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SB-GA8-2011-82

Issue 2

OPTIONAL

Service Bulletin

Subject:

Alcor CHT Probe and Extension Cable

Applicability:

This Service Bulletin is applicable to the aircraft identified in Table 1.

Table 1 – Applicability

AIRCRAFT	SERIAL NUMBER(s)
GA8	All
GA8-TC 320	All

Amendments:

1. Initial issue. Ref GAE11#1047.
2. Accomplishment instructions rewritten. Section “Preparation” and “Calibration” added. Ref GAE11#2046.

Background:

This Service Bulletin documents the removal of GA200-772011-13 CHT Probe Assembly and replacement with an Alcor Inc CHT probe.

The existing extension cable is replaced concurrently with an Alcor Inc lead.

Compliance:

The accomplishment instructions contained within this Service Bulletin are optional and may be incorporated at the Operator’s, Owner’s or Maintenance Provider’s discretion.

Weight and Balance:

Negligible effect on weight and balance.

Approval:

This Service Bulletin describes a minor modification and has been approved pursuant to Australian Civil Aviation Safety Regulation 21.095 (1998). GippsAero Reference GAE11#2046.

Parts:

The following parts are required to accomplish this Service Bulletin. A kit P/N SB-GA8-2011-82-01 is available.

Table 2 - Parts

ITEM	PART No.	DESCRIPTION	QTY
1	86251	CHT J Type Thermocouple Probe Bayonet (Alcor Inc)	1
2	42535	Extension Lead 90" (Alcor Inc)	1
3	FIQC 1.25-6.4 DG	Terminal Lug	2

Table 3 – Parts for Local Procurement

ITEM	PART No.	DESCRIPTION	QTY
4	TY075-18-X (or alternative meeting MS3367-5)	Cable tie, black, non release 91mm long	A/R
5	TY075-40-X (or alternative meeting MS3367-6)	Cable tie, black, non release 143mm long	A/R
6	Example: PRC-De Soto PS700	Sealant per MIL-S-38249	A/R

Parts Availability:

New parts can be obtained directly from GippsAero.

Tel.: +61 03 5172 1200

Fax.: +61 03 5172 1201

Email: aircraft.support@mahindraaerospace.com

Special Tools:

A thermocouple calibrator is required where the installed CHT indicator is not an Alcor Inc product. It is recommended that a calibration check is performed when the Alcor Indicator and Extension Lead are combined.

Labour:

2.5 man hours should be allocated for completing the work detailed in this Service Bulletin. This time does not include set up etc.

Warranty:

No aircraft are eligible for warranty claims incorporating this Optional Service Bulletin.

Accomplishment Instructions:

WARNING:

IT IS THE RESPONSIBILITY OF ALL PERSONNEL TO ENSURE WORK HEALTH AND SAFETY REQUIREMENTS ARE MET AT ALL TIMES. ALL PERSONNEL MUST COMPLY WITH ALL WORK HEALTH AND SAFETY REQUIREMENTS AS DEFINED OR RECOMMENDED BY:

- EQUIPMENT OEM INSTALLATION AND OPERATION MANUALS;
- AIRCRAFT MAINTENANCE AND OPERATION MANUALS;
- ASSOCIATED AIRCRAFT MODIFICATION INSTRUCTIONS;
- RELEVANT NAA REGULATIONS AND ADVISORY DOCUMENTATION;
- ORGANISATION MANUALS, INCLUDING NAA ENDORSED OPERATIONAL AND MAINTENANCE MANUALS; AND
- RELEVANT LOCAL, STATE AND FEDERAL GOVERNMENT REQUIREMENTS.

WARNING:

READ THE APPLICABLE MATERIAL SAFETY DATA SHEET (MSDS) FOR ANY CONSUMABLE USED DURING THE ACCOMPLISHMENT OF THIS SERVICE BULLETIN AND EMPLOY ANY RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE) CONTAINED THEREIN.

NOTE:

Unless otherwise specified, reference to the GA8 or GA8-TC 320 Service Manual and FAA Advisory Circular (AC) 43.13-1B & -2B should be made when carrying out the procedures prescribed in this Service Bulletin. In case of a discrepancy between the Service Manual and the AC, the Service Manual takes precedence.

A. Preparation

1. Identify the part number of installed CHT Indicator. Re-calibration of the CHT Indicator with the Extension Lead is required when the part number is GA200-772011-011 or GA200-772011-015. The Alcor Extension Lead is fitted with a resistor such that when connected to the CHT Probe the total lead resistance is 8 ohms. This affects the indicated temperature.

The Alcor CHT Probe loop (thermocouple & short lead) resistance is approximately 0.24 ohms.

B. Removal of the Clamp for Existing Installed Probe

2. Remove cowls.

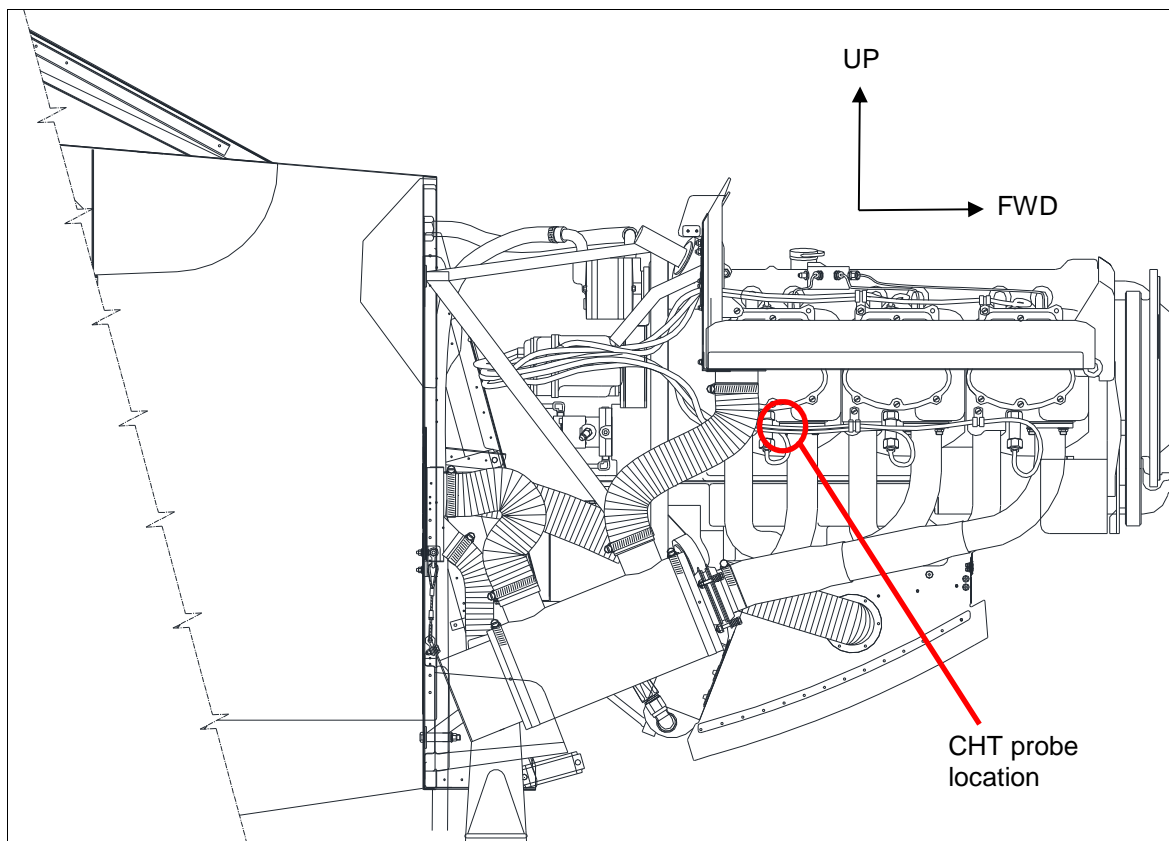


Figure 1 – Approximate Location for CHT Probe Installation. Viewed from RHS of aircraft.

NOTE:

Before removing the CHT Probe loom, make a note of the route from the engine to the control panel, as the same route will be used for the replacement CHT Probe and Extension Lead.

NOTE:

Keep the adapter connected to the engine while removing the CHT Probe.

NOTE:

If required, loosen the hose clamps in the area adjacent to the CHT probe to gain access for removal of the CHT Probe.

3. Remove the existing GA200-772011-013 CHT Probe Assembly and the loom that connects to the CHT Indicator. See Figure 1 for CHT Probe location. Carefully remove sealant, as required, from the firewall to allow loom removal.

C. Installation of the Alcor CHT Probe

4. In the same location where the CHT probe was removed, fully insert replacement Bayonet Probe (Item 1) with the Alcor adaptor into thermowell, aligning locking pin with cap slot. Push and turn cap clockwise to lock.

NOTE:

Allow enough slack in probe lead to provide a finger-size loop to minimise strain on wire and secure remainder of the probe lead to engine/airframe away from exhaust pipe, using cable ties (Item 5).

D. Routing of Extension Lead

5. Route the Extension Lead (Item 2) via the same path as the previously removed lead. The end of the Extension Lead which has a screw fitted, shall be located forward of the firewall. See Figures 2 and 3.
6. If the part number of the CHT Indicator is either GA200-772011-011 or GA200-772011-015, attach FIQC 1.25-6.4 DG terminal lugs (Item 3) to the ends of the Extension Lead which are aft of the firewall. This is not required if an Alcor Inc based CHT Indicator (GippsAero part number GA8-772014-011) is installed.
7. Attach to the extension lead to the CHT Indicator in accordance with Figure 2.

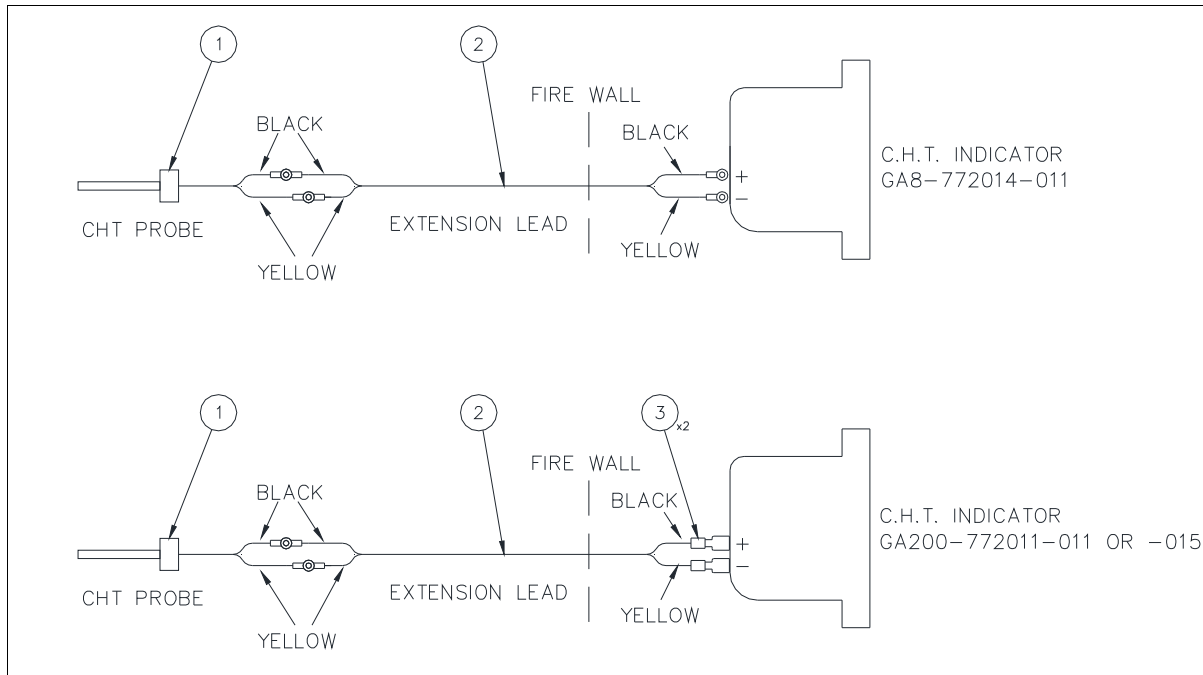


Figure 2 – Schematic diagram of CHT wiring.



Figure 3 – Pictorial view of extension lead. Note screw fitted to black lead ring terminal (circled).

E. Calibration

8. Set the calibrated thermocouple calibrator for J type thermocouples.
9. Ensure that the calibrator is set for 0°C (32°F) .
10. Apply the test leads of the calibrator to the Extension Lead terminals, forward of the firewall. Ensure that the test leads are connected as follows:
 - Positive test lead to the black CHT Extension Lead wire.
 - Negative test lead to the yellow CHT Extension Lead wire.
11. Following the instructions provided with the calibrator, adjust the output for 250°C (482°F). Allowance of the cold junction temperature of the indicator shall be factored into the setting of 250°C. Depending upon the calibrator, this may require the entering of a manual temperature.
12. Adjust the CHT Indicator such that the needle reads 250°C (482°F) when viewed directly at the face of the indicator.
13. Adjust the output of the calibrator for 260°C (500°F). Allowance of the cold junction temperature of the Indicator shall be factored into the setting of 260°C. Confirm Indicator reads 260°C +/- 3°C. Accuracy is dependent upon accurate cold junction temperature.
14. Remove the calibrator leads.

F. Joining Of Extension Lead and Thermocouple Probe

15. Attach the Extension Lead (Item 2) to the CHT Probe using screws already attached to the wires (see Figures 3 and 4) to fasten together the ring terminals. Refer to Figure 2 for wiring schematic.
16. Slide the supplied fiberglass insulation sleeve so that the connections between the Extension Lead and the CHT Probe lead are both covered.



Figure 3 – Pictorial view of CHT Bayonet Probe.
Note screw fitted to yellow lead ring terminal (circled).

17. Secure the insulating sleeve using a cable tie (Item 4) at each end.
18. Seal the hole in firewall, through which the Extension Lead is routed, using Sealant (Item 6).
19. If previously loosened, tighten the hose clamps in area adjacent to the CHT Probe.
20. Conduct a final inspection of the installation.
21. Install cowls.

Documentation:

Update aircraft logbooks to reflect incorporation of this Service Bulletin.

Continuing Airworthiness:

There are no additional continuing airworthiness requirements as part of the implementation of this Service Bulletin. Maintenance of the probe and extension lead is on condition.

Compliance Notice:

Complete the Document Compliance Notice and return to GippsAero by mail, fax or email.

DOCUMENT COMPLIANCE NOTICE



A Mahindra Aerospace Company

Document:

SB-GA8-2011-82

Issue 2

Aircraft Serial Number: GA8-_____

Service Bulletin SB-GA8-2011-82 Issue 2 has been incorporated in the above aircraft.

Date: _____

Signed

Print Name: _____

Please post or fax this compliance notice to:

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