

## Hercules Engine News

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The question comes up frequently in regard as to how to properly time a Hercules built engine. To set timing properly, three steps must be taken, and in proper order. The first of these steps is to set the timing properly. Shown at top right is the explanation taken directly from the instruction book.

The second step is to set the exhaust valve timing. The exhaust valve should start to open when the crankshaft is about 45 degrees before bottom dead center on the power stroke. It should remain open until the crankshaft is 3 to 5 degrees past top dead center at the beginning of the intake stroke. This adjustment is made by turning the screw in or out that is on the end of the exhaust rocker arm.

The final step is then the ignition timing. On all except the igniter, battery and coil equipped engines, there is a lever with a retard and run position. For an engine expected to run at rated RPM and to pull a load, the spark should occur when the "spark" mark on the flywheel is even with the top of the side rod and the lever set in the run position. On the Webster system, the run position is when the lever is straight up. On the Wico system, the run position is when the lever on the tripping finger

### HOW TO PUT ON THE CAM GEAR

If it is ever necessary to take off the cam gear or to put on a new one it must be put on in a certain position, as the cam on the gear controls the time of the spark and the opening and closing of the valves, in fact every operation of the engine depends on this cam being set just right.

To put on the cam gear, hook detent blade back of catch block, turn flywheels around until the key in the crank shaft is straight up, as shown by "B" in Figure 5; then set the two teeth that are just under the indicator "A" on the cam gear over the one tooth that is just above the Key "B", then roll the cam gear around to the right until it reaches the position as shown by dotted gear, being sure to keep the gear teeth together. Then slip the cam gear pin in place and fasten it with the lock washer and nut.

**Be very careful in putting on this gear to see that it is just right. One tooth out of the way makes a decided difference in the way your engine will run.**

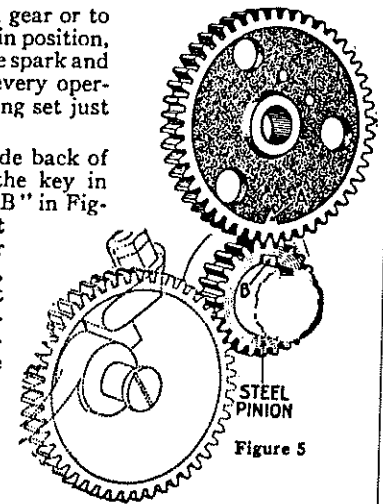


Figure 5

mechanism is in the down position. With these adjustments, ignition should take place between 20 and 25 degrees before top dead center depending on the engine size. When the lever is set in the start position, the ignition should take place at about top dead center. For show engines running much

slower, reset ignition timing in the run position to about 4 degrees advance for each 100 RPM.

The run-start position for the Webster system is shown in the illustration below.

In case you didn't notice it, I now have an e-mail address as shown at the top of this article. ○

This is a line drawing of the tripping mechanism showing how it should be set for proper running. It also shows the timing lever "J." Be sure when starting the engine that this is pushed to the right as far as it will go. This retards the spark and prevents the engine from kicking back when starting.

