



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

THRUST REVERSER CONTROL - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to do the check of the Thrust Reverser (TR) Control Lever Microswitches, Air/Ground Input Signal to the Thrust Reverser (TR) System, and Wheel Speed Input Signal to the Thrust Reverser System.
- B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
78-33-00-700-801-A ♦	AIR/GROUND INPUT SIGNAL TO THRUST REVERSER (TR) SYSTEM - OPERATIONAL CHECK	ALL
78-33-00-700-802-A ♦	WHEEL-SPEED INPUT SIGNAL TO THE THRUST REVERSER SYSTEM - OPERATIONAL CHECK	ALL
78-33-00-700-803-A ♦	THRUST-REVERSER (TR) CONTROL LEVER MICROSWITCHES - FUNCTIONAL CHECK	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 78-33-00-700-801-A

EFFECTIVITY: ALL

2. AIR/GROUND INPUT SIGNAL TO THRUST REVERSER (TR) SYSTEM - OPERATIONAL CHECK

A. General

- (1) This task gives the procedures to do the operational check of the Air/Ground Input Signal to the Thrust Reverser (TR) System.
- (2) When the AIR/GND circuit breakers are opened, the recording function of the FDR starts and the data stored in the FDR are overwritten. If it is necessary to keep the data stored in the FDR, open the FDR circuit breaker on the circuit breaker panel. Or, if it is necessary to keep the FDR on, do an FDR downloading ([AMM TASK 31-31-00-700-803-A/500](#)).
- (3) This procedure is applicable to the LH and RH Thrust Reversers (TR).

B. References

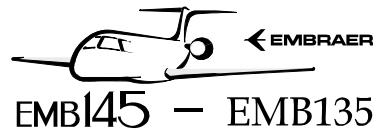
REFERENCE	DESIGNATION
AMM MPP 06-42-00/100	-
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 31-31-00-700-803-A/500	FDR DATA - PERSONAL COMPUTER DOWNLOADING
AMM TASK 78-31-01-700-801-A/500	THRUST REVERSER - OPERATIONAL CHECK
AMM TASK 78-31-01-940-801-A/200	THRUST REVERSER - OPENING PROCEDURE
AMM TASK 78-31-01-940-802-A/200	THRUST REVERSER - CLOSURE PROCEDURE
AMM TASK 78-33-01-980-801-A/200	ISOLATION CONTROL UNIT - INHIBITION PROCEDURES

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
312	312AR	To get access to the ICU
416	416AB	LH Thrust Reverser
426	426AB	RH Thrust Reverser

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Multimeter	To measure voltage	
GSE 044	Headset - Ramp	Communication between persons at the ramp and in the cockpit	



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the thrust reverser	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Thrust reverser
1	Does the task	Cockpit

I. Preparation ([Figure 501](#)) ([Figure 502](#))

SUBTASK 841-002-A

WARNING: REFER TO THE GROUND SAFETY PRECAUTIONS GIVEN IN AMM MPP 78-30-00/200 WHEN YOU DO THE THRUST REVERSER MAINTENANCE PROCEDURES.

- (1) Make sure that the aircraft is safe for maintenance.
- (2) Put the workstand in the work area.
- (3) Open access panel 312AR (AMM MPP 06-42-00/100).
- (4) Manually operate the inhibit lever on the ICU to inhibit the thrust reverser ([AMM TASK 78-33-01-980-801-A/200](#)).
- (5) Remove access panels 416AB/426AB ([AMM MPP 06-43-00/100](#)).
- (6) Disconnect these electrical connectors:
 - (a) P1250 at the ICUs of thrust reversers 1 and 2 (TR1 and TR2).
 - (b) P1776 at the DCUs of TR1 and TR2.
- (7) Energize the aircraft with a DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (8) On the circuit breaker panel, if applicable, close these circuit breakers:
 - ENG 1 T/R.
 - ENG 2 T/R.

WARNING: BEFORE YOU OPEN THE N2 CIRCUIT BREAKERS AND TO PREVENT INJURY TO PERSONS AND DAMAGE TO THE MATERIAL, MAKE SURE THAT SENSORS PITOT 1 - TAT 1/AOA 1, PITOT 3, AND PITOT 2 - TAT 2/AOA 2, ON THE OVERHEAD PANEL, ARE SET AT OFF.

- (9) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them.
- N2 SIGNAL 1A/1B.
 - N2 SIGNAL 2A/2B.
 - STALL PROT SHAKER1/SHAKER2.
 - STALL PROT PUSHER.
- (10) Make sure that the Air/Ground system is serviceable. If necessary, obey these steps to set the system:
- (a) On the circuit breaker panel, set these circuit breakers as follows:
- 1 AIR/GND A - Open.
 - 2 AIR/GND B - Open.
 - 3 AIR/GND C - Open.
 - 4 AIR/GND D - Open.
- (b) **NOTE:** When you are to close the AIR/GND A, B, C, and D circuit breakers, the time necessary for you to close all the four circuit breakers must not be more than 10 seconds.
- On the circuit breaker panel, set these circuit breakers to these positions in less than 10 seconds:
- 1 AIR/GND A - Close.
 - 2 AIR/GND B - Close.
 - 3 AIR/GND C - Close.
 - 4 AIR/GND D - Close.

J. Operationally Check Air/Ground Input Signal to Thrust Reverser System ([Figure 501](#)) ([Figure 502](#)) ([Figure 503](#))

SUBTASK 710-002-A

WARNING: REFER TO THE GROUND SAFETY PRECAUTIONS GIVEN IN AMM MPP 78-30-00/200 WHEN YOU DO THE THRUST REVERSER MAINTENANCE PROCEDURES.

- (1) Obey these steps to do the operational check of the air/ground input signal to actuate the ICU of Thrust Reversers 1 and 2 (TR1 and TR2):
- (a) Set the thrust lever to the REV position.
 - (b) Do a check to know if there is 28 V DC between pins 4 and 5 of connectors P1250 (for ICU1 and ICU2).
Result:
 - 1 There is 28 V DC between the pins of the connectors.

- (c) On the circuit breaker panel, open the AIR/GND A and AIR/GND C circuit breakers.

Result:

- 1 There is no 28 V DC between the pins 4 and 5 of connectors P1250 (for ICU1 and ICU2).

NOTE: When you are to close the AIR/GND A, B, C, and D circuit breakers, the time necessary for you to close all the four circuit breakers must not be more than 10 seconds.

- (d) Reset the Air/Ground system as follows:

- On the circuit breaker panel, open the four air/ground circuit breakers (AIR/GND A, B, C, D).
- On the circuit breaker panel, close the four air/ground circuit breakers (AIR/GND A, B, C, D) in less than 10 seconds.

- (e) Do a check to know if there is 28 V DC between pins 4 and 5 of connectors P1250 (for ICU1 and ICU2).

Result:

- 1 There is 28 V DC between the pins of the connectors.

- (f) Set the thrust lever to the Idle position.

- (2) Obey these steps to do the operational check of the air/ground input signal to actuate the DCU of Thrust Reversers 1 and 2 (TR1 and TR2):

- (a) Set the thrust lever to the REV position.

- (b) Do a check to know if there is 28 V DC between pins 1 and 2 of connector J1776 (for DCU1 and DCU2).

Result:

- 1 There is 28 V DC between the pins of the connectors.

- (c) On the circuit breaker panel, open the AIR/GND B and AIR/GND D circuit breakers.

- (d) Do a check to know if there is 28 V DC between pins 1 and 2 of connector J1776 (for DCU1 and DCU2).

Result:

- 1 There is no 28 V DC between the pins of the connectors.

NOTE: When you are to close the AIR/GND A, B, C, and D circuit breakers, the time necessary for you to close all the four circuit breakers must not be more than 10 seconds.

- (e) Reset the Air/Ground system as follows:

- On the circuit breaker panel, open the four air/ground circuit breakers (AIR/GND A, B, C, D).
- On the circuit breaker panel, close the four air/ground circuit breakers (AIR/GND A, B, C, D) in less than 10 seconds.

- (f) Do a check to know if there is 28 V DC between pins 1 and 2 of connectors J1776 (for DCU1 and DCU2).

Result:

1 There is 28 V DC between the pins of the connectors.

(g) Set the thrust lever to the Idle position.

(3) Obey these steps to do the operational check of the air/ground input signal to actuate the upper/lower tertiary locks of Thrust Reversers 1 and 2 (TR1 and TR2):

(a) Connect electrical connectors P1250 (ICUs) and P1776 (DCUs) at TR1 and TR2.

(b) Manually operate the inhibit lever on the ICU to deinhibit the thrust reverser ([AMM TASK 78-33-01-980-801-A/200](#)).

(c) Open the thrust-reverser doors ([AMM TASK 78-31-01-940-801-A/200](#)).

(d) Inhibit the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).

(e) Manually actuate the upper and lower tertiary lock forks to the locked position.

Result:

1 The two (upper/lower) tertiary locks go to the locked position.

(f) Do a short movement in the upper or lower doors to remove them from the deployed position.

Result:

1 The two (upper/lower) tertiary locks unlock.

(g) Manually try to actuate the upper or lower tertiary lock forks to the locked position.

Result:

1 The two (upper/lower) tertiary locks stay unlocked.

(h) On the circuit breaker panel, open the AIR/GND B and AIR/GND D circuit breakers.

(i) Manually try to actuate the upper or lower tertiary lock forks to the locked position.

Result:

1 The tertiary locks go to the locked position.

NOTE: When you are to close the AIR/GND A, B, C, and D circuit breakers, the time necessary for you to close all the four circuit breakers must not be more than 10 seconds.

(j) Reset the Air/Ground system as follows:

- On the circuit breaker panel, open the four air/ground circuit breakers (AIR/GND A, B, C, D).

- On the circuit breaker panel, close the four air/ground circuit breakers (AIR/GND A, B, C, D) in less than 10 seconds.

(k) The tertiary locks go to the unlocked position.

K. Follow-on

SUBTASK 842-002-A

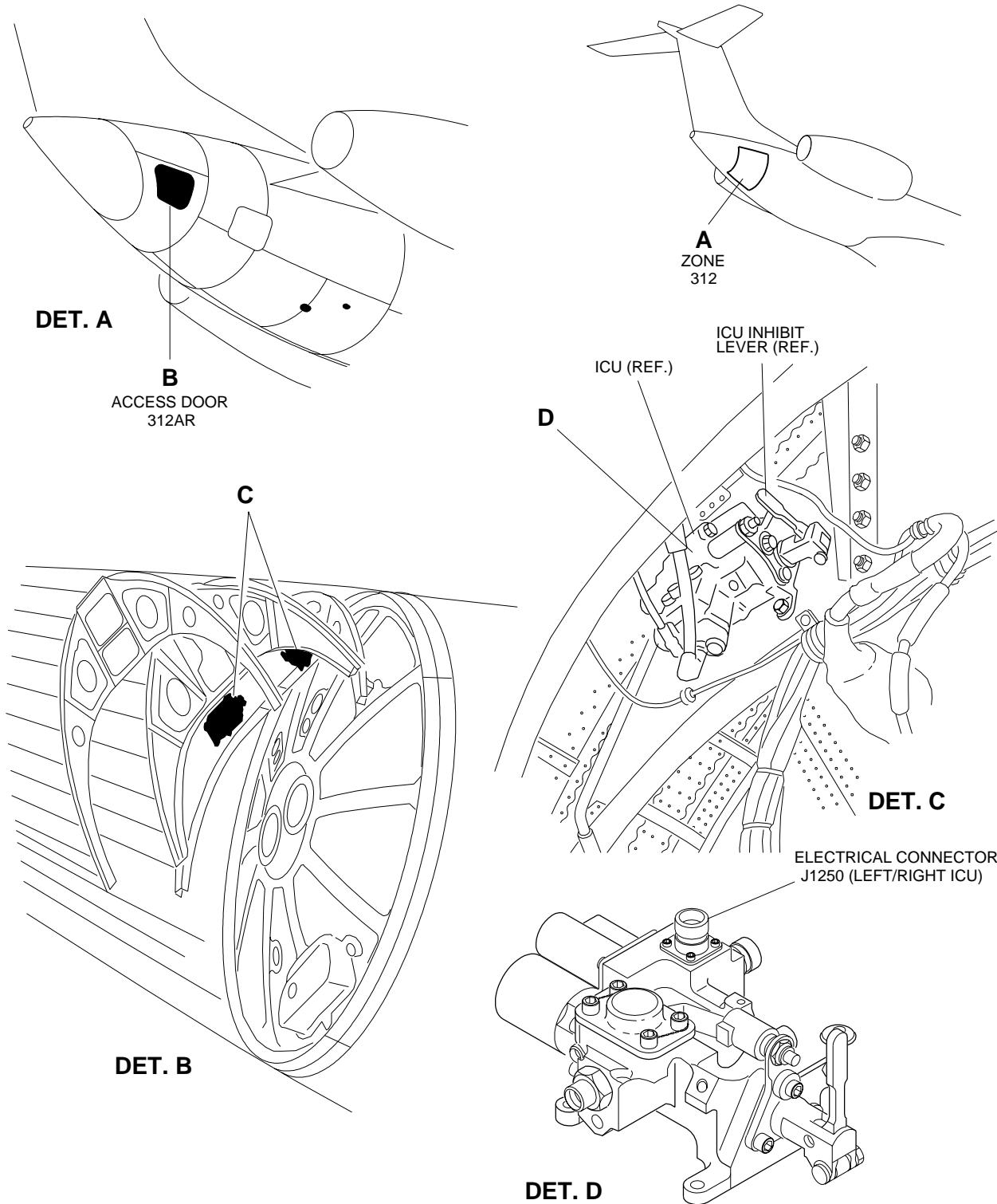
(1) De-inhibit the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).

(2) Close the thrust-reverser doors ([AMM TASK 78-31-01-940-802-A/200](#)).

- (3) Inhibit the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).
- (4) Install access panels 416AB/426AB ([AMM MPP 06-43-00/100](#)).
- (5) De-inhibit the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).
- (6) Close access panel 312AR (AMM MPP 06-42-00/100).
- (7) Remove the workstand from the work area.
- (8) Do a thrust reverser operational test ([AMM TASK 78-31-01-700-801-A/500](#)) and a check for general conditions and oil leaks.
- (9) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.
 - N2 SIGNAL 1A/1B.
 - N2 SIGNAL 2A/2B.
 - STALL PROT SHAKER1/SHAKER2.
 - STALL PROT PUSHER.
- (10) Remove the DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)) from the aircraft.

EFFECTIVITY: ALL

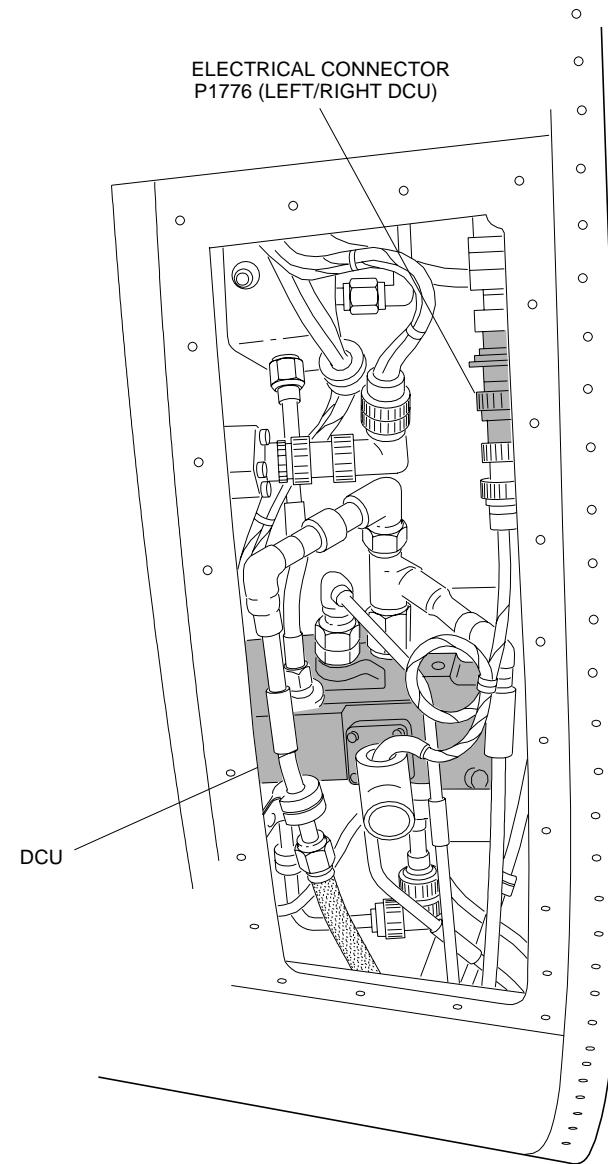
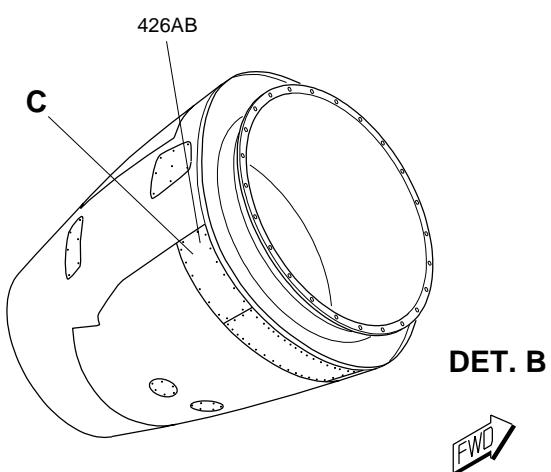
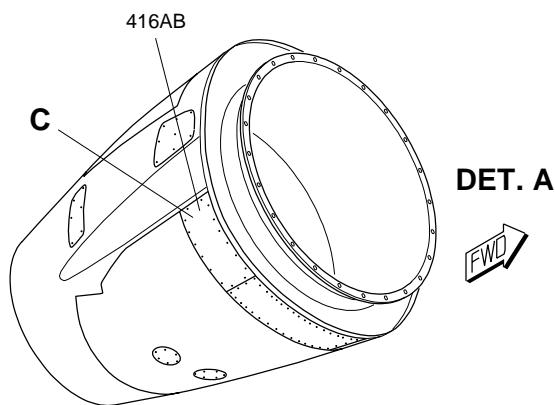
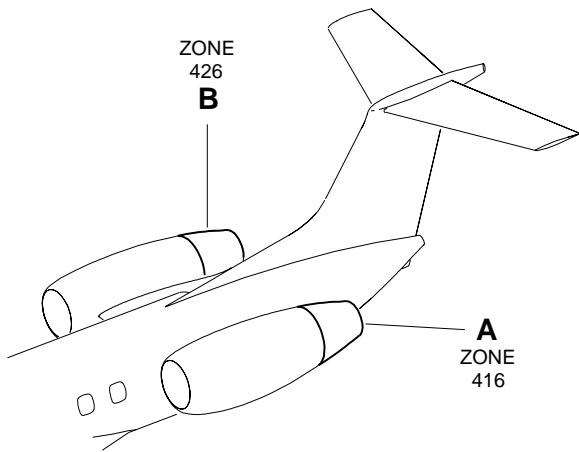
Isolation Control Unit - ICU - Component Location
Figure 501



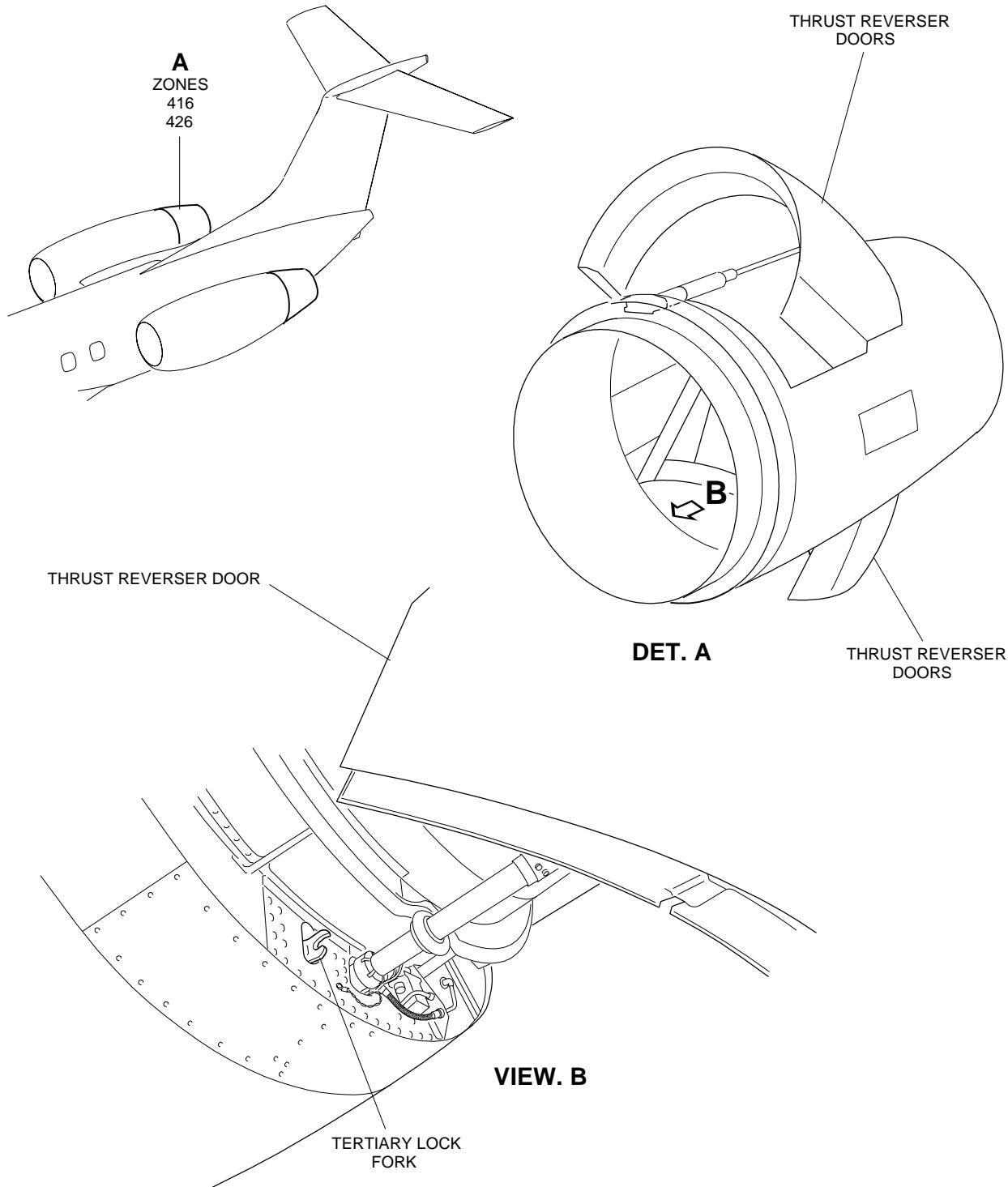
EFFECTIVITY: ALL

Direction Control Unit - DCU - Component Location

Figure 502



145AMM780039.MCE C

EFFECTIVITY: ALL
Tertiary Lock - Component Location
Figure 503


145AMM780168.MCE

TASK 78-33-00-700-802-A
EFFECTIVITY: ALL
3. WHEEL-SPEED INPUT SIGNAL TO THE THRUST REVERSER SYSTEM - OPERATIONAL CHECK
A. General

- (1) This task gives the procedures to do the operational check of the wheel-speed input signal to the thrust reverser system.
- (2) This procedure is applicable to the LH and RH thrust reversers (TR).

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-42-00/100	-
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 32-49-02-000-801-A/400	WHEEL ASSEMBLY OF THE MAIN LANDING GEAR - REMOVAL
AMM TASK 32-49-02-400-801-A/400	WHEEL ASSEMBLY OF THE MAIN LANDING GEAR - INSTALLATION
AMM TASK 78-31-01-700-801-A/500	THRUST REVERSER - OPERATIONAL CHECK
AMM TASK 78-31-01-940-801-A/200	THRUST REVERSER - OPENING PROCEDURE
AMM TASK 78-31-01-940-802-A/200	THRUST REVERSER - CLOSURE PROCEDURE
AMM TASK 78-33-01-980-801-A/200	ISOLATION CONTROL UNIT - INHIBITION PROCEDURES

C. Zones and Accesses

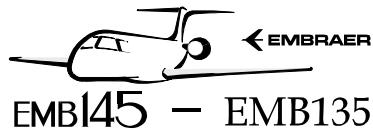
<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
312	312AR	To get access to the ICU
416	416AB	LH Thrust Reverser
426	426AB	RH Thrust Reverser

D. Tools and Equipment

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
Commercially available	Multimeter	To measure voltage	
GSE 103	Wheel-speed transducer adapter	To operate the wheel speed transducer	

E. Auxiliary Items

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
Commercially available	Workstand	To get access to the thrust reverser	1



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

(Continued)

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Drill	To operate the wheel speed transducer	1
Commercially available	Metallic target	To operate the nose landing-gear proximity switch	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Thrust reverser
1	Does the task	Main landing gear

I. Preparation ([Figure 504](#)) ([Figure 501](#)) ([Figure 502](#)) ([Figure 503](#))

SUBTASK 841-003-A

WARNING: REFER TO THE GROUND SAFETY PRECAUTIONS GIVEN IN AMM MPP 78-30-00/200 WHEN YOU DO THE THRUST-REVERSER MAINTENANCE PROCEDURES.

- (1) Make sure that the aircraft is safe for maintenance.
- (2) Put the work stand in the work area.
- (3) Open access door 312AR (AMM MPP 06-42-00/100).
- (4) Remove access panels 416AB/426AB ([AMM MPP 06-43-00/100](#)).
- (5) Energize the aircraft with a DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (6) Open the thrust reverser doors ([AMM TASK 78-31-01-940-801-A/200](#)).
- (7) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them:
 - THRUST REVERSER 1/2.
 - HYD. ELEC. PUMP 1/2.
- (8) Inhibit the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).
- (9) Disconnect these electrical connectors:
 - (a) P1250 at the ICUs of TR1 and TR2.
 - (b) P1776 at the DCUs of TR1 and TR2.
- (10) Put a metallic target in the nose landing-gear proximity switch.

- (11) Manually actuate the upper and lower tertiary lock forks to the locked position.
 - (12) Do a short movement in the upper or lower door to remove it from the deployed position.
 - (13) Remove the hub cap ([AMM TASK 32-49-02-000-801-A/400](#)) from the four wheels of the main landing gears.
 - (14) On the circuit breaker panel, close these circuit breakers and remove a DO-NOT-CLOSE tag from them:
 - THRUST REVERSER 1/2.
 - HYD. ELEC. PUMP 1/2.
- WARNING: TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL, BEFORE YOU OPEN THE N2 CIRCUIT BREAKERS, MAKE SURE THAT SENSORS PITOT 1 - TAT 1/AOA 1, PITOT 3, AND PITOT 2 - TAT 2/AOA 2, ON THE OVERHEAD PANEL, ARE SET AT OFF.**
- (15) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them.
 - N2 SIGNAL 1A/1B.
 - N2 SIGNAL 2A/2B.
 - (16) Install GSE 103 to a drill.
- J. Operational Check of Wheel-Speed Input Signal to Thrust Reverser System ([Figure 504](#)) ([Figure 501](#)) ([Figure 502](#)) ([Figure 503](#))
SUBTASK 710-003-A

WARNING: REFER TO THE GROUND SAFETY PRECAUTIONS GIVEN IN AMM MPP 78-30-00/200 WHEN YOU DO THE THRUST-REVERSER MAINTENANCE PROCEDURES.

- (1) Obey these steps to do the operational check of the wheel-speed input signal to thrust reverser 1:
 - (1) **NOTE:**
 - To do the operational check, make sure of the presence or not of 28 V DC at connectors P1250 (for ICU 1) and J1776 (for DCU 1) and do a check to know the position of the upper and lower tertiary lock forks, as applicable.
 - To start the operational check, make sure that the upper and lower tertiary lock forks are locked.
 - (a) Use the drill to turn the outboard left wheel-speed transducer.
 Result:
 1 The upper and lower tertiary lock forks unlock.
 2 There is 28 V DC between the pins of these connectors:
 - Pins 4 and 5 of connector P1250 (for ICU1).
 - Pins 1 and 2 of connector J1776 (for DCU1).

- (b) Stop the outboard left wheel-speed transducer.
 Result:
 - 1 The upper and lower tertiary lock forks stay unlocked
 - 2 There is no 28 V DC between the pins of these connectors:
 - Pins 4 and 5 of connector P1250 (for ICU1).
 - Pins 1 and 2 of connector J1776 (for DCU1).
 - (c) Manually actuate the upper and lower tertiary lock forks to the locked position.
 Result:
 - 1 The upper and lower tertiary lock forks lock.
 - (d) Use the drill to turn the outboard right wheel-speed transducer.
 Result:
 - 1 The upper and lower tertiary lock forks unlock.
 - 2 There is 28 V DC between the pins of these connectors:
 - Pins 4 and 5 of connector P1250 (for ICU1).
 - Pins 1 and 2 of connector J1776 (for DCU1).
 - (e) Stop the outboard right wheel-speed transducer.
 Result:
 - 1 The upper and lower tertiary lock forks stay unlocked
 - 2 There is no 28 V DC between the pins of these connectors:
 - Pins 4 and 5 of connector P1250 (for ICU1).
 - Pins 1 and 2 of connector J1776 (for DCU1).
 - (f) Manually actuate the upper and lower tertiary lock forks to the locked position.
 Result:
 - 1 The upper and lower tertiary lock forks lock.
- (2) Obey these steps to do the operational check of the wheel-speed input signal to thrust reverser 2:
- (2) **NOTE:**
 - To do the operational check, make sure of the presence or not of 28 V DC at connectors P1250 (for ICU 2) and J1776 (for DCU 2) and do a check to know the position of upper and lower tertiary lock forks, as applicable.
 - To start the operational check, make sure that the upper and lower tertiary lock forks are locked.
 - (a) Use the drill to turn the inboard left wheel-speed transducer.
 Result:
 - 1 The upper and lower tertiary lock forks unlock.

2 There is 28 V DC between the pins of these connectors:

- Pins 4 and 5 of connector P1250 (for ICU 2).
- Pins 1 and 2 of connector J1776 (for DCU 2).

(b) Stop the inboard left wheel speed transducer.

Result:

1 The upper and lower tertiary lock forks stay unlocked

2 There is no 28 V DC between the pins of these connectors:

- Pins 4 and 5 of connector P1250 (for ICU 2).
- Pins 1 and 2 of connector J1776 (for DCU 2).

(c) Manually actuate the upper and lower tertiary lock forks to the locked position.

Result:

1 The upper and lower tertiary lock forks lock.

(d) Use the drill to turn the inboard right wheel-speed transducer.

Result:

1 The upper and lower tertiary lock forks unlock.

2 There is 28 V DC between the pins of these connectors:

- Pins 4 and 5 of connector P1250 (for ICU 2).
- Pins 1 and 2 of connector J1776 (for DCU 2).

(e) Stop the inboard right wheel speed transducer.

Result:

1 The upper and lower tertiary lock forks stay unlocked

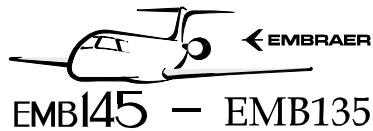
2 There is no 28 V DC between the pins of these connectors:

- Pins 4 and 5 of connector P1250 (for ICU 2).
- Pins 1 and 2 of connector J1776 (for DCU 2).

K. Follow-on

SUBTASK 842-003-A

- (1) Connect electrical connectors P1250 and P1776 at TR1 and TR2.
- (2) Install access panels 416AB/426AB ([AMM MPP 06-43-00/100](#)).
- (3) To deinhibit the thrust reverser, manually operate the ICU ([AMM TASK 78-33-01-980-801-A/200](#)).
- (4) Close access door 312AR (AMM MPP 06-42-00/100).
- (5) Install the hub cap ([AMM TASK 32-49-02-400-801-A/400](#)) to the four wheels of the main landing gears.
- (6) Remove the metallic target from the nose landing-gear proximity switch.



EMB145 - EMB135

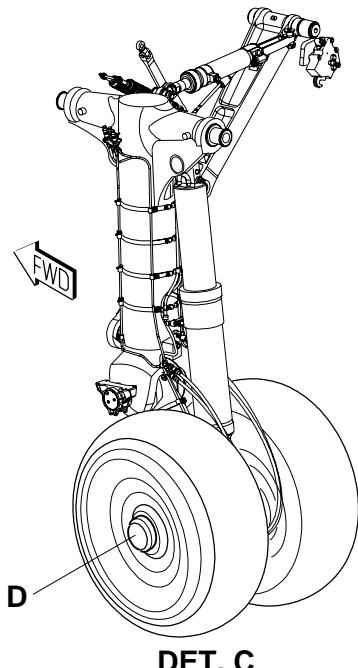
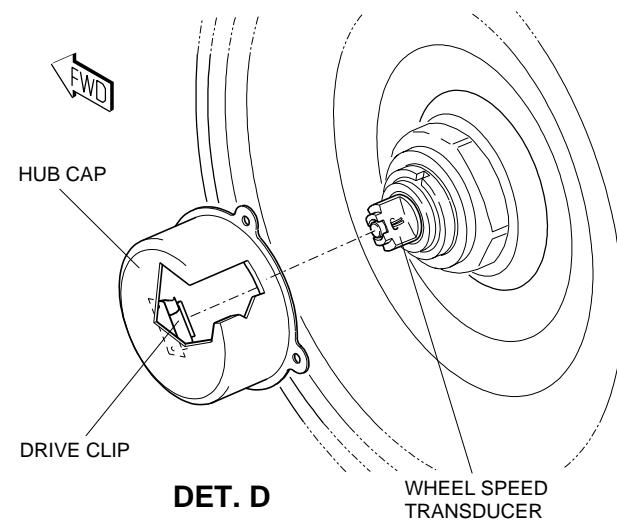
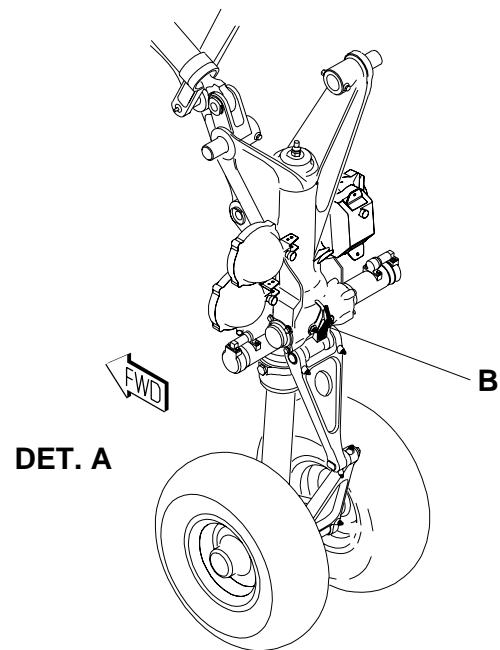
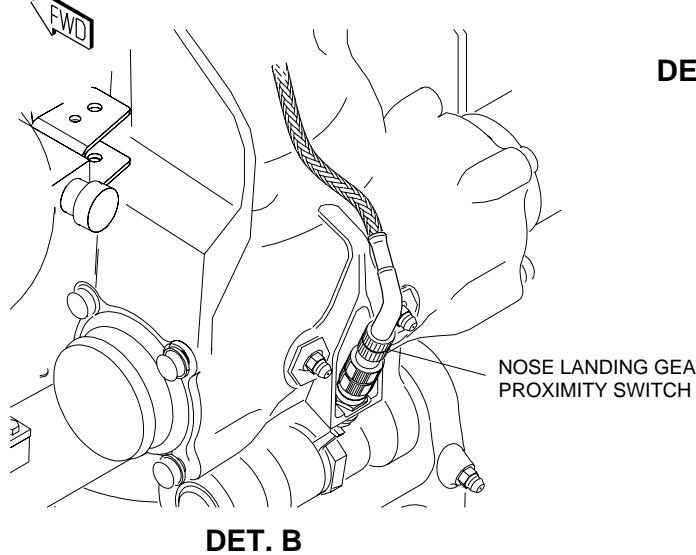
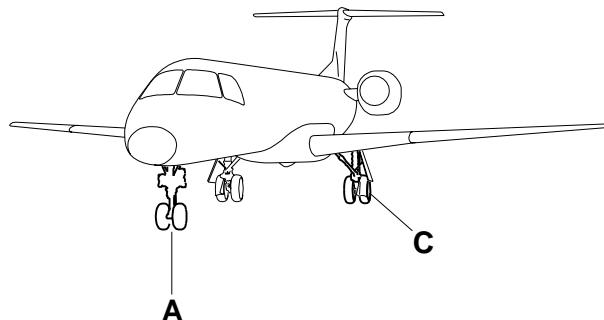
AIRCRAFT
MAINTENANCE MANUAL

CAUTION: MAKE SURE THAT THE UPPER AND LOWER TERTIARY LOCKS ARE UNLOCKED.

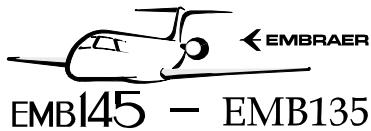
- (7) Close the thrust reverser doors ([AMM TASK 78-31-01-940-802-A/200](#)).
- (8) Remove GSE 103 from the drill.
- (9) Remove the workstand from the work area.
- (10) Do a thrust-reverser operational test ([AMM TASK 78-31-01-700-801-A/500](#)) and a check for general conditions and oil leaks.
- (11) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.
 - N2 SIGNAL 1A/1B.
 - N2 SIGNAL 2A/2B.
- (12) Remove the DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)) from the aircraft.

EFFECTIVITY: ALL

Nose Landing Gear - Component Locations
Figure 504



145AMM780106.MCE



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 78-33-00-700-803-A

EFFECTIVITY: ALL

4. THRUST-REVERSER (TR) CONTROL LEVER MICROSWITCHES - FUNCTIONAL CHECK

A. General

- (1) To get access to the FADEC analog label, obey these instructions:
 - (a) For aircraft with -009 CMC, use Data Acquisition Software (DAS) GSE 211 or GSE 331 or GSE 505 or GSE 535.
 - (b) For aircraft with -010 CMC, use Data Acquisition Software (DAS) GSE 263 or GSE 331 or GSE 505 or GSE 535.
 - (c) For aircraft with -011 CMC, use Data Acquisition Software (DAS) GSE 331 or GSE 505 or GSE 535.
 - (d) For aircraft with -012 CMC, use Data Acquisition Software (DAS) GSE 505 or GSE 535.
 - (e) For aircraft with -013 CMC, use Data Acquisition Software (DAS) GSE 535, which is compatible with all the CMC versions available.
- (2) This procedure is applicable to the left and right TR Control-Lever Microswitches.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-03/100	- COMPONENT LOCATION
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 78-33-01-980-801-A/200	ISOLATION CONTROL UNIT - INHIBITION PROCEDURES

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	223RZ	Control Pedestal - Right Side
223	223SZ	Control Pedestal - Left Side
223	223LZ	Behind Pilot Seat

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Multimeter	To make sure that there is electrical continuity	
GSE 134	CMC/PC Interconnection Cable	To connect CMC and Personal Computer (PC)	
GSE 130	Personal Computer	To run the DAS software	
GSE 211	Data Acquisition Software (DAS)	To read the thrust lever angle (TLA)	

(Continued)

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 263	Data Acquisition Software (DAS)	To read the thrust lever angle (TLA)	
GSE 331	Data Acquisition Software (DAS)	To read the thrust lever angle	
GSE 505	Data Acquisition Software (DAS)	To read the thrust lever angle	
GSE 535	Data Acquisition Software (DAS)	To read the thrust lever angle	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-004-A

- (1) Make sure that the aircraft is safe for maintenance.
- (2) Remove access panels 223RZ and 223SZ ([AMM MPP 06-41-03/100](#)).
- (3) Disconnect electrical connectors P1269 (for the TR1 control-lever microswitches) and P1270 (for the TR2 control-lever microswitches).
- (4) Open access door 223LZ ([AMM MPP 06-41-03/100](#)).
- (5) Energize the aircraft with a DC power supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (6) Set the ICU to the inhibition position ([AMM TASK 78-33-01-980-801-A/200](#)).
- (7) Connect the personal computer (GSE 130), with the DAS software installed, as follows:
 - (a) Get access to the maintenance panel ([AMM MPP 06-41-03/100](#)).
 - (b) Connect the personal computer (GSE 130) to the CMC maintenance connector, with the interconnect cable (GSE 134).
- (8) Make sure that the CMC system is serviceable and on.
- (9) (For Data Acquisition Software - GSE 211 or GSE 263) On the DAS menu, select "DOWNLOAD", then select the applicable FADEC.
- (10) (For Data Acquisition Software - GSE 331 or GSE 505 or GSE 535) On the DAS menu, select the "FADEC LABELS" icon, then select the applicable FADEC.

(11) Select "ANALOG" and read the TLA on the screen, in the TLA area.

WARNING: TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL, BEFORE YOU OPEN THE N2 CIRCUIT BREAKERS, MAKE SURE THAT SENSORS PITOT 1 - TAT 1/AOA 1, PITOT 3, AND PITOT 2 - TAT 2/AOA 2, ON THE OVERHEAD PANEL, ARE SET AT OFF.

(12) On the circuit breaker panel, open these circuit breakers and attach a DO-NOT-CLOSE tag to them.

- N2 SIGNAL 1A/1B.
- N2 SIGNAL 2A/2B.

(13) Set the thrust lever to the IDLE position.

J. Functional Check of Thrust-Reverser Control-Lever Microswitches ([Figure 505](#))

SUBTASK 720-002-A

(1) Do the functional check of the TR control-lever microswitches as follows:

WARNING: BEFORE THE FUNCTIONAL CHECK OF THE TR CONTROL LEVER MICROSWITCHES, YOU MUST PREVENT THE TR OPERATION WITH THE MANUAL OPERATION OF THE ICU (AMM TASK 78-33-01-980-801-A/200).

(a) Set the thrust lever to the THRUST SET position. Read the TLA value on GSE 130.

Result:

1 The value of the TLA must be 75° ($\pm 3^\circ$).

(b) Lock the thrust lever with the friction lock knob.

(c) Do a check to know if there is continuity between pin D and pin F of connector P1269 (for TR1 control-lever microswitch #6) and between pin 15 and pin 17 of connector P1270 (for TR2 control-lever microswitch #6).

Result:

1 There is continuity between the pins of the connectors.

(d) Do a check to know if there is continuity between pin D and pin G of connector P1269 (for TR1 control-lever microswitch #6) and between pin 15 and pin 18 of connector P1270 (for TR2 control-lever microswitch #6).

Result:

1 There is no continuity between the pins of the connectors.

(e) Do a check to know if there is continuity between pin E and pin H of connector P1269 (for TR1 control-lever microswitch #2) and between pin 16 and pin 19 of connector P1270 (for TR2 control-lever microswitch #2).

Result:

1 There is no continuity between the pins of the connectors.

(f) Release the friction lock and set the thrust lever to the 17.5° ($\pm 0.5^\circ$) TLA position. Lock the thrust lever with the friction lock knob.

Result:

1 Read the TLA value on GSE 130.

- (g) Do a check to know if there is continuity between pin D and pin F of connector P1269 (for TR1 control-lever microswitch #6) and between pin 15 and pin 17 of connector P1270 (for TR2 control-lever microswitch #6).

Result:

 - 1 There is no continuity between the pins of the connectors.
- (h) Do a check to know if there is continuity between pin D and pin G of connector P1269 (for TR1 control-lever microswitch #6) and between pin 15 and pin 18 of connector P1270 (for TR2 control-lever microswitch #6).

Result:

 - 1 There is continuity between the pins of the connectors.
- (i) Do a check to know if there is continuity between pin E and pin H of connector P1269 (for TR1 control-lever microswitch #2) and between pin 16 and pin 19 of connector P1270 (for TR2 control-lever microswitch #2).

Result:

 - 1 There is continuity between the pins of the connectors.
- (j) Release the friction lock and set the thrust lever to the IDLE position.

K. Follow-on

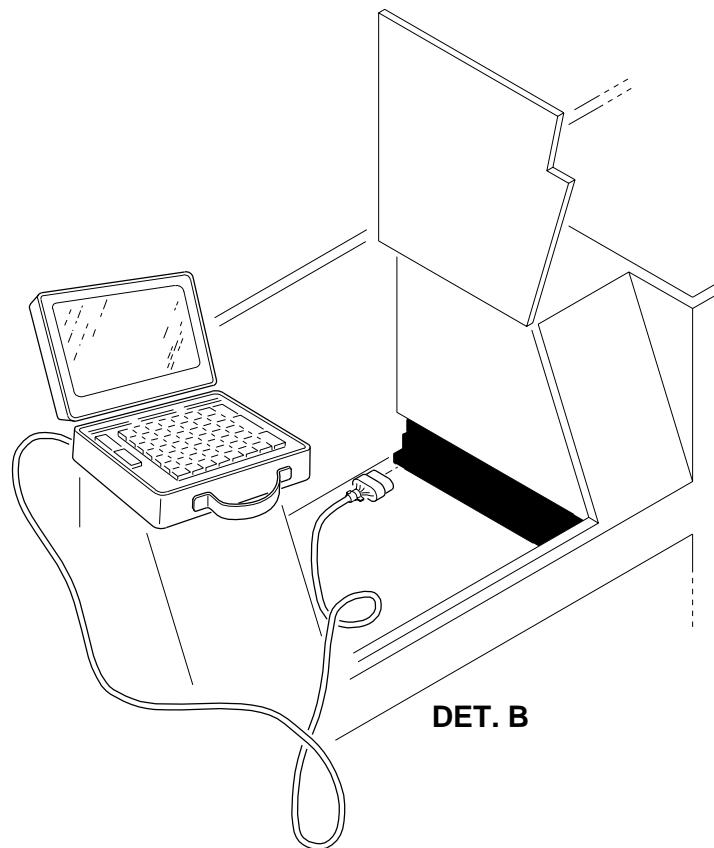
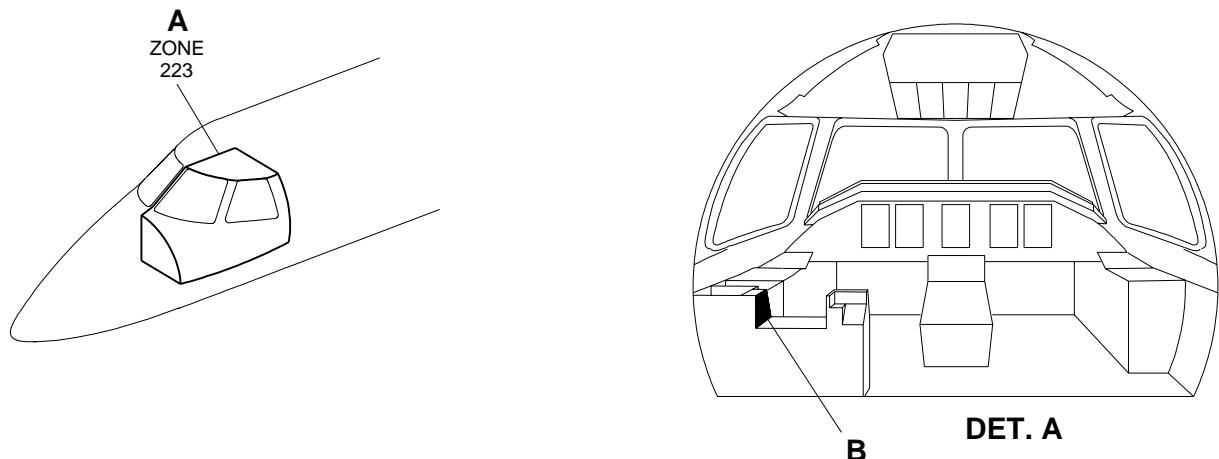
SUBTASK 842-004-A

- (1) Make sure that the thrust lever is in the IDLE position.
- (2) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.
 - N2 SIGNAL 1A/1B.
 - N2 SIGNAL 2A/2B.
- (3) Connect electrical connectors P1269 (for the TR1 control-lever microswitches) and P1270 (for the TR2 control-lever microswitches).
- (4) Install access panels 223RZ and 223SZ ([AMM MPP 06-41-03/100](#)).
- (5) Manually operate the ICU to put the TR back to the serviceable condition ([AMM TASK 78-33-01-980-801-A/200](#)).
- (6) Remove the DC power supply ([AMM TASK 20-40-01-860-801-A/200](#)) from the aircraft.
- (7) Disconnect the personal computer (GSE 130), with the DAS software installed, as follows:
 - (a) Get access to the maintenance panel ([AMM MPP 06-41-03/100](#)).
 - (b) Remove the interconnect cable (GSE 134) from the CMC maintenance connector to disconnect the personal computer (GSE 130).
- (8) Close access door 223LZ ([AMM MPP 06-41-03/100](#)).

EFFECTIVITY: ALL

Thrust-Reverser Control-Lever Microswitches - Component Locations

Figure 505 - Sheet 1

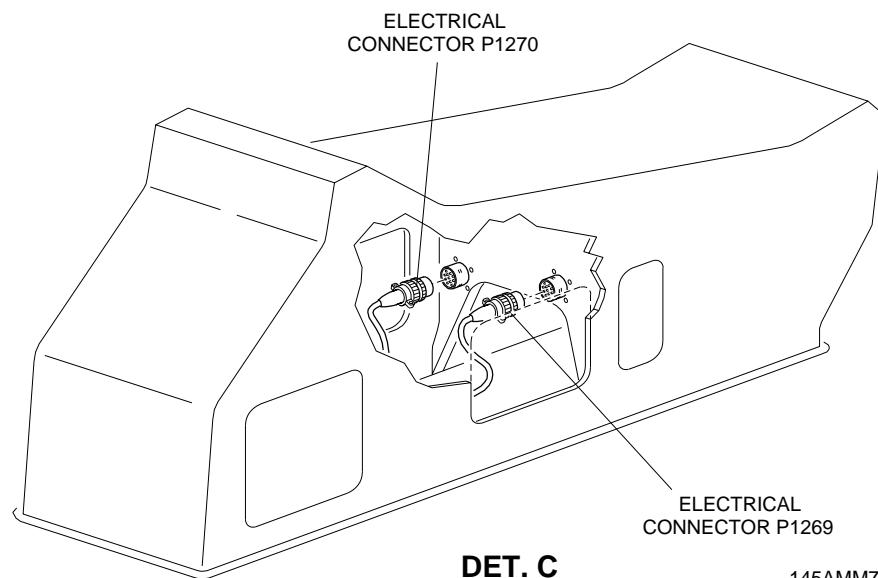
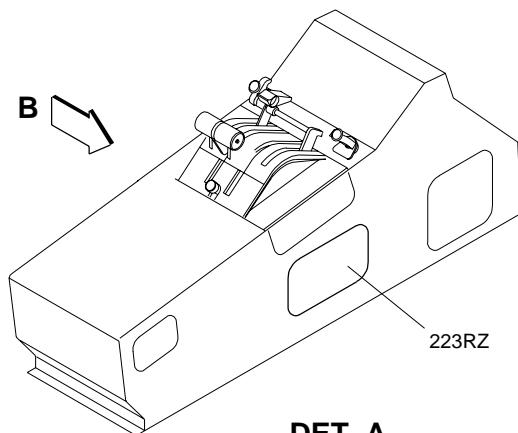
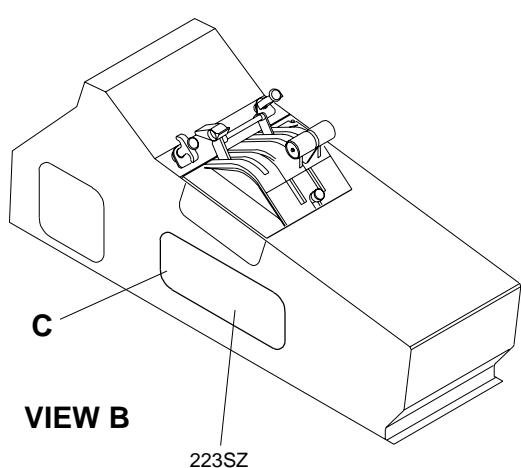
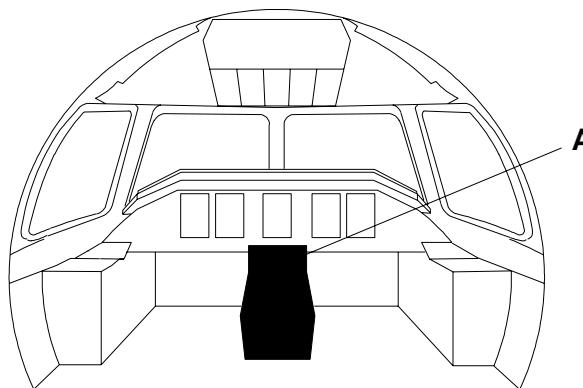


145AMM760041.MCE C

EFFECTIVITY: ALL

Thrust-Reverser Control-Lever Microswitches - Component Locations

Figure 505 - Sheet 2



145AMM780009.MCE A

