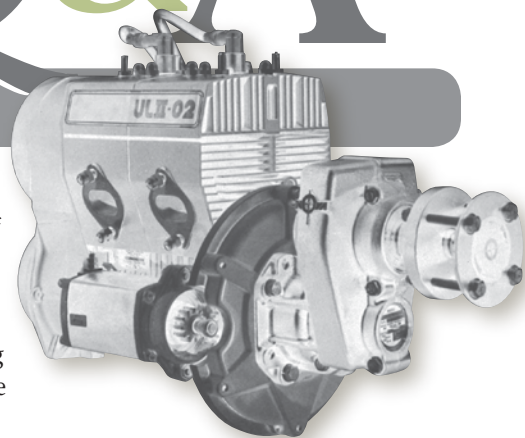


Readers' Q&A

Investigating a Cuyuna engine



Q. I do most of the mechanical maintenance on my cars, boat, and mowers. A month ago, I purchased a Cuyuna UL-II-02 on a disassembled Quicksilver MXL.

When I bought it, I test ran the engine with the gas the seller had in the tank, and it ran, but the carburetor was way too rich. It would idle and throttle to about one-third power—about 3900 rpm. I thought that the carb needed rebuilding because the seller said the engine had not been run for three years.

I pulled the engine through and felt good compression on both cylinders. I took the intake off and looked at the pistons, and they were not scored nor showed carbon deposits.

I bought the plane, thinking I could clean it up, and the engine would work fine. I gapped and put new plugs in, drained the fuel, replaced the fuel filter, fuel lines, pulse line, and rebuilt the fuel pump.

I took the carburetor apart and cleaned and inspected it. It was in good shape and was not varnished or worn. I noticed some dark oil on the engine and in the exhaust system. I cleaned that out too. It looked as though the previous owner had used fuel that was heavy with oil and not properly mixed. I put new, properly mixed fuel in the tank and started the engine.

The engine started fine, but it will only idle to about 1800 rpm. If I throttle up, the engine bogs down and will

die at about one-third to one-half throttle. I get spark on both plugs. I've visually checked and used a timing light to make sure.

After much adjusting and checking of the carb, I ran another engine of the same size with this carb successfully.

My Cuyuna seems to be running only on the cylinder near the fan. I can unplug the rear plug, and it idles and runs the same. If I unplug the front plug, the engine won't start or run. I've visually checked the piston tops for holes and looked in the exhaust and intake ports for scoring. The pistons look fine from the ports. The piston tops look new and have no carbon. The rings look good and don't appear to be stuck, but I haven't removed the heads and cylinders. Should I do a pressure test to see if a seal is bad?

Greg

Quicksilver MXL in Kansas


A. You have an excellent method of eliminating problems. You've performed all the necessary tests. Yes, the heavy oily mixture and one cylinder at a time running is a good indication of oil seals leaking.

Because one cylinder will run on one plug, it's likely the center seals are intact. Because the other cylinder will not run, it's safe to assume that the outside seal is leaking. On most engines, these can be replaced without a complete teardown. When replacing the seal, look for a hard,

crusty appearance on the seal itself and any corresponding grooves on the shaft mating the seal. If grooves are present, it's a good indication that the engine ran hot at one time. If there is a groove on the shaft, and it is noticeably deep, a new seal may not help at all.

Before you remove the seal, look for any part numbers. Seals are much like bearings and are generic, so it should not be difficult to find a replacement seal, even if one is not available from Cuyuna.

Once you've removed the seal, see if you can feel any up or down play on the end of the crankshaft. If you can, you may also have a worn bearing. The bearing should be visible; look for any "bluing" on the races or the cage.

Let's hope your problem is an old seal, but while replacing it, look further. Be sure the oil you use is compatible with Cuyuna's recommendation. Some lubricants are not compatible with certain engine components, seals not withstanding. With engines that require mixing the oil with the fuel, any aged fuel always has an effect on seals. 

Fly safely,
Torello Tacchi