

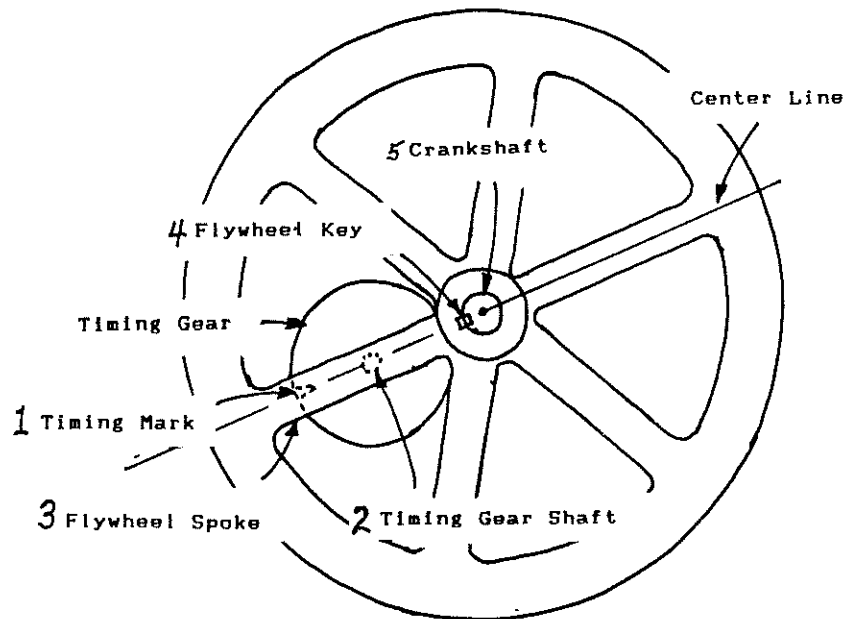
## Hercules Engine News

*Including Economy, Arco,  
Jaeger & Thermoil*

by Glenn Karch  
20601 Old State Road  
Haubstadt, Indiana 47639

In these next several articles, the Hercules Engine News will cover various adjustments and repairs to keep Hercules built engines functioning correctly.

First, let's begin with the general tuneup procedure. The first step is to make sure that the cam gear is properly timed. The timing gear has a "V" type notch cast near the gear perimeter. The instruction books indicate that this mark should be lined up with the flywheel key. Align the center of the crankshaft, the flywheel key and the spoke straight out from it with the center of the cam gear shaft. At this point the timing mark should be centered behind the flywheel spoke. In other words, the timing gear mark (1), the cam gear center (2), the flywheel spoke (3), the flywheel key (4) and the crankshaft center (5) should be in a straight line. The diagram at right is an easy way to make this check. All sizes of Hercules built engines are timed this way.



If it is necessary to change the timing, it is easiest to take a long punch and push the timing gear shaft out so the gear can be turned to the correct setting.

Once the timing gear is properly set, it is time to check and adjust the exhaust valve. This setting is done by adjusting the screw and lock nut on the exhaust valve rocker arm. According to the instruction books, the exhaust valve should begin to open at 45 degrees before outer dead center on the exhaust

stroke. It should close 3 to 5 degrees after inner dead center just at the beginning of the intake stroke. The exhaust valve setting on all sizes of the Hercules built engines is done this way.

After the timing gear and the exhaust valve settings are made or checked, then the proper ignition setting can be made. That procedure gets a little more complicated and will be covered next time. ○