

RotorSport UK Ltd

Aircraft serial no. RSUK/CVLN/	Aircraft Short Term Storage and Return to Service Worksheet (Cavalon)	Aircraft registration no: G-			
Unique worksheet no. (if required/used):		Worksheet date: Worksheet type: STSRTS			
Task No	Task Description	Repetition or comments	Actions taken & comment	Eng'r initial	A3-7 Certifier
<p>Purpose of this worksheet: To be applied when preparing for storage, when in storage, or when returning the aircraft to service from a short-term period of storage/disuse, normally between 6 months and one year after last flight. Should the 1-year period be exceeded then form F179 supercedes this document.</p> <p>Refer also to Aircraft Maintenance Manual RSUK0288.</p> <p>These checks are designed for owner operators and do not require an authorised engineer, unless rectification work is required.</p>					
Preparing for storage task list					
NB: It is assumed that the aircraft will be stored in a clean, dry, well-ventilated (but not necessarily heated) building with a sealed floor. Should this not be the case (e.g wet floor, condensation, significant dust) then RSUK should be consulted to consider whether additional actions are required.					
P1	Drain fuel	Do not store for subsequent replacement. Mogas should not be used after 3months			
P2	Arrange 240V AC mains supply for Cetek battery charger	Battery will be charged via the external charging point as noted in S5 below.			
P3	Prepare engine in accordance with Rotax recommendations	Ref: Rotax Heavy Maintenance Manual Section 71-00-00 para 5.2			
P4	Ideally protect with RSUK aircraft cover				
P5	Ensure rotors in line with aircraft and tie-down fitted. Wrap rotor head in a dust-sheet	Alternatively remove rotors and store on a wall rack (support under blade CG) or break-down and store in suitable container			
P6	Fit cover to pitot-tube (with small vent for breathing)	Must have flight-safety lanyard or be attached to tie-down cord			
P7	Cover static vents (2) with a piece of micro-porous adhesive tape	Each tape must be attached to a lanyard of conspicuous colour			
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In-storage task list – the 3month interval					
S1	Jack aircraft, spin wheels. Check tyre pressures and tyres for cracks	Spinning avoids flats and brake binding No cracks will be acceptable for Return to Service	Interval 1 Interval 2 Interval 3 Interval 4		
S2	Check engine for corrosion (propeller shaft/flange, connectors)	Clean and protect with WD40 if required	Interval 1 Interval 2 Interval 3 Interval 4		
S3	Check for oil or coolant leaks	Arrange rectification if found.	Interval 1 Interval 2 Interval 3 Interval 4		
S4	Check for bird or rodent nests, wash-off droppings	Air filters, exhaust, behind instrument panel (use mirror and torch), enclosure foot-wells, luggage lockers, engine bay. Pull-back stick gaiters for access to controls.	Interval 1 Interval 2 Interval 3 Interval 4		

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Task No	Task Description	Repetition or comments	Actions taken & comment	Eng'r initial	A3-7 Certifier
S5	Check the open-circuit voltage (OCV) of the battery. This may be done by attaching the special magnetic charging cord to the aircraft's external power point (on the RH lower engine cowling), separating its in-line connector and using a multimeter at the two connector terminals. There must be no external load on the battery when the reading is taken.	If less than 12.6VDC (i.e. 2.10 volts per cell) then charge for a 12 hour period or until this OCV is reached. Use only the Cetek charger or the battery may be damaged.	Interval 1 Interval 2 Interval 3 Interval 4		
S6	Periodically clean aircraft including rotors	Do not use washing-up liquid			
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Return to Service task list					
	Airframe Inspection				
1	Remove upper engine cowling. Thoroughly check aircraft for evidence of missing parts or instruments.	Check against aircraft SAC that aircraft is still to the required build standard.			
2	Op/C - nosewheel fork for free operation.	The nose-wheel fork must rotate freely to the limit stops in the nose of the aircraft. There should be minimal play in the bearings of the nose-wheel fork.			
3	Inspect – tyres for wear or damage. Replace if needed.	No fabric to show through the tread area. Recommended 0.5mm min tread. Ensure no flat spots or wall cracks from storage			
4	Check - tyre pressures & tyre creep (mainwheels 1,8 to 2.2bar if heavily loaded, nose 1,8 to 2.2bar)		Pressures OK Nose Main LH Main RH		
	Electrical/instruments				
5	Inspect – sealed battery for leakage	Ensure battery is charged and holding charge (use Cetek charger for 12 hour period or follow S5 above).			
6	Op/C Check strobe function if fitted				
7	Op/C check nav light function if fitted				
8	Op/C check backup fuel pump functions				
9	Op/C check landing light function if fitted				
	Rotor head				
10	Check and Service/lube - teeter bolt & bearings	Regrease via nipple on top of rotor (where fitted). Grease with Castrol LM or equivalent . Nut must not be more than finger tight, about 1 to 2Nm, and the bolt able to turn by hand.			
11	Check four split pins present and secure	Main bearing, teeter bolt, pitch and roll bolts. Check is required even if there have been no disassembly actions.			

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12	Op/C - Check Pitch Trim cylinder for free function and shaft damage or excess seal leakage.				
13	Op/C - Check Roll Trim cylinder (if fitted) for free function and shaft damage or excess seal leakage.				
	Rotor Head Controls				
14	Service/lube - clean rod ends (if appropriate)				
15	F/C- rotor head reaches pitch and roll stops				
16	Inspect - all cables undamaged, all bearings free, all bearing retaining rivets secure. No foreign bodies or debris in control tubes.	Pull-back stick gaiters for access to controls. Check also for insect or animal residue.			
17	Op/C - for free play in stick control eg bearings or wear				
	Rudder controls				
18	Op/C - Check pedals for ease of movement				
19	Inspect for cable freedom of movement at tail and pedal attachment, and turnbuckle wirelocking. Check Nicopress sleeves for signs of movement				
20	Inspect - rudder cables for frays, corrosion, wear or chaffing.	Particular attention to cable exit from keel-tubes			
21	Inspect - tail bearings for looseness and freedom of operation				
22	Inspect tail and rudder for signs of composite damage.	Include wagging the side fins in case of internal structural damage.			
23	Inspect – rod-ends and plate at base of rudder for free rotation, security & wear				
24	Inspect – security of rudder trim tab				
25	Check that all control system bolts are correct items, properly fitted and tight				
26	Engine NOTE! All engine checks to be in accordance with manufacturers manual!	For engine servicing refer to the engine manual issued with the aircraft (Rotax 912ULS or 914UL). The full annual engine service is required only when no engine servicing has been carried out in the last 12 months. Otherwise apply 'on condition'. Servicing must be carried out in line with, and recorded on, the Rotax service schedule contained within the 'Line Maintenance' manual for the engine fitted. The Rotax service centre will advise additional checks subject to the method of storage used. (e.g. borescope checks).			

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27	Wirelocking – ensure present on: Oil tank drain plug, Aftermuffler (transverse types), Oil banjo under engine, Carb air filters (if wire-locked), Oil pump			
28	Engine service fasteners	If the magnetic inspection plug or the crankshaft locking screw plug are disturbed then any wire-locking present must be properly reinstated		
29	Inspect – oil tank breather pipe for blockage			
30	Service/lube - Lubricate carburettor choke levers if no free movement	HSC2000 spray grease or equivalent		
31	Service/lube - Ensure choke and throttles move freely from stop to stop, and that turbo detent can be felt correctly. Ensure cables are synchronised.			
	Fuel system			
32	Check - whilst fuel tank(s) empty, check that low fuel warning LED lights. Service/lube –Fuel tanks. Flush tanks with about 1 litre of fuel then fill with fresh. Ensure water drain points function correctly on refill, and confirm no tank debris. Check – when fuel tanks filled check that low fuel warning light extinguished	There may be a small amount of leakage until the rubber seals swell due to the effect of the fuel. If the fuel drain wirelock is removed, it MUST be replaced, with a dual inspection signature.	1 st inspection Name: A3-7 authorisation no: Sig:..... 2 nd inspection Name: A3-7 authorisation no: Or, qualified pilot licence no: Sig:.....	
33	Inspect - fuel tank cap for seal deterioration & security of fit, and cleanliness of vent hole.			
34	Op/C - functionality of fuel gauge	ie that the reading matches that shown on the tank sight gauge.		
35	Inspect – fuel-tank breather pipe for blockage	If 914UL engine also inspect clear airbox/carb-tray drain pipe		
36	Inspect - all hoses for cracks and deterioration in the visible areas adjacent to the barbed metal fittings	Change as required		
	Pre rotator			

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37	Op/C – whilst turning the uj located at the top of the mast by hand (thru a full rotation) – check drive shaft joints for free movement and bearings for play etc				
38	Inspect - Ensure slider shafts move freely, and are greased				
	Trim System, Rotor Brake & Pneumatics				
39	Inspect – all hoses for leaks and slave cylinder(s) for looseness				
40	Op/C – Roll trim. Operate roll trim (where fitted) fully left. Ensure panel indicator shows fully left. Then operate trim fully right. Ensure indicator shows fully right				
41	Inspect – compressor. Listen for undue noises in operation.				
42	Op/C - Full functional check pneumatic system <ul style="list-style-type: none"> – refer as required to the maintenance manual for fault finding and rectification, and a more comprehensive understanding of the test background. 	With selector set to 'Brake' position, engage brake by pressing button, confirm operation, and that function is acceptable. Pressurise to maximum. Change to flight – check for 3 to 8 sec max to release air from brake system. In 'Flight' position check that trim goes on and off in same direction as button (inc left stick if fitted). In 'Flight' position, stick forward. Start pre rotator. Ensure bendix drive cylinder rises to engage, and when the stick is pulled back it disengages. Stick to front, release pre rotator and confirm that pressure is applied to trim and stick comes back slightly. In 'Brake' position, put 3 bar pressure on and ensure pre rotator does not function Press the 'Interlock release button' and ensure that pre rotator functions with brake engaged.			
43	Op/C – check compressor can give full pressure of 7bar (~8bar with new compressor). If under 5.5bar, either find leak or replace		Note pressure obtained		
	HTC Propeller				

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44	Check - prop bolt torque stripe between bolt thread and propeller hub has not been broken (indicating that the bolt has slackened).	If torque stripe broken or missing, remove bolts, inspect, and refit with loctite 243 – and re-apply torque stripe (Engineer task!) Removal of spinner (if fitted) will be required.			
45	Inspect - blades to manufacturers recommendations for any damage, splits etc.	Repair only as manufacturer's recommendations (see AMM RSUK0288)			
	Rotors				
46	Inspect - blades to manufacturers recommendations for any damage, splits etc.	Repair only as manufacturer's recommendations (see AMM RSUK0288)			
	Other				
47	Remove pitot and 2-off static vent covers				
48	Inspect - Confirm all placards readable and in line with Operating Limitations	See Pilots Handbooks for placards required – or consult CAA TADs publication.			
49	Inspect all seat belt attachment points for tightness and security				
50	Inspect each seat belt for damage or frays, and for security of main connection				
51	Op/C - Instrument checks	Transponder - Check that mode S code matches G-INFO database. Full functional check highly recommended. Radio – confirm PTT buttons cause 'T' on panel.			
	Final ground run checks prior to release				
52	Inspect - Power plant and coolant system for leaks				
53	Inspect – security of oil-thermostat insulator pad.				
54	Inspect – instruments for measurements consistent with ambient conditions				
55	Replace upper engine cowling and check all access covers secure				

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56	Op/C - verify correct function of Fire-Warning system	Turn on Master switch. The fire warning lamp will pulse red three times to confirm correct system function and then go off if the system functions normally. If not it will stay solid red (system fault), in which case stop and investigate			
57	Securely tie aircraft down and run to full power. Ensure engine rpm achieves at least 5,400 on one fuel pump only, and with both pumps running.		RPM achieved:		
58	Complete mag drop checks at 4,000rpm	See Pilots Handbook RSUK0287 for limits	Mag drop#1 Mag drop#2		
59	Confirm 'Gen' light is on when engine not running, and off (or flickering gently) when running at above 2000rpm.				
60	Confirm low fuel lamp is not lit (providing the fuel covers the sensor)				
61	Ensure all log book entries completed appropriately, and service record up to date				
Confirm Service bulletins incorporated (from RSUK website, full list available with applicability)					
Confirm Rotax Service bulletins incorporated (from Rotax website)					
Confirm Mandatory Permit Directives incorporated (from CAA website, & CAP747). Up-to-date information must be checked!					
CAP 747 Document date or issue checked, plus notes:					
EASA MPD or AD check (EASA website): note date checked and any actions required					
Confirm compliance to BG06 Type Approval Data Sheet (TADS) for Calidus Note any non-compliances and actions taken.					
Tasks completed by (name):			Engine hours logged: Airframe hours logged: Aircraft hourmeter hrs logged:		
Signature:		Initial:.....			
Date:		(to compare to check sheet)			

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<p>Permit Maintenance Release: The work recorded above (all pages) has been completed to my satisfaction and in that respect the aircraft is considered fit for flight.</p> <p>Signature: _____ Initial: _____ Date: _____ (to compare to check sheet)</p> <p>Inspector or pilot licence no.: _____ Company Approval ref _____</p> <p>Inspector Authority: CAA letter ref 9/ _____ dated _____</p>	<p>Comments:</p>
<p>Note to Engineer or inspector; remember to reference this worksheet and RSUK0288 within the logbooks, together with your CAA authorisation code or pilots licence no. Work undertaken may be noted on this worksheet, or if required on another sheet (such as F093) also referenced in the logbook. Modifications undertaken must be noted with their MC approval no. Check the back pages to complete these too for modifications, service bulletins, MPDs, etc.</p>	

Appendix

Requirements for certifying signatures/initials on this worksheet

With the exception of "Permitted Pilot Maintenance" (see the relevant RSUK Aircraft Maintenance Manual and CAA publication CAP 733), all maintenance work on RSUK gyroplanes must be certified by a CAA A3-7 Authorised Person.

Case 1: for work not involving engine controls, or flying controls, or vital structural points

The person(s) performing the work should complete the worksheet columns as below:

- If the person completing "Eng'r" does not have A3-7 authorisation there must be a second initial by an A3-7 authorised person in each adjacent "A3-7 certifier" cell, denoting acceptance of the task specified.
- If the person has A3-7 authorisation the "Eng'r" cell should be struck out and a single entry of initials made in the A3-7 certifier cell

Case 2: for work where engine controls, or flying controls, or vital structural points are disturbed, where a duplicate inspection is required (and shown in the worksheet).

The person(s) performing the work should complete the worksheet columns as shown above and repeated below:

- If the person completing "Eng'r" does not have A3-7 authorisation there must be a second initial by an A3-7 authorised person in each adjacent "A3-7 certifier" cell, denoting acceptance of the task specified.
- If the person has A3-7 authorisation the "Eng'r" cell should be struck out and a single entry of initials made in the A3-7 certifier cell

In addition to the above there is a requirement for inspection, then duplicate inspection (by an independent person) of the finished task:

- The A3-7 engineer certifying the task must enter his name, CAA authorisation number, and full signature under "1st inspection".
- The independent second person must enter his name, CAA authorisation number or Pilots Licence number, and full signature under "2nd inspection".

This second person must be suitably qualified and may be:

- another A3-7 authorised engineer
- a qualified gyroplane pilot. In this case the pilot must append his Pilot's Licence number to his signature.

It is the second signatory's responsibility to ensure he/she understands the task and what it is they are inspecting and signing for.

Verification of Initials, Signature and Authorisation

The person performing the work must complete the "Tasks completed by" statement towards the end of the worksheet.

The A3-7 authorised engineer must complete and sign the "Permit Maintenance Release" on the last page of the Worksheet.