

SHOP PREPARATION FOR ENGINE RUNNING

From Sam 26 (California) July 2004 Newsletter, Bob Angel, Editor

When we acquire a used engine that flips over OK, and generally looks and feels like it should run, it will usually do so. But about half the time it may need some tweaking to exorcise some little problem that made the owner sell it. For this, a good mechanic is more helpful than a priest. For those of us who can't or don't like to run 'em at home, there are some basic things to check out before taking it to the field running session, and maybe being disappointed.

Checkout amounts to more than seeing if an engine props over OK and a glow plug lights. If the engine is stiff or frozen up you'll need to loosen it first thing. A glow engine was no doubt run on glow fuel, but if it's a sparker, it might have been run either on gas and oil or glow fuel. A glow plug in the head and a missing timer is a pretty good clue. A further test is to use a little of each fuel on a rag to wipe away some of the goo. The fuel last used will dissolve any residue the easiest. So, as a minimum pull the plug and flush things out with a fuel or solvent of the same base as the fuel last used. It may require soaking. A frozen engine can usually be loosened with a prop installed and a heat gun applied. How much pressure you can put on the prop without breaking anything is a matter of experience. (If something breaks, you used too much pressure.) If the engine has ball bearings they need to be checked more carefully once things have been basically loosened up. With no prop installed, rock the crank back and forth with the piston down below the exhaust opening. Carefully feel and listen for any bearing roughness. More soaking, or even disassembly may be needed. That's because congealed oil and or even rust may be present. Congealed oil can make bearings skid in their races on startup and scuff the races or flat spot the balls. Sorta like losing your skateboard halfway down the steel handrail. And rust can be even worse, as it's abrasive, and can grind up everything inside. Rust has to come out, and/or new bearings may be needed. Fortunately, an old sparker that was last run on gas and oil is much less likely to have internal rust or even bearings.

Most used engines aren't usually in really bad condition. Probably the most common reason an older engine won't start right away is poor, or no fuel flow. Put a foot long piece of fuel tubing on the spray bar, blow through it and listen. You should be able to close the needle so that no hiss is present, then open it and hear the progressive hiss of flowing air. If not, use fuel to flush things out with the needle both in and all the way out. Check alignment of the spray bar. Best position for the outlet orifice is at right angles to the venturi's air stream or slightly downstream of that position. If you look into the intake and can't see the orifice looking back at you, you're probably OK.

Select the prop you're going to use, install it and flip the engine over to make sure the hole size is correct and the prop nut and washer clamp down all the way.

Points on a sparker often have congealed oil, misadjusted gap, or other problems. Check that points work by installing a simple continuity light or Ohmmeter between ground and insulated point. Slowly rotate the prop and see that the light or meter kicks on for almost half the revolution. Check and set the timer advance at this time. Rotate the piston to top dead center by feel, or by peeping into the exhaust. Note the prop position, and rotate it backward, and watch for the light or meter to kick on at about 20 degrees before top dead center for easy hand starting. Make sure you have a clean tank, filtered fuel. And if you have an external tank, or at least an

external fuel line, using an in line fuel filter will eliminate a lot of potential problems. Check all screws for snugness to be sure someone didn't leave something loose at some time. For hand starting, a heavy leather glove is a good idea. An out of time, or leaking crankcase on an Ohlsson using gasoline can bang your fingers as unmercifully as anything you'll ever encounter. Follow these steps as a minimum and you've just improved your odds of getting things running during the first attempt.