

Maintenance of the Scheibe SF 25B Falke with Stamo MS1500 engine

Introduction

Valid TCDS is EASA.A.098 and is listed on the CAA website under Sailplanes, not under light aircraft.

Scheibe Aircraft GmbH hold the Design Authority, and parts can be obtained from them. However there is not much available firewall forward for the Stamo engined versions. The company who made the engine are still in existence, but do not respond to queries. All of the later SBs can be obtained from the Scheibe website, but the earlier ones, and their associated ADs are not available. The author has some of the earlier SBs and ADs, and also a copy of the Service and Maintenance instruction for the Stamo MS1500

An English language Flight and Operating Handbook is required. This states that the fuel is Avgas 100L or mogas Super 98 octane. However, at the date of the Flight Manual (1972) all mogas had lead in it. There is an EASA STC, 10047351, held by G-AXJR syndicate at Nympsfield, permitting the use of unleaded Avgas in the Stamo MS 1500 fitted to the Scheibe SF25B.

The SF25C is still being manufactured, and has been powered by 80hp, 100hp and 115hp Rotax engines. These aircraft, although structurally very similar, are not covered by this note. Beware if using older components on newer aircraft that the MAUW increased over time, and old components, particularly wings, may not be compatible with newer aircraft.

Engine

The engine is a VW or Porsche based crankcase with aluminium barrels with chromed bores, Mahle pistons and rings and VW cylinder heads. The barrels are sealed to the crankcase with copper sealing rings, and the head is machined to take the barrel spigot. VW parts can be found to fit the valves, the rocker cover gaskets, the oil strainer gasket and the exhaust gaskets and clamps, but not much else.

Cylinder heads must be fitted with hard valve seats for use with unleaded fuel. Such heads are marked with a 'b' or 'B'. Fuel with ethanol (all current mogas) cannot be used due to the presence of a fuel pump.

Flexible fuel hoses within the engine bay are best changed for Teflon items, which are on condition. All engine bay hoses have a life of five years, with fuel hoses aft of the firewall having a life of eight years. (Ref: SB 653-28r4)

Trying to remove the cylinder head usually results in the removal of both of the barrels on that side of the engine. The copper sealing rings must be annealed prior to reuse by heating them up using a gas torch and then quenching them in a bucket of cold water. They will then need careful flattening and light sanding to restore them for reuse. The barrels can be difficult to remove from the head. Don't hit anything too hard since the barrels are irreplaceable. Lightly clean the spigot on the barrel and the corresponding recess in the head before reassembly. Don't take too much material off since the fit of the spigot in the head provides the sealing usually provided by a head gasket. When refitting, fit the barrels separately and then fit the head onto both barrels.

The pistons can be refitted into the barrels without the use of a piston ring compressor (I have never used one) but usually draw blood on the third piston, making the fourth one more difficult.

The engine is rated at 45hp at 3,200 rpm. However I have never seen more than about 2850 rpm at 50 kts, which is probably about 33 hp. This is zero power flying!

Airframe

Removing the wheel is difficult without a proper frame to support the fuselage, which is fitted with two M10 nuts welded into the frame on each side of the seat area. Make a frame to fit these threads. Do not support the fuselage on the tubes surrounding the rhomboid inspection panel just aft of the engine bulkhead. The tubes do not have sufficient strength, and will bend.

The fuselage is a steel tube spaceframe with fabric covering. The wings are wood with fabric covering aft of the spar, and the empennage are wood with fabric covering to the moving parts.

The rudder cables connect to the rudder at the same fixing as the springs to the tailwheel, which puts a considerable load on this connection. Monitor this, and change the pins regularly.

The spoiler boxes fill with water if the aircraft is left out. Ensure that there are drain holes in the inner corner of the spoiler boxes, check carefully for wood damage (rot) in this area, and do not leave the aircraft out to get wet. Similarly check drain holes in the inboard edge of each wing fabric bay. Storing an SF25B outside, even with covers, will dramatically shorten it's life.

There is not much to say about the airframe, provided that one is familiar with it's method of construction.

The outriggers are 200x50 pneumatic tyred wheels on nylon rods, which eventually break. If you have standard fittings at each end these are available from Scheibe at reasonable cost. Many are no longer standard, however, so rods must be made up from Nylon 66

Do not expect components from different airframes to fit. They may, or they may not. We have two airframes five serial numbers apart, and the ailerons are not interchangeable (hinges in different positions) and various other items like the wheel fittings are different.

The wheel and brake is Tost, and brake shoes are available.

Ian Hey September 2026