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# **Service Bulletin**

## Subject:

Installation of external LED lights

## 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:

Issue 1: Initial Issue

#### Background:

This Service Bulletin provides instructions for the replacement of external filament lights located in right wing, left wing, and vertical fin with 14V Whelen LED lights.

The Whelen light models PLED1L and PLED1T are FAA approved for aviation use as a landing and taxi lights. Refer STC SA00344BO. These LED lights are also approved as PMA parts as "drop in" replacements on GA8 models.

This Service Bulletin installation is equivalent to external LED lighting installed in accordance with GippsAero Engineering Release ER-GA8-9633227.

## 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:

Refer Part C

## **Electrical Load Analysis:**

The effect of this Service Bulletin's incorporation on the aircraft's electrical load analysis is shown in Table 2 & Table 3. Subtract the electrical load for those components removed and replaced with LED lighting and amend the aircraft's ELA.

| COMPONENT                             | NOMINAL<br>CURRENT @<br>14V | CIRCUIT<br>BREAKER<br>LABEL | BUS | PHASES<br>OF<br>FLIGHT      |
|---------------------------------------|-----------------------------|-----------------------------|-----|-----------------------------|
| 2 x Whelen PLED1L Landing Lights      | 2.8 A<br>(combined)         | LANDING                     | 1   | Take-off<br>Landing         |
| 2 x Whelen PLED1T Taxi Lights         | 2.8 A<br>(combined)         | TAXI                        | 2   | Take-off<br>Landing<br>Taxi |
| 2 x Wholen LED OP6001 Wing Ney Lights | 1.0 A<br>(combined)         | NAV<br>(Position)           | 2   | All                         |
| 2 X Whelen LED OKOOUT Wing Nav Lights | 2.0A<br>(combined)          | STROBE<br>(ACL)             | 2   |                             |
| 1 x Wholen LED OP5001V Toil Nev Light | 0.2A                        | NAV<br>(Position)           | 2   | All                         |
|                                       | 0.8A                        | STROBE<br>(ACL)             | 2   |                             |

The aircraft's electrical load analysis shall be updated to include this information.

#### Table 3 Existing GA8 Filiment/Strobe

| COMPONENT  | NOMINAL<br>CURRENT<br>@ 14V | BUS   |
|--|-----------------------------|-------|
| 2 x GA8-334013-15 Landing Lights   | 9.4 A                       | 1     |
| 2 x GA8-334013-15 Taxi Lights  | 9.4 A                       | 2     |
| 2 x Whelen 01-0770054-00 Position/Anti-collision Light with Power Supply unit 01-0770006-09. | 7.2 A                       | 2     |
| Whelen 01-0770024-00 Position/Anti-collision Light with Power Supply unit 01-0770006-09.     | 2.4 A                       | 2     |
| 2 x Whelen W1285P 14 Position Light Wing (Red),  | 4A                          | Bus2/ |
| 1 X Whelen A555A 14 Position Light Tail (White)  | 2A                          | Main  |
| 1 x 150-0011 Aeroflash Flasher Unit and 2 x 151-0002 Aeroflash                               | (1)                         | Bus2/ |
| Beacon Light Assemblies.   | 、 ,                         | Main  |

(1) Approx. 9A. Measure actual electrical load before removal.

## Approval:

The airframe and/or electrical system modification/repair described in this Service Bulletin has been approved pursuant to Australian Civil Aviation Safety Regulation 21.095 (1998). GippsAero Reference GAE11#2761.

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## Parts:

The following parts are required to accomplish this Service Bulletin and are available as kit Part Number SB-GA8-2021-207-01.

| ITEM | PART No.       | DESCRIPTION   | QTY  |
|------|----------------|---|------|
| 1    | 01-0771733-01  | OR6001G WINGTIP PTA,12V (GREEN)                                   | 1    |
| 2    | 01-0771733-02  | OR6001R WINGTIP PTA,12V (RED)                                     | 1    |
| 3    | 01-0771774V01  | OR5001V ORION500 TAIL PTA LIGHT WHITE, 12V                        | 1    |
| 4    | 01-0771833-10  | WHELEN P36P1L LANDING LIGHT                                       | 2    |
| 5    | 01-0771833-15  | WHELEN P36P1T TAXI LIGHT  | 2    |
| 6    | 1-480426-0     | CONN CAP HSG 4 POS COMMERCIAL MATE-N-LOK                          | 2    |
| 7    | 1-480426-0     | CONN PIN HOUSING 4 POS (P58)                                      | 1    |
| 8    | 1-480704-0     | CONN PLUG HOUSING 6 POS MATE-N-LOK (P39A)                         | 1    |
| 9    | 1-480705-0     | CONN CAP HOUSING 6 POS MATE-N-LOK (J39, J39A)                     | 2    |
| 10   | 1-480709-0     | CONN CAP HOUSING 12 POS MATE-N-LOK (J01, J02)                     | 2    |
| 11   | 163305-2       | CONTACT PIN 20-18AWG CRIMP  | 8    |
| 12   | 163305-2       | CONTACT PIN 20-17AWG CRIMP  | 4    |
| 13   | 350689-1       | CONTACT CRIMP SKT 24-18 AWG MATE-N-LOK                            | 33   |
| 14   | 350690-1       | CONTACT PIN 24-18 AWG CRIMP MATE-N-LOK                            | 5    |
| 15   | E1000-3        | NYLON TUBE 3/16 O.D.  | 20"  |
| 16   | GA8-246045-017 | WIRE KIT FOR OVERHEAD PANEL ELECTRICAL LED<br>LIGHTS INSTALLATION | 1    |
| 17   | GA8-246045-019 | WIRE KIT FOR FUSELAGE LED INSTALLATION                            | 1    |
| 18   | GA8-246072-011 | ELECTRICAL HARNESS VERTICAL FIN                                   | 1    |
| 19   | GA8-246073-011 | ELECTRICAL HARNESS LEFT WING                                      | 1    |
| 20   | GA8-246073-015 | SINGLE WIRE FUEL RETURN   | 1    |
| 21   | GA8-246073-017 | SINGLE WIRE PITOT HEAT RETURN                                     | 1    |
| 22   | GA8-246074-011 | ELECTRICAL HARNESS RIGHT WING                                     | 1    |
| 23   | GA8-246074-013 | SINGLE WIRE STALL RETURN  | 1    |
| 24   | GA8-246074-015 | SINGLE WIRE FUEL RETURN   | 1    |
| 25   | GA8-334023-045 | LED CLAMPING PLATE  | 4    |
| 26   | GA8-334028-021 | NAVIGATION LAMP BASE (OR6001)                                     | 2    |
| 27   | LHMS-55-D      | LIGHTENING HOLE MOUNT   | 2    |
| 28   | M81824/1-2     | SPLICE INSULATED AWG 20-16 BLUE 105C                              | 20   |
| 29   | M83519/2-7     | SOLDER SLEEVE 0.105/0.055 LEADED 22AWG                            | 4    |
| 30   | M83519/2-8     | SOLDER SLEEVE 0.170/0.085 LEADED 22AWG                            | 4    |
| 31   | M83519/2-9     | SOLDER SLEEVE 0.235/0.130 LEADED 22AWG                            | 8    |
| 32   | MS25036-149    | TERML LUG INSUL RING 22-18AWG #8 DIA RD                           | 10   |
| 33   | NAS548-P8-16   | SCREW - FLAT HEAD   | 6    |
| 34   | PAF28          | CONDUIT, PLASTIC, FLEXIBLE, 28MM                                  | 3.5m |
| 35   | TLPD321BS      | RIVET, POP  | 30   |
| 36   | TLPD419BS      | RIVET, POP  | 12   |
| 37   | TLPD424BS      | RIVET, POP  | 2    |
| 38   | TLPD435BS      | RIVET, POP  | 5    |
| 39   | W31X2M1G-5     | CIRCUIT BREAKER SWITCH 5A   | 4    |

#### Table 4 - Parts

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The following consumables are required to accomplish this Service Bulletin.

#### Table 5 - Consumables

| ITEM | PART No. | DESCRIPTION  | QTY |
|------|----------|--|-----|
| C1   | RTV 747  | SILICONE SEALANT (OR EQUIVALENT NEUTRAL<br>CURE SEALANT) | 1   |

## Parts Availability:

New parts can be obtained directly from GippsAero.

Tel: +61 (0)3 5172 1200

Fax: +61 (0)3 5172 1201

Email: <u>PARTS@gippsaero.com.au</u>

## Labour:

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

## Warranty:

Optional modification warranty is not applicable.

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## Accomplishment Instructions:

The following instructions are applicable to the left hand side (LHS) of the aircraft; the right hand side (RHS) is opposite, unless noted otherwise.

#### 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 MATERIAL/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/GA8-TC 320 Service Manual and FAA Advisory Circular (AC) 43.13-1B 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.

## Part A – Installation

#### **Preparation & General notes**

- 1. The installation of wiring is to be performed in accordance with FAA Advisory Circular 43.13-1B, Chapter 11 - Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair - for wiring purpose. Carry out grounding and bonding checks on all disturbed electric wiring.
- 2. Refer to GA8 Service Manual, Chapter 24 (Electrical Power) for safety precautions & procedures to be adhered to when performing any maintenance or modification to the electrical system.
- 3. Obsolete wiring may be removed or capped and stowed as appropriate.
- 4. Where equipment is removed, restore or repair the structure in accordance with FAA AC43.13-1B
- 5. Prior to installation carry out a baseline EMC test (refer Part B) and record if there is any electrical interference.
- 6. Ensure the aircraft is safe for maintenance.
- 7. Turn both Master switches to the OFF position.
- 8. Pull all under floor circuit breakers.
- 9. Disconnect the Battery and remove ground power.
- 10. In the electrical overhead panel, turn OFF the Landing Light, Taxi Light, Cabin Light, Wing Light, Nav Light and Strobe Light circuit breakers.
- 11. Typical Mate-N-Lok pin numbering is shown in Figure 1. Refer TE Connectivity Mate-N-Lok AMP Connectors datasheets for additional information on use.

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Figure 1 : Mate-N-Lok pin numbering

#### Wing Installation

- 12. Remove the existing LH & RH landing light assemblies.
- 13. Remove the LH & RH wing tips.
- 14. Remove and discard the existing strobe light power supply units.
- 15. Gain access to the existing wiring by removing
  - wing leading edge access panels
  - forward wing root fairings
  - fuel float sensor access panels.
- 16. Replace the existing looms with the following wires and harness assemblies. Retain and incorporate any additional wiring required additional modifications.
  - 16.1. LH & RH Wing Electrical harness's (Item 19 & Item 22)
  - 16.2. LH & RH Wing Single wire fuel return (Item 20 & Item 24)
  - 16.3. LH Wing Single wire pitot heat return (Item 21)
  - 16.4. RH Wing single wire stall return (Item 23).
- 17. Conduct a continuity check of the added aircraft wiring. Refer Figure 10. Carry out a bonding and grounding check on all new and disturbed wiring in accordance with FAA AC43.13-1B

#### Landing/Taxi Lights

- Choose the appropriate replacement light assembly. Install the landing light PLED1L (Item 4) into the inboard position and the taxi light PLED1T (Item 5) into the outboard position of the landing light assemblies.
- 19. Inspect the landing light assemblies for any signs of abnormal wear or damage.
- 20. Remove and retain the 4 screws holding the clamping plate and existing lamp in place. Ensure the clamping plate (GA8-334023-35) doesn't fall from the lamp assembly before it is ready to be removed.
- 21. Remove the lamp and clamping plate from the receptacle and discard both.
- 22. Install the rubber gasket included with the LED Light around the LED Light assembly. A light application of a common hand soap on the rubber may aid in its fit into the light housing.
- 23. Place the LED light into the receptacle. Proper orientation of the lamp is necessary for beam orientation to be left and right of centreline while in operation. For a Taxi light, the 'lines' of the inner optic should be orientated vertically to produce a horizontal light beam.
- 24. Install the LED clamping plate (Item 25). Care should be taken to tighten the screw only to the point the retainer does not turn with hand pressure. Over-tightening may stress the polycarbonate lens of the LED Light.
- 25. Connect wires to the light assemblies Refer Figure 2, noting the terminal markings for positive and negative. Refer Figure 10 attach wiring to the terminal posts of the LED Lights.
- 26. Refit the LH & RH landing light assemblies.

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Figure 2 : LED Light Connections

#### Nav Lights

- 27. Remove the existing navigation lights and mounting pads from the wing tips.
- 28. Install the LED Position/Anti-collision lights (Items 1 & 2) to the wing tip navigation light pads as below
  - 28.1. Choose the appropriate light assembly. Use red light for port side, and green for starboard.
  - 28.2. Cut supplied nav light wires to 10.5" in length. Cut 8.75" tubing (Item 15) and install over wires. Crimp pin contacts (Item 11). Refer Figure 10 and insert wires into connector housings P55 & P56 (Item 6).
  - 28.3. Refer Figure 3, carefully remove the #2 cap head screws and lens retainer. Remove the lens from the light assembly by lifting the rear of the lens approximately 1/2". Now slide the lens rearward approximately 1/2" and lift upwards to remove. CAUTION! Do not touch the LED lens surface with either fingers or sharp objects. This could soil and/or damage the lens and affect the optical performance of the LEDs. Remove the 3 black phillips head screws securing the baseplate to the light assembly. Remove baseplate.
  - 28.4. Apply a thin layer of sealant (Item C1) between the wing tip and the mounting pads. Secure the new navigation light baseplate and mounting pads (Item 26) to the wingtip using screws (Item 33).
  - 28.5. Re-install the light assembly on to the baseplate and ensure that all leads are clear of any obstructions and secured as required. Note that proper orientation is achieved with the drain hole down.
  - 28.6. Install lens in the reverse order as removal, return the lens retainer to its installed location, reinsert #2 cap head screw and tighten firmly. Confirm proper gasket fit.
  - 28.7. Waterproof the light base to the aircraft. Apply sealant (C1) around any open area where water could get in. Do not cover the drain hole.
- 29. Connect the wingtip wiring and refit the wingtip assemblies.

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| QTY | QTY | ITEM | PART NUMBER   | DESCRIPTION                           |
|-----|-----|------|---------------|---------------------------------------|
|     | *   |      | 01-0771733-01 | OR6001G Wingtip PTA, 12V (Green)      |
| *   |     |      | 01-0771733-02 | OR6001R Wingtip PTA, 12V (Red)        |
| 1   | 1   | 1    | 06-171708-001 | Baseplate                             |
|     | 1   | 2    | -             | OR6001 Assembly (GREEN)               |
| 1   |     | 3    | -             | OR6001 Assembly (RED)                 |
| 3   | 3   | 4    | 14-0050581B03 | Screws, 4-40 x 5/16 P100FH MS24693-3B |
| 1   | 1   | 5    | 19-171730-00  | Retainer, Lens                        |
| 2   | 2   | 6    | 14-026A36-04M | Screws, 2-56 x 1/4 Socket HP Cap      |
| 1   | 1   | 7    | 02-0371773-30 | Lens, Clear, Hardcoated               |

Figure 3 : Wingtip light assy.

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#### Vertical Fin Installation

- 30. If required to gain sufficient access, remove the fin. Refer to the aircraft service manual §55-30-00.
- 31. For aircraft fitted with strobe lights, remove the Vertical Fin Anti-Collision Lights the Power Supply located inside the tailcone at station 206.
- 32. For aircraft fitted with beacons, remove the beacons and install a patch repair in accordance with FAA AC43.13-1B. Remove the tail nav light. Remove the beacon flasher units and discard.
- 33. Remove the Fin Tip Beacon Box P/N GA8-553021-101 by drilling out the eight rivets (per side) refer in Figure 4.



#### Figure 4 : Fin Tip Alteration

- 34. Remove and retain Rib No.6 (GA8-553021-293) at top of the Vertical Fin (refer Figure 6).
- 35. Modify the Fin by enlarging the original strobe light cut-out. Remove the material in the hatched region shown in Figure 6. Note that all dimensions are in inches, tolerances are ±0.032" and sharp corners should be suitably radiused. Trim Rib No.6 to suit cutout.



Figure 5 : Fin cut out

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Figure 6 : Fin wire routing

- 36. Install the Electrical Harness (Item 18) through the conduit (Item 34). Pass the conduit through the Fin as shown in Figure 6. Note that the red lines indicate the axis of lightening holes inherent in the respective components. Mounts at ribs 3 & 4 may be omitted if they are inaccessible.
- 37. For each of the locations identified by Detail A in Figure 6, the Lightening Hole Mounts (Item 27) are to be fastened to the identified rib components using a pop rivet (Item 38) (drill Ø4.1mm hole).
- 38. An additional Lightening Hole Mount is to be secured to the existing Earth Bracket (GA8-553021-107) as shown in Figure 7.

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Figure 7 : Fin Tip

- 39. Fasten the conduit to the Lightening Hole Mounts as per Figure 6. Note that the lower end of the conduit should extend 2.000" (+0.125", -0.000") below the upper surface of Rib No.2 Forward (GA8-553021-239) component.
- 40. An additional Lightening Hole Mount (Item 27) is to be installed to the upper Fin Rear Spar Assembly (GA8-553011-017) lightening hole using a pop rivet (Item 38) (Ø4.1mm hole) as shown in Figure 7. Using a cable tie, secure wiring required to pass though this lightening hole to the Lightening Hole Mount. Ensure that the wiring does not chafe around the lightening hole.
- 41. Refit Rib No.6 (GA8-553011-293) and Fin Tip Beacon Box (GA8-553011-101) using pop rivets (12 x Item 36, 2 x Item 37 and 30 x Item 35), refer Figure 4.
- 42. Install 4-way plug J58 (supplied with Item 18). Conduct a continuity check of the added aircraft wiring.
- 43. Reconnect the Nav antenna coax or cap and stow as required.
- 44. Install the new LED Position/Anti-collision light (Item 3) to the fin tip beacon box as below.
  - 44.1. Cut supplied tail light wires to appropriate length. Crimp pin contacts (Item 12). Insert wires into connector housing P58 (Item 7) refer Figure 10.
  - 44.2. Connect the light wiring to the tail loom in accordance with Figure 10.
  - 44.3. Refer Figure 8 Install the light assembly on to the aircraft (discard the supplied nuts). Ensure that all leads are clear of any obstructions and secured as required. Note that proper orientation is achieved with the drain hole down.
  - 44.4. Waterproof the light base to aircraft. Apply sealant (C1) around any open area where water could get in. Do not cover the drain hole or the back of the unit.
- 45. Refit the fin. Refer to the aircraft service manual §55-30-00.

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Figure 8 : Fin anti-collision and position light

## **Overhead Panel & Fuselage Wiring**

- 46. Gain access to the overhead electrical panel.
- 47. Remove the existing 10A Landing Light, Taxi Light, Strobe light & Nav Light circuit breakers and discard. Install replacement 5A circuit breaker switches (Item 39)
- 48. If DC-DC converter is installed in the cabin roof at F.S.66.00 connect lighting grounds (Refer Figure 10 Note 1) to the earth point shown in Figure 9.
- 49. If no DC-DC



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50.

51. Modify the overhead panel & fuselage electrical wiring using wire kits (Item 16 & Item 17). Install connectors and pin/sockets listed in Table 6. Select appropriate solder sleeves and splices from Table 4 to complete the wiring in accordance with Figure 10.

| Designation | Housing  | Pins / Se | ocket |
|-------------|----------|-----------|-------|
|             | Item no. | Item no.  | Qty   |
| J01         | 10       | 13        | 12    |
| J02         | 10       | 13        | 11    |
| J39A        | 9        | 13        | 5     |
| P39A        | 8        | 14        | 5     |
| J39         | 9        | 13        | 5     |

#### **Table 6 Connectors**

- 52. Conduct a continuity check of the added aircraft wiring.
- 53. Re-secure the overhead electrical panel in place.

#### Part B – Testing

- 54. Reconnect the Aircraft Battery.
- 55. Close all the under-floor circuit breakers.
- 56. Apply external power.
- 57. Turn both Master switches to ON position.
- 58. Engage the Landing Light, Taxi Light, Cabin Light, Wing Light, Nav Light, Strobe Light circuit breakers one at a time and verify the functioning of their respective lights.
- 59. Align the new installed LED Landing Light & Taxi Light beams using the slotted holes provided.
- 60. Reinstall any removed access panels, fairings and interior linings.
- 61. Perform EMC check by cycling the source and observing the effect on the victim systems. LED lighting shall be evaluated as both the source and the victim. Complete the EMC Check Matrix in Table 7

The equipment shall not be the source of harmful conducted or radiated interference or adversely affect other equipment or systems installed in the airplane. With the equipment energized on the ground, individually operate other electrically operated equipment and systems on the airplane to determine that no significant conducted or radiated interference exists. Evaluate all reasonable combinations of control settings and operating modes. Operate communication and navigation equipment on at least one low, high and mid-band frequency. Make note of systems or modes of operation that should also be evaluated during flight. For airplane equipment and systems that can be checked only in flight, determine that no operationally significant conducted or radiated interference exists. Evaluate all reasonable combinations of control settings and operationally significant conducted or radiated interference exists.

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| System                           | SpecificSystemItemFailure Indication |   | on    | ок |
|----------------------------------|--------------------------------------|---|-------|----|
|                                  | General                              | Blinking, Flickering, distortior        | I     |    |
|                                  | ASI                                  | Change in displayed Airspee             | d     |    |
| Avionics                         | Altitude                             | Change in displayed Altitude            |       |    |
| Instruments VSI Change in Displa |                                      | Change in Displayed Vertical            | Speed |    |
|                                  | Heading                              | Change in displayed Heading             | ]     |    |
|                                  | Attitude                             | Change in displayed Attitude            |       |    |
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| System  | Specific<br>Item  | Failure Indication  | ОК |
|---|---|---|----|
|   | СОМ   | Noise, Squelch, Clicking  |    |
|   | NAV   | Noise, Squelch, Clicking, Unstable indication   |    |
|   | GPS   | Change in position, GPS Status - Position<br>accuracy fields - Unstable position data.<br>Check Satellite page for signal strength. |    |
| Audio<br>System /<br>Speaker  |   | Audio Noise   |    |
|   | XPDR /<br>ADS-B   | Inability to transmit   |    |
|   | Traffic   | Loss of data  |    |
|   | Rad Alt   | Change in displayed Altitude  |    |
| Standby<br>Compass Change in displayed Heading  |   | Change in displayed Heading   |    |
| Engine & Fuel<br>Instruments  | All   | Erroneous Parameter display, Errors<br>Displayed  |    |
| Instrument Back<br>Lighting   | All   | Dimming, Flickering   |    |
| Engine & Fuel<br>Instruments<br>Instrument Back<br>Lighting<br>Electrical<br>Electrical | Landing   | Dimming, Flickering   |    |
|   | Тахі  | Dimming, Flickering   |    |
|   | Nav   | Dimming, Flickering   |    |
| Electrical  | Strobe  | Dimming, Flickering   |    |
|   | Coaming   | Dimming, Flickering   |    |
|   | Courtesy  | Dimming, Flickering   |    |
|   | COMNoise, Squeich, ClickingNAVNoise, Squeich, Clicking, Uns<br>indicationGPSChange in position, GPS Stat<br>accuracy fields - Unstable pos<br>Check Satellite page for signalAudio<br>System /<br>SpeakerAudio NoiseXPDR /<br>ADS-BInability to transmitTrafficLoss of dataRad AltChange in displayed AltitudeStandby<br>CompassChange in displayed HeadingEngine & Fuel<br>InstrumentsAllEngine & Fuel<br>LightingAllLightingLandingLightingDimming, FlickeringTaxiDimming, FlickeringNavDimming, FlickeringStrobeDimming, FlickeringCoamingDimming, FlickeringCoamingDimming, FlickeringCourtesyDimming, FlickeringMapDimming, FlickeringFuel<br>PumpsUnsteady flowWarning<br>lightsPulsing, incorrect or erratic diPitot HeatTemperature instabilityClock /<br>CO DetFalse warningsMagnetosLoss of ignitionACUShutdown of Alternator, Loss<br>power control. | Dimming, Flickering   |    |
|   | Fuel<br>Pumps   | Unsteady flow   |    |
|   | Warning<br>lights   | Pulsing, incorrect or erratic display   |    |
|   | Pitot Heat  | Temperature instability   |    |
| Electrical  | Clock /<br>CO Det   | False warnings  |    |
|   | Magnetos  | Loss of ignition  |    |
|   | ACU   | Shutdown of Alternator, Loss of power or power control.   |    |
|   | ACU<br>(secondary)<br>(if installed)  | Shutdown of Alternator, Loss of power or power control.   |    |

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|                 |         |                            |               |

| System             | Specific<br>Item | Failure Indication                               | ок |
|--------------------|------------------|--|----|
| Power Distribution | Control<br>Logic | Erratic operation of contactors or loss of power |    |
| & Generation       | Generator        | Loss of Power or Power control.                  |    |

- 62. If applicable, carry out a magnetometer interference test.
- 63. Carry out a magnetometer calibration and compass swing.
- 64. Carry out a flight check after satisfactory completion of ground testing. Check the alignment and brightness of the lights is satisfactory.

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## Part C – Weight and Balance

65. Determine the weight and location of the removed equipment and amend the aircraft weight and balance using the data from Table 8 or Table 9.

| Component                                     | Weight<br>(kg)/Unit | Quantity | Arm<br>(mm) | Moment   |
|---|---------------------|----------|-------------|----------|
| Landing and Taxi Light Assembly               | 0.96                | 2        | 1143        | 2,194.56 |
| Position/Anti-Collision Lights (Wing)         | 0.24                | 2        | 1400        | 672.00   |
| Position/Anti-Collision Lights (Vertical Fin) | 0.15                | 1        | 7380        | 1,107.00 |
| Fin Conduit                                   | 0.5                 | 1        | 6500        | 3,250.00 |
| Total   | 3.05                |          | 2368.38     | 7,223.56 |

#### Table 8 : Installed Items (SI Units)

#### Table 9 : Installed Items (Imperial Units)

| Component                                     | Weight<br>(Ib)/Unit | Quantity | Arm<br>(in) | Moment |
|---|---------------------|----------|-------------|--------|
| Landing and Taxi Light Assembly               | 2.11                | 2        | 45.00       | 190.31 |
| Position/Anti-Collision Lights (Wing)         | 0.53                | 2        | 55.12       | 58.27  |
| Position/Anti-Collision Lights (Vertical Fin) | 0.33                | 1        | 290.55      | 96.00  |
| Fin Conduit                                   | 1.10                | 1        | 255.91      | 281.83 |
| Total   | 6.72                |          | 93.24       | 626.41 |

## **Documentation:**

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

Insert this Service Bulletin and Service Manual Supplement, C05-96-36 Wing and Vertical Fin LED Lighting System ICA, Issue 17-Aug-2016 or later approved into the aircraft's Service Manual.

## Continuing Airworthiness:

Instructions for Continued Airworthiness are contained in SMS C05-96-36

## **Compliance Notice:**

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

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NOTE 1 : Refer Overhead Panel & Fuselage Wiring procedure for grounding point.

Figure 10 Wiring Schematic

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Issue 1

SB-GA8-2021-207

Aircraft Serial Number:

GA8-\_\_\_\_\_

Service Bulletin SB-GA8-2021-207, Issue 1 has been incorporated in the above aircraft.

Date of Incorporation:

Signed

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

If this Service Bulletin requires any inspections be carried out, describe the result of these inspections:

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