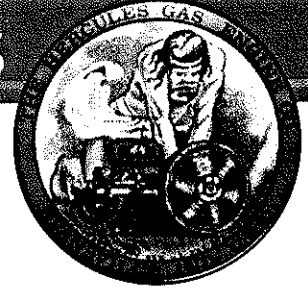


MAY 2005

Hercules Engine News



By Glenn Karch

Imperfections Detailed

After a trip to Redi Clean Stripping, the 2 HP Plessisville engine parts came back in bare metal. This is when all the cracks, crevices and casting imperfections really show up. Photo 1 shows an example of some of the pits from casting flaws on the flywheel rim.

Almost every engine reconstruction project requires modification to compensate for damage, missing parts or poorly fitting parts. Such is the case with my Hercules look-alike, Plessisville engine no. 2750.

The main bearing liners had been stripped and repoured. They were out of line and poorly done. With the aid of a bearing scraping tool, I salvaged one main bearing. The other had to be done over. Shown in Photo 2 is the setup I used to pour a Bondo liner for the bearing insert.

I used a piece of 1-1/4-inch round stock to get things lined up and level with the engine base, and squared up with the cylinder.

I used Masonite for forms and to support the shaft in the proper position. I lifted out the shaft and bearing insert. I then coated the inside surface of the forms and the bearing insert with grease for a releasing agent. I filled the cavity with Bondo, squashed the shaft and bearing insert back into place and scraped away the excess Bondo. After the Bondo hardened, I lifted out the shaft and bearing insert, showing the finished new bearing liner ready for the bearing insert (Photo 3).

The collar on the cylinder where the oiler pipe screws in was partially broken away. In order to screw in a new pipe, a repair was necessary. With a die grinder and cut-off wheel, I cut off the rest of the collar. At this point, the cylinder wall was about 7/16-inch thick. I drilled out the hole to 23/64-inch and tapped it with 9/16-inch fine threads. I made a brass bushing with a shoulder to screw into the newly tapped hole. The top of the bushing has 1/4-

inch pipe threads. I coated the bushing and hole threads with JB Weld and screwed the bushing in tight. You can see the repair in Photo 4.

There being no pulley, I made a new one, which I turned down from layers of black walnut and white oak laminated together (Photo 5). I fit the new pulley over a metal core that has a provision for a set screw.

Another surprise came when it was time to put the fuel tank in the engine base. The tank for the normal small block Hercules would not fit. This required making a new tank with slightly smaller width and height dimensions. Photo 6 shows the new tank installed.

With luck, next issue we'll continue the process and be that much closer to a running engine.

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Photos 1 through 6: The Hercules look-alike starts to come together.

