



## PIVOT BOLTS - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

### 1. General

- A. This section gives the procedures to remove and install the thrust-reverser pivot bolts.
- B. These procedures are applicable to the LH and RH thrust reversers.
- C. 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
78-31-05-000-801-A	THRUST-REVERSER PIVOT BOLTS - RE- MOVAL	ALL
78-31-05-400-801-A	THRUST-REVERSER PIVOT BOLTS - IN- STALLATION	ALL



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TASK 78-31-05-000-801-A

EFFECTIVITY: ALL

2. THRUST-REVERSER PIVOT BOLTS - REMOVAL

A. General

(1) Obey the instructions below to remove the thrust-reverser pivot bolts.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 54-52-01-000-801-A/400	PYLON FAIRINGS - REMOVAL
AMM TASK 78-31-01-980-801-A/200	LOCK/UNLOCK THE TR EXHAUST DOOR - STOWED POSITION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
416	416SL/416VZ/416WZ/416UL	LH Thrust reverser left side
416	416RR/416XZ/416YZ/416TR	LH Thrust reverser right side
426	426SL/426VZ/426WZ/426UL	RH Thrust reverser left side
426	426RR/426XZ/426YZ/426TR	RH Thrust reverser right side

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the engine nacelle	

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	Thrust reverser



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I. Preparation

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.

- MAKE SURE THAT THE ELECTRICAL POWER SUPPLY IS REMOVED FROM THE THRUST REVERSERS. ENERGIZED CIRCUITS CAN CAUSE INJURY TO PERSONS.
- MAKE SURE THAT THE HYDRAULIC TEST STAND IS NOT CONNECTED.

**CAUTION:** MAKE SURE THAT ALL THE HYDRAULIC LINES ARE CONNECTED NOT TO PERMIT THE HYDRAULIC OIL TO FALL OUT.

- (1) On the circuit breaker panel, open the circuit breakers below and attach a DO-NOT-CLOSE tag to them:
  - THRUST REVERSER 1/2.
  - HYD. ELEC. PUMP 1/2.
- (2) Put a DO-NOT-OPERATE-THE-THRUST-REVERSERS sign on the instrument panel, in the cockpit.
- (3) Put the workstand under the engine thrust reverser.
- (4) Remove the pylon trailing-edge fairing ([AMM TASK 54-52-01-000-801-A/400](#)).
- (5) Lock the thrust-reverser exhaust door (stowed position) ([AMM TASK 78-31-01-980-801-A/200](#)).
- (6) Remove pivot access panels 416SL, 416RR, 416UL, 416TR, 426SL, 426RR, 426UL, and 426TR ([AMM MPP 06-43-00/100](#)), to get access at pivot point to the door attaching point outer side of the 3-o'clock beam and 9-o'clock beam.
- (7) Through the thrust-reverser exhaust hole, remove pivot-point cover access panels 416VZ, 416XZ, 416WZ, 416YZ, 426VZ, 426XZ, 426WZ, and 426YZ ([AMM MPP 06-43-00/100](#)), to get access at pivot point to the door attaching point inner side of the 3-o'clock door side and 9-o'clock door side.

J. Removal ([Figure 401](#))

SUBTASK 020-002-A

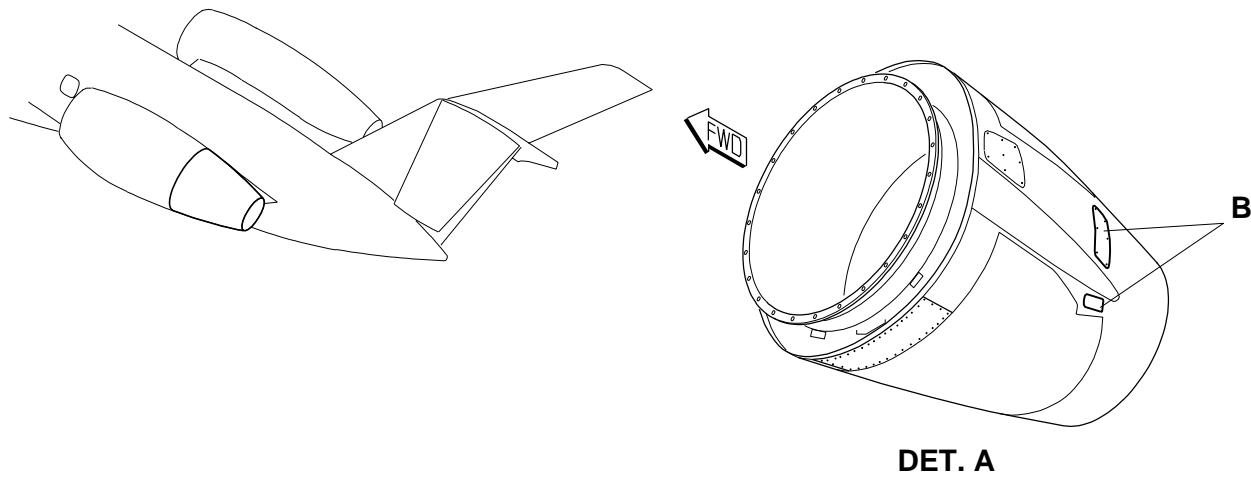
**WARNING:** DO NOT APPLY HYDRAULIC POWER TO THE AIRCRAFT, AND DO NOT OPERATE THE THRUST REVERSER WHILE THE MAINTENANCE PERSONS ARE AT WORK.

- (1) Through the access panels removed before, on the 3-o'clock beam and 9-o'clock beam outer surface (step 3) and on the pivot door 3-o'clock side and 9-o'clock side inner surface (step 4), remove the cotter pin (1), nut (2), washer (3), and pivot bolt (4).

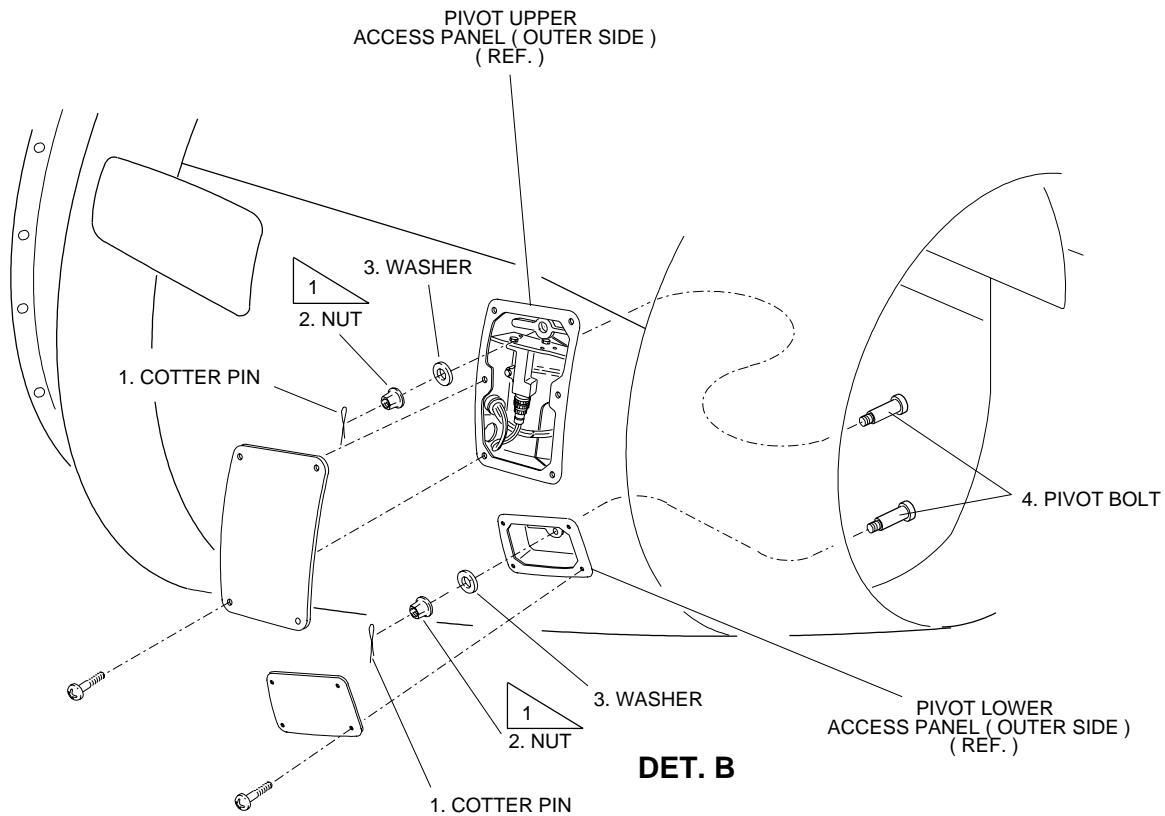
**EFFECTIVITY: ALL**

Thrust-Reverser Pivot Bolts - Removal/Installation

Figure 401



**DET. A**



**DET. B**



TORQUE: 120 N.m TO 140 N.m ( 1062 lb.in TO 1239 lb.in )

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TASK 78-31-05-400-801-A

EFFECTIVITY: ALL

3. THRUST-REVERSER PIVOT BOLTS - INSTALLATION

## A. General

- (1) Obey the instructions below to install the thrust-reverser pivot bolts.

## B. References

REFERENCE	DESIGNATION
-	-
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 54-52-01-400-801-A/400	PYLON FAIRINGS - INSTALLATION
AMM TASK 78-31-01-700-801-A/500	THRUST REVERSER - OPERATIONAL CHECK
AMM TASK 78-31-01-980-801-A/200	LOCK/UNLOCK THE TR EXHAUST DOOR - STOWED POSITION

## C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
416	416SL/416VZ/416WZ/416UL	LH Thrust reverser left side
416	416RR/416XZ/416YZ/416TR	LH Thrust reverser right side
426	426SL/426VZ/426WZ/426UL	RH Thrust reverser left side
426	426RR/426XZ/426YZ/426TR	RH Thrust reverser right side

## D. Tools and Equipment

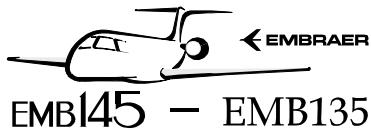
ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the engine nacelle	
Commercially available	Torque wrench	To tighten the attachment nuts	

## E. Auxiliary Items

Not Applicable

## F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
ASTM-D-740	Methyl-ethyl-ketone	AR



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## G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	-	1

## H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Thrust reverser

## I. Preparation

## 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.

- CLEANING PRODUCTS ARE TOXIC AND FLAMMABLE. A GOOD FLOW OF AIR MUST BE AVAILABLE WHEN THE WORK IS DONE IN A CLOSED AREA.

**CAUTION:** • MAKE SURE THAT ALL THE HYDRAULIC LINES ARE CONNECTED NOT TO PERMIT THE HYDRAULIC OIL TO FALL OUT.

- DO NOT PERMIT THE CLEANING PRODUCT TO TOUCH PAINT-FINISH SURFACES NOT TO CAUSE DAMAGE TO THEM.
- USE CLEAN, SOFT (COTTON), NON-SYNTHETIC AND LINT-FREE CLOTHS ONLY. DO NOT PUT REMAINING CLEANING MATERIAL BACK INTO ORIGINAL CONTAINERS TO PREVENT CONTAMINATION.
- DO NOT POUR CLEANING PRODUCT DIRECTLY ON THE SURFACE TO BE CLEANED.
- DO NOT PERMIT CLEANING PRODUCT TO EVAPORATE BEFORE IT IS DRIED WITH THE CLOTH.

- (1) Soak a cloth with methyl-ethyl-ketone and clean the pivot bolts (4) that attach the door to the beam structure, and their receptacles.
- (2) Dry the area with other clean and dry cloth before the methyl-ethyl-ketone evaporates.
- (3) Do steps 1 and 2 again. Replace the cloths when they become dirty. Stop only when no signs of discoloration stay in the dry cloth.
- (4) Make sure that, on the circuit breaker panel, the circuit breakers below are open and tagged:
  - THRUST REVERSER 1/2.
  - HYD. ELEC. PUMP 1/2.



J. Installation (Figure 401)

SUBTASK 420-002-A

- WARNING:** • **MAKE SURE THAT ELECTRICAL POWER SUPPLY IS REMOVED FROM THE THRUST REVERSERS. ENERGIZED CIRCUITS CAN CAUSE INJURY TO PERSONS.**
- **MAKE SURE THAT THE HYDRAULIC TEST STAND IS NOT CONNECTED.**

- (1) Install the pivot bolts (4) in the two positions to attach the door to the beam structure, through the access holes in the exhaust inner surface 3-o'clock and 9-o'clock positions.
- (2) Install the washer (3) and nut (2), and torque it.
- (3) Install the cotter pin (1).

K. Follow-on

SUBTASK 842-002-A

**CAUTION:** EXAMINE ALL THE WORK ZONES TO MAKE SURE YOU DID NOT LET TOOLS OR OTHER EQUIPMENT STAY BEHIND, PARTICULARLY INSIDE THE THRUST REVERSER EXHAUST HOLE.

- (1) Through the thrust-reverser exhaust hole, install pivot point cover access panels 416VZ, 416XZ, 416WZ, 416YZ, 426VZ, 426XZ, 426WZ, and 426YZ ([AMM MPP 06-43-00/100](#)), on the inner side of the door at the 3-o'clock and 9-o'clock positions.
- (2) Install the two upper-pivot access panels 416SL, 416RR, 416UL, 416TR, 426SL, 426RR, 426UL, and 426TR ([AMM MPP 06-43-00/100](#)), in the 3-o'clock and 9-o'clock outer surface.
- (3) On the circuit breaker panel, close the circuit breakers below and remove the DO-NOT-CLOSE tag from them:
  - THRUST REVERSER 1/2.
  - HYD. ELEC. PUMP 1/2.
- (4) Install the pylon trailing-edge fairing ([AMM TASK 54-52-01-400-801-A/400](#)).
- (5) Unlock the thrust-reverser exhaust doors (stowed position) ([AMM TASK 78-31-01-980-801-A/200](#)).
- (6) Remove the DO-NOT-OPERATE-THE-THRUST-REVERSERS sign from the instrument panel, in the cockpit.
- (7) Remove the workstand from the work area.
- (8) Do the thrust reverser operational check ([AMM TASK 78-31-01-700-801-A/500](#)).

