INSPECTION CHECKS

ROTAX 912-UL/912-ULS ENGINE INSTALLATIONS		LAA/IC-ENG-ROTAX912-UL(S) Issue 1
A/C Type:	Reg:	Date:
Engine Type:	Engine Serial No:	
If not new, brief history of engine:		

Engine Installation Details

Slipper clutch fitted	Yes / No
Vacuum pump drive fitted	Yes / No
Vacuum pump	Yes / No Make/Model:
Hydraulic propeller governor	Yes / No Make/Model:
Air guide hood fitted	Yes / No
Intake silencer or airbox fitted Type – Rotax Std. / other (specify)	Yes / No
Air filters: Make & type	
Exhaust type Details if other:	Rotax mild steel / Rotax stainless / Other
Radiator type Details if other:	Rotax Std. / Other
Pressure Cap:	Rotax 0.9 bar Rotax 1.2 bar - from s/n 4405962 (UL), 5643240 (ULS) NOTE : If standard Rotax expansion tank fitted, 0.9 or 1.2 bar cap is standard. If remote expansion tank or radiator with pressure cap is fitted, it may not be standard Rotax. Details if other:
Oil Cooler: Type: Details if other:	Yes / No Rotax small height 82mm/Medium 95mm/Large 131mm /Other
Carburettor Heat Type Details if other:	Yes / No Rotax hot air/Skydrive coolant/other hot air/Other
Engine alterations: e.g. coolant or oil thermostatic valve, throttle-open springs removed or reversed, prop shaft extension, non-Rotax airbox, coolant inlets/outlets on cylinder heads/water pump rotated to new position, etc, etc. (Include LAA Mod Nos. where appropriate)	

Engine Installation Inspection	Inspector's initials
Compliance with Rotax Mandatory Bulletins and CAA MPDs (see www.rotax-aircraft-engines.com) Details:	
Incorporation of advisory modifications Details:	

Engine Mounting

Suitable anti-vibration mounts fitted	
Security of mounting: engine to subframe, subframe to airframe	

Propeller

Pusher / Tractor (Delete as applicable

Propeller make/ Designation:	No. Blades	Dia: Inch/mm	
Pitch for each blade – ground adjustable propellers			
1: 2: 3: 4:			
inches/mm or ____deg at _____ % radius/tip			
Inertia Kg cm²	From manufacturer or checked – Rotax SI-11-1991		
Balance gm metre	(Must be no more than 0.5 gm m)		
Propeller mounting Describe fully the method of propeller attachment, including details of any propeller extension or spacer used. Also include details of spinner attachment, if applicable, including bulkheads, materials and fasteners used. Drawings may be attached.			

Cooling System

Expansion tank at highest point in cooling system Yes / No	
Pressure cap, condition, sealing & operation of *both* valves	

Expansion tank security (If not standard Rotax tank on top of engine)	
Chafing of standard Rotax expansion tank on crankcase (Check for rubber pad)	
Mounting of radiator(s) – secure & isolated from engine vibration	
Pipework – adequate flow diameter, flares or lips on ends of all metal pipes, suitability & condition of hoses & clamps, chafing, leaks	
Overflow bottle should be below pressure cap, but not more than 250 mm. Vented with adequate size hole (2.5 mm Ø minimum), vent piped away from engine if overflow bottle near carb intakes	
Cylinder head temperature gauge and temp limits placarded Specify instrument: Temperature sensor & leads, condition, chafing Coolant temperature gauge fitter and temp limited placarded Yes / No (Recommended in addition to CHT gauge, particularly new installations & those with unknown cooling system adequacy) Temperature sensor & leads, condition, chafing	
Coolant filled Antifreeze added (specify ratio)	

Exhaust

Exhaust adequately mounted, exhaust flanges correctly tightened (clear of cylinder head) (See SI-5 UL 97 Rev 1)	
Carbs, hoses, cowlings etc. protected from exhaust heat	
Ball joints incorporated & lubricated with heat resistant grease (Copaslip, Antiseize etc.)	
Exhaust springs secure & wire locked (Very important with pusher engines)	
Exhaust gas temperature gauge fitted Yes / No Specify instrument: Cylinders monitored: No. 1 / 2 / 3 / 4 EGT sensors & leads, condition, chafing	

Lubrication System

Oil filter – check correct type – Black painted with Rotax part no.	
Oil tank securely mounted free from vibration & with level 0-400 mm below propeller shaft	
Suction & return connections on tank correct way round & secure	
Oil tank vent pipe routed in continuous downslope, no kinks. Oil tank vent protected from icing	
Oil suction hose – connections secure, suitable for temperature, stiff enough to prevent collapse under suction, no kinks, adequate internal diameter. Protection from chafing & exhaust heat	

Oil return hose – connections secure, suitable for temperature & pressure. No kinks, adequate internal diameter. Protection from chafing & exhaust heat. Banjo connection under engine wire locked	
Oil cooler – in suction line, not in return. Mountings secure, protected from engine vibration, hose connections secure	
Oil cooler – correct orientation (connections uppermost)	
Oil pressure gauge specify instrument: Pressure sensor leads, condition, chafing Clear of exhaust heat	
Oil system purging. System purged of air to give positive oil pressure while cranking (before engine start)	

Fuel System

Fuel tank vent	
Water & debris sump in tank	
Coarse strainer in tank	
All hose connections secure	
Fuel lines – protected from exhaust heat & chafing	
Fuel filter type – Nylon/Sintered/Paper/Other	
Fuel filter position (non fire-resistant filters should not be in engine bay)	
Fuel tap(s) Adequate bore Secure connections Positive ON/OFF stops/detents ON/OFF placard	
Fuel return – return to tank with restrictor required (off-take to be between engine fuel pump & carbs)	
Fuel return to which tank?	
Fuel selector (multiple tanks) – supply and return ganged?	
Fuel pressure gauge fitted Yes / No Type:	
Back up fuel pump (if fitted) Make and type: Mounting, security or wiring & hose connections Pipework type (series or parallel)	
Condition/security of carb rubber adapters	
Clamp screw underneath & 7mm gap (spacer fitted)	
Carb support springs fitted	
Carb vent pipes outlet close to air filters, or into airbox (if fitted)	
Fuel flow transducer(s) fitted Yes / No (Mod No.) Flow and return / Flow only	

Transducer bypass fitted Yes / No	
Full & free movement of throttles	
Throttle stops on throttle lever set to avoid undue strain on cables	
Throttle cable adjustors locked. Cable outers secured	
Full & free movement of chokes	
Choke cable adjusters locked. Cable outers secured	
Carb synchronisation – check mechanical synchronisation at idle & full throttle positions	
Drip trays/heatshields between carbs & exhaust Yes / No (Recommended)	
Drain pipe from drip trays to safe area	
Drain to safe area from intake silencer/airbox (if fitted)	
Installation of hot air carb heat satisfactory (if fitted) ON/OFF control OK, heater function OK	
Installation of coolant carb heat satisfactory (if fitted) Hoses clear of exhaust & free from chafing	
Air filters oiled (pink colour, (K & N filters))	
Air filters secure (wire locked if pusher)	
Intake silencer or airbox (if fitted), adequately supported	

Fuel Flow Check

Check fuel flows in accordance with TL2.20 and submit completed LAA/IC-FF form. (Mechanical pump check not mandatory)	

Ignition & Electrical

Check all wiring for security, connectors, chafing	
Check battery connections, starter, starter solenoid, +ve terminals insulated	
Check regulator connections, regulator earthed	
22000 µf capacitor installed	
Earth connection, engine to airframe (or to battery if composite airframe)	
Charging indicator – voltmeter/ammeter/warning light	
Spark plug caps correctly fitted	

Instruments

Tachometer type	
Other engine instruments not already detailed – specify	

Pre Initial Start Checks

Engine oil filled & system purged Oil type used - specify	
Coolant filled, overflow bottle part filled	
Check throttles closed	

Initial Engine Run – aircraft adequately secured

Start engine. Check oil pressure. Follow Rotax procedure.	
Stop engine after about 1 minute idling. Check oil level & coolant. Top up as necessary	
Restart & warm up per Rotax procedure.	
Check function of ignition circuits	
Check charging	
Check all engine instruments	
Carry out pneumatic carburettor balance	
Check cooling system adequate during prolonged ground running cowls installed – Minimum ground running 20 mins	
Aircraft tied down - Check full throttle RPM. Max RPM =	

Declaration by Inspector

I certify that the above checks have been carried out to my satisfaction.

Name:	Signed:	Insp. No.:	Date: