

# RotorSport UK Ltd Service Bulletin (CofA)

<b>Title: Cavalon pro low-fuel sensor upgrade</b>		
<b>SB-C-001 Iss 1</b>	<b>Related documents</b> Modification: MC-327 CCAR No.: None	<b>Compliance Category:</b>  <b>OPTIONAL</b> or <b>RECOMMENDED</b> or <b>MANDATORY</b>
<b>Applicability</b>		
<b>Aircraft type &amp; model:</b>  Cavalon pro	<b>Aircraft serial Nos. affected:</b>  RSUK/CVLN/011	
The maintenance manual to be referenced is this stated or subsequent issue.		RSUK0335 Iss1
<p>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 505060, or email <a href="mailto:compliance@rotorsport.org">compliance@rotorsport.org</a>.</p> <p>The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: <b>DAI/9917/06</b></p>		

## Documentation (Service Bulletin Completion action)

- a) Entries within the aircraft logbooks, eg CAA BCAR A6-1 Authorised Person to certify that the work is completed by writing '*SB-C-001 Iss 1 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 (attached). This must contain a CRS statement, and a final check item that no tools or equipment have been left within the aircraft
- c) Type certificate change application document. This is required where the SB will affect the type certificate limitations, eg airspeed change or MTOW change and enables the owner to request the certificate change required
- d) Any other Certificate of Release to Service form requirements.

Document approval signatures			
<b>Engineering Manager</b>	<b>CVE (as required)</b>  Not required as MC-327 approved	<b>Chief Test Pilot (if flight performance or safety effect)</b>  Not required as no flight changes	<b>Head of Airworthiness</b>

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

Cavalon pro gyroplanes approved under AAN29428 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.

## **Manpower estimates**

Accomplishment of this Service Bulletin requires the following personnel

- (i) BCAR A6-1 (para 11) plus type approval 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 RSUK0334 and AMM RSUK0335 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 AD or other outside body documentation to be referenced.

## 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.
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.

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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.

**Parts list**

- 1-off RSD4759 1000mm sensor tube with integral float. Cut to 455mm
- 1-off RSD5105 bulkhead fitting (make from RSD4760)
- 1-off RSD4761 Locknut M20x1.5
- 1-off RSD4762 Olive 10mm
- 1-off RSD4763 Nut 10mm
- 1-off RSD1126 Tank top plate (BT7861 with central 20.0dia hole)
- 2-off RSD6383 Gasket washer 20mm
- RSD4656/350 Heat-shrink sleeving 3.2mm
- RSD4068 Sikaflex EBT black - as required
- RSD4000 Loctite 243 - as required

Note: for G-CGYX only cut to 435mm to suit GRP tank

NO	QTY	DESCRIPTION	UOM	PRICE	TOTAL
1	1	First issue	GB	18.66	18.66
2	1	clip removed	GB	26.07	26.07

**RotorSport UK Ltd**  
This drawing is released for PRODUCTION USE  
Signed: [Signature] Dated: 31/01/15

DESIGNED	18 06 13	<b>RotorSport UK Ltd</b>	
DESIGNED	18 06 13	Low fuel sensor (Cavaion)	
REV	C	DATE	RSD7226

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

**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.

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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-C-001 Iss1

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

Maintenance manual referred-to and issue level:

**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:	Aircraft hobbs meter reading:
Signature/date:	Confirm logbooks annotated:

**Certificate Release to Service:**  
*'The work recorded has been carried out in accordance with the requirements of the Air Navigation Order for the time being in force and in that respect the aircraft and equipment is considered fit to release to service. I confirm that no tools, equipment or debris have been left in the aircraft'*

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