

## 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

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.

- (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



