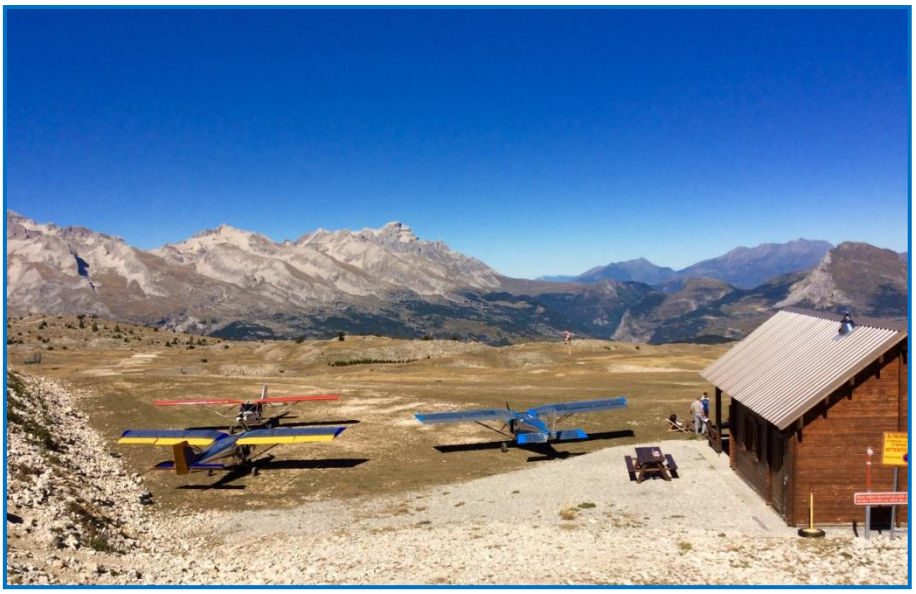
G1 AVIATION
CARE MANUAL



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A.1 ONGOING CARE

1.1 CLEANING THE ULM

-Rinse with water that may have been diluted with detergents commonly used in cars.

-Rinse with clean water.

-Do not use too much pressure, e.g. with a very high pressure pump.

-It is possible to polish the paint with a non-aggressive car product.

-For polycarbonate surfaces, doors or windshields, use water or a suitable product, never rub dry.

1. 2 FUEL CHOICE

-Use unleaded petrol. SP 98 - UL 91

-Leaded petrol is not prohibited, petrol 100 LL can be used as a roadside aid, but you should be aware that its very high lead content can cause malfunctions in valves and piston rings due to the residues formed.

1.3 FILLING THE FUEL TANKS

-Start by releasing the flaps and folding them onto the wings. This will prevent excess fuel from following the leading edge of the flap and dripping onto the LEXANs (causing them to crack and turn white).

-Open the tank caps and check that the vent hole is not blocked, or in the case of caps with a safety valve, check that the safety valve is not blocked.

-Place a cloth or protector on top of the wing to rest the fuel can (use a Branchlette hose with a check valve to transfer the fuel).

-Close the containers again and reconnect the flaps.

1. 4 DRAIN

-The engine oil change is carried out when the engine is warm.

-Collect the used oil by placing a container under the oil tank.

-Remove the cap under the tank, stir the propeller motor to return the oil to the tank.

-Remove the filter and replace it every time you change the oil.

-Use a ROTAX filter for the 912 engine.

1. 5 LUBRICANT RECOMMENDATIONS

-**Do not use aircraft engine oil with or without additives** .

-In short, the ROTAX recommendations are:

-For the oil and in case of normal or intensive use where mainly unleaded gasoline is used, it is recommended to use a YACCO oil recommended by ROTAX: API SL, ROTAX Service Instruction SI-912.016 R4 / SI-914.019 R4.

-Use a brand oil recommended by AVIREX (YACCO AERO AVX1000 10W40, 4-stroke semi-synthetic).

-Semi-synthetic oils are used due to their temperature stability and low residue formation. YACCO's exclusive formulation also makes it possible to meet the requirements of integrated gearboxes and torque limiters.

-DO NOT ADD ADDITIVES

-Frequency of oil change: see maintenance schedules.

1.6 SELECTION OF BRAKE FLUID

-Use YACCO DOT 4 brake fluid

-The level is checked by removing the cap of the reservoir located on the brake control block.

1. 7AMARRAGE

-When parking outdoors for a long time and/or in strong winds:

-Anchor each wing to the top of the shrouds, the stern and possibly the front part over the front wheel axle with straps or pegs.

-Avoid securing the aircraft from the front by putting a strap around the propeller shaft: the strap will slip off, hit the propeller shaft's outer SPI seal and may damage it, especially since the shaft tapers towards the seal at this point and one tends to tie the strap tightly.

1. 8 MISCELLANEOUS

-If you are going to spend a long time outdoors and in strong sunlight, it is advisable to protect the cabin with a cover or other covering, as sunlight or very high heat can damage the instrumentation.
-Plan special protection for the parachute flap (the parachute is very sensitive to moisture).

A.2 CHECK-UP VISITS AT THE BEGINNING OF LIFE

2.1 CHECK VISIT IN THE FIRST 10 HOURS

STRUCTURE

-Visualize the general appearance, outside, inside, under the hood, identify possible anomalies.

-Inspect the interior of the hull through the lower hatch.

-Check the control cables, tension rods, aileron flap control rods and flap system.

-Open the inspection hatch located at the rear under the fuselage.

-Visit the rear of the hull through this hatch.

-**control cable**, Nicopress axles, bolts**control.**

-Check the tension of the cables (9 to 12 kg). Failure to comply with the tension may cause serious malfunctions and be dangerous. Too high a tension will cause

Excessive stress on the structure, too low a voltage leads to inaccurate commands and a correspondingly delayed response time.

-By manual action:

- Check the elevator and rudder deflections
- Check for hard spots or possible play
- Lubricate the hinge axes
- Check the chassis, its appearance

-Check the tire pressure (0.9 to 2 bar) depending on the tire type. Warning: after a hard landing, especially in crosswinds, check the alignment of the front wheel. The main gear wheels must have an internal camber or a maximum of neutral camber. In the event of an external camber, the profile of the spring leaf must be reworked by the manufacturer or an authorized workshop.

-Inside the cabin:

- Check the general appearance
- The stem,
- Check for rashes and any hard spots
- Lightly lubricate the axles
- Visual inspection of the electrical system, switches and indicator lights
- Check the brake lines, cylinders and brake fluid level.

VOILURE

-Inspect the surface finish of the wing, bottom and top.

-Check the shrouds, the connections to the wing and the fuselage, bolts, nuts.

-Check flaps and ailerons, freedom of movement, clean, check and lubricate hinges and hinges.

-Check the tail in the same way as the wings.

MOTOR

- (See ROTAX Maintenance Manual for Engine 912 UL and 912 ULSFR)

OTHER CHECKS

-Check the propeller, the condition of the blades and the fastening.

-Check the fit, observing the twist provided by the propeller manufacturer: loosen the nuts by half a turn before adjusting the twist
check.

-Perform the inspection in the order of tightening.

-Remove the hoods, check the engine mounts.

-Inspect the engine completely for missing or loose bolts, nuts, axles and signs of wear.

-Check the brake lines, cooling air lines, ignition circuit wiring and flexible connections.

-Check the transmission.

-Check the lubrication circuit.

-Check the cooling circuit.

-Check the air filters.

2.2 THE FIRST 25 HOURS - THEN EVERY 100 HOURS

For the 25 hours repeat all the procedures of the 10 hours and then,

-Changing the oil filter: Before changing the oil, let the engine idle for 2 minutes.

-Change the oil while the engine is still warm.

-Every time you change the oil and filter, open the used filter and check the cartridge for metal particles.

-Make sure that there are no metal particles on the two magnetic caps.

-After filling, check the oil level (do not exceed the max mark). The required amount is 2.5 liters including the filter. Before checking the oil, the engine must run briefly (approx. 1 minute).

-Check the oil pressure: 4 bar at the first engine revolutions. You may need to stir the oil to re-bleed the oil pump and the intake line:

-Perform a general visual inspection of the connections and fastening devices.

-Check the coolant level and, if necessary, top up with car-type organic coolant -25° or -35° (neon colored).

-Check and lubricate the control cables.

-Clean the engine

-Check the brake fluid level.

-Check the fuel system for leaks and signs of abrasion.

-Clean the fuel filters.

-Functional test of the engine.

-Check the behavior during the start, warm-up and acceleration phases.

-temperature**and**Check pressure.

-Fly a short fixed point at full power (the engine speeds depend on the propeller used) see operating instructions, then if necessary bring the engine to cool down speed before switching it off.

A.3 CHECKS FOR THE 50 HOUR VISIT

MAINTENANCE PROGRAM, VISIT 50 HOURS

STRUCTURE

-In addition to the operations scheduled during the 25-hour visit.

-Check the deflection angles of all moving surfaces and adhere to the deflection angles specified in the operating instructions.

VOILURE

-Repeat the operations scheduled during the 25-hour visit.

MOTOR

-Repeat the steps specified in the 25-hour inspection (except the oil change, the next one is due at 100 hours).

-In case of accidental engine overheating, you should immediately change the oil and filter and start over with a 100-hour cycle.

-Propeller: Visual inspection of the blades

-Check the protection of the leading edge of the blades.

A.4**VISIT OF THE 100 AND 200 HOURS**

4.1 100-HOUR MAINTENANCE PROGRAM

-Repeat the inspection and maintenance work of the 25 hours.

-Check the landing gear to see if the main gear blades are bent.

-firewall inspection

-Inspect the hull carefully inside and out for missing or loose rivets and any deformation of the panels.

note : To replace a loose or corroded rivet, use a rivet the same size. Be careful not to damage the structural elements. In this case, drill at a distance of about 12.5 mm.

If an external wall has a crack, drill a small hole (3 mm) at both ends of the crack. If the crack extends, it should be repaired by superimposing a metal sheet of the same thickness and fixing it with AVEX A4 rivets.

VOILURE

-Repeat the inspection and maintenance work of the 25 hours.

-Carefully check the wing trim for loose or missing rivets.

-Carry out any repair work as described for the hull.

-Check the wing mounting screws, seat strut mounting screws, flap and aileron axes.

-Repeat the same procedure for the tail units.

note : A slight deformation of the wing is permissible without affecting the structural strength of the wing is compromised. The permissible tolerance is 1.5/100 across the span of the wing. However, check regularly.

MOTOR

-Repeat the inspection and maintenance work of the 25 hours.

-Run the engine and change the oil filter.

-Check the air filters, clean them or replace them if necessary.

-We recommend replacing the spark plugs.

4.2 MAINTENANCE PROGRAM 200 HOURS

Operations that must be performed every 200 hours.
Repeat all inspection and maintenance work as at 25-50 or 100 hours.

MOTOR

-Be sure to replace the spark plugs and check that the suppressor caps are firmly in place. The minimum tear-off force must be 30 N.

-Change the fuel filters.

-If the temperature rises, drain, flush and replace the fluid in the cooling system (in any case, this procedure should be carried out every 2 years).

A.5 REVISION 2000 H

5.1 MAINTENANCE PLAN – CHECK OF 200 HOURS

The general overhaul of the device after 2000 hours or 15 years of operation may only be carried out by the manufacturer or in an authorized service workshop.

Engine 2000 hours or 15 years of use.

The general overhaul of the engine may only be carried out by ROTAX or in authorized workshops in accordance with ROTAX standards.

The general overhaul of the cabin must be carried out by the manufacturer "G1 AVIATION".

5.1 Special care measures:

Hard Landing

- control of the main trains
- checking the steering knuckles
- replacing the wheel bearings
- Checking the rivets above the rails
- checking the front axle
- checking the fork
- control of the fork leg
- checking the compass
- checking the shock absorber
- checking the engine frame
- inspection of the fire protection wall

Choc Helix :

- Removal of the engine for inspection according to technical letter SL-912-015 dated 22 January 2008

5.2 REPLACEMENT PERIODICITIES

parachute	Junkers	Reconditioning every 6 years Maximum 6 reconditionings	lifespan 36 years
	BRS	Reconditioning every 6 years Maximum 6 reconditionings	lifespan 36 years

Motor	Silent Motorblock	500 hours or 5 years
	fuel hoses	500 hours or 5 years
	oil hoses	500 hours or 5 years
	coolant hoses	500 hours or 5 years
	carburetor flanges	200 hours or 5 years
	carburetor membranes	5 years
	fuel pump	5 years
	ultrasonic cleaning	5 years

propeller	DUC	Check every 100 hours	Unlimited lifetime revision every 2000 hours
	E PROPS	Check every 100 hours	Unlimited lifetime revision every 2000 hours

wheel bearings	Standard (Marc Ingenio)	lifespan 200 hours
	BERINGER	Lifespan: unlimited Recommended check every 100 hours
steering knuckle (axle)	Made of Steel - Marc Ingenio	lifespan 500 hours
	Made of aluminum - G1 Aviation	lifespan 250 hours To check or change after hard landing

Haubans	Annual Review	Lifetime limit 10 years Annual inspection recommended
control cable	Annual Review	Lifetime limit 10 years Annual inspection recommended

A.6 MAINTENANCE SHEETS

The following maintenance sheets are intended for reproduction. They will be used during the various periodic maintenance visits.

To carry out the inspection, the operator uses the maintenance manual. He carries out the inspection or maintenance operations in the order in which they are described. He marks the operations carried out next to each job number. If necessary, he fills in the columns with comments, parts replaced, adjustments made, etc.

At the end of each visit, these sheets are organized to form the maintenance file. This can be attached to the equipment or the engine during a major overhaul, for example. This file must follow the equipment when it changes hands. It should also include all the interventions and repairs carried out in the event of an accident.

6.1 10-25-50 HOURLY VISITS (Sheet 1)

The operator is the person who carries out the maintenance work using the maintenance manual. He identifies the task and carries it out, signs it and makes a note of any observations and comments afterwards.

type of visit	Date	number of hours	operator
10-hour tour			
observations			

type of visit	Date	number of hours	operator
25-hour tour			
observations			

type of visit	Date	number of hours	operator
50-hour tour			
observations			

6.2 100-200 HOUR VISITS (Sheet 2)

The operator is the person who carries out the maintenance work using the maintenance manual. He identifies the task and carries it out, signs it and makes a note of any observations and comments afterwards.

type of visit	Date	number of hours	operator
100-hour tour			
observations			

type of visit	Date	number of hours	operator
200-hour tour			
observations			

6.3 300-400 HOUR VISITS (Sheet 3)

The operator is the person who carries out the maintenance work using the maintenance manual. He identifies the task and carries it out, signs it and makes a note of any observations and comments afterwards.

type of visit	Date	number of hours	operator
300-hour tour			
observations			

type of visit	date m	number of hours	operator
400-hour tour			
observation en			

Maintenance visits should continue every 100 hours throughout the life of

the device.

A.7**STOPPING AND RESTARTING**

7.1 STRUCTURE AND SAILS

The all-metal construction (painted aluminum) does not require any special precautions, especially if the machine is kept in a covered room. Washing, drying and greasing all hinges and joints may be sufficient.

However, it is advisable to empty the petrol tanks.

7.2 MOTOR

No special precautions need to be taken during a short break.

In extreme climatic conditions and during long periods of downtime, it is recommended to follow the following recommendations to protect the valve guides from corrosion:

- When the engine is warm, change the oil and replace it.
- Let it run at assisted idle without air filter and inject 30 cm3 protective oil in the carburetors and then turn off the engine.
- Empty the carburetor float bowl.
- Apply oil to all carburetor seals.

When the engine is cold

- Close all openings, such as the vent pipe and air inlet, to prevent dirt or moisture from entering.

Spray all steel parts with engine oil.

7.3 RECOMMISSIONING

7.3.1 STRUCTURE AND WINGS

- Make a typical visit 25 hours.

7.3.2 MOTOR

- Remove all fasteners and fixings.
- Clean the candles with a plastic brush and solvent.
- Refilling the tanks.

Oil does not need to be changed if it has not been used for more than a year.