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! Go to www.msdperformance.com/registration.

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.
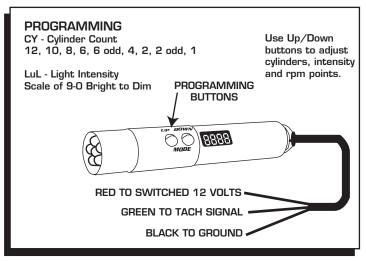

PROGRAMMING
CY - Cylinder Count
12, 10, 8, 6, 6 odd, 4, 2, 2 odd, 1

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

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

PROGRAMMING BUTTONS

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.
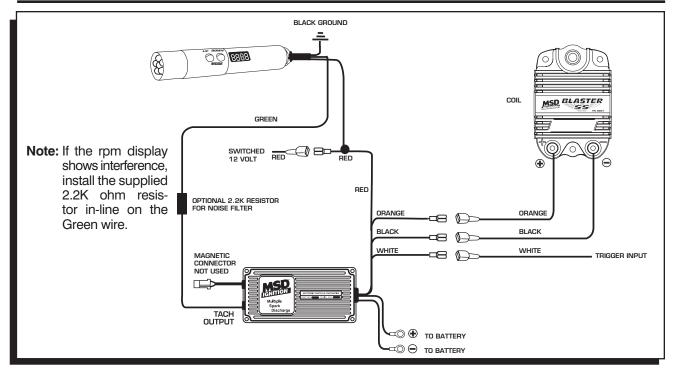
BLACK GROUND

COIL

GREEN

Note: If the rpm display shows interference, install the supplied 2.2K ohm resistor in-line on the Green wire.

SWITCHED 12 VOLT   RED   RED

RED

OPTIONAL 2.2K RESISTOR FOR NOISE FILTER

ORANGE   ORANGE

BLACK   BLACK

WHITE   WHITE   TRIGGER INPUT

MAGNETIC CONNECTOR NOT USED

MSD IGNITION Multiple Spark Discharge

TACH OUTPUT

TO BATTERY
TO BATTERY

Figure 2 Installing with an MSD Ignition.

Note: If the rpm display shows interference, install the supplied 2.2K ohm resistor in-line on the Green wire.

COIL A   COIL B

YELLOW

BLACK

ORANGE

PURPLE

BATTERY

WHITE   TRIGGER "A" WIRE

GREEN   TRIGGER "B" WIRE

MSD MC-3 Digital MOTORCYCLE IGNITION

GRAY   SWITCHED 12V

GREEN

RED   GRAY   FROM IGNITION SWITCH

OPTIONAL 2.2K RESISTOR FOR NOISE FILTER
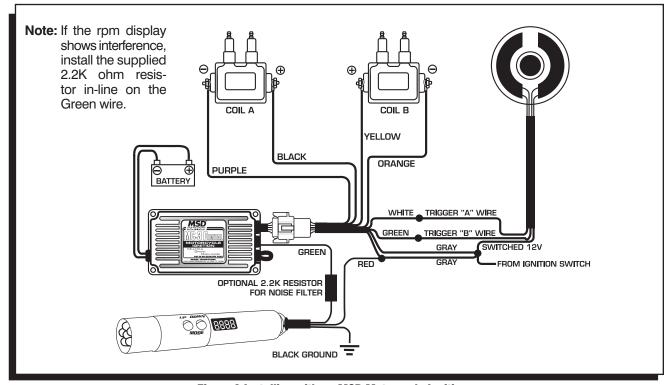
BLACK GROUND

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 st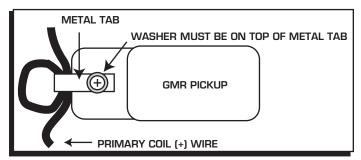ock coils do not produce a long enough pulse. In these cases, loop the coil wire through the GMR pickup twice (Figure 4).**

Figure 4 Looping Coil Wire.
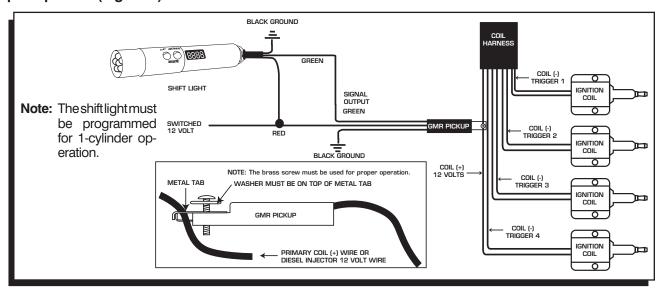

Figure 5 Installation on an Inductive Coil-Per-Cylinder Ignition System.
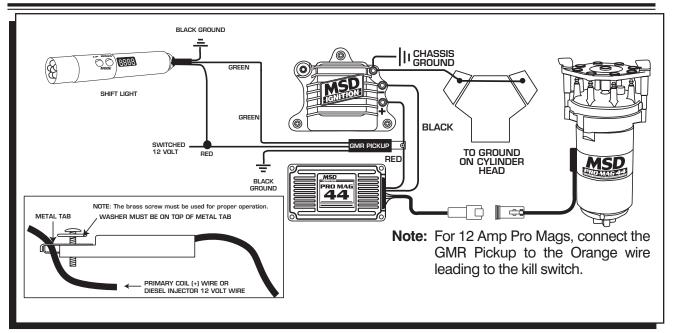

Figure 6 Installing to an Inductive Coil Pack.

BLACK GROUND

GREEN

SHIFT LIGHT

CHASSIS GROUND

MSD IGNITION

GREEN

BLACK

SWITCHED 12 VOLT

RED

GMR PICKUP

TO GROUND ON CYLINDER HEAD

RED

BLACK GROUND

PRO MAG 44

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

GREEN

GMR PICKUP

SWITCHED 12 VOLT

RED

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

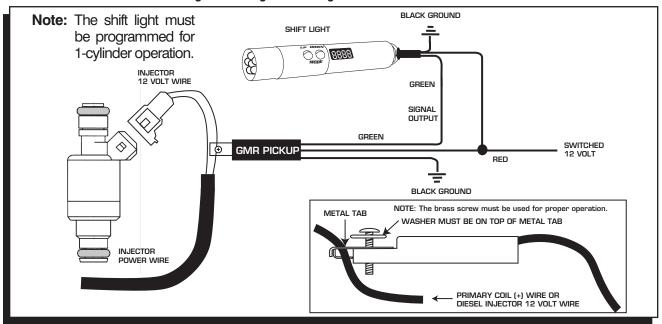PRIMARY COIL (+) WIRE OR DIESEL INJECTOR 12 VOLT WIRE

Figure 8 Installation to a Diesel Injector.

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.msdperformance.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).