WING ANTI-ICING VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

A. This section gives the procedures to remove and install the anti-icing valves and anti-icing valves filter of the wing thermal anti-icing system.

B. These procedures are applicable to the LH and RH anti-icing valves.

C. The filter is installed on the anti-icing valves.

D. The LH anti-icing valve is installed on the LH side of the forward lower fairing.

E. The RH anti-icing valve is installed on the RH side of the forward lower fairing.

F. 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*
30-11-01-000-801-A	WING ANTI-ICING VALVE - REMOVAL	ALL
30-11-01-400-801-A	WING ANTI-ICING VALVE - INSTALLATION	ALL
30-11-01-000-802-A	WING ANTI-ICING VALVE FILTER - REMOVAL	ALL
30-11-01-400-802-A	WING ANTI-ICING VALVE FILTER - INSTALLATION	ALL
30-11-01-040-801-A	WING ANTI-ICING VALVES DEACTIVATION	ALL
30-11-01-440-801-A	WING ANTI-ICING VALVES REACTIVATION	ALL

TASK 30-11-01-000-801-A
EFFECTIVITY: ALL

2. WING ANTI-ICING VALVE - REMOVAL

A. General

(1) This procedure gives the instructions to remove the anti-icing valve of the wing thermal anti-icing system.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-44-00/100	- COMPONENT LOCATION
S.B.145-30-0021	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL, 191KL	LH side of the forward lower fairing
191	191FR, 191LR	RH side of the forward lower fairing
500	511AL	LH side of the forward lower fairing
600	611AR	RH side of the forward lower fairing

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	LH or RH side of the forward lower fairing
1	Helps the other technician	LH or RH side of the forward lower fairing

I. Preparation

SUBTASK 841-002-A

(1) Make sure that the aircraft is safe for maintenance.

(2) On the circuit breaker panel, open this circuit breaker and attach a DO-NOT-CLOSE tag to it.

- WING: (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).

(3) Remove access panels 191EL, 191KL or 191FR, and 191LR (AMM MPP 06-41-01/100).

(4) Remove the landing-light access-panel 511AL or 611AR (AMM MPP 06-44-00/100).

J. Removal (Figure 401) (Figure 402) (Figure 403)

SUBTASK 020-002-A

(1) On aircraft (004 - 181) PRE-MOD. S.B.145-30-0021 (Figure 401).

(a) Disconnect the electrical connector (8).

(b) Loosen the clamp (7) to disconnect the duct (6).

(c) Loosen the clamp (2) to disconnect the duct (1).

(d) Disconnect the tube (5).

(e) Hold the anti-icing valve (4).

(f) Loosen the clamp (3).

(g) Remove the anti-icing valve (4).

(2) On aircraft (004 - 181) POST-MOD. S.B.145-30-0021 (Figure 402).

(a) Disconnect the electrical connector (1).

(b) Loosen the clamp (10) to disconnect the duct (8).

(c) Loosen the clamp (11) to disconnect the duct (12).

(d) Disconnect the tube (3).

(e) Hold the anti-icing valve (2).

(f) Remove the bolts (6), washers (5) and nuts (4).

(g) Remove the anti-icing valve (2).

(3) On aircraft 003, 182 and on (Figure 403).

(a) Disconnect the electrical connector (5).

(b) Loosen the clamp (2) to disconnect the duct (1).

(c) Loosen the clamp (3) to disconnect the duct (4).

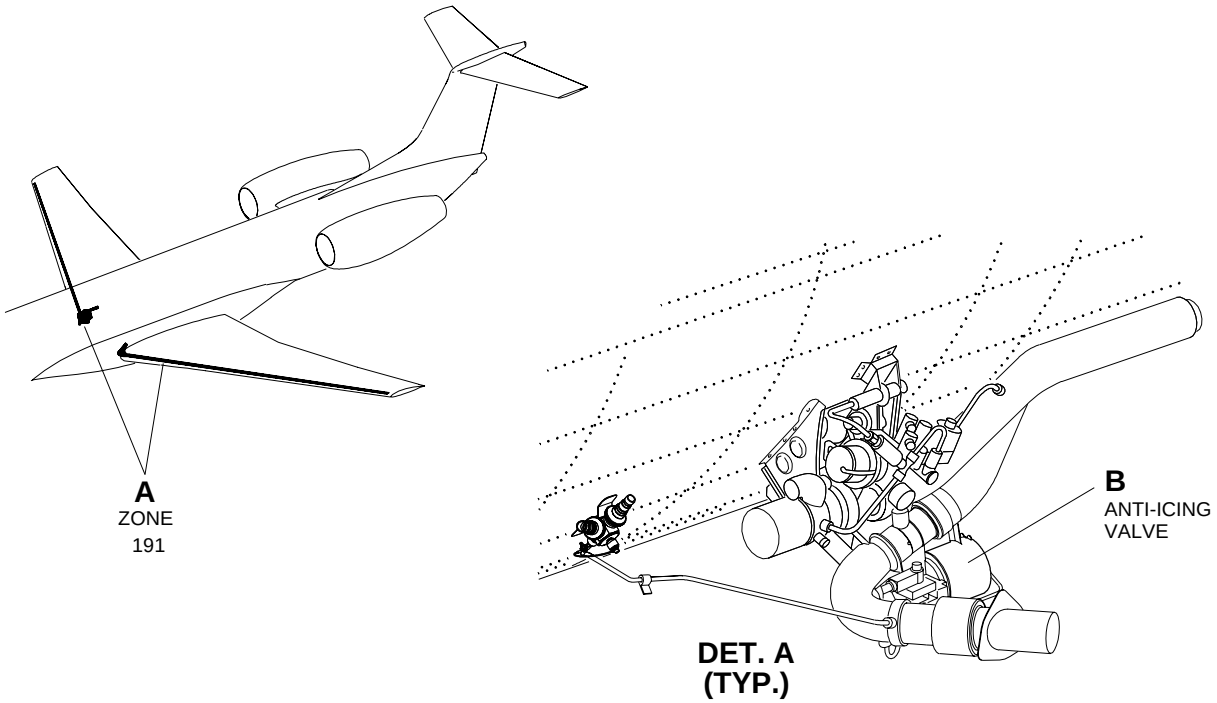
(d) Disconnect the tube (7).

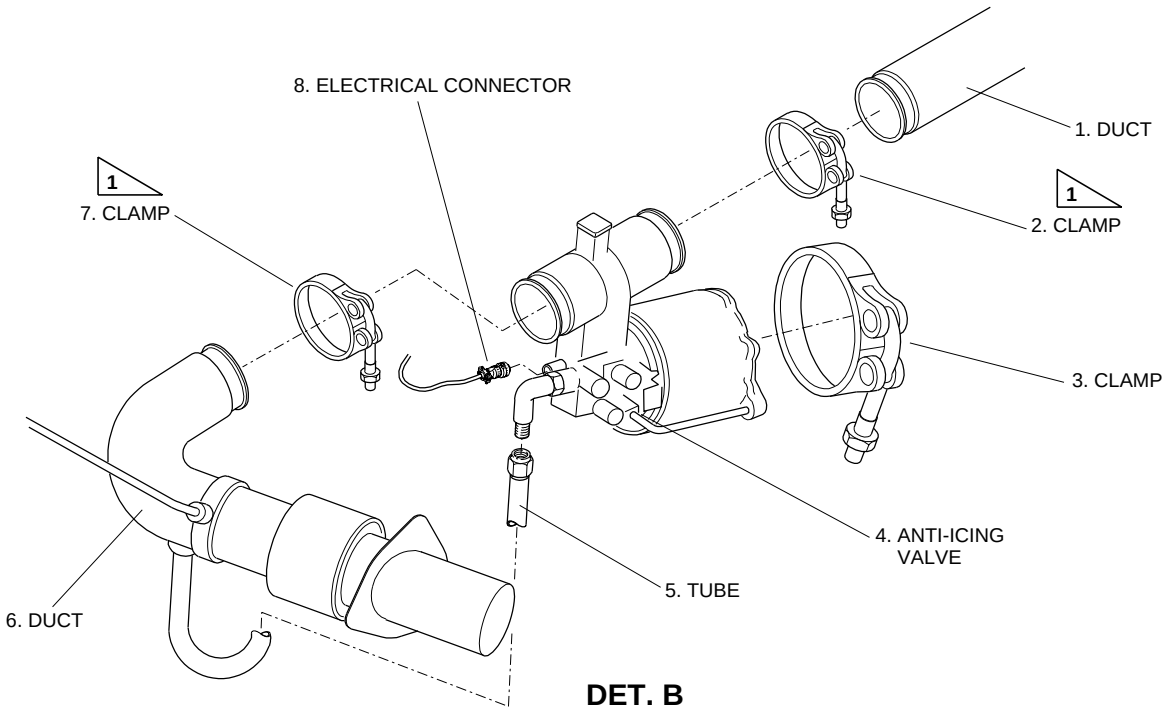
(e) Hold the anti-icing valve (6).

(f) Remove the bolt (12), washer (11), and nuts (9).

(g) Remove the anti-icing valve (6).

EFFECTIVITY: (004 - 181) PRE-MOD. S.B. 145-30-0021
Anti-Icing Valve - Removal/Installation
Figure 401

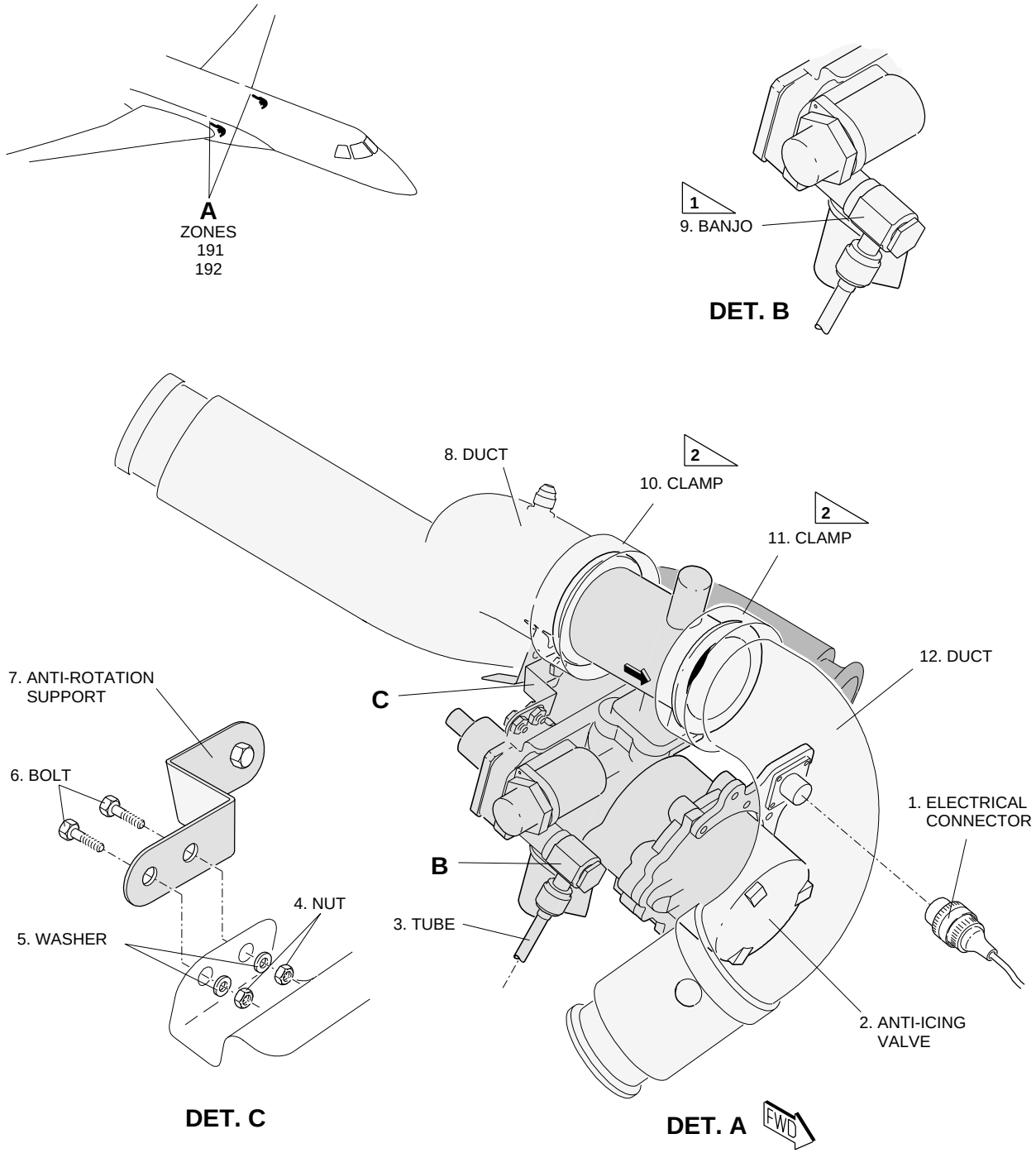




1 TORQUE: 4.52 - 5.65 N.m (40-50 lb.in)

145AMM300036.MCE C

EFFECTIVITY: (004 - 181) POST-MOD. S.B. 145-30-0021
Anti-Icing Valve - Removal/Installation
Figure 402



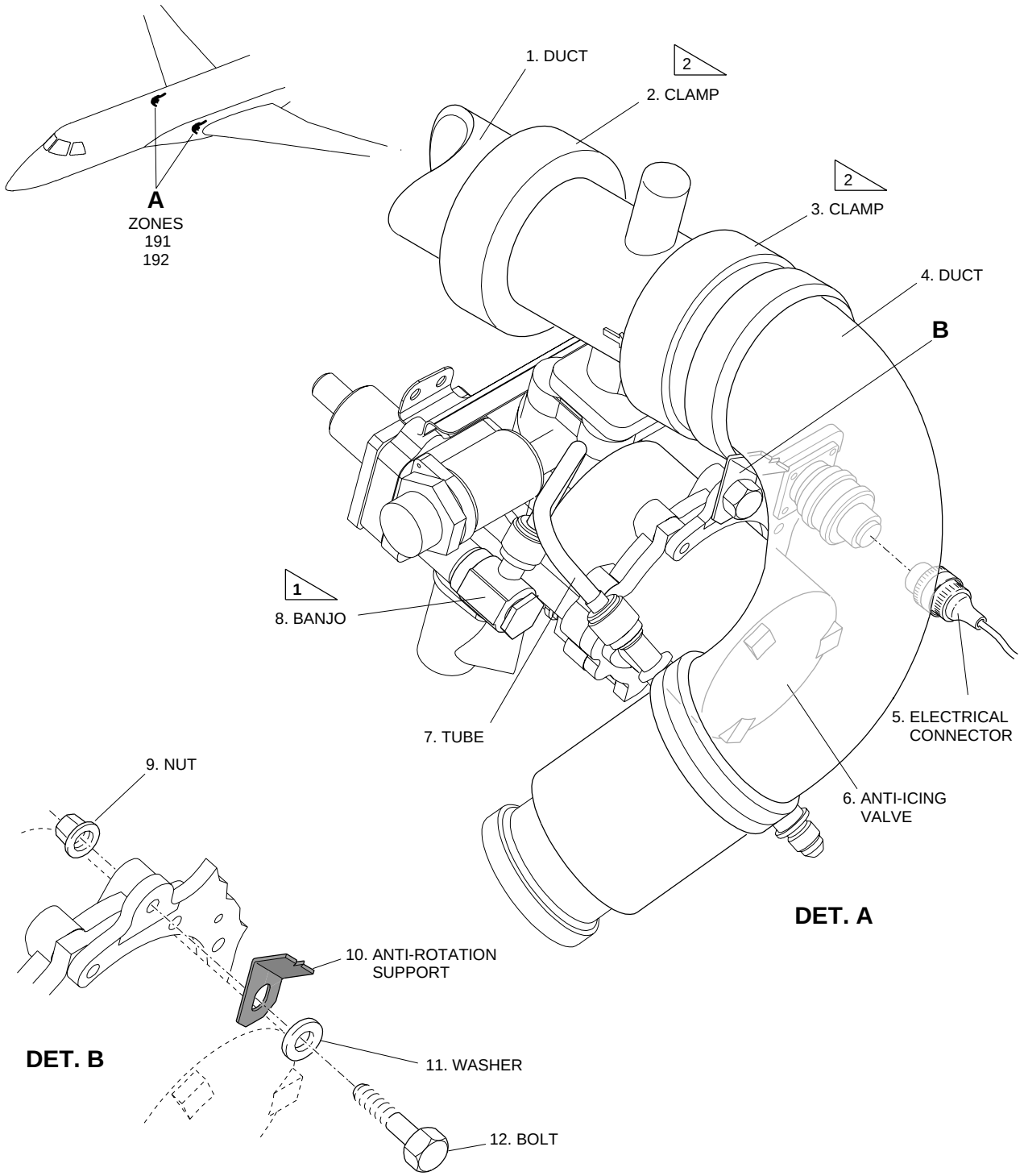
1 TORQUE: 5.09 - 5.65 N.m (45-50 lb.in)

2 TORQUE: 4.52 - 5.65 N.m (40-50 lb.in)

145AMM300109.MCE B

EFFECTIVITY: 003, 182 AND ON

Anti-Icing Valve - Removal/Installation
Figure 403



1 TORQUE: 5.09 - 5.65 N.m (45-50 lb.in)

2 TORQUE: 4.52-5.65 N.m (40-50 lb.in)

145AMM300136.MCE C

TASK 30-11-01-400-801-A
EFFECTIVITY: ALL

3. WING ANTI-ICING VALVE - INSTALLATION

A. General

(1) This procedure gives the instructions to install the anti-icing valve of the wing thermal anti-icing system.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-44-00/100	- COMPONENT LOCATION
AMM TASK 20-10-10-910-801-A/200	V-BAND CLAMPS - INSTALLATION
AMM TASK 30-00-00-700-802-A/500	ANTI-ICING SYSTEM - OPERATIONAL TEST
S.B.145-30-0021	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL, 191KL	LH side of the forward lower fairing
191	191FR, 191LR	RH side of the forward lower fairing
500	511AL	LH side of the forward lower fairing
600	611AR	RH side of the forward lower fairing

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	LH or RH side of the forward lower fairing
1	Helps the other technician	LH or RH side of the forward lower fairing

I. Installation (Figure 401) (Figure 402) (Figure 403)

SUBTASK 420-002-A

(1) On aircraft (004 -181) PRE-MOD. S.B.145-30-0021 (Figure 401).

(a) Put the anti-icing valve (4) in the clamp (3).

(b) Tighten the clamp (3) to attach the anti-icing valve (4).

(c) Connect the tube (5).

(d) Connect the duct (1) and tighten the clamp (2) (AMM TASK 20-10-10-910-801-A/200).

(e) Connect the duct (6) and tighten the clamp (7) (AMM TASK 20-10-10-910-801-A/200).

(f) Connect the electrical connector (8).

(2) On aircraft (004 - 181) POST-MOD. S.B.145-30-0021 (Figure 402).

(a) Attach the anti-icing valve (2) in its position at the anti-rotation support (7).

(b) Tighten the bolts (6), washers (5), and nuts (4) to attach the anti-icing valve (2).

(c) Put the tube (3) on the banjo (9). If necessary, carefully turn the banjo fitting of the valve to the correct position and apply the necessary torque to the hex fastener.

(d) Connect the tube (3).

(e) Connect the duct (8) and tighten the clamp (10) (AMM TASK 20-10-10-910-801-A/200).

(f) Connect the duct (12) and tighten the clamp (11) (AMM TASK 20-10-10-910-801-A/200).

(g) Connect the electrical connector (1).

(3) On aircraft 003, 182 and on (Figure 403).

(a) Attach the anti-icing valve (6) in its position at the anti-rotation support (10).

(b) Tighten the bolt (12), washer (11), and nut (9) to attach the anti-icing valve (6).

(c) Put the tube (7) on the banjo (8). If necessary, carefully turn the banjo fitting of the valve to the correct position and apply the necessary torque to the hex fastener.

(d) Connect the tube (7).

(e) Connect the duct (1) and tighten the clamp (2) (AMM TASK 20-10-10-910-801-A/200).

(f) Connect the duct (4) and tighten the clamp (3) (AMM TASK 20-10-10-910-801-A/200).

(g) Connect the electrical connector (5).

J. Follow-on

SUBTASK 842-002-A

(1) On the circuit breaker panel, close this circuit breaker and remove the DO-NOT-CLOSE tag from it.

- WING: (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).

(2) Examine the tube and duct connections for leaks.

(3) Do an operational check of the anti-icing system (AMM TASK 30-00-00-700-802-A/500).

(4) Install access panels 191EL, 191KL or 191FR, and 191LR (AMM MPP 06-41-01/100).

(5) Install the landing-light access-panel 511AL or 611AR (AMM MPP 06-44-00/100).

TASK 30-11-01-000-802-A
EFFECTIVITY: ALL

4. WING ANTI-ICING VALVE FILTER - REMOVAL

A. General

(1) This task gives the instructions to remove the filter from the Wing Anti-ice Valve.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-44-00/100	- COMPONENT LOCATION
CMM 30-10-03	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL	LH side of the forward lower fairing
500	511AL	LH side of the forward lower fairing
191	191LR	RH side of the forward lower fairing

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	LH or RH side of the forward lower fairing

I. Preparation

SUBTASK 841-005-A

(1) Remove access panel 191EL, 511AL or 191LR (AMM MPP 06-41-01/100 and AMM MPP 06-44-00/100).

(2) On the circuit breaker panel, open the WING circuit breaker and attach a DO-NOT-CLOSE tag to it.

J. Removal (Figure 402)

SUBTASK 020-003-A

WARNING: DO NOT TOUCH THE WING ANTI-ICE SYSTEM DUCTS OR COMPONENTS IMMEDIATELY AFTER THE ENGINE OR APU STOPS BECAUSE OF THE HIGH BLEED-AIR TEMPERATURE. THIS WILL HELP TO PREVENT INJURIES TO PERSON AND/OR DAMAGE TO THE EQUIPMENT.

(1) Refer to the latest revision as given in CMM 30-10-03 (Part Number 1000649-1), or do the steps that follow:

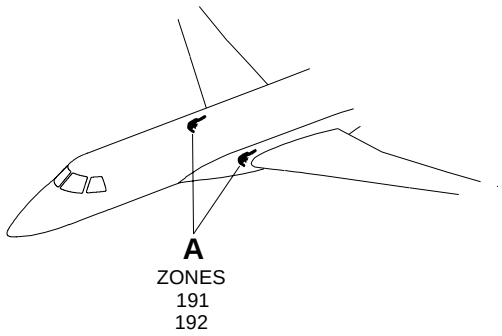
(a) Remove the lockwire (4) from the filter of the Wing Anti-ice Valve.

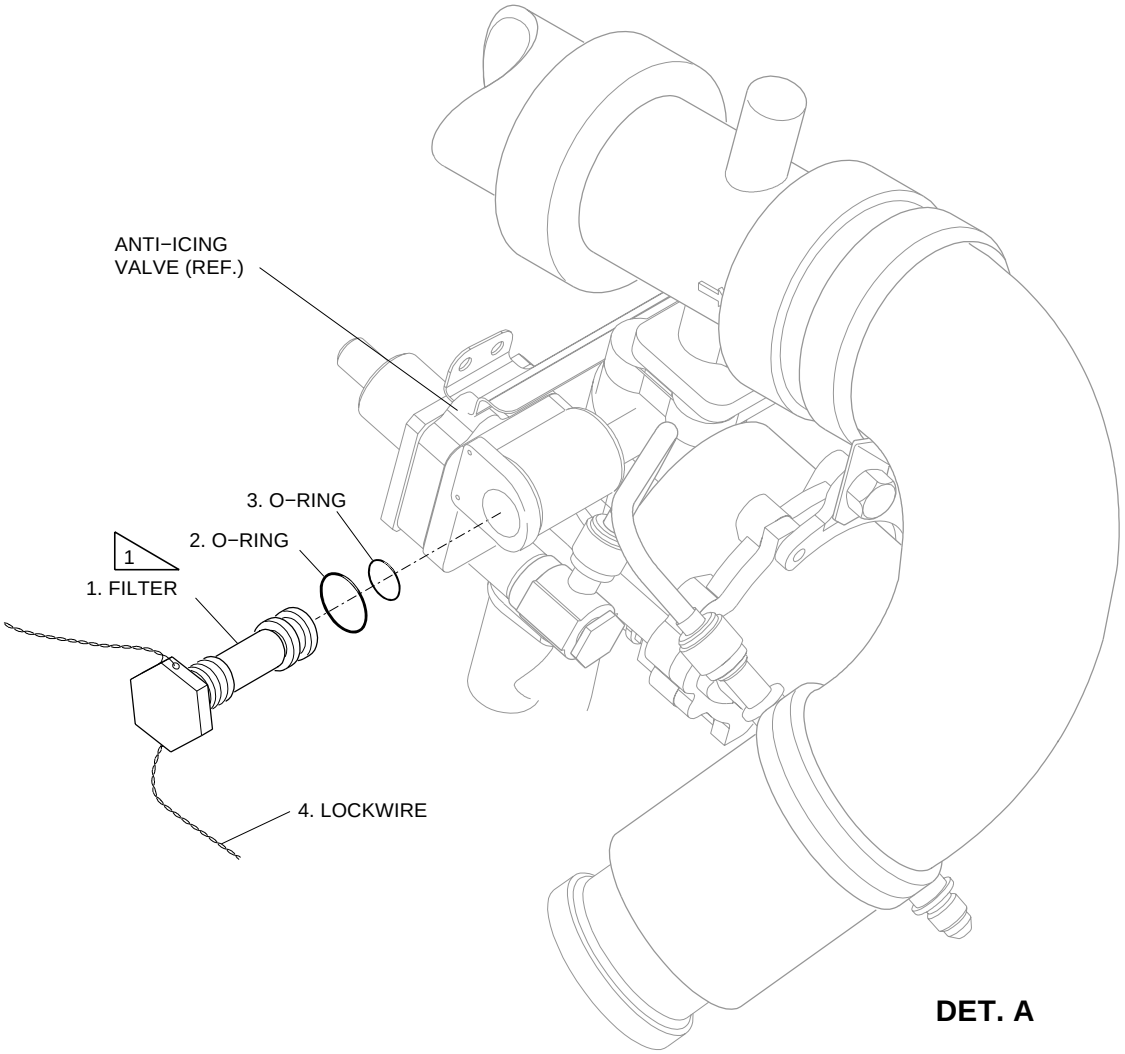
(b) Remove the filter (1) from the Wing Anti-ice Valve.

(c) Install the protective cap to the unit.

(d) Remove the O-ring (2) and O-ring (3) from the filter (1).

EFFECTIVITY: ALL
Filter - Removal/Installation
Figure 404





1 TORQUE: 4.0−4.5 N.m (35−40 lb.in).

EM145AMM300382B.DGN

TASK 30-11-01-400-802-A
EFFECTIVITY: ALL

5. WING ANTI-ICING VALVE FILTER - INSTALLATION

A. General

(1) This task gives the instructions to install the filter in the Wing Anti-Ice Valve.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-44-00/100	- COMPONENT LOCATION
CMM 30-10-03	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL	LH side of the forward lower fairing
500	511AL	LH side of the forward lower fairing
191	191LR	RH side of the forward lower fairing

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Torque wrench (Range: 0 - 75 lb.in)	To tighten the filter	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
Dow Corning 4 or Dow Corning 44	Grease	

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	In the aft electronic compartment

I. Installation (Figure 402)

SUBTASK 420-003-A

(1) Refer to the latest revision as given in CMM 30-10-03 (Part Number 1000649-1), or do the steps that follow:

(a) Remove the protective cap on the unit.

(b) Lubricate the O-ring (2) and O-ring (3) with Grease Dow Corning 4 or Dow Corning 44 and install them on the filter (1).

(c) Install the filter (1) in the Wing Anti-ice valve.

NOTE: REFER TO FIGURE 402 FOR THE CORRECT INSTALLATION POSITION OF THE FILTER IN THE WING ANTI-ICE VALVE.

(d) Tighten the filter (1) to the specified torque 4.0 - 4.5 N.m (35 - 40 lb.in).

(e) Safety the filter (1) with lockwire (4).

J. Follow-on

SUBTASK 842-005-A

(1) Install the access panel 191EL, 511AL or 191LR (AMM MPP 06-41-01/100 and AMM MPP 06-44-00/100)

(2) On the circuit breaker panel, close the WING circuit breaker and remove the DO-NOT-CLOSE tag from it.

TASK 30-11-01-040-801-A
EFFECTIVITY: ALL

6. WING ANTI-ICING VALVES DEACTIVATION

A. General

(1) This task gives the procedures to deactivate the Wing Anti-icing Valve.

(2) This task if applicable to the both Wing Anti-Icing Valve.

(3) The airplane can be dispatched with the Wing Anti-icing Valves inoperative provided that they are in the closed position and if the airplane is not operated in known or forecasted icing conditions.

(4) The airplane can be dispatched with the Wing Anti-icing Valves OPEN light inoperative provided that the system is checked for normal operation before departure.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-00/100	-
AMM TASK 30-00-00-700-803-A/500	ANTI-ICING VALVES - OPERATIONAL TEST
S.B.145-30-0021	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL	LH Wing A/I System
191	191FR	RH Wing A/I System

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	Center Fuselage

I. Preparation

SUBTASK 841-003-A

(1) Remove access panels LH 191EL or RH 191FR, as applicable (AMM MPP 06-41-00/100).

J. Deactivation Procedure

SUBTASK 040-002-A

(1) For Aircraft PRE-MOD. S.B.145-30-0021, do as follows:

(a) With the position indicator in the STOW POSITION, loosen the bolt lock bolt.

(b) Rotate the position indicator to the LOCK position.

(c) Retighten the lock bolt until there is a gap of 0.25 to 1.25 mm between the underside of the bolt head and the top surface of the position indicator.

(2) For Aircraft POST-MOD. S.B.145-30-0021, do as follows:

(a) With the anti-icing valve de-energized, the actuator pressure is vented to ambient and the valve is in the closed position. The position indicator is directed to "CL" on the valve housing.

(b) Remove the locking screw from the normal position.

(c) Set the locking crank to the closed (CL) position..

(d) Install the locking screw in the threaded hole in order to keep the locking crank in closed position.

(e) Apply a maximum torque of 8 ft.lb in the locking screw.

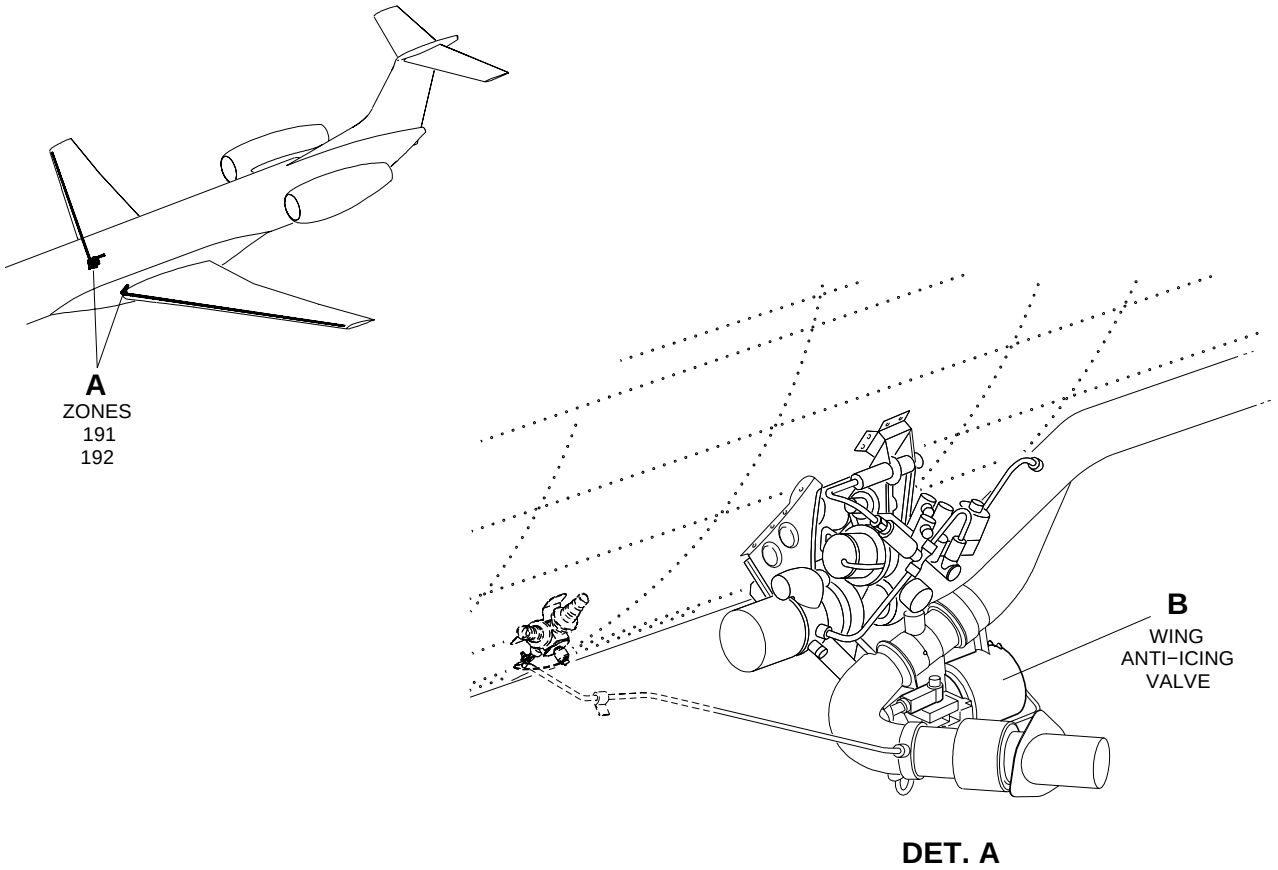
(f) If the Wing Anti-icing Valves OPEN indication light is inoperative refer to (AMM TASK 30-00-00-700-803-A/500) to do the thermal anti-icing system operational check.

K. Follow-On

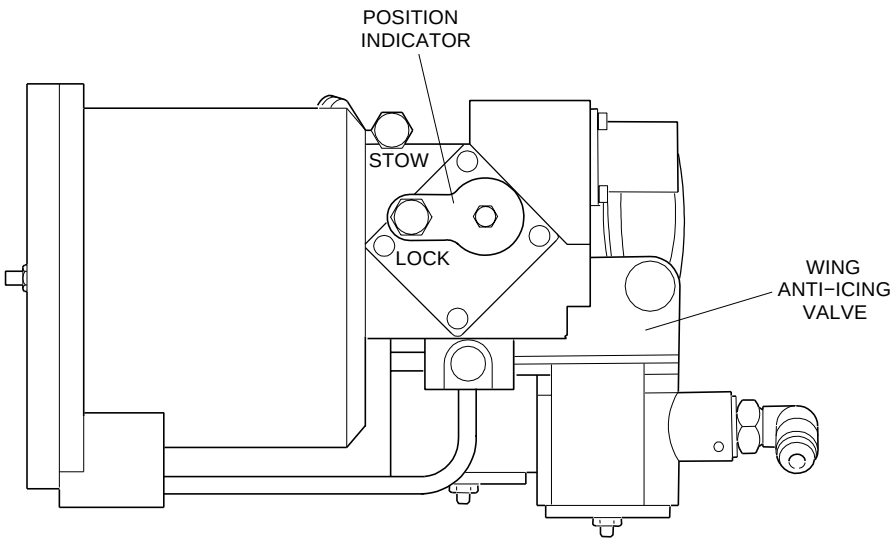
SUBTASK 842-003-A

(1) Install access panels LH 191EL or RH 191FR, as applicable (AMM MPP 06-41-00/100).

EFFECTIVITY: PRE-MOD. S.B. 145-30-0021
Wing Anti-Icing Valve - Deactivation Procedure
Figure 405



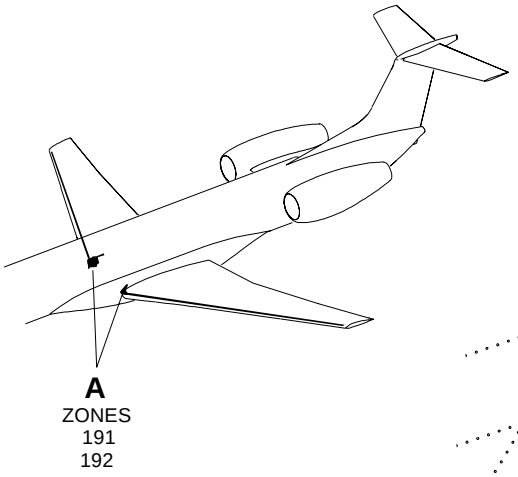
DET. A

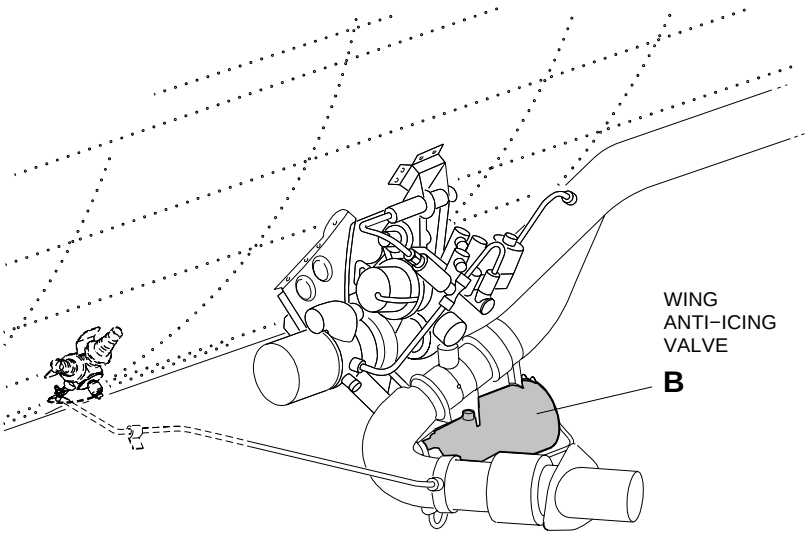


DET.B

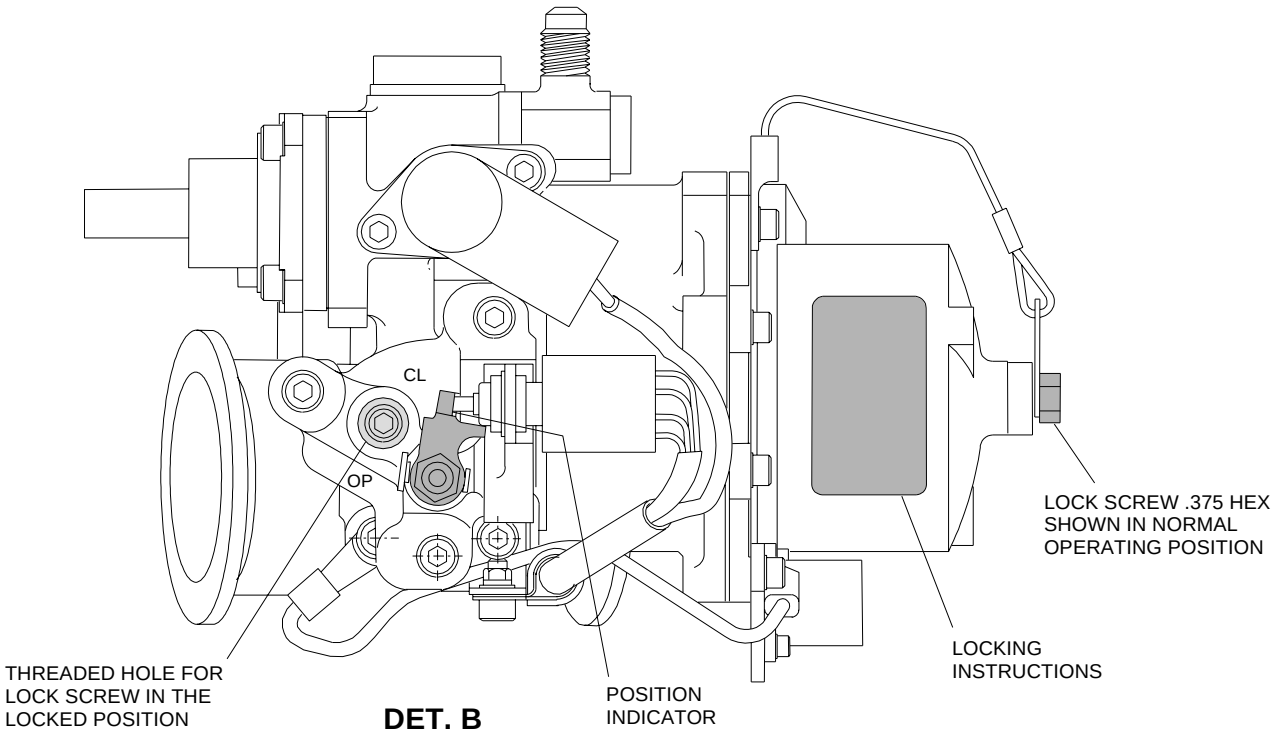
EM145AMM300328A.DGN

EFFECTIVITY: POST-MOD. S.B. 145-30-0021
Wing Anti-Icing Valve - Deactivation Procedure
Figure 406





DET. A



DET. B

EM145AMM300329A.DGN

TASK 30-11-01-440-801-A
EFFECTIVITY: ALL

7. WING ANTI-ICING VALVES REACTIVATION

A. General

(1) This task gives the procedures to deactivate the Wing Anti-icing Valve.

(2) This task if applicable to the both Wing Anti-Icing Valve.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-00/100	-
AMM TASK 30-00-00-700-802-A/500	ANTI-ICING SYSTEM - OPERATIONAL TEST
S.B.145-30-0021	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
191	191EL	LH Wing A/I System
191	191FR	RH Wing A/I System

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	Center Fuselage

I. Preparation

SUBTASK 841-004-A

(1) Remove access panels LH 191EL or RH 191FR, as applicable (AMM MPP 06-41-00/100).

J. Reactivation Procedure

SUBTASK 440-002-A

(1) For Aircraft PRE-MOD. S.B.145-30-0021, do as follows:

(a) With the position indicator in the STOW POSITION, loosen the bolt lock bolt.

(b) Rotate the position indicator to the UNLOCK position.

(2) For Aircraft POST-MOD. S.B.145-30-0021, do as follows:

(a) De-energize the Wing Anti-icing Valve.

(b) Remove the locking screw in the threaded hole and install the screw in the normal operating position. Refer to Figure 403.

K. Follow-On

SUBTASK 842-004-A

(1) Do an operational check of the anti-icing system (AMM TASK 30-00-00-700-802-A/500).

(2) Install access panels LH 191EL or RH 191FR, as applicable (AMM MPP 06-41-00/100).