



A Mahindra Aerospace Company

SB-GA8-2019-194

Issue 1

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OPTIONAL

Service Bulletin

Subject:

Deactivation or removal of 2 x 12V battery system from aircraft modified by SB-GA8-2017-176.

Applicability:

Table 1- Applicability.

AIRCRAFT	SERIAL NUMBER(s)
GA8	GA8-16-226 and subsequent
GA8-TC 320	GA8-TC 320-18-246 and subsequent

Amendments:

Issue 1: Initial Issue. GippsAero reference GAE11#2537.

Background:

This Service bulletin authorises the removal or deactivation of the two 12V batteries installed as part of the SB-GA8-2017-176 to provide the initial alternator excitation only and are not capable of sustaining operation for mission systems or an electrical air-conditioner.

Where the aircraft is later modified by the inclusion of an additional 24V battery, the original two 12V batteries may either be deactivated or removed.

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.

Labour:

Up to 3 man hours should be allocated to the incorporation of this Service Bulletin.

Warranty:

This is an optional modification. Installation warranty is not applicable, however component warranties are provided by the respective manufacturers.

Approval:

The modification described in this Service Bulletin has been approved pursuant to Australian Civil Aviation Safety Regulation 21.095 (1998).

Weight And Balance:

Refer to SB-GA8-2017-176 Weight and Balance section for additional information.

The Weight and Balance change will be subject to which accomplishment Part is undertaken.

Required Documents:

SB-GA8-2017-176 is used for reference for accomplishment of this modification.

Before Starting:

1. It is the installer's responsibility to ensure that the aircraft will provide initial excitation to the 28V alternator system in the absence of the forward mounted batteries.

NOTE:

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

2. Remove the upper engine cowls.
 - i. For the GA8-TC 320 model remove the port side cowl.
 - ii. For the normally aspirated GA8 model, remove the starboard side cowl.
3. Gain access to the batteries located forward of the firewall.
4. Pull the 70A circuit breaker located near the factory fitted batteries.
5. With the alternate 28V battery (mission/role equipment) battery turned ON, verify if 24V is displayed on the 28V Mission system voltmeter. Do not proceed with this Service Bulletin if there is no display. Absence of the meter functioning (ie not powered up) indicates that the third party installed battery is not directly connected to the factory installed voltage regulation and monitoring equipment.
6. Push in the 70A circuit breaker.

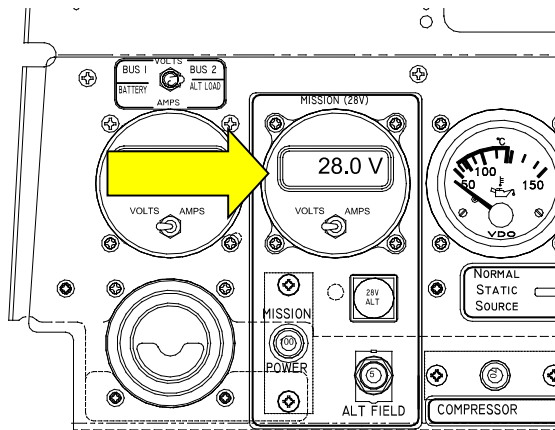


Figure 1

Parts and Materials:.

No special parts are required. Refer to Table 2

Table 2 : Main Parts List

ITEM	PART NUMBER	DESCRIPTION	QTY
1	MS3367-5-0	CABLE TIE 91mm L 2.4mm W BLK (TY075-18)	A/R
2	MS3367-6-0	CABLE TIE 143mm L 3.5mm W BLK (TY125-40)	A/R
3	TY300-50X or Panduit PLT3S-C0	CABLE TIE 292-294mm L 4.6-4.8mm W BLK	A/R

1 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 or 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.

All work specified in this Service Bulletin shall be carried out by appropriately qualified personnel.

The installer shall undertake Part A or Part B or Part C. Part C is recommended.

1.1 INITIAL PREPARATION

- 1.1.1 Pull all under floor electrical circuit breakers.
- 1.1.2 Remove the upper engine cowls as per the aircraft Service Manual.

1.2 Part A - PARTIAL DEACTIVATION

- 1.2.1 Pull the 70A circuit breaker attached to the positive side of the 2 x 12V batteries. (Refer to Figure 2).
- 1.2.2 Secure a cable tie around the shaft of the 70A circuit breaker in OFF or pulled position.
- 1.2.3 Secure the previously removed engine cowls to the aircraft.

1.3 Part B – BATTERY REMOVAL (PARTIAL)

- 1.3.1 Pull the 70A circuit breaker attached to the positive side of the 2 x 12V batteries (Refer to Figure 2).
- 1.3.2 Disconnect and remove the negative battery lead - 2PB001B6N from both ends.
- 1.3.3 Disconnect and remove the positive battery lead to the 70A circuit breaker from both ends.
- 1.3.4 Disconnect the link wire between the two batteries.
- 1.3.5 Remove both batteries from the aircraft.
- 1.3.6 Secure a cable tie around the shaft of the 70A circuit breaker in OFF or pulled position.
- 1.3.7 Secure the previously removed engine cowls to the aircraft.

1.4 Part C – BATTERY REMOVAL (COMPLETE)

- 1.4.1 Disconnect the 24V mission battery (non-factory) from the system.
- 1.4.2 Pull the 70A circuit breaker attached to the positive side of the 2 x 12V batteries (Refer to Figure 2)
- 1.4.3 Disconnect and remove the negative battery lead - 2PB001B6N from both ends.
- 1.4.4 Disconnect and remove the positive battery lead to the 70A circuit breaker from both ends.
- 1.4.5 Disconnect the link wire between the two batteries and discard.
- 1.4.6 Remove both batteries from the aircraft.
- 1.4.7 Disconnect and remove the positive lead 2PB001A6 between the 70A circuit breaker and the Mission Power Control Unit (Refer to Figure 3). The Mission Power Control Unit is located on the aft side of the firewall, immediately behind the flight instrument panel.
- 1.4.8 Reseal the firewall cable through hole with suitable appropriately rated sealant – Refer to Table 4, Compounds Item C7 of document C05-96-78
- 1.4.9 Remove the 70A circuit breaker from the firewall.
- 1.4.10 Reconnect the 24V mission battery (non-factory) from the system.
- 1.4.11 Secure the previously removed engine cowls to the aircraft.



Figure 2: Installed batteries (GA8-TC 320)

From Battery
Positive via
circuit breaker
(2PB001A6)

To 100A circuit
breaker
(1PG006B4)

From Alternator
B+ (1PG006A2)

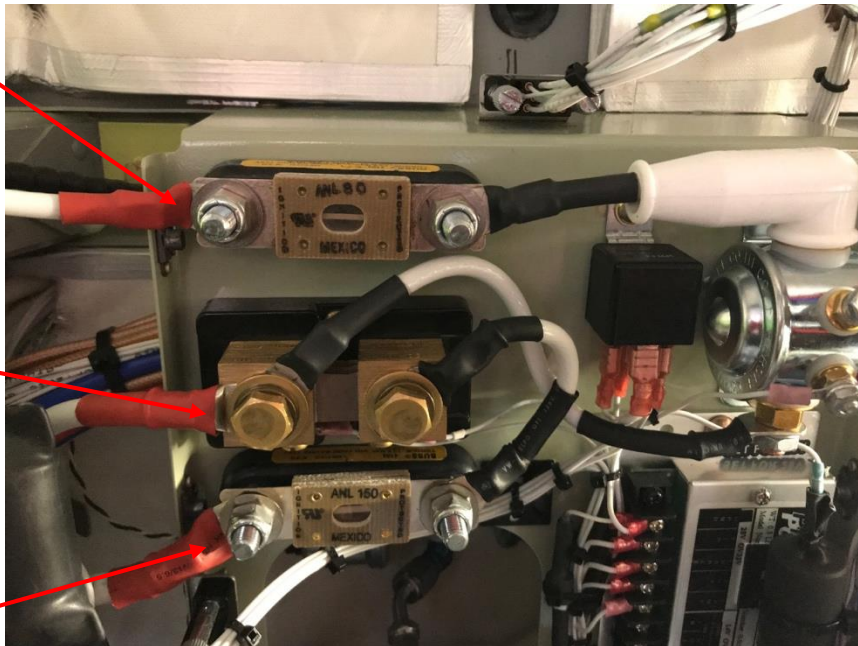


Figure 3 : View showing power wire attachment to Mission Power Control Unit.

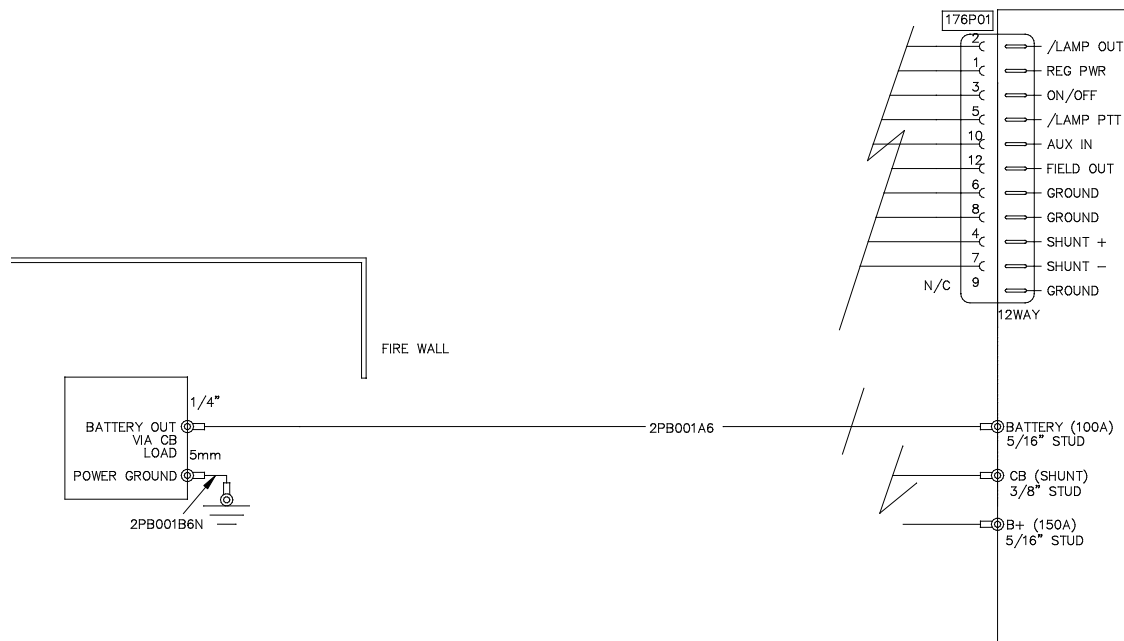


Figure 4 : Wiring to the battery prior to modification.

1.5 COMPLETION AND TESTING

- 1.5.1 Push in all under floor circuit breakers.
- 1.5.2 Verify and test the system for correct operation in accordance with Appendix A prior to release of aircraft.

Documentation:

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

Continuing Airworthiness:

Instructions for continued airworthiness are contained in the Service Manual Supplement, C05-96-78.

Compliance Notice:

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

Appendix A – Voltage Test & Record Sheet

NOTE:

The placarding of the mission switch and circuit breakers in Figure 5 may vary. For the purposes of this test they will be referred to as per the placarding in Figure 5.

The means of enabling the later installed 24V battery to the electrical system of the aircraft must be established by the personnel undertaking this Service Bulletin.

1. The “MISSION” switch located in the electrical overhead shall be in the OFF position.
2. The 2A “28V MISSION” circuit breaker is to be pushed in.
3. The 5A “ALT FIELD” circuit breaker shall be pushed in.
4. The 100A “MISSION” circuit breaker shall be pushed in.
5. Start the aircraft engine.
6. If an alternate 24V battery is installed, enable the 24V source to the aircraft i.e 24V Batt switch located in the aircraft overhead panel.
7. Verify 24V battery voltage is displayed on the 28V Mission voltmeter. Ensure the voltage is 24V or above.
8. With the engine running and when advised as safe to do so by the pilot or taxi endorsed operator, place the 28V switch “MISSION” to the ON position (see Figure 5 below).

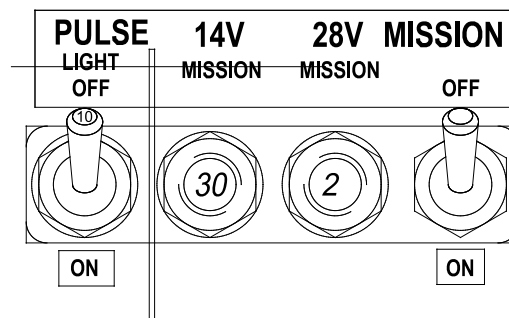


Figure 5 – Partial view of electrical overhead panel.

9. Observe the volt meter (Figure 1) over a range of RPM between 850 and 2500. Confirm that a stable 28V indication is present and that neither the ref or amber LED on the meter is illuminated.
10. Move the MISSION switch to the OFF position
11. Confirm the voltmeter reads battery voltage (nominally 24V).
12. Switch off the 24V battery source.
13. Shut down the aircraft engine.

Date: _____

DOCUMENT COMPLIANCE NOTICE



A Mahindra Aerospace Company

Document:

SB-GA8-2019-194

Issue 1

Aircraft Serial Number: GA8-_____

Service Bulletin SB-GA8-2019-194 Issue 1 has been incorporated in the above aircraft.

Date: _____

Signed

Print Name: _____

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