

SOLO 2350 SELF SUSTAINER ENGINES BGA Maintenance Sheet

Schempp-Hirth refer to these engines as “Turbos” and use 5 bladed folding propellers. Schleicher, LAC and others use the same basic engine but with different systems.

1/ Whenever someone says their engine is running poorly or won't start the first thing I check is the metering units (carburettors).

I do the 5-year check with a pressure gauge to see if both the fuel inlets will hold 0.4 Bar. If either won't hold the pressure it is likely to be the needle valve not sealing properly. Strip the metering unit down and blow it through with a low-pressure airline and reassemble with new gaskets and check the pressure again. If it holds the pressure that's fine, if it won't hold the pressure, it might need a new needle or a new metering unit. I often replace the metering unit.

In my experience the metering units are often the culprit, failing that, it could be lack of compression, check the decompressors are working as they should, head gasket not leaking (you can often hear a hissing noise when turning the engine over if the gasket is leaking) or poor spark at the plugs.

The spark plugs should be removed annually and cleaned and inspected and the cylinder compression checked. I had one instance when the plugs had not been removed for years and one had seized in the cylinder head, the plug snapped off due to the force required to remove it, this scrapped the cylinder head. The cylinder head material is a very poor-quality aluminium and it is a very fine line between tightening and over tightening. A smear of anti-seize grease would be beneficial.

2/ Over the years I have come across numerous cases of the mechanical fuel pumps on the pylon leaking fuel. The original fuel pump is a Volvo Penta. In all the fuel leak cases I have come across it is the joint between the pump body and the end plate. The end plate on the older versions was too thin and distorted thus allowing fuel to leak. The distortion is very obvious. The fix is to fit a thicker end plate and John McWilliam at Aston Down (johnmcwilliam@mac.com) should be able to supply one. The bolts holding it all together and attaching it to the pylon may need to be slightly longer to accommodate the extra thickness. Unfortunately, the Volvo Penta pumps are no longer available but there is a Mikuni replacement. The Mikuni is a very different shape to the Penta so brackets will have to be bought/made to suite. The gliders agent will be able to supply the pump and brackets if required. I have heard, anecdotally, that the Mikuni pump is available on eBay and suitable brackets have been made by the owner!

3/ From John McWilliam: Added tip about Solo 2350 exhausts.

I've had one come loose in flight in a Nimbus 3dt and the RPM dropped so much the engine was unable to sustain our height.

This indicates it is an item to pay special attention to in every pre-flight check and maintenance checks.

4/ An issue I came across was when the owner was reassembling the inlet manifold a washer was missing. Next flight the engine seized due to the washer finding its way into the engine damaging the piston and rings. A demonstration of the importance of finding all the bits removed before assembly.

5/ When replacing the gas strut that helps the pylon extend on a Schempp Hirth glider, there is a great deal of force stored in the gas strut so care is needed. Wire up the strut to stop it surging open when released, release the top of the strut first because if you release the bottom of the

strut first, the stored energy may overcome the wire restraint and the bottom of the strut will ram into the floor of the glider possibly causing damage to the glider.

Steve Parker October 2026

Added comments from Tim Macfadyen

Over several years the blades can wear grooves in the right-hand engine door as the engine retracts and the air loads push the blades to the right. Instead of sliding along the door edge during retraction the blades then catch in the grooves and rapidly make them bigger. When the engine retracts one or more blades stick out and prevent the doors shutting. The solution is to smooth out the grooves, keep an eye on the doors and immediately smooth out any grooves or roughness that appears. The grooves can also damage the blades. Sticking Mylar on the doors doesn't work, the Mylar rucks up and catches the blades. Maybe very thick Mylar or thin nylon would work? This problem occurs on both the ungeared (single seat and early two seat) and geared (later two seat) engines.

Much has been written about using petrol with ethanol in it. Don't. The ethanol eats or blocks old flexible pipes. One ASW 28 owner found himself sitting in a puddle of petrol. For preference change all pipes for PTFE or other ethanol proof material.

There are two standards of prop hub on the belt driven prop used on later two seaters. The old hub is still legal and SOLO will overhaul it but it can crack and release blades to do untold damage. Buying the new standard is a good investment. SOLO will fit your old blades into a new hub.