



INSTALLATION INSTRUCTIONS

MSD Digital Retard Control PN 8975

IMPORTANT: Read the instructions before attempting installation.

Parts Included:

- 1 - Retard Control, PN 8975
- 4 - Mounting Screws

Note: The Digital Retard Control must be used with an MSD 6, 7, 8 or 10 Series Ignition Control. Do not use solid core spark plug wires.

OPERATION

The MSD Digital Retard Control uses a high speed RISC microcontroller to control the timing output signal. This controller can make extremely quick compensations to the output signals while keeping timing accuracy to within 1°. The circuits are thoroughly debounced and isolated to create protection against Electro Magnetic Interference (EMI).

There are four stages of retard that can be activated independently or together for a total sum of retards. Each stage is adjustable from 0° - 9°. The maximum amount of retard is 20° even if the total of the stages is more. There is also an optional start retard circuit that can be programmed for 5°, 10°, 15° or 20°.

MOUNTING

The Digital Retard Control can be mounted under the hood, but should be away from direct engine heat sources. Make sure all of the wiring reaches their connections. Use the unit as a template to mark the location of the mounting holes. Remove the unit and drill the holes using an 1/8" drill bit. Use the supplied screws to mount the Control.

WIRING	
RED	This is the On/Off wire. Connects to switched 12 volts.
BLACK	Connects to Ground.
YELLOW	Trigger output. Connects to the MSD Ignition's White Wire.
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.
RETARD CONTROL WIRES	
When more than one channel is activated at a time, the retard amounts are cumulative (Example: 4° on the first stage, 3° on the second and 3° on the third, equal a total of 10°). The total amount of retard that can occur is 20° even if it is programmed for more.	
BROWN	Retard 1, Activated when removed from ground.
ORANGE	Retard 2, Activated when removed from ground.
GRAY	Retard 3, Activated when removed from ground.
DARK BLUE	Retard 4, Activated when removed from ground.
Note: If you are not using all of the retards, set the rotary dial to 0° or ground the inactive circuit's activation wire(s).	

PROGRAMMING

CYLINDER SELECT

The Digital Retard is programmed at the factory for operation on 8-cylinder engines. If installing the Control on a different style engine, the number of cylinders will need to be selected on the Cylinder Select Dial (Figure 1).

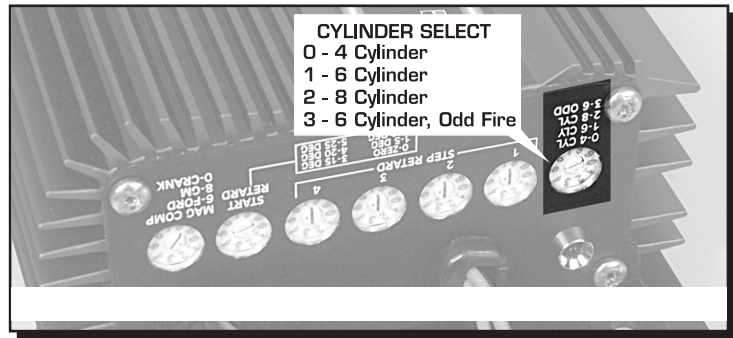


Figure 1 Programming the Cylinder Select.

MAGNETIC COMPENSATION CIRCUIT

This circuit provides a timing compensation for different style magnetic pickups. Magnetic pickups can have varying thresholds and being able to program the style pickup you use provides a more accurate and stable timing signal. This adjustment is more important for engines using crank triggers or locked-out distributors. If you are using the White wire to trigger the MSD, no adjustment is necessary.

Note: It is recommended to check your Total timing to ensure the best setting for your application.

START RETARD

When programmed, the Start Retard will retard the timing during cranking to ease starting. The amount is adjustable with the rotary dial on the side of the unit (Figure 2). The retard will be activated only during cranking and will remain activated until the engine reaches 800 rpm where it then returns to the set mechanical timing. If the engine speed drops below 500 rpm, the Start Retard will activate again.

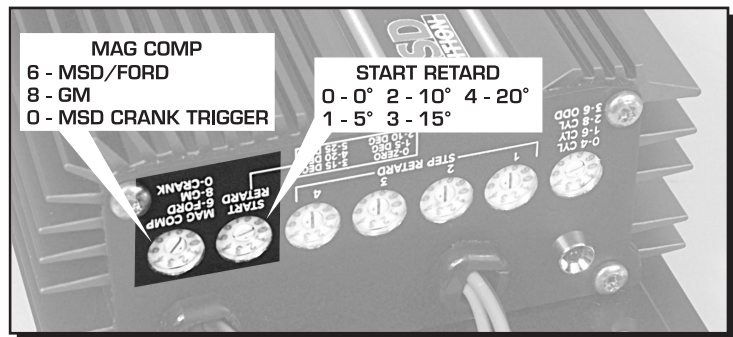


Figure 2 Programming the Pickup Compensation and Start Retard.

RETARD RATE

There are four different stages of retard that are activated by individual wires. When the corresponding wire is removed from ground that retard amount is activated. Each retard selector switch is adjustable from 0° to 9° (Figure 3).

When more than one channel is activated at a time, the retard amounts are cumulative (Example: 4° on the first stage, 3° on the second and 3° on the third equal a total of 10°). The total amount of retard that can occur is 20° even if it is programmed for more.

Note: If you are not using all of the retards, set the rotary dial to 0° or ground the inactive circuit's activation wire(s).

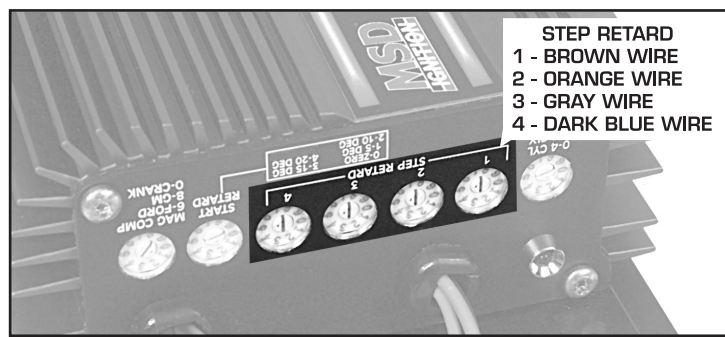


Figure 3 Retard Stages and Activation Wires.

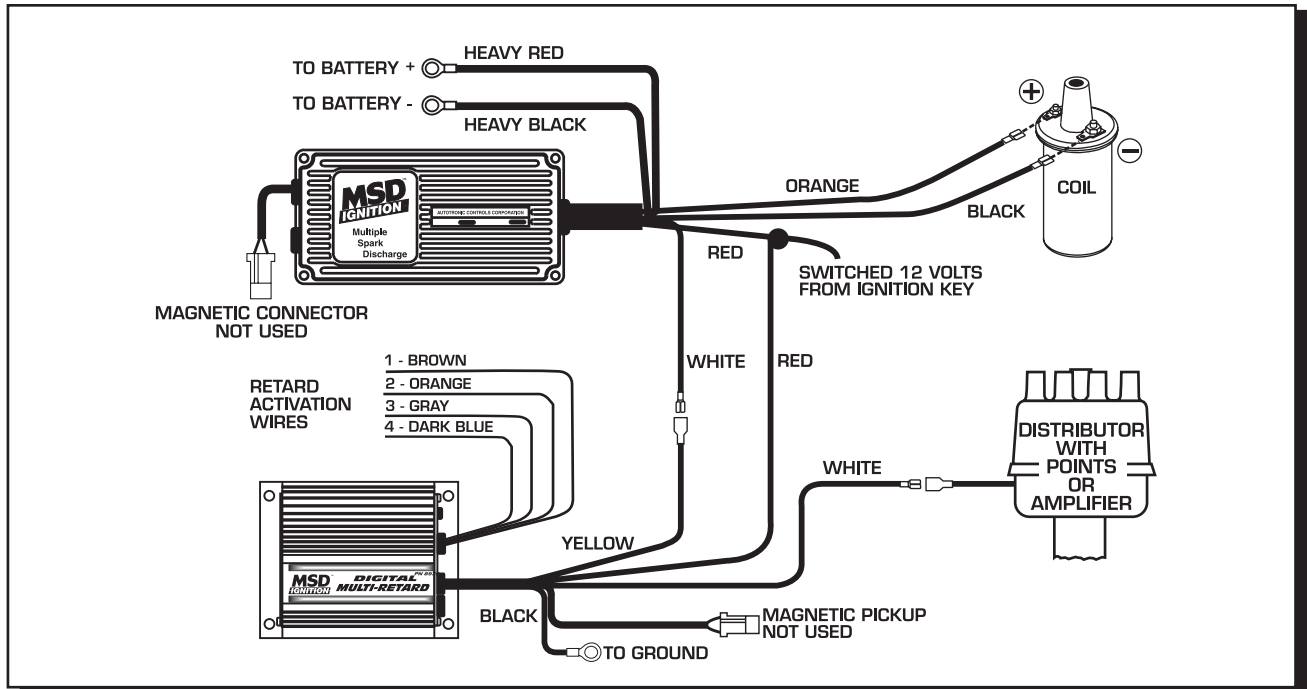


Figure 4 Wiring an MSD 6 Series Ignition with Points/Amplifier.

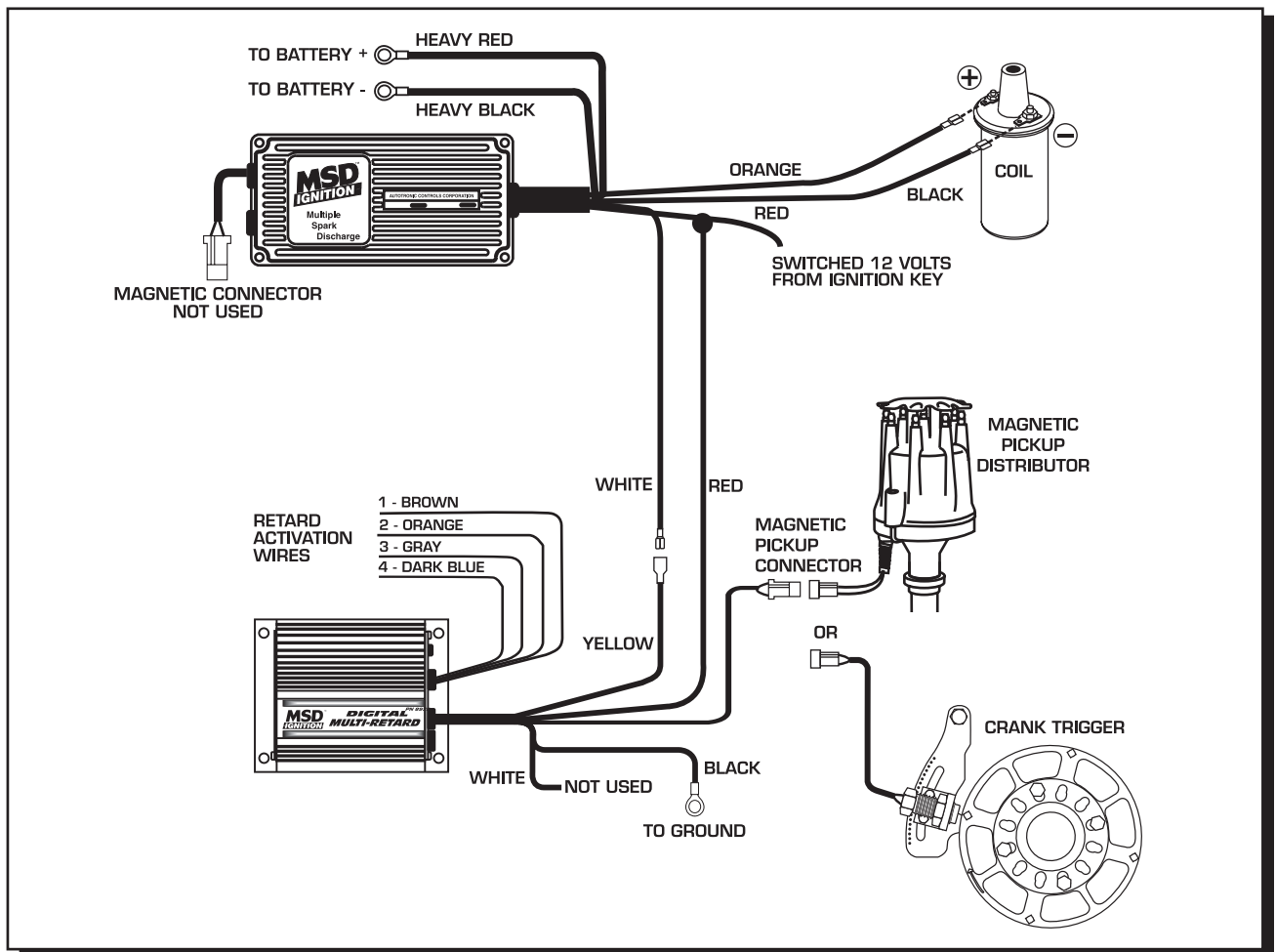


Figure 5 Wiring an MSD 6 Series Ignition with a Mag Pickup.

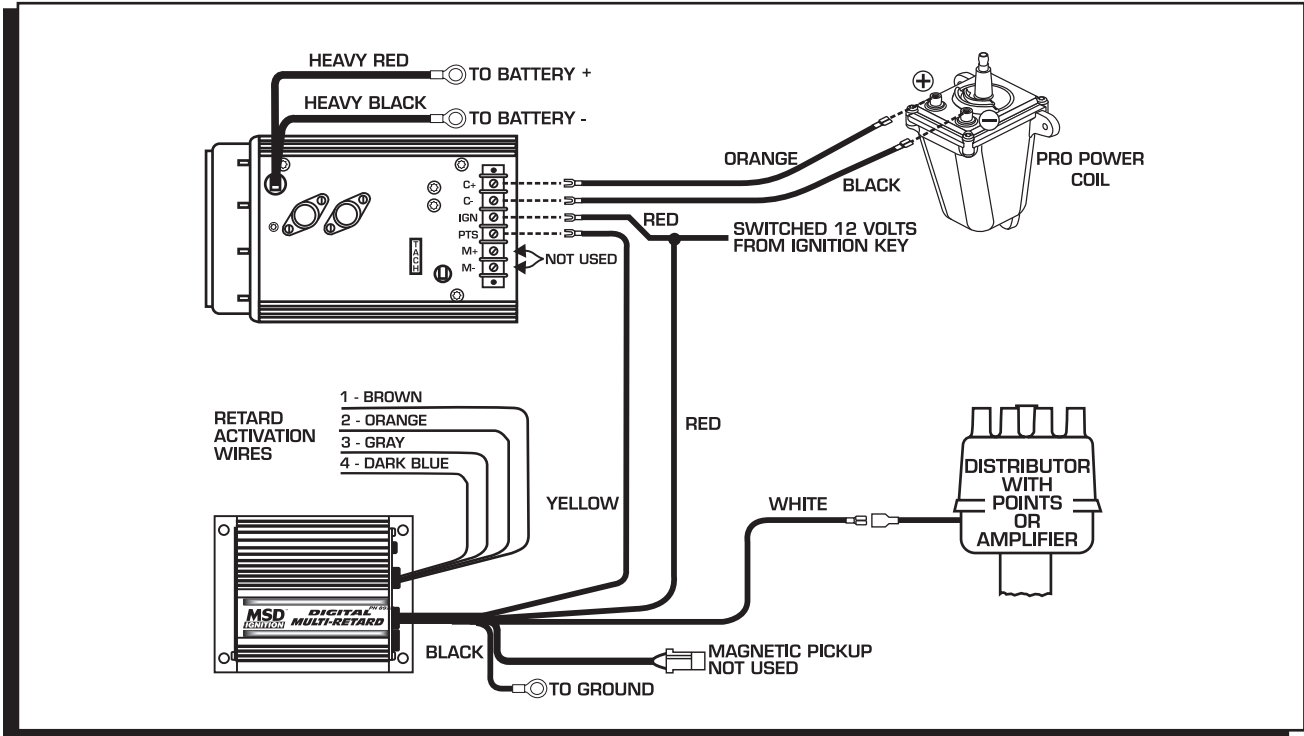


Figure 6 Wiring an MSD 7 Series Ignition with Points/Amplifier.

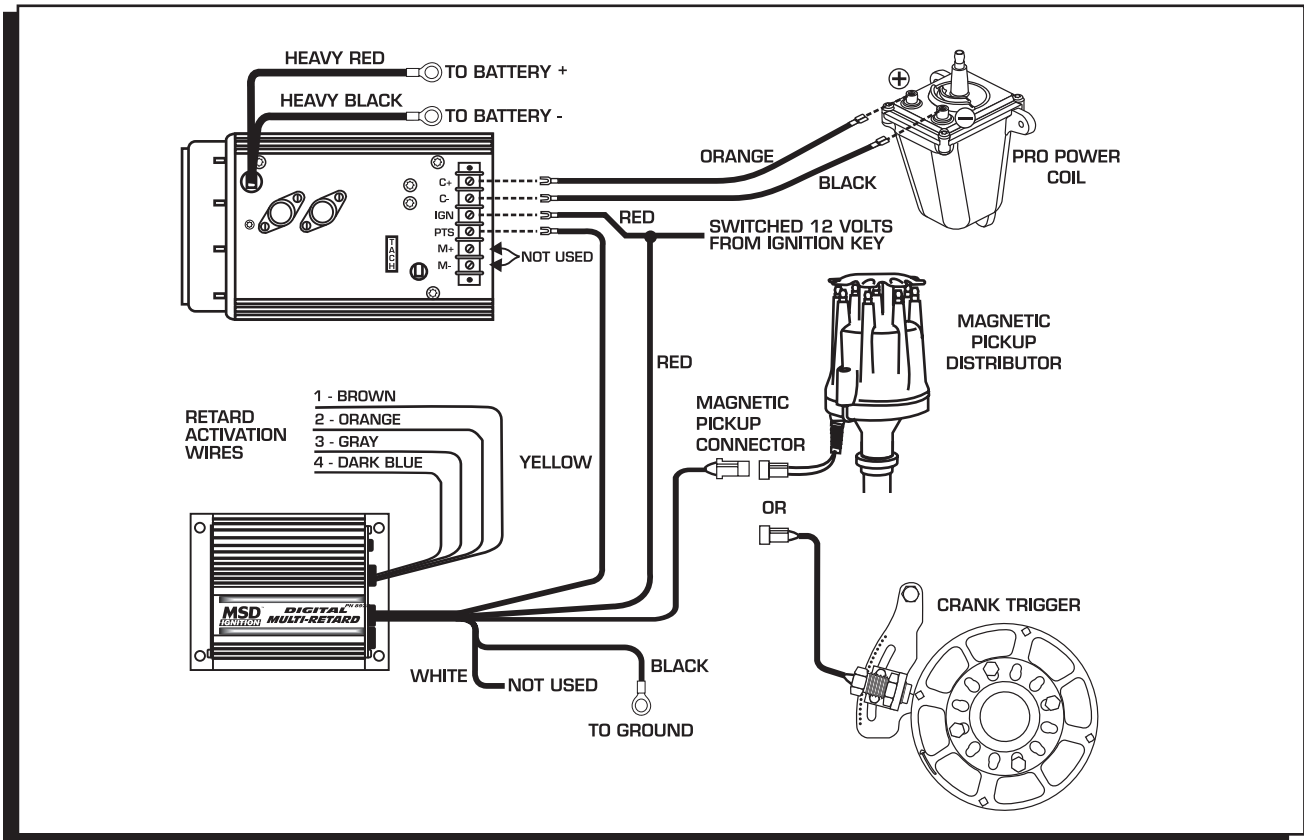


Figure 7 Wiring an MSD 7 Series Ignition with a Mag Pickup.

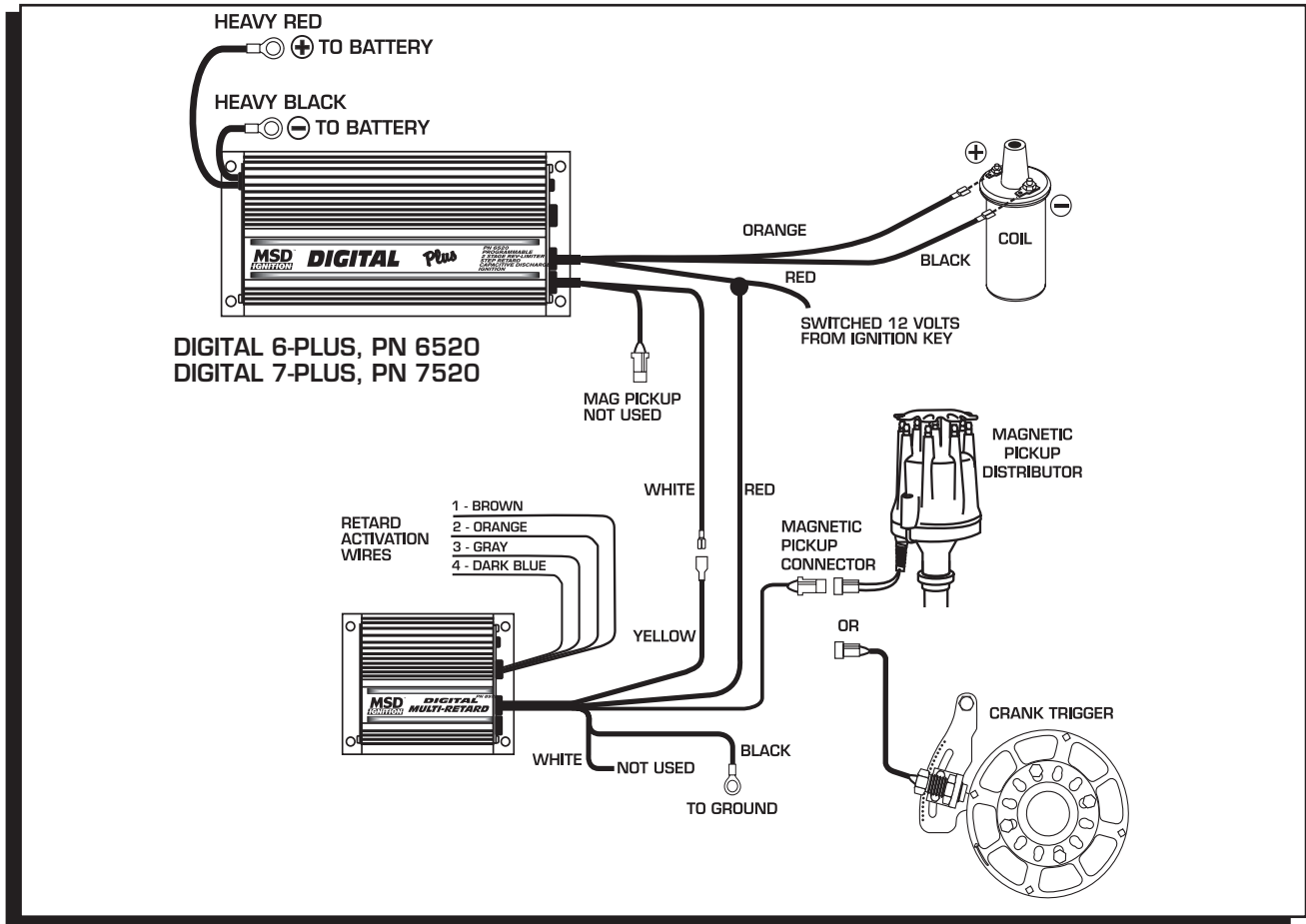


Figure 8 Wiring a Digital 6-Plus or 7-Plus Ignition with a Mag Pickup.

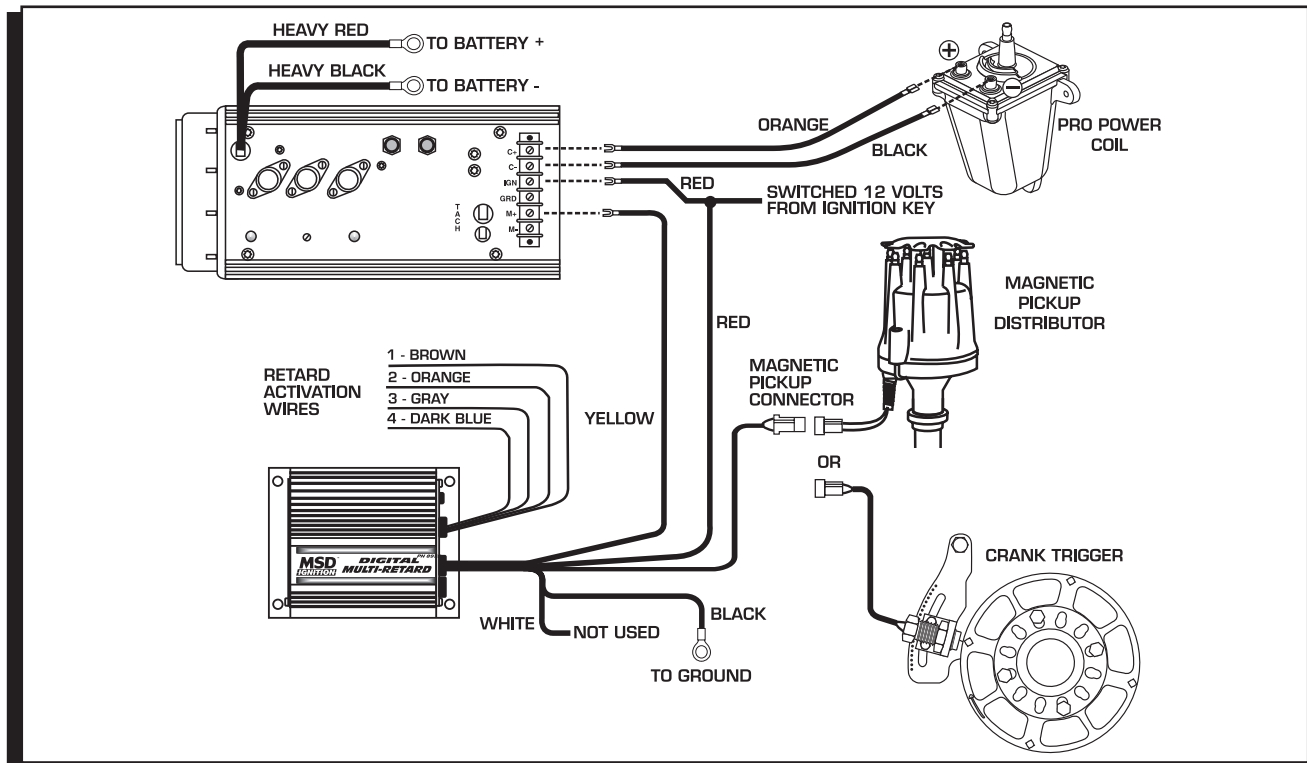


Figure 9 Wiring to an MSD 8 with a Mag Pickup.

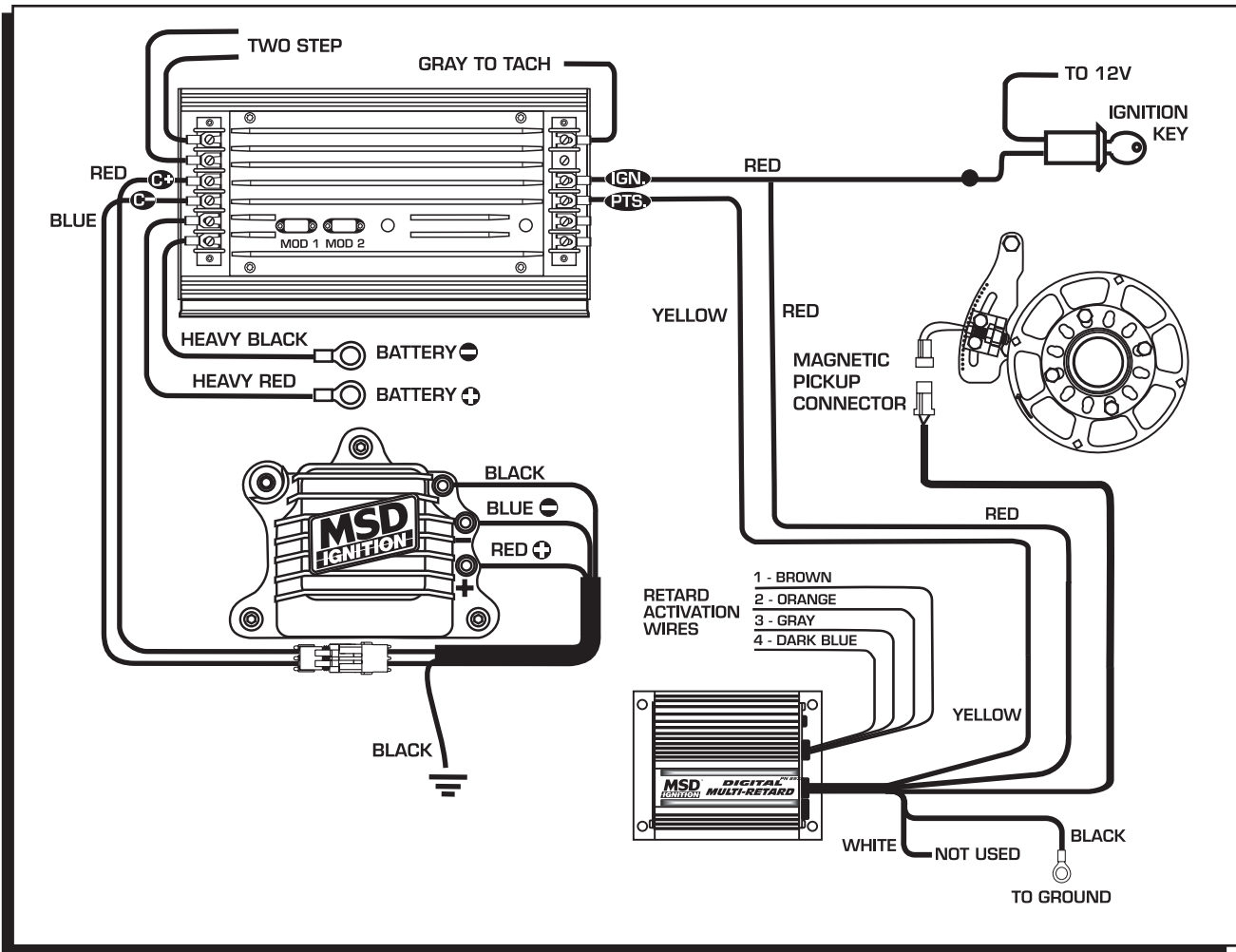


Figure 10 Wiring an MSD 10-Plus with a Mag Pickup.

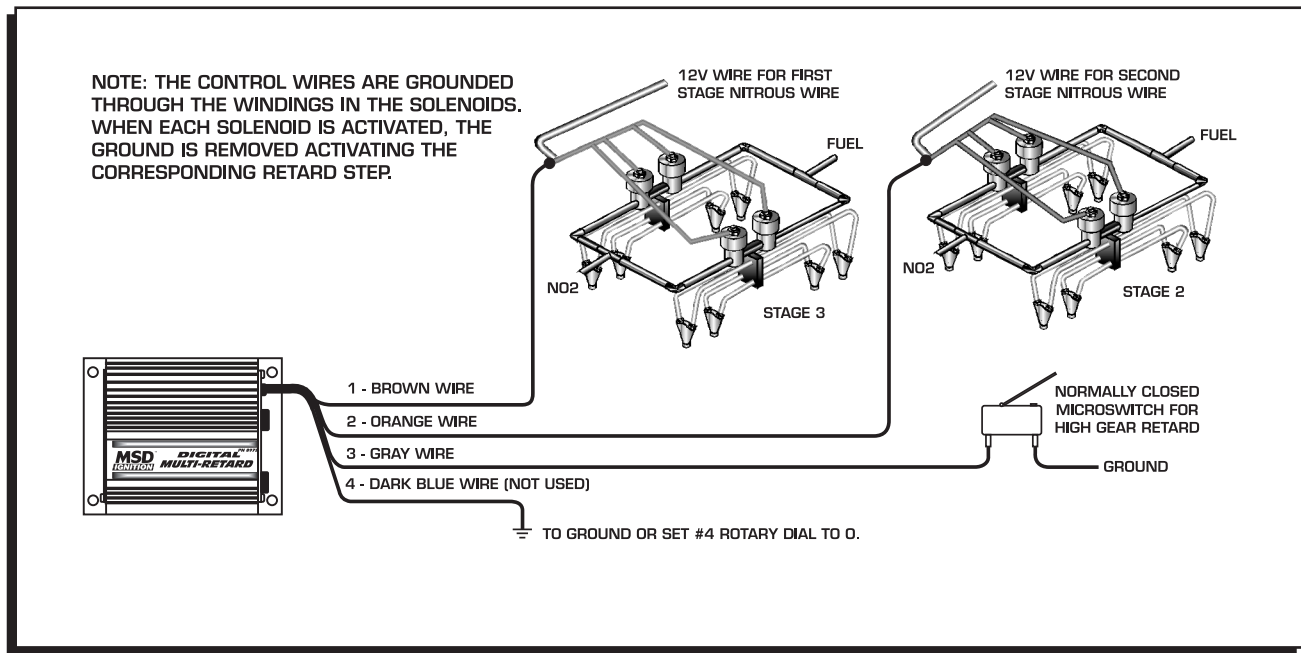


Figure 11 Wiring a Complete Retard System.



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TECH 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 warranty service, **Proof of Purchase** must be supplied for verification. After the warranty period has expired, repair service is based on a minimum and maximum fee.

All returns must have a Return Material Authorization (RMA) number issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at 1 (888) MSD-7859 or visit our website at www.msdpower.com/rma to automatically obtain a number and shipping information.

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 using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

Limited Warranty

MSD warrants this product to be free from defects in material and workmanship under its intended normal use*, when properly installed and purchased from an authorized MSD dealer, for a period of one year from the date of the original purchase. This warranty is void for any products purchased through auction websites. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD. Any item that is covered under this warranty will be returned free of charge using Ground shipping methods.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representation whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD or its suppliers be liable for special or consequential damages.

*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD. Any modifications to this item or if it is used on an application other than what MSD markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD will accept no liability for custom applications.