



AIRCRAFT MAINTENANCE MANUAL

CONTROL COLUMN - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the control columns of the elevator control system.
- B. These procedures are applicable to the LH and RH control columns.
- 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
27-31-07-000-801-A	CONTROL COLUMN - REMOVAL	ALL
27-31-07-400-801-A	CONTROL COLUMN - INSTALLATION	ALL



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TASK 27-31-07-000-801-A

EFFECTIVITY: ALL

2. CONTROL COLUMN - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the control column of the elevator control system.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM MPP 06-41-02/100	-
AMM TASK 25-11-01-000-801-A/400	PILOT SEAT - REMOVAL
AMM TASK 27-31-09-000-801-A/400	SPRING NOSE-UP - REMOVAL
AMM TASK 31-31-04-000-802-A/400	FDR ELEVATOR POTENTIOMETERS - REMOVAL

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
123	123BL	Below the cockpit floor
124		Below the cockpit floor

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 058	Kit, rig pins, flight controls	To lock the elevator and aileron control systems in the neutral position	

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	Below the cockpit floor
1	Helps the other technician	Below the cockpit floor

I. Preparation

SUBTASK 841-002-A

- (1) Remove cockpit underfloor access hatch123BL (AMM MPP 06-41-01/100).

- (2) Remove the pilot seats ([AMM TASK 25-11-01-000-801-A/400](#)).
- (3) Remove floor panels 221EF and 222FF (AMM MPP 06-41-02/100).
- (4) Install the rig pins to the elevator control system to lock it in the neutral position.
- (5) Install the rig pins to the aileron control system to lock it in the neutral position.
- (6) Disconnect the ends of the actuating rods of the potentiometers of the FDR system from the ends of the control columns ([AMM TASK 31-31-04-000-802-A/400](#)).

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

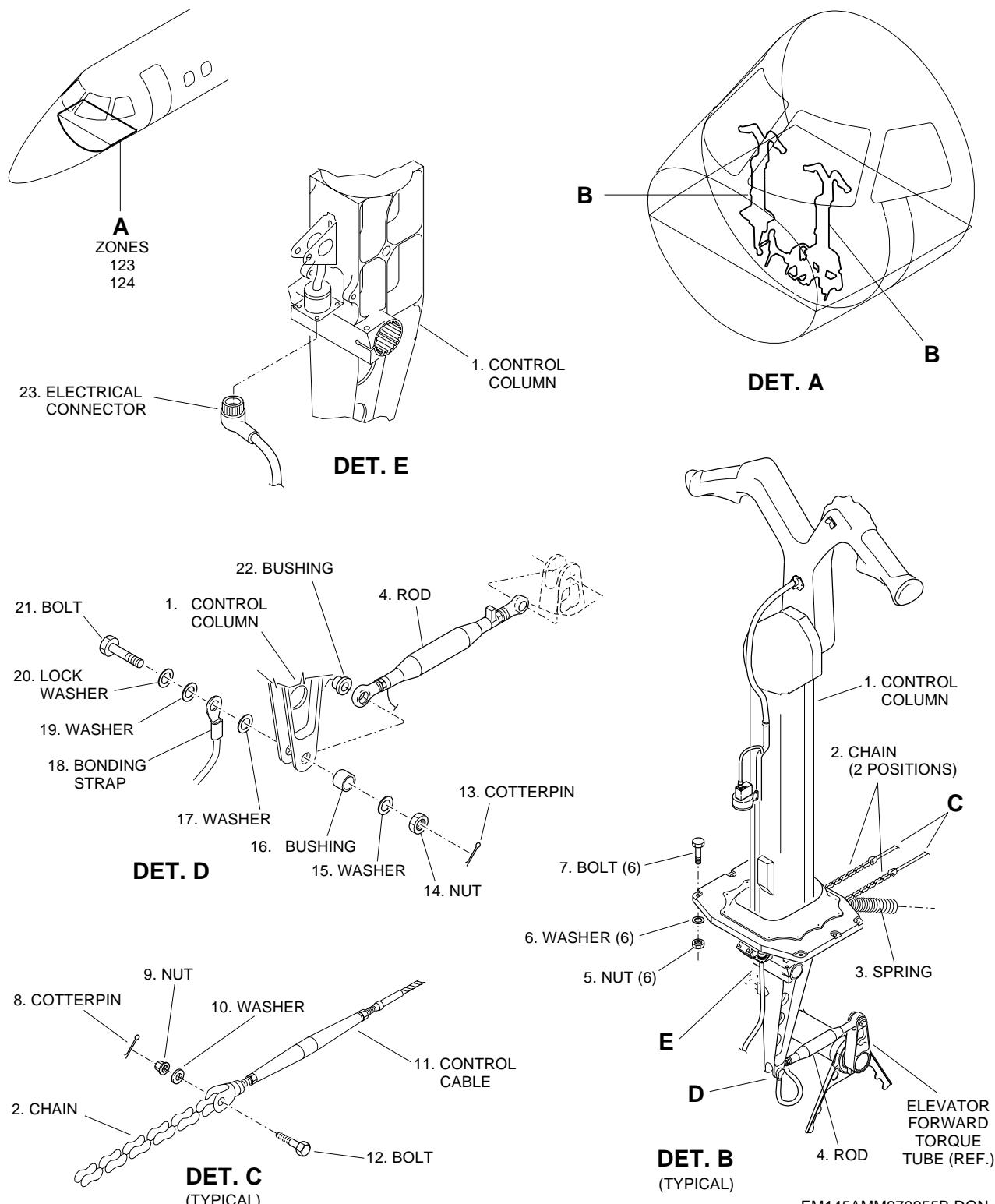
SUBTASK 020-002-A

- (1) Disconnect the end of the spring (3) from the control column (1) ([AMM TASK 27-31-09-000-801-A/400](#)).
- (2) Disconnect the end of the rod (4) from the end of the control column (1). For this, remove the cotter pin (13), nut (14), washers (15), bolt (21), lock washer (20), washer (19), bonding strap (18), washer (17), bushing (16) and (22) (DET. D).
- (3) Release the tension on the control cables (11) (refer to DET. C) and disconnect them from the chains (2) (2 positions). For this, remove the cotter pin (8), nut (9), washer (10) and bolt (12).
NOTE: Identify the positions of the control cables (11) to install them again in the same positions.
- (4) Disconnect the electrical connector (23) (DET. E).
- (5) Remove the nuts (5), washers (6), and bolts (7) (6 positions).
- (6) Remove the control column (1).

EFFECTIVITY: ALL

Control Column - Removal/Installation

Figure 401



TASK 27-31-07-400-801-A
EFFECTIVITY: ALL
3. CONTROL COLUMN - INSTALLATION
A. General

- (1) This procedure gives the instructions to install the control column of the elevator control system.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-41-01/100	-
AMM MPP 06-41-02/100	-
AMM TASK 20-13-21-910-801-A/200	TYPES OF ELECTRICAL BONDING AND SURFACE PREPARATION - STANDARD PROCEDURES
AMM TASK 25-11-01-400-801-A/400	PILOT SEAT - INSTALLATION
AMM TASK 27-10-00-700-801-A/500	AILERON ADJUSTMENT AND CHECK
AMM TASK 27-11-01-700-801-A/500	-
AMM TASK 27-31-00-700-803-A/500	ELEVATOR - DEFLECTIONS
AMM TASK 27-31-09-000-801-A/400	SPRING NOSE-UP - REMOVAL
AMM TASK 28-41-00-200-801-A/600	-
AMM TASK 31-31-04-400-802-A/400	FDR ELEVATOR POTENTIOMETERS - INSTALLATION
IPC 27-31-00	ELEVATOR PRIMARY MECHANICAL CONTROL

C. Zones and Accesses

<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
123	123BL	Below the cockpit floor
124		Below the cockpit floor

D. Tools and Equipment

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
GSE 058	Kit, rig pins, flight controls	To lock the elevator and aileron control systems in the neutral position	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

<i>SPECIFICATION (BRAND)</i>	<i>DESCRIPTION</i>	<i>QTY</i>
MS24665-134	Cotter pin	2



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G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 27-31-00	1

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Below the cockpit floor
1	Helps the other technician	Below the cockpit floor

I. Installation (Figure 401)

SUBTASK 420-002-A

- (1) Put the control column (1) in its installation position.
- (2) Install the bolt (7), washer (6), and nut (5) (6 positions).
- (3) Connect the chain (2) to the control cable (11) (2 positions) with the bolt (12), washer (10), nut (9) and cotter pin (8). Refer to DET. D.

NOTE: The control cables (11) must be installed in the same positions as those they were removed from. Refer to their position identification.

- (4) Connect the end of the rod (4) to the end of the control column (1), with the bolt (21), lock washer (20), washers (19), (17), and (15), bonding strap (18), bushing (16) and (22), nut (14), and cotter pin (13) (DET. D).

NOTE: Refer to [AMM TASK 20-13-21-910-801-A/200](#) for the correct installation of the bonding strap (18).

- (5) Connect the end of the spring (3) ([AMM TASK 27-31-09-000-801-A/400](#)) to the control column (1).
- (6) Connect the electrical connector (23) (refer to DET. E).
- (7) Remove the rig pins from the elevator control system.
- (8) Remove the rig pins from the aileron control system.

J. Follow-on

SUBTASK 842-002-A

- (1) Reconnect the ends of the actuating rods of the potentiometers of the FDR system to the ends of the control columns ([AMM TASK 31-31-04-400-802-A/400](#)).
- (2) Apply tension to the control cables of the aileron control system (AMM TASK 27-11-01-700-801-A/500).
- (3) Do a check on the elevator control system ([AMM TASK 27-31-00-700-803-A/500](#)).
- (4) Do a check on the aileron control system ([AMM TASK 27-10-00-700-801-A/500](#)).



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- (5) Do an inspection on the fuel quantity indication harness (AMM TASK 28-41-00-200-801-A/600).

NOTE: The inspection of fuel quantity indication harness is part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Aircraft Maintenance Program.

- (6) Install cockpit underfloor access hatch123BL (AMM MPP 06-41-01/100).
(7) Install floor panels 221EF and 222FF (AMM MPP 06-41-02/100).
(8) Install the pilot seats ([AMM TASK 25-11-01-400-801-A/400](#)).

