WING LEADING EDGE I - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to remove and install wing leading edges I.

   B. These procedures are applicable to LH and RH wing leading edges I.

   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*
57-41-00-000-801-A	LEADING EDGE I - REMOVAL	ALL
57-41-00-400-801-A	LEADING EDGE I - INSTALLATION	ALL

TASK 57-41-00-000-801-A
EFFECTIVITY: ALL

2. LEADING EDGE I - REMOVAL

A. General

(1) This procedure gives the instructions to remove wing leading edge I.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
SRM 51-20-01-PR	-

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
511		LH wing
611		RH wing

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Workstand	To get access to the work area	
Commercially available	Torque wrench	To remove the screws	
Commercially available	Acrylic spatula	To remove sealant	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Protective Gloves	For protection of technician's hands	1
Commercially available	Safety Goggles	For protection of technician's eyes	1

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
ASTM-D-740	Methyl Ethyl Ketone - MEK	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

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

I. Preparation

SUBTASK 841-002-A

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

(2) Remove access panels 191EL and 191FR (AMM MPP 06-41-01/100).

J. Removal (Figure 401)

SUBTASK 020-002-A

(1) Remove the splice (6) and gasket. For this, remove the screws (5) (64 positions).

NOTE: Examine the holes for corrosion signs, if you find contact Embraer Technical Support Department.

(2) Disconnect the end of the piccolo tube of leading edge I (7) from the end of the piccolo tube of leading edge II (4) as follows:

CAUTION: BE CAREFUL WHEN YOU SLIDE THE COUPLING (3) ON THE PICCOLO TUBE TO PREVENT DAMAGE TO THE SEAL DEVICE IN THE COUPLING AND TO THE PICCOLO TUBE ENDS.

(a) Loosen the clamp of the coupling (3) and push to slide it on the piccolo tube of leading edge I (7). Refer to Figure 401; DET. D.

NOTE: The coupling should be completely moved off the piccolo tube to prevent damage to the end tube.

(3) Disconnect the tube (9) from the piccolo tube. Refer to Figure 401; DET. C.

(4) Cut the lockwire and remove the Gamah joint (10), sleeve (11), and two O-rings (8) to disconnect the duct (12) from the end of the piccolo tube of leading edge I (7). Refer to Figure 401; DET. C.

NOTE: Discard the two O-rings (8).

CAUTION: REMOVE THE SCREWS FROM LOWER AND UPPER POSITIONS. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE SPAR AND LEADING EDGE CAN OCCUR.

(5) Remove the screws (2) (140 positions) and (1) (21 positions).

NOTE: Examine the holes for signs of corrosion. If you find any sign of corrosion, contact Embraer Technical Support Department.

(6) Carefully pull leading edge I (7) and remove it from the wing.

(7) Remove the old aerodynamic sealant and prepare the surface, according to SRM 51-20-01-PR.

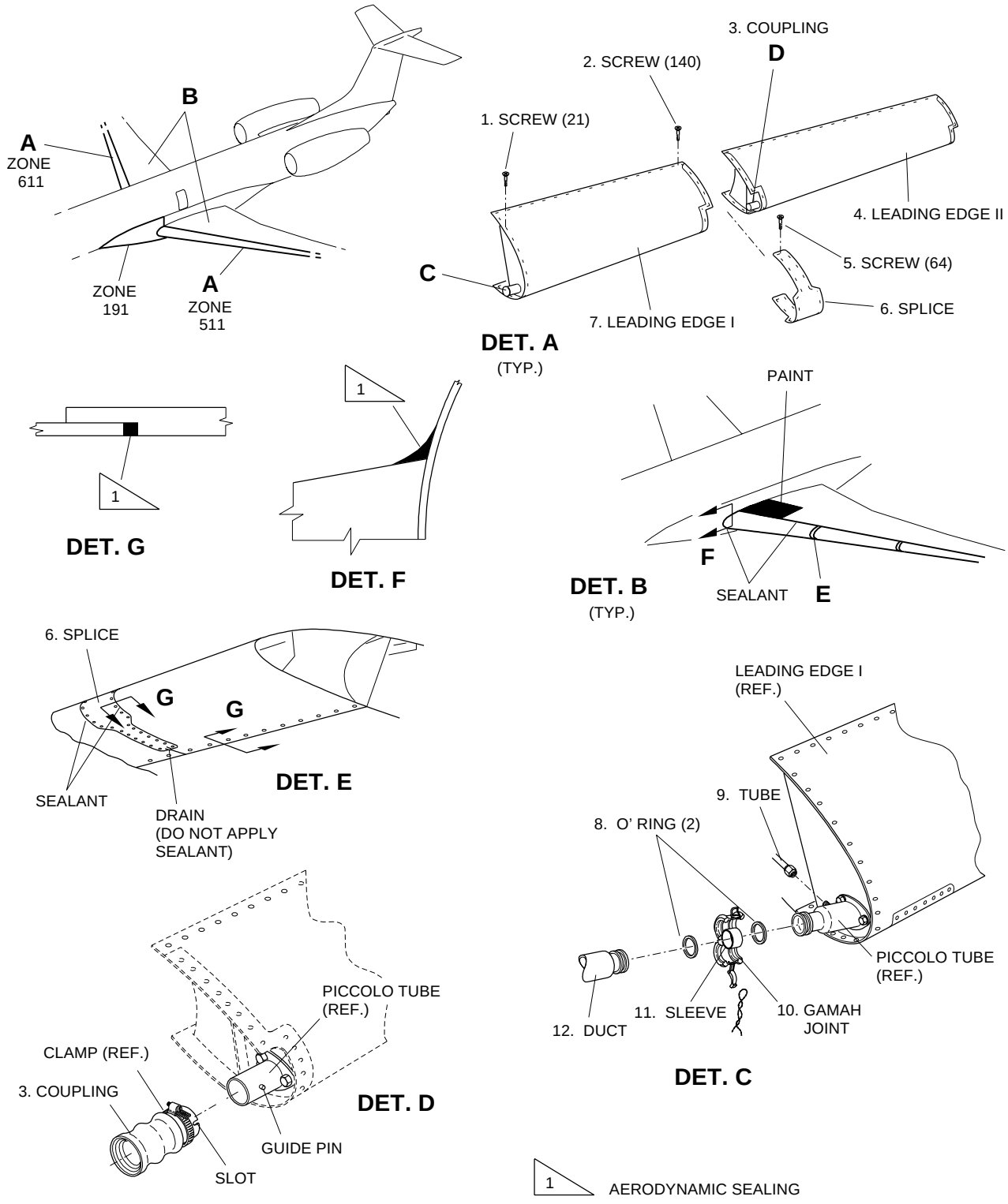
WARNING: BE CAREFUL WHEN YOU USE SOLVENTS BECAUSE THEY ARE A HEALTH AND FIRE HAZARD. USE SAFETY GOGGLES AND PROTECTIVE CLOTHING WHEN YOU HANDLE THEM. DO NOT BREATHE THEIR GASES AND WORK IN A WELL VENTILATED AREA.

(8) With a cloth soaked in MEK, clean the surface.

EFFECTIVITY: ALL

Leading Edge I - Removal/Installation

Figure 401



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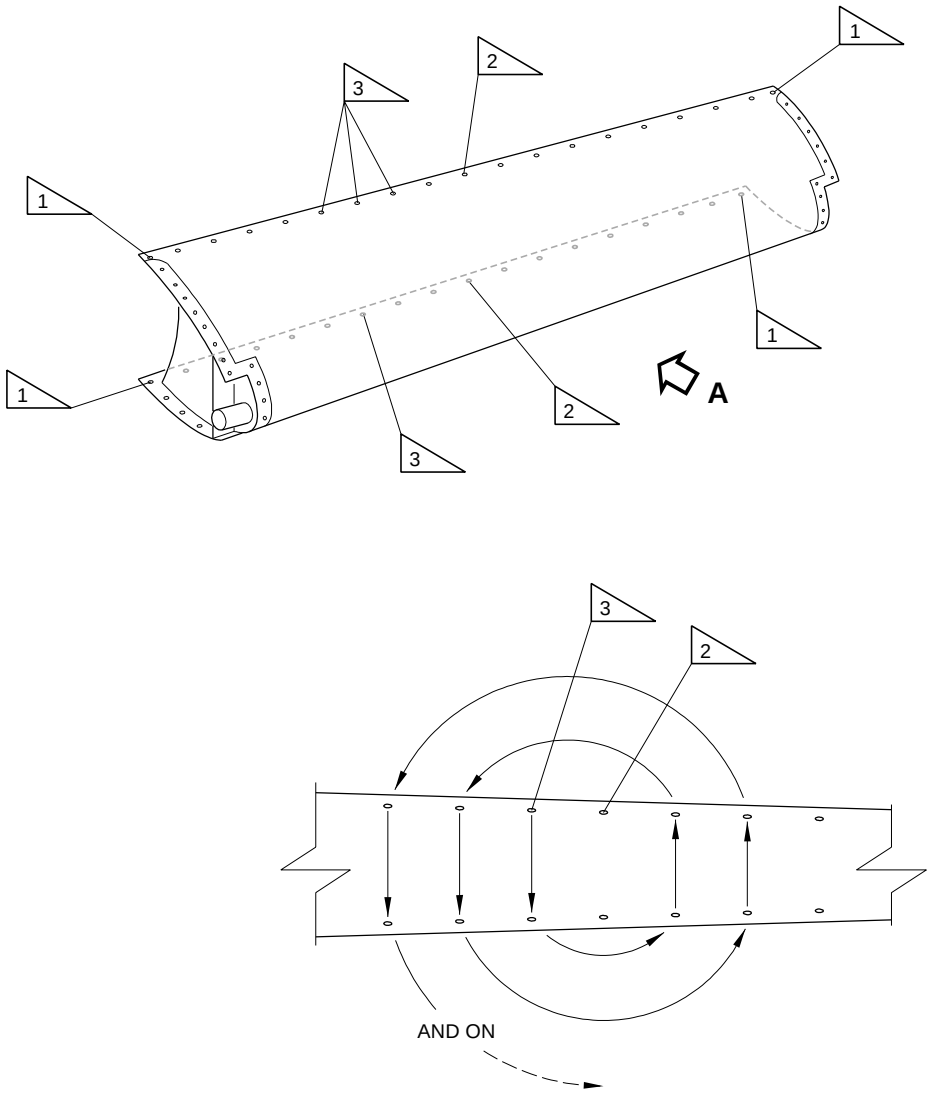
EFFECTIVITY: ALL
Screws Tightening Sequence
Figure 402



VIEW A

1 FIRST INSTALL THE SCREWS ON THESE CORNERS

2 SECONDLY INSTALL THE SCREWS ON THE CENTER POSITION

3 INSTALL THE REMAINING SCREWS FROM THE CENTER POSITION TO THE LEADING EDGE BORDERS, ALTERNATING BETWEEN THE UPPER RIVETING AND THE LOWER RIVETING ROW. REFER TO VIEW A FOR TIGHTENING SEQUENCE

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TASK 57-41-00-400-801-A
EFFECTIVITY: ALL

3. LEADING EDGE I - INSTALLATION

A. General

(1) This procedure gives the instructions to install wing leading edge I.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 30-00-00-700-802-A/500	ANTI-ICING SYSTEM - OPERATIONAL TEST
IPC 30-13-00	CENTER FUSLG THERMAL ANTI-ICING SYSTEM
IPC 57-41-00	LEADING EDGE I
SRM 51-20-01	-

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
511		LH wing
611		RH wing

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Workstand	To get access to the work area	
Commercially available	Torque wrench	To tighten the screws	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Protective Gloves	For protection of technician's hands	1
Commercially available	Safety Goggles	For protection of technician's eyes	1

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
MEP 09-083	Sealant, PR 2050 B-1/2	AR
MEP 09-045	Sealant, RTV 157	AR

(Continued)

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
MEP 09-075	Corrosion-Inhibiting Compound (COR-BAN 27L)	AR

G. Expendable Parts

ITEM	*IPC REFERENCE (VENDOR REFERENCE)*	*QTY*
MS20995C20 - Lockwire	IPC 57-41-00	AR
O-ring	IPC 30-13-00	AR

H. Persons Recommended

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

I. Installation (Figure 401) (Figure 402)

SUBTASK 420-002-A

(1) Put leading edge I (7) on the spar of the wing.

WARNING: COR-BAN 27L IS TOXIC TO SKIN, EYES, AND RESPIRATORY INHALATION. USE PVC GLOVES AND EYE PROTECTION GOGGLES. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURER'S HEALTH AND SAFETY INSTRUCTIONS.

(2) Apply COR-BAN 27L to the screws (1) and (2).

(3) Install the screws (2) (140 positions) in the sequence shown in the (Figure 402).

(4) Install the screws (1) (21 positions) in this sequence: one in the upper position and the other in the lower position of each edge, and always tighten from the upper screw to the lower screw in each edge.

(5) Connect the duct (12) to the piccolo tube with the Gamah joint (10), sleeve (11), and two new O-rings (8).

(6) Safety the Gamah joint (10) with lockwire.

(7) Connect the tube (9) to the piccolo tube.

(8) Connect the end of the piccolo tube of leading edge I (7) to the end of the piccolo tube of leading edge II (4) as follows:

CAUTION: BE CAREFUL WHEN YOU MOVE THE COUPLING (3) ON THE PICCOLO TUBE TO PREVENT DAMAGE TO THE SEAL DEVICE IN THE COUPLING AND TO THE PICCOLO TUBE ENDS.

(a) Push the coupling (3) and connect it to the piccolo tube of leading edge II (4).

NOTE: Make sure that the slot of the coupling (3) is correctly engaged on the guide pin of the piccolo tube. Refer to (Figure 401); DET. D.

(b) Tighten the clamp of the coupling (3).

(9) Install the gasket in the region of the splice.

WARNING: COR-BAN 27L IS TOXIC TO SKIN, EYES, AND RESPIRATORY INHALATION. USE PVC GLOVES AND EYE PROTECTION GOGGLES. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURER'S HEALTH AND SAFETY INSTRUCTIONS.

(10) Apply COR-BAN 27L to the screws (5) (64 positions) of the splice.

(11) Install the splice (6) with the screws (5).

J. Follow-on

SUBTASK 842-002-A

(1) There are different methods to do the aerodynamic sealing along the gaps between the leading edge and wing and between the leading edge and the wing-to-fuselage fairing. Refer to (Figure 401); DET. B). Use the applicable procedure as necessary.

(a) Full sealant-curing time:

1 Apply sealant PR 2050 B-1/2.

NOTE: The sealant curing time will change with the environmental conditions (SRM 51-20-01).

(b) Acceleration of sealant curing time with heating:

1 Apply sealant PR 2050 B-1/2.

2 Wait for one hour after the sealant is applied.

CAUTION: THE TEMPERATURE MUST NOT BE HIGHER THAN 55°C (131°F).

3 Heat the area which received the sealant.

NOTE: Sealant curing time versus temperature rate changes as shown in the Sealant Specification Table (SRM 51-20-01).

(c) Application of aluminum tape after tack-free time.

NOTE: This procedure must only be done when a faster aircraft clearance is necessary.

1 Apply sealant PR 2050 B-1/2.

2 You can accelerate the sealant curing time as written in paragraph (b).

3 After the sealant is tack-free, apply aluminum tape.

NOTE: You can operate the aircraft immediately after the aluminum tape is applied.

4 Remove the aluminum tape after 150 hours.

(d) Application of polyethylene film and aluminum tape.

1 Apply sealant PR 2050 B-1/2.

2 Apply a polyethylene film on the sealant.

3 Apply the aluminum tape.

NOTE: You can operate the aircraft immediately after the aluminum tape application.

4 Remove the aluminum tape after 10 days.

CAUTION: BE CAREFUL WHEN YOU APPLY SEALANT ALONG THE CONTOUR OF THE FAIRING (6) TO PREVENT BLOCKAGE OF ITS DRAIN HOLE.

(2) Apply aerodynamic sealant RTV 157 along the gaps between the splice (6) and the leading edges. Refer to (Figure 401); DET. E.

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

(4) Do an operational test of the wing thermal anti-icing system (AMM TASK 30-00-00-700-802-A/500).

(5) Install access panels 191EL and 191FR (AMM MPP 06-41-01/100).