



AIRCRAFT
MAINTENANCE MANUAL

TAT SENSOR HEATING - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to do the operational check of the TAT sensor heating.
- 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
30-33-00-700-801-A ♦	TAT SENSOR HEATING - OPERATIONAL CHECK	ALL



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 30-33-00-700-801-A

EFFECTIVITY: ALL

2. TAT SENSOR HEATING - OPERATIONAL CHECK

A. General

- (1) The function of this check is to make sure that the heating of the TAT sensors operates correctly.

B. References

REFERENCE	DESIGNATION
AMM SDS 24-60-00/1	
AMM SDS 27-36-00/1	
AMM SDS 32-63-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
S.B.145-30-0028	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
213		LH forward fuselage
123		LH forward fuselage
223	223LZ	Cockpit

D. Tools and Equipment

Not Applicable

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	Cockpit
1	Does the task	LH/RH forward fuselage

I. Preparation

SUBTASK 841-002-A

- (1) Energize the aircraft with the external DC-power supply ([AMM TASK 20-40-01-860-801-A/200](#)).

J. Operationally Check TAT Sensor Heating ([Figure 501](#))

SUBTASK 710-002-A

WARNING: • ISOLATE THE TEST AREA AND IDENTIFY IT TO PREVENT INJURY TO THE MAINTENANCE PERSONS.

- DURING TEST, THESE ITEMS BECOME HOT AND AFTER THE AIRCRAFT LANDING THESE ITEMS ARE HOT:
 - PITOT SENSORS.
 - PITOT/STATIC SENSOR.
 - ANEMOMETRIC STATIC PORTS.
 - TAT SENSORS.
 - PRESSURIZATION STATIC PORTS.
 - AOA SENSORS.

DO NOT TOUCH THEM SO AS NOT TO BURN YOURSELF.

CAUTION: DO NOT STOP THIS TASK BEFORE IT IS COMPLETED, BECAUSE THIS CAN DECREASE THE SERVICE LIFE OF THESE COMPONENTS.

- (1) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "Thrust Set" position.
- (2) Do the check as follows:
 - (a) On the panel, set the BATT 1 switch to OFF and make sure that the BATT 2 switch is set to OFF.
 - (b) Make sure that the ENGINE AIR INLET 1 and ENGINE AIR INLET 2 pushbuttons, on the overhead panel, are set to ON.
Result:
 - 1 On the ENGINE AIR INLET 1 and ENGINE AIR INLET 2 pushbuttons, the striped bars are off.
- (c) On the overhead panel, set SENSORS (PITOT 1 - TAT 1/AOA 1, PITOT 3, and PITOT 2 - TAT 2/AOA 2) pushbuttons to ON.
Result:
 - 1 On the SENSORS (PITOT 1 - TAT 1/AOA 1, PITOT 3, and PITOT 2 - TAT 2/AOA 2) pushbuttons, the striped bars are off.
- (d) On the overhead panel, set the OVERRIDE switch to ENG.
- (e) On the circuit breaker panel, open the N2 SIGNAL 1A circuit breaker.
 - N2 SIGNAL 1A (Location Tip: ESSENTIAL DC BUS 1/POWERPLANT/N2 SIGNAL/1A).
Result:
 - 1 The TAT sensor 1 becomes hot.
- (f) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "IDLE" position.
Result:
 - 1 The TAT sensor 1 becomes cool.
 - 2 Make sure that, On the EICAS display, the TAT 1 HEAT INOP caution message does not come into view.
- (g) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "THRUST SET" position.

Result:

1 The TAT sensor 1 becomes hot.

- (h) On the overhead panel, set the ENGINE AIR INLET 1 pushbutton to OFF.

Result:

1 TAT sensor 1 becomes cool.

2 On the ENGINE AIR INLET 1 pushbutton, the striped bar comes on.

- (i) On the circuit breaker panel, open the N2 SIGNAL 2B circuit breaker.

- N2 SIGNAL 2B (Location Tip: ESSENTIAL DC BUS 2/POWERPLANT/N2 SIGNAL/2B).

Result:

1 TAT sensor 2 becomes hot.

- (j) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "IDLE" position.

Result:

1 The TAT sensor 2 becomes cool.

2 Make sure that, On the EICAS display, the TAT 2 HEAT INOP caution message does not come into view.

- (k) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "THRUST SET" position.

Result:

1 The TAT sensor 2 becomes hot.

- (l) On the overhead panel, set the ENGINE AIR INLET 2 pushbutton to OFF.

Result:

1 TAT sensor 2 becomes cool.

2 On the ENGINE AIR INLET 2 pushbutton, the striped bar comes on.

- (m) Set the OVERRIDE switch to AUTO.

- (n) On the overhead circuit breaker panel, open the SENSORS HTG circuit breaker.

- SENSORS HTG (Location Tip: DC BUS 2/ICE AND RAIN PROTECTION/SENSORS HTG).

Result:

1 TAT sensor 1 and TAT sensor 2 become hot.

2 The EICAS display shows the TAT 1-2 HEAT INOP caution messages.

3 The master CAUTION lights flash.

- (o) Push a master CAUTION light.

Result:

1 The master CAUTION lights go off.

NOTE: Make sure that the AOA sensors are in the down position ([AMM SDS 27-36-00/1](#)).

- (p) On the overhead circuit breaker panel, open the AIR/GND A, B, C, and D circuit breakers below.

- AIR/GND A (Location Tip: DC BUS 1/LDG GEAR/AIR/GND A).

- AIR/GND B (Location Tip: ESSENTIAL DC BUS 1/LDG GEAR/AIR/GND B).
- AIR/GND C (Location Tip: DC BUS 2/LDG GEAR/AIR/GND C).
- AIR/GND D (Location Tip: ESSENTIAL DC BUS 2/LDG GEAR/AIR/GND D).

Result:

- 1 TAT sensor 1 and TAT sensor 2 stay hot.
- 2 On the EICAS display, the TAT 1-2 HEAT INOP caution messages go out of view.

- (q) On LH electrical-power control/distribution box, open the HEATING/TAT 1 circuit breaker ([AMM SDS 24-60-00/1](#)).

Result:

- 1 The EICAS display shows the TAT 1 HEAT INOP caution message.
- 2 The master CAUTION lights flash.
- 3 TAT sensor 1 becomes cool.

- (r) Push a master CAUTION light.

Result:

- 1 The master CAUTION lights go off.

- (s) On the RH electrical-power control/distribution box, open the HEATING/TAT 2 circuit breaker ([AMM SDS 24-60-00/1](#)).

Result:

- 1 The EICAS display shows the TAT 1-2 HEAT INOP caution message.
- 2 The master CAUTION lights flash.
- 3 TAT sensor 2 becomes cool.

- (t) Push a master CAUTION light.

Result:

- 1 The master CAUTION lights go off.

CAUTION: WHEN YOU ARE TO CLOSE THE AIR/GND A, B, C, AND D CIRCUIT BREAKERS, THE TIME NECESSARY FOR YOU TO CLOSE ALL THE FOUR CIRCUIT BREAKERS MUST NOT BE MORE THAN 10 SECONDS ([AMM SDS 32-63-00/1](#)).

- (u) Close the AIR/GND A, B, C, and D circuit breakers.

K. Follow-on

SUBTASK 842-002-A

- (1) Close the N2 SIGNAL 1A, N2 SIGNAL 2B and SENSORS HTG circuit breakers.
- (2) Set the ENGINE AIR INLET 1 and ENGINE AIR INLET 2 pushbuttons to ON.
- (3) Close the HEATING/TAT 1 circuit breaker.
- (4) Close the HEATING/TAT 2 circuit breaker.
- (5) On the overhead panel, set the SENSORS (PITOT 1 - TAT 1/AOA 1, PITOT 3, and PITOT 2 - TAT 2/AOA 2) pushbuttons to OFF.



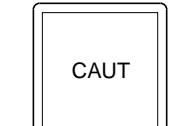
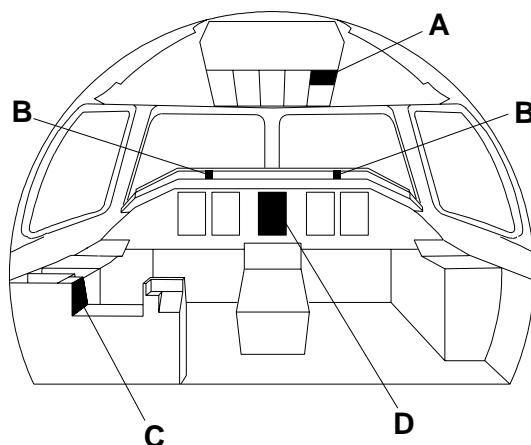
AIRCRAFT MAINTENANCE MANUAL

- (6) For aircraft POST-MOD. [S.B.145-30-0028](#), set the thrust lever to "IDLE" position.
- (7) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

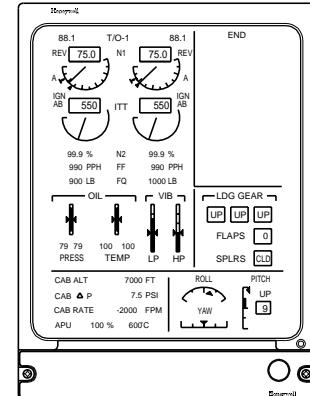
EFFECTIVITY: ALL

TAT Sensor Heating - Operational Check

Figure 501



DET. B
MASTER CAUTION
LIGHT

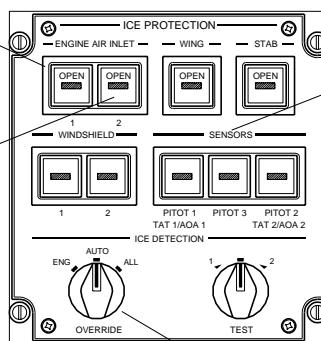


DET. D
EICAS DISPLAY

ENGINE AIR INLET 1
PUSHBUTTON

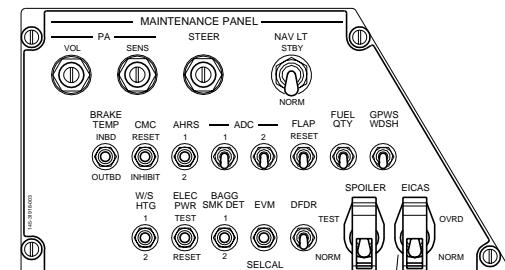
ENGINE AIR INLET 2
PUSHBUTTON

SENSORS
PUSHBUTTONS



DET. A

ICE DETECTION/OVERRIDE
SWITCH



DET. C
MAINTENANCE PANEL

EICAS SWITCH

TAT SENSOR 2

ZONES
123
213

TAT SENSOR 1

145AMM30004.MCE B

