

CONAIR SPORTS

ROTAX 4-STROKE MAINTENANCE SCHEDULES



| | |
|---|--|
| X | Rotax recommendation |
| | Carried out as part of ConAir Sports standard service packages |
| | Service available at extra cost |

| 4-Stroke Engine Maintenance | First 25h | Every 50h (AVGAS only) | Every 100h or 12mth | Every 200h or 24mth | Every 300h | Every 2Y | Every 5Y |
|---|-----------|------------------------|---------------------|---------------------|------------|----------|----------|
| Please note that gearbox servicing is detailed in a separate table below | | | | | | | |
| Carry out pre-flight and daily inspection | X | X | X | X | X | | |
| Replace carburetor vent hoses | | | | | | | X |
| Replace all rubber coolant hoses | | | | | | | X |
| Replace oil hoses | | | | | | | X |
| Replace carburetor rubbers | | | | | | | X |
| Replace carburetor diaphragms | | | | | | | X |
| Replace carburetor balance hoses | | | | | | | X |
| Replace V belt | | | | | | | X |
| Replace fuel pump hoses (if hoses integral to pump, then replace pump) | | | | | | | X |
| Inspect exhaust system | X | | X | X | | | |
| Inspect fuel filter if easily accessible | X | | X | X | | X | |
| Inspect battery condition | X | | X | X | | X | |
| Inspect radiator & oil cooler for crack, distortion & discolouration | X | | X | X | | X | |
| Inspect prop for damage and balance. Carry out dynamic balance & tracking | | | X | X | | X | |
| If run on AVGAS change oil & filter, prime oil system and inspect filter element | | X | | | | | |
| 914 engines – check waste gate position | X | | X | X | X | | |
| 914 engines – check waste gate cable bowden | X | | X | X | X | | |
| Engine cleaning | X | | X | X | | | |
| General inspection of engine | X | | X | X | | | |
| Inspection of temperature and oil pressure sensors | X | | X | X | | | |
| Inspection of all coolant hoses for damage | X | | X | X | | | |
| Inspection of leakage bore at the base of the water pump for signs of leakage | X | | X | X | | | |
| Inspection of the expansion tank | X | | X | X | | | |
| Verify coolant level | X | | X | X | | | |
| Inspect radiator cap | X | | X | X | | | |
| Inspect rubber plate on expansion tank base for secure fit | X | | X | X | | | |
| Inspect the overflow bottle for damage and abnormalities | X | | X | X | | | |
| Verify coolant level, replenish as necessary | X | | X | X | | | |
| Inspect line from expansion tank to overflow bottle for damage, leakage & clear passage | X | | X | X | | | |
| Inspect venting bore in cap of overflow bottle for clear passage | X | | X | X | | | |
| Inspect oil lines for damage, leakage, hardening from heat, porosity, security of connections and attachments (Visual inspection, in situ) | X | | X | X | | | |
| Verify routing for kinks and restrictions including restricted elbows (Visual inspection, in situ) | X | | X | X | | | |
| Inspect all fuel lines for damage (Visual inspection, in situ) | X | | X | X | | | |
| Inspect for possible crack and or scuffing marks on steel fuel lines | X | | X | X | | | |
| Verify the complete electrical wiring system including tight fit of connectors, damage and wear (Visual inspection, in situ) | X | | X | X | | | |
| Inspect engine mounts and fasteners for secure fit, including damage from heat, deformation, cracks (Visual inspection, in situ) | X | | X | X | | | |
| Inspect attachment screws and nuts of all external parts for security & fit. Inspect safety wiring, replace as necessary. | X | | X | X | | | |
| Turn propeller to return oil to tank. Check oil level | X | | X | X | | | |
| Inspection of the magnetic plug | X | | X | X | | | |
| Drain oil tank | X | | X | X | | | |
| Change oil filter | X | | X | X | | | |
| Cut open and inspect oil filter element | X | | X | X | | | |
| Replace gasket ring of drain screw on oil tank | X | | X | X | | | |
| Refill oil tank with approximately 3 litres of oil | X | | X | X | | | |
| Prime Oil system | | | | | | | |
| Flush the cooling system – see coolant manufacturers specification | | | | | | | |
| Replace the coolant – see coolant manufacturers specification | | | | | | | |
| Inspection of the air filter | X | | X | X | | | |
| Inspect the carburetor sockets for damage and abnormalities, including obstructions, crack, wear and condition. Take note of temperature influence | | | | X | | | |
| Verification of the idle speed | X | | X | X | | | |
| Verification for the float chamber venting | X | | X | X | | | |
| Inspect free movement of the carburetor levers | X | | X | X | | | |
| Remove, disassemble and inspect the carburetors. | | | | X | | | |
| Inspect carburetor synchronization (mechanical & pneumatic) | X | | X | X | | | |
| On engines with external alternator, inspect the attachment and the V belt tension for damage and abnormalities, including obstructions, cracks, wear and condition | X | | X | X | | | |
| Remove & clean all spark plugs, verify heat range | X | | X | | | | |
| Inspect spark plug electrode gap and adjust as necessary | X | | X | | | | |

| 4-Stroke Maintenance - continued | First 25h | Every 50h (AVGAS only) | Every 100h or 12mth | Every 200h or 24mth | Every 300h | Every 2Y | Every 5Y |
|--|-----------|------------------------|---------------------|---------------------|------------|----------|----------|
| Inspect, clean & adjust spark plugs. If using AVGAS, verify heat range | | X | | | | | |
| If using AVGAS - 914 series engines - replace spark plugs (using heat sink paste) | | | X | | | | |
| If using AVGAS – 912 & 912S series engines - replace spark plugs using (heat sink paste) | | | X | | | | |
| 914 series engines - replace spark plugs (using heat sink paste) | | | X | X | | | |
| 912 & 912S series engines - replace spark plugs (using heat sink paste) | | | | X | | | |
| Verify security of spark plug connectors | X | | | X | | | |
| Inspect compression by differential pressure method | | | | X | | | |
| Test run engine | X | X | X | X | | | |
| Verify that all Service Instructions and Service Bulletins have been complied with | X | | X | X | | | |

| GEARBOX SERVICE INTERVALS | | | |
|---------------------------|------------------------|----------------------|------------------|
| Engine Type | Gearbox type | Fuel type | Service Interval |
| 912UL (80hp) | Without slipper clutch | Unleaded Mogas | 600hrs |
| | | Leaded fuels (Avgas) | 600hrs |
| 912UL/A/F (80hp) | With slipper clutch | Unleaded Mogas | t.b.o. |
| | | Leaded fuels (Avgas) | 600hrs |
| 912ULS (100hp) | Without slipper clutch | Unleaded Mogas | 600hrs |
| | | Leaded fuels (Avgas) | 600hrs |
| 912ULS/S (100hp) | With slipper clutch | Unleaded Mogas | 1000hrs |
| | | Leaded fuels (Avgas) | 600hrs & 1000hrs |
| 914UL (115hp) | Without slipper clutch | Unleaded Mogas | 600hrs |
| | | Leaded fuels (Avgas) | 600hrs |
| 914UL/F (115hp) | With slipper clutch | Unleaded Mogas | t.b.o. |
| | | Leaded fuels (Avgas) | 600hrs |

| GEARBOX work required | GEARBOX WITH SLIPPER CLUTCH | | | GEARBOX WITHOUT SLIPPER CLUTCH | |
|---|-----------------------------|------------------------------|-------------------------------|--------------------------------|-------------------------------|
| | Every 600h | Every 1000h (only 912UL/ULS) | Every 2000hr (1200hr for 914) | Every 600h | Every t.b.o. (1200hr for 914) |
| Inspect slipper clutch. If using AVGAS, strip & clean overload clutch and reset slipping torque | X | X | | | |
| General Inspection of propeller gearbox | X | X | | X | |
| Dismantle gearbox | | X | | X | |
| Measure bearing bush diameter | | X | | X | |
| Remove and visually inspect propeller shaft | | X | | X | |
| Replace gearbox housing ball bearing | | X | | X | |
| Check prop shaft axial run out | | X | | X | |
| Visual inspection of dog gear and dog hub | | X | | X | |
| Check ramp clearance | | X | | | |
| Visually check gear teeth | | X | | X | |
| Visually inspect fuel pump ecenter | | X | | X | |
| Visually inspect step collar | | X | | X | |
| Measure thickness of thrust washer | | X | | X | |
| Visually inspect steel bush | | X | | X | |
| Visually inspect and measure disc springs | | X | | X | |
| Re-assemble gearbox | | X | | X | |
| Adjust pre-load on disc springs | | X | | X | |
| Replace ring halves | X | X | | X | |
| Check crankshaft run out at PTO end | | X | | X | |
| Measure gear backlash | | X | | X | |
| Check torque on M3 nut | | X | | X | |
| Verification of the friction torque | X | X | | | |
| Overhaul | | | X | | X |

| SHOCK LOAD TESTING | Slipper | Non slipper |
|---|---------|-------------|
| TCU Processor seated (914 only) | | |
| TCU function check & parameters correct (914 only) | | |
| Visual check of complete engine & mounting system, crack test mounting frame & crankcase if necessary | X | X |
| Engine rotates freely | X | X |
| Friction torque (30 - 50 Nm) | X | |
| Propshaft axial run-out (< 0.06 mm) | X | X |
| Breaking torque of slipper clutch (600 - 800 Nm) | X | |
| Propshaft crack test (Magnaflux) | X | X |
| Main (large) gear crack test (Magnaflux) | X | X |
| Crankshaft gear crack test (Magnaflux) | X | X |
| Dog hub crack test (Magnaflux) | X | X |
| Check flywheel woodruff key | | X |
| Crack test flywheel hub | | X |
| De-magnetise gears & propshaft | X | X |
| Crankshaft radial run-out, PTO end (< 0.08 mm) | X | X |
| Crankshaft radial run-out, MAG end (< 0.06 mm) | | X |
| Cylinder phasing difference less than 2 degrees | | X |
| Gearbox housing crack test (Dye penetrant) | X | X |
| Replace both propshaft bearings | X | X |

| SHOCK LOAD TESTING - continued | Slipper | Non slipper |
|--|---------|-------------|
| Drive gear of vac pump or hydraulic governor | X | X |
| Slipper clutch torque (600 - 800 Nm) | X | |
| Friction torque (30 - 50 Nm) | X | |
| New ring halves | X | X |
| Fit new serrated washer | X | X |
| Crankshaft radial run-out, PTO end (< 0.08 mm) with gear installed | X | X |
| Rebuild, inspect & logbook entry | X | X |

| STORAGE CHECKS | | | | | |
|--|------------------------|--|---|--|---|
| These checks do not include the routine maintenance that needs to be carried out when the engine is installed, such as oil and filter change, changing of spark plugs, coolant change, balance carbs or compression tests. | | | | | |
| Work Required | Storage Period | | | | |
| | > 12 mnths, < 24 mnths | > 24 mnths, < 5 years (stored in a dry, warm environment) | > 5 years, < overhaul (stored in a dry, warm environment and rotated at least once every 3 months) | > 5 years, < overhaul (stored in a dry, warm environment but <i>not</i> rotated at least once every 3 months) | > 5 years (stored in a poor environment) |
| Remove 1 spark plug on each cylinder and turn the crankshaft by hand 2 full turns | ✓ | | | | |
| Visual check for corrosion (e.g. on propeller shaft) | ✓ | | | | |
| Service Bulletin Check | ✓ | ✓ | ✓ | ✓ | ✓ |
| General inspection of complete engine for corrosion of perished parts | | ✓ | ✓ | ✓ | ✓ |
| Remove gearbox (without dismantling) and inspect visually | | ✓ | ✓ | ✓ | ✓ |
| Remove gearbox, strip & replace oil seals | | | | ✓ | ✓ |
| Inspect engine bottom end using Bore Scope | | ✓ | ✓ | ✓ | ✓ |
| Remove spark plugs and inspect top end using Bore Scope | | ✓ | ✓ | ✓ | ✓ |
| Remove exhaust and inlet manifolds check for corrosion on valves | | ✓ | ✓ | ✓ | ✓ |
| Strip & inspect carbs | | ✓ | ✓ | ✓ | ✓ |
| Remove rocker covers & inspect | | ✓ | ✓ | ✓ | ✓ |
| Prime oil system with fresh oils | | ✓ | ✓ | ✓ | ✓ |
| Replace all exposed rubber parts and carb diaphragms | | | ✓ | ✓ | ✓ |
| Remove water pump housing | | | ✓ | ✓ | ✓ |
| Replace fuel pump | | | ✓ | ✓ | ✓ |
| Top end strip to thoroughly inspect cylinders, valves for corrosion and give better access to bottom end for inspection | | | ✓ | ✓ | ✓ |
| Replace oil seals (magneto housing, gearbox, water pump) | | | | ✓ | ✓ |
| Complete strip of engine | | | | | ✓ |