

SPARK PLUGS

By Dick Ray
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At almost any gathering of track car owners, the talk usually seems to turn to spark plugs. There appears to be as many theories and practices about spark plugs as there are track car owners. This article will investigate some of the questions and present some answers, however it is not intended to be the final word on spark plugs.

First, we will discuss the topic of heat range. Fairmont recommends that its two-cycle engines be equipped with Champion brand D16 spark plugs. The equivalent plug in AC brand is the C86 plug. While these two plugs can certainly be expected to perform adequately, experience has shown that a slightly warmer plug can sometimes improve performance on some cars. The AC C87/C88 or the Champion D21 plugs are hotter than the C86 and D16. The D21 is equivalent to the C88, with the C87 plug falling in between.

"How can I determine which plug to use?"...you ask. The key to this answer is to look at the center insulator on your plug, after a long run at normal speed. White "ash" on the insulator indicates that the plug is too hot, black is too cold, with tan or brown being perfect. Black deposits can also indicate other problems with your ignition system, such as a low battery, bad or pitted timer or coil points, incorrectly tuned coil, or faulty wiring. Make sure that these other components of your system are in top notch shape before selecting the plug type that is best suited for your particular car.

A plug that is too hot can crack off the center insulator, which will rattle around in the cylinder, before being blown out the exhaust port. Another problem is that of oil deposits being baked on, and then firing erratically at full throttle. The cooler plugs, while performing fine on a correctly tuned ignition system, can sometimes foul more easily, if the ignition system is not in top notch condition. The hotter plugs will improve performance slightly on a marginal system, although this is not a substitute for a system that conforms to recommended performance specifications.

Twin cylinder RK engines sometimes operate better with different heat range plugs in each of the two cylinders. Usually this can be attributed to the fault of one side of the twin-lead coil shorting out. This leads to cylinder misfiring, which will foul one of the plugs. The hotter plug placed in the cylinder affected by the coil misfire won't do much for you...it's a temporary fix. A new coil may be in order.

Occasionally, after running your car for an extended time at very slow speeds, or when the car has idled for a considerable length of time, black, oily or sooty deposits may form on the plug. This is not necessarily an indication of fouling. These deposits will burn, and be blown off, if the speed and load on the car is increased for a short period of time. Continuous running at very slow speeds, or excess idling of the car will, of course, result in "baked on" deposits, ultimately fouling the plug.

If your car won't start with fouled old plug, but it will after installing a new one, don't keep the old plug! It's better to find the cause of the fouling, than to try and clean old plugs.

Finally, here's a tip that I use to further improve a good ignition system. I cut off half of the ground electrode on my plugs so that the spark will jump slightly further from the cut edge of the electrode to the center electrode. This puts the spark "out in the open" and insures reliable firing every revolution.

To the Editor:

After reading Dick Ray's article about ignition systems in the Spring, 1989 issue of THE SETOFF, I have resolved the ignition system failures which had plagued my ex New York Central Fairmont M-19 during the spring and early summer. During the NARCOA track car meet at Lincoln, New Hampshire on June 3, my engine just stopped, as if turned off with the ignition switch. This occurred after running for about 5-6 hours.

I had also experienced a similar problem with my ignition system at the April track car meet in Paris, Tennessee. Two times the engine stopped, but came back to "life" before I got the car stopped. On the Hobo Railroad run though, the engine stopped and would not restart. After checking the ignition system wiring and fuel flow, I removed the coil from the battery box to check the points. These were OK, and I then attempted to restart the engine. It started OK and ran fine *after* I had handled the coil.

At the next photo stop, I added the jumper wire to the coil from the battery terminal to the moving point terminal, as was described in the article. The engine ran fine the rest of the day, and at two other track car meets since then. Apparently, the coil must have had a loose or broken connection internally. I bought the coil new in 1979, and have had no problems with it until now.

I'm going to put the jumper wire on the coil in my ex Toledo Terminal M-9, before I put the car into regular use

Dave Williams
NYC M-19