MSD Digital Shift Light
PN 89631

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!

Parts Included:
1 - Shift Light
1 - Mounting Bracket
1 - GMR Pickup, PN 8918

2 - Washers
1 - Brass Screw
1 - Parts Bag

WARNING: When installing the Shift Light disconnect the battery cables. When disconnecting, always remove the negative cable first and install it last.

IMPORTANT: **Do NOT connect to the coil (-) terminal.** The supplied GMR pickup must be used when installing the Digital Shift Light unless the rpm signal is coming from the tach output of an MSD Ignition or aftermarket ECU. Damage to the DSL will occur if connected to a high voltage trigger source.

PROGRAMMING
By pressing the two buttons simultaneously, you get the Shift Light into the different programming modes.

RPM: To adjust the rpm, press the two buttons until the rpm shows. Notice that all of the numbers flash. Adjust the rpm then push the two buttons again to move to the next mode. The rpm can be set up to 16,000 rpm. Once you go over 9,900 rpm, the display will show 1,000 indicating 10,000 rpm and higher.

Cylinder Count: The display will read CY and allow you to select between one to 12-cylinder engines using the Up/Down buttons. On single cylinder two stroke or four stroke applications that fire every revolution (waste spark systems) the shift light should be programmed for two cylinder operation for correct operation.

PROGRAMMING
CY - Cylinder Count
12, 10, 8, 6, 6 odd, 4, 2, 2 odd, 1

LuL - Light Intensity
Scale of 9-0 Bright to Dim

Use Up/Down buttons to adjust cylinders, intensity and rpm points.

PROGRAMMING BUTTONS

UP DOWN
MODE

RED TO SWITCHED 12 VOLTS
GREEN TO TACH SIGNAL
BLACK TO GROUND

Figure 1 Digital Shift Light Wiring and Programming.

Intensity: Control the intensity of the LED and read out. Hold the buttons until LuL displays. Use the buttons to select from 9 (brightest) to 0 to turn off the shift light.

Self: Self mode will walk through all of the settings programmed into the light. It will first show the rpm shift value for the shift light, the cylinder count and light intensity. Start the test mode by pushing either button once Self is displayed. To reset the Self mode, push either button when SELF is displayed, or turn the power Off.

Each time the DSL is powered on, the LED will display the program values that are set.

INSTALLATION
The Shift Light installs easily with the GMR Pickup or through the tach output terminal of an MSD Ignition Control or aftermarket ECU. It will accept a trigger signal rated from 0-24 volt amplitude. **Never connect the Green Wire directly to the coil negative terminal.**
If an ignition control or aftermarket ECU are not being used, the GMR pickup must be connected.
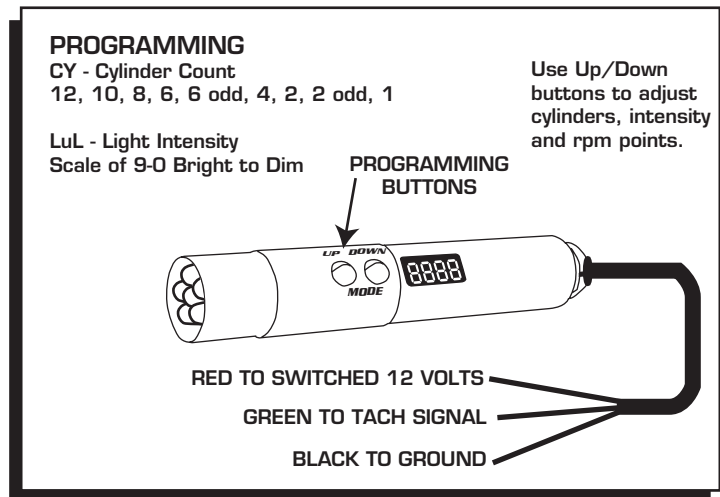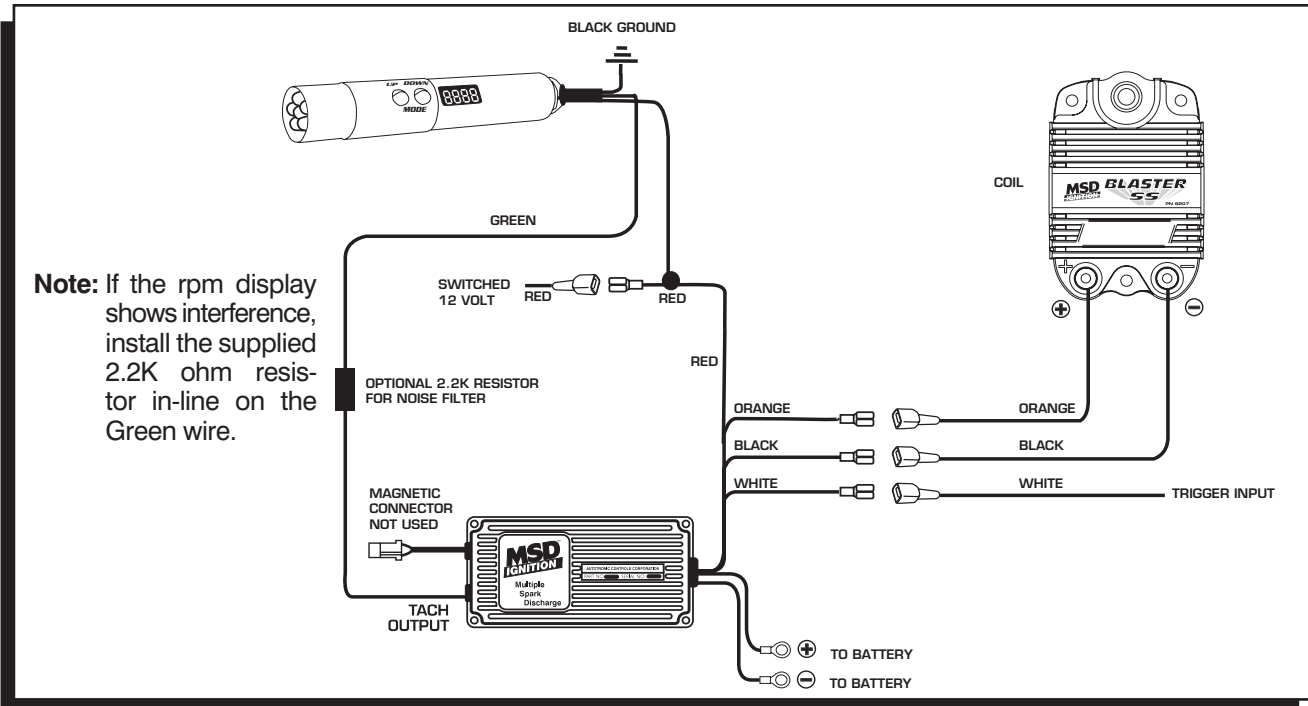
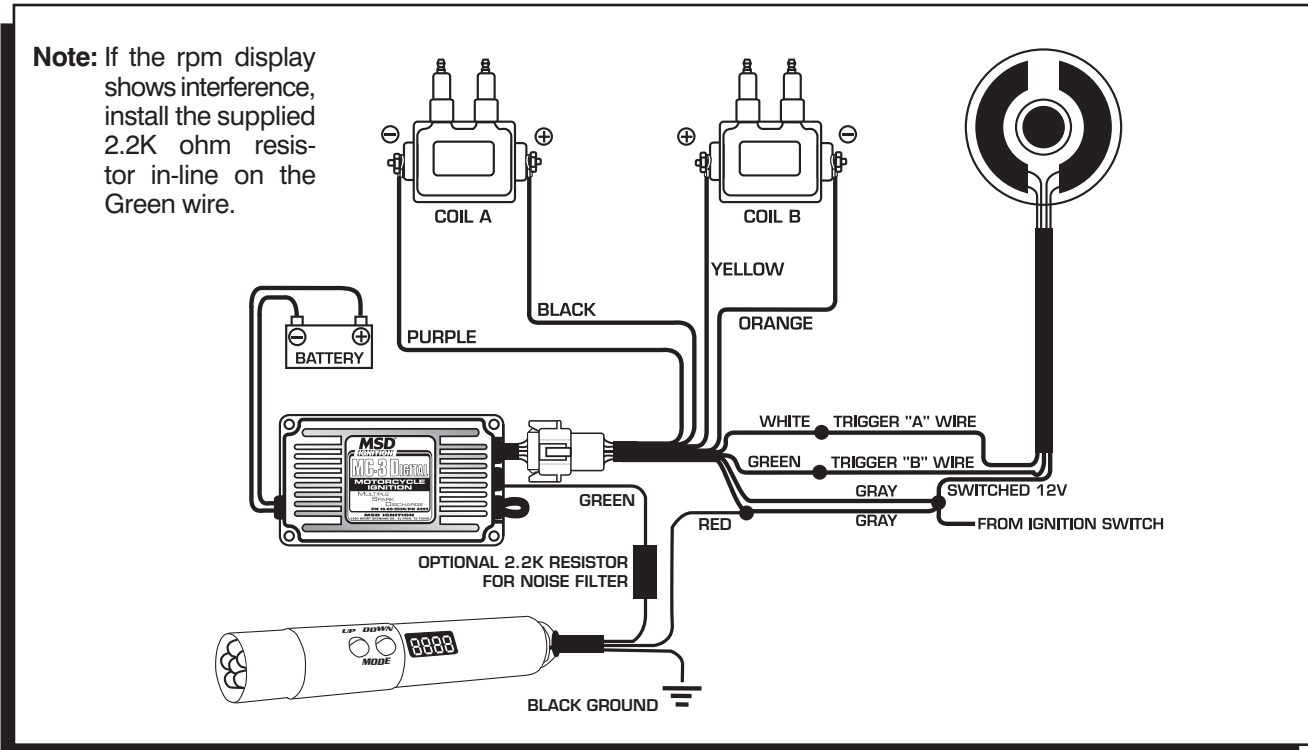**Figure 2 Installing with an MSD Ignition.**

Figure 3 Installing with an MSD Motorcycle Ignition.

GMR PICKUP INSTALLATION

The MSD GMR pickup can be used with inductive or capacitive ignition types to provide an rpm signal of 30% duration when the ignition coil fires. Two washers are provided with the pickup and must be installed in one of two positions depending on the type of ignition driving the coil. For late model applications, it is recommended to have a wiring schematic of the vehicle's ignition system. **On some motorcycle and ATV applications, the stock coils do not produce a long enough pulse. In these cases, loop the coil wire through the GMR pickup twice (Figure 4).**
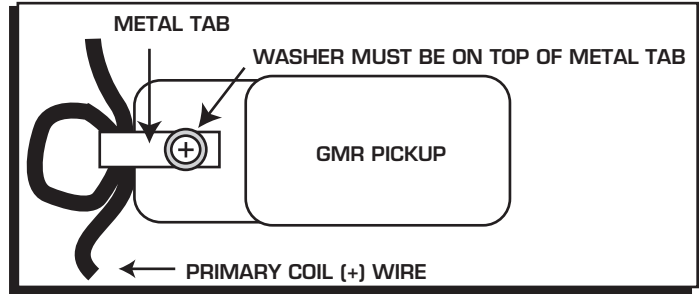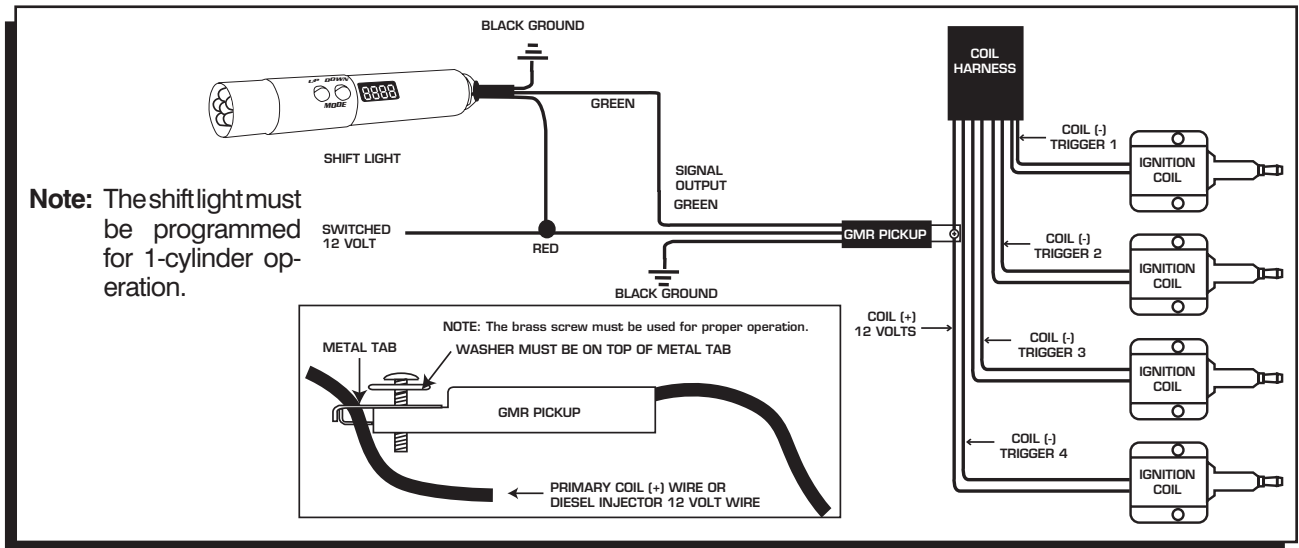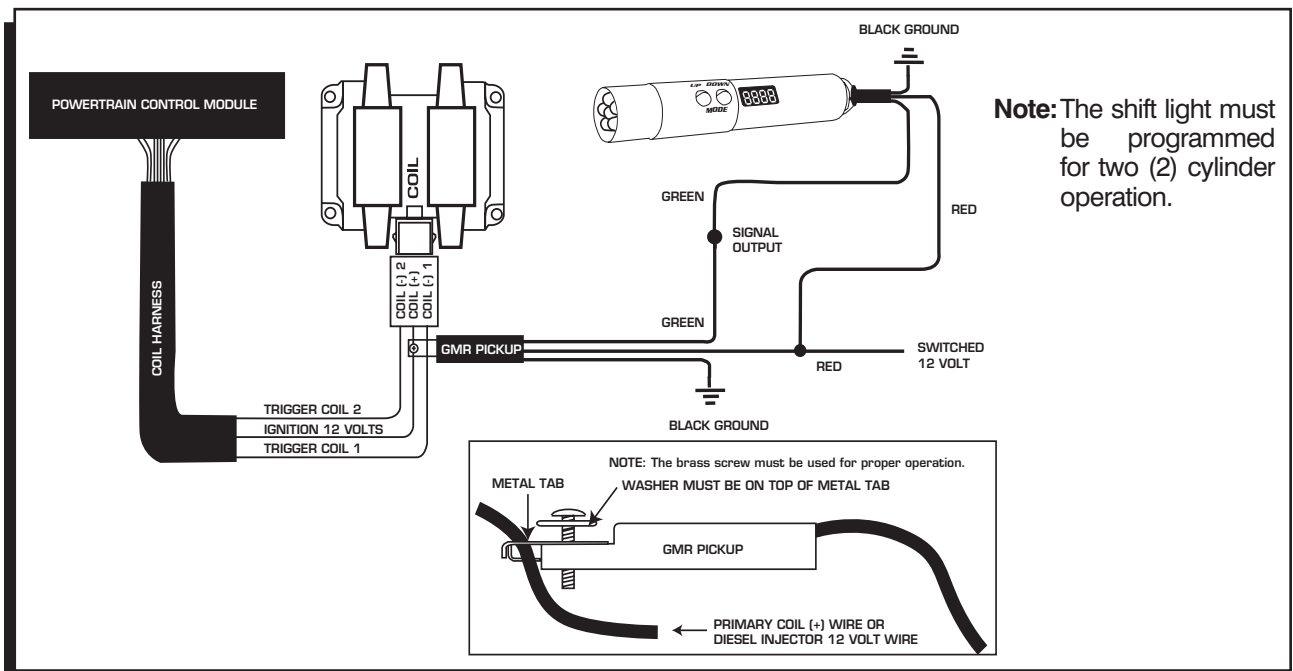
METAL TAB

WASHER MUST BE ON TOP OF METAL TAB

GMR PICKUP

PRIMARY COIL (+) WIRE

Figure 4 Looping Coil Wire.

BLACK GROUND

COIL HARNESS

GREEN

SHIFT LIGHT

SIGNAL OUTPUT GREEN

COIL (-) TRIGGER 1

IGNITION COIL

Note: The shift light must be programmed for 1-cylinder operation.

SWITCHED 12 VOLT

RED

GMR PICKUP

COIL (-) TRIGGER 2

IGNITION COIL

BLACK GROUND

COIL (+) 12 VOLTS

COIL (-) TRIGGER 3

IGNITION COIL

NOTE: The brass screw must be used for proper operation.

METAL TAB

WASHER MUST BE ON TOP OF METAL TAB

GMR PICKUP

COIL (-) TRIGGER 4

IGNITION COIL

PRIMARY COIL (+) WIRE OR DIESEL INJECTOR 12 VOLT WIRE

Figure 5 Installation on an Inductive Coil-Per-Cylinder Ignition System.

POWERTRAIN CONTROL MODULE

BLACK GROUND

COIL

GREEN

RED

Note: The shift light must be programmed for two (2) cylinder operation.

SIGNAL OUTPUT

COIL HARNESS

COIL (-) 2
COIL (+)
COIL (-) 1

GREEN

GMR PICKUP

SWITCHED 12 VOLT

RED

TRIGGER COIL 2
IGNITION 12 VOLTS
TRIGGER COIL 1

BLACK GROUND

NOTE: The brass screw must be used for proper operation.

METAL TAB

WASHER MUST BE ON TOP OF METAL TAB

GMR PICKUP

PRIMARY COIL (+) WIRE OR DIESEL INJECTOR 12 VOLT WIRE

Figure 6 Installing to an Inductive Coil Pack.

BLACK GROUND

SHIFT LIGHT

GREEN

GREEN

SWITCHED 12 VOLT

RED

BLACK GROUND

CHASSIS GROUND

MSD IGNITION

GMR PICKUP

RED

BLACK

+

PRO MAG 44

BLACK

TO GROUND ON CYLINDER HEAD

MSD PRO MAG 44

METAL TAB

NOTE: The brass screw must be used for proper operation.

WASHER MUST BE ON TOP OF METAL TAB

← PRIMARY COIL (+) WIRE OR DIESEL INJECTOR 12 VOLT WIRE

Note: For 12 Amp Pro Mags, connect the GMR Pickup to the Orange wire leading to the kill switch.

Figure 7 Wiring the Pro Mag 44 Electronic Points Box.

Note: The shift light must be programmed for 1-cylinder operation.

SHIFT LIGHT

BLACK GROUND

INJECTOR 12 VOLT WIRE

GREEN

SIGNAL OUTPUT

GMR PICKUP

GREEN

RED

SWITCHED 12 VOLT

BLACK GROUND

INJECTOR POWER WIRE

METAL TAB

NOTE: The brass screw must be used for proper operation.

WASHER MUST BE ON TOP OF METAL TAB

← PRIMARY COIL (+) WIRE OR DIESEL INJECTOR 12 VOLT WIRE
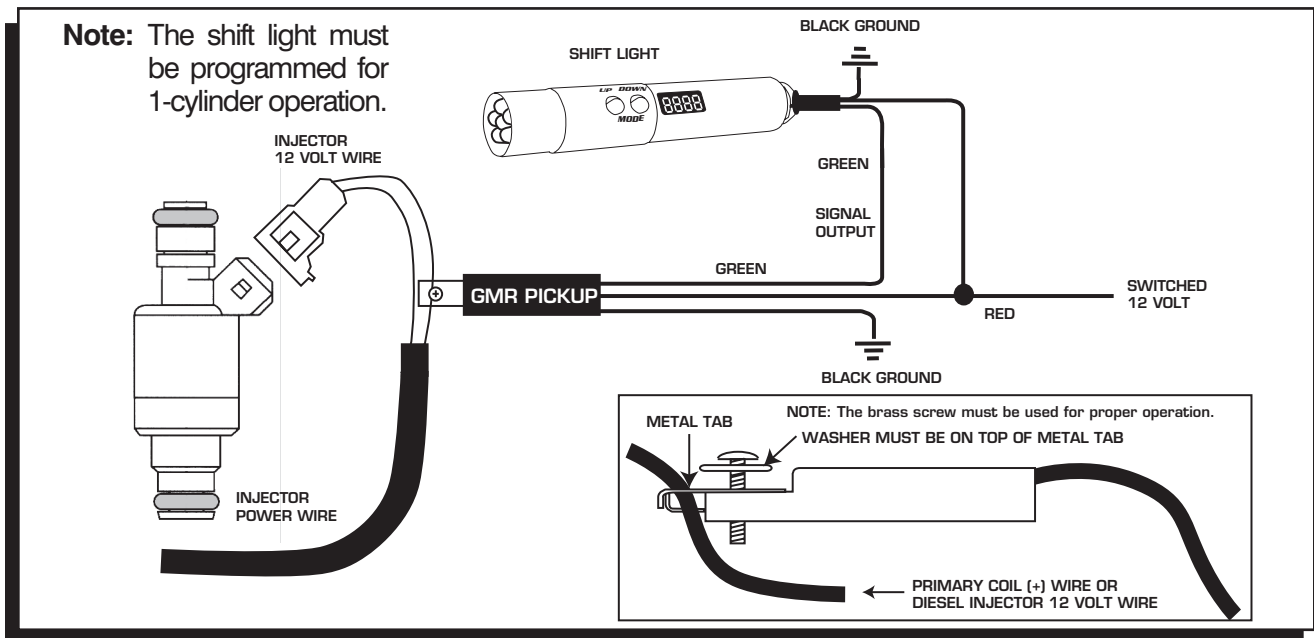
Figure 8 Installation to a Diesel Injector.