



AIRCRAFT MAINTENANCE MANUAL

MAIN-DOOR EXTERNAL ACTUATING HANDLE - REMOVAL/INSTALLATION

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

1. General

- A. This section gives the procedures to remove and install the external actuating-handle of the main door.
- 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
52-11-02-000-801-A	MAIN-DOOR EXTERNAL ACTUATING-HANDLE - REMOVAL	AIRCRAFT WITH AIR-STAIRS DOOR
52-11-02-400-801-A	MAIN-DOOR EXTERNAL ACTUATING-HANDLE - INSTALLATION	AIRCRAFT WITH AIR-STAIRS DOOR



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-11-02-000-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

2. MAIN-DOOR EXTERNAL ACTUATING-HANDLE - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the external actuating-handle of the main door.

B. References

REFERENCE	DESIGNATION
AMM SDS 52-10-00/1	
AMM TASK 25-23-04-000-801-A/400	MAIN-DOOR LINING PANEL - REMOVAL
AMM TASK 52-00-00-910-801-A/200	MAIN-DOOR - SUPPORTING
AMM TASK 52-11-10-000-801-A/400	MAIN DOOR CABLES - REMOVAL

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the main door	

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	Main door

I. Preparation

SUBTASK 841-002-A

- (1) Open the main door ([AMM SDS 52-10-00/1](#)).
- (2) Remove the lining panels of the main door ([AMM TASK 25-23-04-000-801-A/400](#)).
- (3) Put the door on a bench ([AMM TASK 52-00-00-910-801-A/200](#)).
- (4) Put the internal actuating handle in the closed position and keep it in this condition.



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

SUBTASK 020-002-A

CAUTION: DO NOT MOVE THE INTERNAL ACTUATING HANDLE AND DO NOT CHANGE THE ADJUSTMENT OF THE ROD END WHILE YOU PERFORM THIS TASK. REFER TO ITEM 13 FIGURE 401.

- (1) Remove the cotter pin, nut, three washers, bolt, and bushing (8) to release the elevation cam (9) from the upper crankrod (7).
- (2) Remove the nut, washer, and bolt (10), and remove the elevation cam (9).
- (3) Remove the cotter pin, nut, three washers, bolt, and bushing (19) to release the elevation cam (18) from the upper crankrod (20).
- (4) Remove the nut, washer, and bolt (14), and then remove the elevation cam (18).
- (5) Remove the spring (4) from the driving arm (1).

NOTE: If necessary, remove the cotter pin, washer, straight pin, and bushing (3) to release the spring (4).

- (6) Remove the nut, washer, and bolt (27) to release the cam (28).
- (7) Remove the cotter pin, nut, washer, and bolt (25) to disconnect the rod (13) end from the bellcrank (29).
- (8) Remove the nut, washer, and bolt (24) to release the bellcrank (29).
- (9) Remove the four nuts, washers, and bolts (12), and remove the bearing assembly (11).
- (10) Remove the nut, washer, and bolt (21) to release the end shaft (23).
- (11) Remove the nut, washer, and bolt (6) to release the end shaft (5).
- (12) Remove the end shaft (5).
- (13) Remove the torque shaft (26).
- (14) Remove the main-door connecting cable from the external handle bellcrank ([AMM TASK 52-11-10-000-801-A/400](#)).

- (15) Remove the nut, washer, and bolt (15) to release the actuating handle (17).
- (16) Remove the end shaft (23), two washers (22), and two O-rings (16).

NOTE: Discharge the two O-rings.

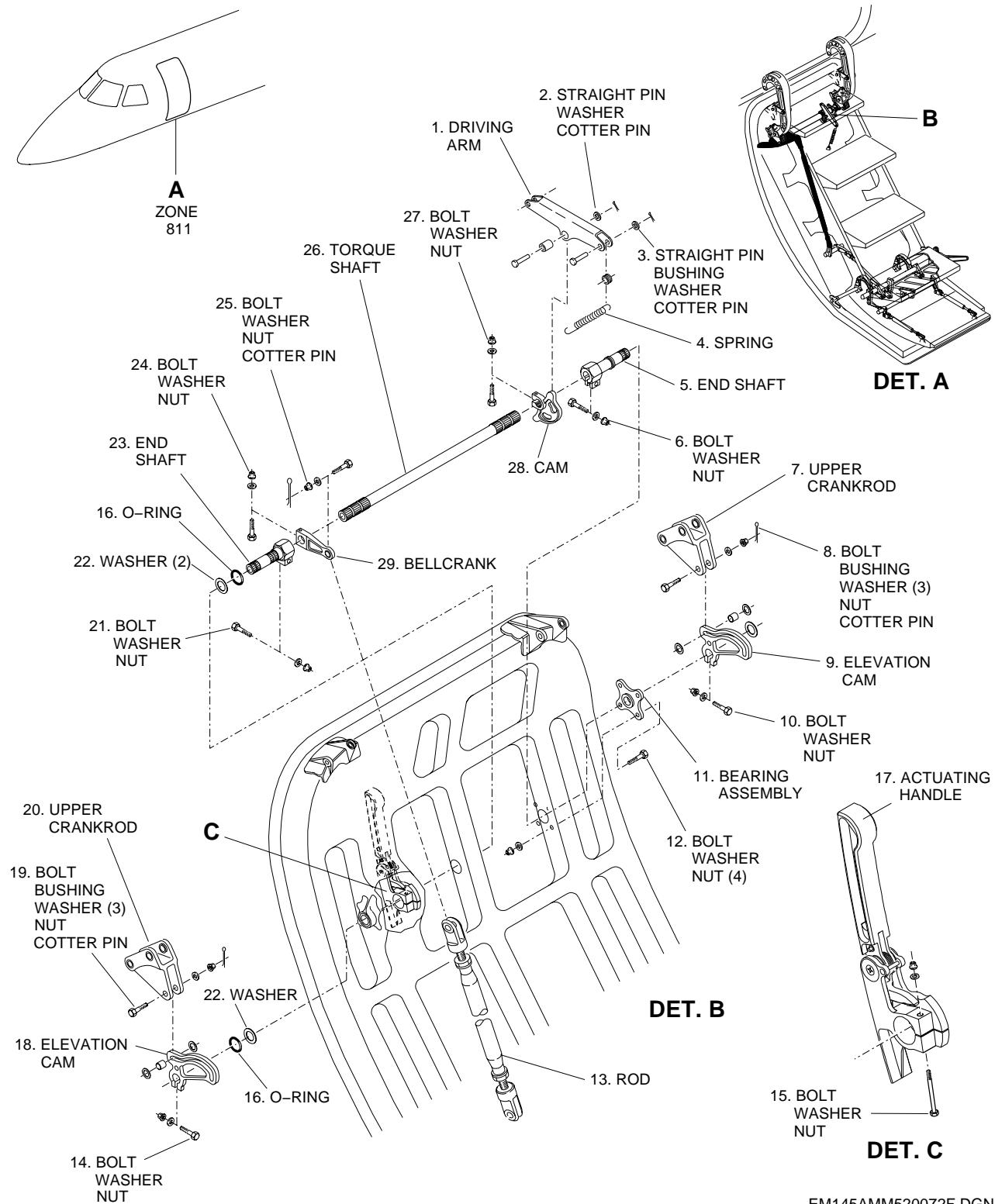
- (17) Remove the actuating handle (17) from the main door.
- (18) If necessary, disassemble the external handle as follows ([Figure 402](#)):
 - (a) Slowly remove the nut (9), bushing (10), and screw (5) to disconnect the spring (4) and external handle stop (8) from the external handle (1).
 - (b) If applicable, remove the cotter pin (13), washer (14), and pin (2) from the external handle (1).



AIRCRAFT
MAINTENANCE MANUAL

- (c) If necessary, remove the bushings (3) and (12) from the external handle (1).
- (d) If necessary, remove the bushings (7) and (11) from the external handle stop (8).

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
External Actuating Handle - Removal/Installation
Figure 401

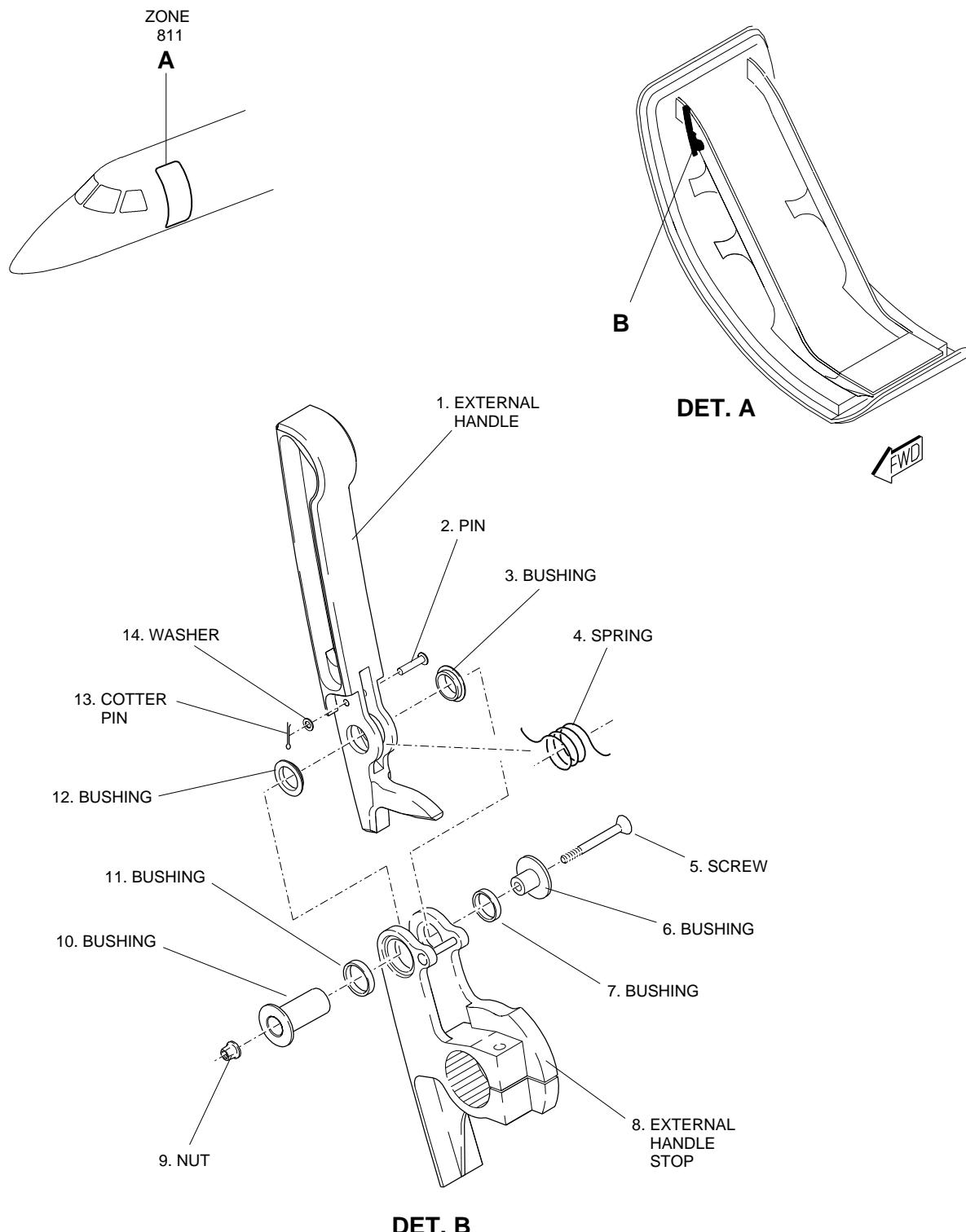


EM145AMM520072F.DGN

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

Assembly and Disassembly of External Handle - Removal/Installation

Figure 402





EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-11-02-400-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

3. MAIN-DOOR EXTERNAL ACTUATING-HANDLE - INSTALLATION

A. General

- (1) This procedure gives the instructions to install the external actuating-handle of the main door.

B. References

REFERENCE	DESIGNATION
AMM SDS 52-10-00/1	
AMM TASK 25-23-04-400-801-A/400	MAIN-DOOR LINING PANEL - INSTALLATION
AMM TASK 52-10-01-820-803-A/500	MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT
IPC 52-11-00	MAIN DOOR - ACTUATING AND LOCKING MECHANISM

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the main door	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 52-11-00	3
O-ring	IPC 52-11-00	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Main door



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

I. Installation (Figure 401)

SUBTASK 420-002-A

CAUTION: DO NOT MOVE THE INTERNAL ACTUATING HANDLE AND DO NOT CHANGE THE ADJUSTMENT OF THE ROD END WHILE YOU PERFORM THIS TASK. REFER TO ITEM 13 FIGURE 401.

- (1) If the external handle was disassembled, assemble it again as follows (Figure 402):
 - (a) Put the external handle stop (8) on the external handle (1).
 - (b) Put the spring (4) between the external handle stop (8) and the external handle (1).
 - (c) Install the screw (5), bushings (6) and (10), and nut (9) to attach the external handle (1) and external handle stop (8).
- (2) Install the two new O-rings (16).
- (3) Put only the tip of the bolt (15) in the external handle stop hole (8), and hold it in this position.
- (4) Put the actuating handle (17) together with the two washers (22) on the main door.
- (5) Put the end shaft (23) on the main door.
- (6) Put the torque shaft (26) in the end shaft (23).
- (7) Put the bellcrank (29) and the cam (28) on the torque shaft (26).
- (8) Push the bolt (15) fully into its hole, and install the washer and nut (15) to attach the actuating handle (17) to the end shaft (23).
- (9) Put the end shaft (5) on the main door and torque shaft (26).
- (10) Install the bearing assembly (11) to the door structure. Attach it with the four bolts, washers, and nuts (12).
- (11) Install the bolt, washer, and nut (6) to attach the end shaft (5) to the torque shaft (26).
- (12) Install the bolt, washer, and nut (21) to attach the end shaft (23) to the torque shaft (26).
- (13) Put the elevation cam (9) on the end shaft (5) and in the upper crankrod (7).
- (14) Install the bolt, washer, and nut (10) to attach the elevation cam (9) to the end shaft (5).
- (15) Install the bolt, bushing, three washers, nut, and cotter pin (8) to connect the elevation cam (9) to the upper crankrod (7).
- (16) Put the elevation cam (18) on the end shaft (23) and in the upper crankrod (20).
- (17) Install the bolt, washer, and nut (14) to attach the elevation cam (18) to the end shaft (23).

- (18) Install the bolt, bushing, three washers, nut, and cotter pin (19) to connect the elevation cam (18) to the upper crankrod (20).
- (19) Install the bolt, washer, and nut (24) to attach the bellcrank (29) to the torque shaft (26).
- (20) Put the rod (13) on the bellcrank (29).
- (21) Install the bolt, washer, nut, and cotter pin (25) to connect the rod (13) to the bellcrank (29).
- (22) Install the bolt, washer, and nut (27) to connect the cam (28) to the torque shaft (26).
- (23) Put the driving arm (1) on the cam (28).
- (24) Install the straight pin, washer, and cotter pin (2) to connect the driving arm (1) to the cam (28).
- (25) Connect the spring (4) to the driving arm (1).

NOTE: If necessary, install the straight pin, bushing, washer, and cotter pin (3) to connect the spring (4) to the driving arm (1).

J. Follow-on

SUBTASK 842-002-A

- (1) Close the main door and do an operational check of the main door, locking and unlocking it ([AMM SDS 52-10-00/1](#)).
- (2) If necessary, do an adjustment of the main-door interconnecting rods ([AMM TASK 52-10-01-820-803-A/500](#)).

NOTE: Make sure that actuating external handle aligned with skin fuselage ([AMM TASK 52-10-01-820-803-A/500](#)).

- (3) Install the lining panels of the main door ([AMM TASK 25-23-04-400-801-A/400](#)).
- (4) Close the main door ([AMM SDS 52-10-00/1](#)).

