

# MSD IGNITION INSTALLATION INSTRUCTIONS

## Start and Step Retard Control PN 8987

### Parts Included:

- 1 – Control
- 4 – Mounting Screws

**WARNING:** During installation, disconnect the battery cables. When disconnecting the battery, always remove the negative cable first and install it last.

**Note:** Must be used with an MSD Ignition.

### OPERATION

The Start and Step Retard provides two retard features; a start retard and a step retard. The Control can be connected to distributors using a magnetic pickup, amplifier or breaker point. It is recommended that the centrifugal advance of the distributor be locked-out. The amount of retard is selected with the two rotary dials (Figure 1).

**Start Retard:** The Start Retard is adjusted with the rotary dial on the left. It is adjustable in 5° increments for 4, 6 or 8-cylinder engines from 0°-20°. The number of cylinders must be selected, even when no start retard will be used. Simply rotate to dial to the desired position.

The Start Retard is activated as soon as the engine begins to crank. Between 400 and 600 rpm, the timing begins to ramp back to zero retard (your total timing setting). The start retard will not activate again until the engine rpm drops to 400 rpm (the timing will also ramp on again between 600-400 rpm).

**Step Retard:** The Step Retard is adjusted with the dial on the right. The retard is adjustable from 0°-15° in one degree increments. The Step Retard is activated by the Pink wire. When the Pink wire is connected to 12 volts, the retard is activated. The most common application is to splice the Pink wire into the activation trigger wire of a nitrous system. That way, the retard is activated with the nitrous.

The Controller also has a very accurate magnetic pickup compensation circuit built-in and will hold the timing steady throughout the entire rpm range of the engine. This is why there will be a 4° change in the engine timing when the Control is installed.

**Important:** After installation the engine's mechanical timing must be checked and reset.

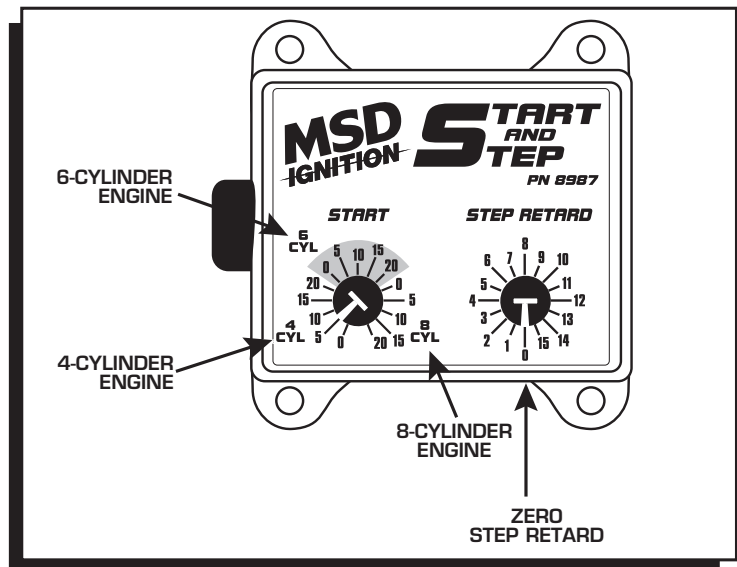


Figure 1

## MOUNTING

It is suggested to mount the unit within easy reach for adjustments. The Control can be mounted under the hood but should be away from direct engine heat sources. Make sure the wiring reaches the connections and mark the mounting holes. Use an 1/8" bit to drill mounting holes and mount the unit.

## WIRING:

<b>Red:</b>	On/Off. Connects to a switched 12 volts.
<b>Black:</b>	Ground. Connects to ground.
<b>Yellow:</b>	Trigger output. Connects to the MSD Ignition's White wire or Points input terminal.
<b>Green/Violet:</b>	Magnetic Pickup Input. This 2-Pin connector plugs into the MSD crank trigger pickup or magnetic pickup of an MSD Distributor. (Never use when the White wire is used).
<b>White:</b>	"Points" or Amplifier Input. Connects to points or amplifier trigger. (Never use when the mag pickup is used).
<b>Pink:</b>	Retard activation wire. Activated when connected to 12 volts.

**Important:** After installation the engine's mechanical timing must be checked and reset.

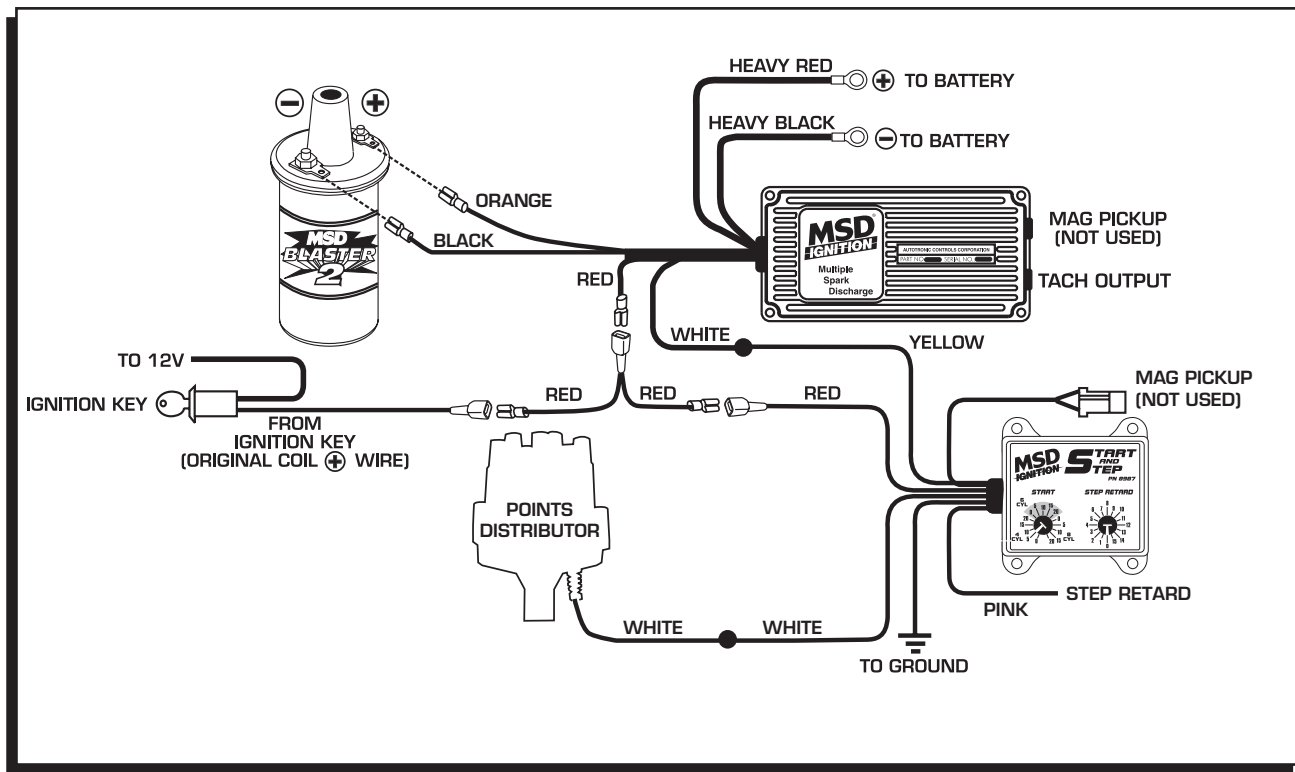


Figure 2 Wiring the Control with an MSD 6 Series Ignition Control.

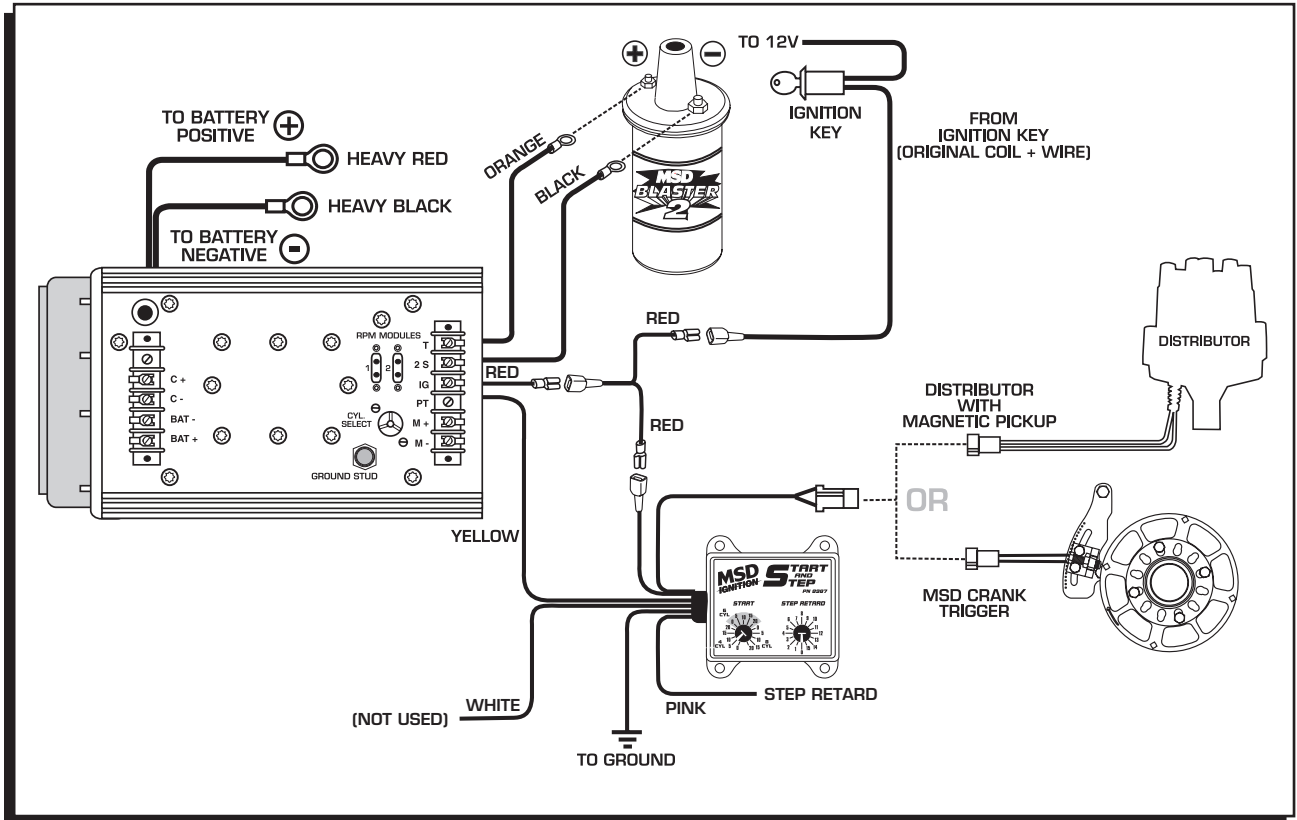


Figure 3 Wiring the Control with an MSD 7 Series Ignition Control.

## TECH NOTES

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# INSTALLATION INSTRUCTIONS

## TECH NOTES

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### 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.msdisignition.com/rma](http://www.msdisignition.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 Ignition 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 IGNITION 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 Ignition. 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 Ignition. 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 Ignition 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 Ignition. Any modifications to this item or if it is used on an application other than what MSD Ignition 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 Ignition will accept no liability for custom applications.