

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

MSD RPM Activated Switch **PN 89501 - 1-Cylinder, 4 Stroke 720°** **PN 89502 - 2-Cylinder, 4 Stroke 360°** **1-Cylinder, 2 Stroke 360°**

Important: Read the instructions before attempting the installation.

Parts Included In This Kit

1 - RPM Switch

4 - Heat Shrink Caps

4 - Self Tapping Screws

Note: RPM Modules must be purchased separately. See the chart on page 4 for part numbers.

PN 89501, 1-CYLINDER, 4-STROKE (720°) ENGINES

This RPM Switch is preset for an ignition trigger, that fires every 720° of crankshaft rotation. This particular Switch may not be programmed for any other configurations. This unit is typically used on a multiple cylinder engine, which has a Coil-per-Cylinder ignition system.

PN 89502, 2-CYLINDER, 4-STROKE (360°) ENGINES OR 1-CYL, 2-STROKE (360°)

This RPM Switch is preset for an ignition trigger that fires every 360° of crankshaft rotation. This particular Switch may not be programmed for any other configuration. This unit is typically used on a waste spark ignition system equipped with a dual tower coil that fires two cylinders. This coil is triggered every 360° of crankshaft rotation. This RPM Switch may also be used on a single cylinder, 2-Stroke engine.

Note: If an MSD Ignition is used in conjunction with an RPM Switch an alternate RPM Switch may be needed.

The RPM Activated Switch can be connected to stock ignition systems or an MSD Ignition. When using a capacitive discharge ignition such as an MSD, do not connect the Switch to the coil negative terminal. Damage to the Switch will occur.

The Switch is capable of carrying 1.5 amps of current. If the circuit you are activating requires more current, an MSD Relay, PN 8960 or PN 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 inadvertent short or too much current is drawn through the Switch, the smart driver will sense the increase in 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 devices Installation Instructions to find its recommended maximum current.

The RPM Switch has two activation wires. The Yellow wire is Normally Open and will activate a circuit by switching to ground. The Gray wire is Normally Closed to ground and will open the ground circuit at the desired RPM (Figure 1). If no RPM module is installed, the Switch will not activate the circuit.

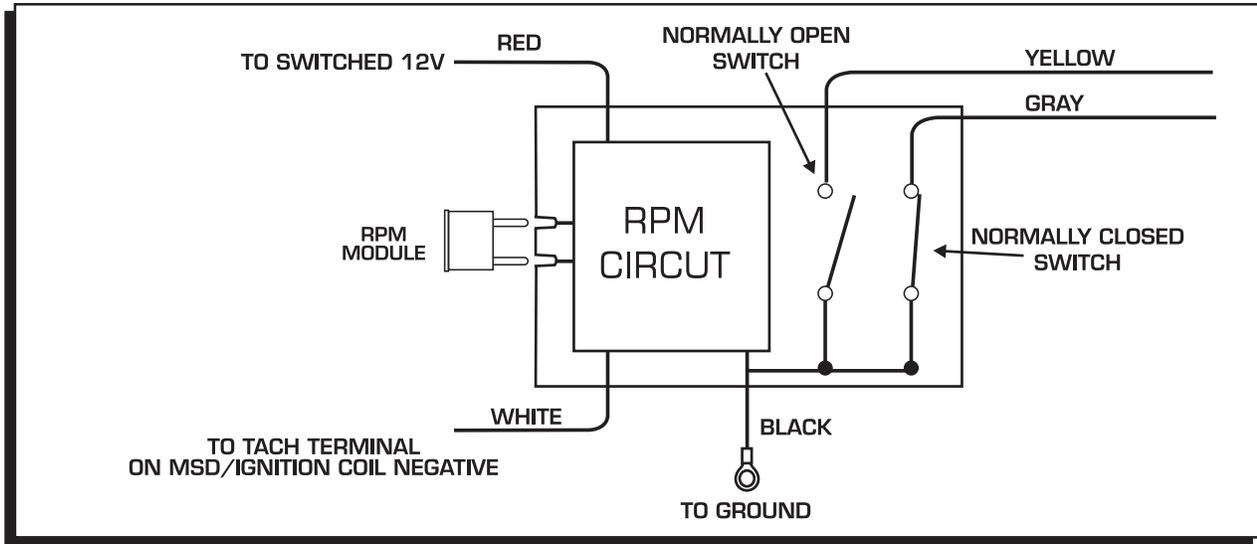


Figure 1 Operation of the RPM Activated Switch.

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

Red	Connects to a switched 12 volt source.
Black	Connects to ground.
White	The rpm input wire. With an MSD Ignition, this connects to the Tach Output terminal. On inductive ignitions, it connects to the coil negative terminal.
Yellow	This is an activation wire and is Normally Open and will switch to ground. It connects to the ground side of the device you plan to activate.
Gray	This is an activation wire and is Normally Closed to ground. It will open the ground path of a circuit.

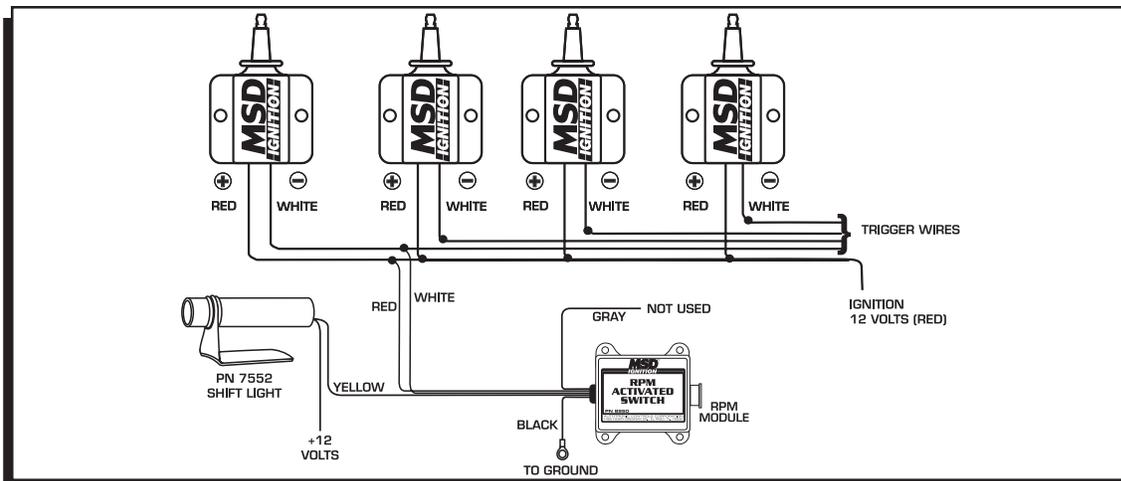


Figure 2 Wiring to a 4-Cylinder, Coil-per-Cylinder Ignition.

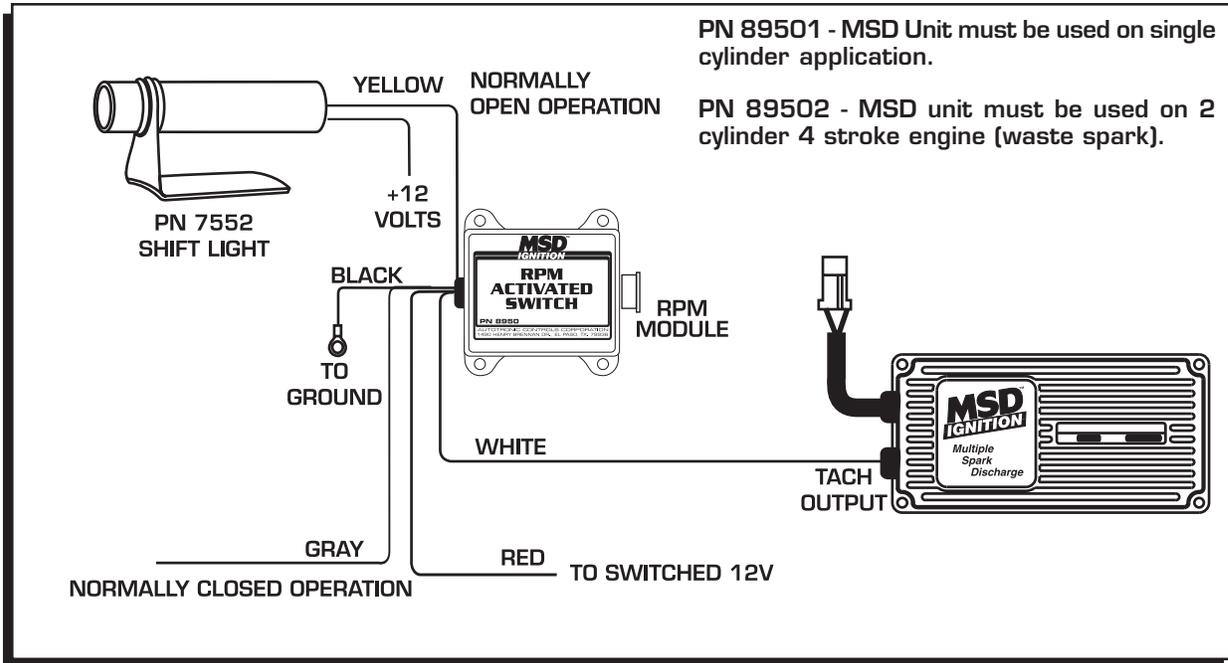


Figure 3 Wiring to an MSD Ignition Control.

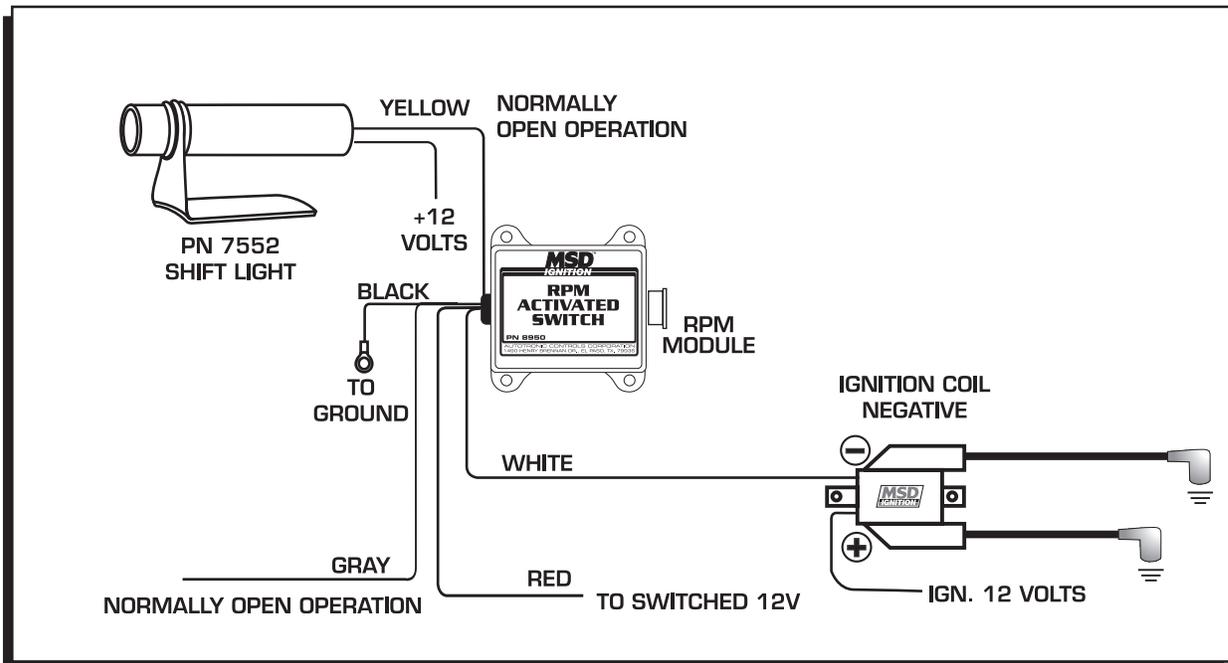


Figure 4 Wiring a PN 89502 to an inductive ignition.



INSTALLATION INSTRUCTIONS

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 8746 includes 5,000, 5,200, 5,400, 5,600, 5,800 modules.

RPM MODULE KITS

EVEN INCREMENTS		ODD INCREMENTS	
3,000-3,800	PN 8743	3,100-3,900	PN 87431
4,000-4,800	PN 8744	4,100-4,900	PN 87441
5,000-5,800	PN 8745	5,100-5,900	PN 87451
6,000-6,800	PN 8746	6,100-6,900	PN 87461
7,000-7,800	PN 8747	7,100-7,900	PN 87471
8,000-8,800	PN 8748	8,100-8,900	PN 87481
9,000-9,800	PN 8749	9,100-9,900	PN 87491
10,000-10,800	PN 8750	10,100-10,900	PN 87501
11,000-11,800	PN 8751	11,100-11,900	PN 87511
12,000-12,800	PN 8752	12,100-12,900	PN 87521
13,000-13,800	PN 8753	13,100-13,900	PN 87531

RPM Selectors feature a dial that allows you to choose between 12 different rpm limits in 200 rpm increments.

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.

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 (915) 855-7123 or fax a request to (915) 857-3344. Send the unit prepaid with proof of purchase to the attention of: **MSD Ignition, Customer Service - RMA #, 12120 Esther Lama, Dock 5, 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 7:00 a.m. to 6:00 p.m. Monday - Friday (mountain time).

Limited Warranty

MSD IGNITION 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 MSD Ignition. 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 MSD Ignition be liable for special or consequential damages.