

APU SHUT-OFF VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures for the removal/installation and deactivation/reactivation of the APU shut-off valve.
- 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
28-22-01-000-801-A	APU SHUT-OFF VALVE - REMOVAL	ACFT WITH WET WINGSTUB
28-22-01-400-801-A	APU SHUT-OFF VALVE - INSTALLATION	ACFT WITH WET WINGSTUB
28-22-01-000-802-A	APU SHUT-OFF VALVE - REMOVAL	ACFT WITH DRY WINGSTUB
28-22-01-400-802-A	APU SHUT-OFF VALVE - INSTALLATION	ACFT WITH DRY WINGSTUB
28-22-01-040-801-A	APU SHUT-OFF VALVE - DEACTIVATION	ALL
28-22-01-440-801-A	APU SHUT-OFF VALVE - REACTIVATION	ALL

TASK 28-22-01-000-801-A

EFFECTIVITY: ACFT WITH WET WINGSTUB

2. APU SHUT-OFF VALVE - REMOVAL

A. General

(1) Obey the instructions that follow to remove the APU shut-off valve.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 12-11-01-600-802-A/300	FUEL-TANK PRESSURE DEFUELING - SERVICING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
156	156EZ/156DZ	Landing gear bay

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Containers	To collect residual fuel from the open lines	AR

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Landing gear bay

I. Preparation

SUBTASK 841-002-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 28-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

(1) Defuel the RH fuel tank ([AMM TASK 12-11-01-600-802-A/300](#)).

(2) On the fuel panel, make sure that the XFEED switch is set at OFF.

- (3) On the circuit breaker panel, open the circuit breakers that follow and attach a DO-NOT-CLOSE tag to them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.
 - FUEL CROSS-FEED.
- (4) Open access panel 156EZ/156DZ (AMM MPP 06-41-01/100) to get access to the APU shut-off valve.

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

SUBTASK 020-002-A

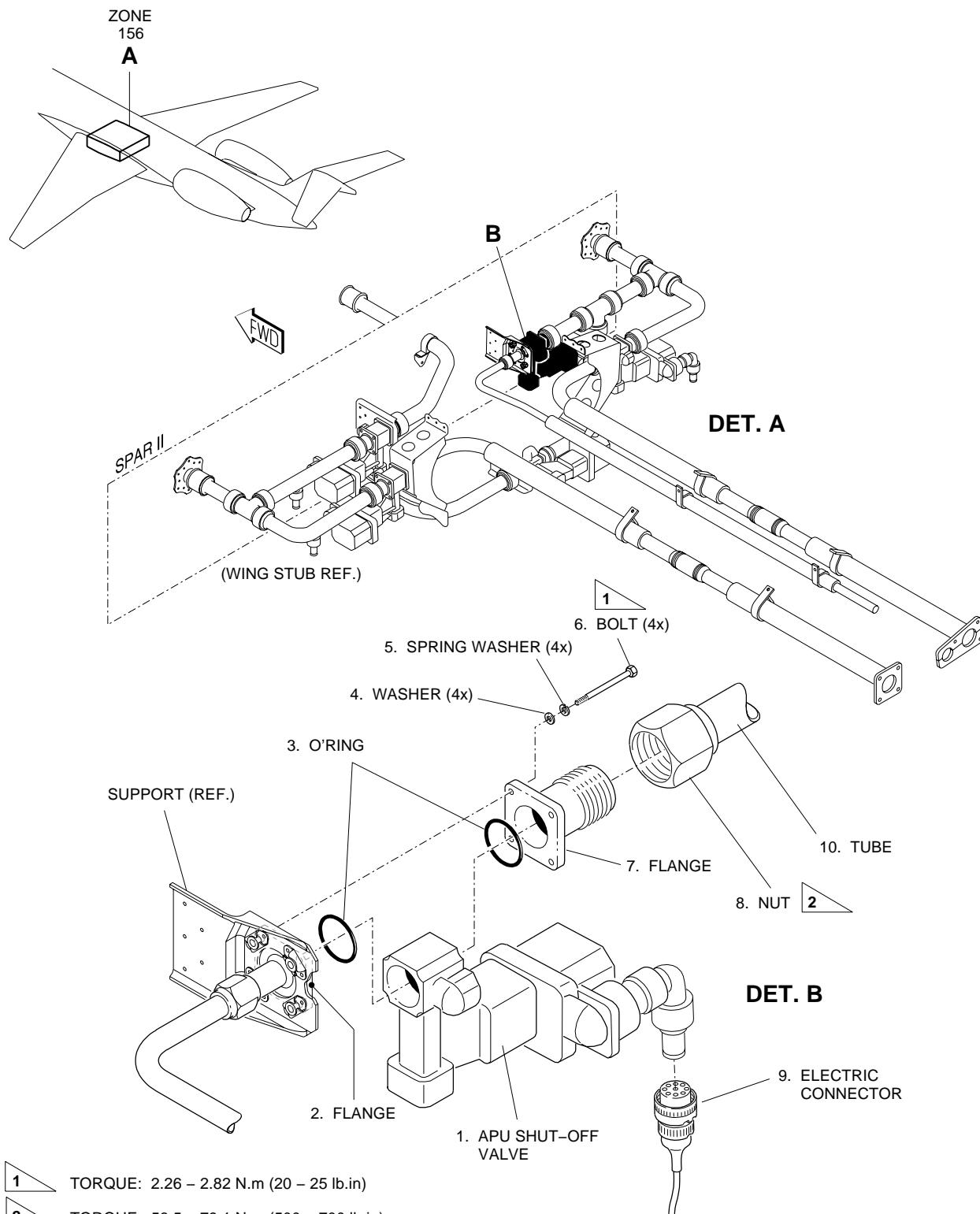
WARNING: USE APPLICABLE CONTAINERS TO COLLECT THE REMAINING FUEL FROM THE OPEN LINES AND KEEP THE WORK AREA CLEAN AND SAFE.

- (1) Disconnect the electric connector (9) from the APU shut-off valve (1).
- (2) Remove the bolts (6), spring washers (5) and washers (4).
- (3) Turn the tube (10) and remove the flange (7).
- (4) Remove the APU shut-off valve (1).
- (5) Remove and discard the O-rings (3).
- (6) Cover all disconnected points with applicable plugs or caps to prevent contamination.

EFFECTIVITY: ACFT WITH WET WINGSTUB

APU Shut-off Valve - Removal/Installation

Figure 401



1 TORQUE: 2.26 – 2.82 N.m (20 – 25 lb.in)

2 TORQUE: 56.5 – 79.1 N.m (500 – 700 lb.in)

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TASK 28-22-01-400-801-A

EFFECTIVITY: ACFT WITH WET WINGSTUB

3. APU SHUT-OFF VALVE - INSTALLATION

A. General

(1) Obey the instructions that follow to install the APU shut-off valve.

B. References

REFERENCE	DESIGNATION
28-22-00	-
AMM MPP 06-41-01/100	-
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 12-11-01-600-801-A/300	FUEL-TANK PRESSURE REFUELING - SERVICING
AMM TASK 28-21-11-700-801-A/500	FUEL-FEED-LINE LEAK TEST - OPERATIONAL TEST
AMM TASK 28-22-01-700-801-A/500	APU SHUT-OFF VALVE - OPERATIONAL CHECK
AMM TASK 28-41-00-200-801-A/600	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
156	156EZ/156DZ	Landing gear bay

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench	To tighten the attachment nuts	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
Molykote DC-33 Light	Lubricant	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	28-22-00	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Landing gear bay

I. Preparation

SUBTASK 841-003-A

- (1) Lightly apply Molykote lubricant to the O-rings (5).
- (2) On the circuit breaker panel, open the circuit breakers that follow and attach a DO-NOT-CLOSE tag to them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.
 - FUEL CROSS-FEED.
- (3) Remove the protection caps or plugs from the disconnected points, if applicable.

J. Installation (Figure 401)

SUBTASK 420-002-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 28-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

- (1) Install the O-rings (3) to the flanges (2) and (7).
- (2) Install the APU shut-off valve (1) between the flanges (2) and (7).
- (3) Install the bolts (6), spring washers (5) and washers (4).
- (4) Turn the tube (10) and install the nut (8) to the flange (7).
- (5) Tighten the bolts (6) to the flange (2).
- (6) Install the electric connector (9) on the APU shut-off valve (1).

K. Follow-on

SUBTASK 842-002-A

- (1) On the circuit breaker panel, close the circuit breakers that follow and remove the DO-NOT-CLOSE tag from them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.

- FUEL CROSS-FEED.

- (2) Refuel the RH fuel tank ([AMM TASK 12-11-01-600-801-A/300](#)).
- (3) Do the Fuel-Feed-Line Leak Test ([AMM TASK 28-21-11-700-801-A/500](#)), and examine the APU shut-off valve and connections for leakage. Remove the leakages as necessary.
- (4) Do the APU shut-off valve adjustment/test ([AMM TASK 28-22-01-700-801-A/500](#)).
- (5) Do an inspection of the fuel quantity indication harness (AMM TASK 28-41-00-200-801-A/600).

NOTE: The inspection of the fuel quantity indication harness is a part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Aircraft Maintenance Program.

- (6) Close access panel 156EZ/156DZ (AMM MPP 06-41-01/100).

TASK 28-22-01-000-802-A

EFFECTIVITY: ACFT WITH DRY WINGSTUB

4. APU SHUT-OFF VALVE - REMOVAL

A. General

(1) Obey the instructions below to remove the APU shut-off valve.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 12-11-01-600-802-A/300	FUEL-TANK PRESSURE DEFUELING - SERVICING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
192	192BR	Center lower fairing

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Containers	To collect residual fuel from open lines	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Center lower fairing

I. Preparation

SUBTASK 841-004-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 28-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

(1) Defuel the RH fuel tank ([AMM TASK 12-11-01-600-802-A/300](#)).

(2) On the fuel panel, make sure that the XFEED switch is set at OFF.

- (3) On the circuit breaker panel, open the circuit breakers below and attach a DO-NOT-CLOSE tag to them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.
 - FUEL CROSS-FEED
- (4) Open access panel 192BR (AMM MPP 06-41-01/100) to get access to the APU shut-off valve.

J. Removal ([Figure 402](#))

SUBTASK 020-003-A

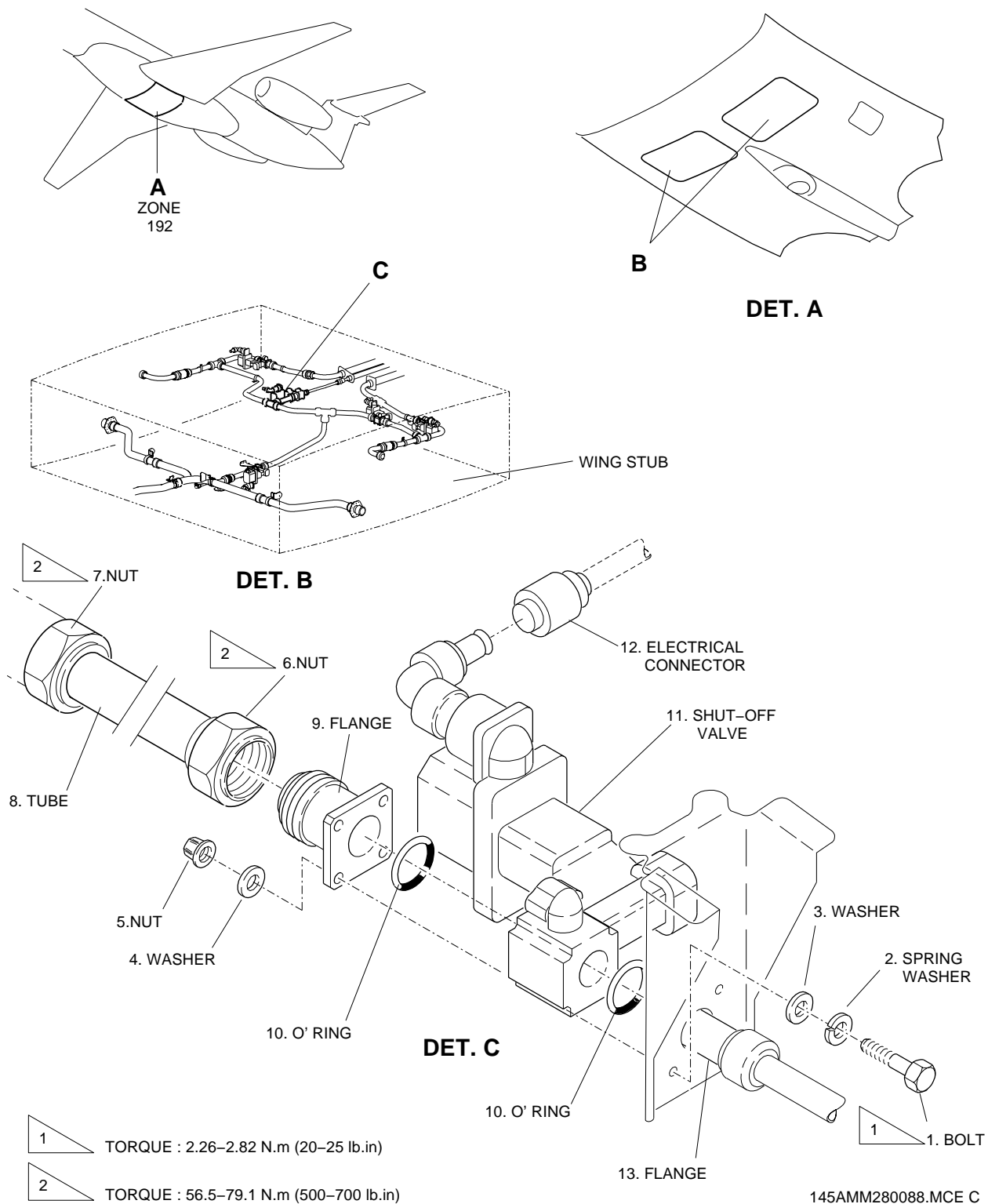
WARNING: USE APPLICABLE CONTAINERS TO COLLECT THE REMAINING FUEL FROM THE OPEN LINES AND KEEP THE WORK AREA CLEAN AND SAFE.

- (1) Remove the bolts (1), spring washers (2), washers (3), (4), and nuts (5).
- (2) Loosen the nuts (6) and (7).
- (3) Turn the tube (8) and remove the flange (9).
- (4) Remove and discard the O-rings (10).
- (5) Remove the APU shut-off valve (11).
- (6) Disconnect the electric connector (12) from the APU shut-off valve (11).
- (7) Cover all disconnected points with applicable plugs or caps to prevent contamination.

EFFECTIVITY: ACFT WITH DRY WINGSTUB

APU Shut-off Valve - Removal/Installation

Figure 402



TASK 28-22-01-400-802-A
EFFECTIVITY: ACFT WITH DRY WINGSTUB

5. APU SHUT-OFF VALVE - INSTALLATION

A. General

(1) Obey the instructions below to install the APU shut-off valve.

B. References

REFERENCE	DESIGNATION
28-22-00	-
AMM MPP 06-41-01/100	-
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 12-11-01-600-801-A/300	FUEL-TANK PRESSURE REFUELING - SERVICING
AMM TASK 28-22-01-700-802-A/500	APU SHUT-OFF VALVE - OPERATIONAL CHECK
AMM TASK 28-41-00-200-801-A/600	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
192	192BR	Center lower fairing

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench	To tighten the attachment nuts	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
Molykote DC-33 Light	Lubricant	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	28-22-00	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Center lower fairing

I. Preparation

SUBTASK 841-005-A

- (1) Lightly apply Molykote lubricant to the O-rings (5).
- (2) On the circuit breaker panel, make sure that the circuit breakers below are open and with a DO-NOT-CLOSE tag attached to them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.
 - FUEL CROSS-FEED.
 - Remove the protection caps or plugs from the disconnected points, if applicable.

J. Installation (Figure 402)

SUBTASK 420-003-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 28-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

- (1) Install the O-rings (10) to the flanges (9) and (13).
- (2) Install the APU shut-off valve (11) between the flanges (9) and (13).
- (3) Install the bolts (1), spring washers (2), washers (3) and (4), and nuts (5).
- (4) Turn the tube (8) and install the nut (6) to the flange (9).
- (5) Tighten the nuts (6) and (7).
- (6) Remove the protection cap from the electric connector (12) and connect it to the APU shut-off valve (11).

K. Follow-on

SUBTASK 842-003-A

- (1) On the circuit breaker panel, close the circuit breakers below and remove the DO-NOT-CLOSE tag from them:
 - FUEL PUMPS 1A/1B/1C.
 - FUEL PUMPS 2A/2B/2C.
 - START 1/2.
 - APU FUEL SOV.
 - FUEL CROSS-FEED.
- (2) Refuel the RH fuel tank ([AMM TASK 12-11-01-600-801-A/300](#)).

- (3) Do the Fuel-Feed-Line Leak Test ([AMM TASK 28-22-01-700-802-A/500](#)), and examine the APU shut-off valve and connections for leakage. Correct as necessary.
- (4) Do the APU shut-off valve adjustment/test ([AMM TASK 28-22-01-700-802-A/500](#)).
- (5) Do an inspection on the fuel quantity indication harness (AMM TASK 28-41-00-200-801-A/600).

NOTE: The inspection of fuel quantity indication harness is a part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Aircraft Maintenance Program.

- (6) Close access panel 192BR (AMM MPP 06-41-01/100).

TASK 28-22-01-040-801-A

EFFECTIVITY: ALL

6. APU SHUT-OFF VALVE - DEACTIVATION

A. General

- (1) This procedure refers to item 28-22-01 - APU FUEL SHUTOFF VALVE of the DDPM.
- (2) The aircraft can operate with the APU shut-off valve inoperative if it is secured closed and with the APU not in operation.

B. References

REFERENCE	DESIGNATION
AMM MPP 28-00-00/200	- MAINTENANCE PRACTICES

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS20995C32	Lockwire	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	At valve location

I. Deactivation

SUBTASK 040-002-A

WARNING: BEFORE YOU DO THE TASK, OBEY THE SAFETY PRECAUTIONS GIVEN IN [AMM MPP 28-00-00/200](#) TO PREVENT INJURY TO PERSONS AND DAMAGE TO MATERIAL.

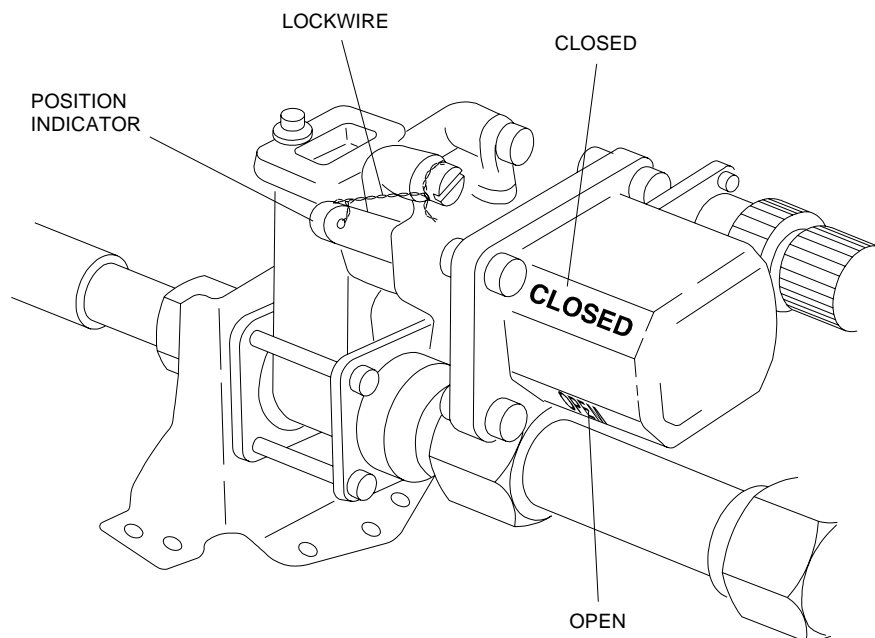
- (1) Open and safety the APU FUEL SOV circuit breaker.
- (2) Install an "APU FUEL SHUTOFF VALVE INOP - DO NOT USE APU" placard on the APU panel.
- (3) Get access to the APU shut-off valve.

- (4) Remove, insulate, and stow the electrical connector.
- (5) Install a protective cap on the electrical connector of the APU shut-off valve.
- (6) Put the valve position indicator (override lever) in the CLOSED position and safety it with a lockwire.
- (7) Make an entry in the aircraft technical logbook to show that you did the deactivation procedure for the APU shut-off valve.

EFFECTIVITY: ALL

APU Shut-off Valve - Deactivation

Figure 403



EM145AMM281056A.DGN

TASK 28-22-01-440-801-A
EFFECTIVITY: ALL

7. APU SHUT-OFF VALVE - REACTIVATION

A. General

(1) This procedure refers to item 28-22-01 - APU FUEL SHUTOFF VALVE of the DDPM.

B. References

REFERENCE	DESIGNATION
AMM MPP 28-22-01/500	- ADJUSTMENT/TEST

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	At valve location

I. Reactivation

SUBTASK 440-002-A

- (1) Do the troubleshooting and the applicable corrective maintenance procedure for the APU shut-off valve.
- (2) Reactivate the APU shut-off valve as follows:
 - (a) Get access to the APU shut-off valve.
 - (b) Remove the protective cap from the electrical connectors.
 - (c) Connect the electrical connector to the APU shut-off valve.
 - (d) Remove the lockwire from the override lever.
 - (e) Remove the "APU FUEL SHUTOFF VALVE INOP - DO NOT USE APU" placard from the APU panel.
 - (f) Close the APU FUEL SOV circuit breaker.

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- (3) Make an entry in the aircraft technical logbook to show that you did the reactivation procedure for the APU shut-off valve.
 - (4) Do the APU shut-off valve operational check ([AMM MPP 28-22-01/500](#)).