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1. General engine description

- Twin - cylinder in line - two - stroke - engine
- Liquid cooling with belt driven waterpump
- Lubrication by fuel-oil-mixture
- Two float carburetors with additional fuel pump
- Electronic high-voltage ignition
- Intake control with reed valve into the crankcase
- Crankshaft layout for belt transmission
- Electric starter 12 V, 400 W
- AC generator

2. Technical data

Displacement	489 cm ³	bore 72 mm	stroke 60 mm
Compression ratio	10 : 1		
Ignition unit	Electronic high-voltage ignition (Selettra)		
Spark plugs	BOSCH WSR 6F		
Carburetor	BING carburetor type 54		
Sence of rotation	Clockwise in flight direction		
Fuel	Premium unleaded Min. 95 RON , AVGAS100LL		
Lubrication	Fuel oil mixture 1:50 (2%),CASTROL Super TT oder TTS For USA SOLO Two Stroke oil (SOLO Inc. Newport News VA)		
Dry weight	30 kg		
Generator	12 V, 70 W		

3. Operational data and limitations

Take-off-speed,-power	5 900 rpm with a power of 30 kW (40 hp)
Max. cont. speed, power	5 900 rpm with a power of 30 kW (40 hp)
Max. rpm	6 500 rpm
Idle rpm	approx. 2 300 rpm
Max. temp. cooling liquid	115 °C (240°F) measured in the cylinder - head
Fuel consumption	Max. continuous power approx. 17 l/h 75% continuous power 12 l/h

4. Installation instructions

Installing Instructions The engine has to be installed with horizontal crankshaft orientation. If the engine is angled vertically to the crankshaft orientation, the carburetors can be turned to vertical position in the rubber manifolds. The engine can be mounted left and right of the crankshaft by using 6 threads M8 (Torque 25 Nm) in the front plate. At the lower section of the front plate there is a hole with 12 mm diameter to mount a rubber isolater. The maximum load on the front plate by using the threads M8 is 2.5 kN on each side. At the lower point the max. load is 1 kN.

Table of torques	Spark plug	20	Nm
	Drive pully on crankshaft	200	Nm
	Bolts and nuts M 6	12	Nm
	Bolts and nuts M 8	25	Nm
	Magneto on crankshaft	200	Nm

5. Operating instructions

For correct function of the engine it is absolutely necessary to follow exactly the following operating and maintenance instructions.

Before starting the engine	Has daily check been made? Open throttle lever fully. Check throttle lever for free movement over full range. Ignition:"OFF". Turn propeller several times by hand to check for abnormal noise or hard motion of the engine. Move throttle to idle position
Starting the engine	Main switch on. Open fuel cock. Fuel pump "ON". Ignition "ON". Move throttle to idle position. Check for safety around the propeller. Engage the wheel brake. Disengage the propeller brake. Start the engine and set the throttle lever until the engine runs smoothly.
Take off	Accelerate to full throttle. Limits of rpm - level and temperatures may not be exceeded.
Stopping the engine	Switch off ignition and close the fuel cock.
Starting the engine in flight	Move the engine into flight position. Disengage the propeller stop. Throttle in idle position. Fuel cock open. Fuel pump on. Ignition on. Start until engine runs. Throttle to full.

6. Maintenance instructions

Daily check before flight	Check fuel quantity. Check throttle lever for free movement. Check outside of engine, engine compartment, belt transmission and mountings for proper condition. Check cooling liquid.
Inspection after 25 hours of operation or after 1 year.	Replace spark plug. Check entire engine for loose parts and bolts. Check cooling system. Check all bowden cables and controls. Check wires and electrical connections. Check belt tension. Clean entire engine. Put grease on starter gears.
Inspection after 200 hours of operation.	Inspection by the manufacturer.
Conservation and storage of the engine.	If the engine is stored for more than 2 months or is out of use, preserve and store it as follows: Drain fuel tank. Inject approx. 5 ml of two stroke oil into each carburetor and crank the engine with the electric starter. Cover intake opening at the air filter.

7. Trouble shooting

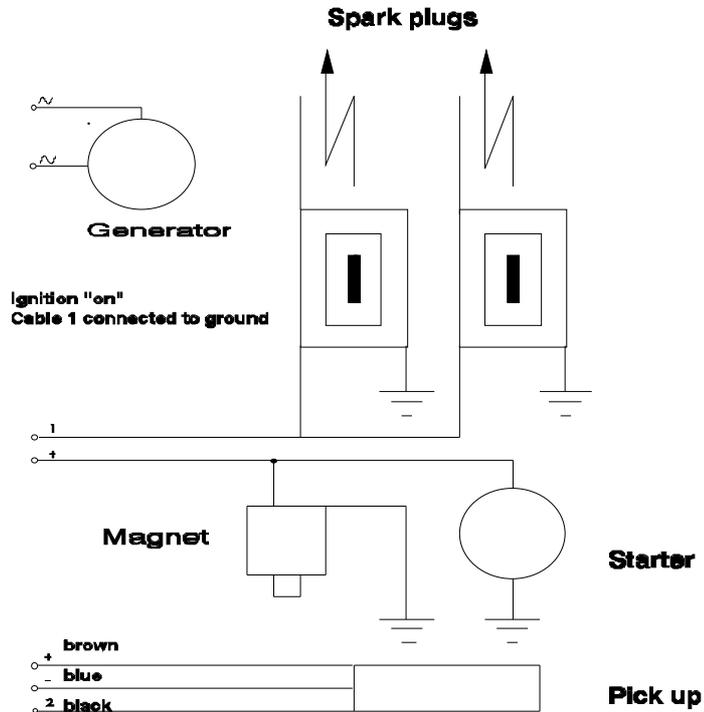
Engine does not start

No fuel supply	Check fuel line to carburetor. Check function of fuel pump.
Carburetors are not sealed	Remove carburetor and clean fuel valve.
No spark on both spark plugs	Too low cranking rpm because of weak battery. Defective wires.
No spark on one spark plug	Defective spark plug. Defective wires or ignition.

Engine does not run properly

Engine gets too hot	Colling liquid level low. Lean setting because of dirt in the carburetor. Fuel supply not sufficient.
Engine does not reach full rpm	Fuel supply not sufficient. Fuel filter clogged. Throttle does not open completely. Defective fuel pump. Defective spark plugs.

8. Wiring diagram



9. Power-sheet

