

RotorSport UK Ltd Service Bulletin

Title:		
SB No.: 082 Iss2	Related documents MC No: 138 CCAR No.: None	Compliance Category:
Applicability		OPTIONAL or RECOMMENDED or MANDATORY
Aircraft type & model: MTOsport MT-03	Aircraft serial Nos. affected: RSUK/MTOS/001 to 024 RSUK/MT03/001 onwards	

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)

Later MTOsport aircraft are fitted with an electrically driven fuel gauge actuated by a sensor with a float. This system is more reliable than the earlier hydrostatic fuel gauges and under this SB-082 may be retrofitted to the earlier aircraft.



Float-driven (electrical) fuel gauge

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 acting for RotorSport UK Ltd

Estimated man-hours to complete the task as a standalone item are; 3hours

Task limitation – must only be carried out by RSUK approved A3-7 engineer

Tooling required

Hand tools as required
M5 threaded stud 80mm long

Weight and Balance Effects

No significant effect

Manuals affected

The MTOsport AMM RSUK0044 and MT-03 AMM RSUK0012 already describe the different fuel gauge installations.
The Pilots Handbooks RSUK0043 and RSUK0011 are not affected.

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Previous Modifications that affect the SB

Modified hydrostatic fuel gauges were fitted to some aircraft under MC-108. Both the original and modified gauges may be replaced by the electrical fuel gauge under this SB-082

Accomplishment instructions (Action required to implement this bulletin):

The effective date of SB is 04.03.14.

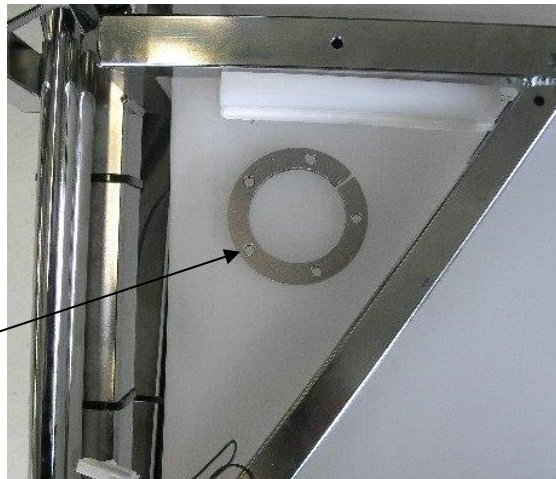
There is no relevant MPD or other outside body documentation referenced.

1) Tank sensor installation

Using a syphon tube, then the water drain cock, completely empty the fuel tank(s)

Lift the rear seat to gain access to the top of the left fuel tank

Place the inlay plate centrally in the triangular space ensuring that it is clear of the tank radius and with the opening at the rear left location. Mark the central 36mm hole and 5-off M5 mounting holes. If modifying an aircraft that has a barometric connection, remove the fitting and absorb the hole into the cut area.



NB: the hole pattern is not equispaced!

Drill the holes into the tank using slow rotation speed and significant pressure so that the plastic chips are carried to the outside

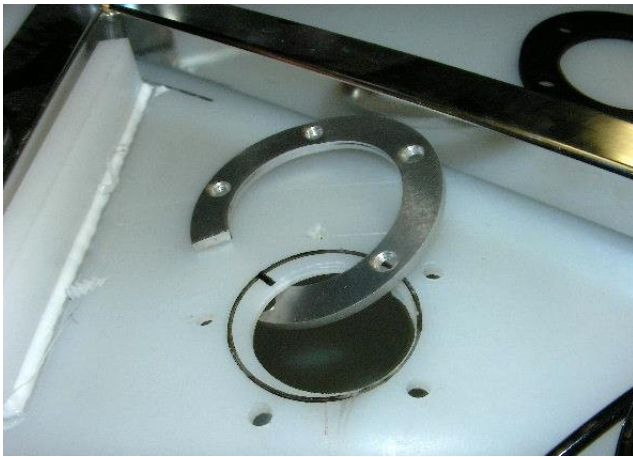


Check the interior of the tank for debris and remove any found

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Slightly bend the inlay and turn into the tank until the opening is in the correct position. Offer-up the sealing ring, the tank sensor and temporarily retain in place with the threaded stud



Apply Loctite 5331 to the mounting screws and fit into place, removing the temporary stud
Lay the cable against the airframe, cable-tie into place.



Ground terminal

2) Fuel gauge installation

Remove the instrument panel mounting screws and ease the panel forwards. Remove the existing fuel gauge (and separate push-button if fitted) and the "Push....." placard
Fit the new fuel gauge into the adaptor plate RSD1123 and fit to the original aperture.
Fit a blanking grommet to the push-button hole if required
Leave the plastic air pipe in place but fold-back and fit a cable tie to close the pipe.

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<p><u>3) Wiring harness installation</u></p> <p>Use a short length of cable from one terminal of the connector to an M4 ground terminal on the airframe, made with a pop-riev as shown in the photo above. Depending on the aircraft fit there may already be a rivet in place (in which case drill-out), or just a vacant hole. Using Raychem #22AWG and protective braid with heat-shrink sleeved ends feed a single cable alongside the existing wiring harness from one terminal of the new connector to the rear of the instrument panel. Cable-tie to the existing harness as required. Connect to the gauge's "signal" terminal with a "Faston" connector Using short lengths of cable and "Faston" connectors take the gauges "ground" and "power" terminals to the spare bullet connectors provided in the instrument supply cables. If these bullet connectors are already in use (e.g. GPS fitment) splice into the cables using solder and then insulate with heat-shrink sleeving. Fit cable ties as required to retain the new cables securely. Refit the instrument panel using low-shear strength Loctite 222 on the lowest two mounting screws only.</p> <p><u>4) Testing</u></p> <p>Turn on the master switch and verify that the fuel gauge reads zero then turn off Add fuel to half-full by reference to the sight-gauge of the fuel tank(s). Turn on the master switch and verify that the fuel gauge reads half-full. Turn off the master switch. Repeat with full fuel tank(s).</p>		
<p><u>Material information (Parts required to be made to implement this service bulletin):</u></p> <p>A small wiring harness is manufactured during installation under this SB-082 – see para 3 above</p>		
<p><u>List of components (with purchasable part nos)</u></p> <p>Tank sender kit M.EL94 Fuel gauge S.EL40 Adaptor plate 57mm to 2-1/4" (RSD1123) Blanking grommet (RSD5135) - if required Raychem cable #22AWG (RSD4623) – as required M4 ring terminal (RSD4764) – 1-off M4 pop rivet (RSD6342) – 1-off Two-pole connector female (RSD4389) – 1-off Connector terminals female (RSD4392) – 2-off Faston insulator (RSD6385) – 3-off Faston terminal (RSD4791) – 3-off Bullet connector red female(RSD4728) – 1-off Bullet connector red male (RSD4727) – 1-off Protective braid (RSD4592) – as required Heat-shrink sleeving 3.2mm (RSD4656) – as required Cable ties 2.4mm (RSD4206) – as required Cable ties 4.7mm (RSD4207) – as required Loctite 5331 (RSD4504) – as required</p>		

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<u>Interchangeability</u> Not affected, the electrical fuel gauge and sensor are current production parts and are available as spares.		
<u>Parts disposition</u> a) Disposal requirements (whether discard or re-use) – dispose-of removed parts in normal waste. b) Environmental hazards of parts containing hazardous materials - none c) Scrap requirements (e.g. mutilate scrapped items beyond use) – not applicable.		
<u>Documentation (Service Bulletin Completion action)</u> a) Entries within the aircraft logbooks, eg CAA BCAR A3-7 Authorised Person to certify that the work is completed by writing ‘SB-082 Electrical fuel gauge 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 the SB worksheet attached, This must contain a PMR statement, and a final check item that no tools or equipment have been left within the aircraft.		

Document approval signatures			
Engineering Manager	CVE (as required)	Chief Test Pilot (if flight performance or safety effect)	Head of Airworthiness
	Not required	Not required	

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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-082 Iss1	
Purpose – record service bulletin implementation actions taken to inspect aircraft and return to service.			
Maintenance manual referred-to and issue level/date:	MT-03 - RSUK0012 Iss 8 MTOsport - RSUK0044 Iss6 (Delete as applicable)		
Note: attach SB sheets to this document			
Task	Notes	Eng'r check/date	Inspector check/date
Install tank sensor Confirm no debris in fuel tank			
Install new fuel gauge			
Install new cables			
Verify gauge function and calibration by filling tank to ½ full, then full/full, and comparing gauge reading to contents.			
Customer acceptance:			
Name:		Aircraft hobbs meter reading:	
Signature/date:		Confirm logbooks annotated:	
Permit Maintenance Release:			
<i>'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'</i>			
Engineer signature and date:		Location where work completed	
CAA Authorisation code :			