



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

**APU SUSPENSION STRUCTURE - REMOVAL/INSTALLATION**

*EFFECTIVITY: ALL*

1. General

- A. This section gives the procedures to remove/install the APU suspension structure.
- B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
49-12-01-000-801-A	APU SUSPENSION STRUCTURE - RE- MOVAL	ALL
49-12-01-400-801-A	APU SUSPENSION STRUCTURE - IN- STALLATION	ALL



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TASK 49-12-01-000-801-A

EFFECTIVITY: ALL

2. APU SUSPENSION STRUCTURE - REMOVAL

A. General

- (1) The APU suspension structure is attached to the aft fuselage at five points. The suspension structure has an A-frame and center links.

B. References

REFERENCE	DESIGNATION
AMM MPP 49-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 49-10-01-000-801-A/400	AUXILIARY POWER UNIT (APU) - REMOVAL
AMM TASK 49-14-01-000-801-A/400	AUXILIARY POWER UNIT (APU) - REMOVAL

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
313	313	Aircraft tail cone

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the work area	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	APU

I. Preparation

SUBTASK 841-002-A

**WARNING: BEFORE YOU DO THE TASK OBEY THE SAFETY PRECAUTIONS GIVEN IN ( AMM MPP 49-00-00/200 ) TO PREVENT INJURY TO THE PERSONS AND DAMAGE TO THE MATERIAL.**

- (1) On the circuit breaker panel, open these circuit breakers and attach DO-NOT-CLOSE tags to them:



- APU FUEL SOV.

- (2) On the left power control and distribution box, open the APU GEN START circuit breaker and attach DO-NOT-CLOSE tag to it.
- (3) Remove the APU ( [AMM TASK 49-10-01-000-801-A/400](#) or [AMM TASK 49-14-01-000-801-A/400](#), as applicable).

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

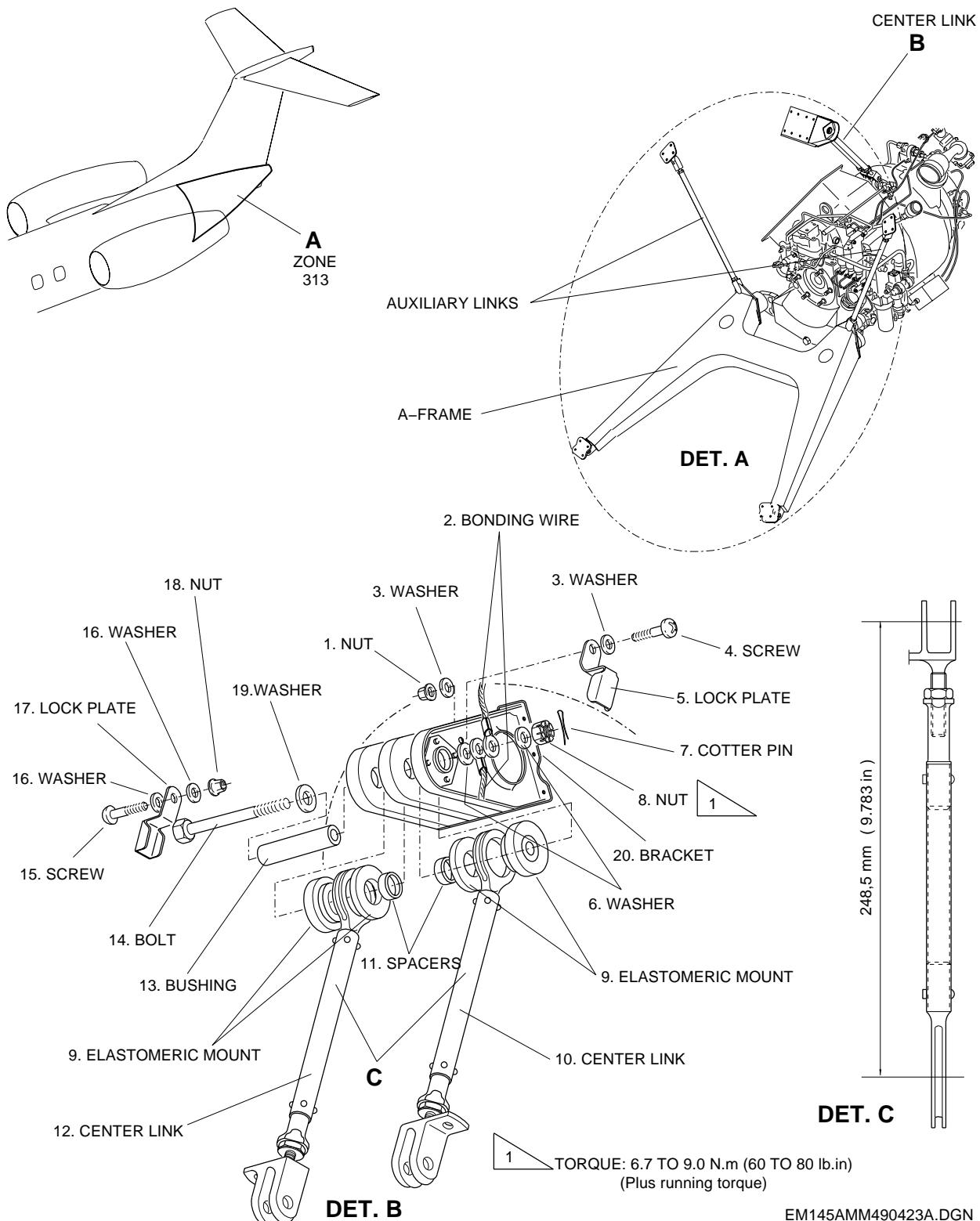
SUBTASK 020-002-A

- (1) Remove the center links:
  - (a) Remove the screw (4), washers (3), nut (1), and lock plate (5).
  - (b) Remove the screw (15), washers (16), nut (18), and lock plate (17).
  - (c) Remove the cotter pin (7), nut (8), washers (6), bonding wires (2), washer (19), and bolt (14).
  - (d) Remove the bushing (13), center links (10 and 12), elastomeric mounts (9), and spacers (11).
  - (e) Discard the old elastomeric mounts and the cotter pin.
- (2) Remove A-Frame/Auxiliary Links:
  - (a) Remove the screw (39), washers (31), nut (32), and lock plates (33) from the lower bracket (30).
  - (b) Remove the cotter pins (34), nuts (36), washers (35), bolts (38), and bushings (37).
  - (c) Remove the cotter pins (27) and nuts (28).
  - (d) Manually hold the A-Frame.
  - (e) Remove the bolts (30) and washers (29).
  - (f) Remove the A-Frame.
  - (g) Remove the cotter pins (24), nuts (23), washers (22), and bolts (21).
  - (h) Remove the auxiliary links (26).

**EFFECTIVITY: ALL**

APU Suspension Structure - Removal/Installation

Figure 401 - Sheet 1

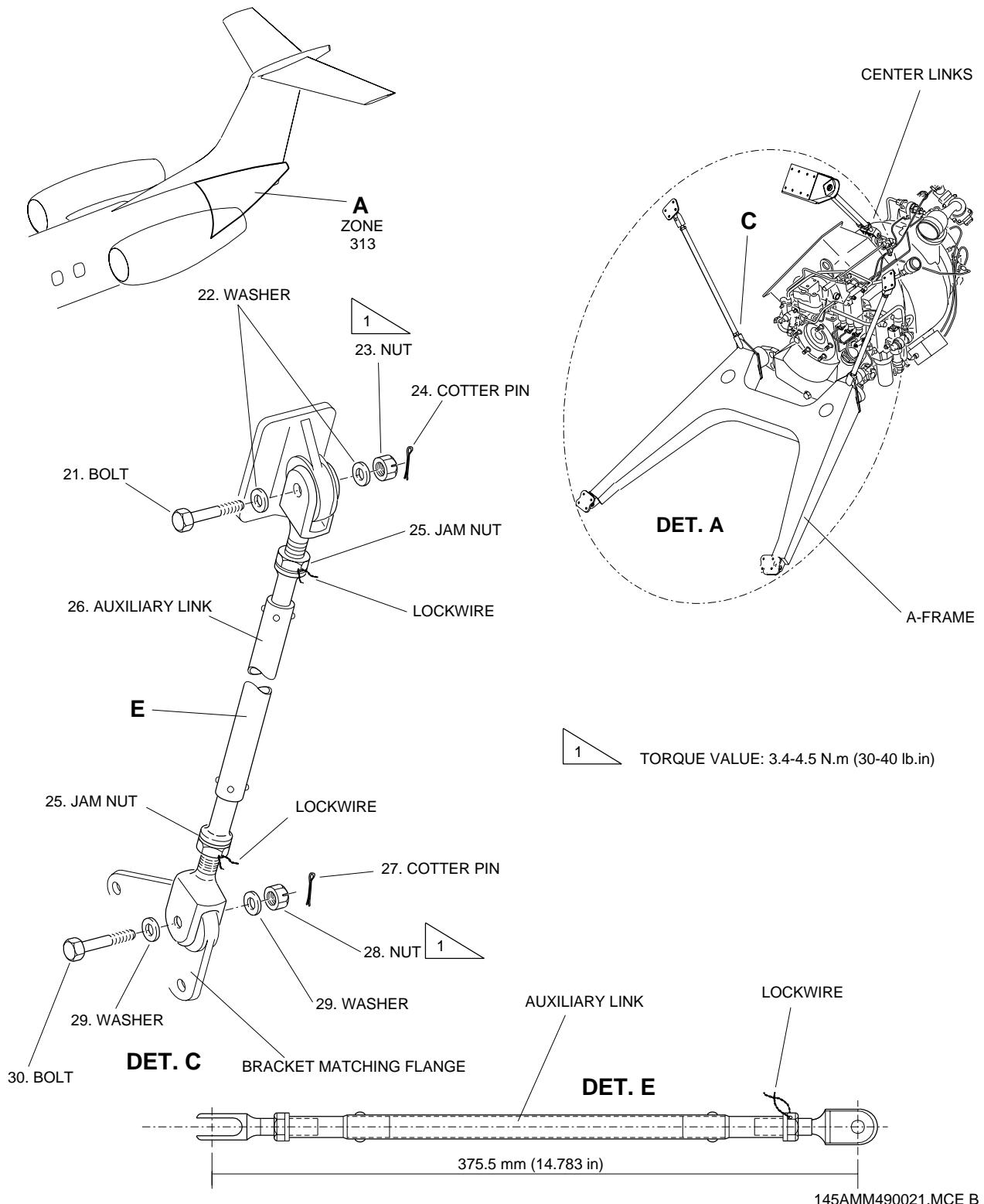


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**EFFECTIVITY: ALL**

APU Suspension Structure - Removal/Installation

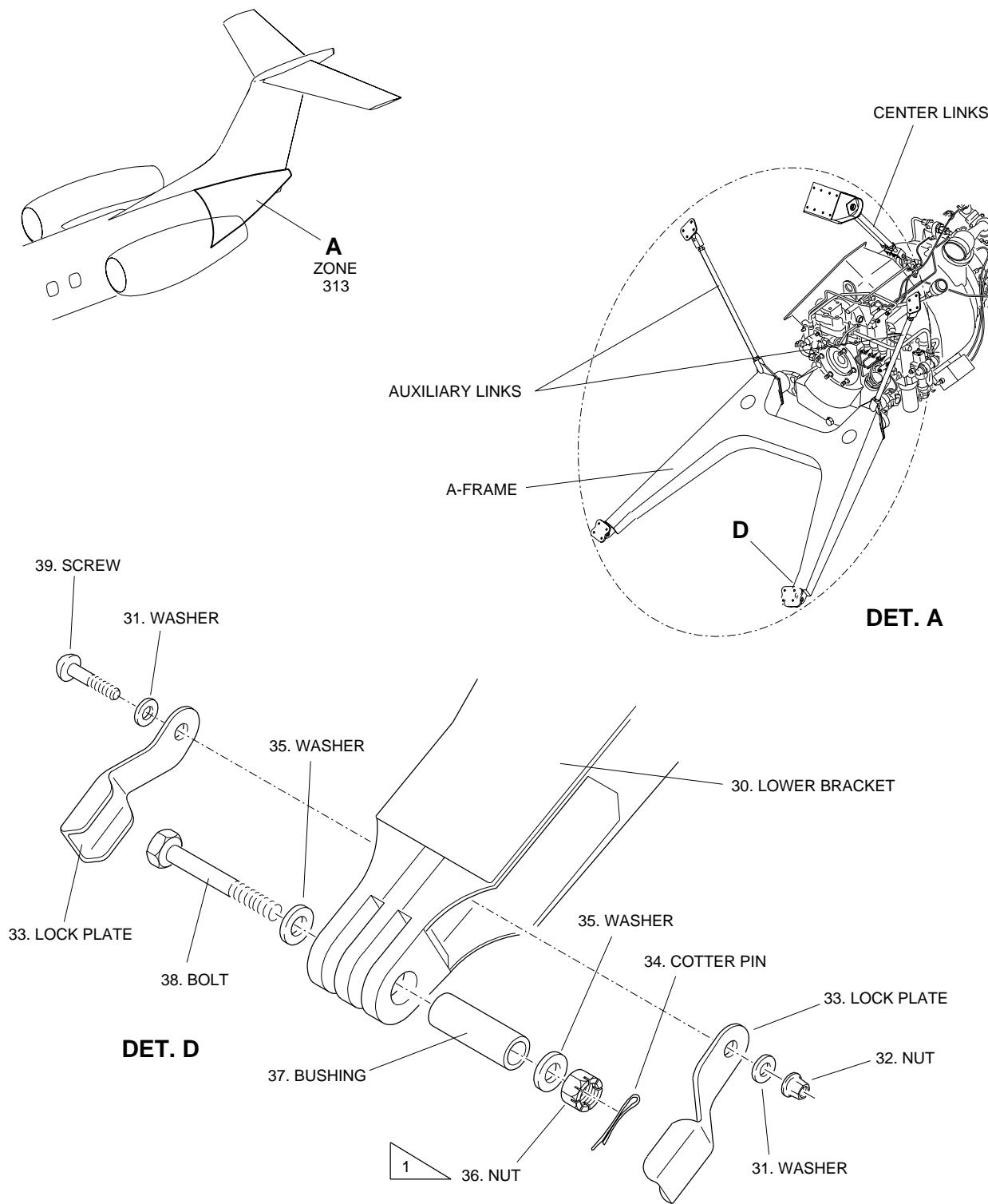
Figure 401 - Sheet 2



**EFFECTIVITY: ALL**

APU Suspension Structure - Removal/Installation

Figure 401 - Sheet 3



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TASK 49-12-01-400-801-A

EFFECTIVITY: ALL

3. APU SUSPENSION STRUCTURE - INSTALLATION

A. General

- (1) Obey the instructions below to install the APU suspension structure.

B. References

REFERENCE	DESIGNATION
AMM TASK 49-10-01-400-801-A/400	AUXILIARY POWER UNIT (APU) - INSTALLATION
AMM TASK 49-14-01-400-801-A/400	AUXILIARY POWER UNIT (APU) - INSTALLATION
IPC 49-12-00	APU MOUNTING SYSTEM

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
313	313	Aircraft tail cone

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque Wrench	To tighten the attachment screws	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Workstand	To get access to the work area	1

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS9226-03	Lockwire	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 49-12-00	AR
Elastomeric Mounts	IPC 49-12-00	2 sets



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## H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	APU

## I. Installation (Figure 401)

## SUBTASK 420-002-A

## (1) Install the Center Links:

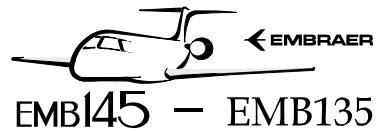
- (a) Adjust the length of center links, by rotating their rod ends. (See Figure 401 for adjustment values).
- (b) Install the center links (10 and 12), elastomeric mounts (9) and spacers (11) on the bracket (20).
- (c) Install the bushing (13), bolt (14), washer (19), washer (3), two bonding wires (2), and other washer (3).
- (d) Install the nut (8) and tighten it. (Refer to Figure 401 for the torque values).
- (e) Install a new cotter pin (7).
- (f) Install the lock plates (5 and 17) with the screws (4 and 15), washers (3 and 16), and nuts (1 and 18).
- (g) Tighten the nuts and screws.

## (2) Install A-Frame/Auxiliary Links:

- (a) Cut the lockwire and loosen the jam nut (25) of each auxiliary link (26).
- (b) Put the auxiliary links (26) on the fuselage attachment points.
- (c) Install the bolts (21) and washers (22).
- (d) Install the nuts (23) and manually tighten them. Do not install the cotter pins (24).
- (e) Put the A-Frame on its attachment points at the lower fuselage.
- (f) Install the bushings (37).
- (g) Install the bolts (38) and washers (35).
- (h) Install the nuts (36) and manually tighten them. Do not install the cotter pins (34).

**CAUTION: KEEP APPROXIMATELY AN EQUAL NUMBER OF THREADS SCREWED IN AT EACH ROD END.**

- (i) To adjust the length of the auxiliary links, turn their rod ends. (See Figure 401 for adjustment values).
- (j) Tighten the jam nuts (25) and install a lockwire on the two auxiliary links.
- (k) Connect the auxiliary links (26) to the bracket matching flange.



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- (l) Install the bolts (30) and washers (29).
- (m) Install the nuts (28) and manually tighten them. Do not install the cotter pin (27).
- (n) Apply the final torque to the nuts (23). Install the cotter pins (24). Refer to Figure 401 for the torque values.
- (o) Apply the final torque to the nuts (36) and install the cotter pins (34). Refer to Figure 401 for the torque values.
- (p) Install the lock plates (33) to the lower brackets (30) with the screws (39), washers (31), and nuts (32). Tighten the nuts and screws.
- (q) Apply the final torque to the nuts (28) and install the cotter pins (27). Refer to Figure 401 for the torque values.

J. Follow-on

SUBTASK 842-002-A

- (1) Install the APU ([AMM TASK 49-10-01-400-801-A/400](#) or [AMM TASK 49-14-01-400-801-A/400](#), as applicable).
- (2) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - APU FUEL SOV.
- (3) On the left power control and distribution box, remove the DO-NOT-CLOSE tag and close the APU GEN START circuit breaker.

