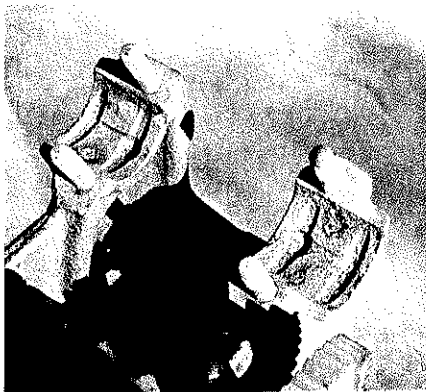


The Hercules Engine News

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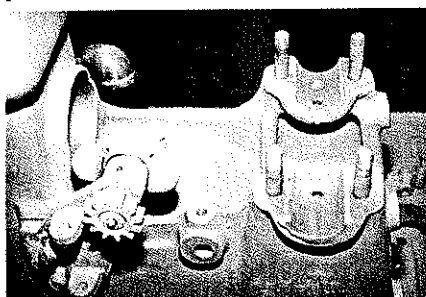
Have you ever been puzzled about the main bearings in the small block (3¼ inch bore) Hercules-related engines? The following story and pictures will help explain it all. The main engine casting has two cavities for the location of the main bearings as shown in the first picture.



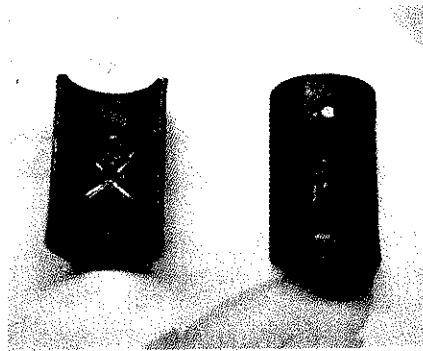
#1

When the appearance is like this, it causes some to immediately think that it originally had poured main bearings. Not so—or only half so. Only a babbitt liner is poured into that cavity. It provides the location for a replaceable bearing insert.

The second picture shows the babbitt bearing liner as poured at the factory in place. Occasionally someone will mistakenly chop that liner out, or it may have been melted out of an engine that has been in a fire. This causes a real problem, but read on, there is a simple



#2



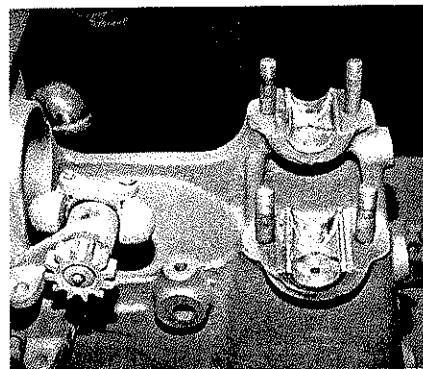
#3

solution.

The third picture shows two views of the replaceable bearing insert. These are currently available from several suppliers. It may be necessary to trim or scrape a little to get a good fit.

The fourth picture shows the bearing insert in place.

What do you do if the babbitt liner has been destroyed? There are several options. A complete new bearing can be poured in place and then fitted. Although it can be done, many gas engine



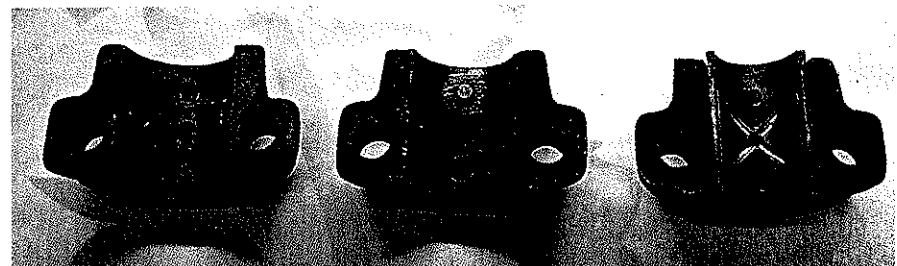
#4

hobbyists don't have the capability or equipment to do babbitt work. An easier way is to first get a new set of bearing inserts and a can of Bondo or other suitable epoxy filler product. Also needed will be a 1¼ inch piece of round

shafting long enough to go through the main bearings (any material as long as it is straight), a straight edge, ruler and a square.

Do a few practice alignment exercises so that when the Bondo is mixed up, you will be ready. With pieces of cardboard cut to fit, tape them to the sides of the bearing cavity to keep the Bondo in place. Coat the outsides of the inserts with grease so they don't stick. Put the Bondo into the cavity and squish the inserts into place. Be sure that there is enough room for the crankshaft throw between the bearings and that the bearings are even with the top of the main casting. Check to see that the shaft is perpendicular to the engine bore. Let it set up and you are in business. The procedure for making new liners in the bearing caps is much the same.

The fifth picture is of the three stages of the bearing caps (hollow, liner in place, and insert in place). The question comes up sometimes about how tight to make the bearings when the engine is assembled. For these slow running engines, tolerances are not critical. I make the thicker shims out of head gasket material and the thinner ones out of any handy cardboard. Tighten the bearings until there is a slight drag and then back off a quarter or half turn. There will then be slight play when the crankshaft is wiggled up and down. That is about right to allow for a coating of grease for the shaft to ride on. What kind of grease should be used? Again, this is not critical. Any grease currently used for most machinery and automotive applications will do quite well. It will likely be much superior to what your grandfather dug out of a can with a stick for that purpose many years ago. Hey, the foregoing information is all free but not guaranteed. Good luck! ○



#5