

Why Won't It Run - VII Timer Lever Linkages

By Dick Ray

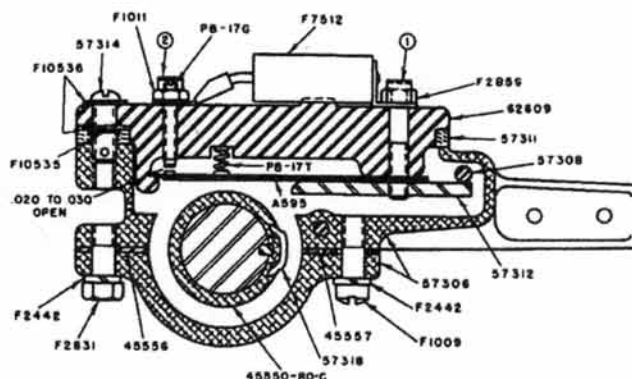
A previous article was published on the use of the timer lever and the effects of improper spark advance. Of course, this will be difficult if the timer lever linkage is mis-adjusted. The goal of the following adjustments is to get the actual spark advance to agree with the lever position and to get the spark duration to the proper 10% of a revolution.

The following instructions are paraphrased from the Fairmont instruction manual for a single-cylinder engine with a Weathersealed timer, but other engines are covered as well.

The best ignition is obtained with the timer points adjusted to a .020" to .030" gap. In order to set them, remove timer body from mounting

casting by releasing arc adjusting screw 57314. Loosen lock nut on point adjusting screw PB-17G. Turn this screw down until the two points just touch, then back the screw out one half turn, and tighten the lock nut. Check with a feeler gauge. If the points are burned or worn unevenly they can be dressed with a fine file. The gap is specified as .015" to .025" for the automotive-style points used in the RK twin-cylinder engine.

When reassembling, the mounting casting should be adjusted closely on the support casting,



yet be free to move when the spark is advanced or retarded. This fit is controlled by the clamping action of the lower screws in the sketch and the thin gasket between the upper and lower halves of the casting.

Next is the duration. The interval during which the timer points close to produce the spark should be about one tenth of a flywheel revolution. This measures about 5 1/2" on engines with 18" flywheels and 6 1/4" on RQ (big single) engines. To check this measurement remove the spark plug and lay it on the frame with the lead attached, close the ignition switch and slowly turn the flywheel until the points close and the coil starts to buzz. Mark the flywheel rim in line with some fixed referenced point on the engine. Now turn the flywheel in the same direction until the coil just stops buzzing. Mark the flywheel as before and measure the distance between the marks. If adjustment seems necessary, turn the arc adjustment screw (57314 in the figure) to the right to increase the duration or to the left to decrease it. Duration is not adjustable on an RK engine.

What you are doing is compressing a thick rubber gasket and moving the point assembly closer to the cam. The earlier timers that had

two clips holding the assembly together were not adjustable for duration. However, a patient mechanic could add thin shims in place of the gasket to decrease duration or close up the point gap to increase it. However, it is my opinion that the point gap is more critical than the duration.

If proper duration is impossible to obtain, the nylon rubbing block may be worn out. Replacement of this item probably requires removal of the flywheel and is beyond the scope of this article. If anyone has a simpler way, we would like to hear about it.

Finally, we get to the centering, which was the original goal! We're going to adjust the linkage between the timer lever and the timer so that the timing is at neutral when the lever is straight up and down.

Since the spark plug is already out and laying on the frame, it is easy to put a screwdriver into the plug hole (use a large one so it won't fall in) and locate top center of the piston. Now mark the flywheel with a reference mark next to a fixed point on the engine and put the timer lever straight up. Turn on the ignition and watch the distance that buzzing occurs on each side of that center mark. If the distance is not equal, the timing is not centered. To adjust it you need to change the length of the rod between the lever and the timer.

Now is also a good time to eliminate slack in the linkage with washers or by other means. Long ago, I cut off the lever end of the rod on my car, threaded it, and put on a nice clevis with a pin. Don't forget to lube the moving points of the linkage with grease.

Once adjusted, you won't have to repeat this work for many years. Happy putt-putting!

