FROM STRUT DRUM AND ACTUATORS AND CHECK CABLE FOR FREEDOM OF MOVEMENT (AMM 78-34-03/401).
IS MOVEMENT OK?

NO → 23 REPLACE CABLES (AMM 78-34-03/401).

YES → 24 CHECK ENGINE CONTROL STRUT DRUM FOR BINDING (AMM 76-11-00/201).
REPAIR/REPLACE AS REQUIRED.

T/R Deployed, Reverse Thrust Could Not Be Advanced Beyond Idle
Figure 103

T/R PARTIALLY DEPLOYED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
HYDRAULIC POWER IS ON (AMM 29-11-00/201)

1 DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
OPEN THE THRUST REVERSER (AMM 78-31-00/201).
OPEN THE STRUT HYDRAULIC BAY ACCESS PANEL, 434AL (444AR).
REMOVE THE UPPER STRUT FAIRING (AMM 54-52-01/401).
EXAMINE THESE COMPONENTS FOR HYDRAULIC LEAKAGE:
- T/R ISOLATION VALVE
- DIRECTIONAL CONTROL VALVE
- LOCKING AND NONLOCKING ACTUATORS
- HYDRAULIC TUBING.

DO YOU FIND HYDRAULIC LEAKAGE?

YES → 21 REPAIR OR REPLACE THE APPLICABLE COMPONENTS:
- T/R ISOLATION VALVE (AMM 78-34-05/401)
- DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- HYDRAULIC TUBING AND FITTINGS
- THRUST REVERSER HYDRAULIC ACTUATORS (AMM 78-31-26/401).

DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

NO ↓

2 CLOSE THE THRUST REVERSER (AMM 78-31-00/201).
TRY TO MANUALLY EXTEND THE THRUST REVERSER (AMM 78-31-00/201).
RETRACT THE THRUST REVERSER.
DOES THE THRUST REVERSER EXTEND AND RETRACT SMOOTHLY AND EASILY WITH LESS THAN 165 LB-IN.?

NO → 22 EXAMINE THE THRUST REVERSER TO FIND THE RESTRICTION AND REPAIR OR REPLACE THE NECESSARY COMPONENT (AMM 78-31-20/201).
DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

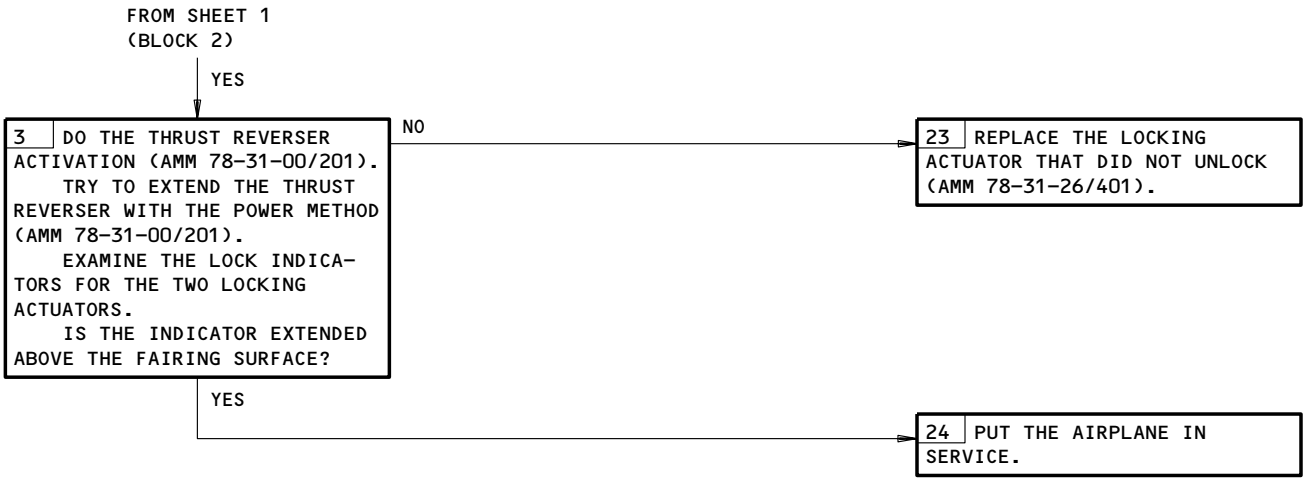
YES ↓

SEE SHEET 2
(BLOCK 3)

T/R Partially Deployed
Figure 104 (Sheet 1)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H69117



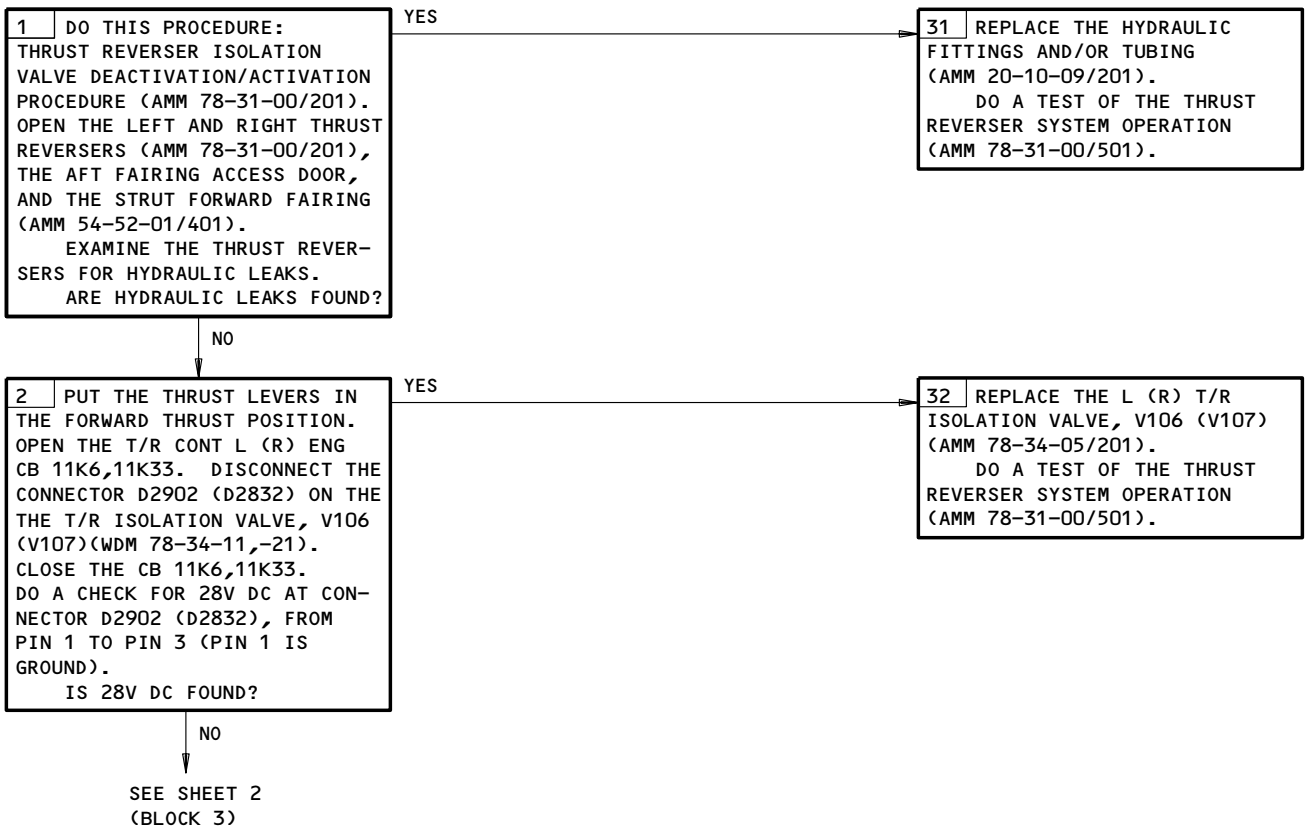
T/R Partially Deployed
Figure 104 (Sheet 2)

T/R REMAINED FULLY OR PARTIALLY DEPLOYED WITH "REV" GREEN OR AMBER LIGHT ON AND WITH "REV ISLN" LIGHT ON AND "REV ISLN VAL" EICAS MESSAGE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B30,11D12

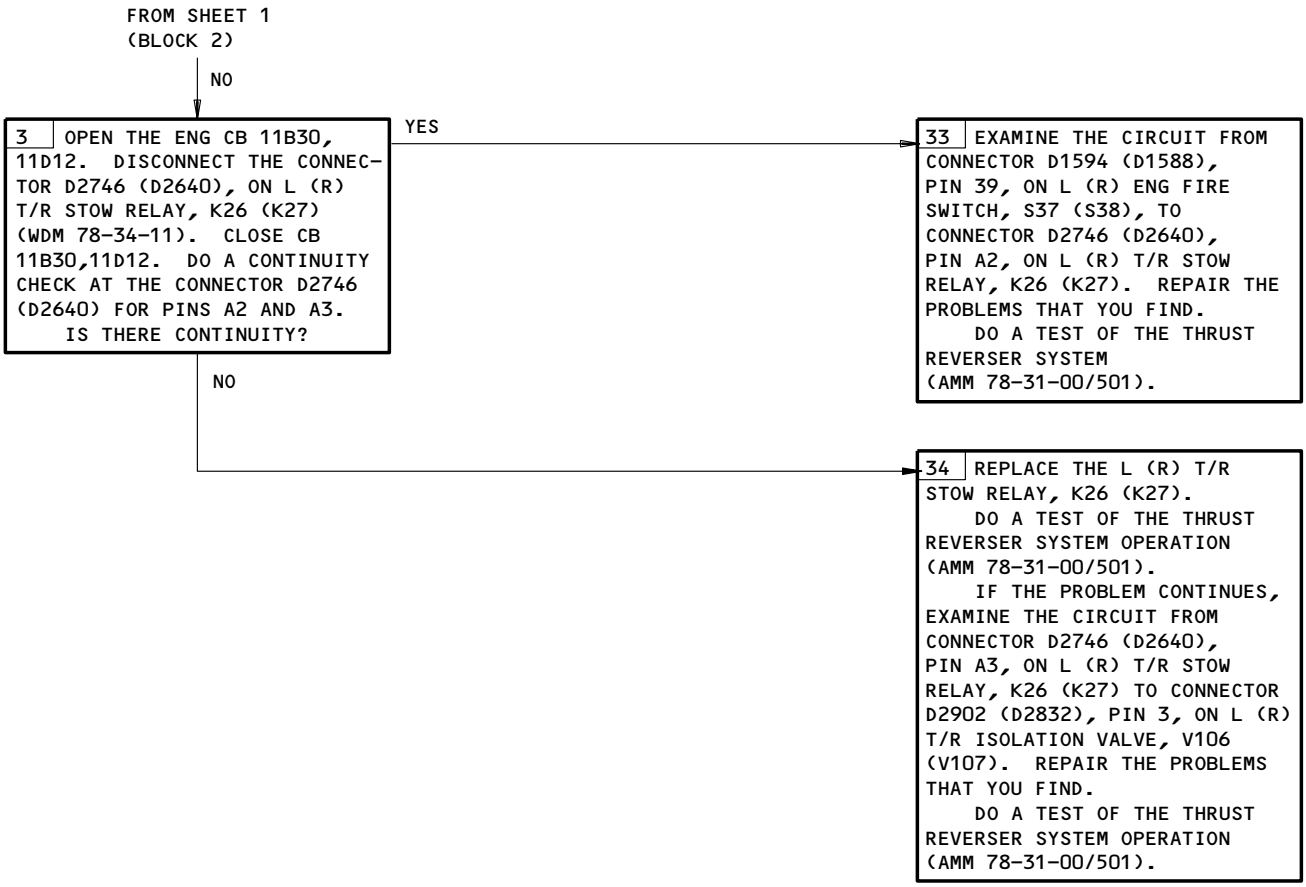
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)



Thrust Reverser Remained Fully or Partially Deployed with REV Green or Amber Light On and with REV ISLN Light On and REV ISLN VAL EICAS Message
Figure 105 (Sheet 1)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H69126



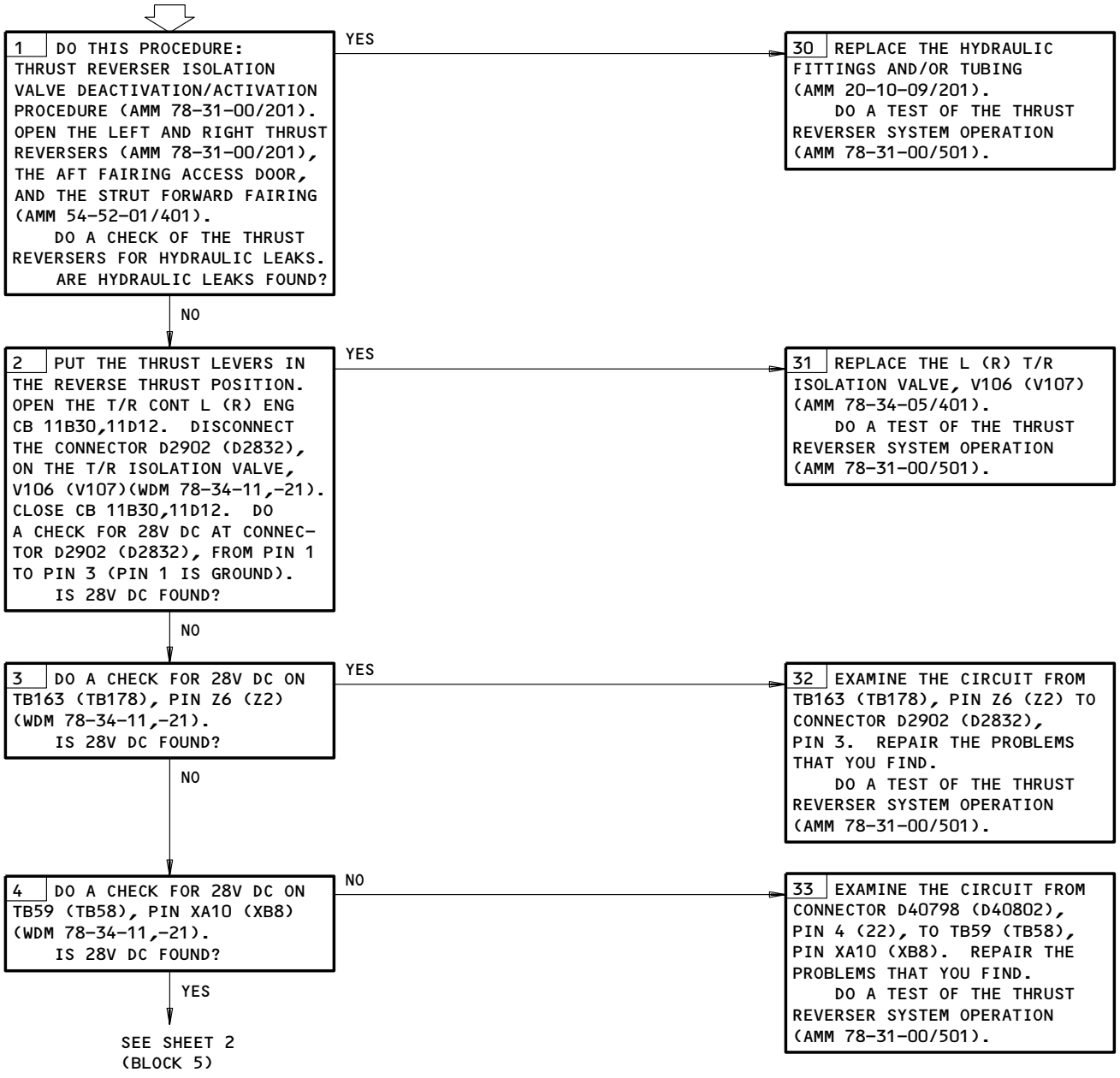
Thrust Reverser Remained Fully or Partially Deployed with REV Green or Amber Light On and with REV ISLN Light On and REV ISLN VAL EICAS Message
Figure 105 (Sheet 2)

REV THRUST SELECTED WITH "REV" AMBER "REV ISLN" LIGHT AND "REV ISLN VAL" EICAS MESSAGE

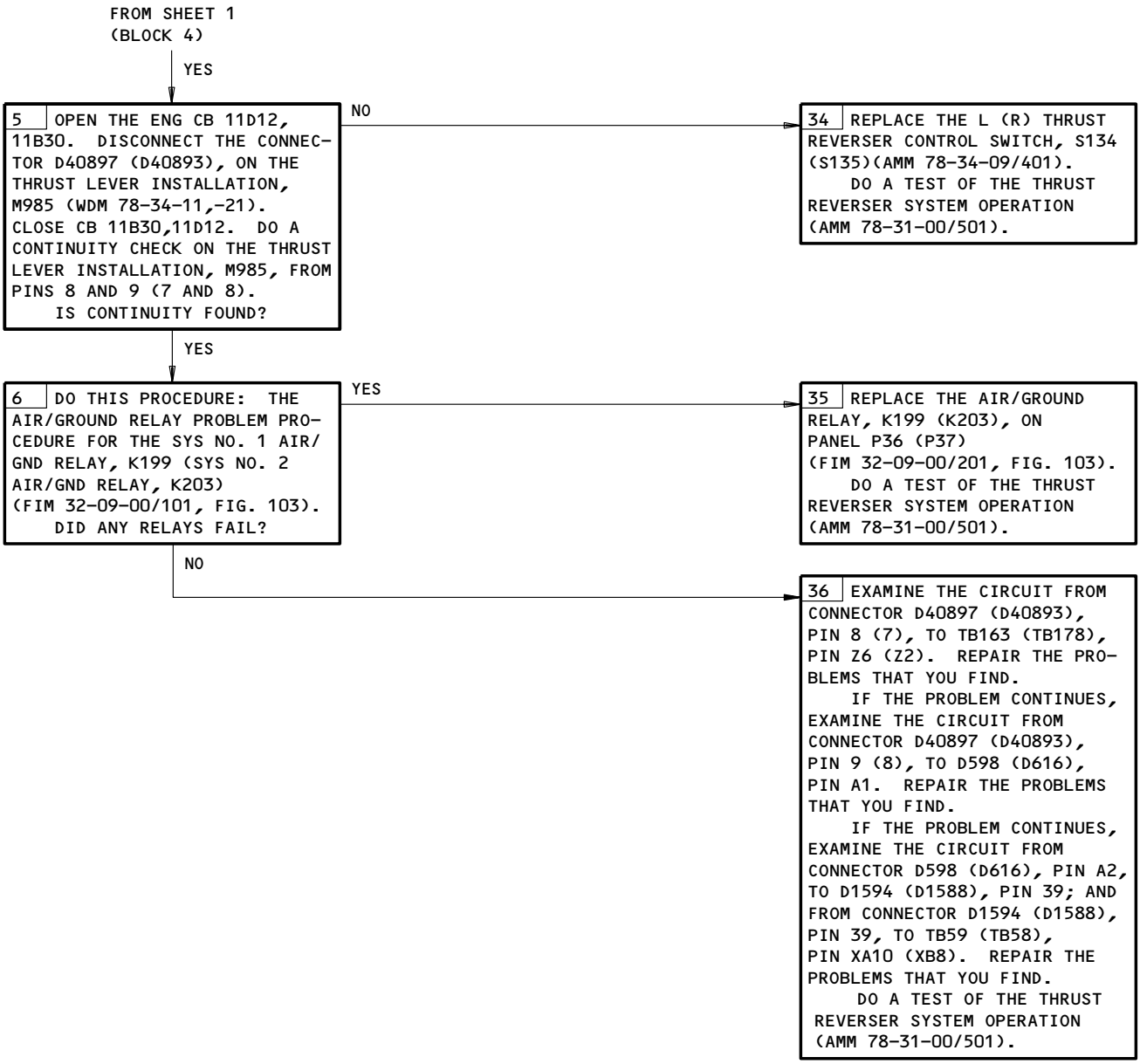
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B30,11D12

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



Rev Thrust Selected With REV Amber REV ISLN Light and REV ISLN VAL EICAS Message
Figure 106 (Sheet 1)



Rev Thrust Selected With REV Amber REV ISLN Light and REV ISLN VAL EICAS Message
Figure 106 (Sheet 2)

T/R DID NOT DEPLOY WITH ISOLATION VALVE OPENED

PREREQUISITES

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

1 POSITION REVERSE THRUST LEVER TO THE IDLE POSITION AND CHECK THAT THE DIRECTIONAL CONTROL VALVE INPUT CRANK MOVES TO THE DEPLOY POSITION.
DID THE INPUT CRANK MOVE TO THE FULLY DEPLOYED POSITION?

NO → 22 CHECK RIGGING OF DIRECTIONAL CONTROL VALVE (AMM 76-11-00/601). RERIG IF NECESSARY.
IF THE PROBLEM CONTINUES, REPAIR/REPLACE ENGINE CONTROL STRUT DRUM AS REQUIRED.

YES → 23 REPLACE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/201).

T/R Did Not Deploy Isolation Valve Opened
Figure 107

T/R REMAINED DEPLOYED

PREREQUISITES

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

1 MOVE THE REVERSE THRUST LEVER FROM THE REVERSE THRUST IDLE POSITION TO THE FULL FORWARD POSITION.
DID THE DIRECTIONAL CONTROL VALVE INPUT CRANK MOVE TO THE STOW POSITION?

NO → 22 DO A RIGGING CHECK OF THE DIRECTIONAL CONTROL VALVE (AMM 76-11-00/201). RERIG IF NECESSARY.
IF THE PROBLEM CONTINUES, REPLACE THE ENGINE CONTROL STRUT DRUM AS REQUIRED.

YES → 23 REPLACE THE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/201).

T/R Remained Deployed
Figure 108

T/R OPERATION SLOW

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
THRUST REVERSER IS DEACTIVATED (AMM 78-31-00/201)

1 OPEN THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE STRUT HYDRAULIC BAY ACCESS PANELS, 434AL (444AR). REMOVE THE UPPER FORWARD STRUT FAIRING (AMM 54-52-01/401).
LOOK FOR HYDRAULIC FLUID LEAKAGE FROM THE HYDRAULIC TUBES OR FITTINGS AT THE ISOLATION VALVE, DIRECTIONAL CONTROL VALVE, SYNC-LOCK, AND THE HYDRAULIC ACTUATORS.
IS THERE LEAKAGE?

YES

21 REPAIR OR REPLACE THE APPLICABLE COMPONENT:
- HYDRAULIC FITTINGS AND TUBING ASSEMBLY
- THRUST REVERSER ISOLATION VALVE (AMM 78-34-05/401)
- THRUST REVERSER DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- THRUST REVERSER HYDRAULIC ACTUATORS, SYNC-LOCK (AMM 78-31-26/401).

DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO A TEST OF THE THRUST REVERSER SYSTEM OPERATION (AMM 78-31-00/501).

NO

2 MANUALLY EXTEND THE THRUST REVERSER (AMM 78-31-00/201).
DOES THE THRUST REVERSER EXTEND SMOOTHLY AND EASILY (TORQUE TO EXTEND THRUST REVERSER IS LESS THAN 165 POUND-INCHES)?

YES

11 DO A CHECK OF THE INPUT CRANK OF THE DIRECTIONAL CONTROL VALVE.
IS THE CRANK IN THE FULLY STOW POSITION?

NO

22 EXAMINE THE CONTROL ROD THAT CONNECTS THE DIRECTIONAL CONTROL VALVE TO THE ENGINE CONTROL SYSTEM. MAKE SURE THE CONTROL ROD IS ADJUSTED CORRECTLY WITH THE CLEARANCE BETWEEN CONTROL CAM AND THE ROLLER AT 0.040 ±0.010 INCH (AMM 76-11-00/501). REPAIR THE PROBLEMS THAT YOU FIND.
IF THE PROBLEM CONTINUES, REPLACE THE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401).
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO A TEST OF THE THRUST REVERSER SYSTEM OPERATION (AMM 78-31-00/501).

YES

23 REPLACE THE FLOW CONTROL VALVE. THE FLOW CONTROL VALVE IS LOCATED IN THE RIGHT SIDE OF AFT FAIRING. THE VALVE MAY BE REPLACED BY REMOVING THE STRUT FAIRING SHOWN IN THE COMPONENT LOCATOR.
IF THE PROBLEM CONTINUES, REPLACE THE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401).

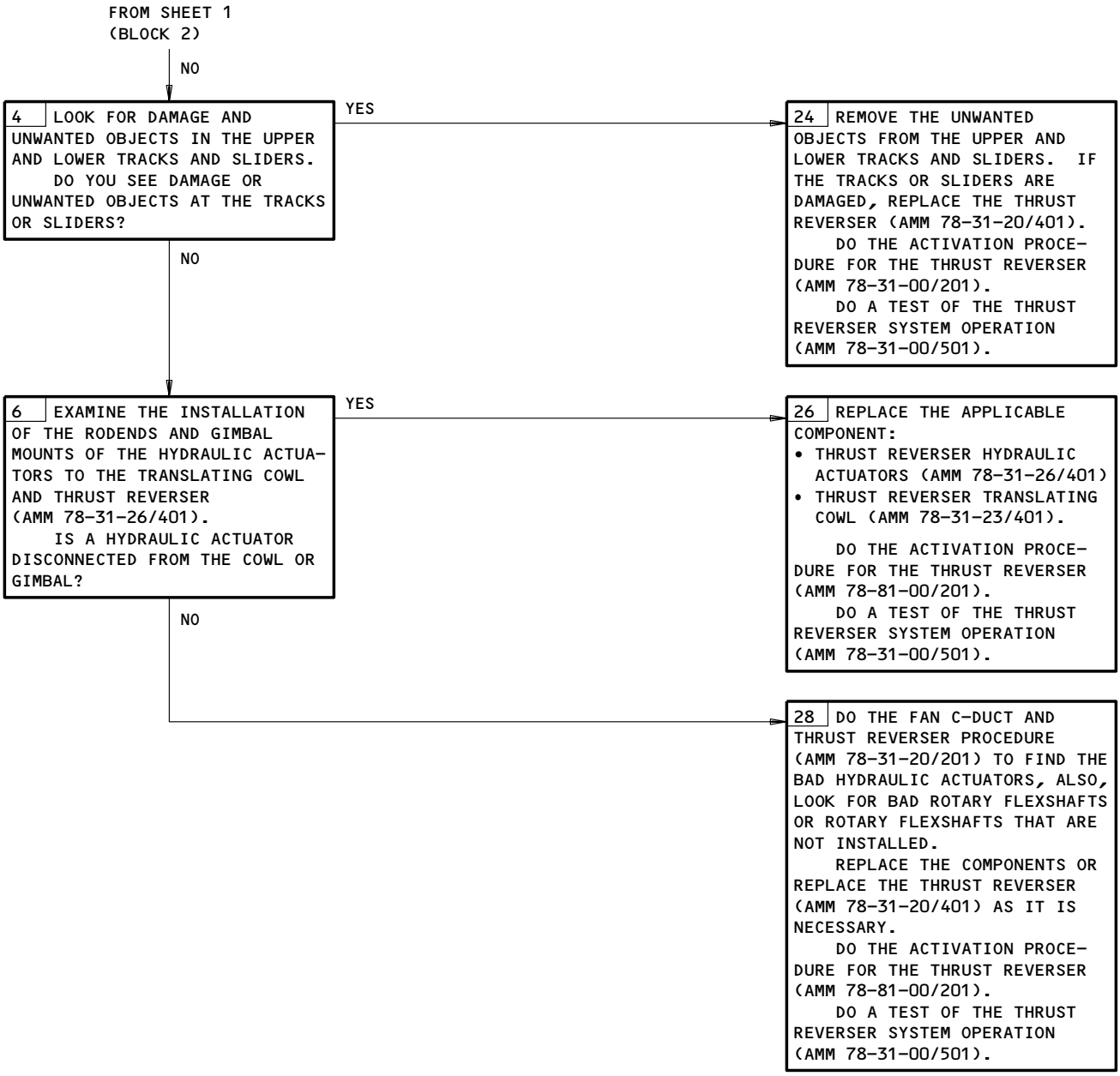
NO

SEE SHEET 2
(BLOCK 4)

T/R Operation Slow
Figure 109 (Sheet 1)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H71886



T/R Operation Slow
Figure 109 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
HYDRAULIC POWER (AMM 29-11-00/201)
THRUST REVERSER STOWED

WARNING: FAILURE TO DEACTIVATE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

"REV ISLN" LGT/"REV ISLN VAL" EICAS MSG DISPLAYED AFTER T.O.

1 DEACTIVATE THRUST REVERSER (AMM 78-31-00/201).
ENSURE REVERSE THRUST LEVERS ARE IN STOWED POSITION. CHECK FOR 28V DC ON TB163, PIN Z6 (TB178, PIN Z2) ON PANEL P36 (P37)(WDM 78-34-11, -21).
DOES 28V DC EXIST?

YES → 21 REPLACE L (R) THRUST REVERSER CONTROL SWITCH, S135 (S136)(AMM 78-34-09/401). DO THIS PROCEDURE: AIR/GROUND RELAY PROBLEM PROCEDURE FOR AIR/GROUND RELAY, K199 (K203) FAILED (FIM 32-09-00/101, FIG. 103, BLOCK 2).
DO THE INDICATED CORRECTIVE ACTION. ACTIVATE THRUST REVERSER ISOLATION VALVE (AMM 78-31-00/201).

NO

2 OPEN CB 11D11,11B29. PULL L (R) T/R HYD PRESS SW S330 (S331) CONNECTOR D2900 (D2830). CHECK FOR CONTINUITY THROUGH SWITCH FOR PINS 1 AND 2 (WDM 78-36-11,-21).
DOES CONTINUITY EXIST?

YES → 22 REPLACE L (R) T/R HYD PRESS SW, S330 (S331), ON T/R ISOLATION VALVE, V106 (V107) (AMM 78-34-05/401). ACTIVATE THRUST REVERSER ISOLATION VALVE (AMM 78-31-00/201).

NO

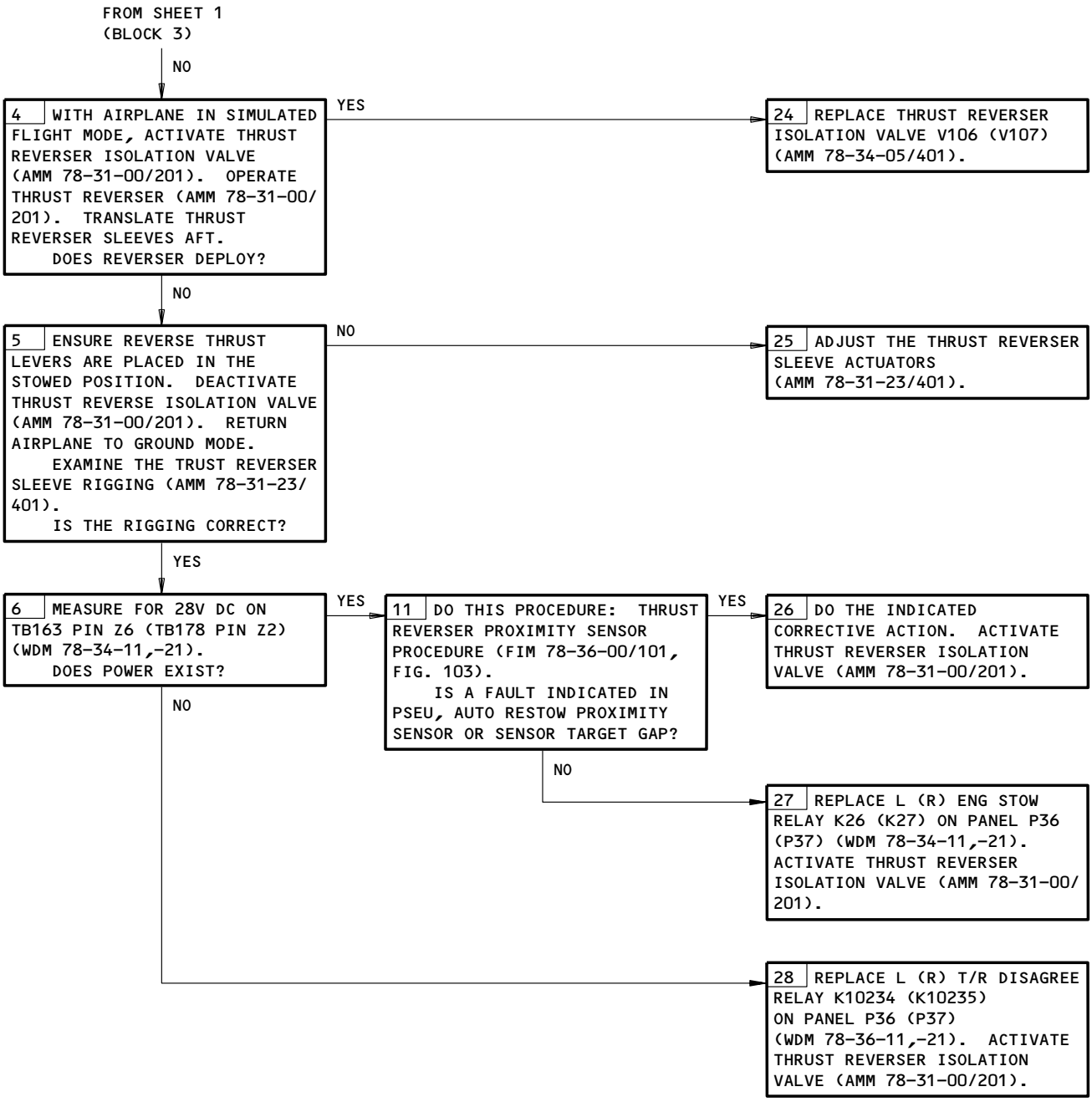
3 INSTALL CONNECTOR D2900 (D2830). DO THIS PROCEDURE: AIR/GROUND RELAY PROBLEM PROCEDURE FOR SYS NO. 1 AIR/GND RELAYS K148,K199 (SYS NO. 2 AIR/GND RELAYS FAILED K203,K263) (FIM 32-09-00/101, FIG. 103, BLOCK 2).
DID ANY RELAY FAIL?

YES → 23 DO THE INDICATED CORRECTIVE ACTION. ACTIVATE THRUST REVERSER (AMM 78-31-00/201).

NO

SEE SHEET 2
(BLOCK 4)

REV ISLN Lgt/REV ISLN VAL EICAS Msg Displayed After T.O.
Figure 110 (Sheet 1)



REV ISLN Lgt/REV ISLN VAL EICAS Msg Displayed After T.O.
Figure 110 (Sheet 2)

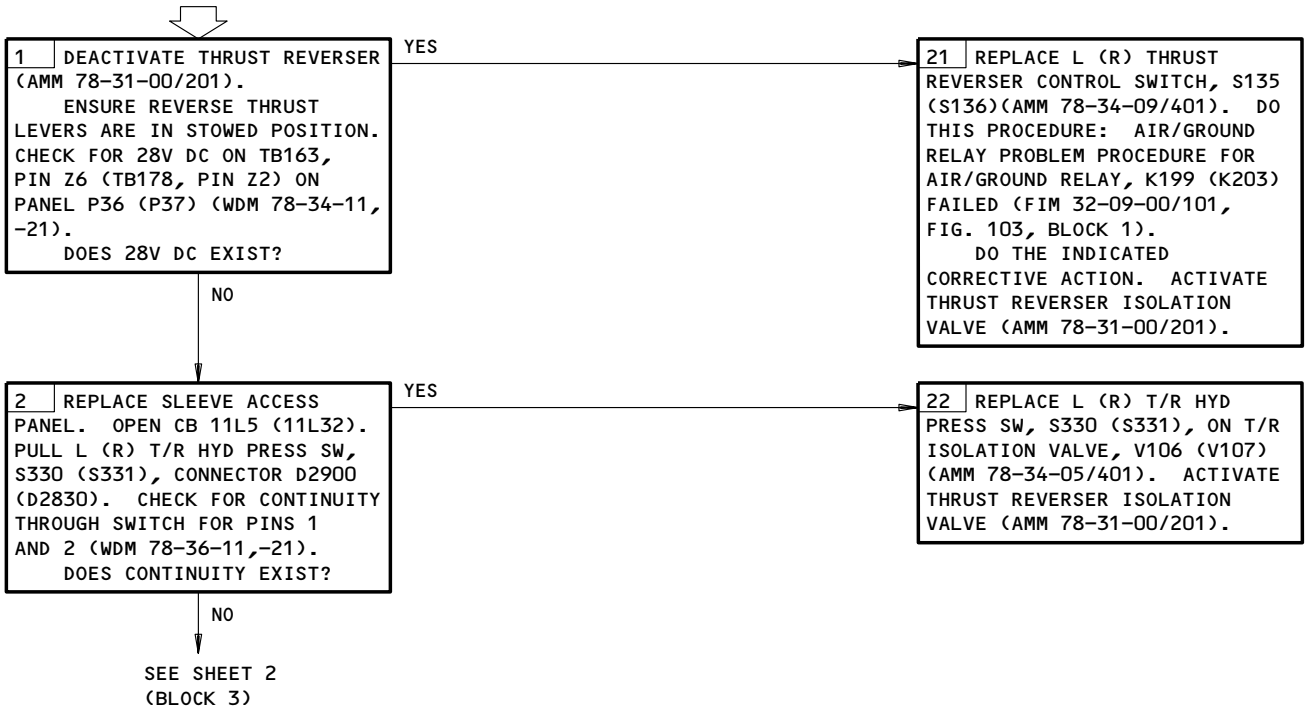
"REV ISLN" LIGHT ON AND EICAS "REV ISLN VAL" MESSAGE DISPLAYED AFTER T.O. AND AFTER LANDING OR AFTER T.O. AND AFTER ENG SHUTDOWN WITH HYD. PUMPS OFF

PREREQUISITES

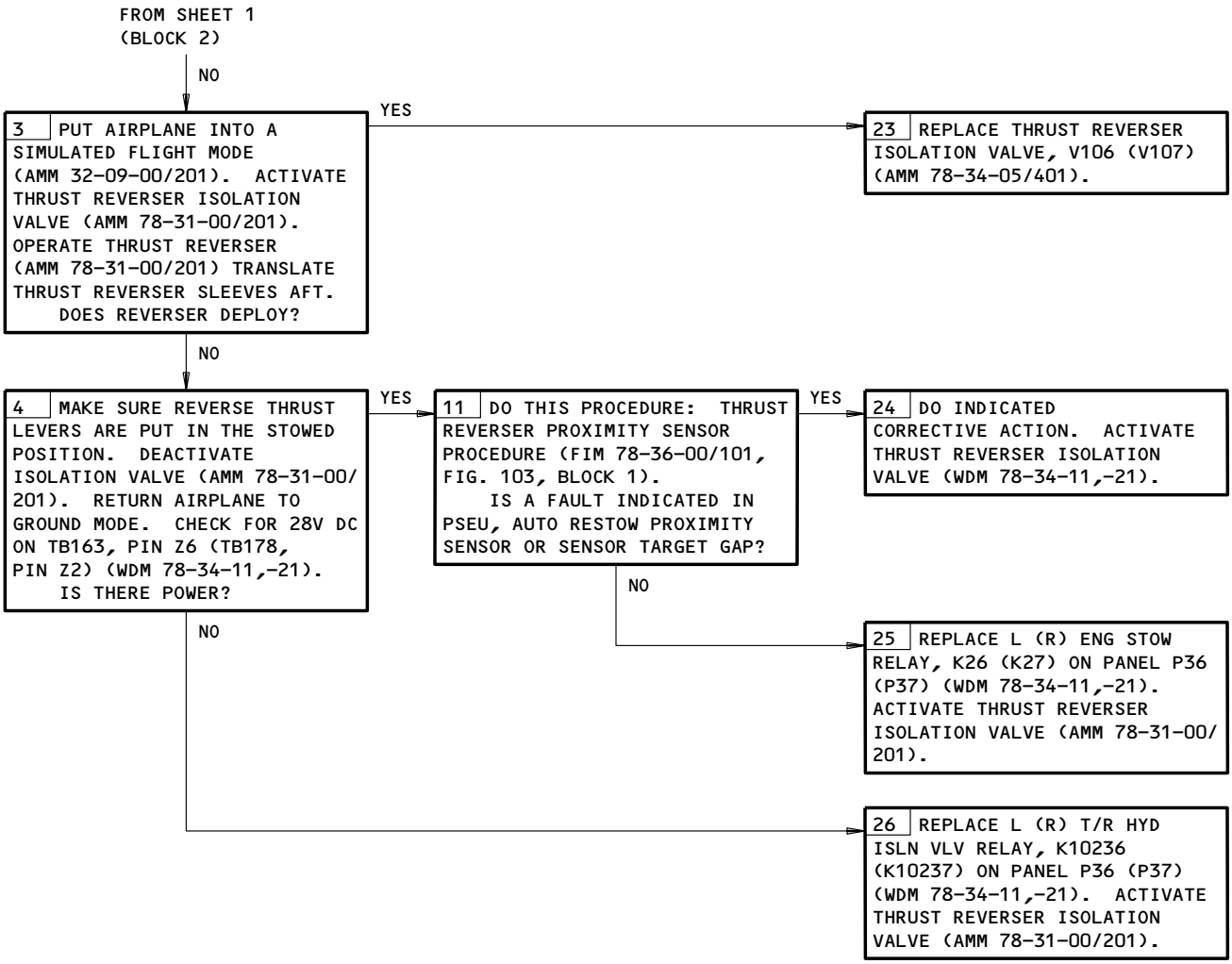
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
HYDRAULIC POWER (AMM 29-11-00/201)
THRUST REVERSER STOWED

WARNING: FAILURE TO DEACTIVATE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.



REV ISLN Light On and EICAS REV ISLN VAL Message Displayed After T.O. and After Landing or After T.O. and After Eng Shutdown With Hyd. Pumps Off
Figure 111 (Sheet 1)



REV ISLN Lgt/REV ISLN VAL EICAS Msg Displayed After T.O. and After Landing.
Figure 111 (Sheet 2)

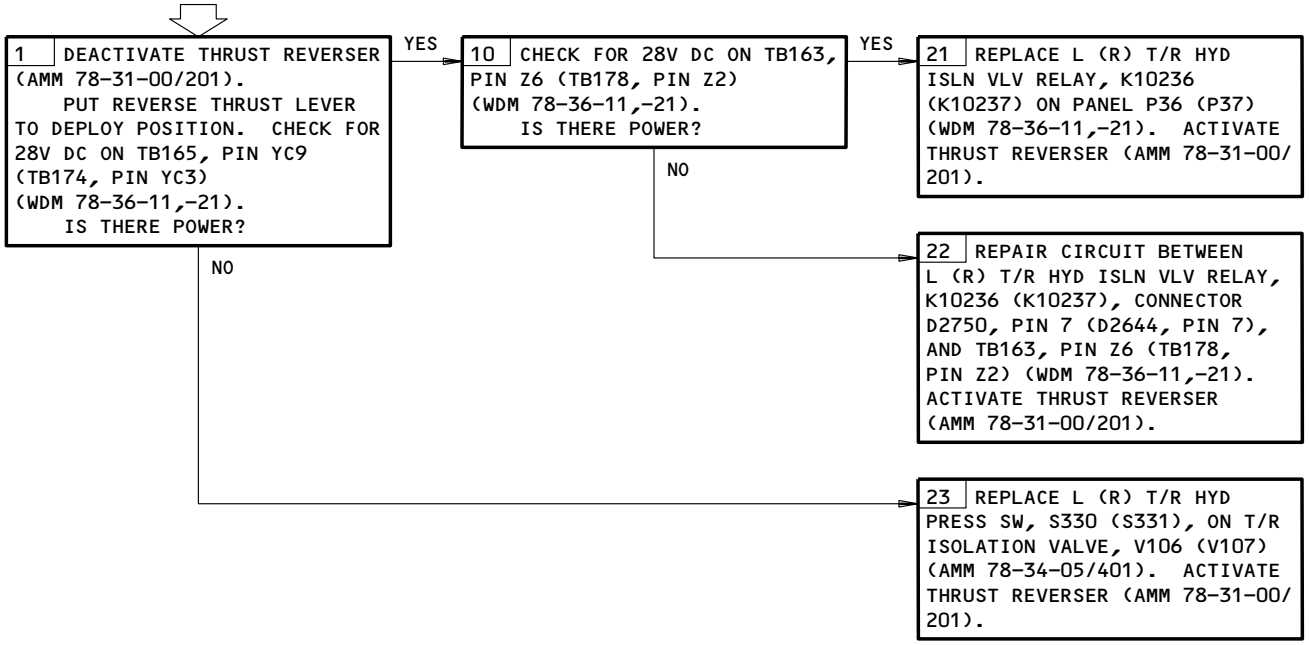
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

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

"REV ISLN" LGT/"REV ISLN VAL" EICAS MSG DISPLAYED DURING REV THRUST

WARNING: FAILURE TO DEACTIVATE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.



REV ISLN Lgt/REV ISLN VAL EICAS Msg Displayed During Rev Thrust
Figure 112

"REV ISLN" LIGHT ON AND EICAS "REV ISLN VAL" MESSAGE DISPLAYED DURING REV THRUST AND ON THE GROUND

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

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

1 DO THIS PROCEDURE:
AIR/GROUND RELAY PROBLEM (FIM 32-09-00/101, FIG. 103) FOR SYS NO. 1 AIR/GND RELAYS, K148,K199 (SYS NO. 2 AIR/GND RELAYS FAILED, K203,K263).
DID ANY RELAY FAIL?

YES → 21 DO THE CORRECTIVE ACTION.

NO → 22 REPLACE THE L (R) T/R DISAGREE RELAY, K10234 (K10235), ON PANEL P36 (P37) (WDM 78-36-11,-21).

REV ISLN Light On and EICAS REV ISLN VAL Message Displayed during Rev Thrust and on the Ground
Figure 113

"REV ISLN" LIGHT AND "REV ISLN VAL" EICAS MESSAGE DISPLAYED ONLY WHEN ENG(S) ARE SHUT DOWN AND HYD PUMPS ARE OFF. REVERSERS ARE STOWED.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

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

1 REMOVE L(R) CONNECTOR D40901P (D40899P) FROM THE P10 QUADRANT STAND (WDM 78-34-11, -21).
IS THE "REV ISLN" LIGHT ON?

NO → 21 REPLACE THE L (R) THRUST REVERSER CONTROL SWITCH, S134 (S135)(AMM 78-34-09/401).

YES ↓

2 RECONNECT CONNECTOR D40901P (D40899P) TO THE P10 QUADRANT STAND.
CHECK THE TARGET-TO-SENSOR GAPS OF THE LEFT AUTO RESTOW PROXIMITY SENSOR, S10105, AND THE RIGHT AUTO RESTOW PROXIMITY SENSOR, S10108, ON THE L (R) THRUST REVERSER (AMM 78-34-07/501).
IS SENSOR GAP 0.050-0.070 IN. (1.370-1.778 mm)?

NO → 22 ADJUST THE TARGET-TO-SENSOR GAP OF PROXIMITY SENSORS, S10105 AND S10108 (AMM 78-34-07/501).

YES → 23 REPLACE L (R) ENG STOW RELAY, K26 (K27), ON PANEL P36 (P37)(WDM 78-34-11,-21).
IF THE PROBLEM CONTINUES, DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).

REV ISLN Light and REV ISLN VAL EICAS Message Displayed only when Eng(s) are Shut Down and Hyd Pumps are off. Reversers are Stowed.
Figure 114

THRUST REVERSER CONTROL SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
ACTUATOR – L ENGINE, THRUST REVERSER FEEDBACK	3	2	415AL,416AR, AT THRUST REVERSER LOCKING ACTUATOR	78-34-06
ACTUATOR – R ENGINE, THRUST REVERSER FEEDBACK	3	2	425AL,426AR, AT THRUST REVERSER LOCKING ACTUATOR	78-34-06
CABLE – L ENGINE THRUST REVERSER FEEDBACK	4	2	433AL, STRUT CONTROL DRUM ACCESS, 415AL,416AR, FAN C-DUCT AND THRUST REVERSER	78-34-03
CABLE – R ENGINE THRUST REVERSER FEEDBACK	4	2	STRUT CONTROL DRUM ACCESS, 443AL, STRUT CONTROL DRUM ACCESS, 425AL, 426AR, STRUT CONTROL DRUM ACCESS	78-34-03
CIRCUIT BREAKER –	5		FLT COMPT, P6	
L ENG SYNC-LOCK, C4472		1	6C12	*
R ENG SYNC-LOCK ALTN, C4474		1	6D12	*
CIRCUIT BREAKER –			FLT COMPT, P11	
R ENG SYNC-LOCK, C4470		1	11K32	*
T/R CONT ALTN R, C1483		1	11D12	*
T/R CONT L, C1482		1	11K33	*
T/R CONT R, C4471		1	11B30	*
DIODE (FIM 31-01-36/101)				
SUPPR, R10398				*
DIODE (FIM 31-01-37/101)				
SUPPR, R10399				*
LEVER – (FIM 76-11-00/101)				
THRUST, M985				
MODULE – (FIM 31-01-36/101)		1		*
TIME DELAY, M10004				
MODULE – (FIM 31-01-37/101)		1		*
TIME DELAY, M10010				
RELAY – (FIM 31-01-36/101)				
L ENG T/R STOW, K26		1		*
SYNC-LOCK, K10725		1		*
SYS NO. 1 AIR/GND, K167		1		*
SYS NO. 1 AIR/GND, K199				
RELAY – (FIM 31-01-37/101)				
HIV PWR SENSE, K10724		1		*
R ENG T/R STOW, K27		1		*
SYNC-LOCK, K10726		1		*
SYNC-LOCK PWR SENSE, K10723		1		*
SYS NO. 1 AIR/GND, K10201		1		*
SYS NO. 2 AIR/GND, K203				

* SEE THE WDM EQUIPMENT LIST

Thrust Reverser Control System – Component Index
Figure 101 (Sheet 1)

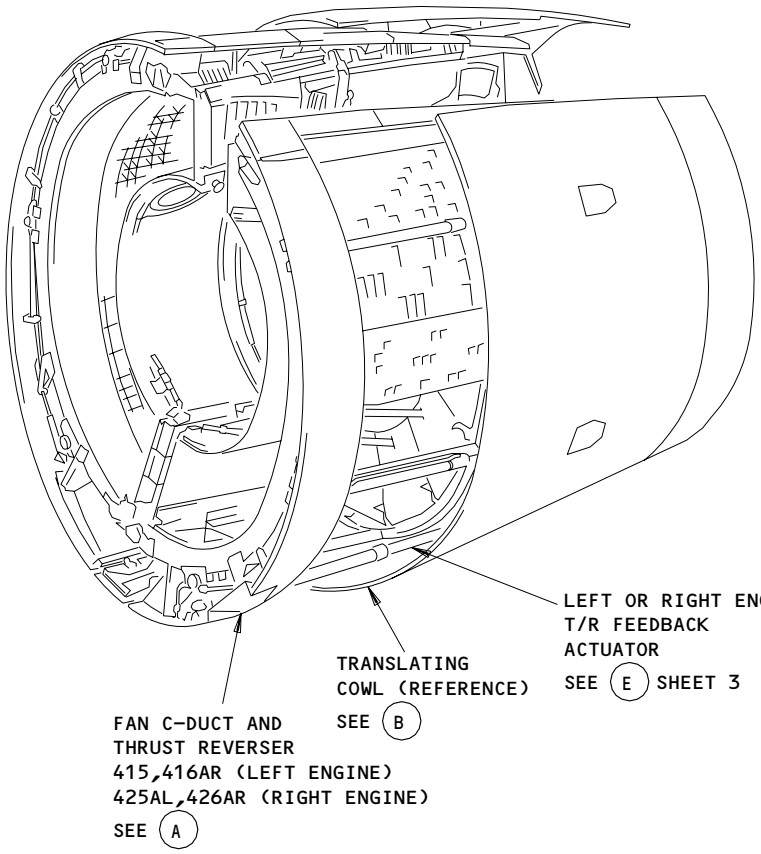
EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

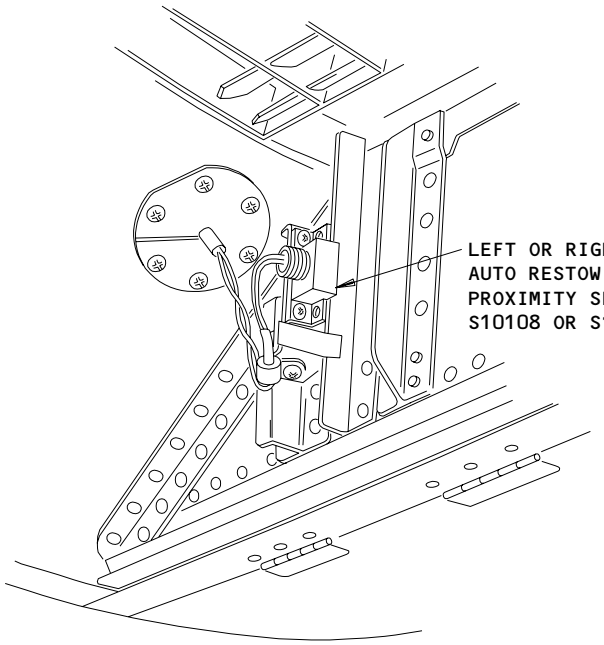
H59915

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
SENSOR – (FIM 78-36-00/101)				
L ENGINE, LH SLEEVE DEPLOY PROX, S166				
L ENGINE, RH SLEEVE DEPLOY PROX, S167				
R ENGINE, LH SLEEVE DEPLOY PROX, S166				
R ENGINE, RH SLEEVE DEPLOY PROX, S167				
SENSOR – L ENGINE, L T/R AUTO RESTOW PROXIMITY, S10105	1	1	415AL, LEFT FORWARD BULKHEAD, AT LH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – L ENGINE, R T/R AUTO RESTOW PROXIMITY, S10108	1	1	416AR, RIGHT FORWARD BULKHEAD, AT RH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – R ENGINE, L T/R AUTO RESTOW PROXIMITY, S10105	1	1	425AL, LEFT FORWARD BULKHEAD, AT LH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SENSOR – R ENGINE, R T/R AUTO RESTOW PROXIMITY, S10108	1	1	426AR, RIGHT FORWARD BULKHEAD, AT RH THRUST REVERSER LOCKING ACTUATOR	78-34-07
SOLENOID – L ENG T/R ISOLATION VALVE	2	1	434AL, ISOLATION VALVE V106	*
SOLENOID – R ENG T/R ISOLATION VALVE	2	1	444AL, ISOLATION VALVE V107	*
SWITCH – L T/R CONT, S134 (SYNC-LOCK)	5	1	FLT COMPT, P10, THRUST LEVER ASSY, M985	
SWITCH – R T/R CONT, S135 (SYNC-LOCK)	5	1	FLT COMPT, P10, THRUST LEVER ASSY, M985	
SWITCHES – (FIM 22-32-00/101)				
L T/R CONT, S21 (ISOLATION VALVE)				
R T/R CONT, S22 (ISOLATION VALVE)				
SWITCHES – (FIM 26-21-00/101)				
L ENGINE FIRE, S37				
R ENGINE FIRE, S38				
SWITCHES – (FIM 78-36-00/101)				
L T/R HYD PRESS, S330				
R T/R HYD PRESS, S331				
SYNC-LOCK, L ENGINE THRUST REVERSER	6	1	416AR	78-31-26
SYNC-LOCK, R ENGINE THRUST REVERSER	6	1	426AR	78-31-26
UNIT 1 – (FIM 32-09-00/101)				
PROXIMITY SWITCH ELECTRONICS, M162				
VALVE – L ENGINE, THRUST REVERSER DIRECTIONAL CONTROL	3	1	432AL	78-34-01
VALVE – R ENGINE, THRUST REVERSER DIRECTIONAL CONTROL	3	1	442AL	78-34-01
VALVE – L ENGINE, T/R ISOLATION, V106	2	1	434AL	78-34-05
VALVE – R ENGINE, T/R ISOLATION, V107	2	1	444AL	78-34-05

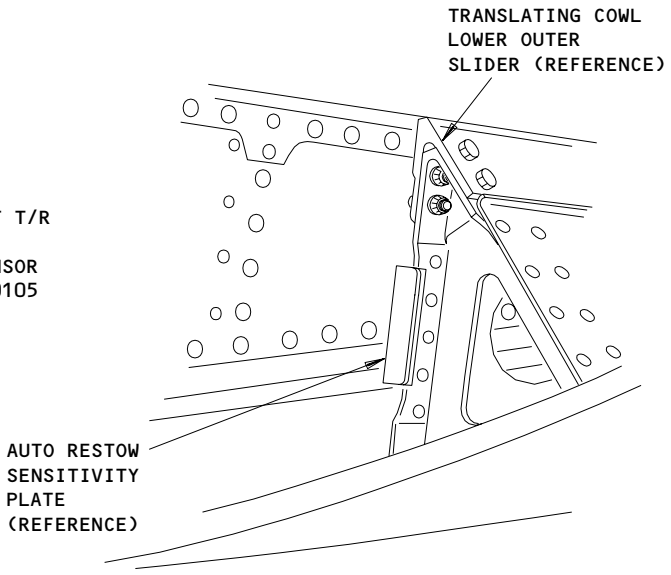
* SEE THE WDM EQUIPMENT LIST

Thrust Reverser Control System – Component Index
Figure 101 (Sheet 2)





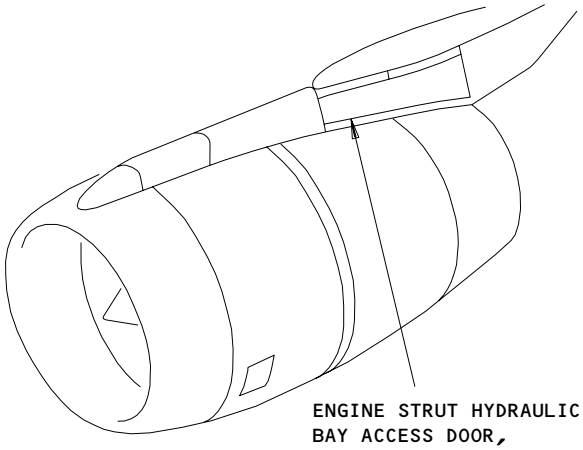
FAN C-DUCT AND THRUST REVERSER
(A)



TRANSLATING COWL (REFERENCE)
(B)

51945

Component Location
Figure 102 (Sheet 1)

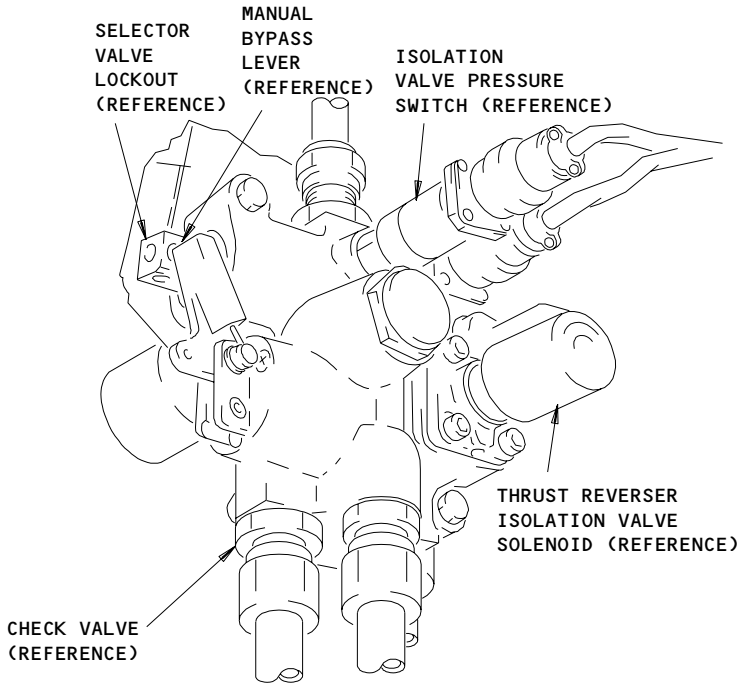


ENGINE STRUT HYDRAULIC BAY ACCESS DOOR, 434AL (LEFT ENGINE), 444AL (RIGHT ENGINE)

SEE (D)

NOT USED

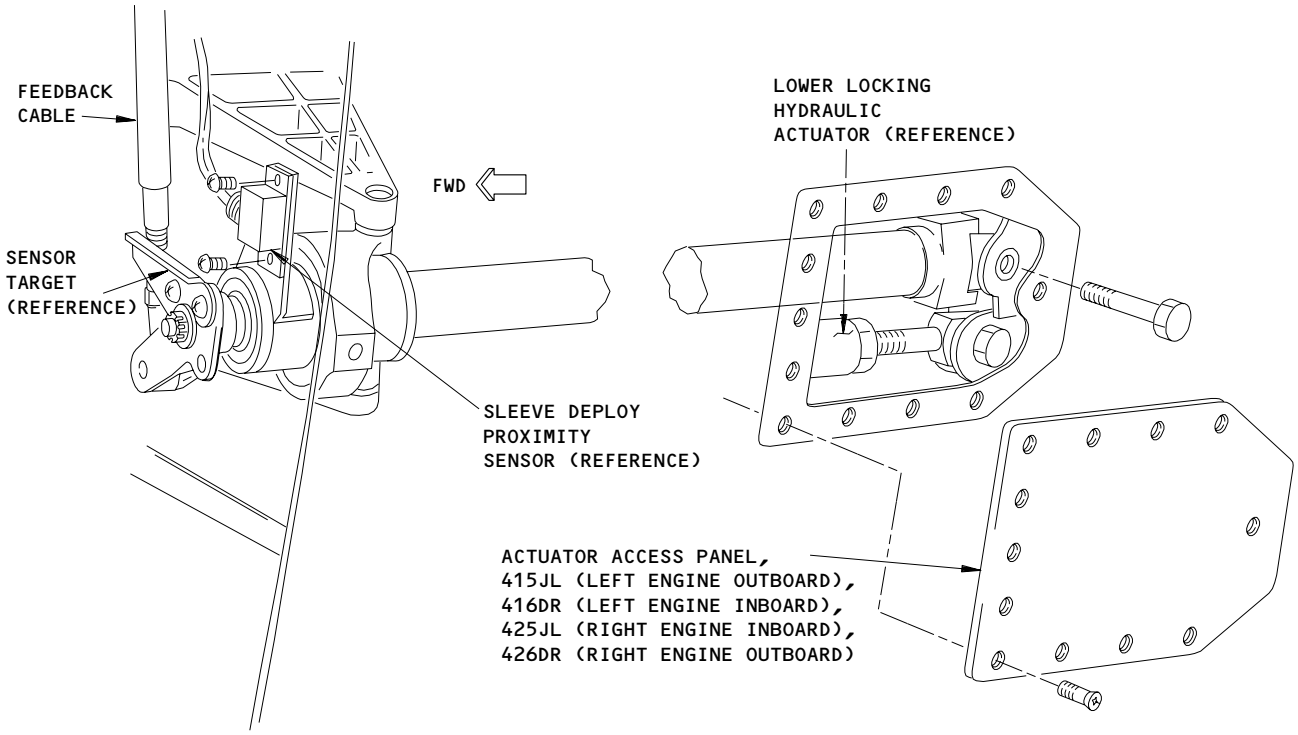
(C)



LEFT OR RIGHT ENGINE T/R ISOLATION VALVE

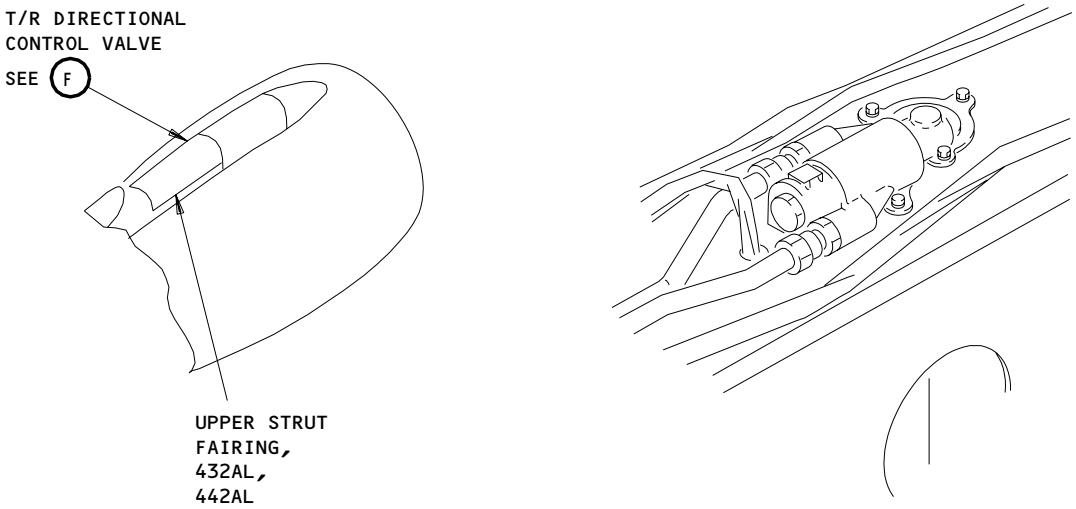
(D)

Thrust Reverser Control System – Component Location
Figure 102 (Sheet 2)



LEFT OR RIGHT ENGINE T/R FEEDBACK ACTUATOR HYDRAULIC

(E) FROM SHT 1



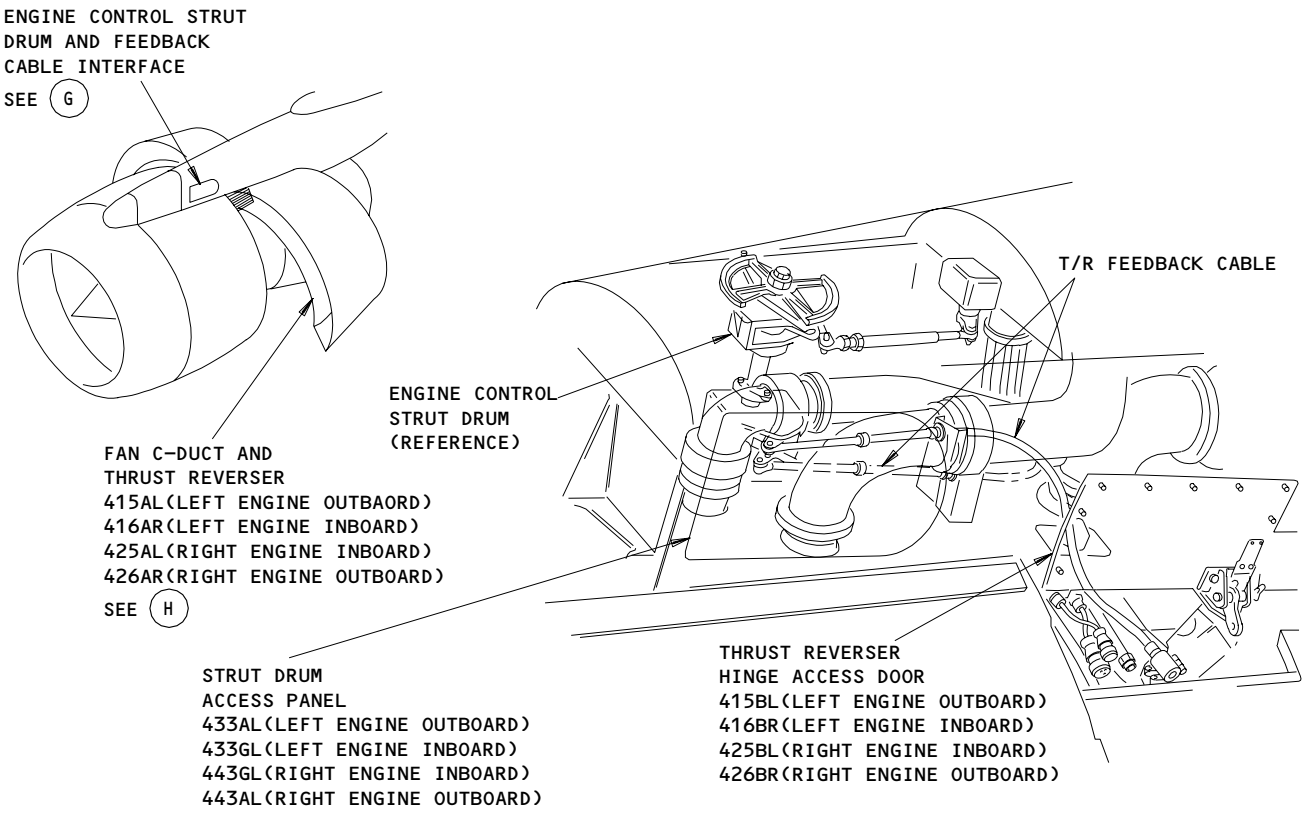
LEFT OR RIGHT ENGINE T/R DIRECTIONAL CONTROL VALVE

(F)

Thrust Reverser Control System – Component Location
Figure 102 (Sheet 3)

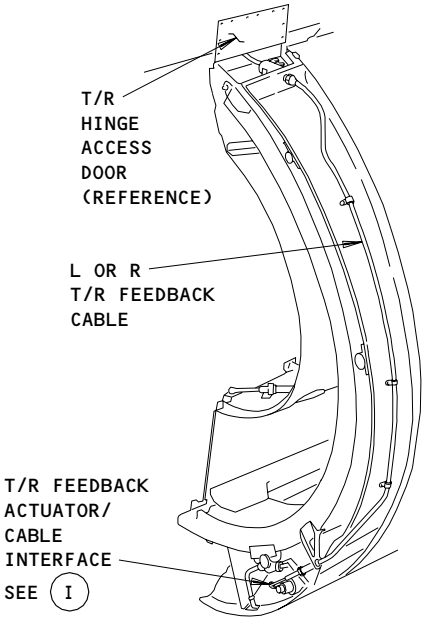
EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H60017



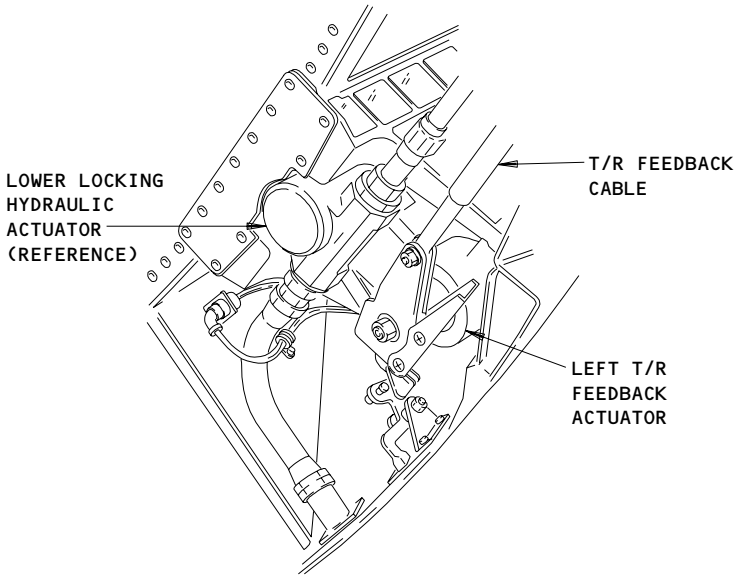
ENGINE CONTROL STRUT DRUM AND FEEDBACK CABLE INTERFACE

G



FAN C–DUCT AND THRUST REVERSER

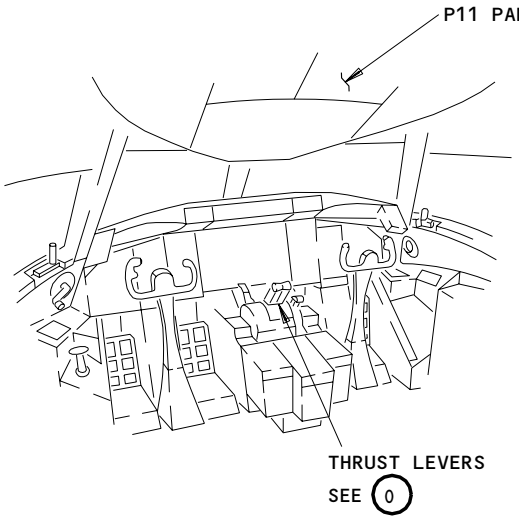
H



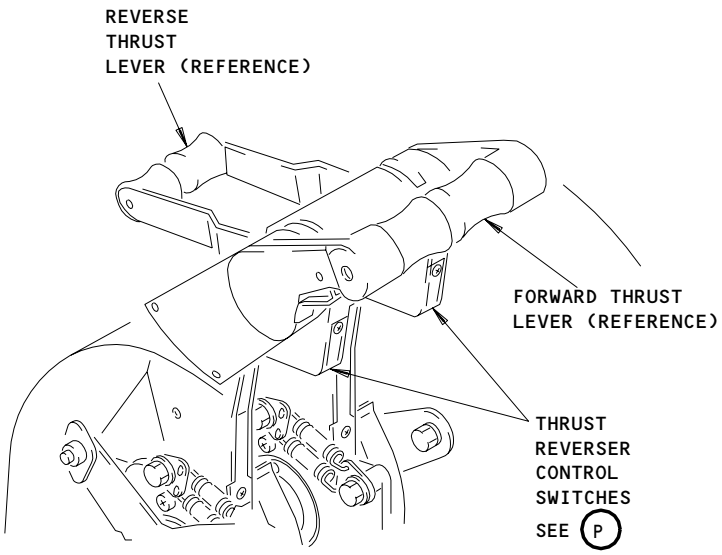
T/R FEEDBACK ACTUATOR/CABLE INTERFACE

I

Component Location
Figure 102 (Sheet 4)

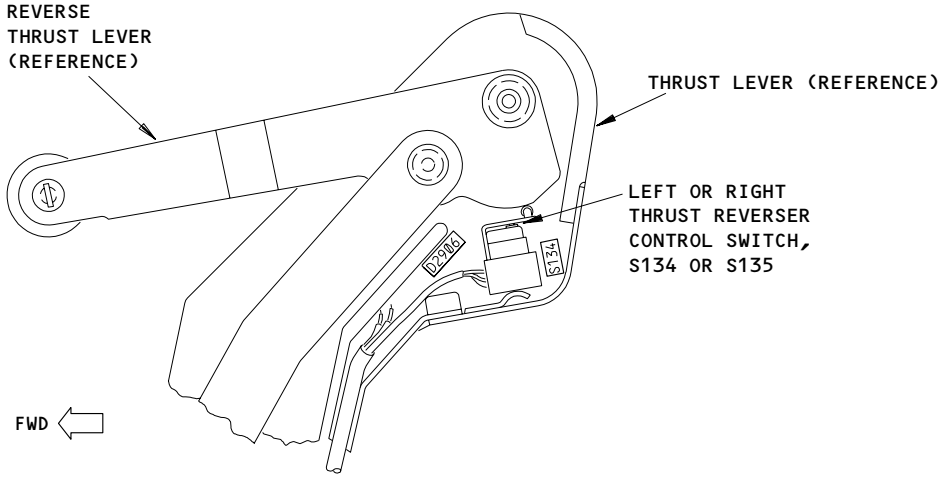


FLIGHT COMPARTMENT



THRUST LEVERS

0



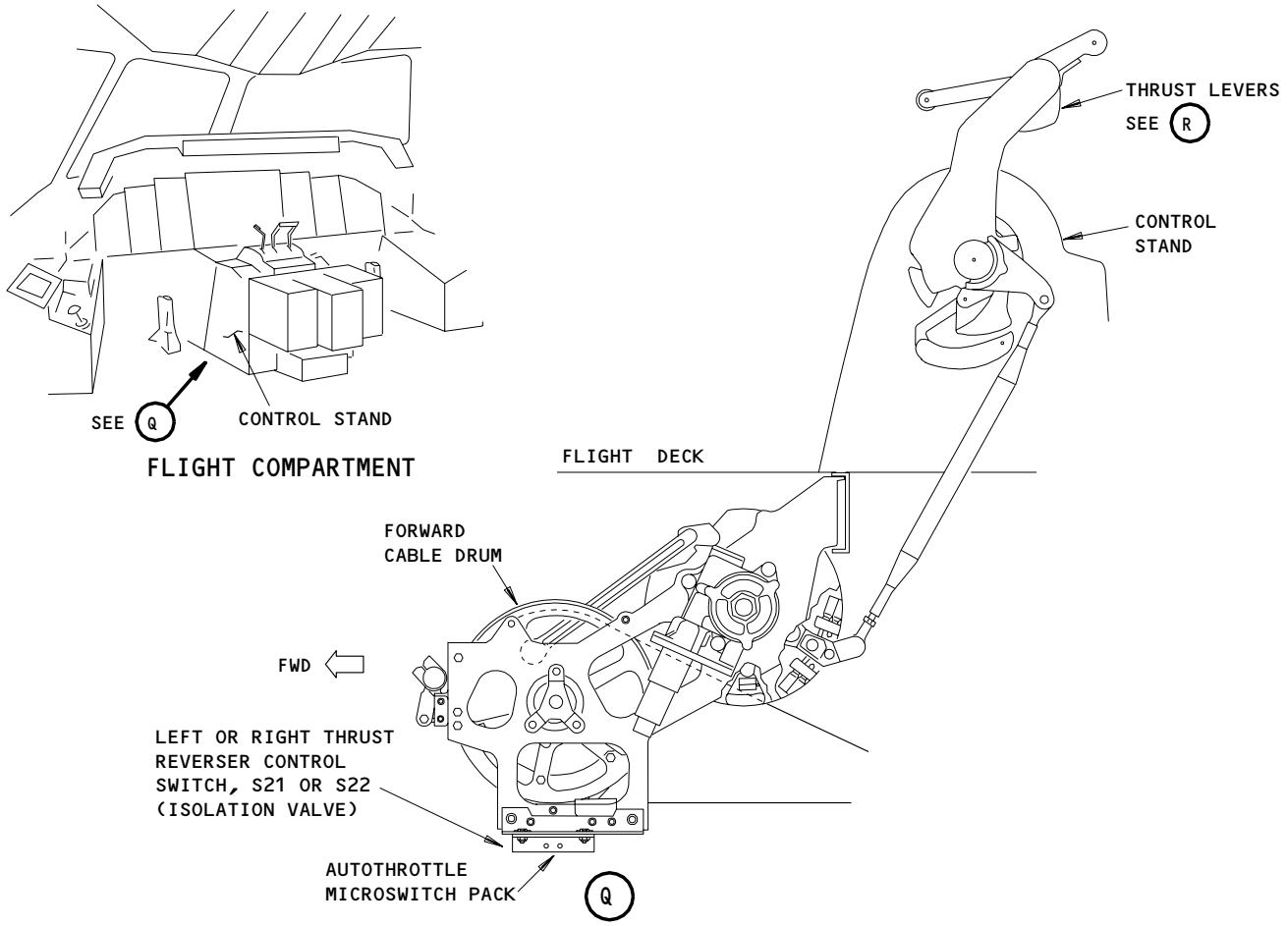
AIRPLANES WITH TITANIUM THRUST LEVERS

P

Component Location
Figure 102 (Sheet 5)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

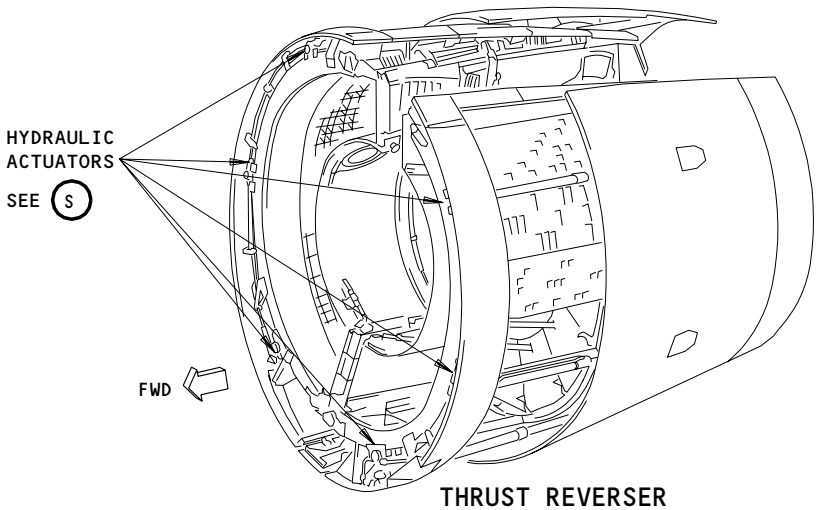
H60071



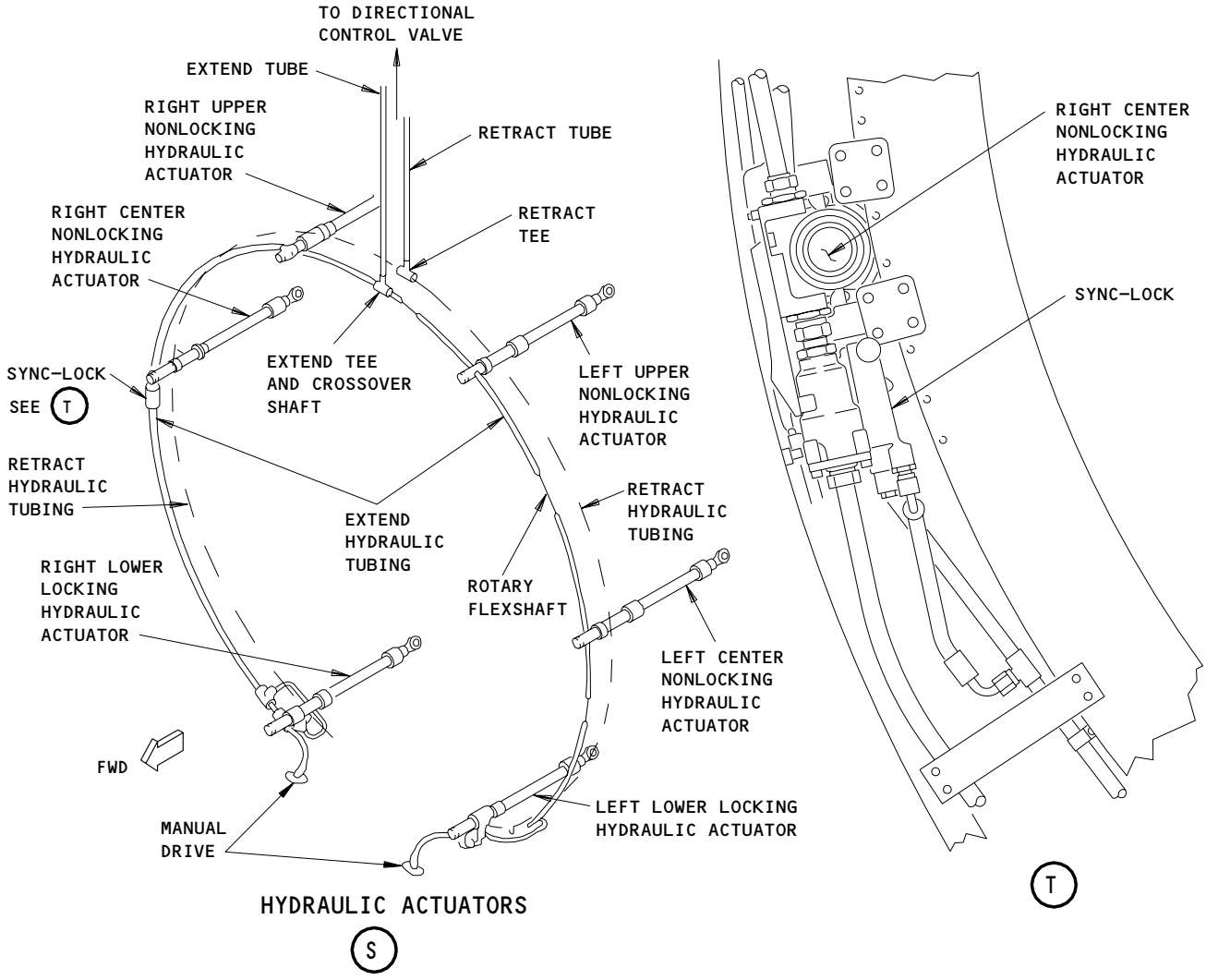
Component Location
Figure 102 (Sheet 6)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H60085



THRUST REVERSER

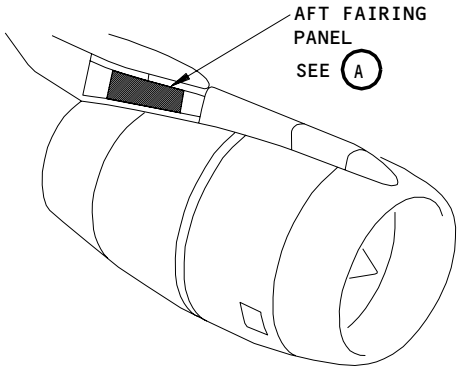


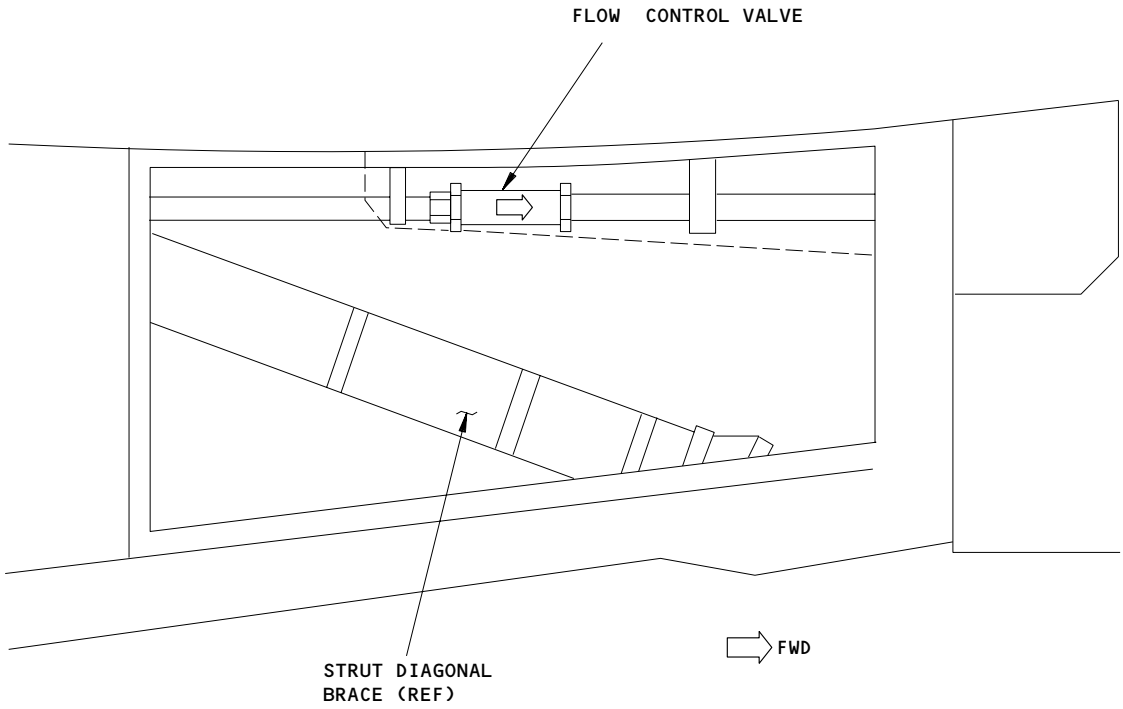
HYDRAULIC ACTUATORS
(S)

Thrust Reverser Control System - Component Location
Figure 102 (Sheet 7)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H60102



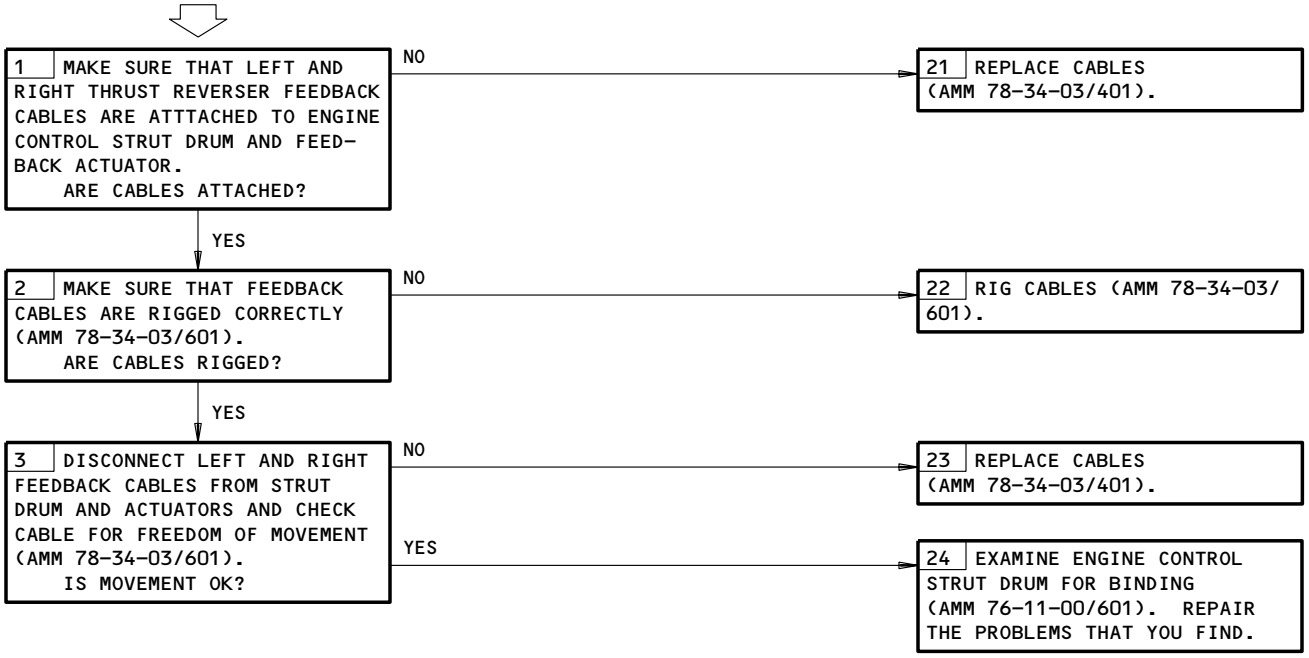


FLOW CONTROL VALVE LOCATION
A

Flow Control Valve Location
Figure 102 (Sheet 8)

T/R DEPLOYED, REVERSE THRUST COULD NOT BE ADVANCED BEYOND IDLE

PREREQUISITES
NONE



T/R Deployed, Reverse Thrust Could Not Be Advanced Beyond Idle
Figure 103

"(L,R) REV ISLN VAL" EICAS MESSAGE DISPLAYED ONLY WHEN ENG(S) ARE SHUT DOWN, HYD PUMPS ARE OFF AND REVERSERS ARE STOWED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN:
11B29, 11D11

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THRUST REVERSER IS DEACTIVATED (AMM 78-31-00/201)

1 DISCONNECT THE L (R) THRUST REVERSER HYD PRESSURE SWITCH, CONNECTOR D2900 (D2830) LOCATED ON THE T/R ISOLATION VALVE.
DO A CONTINUITY CHECK THROUGH SWITCH FOR PINS 1 AND 2 (WDM 78-36-11,-21).
DOES CONTINUITY EXIST?

YES → 21 REPLACE THE T/R HYD PRESSURE SWITCH, S330 (S331) (AMM 78-34-10/401).
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).

NO → 2 EXAMINE THE CIRCUIT FROM THE L (R) T/R HYDRAULIC PRESSURE SWITCH, CONNECTOR D2900 (D2830), PIN 2, TO THE L (R) EICAS COMPUTER, CONNECTOR D41628P (D41632P) LOCATED ON THE E4-2 SHELF (WDM 78-36-11,-21). REPAIR THE PROBLEMS THAT YOU FIND.
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).

(L,R) REV ISLN VAL EICAS Message Displayed Only When Eng(s) Are Shut Down and Hyd Pumps Are Off. Reversers Are Stowed.
Figure 104

REV SELECTED. REV AMBER OR NO REV AMBER. NO REV GREEN. REV THRUST LEVER COULD NOT MOVE TO FULL REV.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6C12,6D12,11B29,11B30,11D11,11D12,11K32,11K33

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

1 DID REV AMBER COME ON?

NO → 30 GO TO BLOCK 4.

YES

2 DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE STRUT HYDRAULIC BAY ACCESS PANEL, 434AL (444AR). REMOVE THE UPPER STRUT FAIRING (AMM 54-52-01/401).

EXAMINE THESE COMPONENTS FOR HYDRAULIC LEAKAGE:
- T/R ISOLATION VALVE
- DIRECTIONAL CONTROL VALVE
- LOCKING AND NONLOCKING ACTUATORS
- HYDRAULIC TUBING AND SYNC SHAFT.

DO YOU FIND HYDRAULIC LEAKAGE?

YES → 61 REPAIR OR REPLACE THE APPLICABLE COMPONENTS:
- T/R ISOLATION VALVE (AMM 78-34-05/401)
- DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- HYDRAULIC TUBING AND FITTINGS
- THRUST REVERSER HYDRAULIC ACTUATORS (AMM 78-31-26/401).

DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

NO

3 CLOSE THE THRUST REVERSER (AMM 78-31-00/201).

TRY TO MANUALLY EXTEND THE THRUST REVERSER (AMM 78-31-00/201). RETRACT THE THRUST REVERSER.

DOES THE THRUST REVERSER EXTEND AND RETRACT SMOOTHLY AND EASILY WITH LESS THAN 165 LB-IN.?

NO → 61B EXAMINE THE THRUST REVERSER TO FIND THE RESTRICTION AND REPAIR OR REPLACE THE NECESSARY COMPONENT (AMM 78-31-20/201).

DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

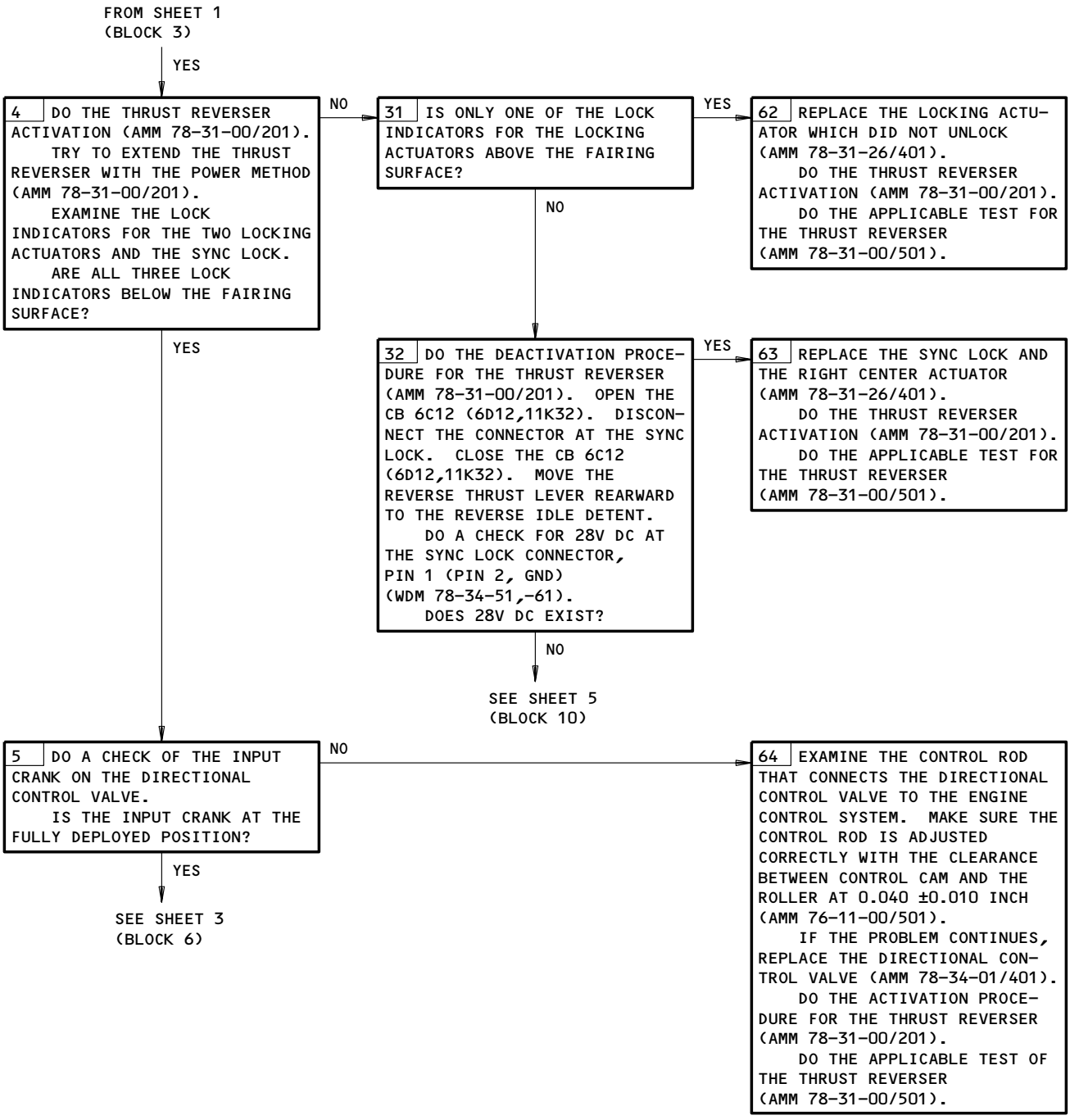
YES

SEE SHEET 2
(BLOCK 4)

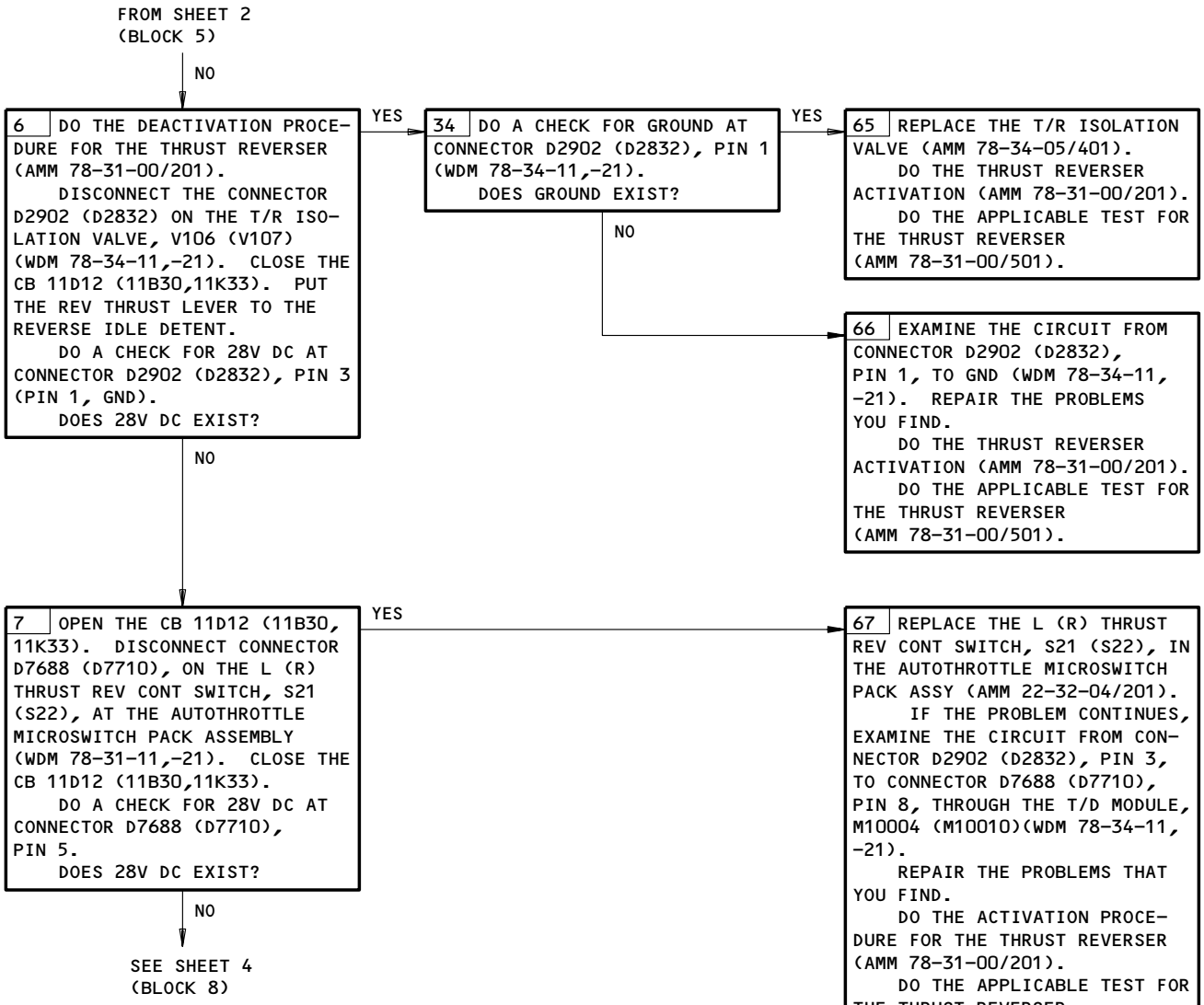
REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

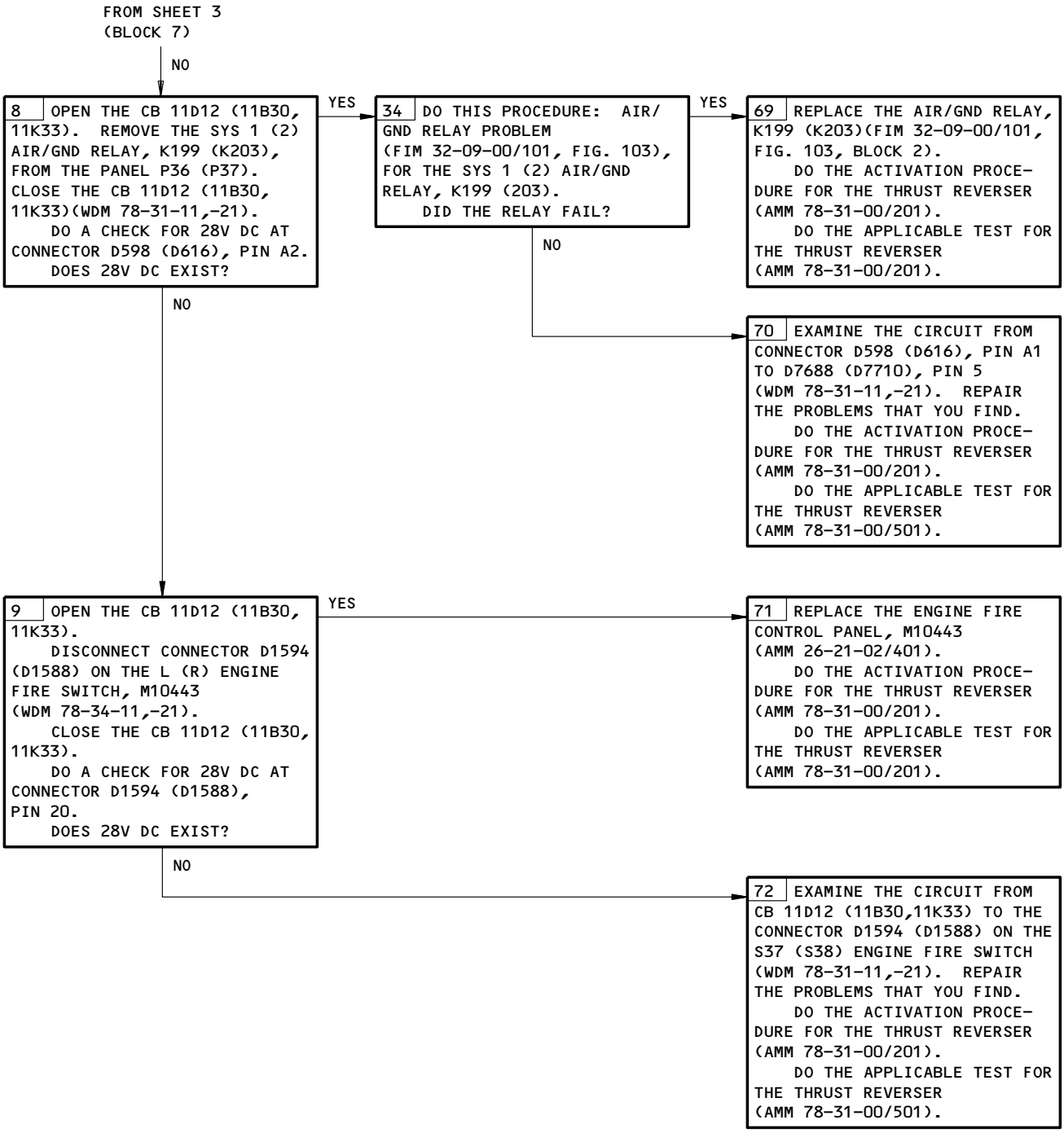
H60140



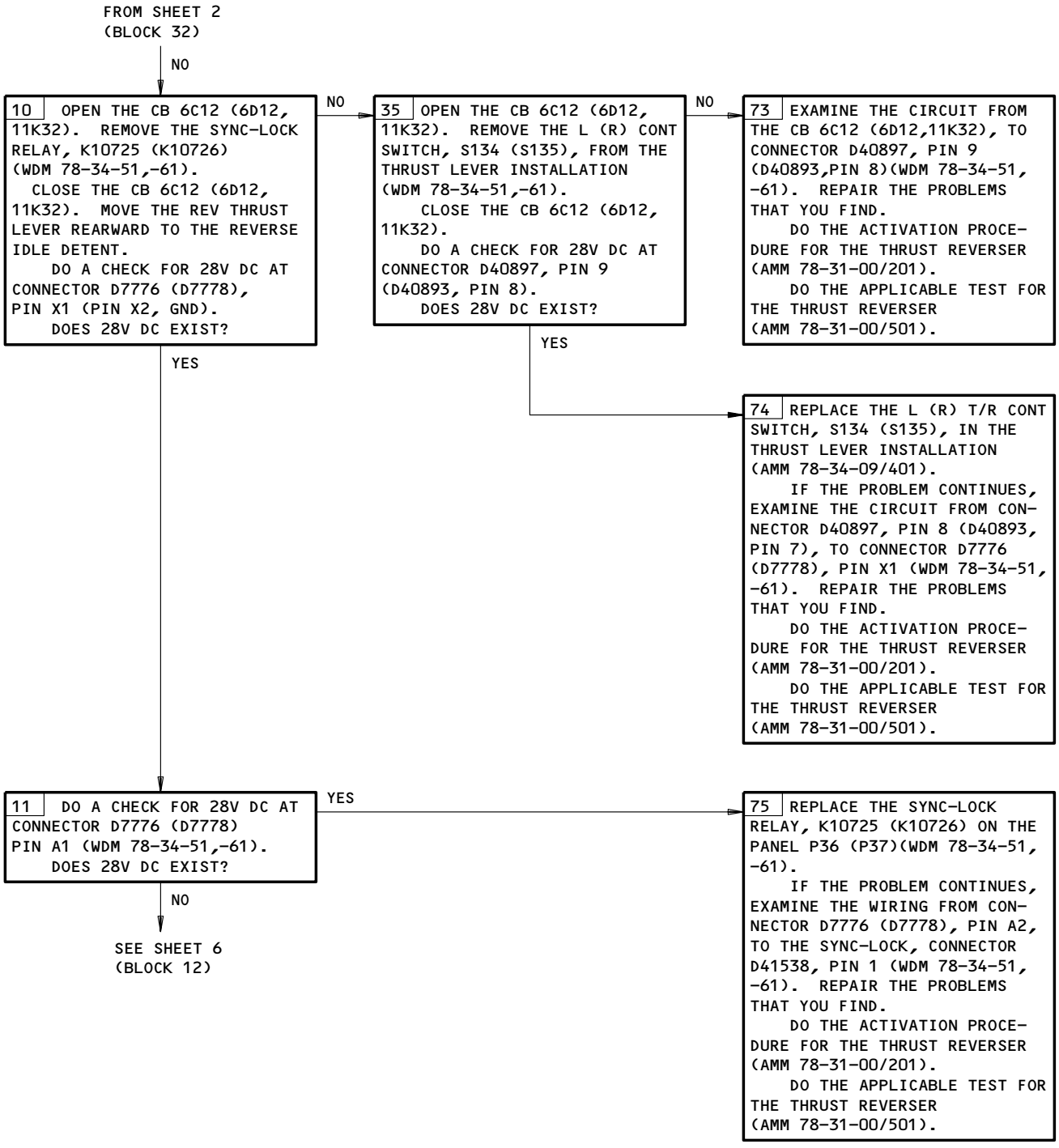
REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 2)



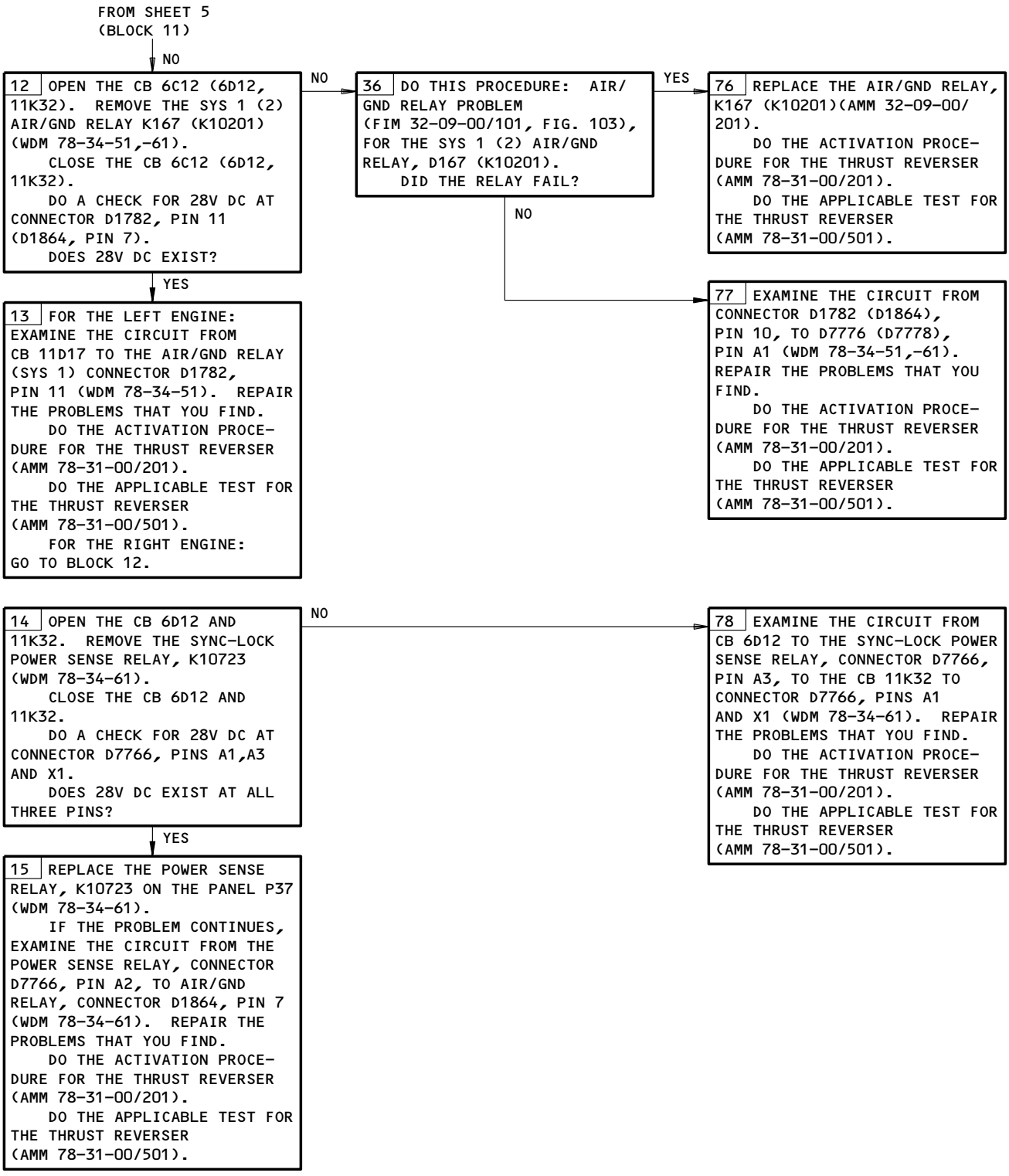
REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 3)



REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 4)



REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 5)



REV Selected. REV Amber or No REV Amber. No REV Green.
REV Thrust Lever Could Not Move to Full REV.
Figure 105 (Sheet 6)

FWD THRUST SELECTED.
NO REV AMBER
NO REV GREEN
FWD THRUST LEVER
COULD MOVE FWD.
TIME TO FWD THRUST
TOO SLOW.

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,6C12,6D12,11D11,11D12,11K32,11K33

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
FWD THRUST LEVER FULLY AFT
REV THRUST LEVER FULLY FWD AND DOWN
THRUST REVERSER IS RETRACTED

1 DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE STRUT HYDRAULIC BAY ACCESS PANEL, 434AL (444AR). REMOVE THE UPPER STRUT FAIRING (AMM 54-52-01/401).

EXAMINE THESE COMPONENTS FOR HYDRAULIC LEAKAGE:
- T/R ISOLATION VALVE
- DIRECTIONAL CONTROL VALVE
- LOCKING AND NONLOCKING ACTUATORS
- HYDRAULIC TUBING.

DO YOU FIND HYDRAULIC LEAKAGE?

YES → 31 REPAIR OR REPLACE THE APPLICABLE COMPONENT:
- HYDRAULIC ISOLATION VALVE (AMM 78-34-05/401)
- DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- HYDRAULIC TUBING AND FITTINGS
- THRUST REVERSER HYDRAULIC ACTUATORS (AMM 78-31-26/401).

INSTALL THE STRUT ACCESS DOOR (AMM 54-53-01/401). INSTALL THE UPPER STRUT FAIRING (AMM 54-52-01/401). CLOSE THE AFT FAIRING ACCESS DOOR.

DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).

DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

NO

2 MANUALLY EXTEND THE THRUST REVERSER (AMM 78-31-00/201).

DID THE THRUST REVERSER EXTEND SMOOTHLY AND EASILY WITH LESS THAN 165 LB-IN?

NO → 11 LOOK FOR DAMAGE AND UNWANTED OBJECTS IN THE UPPER AND LOWER TRACKS AND SLIDERS.

DO YOU SEE DAMAGE OR UNWANTED OBJECTS?

YES → 33 IF YOU SEE UNWANTED OBJECTS, REMOVE THE UNWANTED OBJECTS.

IF YOU SEE DAMAGE TO THE TRACKS OR SLIDERS, REMOVE THE THRUST REVERSER (AMM 78-31-20/401).

DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).

DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).

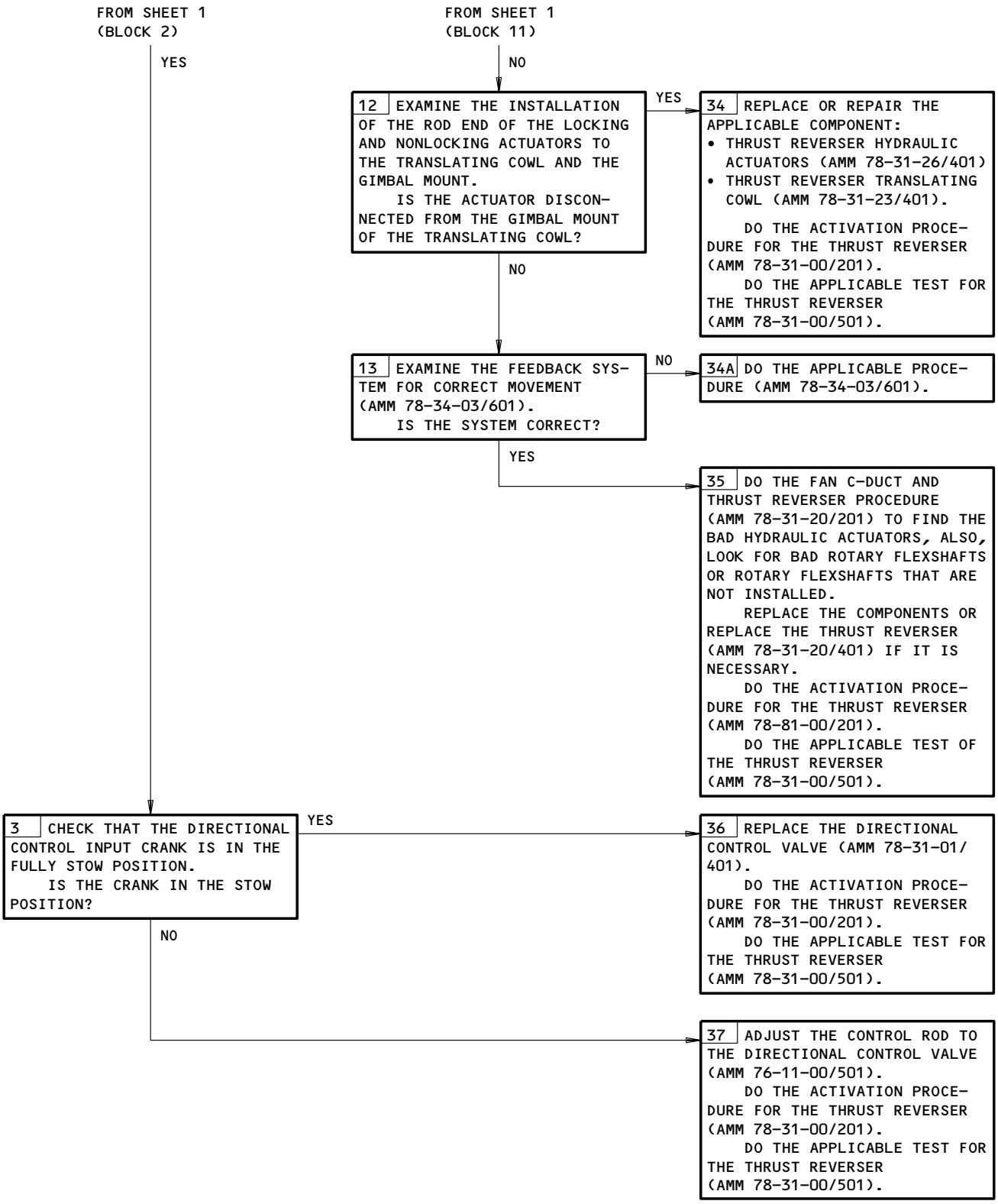
YES

SEE SHEET 2
(BLOCK 3)

NO

SEE SHEET 2
(BLOCK 12)

FWD Thrust Selected. No REV Amber. No REV Green. FWD Thrust Lever Could Move FWD. Time to FWD Thrust Too Slow.
Figure 106 (Sheet 1)



FWD Thrust Selected. No REV Amber. No REV Green. FWD Thrust Lever Could Move FWD. Time to FWD Thrust Too Slow.
Figure 106 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6C12, 6D12, 11B29, 11B30, 11D11, 11D12, 11K32, 11K33

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
HYDRAULIC POWER IS OFF (AMM 29-11-00/201)
ENG FIRE SWITCH IS IN THE NORMAL POSITION
REVERSE THRUST LEVER IS FORWARD AND DOWN

[1] (L, R) REV ISLN VAL EICAS MESSAGE DISPLAYED.

1 DID THE MESSAGE COME ON WITHIN 30 SECONDS OF COMMANDING THE THRUST REVERSER TO STOW?

YES → 21 REPLACE THE T/R, 30 SECONDS AFTER THE STOW COMMAND RELAY, K10712 (K10713), ON THE P36 (P37) PANEL.

NO ↓

2 DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
OPEN STRUT HYDRAULIC BAY ACCESS PANEL, 434AL (444AR).
DISCONNECT THE L (R) ENG T/R ISOL VALVE, V106 (V107), CONNECTOR D2902 (D2832).
CLOSE THE CIRCUIT BREAKER 11D12 (11B30, 1K33).
DO A CHECK FOR 28V DC ON PIN 3 (PIN 1 GND) (WDM 78-34-11, WDM 78-34-21).
IS THERE 28V DC?

YES → 11 OPEN THE CIRCUIT BREAKER 11D12 (11B30, 11K33).
REMOVE THE L (R) ENG T/R STOW RELAY, K26 (K27), ON PANEL P36 (P37).
CLOSE THE CIRCUIT BREAKER 11D12 (11B30, 11K33).
DO A CHECK FOR 28V DC ON ISOLATION VALVE, V106 (V107), CONNECTOR D2902 (D2832), PIN 3 (PIN 1, GND)(WDM 78-34-11, WDM 78-34-21).
IS THERE 28V DC?

YES → 22 REPLACE/ADJUST THE L (R) T/R CONTROL SWITCH, S21 (S22), IN THE AUTOTHROTTLE MICROSWITCH PACK (AMM 22-32-04/201).
DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/501).
DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).
IF THE PROBLEM CONTINUES, GO TO SHEET 2, BLOCK 4.

NO ↓

12 DO A CHECK FOR 28V DC ON L (R) ENG T/R STOW RELAY, K26 (K27), CONNECTOR D2746 (D2640), PIN X1 TO PIN X2 (PIN X2, GND).
IS THERE 28V DC?

YES → 23 REPLACE THE L (R) ENG T/R STOW RELAY, K26 (K27), ON PANEL P36 (P37) (WDM 78-34-11, WDM 78-34-21).
DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/501).
DO THE APPLICABLE TEST FOR THE THRUST REVERSER (AMM 78-31-00/501).
IF THE PROBLEM CONTINUES, GO TO SHEET 2, BLOCK 3.

NO ↓

24 OPEN THE CIRCUIT BREAKER 11D12 (11B30, 11K33).
INSTALL THE L (R) ENG T/R STOW RELAY, K26 (K27).
CLOSE THE CIRCUIT BREAKER 11D12 (11B30, 11K33).
GO TO SHEET 2, BLOCK 3.

NO → SEE SHEET 2 (BLOCK 3)

[1] "(L, R) REV ISLN VAL" STATUS OR ADVISORY MESSAGE DISPLAYED. NO ADVISORY MESSAGE WITH THE ENGINES SHUTDOWN OR HYDRAULICS OFF.

(L, R) REV ISLN VAL EICAS Message Displayed.
Figure 107 (Sheet 1)

FROM SHEET 1
(BLOCK 2)

YES

3 DO A CHECK FOR 28V DC ON ELEX UNIT PROXIMITY SW M162 CONNECTOR D3210B (D3210D), PIN A14 TO GND.
IS THERE 28V DC?

NO

25 FOR THE LEFT ENGINE;
EXAMINE THE CIRCUIT FROM THE PSEU, M162, CONNECTOR D3210B, PIN A14, TO CIRCUIT BREAKER 11D12. REPAIR THE PROBLEMS THAT YOU FIND.
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).
FOR THE RIGHT ENGINE;
GO TO SHEET 3, BLOCK 7.

YES

4 DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/201).
DEPLOY AND STOW THE THRUST REVERSER WITH THE POWER STOW PROCEDURE (AMM 78-31-00/201).
EXAMINE THRUST REVERSER CLEARANCE BETWEEN THE TRANSLATING COWLS AND THE C-DUCT FORWARD FAIRING. THE CLEARANCE MUST BE 0.060-0.190 INCH (1.52-4.82 mm) AT ALL LOCATIONS, ON THE TWO HALVES.
IS THE CLEARANCE MORE THAN THE LIMITS?

YES

26 ADJUST THE TRANSLATING COWL (AMM 78-31-23/401).
DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

NO

5 DO THE (PSEU) SENSOR TARGET TEST FOR THE L (R) ENGINE AUTO RESTOW PROXIMITY SENSORS, S10115 (S10108) (FIM 32-09-03/101, FIG. 104).
ARE ANY PROBLEMS INDICATED?

YES

13 EXAMINE THE CLEARANCE BETWEEN THESE AUTO RESTOW PROXIMITY SENSOR SWITCHES AND THE SENSITIVITY PLATES (TARGETS) ON THE TRANSLATING COWLS, FOR THE L (R) ENGINE:
- S10105, LH SLEEVE STOW PROX SENSOR
- S10108, RH SLEEVE STOW PROX SENSOR

(AMM 78-34-07/501).
THE CLEARANCE MUST BE 0.050-0.070 INCH (1.270-1.778 mm).
IS THE CLEARANCE MORE THAN THE LIMITS?

NO

27 REPLACE THE L (R) ENG AUTO RESTOW PROXIMITY SENSOR, S10105 (S10108) AS INDICATED ON THE PSEU (AMM 78-34-07/401).
IF THE PROBLEM CONTINUES, EXAMINE THE FOLLOWING CIRCUITS FROM THE PSEU TO THE STOW PROXIMITY SENSOR:
- PSEU, CONNECTOR D3210B (D3210D), TO SENSOR, CONNECTOR D1120 (D1220):
  - PIN A10 TO PIN 1
  - PIN B10 TO PIN 3
  - PIN C10 TO PIN 4
  - PIN D10 TO PIN 6

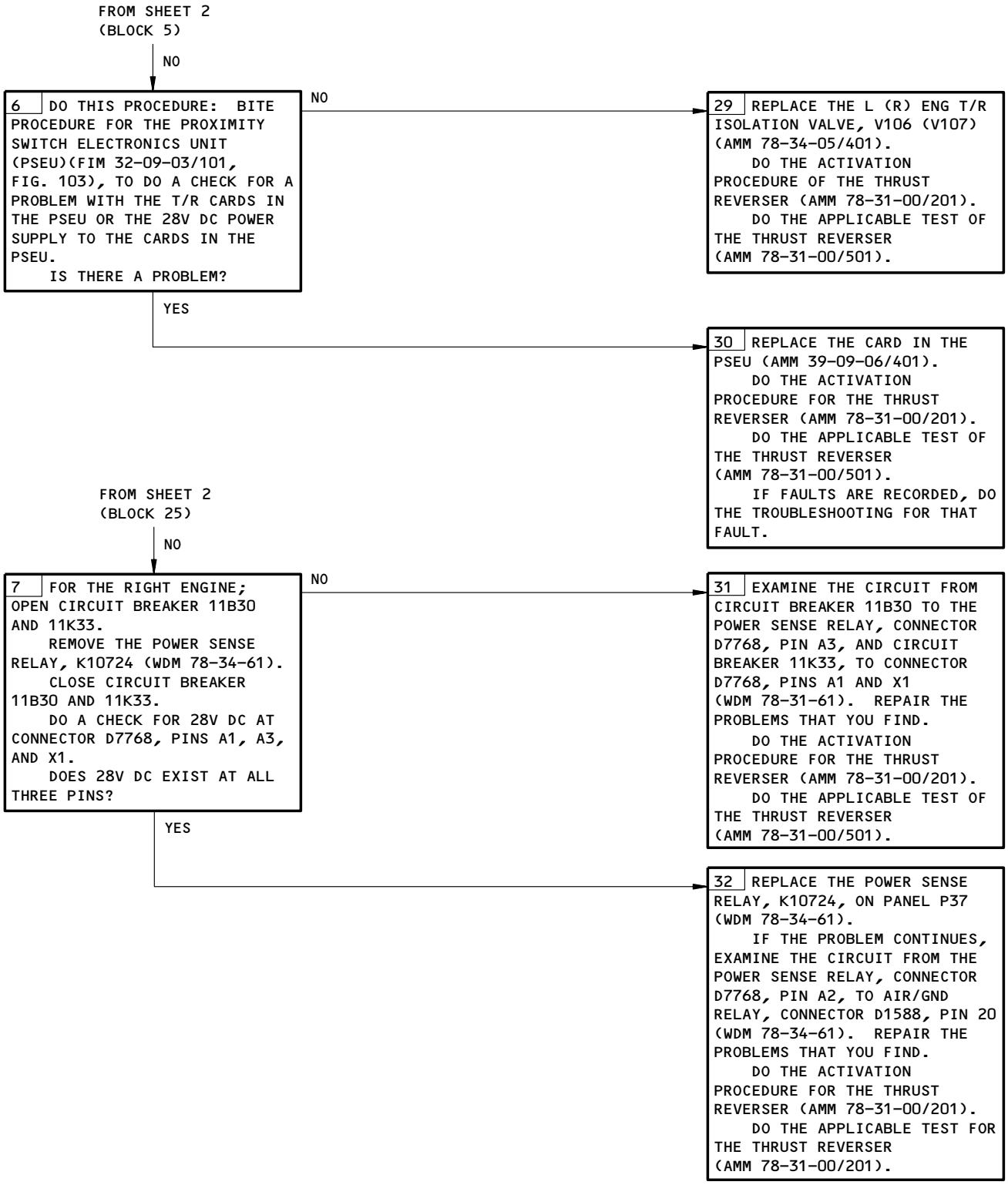
REPAIR THE PROBLEMS THAT YOU FIND.
DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

YES

28 ADJUST THE AUTO RESTOW PROXIMITY SENSOR FOR THE AFFECTED TRANSLATING COWL (AMM 78-34-07/501).
DO THE ACTIVATION PROCEDURE OF THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

SEE SHEET 3
(BLOCK 6)

(L, R) REV ISLN VAL EICAS Message Displayed.
Figure 107 (Sheet 2)



(L, R) REV ISLN VAL EICAS Message Displayed.
Figure 107 (Sheet 3)

TIME TO "REV" THRUST TOO SLOW.

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
THRUST REVERSER IS DEACTIVATED (AMM 78-31-00/201)

1 OPEN THE THRUST REVERSER (AMM 78-31-00/201). OPEN THE STRUT HYDRAULIC BAY ACCESS PANELS, 434AL (444AR). REMOVE THE UPPER FORWARD STRUT FAIRING (AMM 54-52-01/401).
LOOK FOR HYDRAULIC FLUID LEAKAGE FROM THE HYDRAULIC TUBES OR FITTINGS AT THE ISOLATION VALVE, DIRECTIONAL CONTROL VALVE, SYNC-LOCK, AND THE HYDRAULIC ACTUATORS.
IS THERE LEAKAGE?

YES → 21 REPAIR OR REPLACE THE APPLICABLE COMPONENT:
- HYDRAULIC FITTINGS AND TUBING ASSEMBLY
- THRUST REVERSER ISOLATION VALVE (AMM 78-34-05/401)
- THRUST REVERSER DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- THRUST REVERSER HYDRAULIC ACTUATORS, SYNC-LOCK (AMM 78-31-26/401).

DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

NO

2 MANUALLY EXTEND THE THRUST REVERSER (AMM 78-31-00/201).
DOES THE THRUST REVERSER EXTEND SMOOTHLY AND EASILY?
(TORQUE TO EXTEND THRUST REVERSER IS LESS THAN 165 POUND-INCHES).

YES → 11 DO A CHECK OF THE INPUT CRANK OF THE DIRECTIONAL CONTROL VALVE.
IS THE CRANK IN THE FULLY STOW POSITION?

NO → 22 EXAMINE THE CONTROL ROD THAT CONNECTS THE DIRECTIONAL CONTROL VALVE TO THE ENGINE CONTROL SYSTEM. MAKE SURE THE CONTROL ROD IS ADJUSTED CORRECTLY WITH THE CLEARANCE BETWEEN CONTROL CAM AND THE ROLLER AT 0.040 ±0.010 INCH (AMM 76-11-00/501). REPAIR THE PROBLEMS THAT YOU FIND.
IF THE PROBLEM CONTINUES, REPLACE THE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401).
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

YES → 23 REPLACE THE FLOW CONTROL VALVE. THE FLOW CONTROL VALVE IS LOCATED IN THE RIGHT SIDE OF AFT FAIRING. THE VALVE MAY BE REPLACED BY REMOVING THE STRUT FAIRING SHOWN IN THE COMPONENT LOCATOR.
IF THE PROBLEM CONTINUES, REPLACE THE DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401).

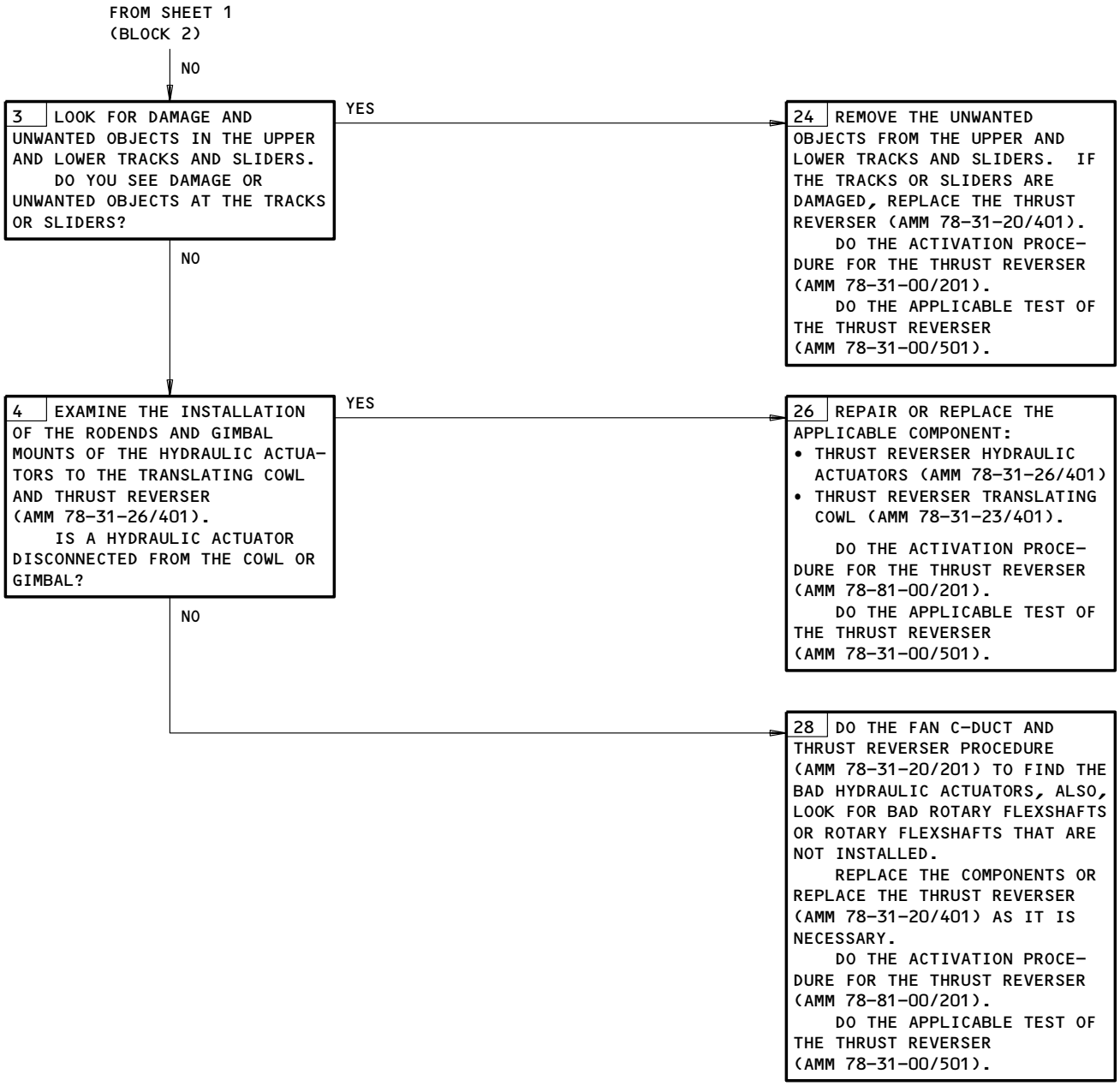
NO

SEE SHEET 2
(BLOCK 3)

Time to REV Thrust Too Slow.
Figure 108 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H60529



Time to REV Thrust Too Slow.
Figure 108 (Sheet 2)

(L,R) REV ISLN VAL EICAS MSG DURING REVERSE THRUST

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN:
11B29,11D11

MAKE SURE THAT THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THRUST REVERSER IS DEACTIVATED (AMM 78-31-00/201)
REVERSE THRUST LEVER IS FORWARD AND DOWN

1 PULL THE REVERSE THRUST LEVER UP INTO THE REVERSE THRUST POSITION.
REMOVE THE L (R) ENG 30 SEC AFTER STOW COMMAND RELAY, K10712 (K10713), ON PANEL P36 (P37).
CLOSE CB 11D11 (11B29).
DO A CHECK FOR GROUND ON PIN 3 (WDM 78-36-11,-21).
IS THERE A GROUND ON PIN 3?

YES

21 REPLACE THE L (R) T/R CONT SWITCH, S23 (S24), IN THE AUTOTHROTTLE MICROSWITCH PACK (AMM 22-32-04/201).
INSTALL THE L (R) 30 SEC AFTER STOW COMMAND RELAY, K10712 (K10713), ON PANEL P36 (P37)(WDM 78-36-11,-21).
IF THE PROBLEM CONTINUES, EXAMINE THE GROUNDED CIRCUIT FROM THE L (R) ENG 30 SEC AFTER STOW COMMAND RELAY, K10712 (K10713), CONNECTOR D7718 (D7720), PIN 3 TO THE L (R) T/R CONT SWITCH, S23 (S24), CONNECTOR D7688 (D7710), PIN 3 (WDM 78-36-11, -21).
REPAIR THE PROBLEMS THAT YOU FIND.
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

NO

22 REPLACE THE L (R) 30 SEC AFTER STOW COMMAND RELAY, K10712 (K10713), ON PANEL P36 (P37)(WDM 78-36-11,-21).
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

(L,R) REV Isln Val EICAS Msg During Reverse Thrust
Figure 109

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE OPEN AND ATTACH DO-NOT-CLOSE TAGS:
11B30,11D12,11K33

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THRUST REVERSER IS DEACTIVATED A(MM 78-31-00/201)
THRUST REVERSER IS EXTENDED
REV THRUST LEVERS FORWARD AND DOWN
FIRE SWITCH AT NORMAL POSITION

FWD THRUST SELECTED. REV GREEN OR REV AMBER SHOWN. FWD THRUST LEVERS COULD NOT MOVE FWD.

1 OPEN THE L (R) STRUT FAIRINGS (AMM 54-52-01/401).
OPEN THE STRUT HYDRAULIC BAY ACCESS PANELS, 434AL (444AR).
OPEN THE THRUST REVERSER (AMM 78-31-00/201).
LOOK FOR HYDRAULIC LEAKAGE FROM THE HYDRAULIC TUBES OR FITTINGS AT THE ISOLATION VALVE, DIRECTIONAL CONTROL VALVE, THE RETRACT HYDRAULIC TUBES, SYNC-LOCK, AND THE HYDRAULIC ACTUATORS.
IS THERE LEAKAGE?

YES

21 REPAIR OR REPLACE THE APPLICABLE COMPONENT:
- HYDRAULIC FITTINGS AND TUBING ASSEMBLY
- THRUST REVERSER ISOLATION VALVE (AMM 78-34-05/401)
- THRUST REVERSER DIRECTIONAL CONTROL VALVE (AMM 78-34-01/401)
- THRUST REVERSER HYDRAULIC ACTUATORS, SYNC-LOCK (AMM 78-31-26/401).

DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

NO

2 MANUALLY RETRACT THE THRUST REVERSER (AMM 78-31-00/201).
DOES THE THRUST REVERSER RETRACT SMOOTHLY AND EASILY?
(TORQUE TO EXTEND THRUST REVERSER IS LESS THAN 165 POUND-INCHES).

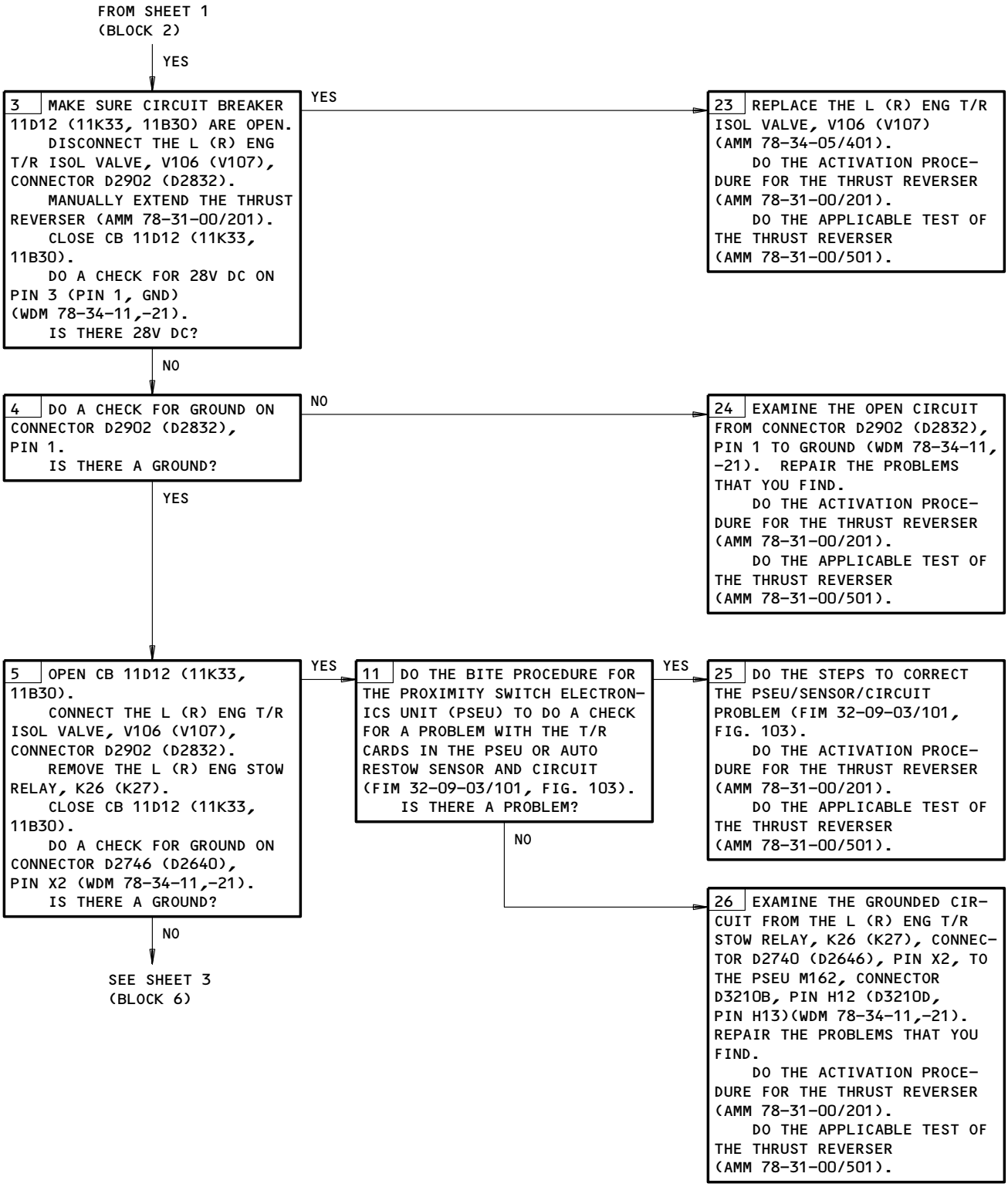
NO

22 TO FIND THE CAUSE OF THE PROBLEM, DO THIS PROCEDURE: TIME TO "REV" THRUST TOO SLOW (FIG. 118, BLOCK 4).
REPAIR THE PROBLEMS THAT YOU FIND.
DO THE ACTIVATION PROCEDURE FOR THE THRUST REVERSER (AMM 78-31-00/201).
DO THE APPLICABLE TEST OF THE THRUST REVERSER (AMM 78-31-00/501).

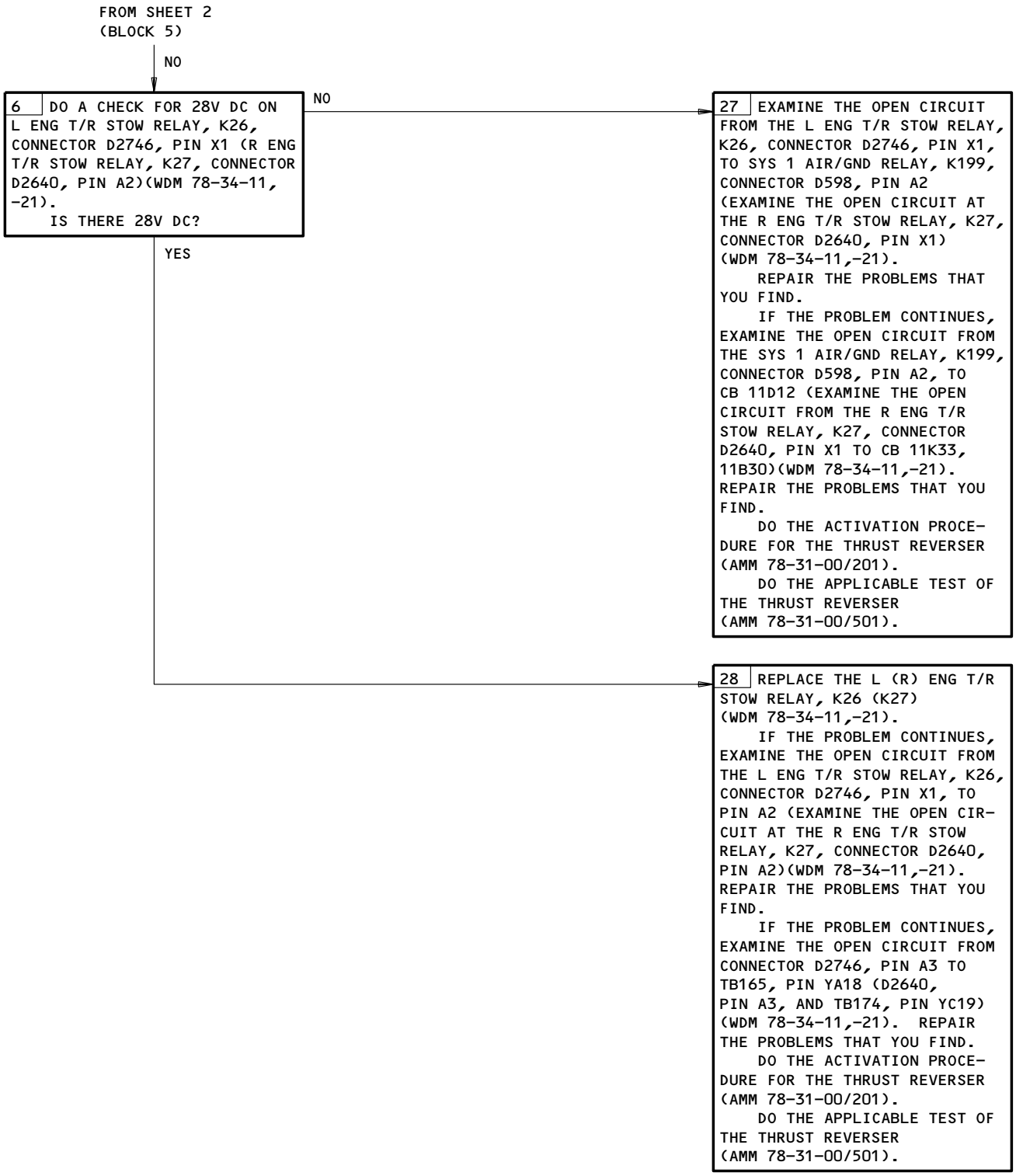
YES

SEE SHEET 2
(BLOCK 3)

Fwd Thrust Selected. REV Green or REV Amber Shown.
Fwd Thrust Levers Could Not Move Fwd.
Figure 110 (Sheet 1)



Fwd Thrust Selected. REV Green or REV Amber Shown.
Fwd Thrust Levers Could Not Move Fwd.
Figure 110 (Sheet 2)



Fwd Thrust Selected. REV Green or REV Amber Shown.
Fwd Thrust Levers Could Not Move Fwd.
Figure 110 (Sheet 3)

T/R SYNC-LOCK DOES NOT UNLOCK

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

1 FOR THE LEFT ENGINE; OPEN CIRCUIT BREAKER 6C12.
FOR THE RIGHT ENGINE; OPEN CIRCUIT BREAKERS 6D12 AND 11K32.
DISCONNECT THE L (R) THRUST REVERSER SYNC-LOCK CONNECTOR D1032.
FOR THE LEFT ENGINE; CLOSE CIRCUIT BREAKER 6C12.
FOR THE RIGHT ENGINE; CLOSE CIRCUIT BREAKERS 6D12 AND 11K32.
MOVE THE REVERSE THRUST LEVER TO THE REVERSE IDLE POSITION.
DO A CHECK FOR 28V DC ON THE L (R) THRUST REVERSER SYNC-LOCK, CONNECTOR D1032, PIN 1 (PIN 3, GND) (WDM 71-51-11).
WAS 28V DC PRESENT?

YES → 61 REPLACE THE L (R) THRUST REVERSER SYNC-LOCK, (AMM 78-31-26/401).

NO ↓

2 MOVE THE REVERSER THRUST LEVER BACK TO THE FORWARD IDLE POSTION.
FOR THE LEFT ENGINE; OPEN CIRCUIT BREAKER 6C12.
FOR THE RIGHT ENGINE; OPEN CIRCUIT BREAKERS 6D12 AND 11K32.
RECONNECT THE SYNC-LOCK CONNECTOR, D1032.
REMOVE THE K10725 (K10726) SYNC-LOCK RELAY FROM THE P36 PANEL.
FOR THE LEFT ENGINE; CLOSE CIRCUIT BREAKER 6C12.
FOR THE RIGHT ENGINE; CLOSE CIRCUIT BREAKERS 6D12 AND 11K32.
MOVE THE REVERSE THRUST LEVER TO THE REVERSE IDLE POSITION.
DO A CHECK FOR 28V DC AT PINS X1 (X2 GND) AND A1 (A3 GND).
IS 28V DC PRESENT AT BOTH PINS?

YES → 62 REPLACE THE K10725 (K10726) SYNC-LOCK RELAY IN THE P36 (P37) PANEL.

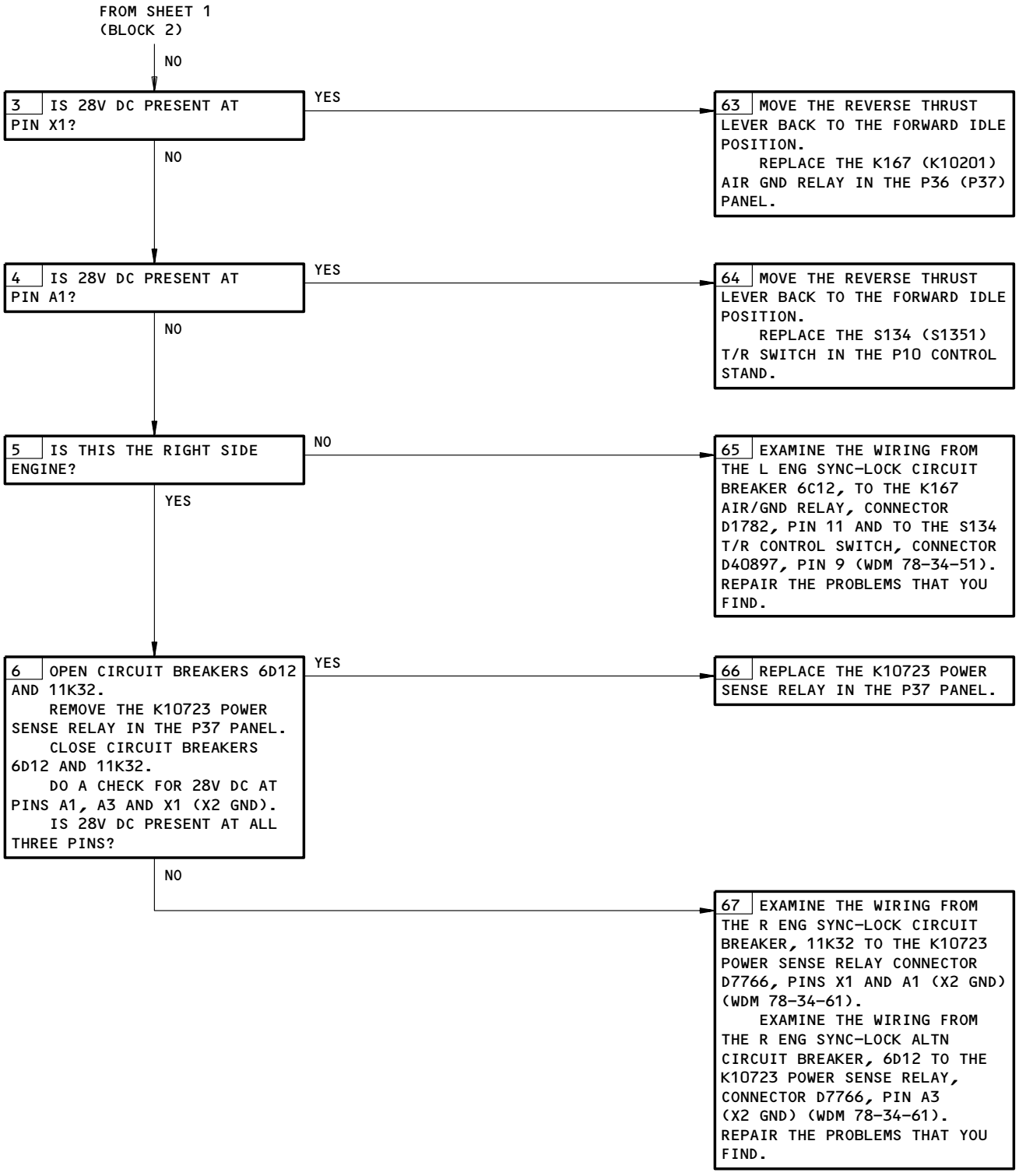
NO ↓

SEE SHEET 2 (BLOCK 3)

T/R Sync Lock Does Not Unlock
Figure 111 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

L02635



T/R Sync Lock Does Not Unlock
Figure 111 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

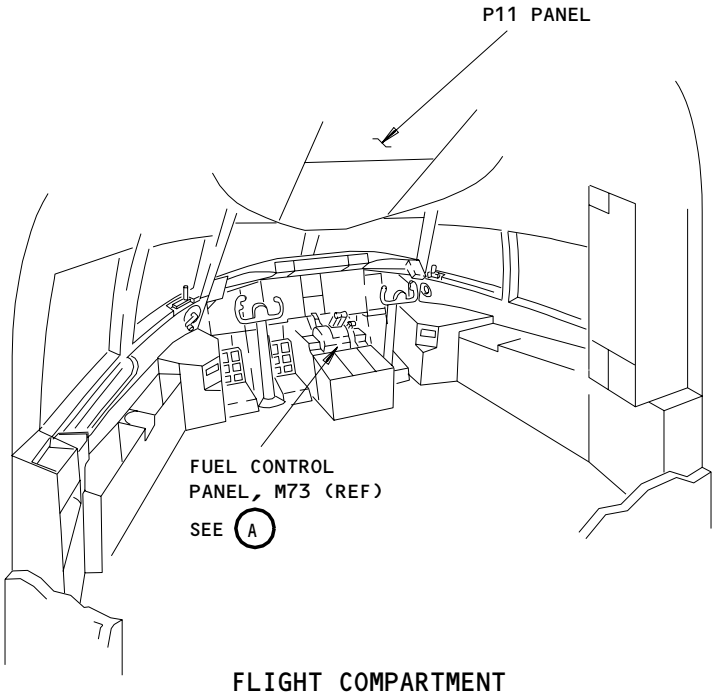
L02639

THRUST REVERSER POSITION INDICATING SYSTEM

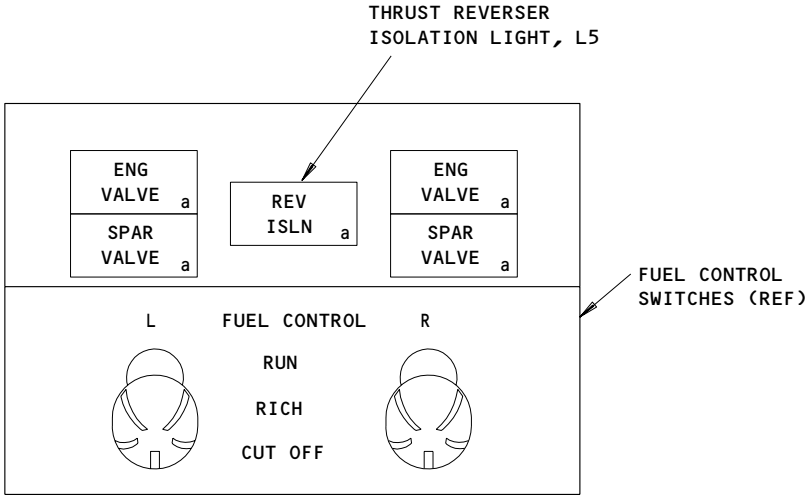
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	
L ENG T/R IND, C1480		1	11D11	*
R ENG T/R IND, C1481		1	11B29	*
COMPUTER – (FIM 31-41-00/101)				
L EICAS, M10181				
R EICAS, M10182				
DIODE – (FIM 31-01-36/101)				
L T/R INDICATION, R10117				
DIODE – (FIM 31-01-37/101)				
R T/R INDICATION, R10118				
LIGHT – THRUST REVERSER ISOLATION, L5	1	1	FLT COMPT, P10 FUEL CONT PNL M73	*
PANEL – (FIM 76-11-00/101)				
FUEL CONTROL, M73				
RELAY – (FIM 31-01-36/101)				
L T/R DISAGREE RELAY, K10234				
L T/R HYD ISOL VLV RELAY, K10236				
L T/R ISOL DETECT RELAY, K10358				
SYSTEM 1 AIR/GND RELAY, K148				
SYSTEM 1 AIR/GND RELAY, K199				
RELAY – (FIM 31-01-37/101)				
R T/R DISAGREE RELAY, K10235				
R T/R HYD ISOL VLV RELAY, K10237				
R T/R ISOL DETECT RELAY, K10359				
SYSTEM 2 AIR/GND RELAY, K203				
SYSTEM 2 AIR/GND RELAY, K263				
SENSOR – L ENGINE, LH SLEEVE ACTUATOR LOCK PROXIMITY, S164	2	1	415AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, LH SLEEVE DEPLOY PROX, S166	2	1	415AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, RH SLEEVE ACTUATOR LOCK PROXIMITY, S165	2	1	416AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, RH SLEEVE DEPLOY PROX, S167	2	1	416AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, LH SLEEVE ACTUATOR LOCK PROXIMITY, S164	2	1	425AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, LH SLEEVE DEPLOY PROX, S166	2	1	425AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, RH SLEEVE ACTUATOR LOCK PROXIMITY, S165	2	1	426AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, RH SLEEVE DEPLOY PROX, S167	2	1	426AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SWITCH – L T/R HYD PRESS, S330	2	1	434AL, L T/R ISOLATION VALVE	*
SWITCH – R T/R HYD PRESS, S331	2	1	444AL, R T/R ISOLATION VALVE	*
TIME DELAY – (FIM 31-01-36/101)				
L T/R ISLN VLV, M10440				
TIME DELAY – (FIM 31-01-37/101)				
R T/R ISLN VLV, M10439				
UNIT – (FIM 32-09-00/101)				
PROX SW ELEX, M162				

* SEE THE WDM EQUIPMENT LIST

Thrust Reverser Position Indicating System – Component Index
Figure 101



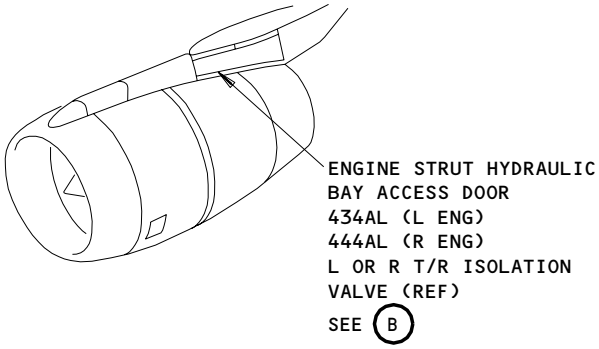
FLIGHT COMPARTMENT

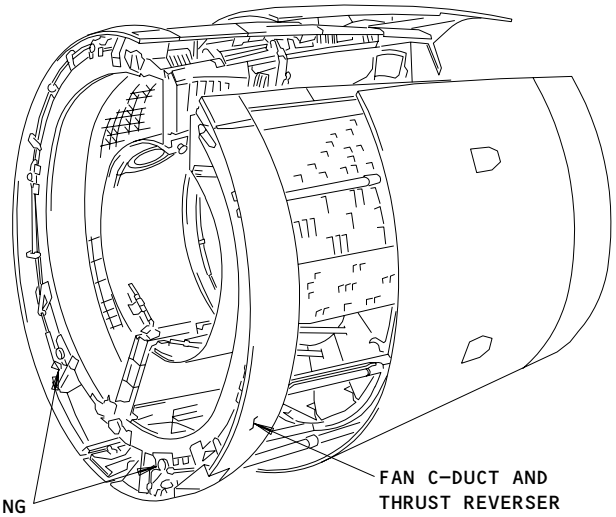


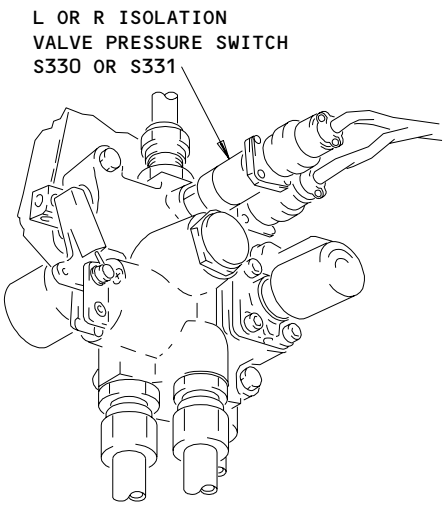
FUEL CONTROL PANEL, M73 (REF)

A

Component Location
Figure 102 (Sheet 1)

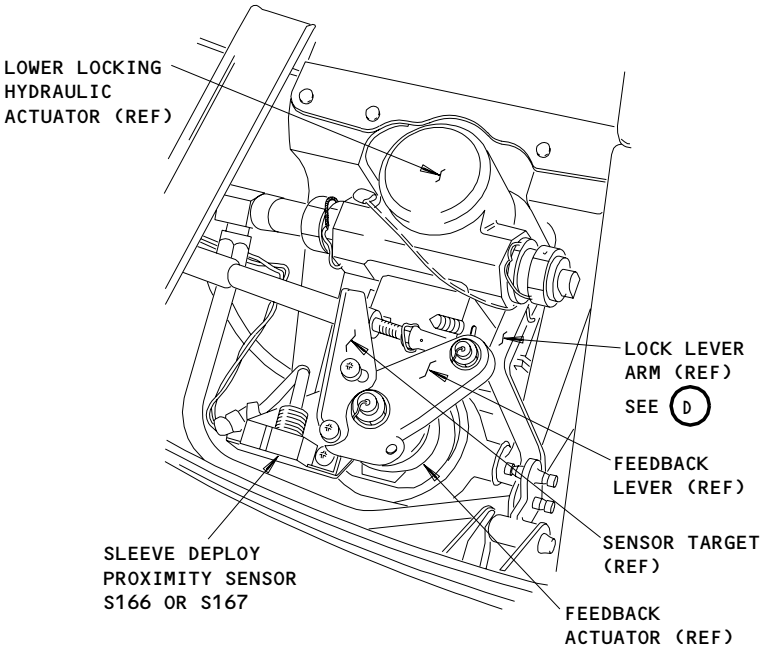






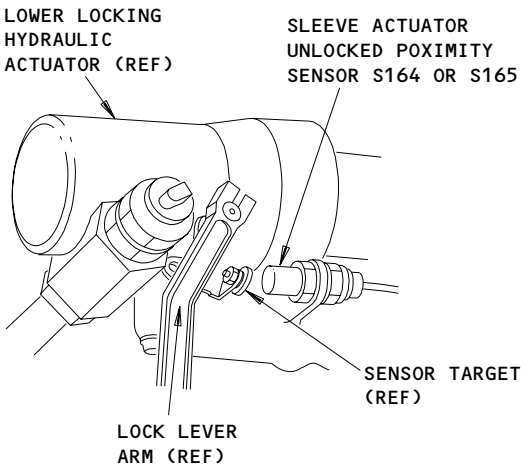
L OR R T/R ISOLATION VALVE (REF)

B



LH LOWER LOCKING HYDRAULIC
ACTUATOR (RH SIMILAR)

C



LOCK LEVER ARM

D

56066

Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
AIRPLANES WITHOUT SYNC-LOCKS

H67783

AMBER REV REMAINED DISPLAYED AFTER FULL REVERSE WAS REACHED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29, 11B30, 11D11, 11D12

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

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS THE PROBLEM CORRECTED?

YES → 21 PUT THE AIRPLANE IN SERVICE.

NO → 22 ADJUST THE DEPLOY PROXIMITY SENSOR (AMM 78-30-00/501).

Amber REV Remained Displayed After Full Reverse Was Reached
Figure 103

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11D11,11D12,11B29,11B30

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

AMBER REV DID NOT DISPLAY, GREEN REV DID WITH T/R FULLY DEPLOYED

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103, BLOCK 1).
WAS THE PROBLEM CORRECTED?

YES → 21 PUT THE AIRPLANE IN SERVICE.

NO → 22 REMOVE PSEU M162 (AMM 32-09-04). REMOVE L (R) EICAS COMPUTER M10181 (M10182) (AMM 31-41-02).
EXAMINE THE CIRCUIT FROM CONNECTOR D3210E (D3210A) PIN 12A TO CONNECTORS D321B PIN F3 AND D321D PIN F12 OR D319D PIN F12 AND D319B PIN F3 (WDM 78-36-11,-21). REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL EICAS COMPUTER AND PSEU.

Amber REV Did Not Display, Green REV Did with T/R Fully Deployed
Figure 104

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
1 > 11K6, 11K33; 2 > 11B30, 11K12

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

T/R STOWED, AMBER REV REMAINED DISPLAYED

CAUTION: DO NOT TOUCH THE PSEU CARD BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO PSEU CARD.

1 DID THE REV AMBER COME ON MOMENTARILY?

YES

40 DO A CHECK THAT THE RESTRICTOR CHECK VALVE IS INSTALLED IN THE THRUST REVERSER ISOLATION VALVE FOR THE CONTROL HYDRAULIC LINE (AMM 78-34-05/401).
INSTALL THE RESTRICTOR CHECK VALVE IF YOU FIND A UNION INSTALLED IN THE PORT IN THE ISOLATION VALVE.

NO

1A IS THE ACTUATOR LOCK INDICATOR IN THE UNLOCKED POSITION (EXTENDED)?

NOTE: THE ACTUATOR LOCK INDICATOR IS LOCATED AT THE 5:30 AND 7:30 POSITION.

YES

20 PULL OUT AND PIN THE ACTUATOR LOCK INDICATOR ON THE SLEEVE OPPOSITE TO THE ONE WITH THE EXTENDED INDICATOR.

NOTE: AIRPLANES WITH SYNC LOCKS;
PULL OUT AND PIN THE SYNC LOCK MANUAL UNLOCK INDICATOR.

MANUALLY EXTEND THE REVERSER SLEEVE (AMM 78-31-00/201).
DOES THE TRANSLATING SLEEVE DEPLOY?

YES

40A DISCONNECT THE LOCK INDICATOR AND DO BLOCK 20 AGAIN.
IF THE SLEEVE DEPLOYS, REPLACE ACTUATOR WHICH HAD AN EXTENDED FLAG (AMM 78-31-26/401).
IF THE SLEEVE DOES NOT DEPLOY, EXAMINE THE LOCK INDICATOR FLAG (AMM 78-31-26/601).

NO

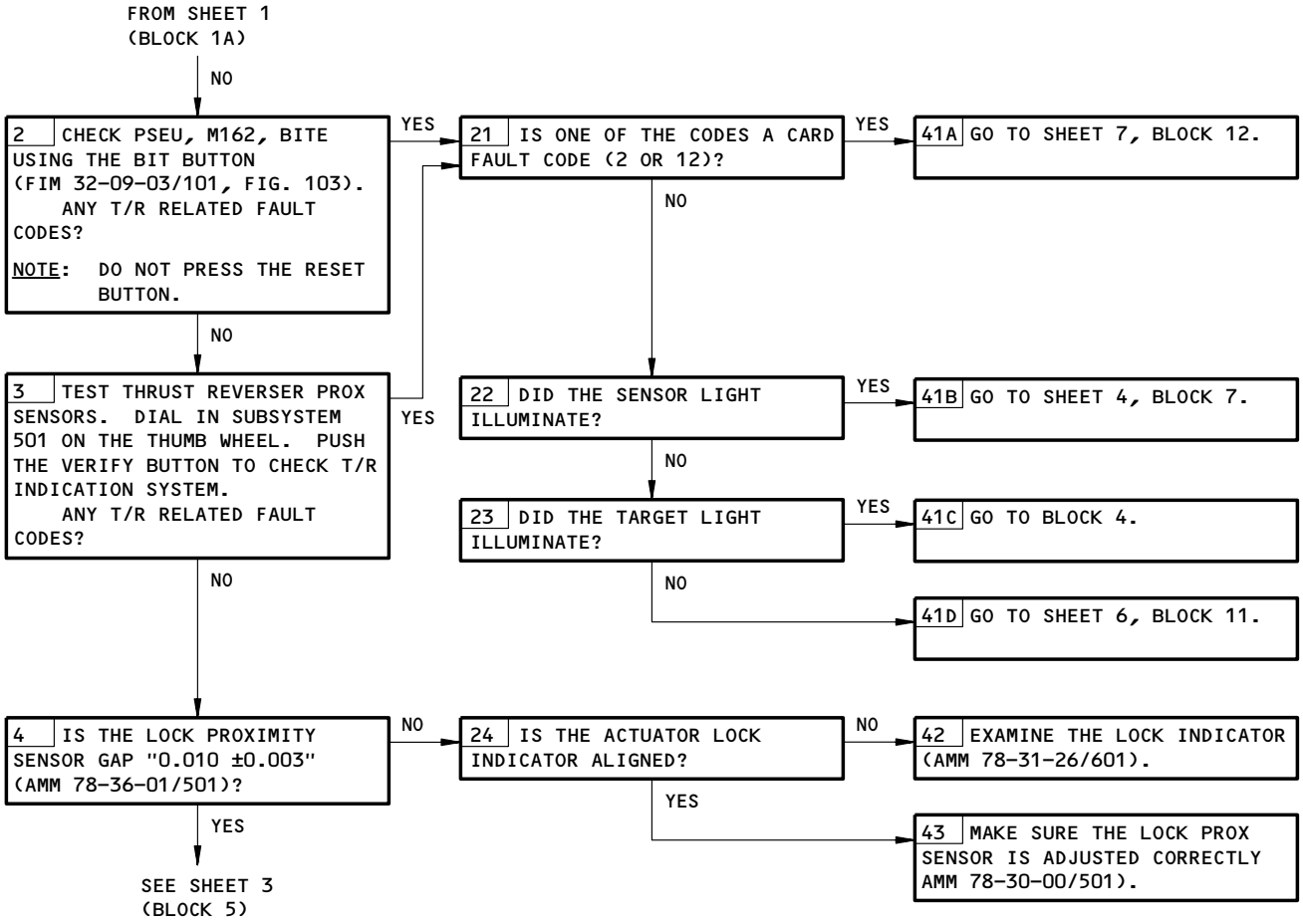
41 EXAMINE THE LOCK INDICATOR (AMM 78-31-26/601).
MAKE SURE THE LOCK PROXIMITY SENSOR IS ADJUSTED CORRECTLY (AMM 78-30-00/501).

NO

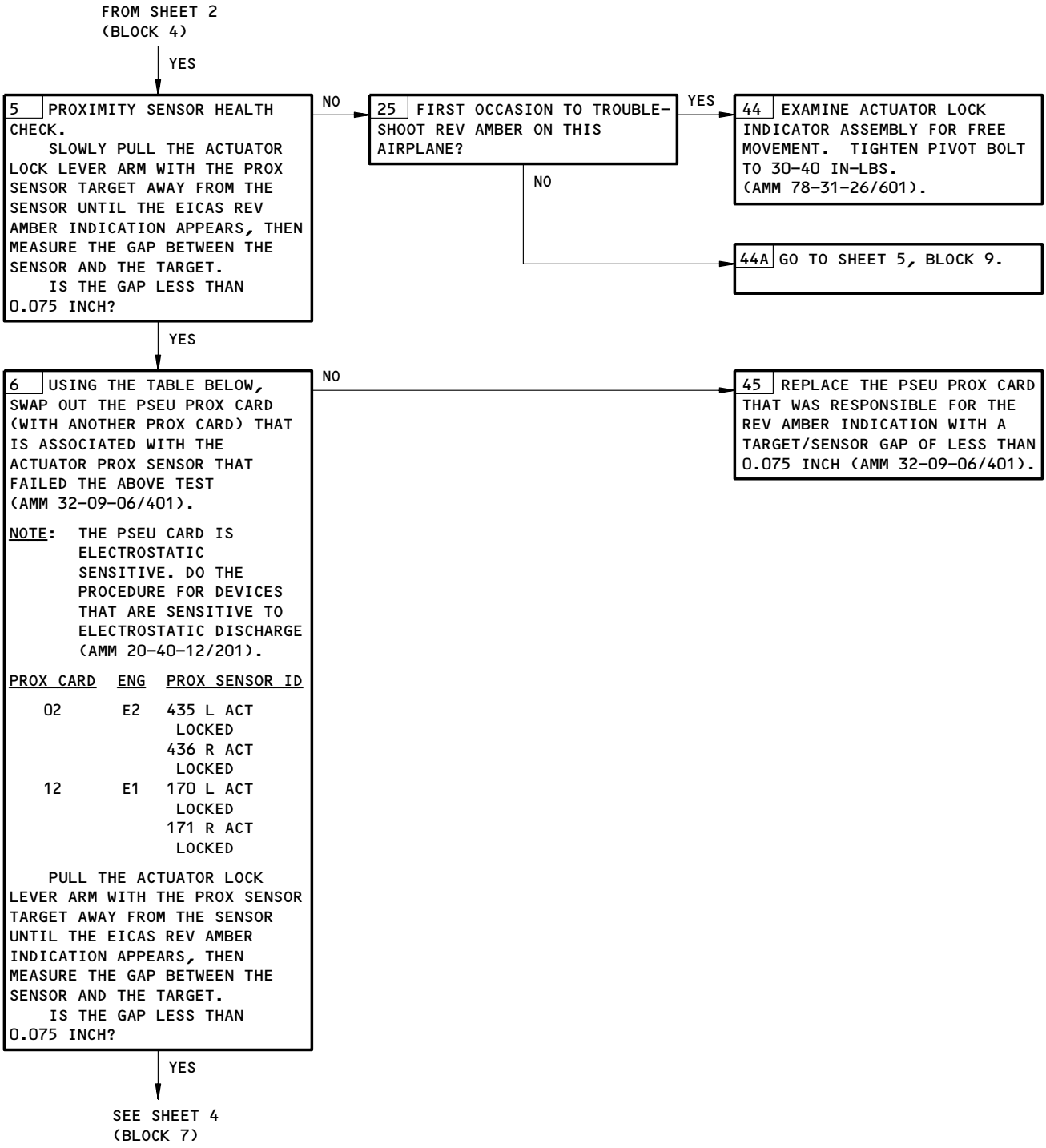
SEE SHEET 2 (BLOCK 2)

1 > AIRPLANES WITHOUT ETOPS
2 > AIRPLANES WITH ETOPS

T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 1)



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 2)



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 3)

FROM SHEET 2 (BLOCK 22) — YES

FROM SHEET 3 (BLOCK 6) — YES

7 IS THE COMBINED CIRCUIT AND SENSOR RESISTANCE FOR THE ACTUATOR LOCK PROX SENSOR CIRCUIT LESS THAN 16 OHMS PIN TO PIN, AS MEASURED FROM THESE PSEU CONNECTORS AND PINS: (TEST THE CIRCUIT BY PLACING OHMMETER PROBE ON ONE PIN AND THE OTHER OHMMETER PROBE ON THE OTHER PIN).

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

PSEU CONNECTOR	PSEU PINS
D3210A	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

NO → 46 USING AN OHMMETER, ISOLATE THE HIGH RESISTANCE PORTION OF THE ACTUATOR LOCK PROX SENSOR CIRCUIT:
1. VERIFY THAT THE RESISTANCE OF THE ACTUATOR LOCK PROX SENSOR AS MEASURED FROM CONNECTOR D41520P (LEFT) OR D41522P (RIGHT), BETWEEN PINS 1 AND 3 IS 8 TO 11 OHMS (TYPICAL) (WDM 71-51-11, SHEET 4)
2. THE RESISTANCE OF THE PROX SENSOR LINES LESS THE PROX SENSOR (THE DIFFERENCE BETWEEN THE PROX SENSOR CIRCUIT RESISTANCE AS MEASURED IN BLOCK 10 AND THE PROX SENSOR RESISTANCE AS MEASURED ABOVE) IS 2 TO 5 OHMS.

REPLACE THE NECESSARY PARTS TO REDUCE THE COMBINED LINE AND SENSOR RESISTANCE TO LESS THAN 16 OHMS.

YES

8 IS THE CIRCUIT RESISTANCE ON THE SENSOR LINE MORE THAN 20 MEGOHMS OF RESISTANCE TO GROUND? TEST THE CIRCUIT BY PLACING AN OHMMETER PROBE ON THESE PINS AND THE OTHER PROBE ON A GROUND:

NOTE: DISCONNECT THE PROXIMITY SENSOR FROM THE SENSOR LINE PRIOR TO TEST.

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

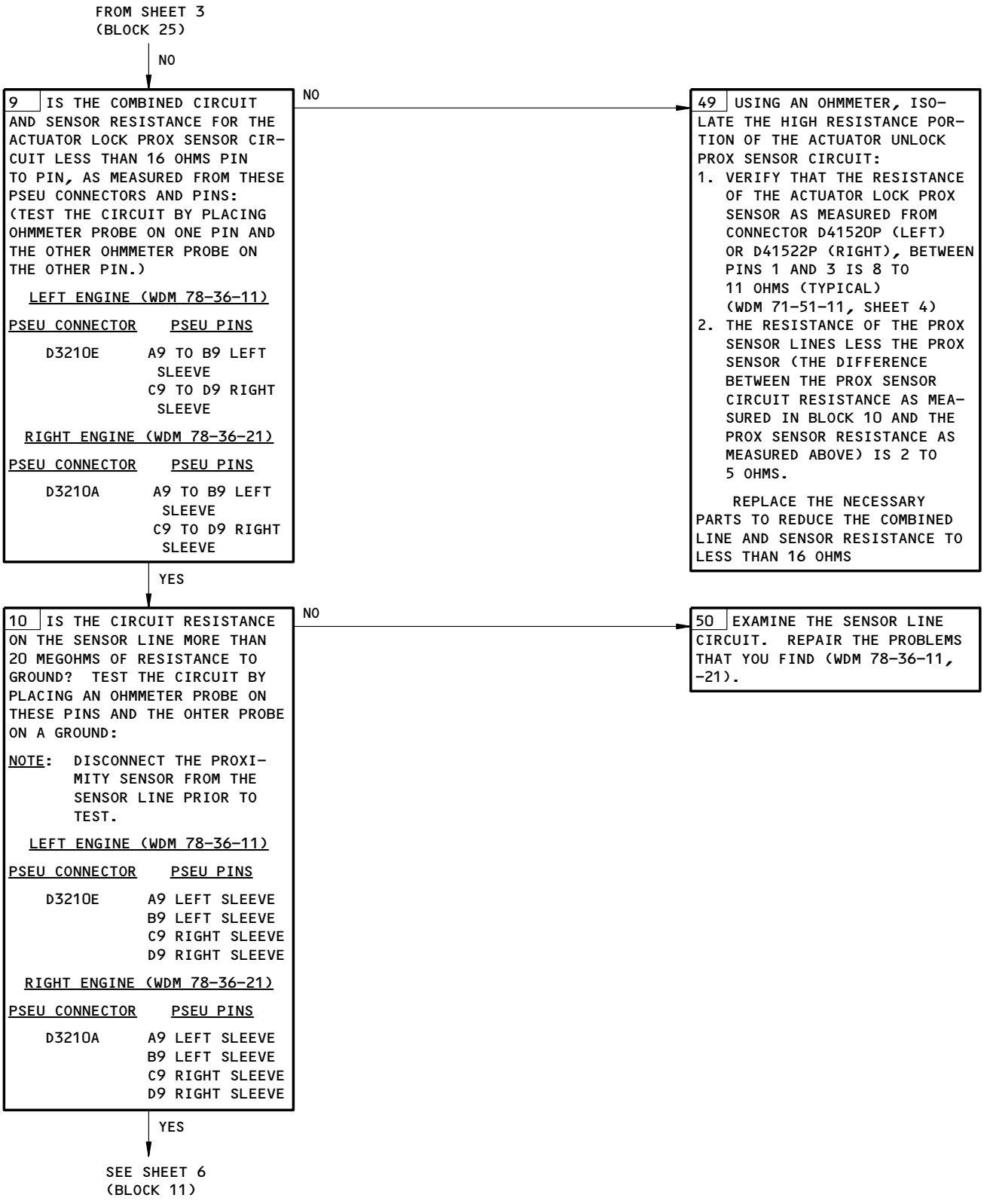
PSEU CONNECTOR	PSEU PINS
D3210A	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

YES → 47 REPLACE PROX SENSOR (AMM 78-36-01/401).

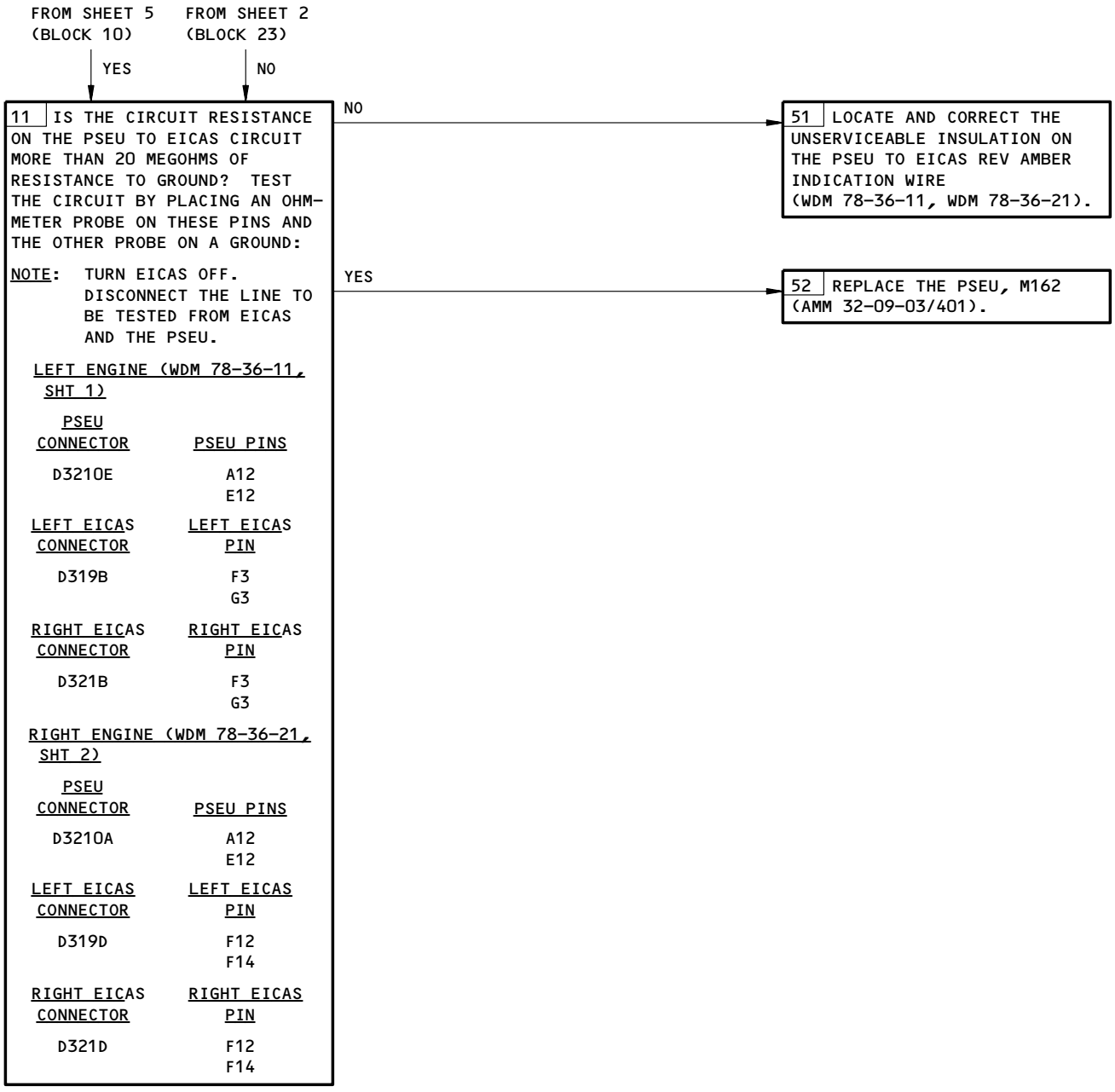
NO → 48 EXAMINE THE SENSOR LINE CIRCUIT. REPAIR THE PROBLEMS THAT YOU FIND (WDM 78-36-11, -21).

T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 4)

H67693

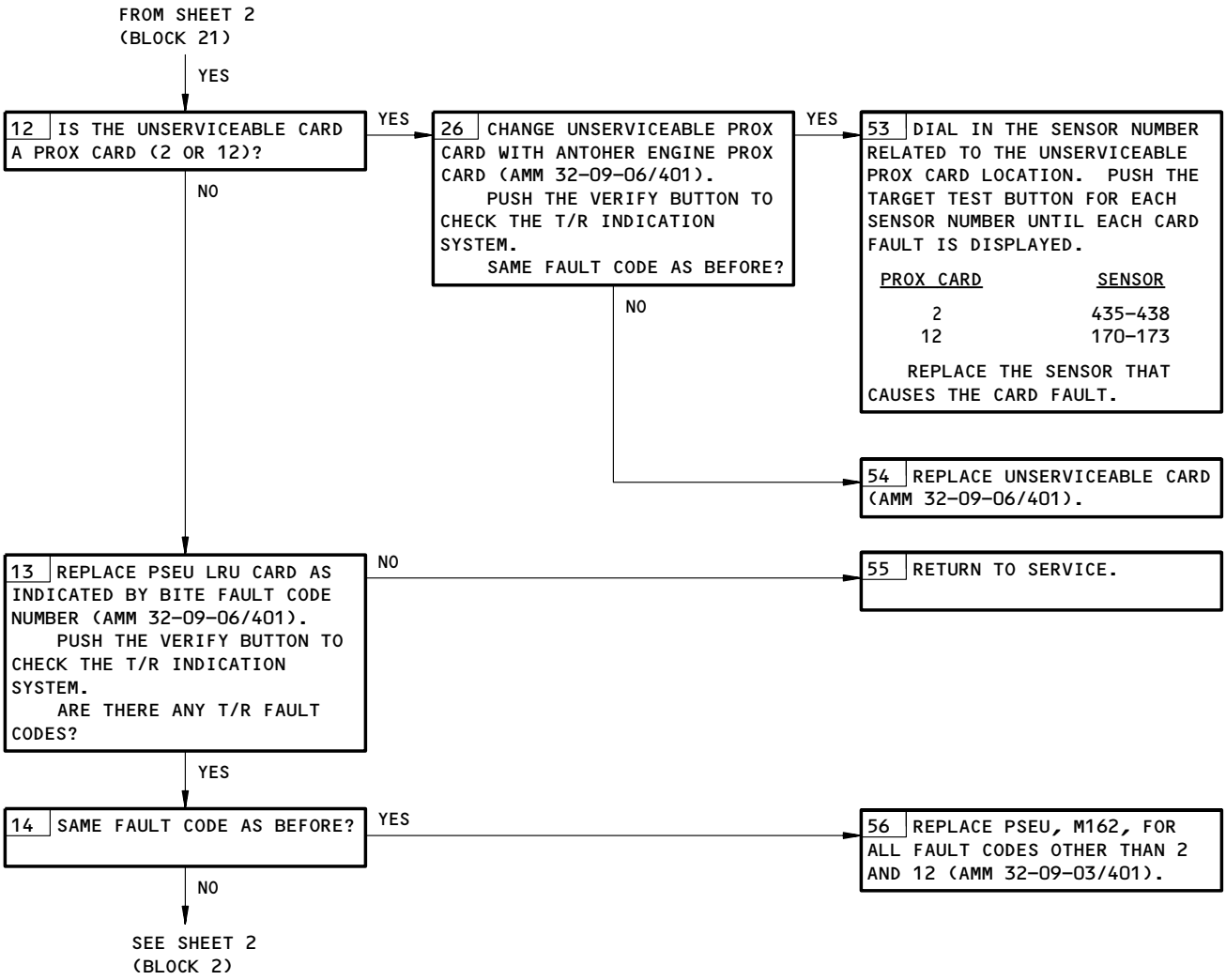


T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 5)



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 6)

H67697



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 7)

THRUST REVERSER POSITION INDICATION SYSTEM PROBLEM

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THRUST REVERSER IN STOWED POSITION (AMM 78-31-00/201)

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS A PROBLEM INDICATED?

YES → 21 DO THE INDICATED CORRECTIVE ACTION.

NO → 22 DO THIS PROCEDURE: BITE PROCEDURE FOR THE PSEU SENSOR TARGET TEST (FIM 32-09-03/101, FIG. 104) AND CORRECTIVE ACTION.
IF THE PROBLEM CONTINUES, DO THE ACTUATOR LOCK INTEGRITY TEST (AMM 78-31-00/501).

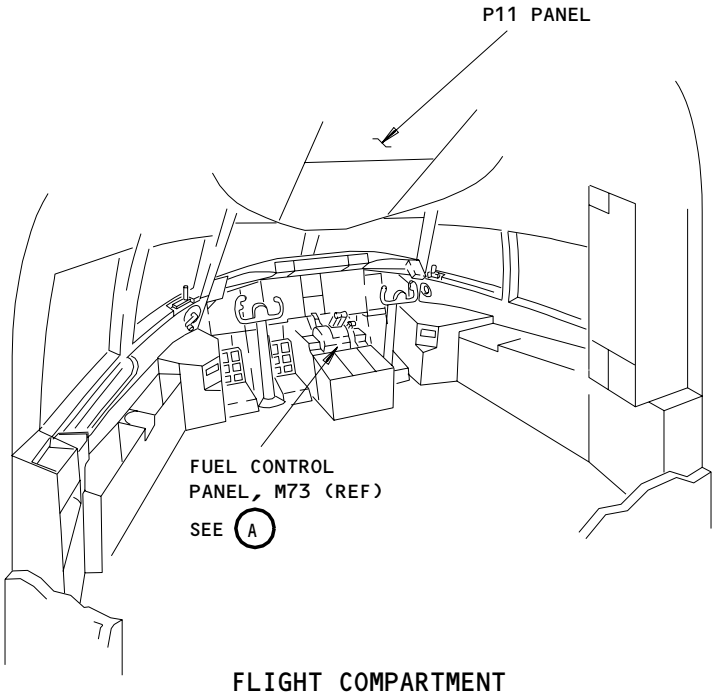
Thrust Reverser Position Indication System Problem
Figure 106

THRUST REVERSER CONTROL SYSTEM

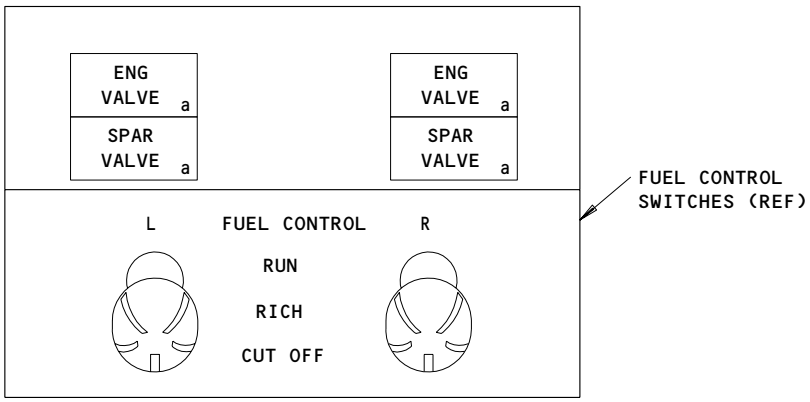
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	
L ENG T/R IND, C1480		1	11D11	*
R ENG T/R IND, C1481		1	11B29	*
COMPUTER – (FIM 31-41-00/101)				
L EICAS, M10181				
R EICAS, M10182				
RELAY – (FIM 31-01-36/101)				
L 30 SEC AFTER STOW COMMAND, K10712				
RELAY – (FIM 31-01-37/101)				
R 30 SEC AFTER STOW COMMAND, K10713				
SENSOR – L ENGINE, LH SLEEVE ACTUATOR LOCK PROXIMITY, S164	2	1	415AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, LH SLEEVE DEPLOY PROX, S166	2	1	415AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, RH SLEEVE ACTUATOR LOCK PROXIMITY, S165	2	1	416AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – L ENGINE, RH SLEEVE DEPLOY PROX, S167	2	1	416AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, LH SLEEVE ACTUATOR LOCK PROXIMITY, S164	2	1	425AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, LH SLEEVE DEPLOY PROX, S166	2	1	425AL, LH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, RH SLEEVE ACTUATOR LOCK PROXIMITY, S165	2	1	426AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SENSOR – R ENGINE, RH SLEEVE DEPLOY PROX, S167	2	1	426AR, RH THRUST REVERSER LOCKING ACTUATOR	*
SWITCH – (FIM 22-32-00/101)				
L T/R CONT, S23 (INDICATION)				
R T/R CONT, S24 (INDICATION)				
SWITCH – L T/R HYD PRESS, S330	2	1	434AL, L T/R ISOLATION VALVE	*
SWITCH – R T/R HYD PRESS, S331	2	1	444AL, R T/R ISOLATION VALVE	*
TIME DELAY – (FIM 31-01-36/101)				
L T/R ISLN VLV, M10440				
TIME DELAY – (FIM 31-01-37/101)				
R T/R ISLN VLV, M10439				
UNIT – (FIM 32-09-00/101)				
PROX SW ELEX, M162				

* SEE THE WDM EQUIPMENT LIST

Thrust Reverser Position Indicating System – Component Index
Figure 101



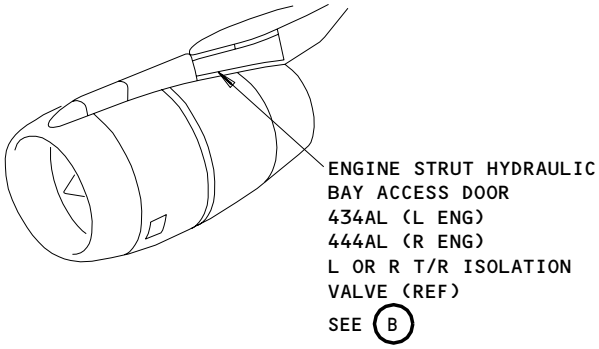
FLIGHT COMPARTMENT

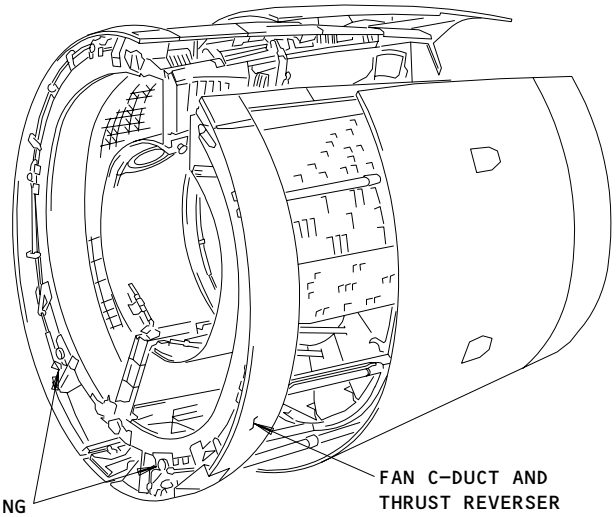


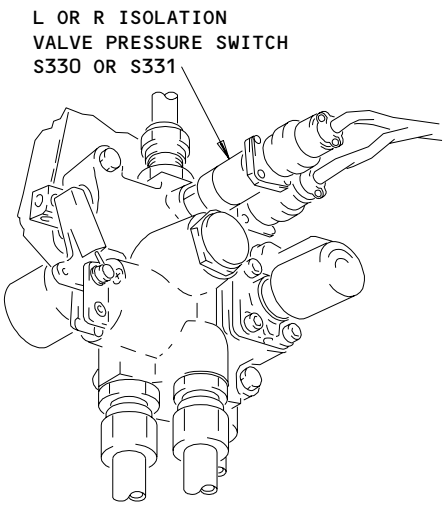
FUEL CONTROL PANEL, M73 (REF)

A

Component Location
Figure 102 (Sheet 1)

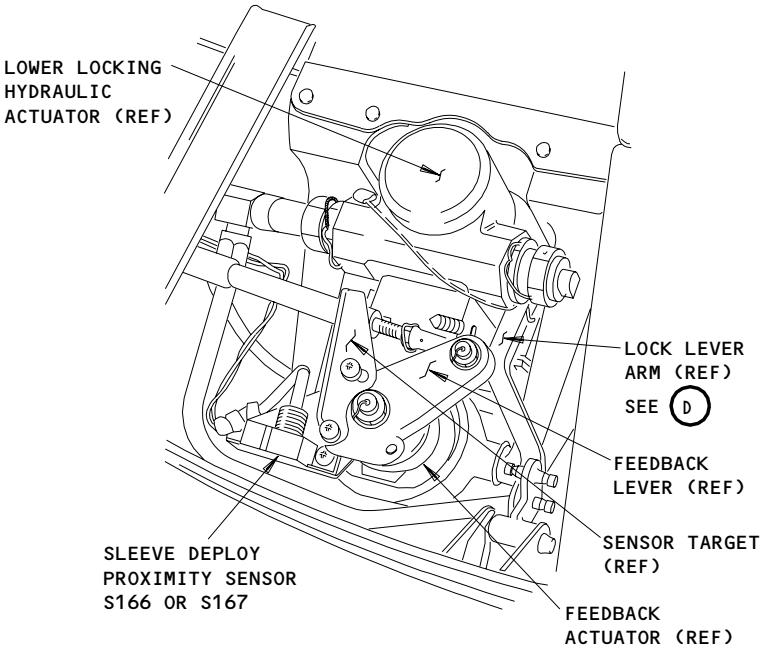






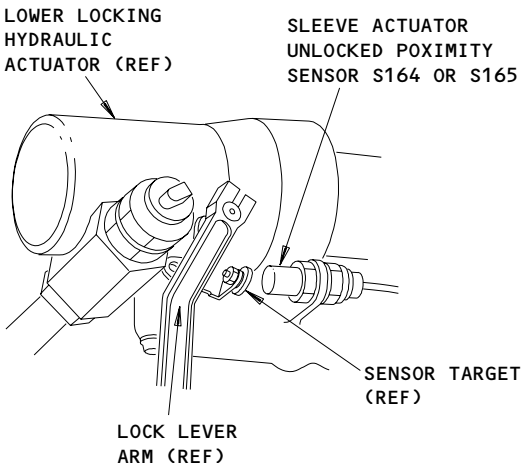
L OR R T/R ISOLATION VALVE (REF)

B



LH LOWER LOCKING HYDRAULIC
ACTUATOR (RH SIMILAR)

C



LOCK LEVER ARM

D

56066

Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H67803

AMBER REV REMAINED DISPLAYED AFTER FULL REVERSE WAS REACHED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29, 11B30, 11D11, 11D12

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

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS A PROBLEM INDICATED?

YES → 61 DO THE INDICATED CORRECTIVE ACTION.

NO → 62 ADJUST THE DEPLOY PROXIMITY SENSOR (AMM 78-30-00/501).

Amber REV Remained Displayed After Full Reverse Was Reached
Figure 103

AMBER REV DID NOT DISPLAY, GREEN REV DID WITH T/R FULLY DEPLOYED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11D11,11D12,11B29,11B30

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

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS A PROBLEM INDICATED?

YES

21 DO THE INDICATED CORRECTIVE ACTION.

NO

22 REMOVE THE PSEU, M162 (AMM 32-09-04/401).
REMOVE THE L (R) EICAS COMPUTER, M10181 (M10182) (AMM 31-41-02/401).
EXAMINE THE CIRCUIT FROM CONNECTOR D321OE (D321OA), PIN A12, TO CONNECTORS D321B, PIN F3, AND D321D, PIN F12 (D319D, PIN F12, AND D319B, PIN F3) (WDM 78-36-11,-21).
REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTER AND THE PSEU.

Amber REV Did Not Display, Green REV Did with T/R Fully Deployed
Figure 104 (Sheet 1)

AMBER REV DID NOT DISPLAY, GREEN REV DID WITH T/R FULLY DEPLOYED

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11D11, 11D12, 11B29, 11B30

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

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS A PROBLEM INDICATED?

YES → 21 DO THE INDICATED CORRECTIVE ACTION.

NO → 23 REMOVE THE PSEU, M162 (AMM 32-09-04/401).
REMOVE THE L (R) EICAS COMPUTER, M10181 (M10182) (AMM 31-41-02/401).
EXAMINE THE CIRCUIT FROM CONNECTOR D3210E (D3210A), PIN A12, TO CONNECTORS D321B, PIN F3, AND D319B, PIN F3 (D319D, PIN F12, AND D321D, PIN F12) (WDM 78-36-11,-21). REPAIR THE PROBLEMS THAT YOU FIND.
INSTALL THE EICAS COMPUTER AND THE PSEU.
IF THE PROBLEM CONTINUES, DO THIS PROCEDURE: AIR/GROUND RELAY PROBLEM (FIM 32-09-00/101, FIG. 103) FOR SYSTEM NO. 1 AIR/GND RELAY, K10108 (SYS NO. 2 AIR/GND RELAY, K219) OR REPLACE THE AIR/GND RELAY (AMM 32-09-02/201).
IF THE PROBLEM CONTINUES, REPLACE THE L THRUST REVERSER STOW RELAY, K26 (R THRUST REVERSER STOW RELAY, K27) (WDM 78-36-11, -21).

Amber REV Did Not Display, Green REV Did with T/R Fully Deployed
Figure 104 (Sheet 2)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
[1] 11K6, 11K33; [2] 11B30, 11K12

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

T/R STOWED, AMBER REV REMAINED DISPLAYED

CAUTION: DO NOT TOUCH THE PSEU CARD BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO PSEU CARD.

1 DID THE REV AMBER COME ON MOMENTARILY?

YES → 4O DO A CHECK THAT THE RESTRICTOR CHECK VALVE IS INSTALLED IN THE THRUST REVERSER ISOLATION VALVE FOR THE CONTROL HYDRAULIC LINE (AMM 78-34-05/401).
INSTALL THE RESTRICTOR CHECK VALVE IF YOU FIND A UNION INSTALLED IN THE PORT IN THE ISOLATION VALVE.

NO

1A IS THE ACTUATOR LOCK INDICATOR IN THE UNLOCKED POSITION (EXTENDED)?

NOTE: THE ACTUATOR LOCK INDICATOR IS LOCATED AT THE 5:30 AND 7:30 POSITION.

YES → 2O PULL OUT AND PIN THE ACTUATOR LOCK INDICATOR ON THE SLEEVE OPPOSITE TO THE ONE WITH THE EXTENDED INDICATOR.

NOTE: AIRPLANES WITH SYNC LOCKS;
PULL OUT AND PIN THE SYNC LOCK MANUAL UNLOCK INDICATOR.

MANUALLY EXTEND THE REVERSER SLEEVE (AMM 78-31-00/201).
DOES THE TRANSLATING SLEEVE DEPLOY?

YES → 4OA DISCONNECT THE LOCK INDICATOR AND DO BLOCK 2O AGAIN.
IF THE SLEEVE DEPLOYS, REPLACE ACTUATOR WHICH HAD AN EXTENDED FLAG (AMM 78-31-26/401).
IF THE SLEEVE DOES NOT DEPLOY, EXAMINE THE LOCK INDICATOR FLAG (AMM 78-31-26/601).

NO → 41 EXAMINE THE LOCK INDICATOR (AMM 78-31-26/601).
MAKE SURE THE LOCK PROXIMITY SENSOR IS ADJUSTED CORRECTLY (AMM 78-30-00/501).

NO

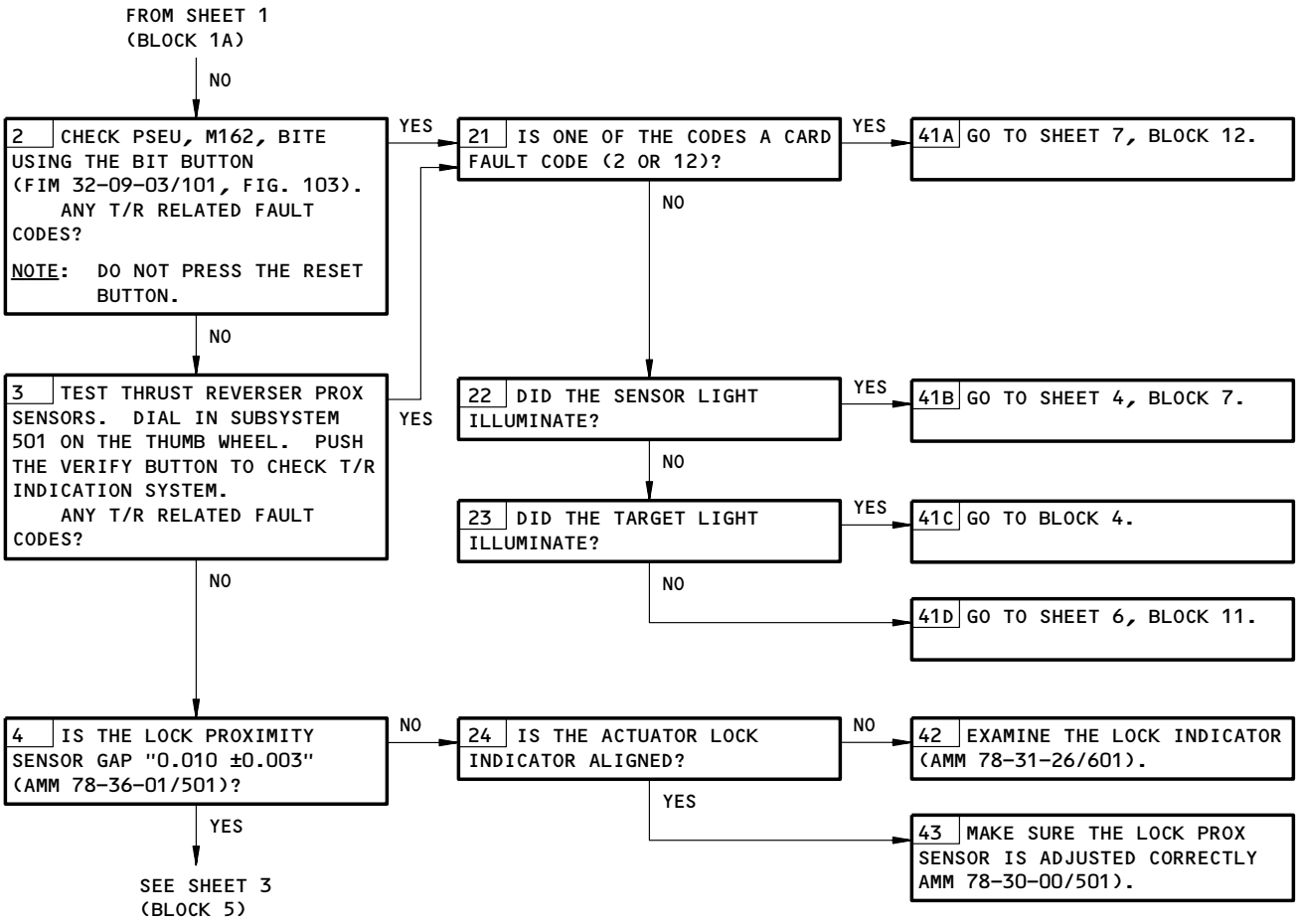
SEE SHEET 2 (BLOCK 2)

[1] AIRPLANES WITHOUT ETOPS
[2] AIRPLANES WITH ETOPS

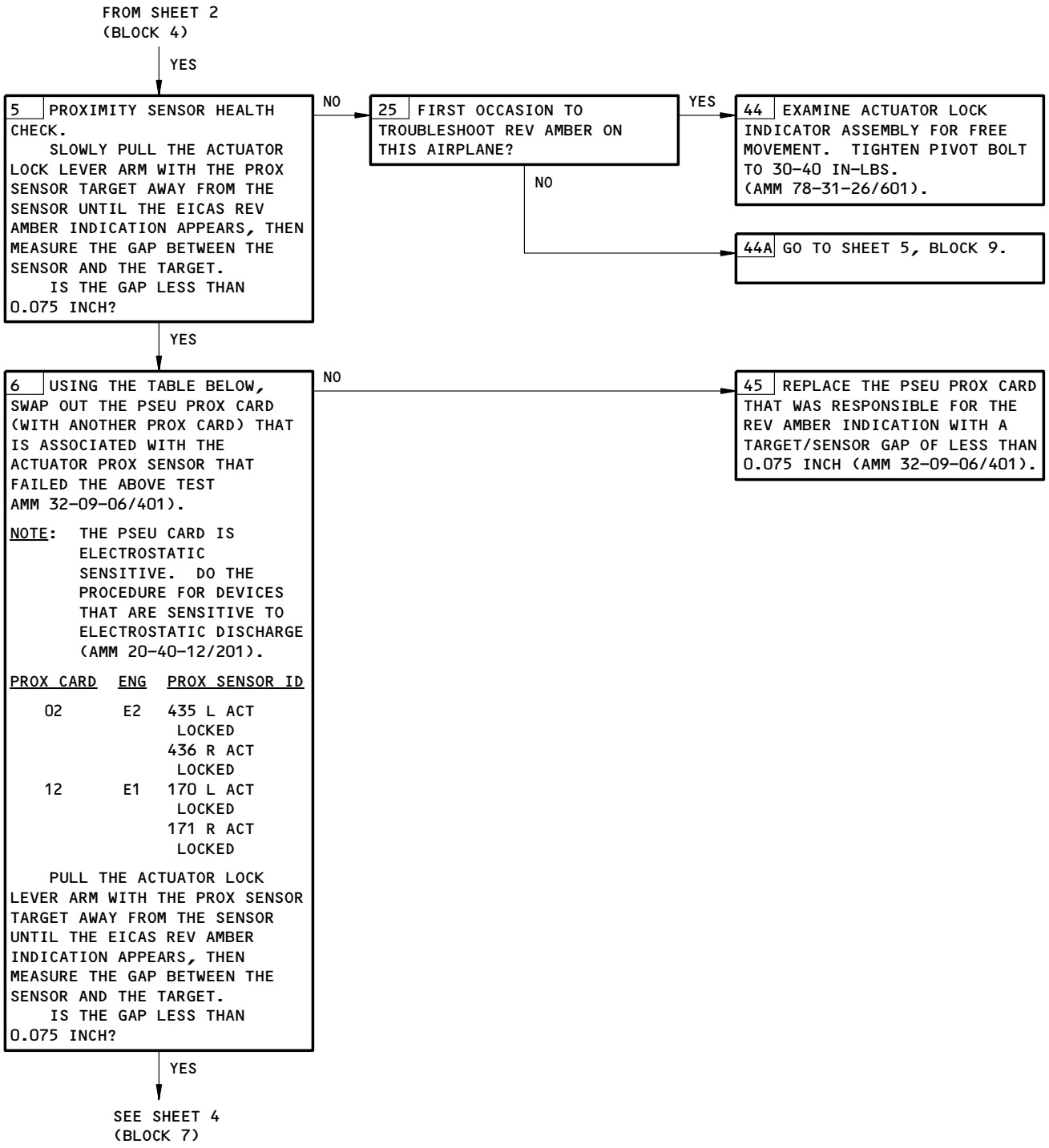
T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

H68313



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 2)



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 3)

EFFECTIVITY
AIRPLANES WITH SYNC-LOCKS

D33804

FROM SHEET 2 (BLOCK 22) — YES

FROM SHEET 3 (BLOCK 6) — YES

7 IS THE COMBINED CIRCUIT AND SENSOR RESISTANCE FOR THE ACTUATOR LOCK PROX SENSOR CIRCUIT LESS THAN 16 OHMS PIN TO PIN, AS MEASURED FROM THESE PSEU CONNECTORS AND PINS: (TEST THE CIRCUIT BY PLACING OHMMETER PROBE ON ONE PIN AND THE OTHER OHMMETER PROBE ON THE OTHER PIN).

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

PSEU CONNECTOR	PSEU PINS
D3210A	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

NO → 46 USING AN OHMMETER, ISOLATE THE HIGH RESISTANCE PORTION OF THE ACTUATOR LOCK PROX SENSOR CIRCUIT:

1. VERIFY THAT THE RESISTANCE OF THE ACTUATOR LOCK PROX SENSOR AS MEASURED FROM CONNECTOR D41520P (LEFT) OR D41522P (RIGHT), BETWEEN PINS 1 AND 3 IS 8 TO 11 OHMS (TYPICAL) (WDM 71-51-11, SHEET 4)
2. THE RESISTANCE OF THE PROX SENSOR LINES LESS THE PROX SENSOR (THE DIFFERENCE BETWEEN THE PROX SENSOR CIRCUIT RESISTANCE AS MEASURED IN BLOCK 10 AND THE PROX SENSOR RESISTANCE AS MEASURED ABOVE) IS 2 TO 5 OHMS.

REPLACE THE NECESSARY PARTS TO REDUCE THE COMBINED LINE AND SENSOR RESISTANCE TO LESS THAN 16 OHMS.

YES

8 IS THE CIRCUIT RESISTANCE ON THE SENSOR LINE MORE THAN 20 MEGOHMS OF RESISTANCE TO GROUND? TEST THE CIRCUIT BY PLACING AN OHMMETER PROBE ON THESE PINS AND THE OTHER PROBE ON A GROUND:

NOTE: DISCONNECT THE PROXIMITY SENSOR FROM THE SENSOR LINE PRIOR TO TEST.

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

PSEU CONNECTOR	PSEU PINS
D3210A	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

YES → 47 REPLACE PROX SENSOR (AMM 78-36-01/401).

NO → 48 EXAMINE THE SENSOR LINE CIRCUIT. REPAIR THE PROBLEMS THAT YOU FIND (WDM 78-36-11, -21).

T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 4)

H68333

FROM SHEET 3
(BLOCK 25)

NO

9 IS THE COMBINED CIRCUIT AND SENSOR RESISTANCE FOR THE ACTUATOR LOCK PROX SENSOR CIRCUIT LESS THAN 16 OHMS PIN TO PIN, AS MEASURED FROM THESE PSEU CONNECTORS AND PINS: (TEST THE CIRCUIT BY PLACING OHMMETER PROBE ON ONE PIN AND THE OTHER OHMMETER PROBE ON THE OTHER PIN.)

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

PSEU CONNECTOR	PSEU PINS
D3210A	A9 TO B9 LEFT SLEEVE C9 TO D9 RIGHT SLEEVE

NO

49 USING AN OHMMETER, ISOLATE THE HIGH RESISTANCE PORTION OF THE ACTUATOR UNLOCK PROX SENSOR CIRCUIT:

1. VERIFY THAT THE RESISTANCE OF THE ACTUATOR LOCK PROX SENSOR AS MEASURED FROM CONNECTOR D41520P (LEFT) OR D41522P (RIGHT), BETWEEN PINS 1 AND 3 IS 8 TO 11 OHMS (TYPICAL) (WDM 71-51-11, SHEET 4)
2. THE RESISTANCE OF THE PROX SENSOR LINES LESS THE PROX SENSOR (THE DIFFERENCE BETWEEN THE PROX SENSOR CIRCUIT RESISTANCE AS MEASURED IN BLOCK 10 AND THE PROX SENSOR RESISTANCE AS MEASURED ABOVE) IS 2 TO 5 OHMS.

REPLACE THE NECESSARY PARTS TO REDUCE THE COMBINED LINE AND SENSOR RESISTANCE TO LESS THAN 16 OHMS

YES

10 IS THE CIRCUIT RESISTANCE ON THE SENSOR LINE MORE THAN 20 MEGOHMS OF RESISTANCE TO GROUND? TEST THE CIRCUIT BY PLACING AN OHMMETER PROBE ON THESE PINS AND THE OHTER PROBE ON A GROUND:

NOTE: DISCONNECT THE PROXIMITY SENSOR FROM THE SENSOR LINE PRIOR TO TEST.

LEFT ENGINE (WDM 78-36-11)

PSEU CONNECTOR	PSEU PINS
D3210E	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

RIGHT ENGINE (WDM 78-36-21)

PSEU CONNECTOR	PSEU PINS
D3210A	A9 LEFT SLEEVE B9 LEFT SLEEVE C9 RIGHT SLEEVE D9 RIGHT SLEEVE

NO

50 EXAMINE THE SENSOR LINE CIRCUIT. REPAIR THE PROBLEMS THAT YOU FIND (WDM 78-36-11, -21).

YES

SEE SHEET 6
(BLOCK 11)

T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 5)

H68339

FROM SHEET 5 (BLOCK 10) — YES
FROM SHEET 2 (BLOCK 23) — NO

11 IS THE CIRCUIT RESISTANCE ON THE PSEU TO EICAS CIRCUIT MORE THAN 20 MEGOHMS OF RESISTANCE TO GROUND? TEST THE CIRCUIT BY PLACING AN OHM-METER PROBE ON THESE PINS AND THE OTHER PROBE ON A GROUND:

NOTE: TURN EICAS OFF. DISCONNECT THE LINE TO BE TESTED FROM EICAS AND THE PSEU.

LEFT ENGINE (WDM 78-36-11, SHT 1)

PSEU CONNECTOR	PSEU PINS
D3210E	A12 E12

LEFT EICAS CONNECTOR	LEFT EICAS PIN
D319B	F3 G3

RIGHT EICAS CONNECTOR	RIGHT EICAS PIN
D321B	F3 G3

RIGHT ENGINE (WDM 78-36-21, SHT 2)

PSEU CONNECTOR	PSEU PINS
D3210A	A12 E12

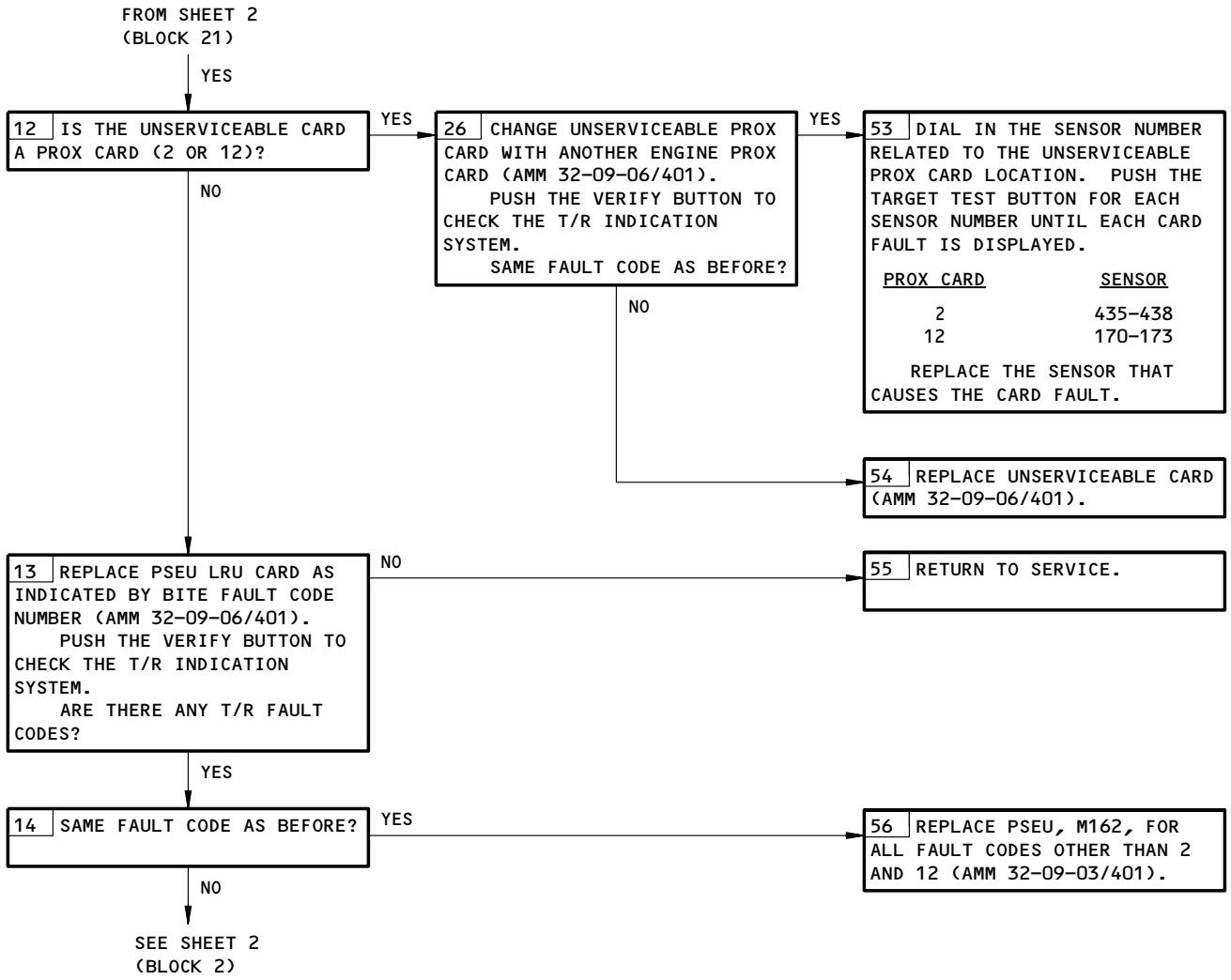
LEFT EICAS CONNECTOR	LEFT EICAS PIN
D319D	F12 F14

RIGHT EICAS CONNECTOR	RIGHT EICAS PIN
D321D	F12 F14

NO → 51 LOCATE AND CORRECT THE UNSERVICEABLE INSULATION ON THE PSEU TO EICAS REV AMBER INDICATION WIRE (WDM 78-36-11, WDM 78-36-21).

YES → 52 REPLACE THE PSEU, M162 (AMM 32-09-03/401).

T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 6)



T/R Stowed, Amber REV Remained Displayed
Figure 105 (Sheet 7)

THRUST REVERSER POSITION INDICATION SYSTEM PROBLEM

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
11B29,11B30,11D11,11D12

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
THRUST REVERSER IN STOWED POSITION (AMM 78-31-00/201)

1 DO THIS PROCEDURE: PSEU BITE PROCEDURE (FIM 32-09-03/101, FIG. 103).
WAS A PROBLEM INDICATED?

YES → 21 DO THE INDICATED CORRECTIVE ACTION.

NO → 22 DO THIS PROCEDURE: BITE PROCEDURE FOR THE PSEU SENSOR TARGET TEST (FIM 32-09-03/101, FIG. 104) AND CORRECTIVE ACTION.
IF THE PROBLEM CONTINUES, DO THE ACTUATOR LOCK INTEGRITY TEST (AMM 78-31-00/501).

Thrust Reverser Position Indication System Problem
Figure 106