

# MSD<sup>®</sup> IGNITION INSTALLATION INSTRUCTIONS

## MSD RPM Activated Window Switch For Distributorless Ignition Systems PN 8956 1

**IMPORTANT:** It is recommended to have a wiring schematic of your late model car for installation.

### Parts Included

1 - RPM Window Switch	2 - Heat-Shrink Caps	2 - Wire Lugs
4 - Self Tapping Screws	2 - Wire Splices	1 - Blade Lug

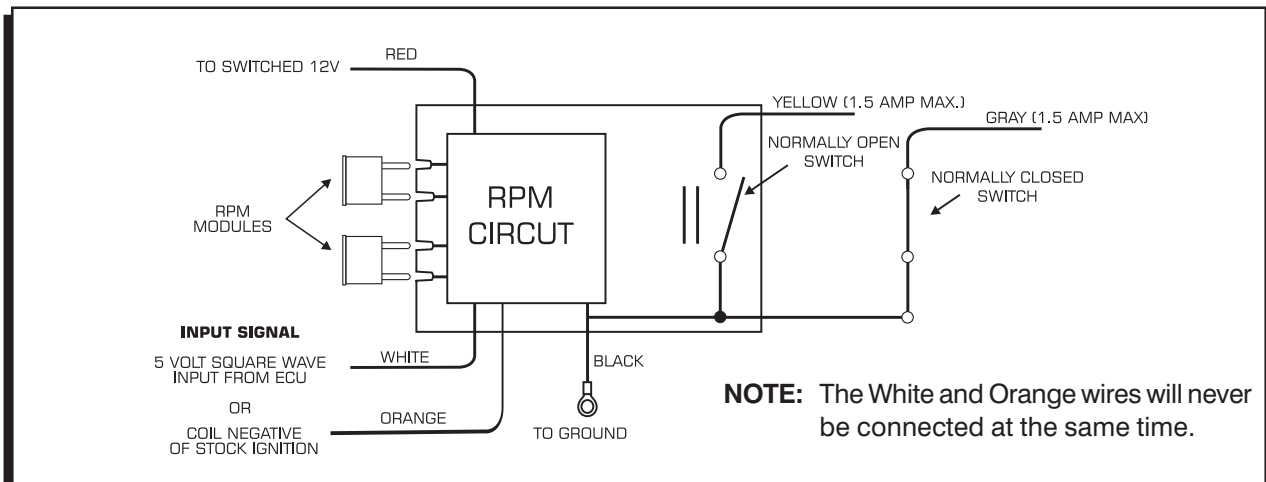
**Note:** RPM Modules must be purchased separately. See the chart on the last page for part numbers.

The DIS RPM Activated Window Switch will activate a circuit at your desired RPM, then turn the same circuit off at a selected higher RPM. It can be connected to the coil negative terminal on stock multi-coil ignition systems or to an individual 5 volt signal from the ECU. **This Switch cannot be used with an MSD Ignition Control.** Damage to the Switch may occur.

This Switch has two separate output circuits, each is capable of carrying 1.5 amps. If the circuit you are activating requires more current, an MSD Relay, PN 8960 or 8961 must be used. The MSD RPM Activated Switch is equipped with a "smart driver". This circuit will protect the RPM Switch from damage by monitoring its temperature. If there is an inadvertant short or too much current is drawn through the Switch, the smart driver will sense the increased temperature and shut the Switch off. However, once the temperature drops to a safe point, the smart driver will turn the Switch back on. It will continuously cycle On and Off as the temperature dictates.

If you experience a problem with your Switch not operating, turn the circuit off for a few minutes to cool, then try again. If the circuit activates then shuts off, there may be too much current flow. Check the device's Installation Instructions to find its recommended maximum current.

The RPM Window Switch has two activation wires. The Yellow wire will activate a device by providing a ground path at your desired ON rpm (Figure 1). The ground will be removed at the OFF rpm to deactivate the device. The Gray wire does just the opposite. It will remove the ground path at the desired ON rpm, then apply the ground at the OFF rpm.



**Figure 1 Operation of the RPM Window Switch.**

## PROGRAMMING

This Window Switch can be used on single tower coils (coil-per-cylinder) and on dual tower coils (waste spark design). To program the Switch, there is a Gray wire loop that selects which style coil it is set up for (Figure 2). For single tower coils, cut the loop. For dual tower coil packs, do not cut the loop. Use a heat gun or other heat source to shrink the cap for a good seal.

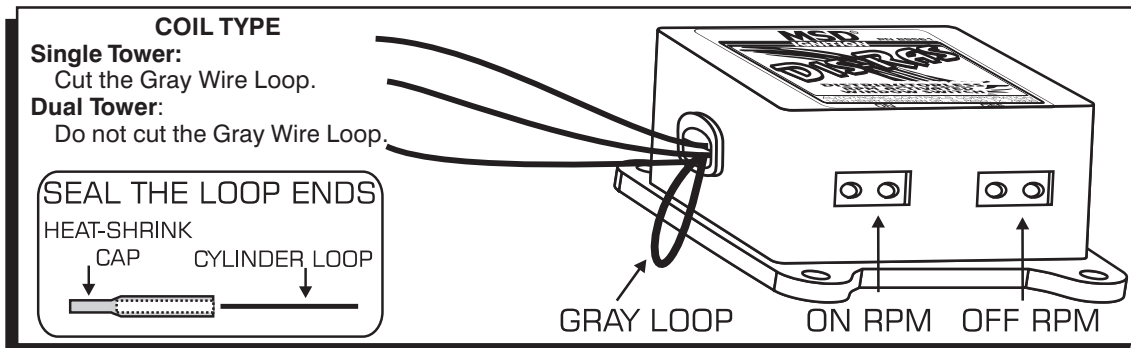


Figure 2 Coil Select Loop.

## MOUNTING

The Switch may be mounted under the hood as long as it is away from direct engine heat sources. Keep in mind that the rpm modules should be easy to access for changes. The Switch can be mounted with the double-sided tape or with the four self tapping screws supplied. Use the Switch as a template and mark the mounting hole locations. Remove the Switch and drill the holes using a 3/16" drill bit then install the screws.

WIRING	
<b>RED</b>	This is the ON/OFF power wire. Connects to switched 12 volts.
<b>BLACK</b>	Connects to Ground.
<b>WHITE</b>	Used when connecting to the ECU's 5 volt square wave output wire.
<b>ORANGE</b>	On stock inductive ignitions, connect to the coil negative terminal (Figure 3).
<b>YELLOW</b>	Normally Open Activation Wire. It connects to the ground side of the device you plan to activate. It will provide a ground path at your desired ON rpm and remove the ground at your set OFF rpm.
<b>GRAY</b>	Normally Closed Activation Wire. This wire will remove the ground from a circuit at your desired ON rpm and at the OFF rpm, it will re-apply the ground.

**Note:** Once you determine if your application requires the Orange or White wire, cut and seal the one that is not used.

**WIRING**

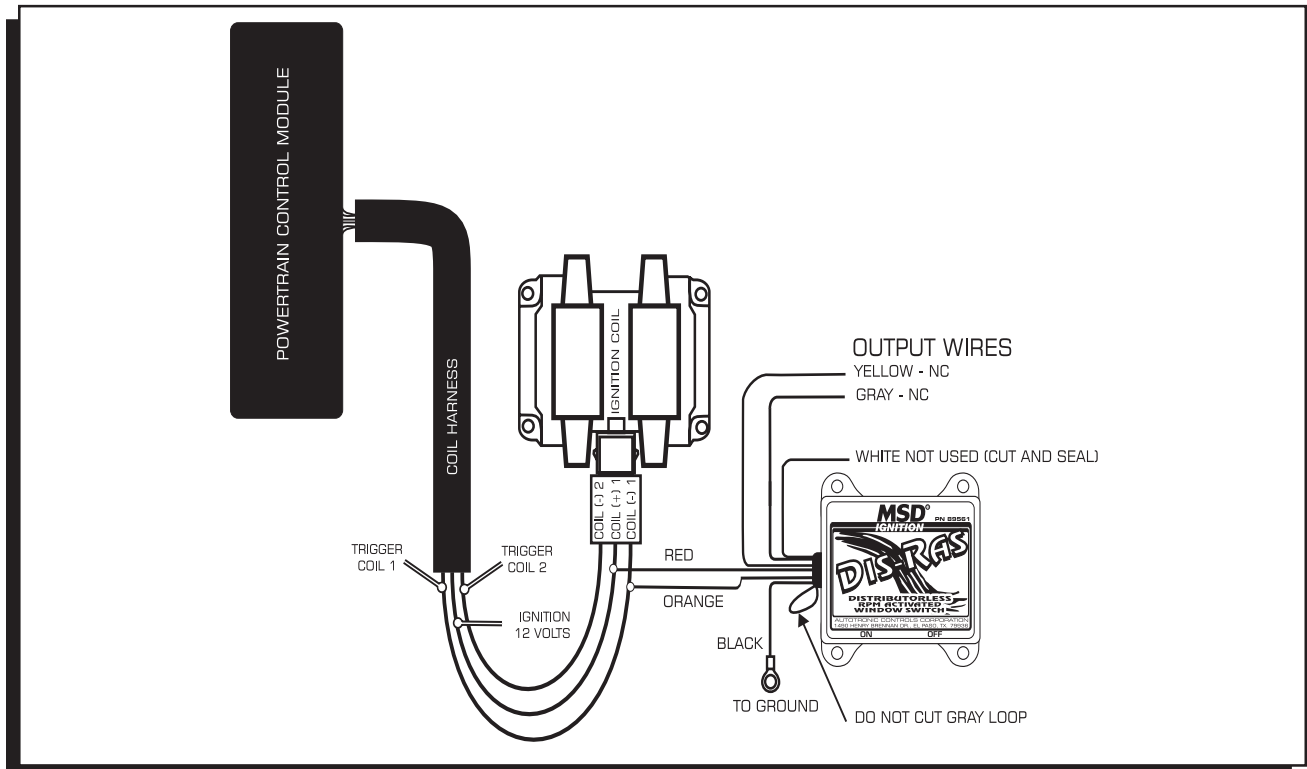
There are two input signal wires; White and Orange. They will never be connected at the same time! White connects to a 5-volt square wave signal wire generally from the ECU. The Orange wire connects to a coil negative wire. It is recommended to cut and seal the wire that is not used.

**Orange Wire - Wiring to a Coil Negative Wire**

If you have access to the a coil or coil pack’s primary negative wire, you can easily splice the Orange wire into it. This will provide a trigger signal for the Switch. This installation is generally found on Fords, Mitsubishi and other applications where the coil driver is separate from the coil itself. Figure 3 shows an example of this wiring.

Before connecting the RPM Switch, you’ll need to determine the coil negative terminal. It is recommended to have the wiring schematic for your application. You can also use a volt meter to identify the coil positive terminal to determine which wire(s) are the coil negative.

Disconnect the harness from coil then turn the key On then check for voltage on each terminal. The one with 12 volts, is coil positive. Note that in some applications the engine must be cranked momentarily before 12 volts will be present. If you do not find 12 volts with the key in the On position, check again while cranking the engine. Once the coil negative wire is determined, splice the Orange wire into it and plug the connector in.



**Figure 3 Wiring the Orange Wire to the Primary Coil Negative Wire.**

**White Wire - Wiring Through the ECU**

The White wire is used when the coil driver is integrated into the coil such as on late model GM LS-1 style engines. The White wire accepts a 5 volt square wave signal that is used to signal an individual coil to fire. Some applications allow you to splice into one of these 5-volt signal wires. Consult your vehicle’s wiring diagram or contact MSD’s Customer Service Department for help with your application. Due to the number of different applications through the years we cannot list exact applications.

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RPM Module Kits are supplied with five modules in a range of 200 rpm increments. There are even number sets and odd number sets available. Example: PN 8745 includes 5,000, 5,200, 5,400, 5,600, 5,800 modules.

Kit	Even Set	Odd Set
3,000 Kit	PN 8743	87431
4,000 Kit	PN 8744	87441
5,000 Kit	PN 8745	87451
6,000 Kit	PN 8746	87461
7,000 Kit	PN 8747	87471
8,000 Kit	PN 8748	87481
9,000 Kit	PN 8749	87491
10,000 Kit	PN 8750	87501
11,000 Kit	PN 8751	87511
12,000 Kit	PN 8752	87521

**Module Selectors:** These Selectors offer 12 different rpm limits at the turn of a knob. Note: Even rpm in 200 rpm increments only.

For rpm settings below 3000 rpm, MSD offers an adjustable Module, PN 8677

RPM	PART NUMBER
3,000 - 5,200	PN 8670
4,600 - 6,800	PN 8671
6,000 - 8,200	PN 8672
7,600 - 9,800	PN 8673
9,000 - 11,200	PN 8674
10,600 - 12,800	PN 8675

## 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.