

RotorSport UK Ltd

Aircraft serial no. RSUK/CALS/	Aircraft 25hr Service Worksheet		Aircraft registration no. Worksheet date:	
Tsk No.	Task Description	Repetition or comments	Actions taken & comment	Cert initial
<p>Purpose of this worksheet: To be applied for the first 25hr service of Calidus Gyroplanes with fixed pitch propellers. If prior to permit renewal, the owner is also referred to Permit renewal requirement list on the RSUK website. This document covers the Calidus aircraft with fixed pitch propeller, refer to Maintenance Manual RSUK0061.</p> <p>Some of the checks and serviceability are 'on condition', meaning the Engineer has the responsibility to decide if it is acceptable for service.</p> <p>NOTE! Cowls and covers must be removed to undertake this service. Refer to RSUK0061 section 9 for guidance.</p> <p><u>The task numbers listed in the left-most column are rationalised i.e. identical on all Calidus Service Worksheets. The task numbers may not be sequential</u></p>				
	Airframe Inspection	All items – repeat inspections as shown		
1	Check - Bolt torques – mast fittings	M8 bolts to 25Nm+/-3Nm		
2	Check - Bolt security – other			
3	Inspect – mast rubber bushings for failure or free play, fastenings for security, and any sign of wear or damage between the upper mast side plates and lower mast	Note that bush fastenings are secured with Loctite 638, which will require heat to remove!		
4	Inspect - airframe for damage, twisting, buckling or other deformation, or cracks, especially at welded joints.	If found ground aircraft and call RSUK for advice.		
5	Inspect - External structure of enclosure sound and firmly fixed to airframe			
	Undercarriage			
8	Inspect - landing gear spar and attachments to airframe for damage or fatigue (cracks & deformation).			
9	Inspect – tyres for wear or damage. Replace if needed.	No fabric to show through the tread area. Recommended 0.5mm min tread <u>No cracks in side-walls</u>		
10	Check - tyre pressures & tyre creep (mainwheels 1,5 to 2,2bar if heavily loaded, nose 1,5 to 1,8bar)		Pressures OK Nose Main LH Main RH	
	Electrical/instruments			
<u>20</u>	Inspect - panel connections for security			
<u>21</u>	Inspect – gel battery for leakage			
	Rotor head			
<u>39</u>	Inspect - brake pad for function & wear.	Pad replaceable as a service item		

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<u>40</u>	Op/C - Check roll and pitch Trim cylinders for free function and slider damage or excess seal leakage.	Seal service kit is available from RSUK		
<u>42</u>	Inspect – rotor head damper securely mounted, and no sign of excess wear or jamming.			
Rotor Head Controls				
<u>46</u>	F/C - rod ends for cracks & freedom of movement both free and at control extremes			
<u>47</u>	F/C- rotor head reaches pitch and roll stops			
<u>48</u>	Inspect - all tubes straight, all bearings free, all bearing retaining rivets secure, cable attachments secure		12 rivets	
31	Op/C - for free play in stick control eg bearings or cable wear			
Rudder controls				
<u>56</u>	Inspect for cable freedom of movement at tail and pedal attachment, <u>and turnbuckle wire-locking</u>			
<u>57</u>	Inspect - visible rudder cables for frays, corrosion, wear or chaffing, and nico sleeves for signs of movement.			
<u>58</u>	Inspect - tail bearings for looseness and freedom of operation			
<u>59</u>	Inspect - tail for security to airframe (4 bolts, 15Nm)	Loctited – if loose, remove and refit with loctite 243. Check to 12Nm		
<u>61</u>	Inspect – rudder to tail fastenings. <u>Inspect tail and rudder for signs of composite damage</u>	Check to 12Nm		
<u>62</u>	F/C rudder control cable tension (pedal load chk)	For limits and methods see manual	Gauge no. Reading	
<u>64</u>	Check that all control system bolts are correct items, properly fitted and tight			
<u>70</u>	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.		

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<u>72</u>	<u>Engine service fasteners</u>	<u>If the magnetic inspection plug or the crankshaft locking screw plug are disturbed then any wire-locking present must be properly reinstated</u>		
	Engine, other			
<u>74</u>	Service/lube - Ensure choke and throttles move freely from stop to stop, and that turbo detent can be felt correctly. Ensure cables are synchronised.			
<u>76</u>	Inspect engine bearer bolts for paint stripe, and if moved, re loctite and tighten to 35Nm. Otherwise check bolt torque. Re-apply paint stripe as required.			
<u>77</u>	Inspect - oil cooler rubber mountings for failure			
<u>78</u>	<u>Inspect – aftermuffler clamp rubber strips for deterioration and secure fitment and that wire-locking in place (2-plcs)</u>			
	Fuel system			
<u>83</u>	Inspect – security of fuel tanks and tightness of tank straps			
<u>84</u>	Op/C - functionality of fuel gauges	ie that the reading matches that shown on the tank sight gauge.		
	Pre rotator			
<u>90</u>	Inspect- drive shafts for bend <u>or damage</u> .			
	Trim System, Rotor Brake & Pneumatics			

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<u>100</u>	<p>Op/C - Full functional check, pneumatic system – refer as required to the maintenance manual for fault finding and rectification, and a more comprehensive understanding of the test background.</p> <p>REPEAT TEST FOR REAR STICK, IF FITTED</p>	<p>In the 'Brake' position, engage brake, confirm operation, and that function is acceptable. Pressurise to maximum. Change to flight – check for 2 to 3 sec max to release air from brake system). In 'Flight' position check that trim goes on and off in same direction as button (inc rear switch if fitted). In 'Flight' position (and with the canopy locked shut), stick forward. Depress pre rotator button. Ensure the rotor head cylinder engages, and pump runs - and when the stick is pulled back the pump stops. Return the stick to the front and unlock canopy ('unlocked' warning lamp lights). Depress the pre rotate button. The pump must operate, but the cylinder that pushes the bendix up must not move Stick to front, release pre rotator and confirm that pressure is applied to trim and stick comes back slightly. Re-lock canopy. Where fitted, press right roll and ensure stick then moves right and bar indicator does the same. Repeat to left, then centralise indicator – and check for stick return to mid position. 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 (both cylinders, head and engine) with brake engaged.</p>	<p>Max pressure obtained:</p>	
	HTC Propeller			

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103	Check - prop bolt torques, and that torque stripe between bolt thread and gearbox flange has not been broken (indicating that the bolt has slackened). If missing, apply stripe to each of the six bolts holding the prop to the engine (flange side).	15Nm, loctite centre 6 bolts. If loose, remove, inspect, and refit with loctite 243. . If removed, refit spinner using loctite 243 on the spinner screws.		
Rotors				
109	Check - teeter bolt torque	Hand tight, 1-2Nm max. For clearance between rotor hub and spacer see maint manual		
111	Check - torques on blade to hub bar bolts/nuts	If any evidence of blade to hub looseness, diss-assemble blades from hub bar. Check holes for wear or fretting M8 Bolt torque 25Nm. Refer to Section 9 General Notes of the Maintenance Manual for nyloc re-usage		
112	Inspect blades to manufacturers recommendations for any damage, splits etc.	Repair only as RSUK0061		
Canopy				
115	Inspect - hinges for security, cracks or fractures			
116	Inspect - surface for cleanliness and obscuring – if acceptable for flight			
117	F/C – opening and closing operation, and effectiveness of canopy lock	Must lock effectively on over-centre cam. See handbook for load values		
118	F/C – free and correct operation of side window and vents			
Other				
120	Inspect - Cabin ventilation – ensure port under body is free from obstruction			
121	F/C - Cabin heat (if fitted) – ensure butterfly valve opens and closes on cockpit demand, and that cabin supply hose is free of splits or cracks.			

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126	Check that fabric hinges on pilot and passenger locker doors are secure (replace as required, 4 locker doors))		
127	Inspect all seat belt attachment points for tightness and security		
129	Inspect - If rear stick fitted, ensure front seat back position stops are fitted to limit rearwards travel, and prevent the rear stick from hitting the front seat back		
137	Inspect: Radio antenna, check for damage and security		
138	Inspect; bearing temp indicator for clear display	Change battery annually	
Final ground run checks prior to release			
140	Inspect - Power plant and coolant system for leaks		
141	Inspect – instruments for measurements consistent with ambient conditions	Check pitot and static systems as per RSUK0061 system checks sect 9	
142	Inspect – all access covers secure		
147	Ensure all log book entries completed appropriately		
Confirm Service bulletins incorporated (from RSUK website, full list available with applicability)		SB-038 Propeller protection tape SB-039 Calidus Vne increase to 120mph and new rotor system SB-043 After-muffler clamps	
Confirm Mandatory Permit Directives incorporated (from CAA website, CAP747 and 661)		Clear hose on the 914UL return fuel line required to comply with MPD 1998-019 R1 – check for flexibility, ongoing requirement. MPD 2011-006 Life limit of rotor blade assembly	
CAP 747 Document date or issue checked, plus notes:			
CAP 661 Document date or issue checked, plus notes:			
EASA MPD or AD check (EASA website): note date checked and any actions required			

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Confirm compliance to BG04, Type Approval Data Sheet (TADS) for the Calidus. Note any non compliances and actions taken.				
Tasks completed by (name): Signature: _____ Initial: _____ (to compare to check sheet) _____ Date: _____			Engine hours logged: Airframe hours logged: Aircraft hourmeter hrs logged:	
<i>The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: DAI/9917/06</i>				

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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: _____</p> <p>Date _____ (to compare to check sheet)</p> <p>Inspector or licence no.: _____ Company Approval ref _____</p> <p>Inspector Authority: CAA letter ref 9/ _____ dated _____</p>	<p>Comments:</p>
<p>Note to Engineer; remember to reference this worksheet and RSUK0061 within the logbooks, together with your CAA authorisation code. 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>	