Ground Run Request/Report				
Mechanic Name:		Date:		Location:
Gyro Type:	Works No:		Reg:	Logbook Hrs:
Engine Type:	Engine Ser No:		Engine hours:	Prop:
Reason for test: Initial ground run post production / ground run post repair / ground run post service / other reason……				
Prior to engine start, check all fluid levels are correct, any required cowlings removed and fuel tanks empty – ensure both MAG switches are off and the area is clear, turn ignition on (without turning the engine)				

Test No.	Action	Result	Remarks	Sign
1	Rotax 914 – confirm 98% load has been correctly set at the turbo boost stop	Ok/Nok/NA	Initial setup only	
2	With ignition and Avionic switch **off**, ensure the electronic (where fitted) Altimeter and ASI can be manually switched on and off (internal battery check)	Ok/Nok/NA		
3	With ignition and Avionic switch **on**, ensure the electronic (where fitted) ASI and Altimeter can be manually switched on, and switches off automatically when the ignition is switched off.	Ok/Nok/NA		
4	Check correct indication of the altimeter	Ok/Nok	Cross check to transponder at 1013Pa (if fitted) and/or airfield QNH & height	
5	Roll trim (if fitted) LED carries out a self-test and centralizes	Ok/Nok/NA		
6	Instruments carry out a self-test (where applicable)	Ok/Nok/NA		
7	Low fuel warning LED is illuminated (if fitted)	Ok/Nok/NA		
8	Fuel pressure warning LED illuminates (and extinguishes if sufficient fuel pressure present)	Ok/Nok/NA		
9	Low Volt LED illuminates	Ok/Nok		
10	Gen 1 (& Gen 2 if fitted) LED is illuminated	Ok/Nok		
11	Oil P LED is illuminated	Ok/Nok		
12	Rotax 914 – TCU & Boost LED's illuminate and extinguish	Ok/Nok/NA		
13	IVO Prop (if fitted & in fine position) Fine LED illuminates and extinguished	Ok/Nok/NA		
14	Fire Warning LED (if fitted – check engine for fire-wire) carries out a self-test and extinguishes	Ok/Nok/NA	3 short blinks	
15	Calidus Canopy warning LED functional check (if fitted)	Ok/Nok/NA	LED is illuminated with canopy open, extinguishes with canopy closed	
16	Fuel gauge shows zero fuel	Ok/Nok/NA		
17	Outside Temp gauge shows correct temp if fitted	Ok/Nok/NA	Compare with known ambient temperature	
18	Rotor Brg Temp gauge shows correct temperature if fitted	Ok/Nok/NA	Compare with known ambient temperature	
19	Water Temp LED remains extinguished if fitted or lights green dependent on modification state.	Ok/Nok/NA		
20	Slowly fill the tank with fuel, note the amount of fuel required to extinguish the Low Fuel LED (if fitted)	Fuel required……Ltr Ok/Nok/NA		
21	Continue to fill the tank to maximum level and carry out a leak check if possible.	Ok/Nok/NA		
22	If item **18** is carried out, remove fuel to leave approx. 4.5 liters useable if the	Ok/Nok/NA		

	aircraft is to be weighed post ground run			
22	Ensure compass indicates the correct direction.	Ok/Nok/NA	Compare to known heading N,S,E,W. Calibrate if required	
24	Rotax 914 – ensure main electrical fuel pump is functioning (sound test)	Ok/Nok/NA		
25	Carry out a functional check of the secondary electrical fuel pump if fitted (sound test)	Ok/Nok/NA		
26	Carry out a functional test of the manual cooler fan button (Calidus and Cavalon)	Ok/Nok/NA	LED lights and extinguishes when button pressed and released. Fan runs for approx. 2 mins.	
27	Ensure all instrument readings and ranges of the glass cockpit (if fitted) comply with TADS.	Ok/Nok/NA		
28	Ensure the carb synchro gauges are fitted and the balance hose closed	Ok/Nok/NA		
Prior to carrying out the ground run with engine running, secure the gyro at the keel tube to a secure ground mounting point, ensure the securing line is taut and apply the brakes. Ensure the area is clear of obstruction and be aware of propeller blast. Ensure that the area rear of the rear undercarriage boom is not entered AT ANY TIME with the engine running. Carry out the engine ground run and all adjustments in accordance with engine manufacturer's current instructions. Ideally the aircraft should be ground run with rotor removed to facilitate a pre-rotation test.				
29	Carry out a wheel brake functional test	Ok/Nok	Solid end point, brake lever should not contact throttle lever. No sponginess	
30	Switch the 2 MAG switches to the on position, apply the choke if necessary, ensure the throttle is at the idle position and start the engine	Start Ok/Nok		
31	Ensure the engine oil pressure enters the green range within 10 seconds	Ok/Nok		
32	Ensure all LEDs extinguish (excluding 'Canopy' for Calidus if the canopy is open and the warning system fitted)	Ok/Nok		
33	Ensure all LEDs extinguish in the rear cockpit if fitted	Ok/Nok/NA		
34	Ensure fuel pressure gauge functions correctly if fitted.	Ok/Nok/NA		
35	Carry out a leak check of all oil lines and connections	Ok/Nok		
36	Carry out a leak check of all coolant lines and connections	Ok/Nok		
37	Carry out a leak check of all fuel lines and connections	Ok/Nok		
38	Carry out a functional check of the navigation lights if fitted	Ok/Nok/NA		
39	Carry out a functional check of the anti-collision lights if fitted	Ok/Nok/NA		
40	Carry out a functional check of the strobes if fitted	Ok/Nok/NA		
41	Carry out a functional check of the main landing lights if fitted	Ok/Nok/NA		
42	Carry out a functional check of the LED landing light and position lights if fitted	Ok/Nok/NA		
43	Carry out a functional check of all cockpit lighting (and dimmer switch) if fitted	Ok/Nok/NA		
44	Set engine speed to 2500rpm and carry out an IVO functional test if fitted.	Rocker switch to coarse = decline in engine rpm Rocker switch to fine = increase in engine rpm Ok/Nok/NA	LEDs blink during operation, constant on reaching end point, IVO moves back off the end point and LED extinguishes. Finish check in full-fine pitch.	
45	Set engine speed to 2500rpm and carry out a functional test of the Woodcomp propeller if fitted	Rocker switch to coarse = decline in engine rpm Rocker switch to fine = increase in	Finish check in full-fine pitch.	

		engine rpm Ok/Nok/NA		
46	Ensure engine has reached operating temperature, set engine to 2000rpm and carry out carb synchronization	Ok/Nok/NA	IAW engine manufacturers instructions	
47	Ensure engine idle speed is set to 1600 +/- 50rpm	Engine idle speed……rpm Ok/Nok	Adjustable prop set to 'fine' if fitted	
48	Note any abnormal vibrations in the fuselage/engine/prop at idle	Ok/Nok		
49	Increase engine rpm to 4000, switch off cockpit MAG1, note engine rpm drop, switch back on. Carry out the same for MAG2	Rpm drop MAG1……rpm Rpm drop MAG2……rpm Difference……rpm OAT……°C Airfield……Ft Ok/Nok	Maximum allowed drop: 300rpm Maximum difference: 115rpm	
50	Carry out the same test in action **51** for the rear instructor MAG switches if fitted	Rpm drop MAG1……rpm Rpm drop MAG2……rpm Difference……rpm Ok/Nok		
51	With the engine rpm stabilized at 4000rpm, carry out an oil thermostat check.	Ok/Nok	On reaching approx. 100°C the thermostat should open and the oil temperature should drop by approx. 10°C	
52	Carry out a full throttle check. **Operator should be seated in the aircraft during this check.**	Ok/Nok	Full throttle engine rpm should be 5400 +/- 100rpm? IVO set to fine if applicable.	
53	Calidus – close canopy and ensure 'canopy' LED extinguishes	Ok/Nok/NA		
54	With throttle returned to idle, carry out a pneumatic functional check of the **forward** stick 4 way switch (no rotor fitted)	Ok/Nok	Flight/Brake switch set to Brake. Move 4 way to rear, rotor brake operates	
		Ok/Nok	Flight/Brake switch set to Brake. Move 4 way forward, no action.	
		Ok/Nok	Flight/Brake switch set to Flight. Move 4 way to rear, rotor head is trimmed to the rear.	
		Ok/Nok	Flight/Brake switch set to Flight. Move 4 way forward, pressure releases and rotor is trimmed forward	
	(If roll trim fitted)	Ok/Nok/NA	Move 4 way to the left. Rotor should trim to the left and the LED indicator should indicate left	
	(If roll trim fitted)	Ok/Nok/NA	Move 4 way to the Right. Rotor should trim to the right and the LED indicator should indicate right	
55	Carry out a pre-rotation functional check (no rotor fitted)	Ok/Nok	Stick forward, Flight/Brake Switch at Flight, depress the pre- rotator button. Pin must push the Bendix into the crown gear, clutch then engages, rotates the rotor head and rotor rpm is shown on the instrument	
		Ok/Nok	Move stick far enough to the rear that the micro-switch operates. Pre-rotator button should now not operate	
		Ok/Nok	Stick forward, Flight/Brake switch at Brake, rotor brake applied. Depress the 'Overdrive' button on the cockpit panel, and the pre-rotator button on the stick simultaneously. The rotor head should rotate and rpm displayed	

			on the rotor rpm gauge	
56	Carry out a radio functional check if fitted	Radio strength (tower)…… Ok/Nok/NA	Minimum strength **4**. No interference	
57	Carry out items **56** to **58** for the rear (MTO & Calidus) or left (Cavalon) stick if fitted.	Ok/Nok/NA		
58	Confirm all instrument readings of the glass cockpit (if fitted) comply with TADS with engine running	Ok/Nok/NA		
59	Ensure all instruments of the rear (instructor) cockpit operate and indicate correctly (if fitted)	Ok/Nok/NA		
60	Carry out a cabin heating functional check if fitted	Ok/Nok/NA		
61	Carry out a functional check of the pilot and passenger seat heating if fitted	Ok/Nok/NA		
62	Carry out a functional check of the pilot and passenger seat lumbar cushion if fitted	Ok/Nok/NA		
63	Allow the engine to run continuously until it stops due to fuel starvation if a weight report is required, or continue to action **66**		This means that only unusable fuel is left in the tanks, the correct amount for weighing.	
64	Switch off engine using mag switches (for 914 engines, ensure aircraft has run for at least 2 minutes at idle) if engine has not stopped through fuel starvation (**65**)	Ok/Nok		
65	Switch off ignition			
66	Untether the aircraft			
67	Carry out an oil level check – top-up as required	Ok/Nok		
68	Carry out a coolant level check – top-up as required	Ok/Nok		
69	Carry out a final leak check of all fluid connections/hoses/containers	Ok/Nok		
70	Ensure all tools, equipment and other task related items are removed from the aircraft	Ok/Nok		
71	Carry out a loose article check	Ok/Nok		
72	Carry out any finalization work required			

Aircraft Maintenance Release: The work recorded above (all pages) has been completed to my satisfaction and in that respect, the aircraft is considered fit to fly

Name/sig of person completing the work	**Date**	**Observer name/sign confirming task complete as specified**	**Stamp or authorisation code**

Ok: Action carried out, assessed as serviceable
Nok: Action carried out, assessed as unserviceable, corrective action required
N/A: Action is not applicable for this aircraft
Signature: Sign the relevant block when the action has been performed, or enter N/P for "Not Performed"
Remarks: Enter a unique remark where required, or enter a reference to an extra worksheet or photo attached to this protocol