



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

AIRCRAFT MAINTENANCE SAFETY PROCEDURES - MAINTENANCE PRACTICES

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to configure the aircraft before the maintenance and to restore it after the maintenance.
- B. For short maintenance procedures you can use the ramp or other approved areas. But, for long maintenance procedures, you can put the aircraft inside a hangar.
- 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
20-00-00-910-801-A	AIRCRAFT SAFE PROCEDURES FOR MAINTENANCE SERVICES - MAINTENANCE PRACTICES	ALL



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AIRCRAFT
MAINTENANCE MANUAL

TASK 20-00-00-910-801-A

EFFECTIVITY: ALL

2. AIRCRAFT SAFE PROCEDURES FOR MAINTENANCE SERVICES - MAINTENANCE PRACTICES

A. General

- (1) This task gives the usual safety procedures for the aircraft maintenance.

B. References

REFERENCE	DESIGNATION
AMM MPP 71-00-00/200	- MAINTENANCE PRACTICES
AMM TASK 20-40-00-910-801-A/200	ELECTROSTATIC DISCHARGE (ESD) - STANDARD PRACTICES
AMM TASK 21-31-07-000-801-A/400	STATIC PORT - REMOVAL
AMM TASK 21-31-07-400-801-A/400	STATIC PORT - INSTALLATION
AMM TASK 27-36-01-000-801-A/400	ANGLE OF ATTACK (AOA) SENSOR - REMOVAL
AMM TASK 27-36-01-400-801-A/400	ANGLE OF ATTACK (AOA) SENSOR - INSTALLATION
AMM TASK 27-51-00-700-801-A/500	FLAP CONTROL SYSTEM - OPERATIONAL CHECK
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 30-80-01-000-801-A/400	ICE DETECTOR - REMOVAL
AMM TASK 30-80-01-400-801-A/400	ICE DETECTOR - INSTALLATION
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 34-13-01-000-801-A/400	PITOT SENSOR - REMOVAL
AMM TASK 34-13-01-400-801-A/400	PITOT SENSOR - INSTALLATION
AMM TASK 34-15-03-000-801-A/400	TOTAL-AIR-TEMPERATURE (TAT) SENSOR - REMOVAL
AMM TASK 34-15-03-400-801-A/400	TOTAL-AIR-TEMPERATURE (TAT) SENSOR - INSTALLATION
SB 145-32-0036	-
WM 20-21-00	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 011	Ice detector cover	To protect the sensor	
GSE 012	Wheel chock	To install chocks to the aircraft	
GSE 284	Cover, Total Temperature Sensor	To protect the sensor	
GSE 286	Cover, Pitot	To protect the sensor	
GSE 288	Plug-Protection, Static Port	To protect the sensor	

- 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 aircraft

- I. Circuit Brakers
Not applicable.
- J. Ramp Maintenance Procedures

(1) For the ramp maintenance procedure, do as follows:

WARNING: DURING THE INSTALLATION OF THE LG SAFETY PIN, PREVENT SUDDEN AND STRONG MOVEMENTS OF THE AUXILIARY BRACE STRUT. THIS CAN CAUSE AN ACCIDENTAL UNLOCKING OF THE LANDING GEAR, WITH SUBSEQUENT INJURIES TO PERSONNEL AND DAMAGE TO AIRCRAFT.

- (a) Install the LG safety pin in the main and nose landing gear ([AMM TASK 32-00-01-910-801-A/200](#)).
- (b) Put the chocks GSE 012 against the landing gear wheels. Refer to [Figure 201](#).

CAUTION: IF THE BRAKES ARE TOO HOT, WAIT UNTIL THEY ARE COOL TO SET THE PARKING BRAKE; OTHERWISE THE BRAKE DISCS CAN BOND TOGETHER.

- (c) Set the emergency/parking brake to the PARKING position.

NOTE: To prevent freezing of the brakes, do not apply the parking brakes in cold weather conditions.

CAUTION: THE RELATED MODULE OR UNIT, CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) ITEMS. OBEY THE APPROVED INDUSTRY PRECAUTIONS WHEN YOU REMOVE, INSERT PARTS OR ASSEMBLIES. DAMAGE CAN OCCUR FROM ELECTROSTATIC DISCHARGE.

- (d) When you work with electronic equipment, obey the ESD rules. Refer to ([AMM TASK 20-40-00-910-801-A/200](#)).
- (e) When you work on or around the EWIS components, do the following procedure:
 - WM 20-21-00, Preventive Maintenance for EWIS - (Protection and Caution Recommendations).

NOTE: You must do these procedures, to obey the "Protect and Clean As You Go" philosophy.

WARNING: MAKE SURE THAT THE PITOT SENSORS, STATIC PORTS, TAT SENSORS, AOA SENSORS AND ICE DETECTOR HEATERS ARE SET TO OFF AND ARE COLD. TAKE CARE NOT TO TOUCH THESE COMPONENTS WHEN THEY ARE HOT. IF YOU TOUCH THEM, THEY WILL CAUSE INJURY TO YOU.

CAUTION: MAKE SURE THAT THE PITOT SENSORS, STATIC PORTS, TAT SENSORS, AOA SENSORS AND ICE DETECTOR HEATERS ARE SET TO OFF AND ARE COLD BEFORE YOU PUT COVERS ON THEM. IF PROTECTIVE COVERS ARE INSTALLED AND YOU NEED TO PERFORM TESTS THAT SIMULATE "IN-FLIGHT CONDITIONS" OR SITUATIONS IN WHICH THE HEATING CAN BE TURNED ON, THESE COVERS MUST BE REMOVED TO PREVENT DAMAGE TO THEM.

- (f) If necessary to open the circuit breakers of these components, do as follows:
 - 1 Pitot sensors. Refer to ([AMM TASK 34-13-01-000-801-A/400](#)).
 - 2 Static ports. Refer to ([AMM TASK 21-31-07-000-801-A/400](#)).
 - 3 Total-air-temperature (TAT) sensors. Refer to ([AMM TASK 34-15-03-000-801-A/400](#)).
 - 4 Ice detectors. Refer to ([AMM TASK 30-80-01-000-801-A/400](#)).
 - 5 Angle of attack (AOA) sensors. Refer to ([AMM TASK 27-36-01-000-801-A/400](#)).
- (g) Keep the area around the aircraft free from residues, grease, oil, and fuel.
- (h) Use correct containers to collect/drain fluids.
- (i) Use approved platforms to get access to the aircraft.

K. Hangar Maintenance Procedures

- (1) For the hangar maintenance procedure, do as follows:

WARNING: MAKE SURE THAT THE DOOR BARRIER STRAP IS INSTALLED WHEN NO WORKSTAND IS PUT BELOW THE DOOR. IF THE BARRIER STRAP IS NOT INSTALLED, A PERSON CAN FALL FROM THE AIRCRAFT AND INJURIES CAN OCCUR TO HIM OR HER.

- (a) Install the door barrier strap when no workstand put below the door.
- (b) For aircraft PRE-MOD SB 145-32-0036, make sure that the pressure in hydraulic system 1 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (c) For aircraft POST-MOD SB 145-32-0036, install the safety pin of the NLG doors solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).

WARNING: DURING THE INSTALLATION OF THE LG SAFETY PIN, PREVENT SUDDEN AND STRONG MOVEMENTS OF THE AUXILIARY BRACE STRUT. THIS CAN CAUSE AN ACCIDENTAL UNLOCKING OF THE LANDING GEAR, WITH SUBSEQUENT INJURIES TO PERSONNEL AND DAMAGE TO THE AIRCRAFT.

- (d) Install the LG safety pin in the main and nose landing gear ([AMM TASK 32-00-01-910-801-A/200](#)).

- (e) Put the chocks GSE 012 against the landing gear wheels. Refer to [Figure 201](#).

CAUTION: IF THE BRAKES ARE TOO HOT, WAIT UNTIL THEY ARE COOL TO SET THE PARKING BRAKE; OTHERWISE THE BRAKE DISCS CAN BOND TOGETHER.

- (f) Set the emergency/parking brake to the PARKING position.

NOTE: To prevent freezing of the brakes, do not apply the parking brakes in cold weather conditions.

CAUTION: THE MODULE OR UNIT CONTAIN ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) ITEMS. OBEY THE APPROVED INDUSTRY PRECAUTIONS WHEN YOU REMOVE, INSERT PARTS OR ASSEMBLIES. DAMAGE CAN OCCUR FROM ELECTROSTATIC DISCHARGE.

- (g) When you work with electronic equipment, obey the ESD rules. Refer to ([AMM TASK 20-40-00-910-801-A/200](#)).

- (h) When you work on or around the EWIS components, do the following procedure:

- WM 20-21-00, Preventive Maintenance for EWIS - (Protection and Caution Recommendations).

NOTE: You must do these procedures to obey the "Protect and Clean As You Go" philosophy.

- (i) Open the circuit breakers of pitot sensors. Refer to ([AMM TASK 34-13-01-000-801-A/400](#)).

- (j) Open the circuit breakers of static ports. Refer to ([AMM TASK 21-31-07-000-801-A/400](#)).

- (k) Open the circuit breakers of total-air-temperature (TAT) sensors. Refer to ([AMM TASK 34-15-03-000-801-A/400](#)).

- (l) Open the circuit breakers of ice detectors. Refer to ([AMM TASK 30-80-01-000-801-A/400](#)).

- (m) Open the circuit breakers of angle of attack (AOA) sensors. Refer to ([AMM TASK 27-36-01-000-801-A/400](#)).

- (n) Make sure that the flaps are retracted ([AMM TASK 27-51-00-700-801-A/500](#)).

WARNING: MAKE SURE THAT THE FLIGHT-CONTROL SAFETY LOCKS AND THE WARNING NOTICES ARE IN POSITION. THIS IS TO PREVENT AN ACCIDENTAL COMMAND OF THE FLIGHT CONTROL SURFACES AND INJURY TO PERSONS.

- (o) Put a warning notice in the cockpit to tell persons not to operate the aircraft controls.

WARNING: MAKE SURE THAT THE PITOT SENSORS, STATIC PORTS, TAT SENSORS, AOA SENSORS AND ICE DETECTOR HEATERS ARE SET TO OFF AND ARE COLD. TAKE CARE NOT TO TOUCH THESE COMPONENTS WHEN THEY ARE HOT. IF YOU TOUCH THEM, THEY WILL CAUSE INJURY TO YOU.

CAUTION: MAKE SURE THAT THE PITOT SENSORS, STATIC PORTS, TAT SENSORS, AOA SENSORS AND ICE DETECTOR HEATERS ARE SET TO OFF AND ARE COLD BEFORE YOU PUT COVERS ON THEM. IF PROTECTIVE COVERS ARE INSTALLED AND YOU NEED TO PERFORM TESTS THAT SIMULATE "IN-FLIGHT CONDITIONS" OR SITUATIONS IN WHICH THE HEATING CAN BE TURNED ON, THESE COVERS MUST BE REMOVED TO PREVENT DAMAGE TO THEM.

- (p) Put the covers on the pitot sensors (GSE 286), static ports (GSE 288), total-air-temperature (TAT) sensors (GSE 284), ice detectors (GSE 011). Refer to [Figure 202](#).
- (q) To prevent damage, circulation areas outside the work place must be available for persons who are not included in the maintenance procedures. Refer to [Figure 201](#).
- (r) If possible, do the maintenance procedures in an isolated area. Let a radius of at least 3 meters from other aircraft.
- (s) Keep the area around the aircraft free from residues, grease, oil, and fuel.
- (t) Use correct containers to collect/drain fluids.
- (u) Use approved platforms to get access to the aircraft.

WARNING: MAKE SURE THAT THERE ARE NO PERSONS OR EQUIPMENT IN THE LANDING GEAR COMPARTMENT.

- (v) Put protection fence or guards around the applicable area during retraction or extension of the landing gear.
- (w) If during the maintenance procedures an engine run-up is necessary, obey the safety precautions as given in the ([AMM MPP 71-00-00/200](#)).
- (x) Put "NO SMOKING" placards around the maintenance area. Refer to [Figure 201](#).

L. Aircraft Restoration Procedures for Maintenance Services - Maintenance Practices

- (1) To restore the aircraft after ramp maintenance procedure, do as follows:
 - (a) Remove the platforms, safety devices, tools, other equipment and unwanted materials from the work area.
 - (b) Remove the items used for the EWIS components protection.

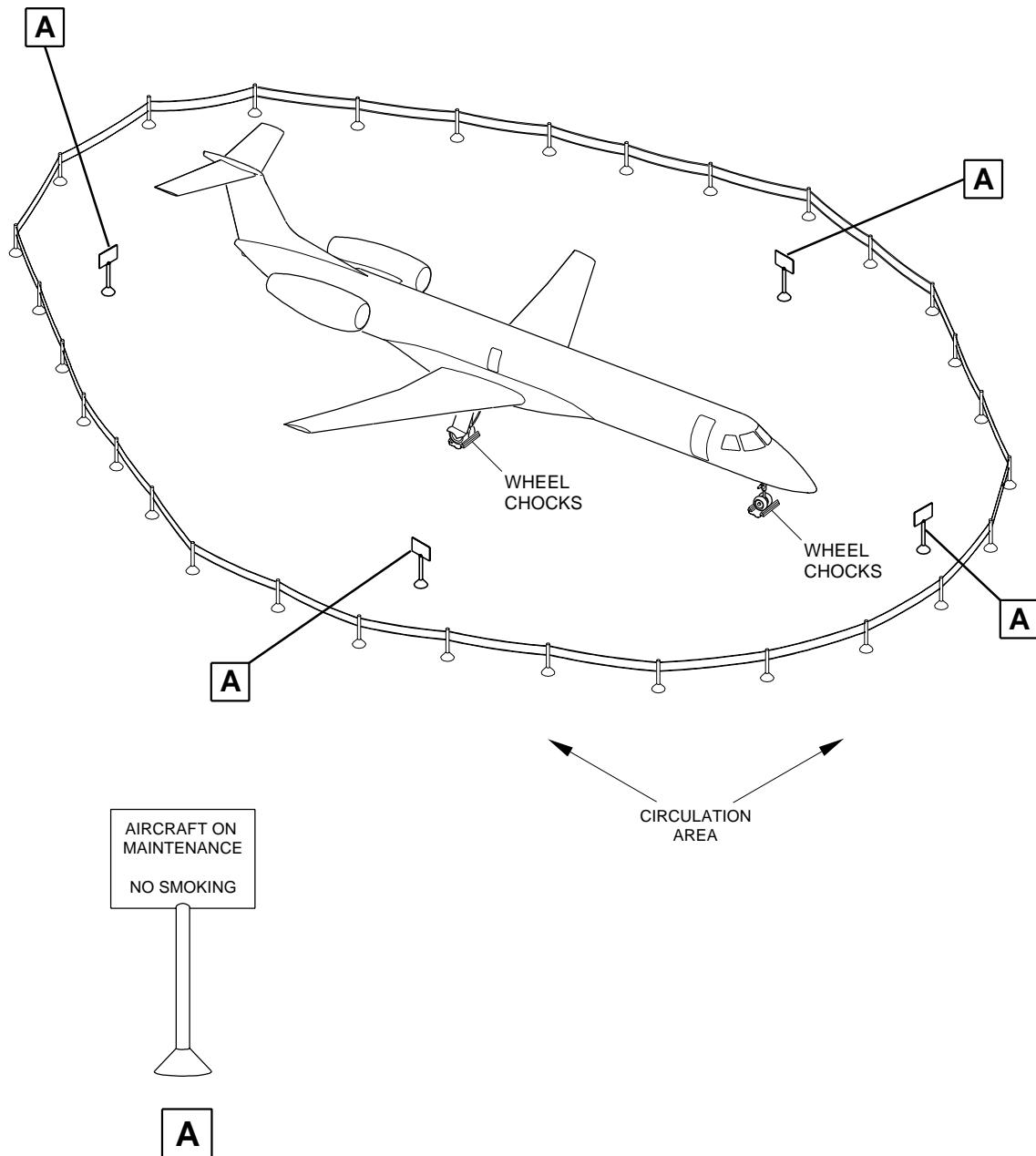
NOTE: • After you finish the maintenance activities, make sure that there is no sign of contamination in the EWIS components. If contamination is found, refer to WM 20-21-00, Harness Cleaning Procedure.
• You must do these procedures to obey the "Protect and Clean As You Go" philosophy.

- (c) Close the circuit breakers below, if they were opened:
- 1 Pitot sensors. Refer to ([AMM TASK 34-13-01-400-801-A/400](#)).
 - 2 Static ports. Refer to ([AMM TASK 21-31-07-400-801-A/400](#)).
 - 3 Total-air-temperature (TAT) sensors. Refer to ([AMM TASK 34-15-03-400-801-A/400](#)).
 - 4 Ice detectors. Refer to ([AMM TASK 30-80-01-400-801-A/400](#)).
 - 5 Angle of attack (AOA) sensors. Refer to ([AMM TASK 27-36-01-400-801-A/400](#)).
- (d) Remove the safety pins from the landing gear ([AMM TASK 32-00-01-910-801-A/200](#)).
- (2) To restore the aircraft after the hangar maintenance procedure, do as follows:
- (a) Remove the warning notice in the cockpit that tells persons not to operate the aircraft controls.
 - (b) Remove the covers from the pitot sensors (GSE 286), static ports (GSE 288), total-air-temperature (TAT) sensors (GSE 284) and ice detectors (GSE 011). Refer to [Figure 202](#).
 - (c) Close the circuit breakers of pitot sensors. Refer to ([AMM TASK 34-13-01-400-801-A/400](#)).
 - (d) Close the circuit breakers of static ports. Refer to ([AMM TASK 21-31-07-400-801-A/400](#)).
 - (e) Close the circuit breakers of total-air-temperature (TAT) sensors. Refer to ([AMM TASK 34-15-03-400-801-A/400](#)).
 - (f) Close the circuit breakers of ice detectors. Refer to ([AMM TASK 30-80-01-400-801-A/400](#)).
 - (g) Close the circuit breakers of angle of attack (AOA) sensors. Refer to ([AMM TASK 27-36-01-400-801-A/400](#)).
 - (h) Remove the platforms, safety devices, tools, placards, and other equipment and unwanted materials from the work area.
 - (i) Remove the items used for the EWIS components protection.
- NOTE:** • After you finish the maintenance activities, make sure that there is no sign of contamination in the EWIS components. If contamination is found, refer to WM 20-21-00, Harness Cleaning Procedure.
- You must do these procedures to obey the "Protect and Clean As You Go" philosophy.
- (j) For aircraft POST-MOD SB 145-32-0036, remove the safety pin from the NLG doors solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).
- (k) Remove the safety pins from the landing gear ([AMM TASK 32-00-01-910-801-A/200](#)).

EFFECTIVITY: ALL

Aircraft Safe for Maintenance - Maintenance Area

Figure 201

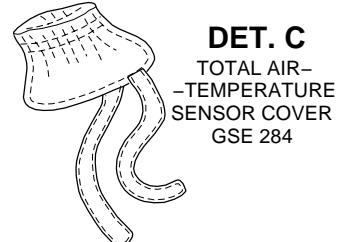
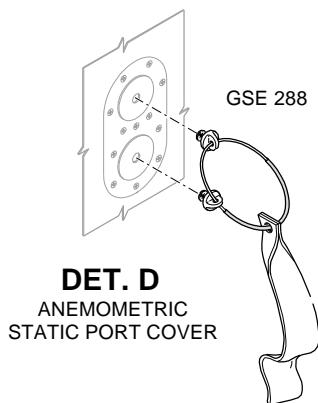
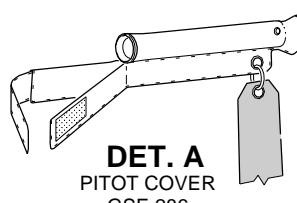
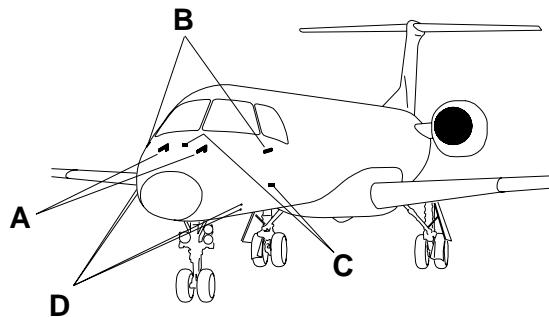


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EFFECTIVITY: ALL

Aircraft Safe for Maintenance - Sensors Cover Location

Figure 202



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