



A Mahindra Aerospace Company

PO Box 881, Morwell, Victoria 3840, Australia
Ph + 61 (0) 3 5172 1200
Fax + 61 (0) 3 5172 1201
www.mahindraaerospace.com

SB-GA8-2020-201
Issue 1

OPTIONAL

Service Bulletin

Subject:

Pressure Sensors Hub Installation

Applicability:

Table 1: Applicability

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

Amendments:

Issue 1: Initial Issue. Ref GAE11#2687.

Background:

To support installation of the optional Garmin G500 TXi Engine Indication System (EIS), engine instruments that previously required physical access to either the fuel or oil system are to be replaced with an interface that uses dedicated electronic transducers.

This Service Bulletin SB-GA8-2020-201 provides instructions on how to install the mechanical and structural components to support this optional electronic configuration for GA8 and GA8-TC 320 aircraft.

Note that this Service Bulletin does not include the installation of the associated transducers, electronic interface or display, and may only be used as a subsidiary of another suitable approved data package which addresses these systems.

Compliance

This modification may be installed at the owner's discretion.

The installer shall verify the suitability of this option in conjunction with existing modifications/repairs to the aircraft. Contact GippsAero if clarification is required.

Weight and Balance

For factory installations, this Service Bulletin must be applied in conjunction with a valid approved avionics package – such as Engineering Release ER-GA8-9677272 (Option 272 - Installation of Garmin EIS TXi) and the Equipment Re-installation Into NG Instrument Panel (GA8-311009) drawing package.

For in-service installations, weight and balance updates are controlled by the overall avionics/configuration control document. For use in this case, the weight and balance data for items installed in this Service Bulletin are provided in Table 2.

Table 2: Weight and Balance Data

Description	WEIGHT		ARM		MOMENT	
	(kg)	(lb)	(mm)	(in)	(kg.mm)	(in.lb)
Items in Table 3, plus sensors detailed in Table 5 and Table 6	0.52	1.15	-16.5	-0.648	-8.58	-0.745

Approval

This Service Bulletin has been approved in accordance with the requirements of Australian Civil Aviation Safety Regulation 21.095 (1998). GippsAero Reference GAE11#2687.

Parts and Materials:

The materials required to incorporate this Service Bulletin are detailed in Table 3 and Table 4.

Table 3: Parts Required

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GA8-774015-011	PRESSURE SENSOR HUB ASSEMBLY	1
2	GA8-774025-023	FIREWALL HUB DOUBLER	1
3	GA8-774025-051	PLACARD PRESSURE SENSOR HUB	1
4	MS20615-4MP4	RIVET, SOLID-UNIVERSAL HEAD, NICKEL-COPPER ALLOY	8
5	MS27039-1-18	SCREW, MACHINE - PAN HEAD, STRUCTURAL	2
6	AN970-3	WASHER, FLAT	2
7	MS21042-3	NUT, SELF-LOCKING	2

Table 4: Compounds

ITEM	PART NUMBER	DESCRIPTION	QTY
C1	PS 700	FIREWALL SEALANT	A/R
C2	DURALAC	ANTI-CORROSIVE JOINTING COMPOUND	A/R
C3	LOCTITE 567	THREAD SEALANT	A/R

Parts Availability:

Parts can be obtained directly from GippsAero using the following contact details.

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: aircraft.parts@mahindraaerospace.com

Labour:

Approximately 2 hours should be allocated to completing the requirements of this Service Bulletin.

Warranty:

This is an optional modification. The cost of installation is not eligible for warranty claims, however, component warranties are provided by the respective manufacturers.

Before Starting:

This Service Bulletin must be applied in conjunction with a valid approved avionics package – such as Engineering Release ER-GA8-9677272 (Option 272 - Installation of Garmin EIS TXi) and the Equipment Re-installation Into NG Instrument Panel (GA8-311009) drawing package.

It is the installers responsibility to check that the installation as described by this Service Bulletin is (i) compatible with the existing aircraft configuration and (ii) that other modifications intended to be done at the same time are compatible with this Service Bulletin and do not occupy the same physical location on the aircraft.

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:

- AIRCRAFT MAINTENANCE AND OPERATION MANUALS;
- 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.

1. Remove the aircraft's primary 12V battery.
2. In accordance with the applicable GA8 or GA8-TC 320 Service Manual, gain access to the forward and aft face of the aircraft's firewall identified in Figure 1.

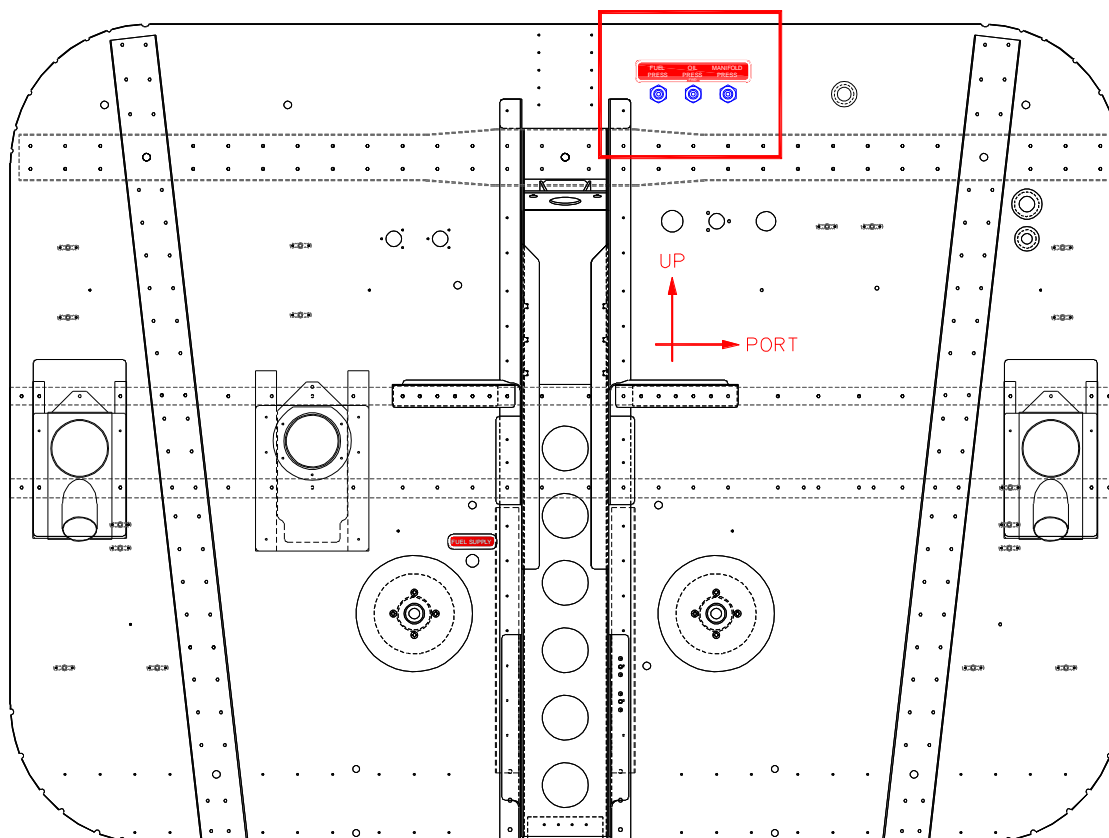


Figure 1: Area required for access. View looking aft at the forward face of the firewall.

3. Disconnect the flexible fluid lines, for the Fuel Pressure, Oil Pressure and Manifold Pressure gauges, from the three respective fittings on the forward face of the firewall identified in Figure 2. Cap the lines to prevent contamination and stow the lines in a safe location.

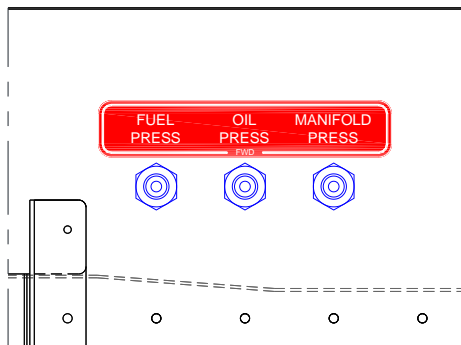


Figure 2: View looking at the three AN832-4D/J fittings on the forward face of the firewall.

4. Where fitted, disconnect and remove the Fuel Pressure, Oil Pressure and Manifold Pressure hose assemblies from the three fittings on the aft face of the firewall and the back of each corresponding gauge installed within the instrument panel. Cap the now exposed port of each gauge to prevent contamination.
5. Remove the three AN832-4D/J fittings from the firewall. Note that all three fittings are secured in place with an AN924-4D/J nut and an AN960-716 washer on the aft face of the firewall. Use a scraper or similar to clean off residual firewall sealant.
6. Where fitted, remove the Fuel / Oil / Manifold Pressure placards from both the forward and aft face of the firewall. Discard both placards.
7. Using a non-destructive method, mark two lines on the firewall, as per Figure 3, using the three existing 7/16" (0.4375") diameter holes as a reference.

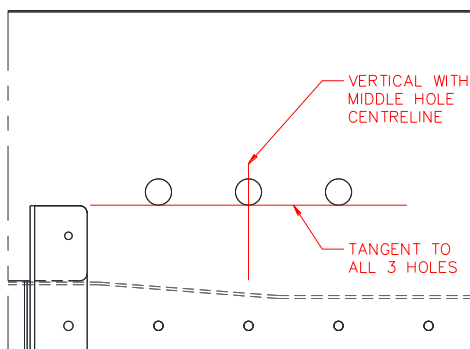


Figure 3: View looking aft at the forward face of the firewall.

8. Position Item 2, as per Figure 4, using the lines marked in Step 7 as a reference. On the firewall, mark the eight 0.098" diameter holes and two 0.193" diameter holes that exist in Item 2.

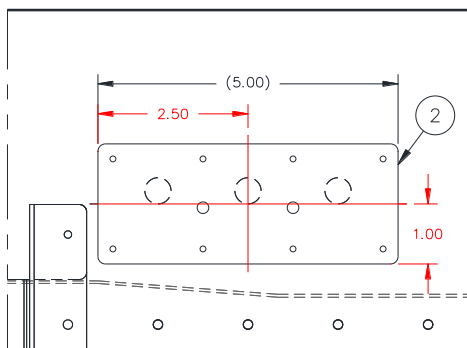


Figure 4: View looking aft at the forward face of the firewall. All dimensions are in inches.

9. Drill the two larger holes, marked in Step 8, to between 0.190" and 0.193" in diameter. Recommended drill sizes: #11 (0.191") or 4.9mm (0.193").
10. Drill the eight smaller holes, marked in Step 8, to between 0.125" and 0.135" in diameter (3.2mm to 3.4mm). Recommended drill sizes: #30 (0.128") or 3.2mm (0.126").

- As per Figure 5, wet assemble Item 2 with Item C1 (or Item C2 if C1 is unavailable) using eight of Item 4. Ideally, Item 4 is to be installed with the head of the rivet on the forward face of the Firewall, however, if access is not possible, the rivet may be installed in reverse.

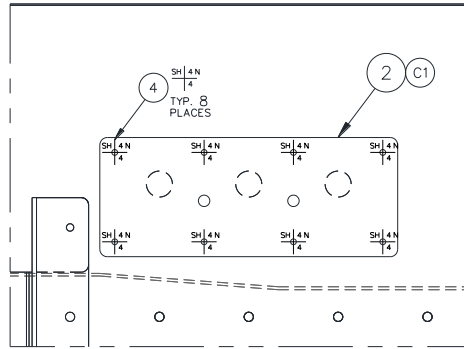


Figure 5: View looking aft at the forward face of the firewall.

- Apply a sufficient amount of Item C2 to the faying surfaces of Item 1 and install to the forward face of Item 2 using two each of Item 5, 6 and 7, as per Figure 6.

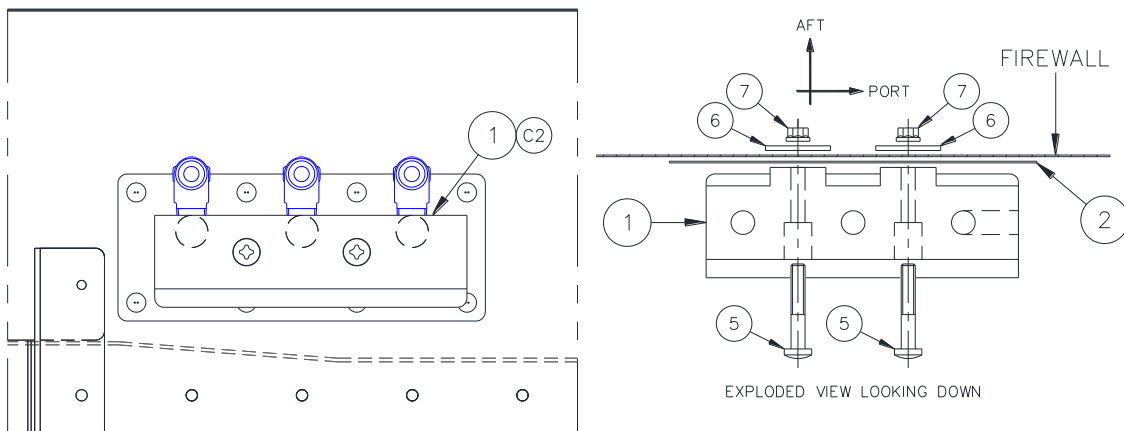


Figure 6: Main view looking aft at the forward face of the firewall. Item 1 assembly fittings have been omitted from the exploded view for clarity.

- Cap each of the three AN822-4D fittings, existing in Item 1, to prevent contamination.
- Affix Item 3 to the forward face of the firewall as per Figure 7. Note that a similar placard is no longer required on the aft face of the firewall.

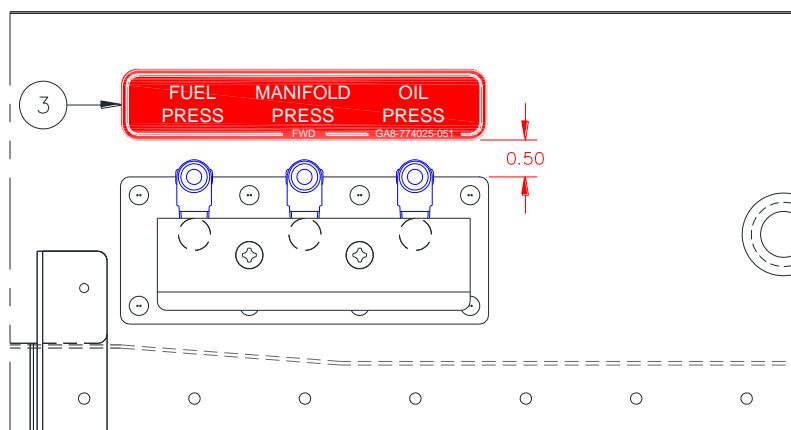


Figure 7: View looking aft at the forward face of the firewall. Dimension is in inches.

The following instructions are to be carried out in conjunction with GA8-773004 Sheet 1 Issue 1.

- For GA8 naturally aspirated aircraft, locate installation part number; GA8-773004-001 (Garmin G500 TXi Installation NA). For GA8-TC 320 turbo charged aircraft, locate installation part number; GA8-773004-003 (Garmin G500 TXi Installation TC). Each of the pressure sensors detailed in Table 5 are used in one location within each aircraft installation.

Table 5: Item Numbers correspond to GA8-773004 Sheet 1 Issue 1 and Figure 8.

ITEM	PART NUMBER	PRESSURE SENSOR LOCATION
338	011-04202-00 (30 PISA)	MANIFOLD PRESSURE
339	011-04202-20 (75 PISG)	FUEL PRESSURE
340	011-04202-30 (150 PISG)	OIL PRESSURE

16. Apply Item C3 sparingly to the threads of the pressure sensors detailed in Table 5, omitting the first 2 threads, and install each pressure sensor to Item 1, as per Figure 8. Ensure that each pressure sensor is installed into the correct 1/8"-27 NPT tapped hole and that no leaks can occur.

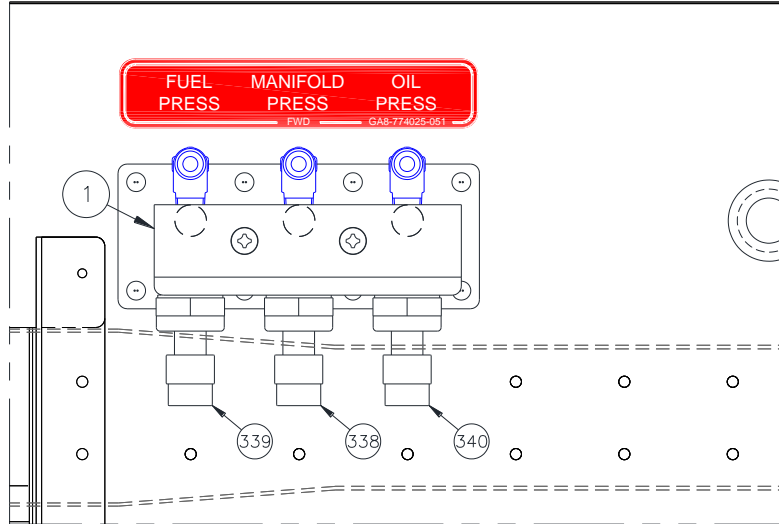


Figure 8: Installation of pressure sensors detailed in Table 5.

The following instructions are to be carried out in conjunction with GA8-311009 Sheet 1 Issue 1.

17. Locate installation part number; GA8-311009-001 (Equipment Reinstallation into NG Instrument Panel). The pressure switch detailed in Table 6 is used in one location within each aircraft installation.

Table 6: The Item Number corresponds to GA8-311009 Sheet 1 Issue 1 and Figure 9.

ITEM	PART NUMBER	PRESSURE SENSOR LOCATION
21	LPT00300PBYNKCAA01	OIL PRESSURE (OUTBOARD HOLE)

18. Apply Item C3 sparingly to the threads of the pressure switch detailed in Table 6, omitting the first 2 threads, and install the pressure switch into the 1/8"-27 NPT tapped hole in Item 1, as per Figure 9. Ensure that no leaks can occur.

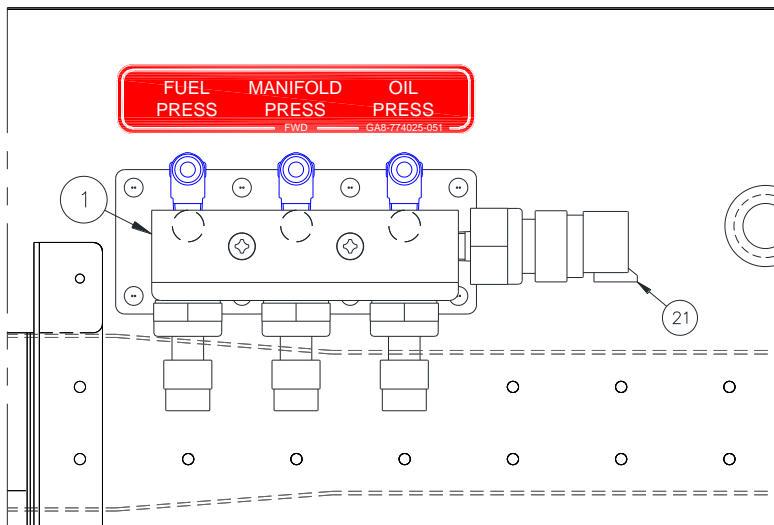


Figure 9: Installation of the pressure switch detailed in Table 6.

19. Reconnect the flexible fluid lines, disconnected in Step 3, to the new fittings that exist in Item 1. Note that the location of the Oil Pressure fitting and Manifold Pressure fitting have switched places.
20. Inspect flexible fluid lines in their revised position. Ensure that the lines are suitably restrained with sufficient clearance to avoid chafing. Bend radii greater than 2" should exist.
21. In accordance with the applicable GA8 or GA8-TC 320 Service Manual, reinstall any items removed to gain access in Step 2.
22. Reconnect the aircraft's 12V battery disconnected in Step 1.

Documentation:

Update aircraft logbook to reflect incorporation of this Service Bulletin.

Continuing Airworthiness:

There are no additional continuing airworthiness requirements introduced by this Service Bulletin.

Compliance Notice:

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

DOCUMENT COMPLIANCE NOTICE



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Document:

SB-GA8-2020-201

Issue 1

Aircraft Serial Number: GA8-_____

Service Bulletin SB-GA8-2020-201 Issue 1 has been incorporated in the above aircraft.

Date of Incorporation: _____

Signed

Print Name: _____

Please post, fax or email this compliance notice to:

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Attn: Technical Publications

Email: aircraft.techpubs@mahindraaerospace.com

P.O. Box 881

Morwell Victoria 3840

Australia

Fax.: +61 03 5172 1201