



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

ELECTROPNEUMATIC OUTFLOW VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove, install, deactivate, and reactivate the Electropneumatic Outflow Valve.
- B. The electropneumatic outflow valve is installed on the rear pressure bulkhead.
- 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
21-31-03-000-801-A	ELECTROPNEUMATIC OUTFLOW VALVE ALL - REMOVAL	
21-31-03-400-801-A	ELECTROPNEUMATIC OUTFLOW VALVE ALL - INSTALLATION	
21-31-03-040-801-A	ELECTROPNEUMATIC OUTFLOW VALVE ALL - DEACTIVATION PROCEDURE	
21-31-03-440-801-A	ELECTROPNEUMATIC OUTFLOW VALVE ALL - REACTIVATION PROCEDURE	



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TASK 21-31-03-000-801-A

EFFECTIVITY: ALL

2. ELECTROPNEUMATIC OUTFLOW VALVE - REMOVAL

A. General

- (1) This task gives the procedures to remove the electropneumatic outflow valve.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
272	272DR	Rear fuselage I

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	Inside the rear fuselage I

I. Preparation

SUBTASK 841-002-A

- (1) Open access door 272DR (AMM MPP 06-41-01/100).
- (2) Open and safety the CONTROL circuit breaker, on the circuit breaker panel.

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

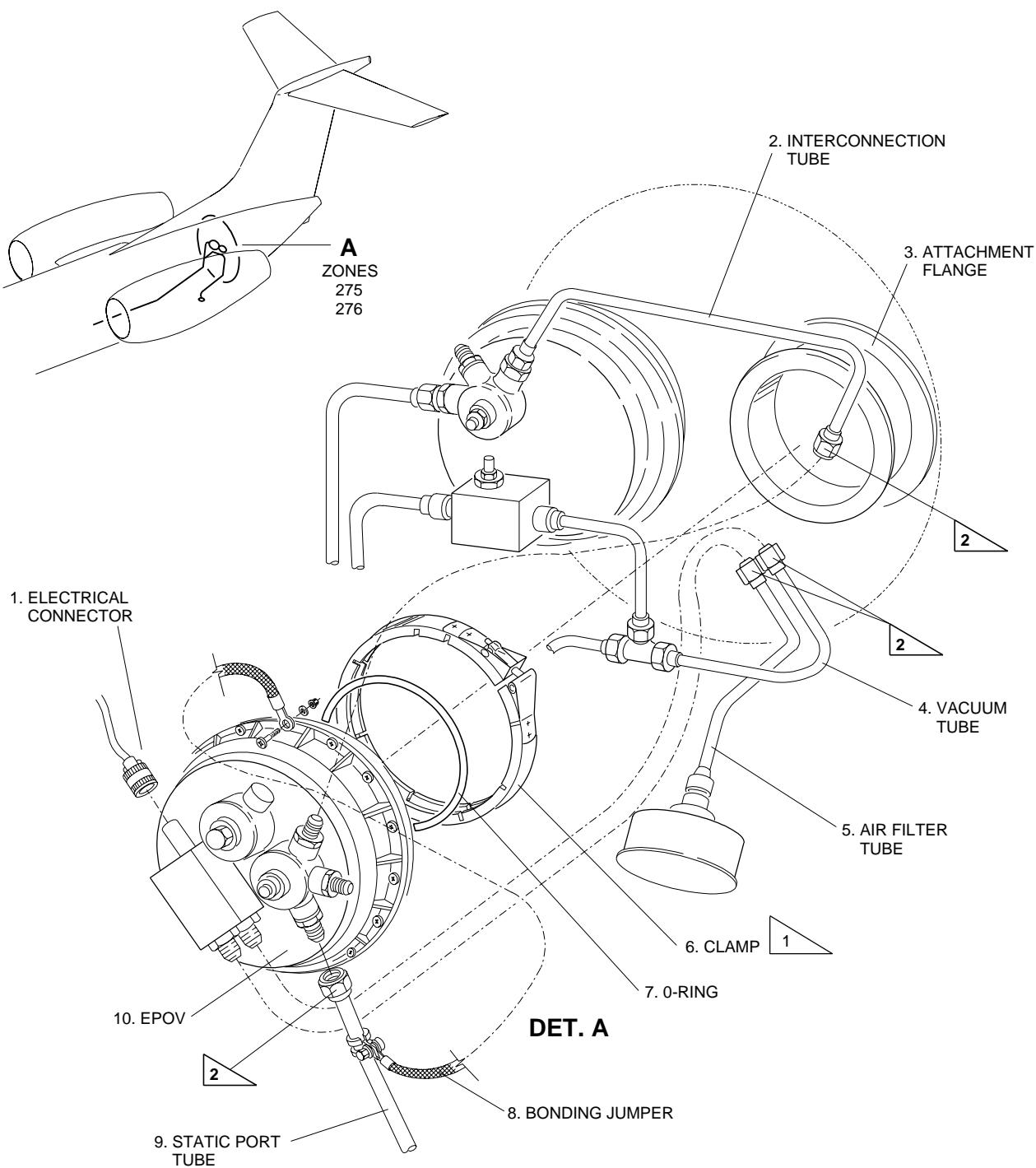
SUBTASK 020-002-A

- (1) Disconnect the electrical connector (1).
- (2) Disconnect the vacuum tube (4), the air filter tube (5), the static port tube (9), and the pneumatic outflow valve interconnection (2) tube.
- (3) Disconnect the bonding jumper (8).



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- (4) Remove the clamp (6).
- (5) Remove the valve (10).
- (6) Discard the O-ring (7).
- (7) Install caps on the tubes.

EFFECTIVITY: ALL
Electropneumatic Outflow Valve - Removal/Installation
Figure 401


1 TORQUE: 2.5 - 3.5 Nm (22-31 lb.in).

2 TORQUE: 7.9 - 9.0 Nm (70 - 80 lb.in).

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TASK 21-31-03-400-801-A

EFFECTIVITY: ALL

3. ELECTROPNEUMATIC OUTFLOW VALVE - INSTALLATION

A. General

- (1) This task gives the procedures to install the electropneumatic outflow valve.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM TASK 21-31-00-700-804-A/500	-
IPC 21-30-00	PRESSURIZATION DISTRIBUTION SYSTEM

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
272	272DR	Rear fuselage I

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench	To tighten the electropneumatic outflow valve	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	IPC 21-30-00	1

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Inside the rear fuselage I

I. Preparation

SUBTASK 841-003-A

- (1) Make sure that the CONTROL circuit breaker, on the circuit breaker panel, is open and safety.



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J. Installation (Figure 401)

SUBTASK 420-002-A

- (1) Remove the caps from the tubes.
- (2) Install a new O-ring (7).
- (3) Put the valve (10) in the attachment flange.
- (4) Install the clamp (6).
- (5) Align the connection points of the valve with the related tubes.
- (6) Tighten the clamp (6) to the torque shown in (Figure 401).
- (7) Connect the vacuum tube (4), the air filter tube (5), the static port tube (9), and the pneumatic outflow valve interconnection (2) tube. Tighten the tubes to the torque shown in (Figure 401).
- (8) Install the bonding jumper (8).
- (9) Connect the electrical connector (1).

K. Follow-on

SUBTASK 842-002-A

- (1) Do the (AMM TASK 21-31-00-700-804-A/500).
- (2) Close access door 272DR (AMM MPP 06-41-01/100).
- (3) Remove the safety device and close the CONTROL circuit breaker, on the circuit breaker panel.

TASK 21-31-03-040-801-A
EFFECTIVITY: ALL
4. ELECTROPNEUMATIC OUTFLOW VALVE - DEACTIVATION PROCEDURE
A. General

- (1) This task refers to item 21-31-03 - Outflow Valves of the DDPM and gives the procedure to deactivate the electropneumatic outflow valve.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM MPP 20-10-02/200	- MAINTENANCE PRACTICES
AMM TASK 21-31-03-000-801-A/400	ELECTROPNEUMATIC OUTFLOW VALVE - REMOVAL
AMM TASK 21-31-03-400-801-A/400	ELECTROPNEUMATIC OUTFLOW VALVE - INSTALLATION
AMM TASK 21-31-04-000-801-A/400	PNEUMATIC OUTFLOW VALVE - REMOVAL
AMM TASK 21-31-04-400-801-A/400	PNEUMATIC OUTFLOW VALVE - INSTALLATION

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
272	272DR	Rear fuselage I

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	In rear fuselage I

I. Preparation
SUBTASK 841-004-A

- (1) Open and safety the CONTROL circuit breaker, on the circuit breaker panel.
- (2) Open access door 272DR (AMM MPP 06-41-01/100).



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J. Electropneumatic Outflow Valve - Deactivation Procedure

SUBTASK 040-002-A

(1) Electropneumatic Outflow Valve Secured Closed:

(a) Remove the electropneumatic outflow valve ([AMM TASK 21-31-03-000-801-A/400](#)).

(b) Safety the valve in the closed position, as shown in [Figure 402](#), DET. A.

NOTE: The safety wires must be 0.81 mm (0.032 in) or more. Refer to [AMM MPP 20-10-02/200](#).

(c) Open fitting 1 ([Figure 402](#), DET. B) and then plug the tube and valve with plugs AS5168-D05 and AN929-5.

(d) Install the electropneumatic outflow valve ([AMM TASK 21-31-03-400-801-A/400](#)).

NOTE: During the installation of the electropneumatic outflow valve secured in the closed position, on the aircraft, do not connect servo line 1 from the valve. Keep the plugs on the valve and tube.

(2) The two Outflow Valves Secured Open:

(a) Remove the electropneumatic outflow valve ([AMM TASK 21-31-03-000-801-A/400](#)) and the pneumatic outflow valve ([AMM TASK 21-31-04-000-801-A/400](#)).

(b) Get access to the outflow valves through access door 272DR (AMM MPP 06-41-01/100).

(c) With your two hands, open one of the valves as follows: push the poppet while you put the Opening Tool (GSE 282) against the valve shaft guide ([Figure 403](#)).

(d) Make sure that the Opening Tool is engaged on the shaft in order to prevent valve closure.

(e) Do the procedure again for the other valve.

NOTE: To remove the Opening Tool from the valve, only pull it out.

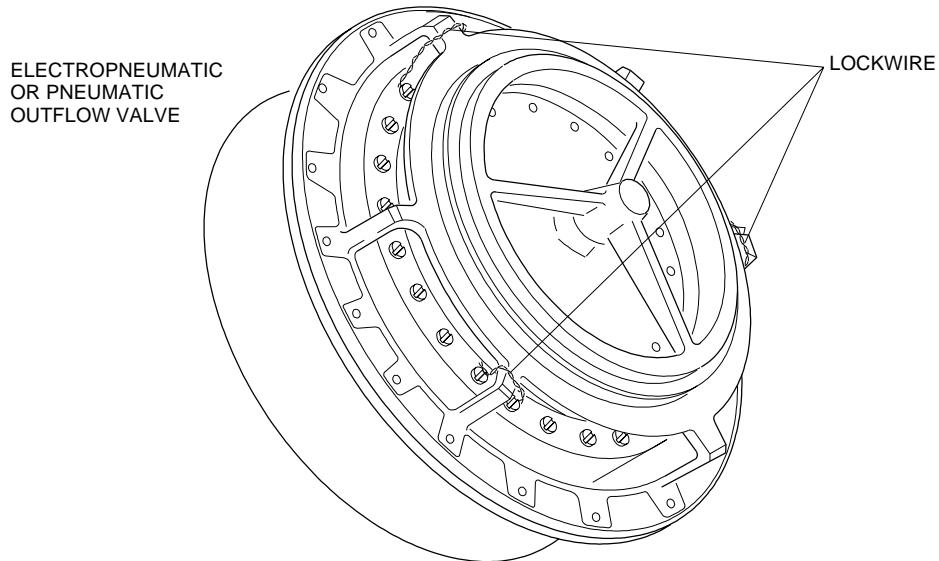
(f) Install the electropneumatic outflow valve ([AMM TASK 21-31-03-400-801-A/400](#)) and the pneumatic outflow valve ([AMM TASK 21-31-04-400-801-A/400](#)), back.

(3) Write in the aircraft technical logbook that you did the deactivation procedure for the Electropneumatic Outflow Valve.

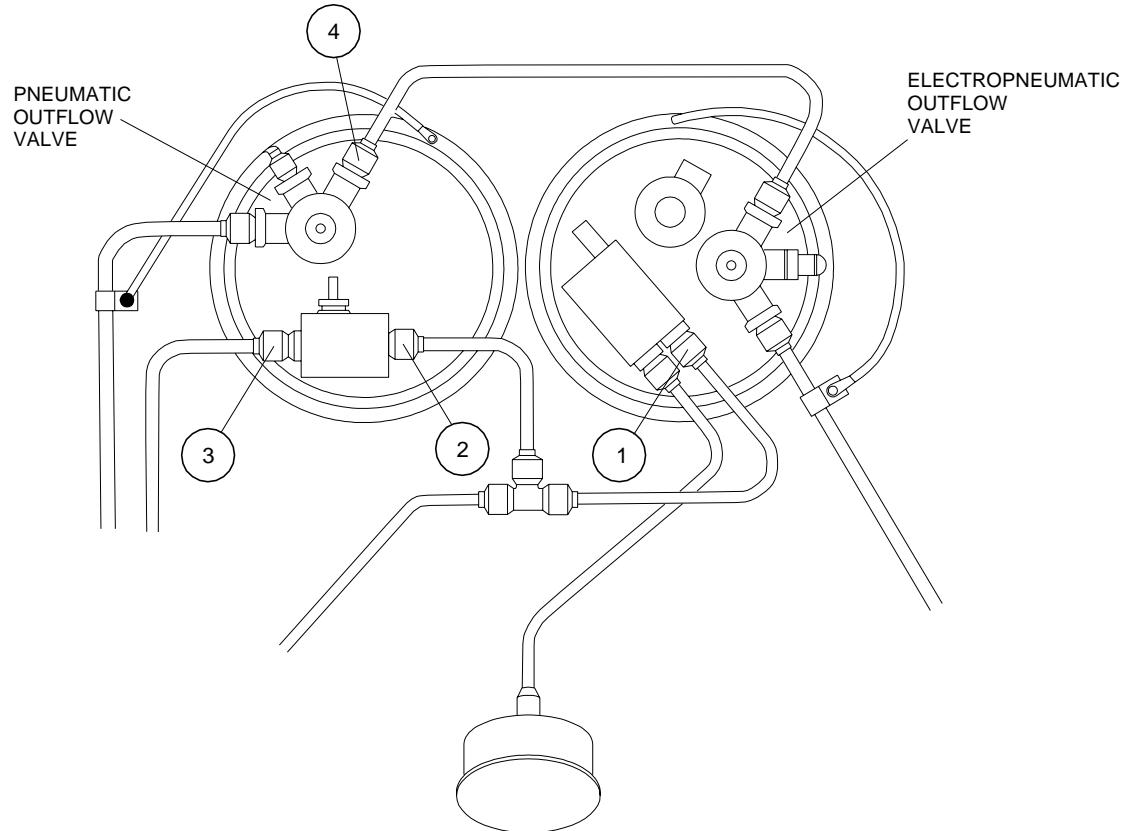
EFFECTIVITY: ALL

Electropneumatic or Pneumatic Outflow Valves Secured Closed

Figure 402



DET. A



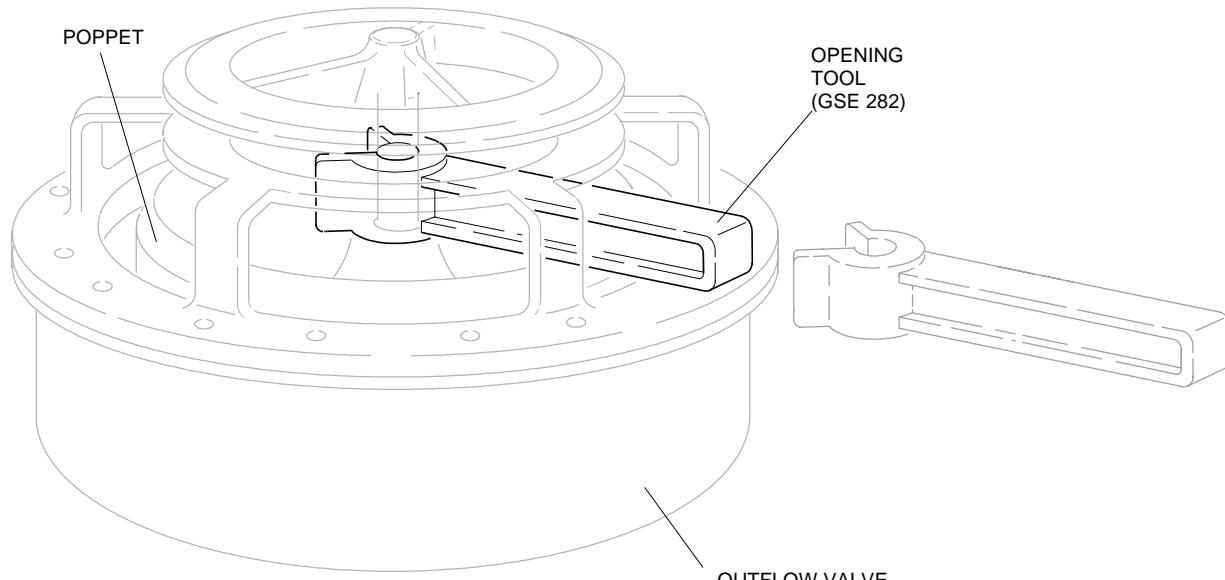
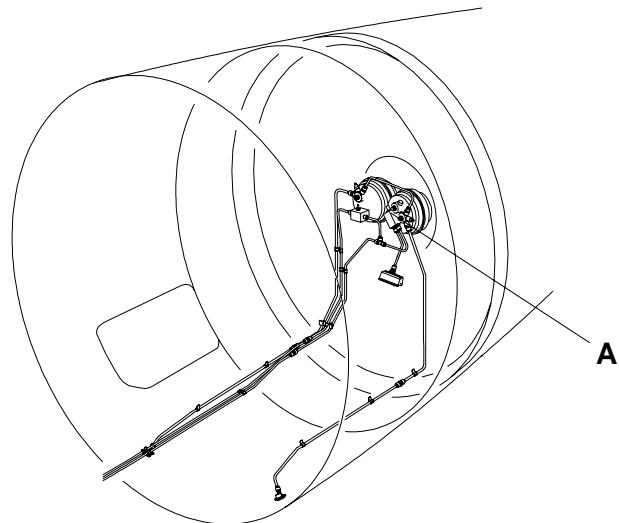
DET. B

EM145AMM211001A.DGN

EFFECTIVITY: ALL

The Two Outflow Valves Secured Open

Figure 403



DET. A

EM145AMM211002A.DGN

TASK 21-31-03-440-801-A
EFFECTIVITY: ALL
5. ELECTROPNEUMATIC OUTFLOW VALVE - REACTIVATION PROCEDURE
A. General

- (1) This task gives the procedures to reactivate the electropneumatic outflow valve.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-41-01/100	-
AMM TASK 21-31-03-000-801-A/400	ELECTROPNEUMATIC OUTFLOW VALVE - REMOVAL
AMM TASK 21-31-03-400-801-A/400	ELECTROPNEUMATIC OUTFLOW VALVE - INSTALLATION
AMM TASK 21-31-04-000-801-A/400	PNEUMATIC OUTFLOW VALVE - REMOVAL
AMM TASK 21-31-04-400-801-A/400	PNEUMATIC OUTFLOW VALVE - INSTALLATION

C. Zones and Accesses

<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
272	272DR	Rear fuselage I

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	In rear fuselage I

I. Preparation
SUBTASK 841-005-A

- (1) Make sure that the CONTROL circuit breaker, on the circuit breaker panel, is open and safety.
- (2) Open access door 272DR (AMM MPP 06-41-01/100).



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J. Electropneumatic Outflow Valve - Reactivation Procedure

SUBTASK 440-002-A

- (1) Do the troubleshooting and the applicable corrective maintenance procedures for the Electropneumatic Outflow Valve or other component that could possibly cause its deactivation.
- (2) Reactivate the Electropneumatic Outflow Valve from the secured closed condition:
 - (a) Remove the electropneumatic outflow valve ([AMM TASK 21-31-03-000-801-A/400](#)).
 - (b) Remove the plugs from the tube and close fitting 1 (Figure 402, DET. B).
 - (c) Remove the lockwires installed as shown in Figure 402, DET. A.
 - (d) Install the electropneumatic outflow valve ([AMM TASK 21-31-03-400-801-A/400](#)).
- (3) Reactivate the two Outflow Valves from the secured open condition:
 - (a) Remove the electropneumatic outflow valve ([AMM TASK 21-31-03-000-801-A/400](#)) and the pneumatic outflow valve ([AMM TASK 21-31-04-000-801-A/400](#)).
 - (b) Remove the Opening Tool from the valves.
NOTE: To remove the Opening Tool from the valve, only pull it out.
 - (c) Install the electropneumatic outflow valve ([AMM TASK 21-31-03-400-801-A/400](#)) and the pneumatic outflow valve ([AMM TASK 21-31-04-400-801-A/400](#)), back.