

Aircraft serial no. RSUK/CAVP/		Aircraft 25hr Service Worksheet		Aircraft registration no. Worksheet date:	
Tsk No.	Task Description	Repetition or comments	Actions taken & comment	Eng'r initial	Licenced Eng'r
<p>Purpose of this worksheet: To be applied for the first 25hr (+/-5hrs) service of a Cavalon Pro Gyroplane with Woodcomp KW-31 variable pitch propeller. If prior to renewal of the aircraft's Certificate of Validity, the owner is also referred to the renewal requirement list on the RSUK website. Refer to Maintenance Manual RSUK0335.</p> <p>Some of the checks and serviceability are 'on condition', meaning the Engineer has the responsibility to decide if an item is acceptable for service. Some of the work involved affects CRITICAL PARTS and/or CRITICAL ASSEMBLIES (as identified below) – when working on these items follow only the procedures described in the Maintenance Manual RSUK0335.</p> <p>NOTE! Cowls and covers must be removed to undertake this service. Refer to Cavalon Pro Pilots Handbook RSUK0334 for guidance.</p> <p>The task numbers listed in the left-most column are rationalised i.e. identical on all Cavalon Pro Service Worksheets. The task numbers may not therefore be sequential</p>					
	Preparatory work				
1	Review the aircraft documents (and the list of publications towards the end of this Worksheet) to determine any outstanding, specific or additional requirements to be conducted.				
3	Clean the aircraft, remove any dirt, dust, loose items. During cleaning inspect for any fluid leaks.				
4	Perform an external visual inspection of all cowlings and mast covers. Record any cosmetic damage on the graphic at the end of this document then remove the items. Perform a detailed inspection (no cracks, distortion, missing parts).	Consult RSUK to organise any repairs or replacements required			
5	Remove keel-tube cover, leaving loose on tube				
6	Remove all service covers (external), inspection hatches (internal) and the removable firewall panel. Perform a detailed inspection (no cracks, distortion, missing parts).	Consult RSUK to organise any repairs or replacements required			
7	Lift stick gaitor(s) away from the Velcro retention to cockpit floor				

RotorSport UK Ltd

Airframe Inspection					
10	Check - Bolt torques – mast fittings	Torque-check the M8 countersunk screws to 22Nm (2 pairs). If any visible movement remove screw, re-Loctite 243 and replace tightening to 25Nm +/- 3Nm. Second signature required if any screw removed/replaced.	1 st inspection Name: Engineer authorisation no: Sig:.....		
		Instrument S/No:..... Calibrated until:.....	2 nd inspection Name: Engineer authorisation no: Or, qualified pilot licence no: Sig:.....		
11	Inspect – mast rubber bushings for failure or free play, shown by any sign of wear or damage between the upper mast (stainless-steel) and lower mast (part of body)	If cracks or deformation found then ground aircraft and call RSUK for advice.			
13	Inspect – upper mast for damage, twisting, buckling or other deformation, or cracks, especially at welded joints.	If cracks or deformation found then ground aircraft and call RSUK for advice.	CRITICAL PARTS & ASSEMBLY		
14	Inspect – Condition of keel-tube and security of attachment to composite body (Screws and band-clamp) Check tail-plane horizontal (i.e. keel-tube not twisted)	If cracks or deformation found then ground aircraft and call RSUK for advice.	CRITICAL PARTS & ASSEMBLY		
15	Inspect – keel-tube protection pads (condition and attachment).	Replace if worn – see Cavalon Pro AMM RSUK0335			
16	Inspect - External structure of body sound with no cracks, distortion or damage. Pay particular attention to the lower mast area around the air-intake duct.	If cracks or deformation found then ground aircraft and call RSUK for advice.			
	Undercarriage – main gear and brakes				
20	Inspect - landing gear spar and attachments to body for damage or fatigue (cracks & deformation).	If cracks or deformation found then ground aircraft and call RSUK for advice.			

RotorSport UK Ltd

21	Inspect – wheel spats general condition, security of mounting and tyre clearance.				
22	Inspect – main wheels general condition, correct pressure, condition of tread, correct seating of valve and cap, secure installation, free movement but no play in wheel bearings, presence and condition of creep-mark on tyre/rim	No fabric to show through the tread area. Recommended 0.5mm min tread No cracks in side-walls Tyre pressure 1.8 to 2.2 bar (latter if heavily loaded). Increase to 2.3bar if operating at 560kg MTOW	Tyres OK and pressures recorded as: Main LH..... Main RH.....		
		Instrument S/No:..... Calibrated until:.....			
23	Inspect – wheel brakes for secure installation and correct operation, no fluid leaks from caliper. Condition of pads and brake disc.				
25	Inspect – brake lines for secure installation, no leaks or chafing				
Undercarriage – nose-wheel					
40	Inspect – wheel spat for general condition, security of mounting and tyre clearance				
41	Inspect - nose-wheel general condition, correct pressure, condition of tread, correct seating of valve and cap, secure installation, free movement but no play in wheel bearings.	No fabric to show through the tread area. Recommended 0.5mm min tread No cracks in side-walls Tyre pressure 2.0 to 2.4bar (latter if heavily loaded)	Tyre OK and pressure recorded as: Nose.....		
42	Inspect - nose-wheel fork for general condition, secure installation, freedom of movement, no excessive play, distortion or damage				
43	Inspect - nose-wheel rubber damper general condition and correct operation				
External lights					
50	Op/C check red anti-collision light function and security(fitted to each mainwheel spat)				
51	Op/C check strobe function				
52	Op/C check nav light function	Red to left, green to right, white to rear			

RotorSport UK Ltd

53	Op/C check nose light function				
54	Op/C check landing light function and security (fitted in binnacle under nose)				
	Electrical/instruments				
60	Inspect – panel mounting screws secure				
61	Inspect - panel connections for security				
62	F/C – slip indicator	Confirm slip-string undamaged and free-moving			
65	Inspect – gel battery for security of mounting, casing leakage and state of charge	If required connect ground-power to fully charge battery in anticipation of tests later in this Worksheet			
66	Op/C check function of instrument panel lights				
67	Op/C check function of cabin light (if fitted)				
	Rotor head				
83	Inspect - brake pad for function.	Pad replaceable as a service item			
84	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			
85	Check all attachment hardware secure and verify 4-off split pins in place and correctly formed: (Main bearing bolt, teeter bolt, pitch bolt, roll bolt)	Second signature required if any pin replaced	CRITICAL PARTS & ASSEMBLY 1 st inspection Name: A3-7 authorisation no: Sig:..... 2 nd inspection Name: Engineer authorisation no: Or, qualified pilot licence no: Sig:.....		

RotorSport UK Ltd

	Rotor Head Controls				
100	F/C - rod ends for cracks & freedom of movement both free and at control extremes				
101	F/C- rotor head reaches pitch and roll stops Inspect – pitch and roll angles achieved				
102	Inspect – pitch and roll cable attachments to upper mast secure		CRITICAL PARTS & ASSEMBLY		
104	Inspect (inside a/c) - all bearings free, all bearing retaining rivets secure, Pushrods, attachments and pivot mountings secure with no damage or chafing. Electrical cables and connectors undamaged.				
105	Service/lube – lubricate bearings and ball joints with Ballistol oil				
106	Inspect – push/pull cable mountings secure with no chafing.				
107	Op/C - for free play in stick control eg bearings or cable wear				
	Nose-wheel and Rudder controls				
110	Op/C – Check pedals for ease of movement	Check from each seat			
111	Inspect – tension of cable between central control link (mixer unit) and nose-wheel link and re-tension if required. Check turnbuckles secured and no chafing of cables.	See Cavalon AMM RSUK0335.			
112	Service/lube - lubricate pedal bearing and sliding block of adjuster with Ballistol oil				
113	Inspect - visible rudder cables for frays, corrosion, wear or chafing, and any crimped fittings for signs of movement. Lubricate cables with Ballistol oil.				
114	Inspect – all clevis joints at central control link (mixer unit) secured, free to move and no chafing.				
115	Inspect – central control link (mixer unit) freedom of movement and main bolt secured.	Access main bolt through rubber plug located centrally underneath body			
116	Inspect – security of wire-locking retaining the rudder cables to the keel-tube.				

RotorSport UK Ltd

117	Inspect - tail rod-end bearings for looseness and freedom of operation and fitted with snubbing washers. Lubricate control cables with Ballistol oil				
118	Inspect – security and integrity of keel tube in area of attachment to body	Use 10x magnifying glass and suitable illumination to check for cracks in the tube	CRITICAL PARTS & ASSEMBLY		
119	Inspect – integrity of tail attachment lugs welded to keel-tube (4-plcs)	Use 10x magnifying glass and suitable illumination to check for cracks on outside of the joint.	CRITICAL PARTS & ASSEMBLY		
120	Inspect - tail for security to airframe (4-bolts).	Torque-check the M8 bolts to 12Nm (4-plcs). If any visible movement remove each bolt, re-Loctite 243 and replace, tightening to 15Nm Second inspection required if any bolt removed/replaced.	1 st inspection Name: Engineer authorisation no: Sig:..... 2 nd inspection Name: Engineer authorisation no: Or, qualified pilot licence no: Sig:.....		
		Instrument S/No:..... Calibrated until:.....			
121	Inspect – rudder to tail fastenings. Inspect tail and rudder for signs of composite damage and cleanliness of drain holes.	Torque-check the single M6 or M8 bolt at the top bearing. If any visible movement remove bolt, re-Loctite 243 and replace,,: M6 test at 8Nm, fit to 10Nm M8 test at 10Nm, fit to 12Nm Second inspection required if bolt removed/replaced.	1 st inspection Name: Engineer authorisation no: Sig:..... 2 nd inspection Name: Engineer authorisation no: Or, qualified pilot licence no: Sig:.....		
		Instrument S/No:..... Calibrated until:.....			

RotorSport UK Ltd

122	F/C rudder control cable tension (pedal load check)	For limits and methods see Cavalon AMM RSUK0335	Reading.....		
		Instrument S/No:..... Calibrated until:.....			
123	Inspect – rudder control angles	For limits and methods see Cavalon AMM RSUK0335	Reading.....		
		Instrument S/No:..... Calibrated until:.....			
124	Overall check that all control system bolts are correct items, properly fitted and tight				
	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 914F). 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. A record of any work carried-out must be made in the Engine Log Book.			
130	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			
	Engine, other				
133	Service/lube - Ensure choke and throttles move freely from stop to stop, and that turbo detent can be felt correctly. Ensure cables are synchronised.				
135	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.	Instrument S/No:..... Calibrated until:.....			
136	Inspect - oil cooler general condition, security of mountings, no leaks or cracks in fittings.				

RotorSport UK Ltd

137	Inspect – all oil hoses and pipes for secure installation, no leaks, chafing, hardening of pipes or abrupt direction changes. Check condition of heat-insulating tubes under engine.				
138	Inspect – oil thermostat assembly for secure attachment, no cracks or leaks from fittings.				
139	Inspect – all coolant hoses for condition and secure installation, no leaks, chafing or porosity.				
140	Inspect – condition of heat protection on coolant hose from Cylinder #2.				
141	Inspect - coolant radiator for secure installation, cleanliness, leaks or damage				
142	Inspect – radiator fan for correct operation, no damage to cage or blades	Fan runs in direction of ram-airflow with engine running.			
143	Inspect – coolant overflow tank for correct coolant level, secure installation, no chafing	Use dipstick for coolant level. See Cavalon POH RSUK0334			
144	Inspect – exhaust system for general condition, secure installation, no leaks, cracks or loose rivets. Check security of turbocharger installation	Use tap-test to inspect for cracks			
145	Inspect – after-muffler clamps for deterioration and secure fitment and that wire-locking in place (2-plcs)	Note that rubber strips are not fitted to Cavalon Pro			
	Fuel system				
150	Inspect – security of fuel tanks and fuel cross-over tube/clamps. No evidence of leakage in fuel tank compartment.				
151	Inspect – operation and sealing of fuel-drain valve				
154	Inspect – fuel cap for condition, tightness, correct function and cleanliness of vent hole.				
156	Inspect - in area protected by removable firewall and in engine compartment check all fuel lines for condition, secure installation, presence of fire-protective sleeve, no chafing or kinks.				

RotorSport UK Ltd

157	Inspect – security and function of electric fuel pumps	Function determined by sound on operation			
158	Op/C – correct operation and security of fuel shut-off valve, correct operation of safety-guard				
159	Op/C – functionality of fuel gauge	ie that the reading is consistent with that shown on the tank dip-stick			
	Pre rotator				
170	Inspect – security of gearbox and pneumatic pipe to pre-rotator clutch.				
171	Inspect- drive shafts for bend or damage. No bearing play or cracks in flanges of u/j couplings				
174	Inspect – bendix to ring-gear engagement. Adjust if necessary	See Cavalon AMM RSUK0335			
176	Service/lube – clean then apply a minimal smear of light oil or WD40 to ring gear teeth	NB: Do not lubricate the bendix mechanism			
177	Service/lube – sliding shaft coupling with grease and verify free movement	Castrol LM or equivalent			
178	Service/lube –uppermost drive shaft protected with Waxoyl	Apply with brush, do not spray.			

RotorSport UK Ltd

	Trim System, Rotor Brake & Pneumatics				
183	<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 LEFT STICK (IF FITTED TO AIRCRAFT)</p>	<p>In the 'Brake' position, engage brake, confirm operation, and that function is acceptable. Pressurise to maximum. Change to flight – check for 8 sec max to release air from brake system. In 'Flight' position check that trim goes on and off in same direction as button. In 'Flight' position move stick fully 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, release pre rotator and confirm that pressure is applied to trim and stick comes back slightly. 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 (movement of head cylinder) with brake engaged.</p>	Max pressure obtained:		
	Woodcomp KW-31 Propeller NOTE! All propeller checks to be in accordance with manufacturers manual!	For propeller servicing refer to the Woodcomp User Manual UM-05 EN issued with the aircraft. Servicing must be carried out in line with the Woodcomp service schedule contained within the propeller manual. A record of any work carried-out must be made in the Propeller Log Book.			
190	Check – propeller blades for cracks, delamination or impact damage.	Minor damage may be repaired as defined in Woodcomp User Manual Section 19			
191	Check – security of propeller protection tape	May be replaced as defined in Woodcomp User Manual Section 19			
192	Check – satisfactory condition/function of the tab washers between mounting bolts and gearbox flange (6-plcs).	If replacement is required first tighten the bolts (progressively) to 22Nm before setting the tab locking.			

RotorSport UK Ltd

193	Check – security of brush box fasteners and condition of brushes	Minimum engagement of brush in housing 4mm, (Original length 14mm) Instrument S/No:..... Calibrated until:.....			
197	Adjust the propeller to the fully coarse pitch position, visually verifying that all blades move correctly and simultaneously and that the controller LED2 (Max) warning light functions correctly Return the propeller to the fully fine position, verifying correct function of the LED1 (Min) warning light.				
Rotor					
	Cavalon Pro gyroplanes have a variant of RotorSystemII in which the blades have reduced angle of incidence (RotorSystem II 8.4m RAO). Identification is by red end-caps and black clamping profile.	These rotor blades are lifed at 2,500hrs. The rotor must not be replaced with a different type.			
201	Inspect blades to manufacturers recommendations for any damage, splits etc.	Repair only as Cavalon AMM RSUK0335	CRITICAL PARTS & ASSEMBLY		
205	Confirm teeter bolt nut is hand tight (1-2Nm max) and split-pin fitted and correctly formed.	Duplicate signature required if disturbed	CRITICAL PARTS & ASSEMBLY 1 st inspection Name: Engineer authorisation no: Sig:..... 2 nd inspection Name: Engineer authorisation no: Or, qualified pilot licence no: Sig:.....		

RotorSport UK Ltd

206	Check – torques on blade to hub bar bolts/nuts in situ	If any evidence of blade to hub looseness it will be necessary to remove the rotor, dis-assemble blades from hub bar and check holes for wear or fretting. On re-assembly M8 Bolt torque is 25Nm. Refer to Section 9 “General Notes” of the Maintenance Manual for re-usage of nyloc nuts	CRITICAL PARTS & ASSEMBLY		
		Instrument S/No:..... Calibrated until:.....			
	Body and doors				
210	Inspect – doors for cracks, damage or distortion preventing easy opening and closing				
211	Inspect – door hinges for security, cracks or fractures				
212	Inspect – plexiglass surfaces (3-plcs) for cleanliness and obscurity. Determine if acceptable for flight				
213	F/C – opening and closing operation, and effectiveness of door locks	See Cavalon Pro AMM RSUK0335 for load values			
214	F/C – free and correct operation of sliding side windows (DV windows)				
215	F/C – security and free movement of rotary window vents				
	Pitot-static system				
220	Inspect – pitot tube general condition, secure installation, no obstructions. . Check correct function of heater (Caution: risk of burn injury)				
221	Inspect – static ports open, placards installed, no obstructions				
	Other				

RotorSport UK Ltd

225	Inspect – Cabin ventilation – ensure port under body is free from obstruction				
226	F/C – Cabin heat (if fitted) – ensure water-valve opens and closes on cockpit demand and that electric fan starts on selection of “hot”.				
227	Inspect – seat mountings secure and backrest adjustment correct operation				
228	Inspect – all seat belt attachment points for tightness and security				
229	Inspect – headset connector plate in good condition and headset hanger secure				
230	Inspect - external radio antenna, check for damage and security.	Fitted centrally on the underbody			
231	Inspect – external transponder antenna, check for damage and security	Fitted to the rhs of the underbody.			
232	Inspect; bearing temp indicator and OAT indicators for clear display				
233	Check Fire-warning LED flashes three times on power-up then off				
234	Overall check that all cockpit and panel fittings are secure				
	Final ground run checks prior to release	Follow safe practice, aircraft tied-down and with qualified operator or pilot only.			
250	Re-install the removeable firewall panel				
251	Re-install keel-tube cover				
252	Check all service pipes and cables around engine are secured				
253	Op/C – full functional check of engine start and run up to normal operating temperature				
254	Op/C- - with propeller set to fully fine ensure engine achieves at least 5,400rpm on one fuel pump only, and with both pumps running.	Propeller may be damaged if in fully coarse pitch during this test	RPM achieved:.....		
255	OP/C - complete mag drop checks at 4,000rpm	See Cavalon POH RSUK0334 for limits	Mag drop L:..... Mag drop R:.....		

RotorSport UK Ltd

256	Confirm-'Gen' light is on when engine not running, and off (or flickering gently) when running at above 2000rpm.				
257	Confirm-'Gen2' light is on when engine not running, and off (or flickering gently) when running at above 2000rpm.	If external generator fitted			
259	Inspect – instruments for measurements consistent with ambient conditions				
260	Observing Rotax shut-down requirements stop engine. Inspect - Power plant and coolant system for leaks				
Finalization work					
270	Carry-out a tool and loose article check				
271	Inside the a/c refit the stick gaitor(s). Verify full-and-free stick movement				
272	Re-install all inspection hatches (internal) and all service covers (external)				
273	Re-install all cowlings and mast cover				
274	Ensure all log book entries completed appropriately				
List of documents for Task 1 (Preparatory work)					
Confirm Service bulletins incorporated (from RSUK website, full list available with applicability)					
Confirm Airworthiness Directives incorporated (from CAA website, CAP747 and 661)					
CAP 747 Document date or issue checked, plus notes:					
CAP 661 Document date or issue checked, plus notes:					
EASA AD check (EASA website): note date checked and any actions required					

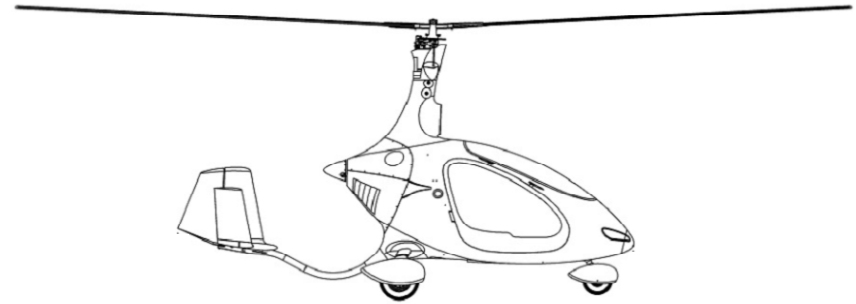
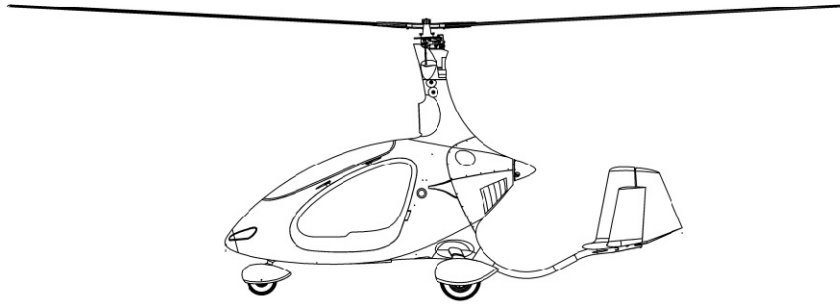
RotorSport UK Ltd

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

<p>Certificate of Release to Service: 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>Name: _____</p> <p>Signature: _____ Initial: _____</p> <p>Date _____ (to compare to check sheet)</p> <p>CAA Authorisation Ref No: _____</p>	Comments:
Note to Engineer; remember to reference this worksheet and RSUK0335 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, ADs, etc.	

RotorSport UK Ltd

Any cosmetic damage noted on first inspecting the aircraft should be marked on this graphic and brought to the owner's attention



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 Authorised Person (a Licenced Engineer).

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 Licenced Engineer authorisation there must be a second initial by a CAA authorised person in each adjacent “Licenced Engineer” cell, denoting acceptance of the task specified.*
- *If the person has Engineer authorisation the “Eng’r” cell should be struck out and a single entry of initials made in the Licenced Eng’r 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 Licenced Engineer authorisation there must be a second initial by an CAA authorised person in each adjacent “Licenced Eng’r” cell, denoting acceptance of the task specified.*
- *If the person has Licenced Engineer authorisation the “Eng’r” cell should be struck out and a single entry of initials made in the Licenced Eng’r cell*

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

- *The licenced 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 licenced or CAA 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 licenced engineer must complete and sign the “Maintenance Release” on the last page of the Worksheet.