



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

DIRECTION CONTROL UNIT (DCU) - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the direction control unit - DCU.
- B. These procedures are applicable to the LH and RH thrust reverser.
- 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
78-33-05-000-801-A	DIRECTION CONTROL UNIT - DCU - RE- MOVAL	ALL
78-33-05-400-801-A	DIRECTION CONTROL UNIT - DCU - IN- STALLATION	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 78-33-05-000-801-A

EFFECTIVITY: ALL

2. DIRECTION CONTROL UNIT - DCU - REMOVAL

A. General

(1) Obey the instructions below to remove the direction control unit - DCU.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 78-33-01-980-801-A/200	ISOLATION CONTROL UNIT - INHIBITION PROCEDURES

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
225	225DTC	Cockpit
416	416AB	LH Thrust Reverser
426	426AB	RH Thrust Reverser

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the thrust reverser	
Commercially available	Container	To catch oil	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber gloves, phosphate ester-base, fluid-resistant	Protection for the hands	1
Commercially available	Rubber goggles, phosphate ester-base, fluid-resistant	Protection for the eyes	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	In the work area



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 THRUST REVERSERS ARE DEENERGIZED. ENERGIZED CIRCUITS CAN CAUSE INJURY TO PERSONS.
- MAKE SURE THAT THE HYDRAULIC TEST STAND IS NOT CONNECTED.
- THE PHOSPHATE-ESTER-BASE OIL IS HIGHLY CORROSIVE AND CAUSES INJURY TO THE EYES AND SKIN. BE CAREFUL NOT TO TOUCH THIS OIL. YOU MUST USE GLOVES AND GOGGLES.

CAUTION: • ALWAYS CLEAN THE HYDRAULIC FLUID THAT FALLS FROM THE THRUST REVERSERS. DAMAGE COULD COME FROM ITS CORROSIVE ACTION.

- USE APPLICABLE CONTAINERS TO COLLECT THE REMAINING FLUIDS FROM THE OPEN LINES, TO KEEP THE WORK AREA CLEAN AND SAFE.

- (1) Put the workstand under the engine thrust reverser.
- (2) 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.
- (3) Put a DO-NOT-OPERATE-THE-THRUST-REVERSERS sign on the instrument panel, in the cockpit.
- (4) Manually operate the ICU to prevent the operation of the thrust reverser ([AMM TASK 78-33-01-980-801-A/200](#)).

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

- (5) Remove access panels 416AB or 426AB ([AMM MPP 06-43-00/100](#)) as applicable, to get access to the direction control unit - DCU.

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

SUBTASK 020-002-A

CAUTION: BE VERY CAREFUL WHEN YOU DISCONNECT HYDRAULIC LINES. SKYDROL FLUID IS HIGHLY DANGEROUS.

- (1) Disconnect the electrical connectors (1) and install protection caps on them.
- (2) Loosen the nuts (2), disconnect the hydraulic lines, and install applicable caps in the tubes and in the DCU ports.



EMB145 - EMB135

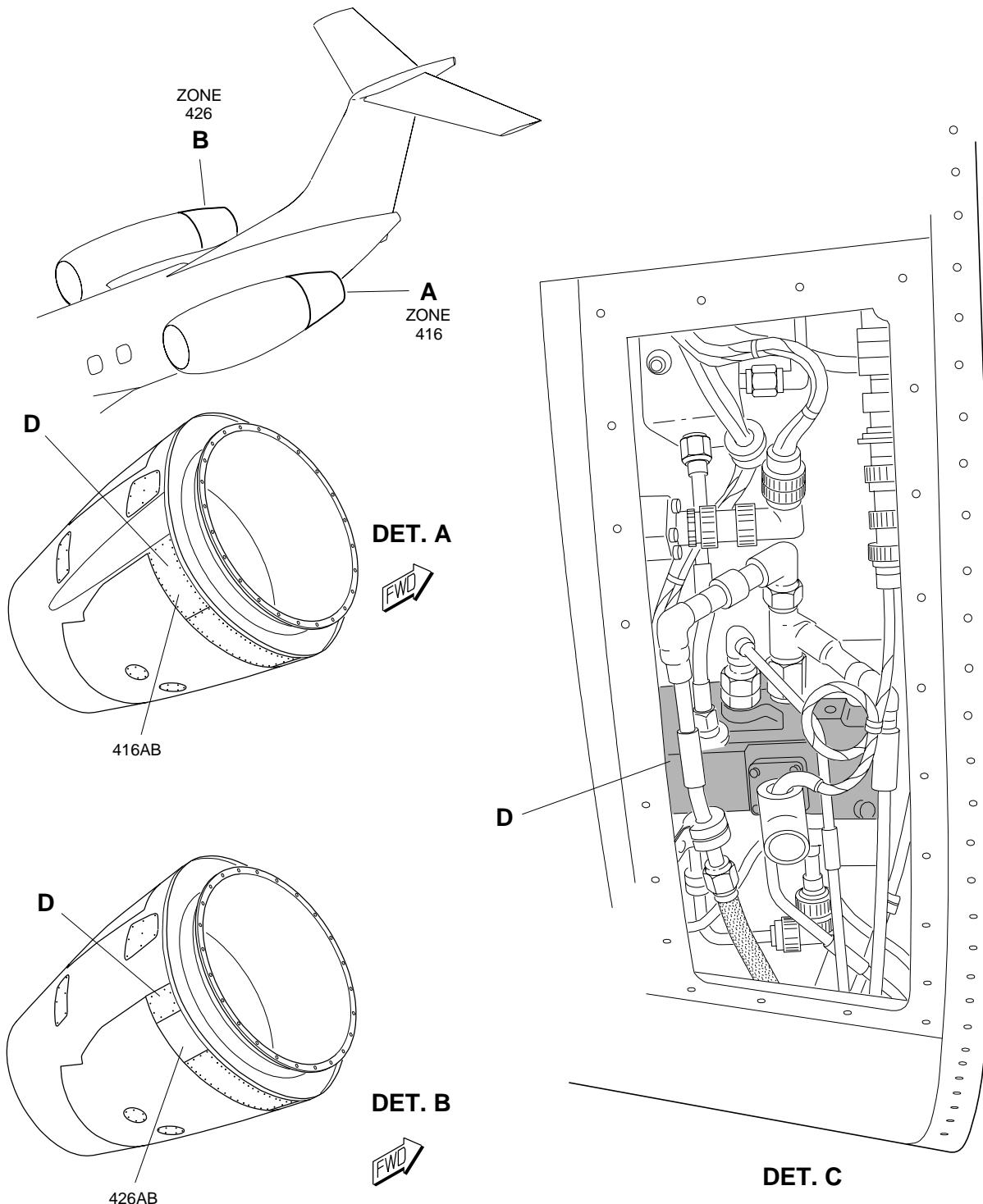
AIRCRAFT
MAINTENANCE MANUAL

- (3) Remove the bolts (3), and washers (4).
- (4) Remove the DCU (5) from its support.

EFFECTIVITY: ALL

Direction Control Unit - DCU - Removal/Installation

Figure 401 - Sheet 1

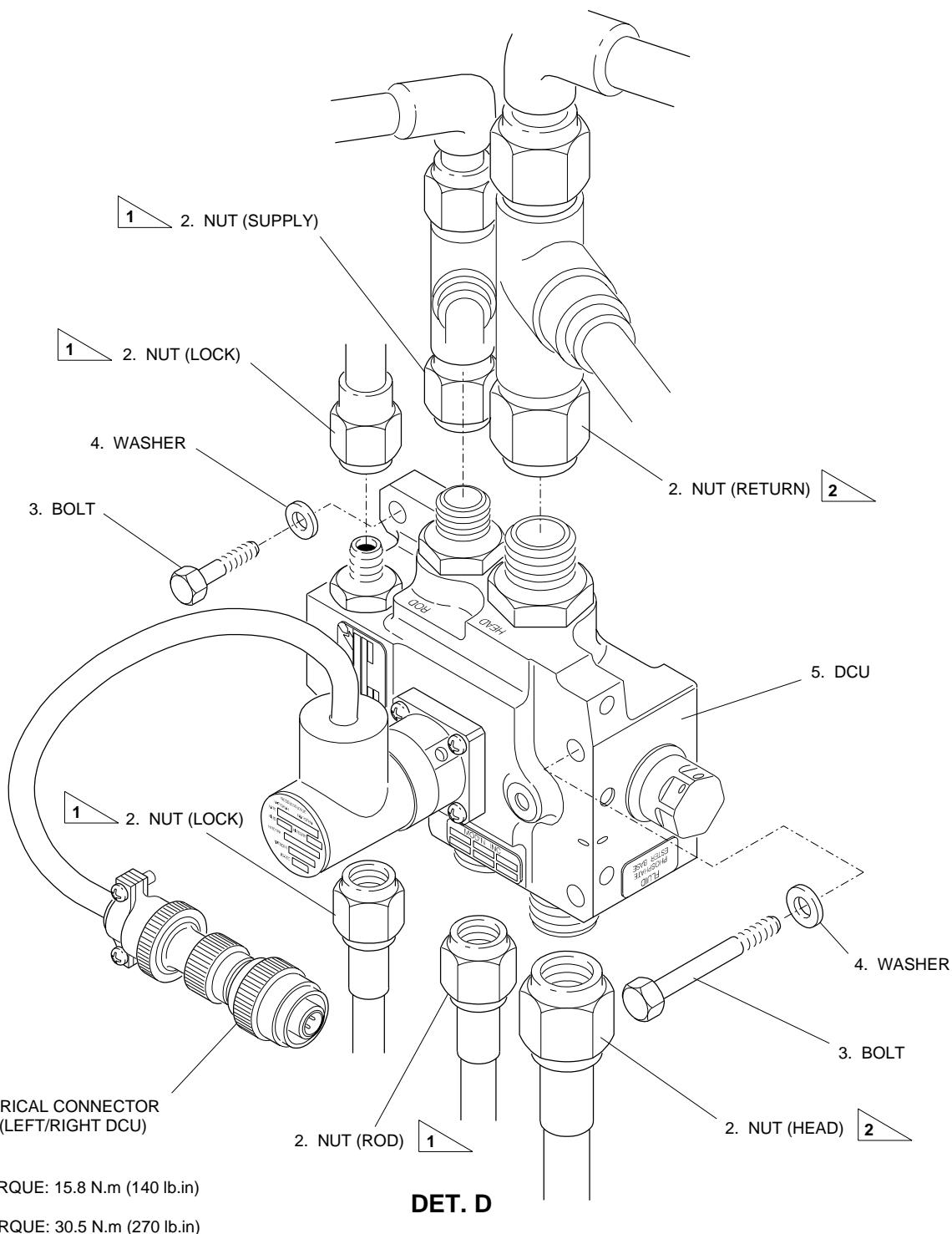


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EFFECTIVITY: ALL

Direction Control Unit - DCU - Removal/Installation

Figure 401 - Sheet 2



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EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 78-33-05-400-801-A

EFFECTIVITY: ALL

3. DIRECTION CONTROL UNIT - DCU - INSTALLATION

A. General

- (1) Obey the instructions below to install the direction control unit - DCU.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM MPP 78-30-00/200	- MAINTENANCE PRACTICES
AMM TASK 78-31-01-700-801-A/500	THRUST REVERSER - OPERATIONAL CHECK
AMM TASK 78-33-01-980-801-A/200	ISOLATION CONTROL UNIT - INHIBITION PROCEDURES

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
225	225DTC	Cockpit
416	416AB	LH Thrust Reverser
426	426AB	RH Thrust Reverser

D. Tools and Equipment

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

E. Auxiliary Items

Not Applicable

F. Consumable Materials

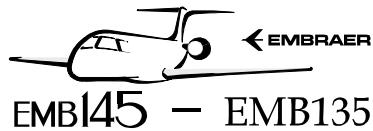
Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Thrust reverser



AIRCRAFT MAINTENANCE MANUAL

I. Installation (Figure 401)

SUBTASK 420-002-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 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 DCU (5) on its support with the bolts (3) and washers (4).
- (2) Remove the caps from the DCU ports and hydraulic lines and connect the nuts (2) and torque them as shown in figure 401.
- (3) Remove the caps from the electrical connectors (1) and connect them.

J. Follow-on

SUBTASK 842-002-A

- (1) 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.
- (2) Remove the DO-NOT-OPERATE-THE-THRUST-REVERSERS sign from the instrument panel, in the cockpit.
- (3) Manually operate the ICU to put the thrust reverser back to the serviceable condition ([AMM TASK 78-33-01-980-801-A/200](#)).
- (4) Do the engine thrust reverser operational check ([AMM TASK 78-31-01-700-801-A/500](#) - two cycles minimum), and check the system for leaks.
- (5) Install access panels 416AB or 426AB ([AMM MPP 06-43-00/100](#)), as applicable.
- (6) Remove the workstand from the work area.