Magnum Engine Distributor Removal, Replacement, Re-syncing

When the distributor is removed and replaced in the magnum (fuel-injected) engines, the distributor must be synchronized to properly time the injector pulse (spray), similar to the ignition timing for the spark plugs. The distributor <u>does not</u> control the spark timing that is controlled by the computer.

When the distributor is re-installed you need to get the sync close enough to start the engine so you can get it properly synced

If the intermediate shaft was removed, as when replacing the camshaft, it must be correctly positioned before the distributor is installed. The slot in the top of the intermediate shaft must be positioned so that the slot runs from an 11:00 o'clock to a 5:00 o'clock position when cylinder #1 is at TDC compression stroke (if the shaft is straight front to rear that is the 12:00 o'clock to 6:00 o'clock position). Once the intermediate shaft is correctly in place, the distributor can be installed.

Bring the #1 piston up to top dead center (T.D.C.) on the compression stroke. Remove the #1 plug and you can feel pressure coming out of the plug hole on the compression stroke. Line-up the T.D.C. mark on the damper, with the "0" mark on the timing tab, on the timing chain cover. *See Figure #1*

Install the distributor so that the rotor is lined with the small notch in the plate that covers the top of the distributor base. *See Figure #2*

This mark will time the injectors to pulse close enough to get the engine started and run.

Proper final synching should be done with a dealer's scan tool DRBIII or Snap-On Scanner. The information given here is based on those scanners. Other scanners may not read exactly like the Snap-On. Setting the sync using an ohm meter is not recommended or accurate.

Using a scanner, the idle is brought up to 1000 rpm, to reduce valve train fluctuations and the sync signal set to zero. Most of our cams can use 3-5 units advance/positive. Note: This advance setting is only applicable when using the Snap-On DRBIII Scanners. The units are not all the same on other scanners. If you do not have a scanner that can do this, then pay to have the dealership do this. Some of the symptoms that the sync signal is incorrect, you will get back firing through the intake manifold; vehicle will not idle or you will get major detonation at light loads causing the vehicle to lose severe power over 3000 rpm.





Damper-To-Cover Alignment Marks