

The Hercules Engine News

by Glenn Karch
20601 Old State Road
Haubstadt, Indiana 47639

The story of the resurrection of 1½ HP model E Hercules #148306 that was built in mid-1918 continues. The task to reassemble the engine to running condition began. It might be well to point out that returning it to running condition is just that. To restore everything to near original tolerances and operating condition with all the proper parts and paint finish is another matter.

Since the parts order and the new piston rings had yet to arrive, the piston was not removed from the cylinder. The rod and main bearings were adjusted to the point that there was just enough loose play to ensure that there was space left for the grease in the bearings. The side rod itself and the roller were in good condition, having apparently been replaced at some time in the past. The side of the block where the side rod rubs was well worn so a thin metal shim was made to go between the governor bracket and the block to provide a new wearing surface.

The governor spindle pin was worn off until it was about even with the end of the governor shaft. Since there was no spacer washer between the governor gear and the bracket, it only made the speed control problem worse. This allowed the detent blade to stand well out from the side rod and the detent block. The governor balls must fly way out to cause the detent to latch and the engine must run rather fast for all this to happen. A new pin about ¼ inch longer was made and a spacer washer was added. This allows the flyballs to move only a short distance before they will cause the pin to make the detent latch. This is a big aid in slowing down the engine speed, too. A new pivot pin was also made for the detent blade holder and the detent finger. That eliminated a little more of the loose play.

The igniter was checked to see that the insulated electrode was not

grounded and the points were cleaned up. After the magneto was added and adjustments were made, it appeared to produce adequate spark when tripped with the hand lever.

After finding the lost valve, the head was reassembled using the old springs and new head and igniter gaskets were cut. Now it was just a matter of putting the pieces back together. The head and igniter gaskets were coated with grease to soften them a little and to make it easier to remove the head or igniter if it should later become necessary. The head bolts were tightened to 60 pounds and later retightened.

The exhaust rocker arm had a deep pit worn in it where it touched the valve stem, so it was brazed and ground down to original shape. After replacing the rocker arm and making a new pin, the exhaust valve timing was checked and adjusted according to the instruction book so as to open and close at the proper time. The ignition timing was checked and adjusted, also using the instruction book directions. The fuel pipe and check valve were removed and cleaned and a new fuel line was made. Gas was poured into the tank. Surprise, the engine was soon sitting in a puddle of gasoline. The engine was stood on end and that tank didn't look nearly as good as it had felt like earlier. The tank was removed, and with a Dremel grinding tool, all suspected leaking areas were shined up and repairs were made with JB Weld. Tank sealer was added as

insurance against further leaks. The tank was then put back, all the fuel connections made and fuel was put back in the tank. Now, hopefully, start up time had arrived. The first few attempts yielded only a few feeble putts. After a few minor adjustments, it started and sort of limped along while I tinkered with the fuel settings. At some point, it sort of caught its breath and started running better. I continued to tinker with fuel and choke settings, but somehow a proper setting was hard to achieve. The engine was in a rather poor place to try to run it and work with adjustments at the same time. It was sitting unfastened to a bench that was on rollers, and it was hard to keep the engine from hopping off the bench while the bench tried to roll towards the floor drain. A word of caution, don't try that kind of thing.

At this point, time ran out for tinkering with the engine. It was time to load up my two Atlas exhibit engines and get ready to head for the Oil and Gas Festival at Sistersville, West Virginia, with friend Steve Elpers. As an afterthought it was decided to load up engine #148306 and take it along. Perhaps someone there would be interested in buying it. When we arrived there on Friday morning, we plopped it out on the ground for sale. It wasn't too long before a fellow asked about it for a friend. To make the story short, it was sold and found a new home. Thus ends my story of engine #148306. ○