

# RotorSport UK Ltd

## Service Repair Request and Evaluation/Approval

This form (Part 2 of 2) is the response from RotorSport UK Ltd to a Service Repair and Evaluation/Approval request, which specifies the company authorised repair method. Deviation from this method renders the authorisation ineffective.  
Upon completion of the repair the repairer must enter details into the logbook/worksheet with the repair number and sign as normal.  
If any problems with carrying out the work authorised, contact RSUK immediately on +44(0)1588 505060, or email [engineering@rotorsport.org](mailto:engineering@rotorsport.org).

<b>Repair No. and Issue: SRA-023 Iss1</b> <b>Calidus suspension bracket bow repair</b>	<b>CCAR No.: 075</b> <b>Mod approval No: None</b>	Repair classification: <b>MAJOR</b> or <b>MINOR</b>
<b>Aircraft type</b> <b>Calidus</b>	<b>Aircraft serial No. RSUK/CALS/005</b> <b>First application: G-YROZ</b>	

### Repair problem description & cause of problem if known

The Calidus suspension bow is attached to the aircraft by way of a 'U' shaped bracket that is welded to the mast structure. During inspection a crack was found in the vertical fillet weld attaching the left rear vertical face to the mast.

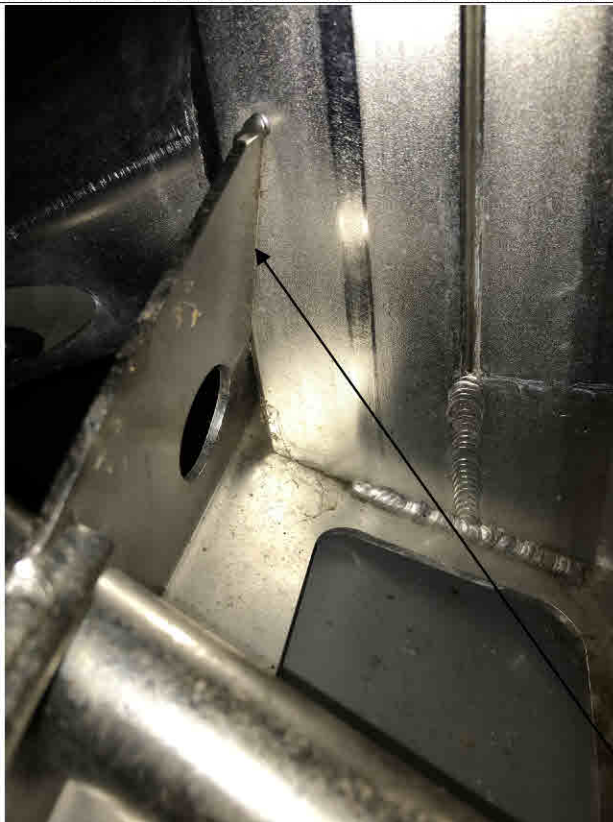


Crack position (could be either side of the mast)

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View of the bracket to mast weld area on the first UK Calidus frame. Note that the bracket is welded to the mast, not to the keel tube.



Weld crack is on the other side of this face, on the mast left side.  
View of the inside of the suspension bow bracket (right side).  
Run a seam weld along this vertical face, both sides of the mast.

### Limitations on implementation

The crack must not have propagated into the mast or keel tube weld and the plate must not be distorted.

If found such contact RotorSport UK Ltd.

### Approval statement.

The technical content of this document is approved under the authority of the UK CAA Design

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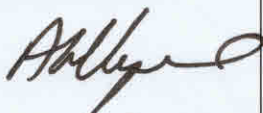





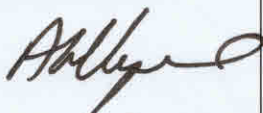





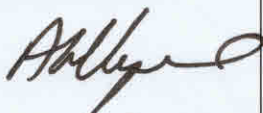
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Organisation Approval Ref: DAI/9917/06.
<b>Tooling required.</b> Conventional hand tools and TIG welding equipment only
<b>Weight and balance.</b> Not affected
<b>Manuals affected.</b> None affected
<b>Previous modifications affecting this SRA.</b> None
<b>List of materials required to complete this SRA:</b> Weld filler rod only
<b>List of components required to complete this SRA:</b> None
<b>Interchangeability:</b> Not applicable
<b>Parts disposition:</b> Not applicable
<b>Accomplishment instructions/details of the repair:</b>  <ol style="list-style-type: none"><li>1) Remove the fuel tanks and protect any adjacent cables by suitable non-flammable covering.</li><li>2) Using a Dremmel-type tool with small grinding wheel (typ 0.75mm thick) progressively grind-out the length of the crack. Remove all grinding debris and clean-up with Amberclene LO30.</li><li>3) Inspect the plate interface and establish that the crack has not propagated into the mast or keel tube weld.</li><li>4) Weld-up the prepared crack in one continuous pass (see below for welding requirements).</li><li>5) Place an additional vertical weld fillet on the forward side of the plate for the full available length.</li><li>6) Place an identical weld on the other side of the mast, such that both the bracket to mast connection has been symmetrically reinforced with the weld.</li></ol> <p style="text-align: center;"><b><u>Welding requirements (to be carried-out by CAA authorised welder only)</u></b></p> <ol style="list-style-type: none"><li>1. Final preparation of weld area (immediately before welding) Remove any deposits by cleaning with a lint-free cloth and halogen-free solvent (Amberclene LO30). Remove any surface debris by brushing with a stainless-steel wire-brush.</li><li>2. Welding Set the TIG welder for job +ve, electrode -ve. Using an electrode 2.4mm diameter, filler metal 316 stainless steel and heat-setting 60-70amps produce a continuous fillet weld in a single run.</li></ol>



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<p>produce a continuous fillet weld in a single run. Ensure that filler metal is present in the whole welded length so that a joint "fused only" is not created.</p> <p>3. Clean-up Remove burn marks from the weld and areas adjacent using a stainless-steel wire-brush followed by Scotchbrite pads or rubbing blocks if required. Do not use any acid treatment for clean-up. Do not dress the weld by grinding, leave the visible fillet intact.</p> <p>4. Inspection Using a magnifying glass at least 4x and good illumination inspect the weld to ensure that there is a high build for the whole length of the weld with no inclusions or voids present and that the start and end of the run are of uniform shape.</p>									
<p><b>Reference to other documentation:</b></p> <p>No modification has been raised as it is considered that this repair reinstates the joint to the original specification.</p>									
<p><b>Test and inspection records:</b></p> <p>Complete attached worksheet</p>									
<p><b>Special Tools &amp; Health and Safety requirements, and/or components required for repair:</b></p> <p>No special tools or components required</p>									
<p><b>Quality Inspection requirements after repair:</b></p> <p>Visual inspection required as described above</p>									
<p><b>Flight test requirements after repair:</b></p> <p>No flight test required</p>									
<p><b>Documentation completion:</b></p> <ol style="list-style-type: none"> <li>1. Complete the SRA worksheet attached</li> <li>2. After embodiment of this repair SRA-023 the authorised engineer/welder must make an entry in the airframe logbook white pages stating that the repair has been embodied.</li> </ol>									
<p><b>Service repair authorised by: (name, signature, and date of signature)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px; vertical-align: top;"> <p>Quality Control Manager</p>  </td> <td style="width: 20%; padding: 5px; vertical-align: top;"> <p>Engineering Manager</p>  <div style="font-size: 8px; margin-top: 5px;">                     Graham Shaw                      Sep 28 2017 11:39 AM   </div> </td> <td style="width: 20%; padding: 5px; vertical-align: top;"> <p>Chief Test Pilot (where an effect on flight performance or safety)</p> <p>None required</p> </td> <td style="width: 20%; padding: 5px; vertical-align: top;"> <p>CVE</p>  <div style="font-size: 8px; margin-top: 5px;">                     David Starkey                      Sep 28 2017 4:24 PM   </div> </td> <td style="width: 20%; padding: 5px; vertical-align: top;"> <p>Head of Airworthiness</p>  <p style="font-size: 1.2em; margin-top: 10px;">29/9/2017</p> </td> </tr> </table>					<p>Quality Control Manager</p> 	<p>Engineering Manager</p>  <div style="font-size: 8px; margin-top: 5px;">                     Graham Shaw                      Sep 28 2017 11:39 AM   </div>	<p>Chief Test Pilot (where an effect on flight performance or safety)</p> <p>None required</p>	<p>CVE</p>  <div style="font-size: 8px; margin-top: 5px;">                     David Starkey                      Sep 28 2017 4:24 PM   </div>	<p>Head of Airworthiness</p>  <p style="font-size: 1.2em; margin-top: 10px;">29/9/2017</p>
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<p><b>Document effectivity date:</b></p> <p>26<sup>th</sup> Sept 2017</p>									

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## Service Repair Request and Evaluation/Approval

Aircraft serial no.  Registration G-	<b>Service Repair Implementation Worksheet</b>	Date raised:  Raised by:	
Purpose – record service repair implementation actions taken, then to inspect aircraft and return to service.		Document reference: SRA-021 iss1	
Maintenance manual referred to and issue level/date:			
Note; attach any secondary sheets to this document			
<b>Task</b>	Notes	Eng'r check/date	Inspector check/date
Remove fuel tanks and suitably protect the welding environment on the aircraft			
Primary clean-up and inspection satisfactory			
Weld satisfactory			
Final clean-up completed			
Remove protective materials			
Confirm no tools or equipment left in aircraft			
	Intentionally blank		
	Intentionally blank		
	Intentionally blank		
Customer acceptance: Name:  Signature/date:		Aircraft Hobbs meter reading:  Confirm logbooks annotated:	
<b>Permit Maintenance Release: The work recorded above has been completed to my satisfaction and in that respect the aircraft is considered fit for flight.</b>			
Engineer/Inspector signature  Name: CAA or CAMO Authorisation code :		Date of work  Location where work completed:	
Welder signature  Name: CAA Authorisation code:			