TORQUE TUBE QUADRANTS - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to remove and install the torque tube quadrants of the aileron control system.

   B. These procedures are applicable to the LH and RH torque tube quadrants.

   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*
27-11-03-000-801-A	TORQUE TUBE QUADRANT - REMOVAL	ALL
27-11-03-400-801-A	TORQUE TUBE QUADRANT - INSTALLATION	ALL

TASK 27-11-03-000-801-A
EFFECTIVITY: ALL

2. TORQUE TUBE QUADRANT - REMOVAL

A. General

(1) This procedure gives the instructions to remove the torque tube quadrants of the aileron 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 27-11-06-000-801-A/400	ARTIFICIAL FEEL UNIT - REMOVAL
AMM TASK 27-15-00-000-801-A/400	AILERON DISCONNECT DEVICE - REMOVAL
AMM TASK 31-31-04-000-801-A/400	FDR AILERON POTENTIOMETERS - REMOVAL
AMM TASK 31-41-01-000-801-A/400	DATA ACQUISITION UNIT - REMOVAL
AMM TASK 31-42-01-000-801-A/400	INTEGRATED COMPUTER (IC-600) - REMOVAL
AMM TASK 45-45-01-000-801-A/400	CENTRAL MAINTENANCE COMPUTER (CMC) - 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 aileron control system 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

(Continued)

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

I. Preparation

SUBTASK 841-002-A

(1) Remove control rigging door 123BL (AMM MPP 06-41-01/100).

(2) Remove the pilot seats (AMM TASK 25-11-01-000-801-A/400).

(3) Remove cockpit floor panels 221CF, 221EF, 221GF, 222BF, and 222FF (AMM MPP 06-41-02/100).

(4) Remove the central maintenance computer (CMC) (AMM TASK 45-45-01-000-801-A/400) and its respective mounting rack.

(5) Remove the data acquisition unit (DAU) (AMM TASK 31-41-01-000-801-A/400) and its respective mounting rack.

(6) Remove the two integrated computers (IC 1 and IC 2) (AMM TASK 31-42-01-000-801-A/400) and their respective mounting racks.

(7) Install the rig pins to the aileron control system to lock it in the neutral position.

(8) Remove the aileron disconnect device (AMM TASK 27-15-00-000-801-A/400).

(9) Disconnect the end of the rod of the artificial feel unit from the bellcrank at the LH torque tube quadrant (AMM TASK 27-11-06-000-801-A/400).

(10) Disconnect the ends of the actuating rods of the potentiometers of the FDR system from the bellcrank at the torque tube quadrant (AMM TASK 31-31-04-000-801-A/400).

J. Removal (Figure 401)

SUBTASK 020-002-A

(1) Remove the LH torque tube quadrant (4) as follows:

(a) Release the tension on the control cables (3) and disconnect them from the bellcranck at the LH torque tube quadrant (4).

(b) Release the tension on the control cables (9) and disconnect them from the bellcranck at the LH torque tube quadrant (4).

(c) Release the tension on the control cables (12) (autopilot system) and disconnect them from the bellcranck at the LH torque tube quadrant (4).

(d) Disconnect the end of the bonding strap (5) from the fuselage structure. For this, remove the bolt (22) and washers (23), (21), and (20) (DET. C).

(e) Remove the bolts (7) and washers (6) (5 positions).

(f) Remove the bolts (11) and washers (10) (5 positions).

(g) Remove the LH torque tube quadrant (4).

(2) Remove the RH torque tube quadrant (1) as follows:

(a) Release the tension on the control cables (2) and disconnect them from the bellcrank at the RH torque tube quadrant (1).

(b) Release the tension on the control cables (19) and disconnect them from the bellcranck at the RH torque tube quadrant (1).

(c) Disconnect the end of the bonding strap (15) from the fuselage structure. For this, remove the bolt (22) and washers (23), (21), and (20) (DET. C).

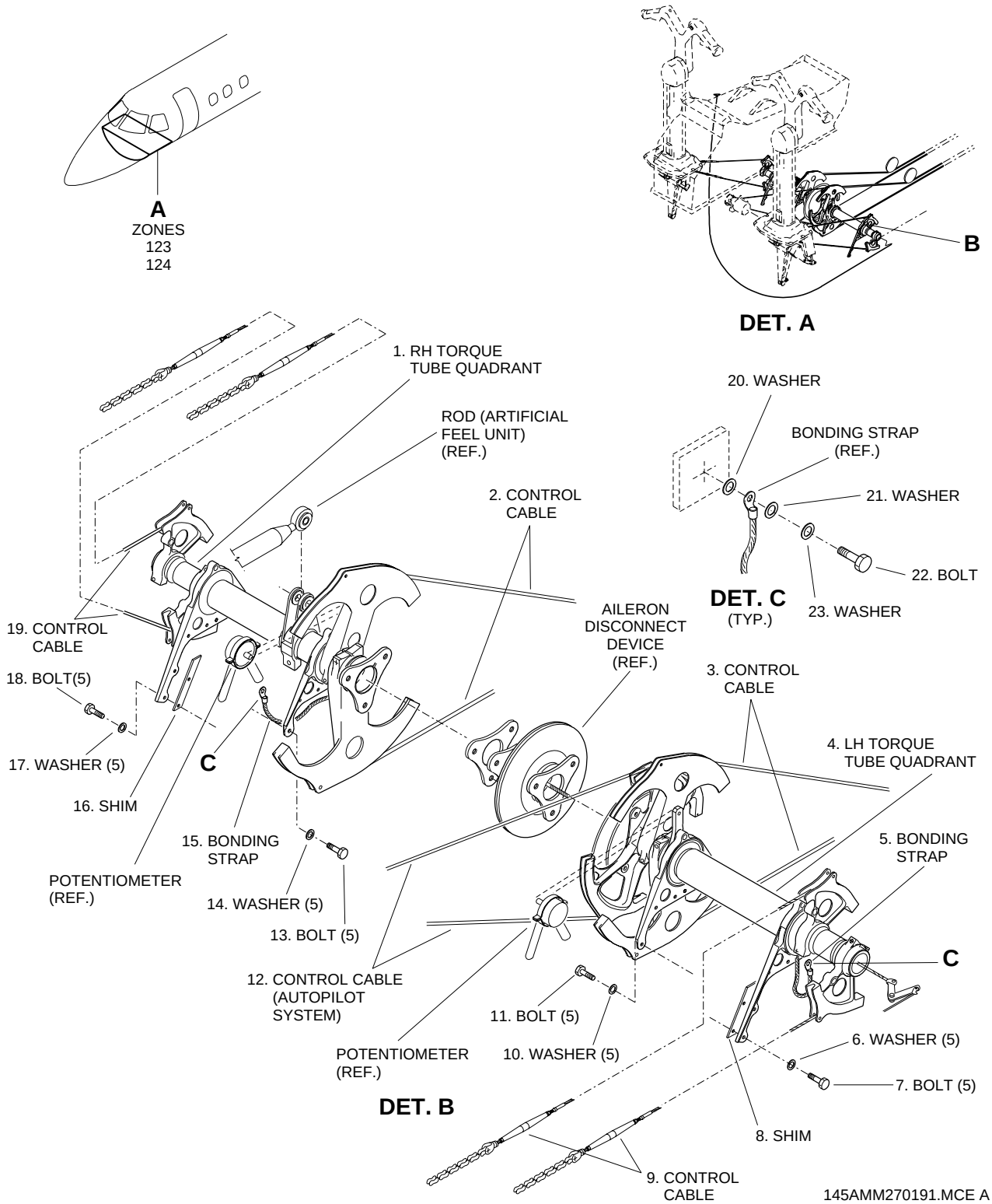
(d) Remove the bolts (13) and washers (14) (5 positions).

(e) Remove the bolts (18) and washers (17) (5 positions).

(f) Remove the RH torque tube quadrant (1).

EFFECTIVITY: ALL

Torque Tube Quadrant - Removal/Installation
Figure 401



TASK 27-11-03-400-801-A
EFFECTIVITY: ALL

3. TORQUE TUBE QUADRANT - INSTALLATION

A. General

(1) This procedure gives the instructions to install the torque tube quadrants of the aileron control system.

B. References

REFERENCE	*DESIGNATION*
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 27-11-06-400-801-A/400	ARTIFICIAL FEEL UNIT - INSTALLATION
AMM TASK 27-15-00-400-801-A/400	AILERON DISCONNECT DEVICE - INSTALLATION
AMM TASK 28-41-00-200-801-A/600	-
AMM TASK 31-31-04-400-801-A/400	FDR AILERON POTENTIOMETERS - INSTALLATION
AMM TASK 31-41-01-400-801-A/400	DATA ACQUISITION UNIT - INSTALLATION
AMM TASK 31-42-01-400-801-A/400	INTEGRATED COMPUTER (IC-600) - INSTALLATION
AMM TASK 45-45-01-400-801-A/400	CENTRAL MAINTENANCE COMPUTER (CMC) - INSTALLATION

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 aileron control system 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. Installation (Figure 401)

SUBTASK 420-002-A

(1) Install the LH torque tube quadrant (4) as follows:

(a) Put the LH torque tube quadrant (4) on the fuselage structure.

(b) Install the bolts (11) and washers (10) (5 positions).

(c) Install the bolts (7) and washers (6) (5 positions).

(d) Connect the end of the bonding strap (5) to the fuselage structure. For this, install the bolt (22) and washers (23), (21), and (20) (DET. C).

NOTE: Refer to AMM TASK 20-13-21-910-801-A/200.

(e) Connect the control cables (3) to the bellcranck at the LH torque tube quadrant (4).

(f) Connect the control cables (9) to the bellcranck at the LH torque tube quadrant (4).

(g) Connect the control cables (12) (autopilot system) to the bellcranck at the LH torque tube quadrant (4).

(2) Install the RH torque tube quadrant (1) as follows:

(a) Put the RH torque tube quadrant (1) on the fuselage structure.

(b) Install the bolts (13) and washers (14) (5 positions).

(c) Install the bolts (18) and washers (17) (5 positions).

(d) Connect the end of the bonding strap (15) to the fuselage structure. For this, install the bolt (22) and washers (23), (21), and (20) (DET. C).

NOTE: Refer to AMM TASK 20-13-21-910-801-A/200.

(e) Connect the control cables (2) to the bellcranck at the RH torque tube quadrant (1).

(f) Connect the control cables (19) to the bellcranck at the RH torque tube quadrant (1).

J. Follow-on

SUBTASK 842-002-A

(1) Install the aileron disconnect device (AMM TASK 27-15-00-400-801-A/400).

(2) Connect the end of the actuating rods of the FDR system potentiometers to the bellcrank at the torque tube quadrant (AMM TASK 31-31-04-400-801-A/400).

(3) Connect the end of the rod of the artificial feel unit to the bellcrank at the LH torque tube quadrant (AMM TASK 27-11-06-400-801-A/400).

(4) Apply tension to the control cables of the aileron control system and aileron auto pilot system (AMM TASK 27-11-01-700-801-A/500).

(5) Remove the rig pins from the aileron control system.

(6) Do a check on the aileron control system (AMM TASK 27-10-00-700-801-A/500).

(7) Install the two integrated computers (IC 1 and IC 2) (AMM TASK 31-42-01-400-801-A/400) and their respective mounting racks.

(8) Install the data acquisition unit (DAU) (AMM TASK 31-41-01-400-801-A/400) and its respective mounting rack.

(9) Install the central maintenance computer (CMC) (AMM TASK 45-45-01-400-801-A/400) and its respective mounting rack.

(10) 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.

(11) Install floor panels 221CF, 221EF, 221GF, 222BF, and 222FF (AMM MPP 06-41-02/100).

(12) Install the pilot seats (AMM TASK 25-11-01-400-801-A/400).

(13) Install the control rigging door 123BL (AMM MPP 06-41-01/100).