RotorSport UK Ltd Service Bulletin (Permit)

Title: Cavalon low-fuel sensor upgrade		
SB No.: 097 Iss1	**Related documents** MC No: None CCAR No.: None	**Compliance Category:** ~~**OPTIONAL**~~ or **RECOMMENDED or** ~~**MANDATORY**~~
Applicability		
Aircraft type & model: **Cavalon**	**Aircraft serial Nos. affected:** **RSUK/CVLN/001 to 012**	

This form is the response from RotorSport UK Ltd either against a problem found in the product in service requiring a containment or rectification action, or as service information for aircraft modification incorporation. For help, contact RotorSport on 44(0)1588 650769, or email info@rotorsport.org.

Reason and overview of the Service Bulletin (cause of problem if known)

Cavalon gyroplanes approved under AAN29345 have a low-fuel sensor consisting of a vertical brass tube with cylindrical plastic float that rises and falls with the petrol level inside the right fuel tank.
At 5 litres or below a magnet in the float triggers a sensor in the tube to illuminate a warning light on the instrument panel.
RSUK have been made aware of instances of intermittent flashing of the low fuel warning when it is known that the fuel level is above 5 litres. This SB describes a simple modification to the sensor to prevent this nuisance flashing.

Approval

The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: **DAI/9917/06**

Manpower estimates

Accomplishment of this Service Bulletin requires the following personnel

(i) A3-7 Authorised engineer

Estimated man-hours to complete the task as a stand-alone item are; 1hour.

Tooling required

Hand tools
Headless long-shank M5 stud
Tyco terminal extraction tool

Weight and Balance Effects

No effect

Manuals affected

POH RSUK0287 and AMM RSUK0288 not affected.

Previous Modifications that affect the SB

None

Accomplishment instructions (Action required to implement this bulletin):

Effective date of this SB is 24.06.15. There is no relevant MPD or other outside body documentation to be referenced.

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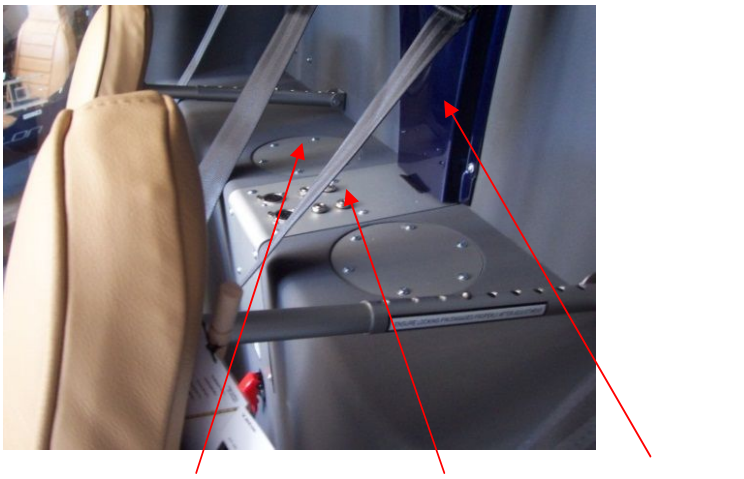
Instructions

1. Park the aircraft on level ground and secure the wheel brakes.
2. There is no need to disconnect the battery but the Master Switch must remain off.
3. Remove the circular hatch above the right-hand fuel tank. The top of the fuel sensor can be seen beneath. Mark with a felt-tip pen so that it can be replaced in the same position



RH fuel tank hatch Comms panel Centre cover

4. Remove the centre cover then the comms panel at the rear of the cockpit and lay to one side, this exposes a blue wiring harness connector. Remove any safety tie then compress the barbs and separate the connector halves
5. Using the Tyco pin-removal tool extract the two terminals of the fuel sensor lead (pins 3 and 5)
6. The fuel sensor may now be removed from the top of the fuel tank, but the threaded metal inlay inside the tank must be prevented from falling free. Therefore remove only one of the M5 screws and replace with the threaded stud before removing the remaining socket-screws. (When the sensor is lifted away trap the threaded stud with a cable tie or strip of gaffer-tape)

Fuel tank inlay plate

7. When surplus fuel has dried-off use a pair of pincers to cut-off the stainless-steel clip at the base of the sensor. Check that the split pin is secure and undamaged
8. Check that the float is undamaged and can rise to follow the true fuel level rather than its position being restricted by the clip.

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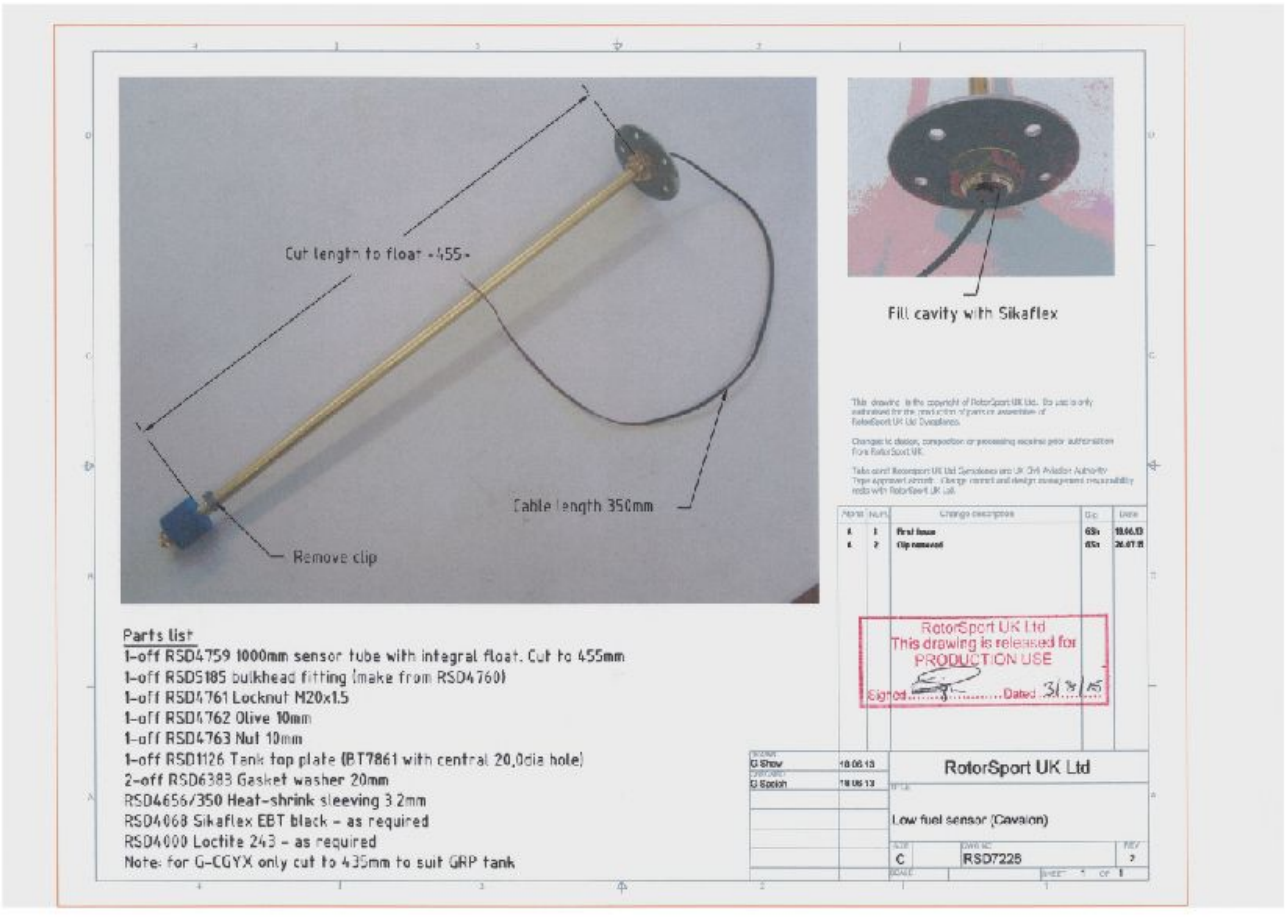
9. Clean-up the flange of the sensor
10. Ensuring that no debris falls into the tank, clean-up the mating area on top of the tank
11. Apply a bead on Loctite 5331 sealant around the underside of the sensor flange and refit the sensor in its original position.
12. Replace the M5 socket screws, removing the threaded stud when the metal inlay is secure. Use a film of Loctite 5331 on the socket screws
13. Replace the terminal pins and remake the connector. Fit a safety cable tie to the connector and cable-ties as required to the wiring harness
14. Replace the fuel-tank hatch, the comms panel and centre cover.
15. Turn on the keyswitch and check that the low fuel lamp is on. Add 7 litres of fuel, and recheck – the light should be off.

Note that the part number of the sensors is now RSD7226 Iss2.



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Material information (Parts required to be made to implement this service bulletin):

No parts manufactured during embodiment of this SB

List of components (with purchasable part nos)

No additional components required, but a tube of Loctite 5331 sealant is needed.

Interchangeability

Not affected

Parts disposition

a) Disposal requirements – dispose of redundant clip in normal waste
b) Environmental hazards of parts containing hazardous materials. not applicable
c) Scrap requirements (eg mutilate scrapped items beyond use) – not applicable.

Documentation (Service Bulletin Completion action)

a) Entries within the aircraft logbooks, eg CAA BCAR A3-7 Authorised Person to certify that the work is completed by writing *'SB-097 Low fuel sensor upgrade incorporated'* in the aircraft logbook white pages, and record the action in the pink pages entitled 'Aircraft Modifications'. Both entries must be signed by the CAA Authorised Person together with their CAA Authorisation number.

b) Completion of an SB worksheet (reference if attached, This must contain a PMR statement, and a final check item that no tools or equipment have been left within the aircraft)

c) No Permit change application document is required

d) PMR or Permit Flight Release form requirements are noted in b) above

Document approval signatures

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<tr><td colspan="4">Title: Cavalon low-fuel sensor upgrade</td></tr>
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<tr><td>Engineering Manager

Gerry Speich
Aug 6 2015 10:41 AM</td><td>CVE (as required)

Not required as no structural changes</td><td>Chief Test Pilot (if flight performance or safety effect)

Not required as no flight changes</td><td>Head of Airworthiness

Andy Lyons
Sep 3 2015 2:05 PM
cosign</td></tr>
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Service Bulletin implementation Worksheet

Aircraft type:	**Serial no:**	**G-**
Worksheet completed by:		**Document ref:**
Worksheet cross-checked by (if applicable):		**SB-097 Iss1**

Purpose – record service bulletin implementation actions taken to inspect aircraft and return to service.

Maintenance manual referred-to and issue level/date:	Cavalon AMM RSUK0288 Iss4

Note: attach SB sheets to this document

Task	Notes	Eng'r check/date	Inspector check/date
Remove sensor from aircraft			
Remove clip from sensor, inspect OK			
Refit sensor			
Fit safety cable tie on connector			
Replace the fuel tank hatch, the comms panel and the centre cover			
Confirm correct low-level function			

Customer acceptance:	
Name: Signature/date:	Aircraft hobbs meter reading: Confirm logbooks annotated:

Permit Maintenance Release:

'The work recorded above has been completed to my satisfaction and in that respect the aircraft is considered fit for flight. I confirm that no tools, equipment or debris have been left in the aircraft'

Engineer signature and date: CAA PMR Authorisation ref :	Location where work completed