



Remote Engine Shut-Off

RES12VLAB

INSTALLATION INSTRUCTIONS

WARNING

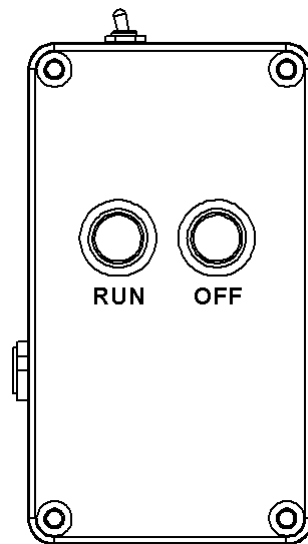
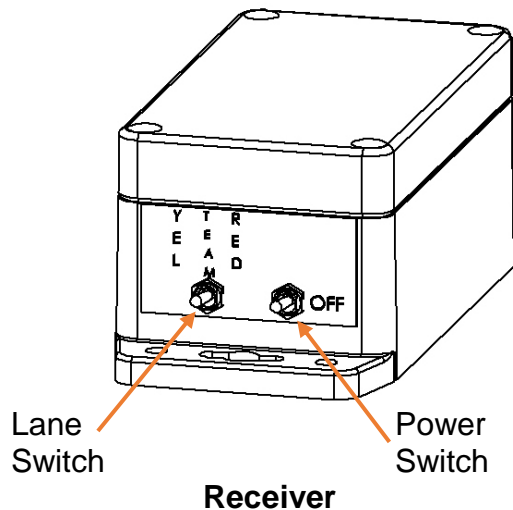
BY INSTALLING OR USING THIS PRODUCT YOU AGREE TO OUR "END USER AGREEMENT". IT IS INCLUDED WITH THESE INSTRUCTIONS AND AVAILABLE ON-LINE AT <http://www.3built.com/documents.asp>

Use of this product could result in injuries and/or property damage due to the sudden loss of engine power. Vehicles may lose stability when engine power is disabled. Control of the vehicle will also be limited after engine is disabled. This product will not stop a vehicle. It will not apply the brakes or any other mechanism to reduce speed. It is designed to disable the engine by shutting off the ignition system. It functions similarly to the vehicle's stock ignition ON/OFF switch. Use extreme caution as to when and where the vehicle is before disabling the engine. Proper judgment must be used when disabling engine power. **Performance and range is not guaranteed.** Radio frequency interference may be common in some areas and can affect this product's range and performance. Use of motor vehicles is an inherently dangerous activity. Wear proper protective gear when operating the vehicle. If any doubt of potential injury, do not use. Once installed, to understand how this product functions, test the device by disabling the vehicle's engine, first at idle and then at low speed. This product's installation and use is at your own risk. This product is intended to be installed and used by adults only.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INCLUDED PARTS

(1) Receiver (1) Transmitter (1) USB Cable (1) USB Charger



GETTING STARTED

- 1) **All radio transmissions are susceptible to interference from many sources.** Interference can cause reduced range or complete loss of communication between the *Transmitter* and *Receiver*. Resistor spark plugs and suppression type spark plug wires may reduce radio interference.
- 2) **Do not connect any RES wire to the high voltage spark plug wire.**
- 3) **If connecting to magneto, use additional solenoid. (see Super-Mag installation sheet.)**
- 4) Installation of this device requires electrical and electronics knowledge.
- 5) You should have a wiring diagram for your vehicle before installation. This is available from your dealer in the Repair Manual for your vehicle. Some vehicle specific wiring instructions are available on our website at: <http://www.3built.com/pages/support>
- 6) This device is a remotely activated switch. The switch can be connected as a normally-open or normally-closed switch while the vehicle is in the RUN mode. **The internal relay is limited to switching 8 amperes, maximum.**
- 7) It is important to determine your OEM (original equipment manufacturer) RUN/STOP switch type before installation. Improper installation of this unit can damage your vehicle's electrical system and CDI. If unsure, please consult a professional.

DEFINITIONS

OEM - Original Equipment Manufacturer. This is any component that the vehicle originally came equipped with from the factory.

RES - 3Built's Remote Engine Shut-off kits

Normally-open - means that the switch is open (no connection) when the RES is in the unlocked mode. This connection type is typically used for ground type OEM RUN/STOP switches.

Normally-closed - means that the switch is closed (connected) when the RES is in the unlocked mode. This connection type is typically used on positive voltage type OEM Run/Stop switches.

INSTALLATION

1) Charge the *Transmitter* by plugging it in to a USB charger (5 volts). The cable is a USB to mini-USB. With the power switch off, you will see a small red or blue light towards the bottom of the *Transmitter* (small window) while charging. The included lithium battery is designed for hundreds of charge cycles. It can be replaced, if necessary, with another lithium-ion 18500 size battery.

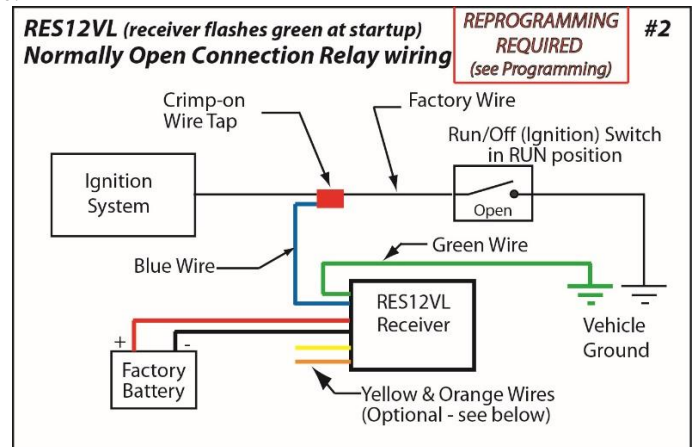
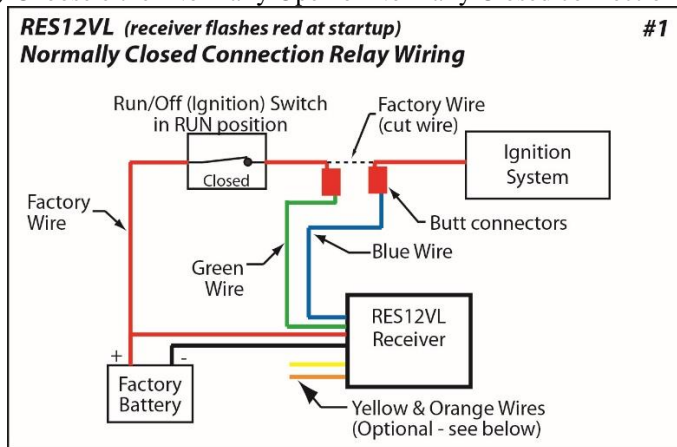
Blue LED = fully charged ; Red LED = charging

2) Find a suitable place to mount the *Receiver*. Position it so that it will stay dry and will not be damaged in case of an accident.

3) Attach the Red Wire on the *Receiver* to 12 volts DC power supply. We recommend that you use a fuse if connecting directly to a battery or un-fused power wire. Improperly mounted wires can become damaged and short to the frame causing damage to the vehicle and/or driver. Damage may include high heat and/or fire.

4) Attach the Black Wire to ground.

5) Choose either Normally Open or Normally Closed connection type.



a. Normally Closed Connection for Relay (8-amp max.) [diagram #1] (Default state)

- Typical for MSD 6, MSD 7, and MSD Pro Mag 44

This is used typically when an ignition system needs to be powered from the battery. It is very important to cut the correct wire for proper operation. Incorrect wiring can damage the CDI or other electrical component. Use caution and consult a professional if unsure.

Blue Wire – Identify the power wire from the OEM Run/Stop switch to the CDI. Cut the wire and attach the **Blue Wire** to one end of the cut wire

Green Wire – Attach the **Green Wire** to the other end of the previously cut wire. It does not matter which wire is attached to which side of the cut wire.

b. Normally Open Connection for Relay (8-amp max.) [diagram #1]

- Typical for MSD Pro Mag 12

*****Must perform "NORMALLY-OPEN MODE" steps in PROGRAMMING section. *****

This is typically used when an ignition system must be grounded to shut off the vehicle.

Blue Wire – The wire will be attached to the vehicle's electrical system. The OEM RUN/STOP switch has two wires. One comes from the CDI and the other goes to the vehicle's ground. Splice the Blue Wire between the CDI and the OEM Run/Stop switch. Attaching the Blue Wire to an incorrect wire may damage the CDI or other electrical component. Use caution and consult a professional if unsure.

RECEIVER

1) Flip the POWER switch on the side of the *Receiver*.

a) The Yellow LED will illuminate and the Red or Green LED will blink three time rapidly.

i) Red blinks indicate *Receiver* is in Normally Closed operation (default)

ii) Green blinks indicate *Receiver* is in Normally Open operation

b) After the startup blinks, the system will settle on one of three colors

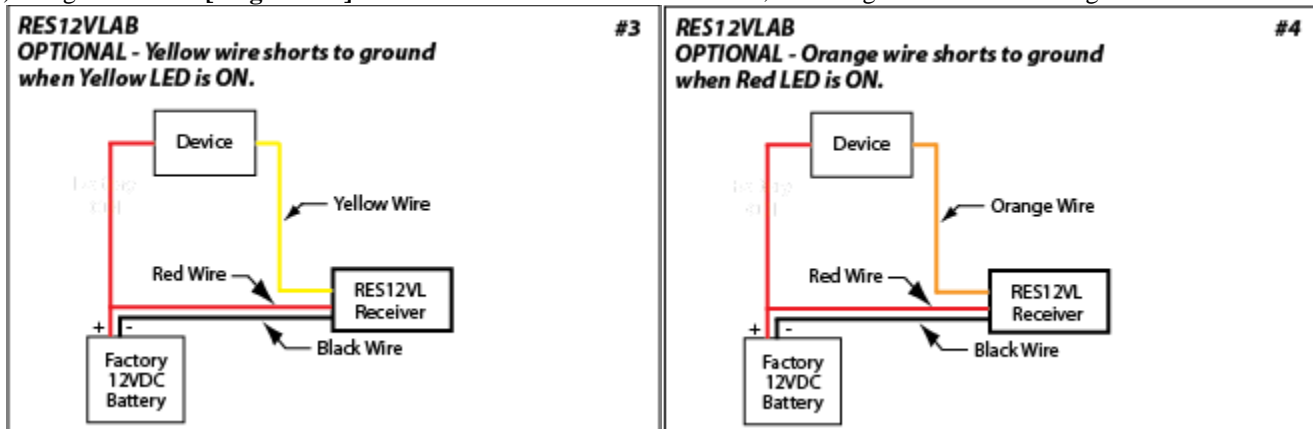
i) **Blue** – System is in Team mode. Only *Team Transmitters* will activate the *Receiver*.

- ii) **Yellow** – System is in Left/Yellow lane mode. *Receiver* will respond to *Team Transmitter* and Yellow button on *Master Transmitter*.
- iii) **Red** – System is in Right/Red lane mode. *Receiver* will respond to *Team Transmitter* and Red button on *Master Transmitter*.
- iv) **Solid light** indicates *Receiver* is in RUN mode.
- v) **Blinking light** indicates *Receiver* is in OFF mode.
- vi) The *Receiver* consumes a small amount of power from the battery. (This is normal for all radio frequency receivers.)

We recommend shutting the *Receiver* off with the toggle switch when not in use.

2) **OPTIONAL Solid State Switch** – The RES12VLAB has two secondary solid state switches that can be used to activate lane lights or other devices.

- a) Left/Yellow lane [**diagram #3**] - When the *Receiver*'s Yellow LED is on, the yellow wire is shorted to ground.
- b) Right/Red lane [**diagram #4**] - When the *Receiver*'s Red LED is on, the orange wire is shorted to ground.



TRANSMITTER

- 1) Turn on the *Transmitter* by flipping the toggle switch. It will communicate with the *Receiver* and display a status:
 - a) **Green LED** = *Receiver* in RUN position
 - b) **Red LED** = *Receiver* in OFF position
 - c) **Yellow LED** = *Transmitter* CANNOT CONNECT to the *Receiver*.
 - i) **Either the receiver is turned off** (Check on/off switch on *Receiver* or check the connection and ensure black and red wire are connected to the 12 volt battery)
 - ii) **or the receiver is out of range** (Move closer and press either the run button or off button until you receive a solid Green or Red light. Once the light turns from yellow to either solid red or green you are now at the maximum range. Make a note of this distance.).
 - iii) **Blinking** - *Transmitter* is sending command to *Receiver*
- 2) Press the Red button on the *Transmitter*. Once the OFF signal has been received by the *Receiver*, the Red LED on the *Transmitter* will illuminate. The engine should now be disabled.
 - a) The *Receiver* will show a **blinking** LED: Blue, Red or Yellow depending on the lane selection switch.
- 3) Press the Green button on the *Transmitter*. Once the RUN signal has been received by the *Receiver*, the Green LED on the *Transmitter* will illuminate. The engine should now be enabled.
 - a) The *Receiver* will show a sold (non-blinking) light: Blue, Red or Yellow depending on the lane selection switch
- 4) Test the system again at low speed to understand how the system operates. Engine power will be disabled when the Red button is pressed within range of the vehicle. **The RES12VLAB will not slow down or stop the vehicle. The RES only disables the engine.**

PROGRAMMING

- **NORMALLY-OPEN MODE. (Image #2)**

This step must be performed if connecting as normally open.

When the *Receiver* is powered on, the relay is in a closed state (normally-closed) by default. Some ignition systems like the MSD Pro Mag 12 need a normally-open relay operation. This method allows you to change the operation of the *Receiver* so that when the *Receiver* is powered on, the relay is in an open state and does not allow electricity to flow.

- 1) Turn *Receiver* off and then back on to determine its current state. Check the *Receiver* LEDs immediately after power up.
 - a. The yellow LED will illuminate and the Red LED will flash to indicate normally-closed mode.
 - b. The yellow LED will illuminate and the Green LED will flash to indicate normally-open mode.
- 2) Turn *Receiver* and *Transmitter* off.
- 3) Turn *Receiver* ON and make sure the green or red LED is on to show Run or Off mode. Proceed to steps #3 & #4 within 30 seconds.
- 4) Press and hold the RED button on the *Transmitter*.
- 5) Turn the *Transmitter* ON via the toggle switch.
- 6) Continue to hold the RED *Transmitter* button for at least 15 seconds.
- 7) The *Receiver*'s LEDs will blink to indicate mode change.
- 8) Release the red button on the *Transmitter*
- 9) Perform Step #1 in this section to confirm desired mode.

- STATUS CHECK MODIFICATION

Transmitter asks the receiver if it is in off or run mode every 30 seconds. This can be disabled, if desired.

- 1) Turn *Receiver* and *Transmitter* off.
- 2) Press and hold the green button on the *Receiver*.
- 3) Turn the *Transmitter* on via the toggle switch.
- 4) Continue to hold the green button for at least 10 seconds.
- 5) The *Transmitter*'s LEDs will blink:
 - a. If the green LED blinks, the *Receiver* is in Status Check Every 30 Seconds mode.
 - b. If the red LED blinks, the *Receiver* will not check status every 30 seconds.

ADDITIONAL FEATURES

- The *Transmitter* queries the *Receiver* on power-up, during every button press, and every 30 seconds. 30-second check is optional; see Programming section.
- The *Transmitter* will automatically power off after 6 hours of inactivity to conserve the battery. Turn off and on again to reset.
- Press the Green button to check range status without shutting off the vehicle

These instructions are subject to change without notice.

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Technical Support: techsupport@3built.com

Sales: sales@3built.com or 818-574-5334

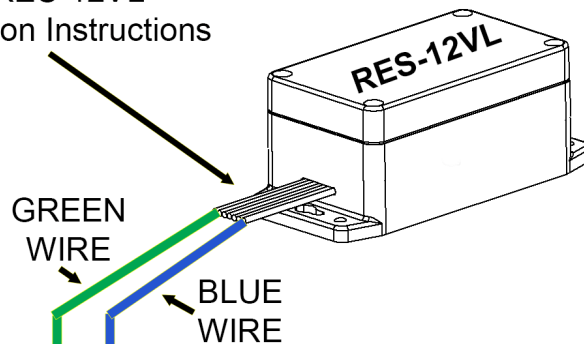


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Connection to: MSD Digital 6A & 6AL

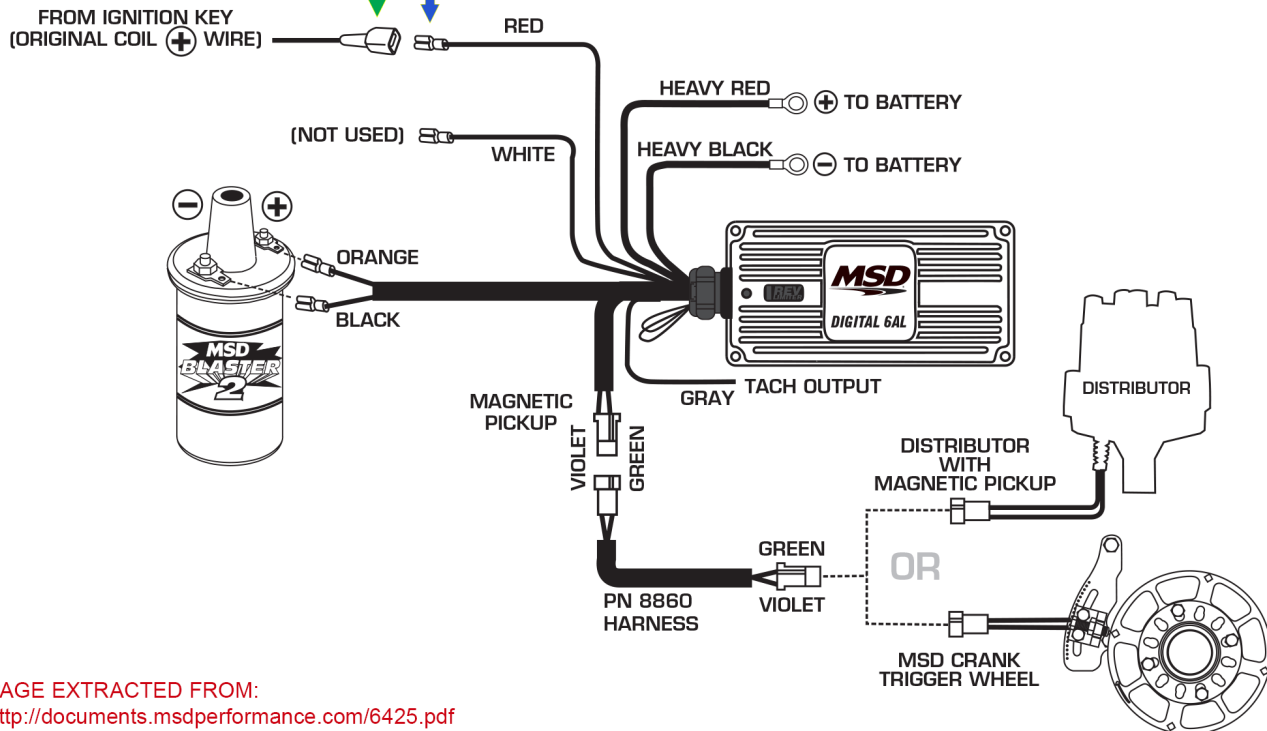
For proper operation:
Immediately after turning on the receiver
the Yellow LED will illuminate and the
Red LED will flash.

Connect other wires
per the RES-12VL
Installation Instructions



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MSD SYSTEMS Installing to an MSD Distributor/Crank Trigger.

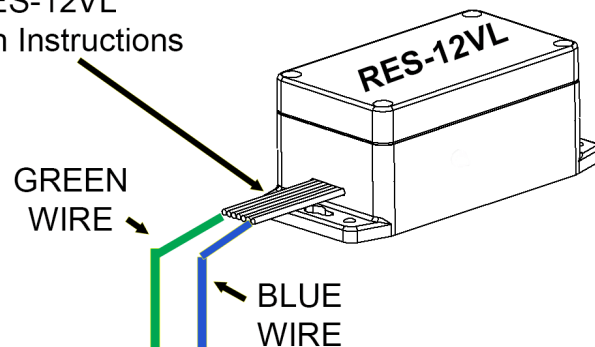


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to show connection information for the
MSD Digital 6A and 6AL Ignition Control

Connection to: MSD Digital 7AL

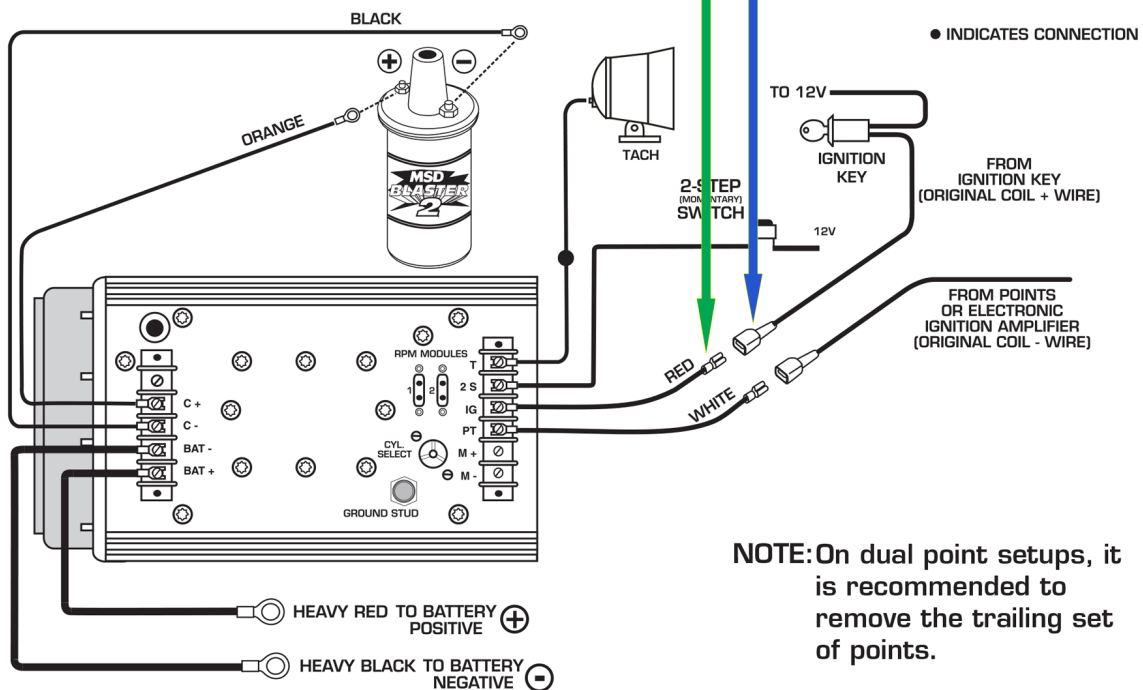
For proper operation:
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Connect other wires
per the RES-12VL
Installation Instructions



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MSD SYSTEMS Installing to Points/Amplifier Style Ignition.



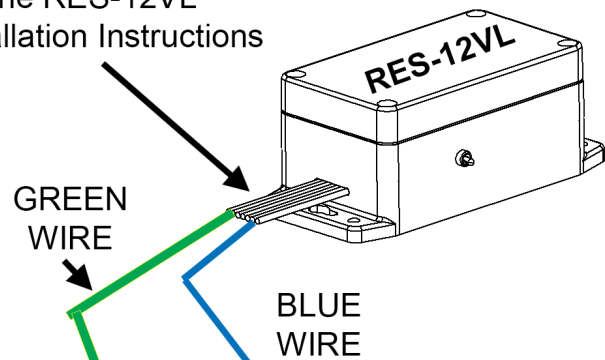
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Connection to: MSD Pro Mag 12

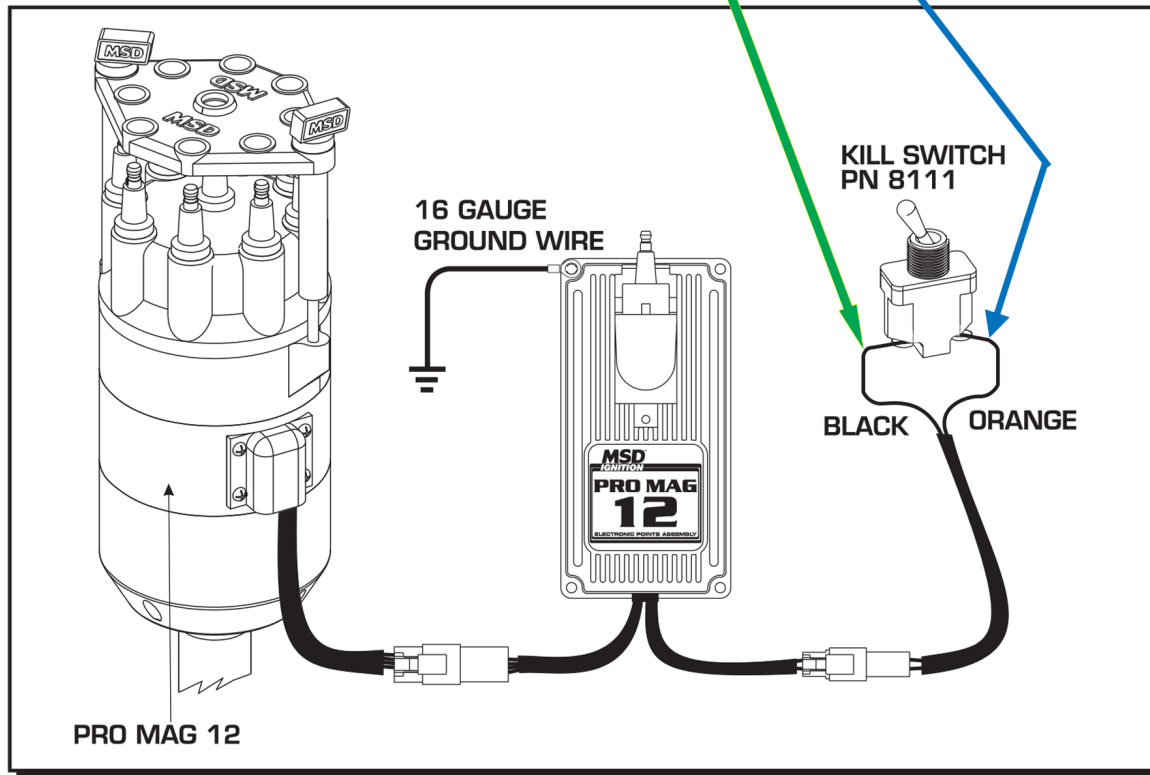
For proper operation:
Immediately after turning on the receiver
the Yellow LED will illuminate and the
Green LED will flash.

NOTE:
Reprogramming is **REQUIRED**
Please see Programming
section on page 3.

Connect other wires
per the RES-12VL
Installation Instructions



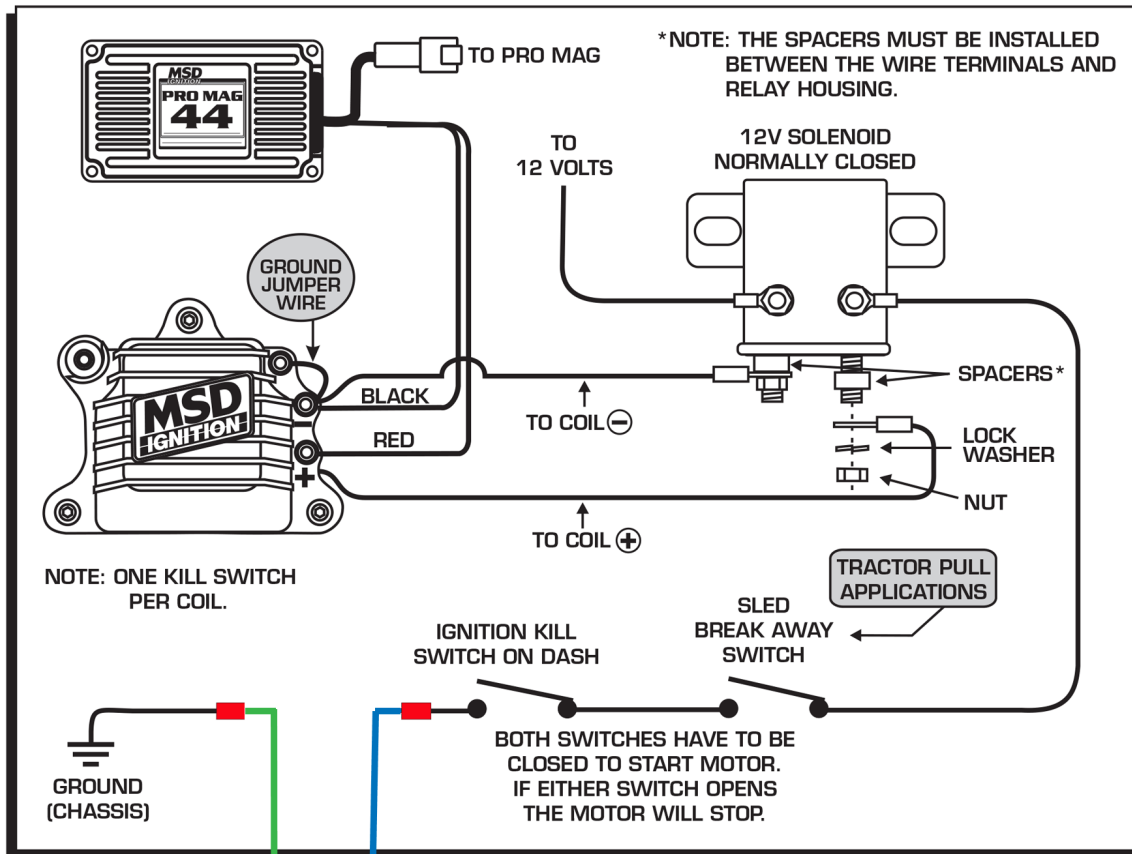
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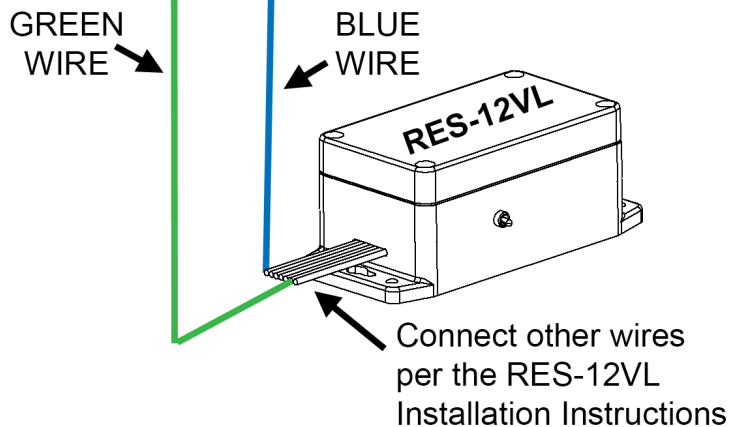
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MSD Pro Mag 12

Connection to: MSD Pro Mag 44

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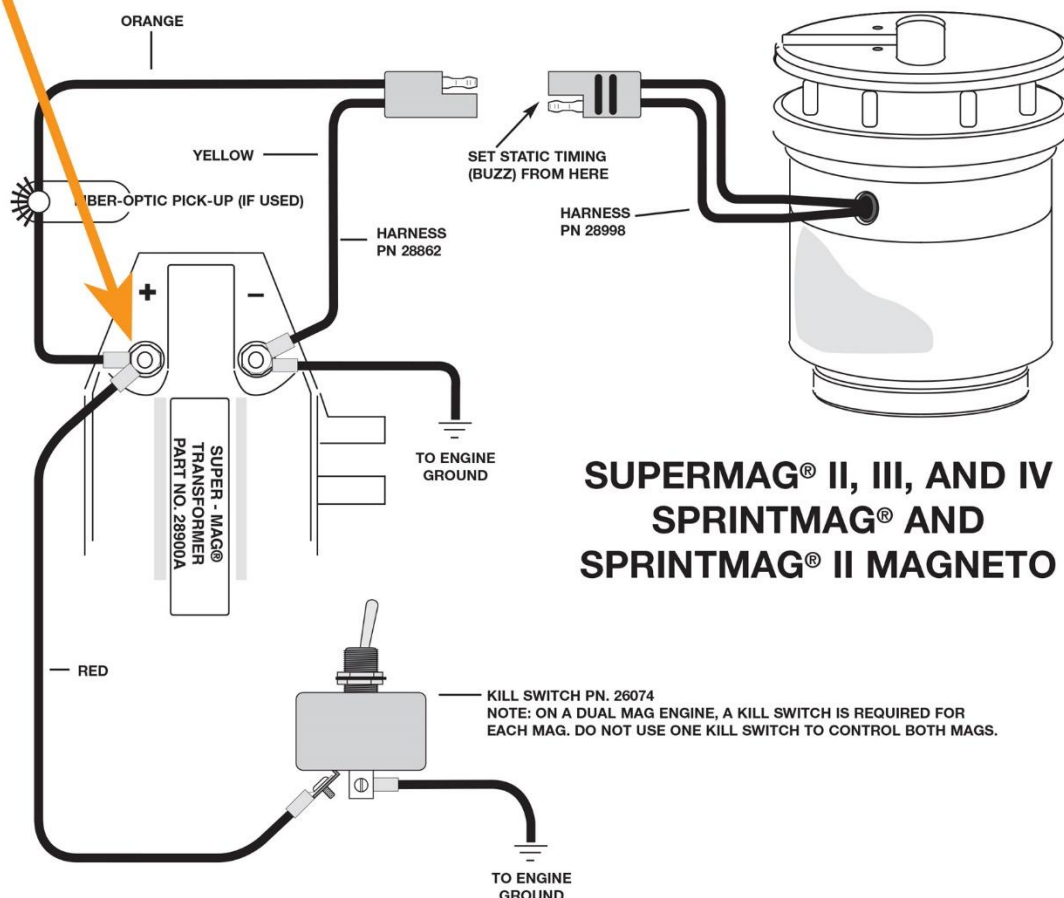
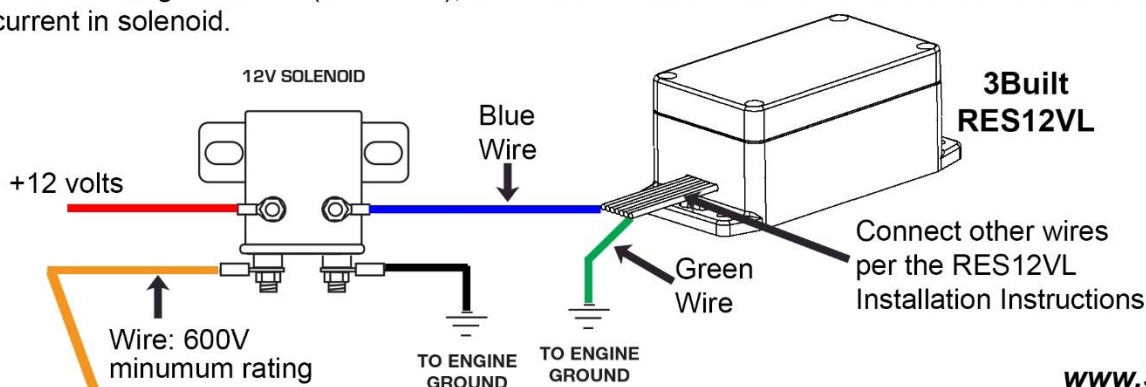


For proper operation:
Immediately after turning on the receiver
the Yellow LED will illuminate and the
Red LED will flash.

Connection to: Mallory Super-Mag

SOLENOID SELECTION

- MSD Part Number **8134** - Normally closed. You must turn on the receiver for engine to operate. The solenoid will consume power whenever the receiver is turned on and set to RUN mode. If the vehicle battery fails, the solenoid will release and the ignition will be disabled
- Littelfuse (Cole Hersee) **24059** - Normally open. Only consumes power when in shut-down mode. If the vehicle battery fails, the solenoid cannot be activated therefore NO shut-down will occur.
- If vehicle voltage is above (12.6 VDC), then inline resistors must be added to Blue wire to limit current in solenoid.



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to show connection information for the
Super-Mag III