RotorSport UK Ltd

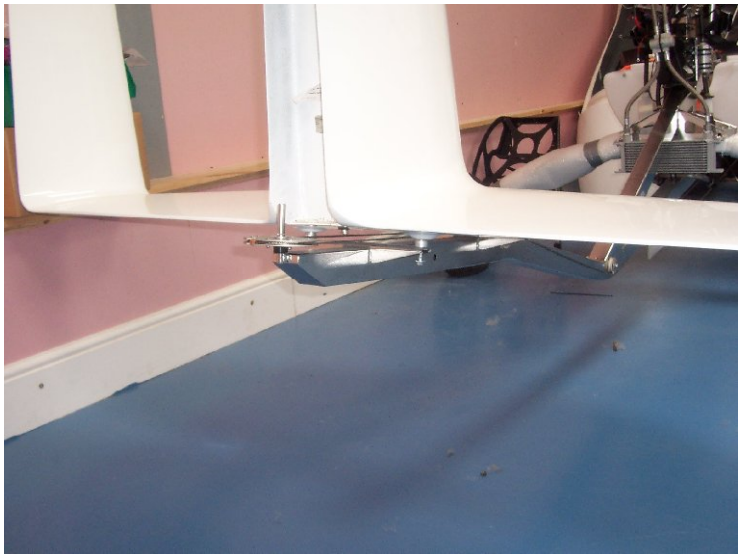
Service Repair Request and Evaluation/Approval

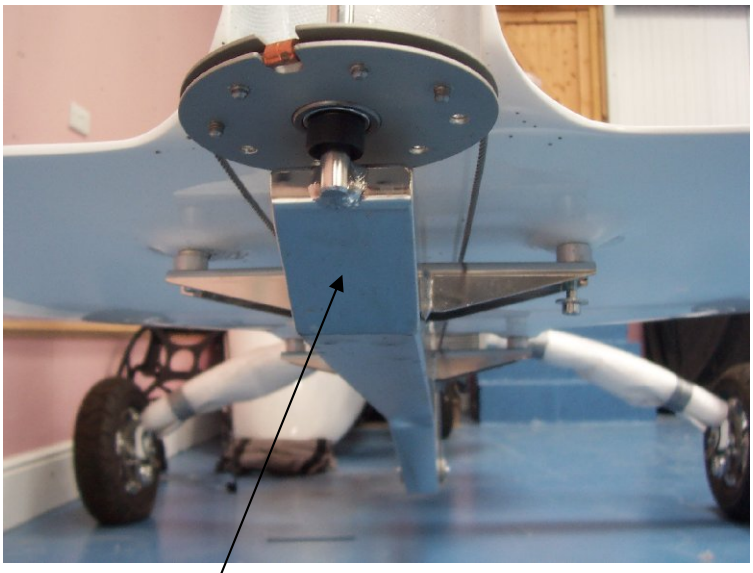
This form (Part 2 of 2) is the response from RotorSport UK Ltd to a Service Repair and Evaluation/Approval request, which specifies the company authorised repair method. Deviation from this method renders the authorisation ineffective.
Upon completion of the repair the repairer must enter details into 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 650769, or email gerry@rotorsport.org.

Repair No. and Issue: SRA-021 Iss1 **MT-series keel closure plate weld**	**CCAR No.: None** **Mod approval No: None**	Repair classification: ~~**MAJOR**~~ or **MINOR**
Aircraft type **MT-series**	**Aircraft serial No. RSUK/MT03/007** **First application: G-MEPU**	

Repair problem description & cause of problem if known

MT-03 and MTOsport gyroplanes have a keel-tube constructed from 50mm box-section of 1.4301 stainless steel. The rear of the keel is chamfered and closed by a 2mm plate fillet-welded in place.





Closure plate (rudder not fitted)

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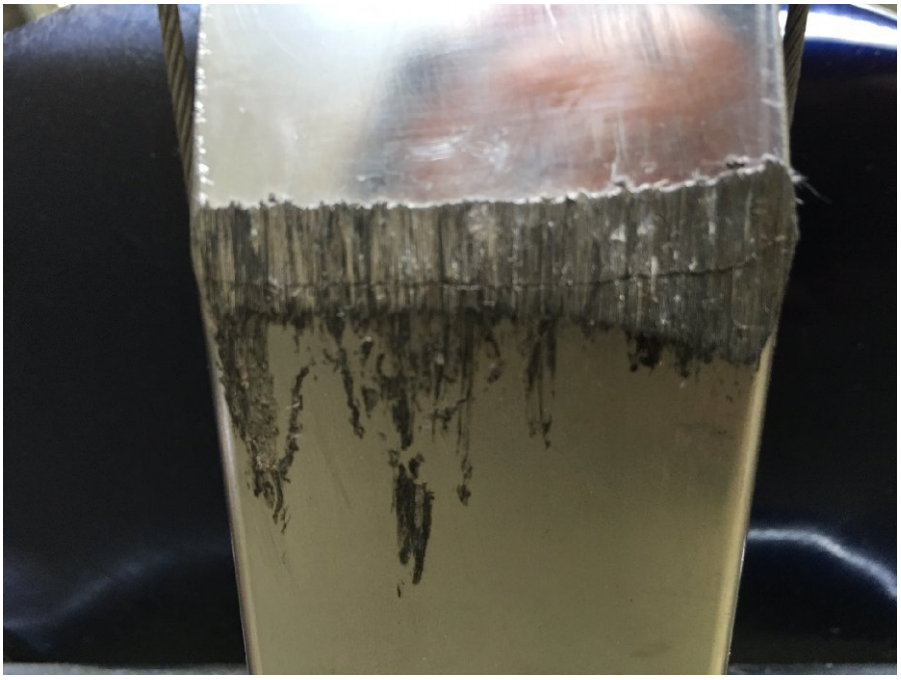
During a training sortie in MT-03 G-MEPU, while demonstrating a nose-high ground run the tail was dragged on the tarmac runway resulting in the lower horizontal fillet weld being ground away. Subsequently a crack was found in the weld area, i.e. a gap between the tube and the plate lower edge.



Under this SRA-021 the damaged area may be cleaned-up and the horizontal fillet weld reinstated

Limitations on implementation

The crack must not have propagated into the vertical welds 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 Organisation Approval Ref: DAI/9917/06.

Tooling required.

Conventional hand tools and TIG welding equipment only

Weight and balance.

Not affected

Manuals affected.

None affected

Previous modifications affecting this SRA.

None

List of materials required to complete this SRA:

Weld filler rod only

List of components required to complete this SRA:

None

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Interchangeability:

Not applicable

Parts disposition:

Not applicable

Accomplishment instructions/details of the repair:

1) Protect the rudder cables/cullisse and paintwork of the rudder and tail by suitable non-flammable covering. To aid access it may be found advantageous to move the rudder to one side.

2) Using a small angle grinder and/or hand-file clean-up the scuffed area. Inspect the plate interface and establish that the crack has not propagated into the vertical weld. Stop-drill the crack 2.0mm at the corners

3) 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.

4) Weld-up the prepared crack in one continuous pass (see below for welding requirements)

Welding requirements

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.

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.
Ensure that filler metal is present in the whole welded length so that a joint "fused only" is not created.

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.

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.

Reference to other documentation:

No modification has been raised as it is considered that this repair reinstates the joint to the original specification.

Test and inspection records:

Complete attached worksheet

Special Tools & Health and Safety requirements, and/or components required for repair:

No special tools or components required

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Quality Inspection requirements after repair:

Visual inspection required as described above

Flight test requirements after repair:

No flight test required

Documentation completion:

1. Complete the SRA worksheet attached
2. After embodiment of this repair SRA-021 the authorised engineer must make an entry in the airframe logbook white pages stating that the repair has been embodied.

Service repair authorised by: (name, signature, and date of signature)

Quality Control Manager	Engineering Manager	Chief Test Pilot (where an effect on flight performance or safety)	CVE	Head of Airworthiness
Gerry Speich Jul 25 2016 9:36 AM	Graham Shaw Jul 21 2016 4:06 PM	None required	David Starkey Jul 21 2016 5:21 PM	Gerry Speich Jul 25 2016 9:36 AM

Document effectivity date:

21 July 2016

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Aircraft serial no. Registration G-	**Service Repair Implementation Worksheet**	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		

Task	Notes	Eng'r check/date	Inspector check/date
Protect rudder controls and paintwork			
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		
	Intentionally blank		
	Intentionally blank		
	Intentionally blank		

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.	
Engineer/Inspector signature Name: CAA Authorisation code :	Date of work Location where work completed

PLEASE FAX THIS BACK TO 01588650769 (or send by email to info@rotorsport.org)