

MSD **IGNITION** **INSTALLATION INSTRUCTIONS**

MSD Timing Controller PN 8980

Note: Read the Instructions before attempting installation.

Parts Included:

1 - Timing Controller, 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 Controller must be used with an MSD 6, 7, 8 or 10 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.

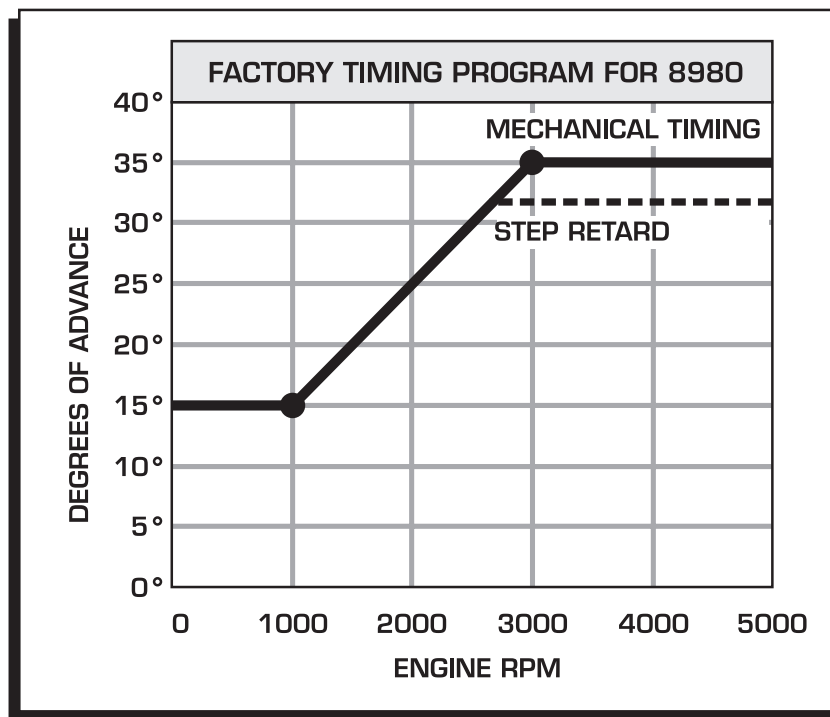


Figure 1 The Timing Controller's Ignition Curve.

Step Retard Option: The PN 8980 has an optional Step Retard that is adjustable with plug-in modules. This is activated when the Gray wire is removed from ground. In Figure 1, a 4° Step Retard is illustrated.

PROGRAMMING

The Timing Controller must be programmed to your specific application.

Cylinder Select: The Controller 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 Controller (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 number of cylinders.

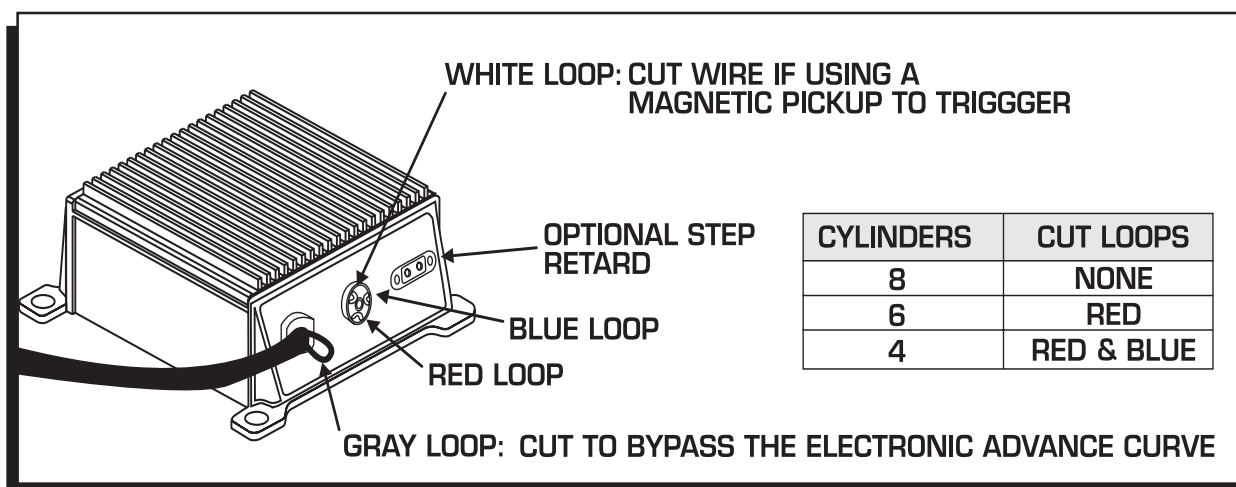


Figure 2 Programming the PN 8980.

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 so you can use the step retard.

Trigger Selection: The Timing Controller 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).

MOUNTING

Select a location away from excessive heat, near the MSD Ignition Control and where the control knobs are easy to reach. First, install the rubber mounting pads and sleeves to line up holes for drilling. Using the unit as a guide, mark the locations of the four mounting holes on the unit. Remove the unit and drill four 1/8" holes in the locations marked. Install the unit using the four self tapping screws.

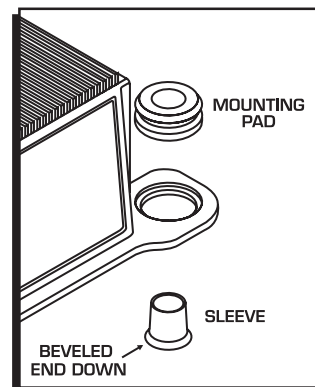


Figure 3 Installing Mounting Pads.

WIRING	
BLACK	Connects to ground
RED	Connects to switched 12 volts
YELLOW	Connects to the white wire of the MSD
TRIGGER INPUTS	
There are two input trigger circuits. The wires will never be connected at the same time.	
WHITE	Connects to points or the amplifier trigger wire.
GREEN/VIOLET 2-Pin Connector	Connects to the magnetic pickup of the distributor or crank trigger. Green is negative, Violet is positive.
STEP RETARD	
BLACK	This wire is a ground. It can be used to activate the Step Retard.
GRAY	When the wire is removed from ground, the Step Retard is activated.
NOTE: If the Step Retard function is not used, the Gray wire should be grounded.	

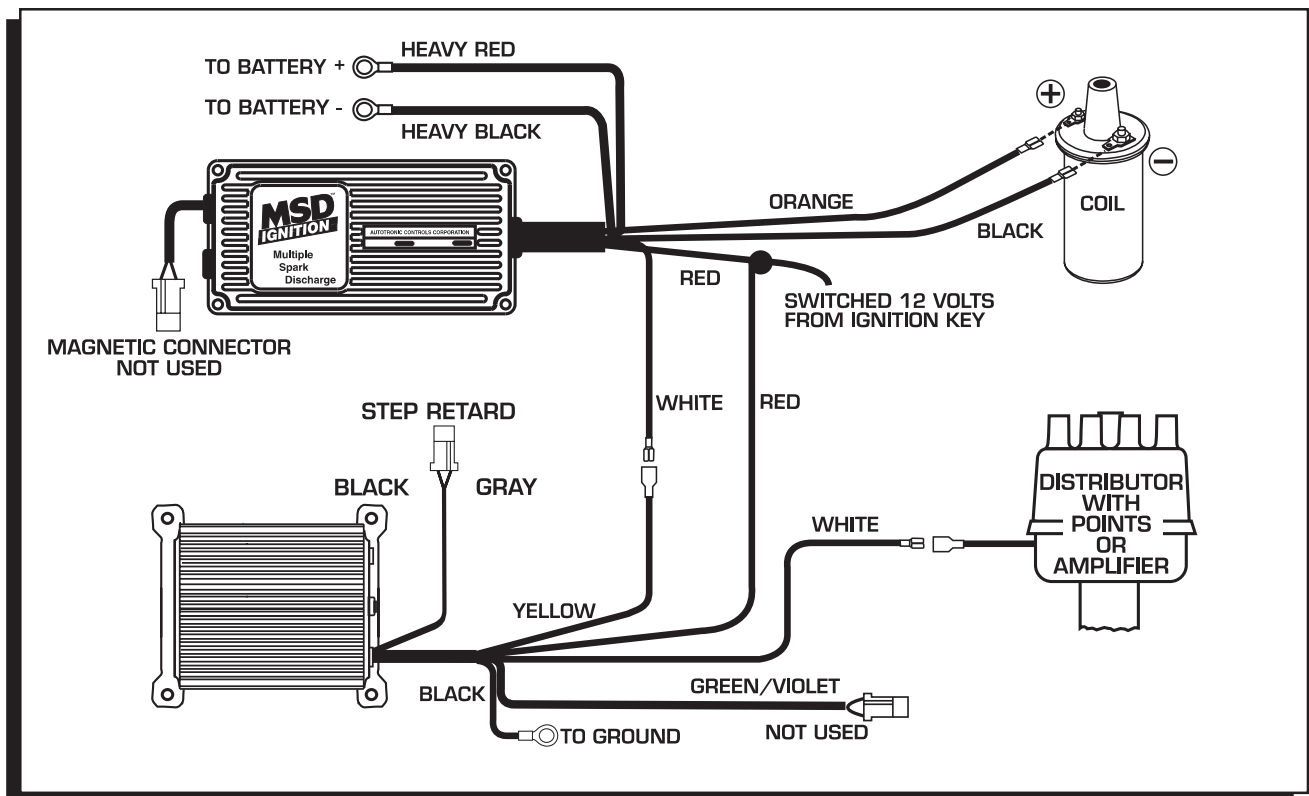


Figure 4 Wiring an MSD 6 Series Ignition with Points/Amplifier.

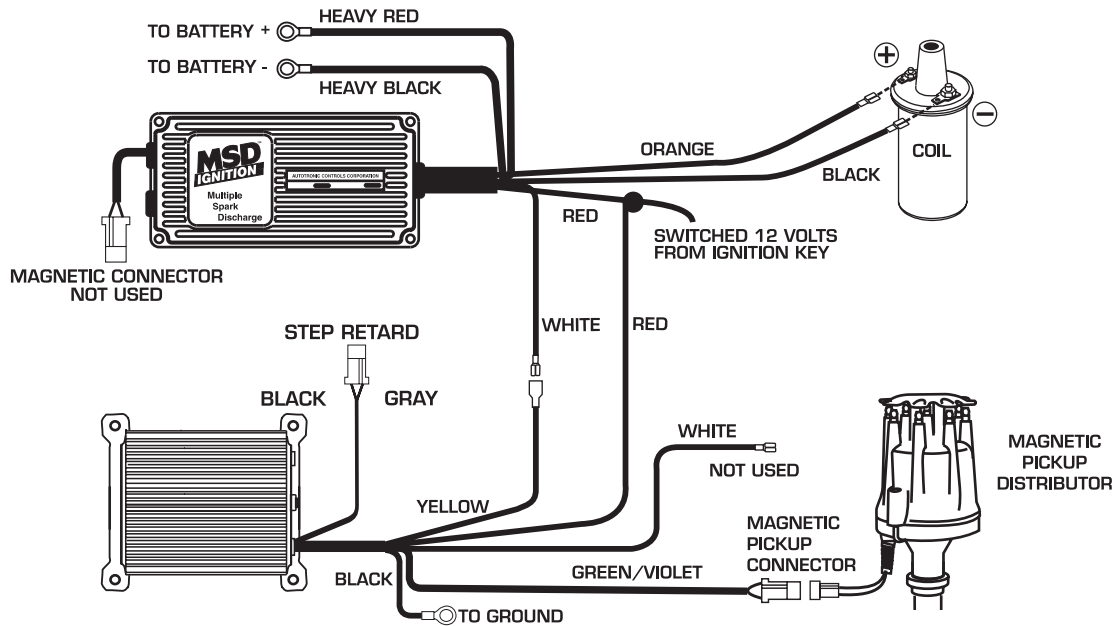


Figure 5 Wiring with an MSD 6 Series Ignition with a Mag Pickup.

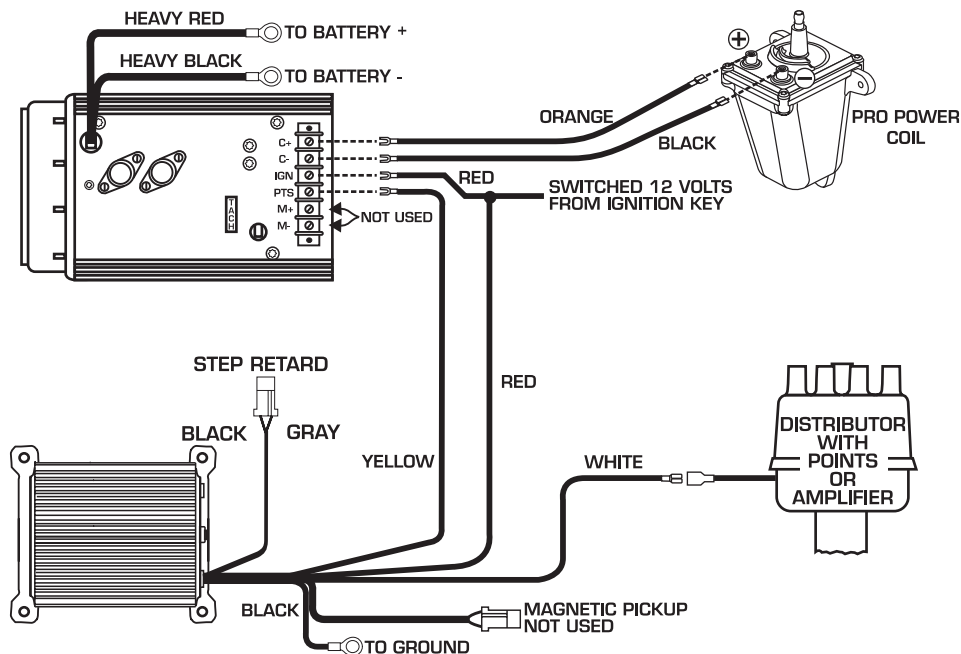


Figure 6 Wiring an MSD 7 Series Ignition with Points/Amplifier.

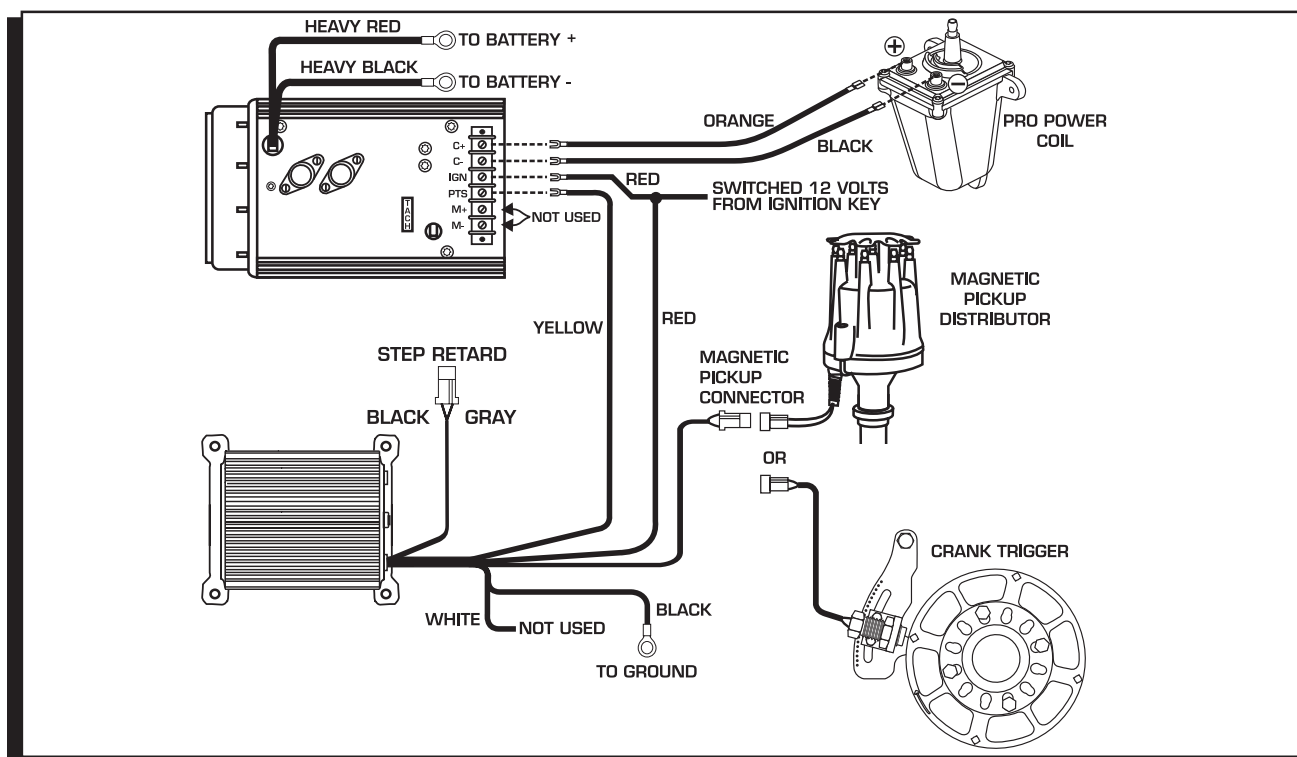


Figure 7 Wiring an MSD 7 Series Ignition with a Mag Pickup.

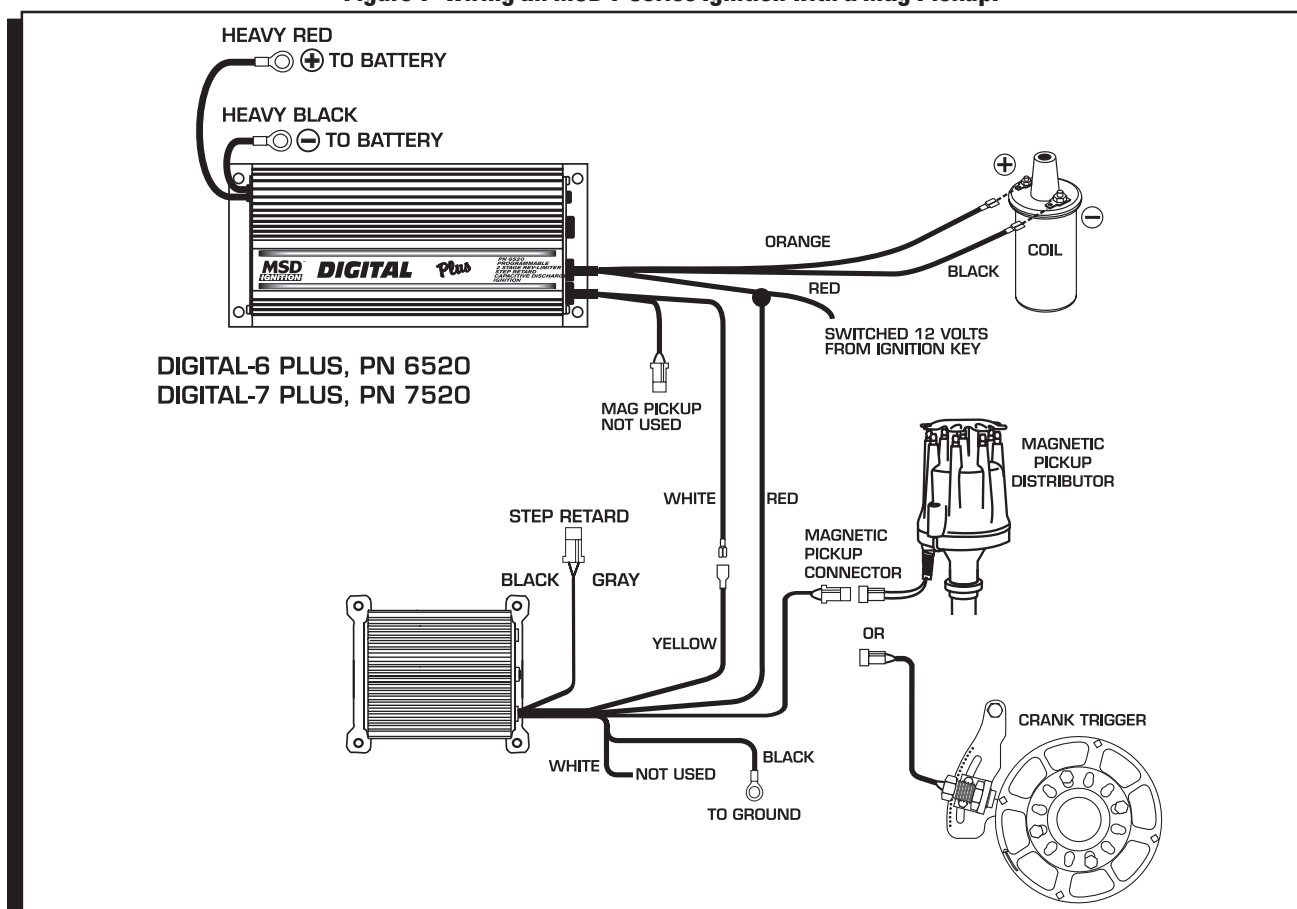


Figure 8 Wiring a Digital 6-Plus or 7-Plus Ignition with a Mag Pickup.

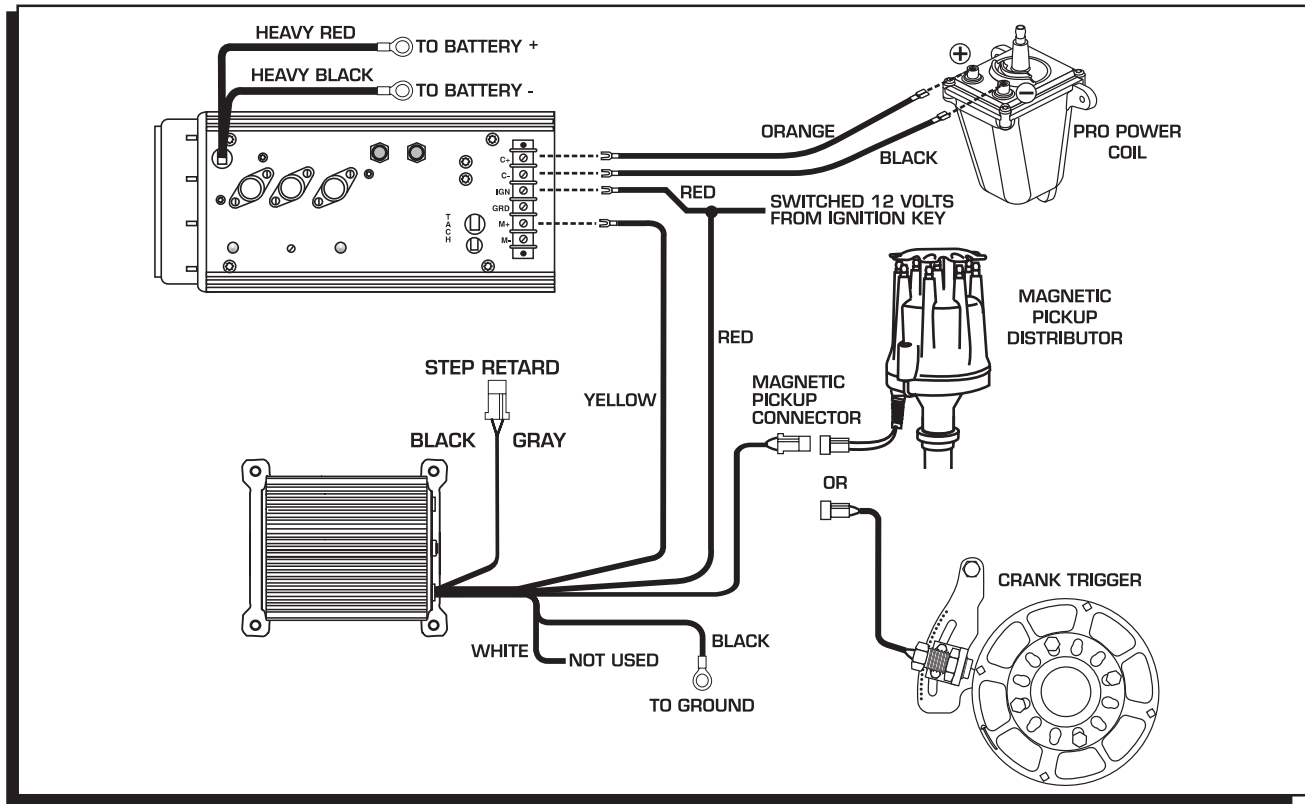


Figure 9 Wiring to an MSD 8 with a Mag Pickup.

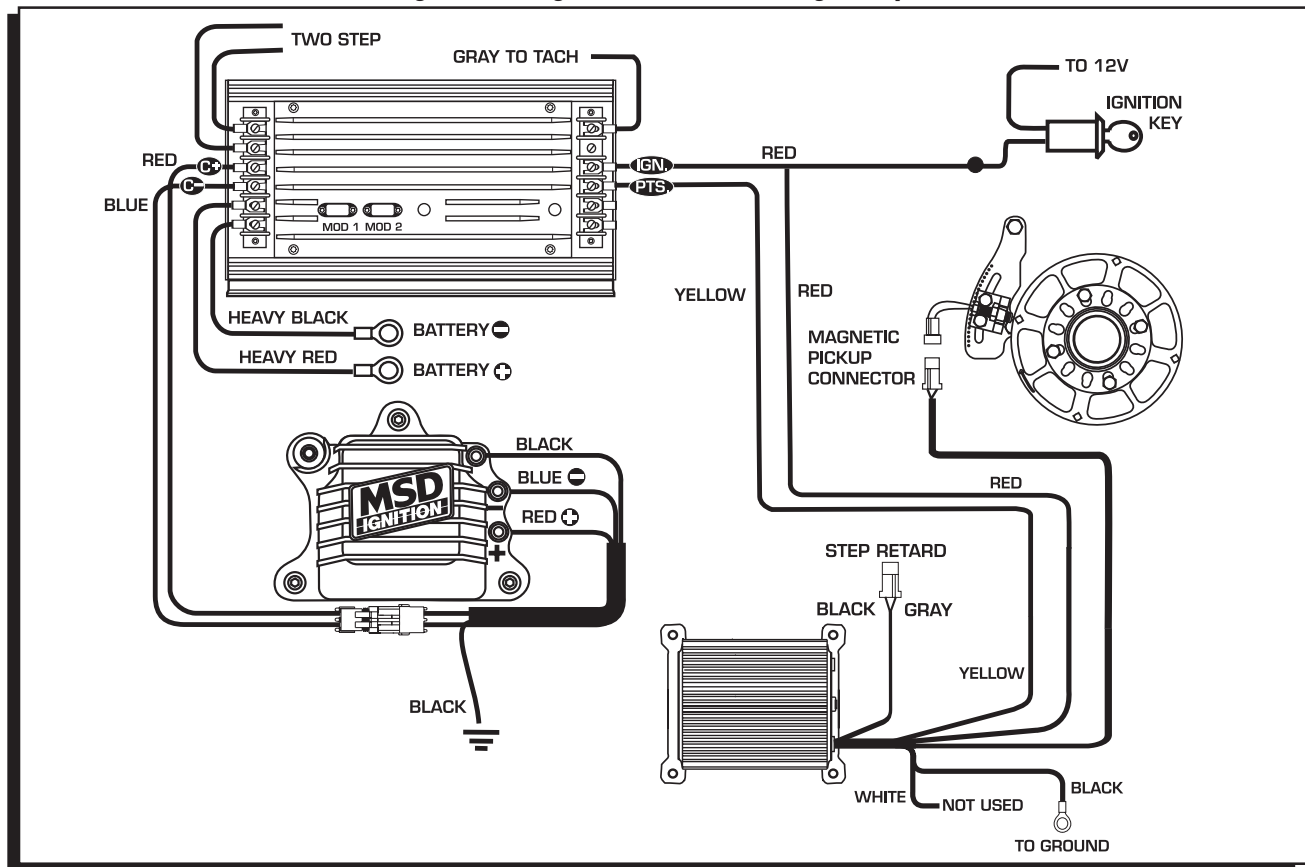


Figure 10 Wiring an MSD 10 PLUS with a Mag Pickup.

CONNECTING THE STEP RETARD

If your engine benefits from a little retard at high rpm or in times of nitrous, the Timing Controller 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 11). When open, the retard is activated (only when a module is installed).

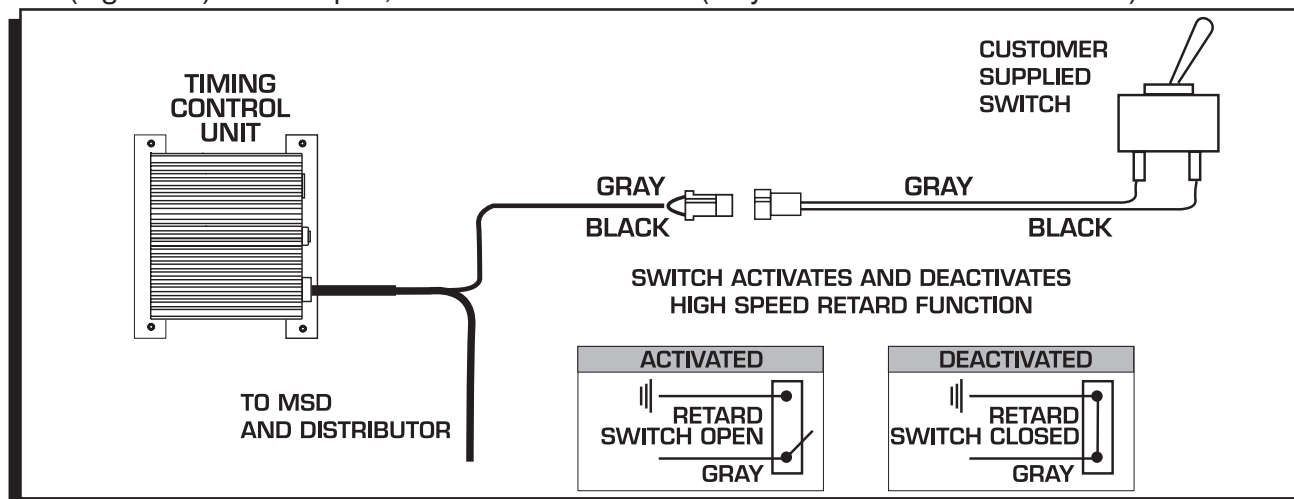


Figure 11 Activating the Step Retard Function with a Toggle Switch.

Step Retard with an RPM Activated Switch

To activate the Step 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 Step Retard will be activated (Figure 12).

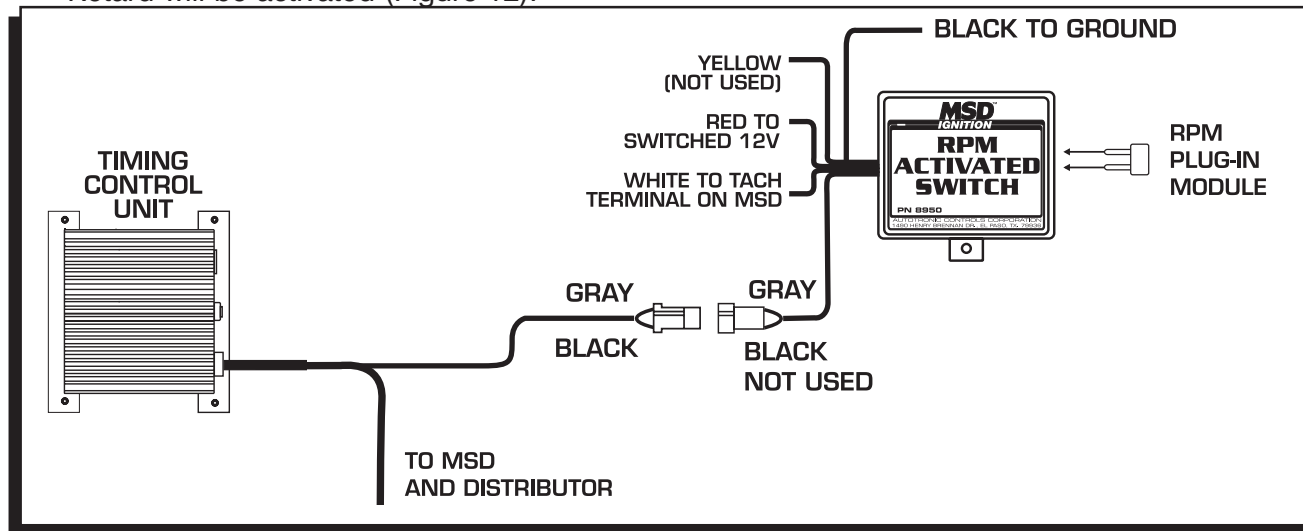


Figure 12 Activating the Step Retard with an RPM Activated Switch.

Step Retard with Nitrous

A little retard can be an engine saver in times of nitrous usage. The Step Retard function of the Timing Controller can be activated automatically through a nitrous solenoid. Splice the Gray wire into the 12 volt wire that activates the nitrous solenoid. 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.

MSD IGNITION INSTALLATION INSTRUCTIONS

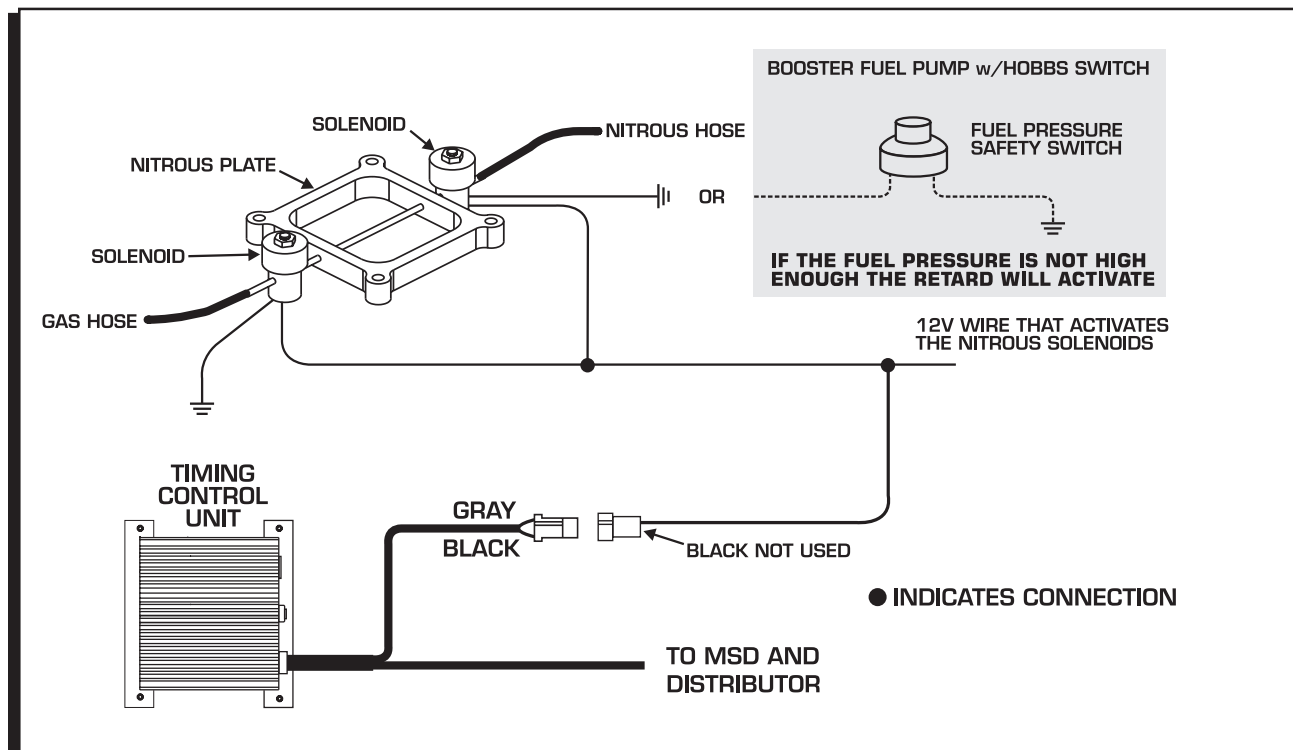


Figure 13 Activating the Step Retard through a Nitrous Solenoid.

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.