4. MAINTENANCE

4.1 Overall maintenance survey

Aircraft maintenance is required to mantain its airworthiness. Periodical events are performed (periodical and pre-flight inspections) along with irregular events e.g. a repair of a damage as required.

4.2 Pre-flight inspection

A pre-flight inspection is performed prior to the beginning of each flight. A pre-flight inspection should be repeated prior to each flight even during the same day.
The Pre-flight inspection is a visual check of the aircraft for deformations, surface damage, fuel and oil system leaks, prop damage, released locks, covers and cowlings etc.
Any damage or failure should be repaired immediately if the airworthiness is affected or when the aircraft can not be put out of operation.
It is important to perform a pre-flight inspection carefully to prevent problems from arising.
Refer to the Pilot's Operating Handbook for more details.

4.3 Post-flight inspection

Post-flight inspection is performed at the end of each flight day; the post-flight inspection events are the same as the preflight ones. If possible failures, damages and malfunctions should be recorded and repaired immediately. It is recommended to clean and/or wash the airplane and check that the fuel and oil consumption are in the normal range.
Lastly record all hours flown and other data in appropriate documentation (Log Book etc.).

4.4 Periodical inspections

4.4.1 Periodical inspection intervals

The periods for overall checks and contingent maintenance will depend on the conditions of the operation and the overall condition of the airplane. The manufacturer recommends maintenance checks and periodic inspections in the following periods:

1) after the first 25 ± 2 flight hours
2) after every 50 ± 3 flight hours
3) after every 100 ± 5 flight hours or annual inspection

Refer to the Rotax 912 Operator's Manual for engine maintenance.
The propeller is maintained according to its condition.

4.4.2 Periodical inspections Sign off sheets

The following Periodical maintenance Sign off Sheets are intended for copying and serve as the Maintenance Records. It is also recommended to include small repairs, damages and their remedy or replacement.

Some parts of the airplane (engine, propeller etc.) may have special time limits - refer to the appropriate manuals.

4.4.3 *Periodical inspections - events*

Model:	**S/N.:**	**Hours flown:**	**Date of inspection**:
EV -97 Eurostar SL	**Registration:**	**No. of Takeoffs:**	

Event #	**Event description**	**Inspection** ☑ Tick off performed inspection			**Carried out by:**	**Inspected by:**
		after the first **25** hrs.	every **50** hrs.	every **100** hrs.		
1.	Prior to the inspection clean and wash the airplane surfaces, if needed.	☒	☒	☒		
2.	**ENGINE**	see engine manufacturer´s instructions				
3.	**ENGINE COMPARTMENT**					
3.1.	**Fiberglass engine cowlings**					
3.1.1.	Check condition of cowlings and quick closing locks - repair any damage			☒		
3.1.2.	Remove engine cowling	☒	☒	☒		
3.1.3.	Visually check inside fireproof primer paint - Repaint if needeed - White color T 50, Norm V1000 N 56582		☒	☒		
3.2.	**Engine mount**					
3.2.1.	Visually check condition, attachment, security of attachment bolts: engine-engine mounting, engine mounting-firewall	☒	☒	☒		
3.2.2.	Visually check condition of rubber silentblocks - replace those cracked and excessively deformed			☒		
3.3.	**Suction system**					
3.3.1.	Visually check condition, attachment and security of air filter at carburetor inlet - clean filter acc. to the engine manual	☒	☒	☒		
3.3.2.	Visually check condition of suction tubing	☒	☒	☒		
3.3.3.	Check carburetor - condition, control cables attachment, lubricate cables at inlet to the bowdens	☒	☒	☒		
3.4.	**Battery**					
3.4.1.	Visually check attachment and security		☒	☒		
3.4.2.	Check charging - charge if needed			☒		
3.4.3.	Visually check condition and attachment of wire leads - replace those damaged	☒	☒	☒		
3.5.	**Wiring**					
3.5.1.	Visually check condition and integrity of wires, connections, security of wires	☒	☒	☒		
3.6.	**Fuel system**					
3.6.1.	Visually check condition, integrity, attachment and security of hoses - replace those damaged	☒	☒	☒		
3.6.2.	Visually check fuel filter condition - replace stopped up filter	☒	☒	☒		
3.6.3.	Visually check system for leaks	☒	☒	☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first 25 hrs.	every 50 hrs.	every 100 hrs.		
3.7.	**Cooling system**					
3.7.1.	Visually check radiator for condition and leaks			☒		
3.7.2.	Visually check condition, attachment of hoses; radiator left hose clearance from exhaust pipe min. 0.8 in (20 mm), check system for leaks	☒	☒	☒		
3.7.3.	Tighten hose clips if needed		☒	☒		
3.7.4.	Check coolant quantity in the expansion tank - add or change coolant acc. to the engine manual if needed	☒	☒	☒		
3.7.5.	Visually check condition and attachment of ovewflow bottle on the firewall			☒		
3.8.	**Lubrication system**					
3.8.1.	Visually check condition and attachment of oil tank			☒		
3.8.2.	Check oil cooler for condition, attachment and leaks	☒	☒	☒		
3.8.3.	Visually check hoses for condition, leaks, attachment and security - replace damaged hoses	☒	☒	☒		
3.8.4.	Check oil quantity - add or change oil acc. to the engine manual if needed	☒	☒	☒		
3.9.	**Exhaust system**					
3.9.1.	Visually check exhaust system for condition, cracks, deformations or damage - repair / replace. Check left front pipe clearance from radiator hose - min. 0.8 in (20 mm).	☒	☒	☒		
3.9.2.	Visually check condition and attachment of the muffler - repair / replace	☒	☒	☒		
3.9.3.	Check joint security	☒	☒	☒		
3.10.	**Heating**					
3.10.1.	Visually check hose leading hot air into the cockpit - check hose for condition, integrity, attachment and security		☒	☒		
3.10.2.	Check condition, function and control of the heating flap		☒	☒		
3.11.	**Reinstall lower engine cowling** Reinstall Upper engine cowling when the inspection is completed and engine test run performed	☒	☒	☒		
3.12.	**Lubricate per Lubricating Chart**	☒	☒	☒		
4.	**PROPELLER**	see manufacturer instructions +				
4.1.	**Blades**					
4.1.1.	Inspect blades for abrasions, cracks, paint damage, condition of blades leading edges and tips - repair according to the proppeler manual	☒	☒	☒		
4.2.	**Spinner**					
4.2.1.	Visually check spinner for condition, abrasions, cracks, paint damage - repair large damage		☒	☒		
4.2.2.	Remove spinner		☒	☒		
4.3.	**Propeller**	see manufacturer instructions +				
4.3.1.	Check prop attachment, security of bolts		☒	☒		
4.3.2.	Check run-out			☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first 25 hrs.	every 50 hrs.	every 100 hrs.		
4.3.3.	Install spinner			☒		
4.3.4.	Pitch change mechanism (if controllable pitch prop is mounted) Check condition and function according to the prop manufacturer´s instructions	see manufacturer instructions				
5.	**LANDING GEAR NOSEWHEEL LANDING GEAR**					
5.1.	**Nosewheel leg**					
5.1.1.	Check condition and attachmnet of the nosewheel leg (lift airplane nose)	☒	☒	☒		
5.2.	**Wheel pants**					
5.2.1.	Visually check wheel pants or mudguards condition - repair damages and cracks		☒	☒		
5.2.2.	Remove fairing (reinstall when nosewheel inspection is completed)			☒		
5.3.	**Rubber rope and rubber suspension stop**					
5.3.1.	Visually check rubber rope a suspension stop for deformation, cracks, excessive wear - replace if needed		☒	☒		
5.4.	**Tire**					
5.4.1.	Check tires for condition, cuts, uneven or excessive wear and slippage - replace if needed		☒	☒		
5.4.2.	Check pressure - inflate to required pressure	☒	☒	☒		
5.5.	**Wheel**					
5.5.1.	Visually check for cracks, permanent deformations - if damaged, replace			☒		
5.5.2.	Check valve condition around the hole in the rim			☒		
5.5.3.	Check condition of bearings, wheel free rotation, play			☒		
5.6.	**Joints**					
5.6.1.	Check torque and security of fixed joints	☒	☒	☒		
5.6.2.	Check nosewheel free rotation inside the leg - the rotation should not be too free to prevent shimmy		☒	☒		
5.7.	**Nosewheel control system**					
5.7.1.	Check control rods condition, rod ends security		☒	☒		
5.7.2.	Check condition of nosewheel control lever covers for wear through - repair damage			☒		
5.8.	**Lubricate per Lubricating Chart**	☒	☒	☒		
6.	**LANDING GEAR MAIN LANDING GEAR**					
6.1.	**Fiberglass legs**					
6.1.1.	Visually check condition of fiberglass legs - repaint damaged areas, contact airplane manufacturer if cracks were found	☒	☒	☒		
6.1.2.	Inspect leg attachment into the fuselage (no play) - Lift the landing gear and move a leg forward-backward, upward-downward; at the same time check wheel play on the axle - tighten attachment bolts if the leg has a play		☒	☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first 25 hrs.	every 50 hrs.	every 100 hrs.		
6.1.3.	Check tightening and security of fixed joints	☒	☒	☒		
6.1.4.	Check cloth cover which covers the leg-fuselage input hole			☒		
6.2.	**Wheel pants or mudguards**					
6.2.1.	Visually check wheel pants / mudguards condition - repair damage and cracks		☒	☒		
6.3.	**Tires**					
6.3.1.	Check tires for condition, cuts, uneven or excessive wear and slippage - replace if needed	☒	☒	☒		
6.4.	**Wheel**					
6.4.1.	Visually check wheel rims for cracks, permanent deformations - replace wheel rim in case of cracks			☒		
6.4.2.	Check valve condition around the hole in the disc			☒		
6.4.3.	Check condition of bearings, wheel free rotation, play		☒	☒		
6.5.	**Brakes**					
6.5.1.	Check attachment of brake system plastic hoses to the main leg			☒		
6.5.2.	Visually check condition of pads - steady and symmetry abrasion of pads - replace pads if needed		☒	☒		
6.5.3.	Check wear of the disc			☒		
6.5.4.	Check brake system for leaks - add brake fluid and bleed the system if a brake pedal has soft movement	☒	☒	☒		
7.	**WING**					
7.1.	**Wing**					
7.1.1.	Visually check condition - no loose rivets, deformations, cracks or any other damage - contact the airplane manufacturer	☒	☒	☒		
7.1.2.	Check play of wing suspensions - move the wing tip upward-downward, frontward-rearward			☒		
7.1.3.	Check condition and attachment of fiberglass wing tips			☒		
7.2.	**Aileron**					
7.2.1.	Visually check condition	☒	☒	☒		
7.2.2.	Check free movement	☒	☒	☒		
7.2.3.	Check aileron hinge	☒	☒	☒		
7.2.4.	Check play		☒	☒		
7.2.5.	Check security of control rod ends	☒	☒	☒		
7.2.6.	Lubricate per Lubricating Chart	☒	☒	☒		
7.2.7.	Remove inspection covers from the lower wing surface to inspect security of control system joints			☒		
7.2.8.	Lubricate per Lubricating Chart and reinstall covers	☒	☒	☒		
7.3.	**Flap**					
7.3.1.	Fully extend the flaps and visually check condition	☒	☒	☒		
7.3.2.	Check flap hinge	☒	☒	☒		
7.3.3.	Check play		☒	☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first **25** hrs.	every **50** hrs.	every **100** hrs.		
7.3.4.	Check condition of flap control pin and wear of the groove at the flap root			☒		
7.3.5.	Lubricate per Lubricating Chart	☒	☒	☒		
7.4.	**Pitotstatic tube**					
7.4.1.	Check pitotstatic tube attachment			☒		
7.4.2.	Check pitostatic system for leaks - the airplane manufacturer uses KPU 3 instrument			☒		
7.5.	**Wing suspensions**					
7.5.1.	Remove wing fillets	☒	☒	☒		
7.5.2.	Visually check condition of wing suspensions (wing folding mechanism), cleanness of folding system, lubrication	☒	☒	☒		
7.5.3.	Check wear, corrosion			☒		
7.5.4.	Check security of joints	☒	☒	☒		
7.6.	**Lubricate per Lubricating Chart**	☒	☒	☒		
8.	**FUSELAGE**					
8.1.	**Fuselage surface**					
8.1.1.	Visually check condition - no loose rivets, deformations, cracks or any other damage - repair small damage or contact the airplane manufacturer	☒	☒	☒		
8.1.2.	Visually check rivets near the landing gear attachment			☒		
8.1.3.	Check condition and attachment of equipment - antenna, beacon etc.			☒		
8.1.4.	Check tail skid attachment			☒		
8.1.5.	Visually check condition, attachment and operation of towing mechanism (if installed)		☒	☒		
8.1.6.	Visually check condition of fiberglass wing fillets			☒		
8.2.	**Cockpit canopy**					
8.2.1.	Visually check canopy condition for - cracks, scratches, any other damage - drill end of cracks	☒	☒	☒		
8.2.2.	Check canopy lock for condition and operation	☒	☒	☒		
8.2.3.	Check vent windows for condition and operation			☒		
8.2.4.	Check gas struts operation - replace those functionless			☒		
8.2.5.	Check canopy rubber packing			☒		
9.	**HORIZONTAL TAIL UNIT**					
9.1.	**Visually check condition** - no loose rivets, deformation, cracks, scratches and any other damage - contact the airplane manufacturer	☒	☒	☒		
9.2.	**Visually check condition and attachment of fiberglass tips**			☒		
9.3.	**Check elevator free movement**	☒	☒	☒		
9.4.	**Check elevator hinge**	☒	☒	☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first 25 hrs.	every 50 hrs.	every 100 hrs.		
9.5.	**Check play** - move the stabilizer frontward-rearward, upward-downward - contact the airplane manufacurer if play exceeded tolerances		☒	☒		
9.6.	**Check security of joints at control column**	☒	☒	☒		
9.7.	**Trim tab**					
9.7.1.	Visually check condition		☒	☒		
9.7.2.	Check hinge		☒	☒		
9.7.3.	Check control cables condition			☒		
9.7.4.	Check tension of trim tab control cables and check securing the adjusting screws			☒		
9.8.	**Lubricate per Lubricating Chart**	☒	☒	☒		
10.	**VERTICAL TAIL UNIT**					
10.1.	**Visually check condition** - no loose rivets, deformation, cracks, scratches and/or other damage - contact the airplane manufacturer	☒	☒	☒		
10.2.	**Visually check condition and attachment of fiberglass tips**			☒		
10.3.	**Check rudder free movement**	☒	☒	☒		
10.4.	**Check rudder suspensions**	☒	☒	☒		
10.5.	**Check play** - move rudder upward-downward			☒		
10.6.	**Check joints security**	☒	☒	☒		
10.7.	**Lubricate per Lubricating Chart**	☒	☒	☒		
11.	**COCKPIT**					
11.1.	**Instrument panel**					
11.1.1.	Visually check condition and attachment of the instrument panel		☒	☒		
11.1.2.	Check condition and attachment of individual instruments		☒	☒		
11.1.3.	Check function of instruments			☒		
11.1.4.	Check throttle and choke levers free movent and lock	☒	☒	☒		
11.1.5.	Inspect completeness and readability of placards			☒		
11.2.	**Seats**					
11.2.1.	Visually check seat upholstery, remove upholstery			☒		
11.2.2.	Visually check seats and backrests condition			☒		
11.2.3.	Check for loose rivets or any other damage on the seats			☒		
11.2.4.	Visually check main landing gear legs attachment inside the fuselage			☒		
11.3.	**Safety harness**					
11.3.1.	Visually check condition, attachment and security			☒		
11.4.	**Hand control**					
11.4.1.	Remove aileron rod covers inside the cockpit		☒	☒		
11.4.2.	Check hand control free movement	☒	☒	☒		
11.4.3.	Check play	☒	☒	☒		
11.4.4.	Check joints security	☒	☒	☒		
11.4.5.	Check control column stops for condition			☒		
11.4.6.	Pitostatic system drainage, see 2.3.19			☒		

Event #	Event description	Inspection ☑ Tick off performed inspection			Carried out by:	Inspected by:
		after the first **25** hrs.	every **50** hrs.	every **100** hrs.		
11.4.7.	Lubricate per Lubricating Chart	☒	☒	☒		
11.5.	**Rudder control**					
11.5.1.	Check stiffness of movement	☒	☒	☒		
11.5.2.	Check joints security	☒	☒	☒		
11.5.3.	Check stops at pedal control cables			☒		
11.5.4.	Check condition and security of cables	☒	☒	☒		
11.5.5.	Check hydraulic brake system for leaks - add brake fluid if needed	☒	☒	☒		
11.5.6.	Lubricate per Lubricating Chart	☒	☒	☒		
11.6.	**Flap and trim control, Towing mechanism control**					
11.6.1.	Check free movement of levers	☒	☒	☒		
11.6.2.	Check opperation of flap control lever lock (push button)		☒	☒		
11.6.3.	Lubricate per Lubricating Chart	☒	☒	☒		
11.7.	**Complete lubricating per Lubricating Chart**	☒	☒	☒		
11.8.	**Install seats upholstery and covers**					
11.9.	**Engine Test Run (see POH)** • idling • throttle and choke levers operation • acceleration - deceleration • r.p.m. drop with either magneto switched off • max.r.p.m. • test brake system efficiency	☒	☒	☒		
11.10.	**Test flight**	☒	☒	☒		
11.11.	**Clean the airplane surface** (only for service station)	☒	☒	☒		

4.4.4 List of periodical inspections of Rotax 912 UL engine

Refer to the Rotax 912 Operator's and Maintenance Manual for engine maintenance.

4.5 Fluids

The fluids are: fuel, engine oil, liquid coolant and brake fluid.
Filling locations can be seen in the Figure below. Fuel and Brake fluid filling locations are described in 4.6.4.3 and 4.6.3.2 respectivly.

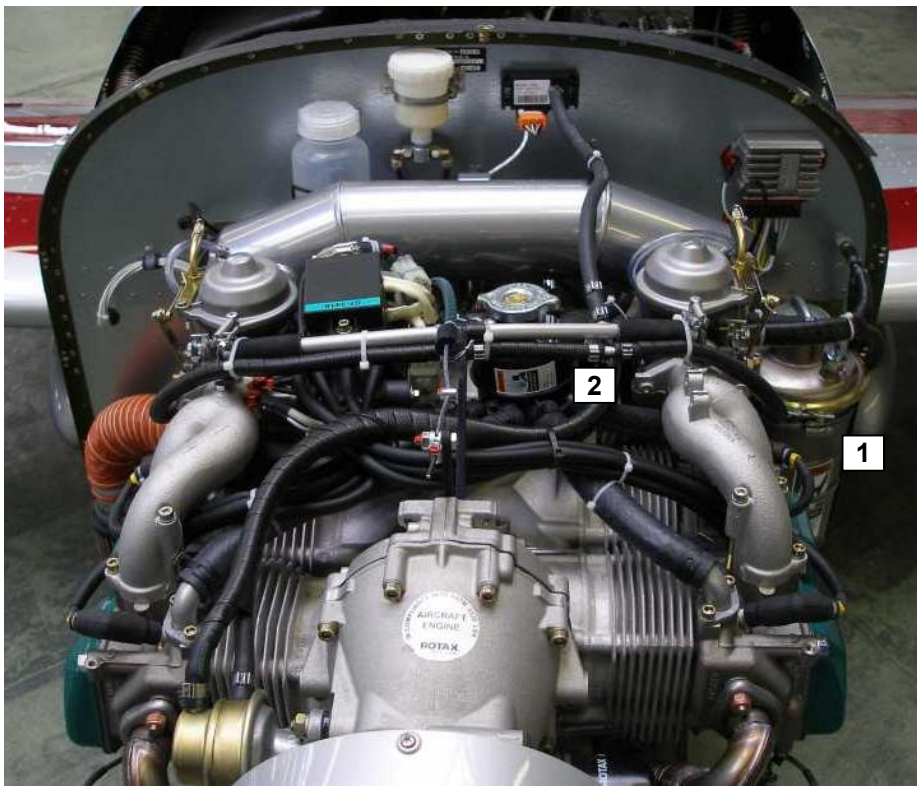


Fig. Filling locations in engine compartment
1- oil tank,
2 - liquid coolant tank

4.5.1 Engine oil

4.5.1.1 Recommended brands

The recommended oil brands are listed in Service Information 18 UL 97-D/E, Jan. 1998, which is enclosed with this Manual.

4.5.1.1.1 Table of oils

see Engine Operator's manual for suitable oil grades.

4.5.1.2 Oil quantity

The total oil quantity in the Rotax 912 lubricating system amounts to 0.9 USGAL (3.5 liters). Prior to oil check, turn the propeller by hand (ingition switched off!) several times to pump oil from the engine into the oil tank, or leave the engine idle for 1 minute. The oil level in the oil tank should be between the min. and max. marks and should not be below min. mark.

4.5.1.3 Oil filling

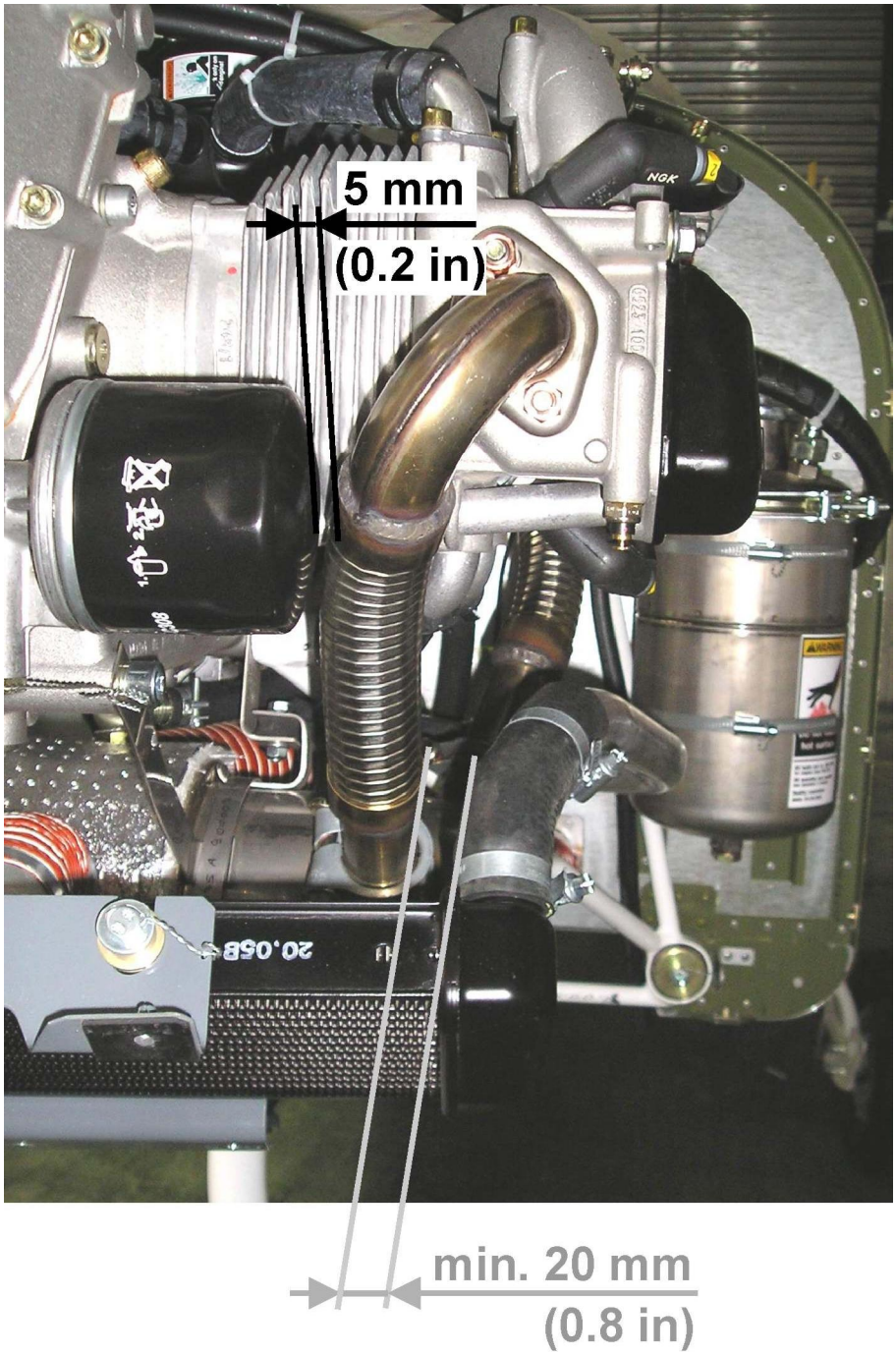
The oil tank is located in the engine compartment and is accessible when engine upper cowling is removed. Oil quantity is measured by wire-gauge in the oil tank - see previous paragraph.

4.5.1.4 Oil emptying

Unscrew the plug located on the bottom of the oil tank to empty out the oil.
To empty oil from the engine, unscrew the plug located on the bottom of the engine, close to the oil return hose.
It is recommended to empty oil when the engine is warm.

4.5.1.5 Oil filter replacement

Remove engine cowlings. Unscrew the elbow on the left front (as viewed in flight direction) exhaust pipe using nut wrench size 12. Loose a clamp of that pip on the exhaust muffler using wrench 13. Disconnect the elbow from the engine and turn the exhaust pipe slightly to move it from the oil filter. Replace oil filter by a new one. See Maintenance Manual (Line Maintenance) for ROTAX Engine Type 912 Series for replacement instructions. Connect the elbow to the engine and tighten the nuts slightly by fingers. Set exhaust pipe clearance from the radiator hose and oil filter. Clearance from the radiator hose must be min. 0.8 in (20 mm) and approximately 0.2 in (5 mm) from oil filter. When clearances are set, tighten the elbow and clamp. Re-install the engine cowlings after oil re-filling.



4.5.2 Coolant

4.5.2.1 Recommended types

Refer to the Rotax 912 Operator's Manual for recommended coolant types. The "BASF Glysantin Anticorrosion", "FRIDEX G 48" or "Glysantin Protect Plus (produced by BASF)" is recommended by the engine manufacturer. The engine manufacturer also recommends the use of antifreeze concentrate during cold weather operation.

4.5.2.2 Coolant quantity

Total coolant quantity is about *1.6 USQTS* (1.5 liters).

4.5.2.3 Coolant refilling

The expansion tank located in the engine compartment is used for filling. In addition to that, an overflow bottle is attached on the firewall to absorb coolant in the case of engine overheating.

4.5.2.4 Coolant emptying

Disconnect the hose going from the radiator into the pump (on the lowest part of the cooling system) to empty coolant into a suitable container.

4.5.3 Brake fluid

4.5.3.1 Recommended types

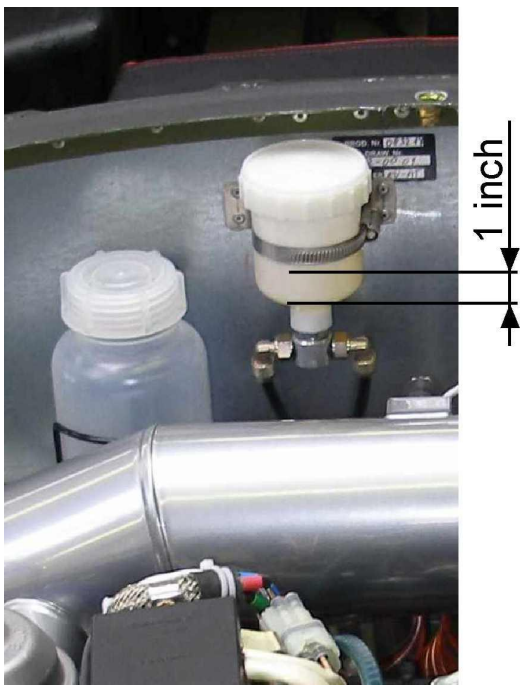
Only brake fluid of J 1703c classification should be used for hydraulic brake system (type for middle hard or hard operation).

Czech Rep.	Foreign
• Syntol HD 205 or • Syntol HD 260	• ATE Blau • STOP SP 19 • MOBIL Hydraulic Brake Fluid 550 • BP Brake Fluid • PENTOSIN Super Fluid • AGIP F. 1 Brake Fluid Super HD • NAFTAGAS AT-2 • INA UK-2.

These brake fluid types may be blended as required and refilled in any mixing proportion.

4.5.3.2 Brake fluid refilling

Instructions:
Brake fluid refilling is necessary when a low brake system efficiency occurs due to a fluid leak.
A brake fluid is filled into reservoir located in the engine compartment on the firewall. A brake fluid level must be approx. 1 inch in the reservoir – see figure below.
Step repeatedly on the pedal during refilling. Bleed the system after refilling.



4.5.3.3 Brake fluid emptying

Brake fluid thickens during aircraft operation and absorbes water. This condition causes brake system failures. It is not possible to determine when this may occur. The best way to prevent trouble is to change the brake fluid every year.

4.5.4 Fuel

4.5.4.1 Recommended brands

Refer to Operators Manual for all versions of Rotax 912 for recommended fuel brands.

Fuel E10 (with max 10% ethanol)

It is recommended when using E10 fuel to drain it off and replace it with another ethanol-free fuel when seasonal or other long-term non-use of the airplane is expected. This is because of specific properties of added ethanol in E10. Then let the engine run long enough on ground to consume residues of E10 fuel in the fuel system.
In case of long-term non-use of the airplane filled with E10 fuel, it is recommended to drain off old E10 fuel by means of the drain valve, fill the tanks with fresh E10 fuel and let the engine run on ground long enough to deplenish residues of old E10 fuel from the fuel system.
The make an inspection of the fuel filter!
(Use of and specifications of E10 fuel are listed in the Service Instruction SI-912-016 R1 and R2 released by the Rotax engine manufacturer).

4.5.4.2 Fuel quantity

The standard aircraft is equipped with a *17.2 USGAL* (65 liters) fuel tank, optionally can be equipped with *20.6 USGAL* (78 liters) fuel tank.

4.5.4.3 Fueling

Precaution
The following precautions should be maintained during fueling to prevent fire.

WARNING
• No smoking or open flames during fueling! • Fire extinguisher should be within reach! • Under no circumstances add fuel with the engine running! • Connect the aircraft to ground prior fueling. • No person in the cockpit during fueling!

A fuel tank filler is located on the right hand side of the fuselage, close to the rear cockpit canopy (see photo). The fuel is sucked up from the fuel tank by the engine pump.

Fig. Fuel tank filler neck

A gasoline can and a funnel with a flexible end may be used to fill the fuel tank or a device described below may be constructed. It consists of a gasoline can and tire-pump. A gasoline can funnel is set on the gasoline can - a tire valve is brazed on the funnel and a hose on the tire-pump (compressor) is connected to the valve. A suction tube with a filter is welded to the gasoline can funnel. The tube is inserted into the gasoline can. A flexible hose is attached to the funnel. Pressure in the gasoline can will increase during pumping. Gasoline is then forced through the hose into the fuel tank. An advantage of fueling with this device is easy handling by 1 person.
Close the fuel tank filler using the lockable cap when the tank filled up.
Clean the aircraft surface if stained with gasoline.

CAUTION

It is highly recommended to pour gasoline through a filter if it was not tested for water content. After fueling, allow 20 min. for water to settle out on the bottom. Drain off some fuel and look for water.
Avoid getting gasoline on the rear cockpit canopy which will run the the perspex canopy!!!

4.5.4.4 Fuel emptying

Precaution
Use the same precautions as during fueling.

Draining procedure
1. Connect the airplane to the ground
2. Open the main fuel valve
3. Fully extend the flaps
4. Put an empty gas can under the drainage hose (on the bottom of fuselage close to the right hand flap root)
5. Open the drain valve (under the right wing fillet, close to the right hand flap root)
6. Close the drain valve when desired quantity of fuel is reached
7. Close the main fuel valve
8. Retract the flaps

NOTE

Remove the fuel tank filler cap to speed up draining.

4.6 Lubrication

4.6.1 Lubrication fundamentals

There are some generally inaccessible joints and control system parts inside the wings and fuselage, which have been cleaned and lubricated during airplane assembly. Lubrication of these will be performed during a periodic inspection.
There are some parts, e.g. landing gear, which are exposed to external conditions and to varying loads. These parts will be inspected during pre-flight and during periodical inspections. These should be lubricated as is necessary, but at least in the intervals specified below.

4.6.2 Recommended lubricants

4.6.2.1 Greases

Greases are mineral oils thickened with calcic, sodium, lithium or any other thickeners of aliphatic acids.
The greases do not SAE classification and their usage is recommended by manufacturer. Grease may be applied all the year round.

The following greases are recommended:

- waxy, semi-solid or butyraceous consistency and water resistant. They are used at very low temperatures (*-22 °F,* -30 °C) and at high temperatures (*248 °F*, 120 °C)

Czech	Foreign
MOGUL MOLYKA G (or equivalent)	AEROSHELL GREASE 22
	AEROSHELL GREASE 11MS
	AEROSHELL GREASE 23C
	SHELL RETINAX HDX2
	SHELL RETINAX EPX2
	(or equivalent)

4.6.2.2 Lubricating points

Unit	Lubricating point	after the first 25 hrs.	Every 50 hrs.	Every 100 hrs	Lubricant
Prop	• Adjustable props acc. to Prop Manual				
Engine	• oil change acc. to Engine Manual				
	• carburetor control cable at inlet into the bowden (in engine compartment)	x	x		oil
	• choke control cable at inlet into the termination (in engine compartment)	x	x		oil
Nosewheel landing gear	• landing gear leg in the area of bushing	x	x	x	oil
	• bearings in pull rod terminals of landing gear control	x	x	x	oil
Main landing gear	• pins of brake pads holders		x		MOGUL MOLYKA G, foreign greases
Wing	• all movable joints of wing folding mechanism (if mounted)	x	x	x	MOGUL MOLYKA G, foreign greases
Ailerons	• hinges		x		oil
	• control hinge pin			x	MOGUL MOLYKA G, foreign greases
	• two-armed aileron control levers inside the wing			x	MOGUL MOLYKA G, foreign greases
	• hinge joint of rods under the wing fillet			x	MOGUL MOLYKA G, foreign greases
Flaps	• hinges	x	x		oil
	• all movable joints under the quadrant cover between the seats			x	MOGUL MOLYKA G, foreign greases
	• All movable joints under the baggage compartment bottom cover			x	MOGUL MOLYKA G, foreign greases
	• Flaps control pins (at a flap root)		x		MOGUL MOLYKA G, foreign greases
HTU	• elevator hinge		x		oil
	• swivel bearing in the elevator control rod termination			x	MOGUL MOLYKA G, foreign greases
VTU	• rudder suspensions			x	MOGUL MOLYKA G, foreign greases
	• rudder control cables at attachment to the rudder			x	MOGUL MOLYKA G, foreign greases
Trim tab	• trim tab hinge	x	x		oil
	• control cables at inlets inot the terminations			x	MOGUL MOLYKA G, foreign greases
Stick control	• All movable joints in the cockpit			x	MOGUL MOLYKA G, foreign greases
Rudder control	• All movable joints in the cockpit			x	MOGUL MOLYKA G, foreign greases
	• The passages of rudder control cables			x	MOGUL MOLYKA G, foreign greases
	• Brake system control cables at inlets in the bowdens (at brake pedals)			x	MOGUL MOLYKA G, foreign greases