

Airspeed (ctd.)

	Speed	(IAS)	Remarks
V _{max1}	Maximum speed with power plant extended and with ignition „ON“	150 km/h 81 kt 93 mph	Do not exceed this speed with power plant extended
V _{max2}	Maximum speed with power plant extended and with ignition „OFF“	180 km/h 97 kt 112 mph	
V _{POmax}	Maximum speed for extending / retracting the power plant	120 km/h 65 kt 75 mph	Do not extend / retract the power plant above this speed

2.4 Power plant, fuel and oil

Engine manufacturer:	Solo Kleinmotoren GmbH. 71050 Sindelfingen, Germany
Engine model:	SOLO 2350 with exhaust collector according to Technical Note No. 4603-3
Engine power at MSL (ISA):	15.3 kW
at max. continuous RPM:	5500 min ⁻¹
Maximum RPM:	5800 min ⁻¹
Maximum cylinder head temperature (CHT):	230° C (446° F)
<u>Fuel</u> :	Two-stroke mixture, unleaded automobile gasoline, not below RON 95 or AVGAS 100 LL
<u>Oil</u> (lubrication):	Fuel / oil mixture, mixing proportion for „CASTROL Super TT“ 40 : 1
Propeller manufacturer:	Technoflug GmbH. 78713 Schramberg, Germany
Propeller model:	OE-FL 5.83/83a5, v92
Reduction ratio:	1 : 1
Fuel capacity:	See table below

	Liter	US Gal.	IMP Gal.
Tank capacity	13.5	3.57	2.97
Usable fuel	13.0	3.43	2.86
Non-usable fuel	0.5	0.14	0.11

4.5.3 Flight (incl. in-flight engine stop/start procedures)b) Power plant extended (Power plant operation)

Starting the engine in flight (s. check list 4.5.3.6)

For a full description of the engine control unit TB 05 see section 7 of the flight manual.

The power plant should only be extended and started where there is a suitable landing terrain within gliding range (with power plant extended, L/D is only about 18 to 22 : 1 depending from speed).

Below 300 m (984 ft) AGL, starting attempts are to be avoided so as to have a safe height left for planning the approach pattern should the engine fail to run !

For proper starting refer to the accompanying check list.
Proceed as follows:

1. Open fuel shut-off valve, switch ASI to pitot pressure head in fuselage nose and extend power plant via the ignition switch at a speed of about 95 to 100 km/h (51-54 kt, 59-62 mph).
The electric fuel pump is automatically switched on before the engine is fully extended.
2. When the engine is fully extended pull back the "DEKO"- handle (thus opening the decompressions valves) and hold it – prop. starts rotating.
Should a blade (or more) fail to unfold, wag rudder repeatedly to assist the blade(s) in unfolding.
3. Once all prop blades are in their proper position, accelerate to a speed of about 120 km/h to 130 km/h (65-70 kt, 75-81 mph). On reaching the speed, release "DEKO"-handle suddenly – the engine will fire.
To assist the pilot when starting the engine, the engine control unit alternating displays the RPMs and "dECO" until the minimum RPM for a successful start of a fully functional engine under normal operation conditions is reached.
4. Let revs build up, reduce speed to 95-100 km/h (flap setting +2) and enter the climb.
5. The electrical fuel pump is switched off automatically when the engine speed is above 4000 RPM for at least 10s.

Starting the engine in flight (continued)

The loss of height, from the moment of extending the engine until it runs, is approx. 50 to 60 m (164-197 ft).

Should the prop stop spinning after the "DEKO"-handle was released, pull it back again, accelerate to a higher speed (approx. 130 to 140 km/h, 70-76 kt, 81-87 mph) and repeat starting procedure.

WARNING: OBSERVE THE REQUIRED MINIMUM ALTITUDE !

CHECK LIST EXTENDING AND STARTING THE POWER PLANT
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| <ul style="list-style-type: none"> <input type="radio"/> OPEN fuel shut-off valve <input type="radio"/> Switch ASI to pitot head in nose <input type="radio"/> Set speed to 95-100 km/h (51-54 kt, 59-62 mph) <input type="radio"/> Ignition ON <input type="radio"/> <i>Only in manual operation: EXTEND power plant</i> <input type="radio"/> When power plant is fully extended:
PULL decompression handle and HOLD <input type="radio"/> Accelerate to about 120-130 km/h (65-70 kt, 75-81 mph) <input type="radio"/> RELEASE decompression handle
WITH ENGINE RUNNING: <input type="radio"/> Climb at 95-100 km/h (51-54 kt, 59-62 mph) <input type="radio"/> Set flaps at +2 |
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STOPPING AND RETRACTING THE POWER PLANT

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| <ul style="list-style-type: none"> <input type="radio"/> Reduce speed to about 95-100 km/h (51-54 kt, 59-62 mph) <input type="radio"/> Ignition OFF <input type="radio"/> <i>Only in manual operation:</i>
RETRACT power plant for 3 seconds <input type="radio"/> <i>Only in manual operation:</i>
WHEN PROP HAS STOPPED: RETRACT power plant fully <input type="radio"/> Switch ASI to pitot head in fin <input type="radio"/> CLOSE fuel shut off valve |
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Power plant operation (ctd.)

For performance data with power plant extended refer to section 5.3.2.

The best rate of climb is achieved with flaps set at "+2" at a speed of about 95 km/h (51 kt, 59 mph) to 100 km/h (54 kt, 62 mph). The higher the flying speed, the lower is the rate of climb – zero climb is attained at V_H = approx. 140 km/h (76 kt, 87 mph), that is in level flight (normal operating range up to V_H).

Level flight is conducted with flaps set at "+2".

NOTE:

At V_H and flaps set at "+1" or "0" the powered sailplane is slightly climbing.

Between V_H and the maximum permitted speed with ignition on V_{max1} , the "Ventus-2cT" is slightly descending. (Caution range: With engine running, a constant operation between V_H and V_{max1} = 150 km/h (81 kt, 93 mph), is not permitted). On exceeding V_{max1} , the ignition must immediately be switched off!

With power plant extended and ignition off, the maximum permitted speed V_{max2} is 180 km/h (97 kt, 112 mph).

Flying the "Ventus-2cT" on own power or with its engine retracted (clean configuration) there is no difference in its handling qualities.

Stall speeds are shown in section 5.2.2.

Stopping the engine and retracting the power plant with the engine control unit TB 05 (see check list on page 4.5.3.6)

To stop the engine reduce the speed to about 95 to 100 km/h (51-54 kt, 59-62 mph) and switch off the ignition. The engine then retracts automatically to the intermediate position where it rests until the engine has stopped. After the engine has stopped the power plant automatically travels to the fully retracted position.

The ASI may now be switched back to the Pitot pressure head in the fin.

Close the fuel shut-off valve.