RAANZ Part 103 Rotax 912/914 on-condition maintenance schedule

Revision date 25/11/26

Summary of maintenance to be carried out at each service interval

100hrs (every 100hrs or annually).
General visual inspection, check magnetic plug, check air filter, check mounting system, pneumatically balance (synchronise) carbs, carb float bowl inspection, check spark plugs, differential (leak down) compression test, inspect waste-gate cable, lubricate waste-gate shaft, check fuel filter, measure friction torque, oil change, oil filter change, cut oil filter open and inspected for contamination, alternator belt tension check, ground run, check for compliance with all Rotax Service Bulletins and Service Instructions (these can be downloaded from the documentation section at www.rotax-aircraftengines.com).

200hrs (every 200Hrs or every 2 years)
100hr service plus:check carburettor rubber sockets, remove and inspect carburettors, check spark plug caps and replace spark plugs[1].

600hrs (every 600Hrs)
200hr service plus: complete tear down of all gearboxes that don't have slipper clutches. Inspect slipper (overload) clutch if using Avgas. Note that some older engines were delivered with a 600 hours TBO & they will either need overhauling or some modifications carrying out to upgrade their TBO.

1000hrs (Every 1000Hrs)
200hr service plus: 914 (115hp) & 912ULS/S (100hp) owners will need to have a complete tear down of the gearbox (slipper clutch version). 914 operators will also need to replace the main electric fuel pump.

Note that there is no mention of a gearbox service for the 912 80hp engine if it has a slipper clutch. That is because there are no service requirements other than checking the friction torque* up to 2000hrs (with the exception of engines that run on Avgas that require the slipper clutch to be stripped every 600hrs to remove unwanted contamination). At 2000hrs to continue on condition it would be worthwhile considering a gearbox tear-down at that point.
*(In the unlikely event the friction torque is out of limits the gearbox will need remedial work)

If you use Avgas for more than 30% of the time then Rotax suggest that the oil, oil filter, spark plugs & gearbox will need a bit more maintenance than if using Unleaded fuels. Rotax reduce the oil change intervals to 50Hrs (if you can, 25hrs wont harm) replace the spark plugs every 100hrs & have the slipper clutch inspected every 600hrs. So using Avgas will see you having to do a bit more maintenance.

Don't forget those calendar replacement items such as coolant & rubber components:

- Coolant is normally lifed at 5 years. The waterless coolant (Evans NPG+) does not need replacing until TBO, but you will need to check with the coolant manufacturer for whatever

you are using, & of course make sure when you refill the cooling system that you use the type & ratio specified by the aircraft manufacturer.

– Rubber parts should be replaced every 5 years[2], a list of the rubber parts to replace can be found in the line maintenance manual.

Notes:

1. Refer to the **spark-plug condition inspection procedure** for inspection procedures which may permit returning serviceable parts to service without replacement.
2. Refer to the **rubber parts condition inspection procedure** for inspection procedures which may permit returning serviceable parts to service without replacement.

RAANZ Rotax 912 On-condition maintenance checklist/sign-off

These following pages are an extract from the Rotax 912 Line Maintenance Manual.
Refer to it for detailed inspection/maintenance instructions

We recommend that at each service interval you print these out, fill/sign them off as each step is carried out, and insert in your engine logbook as proof of maintenance.

AIRCRAFT	
Registration number	
Aircraft make	
Aircraft model and S/N	
Time since new	

ENGINE	
Engine type	
Engine S/N	
TSN (time since new)	
TSO (time since overhaul)	
Used operating fluids:	
Coolant	
mixture ratio	
Fuel	
Oil	
type	
viscosity	

AIRCRAFT OPERATOR	
Name	
Address	
Telephone/email	

MAINTENANCE FACILITY						
Maintenance workshop						
Address						
Telephone/email						
Certificate						
This check is applicable	25 hr	50 hr	100 hr	200 hr	600 hr	1000 hr
Leaded fuel more than 30% of operation?	YES/NO					
Next check due at:	.....hr					

Points of Inspection	Interval Operating hours		Chapter Reference	Signature
	as indicated	100hr		
1.) Visual inspection of the engine				
General visual inspection of the engine for damage or abnormalities. Check cooling air duct and cooling fins of the cylinders for obstruction, cracks, wear and good condition. Take note of changes caused by temperature influence.	Recommended 50 hr.	X	12-20-00 sec. 3)	
Visual inspection of the temperature sensor and the oil pressure sensor. Inspect for tight fit and good condition.		X		
Inspect all coolant hoses for damage, including leakage, hardening from heat, porosity, loose connections and secure attachment. Verify routing is free of kinks and restrictions.		X	12-20-00 sec. 9.1)	
Carry out visual inspection of leakage bore at the base of the water pump for signs of leakage.		X	12-20-00 sec. 4)	
Inspect the expansion tank for damage and abnormalities. Check coolant level, replenish as necessary. Inspect radiator cap. Inspect protection rubber on expansion tank base for correct fit.		X	12-20-00 sec.9.1,9.4) 12/10/00 sec. 3.1)	
Inspect the overflow bottle for damage and abnormalities. Verify coolant level, replenish as necessary. Inspect line from expansion tank to overflow bottle for damage, leakage and clear passage. Inspect venting bore in cap of overflow bottle for clear passage.		X	12-20-00 sec. 9.5) 12/10/00 sec. 3.1)	
Inspect all oil lines for damage, leakage, hardening from heat, porosity, security of connections and attachments. Verify routing is free of kinks and restrictions.		X	12-20-00 sec. 4)	
Inspect all fuel lines for damage, leakage, hardening from heat, porosity, security connections and attachments. Verify routing is free of kinks and restrictions. In the case of steel fuel lines (912 F, 912 S and/or optional), also check for any cracks and/or scuffing marks		X	12-20-00 sec. 4)	
Inspect the wiring and its connections for secure fit, damage and signs of wear.		X	2-20-00 sec. 13.1)	
Check the oil filter for damage, tightness and abnormal wear.		X	12-20-00 sec. 13.5)	
2.) **Magnetic plug**				
Check the magnetic plug		X	12-20-00 sec. 12)	
3.) Compression check				
Check the compression by the differential pressure method. Test pressure.....hPa/psi	Recommended 50 hr	X	12-20-00 sec. 5)	
Pressure drop (% or fraction)				
Cyl1 / Cyl2 / Cyl3 / Cyl4				

Points of Inspection	Interval Operating hours		Chapter Reference	Signature
4.) Checking the engine suspension				
Inspect engine suspension and fasteners for secure fit, including damage from heat, deformation, cracks.		X	12-20-00 sec. 3.1)	
5.) Checking the air intake system				
Inspect suspension and fasteners for secure fit, including damage from heat, deformation, cracks.		X		
6.) Engine external parts				
Inspect screws and nuts of all external parts for tight fit. Inspect safety wiring, replace as necessary.		X		
7.) Engine cleaning				
Engine cleaning		X	12-20-00 sec. 1)	
8.) Checking the air filter				
Checking the air filter		X	12-20-00 sec. 2)	
9.) Checking the carburettors				
Checking the idle speed		X	12-20-00 sec.10.3.1)	
Checking the ventilation of the float chambers. Any trouble with the float chamber ventilation impairs engine and carburettor function and must therefore be avoided. Check that the passage of the ventilation lines is free and that no kinks can arise.	200 hr			
Check for free movement of the carburettor actuation (throttle lever and starting carburettor). Check that the bowden cable allows the full travel of the throttle lever from stop to stop.		X	12-20-00 sec. 10.6)	
Removal/assembly of the two carburettors for carburettor inspection.	200 hr		Heavy MM 73-00-00 sec. 3)	
Check carburettor synchronization. Mechanical and pneumatic synchronization.		X	12-20-00 sec. 10.1) 10.2) 10.3)	
Check weight of floater	200 hr		12-20-00 sec. 10.4.1)	
10.) Inspecting carburettor sockets and drip tray				
Inspect the carburettor sockets for damage and abnormalities, checking for cracks, wear and good condition. Take note of changes caused by temperature influence. (1 See SB-912-030 - latest edition.	200 hr.		Heavy MM 73-00-00 sec. 3.4.3)	
11.) Spark plug connectors				
Check that resistance spark plug connectors fit tightly on the spark plugs. Minimum pull-off force is 30 N (7 lb).	200 hr			
12.) Spark plugs				
Remove all spark plugs, check the heat range designation, clean, check electrode gap and adjust if necessary.		X	12-20-00 sec. 13.2)	

Points of Inspection	Interval Operating hours		Chapter Reference	Signature
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Replacing spark plugs Replace as required (1 use of leaded fuel more than 30% of operation.	200 hr	X(1	12-20-00 sec. 13.2)	
13.) Flushing the cooling system				
Flushing the cooling system where conventional coolants are used.	when replacing the coolant		12-20-00 sec. 9.3)	
14.) Checking the propeller gear box				
Check the friction torque in free rotation on gearboxes with overload clutch. Actual friction torque..... Nm (in.lbs)		X	12-20-00 sec. 14.1)	
Gearboxes with overload clutch (1 use of leaded fuel more than 30% of operation. Inspect overload clutch.	600 hr. (1		05-50-00 sec. 2) SB-912-033	
Checking the propeller gearbox with overload clutch. (2 only for engine type 912 S/ULS/ULSFR	1000 hr (2		12-20-00 sec. 14.2)	
Checking the propeller gearbox without overload clutch. (3 only for engine type 912 UL/ULS/ULSFR	600 hr. (3		12-20-00 sec. 14.2)	
15.) Oil change				
Drain oil from oil tank (1 use of leaded fuel more than 30% of operation.	50 hr (1	X	12-20-00 sec. 11.2)	
Check the oil tank and clean the oil tank if contaminated. (1 use of leaded fuel more than 30% of operation.	200 hr	X (1	12-20-00 11.5)	
Remove old oil filter from engine and install new oil filter. (1 use of leaded fuel more than 30% of operation.	50 hr. (1	X	12-20-00 sec. 11.3)	
Cut old oil filter without producing any metal chips and inspect following components for wear and/or missing material (1 use of leaded fuel more than 30% of operation. Filter material findings:..... Filter cover findings:..... Sealing lip (wear, cracks, missing material) findings:..... Spring of bypass valve (small) findings:..... Positioning spring (large) findings:.....	50 hr (1	X	12-20-00 sec.11.4)	
Refill oil tank with approx. 3 litres of oil. For oil quality, see Operators Manual and SI-912 -016, latest edition. (1 use of leaded fuel more than 30% of operation	50 hr (1	X	12-20-00 sec. 11.2)	
16.) Oil level check				
Verify oil level, replenish as necessary		X	12-10-00 sec. 4.1)	
17.) Checking the V-belt tension				
On configurations with auxiliary generator, check the attachment and the V-belt tension.		X	12-20-00 sec. 6)	

Points of Inspection	Interval Operating hours		Chapter Reference	Signature
18.) Smooth performance of the engine				
Inspection of turning of the crankshaft. For all engines with crankcase up to S/N 27811 inclusive. Torque …....Nm NOTE: At engines with new crankcase S/N 06.0010 or higher only inspect in case of suspected hard movement.		X	X 05-50-00 sec. 3.13)	
19.) Engine test run Observe the safety instructions!				
OAT				
QNH				
Minimum RPM		X	SAT/UNSAT	
Maximum RPM		X	SAT/UNSAT	
Maximum MAP		X	SAT/UNSAT	
Mag drop 1/L		X	SAT/UNSAT	
Mag drop 2/R		X	SAT/UNSAT	
Carb heat drop		X	SAT/UNSAT	
Oil pressure		X	SAT/UNSAT	
Oil temperature		X	SAT/UNSAT	
CHT		X	SAT/UNSAT	
EGT		X	SAT/UNSAT	
Fuel pressure		X	SAT/UNSAT	
Vacuum		X	SAT/UNSAT	
Charge		X	SAT/UNSAT	
Idle mixture rise		X	SAT/UNSAT	
Idel cutoff		X	SAT/UNSAT	
General note				
All Service Bulletins are complied with		X		
Return to service				
Check was carried out according to this schedule and was recorded in the Engine Log book.				
Signature				
Date				