



INSTALLATION INSTRUCTIONS

MSD Timing Computer, PN 8980

Note: Read the Instructions before attempting installation.

Parts Included:

- 1 - Timing Computer, PN 8980
- 1 - 2-Pin Connector with Terminals
- 3 - Retard Modules, 2°, 3°, 4°
- 1 - GP15K Diode

Warning: During installation, disconnect the battery cables. When disconnecting the battery, always remove the negative terminal first and install it last.

OPERATION

The Timing Computer must be used with an MSD 6 or 7 Series Ignition Control. It is designed for use on engines running a crank trigger or a locked out distributor. A preset ignition curve is programmed into this unit (Figure 1). The Timing Control retards the mechanical timing setting 20° until the engine climbs over 1,000 rpm. At this point, the timing starts advancing, and at 3,000 rpm the timing is back at the mechanical setting.

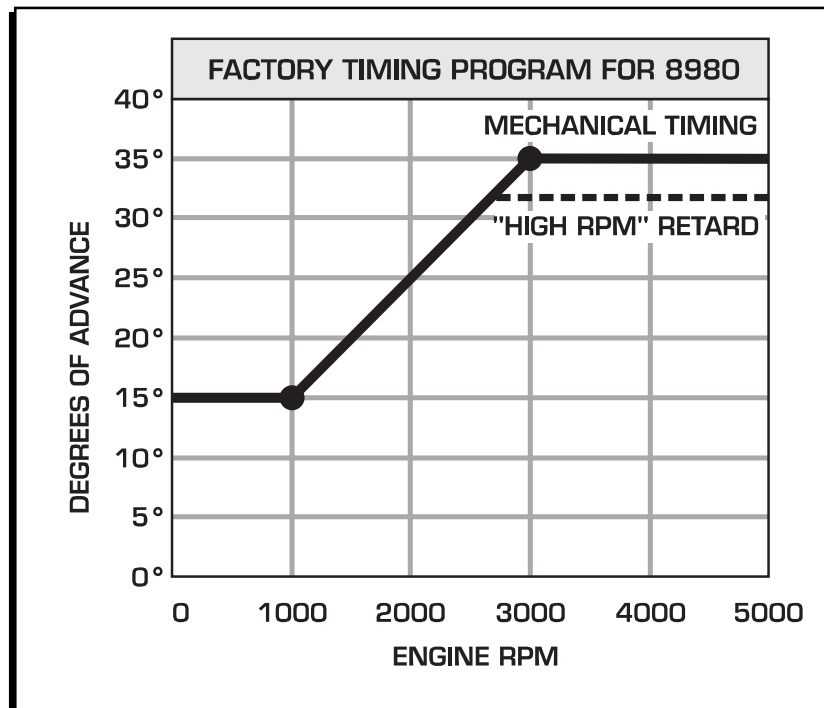


Figure 1 The Timing Computer's Ignition Curve.

High Speed Retard Option: The PN 8980 has an optional High Speed Retard that is adjustable with plug-in modules. When activated, the timing will be retarded whatever amount the module value is. In Figure 1, a 4° High Speed Retard is illustrated.

PROGRAMMING

The Timing Control must be programmed to your specific application.

Cylinder Select: The Computer is programmed for 8-cylinder operation, but can be programmed for use on a 4 or 6-cylinder engines. This is easily accomplished by removing the small plastic cover with one Phillips screw located on the side of the Computer (Figure 2). Inside there are three small wire loops. The Red and Blue wire loops are the cylinder select programming wires. Figure 2 shows how to modify the Computer.

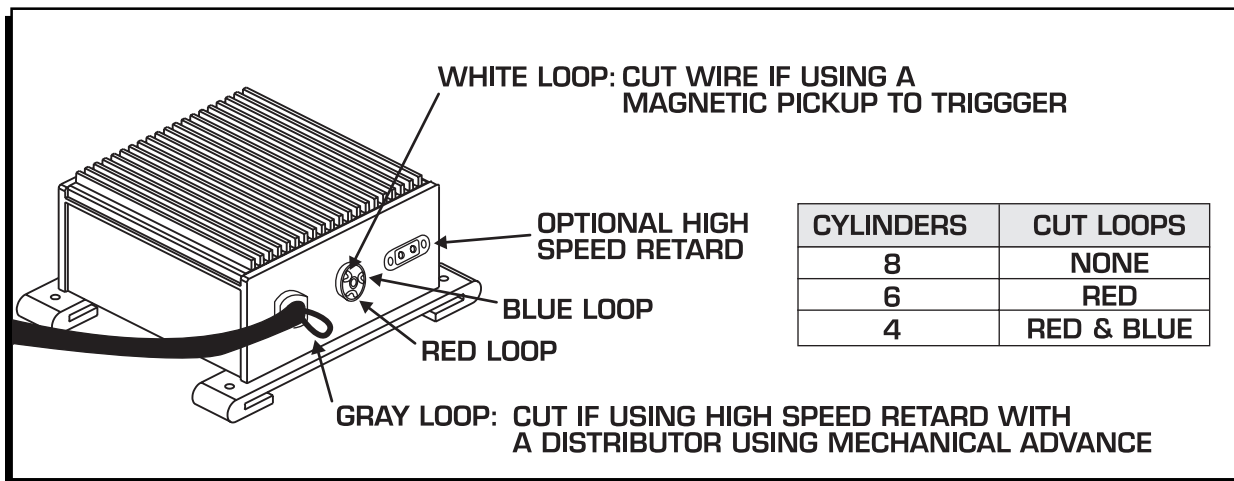


Figure 2 Programming the PN 8980.

Mechanical Advance: If you are using a distributor with a centrifugal advance, the High Speed Retard function of the PN 8980 can be used. This is achieved by cutting the Gray wire loop that exits the case with all of the other wires. (Figure 2). Cutting this loop bypasses the ignition curve but lets you use the high speed retard.

Trigger Selection: The Timing Computer is programmed for use on ignitions using points or amplifier trigger. If a magnetic pickup is used, the White wire loop in the Cylinder Select cover **must** be cut (Figure 2).

Bypassing the Timing Curve: If you do not want to use the timing curve of the Timing Computer, but still want to retain the high speed retard option, the curve can be deactivated. To do this, cut the Gray wire loop as shown in Figure 2.

MOUNTING

The Timing Computer may be mounted in the engine compartment as long as it is away from direct engine heat sources. Make sure all of the wires reach their connections before mounting the unit. Use the Computer as a template and mark the mounting holes. Remove the unit and drill the mounting holes using an 1/8" bit. Four self-tapping screws are supplied to mount the unit.

WIRING

The wire functions of the Timing Computer are:

Black	Connects to ground
Red	Connects to switched 12 volts
White	Connects to the points or amplifier output
Yellow	Connects to the White wire of the MSD
Magnetic Pickup Connector:	
Violet	This is the magnetic pickup positive (+) wire
Green	This is the magnetic pickup negative (-) wire
High Speed Retard:	
Black	Connects to one side of a switch to activate the High Speed Retard
Gray	Connects to one side of a switch to activate the High Speed Retard

The following Figures show the installation of the Timing Computer.

Note: The MSD 6 Series shares the same wire colors as the 7 Series.

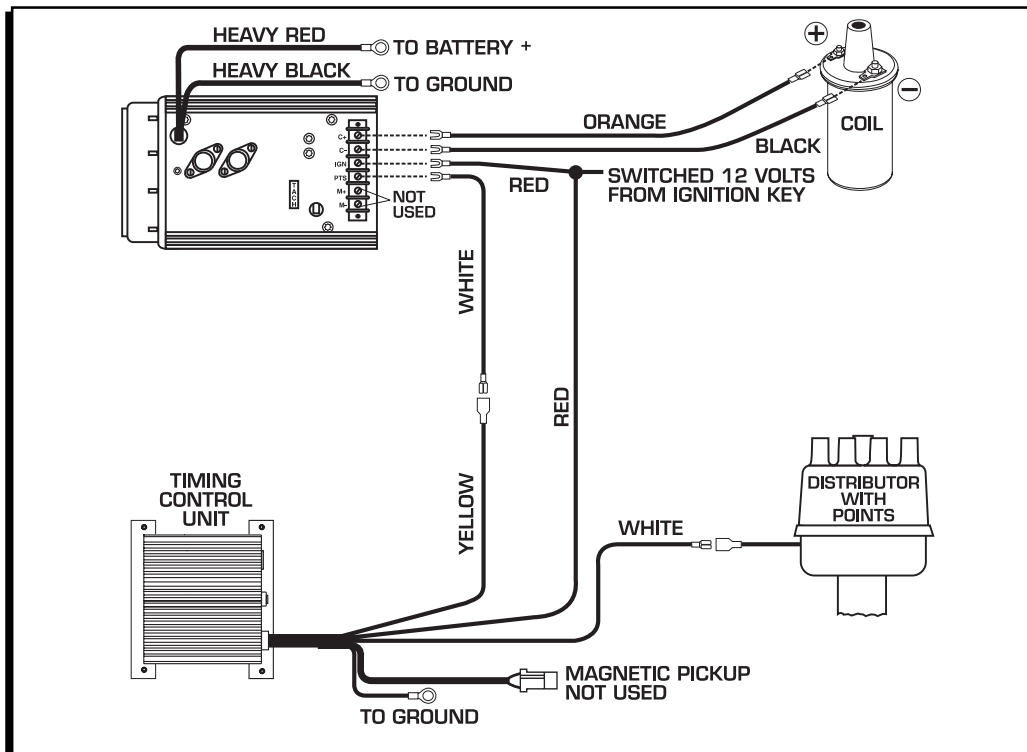


Figure 3 Installation Using Points or Amplifier Trigger.

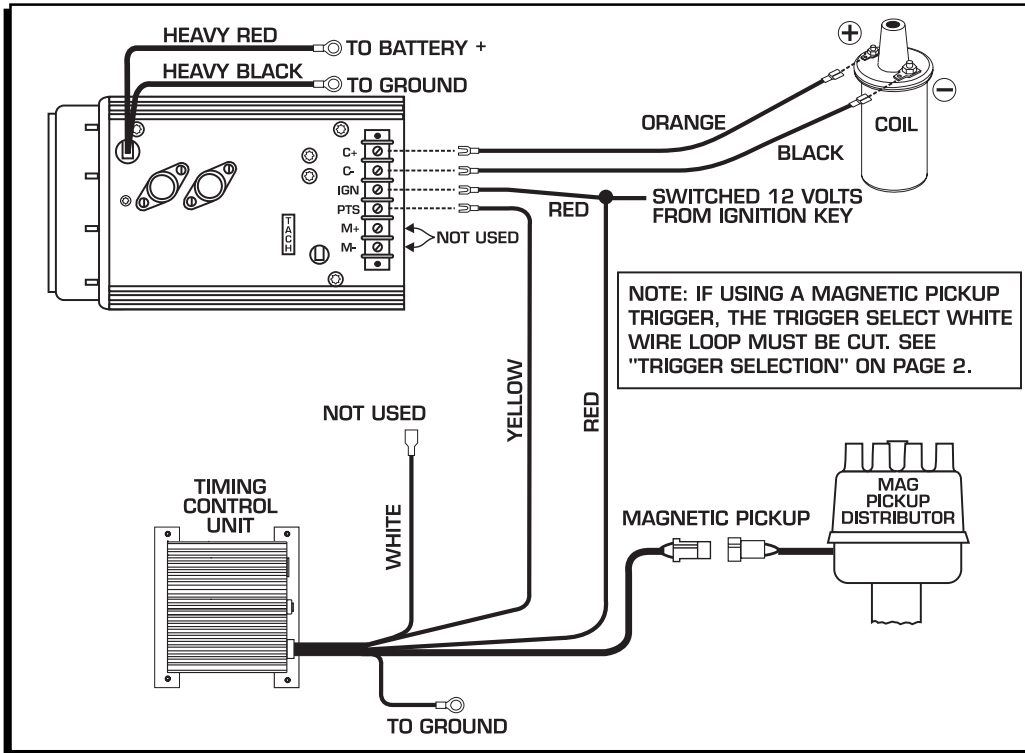


Figure 4 Installation Using the Magnetic Pickup Trigger.

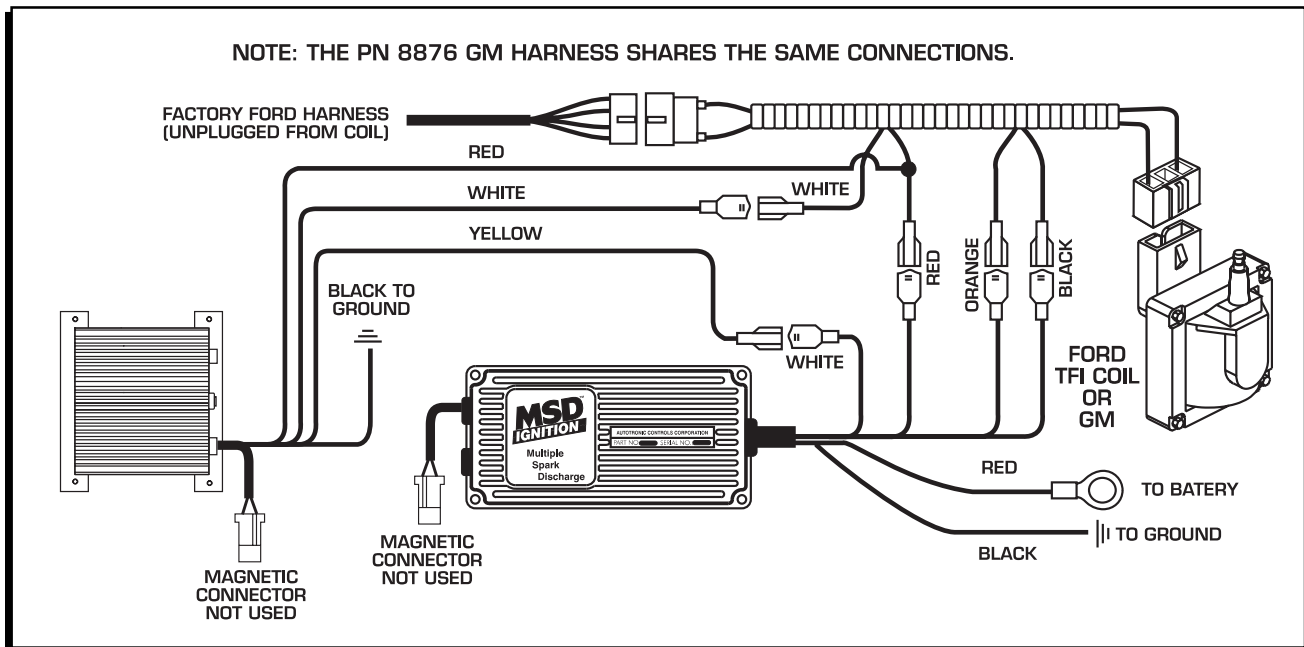


Figure 5 Installation with PN 8874 or PN 8876 Harness.

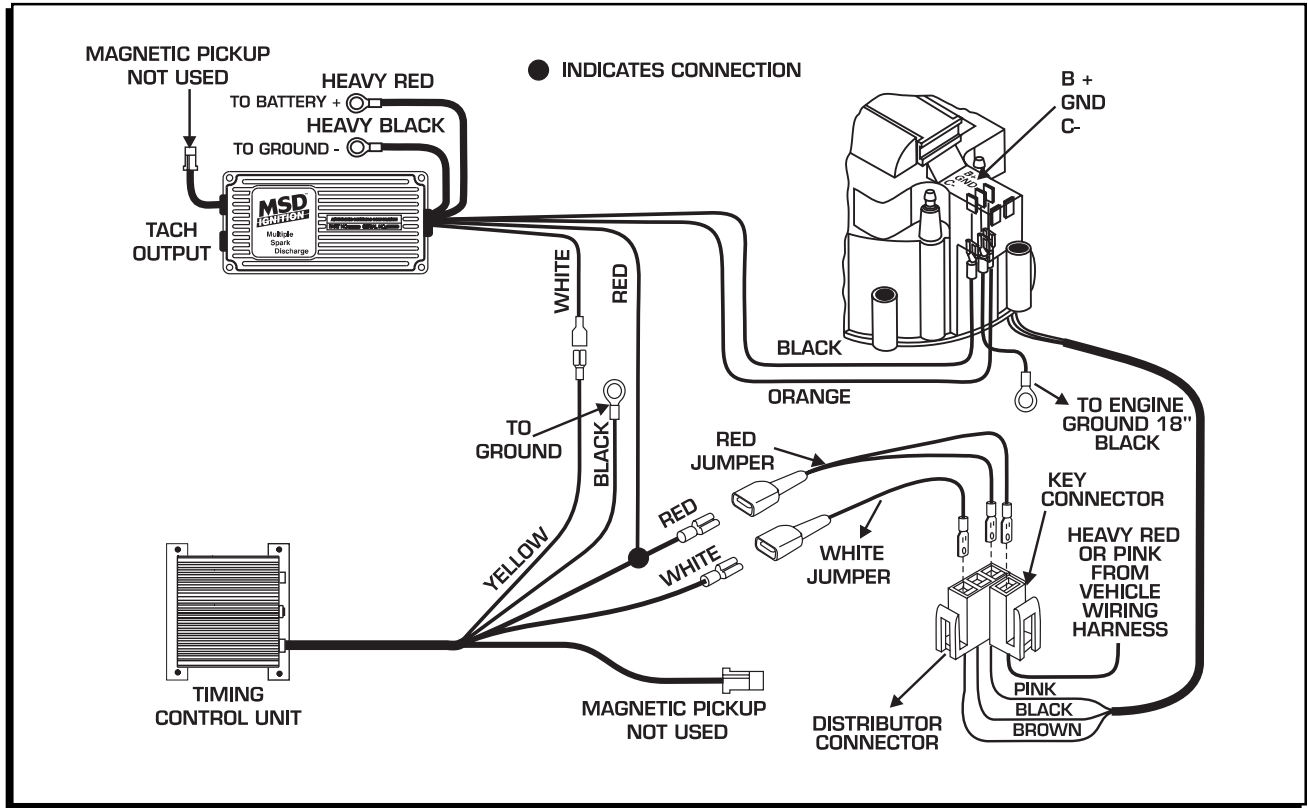


Figure 6 Installation to a GM HEI with a 5 or 7-Pin Module (Points Trigger).

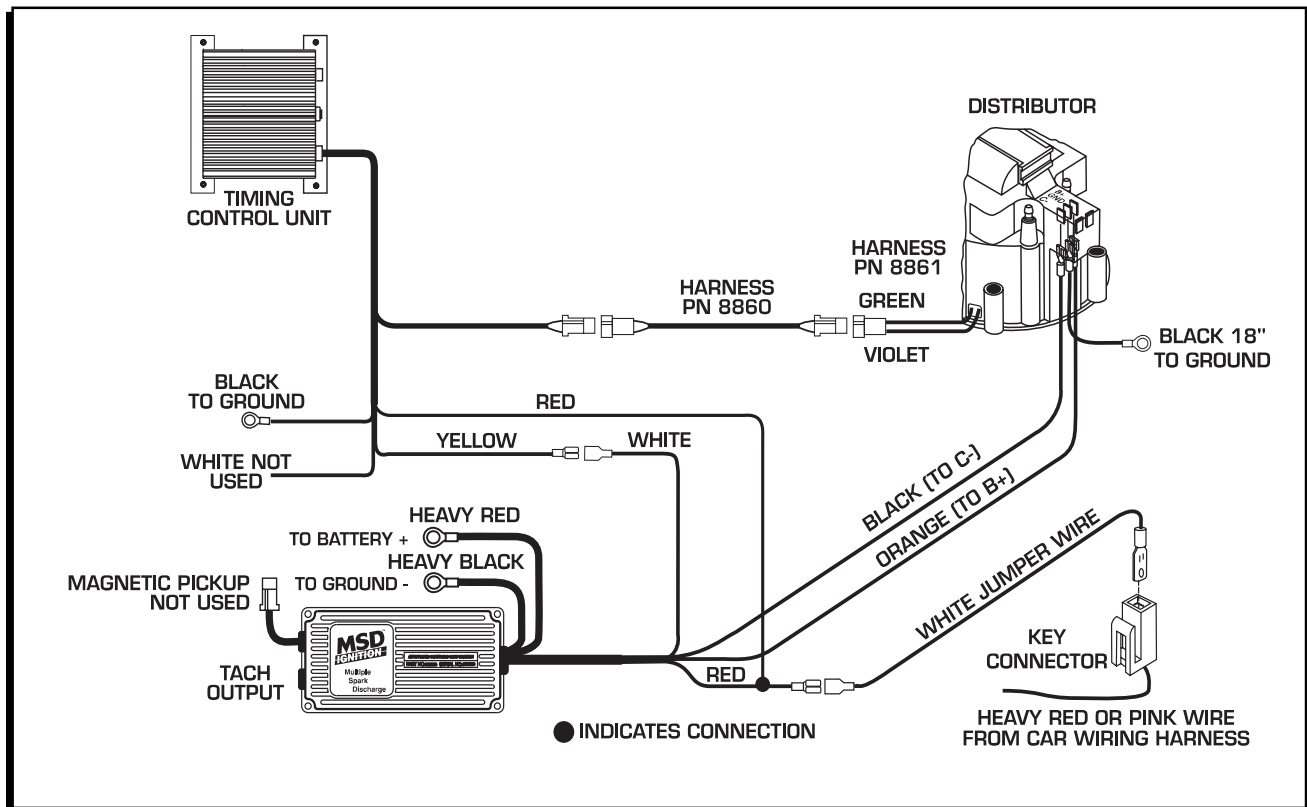


Figure 7 Installation to a GM HEI with a 4-Pin Module (Magnetic Pickup Trigger).

CONNECTING THE HIGH SPEED RETARD

If your engine benefits from a little retard at high rpm, the Timing Computer offers several installations. The Black and Gray wires are responsible for activating the retard. If there is not a module installed in the socket, no retard is possible. Part Numbers for additional Retard modules are listed at the end of the Instructions.

The easiest connection to use the retard is with a simple ON/OFF switch (or a micro-switch on the shifter). When these wires are closed together to form a circuit, the retard is not activated (Figure 5). When open, the retard is activated (only when a module is installed).

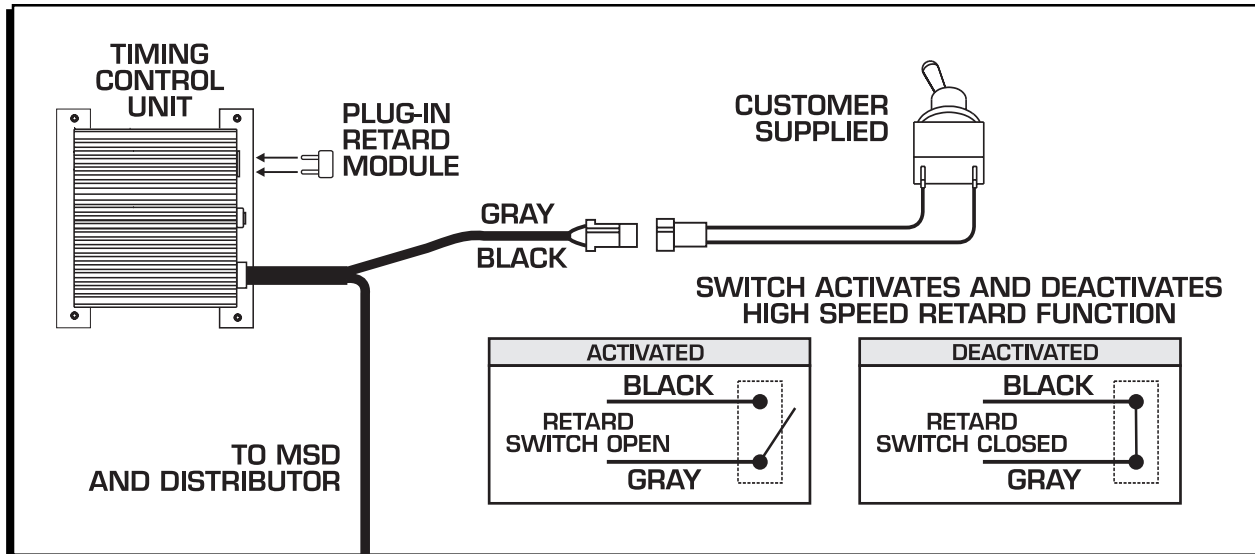


Figure 5 Activating the High Speed Retard Function with a Toggle Switch.

High Speed Retard with an RPM Activated Switch

To activate the High Speed Retard automatically at a desired rpm, an MSD RPM Activated Switch, PN 8950 **must** be used. With this switch, when the engine reaches the desired rpm, the High Speed Retard will be activated (Figure 6).

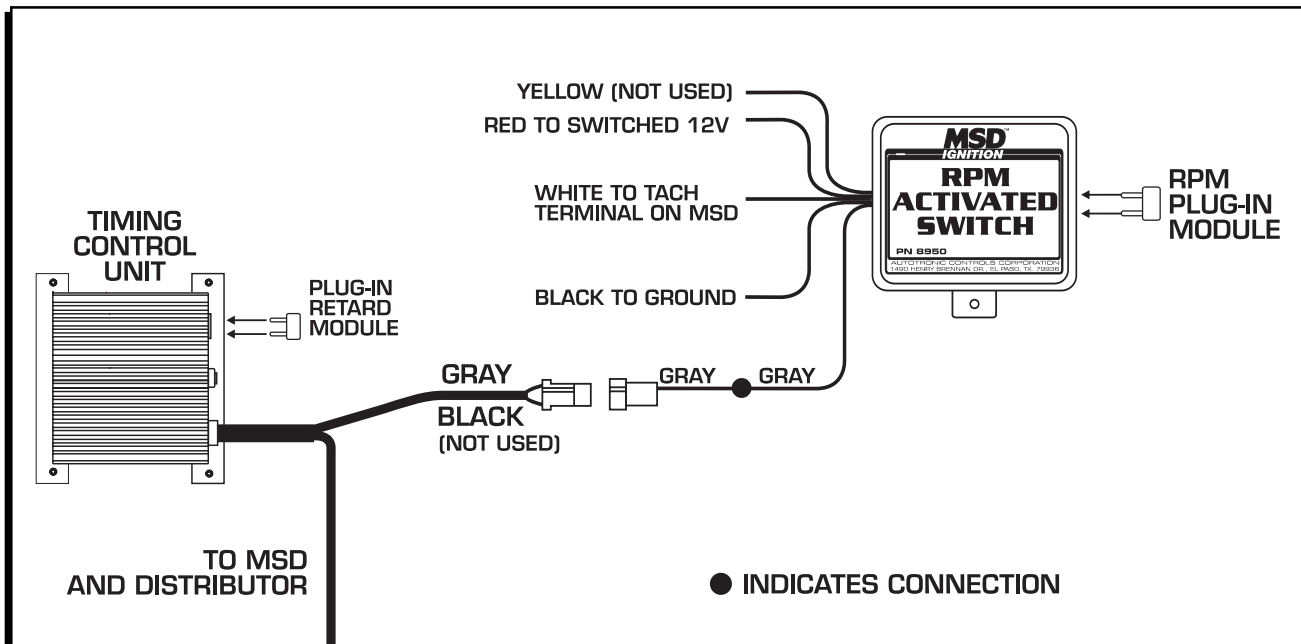


Figure 6 Activating the High Speed Retard with an RPM Activated Switch.

High Speed Retard with Nitrous

A little retard can be an engine saver in times of nitrous usage. The High Speed Retard function of the Timing Computer can be activated automatically through a nitrous solenoid. Use the supplied diode to connect the Retard function to the nitrous system.

1. Connect the diode to the Gray wire of the 2-pin harness. Make sure the diode is in the correct position (Figure 7).
2. The other side of the Diode should be spliced into the nitrous solenoid 12 volt activation wire. This way the Gray wire **is grounded through the solenoid when it is not activated**. When 12 volts is applied to the solenoid, the ground is removed and the retard is activated. (The Diode keeps 12 volts from entering the Timing Control.)

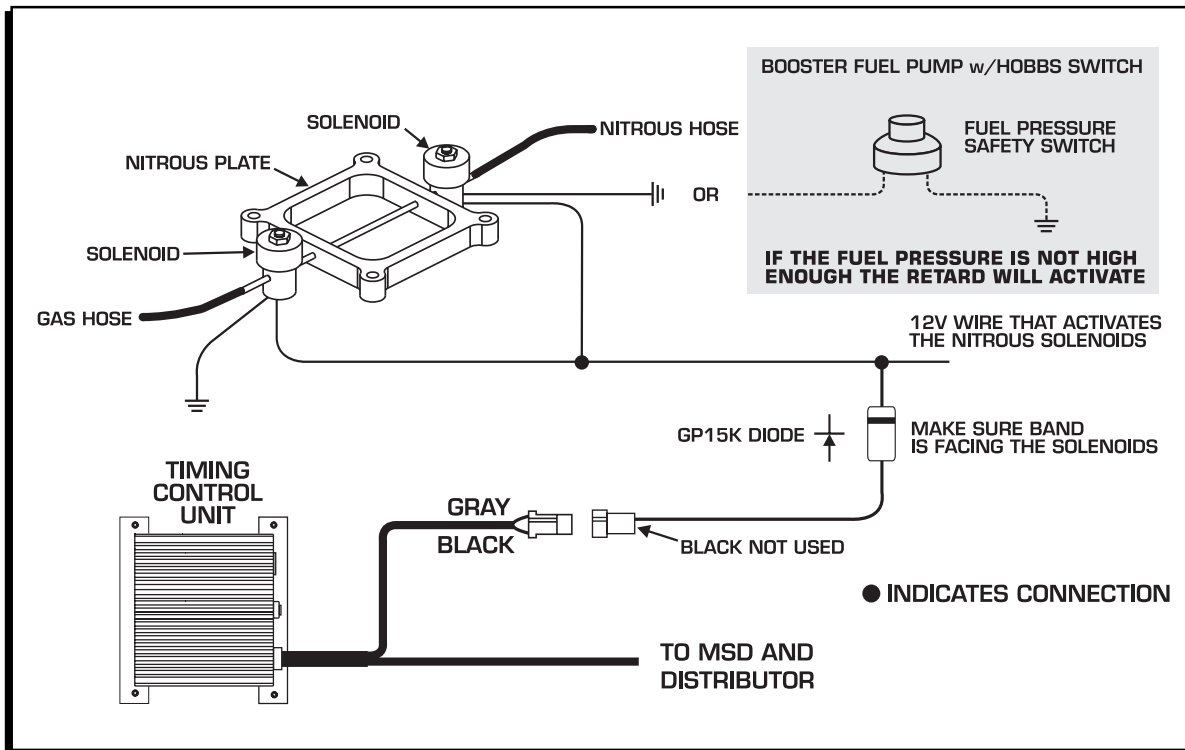


Figure 7 Activating the High Speed Retard through a Nitrous Solenoid.

High Speed Retard with Mechanical Advance Systems

If you are using the centrifugal advance system rather than locked out timing, the PN 8980 can be used to supply a high speed retard. To program the unit for this application, the Gray wire loop must be cut (Figure 2).

Retard Module Kits		Retard Selectors*	
1°, 2°, 3°, 4°, 5°	PN 8777	0° - 11°	PN 8676
6°, 7°, 8°, 9°, 10°	PN 8776	0°/10° - 20°	PN 8677
11°, 12°, 13°, 14°, 15°	PN 8774		
16°, 17°, 18°, 19°, 20°	PN 8775		

*Retard Selectors provide 11 different retard rates at the turn of a knob.



INSTALLATION INSTRUCTIONS

Notes

Service

In case of malfunction, this MSD component will be repaired free of charge according to the terms of the warranty. When returning MSD components for service, Proof of Purchase must be supplied for warranty verification. After the warranty period has expired, repair service is charged based on a minimum and maximum charge.

Send the unit prepaid with proof of purchase to the attention of: **Customer Service Department, Autotronic Controls Corporation, 12120 Esther Lama, Suite 114, El Paso, Texas 79936.**

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle.

The repaired unit will be returned as soon as possible after receipt, COD for any charges. (Ground shipping is covered by warranty). All units are returned regular UPS unless otherwise noted. For more information, call the MSD Customer Service Line (915) 855-7123. MSD technicians are available from 8:00 a.m. to 5:00 p.m. Monday - Friday (Mountain Time).

Limited Warranty

Autotronic Controls Corporation warrants MSD Ignition products to be free from defects in material and workmanship under normal use and if properly installed for a period of one year from date of purchase. If found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of date of purchase. This shall constitute the sole remedy of the purchaser and the sole liability of Autotronic Controls Corporation. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Autotronic Controls Corporation be liable for special or consequential damages.