



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

DETECTION - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to do the operational check of the ice detection 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
30-80-00-700-801-A	ICE DETECTION SYSTEM - OPERATION- ALL TEST	



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TASK 30-80-00-700-801-A

EFFECTIVITY: ALL

2. ICE DETECTION SYSTEM - OPERATIONAL TEST

A. General

- (1) The function of this check is to make sure that the ice detection system operates correctly.

B. References

REFERENCE	DESIGNATION
AMM SDS 24-60-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
SB145-31-0054	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
-	Freeze spray	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

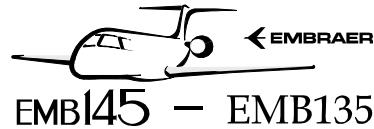
QTY	FUNCTION	PLACE
1	A - Does the task	Cockpit
1	B - Helps technician A	Outside the aircraft

I. Preparation

SUBTASK 841-002-A

NOTE: Do not operate the APU and engines.

- (1) Energize the aircraft with the External DC-Power Supply ( [AMM TASK 20-40-01-860-801-A/200](#)).



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J. Test Procedures ([Figure 501](#)) ([Figure 502](#))

SUBTASK 710-002-A

- (1) Do the check as follows:

**CAUTION:** DO NOT HOLD THE ICE DETECTION/TEST SWITCH AT 1 OR 2 POSITIONS FOR MORE THAN 10 SECONDS.

- (a) Set the ICE DETECTION/TEST switch, on the overhead panel, to 1 and hold it.  
Result:  
1 The EICAS display shows the ICE CONDITION advisory message and the ICE DET 1 FAIL caution message.  
2 The master CAUTION lights flash.
- (b) Push a master CAUTION light.  
Result:  
1 The master CAUTION lights go off.
- (c) Release the ICE DETECTION/TEST switch.  
Result:  
1 On the EICAS display, the ICE CONDITION advisory message and the ICE DET 1 FAIL caution message go out of view.
- (d) Set the ICE DETECTION/TEST switch, on the overhead panel, to 2 and hold it.  
Result:  
1 The EICAS display shows the ICE CONDITION advisory message and the ICE DET 2 FAIL caution message.  
2 The master CAUTION lights flash.
- (e) Push a master CAUTION light.  
Result:  
1 The master CAUTION lights go off.
- (f) Release the ICE DETECTION/TEST switch.  
Result:  
1 On the EICAS display, the ICE CONDITION advisory message and the ICE DET 2 FAIL caution message go out of view.
- (g) Open the ICE DETECTOR 1 circuit breaker, on the LH electrical-power control/distribution box ([AMM SDS 24-60-00/1](#)).  
Result:  
1 The EICAS display shows the ICE DET 1 FAIL caution message.  
2 The master CAUTION lights flash.
- (h) Push a master CAUTION light.  
Result:  
1 The master CAUTION lights go off.
- (i) Close the ICE DETECTOR 1 circuit breaker.  
Result:  
1 On the EICAS display, the ICE DET 1 FAIL caution message goes out of view.

- 2 The EICAS display shows the ICE CONDITION advisory message and then it goes out of view.
- (j) Open the ICE DETECTOR 2 circuit breaker, on the RH electrical-power control/distribution box ([AMM SDS 24-60-00/1](#)).
- Result:
- 1 The EICAS display shows the ICE DET 2 FAIL caution message.
  - 2 The master CAUTION lights flash.
- (k) Push a master CAUTION light.
- Result:
- 1 The master CAUTION lights go off.
- (l) Close the ICE DETECTOR 2 circuit breaker.
- Result:
- 1 On the EICAS display, the ICE DET 2 FAIL caution message goes out of view.
  - 2 The EICAS display shows the ICE CONDITION advisory message and then it goes out of view.
- (m) Open the ICE DETECTOR 1 circuit breaker, on the LH electrical-power control/distribution box, and open the ICE DETECTOR 2 circuit breaker, on the RH electrical-power control/distribution box ([AMM SDS 24-60-00/1](#)).
- Result:
- 1 The EICAS display shows the ICE DET 1-2 FAIL caution message.
  - 2 The EICAS display shows the ICE DETECTORS FAIL caution.
  - 3 The master CAUTION lights flash.
- (n) Push a master CAUTION light.
- Result:
- 1 The master CAUTION lights go off.
- (o) Close the ICE DETECTOR 1 and the ICE DETECTOR 2 circuit breakers ([AMM SDS 24-60-00/1](#)).
- Result:
- 1 On the EICAS display, the ICE DETECTORS FAIL and ICE DET 1-2 FAIL caution messages go out of view.
  - 2 On the EICAS display, the ICE CONDITION advisory message comes into view and then goes out of view.

**WARNING:** • BE CAREFUL WHILE YOU DO THE TEST ON THE ICE DETECTOR PROBES BECAUSE THEY WILL HAVE THEIR INTERNAL HEATERS STARTED AS SOON AS A MASS ON THE PROBES IS SENSED. DO NOT TOUCH THE PROBE, EXCEPT AS INDICATED IN STEPS M AND N.

• DO NOT TOUCH THE ICE DETECTOR PROBE FOR MORE THAN 3 SECONDS. IF YOU TOUCH THE PROBE FOR MORE THAN 3 SECONDS, IT WILL CAUSE INJURY TO YOU.

**CAUTION:** DO NOT USE TOOLS TO TOUCH THE ICE DETECTOR PROBES. IF YOU USE TOOLS, YOU CAN CAUSE DAMAGE TO THE PROBES.

- (p) (For spray procedure) First apply Freeze Spray (2) to the ICE DETECTOR 1 probe, then spray water (3) ([Figure 502](#)).

Result:

- 1 The EICAS display shows:

- The ICE CONDITION advisory message.
- (PRE-MOD. [SB145-31-0054](#)) The ICE COND - A/I INOP warning message. After approximately 60 seconds.

- 2 The two messages go out of view.

- (q) Push a master WARNING light.

Result:

- 1 The master WARNING lights go off.

- (r) (For hand procedure) With bare fingers, firmly hold the ICE DETECTOR 1 probe, for approximately 3 seconds ([Figure 502](#)).

Result:

- 1 The EICAS display shows:

- The ICE CONDITION advisory message.
- (PRE-MOD. [SB145-31-0054](#)) The ICE COND - A/I INOP warning message. After approximately 60 seconds.

- 2 The two messages go out of view.

- (s) Push a master WARNING light.

Result:

- 1 The master WARNING lights go off.

**WARNING:** DO NOT TOUCH THE ICE DETECTOR PROBE FOR MORE THAN 3 SECONDS. IF YOU TOUCH THE PROBE FOR MORE THAN 3 SECONDS, IT WILL CAUSE INJURY TO YOU.

**CAUTION:** DO NOT USE TOOLS TO TOUCH THE ICE DETECTOR PROBES. IF YOU USE TOOLS, YOU CAN CAUSE DAMAGE TO THE PROBES.

- (t) (For spray procedure) First apply Freeze Spray (2) to the ICE DETECTOR 2 probe, then spray water (3) ([Figure 502](#)).

Result:

- 1 The EICAS display shows:

- The ICE CONDITION advisory message.
- (PRE-MOD. [SB145-31-0054](#)) The ICE COND - A/I INOP warning message. After approximately 60 seconds.

- 2 The two messages go out of view.

- (u) Push a master WARNING light.

Result:

- 1 The master WARNING lights go off.



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- (v) (For hand procedure) With bare fingers, firmly hold the ICE DETECTOR 2 probe, for approximately 3 seconds ([Figure 502](#)).

Result:

- 1 The EICAS display shows:

- The ICE CONDITION advisory message.
- (PRE-MOD. [SB145-31-0054](#)) The ICE COND - A/I INOP warning message. After approximately 60 seconds.

- 2 The two messages go out of view.

- (w) Push a master WARNING light.

Result:

- 1 The master WARNING lights go off.

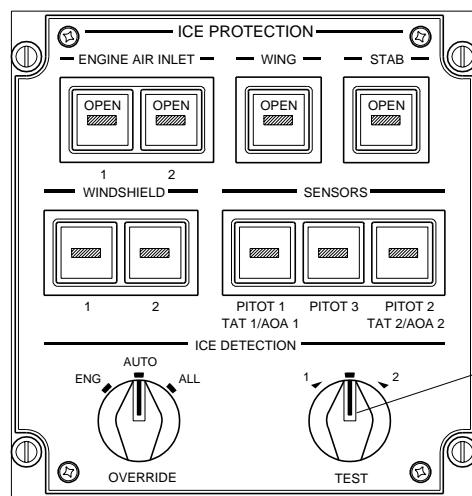
K. Follow-on

SUBTASK 842-002-A

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

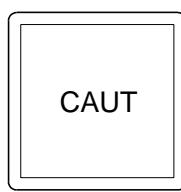
**EFFECTIVITY: ALL**

Ice Detection System - Operational Test  
Figure 501



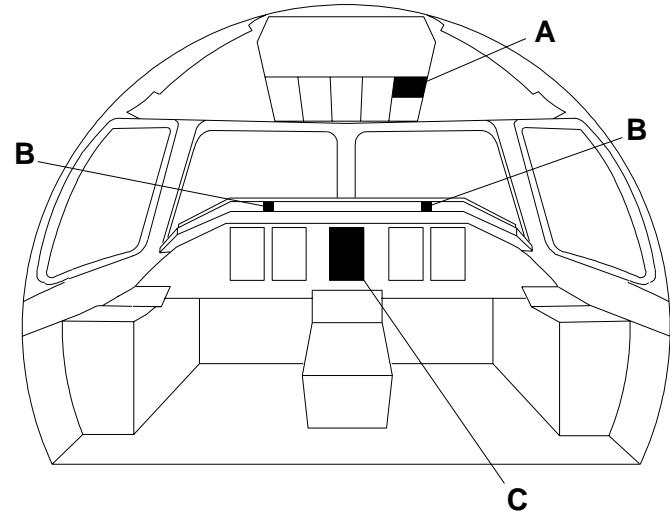
**DET. A**

ICE PROTECTION PANEL

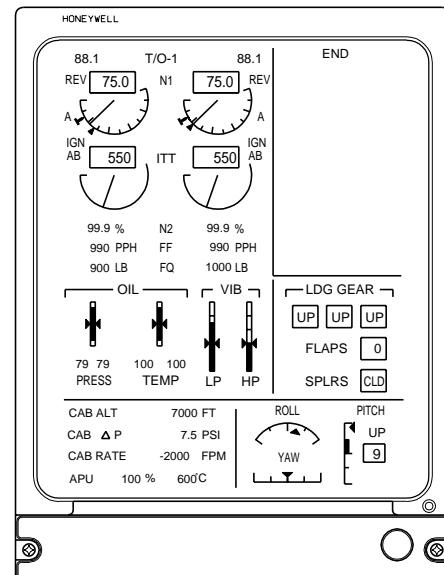


**DET. B**

MASTER CAUTION  
LIGHT



ICE DETECTION/  
TEST SWITCH



**DET. C**

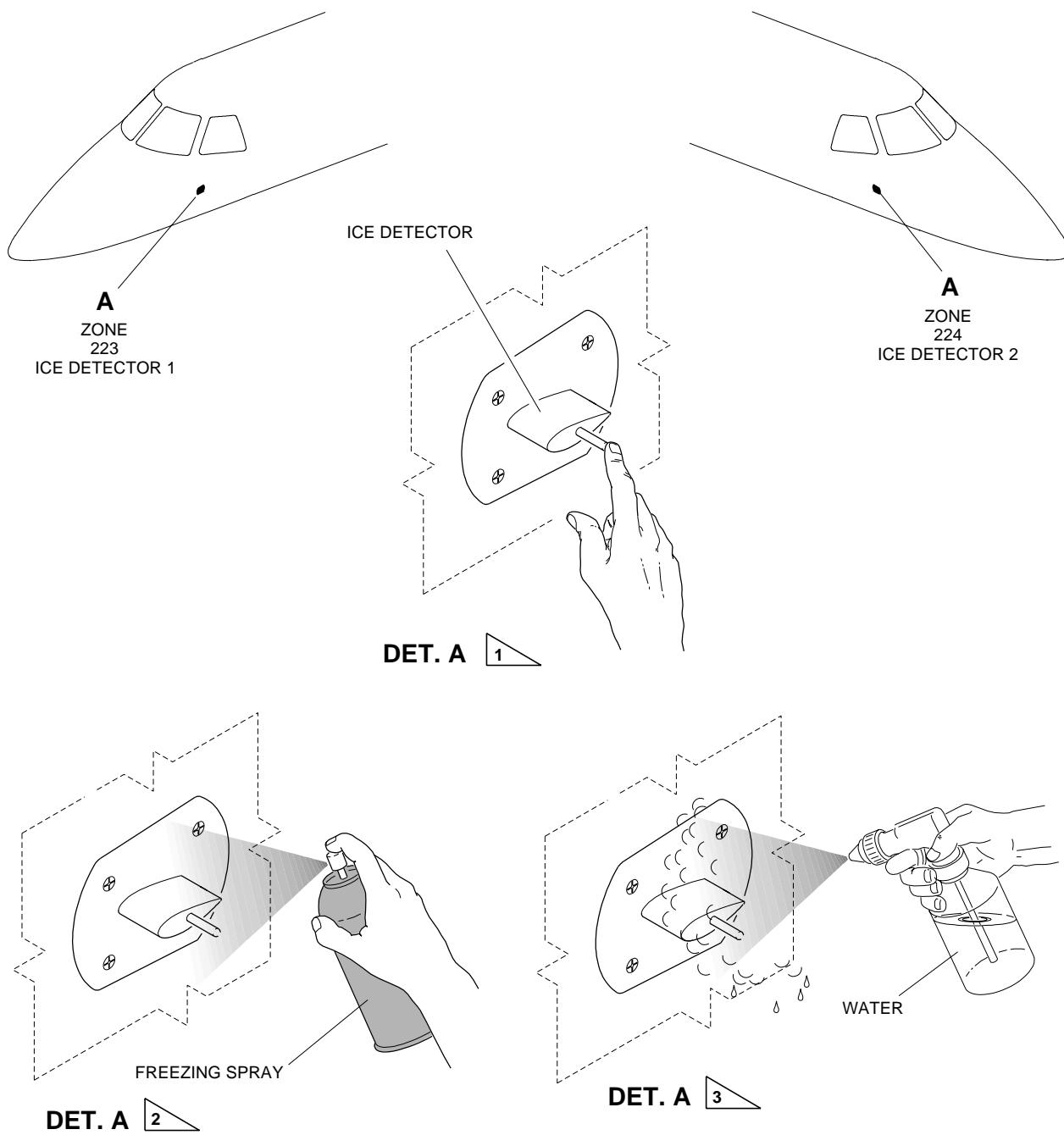
EICAS DISPLAY

145AMM300006.MCE A

**EFFECTIVITY: ALL**

Ice Detection System - Finger Check

Figure 502



**1** HAND PROCEDURE.

**2** SPRAY PROCEDURE, STEP 1.

**3** SPRAY PROCEDURE, STEP 2.

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