



AIRCRAFT MAINTENANCE MANUAL

MAIN DOOR STEPS - REMOVAL/INSTALLATION

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

1. General

- A. This section gives the procedures to remove and install the first, second, and third steps of the main door.
- B. The fourth step is removed together with the torque tube of the internal actuating handle of the main door ([AMM TASK 52-11-05-000-801-A/400](#)).
- 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
52-10-03-000-801-A	MAIN DOOR FIRST SECOND AND THIRD STEPS - REMOVAL	AIRCRAFT WITH AIR-STAIRS DOOR
52-10-03-400-801-A	MAIN DOOR FIRST SECOND AND THIRD STEPS - INSTALLATION	AIRCRAFT WITH AIR-STAIRS DOOR



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AIRCRAFT
MAINTENANCE MANUAL

TASK 52-10-03-000-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

2. MAIN DOOR FIRST SECOND AND THIRD STEPS - REMOVAL

A. General

- (1) This task gives the instructions to remove the first, second, and third steps of the main door.
- (2) The procedure to remove the fourth step of the main door is given in (AMM TASK 52-11-05-000-801-A/400).

B. References

REFERENCE	DESIGNATION
AMM MPP 06-45-00/100	- COMPONENT LOCATION
AMM SDS 52-10-00/1	
AMM TASK 52-10-02-000-801-A/400	MAIN-DOOR STEP-TREAD LINING PANEL - REMOVAL
AMM TASK 52-11-05-000-801-A/400	MAIN-DOOR INTERNAL ACTUATING-HANDLE TORQUE TUBE - REMOVAL
S.B.145-52-0023	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Main door

I. Preparation

SUBTASK 841-002-A

- (1) Open the main door (AMM SDS 52-10-00/1).
- (2) Remove the lining panels of the main door (AMM MPP 06-45-00/100).
- (3) Remove the step-tread lining panel (AMM TASK 52-10-02-000-801-A/400).



J. Removal of the Steps ([Figure 401](#)) ([Figure 402](#)) ([Figure 403](#)) ([Figure 404](#)) ([Figure 405](#)) ([Figure 406](#))

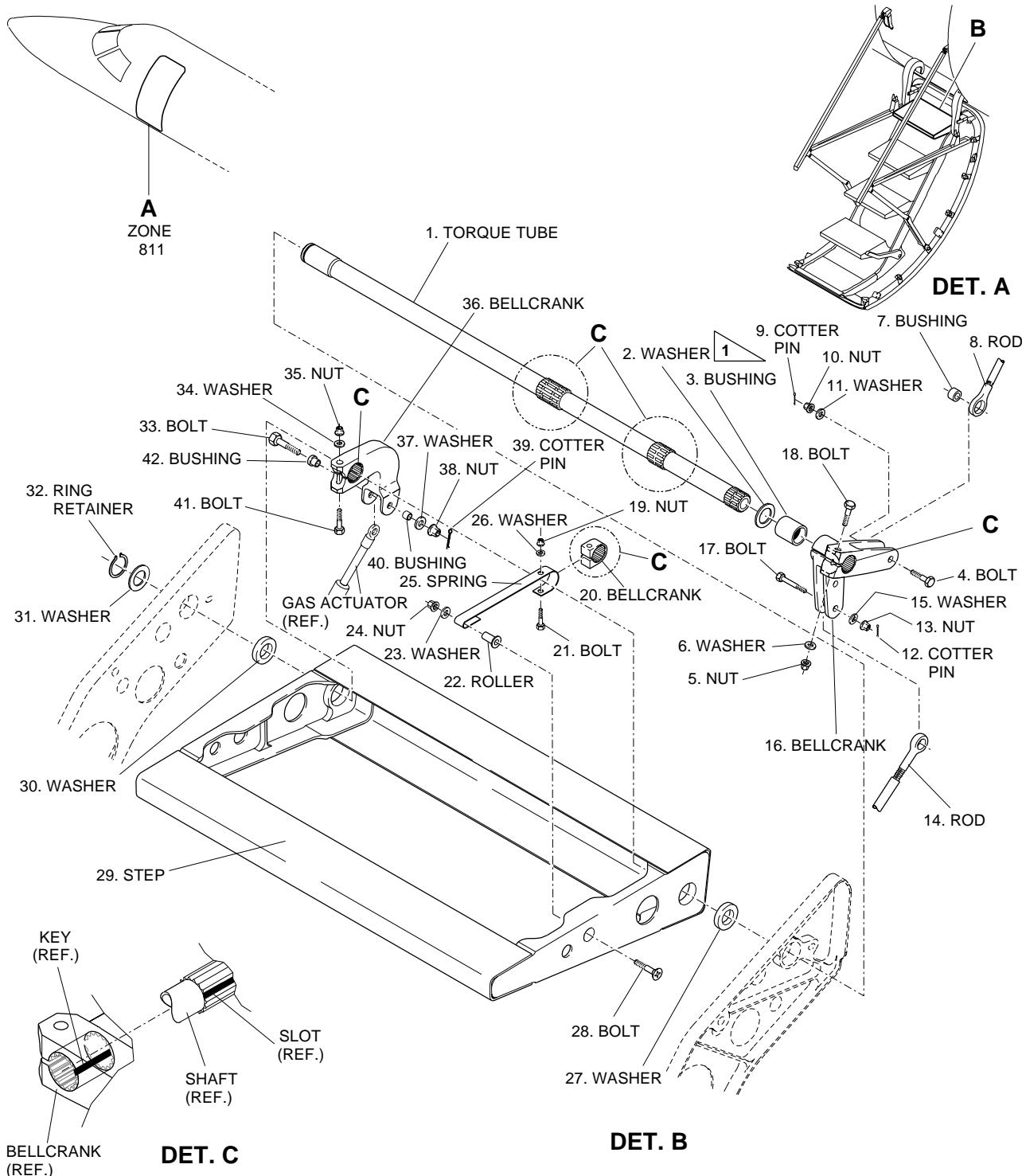
SUBTASK 020-002-A

- (1) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to figure 401 and remove the first step as follows:
 - (a) Remove the cotter pin (39), nut (38), washer (37), bushings (40) and (42), bolt (33), and gas actuator (ref.) from the bellcrank (36).
 - (b) Remove the cotter pins (9) and (12), nuts (10) and (13), washers (11) and (15), bolts (4) and (17), rods (8) and (14), and bushing (7) from the bellcrank (16).
 - (c) Remove the nut (5), washer (6), and bolt (18) to remove the bellcrank (16), bushing (3), and washer (2), if applicable, from the end of the torque tube (1).
 - (d) Remove the nut (19) and washer (26) to loosen the bolt (21), spring (25), and bellcrank (20).
 - (e) Remove the nut (24), washer (23), bolt (28), and roller (22) from the spring (25).
 - (f) Remove the nut (35), washer (34), and bolt (41) to loosen the bellcrank (36).
 - (g) Remove the ring retainer (32) and washer (31) from the other end of the torque tube (1).
 - (h) Push the torque tube (1) forward and remove the washer (27), bolt (21), spring (25), bellcranks (20) and (36), and washer (30).
 - (i) Remove the first step (29).
- (2) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to figure 402 and remove the first step as follows:
 - (a) Remove the cotter pin (41), nut (40), washer (39), bushings (42) and (44), bolt (35), and gas actuator (ref.) from the bellcrank (38).
 - (b) Remove the cotter pins (9) and (12), nuts (10) and (13), washers (11) and (15), bolts (4) and (17), rods (8) and (14), and bushing (7) from the bellcrank (16).
 - (c) Remove the nut (5), washer (6), and bolt (18) to remove the bellcrank (16), bushing (3), and washer (2), if applicable, from the end of the torque tube (1).
 - (d) Remove the nuts (25) and (28), washers (24) and (19), spring guide (27), bolt (30), roller (23), and springs (26) and (20).
 - (e) Remove the nut (37), washer (36), and bolt (43) to loosen the bellcrank (38).
 - (f) Remove the ring retainer (34) and washer (33) from the other end of the torque tube (1).
 - (g) Push the torque tube (1) forward and remove the washer (29), bolt (22), bellcranks (21 and 38), and washer (32).
 - (h) Remove the first step (31).

- (3) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to ([Figure 403](#)) and remove the second step as follows:
- Remove the cotter pins (2) and (6), nuts (3) and (7), washers (4) and (8), bolts (10) and (11), and rods (9) and (12) from the bellcrank (13).
 - Remove the nut (16), washer (15), bolt (14), bellcrank (13), and washer (5) from the torque tube (1).
 - Remove the nut (18) and washer (17) to loosen the bolt (20), spring (24), and bellcrank (19).
 - Remove the nut (23), washer (22), bolt (26), and roller (21) from the spring (24).
 - Remove the ring retainer (28) and washer (29) from the other end of the torque tube (1).
 - Push the torque tube (1) forward and remove the washer (25), bolt (20), spring (24), bellcrank (19), and washer (30).
 - Remove the second step (27).
- (4) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to ([Figure 404](#)) and remove the second step as follows:
- Remove the cotter pins (2) and (6), nuts (3) and (7), washers (4) and (8), bolts (10) and (11), and rods (9) and (12) from the bellcrank (13).
 - Remove the nut (16), washer (15), bolt (14), bellcrank (13), and washer (5) from the torque tube (1).
 - Remove the nuts (23) and (27), washers (22) and (26), spring guide (25), bolt (29), roller (21), and springs (18) and (24).
 - Remove the ring retainer (31) and washer (32) from the other end of the torque tube (1).
 - Push the torque tube (1) forward and remove the washer (28), bolt (20), bellcrank (19), and washer (33).
 - Remove the second step (30).
- (5) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to ([Figure 405](#)) and remove the third step as follows:
- Remove the cotter pin (8), nut (7), washer (6), and bolt (4) to disconnect the rods (5 and 9) from the bellcrank (12) at the end of the torque tube (1).
 - Remove the nut (10), washer (11), and bolt (3) to remove the bellcrank (12) and washer (2) from the torque tube (1).
 - Remove the nut (14) and washer (13) to loosen the bolt (16), spring (21) and bellcrank (15).
 - Remove the nut (20), washer (19), bolt (23), and roller (18) from the spring (21).

- (e) Remove the ring retainer (25) and washer (26) from the other end of the torque tube (1).
 - (f) Push the torque tube (1) forward and remove the washer (22), bolt (16), spring (21), bellcrank (15), and washer (17).
 - (g) Remove the third step (24).
- (6) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to ([Figure 406](#)) and remove the third step as follows:
- (a) Remove the cotter pin (8), nut (7), washer (6), and bolt (4) to disconnect the rods (5) and (9) from the bellcrank (12) at the end of the torque tube (1).
 - (b) Remove the nut (10), washer (11), and bolt (3) to remove the bellcrank (12) and washer (2) from the torque tube (1).
 - (c) Remove the nuts (14) and (20), washers (13) and (19), spring guide (17), bolt (23), roller (18), and springs (21) and (28).
 - (d) Remove the ring retainer (25) and washer (26) from the other end of the torque tube (1).
 - (e) Push the torque tube (1) forward and remove the washer (22), bolt (16), bellcrank (15), and washer (27).
 - (f) Remove the third step (24).

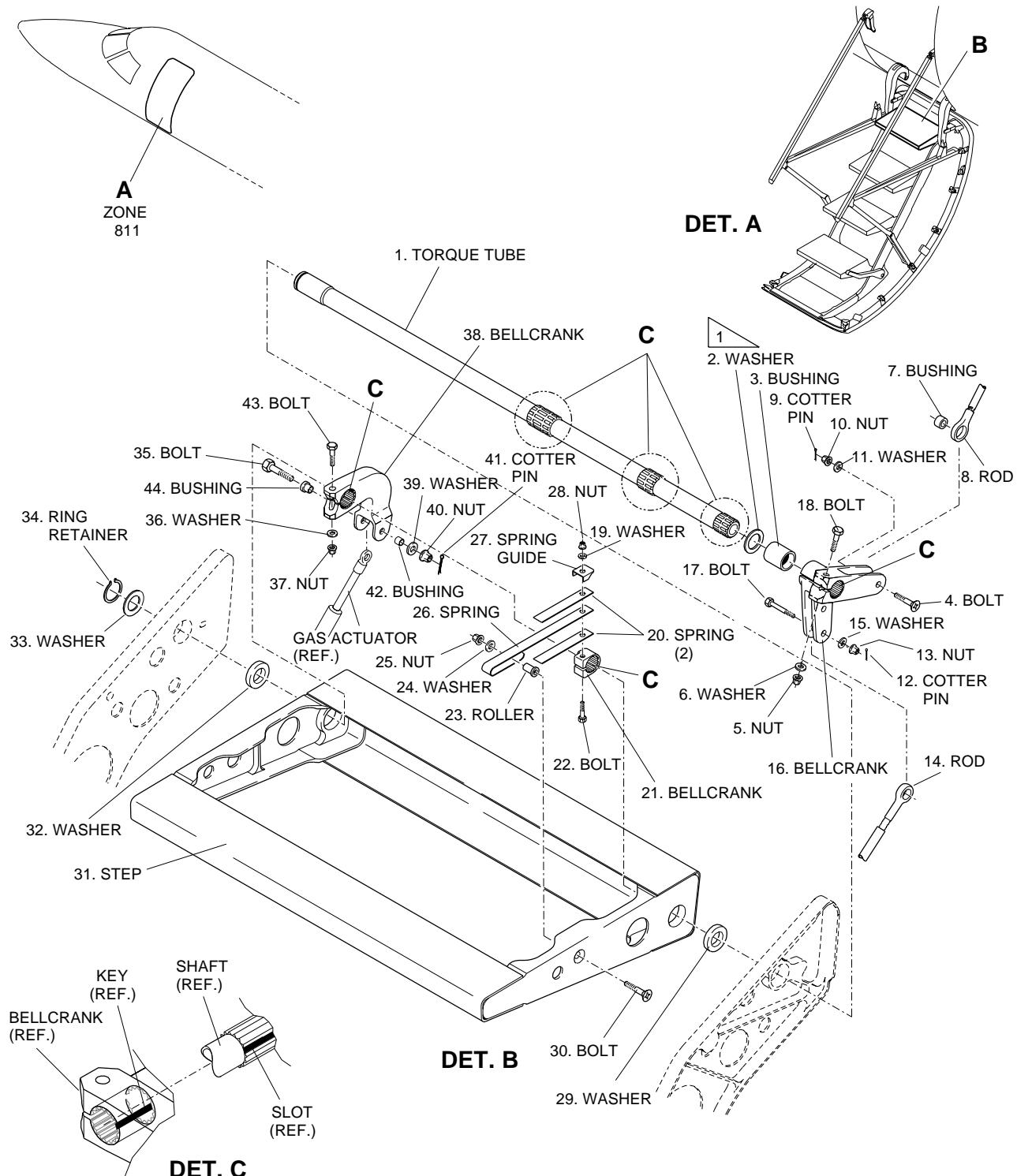
EFFECTIVITY:: PRE-MOD. S.B. 145-52-0023
Main Door First Step - Removal/Installation
Figure 401



1 IF APPLICABLE

EM145AMM520356B.DGN

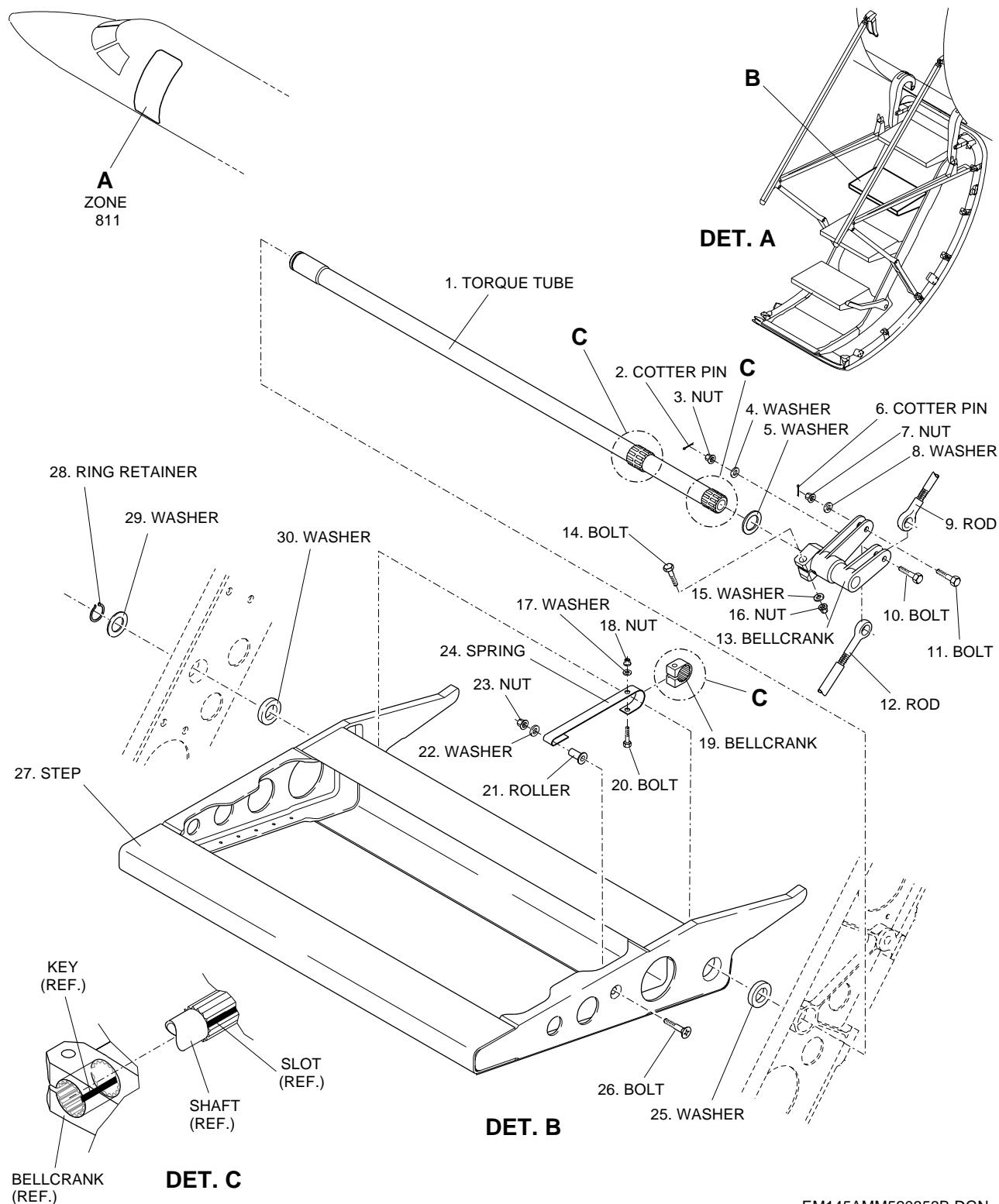
EFFECTIVITY:: POST-MOD. S.B. 145-52-0023
Main Door First Step - Removal/Installation
Figure 402



 IF APPLICABLE

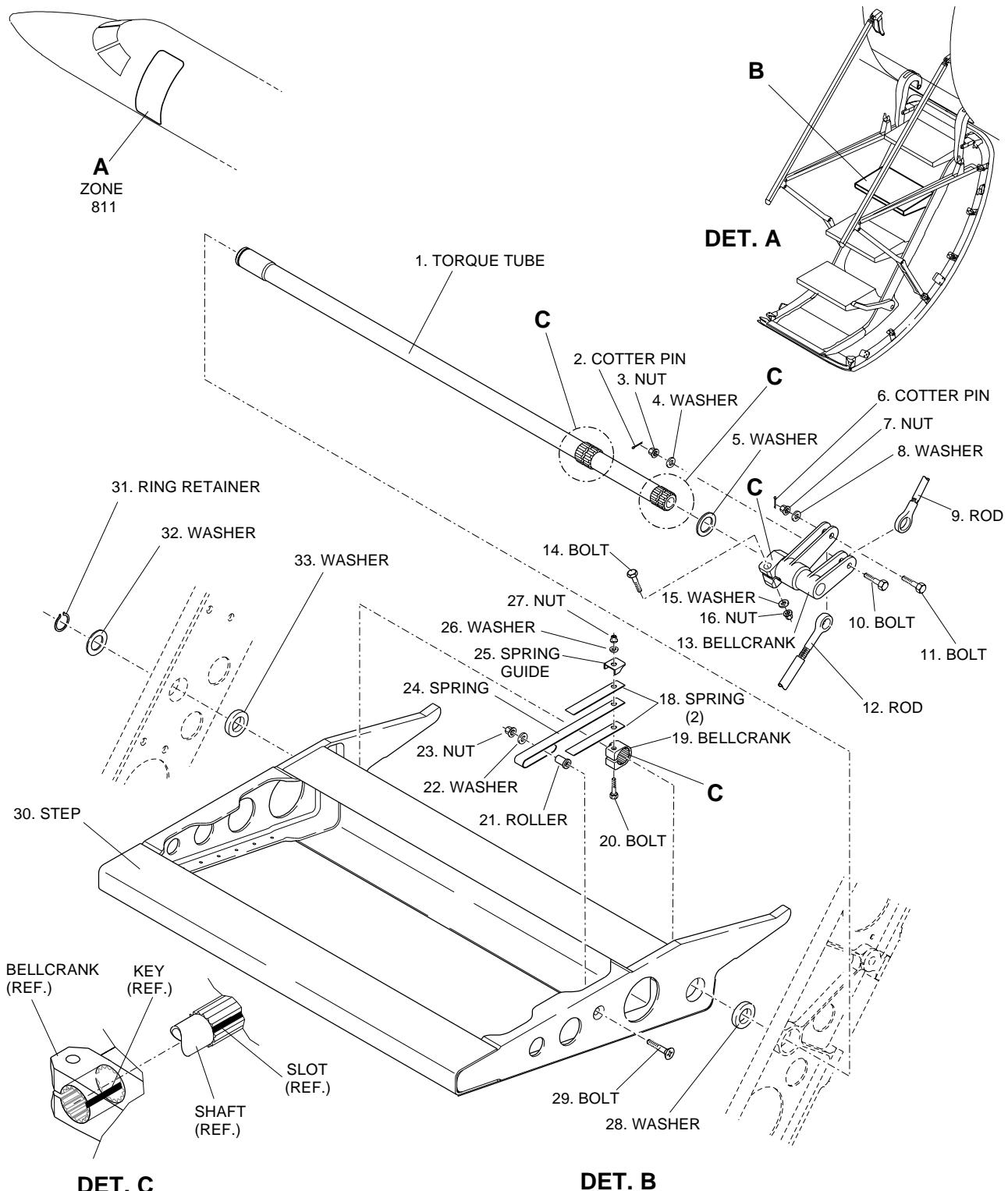
EM145AMM520355C.DGN

EFFECTIVITY:: PRE-MOD. S.B. 145-52-0023
Main Door Second Step - Removal/Installation
Figure 403



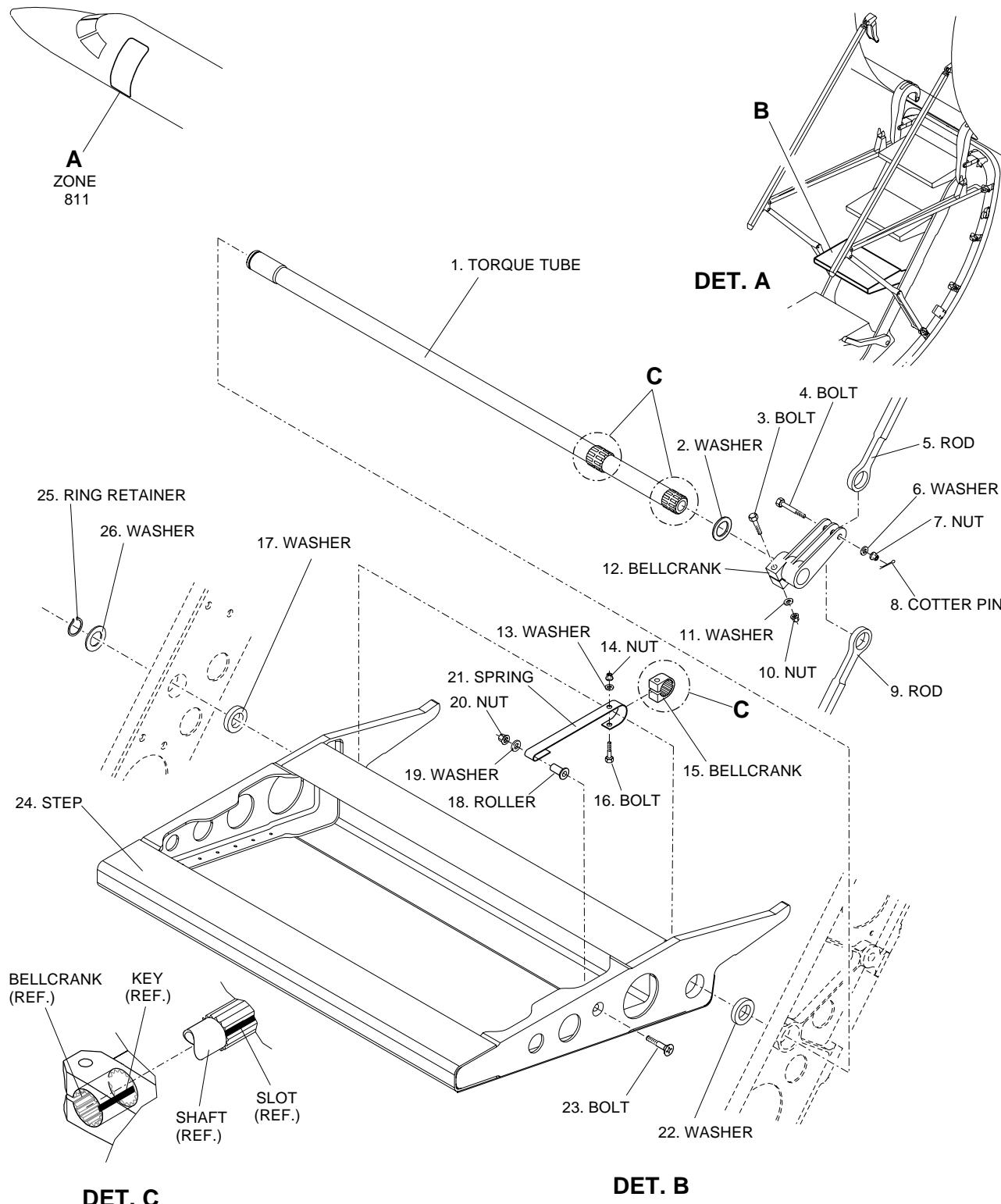
EM145AMM520353B.DGN

EFFECTIVITY:: POST-MOD. S.B. 145-52-0023
Main Door Second Step - Removal/Installation
Figure 404



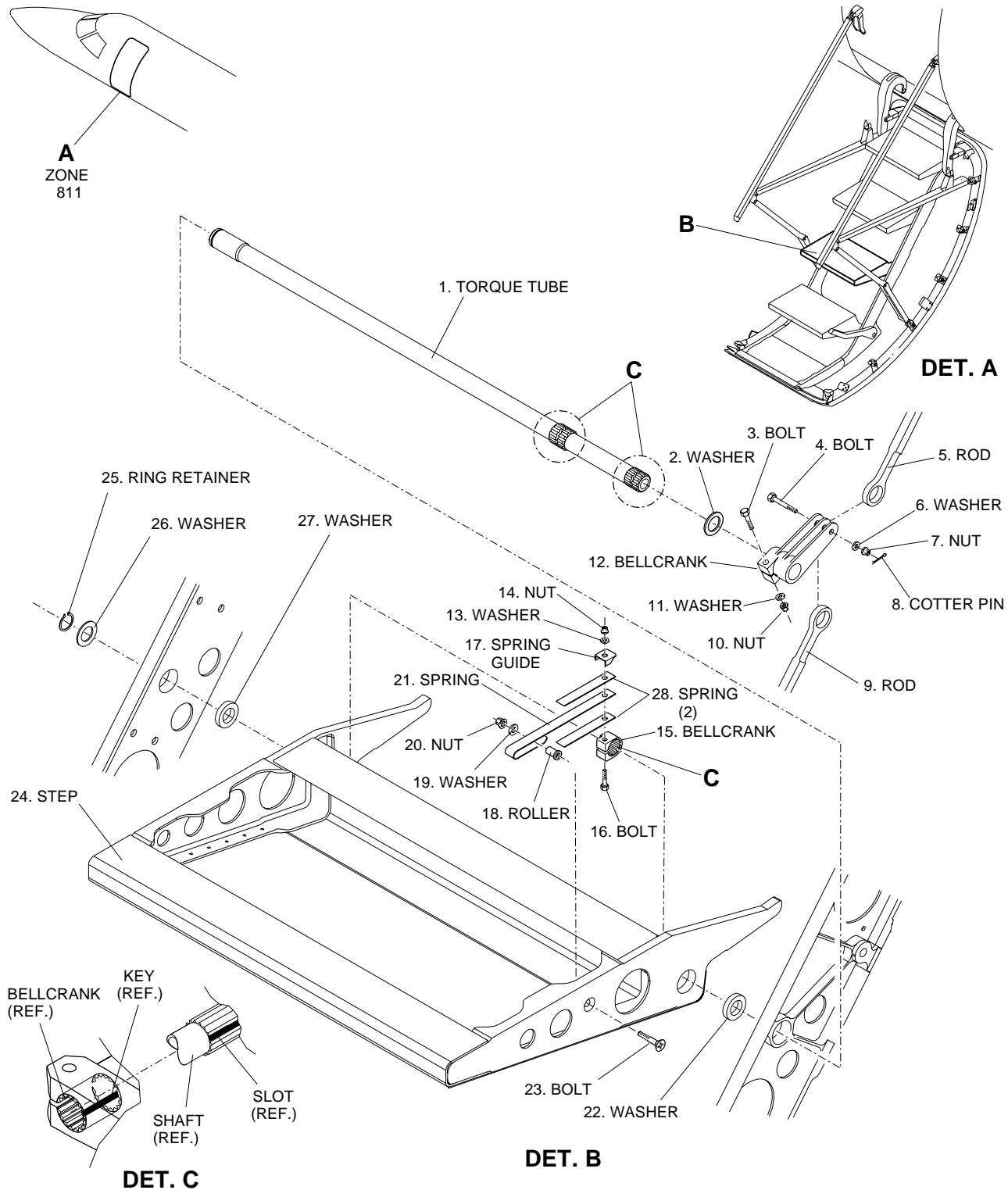
EM145AMM520354B.DGN

EFFECTIVITY:: PRE-MOD. S.B. 145-52-0023
Main Door Third Step - Removal/Installation
Figure 405


DET. C
DET. B

EM145AMM520279C.DGN

EFFECTIVITY:: POST-MOD. S.B. 145-52-0023
Main Door Third Step - Removal/Installation
Figure 406



EM145AMM520349B.DGN



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TASK 52-10-03-400-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

3. MAIN DOOR FIRST SECOND AND THIRD STEPS - INSTALLATION

A. General

- (1) This task gives the instructions to install the first, second, and third steps of the main door.
- (2) The procedure to install the fourth step of the main door is given in (AMM TASK 52-11-05-400-801-A/400).

B. References

REFERENCE	DESIGNATION
AMM MPP 06-45-00/100	- COMPONENT LOCATION
AMM SDS 52-10-00/1	
AMM TASK 52-10-01-820-802-A/500	MAIN-DOOR STEP ACTUATING MECHANISM - ADJUSTMENT
AMM TASK 52-10-02-400-801-A/400	MAIN-DOOR STEP-TREAD LINING PANEL - INSTALLATION
AMM TASK 52-11-05-400-801-A/400	MAIN DOOR INTERNAL ACTUATING HANDLE TORQUE TUBE - INSTALLATION
IPC 52-13-00	MAIN DOOR - STEPS INSTL SYSTEM
S.B.145-52-0023	-

C. Zones and Accesses

Not Applicable

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
Cotter pin	IPC 52-13-00	6
Ring retainer	IPC 52-13-00	3

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Main door



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- I. Installation of the Steps (Figure 401) (Figure 402) (Figure 403) (Figure 404) (Figure 405) (Figure 406)

SUBTASK 420-002-A

NOTE: Obey the installation order and position of the components as shown in the figures.

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 401, DET. C).

- (1) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to and install the first step as follows:
 - (a) Install the torque tube (1) through the main-door structure holes with the washer (27), step (29), bellcranks (20) and (36), spring (25), bolt (21), washers (30) and (31), and a new ring retainer (32).
 - (b) Install the bolt (28), roller (22), washers (26) and (23), and nuts (19) and (24) in the spring (25).
 - (c) Install the nut (35), washer (34), and bolt (41) in the bellcrank (36).
 - (d) Install the washer (2), if applicable, bushing (3), and bellcrank (16) with the bolt (18), washer (6), and nut (5) on the torque tube (1).
 - (e) Install the bushing (7) and rods (8) and (14) with the bolts (4) and (17), washers (11) and (15), nuts (10) and (13), and new cotter pins (9) and (12) in the bellcrank (16).
 - (f) Install the bolt (33), bushing (42), gas actuator (ref.), bushing (40), washer (37), nut (38), and a new cotter pin (39) in the bellcrank (36).

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 402, DET. C).

- (2) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to (Figure 402) and install the first step as follows:
 - (a) Install the torque tube (1) through the main-door structure holes with the washer (29), step (31), bellcranks (21) and (38), bolt (22), washers (32) and (33), and a new ring retainer (34).
 - (b) Install the bolt (30), roller (23), springs (26) and (20), spring guide (27), washers (19) and (24), and nuts (25) and (28).
 - (c) Install the nut (37), washer (36), and bolt (43) in the bellcrank (38).
 - (d) Install the washer (2), if applicable, bushing (3), and bellcrank (16) with the bolt (18), washer (6), and nut (5) on the torque tube (1).
 - (e) Install the bushing (7) and rods (8) and (14) with the bolts (4) and (17), washers (11) and (15), nuts (10) and (13), and new cotter pins (9) and (12) in the bellcrank (16).
 - (f) Install the bolt (35), bushing (44), gas actuator (ref.), bushing (42), washer (39), nut (40), and a new cotter pin (41) in the bellcrank (38).

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 403, DET. C).

- (3) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to (Figure 403) and install the second step as follows:

- (a) Install the torque tube (1) through the main-door structure holes with the washer (25), step (27), bellcrank (19), spring (24), bolt (20), washers (30) and (29), and a new ring retainer (28).
- (b) Install the bolt (26), roller (21), washers (17) and (22), and nuts (18) and (23) in the spring (24).
- (c) Install the washer (5) and bellcrank (13) with the bolt (14), washer (15), and nut (16) on the torque tube (1).
- (d) Install the rods (9) and (12) with the bolts (10) and (11), washers (8) and (4), nuts (3) and (7), and new cotter pins (2) and (6) in the bellcrank (13).

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 404, DET. C).

- (4) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to (Figure 404) and install the second step as follows:

- (a) Install the torque tube (1) through the main-door structure holes with the washer (28), step (30), bellcrank (19), bolt (20), washers (33) and (32), and a new ring retainer (31).
- (b) Install the bolt (29), roller (21), springs (18) and (24), spring guide (25), washers (22) and (26), and nuts (23) and (27).
- (c) Install the washer (5) and bellcrank (13) with the bolt (14), washer (15), and nut (16) on the torque tube (1).
- (d) Install the rods (9) and (12) with the bolts (10) and (11), washers (8) and (4), nuts (3) and (7), and new cotter pins (2) and (6) in the bellcrank (13).

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 405, DET. C).

- (5) For aircraft PRE-MOD. [S.B.145-52-0023](#), refer to (Figure 405) and install the third step as follows:

- (a) Install the torque tube (1) through the main-door structure holes with the washer (22), step (24), bellcrank (15), spring (21), bolt (16), washers (17) and (26), and a new ring retainer (25).
- (b) Install the bolt (23), roller (18), washers (13) and (19), and nuts (14) and (20) in the spring (21).
- (c) Install the washer (2) and bellcrank (12) with the bolt (3), washer (11), and nut (10) on the torque tube (1).



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- (d) Install the rods (5) and (9) with the bolt (4), washer (6), nut (7), and a new cotter pin (8) in the bellcrank (12).

CAUTION: MAKE SURE THAT THE KEY ON THE BELLCRANKS FITS THE SLOT ON THE SHAFT. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE BELLCRANKS SPLINES CAN OCCUR (FIGURE 406, DET. C).

- (6) For aircraft POST-MOD. [S.B.145-52-0023](#), refer to (Figure 406) and install the third step as follows:
 - (a) Install the torque tube (1) through the main-door structure holes with the washer (22), step (24), bellcrank (15), bolt (16), washers (27) and (26), and a new ring retainer (25).
 - (b) Install the bolt (23), roller (18), springs (21) and (28), spring guide (17), washers (13) and (19), and nuts (14) and (20).
 - (c) Install the washer (2) and bellcrank (12) with the bolt (3), washer (11), and nut (10) on the torque tube (1).
 - (d) Install the rods (5) and (9) with the bolt (4), washer (6), nut (7), and a new cotter pin (8) in the bellcrank (12).

J. Follow-on

SUBTASK 842-002-A

- (1) Do an operational check of the main door.
- (2) Main-door step actuating mechanism - adjust/test ([AMM TASK 52-10-01-820-802-A/500](#)).
- (3) Install the lining panels of the main door ([AMM MPP 06-45-00/100](#)).
- (4) Install the step-tread lining panel ([AMM TASK 52-10-02-400-801-A/400](#)).
- (5) Close the main door ([AMM SDS 52-10-00/1](#)).

