



## AIRCRAFT MAINTENANCE MANUAL

### SIDE-HINGED MAIN-DOOR ACTUATING AND LOCKING MECHANISM - REMOVAL/INSTALLATION

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

#### 1. General

- A. This section gives the procedures to remove and install the lock of the locking mechanism of the side-hinged main door.
- B. These procedures are applicable to the two locks of the side-hinged main door.
- 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                         |
|--------------------|--|-------------------------------------|
| 52-18-06-000-801-A | SIDE-HINGED MAIN-DOOR ACTUATING AND LOCKING MECHANISM - REMOVAL      | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-06-400-801-A | SIDE-HINGED MAIN-DOOR ACTUATING AND LOCKING MECHANISM - INSTALLATION | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |



EMB145 – EMB135

AIRCRAFT  
MAINTENANCE MANUAL

TASK 52-18-06-000-801-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

2. SIDE-HINGED MAIN-DOOR ACTUATING AND LOCKING MECHANISM - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the lock of the locking mechanism of the side-hinged main door.

B. References

| REFERENCE                       | DESIGNATION                      |
|---------------------------------|----------------------------------|
| AMM SDS 52-18-00/1              |                                  |
| AMM TASK 25-23-04-000-801-A/400 | MAIN-DOOR LINING PANEL - REMOVAL |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION              |
|------|------------|-----------------------|
| 811  |            | Side-hinged main door |

D. Tools and Equipment

| ITEM                   | DESCRIPTION | PURPOSE                                    | QTY |
|------------------------|-------------|--|-----|
| Commercially available | Workstand   | To get access to the side-hinged main door |     |

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

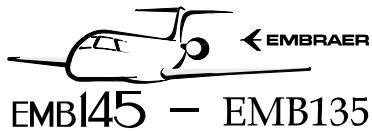
H. Persons Recommended

| QTY | FUNCTION                   | PLACE  |
|-----|----------------------------|--|
| 1   | Does the task              | Outside the fuselage, at the side-hinged main door |
| 1   | Helps the other technician | Outside the fuselage, at the side-hinged main door |

I. Preparation

**SUBTASK 841-002-A**

- (1) Open the side-hinged main door ([AMM SDS 52-18-00/1](#)).
- (2) Remove lining panels from the side-hinged main door ([AMM TASK 25-23-04-000-801-A/400](#)).



## J. Removal (Figure 401)

## SUBTASK 020-002-A

- (1) Cut and remove the tiedown straps, if applicable.
- (2) Remove the cotter pin (6), washer (5), and straight pin (3) to disconnect the cable (1) from the bellcrank (4).
- (3) Loosen the nut (7) to release the cable (1).
- (4) Remove the cable (1) from the support (2).
- (5) Remove the nuts (28) and the screws (26) (2 positions), and release the microswitch (27).
- (6) Remove the nut (25), washer (24), and bolt (23), and remove the cam (22) from the end of the torque tube (29).
- (7) Remove the bolts (21) (3 or 4 positions, as applicable), and remove the track (20).
- (8) Remove the nut (36), washer (37), and bolt (14), and release the clamp (15) from the torque tube (29).
- (9) Remove the nut (38), washer (39) , and bolt (12), and release the bellcrank (13) from the torque tube (29).
- (10) Remove the cotter pin (43), nut (42), washer (41), and the bolt (40) to disconnect the rod (11) from the bellcrank (13).
- (11) Remove the spring (10) from the bellcrank (44) and from the support of the door structure.
- (12) Remove the nut (36), washer (37), and bolt (14) from the clamp (15).
- (13) Remove the nuts (17) and screws (19), and release the microswitch (18).
- (14) Remove the nuts (16) and screws (35), and release the microswitch (34).
- (15) Remove the cotter pin (8), nut (9), and washer (45), and remove the bellcrank (44).
- (16) Pull the torque tube (29) and remove the bellcrank (13) and clamp (13).
- (17) Remove the nuts (30), washers (31), and bolts (33) (2 positions) that attach the lock (32) to the support of the door structure.
- (18) Remove the lock (32).
- (19) Remove the nut (75), washer (76), and bolt (77), and remove the cam (46) from the end of the torque tube (74).
- (20) Remove the nut (67) and bolt (70), and release the microswitch (69).
- (21) Remove the cotter pin (59), nut (60), washer (61), and bolt (62) to disconnect the rod (53) from the bellcrank (51).
- (22) Remove the nut (64), washer (63), and bolt (52) to loosen the bellcrank (51).

- (23) Remove the nut (66), washer (65), and bolt (50), and loosen the clamp (49).
- (24) Remove the bolt (3 or 4 positions as applicable ) and remove the track (48) from the support of the door structure.
- (25) Remove the spring (54) from the support of the door structure.
- (26) Remove the cotter pin (55), nut (56), and washer (57), and remove the bellcrank (58) from the end of the torque tube (74).
- (27) Remove the nut (73), washer (72), and bolt (68) that attach the lock (71) to the support of the door structure.
- (28) Pull the torque tube (74) and remove the clamp (49) and bellcrank (51).
- (29) Remove the lock (71).
- (30) If necessary, replace the bushings of the cover box and lock box. Refer to item K of this task.

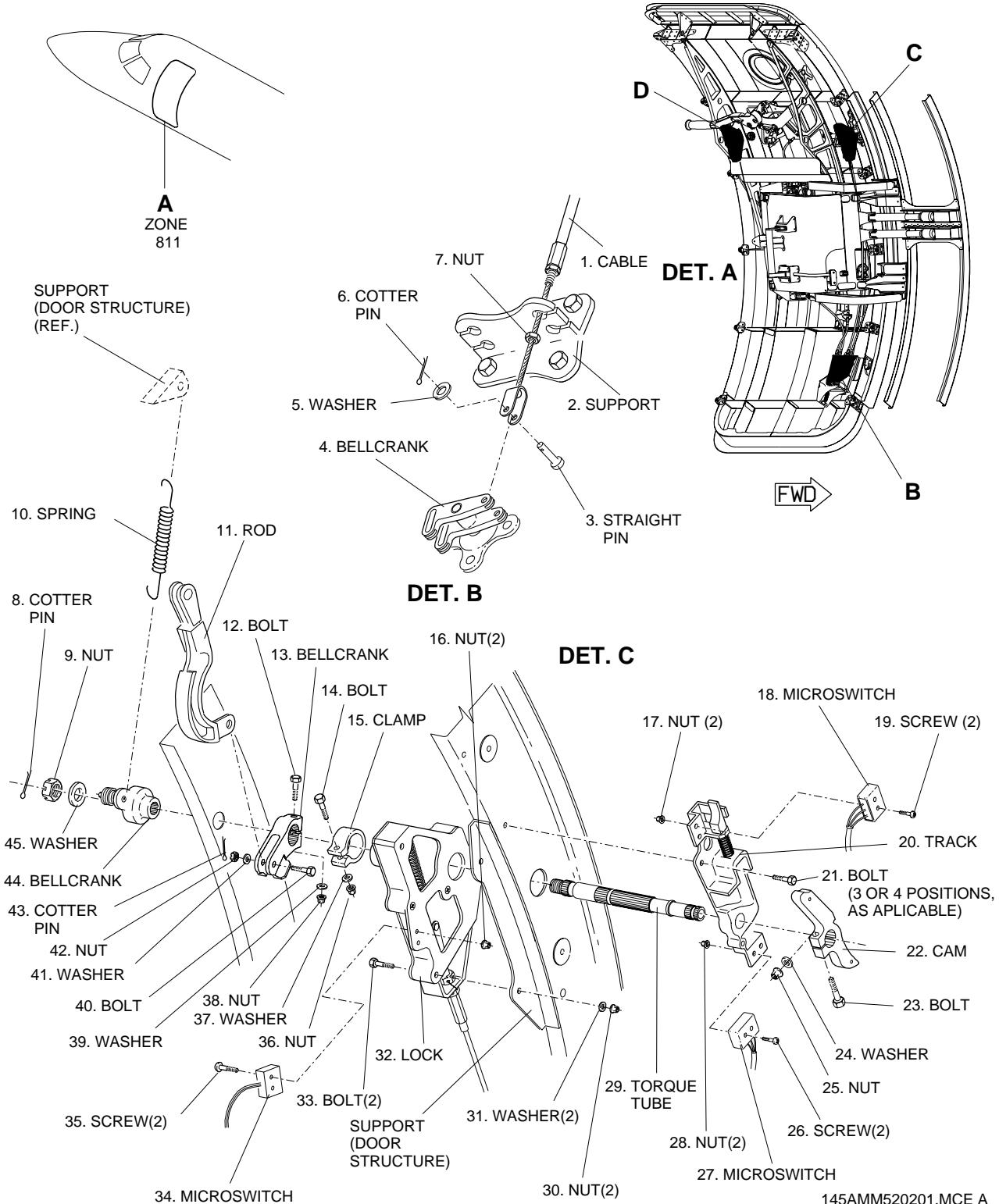
**K. Replacement of the Bushings of the Lock Box and Box Cover ([Figure 402](#))**

**SUBTASK 020-003-A**

**CAUTION: DO NOT USE SHARP-EDGED TOOLS TO PREVENT DAMAGE TO THE HOLES OF THE LOCK BOX AND BOX COVER. HANDLE PARTS AND TOOLS CAREFULLY.**

- (1) Examine the bushings of the lock box and box cover and make sure that there are good conditions of assembly, surface finishing, and alignment of the bushings of the box cover and of the bushings of the lock box.
- (2) Remove the box cover.
- (3) Disassemble the components of the box cover.
- (4) Remove the bushing with a pinpunch. Be careful not to cause damage to the holes.
- (5) Clean the bushing housing in the lock box and box cover with methyl ethyl ketone (MEK).
- (6) Apply corrosion-inhibiting sealant to the hole immediately before the assembly.
- (7) Install the bushings (01) and (02) with a hand-operated forming press.
- (8) Remove the excess sealant.
- (9) Make sure that the bushing flange is correctly seated.
- (10) Assemble the components of the lock box.

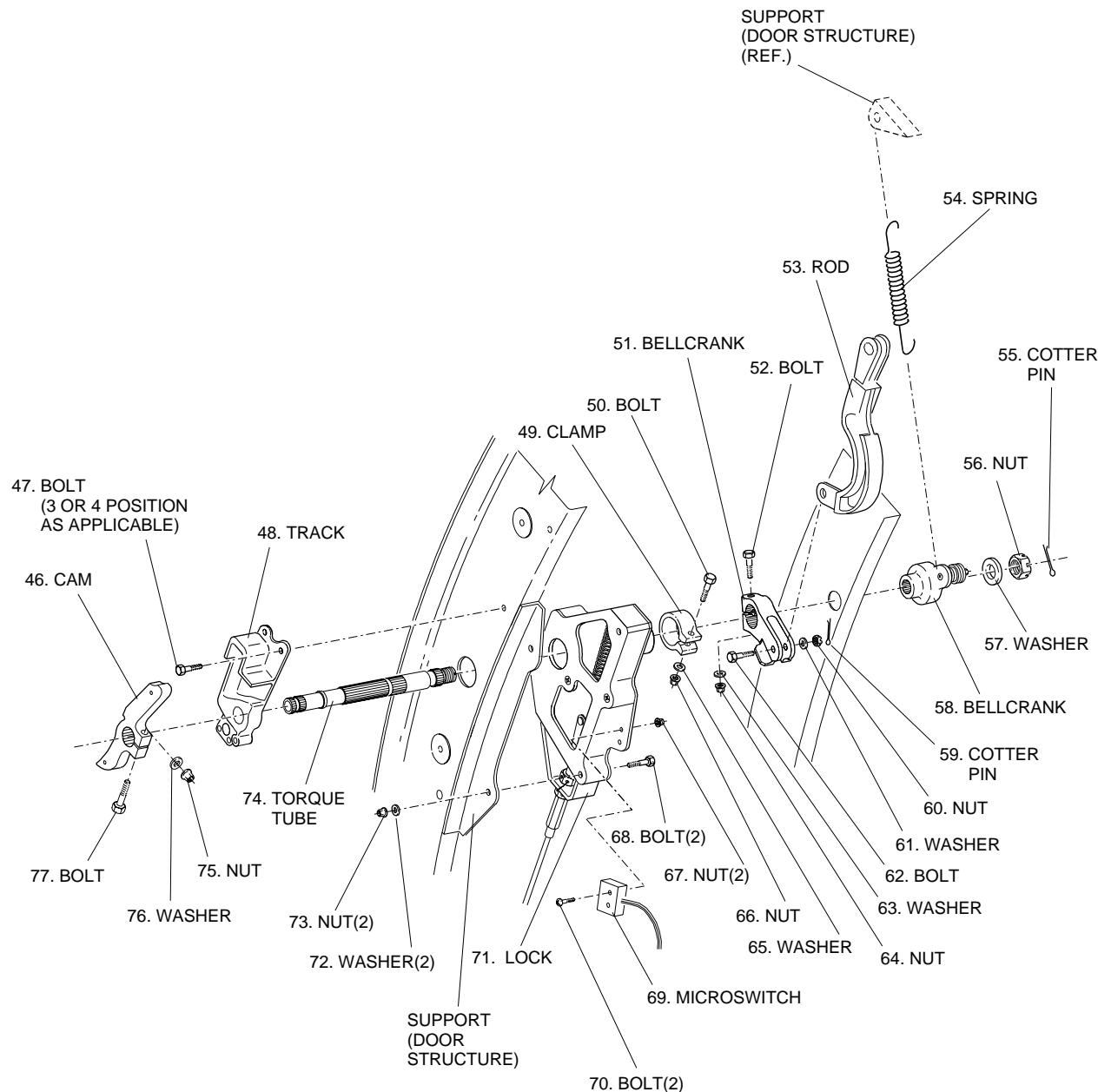
**EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR**  
**Actuating and Locking Mechanism - Removal/Installation**  
**Figure 401 - Sheet 1**



**EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR**

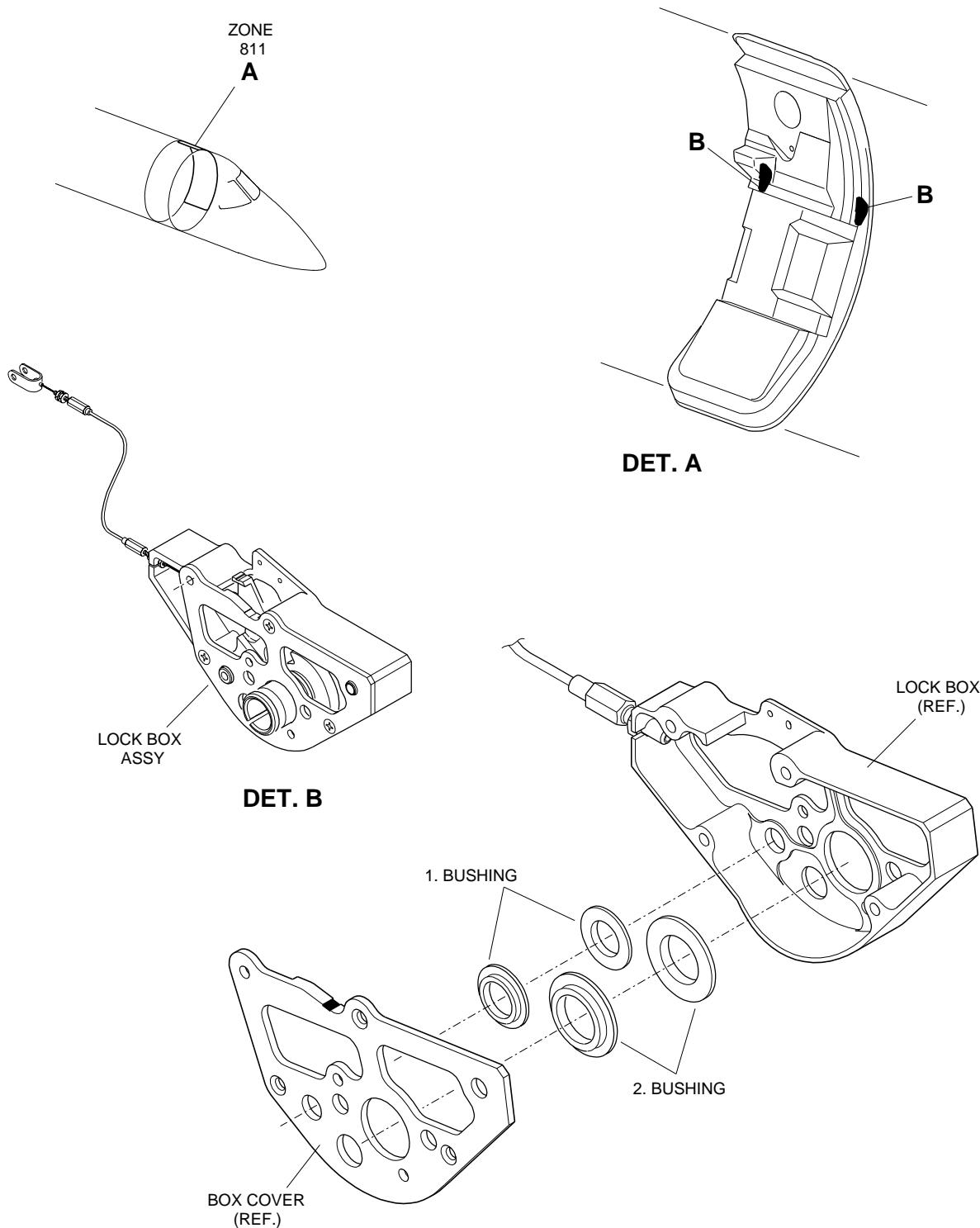
Actuating and Locking Mechanism - Removal/Installation

Figure 401 - Sheet 2


**DET. D**

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**EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR**  
 Replacement of the Bushings of the Lock Box and Box Cover  
 Figure 402



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TASK 52-18-06-400-801-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

3. SIDE-HINGED MAIN-DOOR ACTUATING AND LOCKING MECHANISM - INSTALLATION

A. General

- (1) This procedure gives the instructions to install the lock of the locking mechanism of the side-hinged main door.

B. References

| REFERENCE                       | DESIGNATION                                |
|---------------------------------|--|
| AMM SDS 52-18-00/1              |  |
| AMM TASK 25-23-04-400-801-A/400 | MAIN-DOOR LINING PANEL - INSTALLATION      |
| AMM TASK 52-18-00-820-801-A/500 | MAIN-DOOR INTERNAL ACTUATING HANDLE - TEST |
| AMM TASK 52-18-00-820-803-A/500 | MAIN-DOOR LOCKING-MECHANISM CAMS - TEST    |
| AMM TASK 52-18-00-820-804-A/500 | MAIN DOOR CABLES - ADJUSTMENT              |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION              |
|------|------------|-----------------------|
| 811  |            | Side-hinged main door |

D. Tools and Equipment

| ITEM                   | DESCRIPTION | PURPOSE                                    | QTY |
|------------------------|-------------|--|-----|
| Commercially available | Workstand   | To get access to the side-hinged 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              | Outside the fuselage, at the side-hinged main door |
| 1   | Helps the other technician | Outside the fuselage, at the side-hinged main door |

I. Installation (Figure 401)

SUBTASK 420-002-A

- (1) Put the lock (71) on the support of the door structure.

- (2) Install the bolts (68), washers (72), and nuts (73) (2 positions) to attach the lock (71) to the support of the door structure.
- (3) Put the torque tube (74) in the door structure and lock (71).
- (4) Put the clamp (49), bellcrank (58), and bellcrank (51) on the torque tube (74).
- (5) Install the washer (57), nut (56), and cotter pin (55) at the end of the torque tube (74).
- (6) Install the spring (54) to the bellcrank (58) and to the support of the door structure.
- (7) Install the bolt (50), washer (65), and nut (66) to attach the clamp (49) to the torque tube (74).
- (8) Install the bolt (62), washer (61), nut (60), and cotter pin (59) to attach the rod (53) and bellcrank (51).
- (9) Install the bolt (52), washer (63), and nut (64) to attach the bellcrank (51) to the torque tube (74).
- (10) Put the track (48) on the torque tube (74) and door structure.
- (11) Install the bolts (47) (3 or 4 positions, as applicable) to attach the track (48) to the door structure.
- (12) Put the cam (46) on the end of the torque tube (74).
- (13) Install the bolt (77), washer (76), and nut (75) to attach the cam (46) to the torque tube (74).
- (14) Put the cable (1) in the support (2) of the lock (71).
- (15) Put the end of the cable (1) on the bellcrank (4) of the lock (71).
- (16) Install the straight pin (3), washer (5), and cotter pin (6) to connect the end of the cable (1) to the bellcrank (4) of the lock (71).
- (17) Put the cable (1) on the door structure and attach it with the tiedown straps.
- (18) Put the microswitch (69) on the lock (71).
- (19) Install the bolt (70) and nuts (67) to attach the microswitch (69) to the lock (71).
- (20) Put the lock (32) on the support of the door structure.
- (21) Instal the bolts (33), washers (31), and nuts (30) (2 positions) to attach the lock (32) to the support of the door structure.
- (22) Put the torque tube (29) in the door structure and in the lock (32).
- (23) Put the clamp (15), bellcrank (13), and bellcrank (44) on the torque tube (29).
- (24) Install the washer (45), nut (9), and cotter pin (8) at the end of the torque tube (29).
- (25) Install the spring (10) in the bellcrank (44) and in the support of the door structures.

- (26) Install the bolt (14), washer (37), and nut (36) to attach the clamp (15) to the torque tube (29).
- (27) Install the bolt (40), washer (41), nut (42), and cotter pin (43) to attach the rod (11) to the bellcrank (13).
- (28) Install the bolt (12), washer (39), and nut (38) to attach the bellcrank (13) to the torque tube (29).
- (29) Put the track (20) on the torque tube (29) and door structure.
- (30) Install the bolts (21) (3 or 4 positions, as applicable) to attach the track (20) to the door structure.
- (31) Put the cam (22) on the end of the torque tube (29).
- (32) Install the bolt (23), washer (24), and nut (25) to attach the cam (22) to the torque tube (29).
- (33) Put the microswitch (18) on the track (20).
- (34) Install the screws (19) and nut (17) to attach the microswitch (18) to the track (20).
- (35) Put the microswitch (27) on the track (20).
- (36) Install the screws (26) and nuts (28) to attach the microswitch (27) to the track (20).
- (37) Put the microswitch (34) on the lock (32).
- (38) Install the screws (35) and nuts (16) to attach the microswitch (34) to the lock (32).
- (39) Put the cable (1) in the support (2) of the lock (32).
- (40) Put the end of the cable (1) on the bellcrank (4) of the lock (32).
- (41) Put the cable (1) on the door structure and attach it with the tiedown straps, if applicable.

J. Follow-on

**SUBTASK 842-002-A**

- (1) Do a functional check of the locking mechanism of the side-hinged main door ([AMM TASK 52-18-00-820-801-A/500](#)).
- (2) If necessary, adjust the locking mechanism of the side-hinged main door ([AMM TASK 52-18-00-820-803-A/500](#)).
- (3) Do an adjustment of the main-door connecting cables ([AMM TASK 52-18-00-820-804-A/500](#)).
- (4) Install the lining panels of the side-hinged main door ([AMM TASK 25-23-04-400-801-A/400](#)).
- (5) Close the side-hinged main door ([AMM SDS 52-18-00/1](#)).