



A Mahindra Aerospace Company

PO Box 881, Morwell, Victoria 3840, Australia

Ph + 61 (0) 3 5172 1200

Fax + 61 (0) 3 5172 1201

www.gippsaero.com

**SB-GA8-2012-85**

**Issue 1**

**OPTIONAL**

# Service Bulletin

## Subject:

Modifications required for aircraft to be registered in Malaysia

## Applicability:

This Service Bulletin applies only to aircraft intended for registration in Malaysia

## Amendments:

Nil (initial issue).

## Background:

The Department of Civil Aviation Malaysia (DCA) mandates requirements for aircraft to be registered in that country. The GA8 requires minor modification to ensure compliance with Airworthiness Notices of Malaysia.

This Service Bulletin describes the installation of an additional caution light in the ignition circuit. If the starter system of a particular aircraft is deemed non-compliant with Section 3 (c) of Notice 33, then the following instructions are to be complied with.

## Compliance:

Implementation of this bulletin is optional for any GA8 or GA8-TC320 prior to registration in Malaysia.

## Weight and Balance:

Negligible effect on weight and balance.

## Approval:

This modification has been approved pursuant to Regulation 21.095 of CASR(1998).

## Parts:

| Item | Part Number             | Description          | Qty |
|------|-------------------------|----------------------|-----|
| 1    | A0163C (APEM)           | Warning Light Amber  | 1   |
| 2    | A0172 (APEM)            | Light Housing        | 1   |
| 3    | 336 (Chicago Miniature) | Globe Midget Grooved | 1   |
| 4    | M39029/63-368           | Crimp Contact Female | 2   |
| 5    | M39029/64-369           | Crimp Contact Male   | 2   |

| Item | Part Number           | Description             | Qty |
|------|-----------------------|-------------------------|-----|
| 6    | RT1.25-4DG            | Ring Terminal 4 mm Red  | 1   |
| 7    | RT1.25-8              | Ring Terminal 8 mm Red  | 1   |
| 8    | QC1.25-2.8/.5DG       | Terminal, Push on       | 2   |
| 9    | M22759/16-22-9        | Wire 22AWG ETFE 600V    | A/R |
| 10   | RXEF050               | Poly Switch 0.5A        | 1   |
| 11   | HSTNW (Alco)          | Heat shrink tubing      | A/R |
| 12   | Refer to Instructions | Flight Instrument Panel | 1   |

### Parts Availability:

New parts can be obtained directly from GippsAero.

Tel.: +61 3 5172 1200

Fax.: +61 3 5172 1201

Email: spares@gippsaero.com

### Labour:

4 hours should be allocated to the incorporation of this Service Bulletin.

### Warranty:

Not applicable.

### Installation:

The standard GA8 electrical wiring system is compliant with Department of Civil Aviation Malaysia Airworthiness Notice No 33 Issue 2 as there exist 2 starter relays or solenoids in series : one within the starter motor, the other within the solenoid box of the aircraft. However an additional annunciator light may be fitted to the aircraft's flight instrument panel. If the starter system of a particular aircraft is deemed non-compliant with Section 3 (c) of Notice 33, then the following instructions are to be complied with.

#### **WARNING:**

**THE ALTERNATOR EXCITATION CAPACITOR LOCATED IN THE SOLENOID BOX IS A POTENTIAL HAZARD TO PERSONNEL MAINTAINING THE AIRCRAFT BY VIRTUE OF THE POTENTIAL FOR INADVERTENT SHORTING OF THE POSITIVE SIDE TO GROUND. THIS WOULD CAUSE A SIGNIFICANT ARC, WHICH, IF IT CAME INTO CONTACT WITH ANY PART OF THE BODY, COULD RESULT IN A MINOR BURN OR CAUSE A REFLEX ACTION THAT MAY SHORT OUT OTHER ELECTRICAL CONNECTIONS.**

**BEFORE REMOVING THE COVER PANEL TO ACCESS THE UNDERFLOOR AREA IN FRONT OF THE PILOT'S SEAT, PERFORM THE FOLLOWING ACTION TO ENSURE THAT THE CAPACITOR CIRCUIT IS DISARMED:**

**(I) PULL THE 1 A BUS 2 CONTROL BREAKER**

**(II) SWITCH THE BUS 2 MASTER SWITCH ON**

**ENSURE THAT THE BREAKER REMAINS OPEN AND THE MASTER**

**SWITCH REMAINS ON FOR THE DURATION THAT THE COVER PANEL IS REMOVED. NOTE THAT BUS 2 IS NOT LIVE WHILST THE BUS 2 CONTROL BREAKER IS PULLED.**

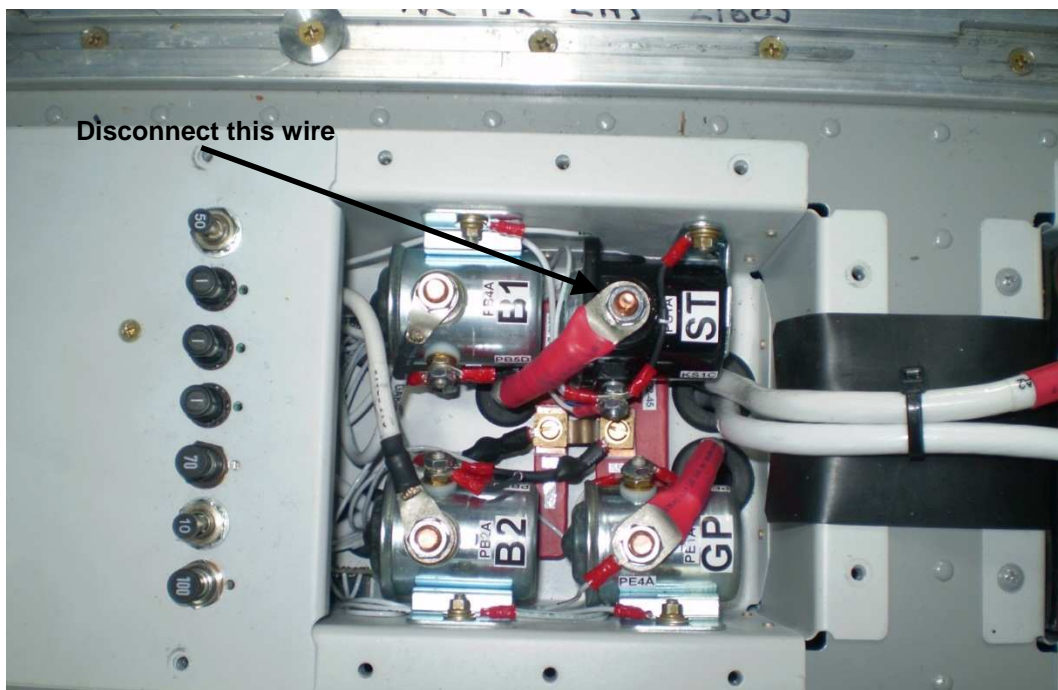
**WARNING:**

**DO NOT PERFORM ANY MAINTENANCE ON THE ELECTRICAL SYSTEM IN CONJUNCTION WITH MAINTENANCE ON THE FUEL SYSTEM. THE ESCAPE OF FUEL FUMES UNDER THE FLOOR AND/OR IN THE AIRCRAFT MAY CAUSE AN EXPLOSION.**

1. Remove the pilot seat and gain access to the solenoid box. Take off the fibre glass battery cover.
2. Gain access to the battery box. Disconnect the positive terminal connected to the battery from the aircraft as a precautionary measure. Refer to the GA8 Service Manual Section Chapter 24.
3. Gain access to the internal components of solenoid box by removal of screws as noted in Figure 1. Take care not to damage the heads of the screws when undoing them. Remove the fibre glass sheet. Refer to the GA8 Service Manual Section Chapter 24 taking specific note of the warning in Section 24-00-00.
4. Disconnect circuit PS1A2 from the Starter Solenoid. Refer to Figure 2.
5. Fabricate a single wire assembly, circuit WM1A22 as shown in Figure 3.
6. Combine the ring terminals associated with circuits PS1A2 and WM1A22 back onto the solenoid electrical terminal.
7. Disconnect the flight instrument panel from the aircraft. Ensure that the exposed pitot and static lines are covered to prevent contaminants from entering the lines. Refer to Section 31-10-10 "Flight Instrument Sub Panel" of the GA8 Service Manual
8. Route circuit WM1A22 towards the firewall following the existing cable run. This circuit will be added to connector J41 and fitted with a crimp contact and inserted into position 1.
9. Install circuit WM1D22N into pin position 2 of connector J41. Earth the ring terminal to the aircraft in accordance with bonding practices noted in AC 21-99 Chapter 13
10. It is unlikely that the flight instrument panel will be able to accommodate an additional annunciator. For a turbo charged GA8 with traditional instruments, the blanking plug may be removed and the hole used for the Start annunciator. The blanking plug is located between ALT and the Pitot Heat annunciators. GippsAero can provide a new panel which will accommodate the additional annunciator. Part number GA8-311021-093 will suit most normally aspirated aircraft. Contact GippsAero with the serial number of the affected aircraft to ensure that the correct replacement panel is provided.
11. Carefully remove all the instruments, lamps, looms and switches from the flight instrument panel. This step can be omitted for turbo charged Airvans.
12. Modify the "warning light" loom by inserting circuits WM1B22 and WM1C22 as shown in Figure 3.
13. Re-install the instruments (i.e. ASI, altimeter), loom, and annunciator into the new instrument panel. Figure 4 shows the flight instrument panel fitted with the START annunciator.
14. Re-install the flight instrument panel into the aircraft connecting all electrical connectors, pitot static lines and the vacuum line (if previously installed). Refer again to Section 31-10-10 "Flight Instrument Sub Panel" of the GA8 Service Manual. Item 6 of the service manual specifies the conducting of a pitot static leak test.
15. Refit the solenoid box with fibre glass cover into the aircraft using the original fasteners. Reconnect the battery to the aircraft electrical system.
16. Reinstall the fibreglass battery cover using the original fasteners.
17. Reinstall the pilot seat.
18. An engine run is to be undertaken. The illumination of the Start annunciator is to be observed while the engine is being cranked. The lamp will turn off when the starter key is released.



**Figure 1 :** Screws to be removed to gain access to internal assembly of the solenoid box



**Figure 2 :** Location of circuit PS1A2

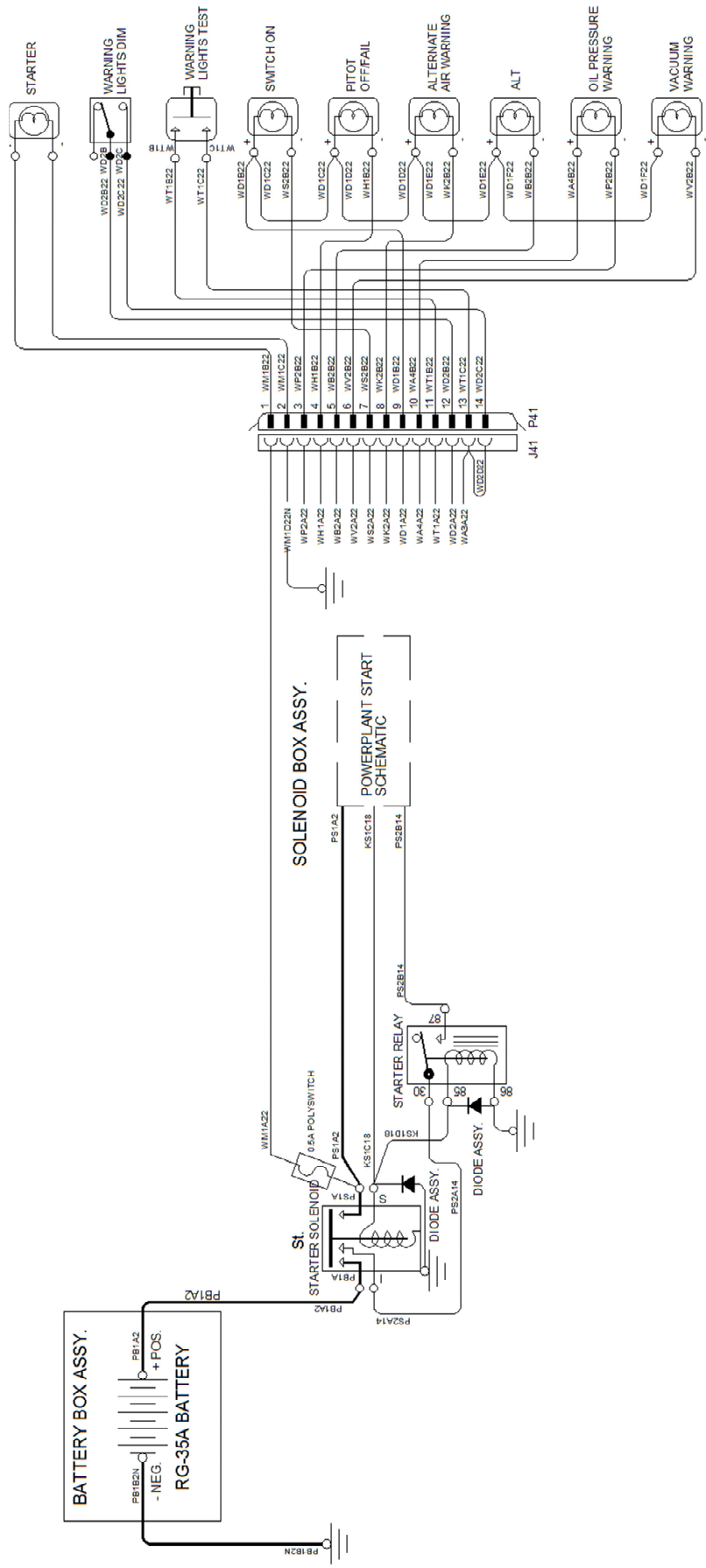
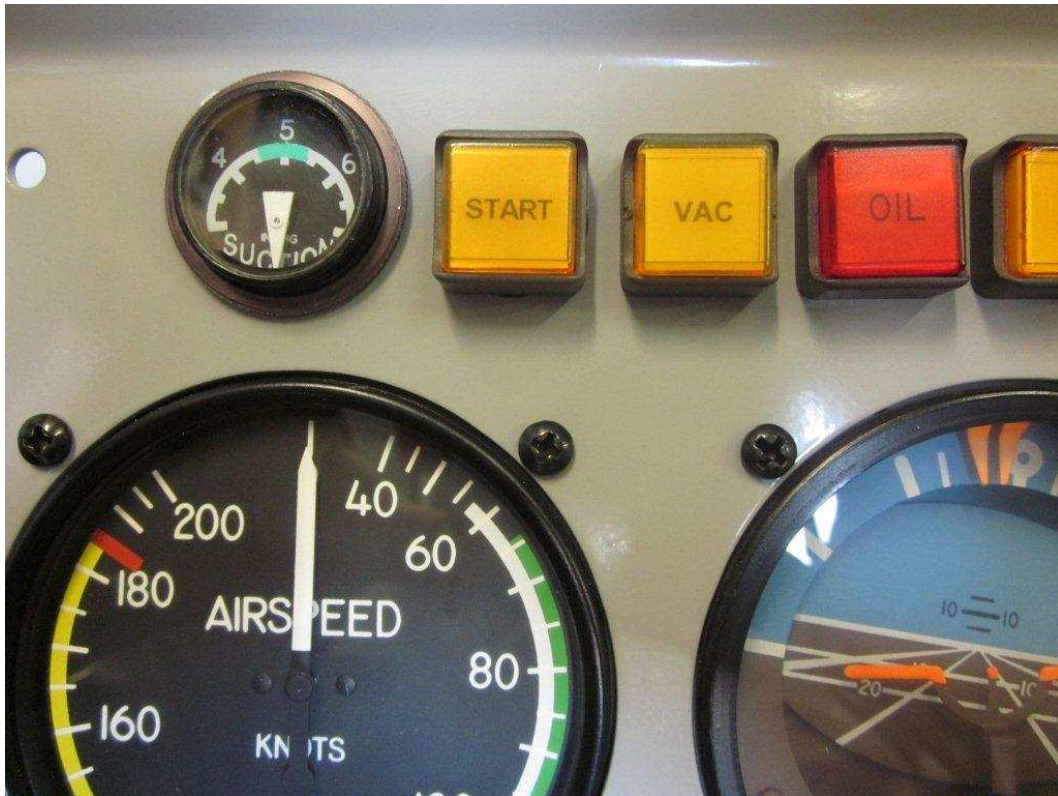


Figure 3 : Partial wiring schematic



**Figure 4 : Completed Flight Instrument Panel**

**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.

**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-GA8-2012-85**

**Issue 1**

Aircraft Serial Number: GA8-\_\_\_\_\_

Service Bulletin SB-GA8-2012-85 Issue 1 has been incorporated in the above aircraft.

Date: \_\_\_\_\_

\_\_\_\_\_  
Signed

Print Name: \_\_\_\_\_

Please post or fax this compliance notice to:

GippsAero  
Attn: Technical Services  
P.O. Box 881  
Morwell Victoria 3840  
Australia  
Fax.: +61 (3) 5172 1201