MSD Tech Bulletin

Rotor Phasing

MSD's Tech Bulletins are designed to give you a more in-depth understanding of the ignition system and its components. If you have any other questions about the subject or MSD products you can contact our Customer Support Department at (915) 855-7123 or email your questions to msdtech@msdperformance.com.

ROTOR PHASING

Rotor Phasing is defined as the alignment between the rotor tip and the distributor cap terminal when the spark occurs. This position can be very important to your engine's performance. If the alignment is incorrect, the spark will jump to the next closest terminal or another ground resulting in a misfire and loss of Power.

On engines with extreme cylinder pressures, such as nitrous and supercharged applications, correct rotor phasing increases in importance. More voltage is required to ionize the plug gap and if the phasing is off, the spark is more apt to find an easier path to ground rather than the correct cap terminal. This may result in severe engine damage.

Checking Rotor Phasing

To check rotor phasing, you'll have to modify a distributor cap so you can observe the rotor tip with a timing light when the engine is running. Drill a large hole into a cap near a terminal that will allow you an easy view of the terminal (Figure 1).

To help see the rotor tip you may want to mark it with white correction fluid. With your modified cap installed, connect the timing light's inductive lead to the corresponding plug wire. Start the engine and run at a steady speed. Shine the timing light in the modified cap and note the relation of the rotor tip and the terminal when the spark jumps (Figure 2).

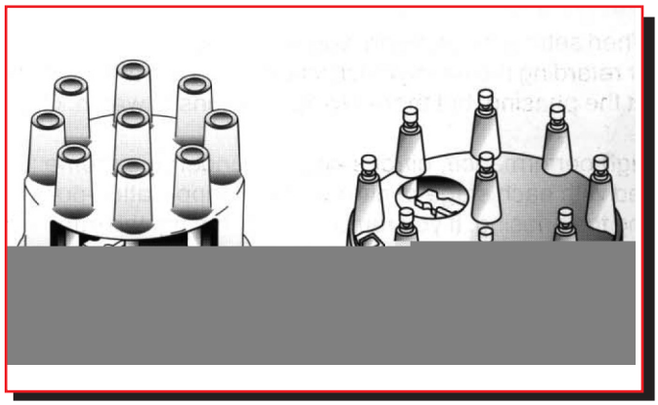

Figure 1 - Examples of modified distributor caps.

Figure 2 - Drill a hole in a cap to view the location of the rotor tip with one of the cap terminals.

Note: MSD recommends using a non-dial back timing light for best timing results.

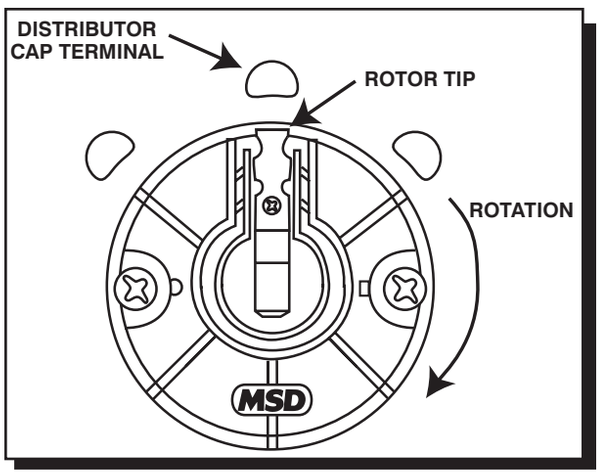

Figure 3 - The rotor tip should align with the cap terminal when the spark occurs.

No Vacuum Advance: The rotor tip should line up with the cap terminal or be on the leading edge of the terminal when the spark occurs (Figure 3). This ensures that the spark is jumping to the correct cylinder at the proper time.