

Reader Q&As

Abandoned engine and fuel problems

Manufacturer Support Is Important!

Q. I am considering buying a homebuilt aircraft kit called the "Lightning Bug," built in the late 1990s. The engine was built by AMW (now 2si) in Beaufort, South Carolina. The aircraft kit manufacturer no longer exists, and 2si no longer builds this model engine. It was an in-line, three-cylinder, fuel-injected, water-cooled, two-cycle 90-hp engine that was used on jet boats/skis. The engine has a starter and alternator, dual magnetos, and CDI for the engine.

I have not seen the plane or engine. The engine presently has about 75 hours since new. What would you expect the time between overhaul (TBO) on such an engine to be? As you look at today's array of engines for homebuilt aircraft, what might be a more modern, tested engine for this homebuilt (and still fit the engine mount area and gearbox/drive alignment; the drive is about 4 inches above the motor drive shaft)? Do you have any further information on this engine?

Buck Carlton
Via e-mail

A. *The Lightning Bug was a single-seat, composite hot rod with some astonishing performance. The AMW two-stroke had some excellent features, fuel injection among them. But, two-stroke aircraft engines do not share the longevity to TBO that four-cycle engines do.*

I would be reluctant to recommend the engine portion of this kit largely because of its age and its lack of manufacturer representation/support. Age has a ten-

dency to wither away crank seals, a multitude of which nearly all multi-cylinder, two-stroke engines possess for parts and service.

The Jabiru and the four-cycle Rotax engines, in the same horsepower range, are far better choices, if for no other reason than manufacturer support.

The comparable Rotax engine is water cooled, which would require some plumbing and a location for a radiator. The Jabiru engine is air-cooled, making the installation simpler. Both have a reasonable TBO. It would be fairly simple to adapt the airframe, and this engine would provide good performance as well as economy and longevity.

There's nothing more frustrating than sitting on the ground with an engine that has little or no manufacturer support to keep it flying.

Torello Tacchi

Q. A neighbor recently purchased a J-3 Kitten with a 35-hp Mosler engine. He has been experiencing power loss just at liftoff. The engine has a Zenith carburetor and a Fairbanks Morse magneto. I believe the engine has a limited fuel head and that the paper fuel filter may be slowing the flow into the float bowl. I also suggested he vent the tank more to ensure positive pressure to the tank. Any suggestions?

I also have a question on my 1835 cc VW. Ever since I moved the oil temperature probe from the sump cover to the right rear of the sump, I have seen much higher readings. The oil pressure behaves the same.

In cool weather I routinely see 210°F going to 230°F in hot weather. Should

I be concerned? Is there a better place for the probe? I have a Stewart Warner mechanical gauge. Would a prop that would allow more than the 3,100-3,200 rpm I get now at full throttle help? I run Mobil 1 15W50 with premium auto fuel. My compression ratio is 8.2-to-1, with single port heads, a Slick magneto, a VW oil cooler, and Solex 32PHN carburetor.

Alvin Sager
Via e-mail

A. *On your friend's fuel problem, I would remove the float bowl from the carburetor and test the actual gallon-per-minute (gpm) flow through the needle valve. If it proves to be inadequate, it is most likely caused by debris in the area just above the needle valve seat. If gpm flow is good and no obstructions are found in the tank or lines, the venting of the tank may be pulling vacuum rather than allowing pressurization.*

On the variance of oil temperature, I am not too surprised. Basically, our gauges give us baseline information, which allows us to spot bad trends. Even a high-time engine, with reduced oil pressure, is well protected; it will give us reliable clues when something worse takes place. Your temperatures are similar to my own engine, and I do not worry about them, as they have been consistent. Just keep your eyes open for changes.

Your rpm is certainly adequate for safe flight. I like the pointy-tip Temessee propellers, designed for the VW engine. They allow just enough relief at the tip for the VW to sneak in a few more rpm. Reducing pitch a bit will help, too.

Bill Bronson