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SB-GA8-2014-115
Issue 1

MANDATORY

Service Bulletin

Subject:

Installation of fire-resistant washer and inspection of engine isolator mount orientation

Applicability:

All GA8-TC 320 aircraft up to and including serial no. GA8-TC 320-14-205

Amendments:

Issue 1: Initial issue. GippsAero Reference GAE12#1268

Background:

A recent review of the engine mount installation on the Turbo Charged GA8 Airvan has prompted the release of this Service Bulletin. Model GA8-TC 320 aircraft require the installation of a steel washer at each of the engine isolator mount locations to address a potential risk of reduced engine retention capability in the event of a fire. The potential loss of engine retention capability would only occur in the event of extreme temperatures sufficient to result in the loss of the strength of the aluminium in the sandwich mounts.

Service Bulletin, SB-GA8-2014-114, was recently released to require an inspection for correct orientation of the engine isolators in the naturally aspirated aircraft. Although the Turbo-Charged aircraft is at a substantially reduced risk of incorrect installation, a check for correct orientation is included in this Service Bulletin as a precautionary measure. The correct installation procedure is to install the stiffer mount on the compression side of the joint. This is to prevent premature mount deformation and subsequent engine sagging. Provided that correct bolt torque is maintained on the attachment bolt, the vibration properties of the engine installation will be unaffected.

This Service Bulletin requires operators to install the steel washer at each isolator mount location, and verify that the engine mounts have been installed with the correct orientation.

Compliance:

The requirements of this Service Bulletin shall be accomplished within 300 hours or 12 months whichever occurs earlier from the date of issue of this Service Bulletin.

Weight and Balance:

Accomplishment of this Service Bulletin results in a weight increase of approximately 200 g (0.44 lb) at station -356mm (-14.0 in).

Approval:

This Service Bulletin has been approved pursuant to Regulation 21.098 of CASR (1998).

Parts:

The following parts are required to accomplish this Service Bulletin.

PART No.	DESCRIPTION	QTY	Remarks
J-2218-61	Washer	4	1 each to be installed per isolator location, refer Figure 1
AN7-34A	Bolt, Machine, Structural, Undrilled	4	1 each to be installed per isolator location, refer Figure 1

The following optional parts may be required to accomplish the requirement of this Service Bulletin.

PART No.	DESCRIPTION	QTY	Remarks
J-9613-19	Lord Engine Mount Kit	4	Comprising of one J-9612-8 Sandwich Mount, one J-7763-1 Sandwich Mount & one J-7766-2 Spacer, refer Figure 2. Only required in the event that the installed isolators are found to be unserviceable.
MS20365-720C	Nut, Self-Locking, All Metal	4	Replacement for existing nut if found to be unserviceable.
72711	O'ring	1	Induction pipe o'ring. Required in the event that adjacent induction pipe is removed to access the lower starboard isolator location.
71973	Gasket	1	Induction pipe gasket. Required in the event that adjacent induction pipe is removed to access the lower starboard isolator location.
TLPD 48LF	Rivet, Pop	8	4 each per Middle Aft Baffle Cover Plate

Parts Availability:

New parts can be obtained directly from GippsAero.

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: spares@gippsaero.com

Labour:

5 man hours should be allocated for completing the work detailed in this Service Bulletin.

Warranty:

Aircraft under warranty may claim the direct cost of carrying out the requirements of this Service Bulletin via GippsAero Customer Service.

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: warranty@gippsaero.com

Accomplishment Instructions:

NOTE:

Ensure the aircraft is prepared for maintenance and that appropriate safety precautions are taken when performing work outlined in this Service Bulletin.

Unless otherwise specified, reference to the GA8-TC 320 Service Manual as well as FAA AC43.13-1B & FAA AC43.13-2B should be made when carrying out the procedure prescribed in this Service Bulletin. In case of discrepancy between the Service Manual and the AC, the Service Manual takes precedence.

1. Remove the engine cowls in accordance with the applicable Service Manual.
2. Verify that the installation of the engine isolator mounts includes a steel washer J-2218-61 (shown in Figure 2 below). Proceed to step 3 if the washers have not been installed, otherwise skip to step 10.
3. Relieve the weight of the engine from the isolator mounts using an appropriate hoist.
4. Check the orientation of the engine isolator mounts to verify that the mounts have been installed in accordance with Figure 1. Specifically mount part no. J-7763-1 must be positioned on the compression side of the engine lug. For upper mounts this would be on the forward side and for the lower mounts this would be on the aft side of the engine lug. The part number of the mounts can be found moulded into the elastomer on the periphery of the mount. A depiction of the mounts is shown in Figure 2. If any of the isolator mounts are not installed in accordance with Figure 1, proceed to step 5, otherwise skip to step 8

5. Remove and inspect the engine isolators for eccentricity and thickness in accordance with Lord Quick Reference Guide No. PB6304A (see appendix A). Isolators that are found to be not serviceable are to be replaced with new parts of the same type.

WARNING

ENSURE TO ONLY INSPECT AND RE-INSTALL EITHER THE TOP MOUNTS OR THE BOTTOM MOUNTS AT A TIME. REMOVAL OF MOUNTS IN ANY OTHER MANNER MAY CAUSE INJURY AND/OR DAMAGE THE ENGINE.

NOTE:

If required, carefully drill out the 8 pop rivets holding the two middle aft baffle cover plates to gain access to the top engine mount locations (Figure 3) ensuring all swarf is cleared off the work area. When gaining access to the lower engine mount locations ensure that surrounding installations including hoses and electrical cables are not damaged.

6. Re-install the isolators such that they are oriented in accordance with Figure 1.
7. Inspect the cowls for evidence of damage caused by excessive drooping of the engine. If damage is found, contact GippsAero for further assistance.
8. Regardless of mount serviceability, a J-2218-61 steel washer is to be installed on the forward side of each of the four engine isolator mount locations. The AN7-33A bolt is to be replaced with an AN7-34A bolt, verify correct length upon installation. Depending on bolt grip length the existing AN960-716 washer maybe retained or discarded. Ensure that engine mount retention bolts are torqued to 450-500 in-lb per Chapter 20-10-00 of the Service Manual.

NOTE:

The AN960-716 washer under the head of the bolt is to be retained.

NOTE:

Installation of the lower starboard washer is impeded by the location of the turbocharger and induction pipe. In the event that it is not possible to replace the starboard lower washer without removing these components the recommended procedure is to remove the adjacent induction pipe, install the washer, torque the mounting bolt and reinstall the induction pipe in accordance with Lycoming instructions. When the induction pipe is re-installed a new o-ring (P/N 72711) and gasket (P/N 71973) will be required.

9. If removed, re-install the two middle aft baffle cover plates using 8 TLPD 48LF pop rivets.
10. Re-install the engine cowls and proceed to the documentation section of this Service Bulletin.

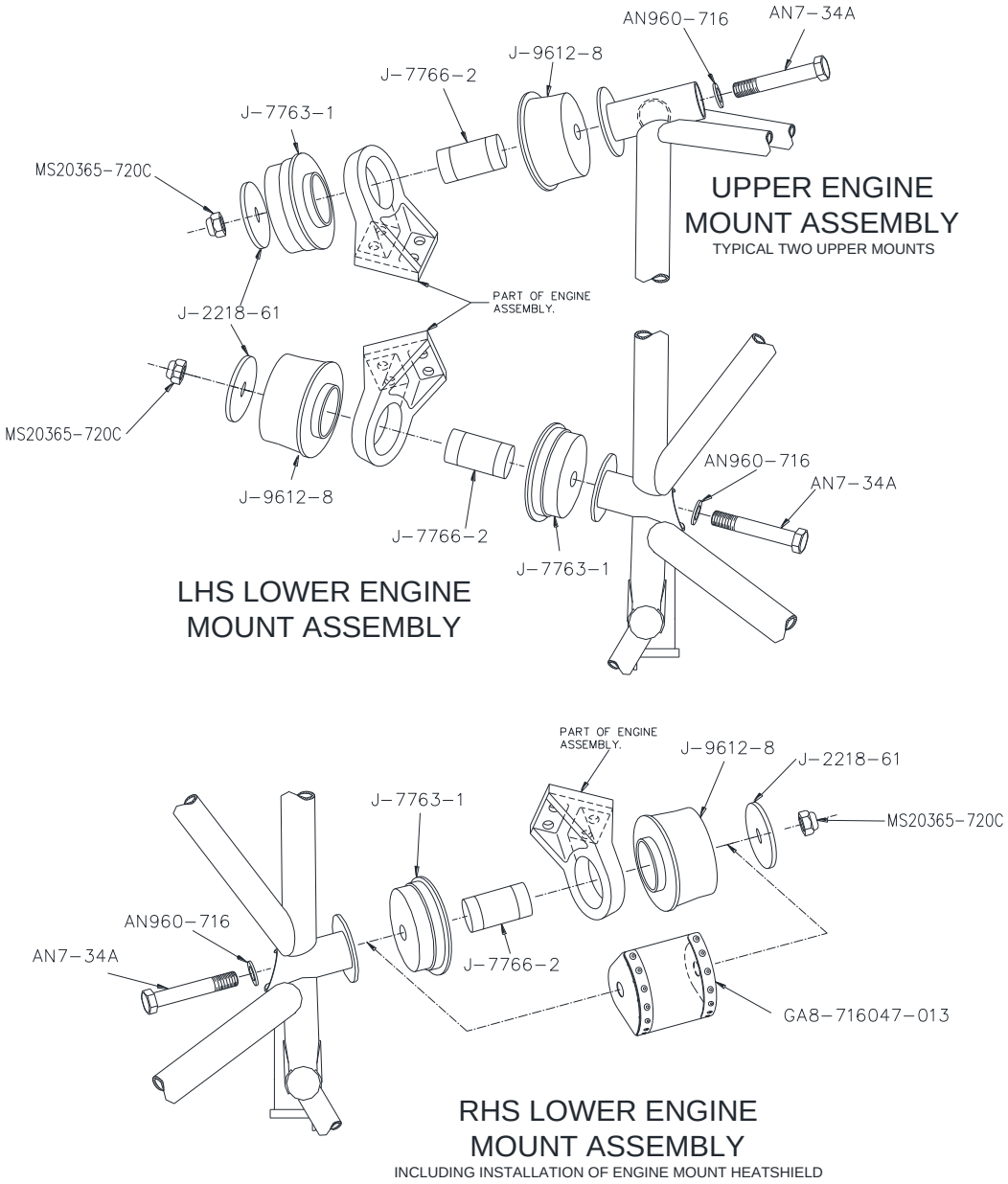


Figure 1: Mount Installation

Figure 2: Mount Depiction

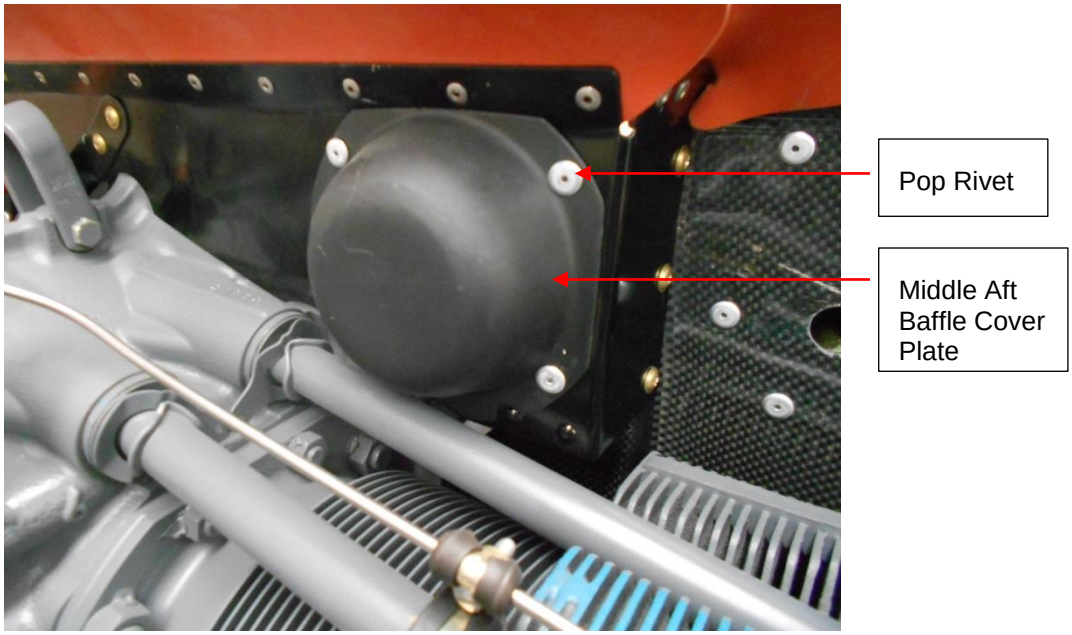


Figure 3: Middle Aft Baffle Cover Plate

Documentation:

Update aircraft log book to reflect incorporation of this Service Bulletin.

Continuing Airworthiness:

During subsequent engine installation, verify that the installation of the engine mounts is in accordance with the instructions in this Service Bulletin. All other instructions already specified in the aircraft Service Manual continue to be applicable.

Future issues of the Service Manual and the Illustrated Parts Catalogue will contain clarified information as contained in this Service Bulletin.

Compliance Notice:

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

MAINTENANCE OF BONDED SANDWICH MOUNTINGS AND ASSEMBLIES

Where a component maintenance manual is available for a system, its requirements take precedence.

1. General Comments

Bonded sandwich assemblies are natural rubber or specially blended synthetic compounds bonded to two plates. The normal installation requires four assemblies, each consisting of two sandwich mountings and one spacer. Satisfactory performance requires that the spacer be designed to the correct length to precompress each mounting to guarantee proper positioning of the mountings. When properly installed, these mountings provide excellent isolation of engine vibration, resulting in smoother, quieter flight. Always order replacement mountings by the mounting assembly number to ensure the correct spacer.

2. Visual Inspection of Installed Mountings

At each annual inspection and at FAA-required inspections of the aircraft's engines, all mounting assemblies should be visually inspected in their installed state while supporting the engine weight. The correct visual inspection procedure is as follows:

a. Inspect all bonded sandwich mountings for metal-to-rubber bond separations, flex cracks, rubber deterioration due to exposure to fluids, and mechanical damage such as cuts in the rubber surface.
b. Visually inspect all bonded steel parts for cracks and excessive nicks, scratches or gouges.
c. Inspect all nut locking wires for looseness and tighten as necessary.
d. When applicable, measure all drift indicators in each mounting assembly for excessive deflection.
e. Whenever any of the conditions detailed above in steps a, b, and d are found, remove the mounting assembly from the engine, disassemble, inspect, and repair it as described in the maintenance manual.

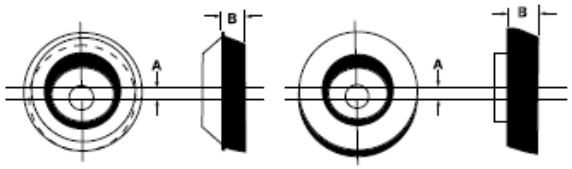
CAUTION: WHENEVER THE AIRCRAFT'S ENGINES ARE CLEANED DURING A NORMAL INSPECTION, COVER EACH MOUNTING ASSEMBLY TO PROTECT IT FROM CONTAMINATION BY CLEANING FLUIDS OR SOLVENTS. THIS ALSO APPLIES TO ENGINE LUBRICANTS. SHOULD ANY SUCH MATERIALS ACCIDENTALLY GET ON A MOUNTING ASSEMBLY, WIPE IT OFF THOROUGHLY AS SOON AS POSSIBLE WITH A CLEAN, DRY RAG.

3. Disassembly

To remove mounting assemblies from the installation, it is necessary to remove the engine weight from the mountings, by the use of a chain hoist or equivalent, and disconnect the nuts and bolts which hold the mountings in place. In general, removal of one mounting at a time can usually be accomplished, if necessary, without removing the engine weight from the mountings.

4. Cleaning and Inspection

a. Wipe oil and dirt from bonded mountings, but do not dip in cleaning solvents.
b. Steel bolts and spacers should be inspected for cracks or damaged threads. Examine spacers for crushing of ends, caused by excessive tightening torque on bolt. Replace if either condition is apparent.
c. Examine bonded rubber mounting for oil swelling, bond or rubber separation, and shear or compression set. Bond separation, oil swelling, or flex cracks in the surface of the rubber are cause for rejection. The effects of shear and compression set are determined by measuring the dimensions shown on the sketch. Reject parts which have an eccentricity greater than dimension "A" or an overall thickness less than dimension "B".



MOUNTING SERIES NUMBER	ECCENTRICITY MAX. "A"	THICKNESS MIN. "B"
J1552	0.05	0.29
J2245	0.06	0.45
J3049	0.07	0.71
J6113	0.05*	0.39
J7401	0.06	0.75
J7530	0.06*	0.75
J7649	0.06*	0.75
J7763	0.08	1.02
J8381	0.06	0.75
J9555	0.06*	0.75
J9612	0.08	1.22
J10533	0.10*	0.80
J10776	0.10*	1.01
J12165	0.20	1.00
J12397	0.20	0.86
J12454	0.20	1.30
J12799	0.20	1.28
J13051	0.23	1.40
J15199	0.40	1.60
J7763-34 (BTR-II)	0.14	1.02
J9612-30 (BTR-II)	0.14	1.20
J9612-32 (BTR-II)	0.12	1.20

* From original position. (See installation drawing.)

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DOCUMENT COMPLIANCE NOTICE

GIPPSAERO A Mahindra Aerospace Company	**Document:** **SB-GA8-2014-115** **Issue 1**

Aircraft Serial Number: GA8-_____

Service Bulletin SB-GA8-2014-115 Issue B - DRAFT has been incorporated in the above aircraft.

Date of Incorporation:_____

_____
Signed

Print Name: _____

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