

# Hercules Engine News

By Glenn Karch

## Governor Overhaul



Not too long ago, a fellow with a 1-3/4 HP Model S Economy engine stopped by and asked me for some advice on getting it going. Seeing his engine, my attention was immediately drawn to the governor, which was quite worn and needed attention. Photo #1 shows the detent blade, which should be straight. As parts wear, it often becomes necessary to bend the detent blade toward the side rod so it will engage the detent block. When it gets to this stage of wear, it's time for a governor overhaul.

The first thing you need to do is straighten the blade, but you also need to find the real cause of the trouble. What you will often find is that the governor spindle pin is badly worn. It should protrude about 3/16-inch at rest, as shown in Photo #2. If you need to make a new pin (a 1/4-inch carriage bolt can be easily modified for this), make it a little longer yet so it can be ground off for the best fit. In addition, the detent fin-

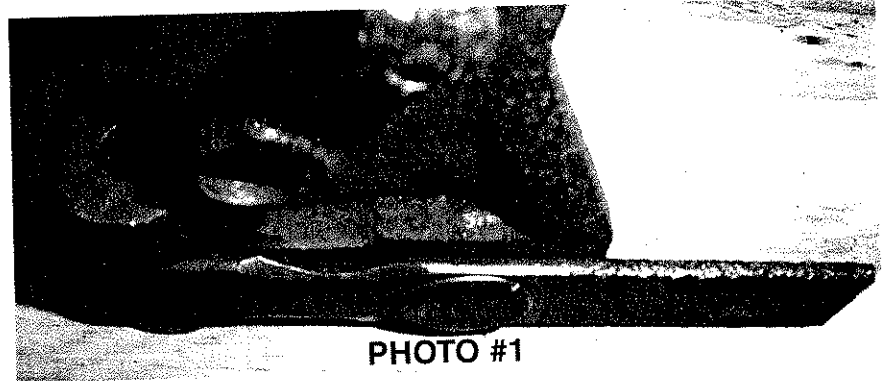


PHOTO #1

ger (Photo #3) often has a depressed hole from wear or the adjusting screw itself will be worn off. Brazing up the hole or replacing the screw may be necessary.

On later governors the spindle housing is 1-1/16 inches narrower than the early style and requires a special brass wear washer (Photo #4). The narrower housing is the one with a grease cup rather than just an oil hole. When this washer wears out, the whole governor spindle gradually recedes into the housing, causing more play in the linkages.

Although all parts interchange, there are some important differences. Model E through G engines used one governor design and H and S used another. Photo #5 shows the earlier one-piece spindle pin and the late three-piece pin. The three-piece pin goes with the detent finger with the adjusting screw.

Photo #6 shows the earlier detent adjustment handle with a small tapered lip bent out at the bottom. Over time, that lip wears down and makes a corresponding groove in the back of the



PHOTO #2

Above, Photo #1:  
*Detent blade should be straight for proper operation.*

Left, Photo #2:  
*Governor spindle pin should protrude 3/16-inch at rest.*

Right, Photo #3:  
*The detent finger on the left is in good shape, while the one on the right has worn considerably.*



PHOTO #3

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PHOTO #4

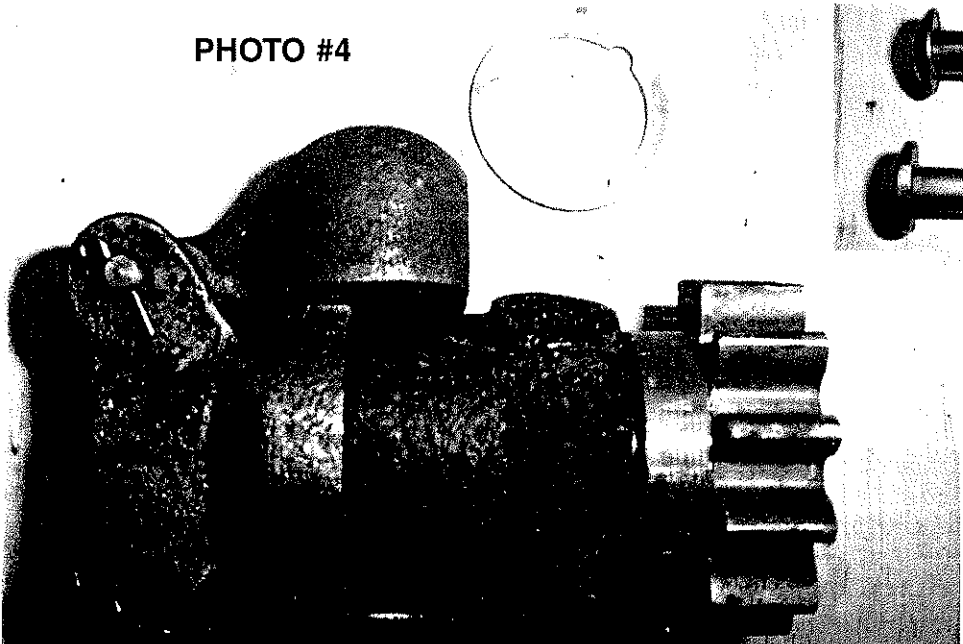
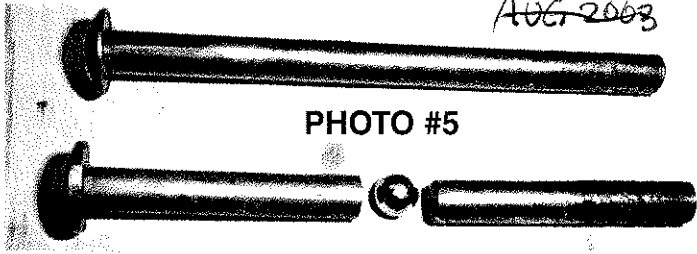


PHOTO #5



Left, Photo #4: A special brass wear washer was used on later model governors.

Above, Photo #5: Early production, single piece spindle pin and later production, three-piece pin.

Below Left, Photo #6: Early production detent adjustment handle.

Below Right, Photo #7: Detent mechanism.

detent finger. The later handle had a bump pressed into the bottom and is less prone to wearing out. The pin that the detent mechanism pivots on (Photo #7) also wears, and often needs to be replaced with a new 5/16-inch pin. In extreme cases, it may be necessary to ream the holes out and install a larger diameter pin. When that's the case, grind the bottom end of the pin to a taper so it will be easier to insert.

While you are at it, make new

governor weight pins out of 3/16-inch rod. Peen one end of each pin and the detent pin to make a small head on them. With these repairs complete, the detent blade should just clear the detent block by about 1/16-inch when the speed control lever is forward.

The spring on the back of the detent quadrant needs only to be strong enough to hold the detent blade away from the side rod when at rest. The governor spin-

dle spring often has some washers behind it that were put there at the factory to bring the engine's governor into the proper range. Happy governing!

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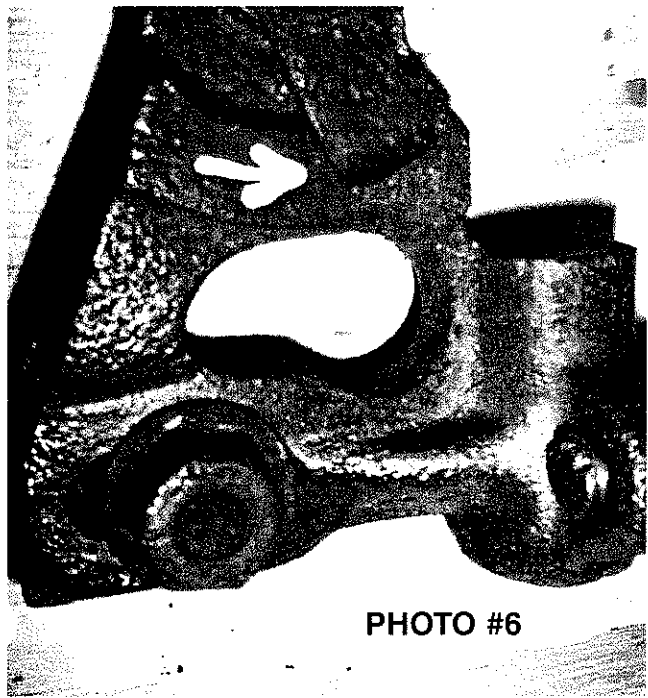


PHOTO #6

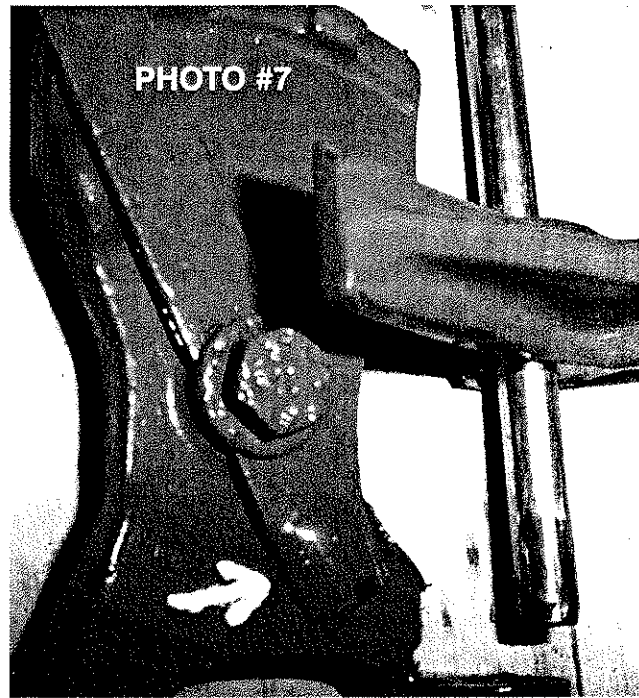


PHOTO #7