



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

WING ANTI-ICING DUCTS - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the ducts of the Wing Thermal Anti-Icing System.
- B. These procedures are applicable to the ducts of the LH and RH sides of the Wing Thermal Anti-Icing System.
- C. The duct of the LH Wing Thermal Anti-Icing System is installed on the LH side of the forward lower fairing.
- D. The duct of the RH Wing Thermal Anti-Icing System is installed on the RH side of the forward lower fairing.
- E. 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
30-11-08-000-801-A	DUCT - REMOVAL	ALL
30-11-08-400-801-A	DUCT - INSTALLATION	ALL



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TASK 30-11-08-000-801-A

EFFECTIVITY: ALL

2. DUCT - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the duct of the Wing Thermal Anti-Icing System.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
S.B.145-30-0022	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
191	191EL	LH side of the forward lower fairing
191	191FR	RH side of the forward lower fairing
191	191KL	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

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	To get access to the ducts	1

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) On the overhead Circuit Breaker Panel, open the circuit breaker below and attach a DO-NOT-CLOSE tag to it.

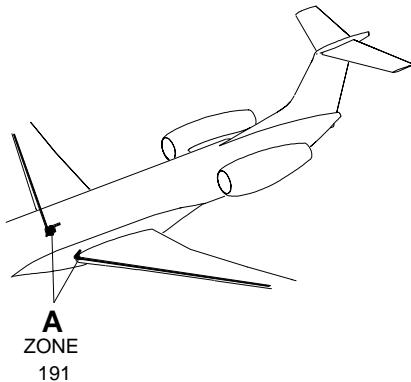
- (PRE-MOD. [S.B.145-30-0022](#))
WING: (Location Tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).
 - (POST-MOD. [S.B.145-30-0022](#))
WING: (Location Tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).
WING A/I IND 1: (Location Tip: DC BUS 2/ICE AND RAIN PROTECTION/WING A/I IND 1).
WING A/I IND 2: (Location Tip: ESSENTIAL DC BUS 2/WING A/I IND 2).
- (2) Remove access panel 191EL or 191FR (AMM MPP 06-41-01/100).
 - (3) Remove access panel 191KL or 191LR (AMM MPP 06-41-01/100).
 - (4) Remove the landing light lens.

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

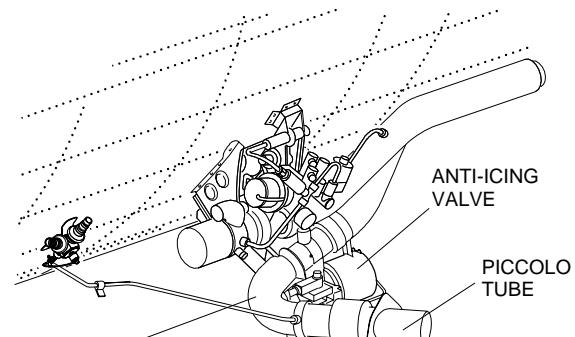
SUBTASK 020-002-A

- (1) Disconnect the tubes (5) and (7).
- (2) Remove the nut (21), washer (22), and screw (14) and release the clamp (13) that attaches the electrical wire (12) to the support at the duct (6).
- (3) Remove the nuts (20), four washers (16), and screws (17) (2 positions) and release the ends of the electrical wires (15) and (18), and the leak thermostat (19) from the support at the duct (6).
- (4) Loosen the clamp (11) to disconnect the duct (6) from the anti-icing valve.
- (5) Cut the lockwire (2) and remove the Gamah joint (3), sleeve (1), and two O-rings (4) to disconnect the duct (6) from the piccolo tube at the wing leading edge.
- (6) Cut the lockwire (10) and loosen the clamp (9) that attaches the duct (6) to the support at the fuselage.
- (7) (On aircraft 003, 182 and on) Remove the bolt (23), washer (24), and nut (25) that attaches the anti-rotation support (8) to the anti-icing valve.
- (8) Remove the duct (6).

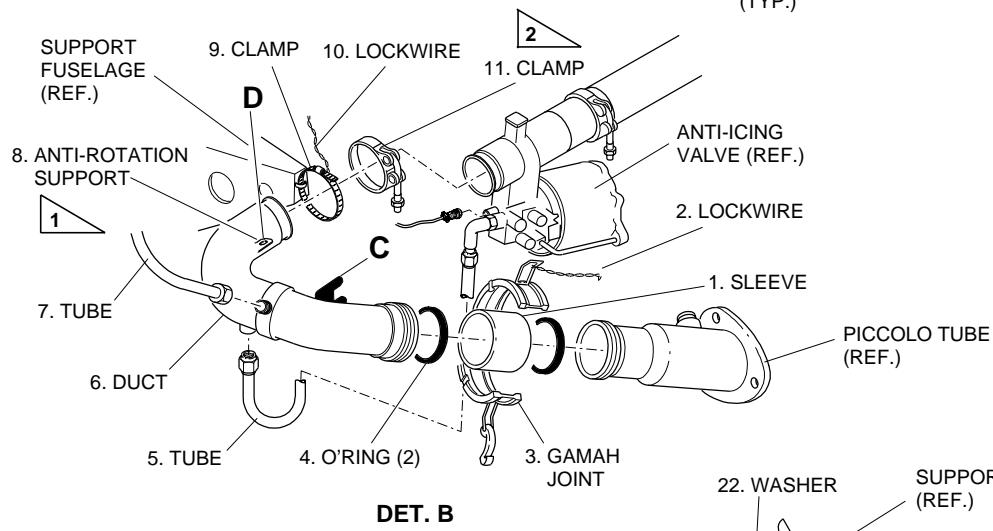
EFFECTIVITY: ALL
 Duct - Removal/Installation
 Figure 401 - Sheet 1



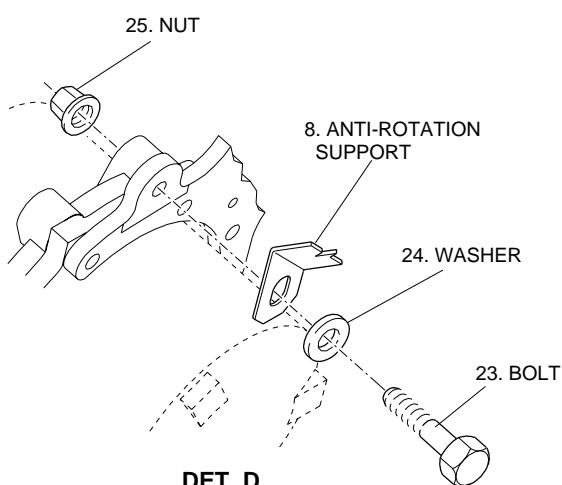
A
ZONE
191



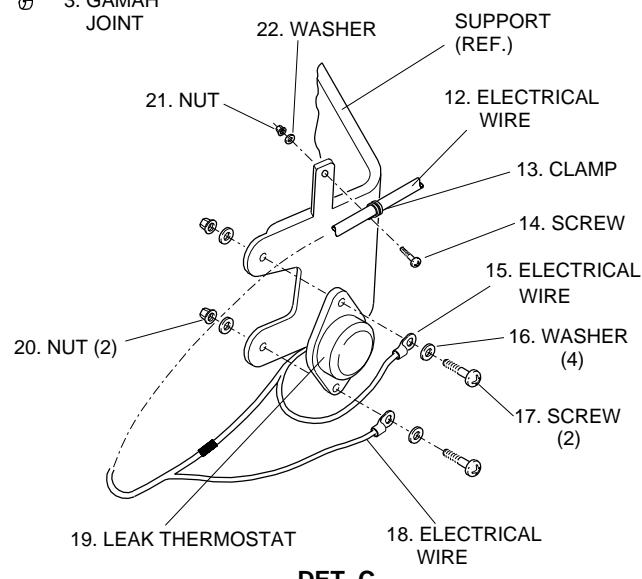
DET. A
(TYP.)



DET. B



DET. D



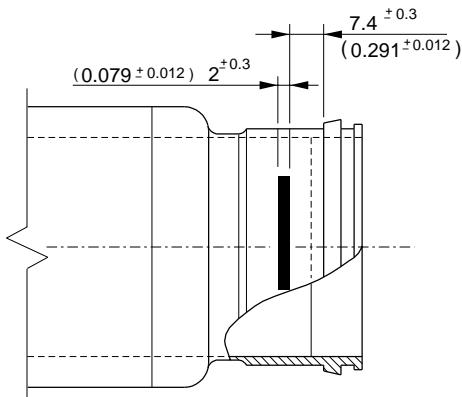
DET. C

1 ON AIRCRAFT 003, 182 AND ON.

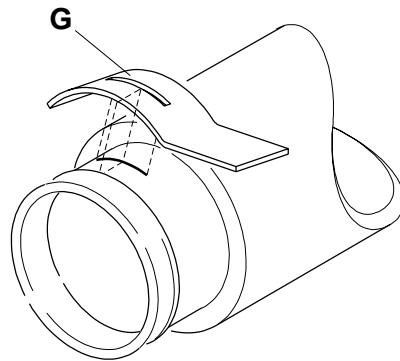
2 TORQUE: 4.52 - 5.65 N.m (40-50 lb.in)

145AMM300043.MCE D

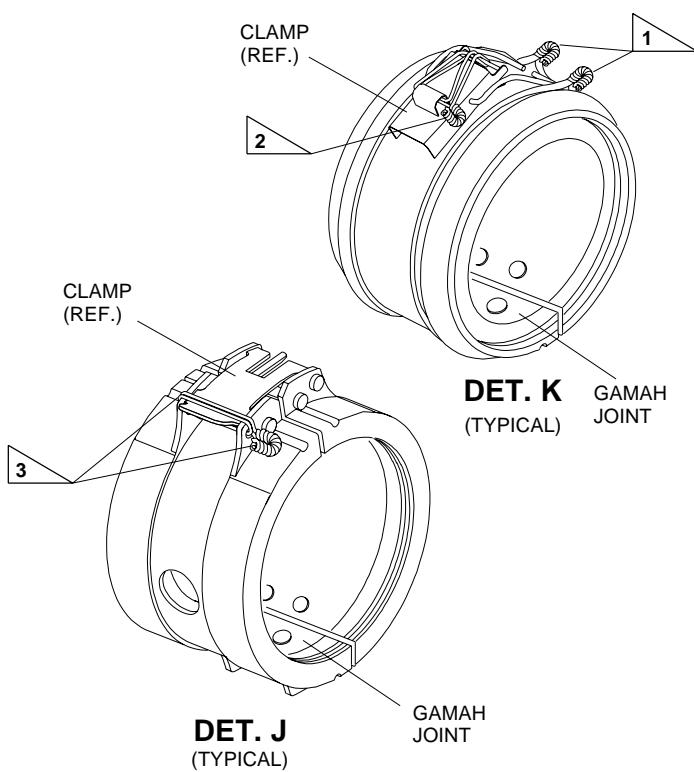
EFFECTIVITY: ALL
Duct - Removal/Installation
Figure 401 - Sheet 2



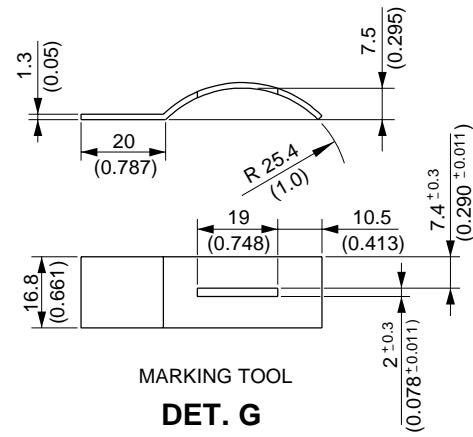
DET. E
(TYP.)



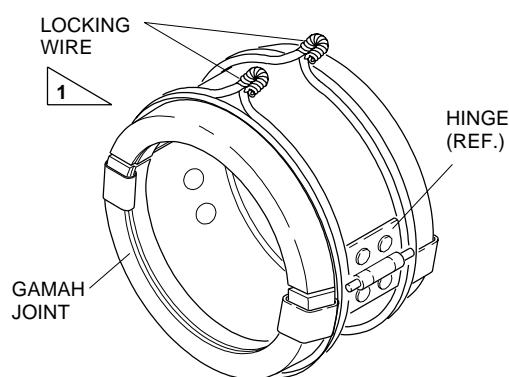
DET. F



DIMENSIONS IN mm (in)



MARKING TOOL
DET. G



DET. H

-  (APPLICABLE TO GAMAH JOINT P/N CA33020) APPLY TWO TURNS OF LOCKING WIRE AT EACH POSITION
-  APPLY LOCKING WIRE UNDER CLAMP LOCKING ELEMENT
-  (APPLICABLE TO GAMAH JOINT P/N CA36120C)
- APPLY LOCKING WIRE UNDER CLAMP LOCKING ELEMENT

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TASK 30-11-08-400-801-A

EFFECTIVITY: ALL

3. DUCT - INSTALLATION

A. General

- (1) This procedure gives the instructions to install the duct of the Wing Thermal Anti-Icing System.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM TASK 20-10-10-910-801-A/200	V-BAND CLAMPS - INSTALLATION
AMM TASK 36-11-10-400-801-A/400	AIR-BLEED LINE PAIRS OF O-RINGS - INSTALLATION
IPC 30-11-00	WING THERMAL ANTI-ICING SYSTEM
S.B.145-30-0022	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
191	191EL	LH side of the forward lower fairing
191	191FR	RH side of the forward lower fairing
191	191KL	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

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Porous-point pen marker	To make marks on the flanges	1

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MS20995C25	Lockwire	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	IPC 30-11-00	2 (each wing)

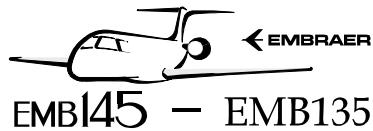
H. Persons Recommended

<i>QTY</i>	<i>FUNCTION</i>	<i>PLACE</i>
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)
SUBTASK 420-002-A

- (1) Put the duct (6) in the clamp (9).
- (2) Connect the end of the duct (6) to the anti-icing valve with the clamp (11).
- (3) Put the other end of the duct (6) at the end of the piccolo tube at the wing leading edge.
- (4) Refer to DET. E and mark the duct flanges with a porous-point pen marker with the aid of a marking tool. Refer to DET. F and DET. G.
- (5) Install the new O-rings (4) ([AMM TASK 36-11-10-400-801-A/400](#)).
- (6) Install the Gamah joint (3) over the sleeve (1), engage the latch mechanism on the joint, and snap it shut. Refer to DET. H, DET. K and DET. J.

NOTE: Make sure the flange marks are visible under the Gamah joint edges.
- (7) (Applicable for Gamah joint P/N CA36120C) Lockwire the clamp of the Gamah joint (3). Refer to DET. J.
- (8) (Applicable for Gamah joint P/N CA33020) Lockwire the Gamah joint (3). Refer to DET. H and DET. K.
- (9) Tighten the clamp (11) ([AMM TASK 20-10-10-910-801-A/200](#)).
- (10) Tighten the clamp (9) to attach the duct (6) to the support at the fuselage.
- (11) Safety the clamp (9) with the lockwire (10).
- (12) (On aircraft 003, 182 and on) Tighten the bolt (23), washer (24), and nut (25) to attach the anti-rotation support (8) to the anti-icing valve.
- (13) Connect the tubes (5) and (7).
- (14) Put the leak thermostat (19) and the ends of the electrical wires (15) and (18) on the support at the duct (6).
- (15) Install the screws (17), four washers (16), and nut (20) (2 positions) to attach the leak thermostat (19) and the ends of the electrical wires (15) and (18).
- (16) Put the clamp (13) with the electrical wire (12) on the support at the duct (6).
- (17) Install the screw (14), washer (22), and nut (21) to attach the clamp (13).



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J. Follow-on

SUBTASK 842-002-A

- (1) On the Circuit Breaker Panel, close the circuit breaker below and remove the DO-NOT-CLOSE tag from it.
 - (PRE-MOD. [S.B.145-30-0022](#))
WING: (Location Tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).
 - (POST-MOD. [S.B.145-30-0022](#))
WING: (Location Tip: DC BUS 1/ICE AND RAIN PROTECTION/WING).
WING A/I IND 1: (Location Tip: DC BUS 2/ICE AND RAIN PROTECTION/WING A/I IND 1).
WING A/I IND 2: (Location Tip: ESSENTIAL DC BUS 2/WING A/I IND 2).
- (2) Examine the duct connections for leaks.
- (3) Install access panel 191EL or 191FR (AMM MPP 06-41-01/100).
- (4) Install access panel 191KL or 191LR (AMM MPP 06-41-01/100).
- (5) Install the landing light lens.