HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

A. This section gives the procedures below:

- Operational check of the electrical hardware.
- Functional check of the pressure sensors (pressure switches or pressure transducers) of the horizontal-stabilizer thermal anti-icing system.
- Functional test of the horizontal-stabilizer thermal anti-icing system.
- Leakage test of the horizontal-stabilizer thermal anti-icing system ducts.
- Leakage test of the vertical-stabilizer thermal anti-icing system ducts.
- Leakage test of the vertical-stabilizer thermal anti-icing system vertical ducts.

B. The pressure sensors are made up of the overpressure switch and:

Table 501

PRE-MOD. S.B.145-30-0022	POST-MOD. S.B.145-30-0022
Low pressure switches	Low pressure transducers

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*
30-12-00-700-801-A ♦	ELECTRICAL HARDWARE - OPERATIONAL CHECK	ALL
30-12-00-700-802-A ♦	PRESSURE SENSORS OF THE HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM - FUNCTIONAL CHECK	ALL
30-12-00-700-803-A	HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM - FUNCTIONAL TEST	ALL
30-12-00-700-804-A	HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM DUCTS - LEAKAGE TEST	ALL
30-12-00-700-805-A	HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM VERTICAL DUCTS - LEAKAGE TEST	ALL

TASK 30-12-00-700-801-A
EFFECTIVITY: ALL

2. ELECTRICAL HARDWARE - OPERATIONAL CHECK

A. General

(1) This task gives the procedures to do the check of the electrical hardware for integrity.

B. References

REFERENCE	*DESIGNATION*
AMM 06-42-02/101	-
AMM MPP 06-41-03/100	- COMPONENT LOCATION
AMM MPP 06-42-00/100	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 45-45-00-970-802-A/200	CMC DOWNLOADING WITH THE PERSONAL COMPUTER
AMM TASK 55-36-00-000-801-A/400	TAIL BOOM - REMOVAL
S.B.145-30-0022	-
S.B.145-45-0001	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
324	324EL	LH side of the vertical stabilizer
321	321EL	Horizontal stabilizer
337	337AZ	Horizontal stabilizer

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

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

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	A - Does the task	Outside the aircraft

(Continued)

QTY	FUNCTION	PLACE
1	B - Helps technician A	Cockpit

I. Preparation

SUBTASK 841-002-A

(1) Energize the aircraft (AMM TASK 20-40-01-860-801-A/200).

(2) Remove access panel 324EL (AMM MPP 06-42-00/100).

(3) Remove the front movable fairing (access panel 321EL) (AMM MPP 06-42-00/100) (AMM TASK 55-36-00-000-801-A/400)

(4) (For aircraft with access panel 337AZ). Remove the access panel 337AZ) (AMM MPP 06-42-00/100).

(5) (PRE-MOD. S.B.145-45-0001) Open maintenance panel door 223LZ (AMM MPP 06-41-03/100) and set the CMC RESET/INHIBIT switch to the normal position.

(6) (POST-MOD. S.B.145-45-0001) Open maintenance panel door 223LZ (AMM MPP 06-41-03/100) and set the CMC RESET/ENABLE switch to ENABLE.

(7) Set the pushbutton below as follows:

(a) STAB pushbutton - ON.

J. Operationally Check Electrical Hardware of the Horizontal-Stabilizer Thermal Anti-Icing System (Figure 501)

SUBTASK 710-002-A

(1) For aircraft PRE-MOD. S.B.145-30-0022, go to step (2).

For aircraft POST-MOD. S.B.145-30-0022, go to step (3).

(2) (Applicable to aircraft PRE-MOD. S.B.145-30-0022) Do the check as follows:

(a) Disconnect electrical connectors P1386 and P1898 from the low pressure switches.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(b) Push the master CAUTION light.

Result:

1 The master CAUTION lights go off.

(c) Connect electrical connector P1386 to the low pressure switch.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(d) Disconnect electrical connector P1386 from the low pressure switch.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(e) Push the master CAUTION light.

Result:

1 The master CAUTION lights go off.

(f) Connect electrical connector P1898 to the low pressure switch.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(g) Connect electrical connector P1386 to the low pressure switch.

(h) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE LOW PRESS.

(i) Disconnect electrical connector P1387 from the overpressure switch.

(j) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE OVPRESS.

(k) Connect electrical connector P1387 to the overpressure switch.

(l) Disconnect electrical connector P1900 from the differential pressure switch.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(m) Push the master CAUTION lights.

Result:

1 The master CAUTION lights go off.

(n) Connect electrical connector P1900 to the differential pressure switch.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(o) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE BURST.

(3) (Applicable to aircraft POST-MOD. S.B.145-30-0022) Do the check as follows:

(a) Disconnect electrical connectors P2858 and P2857 from the low pressure transducers.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(b) Push the master CAUTION light.

Result:

1 The master CAUTION lights go off.

(c) Connect electrical connector P2858 to the low pressure transducer.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(d) Disconnect electrical connector P2858 from the low pressure transducer.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(e) Push the master CAUTION lights.

Result:

1 The master CAUTION lights go off.

(f) Connect electrical connector P2857 to the low pressure transducer.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(g) Connect electrical connector P2858 to the low pressure transducer.

(h) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE LOW PRESS.

(i) Disconnect electrical connector P1387 from the overpressure switch.

(j) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE OVPRESS.

(k) Connect electrical connector P1387 to the overpressure switch.

(l) Disconnect electrical connector P1900 from the differential pressure switch.

Result:

1 The EICAS display shows the STAB A/ICE FAIL caution message.

2 The master CAUTION lights flash.

(m) Push the master CAUTION lights.

Result:

1 The master CAUTION lights go off.

(n) Connect electrical connector P1900 to the differential pressure switch.

Result:

1 On the EICAS display, the STAB A/ICE FAIL caution message goes out of view.

(o) Do a CMC downloading (AMM TASK 45-45-00-970-802-A/200) and make sure that the message below comes into view:

NOTE: To start a CMC download, wait 15 seconds.

Result:

1 STAB A/ICE BURST.

K. Follow-on

SUBTASK 842-002-A

(1) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

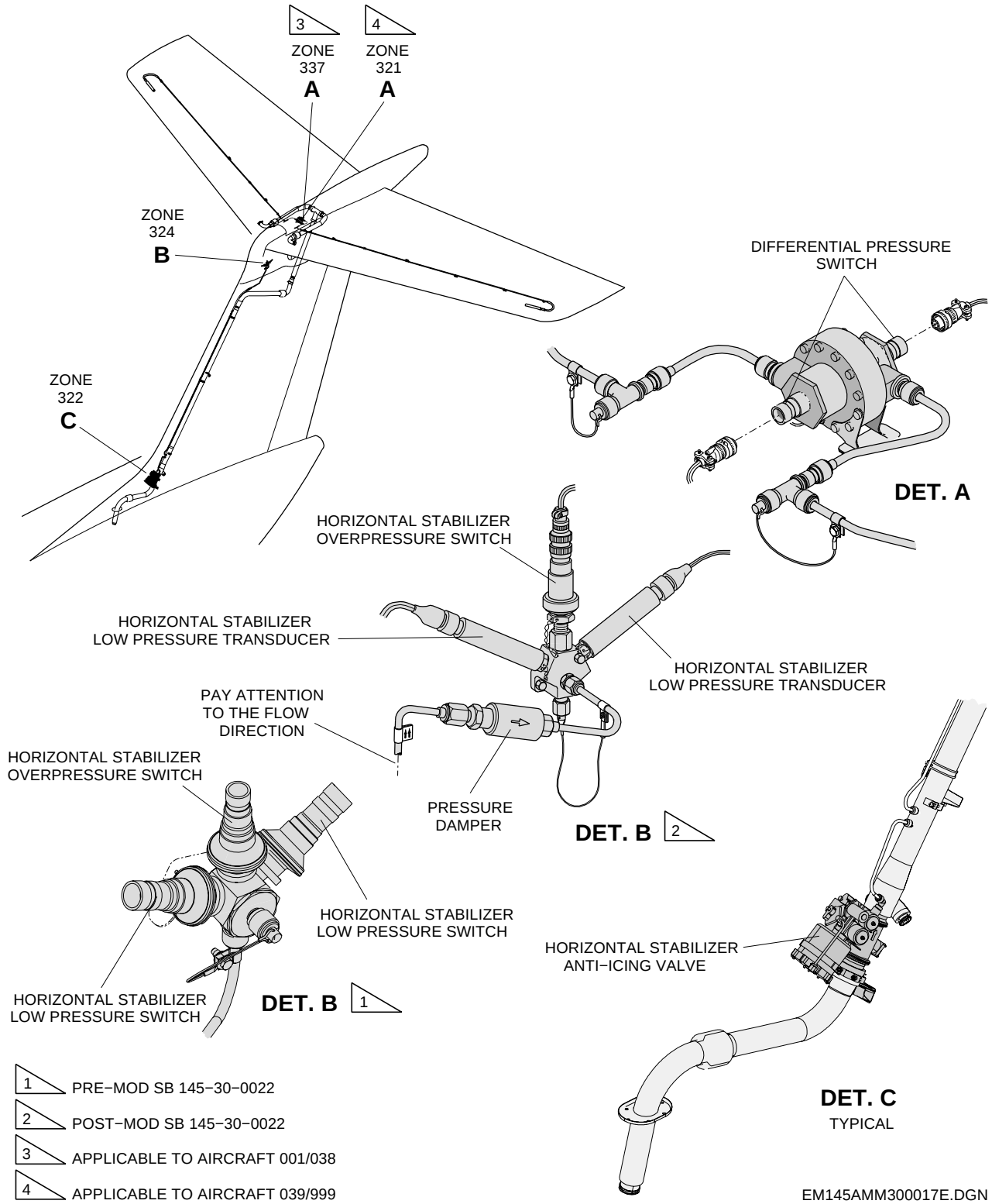
(2) Install access panel 324EL (AMM 06-42-02/101).

(3) (For aircraft with access panel 337AZ). Install the access panel 337AZ) (AMM MPP 06-42-00/100).

(4) Install the front movable fairing (access panel 321EL) (AMM MPP 06-42-00/100) (AMM TASK 55-36-00-000-801-A/400)

EFFECTIVITY: ALL

Pressure Sensors of the Horizontal-Stabilizer Thermal Anti-Icing System - Location
Figure 501



TASK 30-12-00-700-802-A
EFFECTIVITY: ALL

3. PRESSURE SENSORS OF THE HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM - FUNCTIONAL CHECK

A. General

(1) This check is done on a bench.

B. References

REFERENCE	*DESIGNATION*
ACMM 30-10-00	-
AMM TASK 30-12-02-000-801-A/400	LOW PRESSURE SWITCH - REMOVAL
AMM TASK 30-12-02-400-801-A/400	LOW PRESSURE SWITCH - INSTALLATION
AMM TASK 30-12-03-000-801-A/400	OVERPRESSURE SWITCH - REMOVAL
AMM TASK 30-12-03-400-801-A/400	OVERPRESSURE SWITCH - INSTALLATION
AMM TASK 30-12-04-000-801-A/400	DIFFERENTIAL PRESSURE SWITCH - REMOVAL
AMM TASK 30-12-04-400-801-A/400	DIFFERENTIAL PRESSURE SWITCH - INSTALLATION
AMM TASK 30-12-12-000-801-A/400	LOW PRESSURE TRANSDUCER - REMOVAL
AMM TASK 30-12-12-400-801-A/400	LOW PRESSURE TRANSDUCER - INSTALLATION
S.B.145-30-0016	-
S.B.145-30-0022	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Bottle of nitrogen with pressure gauge or compressed air source with pressure gauge	To do the check	
GSE 050	Digital Multimeter	To do the check	
Commercially available	Pressure gauge with scale up to 3 psi and accuracy of ± 0.05 psi	To measure the pressure at differential pressure switch	

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	On the bench

I. Preparation

SUBTASK 841-003-A

(1) Remove the switches from the aircraft (AMM TASK 30-12-03-000-801-A/400) and (AMM TASK 30-12-04-000-801-A/400).

(2) (PRE-MOD. S.B.145-30-0022) Remove the low pressure switches from the aircraft (AMM TASK 30-12-02-000-801-A/400).

(3) (POST-MOD. S.B.145-30-0022) Remove the low pressure transducers from the aircraft (AMM TASK 30-12-12-000-801-A/400).

J. Functionally Check Pressure Sensors of the Horizontal-Stabilizer Thermal Anti-Icing System (Bench Test) (Figure 502) (Figure 501)

SUBTASK 720-002-A

(1) (PRE-MOD. S.B.145-30-0022) Do the check of the low pressure switch as follows:

(a) Apply a pressure of 15 psi to the low pressure switch. Slowly increase the pressure to 16 psi.

- There will be continuity between pins A and B of the low pressure switch at 15.5 ± 0.5 psi.

(b) Decrease the pressure to the low pressure switch down to 14.5 ± 0.5 psi.

- There is continuity between pins B and C of the low pressure switch in this range.

(c) Do this procedure for the two low pressure switches.

(2) (POST-MOD. S.B.145-30-0022) Do the check of the low pressure transducers as follows:

Refer to the last revision of ACMM 30-10-00 (Kulite) to do the functional check of the low pressure transducers.

(3) (PRE-MOD. S.B.145-30-0016 or PN 12949-2 installed) Do the check of the overpressure switch as follows:

(a) Apply a pressure of 21 psi to the overpressure switch. Slowly increase the pressure to 25 psi.

- There is continuity between pins A and B of the overpressure switch at 23 ± 2 psi.

(b) Decrease the pressure to the overpressure switch down to 19 ± 2 psi.

- There is continuity between pins B and C of the overpressure switch in this range.

(4) (POST-MOD. S.B.145-30-0016 or PN 12949-3 or PN 12949-4 installed) Do the check of the overpressure switch as follows:

(a) Apply a pressure of 23 psi to the overpressure switch. Slowly increase the pressure to 27 psi.

- There is continuity between pins A and B of the overpressure switch at 25 ± 2 psi.

(b) Decrease the pressure to the overpressure switch down to 21 ± 2 psi.

- There is continuity between pins B and C of the overpressure switch in this range.

(5) Do the check of the differential pressure switch for each port, one at time, as follows:

NOTE: When you apply pressure to port A, the measurement is made at connector A. See that connector A is on the opposite side of port A. When you apply pressure to port B, the measurement is made at connector B. See that connector B is on the opposite side of port B. Refer to Figure 502.

(a) Apply a pressure of 0.4 psi to the differential pressure switch. Slowly increase the pressure to 0.6 psi.

- There will be continuity between pins A and B of the differential pressure switch at 0.5 ± 0.1 psi.

(b) Decrease the pressure to the differential pressure switch down to 0.2 psi.

- There is continuity between pins B and C of the differential pressure switch.

(c) Do this procedure for the two sides of the differential pressure switch.

K. Follow-on

SUBTASK 842-003-A

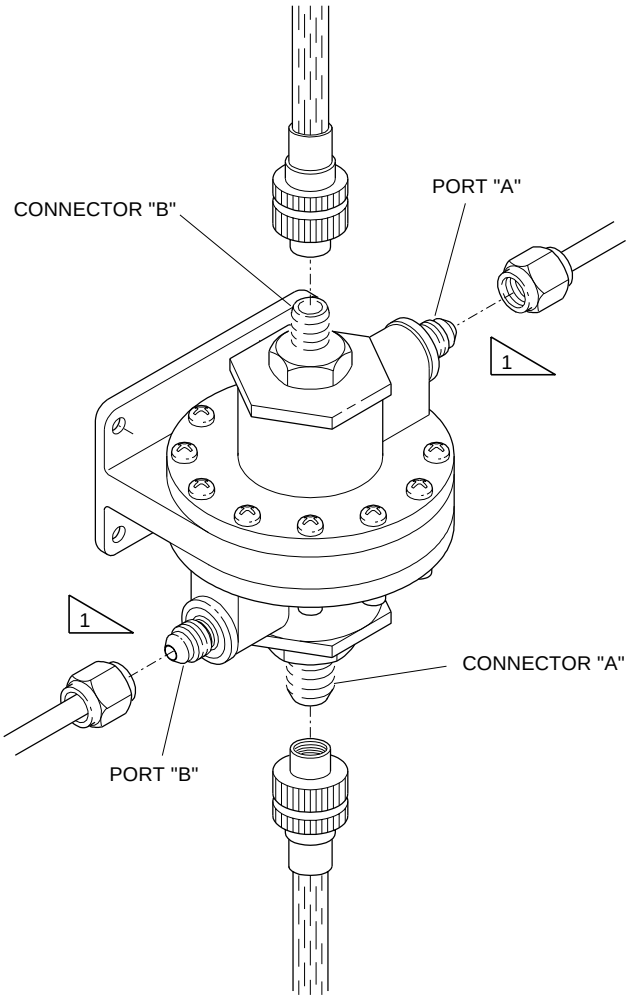
(1) Install the switches to the aircraft (AMM TASK 30-12-03-400-801-A/400), and (AMM TASK 30-12-04-400-801-A/400).

(2) (PRE-MOD. S.B.145-30-0022) Install the low pressure switches to the aircraft (AMM TASK 30-12-02-400-801-A/400).

(3) (POST-MOD. S.B.145-30-0022) Install the low pressure transducers to the aircraft (AMM TASK 30-12-12-400-801-A/400).

EFFECTIVITY: ALL

Functional Check Set-Up Schematic for Differential Pressure Switch - Functional Check
Figure 502



1 BE CAREFUL NOT TO APPLY A PRESSURE HIGHER THAN THE SPECIFIED VALUE. OVER PRESSURE CAN CAUSE DAMAGE TO THE EQUIPMENT.

EM145AMM300395A.DGN

TASK 30-12-00-700-803-A
EFFECTIVITY: ALL

4. HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM - FUNCTIONAL TEST

A. General

(1) This task gives the procedures to do the check of the horizontal-stabilizer anti-ice valve outlet pressure and the piccolo tubes for integrity.

(2) The procedures are the same for the RH and LH anti-icing piccolo tubes.

B. References

REFERENCE	*DESIGNATION*
AMM 06-42-02/101	-
AMM MPP 06-42-00/100	-
AMM TASK 30-12-01-000-801-A/400	HORIZONTAL STABILIZER ANTI-ICING VALVE - REMOVAL
AMM TASK 30-12-06-000-801-A/400	PICCOLO TUBE - REMOVAL
AMM TASK 30-12-10-700-801-A/500	HORIZONTAL-STABILIZER ANTI-ICING SYSTEM MONITORING TUBES - LEAKAGE/TEST
AMM TASK 49-10-00-910-802-A/200	APU - START
AMM TASK 49-10-00-910-803-A/200	APU - SHUTDOWN
AMM TASK 49-13-00-910-802-A/200	APU - START
AMM TASK 49-13-00-910-803-A/200	APU - SHUTDOWN
AMM TASK 55-36-00-000-801-A/400	TAIL BOOM - REMOVAL
AMM TASK 55-36-00-400-801-A/400	TAIL BOOM - INSTALLATION
S.B.145-30-0016	-
S.B.145-30-0021	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
324	324FR	RH side of vertical stabilizer
321	321EL	Horizontal stabilizer
337	337AZ	Horizontal stabilizer center section

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Pressure gauge with scale up to 30 psi and accuracy of ± 0.3 psi	To measure the pressure of the horizontal-stabilizer valve outlet	
Commercially available	Differential pressure gauge with scale 3 psi maximum and accuracy of ± 0.01 psi	To measure the pressure at the differential pressure switch	
Commercially available	Pressure gauge with scale up to 5 psi and accuracy of ± 0.05 psi	To measure the pressure at the differential pressure switch and at the piccolo tube	

E. Auxiliary Items

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

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	A - Does the task	Cockpit
1	B - Helps technician A	Horizontal stabilizer

I. Preparation

SUBTASK 841-004-A

(1) Remove access panel 324FR (AMM MPP 06-42-00/100).

(2) Remove the horizontal stabilizer front movable fairings (access panel 321EL) (AMM MPP 06-42-00/100) (AMM TASK 55-36-00-000-801-A/400).

(3) (For aircraft with access panel 337AZ) Remove access panel 337AZ (AMM MPP 06-42-00/100).

J. Functionally Test Horizontal-Stabilizer Thermal Anti-Icing System (Figure 503)

SUBTASK 720-003-A

WARNING: DO NOT TOUCH THE DUCTS OR COMPONENTS OF THE ANTI-ICING SYSTEM IMMEDIATELY AFTER THE SYSTEM IS TURNED OFF. THE HIGH AIR TEMPERATURE CAN CAUSE INJURY TO PERSONS.

(1) NOTE: The hoses for the test must not be longer than 2000 mm (78.74 in) and their diameter must not be more than ¼ in.

Remove the plug from the manifold (overpressure and low pressure switches) in the vertical stabilizer and connect a pressure gauge to the test point, to measure the pressure of the horizontal-stabilizer valve outlet.

(2) NOTE: To measure the pressure at the differential pressure switch, it is possible to use a differential pressure gauge or two pressure gauges, as specified.

(Using a differential pressure gauge) Remove the plugs from the test point of the differential pressure switch and connect a "TEE" to permit the installation of a differential pressure gauge to measure the pressure at the differential pressure switch and a pressure gauge to measure the pressure at piccolo tube, as shown (Figure 503).

(3) (Using two pressure gauges) Remove the plugs from the test point of the differential pressure switch and connect a "TEE" to permit the installation of two pressure gauge

to measure the pressure at the differential pressure switch and the pressure at piccolo tube, as shown (Figure 503).

(4) Set the switches as follows:

- PACK 1 and PACK 2 - OFF.
- XBLEED - AUTO.
- WING - OFF.
- STAB - ON.
- OVERRIDE - ALL.
- ENGINE 1 and ENGINE 2 - OFF.

(5) Start the APU (AMM TASK 49-10-00-910-802-A/200 for APU T-62T-40C11 or AMM TASK 49-13-00-910-802-A/200 for APU T-62T-40C14).

(6) Set the APU BLEED switch to ON.

CAUTION: DO NOT HOLD THE TEST SWITCH AT POSITIONS 1 OR 2 FOR MORE THAN 15 SECONDS.

(7) Set the TEST switch to 1 or 2 and hold it for 15 seconds.

(8) Do the check of the pressure at the stab anti-icing valve outlet as follows:

(a) (PRE-MOD. S.B.145-30-0016 or PN 12949-2 installed) Measure the pressure (pressure gauge installed at manifold) and write it in table 501, record it as PG.

Result:

1 The pressure value must be 18 ± 2 psig.

(b) (POST-MOD. S.B.145-30-0016 or PN 12949-3 installed and PRE-MOD. S.B. 145-30-0021) Measure the pressure (pressure gauge installed at manifold) and write it in table 501, record it as PG.

Result:

1 The pressure value must be 19 ± 2 psig.

(c) (POST-MOD. S.B.145-30-0021) Measure the pressure (pressure gauge installed at manifold) and write it in table 501, record it as PG.

Result:

1 The pressure value must be 18 ± 1.5 psig.

(9) If the regulated pressure is not in this range, replace the stab anti-icing valve (AMM TASK 30-12-01-000-801-A/400) and go to item (7).

(10) If the regulated pressure is at the above value, calculate the minimum pressure value and write it in table 501, record it as MP.

(11) Read the pressure on the differential pressure gauge or the difference between the two pressure gauges and write it.

(a) The differential pressure must not be more than 0.2 psig.

(12) Measure the pressure at the horizontal stabilizer piccolo tube and write it in table 501, record it as PV.

Table 502

Pressure (pressure gauge installed at manifold)	PG = _____ psig.
Minimum pressure value = (0.2 x PG) + 0.45	MP = _____ psig.
Pressure at the horizontal stabilizer piccolo tube	PV = _____ psig.

(a) The pressure at the piccolo tube tip (PV) must be more than minimum pressure value (MP) calculated in the step (10).

(13) If the pressures do not agree with the correct values, do a check for leakage in the monitoring lines (AMM TASK 30-12-10-700-801-A/500).

(14) If the problem continues, replace the piccolo tube (AMM TASK 30-12-06-000-801-A/400) and do the test again.

(15) Set the APU BLEED switch to OFF.

(16) Stop the APU (AMM TASK 49-10-00-910-803-A/200 for APU T-62T-40C11 or AMM TASK 49-13-00-910-803-A/200 for APU T-62T-40C14).

(17) Disconnect the pressure gauge from the test point of the manifold and install a plug to the test point.

(18) Disconnect the pressure gauges from the test point of the differential pressure switch.

(19) Disconnect the TEE from the test point of the differential pressure switch.

(20) Install a plug to the test point.

K. Follow-on

SUBTASK 842-004-A

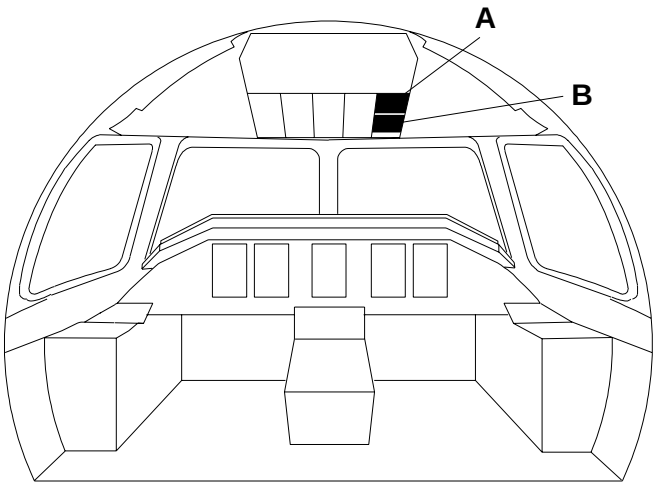
(1) Install access panel 324FR (AMM 06-42-02/101).

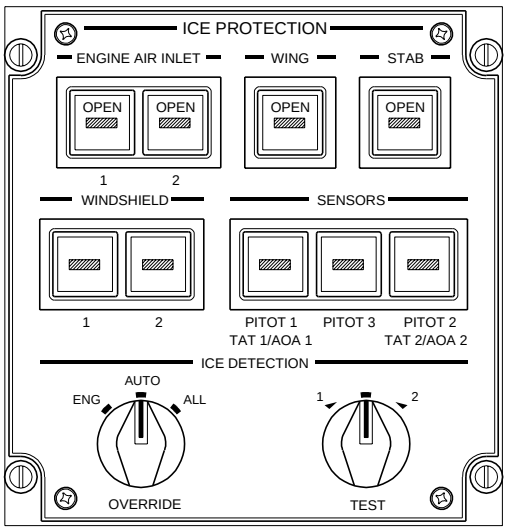
(2) (For aircraft with access panel 337AZ) Install access panel 337AZ (AMM MPP 06-42-00/100).

(3) Install the horizontal stabilizer front movable fairings (access panel 321EL) (AMM MPP 06-42-00/100) (AMM TASK 55-36-00-400-801-A/400).

EFFECTIVITY: ALL

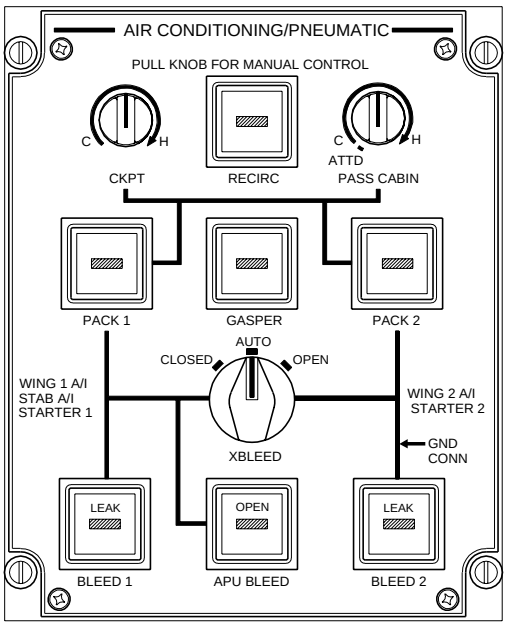
Horizontal-Stabilizer Thermal Anti-Icing System - Functional Test
Figure 503 - Sheet 1





DET. A

ICE PROTECTION
PANEL



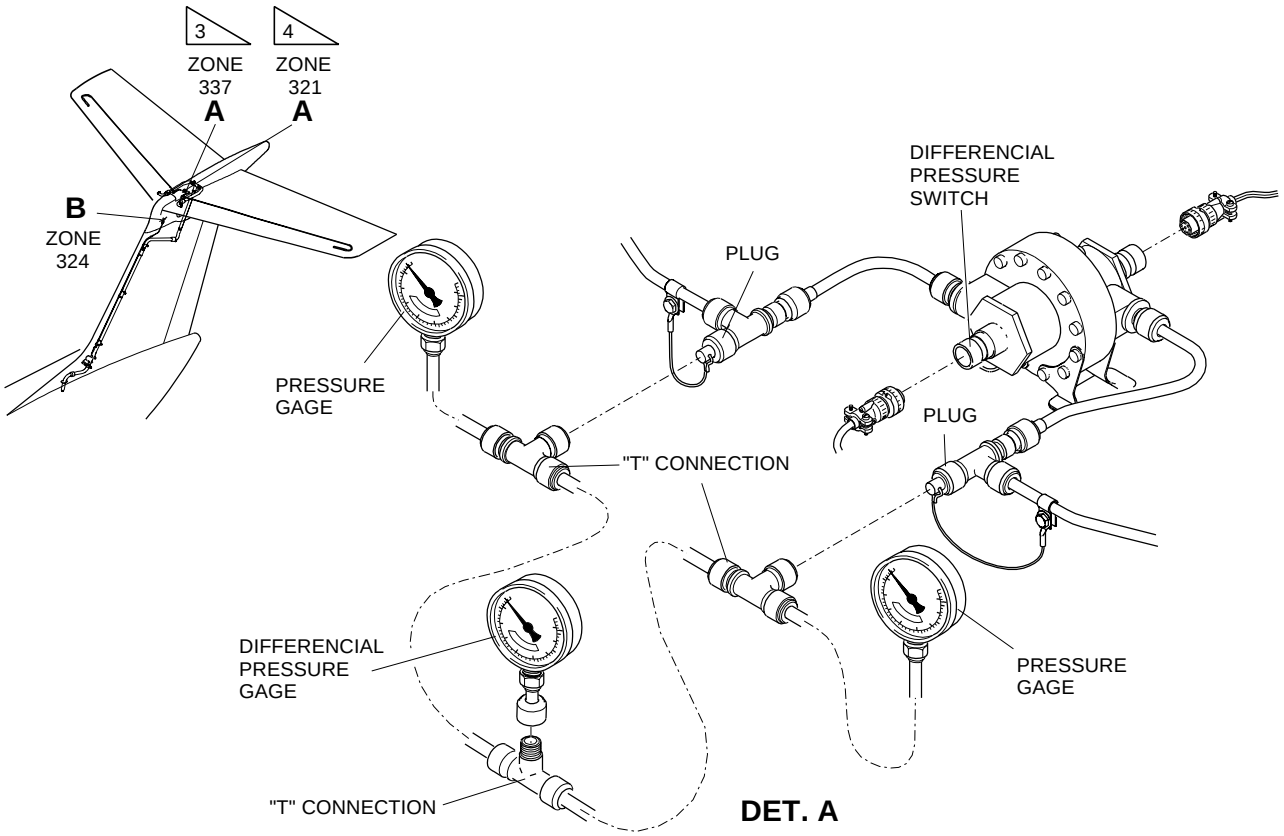
DET. B

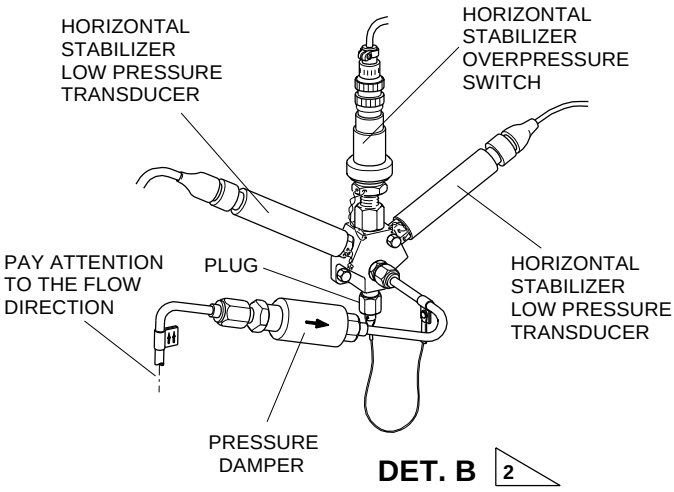
AIR CONDITIONING/PNEUMATIC
PANEL

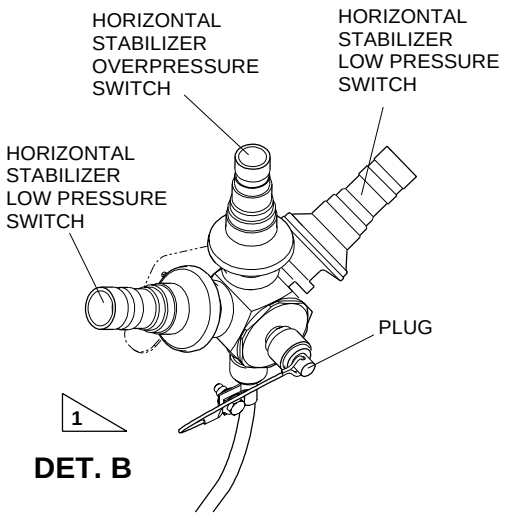
145AMM300064.MCE B

EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing System - Functional Test
Figure 503 - Sheet 2







1 PRE−MOD S.B. 145−30−0022

2 POST−MOD S.B. 145−30−0022

3 APPLICABLE TO AIRCRAFT 001/038

4 APPLICABLE TO AIRCRAFT 039/999

EM145AMM300072G.DGN

TASK 30-12-00-700-804-A
EFFECTIVITY: ALL

5. HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM DUCTS - LEAKAGE TEST

A. General

(1) This task gives the procedures to do the leakage test of the horizontal-stabilizer thermal anti-icing system ducts.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-42-00/100	-
AMM TASK 20-10-10-910-801-A/200	V-BAND CLAMPS - INSTALLATION
AMM TASK 30-12-01-000-801-A/400	HORIZONTAL STABILIZER ANTI-ICING VALVE - REMOVAL
AMM TASK 30-12-01-400-801-A/400	HORIZONTAL STABILIZER ANTI-ICING VALVE - INSTALLATION
AMM TASK 30-12-07-000-801-A/400	DUCTS - REMOVAL
AMM TASK 30-12-07-400-801-A/400	DUCTS - INSTALLATION
AMM TASK 30-12-11-400-801-A/400	VERTICAL-STABILIZER ANTI-ICING MONITORING TUBES - INSTALLATION
AMM TASK 55-13-00-000-801-A/400	HORIZONTAL-STABILIZER LEADING-EDGE ROOT FAIRINGS - REMOVAL
AMM TASK 55-13-00-400-801-A/400	HORIZONTAL-STABILIZER LEADING-EDGE ROOT FAIRINGS - INSTALLATION
AMM TASK 55-13-02-000-801-A/400	HORIZONTAL STABILIZER TIPS - REMOVAL
AMM TASK 55-13-02-400-801-A/400	HORIZONTAL STABILIZER TIPS - INSTALLATION
IPC 30-12-00	HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
272	272DR	Rear fuselage II
322	322AL	RH side of the dorsal fin
333	333DL	LH horizontal stabilizer
334	334DR	RH horizontal stabilizer

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 133	Kit - Leak Test, Anti-Ice/Bleed Line	To connect parts to anti-icing duct	
GSE 028	Nitrogen Service Regulator	To regulate the pressure supplied to the system	

(Continued)

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Stopwatch	To measure the time of leakage	
Commercially available	Nitrogen cylinder - To supply up to 250 psi	To pressurize the stabilizer anti-icing line	
Commercially available	Pressure Gauge, 0 to 600 psi	To measure the pressure drop	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	To get access to the horizontal stabilizer	1
Commercially available	TEE - AS1035	To connect the pressure gauges	2

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
T50L-6TZ	Cable tiedown strap	AR
MS20995C20	Lockwire	AR
MIL-S-38249 Type 1	Sealing Compound, Firewall	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	IPC 30-12-00	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	A - Does the task	Inside and outside the aircraft
1	B - Helps technician A	Inside and outside the aircraft

I. Preparation (Figure 504)

SUBTASK 841-005-A

WARNING: DO NOT TOUCH THE DUCTS OR COMPONENTS OF THE ANTI-ICING SYSTEM IMMEDIATELY AFTER THE SYSTEM IS TURNED OFF. THE HIGH AIR TEMPERATURE CAN CAUSE INJURY TO PERSONS.

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

(2) Remove access panels 272DR (AMM MPP 06-41-01/100) and 322AL (AMM MPP 06-42-00/100).

(3) Remove the horizontal-stabilizer leading-edge root fairings (access panels 333DL and 334DR) (AMM MPP 06-42-00/100) (AMM TASK 55-13-00-000-801-A/400).

(4) Remove the horizontal-stabilizer tip (AMM TASK 55-13-02-000-801-A/400).

(5) Remove the lockwire (1) and loosen the clamp (2).

(6) Remove the hose (3) from the piccolo tube (4).

(7) Remove the cable tiedown strap (8), protection sleeve (6), lockwire, and Gamah joint (7).

NOTE: Refer to AMM TASK 30-12-07-000-801-A/400 for the correct removal of the Gamah joint (7).

(8) Remove and discard the old O-rings (11).

(9) Remove the screws (10) from the piccolo tube (9).

(10) Carefully pull and turn the piccolo tube (9).

(11) Install plugs (12) at the end of the anti-icing ducts (13).

(12) Remove the stabilizer anti-icing valve (AMM TASK 30-12-01-000-801-A/400).

(13) Install the seals (20) and dummy tube (17).

(14) Remove the tube (14) to install a pressure gauge to the pressure feedback point (Figure 504).

(15) Remove the monitoring tube (16) and install the cap assy (15) (Figure 504).

(16) Remove the clamp (21) and disconnect the bleed duct (19) from the bleed duct (18).

(17) Install the seal (22) and plug with the nipple (23) at the bleed duct (18).

(18) Connect the nitrogen service regulator to the nitrogen cylinder (GSE 028).

(19) Connect the adapter (24) to the end of the hose of the nitrogen cylinder (GSE 028).

(20) Connect the assembly to the nipple (23) at the bleed duct (18).

J. Leakage Test of the Horizontal-Stabilizer Thermal Anti-Icing System Ducts (Figure 504)

SUBTASK 790-002-A

(1) Apply pressure to the anti-icing ducts until the pressure stabilizes at 200 psi.

(2) Stop the supply of nitrogen.

(3) After 15 seconds, see the value of the pressure decrease.

NOTE:
- If the pressure decreases more than 60 psi: release the pressure in the bleed air ducts, make sure that the fittings are installed correctly, and repair as necessary.
- Do the leakage test again after the repair.

(4) Release the pressure from the stabilizer anti-icing ducts.

K. Follow-on

SUBTASK 842-005-A

(1) Disconnect the adapter (24) from the bleed duct (18).

(2) Disconnect the adapter from the hose of the nitrogen cylinder (GSE 028).

(3) Disconnect the nitrogen service regulator from the nitrogen cylinder (GSE 028).

(4) Remove the seal (22) and plug with nipple (23) from the bleed duct (18).

(5) Install the clamp (21) to connect the bleed duct (19) to the bleed duct (18) (AMM TASK 20-10-10-910-801-A/200).

(6) Remove the pressure gauge from the pressure feedback point and install the tube (14) (AMM TASK 30-12-11-400-801-A/400).

(7) Remove the cap assy (15) and install the monitoring tube (16).

(8) Remove the seals (20) and dummy tube (17).

(9) Install the stabilizer anti-icing valve (AMM TASK 30-12-01-400-801-A/400).

(10) Remove the plugs (12) from the end of the anti-icing ducts.

(11) Remove the old sealant and prepare the surface for installation of the screws of the piccolo tube.

(12) Do the fastener sealing (MIL-S-38249) before you put the piccolo tube (9) back to its position.

(13) Carefully move the piccolo tube (9) back to its position.

(14) Install the screws (10) of the piccolo tube.

(15) Install the Gamah joint (7), lockwire, protection sleeve (6), the new O-ring (11), and cable tiedown strap (5).

NOTE: Refer to AMM TASK 30-12-07-400-801-A/400 for the correct installation of the Gamah joint (7).

(16) Install the hose (3) to the piccolo tube (4).

(17) Install the clamp (2) and apply the necessary torque.

(18) Safety the hose (3) with lockwire (1).

(19) Install the horizontal stabilizer tip (AMM TASK 55-13-02-400-801-A/400).

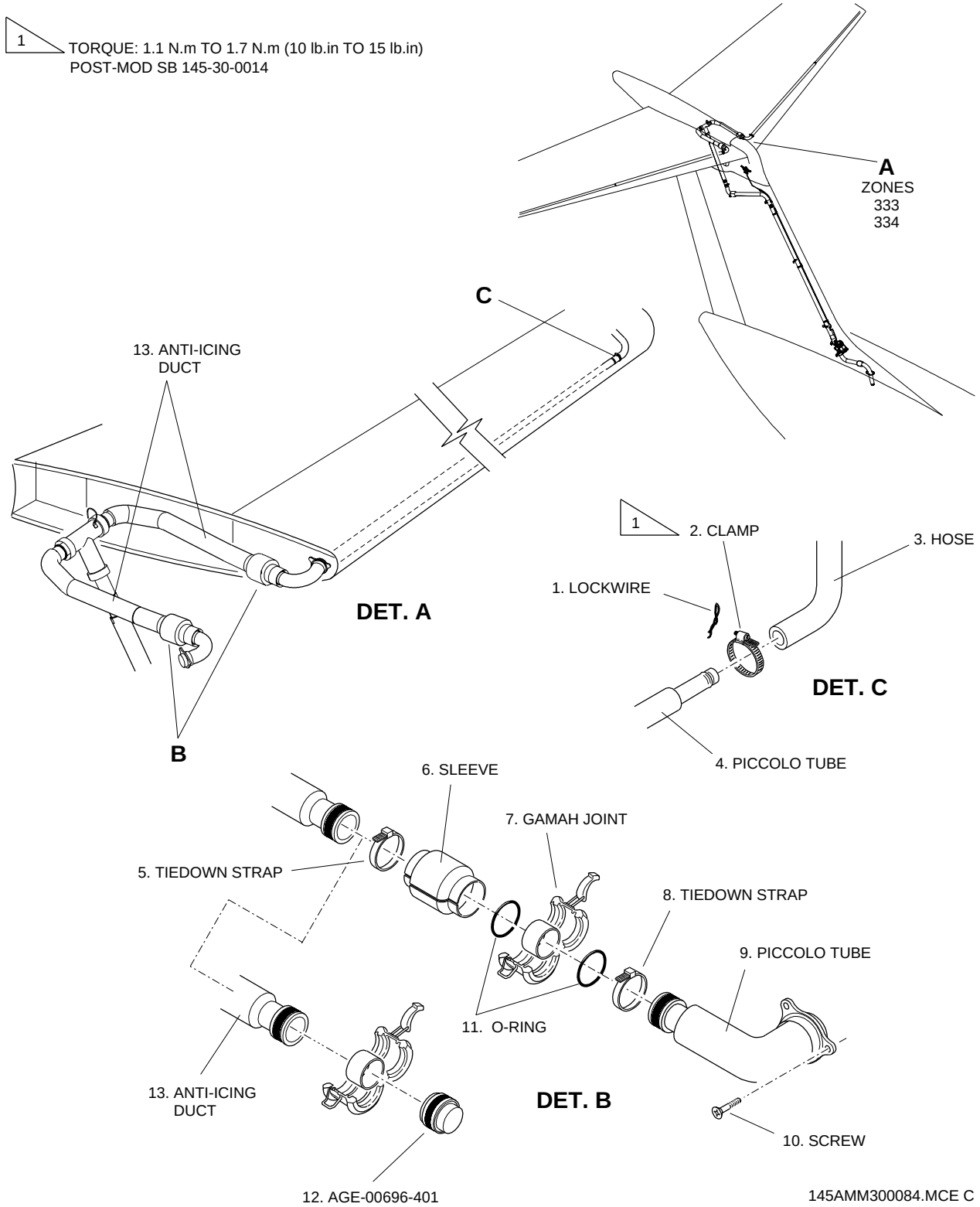
(20) Install the horizontal leading-edge root fairings (access panels 333DL and 334DR) (AMM MPP 06-42-00/100) (AMM TASK 55-13-00-400-801-A/400).

(21) Install access panels 272DR (AMM MPP 06-41-01/100) and 322AL (AMM MPP 06-42-00/100).

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

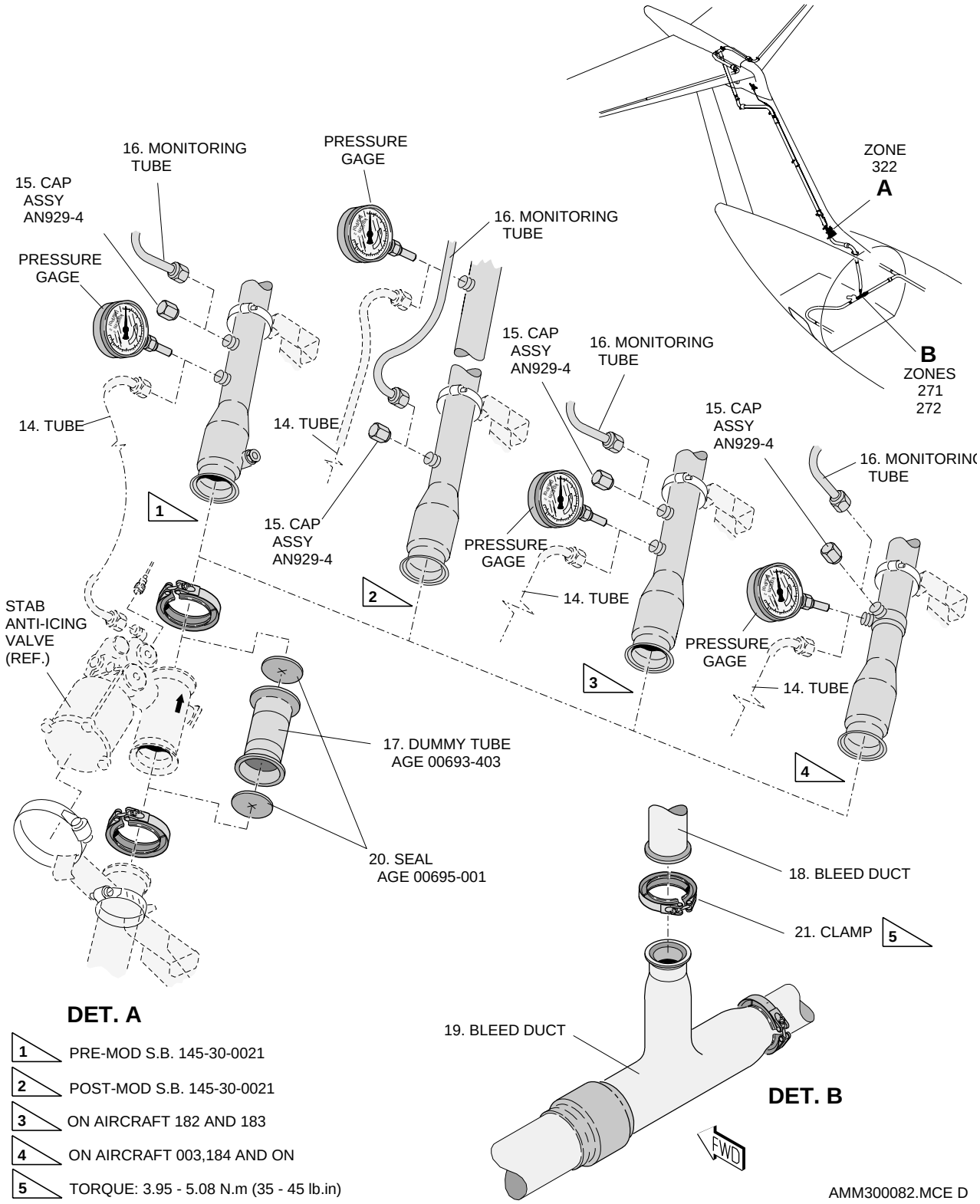
EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 504 - Sheet 1



EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 504 - Sheet 2



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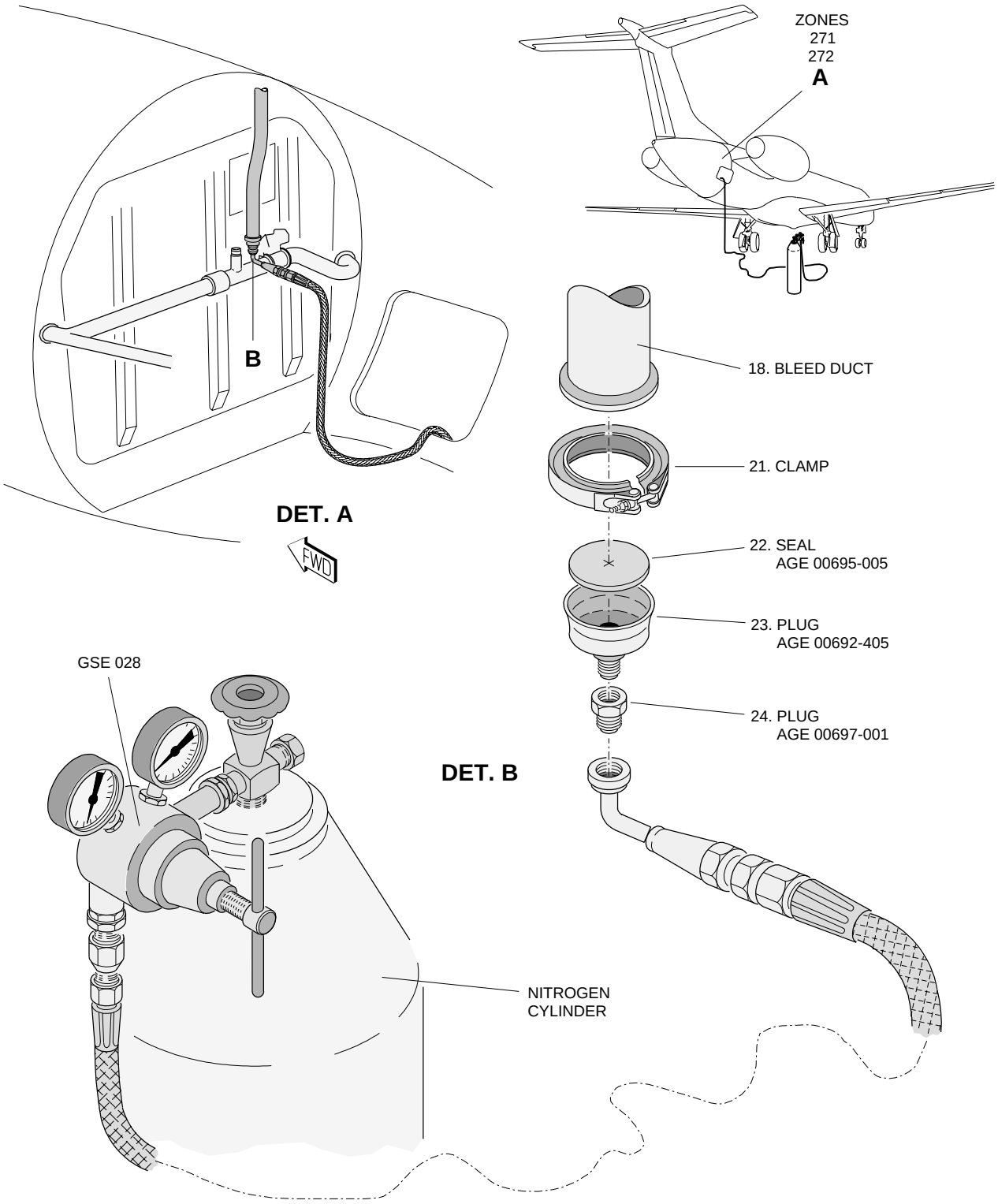
EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 504 - Sheet 3



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TASK 30-12-00-700-805-A
EFFECTIVITY: ALL

6. HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM VERTICAL DUCTS - LEAKAGE TEST

A. General

(1) This task gives the procedures to do the leakage test of the horizontal-stabilizer thermal anti-icing system vertical ducts.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-42-00/100	-
AMM TASK 20-10-10-910-801-A/200	V-BAND CLAMPS - INSTALLATION
AMM TASK 30-12-01-000-801-A/400	HORIZONTAL STABILIZER ANTI-ICING VALVE - REMOVAL
AMM TASK 30-12-01-400-801-A/400	HORIZONTAL STABILIZER ANTI-ICING VALVE - INSTALLATION
AMM TASK 30-12-07-400-801-A/400	DUCTS - INSTALLATION
AMM TASK 30-12-11-400-801-A/400	VERTICAL-STABILIZER ANTI-ICING MONITORING TUBES - INSTALLATION
AMM TASK 55-36-00-000-801-A/400	TAIL BOOM - REMOVAL
AMM TASK 55-36-00-400-801-A/400	TAIL BOOM - INSTALLATION
IPC 30-12-00	HORIZONTAL-STABILIZER THERMAL ANTI-ICING SYSTEM

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
321		Horizontal stabilizer
272	272DR	Rear fuselage II
322	322AL	RH side of the dorsal fin

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 133	Kit - Leak Test, Anti-Icing/Bleed Line	To connect parts at anti-icing duct	
GSE 028	Nitrogen Service Regulator	To regulate the pressure supplied to the system	
Commercially available	Stopwatch	To measure the time of leakage	
Commercially available	Nitrogen cylinder - To supply up to 250 psi	To pressurize the stabilizer anti-icing line	
Commercially available	Pressure Gauge, 0 to 600 psi	To measure the pressure decrease	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Ladder	To get access to the horizontal stabilizer	1

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
T50L-6TZ	Cable tiedown strap	AR
MS20995C20	Lockwire	AR

G. Expendable Parts

ITEM	*IPC REFERENCE (VENDOR REFERENCE)*	*QTY*
O-ring	IPC 30-12-00	2

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	A - Does the task	Inside and outside the aircraft
1	B - Helps technician A	Inside and outside the aircraft

I. Preparation (Figure 505)

SUBTASK 841-006-A

WARNING: DO NOT TOUCH THE DUCTS OR COMPONENTS OF THE ANTI-ICING SYSTEM IMMEDIATELY AFTER THE SYSTEM IS TURNED OFF. THE HIGH AIR TEMPERATURE CAN CAUSE INJURY TO PERSONS.

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

(2) Remove the RH seal fairing (access panel 321) (AMM MPP 06-42-00/100) (AMM TASK 55-36-00-000-801-A/400).

(3) Remove access panels 272DR (AMM MPP 06-41-01/100) and 322AL (AMM MPP 06-42-00/100).

(4) Remove the Gamah joint (4) from the duct (1).

(5) Remove and discard the old O-rings (2).

(6) Carefully pull the duct (1) and install the plug (5) at the end of the duct (3).

(7) Remove the stabilizer anti-icing valve (AMM TASK 30-12-01-000-801-A/400).

(8) Install the seals (12) and dummy tube (9).

(9) Remove the tube (6) to install a pressure gauge at the pressure feedback point (Figure 505).

(10) Remove the monitoring tube (8) and install the cap assy (7) (Figure 505).

(11) Remove the clamp (13) and disconnect the bleed duct (11) from the bleed duct (10).

(12) Install the seal (14) and plug with the nipple (15) at the bleed duct (10).

(13) Connect the nitrogen service regulator to the nitrogen cylinder (GSE 028).

(14) Connect the adapter (16) to the end of the hose of the nitrogen cylinder (GSE 028).

(15) Connect the assembly to the nipple (15) at the bleed duct (10).

J. Leakage Test of the Horizontal-Stabilizer Thermal Anti-Icing System Ducts (Figure 505)

SUBTASK 790-003-A

(1) Apply pressure to the anti-icing ducts until the pressure stabilizes at 200 psi.

(2) Stop the supply of nitrogen.

(3) After 15 seconds, see the value of the pressure decrease.

NOTE:
- If the pressure decreases more than 60 psi: release the pressure in the bleed air ducts, make sure that the fittings are installed correctly, and repair as necessary.
- Do the leakage test again after the repair.

(4) Release the pressure from the stabilizer anti-icing ducts.

K. Follow-on

SUBTASK 842-006-A

(1) Disconnect the adapter (16) from the bleed duct (10).

(2) Disconnect the adapter from the hose of the nitrogen cylinder (GSE 028).

(3) Disconnect the nitrogen service regulator from the nitrogen cylinder (GSE 028).

(4) Remove the seal (14) and plug with nipple (15) from the bleed duct (10).

(5) Install the clamp (13) to connect the bleed duct (11) to the bleed duct (10) (AMM TASK 20-10-10-910-801-A/200).

(6) Remove the pressure gauge from the pressure feedback point and install the tube (6) (AMM TASK 30-12-11-400-801-A/400).

(7) Remove the cap assy (7) and install the monitoring tube (8).

(8) Remove the seals (12) and dummy tube (9).

(9) Install the stabilizer anti-icing valve (AMM TASK 30-12-01-400-801-A/400).

(10) Carefully move the duct (1) back to its position.

(11) Install the Gamah joint (4), lockwire, and the new O-rings (2).

NOTE: Refer to AMM TASK 30-12-07-400-801-A/400 for the correct installation of the Gamah joint (4).

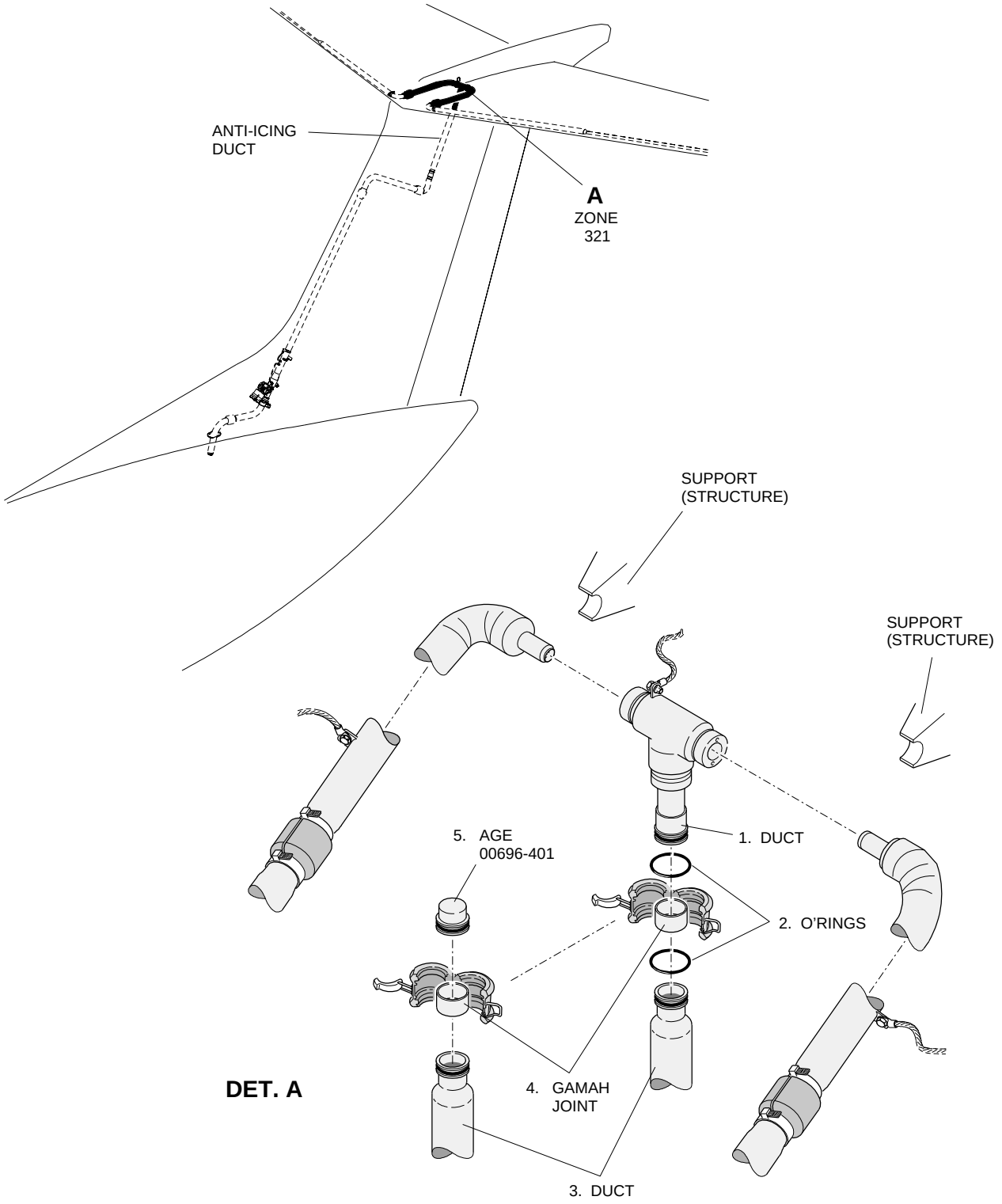
(12) Install the RH seal fairing (AMM TASK 55-36-00-400-801-A/400).

(13) Install access panels 272DR (AMM MPP 06-41-01/100) and 322AL (AMM MPP 06-42-00/100).

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

EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 505 - Sheet 1



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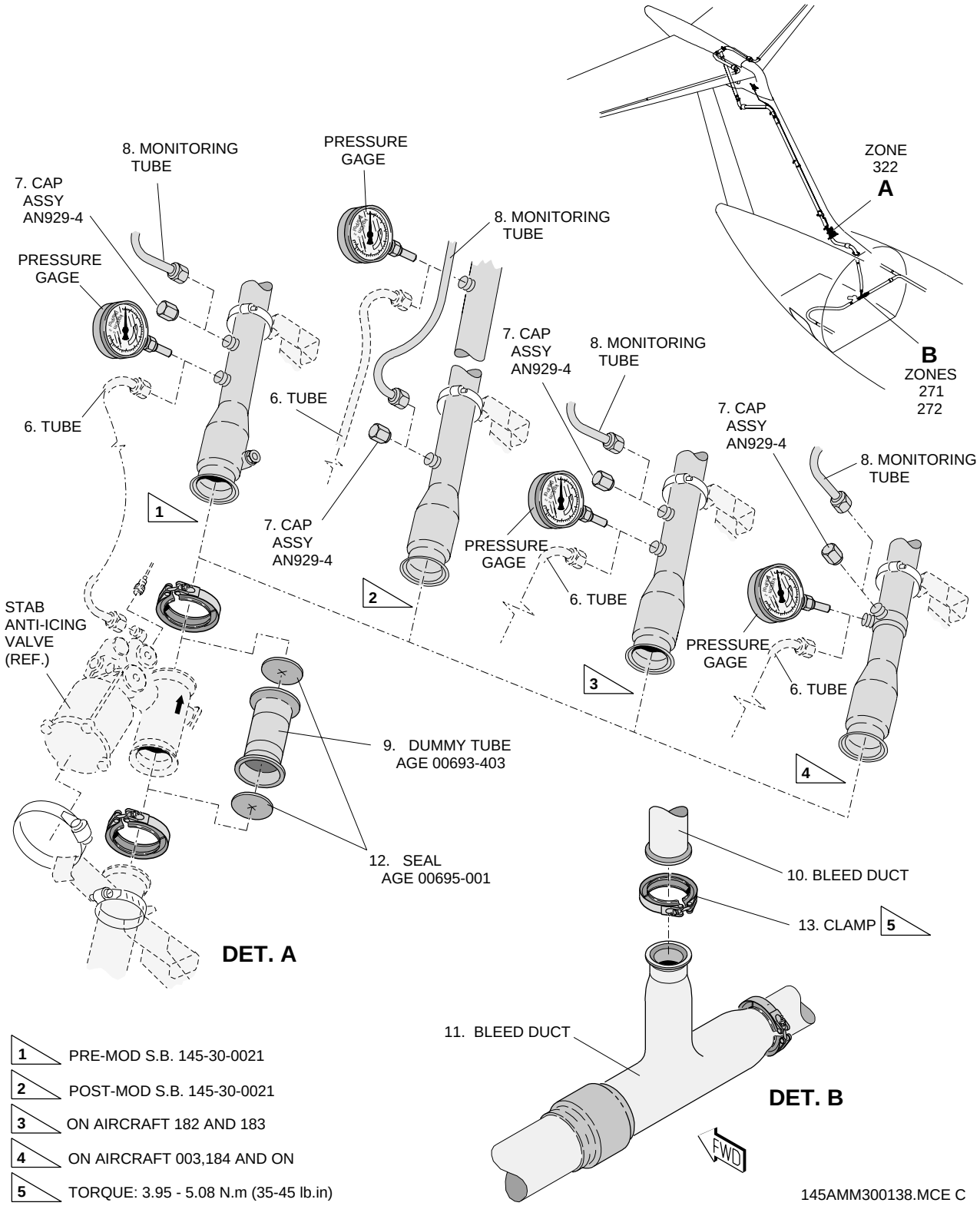
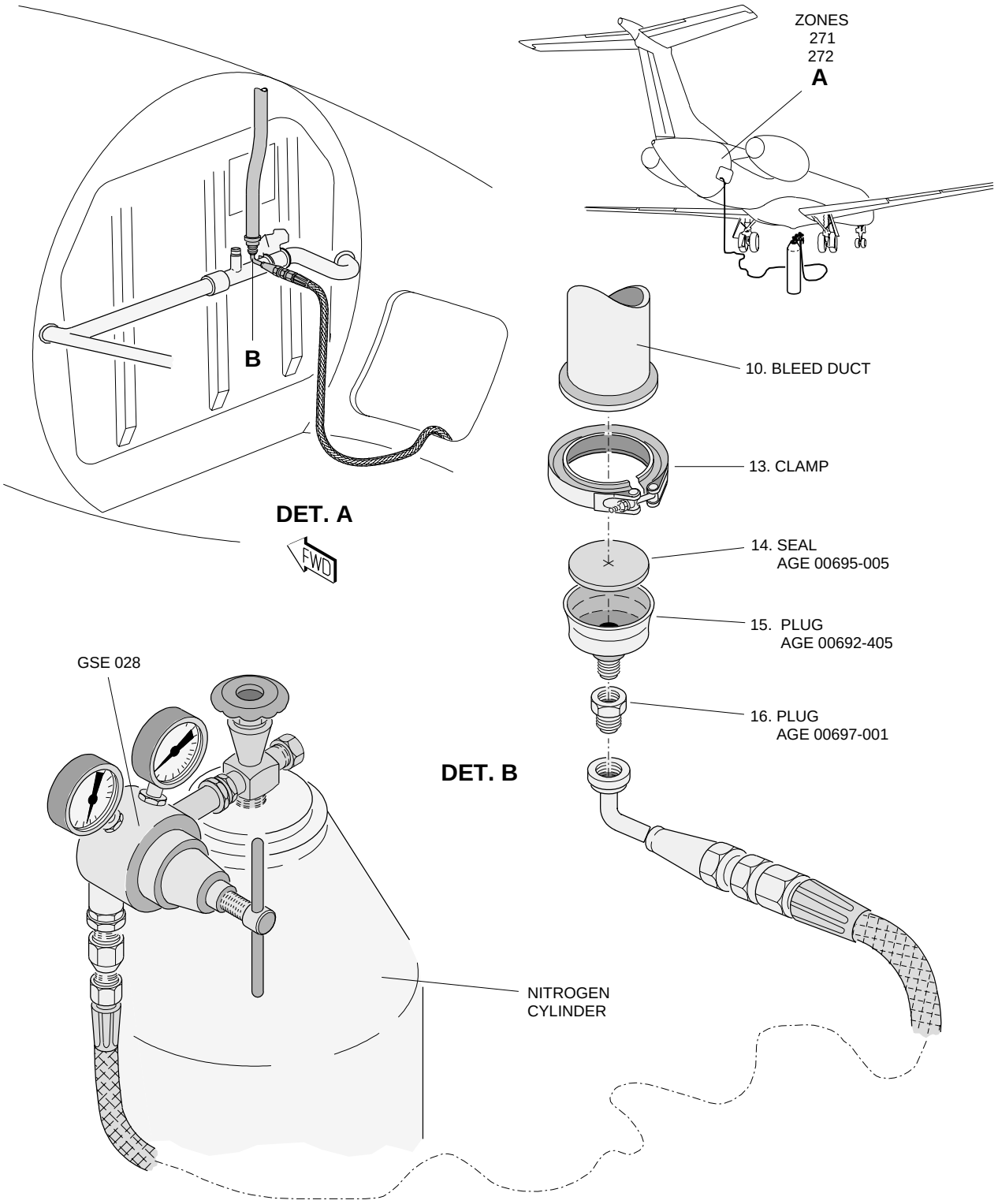
EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 505 - Sheet 2



EFFECTIVITY: ALL

Horizontal-Stabilizer Thermal Anti-Icing Ducts - Leakage Test
Figure 505 - Sheet 3



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