

## Hercules Engine News

### Including Economy, Arco, Jaeger & Thermoil

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On the 1½-2 HP Hercules built engines, there are seldom problems with the crankshaft unless it has been bent, severely worn or badly rusted. If the shaft is bent, it usually can be straightened in a press with a little trial and error. However, it may be easier or less expensive to find a suitable replacement crankshaft. Normally the crankshaft won't bend unless the engine is dropped or bumped hard. Even though the length varies somewhat between models, the ¼ inch diameter crankshaft will interchange along with the timing gear.

Even though bearing surfaces are worn or scored, they usually cause no problems especially if new bearing inserts are used. The main bearing surfaces seldom wear out of round; however, the connecting rod bearing surface may at times. Even though the connecting rod

bearing surface may be a few 1/1000th out of round, it usually causes no problem on slow running show engines. Just keep the adjustment snug. If the surfaces are scored, new bearing inserts will usually be all that is needed; however, they may require adjustment from time to time until they become "worn in." New babbitt bearing inserts are available from several suppliers. Occasionally someone reports that their engine has poured bearings. Not so. Originally all of the small block engines had poured main bearing liners in the casting, but they were the base for the replaceable bearing insert.

If the crankshaft bearing surfaces are rusted and pitted, the shaft is generally still usable. First clean off all the rust possible then use a strip of emery cloth to shine up the shaft as much as possible. Use Devcon Epoxy Steel or JB Weld to fill the pits and file down to the original surface and then use emery cloth to smooth it up. Surprisingly, this works pretty good.

The original shims were some combination of steel and cardboard. I make thick shims from head gasket material and the rest from whatever cardboard that is handy. Start out by tightening

the bearings until they bind and then back off about ¼ turn. Actually, for a slow running show engine, main bearing fit is not very critical. Especially on the rod bearing, locknuts should be used. Be sure that the studbolts are tight in the rod. If the engine begins to clatter after it has run for some time, it is likely that the rod bearing needs to be readjusted.

There should be very little endplay in the crankshaft main bearings. At times it may be necessary to loosen the flywheels and push them in a bit.

On engine models with only about one inch of crankshaft showing on the cranking side, it is very important that the flywheel key sticks out far enough for the hook type hand crank. The key should also be square and unworn where the hand crank engages. A combination of too short of a key with a worn surface is apt to cause the hand crank to slip off while cranking the engine. If the hand grip on the crank is free to rotate, you may get hit in the arm, chest or head by the free swinging crank. I speak from experience.

Coming up next time is the fuel system. ○