ENGINE ANTI-ICING VALVE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

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

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*
30-21-01-000-801-A	ANTI-ICING VALVE - REMOVAL	ALL
30-21-01-400-801-A	ANTI-ICING VALVE - INSTALLATION	ALL
30-21-01-040-801-A	ENGINE ANTI-ICING VALVE DEACTIVATION	ALL
30-21-01-440-801-A	ENGINE ANTI-ICING VALVE REACTIVATION	ALL

TASK 30-21-01-000-801-A
EFFECTIVITY: ALL

2. ANTI-ICING VALVE - REMOVAL

A. General

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

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM TASK 30-21-01-200-801-A/600	ENGINE ANTI-ICING VALVE - INSPECTION/CHECK
S.B.145-30-0022	-
S.B.145-30-0044	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
412	412AT	Upper cowling of the LH powerplant
422	422AT	Upper cowling of the RH powerplant

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Ladder	To get access to the anti-icing valve	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	LH or RH powerplant
1	Helps the other technician	LH or RH powerplant

I. Preparation

SUBTASK 841-002-A

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

- (PRE-MOD. S.B.145-30-0022)
  ENG AIR INLET 1 (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/ENG AIR INLET 1).
  ENG AIR INLET 2 (Location tip: DC BUS 2/ICE AND RAIN PROTECTION/ENG AIR INLET 2).
- (POST-MOD. S.B.145-30-0022)
  ENG AIR INLET 1 (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/ENG AIR INLET 1).
  ENG AIR INLET 2 (Location tip: DC BUS 2/ICE AND RAIN PROTECTION/ENG AIR INLET 2).
  ENG 1 A/I IND (Location tip: ESSENTIAL DC BUS 1/POWERPLANT/ENG 1 A/I IND).
  ENG 2 A/I IND (Location tip: ESSENTIAL DC BUS 2/POWERPLANT/ENG 2 A/I IND).

(2) Remove access panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).

J. Removal (Figure 401)

SUBTASK 020-002-A

(1) Disconnect the electrical connector (5).

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

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

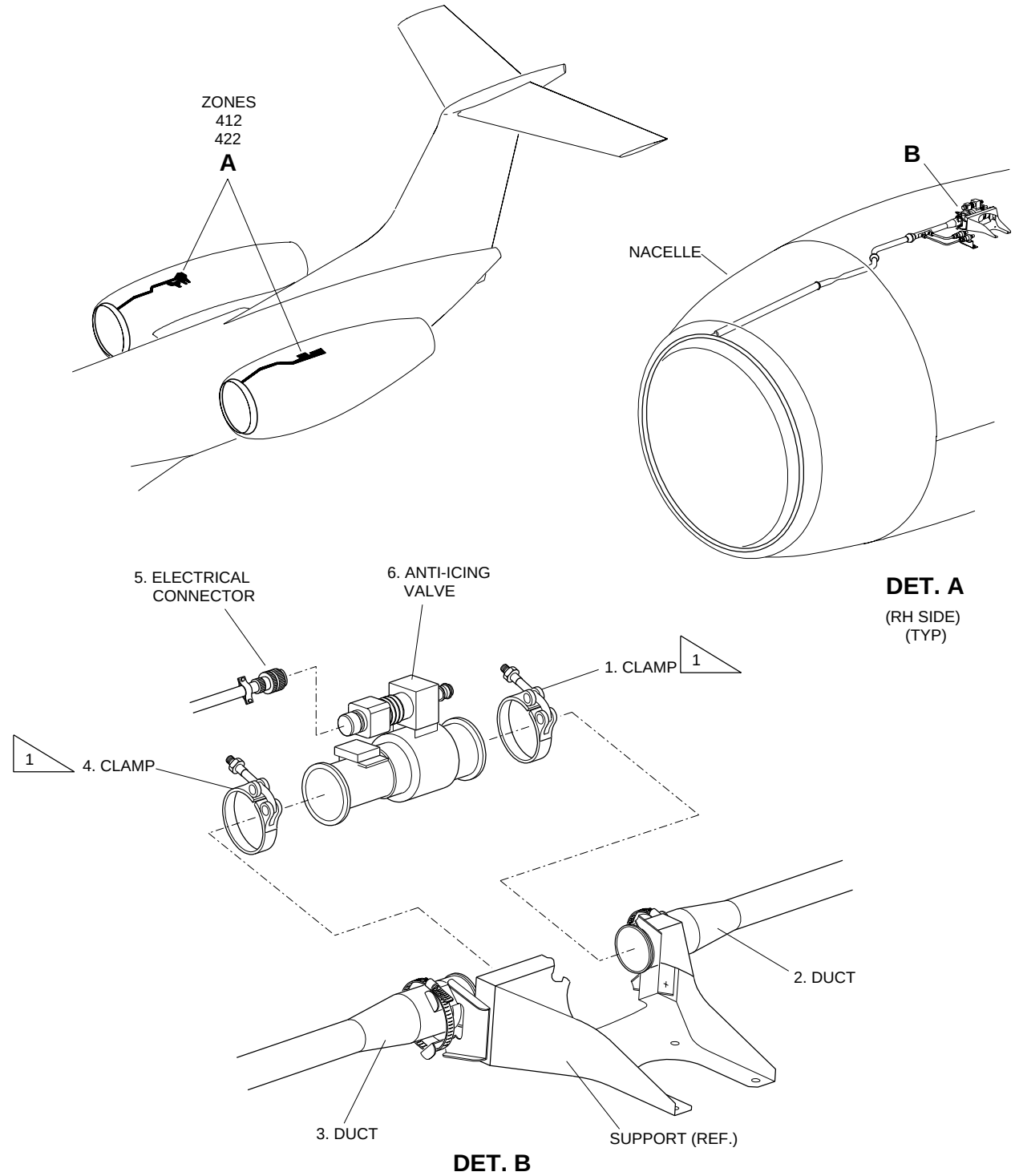
(4) Loosen the clamp (4) to disconnect the duct (3).

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

(6) (PRE-MOD. S.B.145-30-0044) Do an inspection on the valve (AMM TASK 30-21-01-200-801-A/600).

EFFECTIVITY: ALL

Anti-Icing Valve - Removal/Installation
Figure 401



1 TORQUE: 3.95 - 5.08 N.m (35 - 45 lb.in)

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TASK 30-21-01-400-801-A
EFFECTIVITY: ALL

3. ANTI-ICING VALVE - INSTALLATION

A. General

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

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-43-00/100	- 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.145-30-0022	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
412	412AT	Upper cowling of the LH powerplant
422	422AT	Upper cowling of the RH powerplant

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 powerplant
1	Helps the other technician	LH or RH powerplant

I. Installation (Figure 401)

SUBTASK 420-002-A

(1) Put the anti-icing valve (6) between the ducts (2) and (3).

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

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

(4) Connect the electrical connector (5).

J. Follow-on

SUBTASK 842-002-A

(1) On the circuit breaker panel, close these circuit breakers and remove the DO-NOT-CLOSE tag from them.

- (PRE-MOD. S.B.145-30-0022)
  ENG AIR INLET 1 (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/ENG AIR INLET 1).
  ENG AIR INLET 2 (Location tip: DC BUS 2/ICE AND RAIN PROTECTION/ENG AIR INLET 2).
- (POST-MOD. S.B.145-30-0022)
  ENG AIR INLET 1 (Location tip: DC BUS 1/ICE AND RAIN PROTECTION/ENG AIR INLET 1).
  ENG AIR INLET 2 (Location tip: DC BUS 2/ICE AND RAIN PROTECTION/ENG AIR INLET 2).
  ENG 1 A/I IND (Location tip: ESSENTIAL DC BUS 1/POWERPLANT/ENG 1 A/I IND).
  ENG 2 A/I IND (Location tip: ESSENTIAL DC BUS 2/POWERPLANT/ENG 2 A/I IND).

(2) Examine the 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 panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).

TASK 30-21-01-040-801-A
EFFECTIVITY: ALL

4. ENGINE ANTI-ICING VALVE DEACTIVATION

A. General

(1) This task gives the procedures to deactivate the Engine Anti-icing Valves.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM TASK 30-21-00-700-804-A/500	ENGINE ANTI-ICING VALVE - OPERATIONAL TEST
AMM TASK 30-21-01-200-801-A/600	ENGINE ANTI-ICING VALVE - INSPECTION/CHECK
S.B.145-30-0044	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
412	412AT	Upper cowling of the LH powerplant
422	422AT	Upper cowling of the RH powerplant

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	Upper cowling of the powerplant

I. Preparation

SUBTASK 841-003-A

(1) Remove access panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).

J. Deactivation Procedure

SUBTASK 040-002-A

(1) For Aircraft PRE-MOD. S.B.145-30-0044, do as follows:

(a) Do an inspection on the valve for integrity (AMM TASK 30-21-01-200-801-A/600).

(2) Loosen both lock screws (approximately one turn).

(3) Press and rotate the manual override pin through 270 degrees as indicated to lock the valve in the open position.

(4) Tighten both lock screws.

NOTE: On airplanes equipped with EICAS version 16.5 and on, the ENG A/ICE OVERPRESS message may be present.

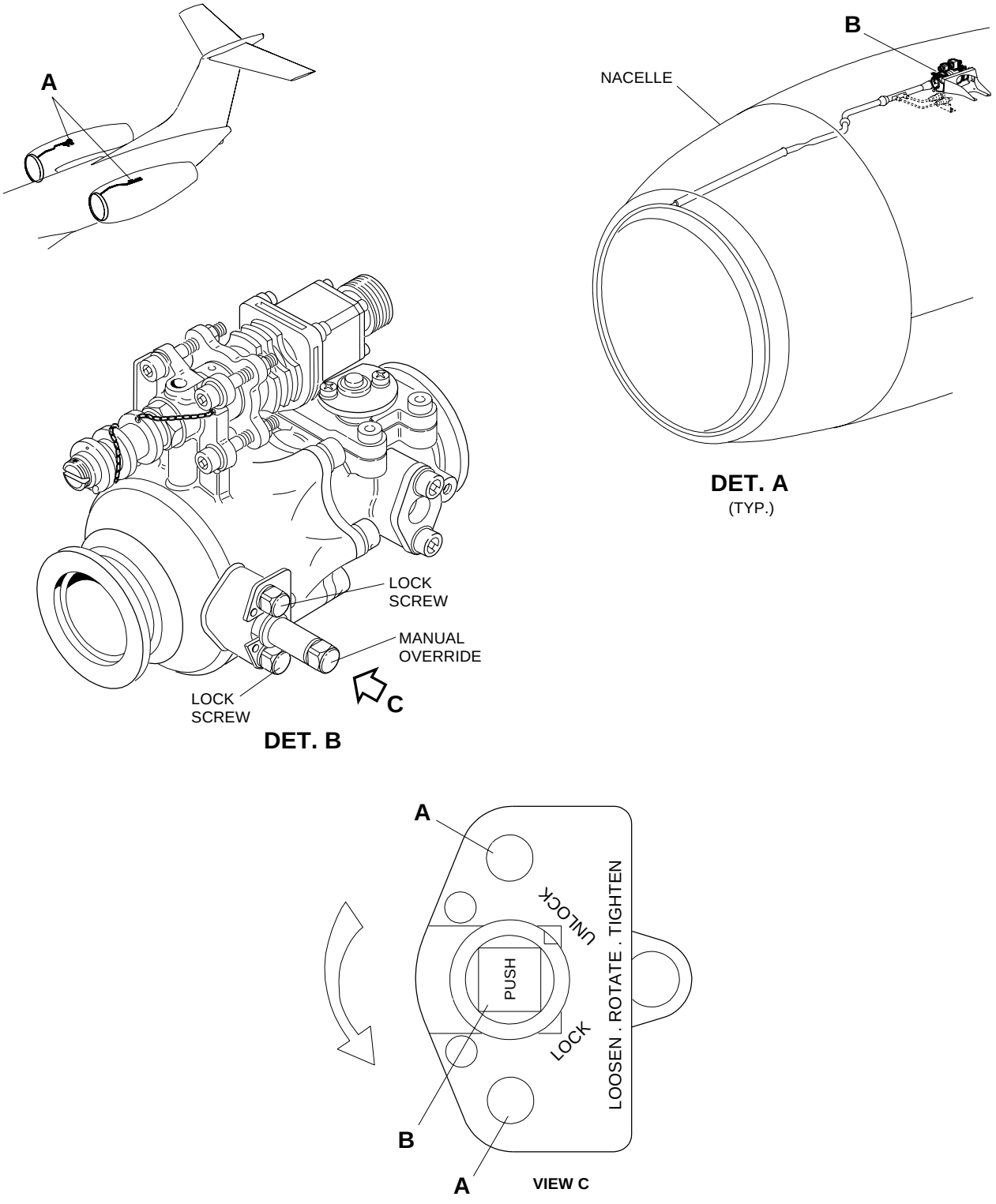
(5) If the Engine Anti-icing Valve OPEN lights are inoperative, do AMM TASK 30-21-00-700-804-A/500 to operationally check the engine thermal anti-icing system.

K. Follow-On

SUBTASK 842-003-A

(1) Install access panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).

EFFECTIVITY: PRE-MOD. SB 145-30-0040
Engine Anti-icing Valve - Deactivation Procedure
Figure 402



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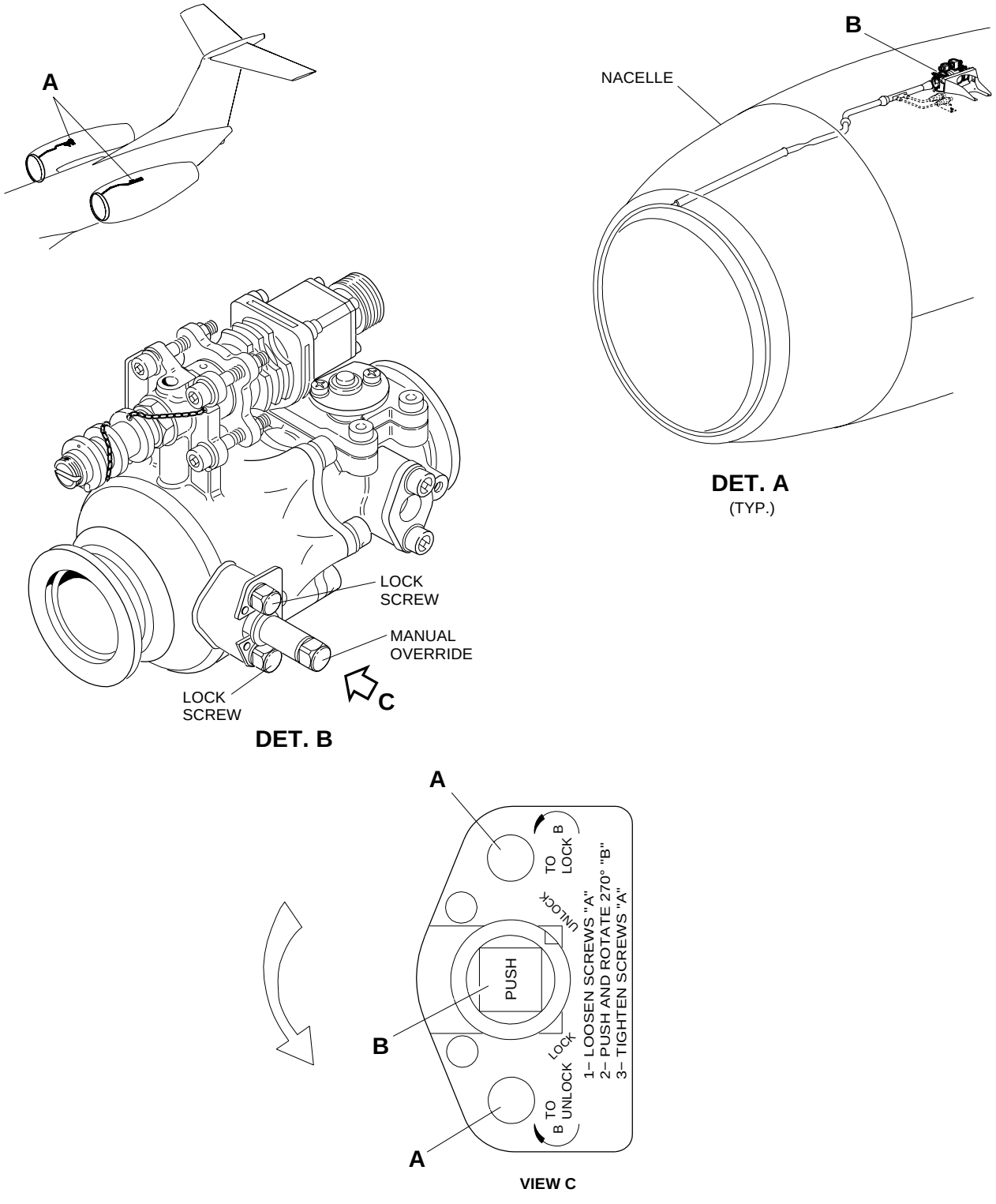
EFFECTIVITY: POST-MOD. SB 145-30-0040
Engine Anti-icing Valve - Deactivation Procedure
Figure 403



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TASK 30-21-01-440-801-A
EFFECTIVITY: ALL

5. ENGINE ANTI-ICING VALVE REACTIVATION

A. General

(1) This task gives the procedures to deactivate the Engine Anti-icing Valves.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-43-00/100	- COMPONENT LOCATION
AMM TASK 30-21-00-700-804-A/500	ENGINE ANTI-ICING VALVE - OPERATIONAL TEST
AMM TASK 30-21-01-200-801-A/600	ENGINE ANTI-ICING VALVE - INSPECTION/CHECK
S.B.145-30-0044	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
412	412AT	Upper cowling of the LH powerplant
422	422AT	Upper cowling of the RH powerplant

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	Upper cowling of the powerplant

I. Preparation

SUBTASK 841-004-A

(1) Remove access panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).

J. Reactivation Procedure

SUBTASK 440-002-A

(1) For Aircraft PRE-MOD. S.B.145-30-0044, do as follows:

(a) Do an inspection on the valve for integrity (AMM TASK 30-21-01-200-801-A/600).

(2) Loosen both lock screws (approximately one turn).

(3) Press and rotate the manual override pin through as indicated to unlock the valve.

(4) Tighten both lock screws.

(5) If the Engine Anti-icing Valve OPEN lights are inoperative, do AMM TASK 30-21-00-700-804-A/500 to operationally check the engine thermal anti-icing system.

K. Follow-On

SUBTASK 842-004-A

(1) Install access panel 412AT or 422AT, as applicable (AMM MPP 06-43-00/100).