

# RotorSport UK Ltd Service Bulletin (Permit)

<b>Title: IVO-prop motor housing nut torque</b>		
<b>SB-126 Iss1</b>	<b>Related documents</b> Modification: MC-276, -294, -318, -323 CCAR No.: CCAR-64, -66, -70	<b>Compliance Category:</b>  <b>OPTIONAL</b> <del>or</del> <b>RECOMMENDED or</b> <b>MANDATORY</b>
<b>Applicability</b>		
<b>Aircraft type &amp; model:</b> Any RSUK type fitted with IVO-prop DL3-68 VP-propeller	<b>Aircraft serial Nos. affected:</b> Any RSUK type fitted with IVO-prop DL3-68 VP-propeller	
The maintenance manual to be referenced is this stated or subsequent issue.		MT-03 RSUK0012 Iss 10 MTOsport RSUK0044 Iss 9 Calidus RSUK0061 Iss 7 Cavalon RSUK0288 Iss 5
<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 A3-7 Authorised Person to certify that the work is completed by writing '*SB-126 IVO-prop nut torque 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)
- c) No Type Approval change application document is required
- d) Any other Permit Maintenance Release to Service form requirements.

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

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

A number of IVO-prop DL3-68 variable pitch propellers on AutoGyro gyroplanes have suffered drive motor failure. This has been investigated by RSUK and it has been established that:

- The tightness of the three nuts at the end of the gearbox assembly can adversely influence the axial load incurred by the internal thrust bearings, leading to premature wear and excessive current draw by the motor.
- The grease used by the OEM is better replaced by a Molykote type grease

This SB-126 addresses the torque issue and results in improved reliability of the IVO-prop pitch-change mechanism. It is applicable to propellers with low service hours, or where an overhaul of the motor assembly as defined under SB-125 is considered unnecessary.

## **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; 30mins

## **Tooling required**

Hand tools including Imperial-sized spanners and sockets

## **Weight and Balance Effects**

No effect

## **Manuals affected**

POH RSUK and AMM RSUK are not affected, however the IVO-prop maintenance manual RSUK0325 will be updated with the content of this SB-126.

## **Previous Modifications that affect the SB**

MC-323 Improved IVO-prop motor refers to the same assembly

## **Accomplishment instructions (Action required to implement this bulletin):**

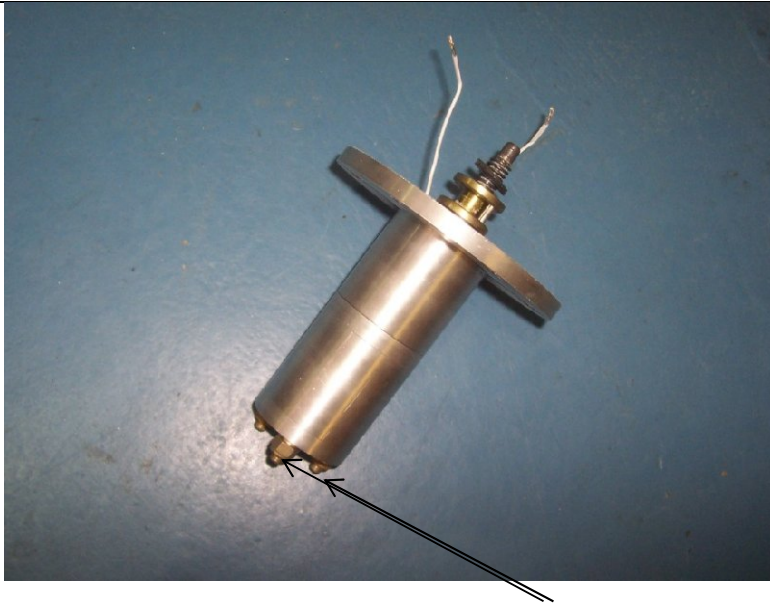
Effective date of this SB is 19 September 2017

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

### **Instructions**

Refer to IVO-prop manual RSUK0325 for further information

1. Position the aircraft on level ground and apply the parking brake/chock the wheels.
2. Verify that the two Mag-switches and the Master Switch are OFF
3. Using a suitable marker pen or adhesive tape mark the spinner/propeller/hub relationship to ensure precise replacement (particularly the blades, which are numbered 1,2,3)
4. Remove the spinner



Motor/gearbox assembly removed. Adjust these three nuts.

5. Using a 1/2"AF spanner progressively release the three nuts.
6. Progressively tighten these 1/2"AF nuts to 10Nm (tolerance 10-15Nm) only.
7. Suitably mark the rear motor face of the motor housing to denote the nut torque has been adjusted.
8. Following safe practice a qualified gyroplane pilot or appropriate person must ground-test the propeller in accordance with the instructions in the Pilots Handbook, to demonstrate proper function to pitch limit stops.
9. If satisfactory, refit the spinner (if fitted) in accordance with the aircraft AMM. Otherwise repair in accordance with the propeller handbook.
10. Update aircraft and propeller documents accordingly.

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

No parts made during embodiment

### **List of components (with purchasable part nos)**

Consumables used:

If required:

3-off Replacement AN365-524 (aka MS21044-N5 or 94-104) or equivalent nyloc nuts if originals found to offer insufficient residual torque.

### **Interchangeability**

Not affected

### **Parts disposition**

- a) Disposal requirements – Normal waste
- b) Environmental hazards of parts containing hazardous materials - None
- c) Scrap requirements (e.g. mutilate scrapped items beyond use) – Not applicable