

# MSD INSTALLATION INSTRUCTIONS

## MSD Digital HEI Kit PN 8501/85013

**ONLINE PRODUCT REGISTRATION:** Register your MSD product online and you'll be entered in our monthly 8.5mm Super Conductor Spark Plug Wire give-away! Registering your product will help if there is ever a warranty issue with your product and helps the MSD R&D team create new products that you ask for! Go to [www.msperformance.com/registration](http://www.msperformance.com/registration).

### Parts Included:

- |  |  |
|--|--|
| 1 - Digital HEI Module, PN 83647                 | 1 - Low Resistance Rotor Bushing and Insulator (assembled) |
| 1 - HEI Coil, PN 8225                            | 1 - Tube of Heat Sink Compound                             |
| 1 - HEI Cap, Red PN 84111, Black PN 84113        | 1 - Small Screw Driver                                     |
| 1 - HEI Rotor, 84101                             | 1 - Gray Tach Wire   |
| 1 - HEI Coil Cover, Red PN 84022, Black PN 84024 |  |

## INSTALLATION

1. Remove the cap, rotor and module of the original distributor. Make sure the weights of the mechanical advance move freely and do not bind. Also ensure that the distributor shaft rotates smooth with no wobble or binding.
2. Apply a liberal coat of the Heat Sink Compound to the aluminum base of the Module and to the rubber insulator. Route the wiring harness out of the housing and position the short black wire to ground with one of the mounting screws (Figure 1).
3. Install the rotor. If you are using an MSD HEI Pro-Billet Distributor, Red PN 8365, Black PN 83653, the supplied Rotor Adapter **must** be installed (Figure 2).

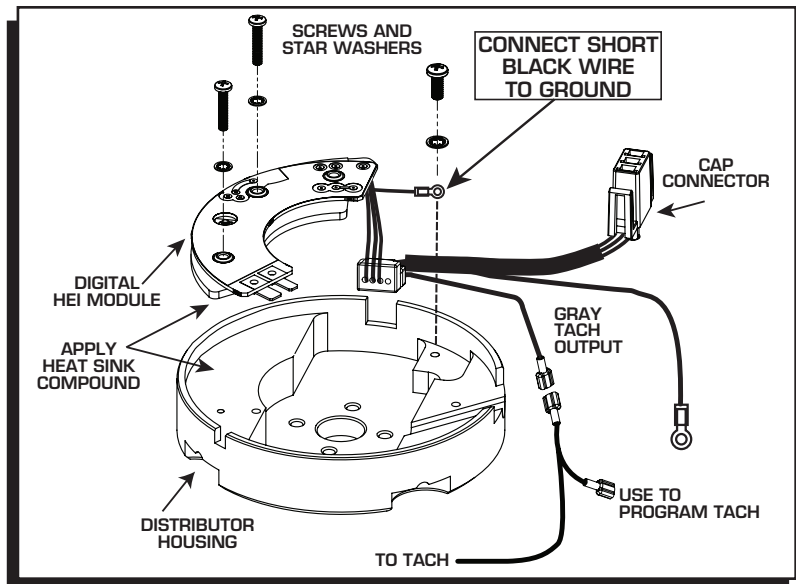


Figure 1 Installing the Module.

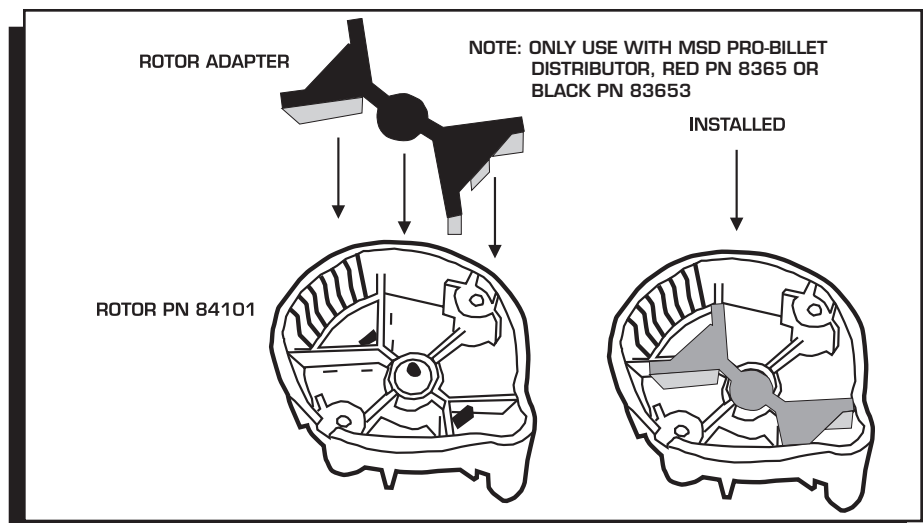


Figure 2 Installing the Rotor Adapter on an MSD HEI Distributor.

4. Install the cap and coil assembly (Figure 4).
5. Install the spark plug wires to their respective cap terminals, then install the MSD Dust Cover and its three retaining screws.
6. Connect the HEI Module harness to the Distributor Cap. See the Tachometer Wiring section before connecting your tachometer (Figure 5).
7. Connect a 14-gauge (minimum gauge) wire to the "BAT" terminal of the cap to supply the 12 volts to the HEI system (Figure 5).

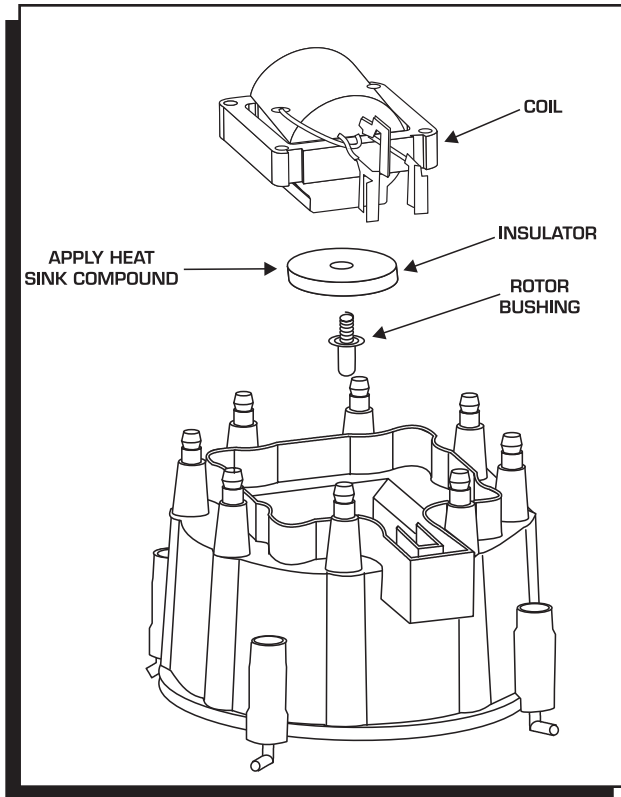


Figure 3 The Coil, Rotor Bushing and Insulator.

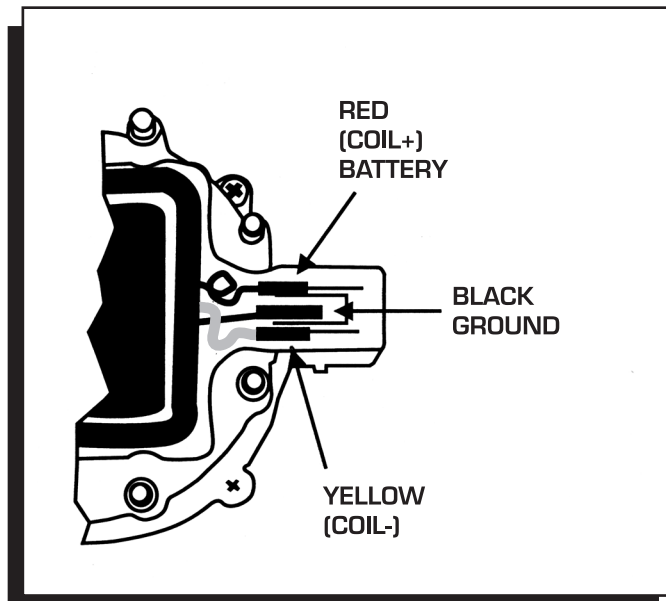


Figure 4 Installing the Coil's Wiring.

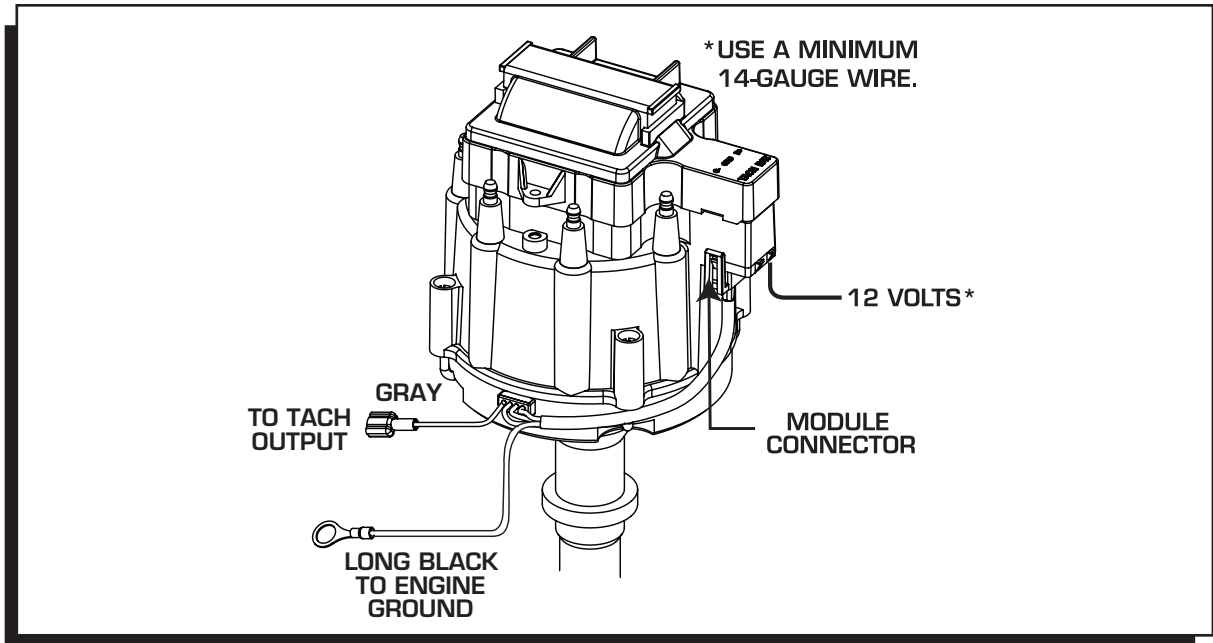


Figure 5 Connecting the Module and Tach Lead.

**TACHOMETER INFORMATION**

The Digital HEI Module has a Gray wire that provides a 12 volt square wave, 20° tachometer signal that will trigger most tachometers. It is recommended to connect this lead to your tach’s trigger input wire and check its operation. If the tach requires a higher voltage signal, connect its input wire to the Tach terminal on the HEI Cap (Coil-/Tach). Note that the rpm limiter is extremely accurate and due to the variety of tachometers available, there may be differences in the displayed rpm.

**No Rev Limit:** To disable the rev limit function, cut and remove the jumper shown in Figure 6.

**PROGRAMMING THE REV LIMIT**

A tachometer is required to set the rev limit. The limit is programmed by running the engine at half the desired rpm, then momentarily grounding the Gray tach output wire from the MSD. A Gray jumper wire is supplied to connect to the tach with another tee-splice coming off to use for programming. A switch may also be installed to ease adjustments of the limiter (Figure 7). The default rpm limit is 10,000 rpm and the limit is adjustable from 2,000 - over 10,000 rpm.

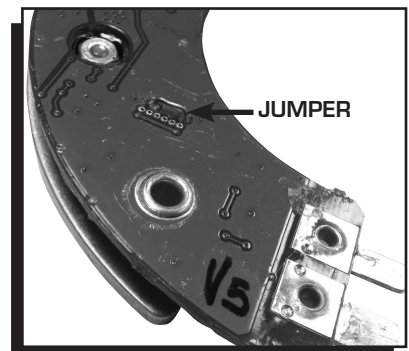


Figure 6

1. Start the engine and bring the rpm to half the desired rev limit (for a 6,000 rpm limit, raise the rpm to 3,000).
2. While holding the rpm steady, short the Gray tach wire to ground for approximately one second. Note that the tach will go to zero while grounded.
3. The tach will now display the programmed rev limit amount for two seconds. If this value does not register on the tach, repeat the procedure and try a different ground source.
4. To confirm the rev limit value, turn the ignition key to the On position (without cranking the engine). The rev limit value will be displayed for two seconds on the tachometer.

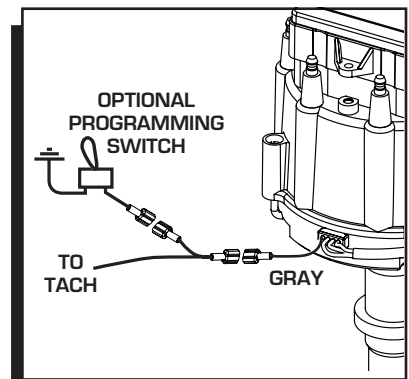


Figure 7

**Note:** This rpm confirmation only displays when the HEI Gray wire is being used to trigger the tachometer.

# **INSTALLATION INSTRUCTIONS**

## **REV LIMITER VERIFICATION**

The MSD HEAT HEI Module has an optional built-in Rev Limiter Verification feature. When the key is in the On position (not cranking or running), an rpm signal is sent to the tachometer to verify the unit's rev limit setting. With this function users can be sure of their rev limit settings before each drive

**To enable this feature, follow the procedure below.**

**Note:** It is important to note that this feature should not be used with EFI systems. When activated, an rpm signal is sent to the tachometer. With an aftermarket EFI system, this could activate the injectors causing a flooding situation.

## **ENABLE REV LIMIT VERIFICATION**

1. With the ignition switch in the off position, ground the Gray tach output wire.
2. With the Gray wire connected to ground, turn the ignition on without starting the engine.
3. Hold the Gray tach output wire to ground for seven seconds. (AT LEAST five seconds.)
4. Release the wire from ground before ten seconds have passed.
5. To confirm the process has worked, cycle turn the key On. The tachometer should sweep to the rpm limit set on the ignition.

To deactivate the verification feature, repeat the process.

**Playback Tach:** If you use a playback tach, be sure to check the high rpm value prior to turning the key to the On position. When the key is in the On position, the rev limit will be displayed and may override the tach memory.

### **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](http://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.