

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 info@rotorsport.org.

Repair No.: 012 Issue 1, 11/10/11	CCAR No.: None Mod approval No. MC-203	Repair classification: MAJOR MINOR
Aircraft type: MT-03 and MTOsport (all aftermarket only)	Aircraft serial No.: OPEN (first application G-CGGV RSUK/MTOS/022)	

Repair problem description & cause of problem if known:
As the result of a forced-landing aircraft G-CGGV suffered damage to the nose-wheel fork, enclosure, instrument panel, keel, main control rods, tail, rudder, propeller (with resultant engine shock-loading) and rotor.
This SRA details the required repairs to the keel and control rods only, as all other damaged items are replaced with new.

The keel has been bent upwards by the load from a nose-heavy landing. The extent and position of the bend can be seen by use of a straight-edge. There may also be a visible witness showing the origin of the bend just fwd of the keel doubler. The gap under the straight-edge at this point is 10mm and the bend angle is 2 degrees. The welds around the upper and lower nose-wheel fork bearing-mountings have been visually inspected and no defects found.



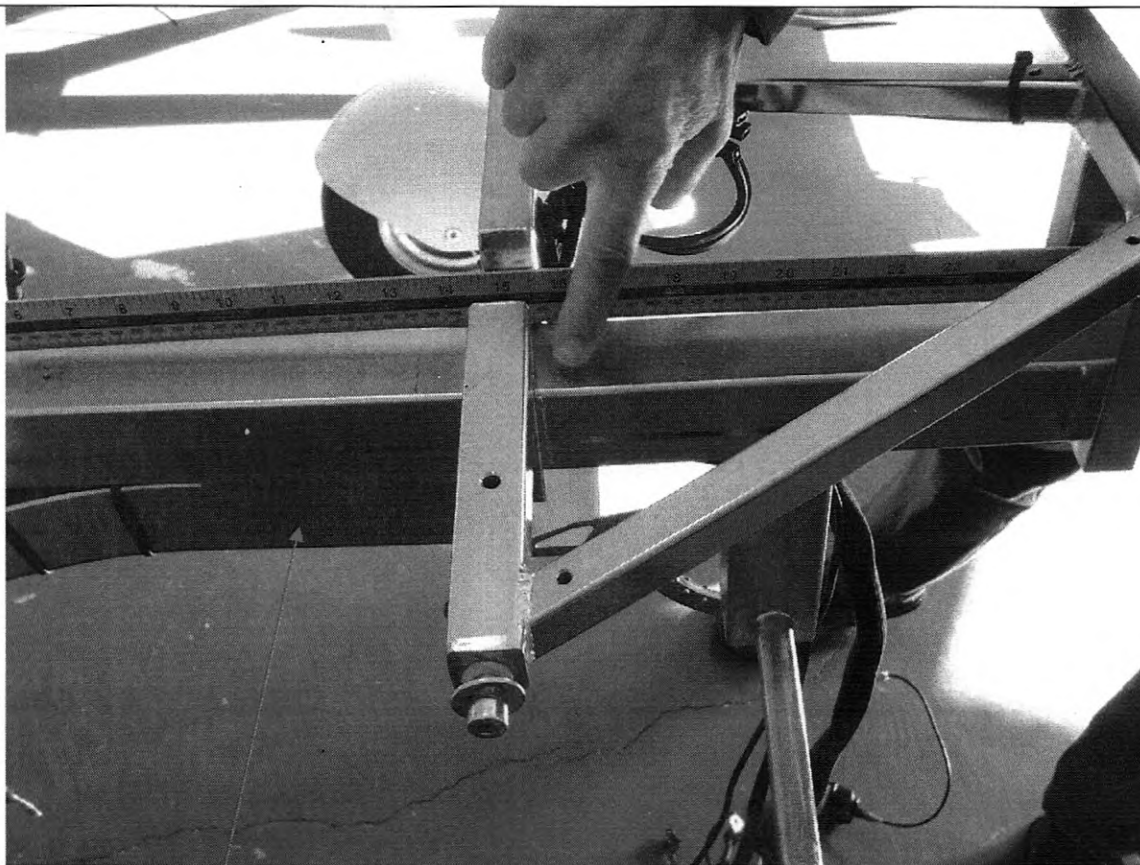
Keel doubler

Upward bend of keel

Straight-edge

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Keel doubler

Visible witness location

The enclosure and instrument panel are removed from the aircraft, allowing unrestricted access for the tasks below.

A substantial stand (with protected top) is placed under the front section of the keel, and an automotive trolley-jack placed at the point at which the re-bend will occur.

Mass-bags are placed on the front of the keel, distributed so that there is no secondary bending or torsion induced.

Balancing bags are similarly placed at the rear of the aircraft. The height of the jack will be increased until the keel is seen to bend upwards and is monitored by means of the visible gap under the straight-edge. A slight over-bend is created so that when the jack is removed the inherent spring-back of the keel steelwork results in a straight structure.

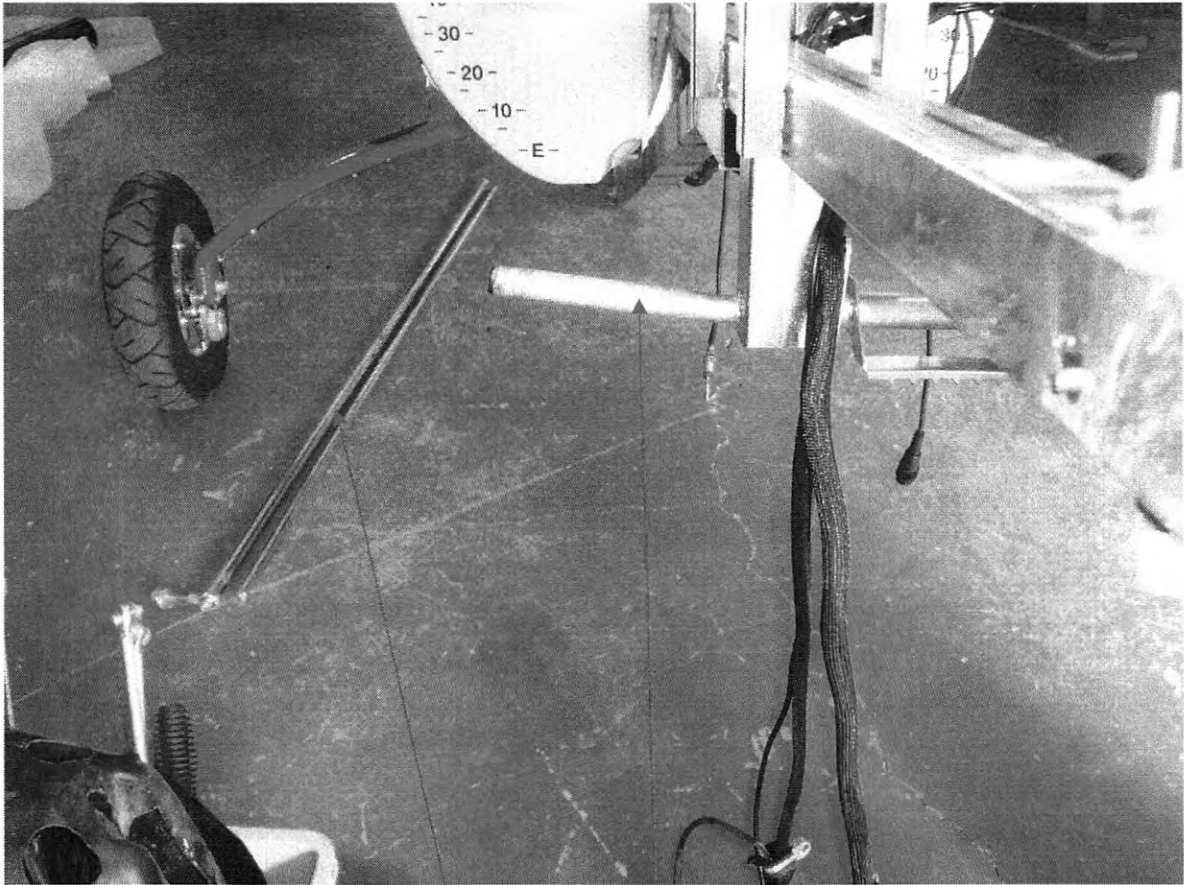
After bending, the keel section straightness (as assessed by the straight-edge shown in the first photograph) shall be within 1mm, there shall be no visible buckling of the side-walls of the keel tube-section and there shall be no cracks visible when examined with a x10 magnifier.

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The right front rudder pedal mounting tube has also been bent upwards 5.5 degrees and the main control rods have a very slight, barely visible bend in the whole length.




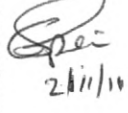

Damaged control rods and bent rudder-pedal mounting

The stainless-steel pitch/roll control rods are mounted above the keel tube. The lower control tube pivots and the upper tube moves fore-and-aft. These will be straightened by means of a press and straightness verified by rolling on a flat surface. The welds around the welded-in inserts shall be visually examined with a 10x magnifier to confirm no cracks are present.

The rudder pedal mounting is a single tube that passes through the keel section, thus providing the pivot for both pedals. The bent right-hand section will be straightened by hand, using a close-fitting tube as a lever to ensure that the tube is kept straight during the re-bending operation. After re-bending, the weld to the keel box-section shall be examined with a 10x magnifier whilst applying an oscillating hand-load to open any potential cracks in the welded junction .

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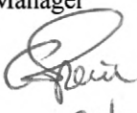
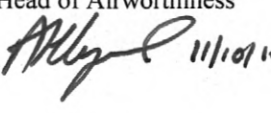
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<u>Parts required to implement this repair</u> None				
Special tools & Health and Safety requirements, and/or components required for repair: None				
Quality Inspection requirements Annually: (i) Using magnification at least x4 visually inspect the area of the keel just in front of the doubler - there must be no visible cracks in the keel tube or its welding (ii) Using magnification at least x4 visually inspect the welded junction of the RH front pedal mounting for cracks whilst applying a oscillating hand-load (typ. 5kg) to the pedal tube. An assistant should be used to apply the load while the inspector examines the welded junction looking aft then fwds under the front seat. CAA BCAR A3-7 Authorised Person to certify that the work is completed by writing 'SRA-012 Keel repair incorporated' in the aircraft logbook white pages, and record the action in the pink pages entitled 'Aircraft Modifications'. A note requiring the Annual Inspection described above should be made in the pink pages "Repetitive requirements" of the aircraft's logbook. All entries must be signed by the CAA Authorised Person together with their CAA Authorisation number.				
<i>The technical content of this document is approved under the authority of the UK CAA</i> Design Organisation Approval Ref: DAI/9917/06				
Service repair authorised by: (name, signature, and date of signature)				
Quality Conformance Manager  2/11/11	Engineering Manager or Head of Airworthiness  2/11/11	Chief Test Pilot (where an effect on flight performance or safety) NOT RECD CS	CVE  D. E. STARKER 23/10/2011	
Document completion date:	Issued to:	When	Issuer name	Signature
	Internal			
	CAA			
	Owners			
	PFA/BMAA Inspectorate			

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<i>The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: DAI/9917/06</i>				
Service repair authorised by: (name, signature, and date of signature)				
Quality Conformance Manager  20/10/14	Engineering Manager or Head of Airworthiness  11/10/14	Chief Test Pilot (where an effect on flight performance or safety) NONE.	CVE	
Document completion date:	Issued to:	When	Issuer name	Signature
	Internal			
	CAA			
	Owners			
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Aircraft serial no. Registration G-	Service Repair Implementation Worksheet	Date raised: Raised by:	
Purpose – record service repair implementation actions taken, and inspection of aircraft before return to service.		Document reference: SRA-012	
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
Record aircraft service hours (from log-book)	Aircraft service hours:		
Confirm repairs made as detailed above			
Confirm keel inspection satisfactory			
Confirm control rods inspection satisfactory			
Confirm rudder pivot inspection satisfactory			
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)