M A N U A L

for the

Engine SOLOType2350 C

Serial No.: ……2188……..
Manufactured : ……2025……..

List of changes to the manual

No.	Issue	Page	Date of filing
1	13. January 1985	Ha1-1	n/a
2	16. November 2005	Ha 3-1	n/a
3	16. November 2005	Ha 1-1	n/a
4	17. October 2014	All pages	17. October 2014
5	11. December 2018	All Pages	11. December 2018

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1. Description

- Two-cylinder in-line, 2 cycle Otto engine
- Air-cooled
- Fuel-oil-mix lubrication
- 2 Diaphragm carburetors with additional fuel pump (Bing or Mikuni)
- Electronic magneto ignition
- Belt driven propeller drive
- Electric starter 12 V, 400 W

2.Technichal Data

Displacement	430 cm^3, Bore 70 mm, Stroke 56 mm
Compression	12 : 1
Ignition	Flywheel SOLO, Coil Prüfrex
Sparkplugs	BOSCH W5AC, Champion L82C,sparkplug-gap 0,5 mm with sparkplug-cap 5kΩ
Carburetors	MIKUNI BN38
Rotational direction	counterclockwise, in flight direction
Starter	SJCE Type 101
Fuel	Unleaded fuel, min. 95 ROZ or AVGAS 100LL plus 2-stroke-oil
Lubrication	Fuel-oil-mix 1:40 (2,5%), oil with the specification JASO FC or JASO FD, recommended CASTROL ACT>EVO
Mass	25 kg
Belt drive	Reduction ratio 1 : 2,3
Fuel filter	Straight way filter, Mesh size 53µm

3. Performance data and limits

Take-off power	22 kW (30 HP) at 6500 RPM
Max. continuous power	20 kW (27 HP) at 6100 RPM
Max. engine RPM	6500 RPM
Idle speed	3000 RPM
Max. cylinder head temperature	275 °C
Fuel consumption	100% continuous power 15 l/h 75% continuous power 14 l/h

4. Operating instructions

A prerequisite for the correct operation of the engine is the observance and compliance with the following information:

Prior to starting the engine	Has daily inspection been carried out? Check throttle control lever for easy movement and if the throttle shutter reaches "Full" position. Turn Ignition off. Turn propeller by hand and check at the same time if unusual engine noise occur or if the engine is difficult to crank. Check primer System.
Starting the engine	Open fuel-valve. Move lever to half throttle. Main switch to "ON". Fuel pump "ON". Check to see if no one is in the area of the propeller. Lock brakes. Squeeze primer bulb 3 times or activate the starting enrichment. Push starter button until engine runs. If engine does not run continuously, squeeze primer bulb 1 more time and repeat starting. Do not warm engine up.
Takeoff	Quickly give full throttle. Check cylinder head temperature during climb. Limits shall not be exceeded.
Engine shut-down	Prior to shut down the engine, operate the engine in idle for 1 minute to allow the engine to cool down. Then switch off the ignition and close the fuel valve.
Starting the engine in flight.	Follow the instructions “Staring the engine” above but don’t activate the primer.

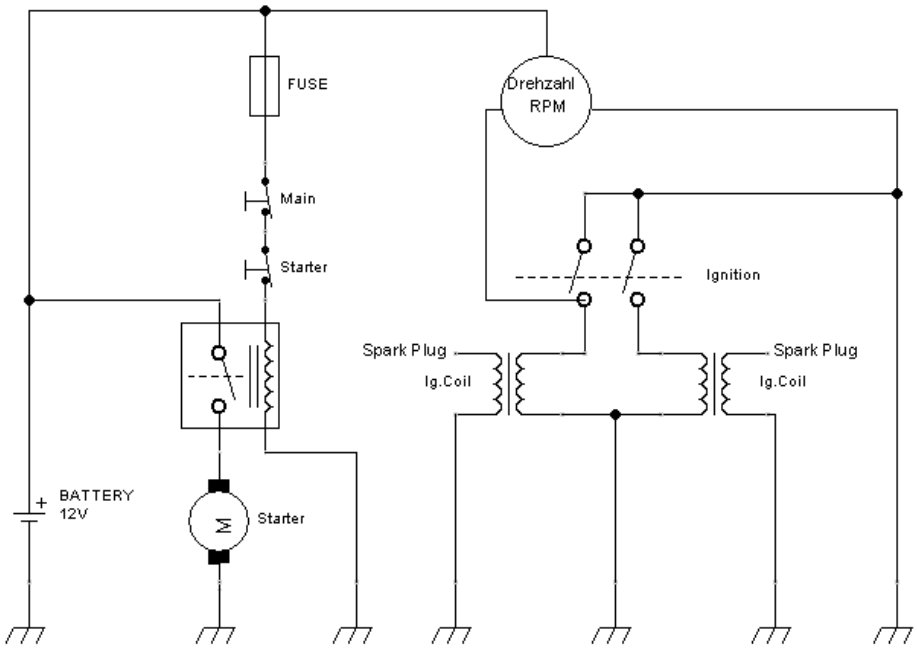
5. Service Instructions / operating time limits

Reduction gear	Check belt tension Apply test pressure of 120 N to the center of the drive belt between the pulleys and measure the displacement of the belt. The displacement should be 5 mm. If required, loosen retainer screws on propeller shaft and tighten by rotating the eccentric shaft.
Daily Pre-flight inspection	Check movement of throttle control lever and primer system. Check exterior condition of the engine, belt-drive and engine mounts. Check sparkplug wires.
Inspection after 25 hours of operation or once a year	Replace spark plugs Visual inspection of the entire engine. Check flow of fuel filter Check fuel lines Check screws for tight fit check control cables Check electrical wires and connectors Clean engine Lubricate starter gear. Check belt tension (see above hints)
Inspection after 200 hours of operation	Overhaul by the manufacturer
After 15 years each	Change the roller bearings of the upper pulley
Engine preservation and storage	If an engine will not be used for a period of more than 2 months, measures to preserve the engine should be taken. Drain fuel tank and fuel system. Inject 5 ml 2-stroke oil into both carburetors and crank engine manually.
Torques	Sparkplugs 20 Nm Decompression valves 20 Nm Hub on Crankshaft M12 x 1 Left hand 50 Nm Nuts Cylinder head M6 12 Nm Nuts Cylinder head M8 20 Nm other bolts and nuts: M4 3 Nm M6 10 Nm M8 23 Nm Slotted head bolts and corresponding nuts M3 0,9 Nm M4 2 Nm M5 4 Nm Cylinder base screws (expansion screws) M8 13 Nm

6.Trouble shooting

Engine does not start	
Insufficient fuel supply	Check fuel supply lines to carburetors. Check if fuel pump works properly. Check fuel filter. Check if the choke closes completely or check the alternative cold-start system.
No spark on one sparkplug	Defective spark plug or ignition coil. Wires have short circuit to ground.
No spark on both sparkplugs	Cranking RPM too low - caused by weak battery. Wires have short circuit to ground.
Engine flooded	Continue starting at full throttle. Choke open or alternative cold-start system “off”.
Engine gets hot	
Wrong carburetor adjustment	Adjust carburetors. Basic setting: Low speed needle (L) 1 turn open High speed needle (H) 1 turn open
Insufficient fuel supply	Check fuel pump, Replace fuel filter and check fuel lines.
Engine does not reach enough power	
Insufficient fuel supply	Check fuel pump, Replace fuel filter and check fuel lines.
Wrong carburetor adjustment	See above
Throttle shutter not completely open	Check Bowden cables
Defective sparkplug	Replace sparkplugs
Air filter clogged	Clean or replace air filters

7. Wiring diagram



8. Engine performance chart