

SIDE-HINGED MAIN DOOR - ADJUSTMENT/TEST
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
1. General

- A. This section gives the procedures to do the functional check and the adjustment of the main door.
- B. To correctly adjust the main door, obey the sequence of the tasks that follow.
- C. For a good operation of the door, the door actuating cam and the connecting cables must be clean and lubricated ([AMM TASK 52-18-00-600-801-A/300](#)).
- D. 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 |
|----------------------|--|-------------------------------------|
| 52-18-00-820-801-A ♦ | MAIN-DOOR INTERNAL ACTUATING HANDLE - TEST | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-802-A | MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-803-A | MAIN-DOOR LOCKING-MECHANISM CAMS - TEST | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-804-A | MAIN DOOR CABLES - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-805-A | MAIN DOOR ROLLERS - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-806-A | MAIN DOOR-TO-FUSELAGE SKIN GAP - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-807-A | MAIN DOOR-TO-FUSELAGE SKIN STEP - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-808-A | MAIN DOOR STOPS - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-809-A | MAIN-DOOR FOLDING FLAP EDGE - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |
| 52-18-00-820-810-A | MAIN-DOOR FOLDING FLAP - ADJUSTMENT | AIRCRAFT WITH SIDE-HINGED MAIN DOOR |



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-801-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

2. MAIN-DOOR INTERNAL ACTUATING HANDLE - TEST

A. General

- (1) This task gives the procedure to do a test for the necessary load to open the main door from inside.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|---|
| AMM SDS 52-18-00/1 | |
| AMM TASK 52-18-00-820-802-A/500 | MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT |
| FIM 52-18-00 | - |

C. Zones and Accesses

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

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|------------------------|----------------------|---------|-----|
| Commercially available | Dynamometer - 100 lb | | |

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 | On the side-hinged main door |

I. Preparation

SUBTASK 841-002-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

-
- (1) Close and lock the main door ([AMM SDS 52-18-00/1](#)).

NOTE: If the main door is incorrectly adjusted, it is possible that you cannot do the door closing and/or locking procedures. Then, refer to the Fault Isolation Manual (FIM), chapter 52, or do the complete adjustment of the main door. Obey the sequence of the tasks that follow, from [AMM TASK 52-18-00-820-802-A/500](#) on.

- (2) Make sure that the bolts of the internal handle box are correctly tightened. If they are loose, tighten the bolts. Refer to [Figure 502](#).

J. Main-Door Internal Actuating Handle - Test ([Figure 501](#))

SUBTASK 820-002-A

- (1) Make sure that the lining panels are installed (TASK 25-23-04-400-801-A).

NOTE: If the lining panels are not installed, the internal handle loads are smaller.

NOTE: When the door is locked and the red marks are aligned, the internal handle must be exactly in the horizontal position. If this does not occur, the interconnecting rods are misadjusted ([AMM TASK 52-18-00-820-802-A/500](#)) or the internal handle splines are damaged.

- (2) Pull the internal handle until the folding flap opens. Refer to [Figure 501](#); DET. B.

NOTE: Do not unlock the door.

- (3) Put the dynamometer against the internal handle, approximately 40 mm from the internal handle edge. Refer to [Figure 501](#); DET. B.

- (4) Use the dynamometer to push the internal handle from the open folding-flap position to the unlocked-door position. Refer to [Figure 501](#); DET. B.

NOTE: Make sure that the dynamometer is perpendicular to the internal handle all along the handle travel.

- (5) Record the maximum load measured on the dynamometer.

- (6) Do steps 2 to 5 again a minimum of three times to get the average load. The average load must not be more than 50 lb (22.68 kgf).

- (7) If the average load is more than 50 lb (22.68 Kgf), or if a smaller load is necessary, adjust the main door. Refer to FIM 52-18-00.

K. Follow-on

SUBTASK 842-002-A

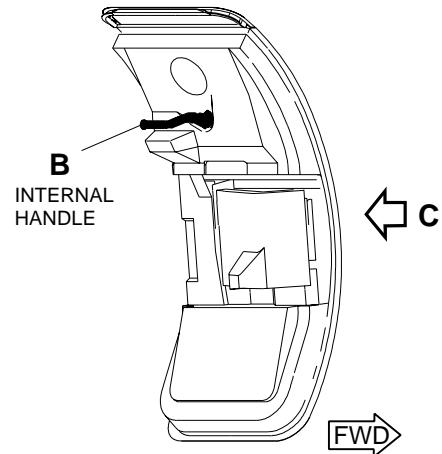
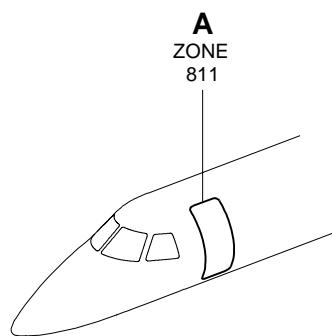
CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Close the main door ([AMM SDS 52-18-00/1](#)).

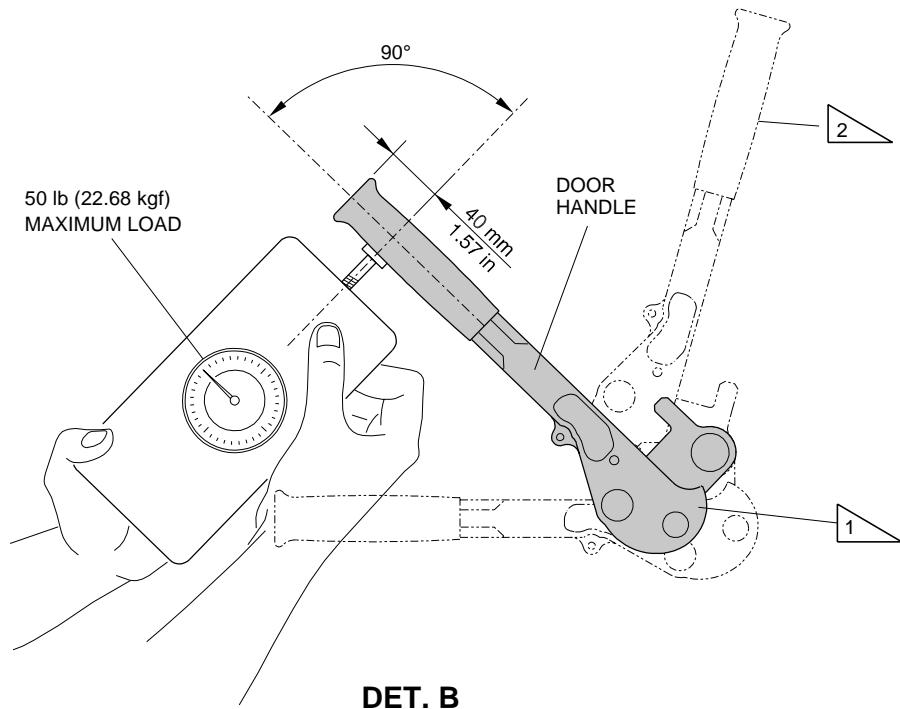
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Load to Open the Side-Hinged Door from Inside - Test

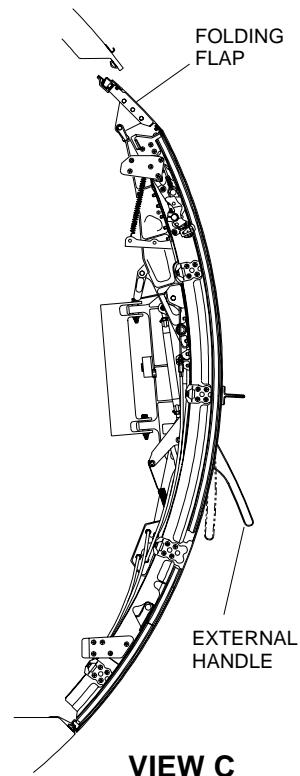
Figure 501



DET. A



DET. B

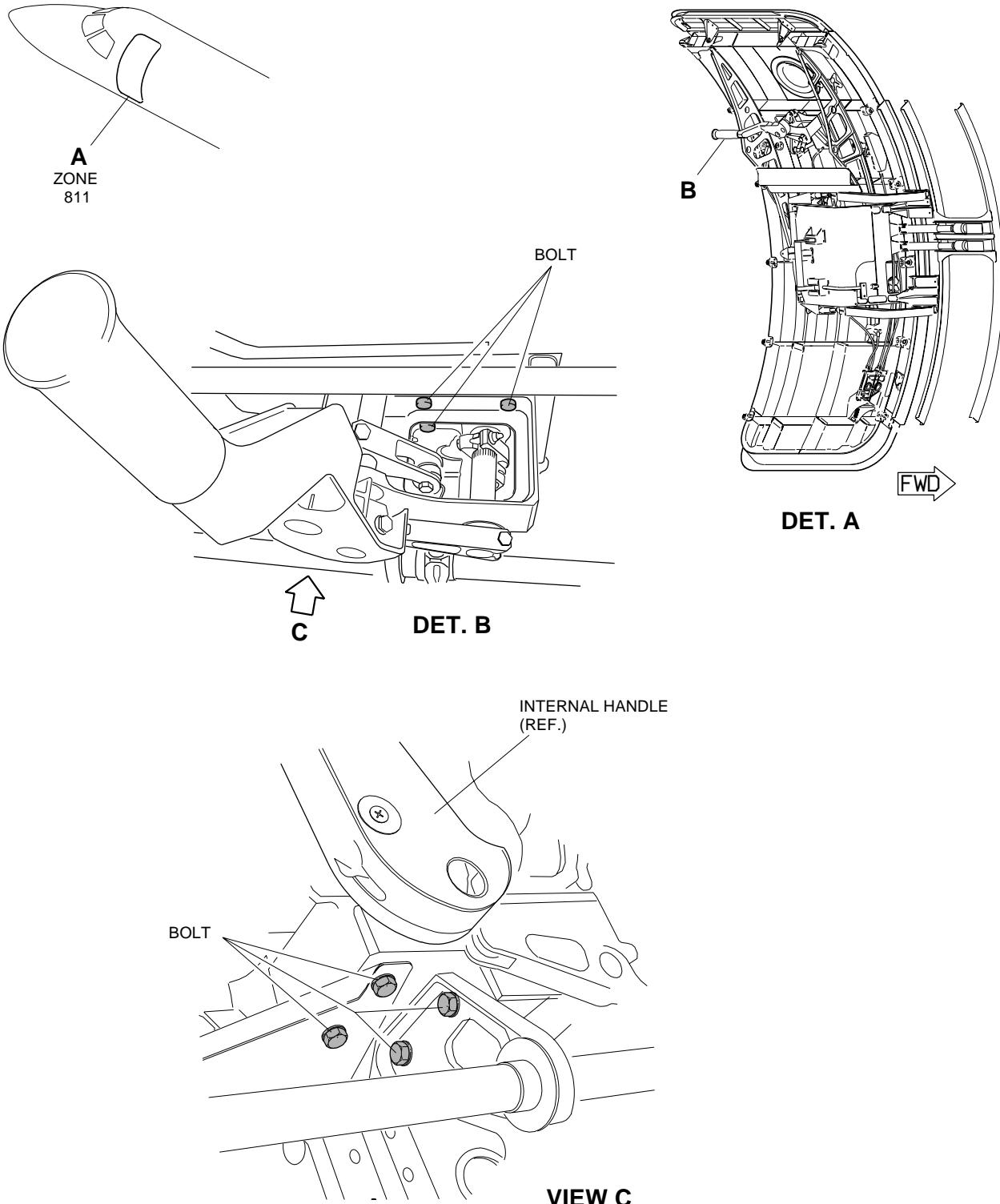


VIEW C

-  1 LOCKED –DOOR POSITION, OPEN FOLDING FLAP.
-  2 UNLOCKED–DOOR POSITION.

EM145AMM520580B.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Internal Handle Box Bolts
Figure 502



EM145AMM520638C.DGN



AIRCRAFT MAINTENANCE MANUAL

EMB145 – EMB135

TASK 52-18-00-820-802-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

3. MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT

A. General

- (1) This task gives the procedures to adjust the rods of the main-door locking and actuating mechanism.
- (2) Rods II, III, IV, and VI are already adjusted if rig pins A, B, C, and D can be put into the locking and actuating mechanism.
NOTE: The internal handle must be installed in the correct position.
- (3) The adjustment of the length of rod V will adjust the alignment of the external handle.
- (4) The adjustment of the length of rod I causes the adjustment of the folding flap, as given in [AMM TASK 52-18-00-820-810-A/500](#).

B. References

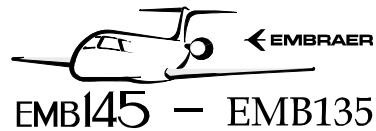
| REFERENCE | DESIGNATION |
|---|--|
| 52-18-00 | - |
| AMM MPP 20-10-11/200 | - MAINTENANCE PRACTICES |
| AMM SDS 52-18-00/1 | |
| AMM TASK 25-23-04-000-801-A/400 | MAIN-DOOR LINING PANEL - REMOVAL |
| AMM TASK 25-23-04-400-801-A/400 | MAIN-DOOR LINING PANEL - INSTALLATION |
| AMM TASK 52-18-00-820-803-A/500 | MAIN-DOOR LOCKING-MECHANISM CAMS - TEST |
| AMM TASK 52-18-00-820-810-A/500 | MAIN-DOOR FOLDING FLAP - ADJUSTMENT |
| AMM TASK 52-18-05-000-801-A/400 | SIDE-HINGED MAIN-DOOR INTERNAL ACTUATING HANDLE - REMOVAL |
| AMM TASK 52-18-05-400-801-A/400 | SIDE-HINGED MAIN-DOOR INTERNAL ACTUATING HANDLE - INSTALLATION |

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|------------------------|---|-------------------------------------|-----|
| Commercially available | Rig pin A (4.75 mm (3/16") in diameter and 100 mm (4") in length) | To rig the intermediate torque tube | |
| Commercially available | Rig pin B (6.2 mm (0.244") in diameter and 100 mm (4") in length) | To rig the internal handle | |
| Commercially available | Rig pin C (8 mm in diameter and 250 mm in length) | To rig the folding flap cam | |
| Commercially available | Rig pin D (8 mm in diameter and 250 mm in length) | To rig the bellcrank | |
| Commercially available | Rig pin E (4.75 mm (3/16") in diameter and 100 mm (4") in length) | To rig the locking-mechanism cams | |



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

E. Auxiliary Items

Not Applicable

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|--------------------------|-------------|-----|
| MS20995-C32 | Lockwire | AR |

G. Expendable Parts

| ITEM | IPC REFERENCE (VENDOR REFERENCE) | QTY |
|------------|-------------------------------------|-----|
| Cotter pin | 52-18-00 | AR |

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |

I. Preparation

SUBTASK 841-003-A

- (1) Make sure that the main door is open ([AMM SDS 52-18-00/1](#)).
- (2) Remove the internal handle ([AMM TASK 52-18-05-000-801-A/400](#)).
- (3) Remove the main-door lining panels ([AMM TASK 25-23-04-000-801-A/400](#)).

CAUTION: WHEN YOU INSTALL THE INTERNAL HANDLE, MAKE SURE THAT THE KEY ON THE HANDLE FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE HANDLE SPLINES CAN OCCUR.

- (4) Install the internal handle back ([AMM TASK 52-18-05-400-801-A/400](#)).

J. Main-Door Interconnecting Rods - Adjustment ([Figure 503](#)) ([Figure 504](#)) ([Figure 505](#))

SUBTASK 820-003-A

- (1) With the door open, operate the two cams to the middle position ([Figure 506](#)) and put the internal handle in the locked position.
- (2) Make sure that the internal handle is correctly installed on the torque tube ([AMM TASK 52-18-05-000-801-A/400](#)).
- (3) Remove rod V from the bellcrank as follows ([Figure 503](#); Sheet 3):
 - (a) Remove and discard the cotter pin (59).
 - (b) Remove the nut (58), washer (57), and bolt (56).
- (4) Remove the upper end of the spring from the shift. Refer to [Figure 503](#), Sheet 1.
- (5) Install rig pin E into each locking-mechanism cam. Refer to [Figure 505](#), DET. F.

- (6) Install rig pin A to check the alignment of the intermediate torque tube ([Figure 505](#)). If rig pin A cannot be inserted, do as follows:
- (a) Remove rods III from the intermediate torque tube as follows ([Figure 503](#), Sheet 2):
 - 1 Remove and discard the cotter pin (32).
 - 2 Remove the nut (31), washer (30), and bolt (28).
 - (b) Remove rod IV from the intermediate torque tube as follows ([Figure 503](#), Sheet 3):
 - 1 Remove and discard the cotter pin (45).
 - 2 Remove the nut (44), washer (43), and bolt (41).
 - (c) Remove rod VI from the intermediate torque tube as follows ([Figure 503](#), Sheet 3):
 - 1 Remove and discard the cotter pin (77).
 - 2 Remove the nut (78), washer (80), and bolt (81).
- (7) Install rig pin A to align the intermediate torque tube. Refer to [Figure 505](#).
- (8) Install rig pin B in the internal handle ([Figure 505](#)).
- NOTE: Rig pins A and E must be installed.
- (a) If rig pin B cannot be put into the internal handle, adjust rod II as follows ([Figure 503](#), Sheet 2):
 - 1 Remove and discard the cotter pin (24).
 - 2 Remove the nut (25), washer (26), and bolt (27).
 - 3 Install rig pin B in the internal handle.
 - 4 Remove and discard the lockwire.
 - 5 Loosen the jam nut (16).
 - 6 Turn the rod end (15) to adjust the length of rod II.
NOTE: Do a check of the rod inspection holes ([AMM MPP 20-10-11/200](#)).
 - 7 Tighten the jam nut (16).
- (9) Install the rig pin C in the folding flap cam ([Figure 505](#)).
- NOTE: The rig pin A, B and E must be installed.
- (a) If the rig pin C cannot be inserted in the folding flap cam, adjust the rod VI as follows ([Figure 503](#), Sheet 3):

1 If the rod end is already removed from the intermediate torque tube, do as follows:

- a Install rig pin C in the folding flap cam. Refer to [Figure 505](#).
 - b Remove and discard the lockwire.
 - c Loosen the jam nut (82) and turn the rod end to adjust the length of rod VI.
- NOTE: Do a check of the rod inspection holes ([AMM MPP 20-10-11/200](#)).
- d Install bolt (81), washer (80), nut (78), and new cotter pin (77).
 - e Tighten the jam nut (82).

2 If the rod end is installed in the intermediate torque tube, do as follows:

- a Remove and discard the lockwire.
 - b Loosen the jam nut (84) and turn the bushing (83) to adjust the length of rod VI.
- NOTE: Do a check of the rod inspection holes ([AMM MPP 20-10-11/200](#)).
- c Install rig pin C in the folding flap cam.
 - d Tighten the jam nut (84).

(10) Install rig pin D in the bellcrank ([Figure 505](#)).

NOTE: Rig pins A, B, C, and E must be installed.

(a) If rig pin D cannot be put into the bellcrank, adjust rod IV as follows:

- 1 If the rod end is not removed yet from the intermediate torque tube, remove it as follows ([Figure 503, Sheet 3](#)):
 - a Remove and discard the cotter pin (45).
 - b Remove the nut (44), washer (43), and bolt (41).
 - 2 Install rig pin D in the bellcrank. Refer to [Figure 505](#).
 - 3 Remove and discard the lockwire.
 - 4 Loosen the jam nut (46) and turn the rod end to adjust the length of rod IV.
- NOTE: Do a check on the rod inspection holes ([AMM MPP 20-10-11/200](#)).
- 5 Install the bolt (41), washer (43), nut (44), and new cotter pin (45).
 - 6 Tighten the jam nut (46).

(11) Do a check of the external handle alignment ([Figure 504](#); DET. D) as follows:

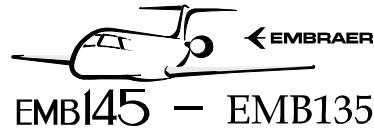


EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

NOTE: The adjustment of the length of rod V will adjust the alignment of the external handle ([Figure 504](#)).

- (a) Remove rig pin D. Refer to [Figure 505](#).
 - (b) Make sure that rig pins A, B, C, and E are installed. Refer to [Figure 505](#).
 - (c) Place rod V in the bellcrank and install the bolt (56), washer (57), and nut (58) as follows ([Figure 503](#); Sheet 3):
 - (d) Do a check of the alignment of the external handle. It must be aligned with the main-door loft line or 1.0 mm of maximum step below the door loft line ([Figure 504](#); DET. D). If a adjustment of the external handle is necessary, do as follows:
 - 1 Remove the nut (58), washer (57), and bolt (56).
 - 2 Remove and discard the lockwire.
 - 3 Loosen the jam nut (69) and turn the rod end to adjust the length of rod V.
NOTE: Do a check of the rod inspection holes ([AMM MPP 20-10-11/200](#)).
 - 4 Install the bolt (56), washer (57), and nut (58).
 - 5 Remove rig pins A, B, C, and E. Refer to [Figure 505](#).
 - 6 Lock and unlock the door with the internal handle and make sure that the external handle is aligned with the main-door loft line ([Figure 504](#); DET. D).
 - 7 Install a new cotter pin (59) and tighten the jam nut (69).
- (12) Do a check of each rod III as follows ([Figure 503](#); Sheet 2):
- (a) If the rod end is already removed from the intermediate torque tube, install it as follows:
 - 1 Put the end of rod III in the intermediate torque tube and install the bolt (28), washer (30), and nut (31).
 - (b) Do a check of the locking-mechanism cam load ([AMM TASK 52-18-00-820-803-A/500](#)). If necessary, adjust the load with the adjustment of the length of rod III as follows ([Figure 503](#); Sheet 2):
 - 1 Remove the nut (31), washer (30), and bolt (28).
 - 2 Remove and discard the lockwire.
 - 3 Loosen the jam nut (33) and/or (35).
 - 4 Turn the rod end (29) and/or the bushing (34) to adjust the length of rod III.
NOTE: Do a check of the rod inspection holes ([AMM MPP 20-10-11/200](#)).
 - 5 Tighten the jam nut (33) and/or (35).
 - 6 Do a check of the locking-mechanism cam load ([AMM TASK 52-18-00-820-803-A/500](#)).



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

K. Follow-on

SUBTASK 842-003-A

- (1) Install the upper end of the spring in the shaft. Refer to [Figure 503](#), Sheet 1.
- (2) Safety the jam nuts and rods as necessary.
- (3) With the door open, lock and unlock the main door and see the movement of the rods. Refer to [AMM SDS 52-18-00/1](#).
- (4) If you will not do the complete adjustment of the main door and will not do the subsequent tasks, do as follows:
 - (a) Install the main-door lining panels ([AMM TASK 25-23-04-400-801-A/400](#)).

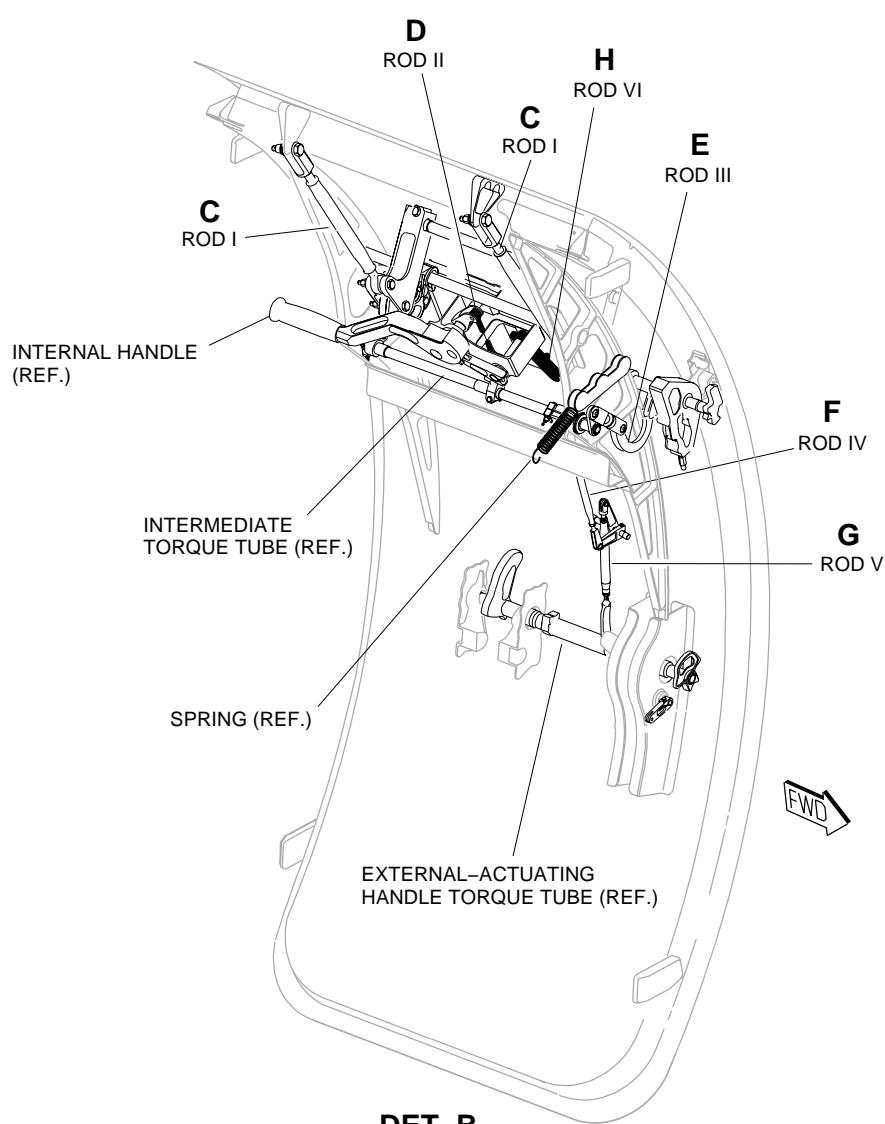
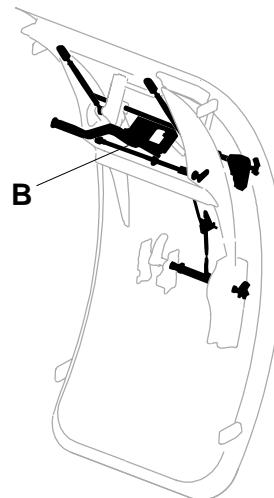
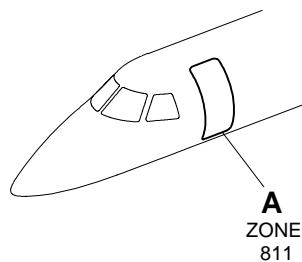
CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (b) Close the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Main-Door Interconnecting Rods - Removal/Installation

Figure 503 - Sheet 1

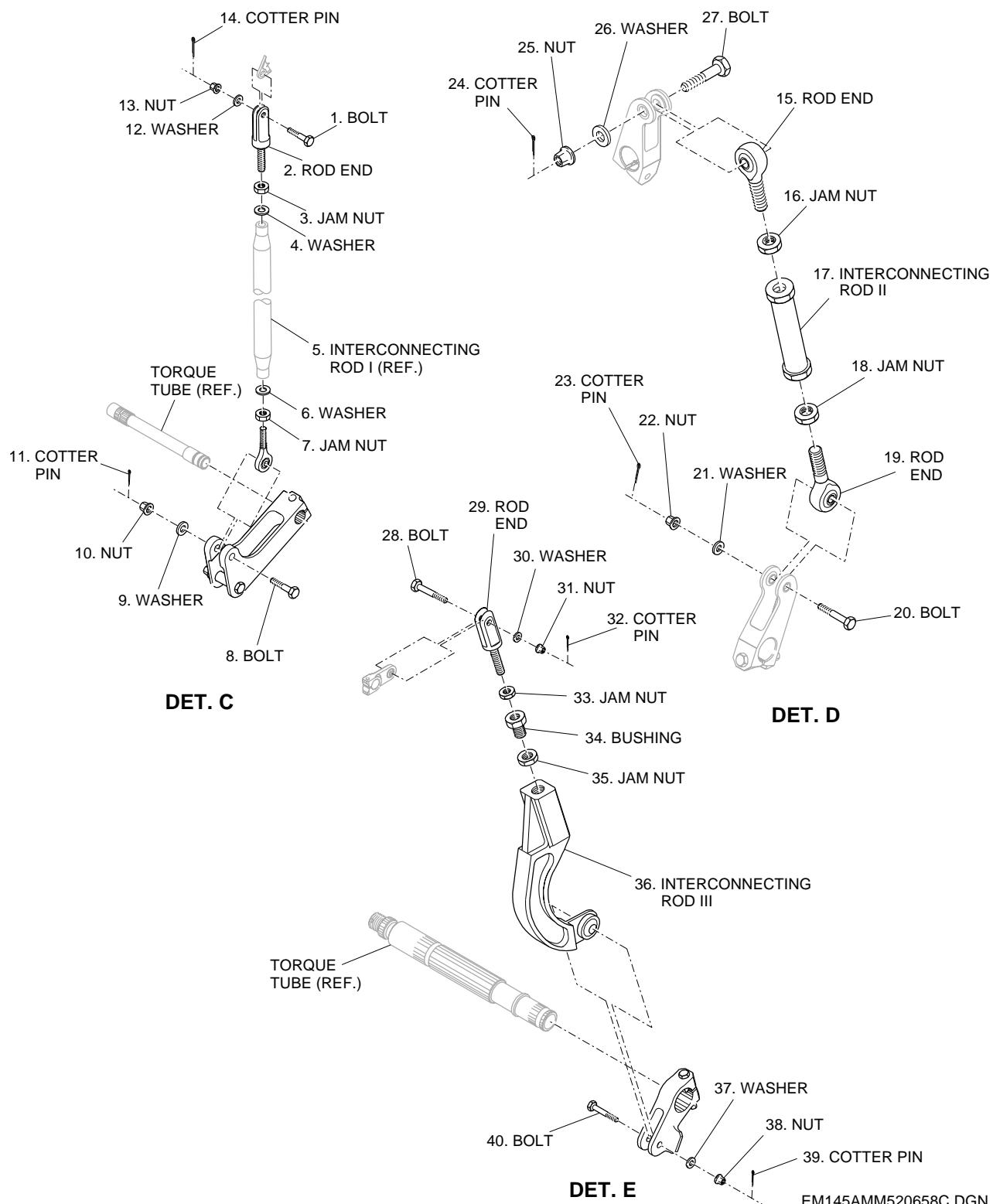


EM145AMM520657C.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Main-Door Interconnecting Rods - Removal/Installation

Figure 503 - Sheet 2

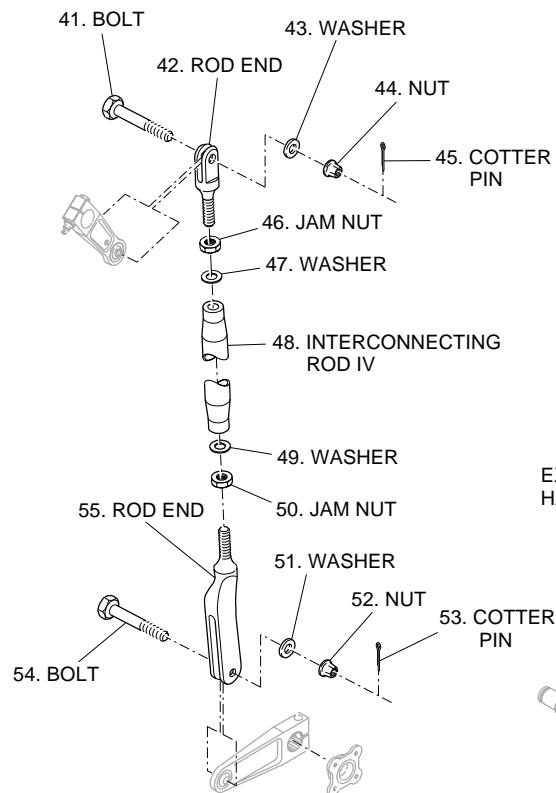
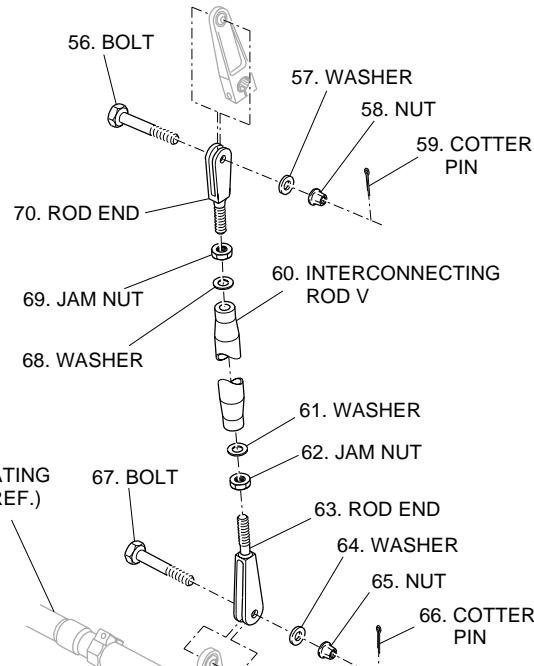
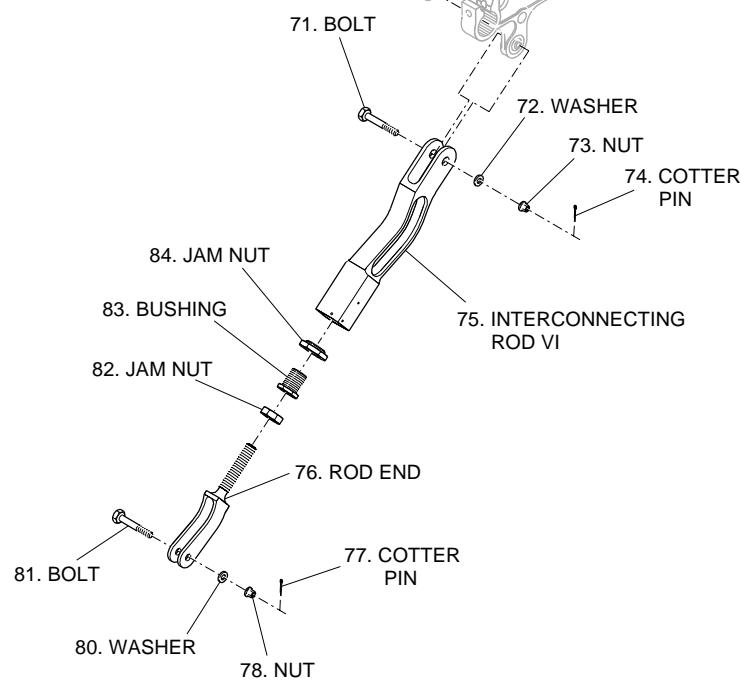


EM145AMM520658C.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

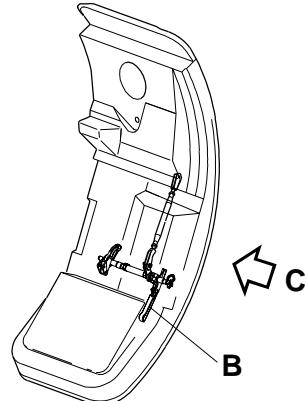
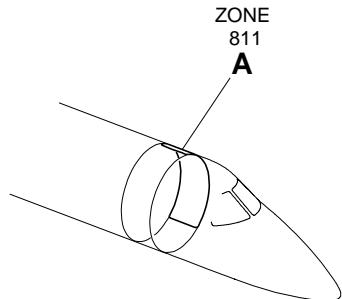
Main-Door Interconnecting Rods - Removal/Installation

Figure 503 - Sheet 3

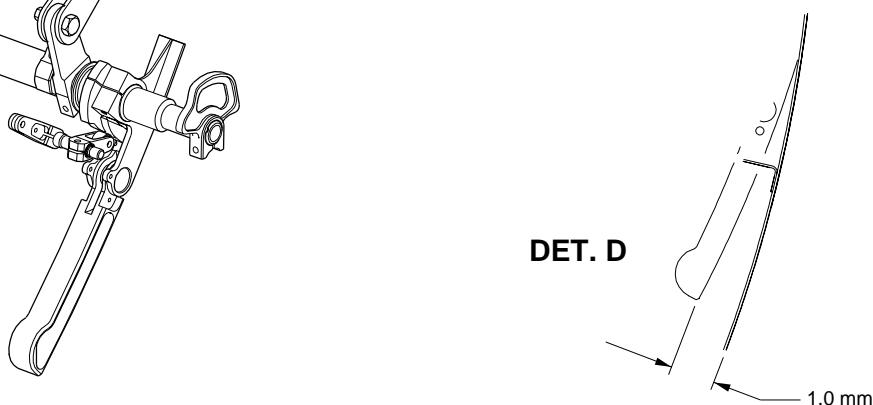
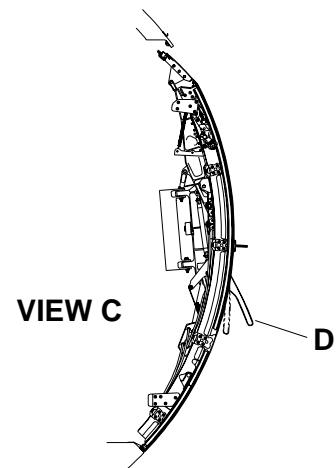
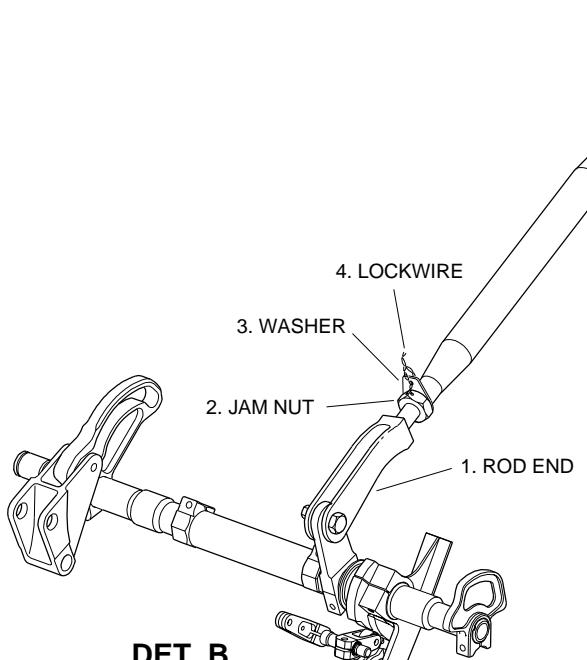

DET. F

DET. G

DET. H

EM145AMM520663B.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Main-Door External Actuating Handle - Adjustment/Test
Figure 504



DET. A

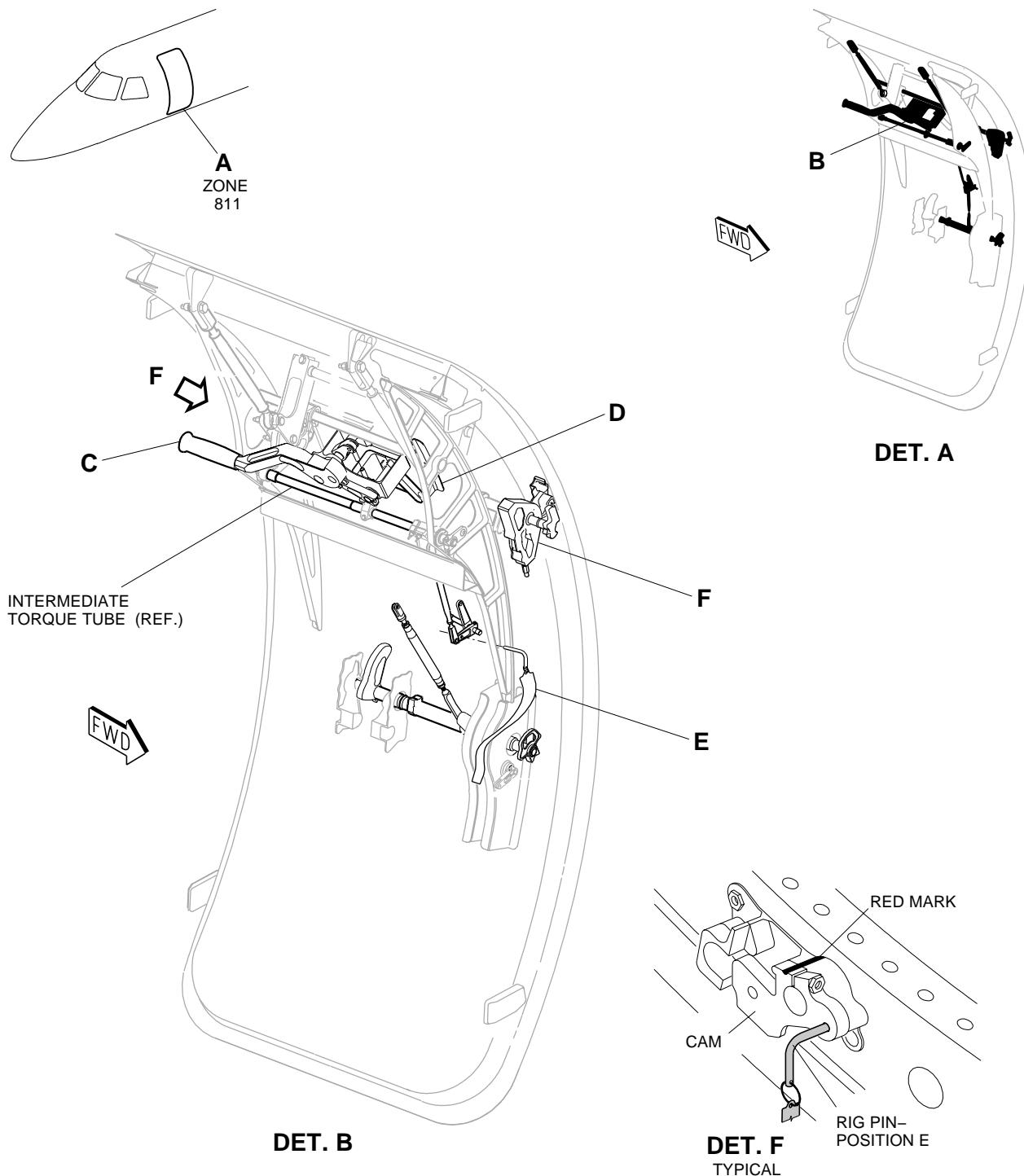


145AMM520325.MCE B

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

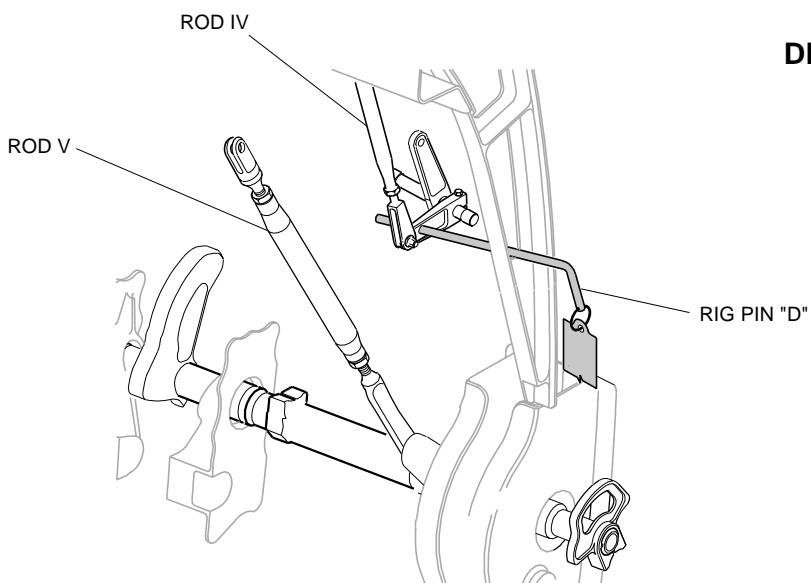
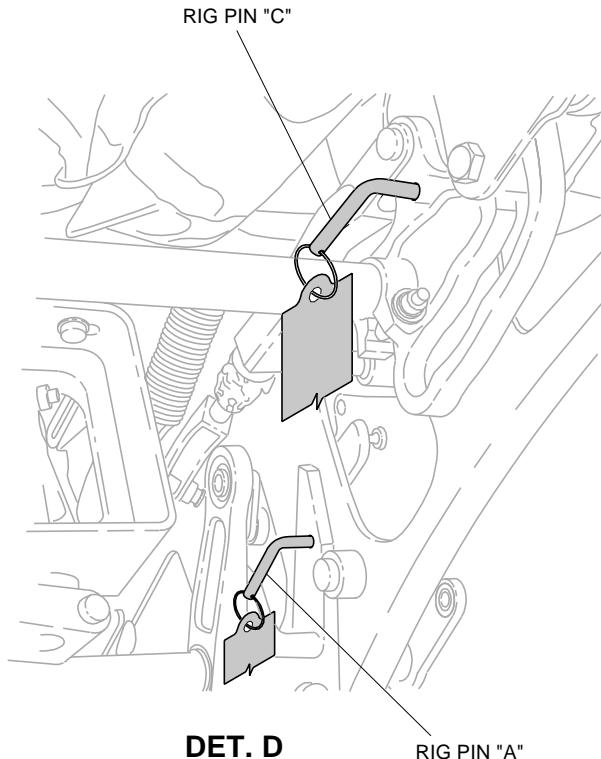
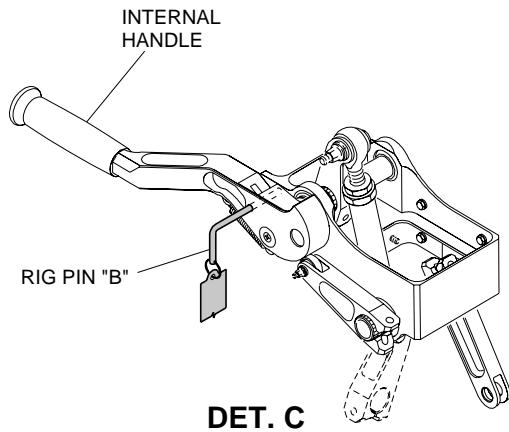
Rig Pins - Removal/Installation

Figure 505 - Sheet 1



EM145AMM520673B.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Rig Pins - Removal/Installation
Figure 505 - Sheet 2



EM145AMM520674A.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-803-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

4. MAIN-DOOR LOCKING-MECHANISM CAMS - TEST

A. General

- (1) This task gives the procedure to do a test of the necessary load to operate the cams of the locking mechanism of the main door.
- (2) If the load is more than the accepted value, the door can be hard to open/close. If the load is less than the accepted value, the cams can be unintentionally operated and the mechanism locked.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|---|
| AMM SDS 52-18-00/1 | |
| AMM TASK 25-23-04-000-801-A/400 | MAIN-DOOR LINING PANEL - REMOVAL |
| AMM TASK 25-23-04-400-801-A/400 | MAIN-DOOR LINING PANEL - INSTALLATION |
| AMM TASK 52-18-00-820-802-A/500 | MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT |

C. Zones and Accesses

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

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|------------------------|----------------------|---------|-----|
| Commercially available | Dynamometer - 100 lb | | |

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 841-004-A

- (1) Make sure that the main door is open ([AMM SDS 52-18-00/1](#)).

J. Main-Door Locking-Mechanism Cams - Adjustment ([Figure 506](#))

SUBTASK 820-004-A

- (1) With the main door open, put the internal handle in the unlocked position.
- (2) With a hook at one end of the dynamometer, put the hook against the cam and pull the dynamometer until the cam stays in the middle position. Refer to [Figure 506](#).

NOTE: The cam will stay in the middle position after a click.

- (3) Look at the value shown on the dynamometer. The value must be between 5 and 8 Kg.

SUBTASK 820-005-A

- (4) If the cam load is out of tolerance (5 - 8 Kgf), do these steps:

- (a) Make sure that the main-door lining panels are removed ([AMM TASK 25-23-04-000-801-A/400](#)).
- (b) Adjust the length of the related rod III, as given in [AMM TASK 52-18-00-820-802-A/500](#).

NOTE: There are two rods III, one for each cam.

- 1 To increase the strength, decrease the length of rod III. To decrease the strength, increase the length of rod III.

- (c) Do the check with the dynamometer again.
- (d) Look at the value shown on the dynamometer. The value must be between 5 and 8 Kgf. If not, do the adjustment again.

- (e) With your hands, turn the cams back to the 0° position. Refer to [Figure 506](#).

K. Follow-on

SUBTASK 842-004-A

- (1) If you will not do the complete adjustment of the main door and will not do the subsequent tasks, do as follows:

- (a) Install the main-door lining panels ([AMM TASK 25-23-04-400-801-A/400](#)).

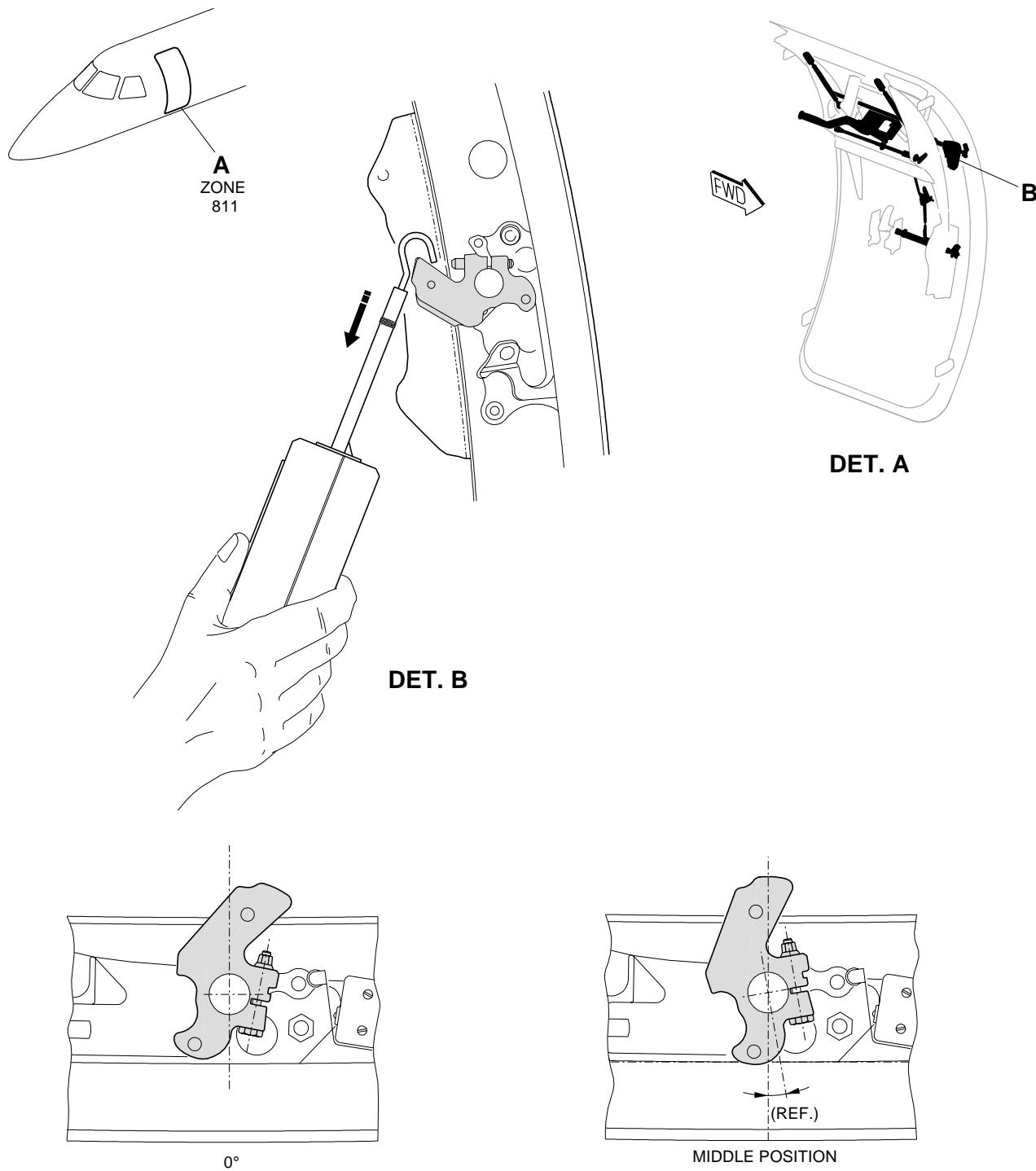
CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (b) Close the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Main-Door Locking-Mechanism Cams - Adjustment

Figure 506



CAM POSITION WHEN THE DOOR IS
OPEN AND ON A BENCH.
(BEFORE YOU PULL IT WITH A DYNAMOMETER)

CAM POSITION AFTER YOU PULL IT
WITH A DYNAMOMETER

EM145AMM520662A.DGN

TASK 52-18-00-820-804-A
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
5. MAIN DOOR CABLES - ADJUSTMENT
A. General

- (1) This task gives the procedures to adjust the cables of the lock boxes and the cables of the internal and external handles of the 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 |
| AMM TASK 25-23-04-400-801-A/400 | MAIN-DOOR LINING PANEL - INSTALLATION |
| AMM TASK 52-73-00-700-801-A/500 | AIRSTAIRS MAIN DOOR WARNING MESSAGE - OPERATIONALLY CHECK |
| TASK 52-18-09-600-801-A | - |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------------|
| 811 | | Side-Hinged door |

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|------------------------|---|----------------------------|-----|
| Commercially available | Rig pin B (6.2 mm (0.244") in diameter and 100 mm (4") in length) | To rig the internal handle | |
| Commercially available | Rig pin F (4.75 mm (3/16") in diameter and 100 mm (4") in length) | To rig the mixer | |

E. Auxiliary Items

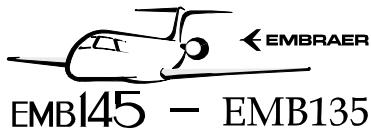
Not Applicable

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|-----------------------|-------------|-----|
| MS20995-C32 | Lockwire | AR |
| MS20995-C20 | Lockwire | AR |

G. Expandable Parts

Not Applicable



AIRCRAFT MAINTENANCE MANUAL

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |

I. Preparation ([Figure 507](#)) ([Figure 508](#)) ([Figure 509](#))

SUBTASK 841-005-A

- (1) Make sure that the main door is open ([AMM SDS 52-18-00/1](#)).
NOTE: Do not open the door fully. Only put it out of its frame.
- (2) Make sure that the main-door lining panels are removed ([AMM TASK 25-23-04-000-801-A/400](#)).
- (3) Examine the main components such as mixer, supports, cables, nuts, and lock boxes, and the mechanism for integrity (no friction, interference, or corrosion points).
- (4) Do a check to see which cable is the cause of the malfunction of the mechanism. For this, turn the internal handle many times and see the movement of the cables and locks.
- (5) Put the internal handle in the locked position.
- (6) Install rig pin F in the mixer (5) and rig pin B in the internal handle (4). Refer to [Figure 509](#).

J. Main Door Cables - Test ([Figure 507](#)) ([Figure 508](#)) ([Figure 509](#))

SUBTASK 820-006-A

- (1) The four cables of the door are as follows ([Figure 508](#)):
 1. Cable A: is the external handle cable.
 2. Cable B: is the internal handle cable.
 3. Cable C: is the rear lock box cable.
 4. Cable D: is the front lock box cable.
- (2) Do a check of the tension of each cable with your finger as follows:
 - (a) Do a check of the front lock box cable (cable D) and the rear lock box cable (cable C), as follows (refer to [Figure 507](#); DET. B):
 - 1 With the internal handle in the locked position, the red marks of the lock boxes must be aligned. If they are not aligned, adjust the tension of cables C and/or D as given in SUBTASK 52-18-00-820-006-A00.
 - 2 Touch the two cables of the lock boxes, one at a time, and make sure that the red mark (7) moves on each lock box. Refer to [Figure 509](#); DET. D.
 - 3 If the red marks (7) move, it is not necessary to adjust cables C and D. Refer to [Figure 509](#); DET. D.

- 4 If the red marks (7) do not move, adjust the tension of cables C and/or D as given in SUBTASK 52-18-00-820-006-A00.

NOTE: Cables C and D must have the same tension.

- (b) Do a check on the external handle cable (cable A) and the internal handle cable (cable B), as follows. Refer to [Figure 507](#):

- 1 Touch the external handle cable (cable A) and the internal handle cable (cable B) and compare the tension:

- The internal handle cable (cable B) must be more tensioned than the external handle cable (cable A) and lock box cables C and D.
- The external handle cable (cable A) must be less tensioned than the internal handle cable (cable B) and lock box cables C and D.

NOTE: You can compare the tension of the external handle cable (cable A) with the internal handle cable (cable B), at the mixer (5). The difference between them must be 3 to 5 mm. Refer to [Figure 509](#); DET. C.

- 2 If necessary, adjust cables A and/or B as given in SUBTASK 52-18-00-820-006-A00.

K. Main Door Cables - Adjustment ([Figure 507](#)) ([Figure 508](#)) ([Figure 509](#))

SUBTASK 820-007-A

- (1) Adjust the external handle cable (cable A), internal handle cable (cable B), rear lock box cable (cable C), and front lock box cable (cable D) as follows. Refer to [Figure 507](#):

- (a) Remove and discard the lockwire (3). Refer to [Figure 508](#); DET. C.

CAUTION: FOR DOORS WITH PROTECTIVE BOOT, BE CAREFUL NOT TO CAUSE DAMAGE TO THE BOOTS WHEN YOU HANDLE THEM.

- (b) Turn the nuts (1) and (2) as necessary to adjust the cable. Refer to [Figure 508](#); DET. C.

NOTE: • For cable with protective boot (4): it is not necessary to move the protective boots.

- The two lock box cables can be adjusted at the same time or individually. The same procedure must be done for the two box cables.

- (c) Tighten the internal handle cable nuts (1) and (2). Refer to [Figure 508](#); DET. C.

NOTE: A minimum of two threads of all cable end-fittings must come out from the nuts.

- (d) Make sure that the red marks (7) of the lock boxes (9) are aligned. Refer to [Figure 509](#); DET. D.

- (2) Remove rig pin F from the mixer (5), and rig pin B from the internal handle (5). Refer to [Figure 509](#).
- (3) Make sure that the internal handle is in the unlocked position.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR.
BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL
HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY
THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN
OCCUR.

- (4) Close and lock, unlock, and open the door with the internal and external handles to make sure of its correct operation ([AMM SDS 52-18-00/1](#)). See that the locks (8) of the two lock boxes move at the same time when you operate one of the handles (about 15°) (refer to [Figure 509](#)). Also make sure that the door locks and the two handles operate correctly.
- (5) Do an operational check of the main-door warning message ([AMM TASK 52-73-00-700-801-A/500](#)).
- (6) Do the cable test again (SUBTASK 52-18-00-820-005-A00).
- (7) Install new lockwires (3) to the nuts (1) and (2). Refer to [Figure 508](#); DET. C.
- (8) For cables with protective boots: lubricate the protective boots (4) if necessary (TASK 52-18-09-600-801-A). Refer to [Figure 508](#); DET. C.

L. Follow-on

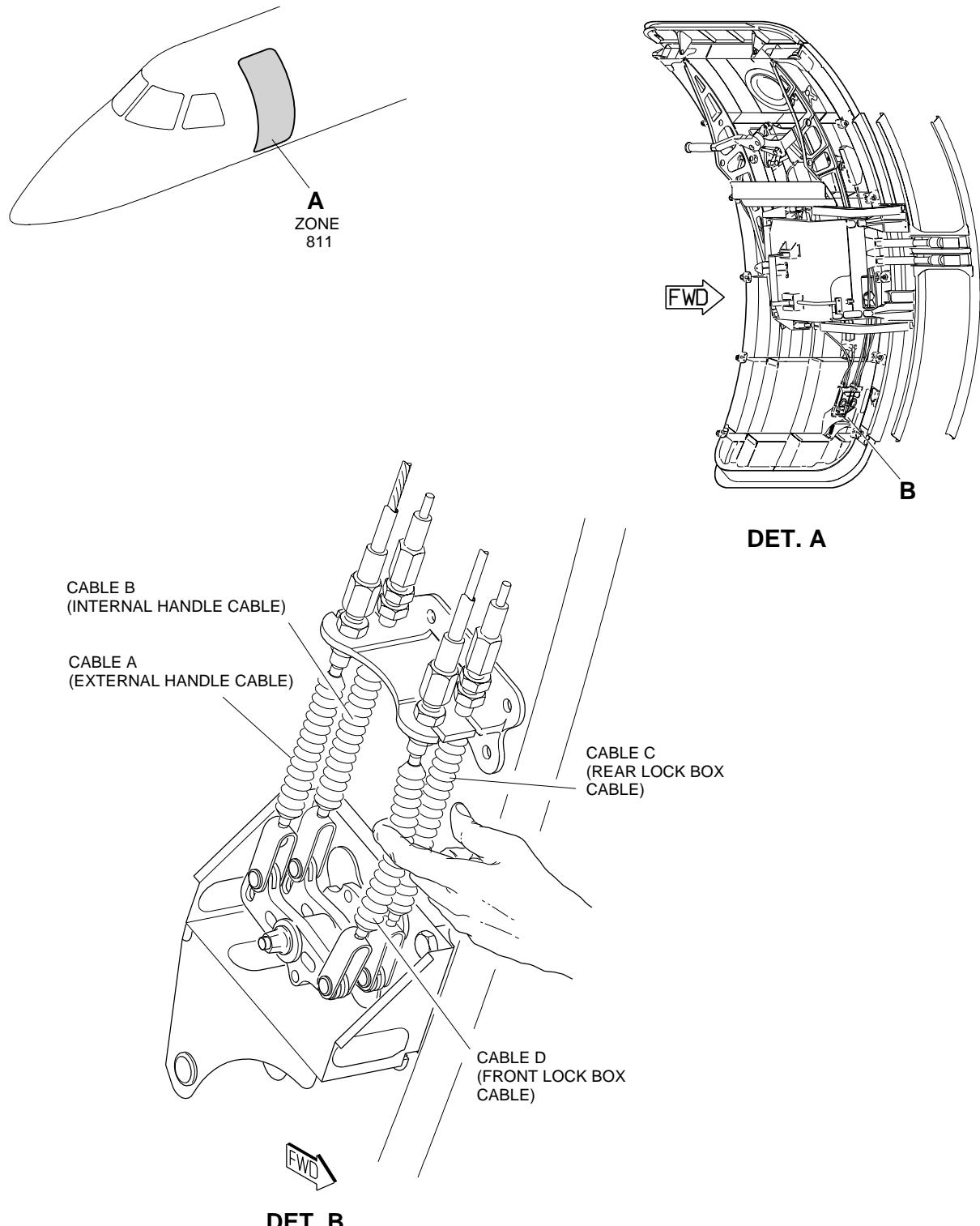
SUBTASK 842-005-A

- (1) Install the main door lining panels ([AMM TASK 25-23-04-400-801-A/400](#)).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR.
BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL
HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY
THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN
OCCUR.

- (2) Close the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Cable Tension
Figure 507

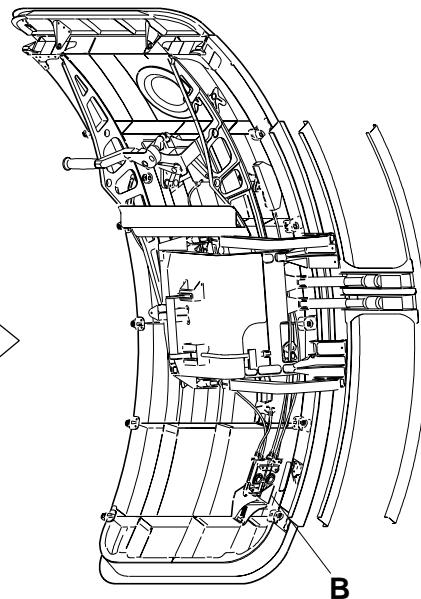
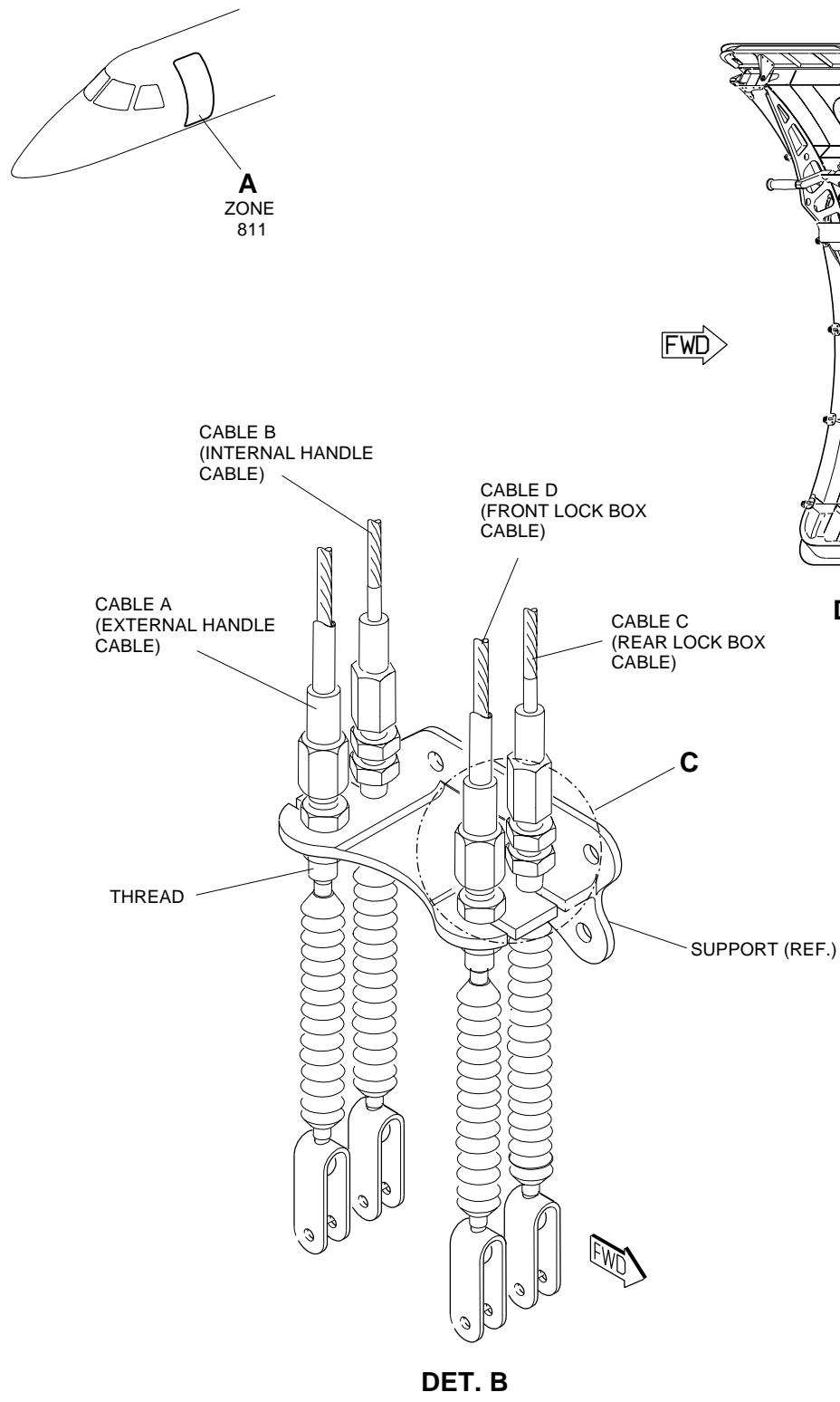


EM145AMM520326D.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Main Door Cables - Adjustment

Figure 508 - Sheet 1

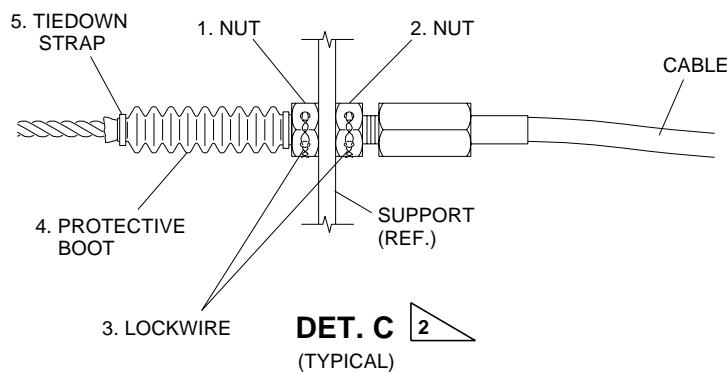
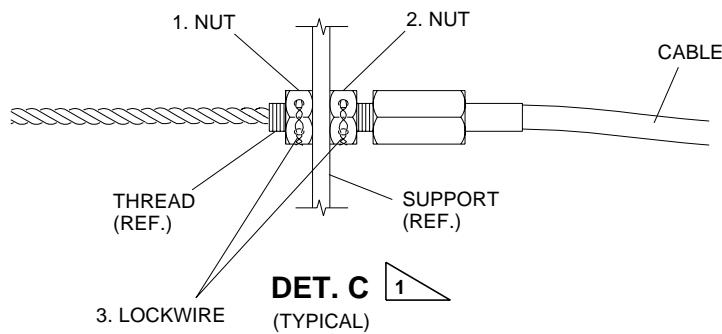


EM145AMM520659C.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Main Door Cables - Adjustment

Figure 508 - Sheet 2


 CABLE WITHOUT PROTECTIVE BOOT.

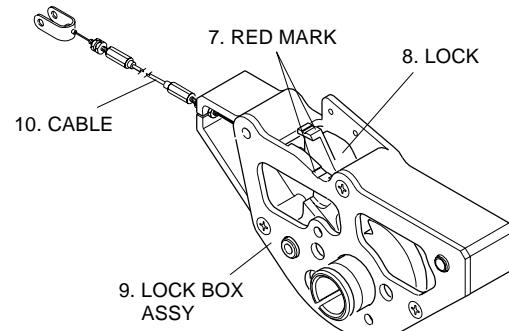
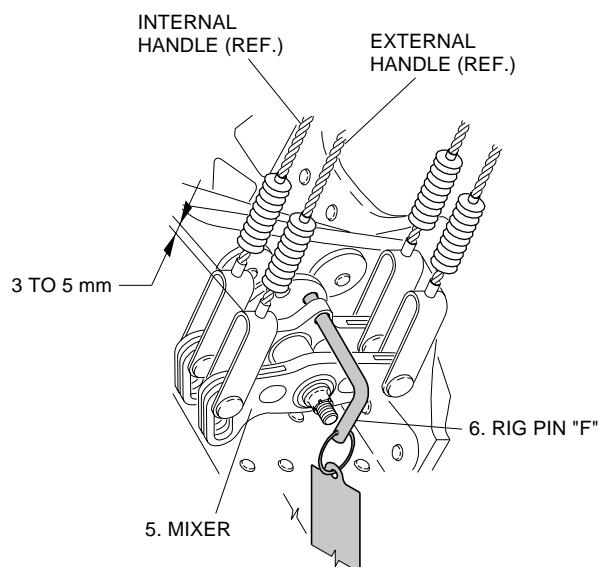
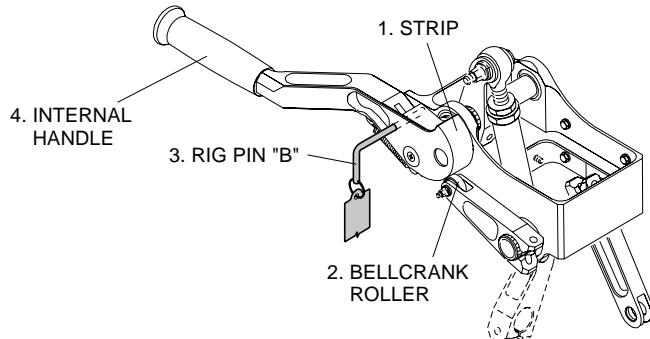
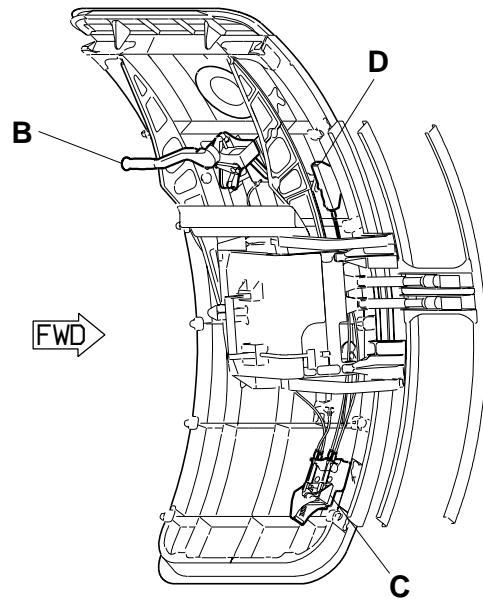
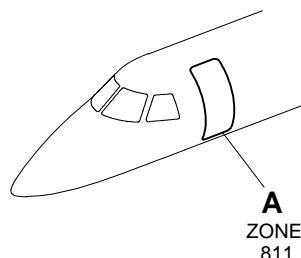
 CABLE WITH PROTECTIVE BOOT.

EM145AMM520660B.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Rig Pin and Red Mark

Figure 509



EM145AMM520661B.DGN



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-805-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

6. MAIN DOOR ROLLERS - ADJUSTMENT

A. General

- (1) This task gives the procedures to adjust the rollers of the main door.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|---------------------------------------|
| AMM SDS 52-10-00/1 | |
| AMM SDS 52-18-00/1 | |
| AMM TASK 53-21-02-600-801-A/300 | MAIN-DOOR FRAME ROLLERS - LUBRICATION |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|-----------|
| 811 | | Main door |

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|--------------------------|-----------------------------------|-----|
| MIL-C-16173, GR3 | WD-40 Lubricant | AR |
| ASTM D 740 | Methyl-Ethyl-Ketone (MEK) Solvent | AR |

G. Expandable Parts

Not Applicable

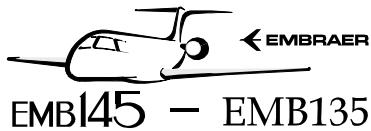
H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |

I. Preparation

SUBTASK 841-006-A

- (1) Put the aircraft on the landing gears.
- (2) Make sure that the main door is open ([AMM SDS 52-10-00/1](#)).



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

J. Main-Door Upper Rollers - Adjustment ([Figure 510](#)) ([Figure 511](#)) ([Figure 516](#))

SUBTASK 820-008-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Close the door carefully to make sure of the free movement of the rollers in the tracks.

NOTE: The upper rollers must not touch the tracks.

- (2) If the upper rollers touch the tracks, adjust the upper rollers as follows ([Figure 510](#)):

(a) Open the main door ([AMM SDS 52-18-00/1](#)).

(b) Loosen the bolts (4), and move the support (5) up or down as necessary to align the roller with the track.

(c) Tighten the bolts (4).

NOTE: The door cannot be locked with the upper rollers released. It can cause a jamming of the door.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (3) Close and lock the main door to see if there is a gap between the bolts (2) and the web of the track. If the bolt (2) rubs the web of the track, do as follows ([Figure 510](#)):

(a) Remove the bolt (2) and shims (3).

(b) Lubricate the roller ([AMM TASK 53-21-02-600-801-A/300](#)).

WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (MEK). PUT ON SAFETY GOGGLES, PROTECTIVE GLOVES AND CLOTHING. DO NOT BREATHE THE GAS. DO THE WORK IN AN AREA WHICH HAS A GOOD FLOW OF AIR. THE METHYL-ETHYL-KETONE (MEK) IS POISONOUS AND HIGHLY FLAMMABLE.

1 Clean the internal roller surface and the roller support with methyl-ethyl-ketone (MEK) (ASTM-D-740) or similar solvent.

2 Lubricate the internal roller surface and the roller support with the WD-40 spray lubricant.

(c) Remove the shims (3) from the bolt (2) as necessary for the bolt (2) not to touch the web of the track.

(d) Install the bolt (2) and shims (3), as applicable.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (4) Close the door and try to lock it carefully. When the stops start to align with the stop seats (Figure 516); DET. B) (lower rollers at the point shown in (Figure 516); DET. C), hold the handle in this position and see if there is a gap between the stop and the stop seat surfaces.
- (5) If a stop touches the stop seat, remove all the shims from that stop as follows (Figure 516); DET. D):
 - (a) Remove the nut (4), screw (1), shims (3), and stop (2) from the support.
 - (b) Install the stop (2), screw (1), and nut (4) at the support.
- (6) If, after you remove the shims (3), the stop (2) continues to touch the stop seat when you lock the door, do as follows (Figure 516); DET. D):
 - (a) Open the main door ([AMM SDS 52-18-00/1](#)).
 - (b) Loosen the bolts (4) and move the support (5) slightly inward. Refer to [Figure 510](#).
 - (c) Tighten the bolts (4). Refer to [Figure 510](#).

NOTE: The door cannot be locked with the upper rollers released. It can cause a jamming of the door.

K. Main-Door Lower Rollers - Adjustment ([Figure 510](#)) ([Figure 511](#)) ([Figure 516](#))

SUBTASK 820-009-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Close the door carefully to make sure of the free movement of the lower rollers in the tracks. Lock the door.
- (2) Touch the lower rollers with your finger and try to turn them. They must turn freely.
- (3) If the lower rollers are locked against the tracks, adjust the lower rollers as follows (refer to [Figure 510](#)):
 - (a) Open the main door ([AMM SDS 52-18-00/1](#)).
 - (b) Loosen the bolts (4) and move the support (5) in the necessary direction.

NOTE: The two lower rollers must be at the same height in relation with their tracks.
- (c) Tighten the bolts (4).

NOTE: The door cannot be locked with the upper rollers released. It can cause a jamming of the door.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (4) Close and lock the main door to see if there is a gap between the bolts and the web of the track ([Figure 511](#); DET. B). If the bolt rubs the web of the track, do as follows:
 - (a) Open the main door.
 - (b) Remove the bolt (2) and shims (3). Refer to [Figure 510](#).
 - (c) Lubricate the roller ([AMM TASK 53-21-02-600-801-A/300](#)).

WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (MEK). PUT ON SAFETY GOGGLES, PROTECTIVE GLOVES AND CLOTHING. DO NOT BREATHE THE GAS. DO THE WORK IN AN AREA WHICH HAS A GOOD FLOW OF AIR. THE METHYL-ETHYL-KETONE (MEK) IS POISONOUS AND HIGHLY FLAMMABLE.

- 1 Clean the internal roller surface and the roller support with methyl-ethyl-ketone (MEK) (ASTM-D-740) or similar solvent.
 - 2 Lubricate the internal roller surface and the roller support with the WD-40 spray lubricant.
- (d) Remove the shims (3) from the bolt (2) as necessary for the bolt (2) not to touch the web of the track. Refer to [Figure 510](#).
 - (e) Install the bolt (2) and shims (3), as applicable. Refer to [Figure 510](#).

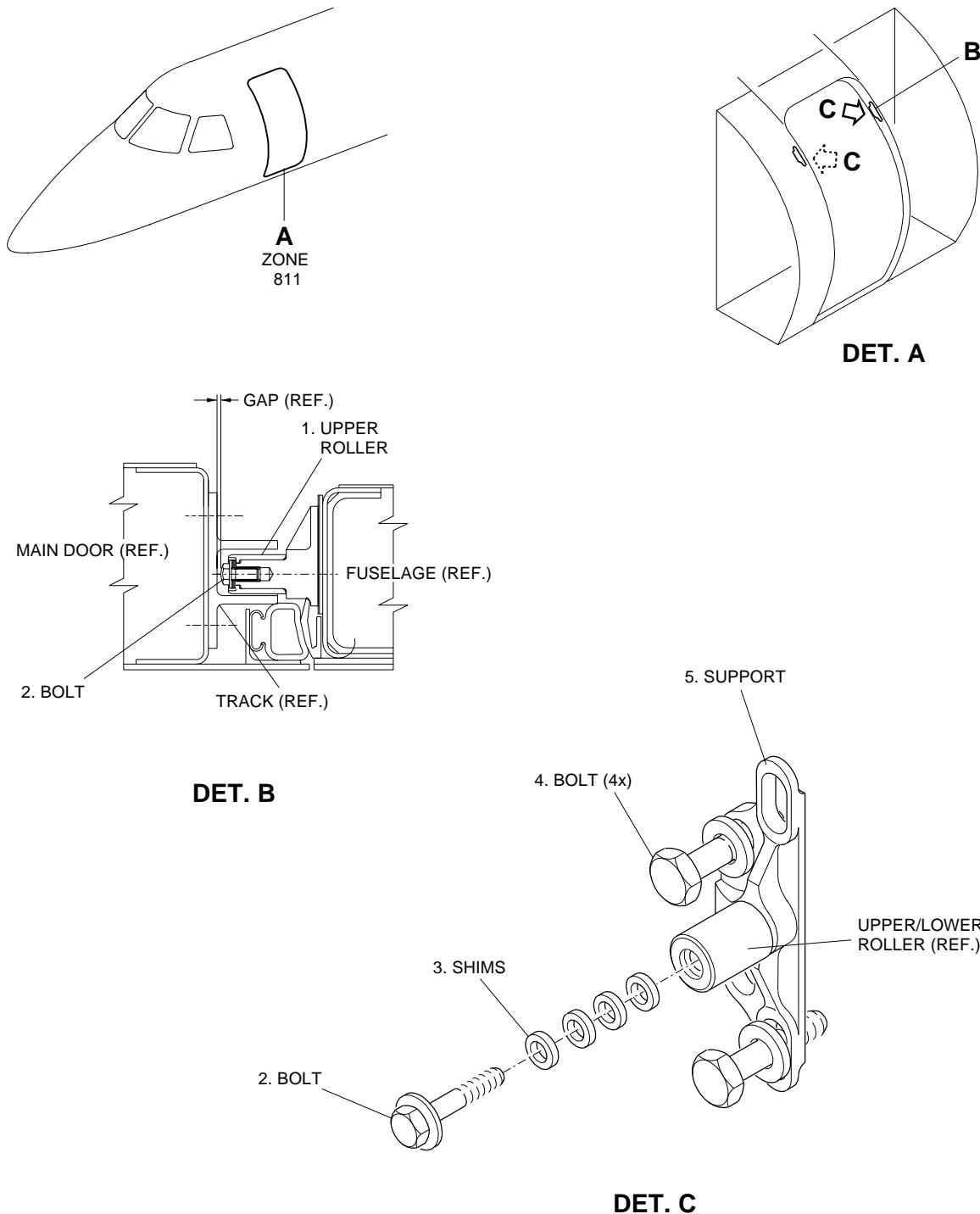
L. Follow-on

SUBTASK 842-006-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Close the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Upper Roller and Roller Length - Adjustment
Figure 510

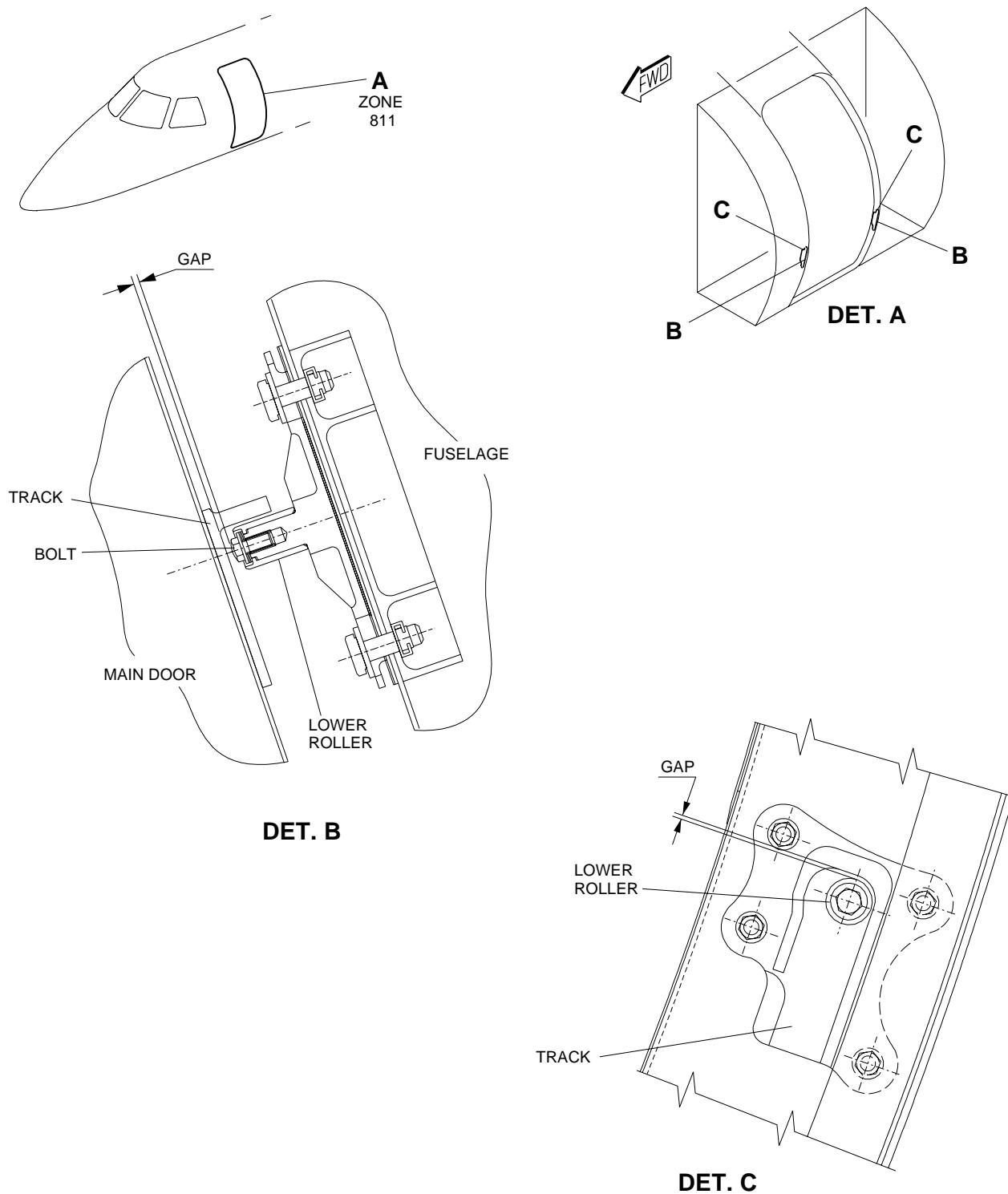


EM145AMM520652A.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Lower Roller - Adjustment

Figure 511



EM145AMM520650A.DGN

TASK 52-18-00-820-806-A
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
7. MAIN DOOR-TO-FUSELAGE SKIN GAP - ADJUSTMENT
A. General

(1) This task gives the procedures to adjust the main door-to-fuselage skin gap.

B. References

| <i>REFERENCE</i> | <i>DESIGNATION</i> |
|---------------------------------|---|
| 52-18-00 | - |
| AMM SDS 52-18-00/1 | |
| AMM TASK 52-18-00-820-807-A/500 | MAIN DOOR-TO-FUSELAGE SKIN STEP - ADJUSTMENT |
| AMM TASK 52-18-03-400-801-A/400 | SIDE-HINGED MAIN-DOOR FOLDING FLAP - INSTALLATION |

C. Zones and Accesses

| <i>ZONE</i> | <i>PANEL/DOOR</i> | <i>LOCATION</i> |
|-------------|-------------------|-----------------|
| 811 | | Main door |

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

| <i>SPECIFICATION (BRAND)</i> | <i>DESCRIPTION</i> | <i>QTY</i> |
|----------------------------------|--------------------|------------|
| Commercially Available | Adhesive Tape | AR |

G. Expendable Parts

| <i>ITEM</i> | <i>IPC REFERENCE (VENDOR REFERENCE)</i> | <i>QTY</i> |
|-------------|---|------------|
| Shim | 52-18-00 | AR |

H. Persons Recommended

| <i>QTY</i> | <i>FUNCTION</i> | <i>PLACE</i> |
|------------|-----------------|--------------|
| 2 | Do the task | Main door |

I. Preparation
SUBTASK 841-007-A

(1) Put the aircraft on the landing gears.

J. Main Door-to-Fuselage Skin Gap - Test ([Figure 512](#)) ([Figure 513](#))

SUBTASK 820-010-A

- (1) Do a check of the gaps of the main door as follows:
 - (a) The folding flap edge must be installed on the door ([AMM TASK 52-18-03-400-801-A/400](#)).
 - (b) Open the main door ([AMM SDS 52-18-00/1](#)).
 - (c) Identify the check points with adhesive tape on the fuselage skin. Check points 1 to 10 are aligned with the stop seats (Figure 516, DET. B). Check points 11 and 12 are 120 mm below the folding flap top. Check points 13 and 14 are in the vertical center line of the door, as shown in [Figure 512](#).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (d) Close and lock the main door ([AMM SDS 52-18-00/1](#)).
- (e) Measure the gaps between the door contour and the frame on the fuselage structure, at the check points, and compare them with the values shown in [Table 501](#).

NOTE: Keep the parallelism on one of the sides of the main door.

Table 501 - PERMITTED GAPS - AIRCRAFT DEPRESSURIZED

| Points | Maximum permitted gap (mm) | Minimum permitted gap (mm) |
|--------------------|----------------------------|----------------------------|
| 1 to 10, 13 and 14 | 5.0 | 1.0 |
| 11 and 12 | 7.0 | 5.0 |

- (f) If the gaps between the door contour and the frame, at the points 1 to 12, are not correct, or other part of the main door touches the frame or other device attached in the frame, adjust the gaps with the upper and lower lateral guides (SUBTASK 52-18-00-820-010-A00). For a larger adjustment, adjust the gaps with the upper and lower bars (SUBTASK 52-18-00-820-011-A00).

NOTE: The main door must enter freely when it is closed. Only the upper and lower lateral guides can touch the lateral guide seats.

NOTE: When the door closes, the gap between the upper stops (Figure 517, Sheet 2) and the stop seats is a good reference to adjust the gap from inside the aircraft.

- (g) If the gaps between the door contour and the frame, at the points 13 and 14, are not correct, adjust the gaps/door-height with the support link (SUBTASK 52-18-00-820-012-A00).

- (h) If you see that the door is in a low height, and the stops touch the stop seats on the door travel to close/open, adjust the door height with the support link (SUBTASK 52-18-00-820-012-A00) to let the stops pass freely over the stop seats.
 - (i) Monitor the lateral guides (1) when the door closes. If the lateral guides (1) rub with too much pressure against the lateral stop seats, adjust the upper and lower lateral guides (SUBTASK 52-18-00-820-010-A00). For a larger adjustment, adjust the gaps with the upper and lower bars (SUBTASK 52-18-00-820-011-A00). Refer to [Figure 513](#).
- K. Main Door-To-Fuselage Skin Gap - Adjustment of the Door with the Lateral Guides ([Figure 512](#)) ([Figure 513](#)) ([Figure 514](#)) ([Figure 515](#))
- SUBTASK 820-011-A**
- (1) Open the door ([AMM SDS 52-18-00/1](#)).
 - (2) Examine the lateral guide (8) seats for too much wear and on the rubber spacer (7) for deterioration. If necessary, replace the lateral guide seats (8). Refer to [Figure 513](#).
 - (3) **NOTE:** The lateral guides drive the door to the closure correct position. Tighten or release the screws (9) to compress or expand the rubber spacer (7), and thus set the lateral guide seats (8) to the correct height. Refer to [Figure 513](#).
 - (4) If necessary, add or remove shims (6) to/from the lateral guides (1) as follows ([Figure 513](#)):
 - (a) Remove the nuts (5), washer (4), screws (2) and (3), and lateral guide (1).
 - (b) Remove or add shims (6) as necessary.

NOTE: When the door is closed, the gap between the lateral guides (1) and the lateral guide seats (8) must be as follows:

 - Forward side: 1.0-to-2.0mm
 - Aft side: 0.0-to-1.0mm
 - (c) Install the lateral guide (1), screws (2) and (3), washer (4), and nuts (5).
- CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.**
- (5) Close and lock the door ([AMM SDS 52-18-00/1](#)).
- L. Main Door-To-Fuselage Skin Gap - Adjustment of the Door with the Upper and Lower Bar, and with the Support Link ([Figure 514](#)) ([Figure 515](#))
- SUBTASK 820-012-A**
- (1) Open the main door ([AMM SDS 52-18-00/1](#)).

- (2) Remove the nut (18), washer (17), and bolt (16) from the upper and lower bars (12) and (13). Refer to [Figure 515](#).
- (3) Remove the rod end (19) from the support link (8). Refer to [Figure 515](#).
- (4) Remove and discard the lockwire (15). Refer to [Figure 515](#).
- (5) Loosen the jam nut (20). Refer to [Figure 515](#).
- (6) Reset the length of the bars as follows ([Figure 515](#)):
 - (a) Close and lock the door with the bars (12) and (13) removed from the door.
 - (b) Turn the rod end (19) and/or the nut (15) to adjust the length of the upper and lower bars (12) and (13).

NOTE: When you can put the bolt (16) into the rod end again, the length of the rod is adjusted.
- (7) Put the rod end (19) at the support link (8) and install the bolt (16). Refer to [Figure 515](#).
- (8) Do a check of the main door-to-fuselage skin gap.
- (9) If an adjustment is necessary, do as follows ([Figure 515](#)):
 - (a) Open the door and remove the bolt (16).
 - (b) Turn the rod end (19) and/or the nut (15) to increase or decrease the length of the upper and lower bars (12) and (13).
- (10) Put the rod end (19) at the support link (8) and install the bolt (16), washer (17), and nut (18). Refer to [Figure 515](#).
- (11) If a large adjustment is necessary, adjust the main door-to-fuselage skin gap with the support link (8) as follows ([Figure 514](#)):

CAUTION: IF THE DOOR IS HELD WITH THE BOLT, BEFORE YOU REMOVE THIS BOLT FROM THE SUPPORT LINK, HOLD THE DOOR. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE DOOR CAN OCCUR.

 - (a) Remove and discard the cotter pin (2).
 - (b) **NOTE:** When you remove bolt (6), record the number of washers (7) on each side of the bellcrank. This is to make the door gap adjustment easier.
Remove the nut (3), washers (4), (7), and (5), and bolt (6).
 - (c) To adjust the door gap, add or remove washers (7) on each side of the bellcrank as necessary. The washers (7) removed from one side must be added on the other side.
 - (d) Install the bolt (6), washers (7), (5) and (4), nut (3), and a new cotter pin (2).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR.
BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL
HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY
THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN
OCCUR.

- (12) Close and lock the main door ([AMM SDS 52-18-00/1](#)).
- (13) Do a check of the main door-to-fuselage skin gap again, as given in SUBTASK 52-18-00-820-009-A00.
- (14) Turn the nut (15) to do a fine adjustment of the door gap. Refer to [Figure 515](#).
- (15) Do a check of the main door-to-fuselage skin gap.
- (16) Tighten the jam nut (20) and install new lockwire (14). Refer to [Figure 515](#).

M. Main Door-To-Fuselage Skin Gap and Main Door Height - Adjustment of the Door through the Support Link ([Figure 515](#)) [Figure 516](#)

SUBTASK 820-013-A

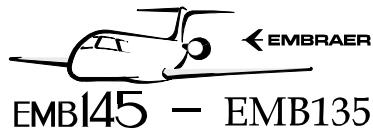
- (1) Open the main door ([AMM SDS 52-18-00/1](#)).
- (2) Remove the nut (11), bolt (9), and washers (10) and (6).
- (3) To lift the door, install one washer (6) (maximum 0.8mm thick) under the support link (8). Refer to [Figure 515](#); DET. C.
- (4) Install the washers (6) and (10), bolt (9), and nut (11).
- (5) If it is necessary to lift the door more, install one washer (6) (maximum 0.8mm thick) under the point shown in [Figure 515](#); DET. D.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR.
BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL
HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY
THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN
OCCUR.

- (6) Close and lock the main door ([AMM SDS 52-18-00/1](#)).
- (7) Do a check of the main door-to-fuselage skin gap again at the points 13 and 14, as given in SUBTASK 52-18-00-820-009-A00.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR.
BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL
HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY
THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN
OCCUR.

- (8) Close and open the door to make sure that the stops do not touch the stop seats on the door travel to close/open. Refer to Figure 516.



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

N. Follow-on

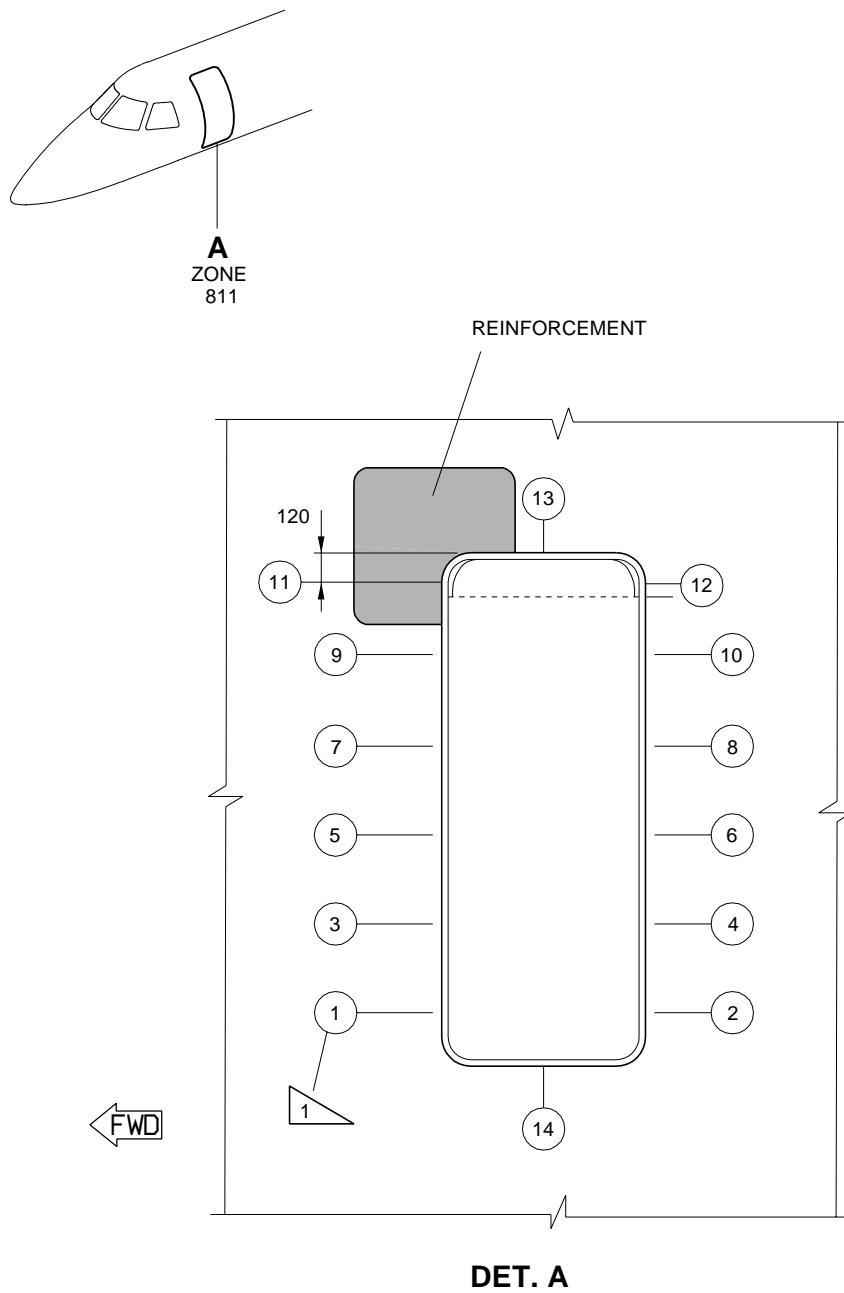
SUBTASK 842-007-A

- (1) If you will not adjust the main door-to-fuselage skin step ([AMM TASK 52-18-00-820-807-A/500](#)), remove the adhesive tape.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (2) Close and lock the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Gap and Step Points
Figure 512



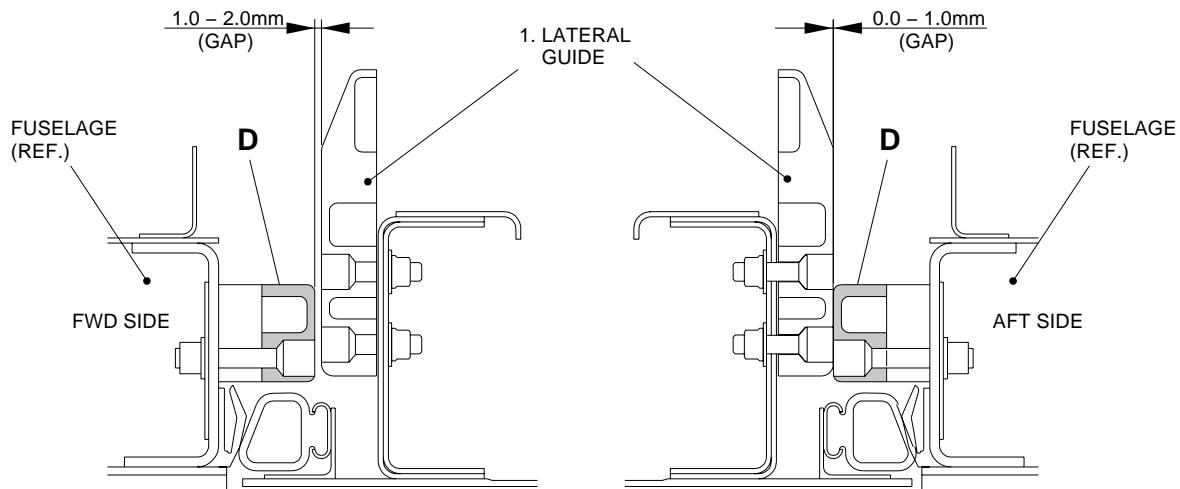
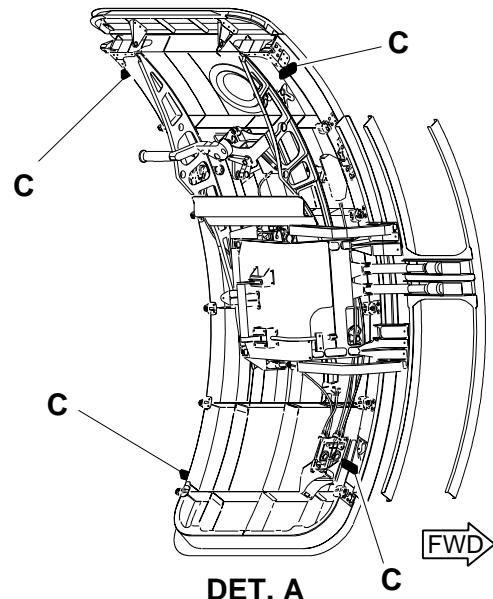
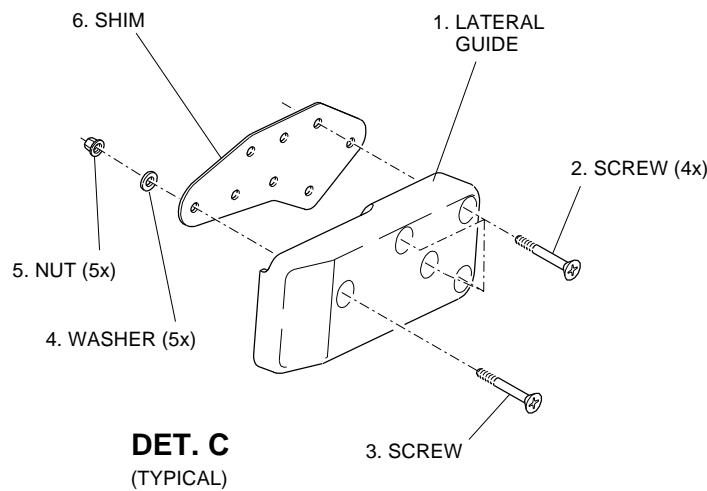
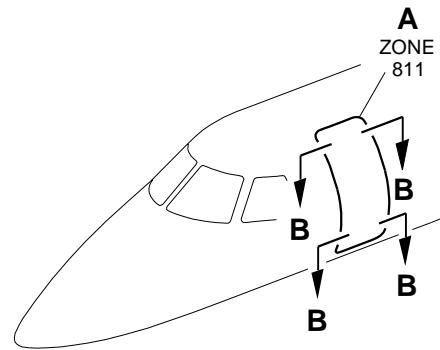
CHECK POINTS 1 TO 12 ARE ALIGNED WITH THE STOP SEATS.
 CHECK POINTS 13 AND 14 ARE LOCATED IN THE VERTICAL CENTER LINE OF THE DOOR.

EM145AMM520226E.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Adjustment of the Outside Gaps

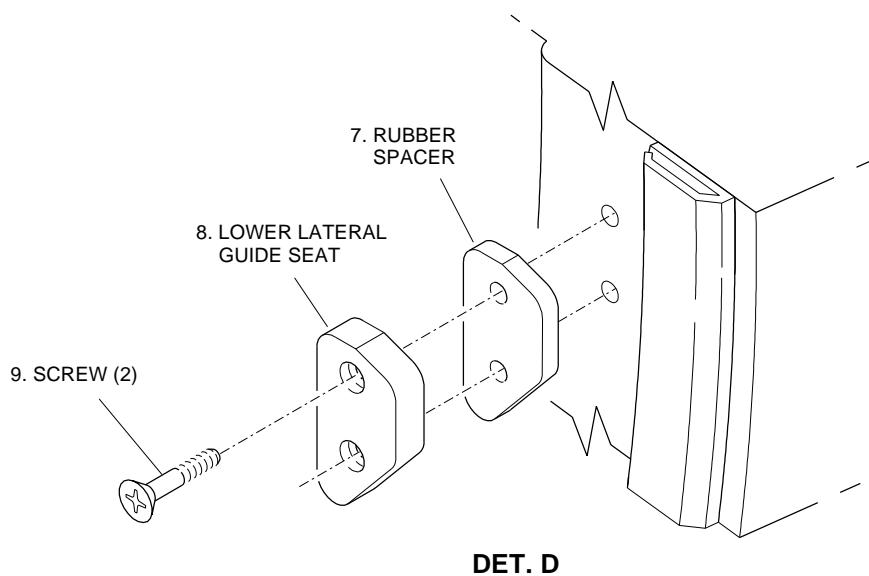
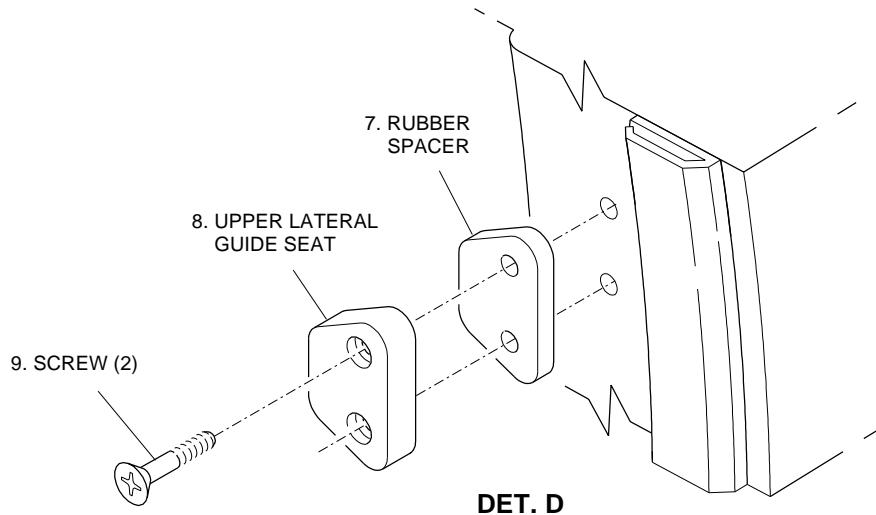
Figure 513 - Sheet 1



SECTION B-B

EM145AMM520224H.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
 Adjustment of the Outside Gaps
 Figure 513 - Sheet 2

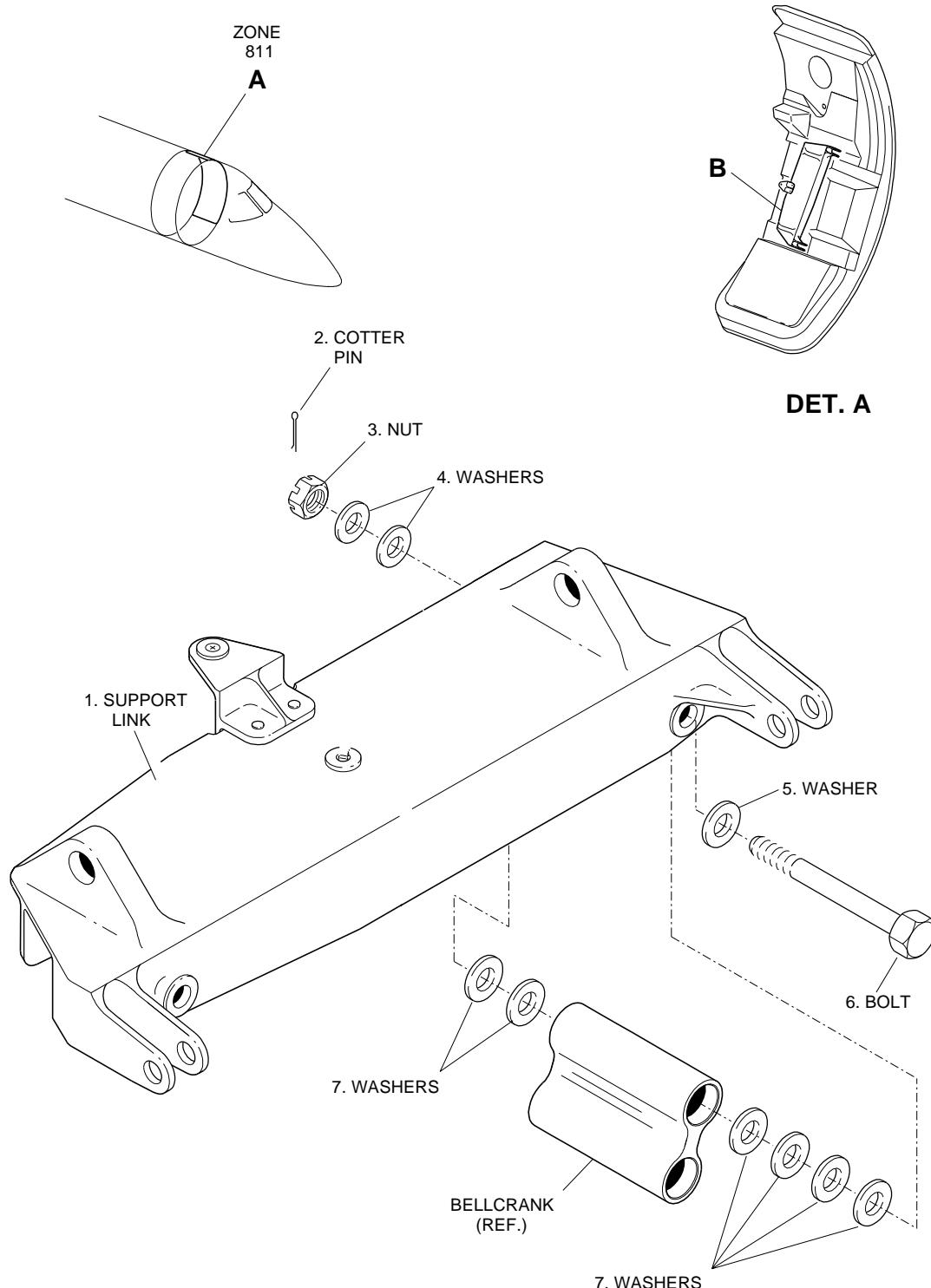


EM145AMM520718A.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

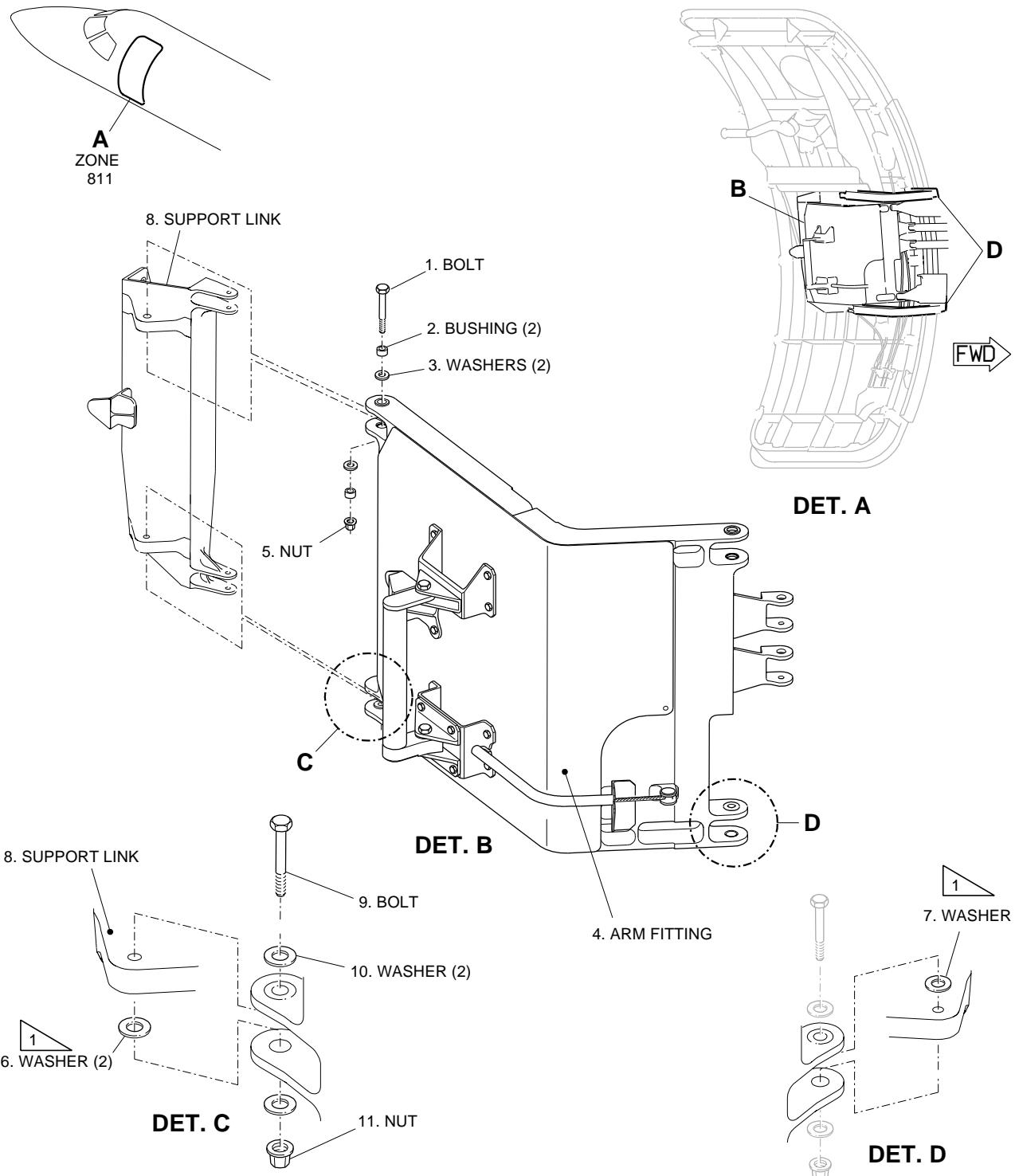
Upper Lateral Guides

Figure 514



EM145AMM520632C.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
 Adjustment with the Bars and Support Link
 Figure 515 - Sheet 1

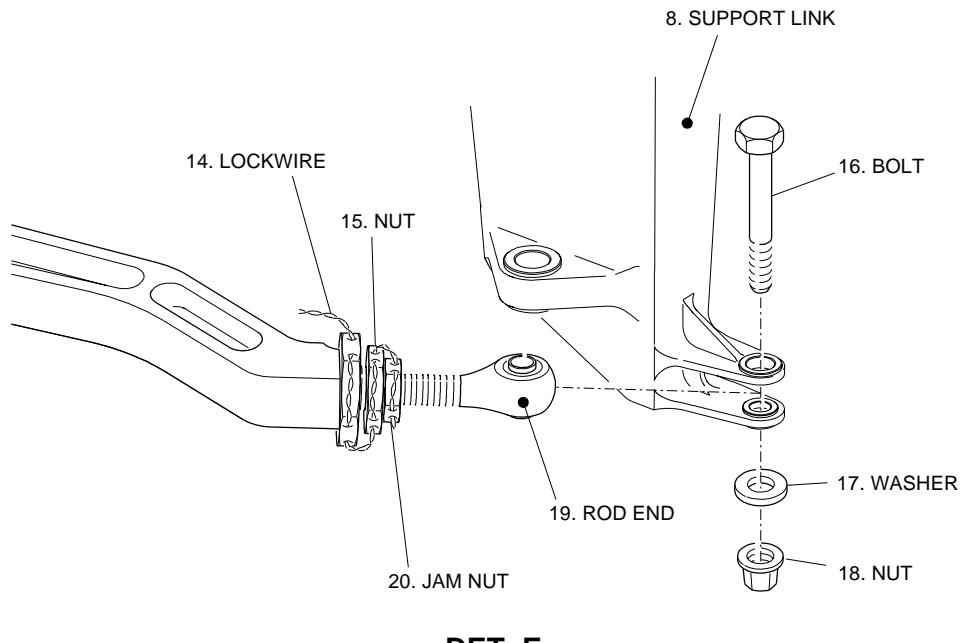
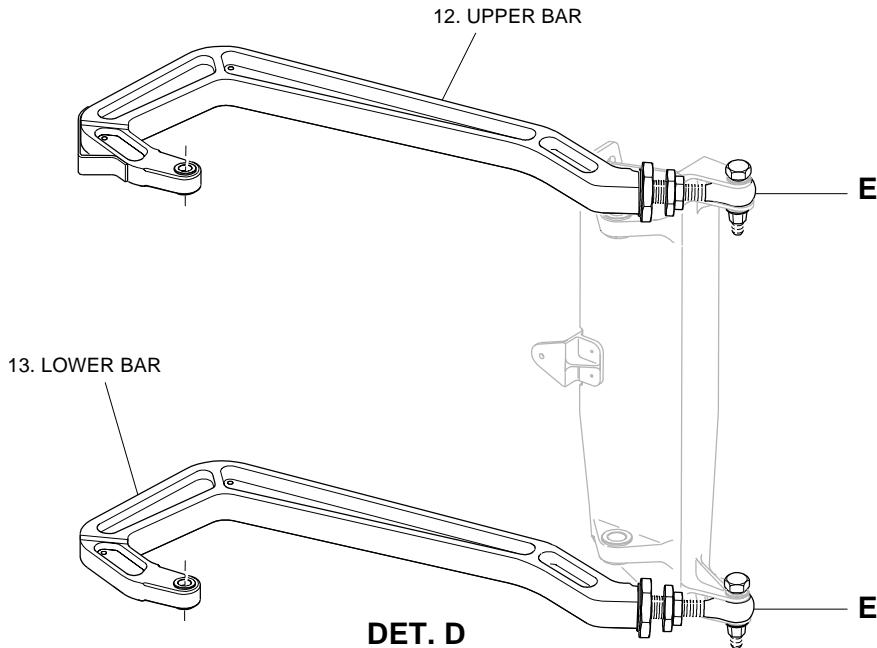


EM145AMM520634D.DGN

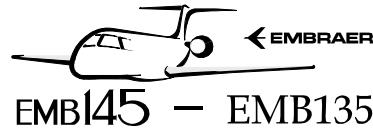
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

Adjustment with the Bars and Support Link

Figure 515 - Sheet 2



EM145AMM520667A.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-807-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

8. MAIN DOOR-TO-FUSELAGE SKIN STEP - ADJUSTMENT

A. General

(1) This task gives the procedures to adjust the step of the main door.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|--|
| AMM SDS 52-18-00/1 | |
| AMM TASK 52-11-04-000-801-A/400 | MAIN-DOOR FOLDING FLAP - REMOVAL |
| AMM TASK 52-18-00-820-805-A/500 | MAIN DOOR ROLLERS - ADJUSTMENT |
| AMM TASK 52-18-00-820-808-A/500 | MAIN DOOR STOPS - ADJUSTMENT |
| AMM TASK 52-18-03-000-801-A/400 | SIDE-HINGED MAIN-DOOR FOLDING FLAP - RE- MOVAL |
| AMM TASK 52-18-03-400-801-A/400 | SIDE-HINGED MAIN-DOOR FOLDING FLAP - INSTAL- LATION |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------------|
| 811 | | Side-Hinged door |

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|--------------------------|---------------|-----|
| Commercially Available | Adhesive Tape | AR |

G. Expandable Parts

Not Applicable

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |

I. Preparation

SUBTASK 841-008-A

(1) Put the aircraft on the landing gears.

- (2) If the folding flap edge or the folding flap is new, remove the folding flap edge ([AMM TASK 52-18-03-000-801-A/400](#)) to prevent interference (because it is not adjusted yet).

J. Main Door-to-Fuselage Skin Step - Adjustment

SUBTASK 820-014-A

- (1) If the adjustment of the main door-to-fuselage skin gap was not done, the check points are not marked on the fuselage. Then, do as follows:
- Open the door ([AMM SDS 52-18-00/1](#)).
 - Identify the check points with adhesive tape on the fuselage skin. Check points 1 to 10 are aligned with the stop seats (Figure 516, DET. B). Check points 11 and 12 are 120 mm below the folding flap top. Check points 13 and 14 are in the vertical center line of the door, as given in Figure 512.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (2) Close and lock the main door ([AMM SDS 52-18-00/1](#)).
- (3) Measure the steps between the door contour and the fuselage loft line and compare them with the values given in Table 502.

NOTE: If the door has a new folding flap edge ([AMM TASK 52-18-03-400-801-A/400](#)), it must not be installed on the door, and the measurement at points 12 and 13 will be done after the installation of the folding flap edge.

Table 502 - PERMITTED STEPS - AIRCRAFT DEPRESSURIZED

| Points | Minimum Permitted Step (mm) | Maximum Permitted Step (mm) |
|---------|-----------------------------|-----------------------------|
| 1 to 10 | - 3.0 | 0.0 |
| 12 | - 6.0 | 0.0 |
| 13 | - 13.0 | -5.0 |
| 14 | - 3.0 | 0.0 |

NOTE:

- The negative sign of the step value means that the door is underflush to the fuselage skin line.
- It is not necessary to measure the step at point 11 because of the reinforcement interference.

- (4) If a discrepancy is found, do as follows:

(a) **NOTE:** Friction between the door seal and the frame seal increases the load at the handles to lock/unlock the main door.

If a decrease in the load of the handles is necessary, adjust the door step near the maximum step permitted (door more overflush than permitted) (refer to Table 502).

- (b) Displace the lower and upper rollers or inward or outward as necessary (Figure 510 and Figure 511). Release the rollers as given in [AMM TASK 52-18-00-820-805-A/500](#).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (c) Close the door carefully to make sure of the free movement of the rollers in the tracks ([AMM TASK 52-18-00-820-805-A/500](#)).
- (d) Lock the door and touch the lower rollers with your finger and try to turn them. They must turn freely ([AMM TASK 52-18-00-820-805-A/500](#)).
- (e) Adjust the door stops ([AMM TASK 52-18-00-820-808-A/500](#)).
- (5) If the step values are in the tolerance, it is not necessary to adjust the door-to-fuselage skin step.

K. Follow-on

SUBTASK 842-008-A

- (1) Remove the adhesive tape from the check points.
- (2) Install the folding flap edge, if applicable ([AMM TASK 52-11-04-000-801-A/400](#)).

TASK 52-18-00-820-808-A
EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
9. MAIN DOOR STOPS - ADJUSTMENT
A. General

- (1) This task gives the procedures to adjust the stops of the main door.

B. References

| <i>REFERENCE</i> | <i>DESIGNATION</i> |
|---------------------------------|--|
| AMM SDS 52-18-00/1 | |
| AMM TASK 52-18-00-820-805-A/500 | MAIN DOOR ROLLERS - ADJUSTMENT |
| AMM TASK 52-18-00-820-807-A/500 | MAIN DOOR-TO-FUSELAGE SKIN STEP - ADJUSTMENT |

C. Zones and Accesses

| <i>ZONE</i> | <i>PANEL/DOOR</i> | <i>LOCATION</i> |
|-------------|-------------------|------------------|
| 811 | | Side-Hinged door |

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

| <i>QTY</i> | <i>FUNCTION</i> | <i>PLACE</i> |
|------------|-----------------|--------------|
| 1 | Does the task | Main door |

I. Preparation
SUBTASK 841-009-A

- (1) Put the aircraft on the landing gears.
- (2) Make sure that the check of the main door-to-fuselage skin step is already done ([AMM TASK 52-18-00-820-807-A/500](#)).
- (3) Make sure that the rollers are already adjusted ([AMM TASK 52-18-00-820-805-A/500](#)).

NOTE: After you adjust the rollers to set the door to the correct step, some stops can interfere with the stop seat when the door is closed. Remove shims from those stops, as follows, to remove the interference.

- (4) Open the main door ([AMM SDS 52-18-00/1](#)).

J. Main Door Stops - Adjustment ([Figure 516](#)) ([Figure 517](#))

SUBTASK 820-015-A

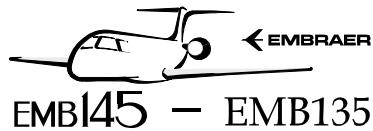
- (1) Examine the stop seats for wear (SRM 53-21-15/101).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (2) Close the door and try to lock it carefully. When the stops start to align with the stop seats ([Figure 516](#); DET. B) (lower rollers at the point shown in [Figure 516](#); DET. C), hold the handle in this position.
- (3) Examine the gap between the stop and the stop seat surfaces. It must be between 0.2 and 0.5 mm ([Figure 517](#); DET. B), the stop of [Figure 517](#); DET. D included.
- (4) If you find the specified gap in all stops, no adjustment is necessary.
- (5) If a stop is out of tolerance, adjust its gap as follows:
- (a) Open the door ([AMM SDS 52-18-00/1](#)).
- (b) Adjust the stops (10x) ([Figure 516](#); DET. D) as follows:
- 1 Remove the nut (4), screw (1), shims (3), and stop (2) from the support.
 - 2 Remove or install more shims (3) as necessary.
 - 3 Install the shims (3), if applicable, stop (2), screw (1), and nut (4) at the support.
- (c) Adjust the stop (2x) ([Figure 517](#); DET. D) as follows:
- 1 Remove the nut (2), washer (1), screw (5), shims (3), and backstop (4) from the support.
 - 2 Remove or install more shims (3) as necessary.
 - 3 Install the shims (3), if applicable, backstop (4), screw (5), washer (1), and nut (2) at the support.

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (d) Close the door and try to lock it carefully. When the stops start to align with the stop seats ([Figure 516](#); DET. B) (lower rollers at the point shown in [Figure 516](#); DET. C), hold the handle in this position.



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

- (e) Check the gap between the stop and the stop seat surfaces. It must be between 0.2 and 0.5 mm ([Figure 517](#); DET. B), including the stop of [Figure 517](#); DET. D.
- (f) Do a check of the main door-to-fuselage skin step ([AMM TASK 52-18-00-820-807-A/500](#)).

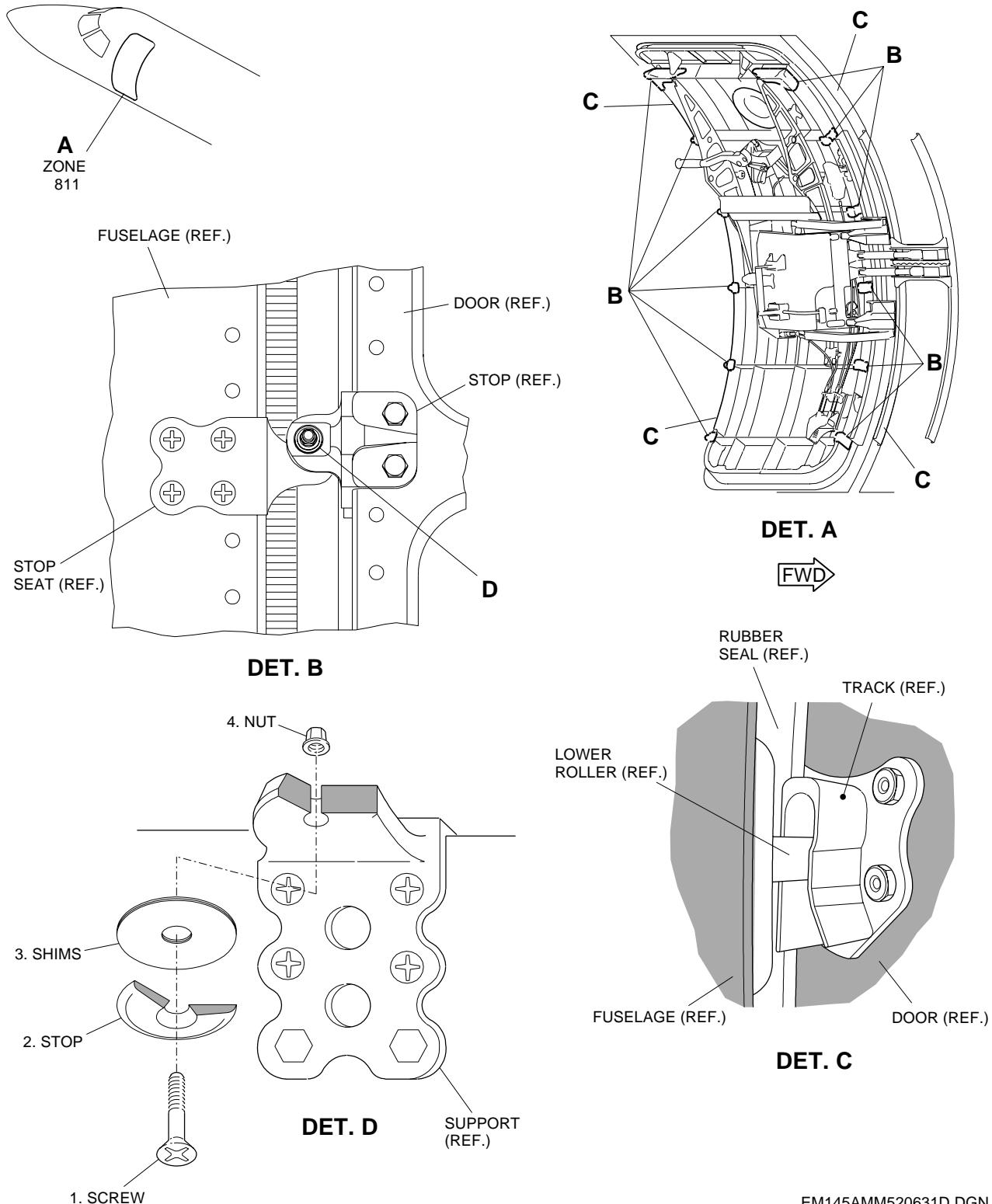
K. Follow-on

SUBTASK 842-009-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Close the main door ([AMM SDS 52-18-00/1](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
 Roller and Stop Position - Adjustment
 Figure 516

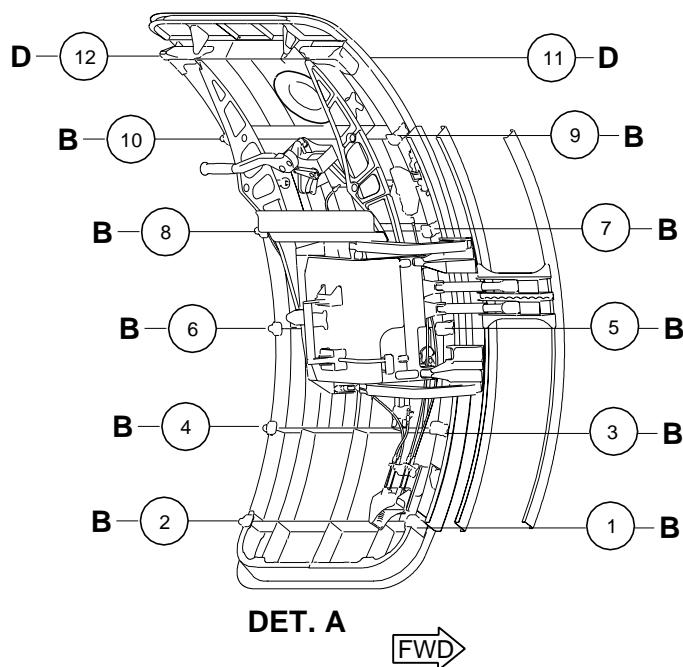
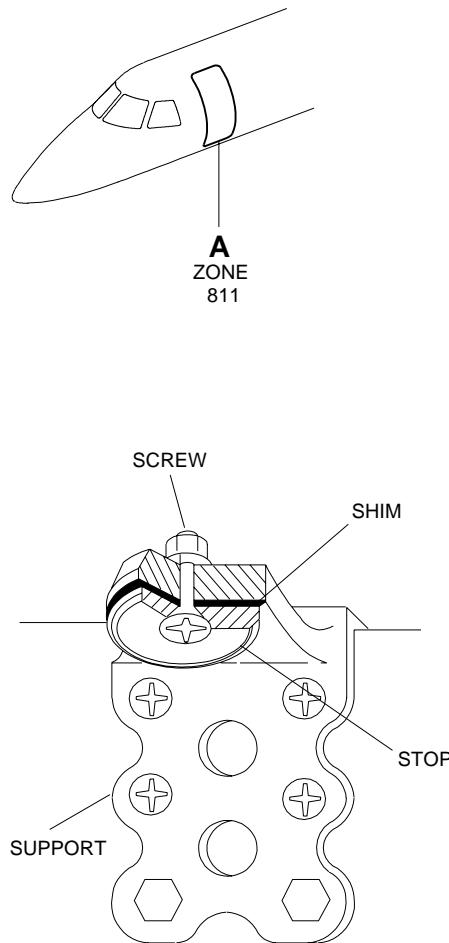
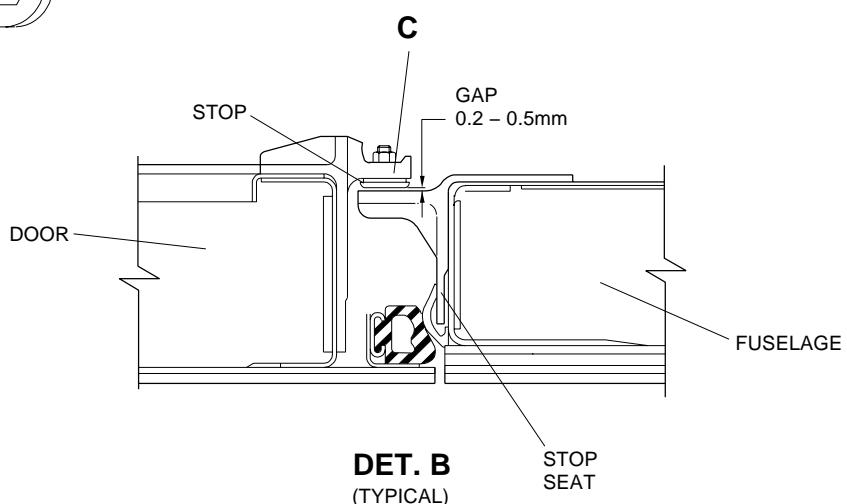


EM145AMM520631D.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

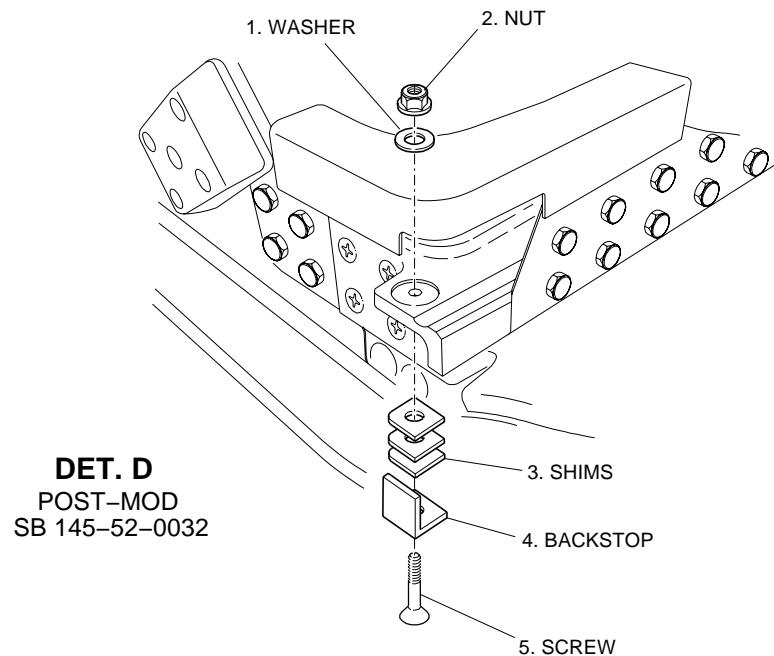
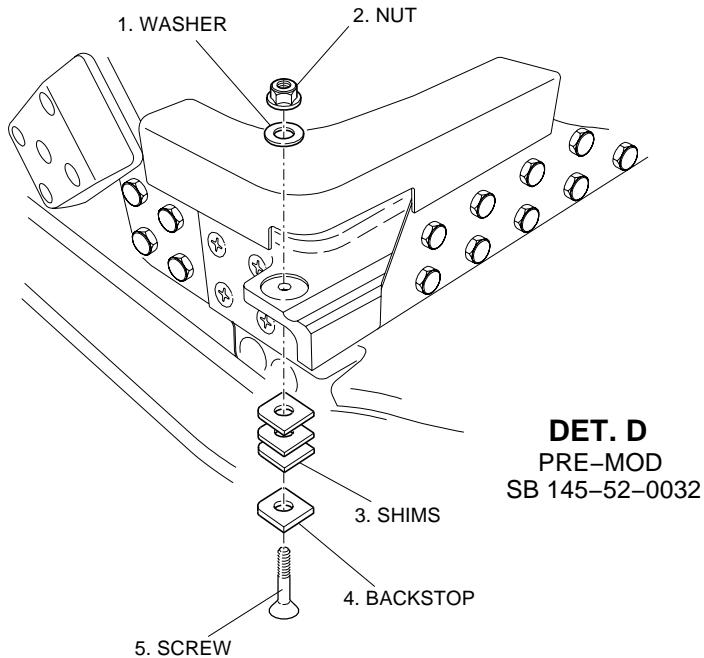
Gap of the Stop - Adjustment

Figure 517 - Sheet 1

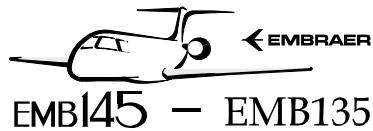

DET. C


EM145AMM520400C.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
 Gap of the Stop - Adjustment
 Figure 517 - Sheet 2



EM145AMM520476B.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-809-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

10. MAIN-DOOR FOLDING FLAP EDGE - ADJUSTMENT

A. General

- (1) This task gives the procedures to adjust the folding flap edge of the main door.
- (2) The new folding flap edge is oversized to let you adjust the gap between the folding flap edge and the fuselage skin. The old folding flap edge can be adjusted with the same procedure, and must be discarded if the gap is more than the specified one.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|---|
| AMM SDS 52-18-00/1 | |
| AMM TASK 52-18-00-820-805-A/500 | MAIN DOOR ROLLERS - ADJUSTMENT |
| AMM TASK 52-18-00-820-806-A/500 | MAIN DOOR-TO-FUSELAGE SKIN GAP - ADJUSTMENT |
| AMM TASK 52-18-03-400-801-A/400 | SIDE-HINGED MAIN-DOOR FOLDING FLAP - INSTALLATION |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------------|
| 811 | | Side-Hinged door |

D. Tools and Equipment

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

E. Auxiliary Items

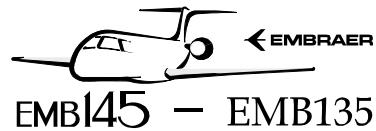
| ITEM | DESCRIPTION | PURPOSE | QTY |
|------------------------|-------------|---------------------------------|-----|
| Commercially available | File | To adjust the folding flap edge | 1 |

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|------------------------|--------------|-----|
| Commercially available | Masking Tape | AR |

G. Expandable Parts

Not Applicable



AIRCRAFT MAINTENANCE MANUAL

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |

I. Preparation

SUBTASK 841-010-A

- (1) The main door-to-fuselage skin gap must be in the tolerance range ([AMM TASK 52-18-00-820-806-A/500](#)).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (2) Close and lock the main door ([AMM SDS 52-18-00/1](#)).

J. Main-Door Folding Flap Edge - Adjustment ([Figure 518](#)) ([Figure 519](#))

SUBTASK 820-016-A

- (1) Attach the folding flap edge with a minimum of three screws to hold it in the correct position.
- (2) Draw a line along the folding flap edge contour ([Figure 518](#); DET. A) to mark the correct gaps between the door contour and the frame on the fuselage at points 11,12, and 13 ([Figure 519](#)). Verify the gap as given in [AMM TASK 52-18-00-820-805-A/500](#), Table 501.

NOTE: If the gap between the folding flap edge and the fuselage skin is more than the specified one, replace the folding flap edge and do this task again.

- (3) Remove the folding flap edge.
- (4) Use a narrow masking tape along the folding flap edge contour as a guide to the filing operation. Refer to [Figure 518](#).
- (5) File the folding flap edge. Obey the tape limits. Refer to [Figure 518](#).
- (6) Attach the reworked folding flap edge with a minimum of three screws to hold it in the correct position.
- (7) Do a check of the gaps at points 11,12, and 13. Refer to [AMM TASK 52-18-00-820-805-A/500](#).
- (8) Remove the masking tape.
- (9) Finish the reworked areas. Refer to CPM - Chapter 51.

K. Follow-on

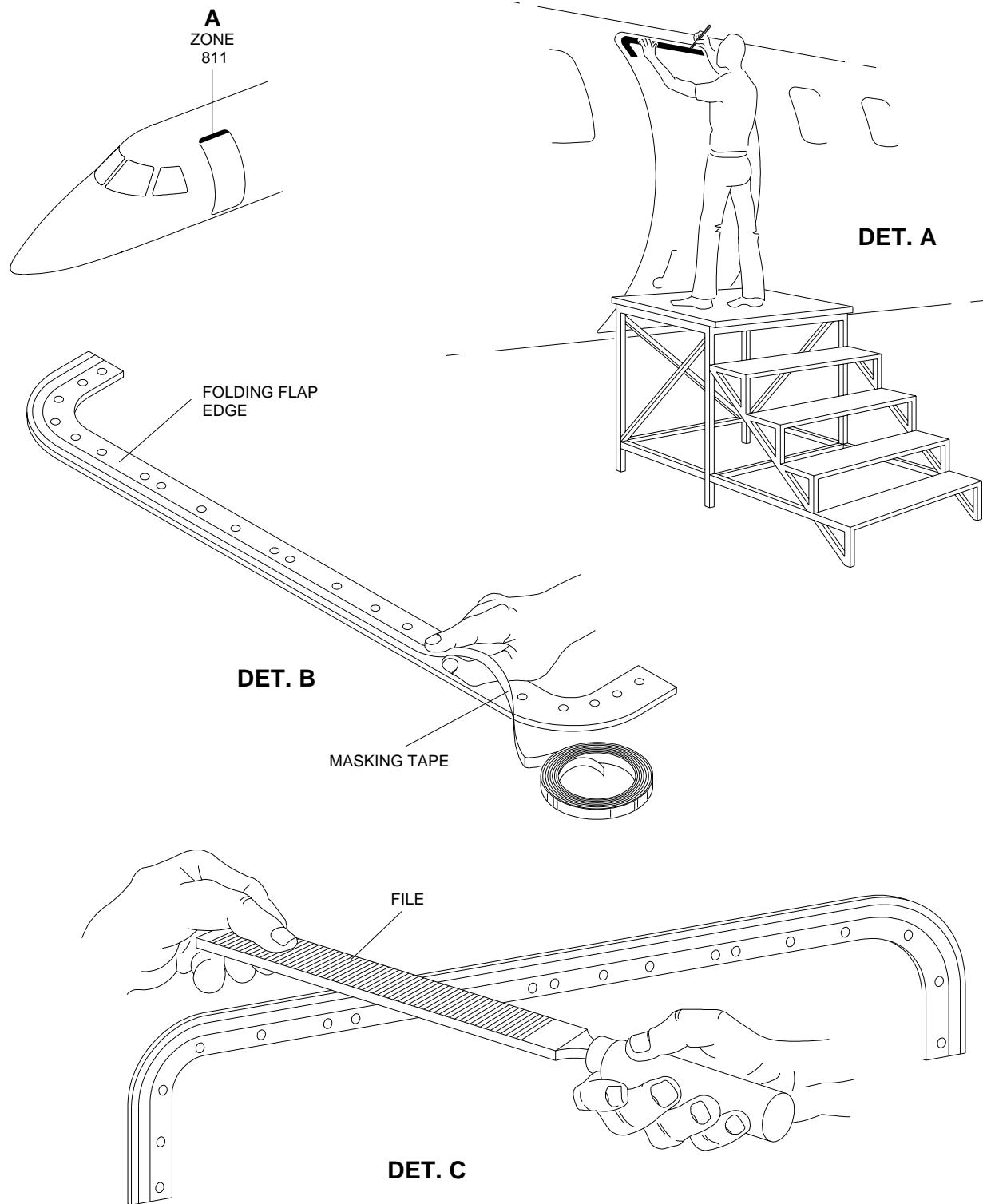
SUBTASK 842-010-A

- (1) Install the folding flap edge ([AMM TASK 52-18-03-400-801-A/400](#)).

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

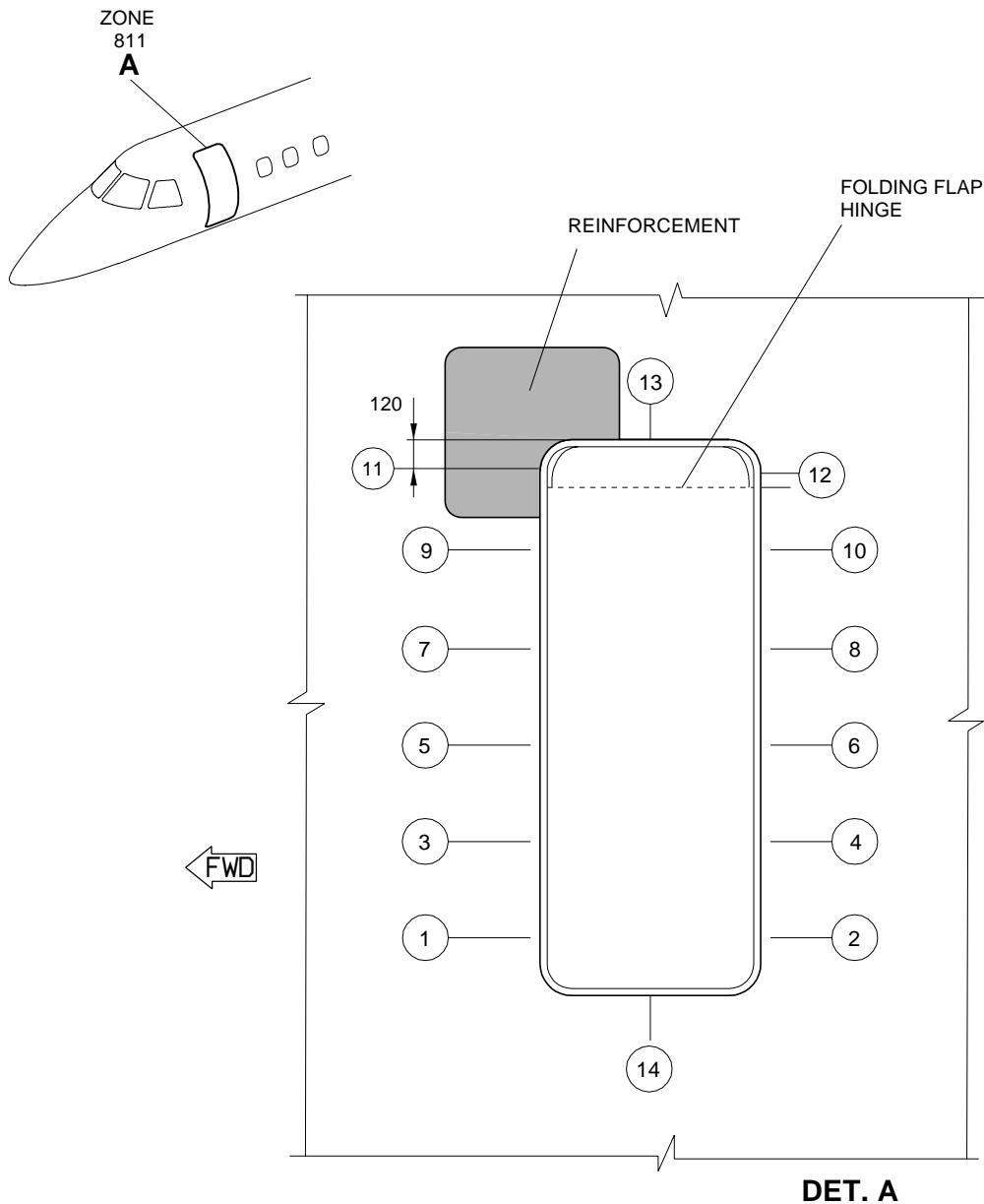
Folding Flap Edge - Adjustment

Figure 518



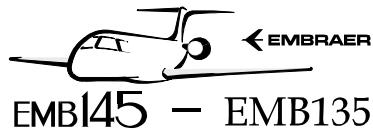
EM145AMM520360A.DGN

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Folding Flap-to-Fuselage Skin Gap
Figure 519



| AIRCRAFT UNLOADED | | |
|-----------------------|----------|-----|
| REFERENCE POINTS | GAP (mm) | |
| | MAX | MIN |
| 01 TO 10 13 AND 14 | 5.0 | 1.0 |
| 11 AND 12 | 7.0 | 5.0 |

EM145AMM520361B.DGN



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 52-18-00-820-810-A

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR

11. MAIN-DOOR FOLDING FLAP - ADJUSTMENT

A. General

(1) This task gives the procedures to adjust the folding flap of the main door.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|--|
| 52-18-00 | - |
| AMM MPP 20-10-11/200 | - MAINTENANCE PRACTICES |
| AMM SDS 52-10-00/1 | |
| AMM SDS 52-18-00/1 | |
| AMM TASK 25-23-04-000-801-A/400 | MAIN-DOOR LINING PANEL - REMOVAL |
| AMM TASK 25-23-04-400-801-A/400 | MAIN-DOOR LINING PANEL - INSTALLATION |
| AMM TASK 52-10-01-820-807-A/500 | MAIN DOOR-TO-FUSELAGE SKIN GAP - ADJUSTMENT |
| AMM TASK 52-18-00-820-801-A/500 | MAIN-DOOR INTERNAL ACTUATING HANDLE - TEST |
| AMM TASK 52-18-00-820-807-A/500 | MAIN DOOR-TO-FUSELAGE SKIN STEP - ADJUSTMENT |

C. Zones and Accesses

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

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

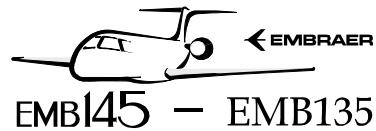
Not Applicable

G. Expendable Parts

| ITEM | IPC REFERENCE (VENDOR REFERENCE) | QTY |
|------------|-------------------------------------|-----|
| Lockwire | 52-18-00 | AR |
| Cotter pin | 52-18-00 | AR |

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|-----------|
| 1 | Does the task | Main door |



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

I. Preparation

SUBTASK 841-011-A

- (1) The main door-to-fuselage skin step must be in the tolerance range ([AMM TASK 52-10-01-820-807-A/500](#)).

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (2) Close and lock the main door ([AMM SDS 52-10-00/1](#)).

J. Main-Door Folding Flap - Test ([Figure 520](#))

SUBTASK 820-017-A

CAUTION: DO NOT USE THE RED INTERNAL HANDLE TO PULL OR PUSH THE DOOR. BEFORE YOU CLOSE THE DOOR, MAKE SURE THAT THE INTERNAL HANDLE IS IN THE FULLY VERTICAL POSITION. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE LOCKING MECHANISM CAN OCCUR.

- (1) Unlock and lock the main door to make sure that the load to lock the door, at the end of the internal handle travel, is not too high.
 - (a) If the load at the end of the internal handle travel is too high, do a check of the steps as follows and decrease the length of the actuating rod as given in SUBTASK 52-18-00-820-015-A00.
- (2) Do a check of the steps at points 12 and 13, and compare the values with the values given in Table 502, in [AMM TASK 52-10-01-820-807-A/500](#).
 - (a) If differences are found, adjust the length of the actuating rods of the folding flap as follows.

K. Main-Door Folding Flap - Adjustment ([Figure 520](#))

SUBTASK 820-018-A

- (1) Adjust the length of the actuating rods of the folding flap as follows ([Figure 520](#)):

NOTE: The adjustment can be done at the lower actuating rod end and/or at the upper actuating rod end.

- (a) To adjust the upper actuating rod end, do as follows:
 - 1 Remove the lining panels that cover the actuating rods of the folding flap ([AMM TASK 25-23-04-000-801-A/400](#)).
 - 2 Remove and discard the cotter pin (11) and lockwire (2) from each actuating rod.
 - 3 Remove the nut (10), washer (9), and bolt (1) from each actuating rod.
 - 4 Loosen the jam nut (8) of each actuating rod.

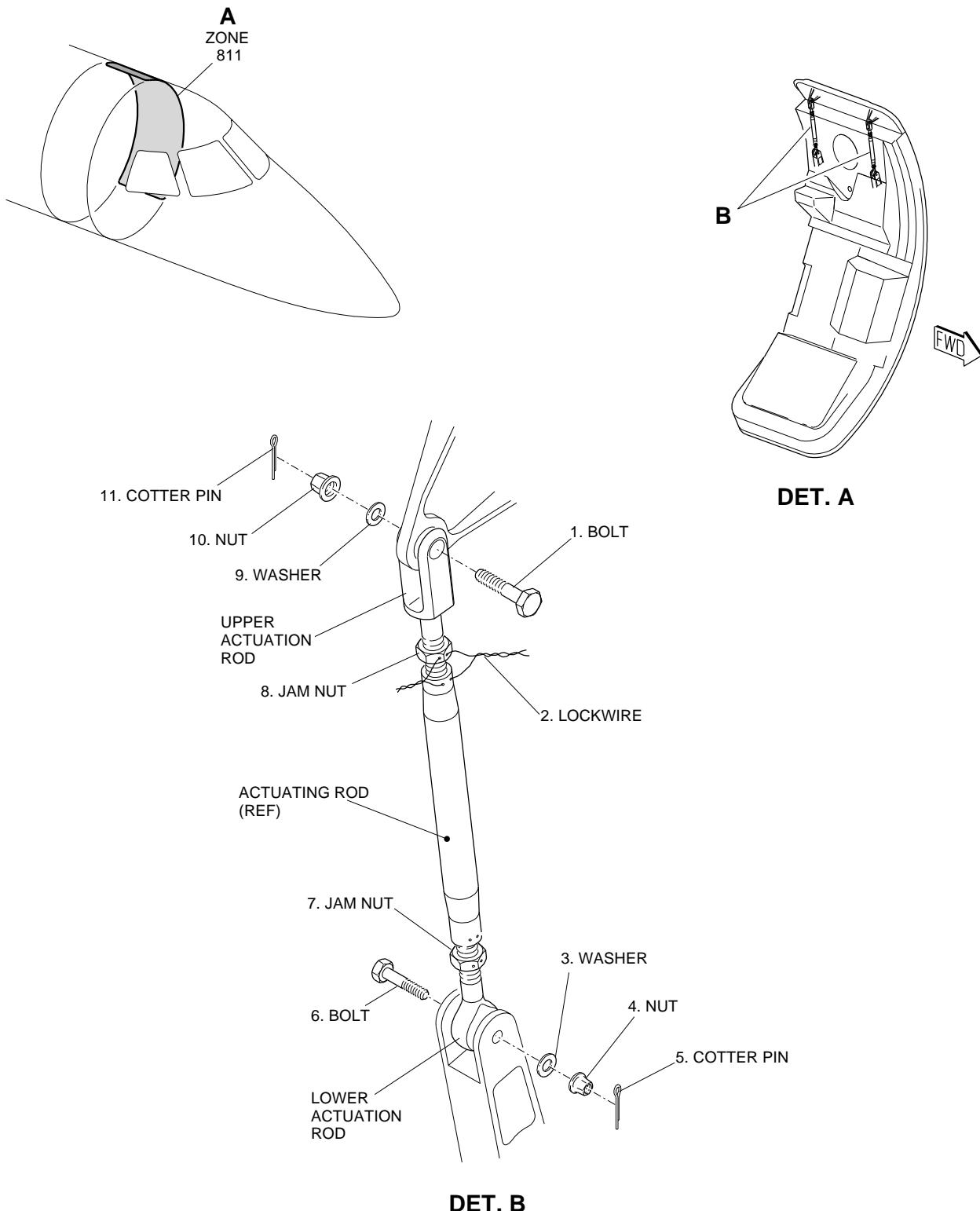
- (b) To adjust the lower actuating rod end, do as follows:
- 1 Make sure that the lining panels that cover the actuating rods of the folding flap are removed from the main door ([AMM TASK 25-23-04-000-801-A/400](#)).
 - 2 Remove and discard the cotter pin (5) from each actuating rod.
 - 3 Remove the nut (4), washer (3), and bolt (6) from each actuating rod.
 - 4 Loosen the jam nut (7) of each actuating rod.
- (c) Push the folding flap until it touches the fuselage frame and hold it in this position.
- (d) Turn the upper and/or lower actuating rod end to increase or decrease its length, as follows:
- NOTE: When you can put the bolt into the rod terminal again, with the folding flap pushed against the fuselage, the length of the rod is adjusted.
- 1 To increase the length of the actuating rods, turn it counterclockwise.
 - 2 To decrease the length of the actuating rods, turn it clockwise.
- (e) Install the upper actuating rod end at the folding flap, as follows:
- 1 Install the bolt (1), washer (9), and nut (10).
- (f) Install the lower actuating rod terminal at the folding flap, as follows:
- 1 Install the bolt (6), washer (3), and nut (4).
- (g) Do a check on the rod inspection holes. Refer to [AMM MPP 20-10-11/200](#).
- (h) Unlock and lock the main door to make sure that the folding flap operates correctly ([AMM SDS 52-18-00/1](#)).
- (i) Make sure that the steps at points 12 and 13 are equal to the values specified in [AMM TASK 52-18-00-820-807-A/500](#).
- (j) Unlock and lock the main door to make sure again that the load to lock the door, at the end of the internal handle travel, is not too high, as given in [AMM TASK 52-18-00-820-801-A/500](#).
- (k) If all adjustments are correct, tighten the jam nuts (7) and/or (8), as applicable.
- (l) Install new cotter pin (5) and/or (11) and new lockwire (2), as applicable.

L. Follow-on

SUBTASK 842-011-A

- (1) Install the lining panels of the main door ([AMM TASK 25-23-04-400-801-A/400](#)).
- (2) Unlock and lock the main door to make sure that the load to lock the door, at the end of the internal handle travel, is satisfactory.

EFFECTIVITY: AIRCRAFT WITH SIDE-HINGED MAIN DOOR
Folding Flap - Adjustment
Figure 520



EM145AMM520230C.DGN

