



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

MAIN-DOOR INTERCONNECTING RODS - REMOVAL/INSTALLATION

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

1. General

- A. This section gives the procedures to remove and install the interconnecting rods of the main door locking and actuating mechanism.
- B. Interconnecting rod I connects the external-actuating-handle torque tube to the intermediate torque tube.
- C. Interconnecting rod II connects the intermediate torque tube to the internal-actuating-handle torque tube.
- D. Interconnecting rod III connects the lock box torque tube to the internal-actuating-handle torque tube. There are two rods III.
- E. Interconnecting rod IV connects the internal-actuating-handle torque tube to the folding-flap torque tube.
- F. Interconnecting rod V connects the folding-flap torque tube to the door structure.
- G. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
52-11-08-000-801-A	MAIN-DOOR INTERCONNECTING RODS - REMOVAL	AIRCRAFT WITH AIR- STAIRS DOOR
52-11-08-400-801-A	MAIN-DOOR INTERCONNECTING RODS - INSTALLATION	AIRCRAFT WITH AIR- STAIRS DOOR



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TASK 52-11-08-000-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

2. MAIN-DOOR INTERCONNECTING RODS - REMOVAL

A. General

- (1) This task gives the procedures to remove the interconnecting rods of the main-door locking and actuating mechanism.
- (2) These rods can be removed independently of each other.

B. References

REFERENCE	DESIGNATION
AMM TASK 25-23-04-000-801-A/400	MAIN-DOOR LINING PANEL - REMOVAL
AMM TASK 52-00-00-910-801-A/200	MAIN-DOOR - SUPPORTING
AMM TASK 52-10-02-000-801-A/400	MAIN-DOOR STEP-TREAD LINING PANEL - REMOV- AL

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rig pins (8 mm in diameter and 60, 250, and 500 mm in length)	To rig the mechanism	

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 and support it with a bench ([AMM TASK 52-00-00-910-801-A/200](#)).
- (2) Remove the main-door lining panels ([AMM TASK 25-23-04-000-801-A/400](#)).
- (3) Remove the tread lining panel of the main-door fifth step ([AMM TASK 52-10-02-000-801-A/400](#)) only to remove interconnecting rod V.



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J. Removal ([Figure 401](#)) ([Figure 402](#)) ([Figure 403](#)) ([Figure 404](#))

SUBTASK 020-002-A

- (1) Remove interconnecting rod I ([Figure 401](#), DET. C) as follows:
 - (a) Put the door internal actuating handle in the locked position.
 - (b) Remove the cotter pin (1), nut (2), washer (3), and bolt (4).
 - (c) Remove the cotter pin (9), nut (8), washer (7), and bolt (6).
 - (d) Discard the cotter pins.
 - (e) Remove interconnecting rod I (5).
- (2) Remove interconnecting rod II ([Figure 401](#), DET. D) as follows:
 - (a) Remove the cotter pin (1), nut (2), washer (3), and bolt (4) ([Figure 401](#), DET. C).
 - (b) Put the door internal actuating handle in the locked position.
 - (c) Install the rig pins (Position A in [Figure 402](#) and Position B in [Figure 403](#) or [Figure 404](#), as applicable).
 - (d) Remove the cotter pin (10), nut (11), washer (12), and bolt (13).
 - (e) Remove the cotter pin (18), nut (17), washer (16), and bolt (15).
 - (f) Discard the cotter pins.
 - (g) Remove interconnecting rod II (14).
- (3) Remove interconnecting rod III ([Figure 401](#), DET. E) as follows:
 - (a) Put the door internal actuating handle in the locked position.
 - (b) Install the rig pin (Position B in [Figure 403](#) or [Figure 404](#), as applicable).
 - (c) Remove the cotter pin (22), nut (21), washer (20), and bolt (19).
 - (d) Remove the cotter pin (27), nut (26), washer (25), and bolt (24).
 - (e) Discard the cotter pins.
 - (f) Remove interconnecting rod III (23).
- (4) Remove interconnecting rod IV ([Figure 401](#), DET. F) as follows:
 - (a) Put the door internal actuating handle in the locked position.
 - (b) Install the rig pins (Position B and C in [Figure 403](#) or [Figure 404](#), as applicable).
 - (c) Remove the cotter pin (32), nut (33), washer (34), and bolt (35).
 - (d) Remove the cotter pin (28), nut (29), washer (30), and bolt (31).
 - (e) Discard the cotter pins.

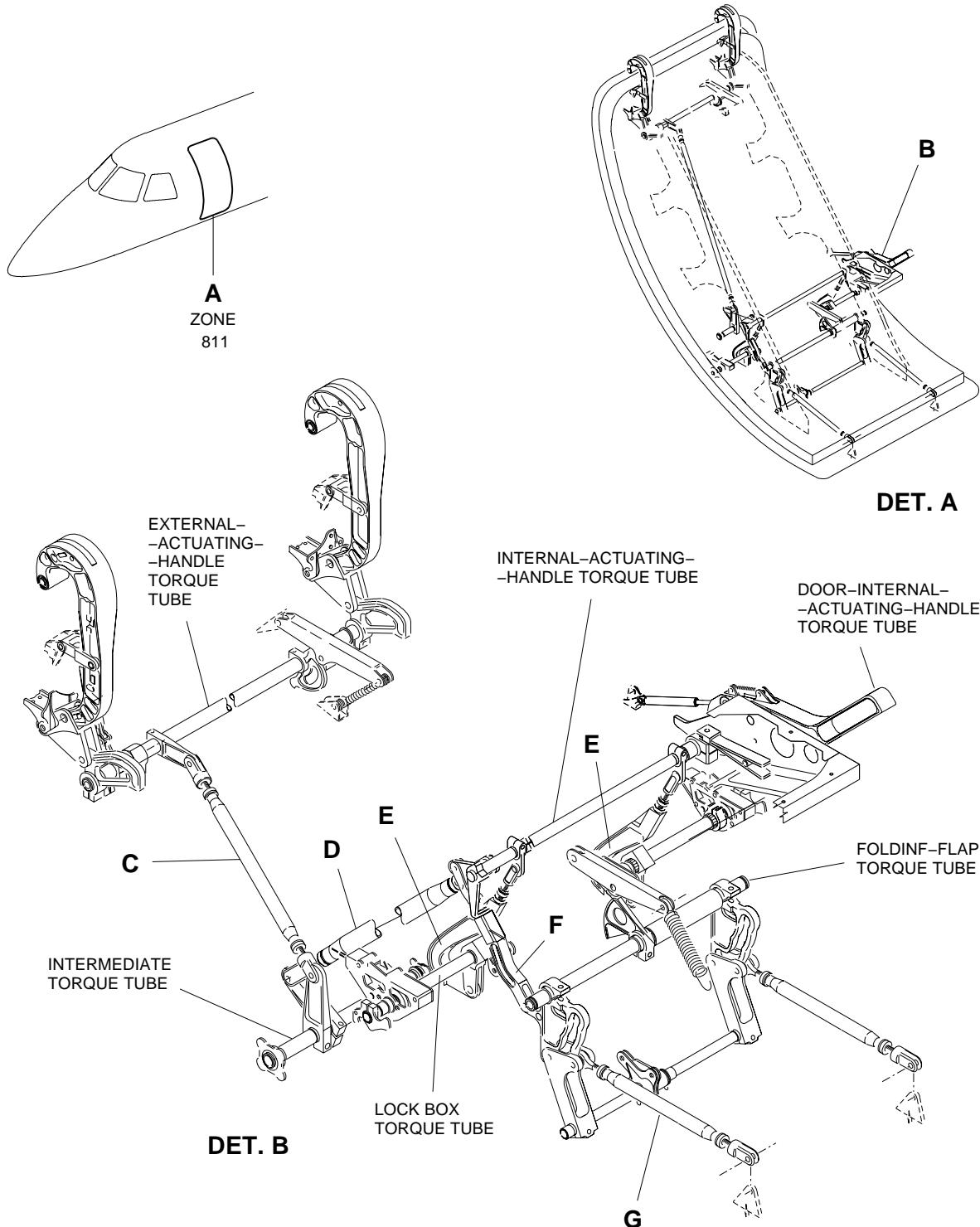


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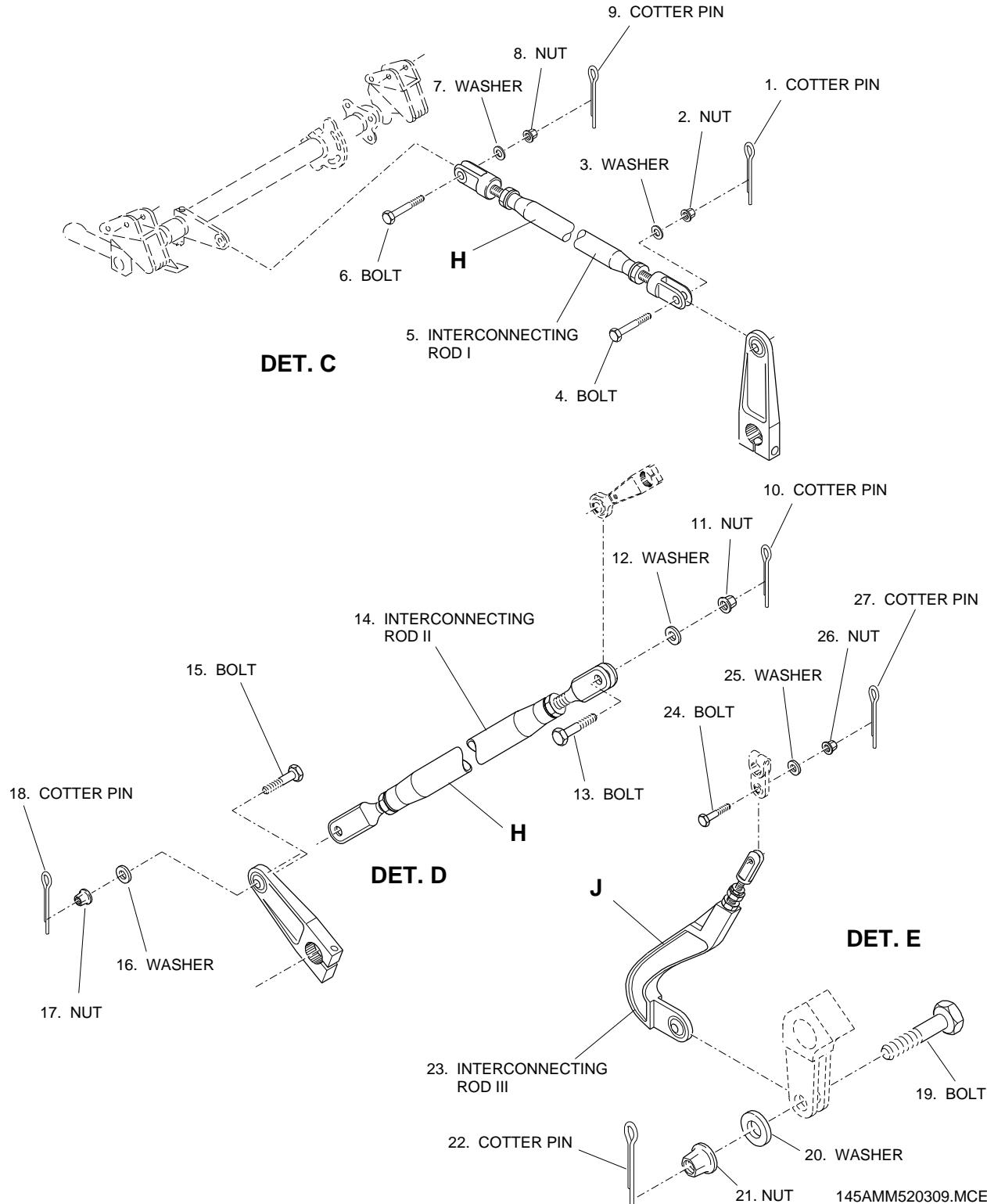
- (f) Remove interconnecting rod IV (36).
- (5) Remove interconnecting rod V ([Figure 401](#), DET. G) as follows:
 - (a) Put the door internal actuating handle in the locked position.
 - (b) Install the rig pin (Position C of [Figure 403](#) or [Figure 404](#), as applicable).
 - (c) Remove the cotter pin (48), nut (47), washer (46), and bolt (40).
 - (d) Remove the cotter pin (45), nut (44), washer (43), and bolt (42).
 - (e) Discard the cotter pins.
 - (f) Remove interconnecting rod V (41).

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
Main-Door Interconnecting Rods - Removal/Installation
Figure 401 - Sheet 1

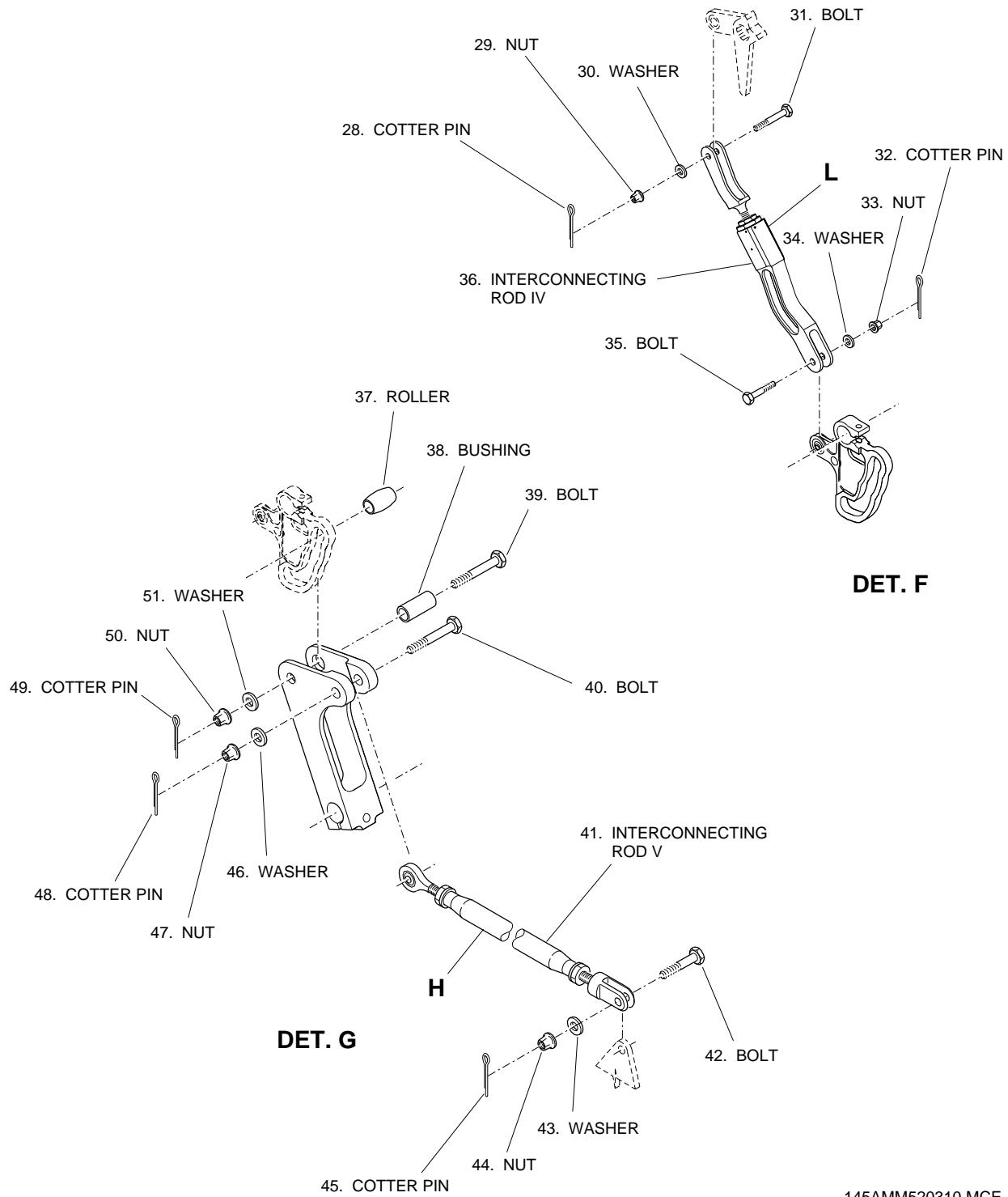


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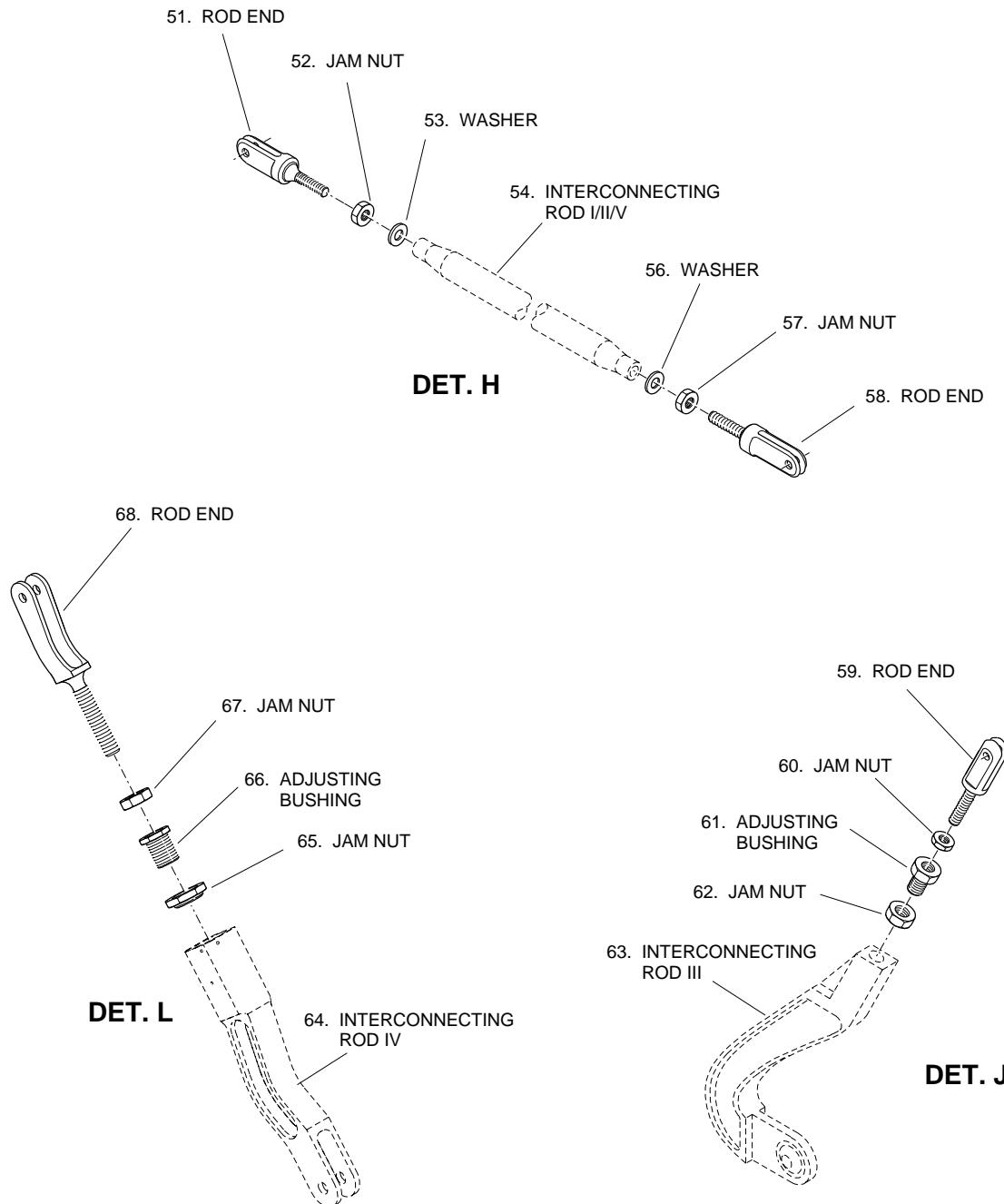
EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
 Main-Door Interconnecting Rods - Removal/Installation
 Figure 401 - Sheet 2



EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
Main-Door Interconnecting Rods - Removal/Installation
Figure 401 - Sheet 3

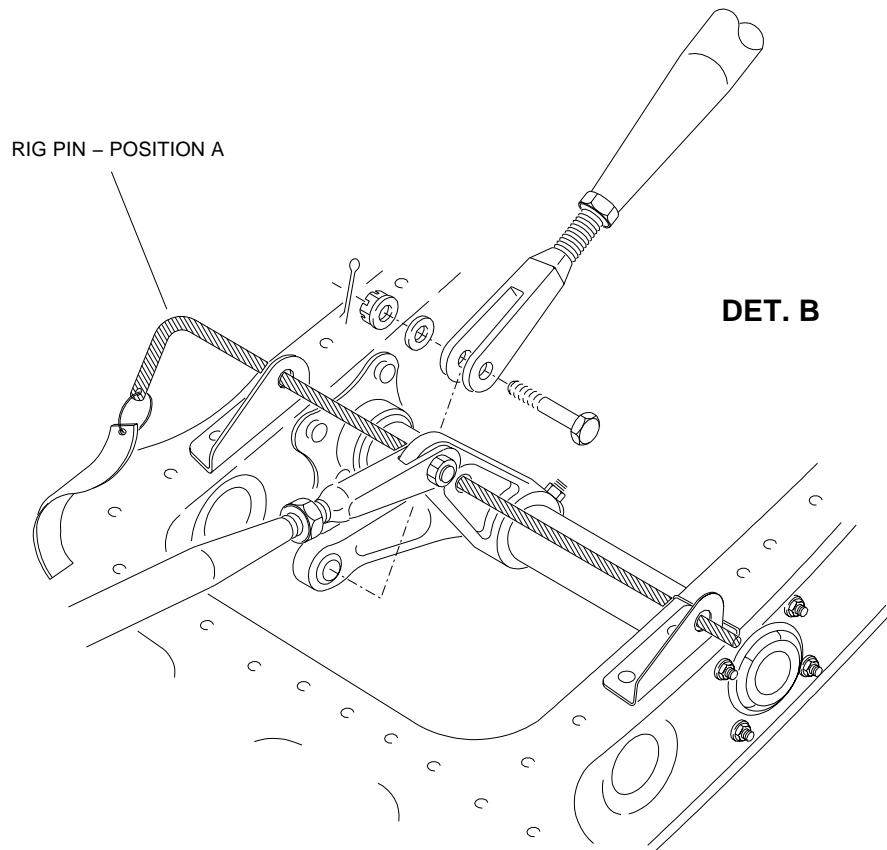
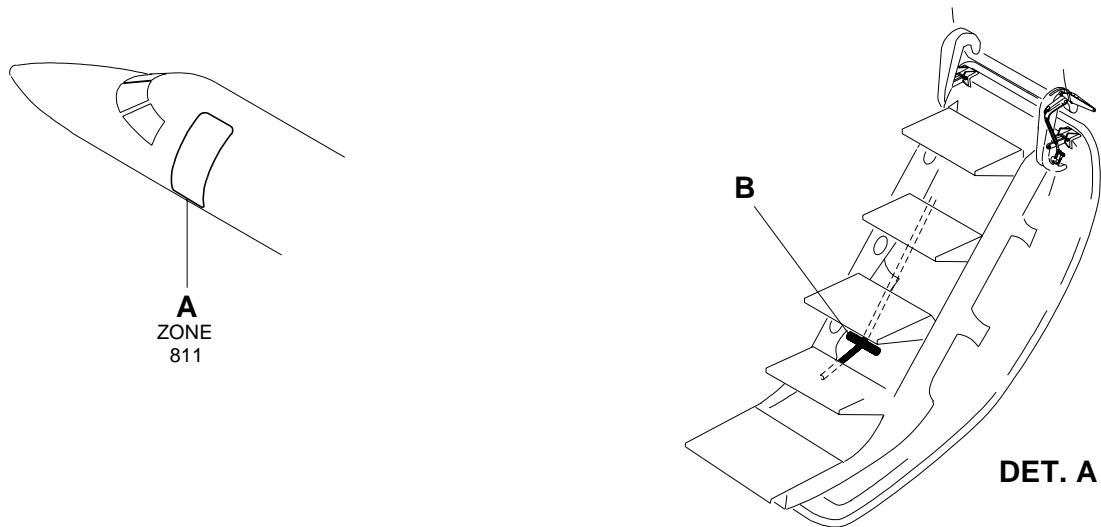


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EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
Main-Door Interconnecting Rods - Removal/Installation
Figure 401 - Sheet 4


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EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR
Rig Pins - Removal/Installation
Figure 402

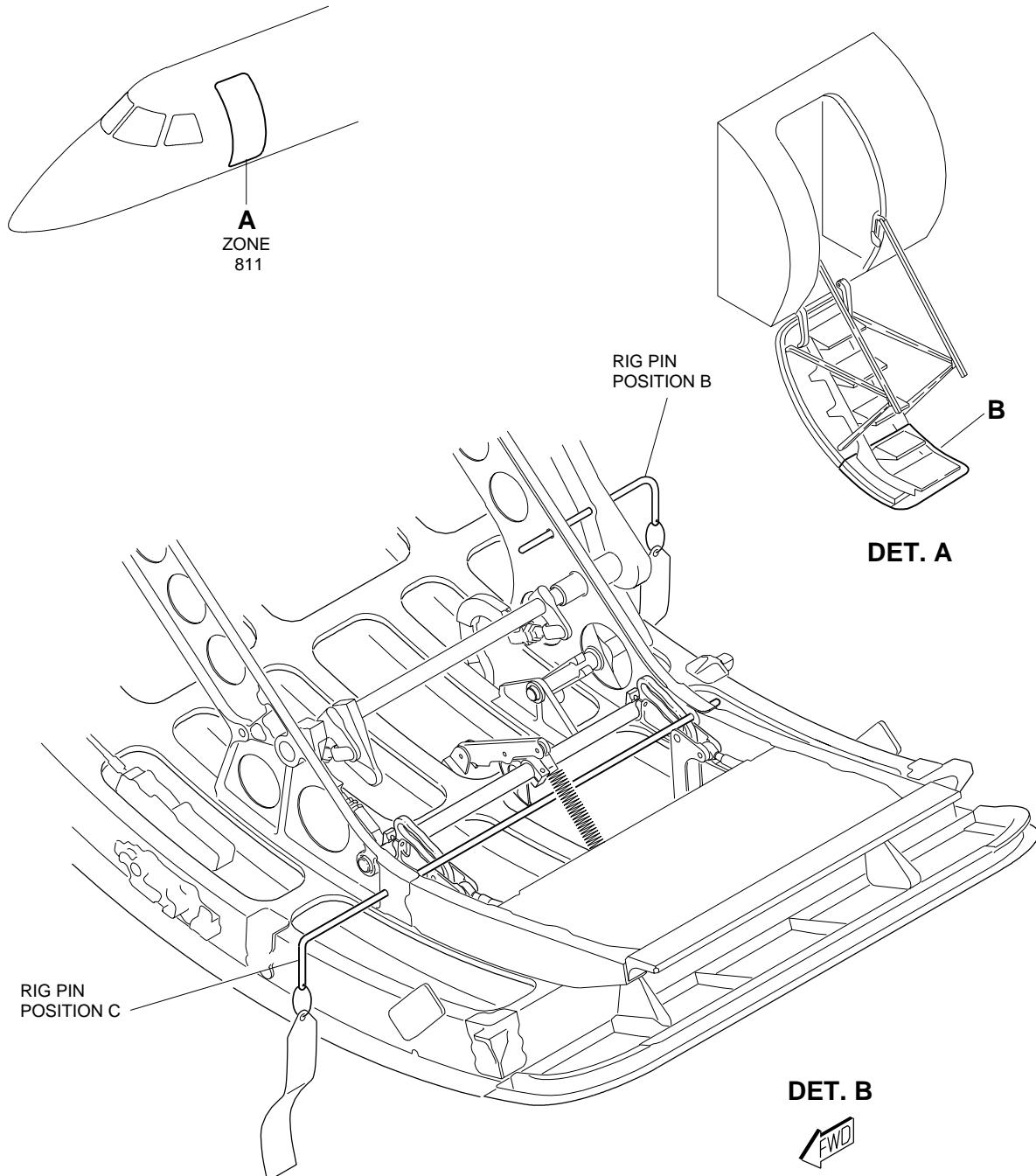


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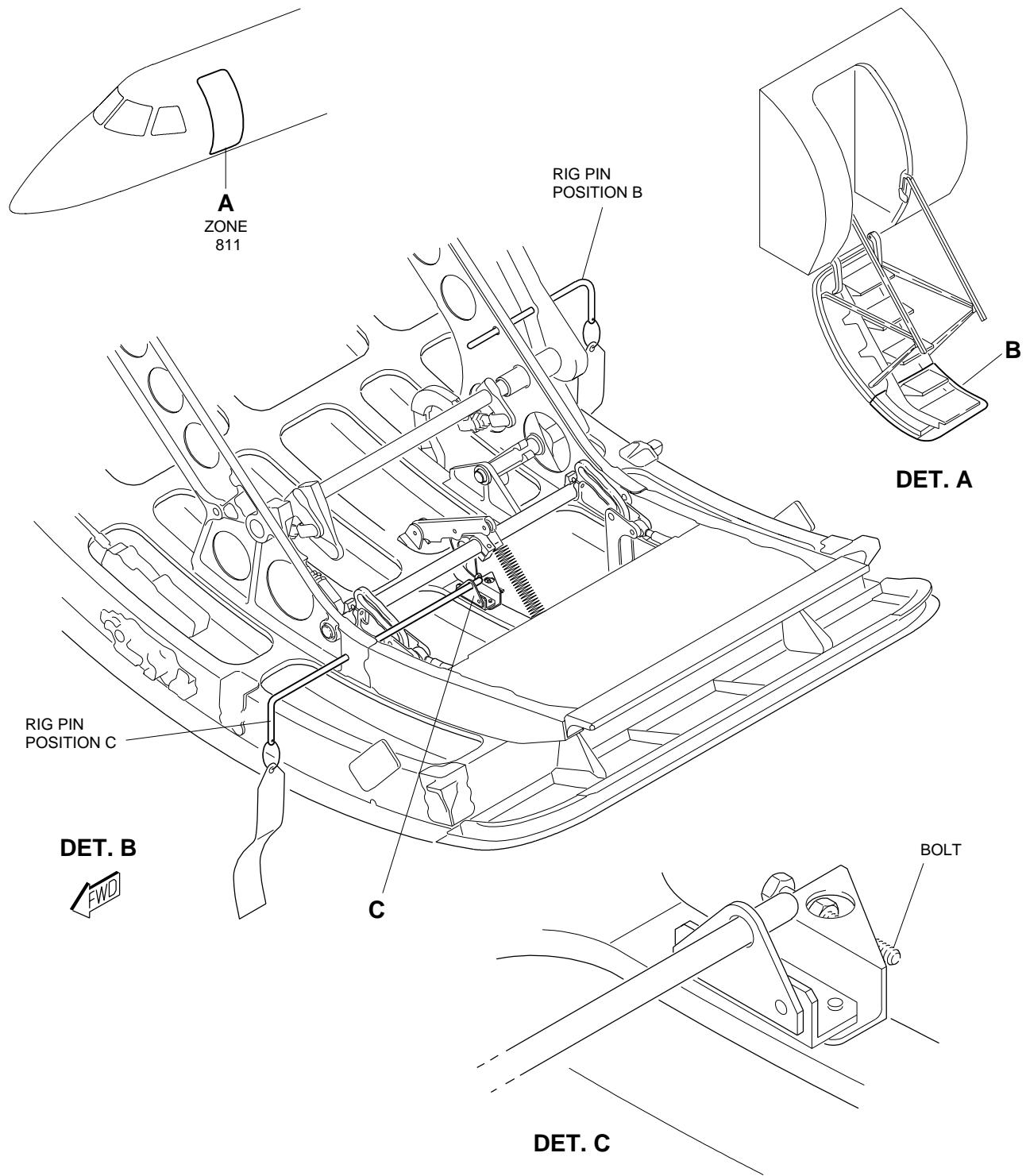
EFFECTIVITY: PRE-MOD SB 145-52-0029

Rig Pins - Removal/Installation

Figure 403



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EFFECTIVITY: POST-MOD SB 145-52-0029
Rig Pins - Removal/Installation
Figure 404


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TASK 52-11-08-400-801-A

EFFECTIVITY: AIRCRAFT WITH AIRSTAIRS DOOR

3. MAIN-DOOR INTERCONNECTING RODS - INSTALLATION

A. General

- (1) This task gives the procedures to install the interconnecting rods of the main-door locking and actuating mechanism.
- (2) These rods can be installed independently of each other.

B. References

REFERENCE	DESIGNATION
AMM SDS 52-10-00/1	
AMM TASK 25-23-04-400-801-A/400	MAIN-DOOR LINING PANEL - INSTALLATION
AMM TASK 52-10-01-820-803-A/500	MAIN-DOOR INTERCONNECTING RODS - ADJUSTMENT
AMM TASK 52-10-02-400-801-A/400	MAIN-DOOR STEP-TREAD LINING PANEL - INSTALLATION
IPC 52-11-00	MAIN DOOR - ACTUATING AND LOCKING MECHANISM
SB145-52-0029	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

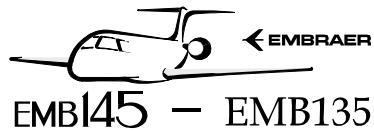
SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS20995-C32	Lockwire	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 52-11-00	AR

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Main door



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I. Installation (Figure 401) (Figure 402)

SUBTASK 420-002-A

- (1) Install interconnecting rod I (Figure 401), DET. C as follows:

NOTE: Do steps (b) through (d) below only to install a new interconnecting rod I.

- (a) The door internal actuating handle must be at the locked position.
- (b) Turn the rod end (51) (Figure 401), DET. H to increase or decrease the length of interconnecting rod I as follows:
 - 1 To increase the length, turn the rod end counterclockwise.
 - 2 To decrease the length, turn the rod end clockwise.
- (c) Tighten the jam nuts (52) and (57) (Figure 401), DET. H of interconnecting rod I.

CAUTION: MAKE SURE THAT THE HOLES OF THE ROD ENDS AND OF THE BELLCRANKS ARE ALIGNED.

- (d) Safety jam nuts (52) and (57) (Figure 401), DET. H of interconnecting rod I.
- (e) Install interconnecting rod I (5).
- (f) Install the bolt (4), washer (3), nut (2), and new cotter pin (1).
- (g) Install the bolt (6), washer (7), nut (8), and new cotter pin (9).

- (2) Install interconnecting rod II (Figure 401), DET. D as follows:

NOTE: Do steps (a) through (c) below only to install a new interconnecting rod II.

- (a) Turn the rod end (58) (Figure 401), DET. H to increase or decrease the length of interconnecting rod II as follows:
 - 1 To increase the length, turn the rod end counterclockwise.
 - 2 To decrease the length, turn the rod end clockwise.
- (b) Tighten the jam nuts (52) and (57) (Figure 401), DET. H of interconnecting rod II.

CAUTION: MAKE SURE THAT THE HOLES OF THE ROD ENDS AND OF THE BELLCRANKS ARE ALIGNED.

- (c) Safety jam nuts (52) and (57) (Figure 401), DET. H of interconnecting rod II.
- (d) Install interconnecting rod II (14).
- (e) Install the bolt (15), washer (16), nut (17), and new cotter pin (18).
- (f) Install the bolt (13), washer (12), nut (11), and new cotter pin (10).
- (g) Remove the rig pin (Position A in (Figure 402) and position B in Figure 403 or Figure 404, as applicable).



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- (h) Install the bolt (4), washer (3), nut (2), and the new cotter pin (1) (Det. C in Figure 401).
- (3) Install interconnecting rod III (Figure 401), DET. E) as follows:

NOTE: Do steps (a) through (c) below only to install a new interconnecting rod III.

- (a) Turn the rod end (59) and/or adjusting bushing (61) (Figure 401), DET. J) to increase or decrease the length of interconnecting rod III as follows:

- 1 To increase the length, turn the rod end (59) and/or adjusting bushing (61) counterclockwise.
- 2 To decrease the length, turn the rod end (59) and/or adjusting bushing (61) clockwise.

- (b) Tighten the jam nuts (60) and (62) (Figure 401), DET. J) of interconnecting rod III.

CAUTION: MAKE SURE THAT THE HOLES OF THE ROD ENDS AND OF THE BELLCRANKS ARE ALIGNED.

- (c) Safety jam nuts (60) and (62) (Figure 401), DET. J) of interconnecting rod III.

- (d) Install interconnecting rod III (23).

- (e) Install the bolt (19), washer (20), nut (21), and new cotter pin (22).

- (f) Install the bolt (24), washer (25), nut (26), and new cotter pin (27).

- (g) Remove the rig pin (Position B in Figure 403 or Figure 404, as applicable).

- (4) Install interconnecting rod IV (Figure 401), DET. F) as follows:

NOTE: Do steps (a) through (c) below only to install a new interconnecting rod IV.

- (a) Turn the rod end (68) and/or adjusting bushing (66) (Figure 401), DET. L) to increase or decrease the length of interconnecting rod IV as follows:

- 1 To increase the length, turn the rod end (68) and/or adjusting bushing (66) counterclockwise.
- 2 To decrease the length, turn the rod end (68) and/or adjusting bushing (66) clockwise.

- (b) Tighten the jam nuts (67) and (65) (Figure 401), DET. L) of interconnecting rod IV.

CAUTION: MAKE SURE THAT THE HOLES OF THE ROD ENDS AND OF THE BELLCRANKS ARE ALIGNED.

- (c) Safety jam nuts (67) and (65) (Figure 401), DET. L) of interconnecting rod IV.

- (d) Install interconnecting rod IV (34).

- (e) Install the bolt (35), washer (34), nut (33), and new cotter pin (32).

- (f) Install the bolt (31), washer (30), nut (29), and new cotter pin (28).

- (g) For aircraft PRE-MOD [SB145-52-0029](#), remove the rig pin (Position B and C in Figure 403).
 - (h) For aircraft POST-MOD [SB145-52-0029](#), do as follows:
 - 1 Tighten the bolt until it touches the cam (Figure 404, DET. C).
 - 2 Tighten the bolt nut.
 - 3 Remove the rig pin (Position B and C in Figure 404)
- (5) Install interconnecting rod V (Figure 401), DET. G) as follows:
- NOTE:** Do steps (c) through (e) below only to install a new interconnecting rod V.
- (a) Turn the rod end (58) (Figure 401), DET. H) to increase or decrease the length of interconnecting rod V as follows:
 - 1 To increase the length, turn the rod end counterclockwise.
 - 2 To decrease the length, turn the rod end clockwise.
 - (b) Tighten the jam nuts (52) and (57) (Figure 401), DET. H) of interconnecting rod V.
- CAUTION:** MAKE SURE THAT THE HOLES OF THE ROD ENDS AND OF THE BELLCRANKS ARE ALIGNED.
- (c) Safety jam nuts (52) and (57) (Figure 401), DET. H) of interconnecting rod V.
 - (d) Install interconnecting rod V (41).
 - (e) Install the bolt (40), washer (46), nut (47), and new cotter pin (48).
 - (f) Install the bolt (42), washer (43), nut (44), and new cotter pin (45).
 - (g) Remove the rig pin (Position C in Figure 403 or Figure 404, as applicable).

J. Follow-on

SUBTASK 842-002-A

- (1) Adjust the Main-Door interconnecting rods as ([AMM TASK 52-10-01-820-803-A/500](#))
- (2) Install the tread lining panel of the main door fifth step ([AMM TASK 52-10-02-400-801-A/400](#)) if interconnecting rod V was removed.
- (3) Install the main door lining panels ([AMM TASK 25-23-04-400-801-A/400](#)).
- (4) Close the main door ([AMM SDS 52-10-00/1](#)).

