



OCTOBER 1995

Reference - STI AF-SBC-95-002

Retro-Fit replacement of existing Low Fuel Warning Float Switch Type with Optical Liquid Level Sensor System.

Problem: Insufficient specific gravity of fuel without oil dilution petrol mix has in some cases resulted in erratic operation of the existing float switch.

Rectification: This complaint will be overcome by fitting an additional Optical Liquid Sensor in the fuel tank and replacing the LED unit in the cockpit console.

Procedure: If logistically unsuitable for the aircraft to be returned to our factory at Boonah or our Service Centre at Denis Beahan & Co., Roma Airport, then the following procedure can be carried out by owner/operator. The retro-fit will then have to be inspected and log book signed out by AUF Accredited Level II Maintenance Holder or L.A.M.E.

1.a. Drain fuel from bottom tank until empty. Disconnect the fuel and breather hoses and cover the ends.

Unscrew both retaining tank straps at hose clamp screw connections and lower and withdraw tank then place onto suitable work bench area.

1.b. New sensor will be installed at same horizontal level and adjacent to the existing switch.

NOTE!! Due to the threaded section of the new switch being smaller than original unit, a new hole has to be made for the Optical Sensor and the original float switch is left in place.

Remove tank alloy filler cap. Measure across some 30mm and using an air drill only, drill a pilot hole (maximum 9.5mm or 3/8" drill bit), sufficient to allow enlarging out with a fine round file to approximately 12mm diameter only, to allow clearance fitting of Optical Switch. Sand lightly around this hole to about 20mm to provide key for Araldite Glue.

Using a suitable piece of electrical cable about one metre long, bare one end and twist joint onto the cables of the new switch. (Ensure the rubber washer is seated on the switch before installation into tank).

Feed the other end of the cable into the tank via filler cap and work through the centre cut out area of the tank baffle.

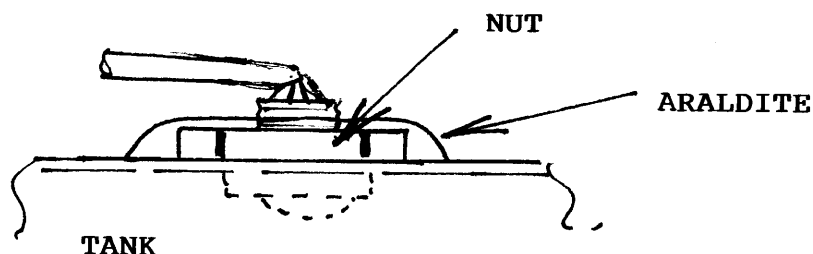
Position the wire over to the hole opening sufficiently to enable it to be hooked with a piece of wire or long nose pliers and be withdrawn from the hole.

- 1.b. (cont'd) Pull cable and jiggle tank and alternate position of tank so as to enable switch to clear through centre hole of baffle and be pulled up to and through the mounting hole ensure rubber gasket is correctly seated on switch.

Clean area around hole with mineral turps and install nut on switch, lightly tighten only with maximum finger pressure.

Apply Araldite Epoxy Resin Glue (either 5 minute or normal pack) around the nut and thread area ensuring that complete area of nut is covered and spread over tank by at least 2mm.

e.g.



Allow twenty four hours to cure before filling tank with fuel, then add a few litres of petrol and flush out any fibreglass debris from initially cutting the hole.

Cut off wires flush with the nut on the old float switch and also remove or cut off connecting cable above fuel tank.

- 1.c. Refit tank back into retaining straps, refit hoses to applicable barb connections.
- 2.a. Remove existing console mounted Low Fuel Warning LED Facia Panel by disconnecting 4-pin plug and pushing out Facia Panel from the plug connection side to clear the console.
- 2.b. Install new LED Facia Unit from front side of console and ensure slight "push in" fit. Correct if required, remove sufficiently to add small quantity of Super Glue to outer rim and then align and push in to secure unit to console.
- 3.a. Install new connecting cable loom and run down between cockpit console-pod and underside of fuselage.
Install grey adhesive cable clips and attach as required to underside of fuselage pans.
Route cable over bottom fuel tank and connect to Optical Level Sensor via 4-pin plug. (Refer wiring diagram enclosed for correct wire colour coding to pin location).
Secure cable to tank with the two white adhesive clips and tuck up and secure connecting plug to rear throttle lever pivot bracket with a zip tie.
- 3.b. Electrical power connection for unit. Refer to attached wiring diagram and connect accordingly.

- 3.c. Check security of cable and connections and refill tank with fuel. Check with master key on that both green and red LED are illuminated. Recheck when fuel has covered Optical Sensor that red LED has now gone out. (Note!! Unlike the previous float level switch unit, there is no circuit test function with this optical unit).

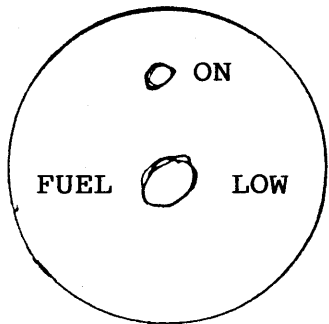
Material Included:

- 1 X 317819 Rear Mounting Optical Liquid Level Sensor
- 1 X LED Facia Unit
- 1 X Connecting Cable Loom
- 6 X Grey Cable Adhesive Clips
- 2 X White " " "
- 2 X Zip Tie

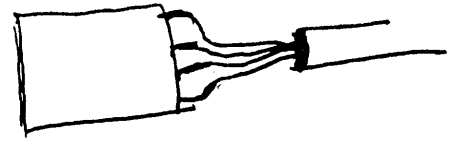
If in any doubt about this procedure, please contact either Richard or Russell on (074) 632755 or Fax: (074) 632987.

Distribution - All SB Aircraft owners with oil injected engines only from Dr95-SB1006 to SB1019.

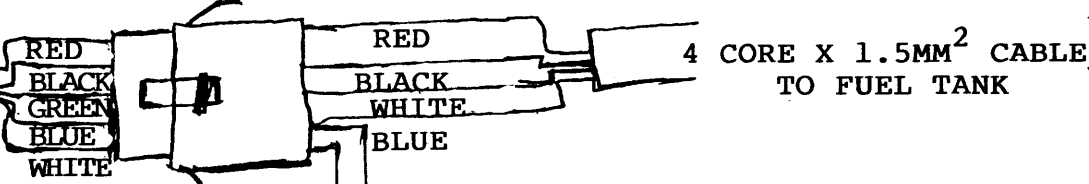
cc. Bob White C.A.S.A.
Harry Walton A.U.F.



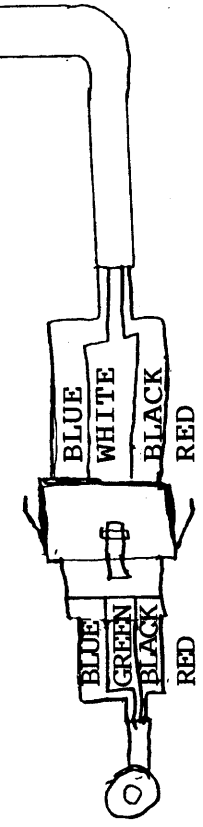
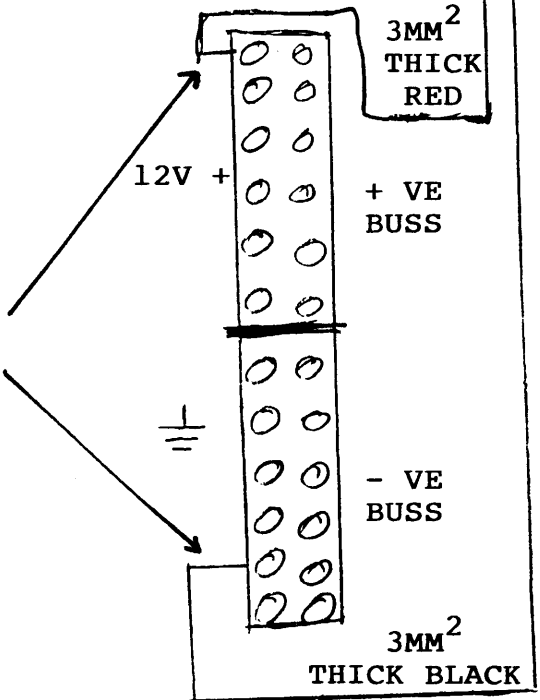
6007-6
PLUG ASSY.
NOTE
1 PIN BAY SPARE



OLD PLUG HALF
(LEAVE HANGING)



WIRES MAY BE ENTERED INTO A BLANK PIN HOLE OF THE SIX AVAILABLE AS LONG AS POLARITY IS MAINTAINED



FUEL TANK
SENSOR

6007-4
PLUG ASSY.