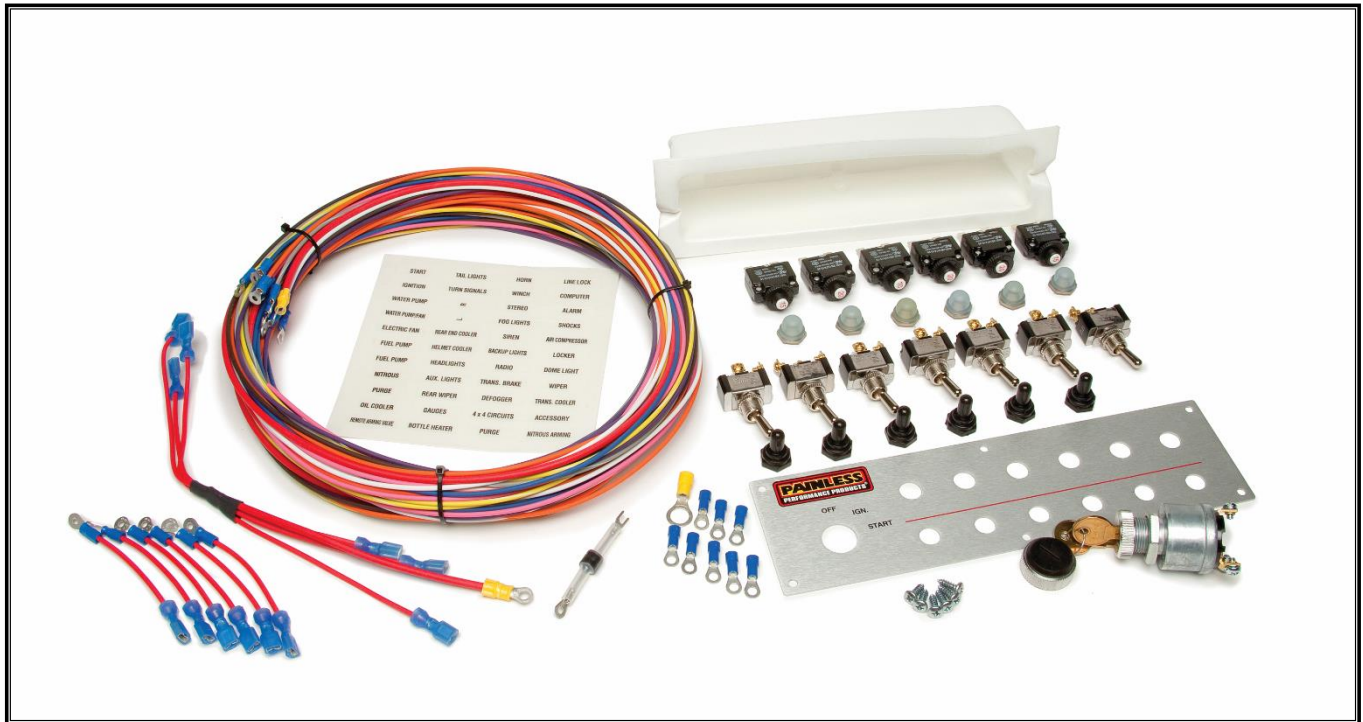


# PAINLESS<sup>®</sup>

## PERFORMANCE PRODUCTS



## Off-Road Switch Panel Installation Instructions

**50330: Off-road 4 Toggle switches/Dash Mount w/Keyed Ignition Switch**

**50332: Off-road 6 Toggle switches/Dash Mount w/Keyed Ignition Switch**

Painless Performance Products recommends you, the installer, read this installation manual from front to back before installing this harness.

# **Painless Performance Products, LLC**

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**E-Mail: [painless@painlessperformance.com](mailto:painless@painlessperformance.com)**

If you have any questions concerning the installation of this product, feel free to call **Painless Performance Products'** tech line at 1-800-423-9696. Calls are answered from 8am to 5pm central time, Monday thru Thursday, 8am-4:30pm Friday, except holidays.

Here we have provided you with accurate instructions for the installation of this product. However, if you have comments/suggestions concerning these instructions, please call or email us (our contact information can be found at the top of this page or online at **[www.painlessperformance.com](http://www.painlessperformance.com)**). We sincerely appreciate your business.

**Painless Performance Products, LLC** shall in no event be liable in contract or tort (including negligence) for special, indirect, incidental, or consequential damages, such as but not limited to, loss of property, or any other damages, costs or expenses which might be claimed as the result of the use or failure of the goods sold hereby, except only the cost of repair or replacement.

**Should you damage or lose part of your manual, a full-color copy of these instructions can be found online at [www.painlessperformance.com](http://www.painlessperformance.com)**

**2<sup>nd</sup> Edition: Jan 2019**

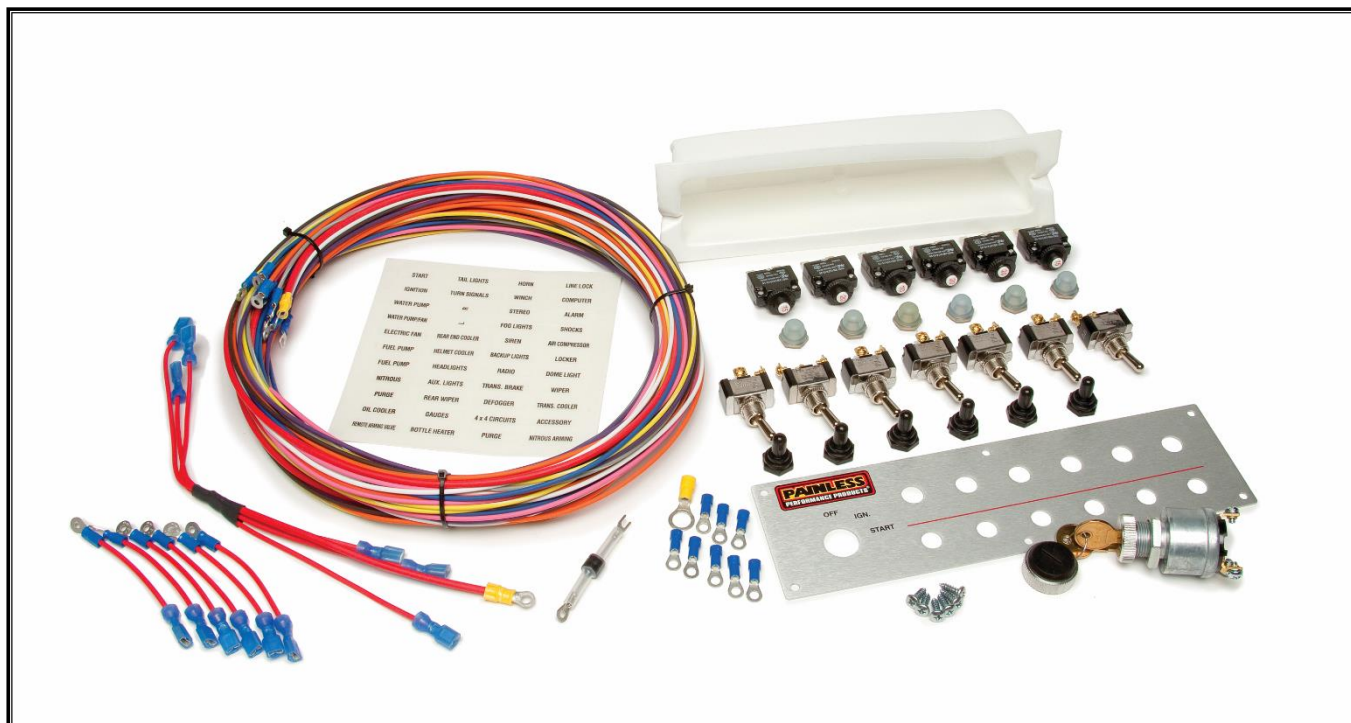
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# **CONTENTS OF THE PAINLESS KIT**

Refer to the **Contents Figure** (below) to take inventory. See that you have everything you're intended to have in this kit. If you find that anything is missing or damaged, please contact the dealer where you obtained the kit or Painless Performance at (800) 423-9696.

## **The Painless Off-Road toggle Switch Kit should contain the following:**

- (1) 4 or 6-Switch Customizable Switch Panel w/ (1) label sheet
- (1) Foam Liner
- (5 or 7) Toggle Switches
  - (3 or 5) On-Off
  - (1) On-Off-On
  - (1) Off- Momentary On
- (4 or 6) Toggle Switch Boots
- (1) Ignition Switch & (1) Ignition Switch Nut w/ Boot
- (4 or 6) Circuit Breakers
  - (1) 10 amp (50332 only)
  - (1 or 2) 15 amp
  - (3) 20 amp
- (4 or 6) Clear Circuit Breaker Boot
- Hardware: (1) 10-12 ga.  $\frac{3}{8}$ " Ring Terminal, (7 or 9) 14-16 ga. #10 ring Terminals, & (6) 8x12 screws
- (1) Diode Assembly
- (1) Ign. Sw. to Circuit Breaker Power Wire Assembly
- (1) Power Wire
- (1) Purple Starter Solenoid Wire
- (4 or 6) Red Jumper Wires
- (5 or 7) Pre-Terminated Control Wires.
- Zip-ties



# INSTALLATION

First, decide what switches will be used for your application and install them into the panel. Start by adjusting the hex shaped backing nut on each of the switches  $\frac{3}{4}$  of the way back toward the body of the switch.

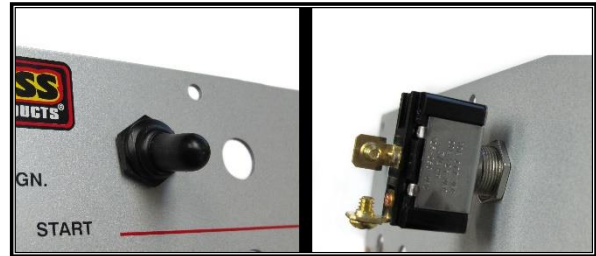


Insert the switch through the switch hole opening with the slot on the threads facing down and screw the black toggle switch boot onto the front of switch by hand until snug.

Next, using either a  $\frac{5}{8}$ " or a 16mm deep wall socket hold the switch boot in place while tightening the hex shaped backing nut to fully secure the switch to the panel. Tightening the switch using the nut inside the switch boot could damage the shoulders around the boot.

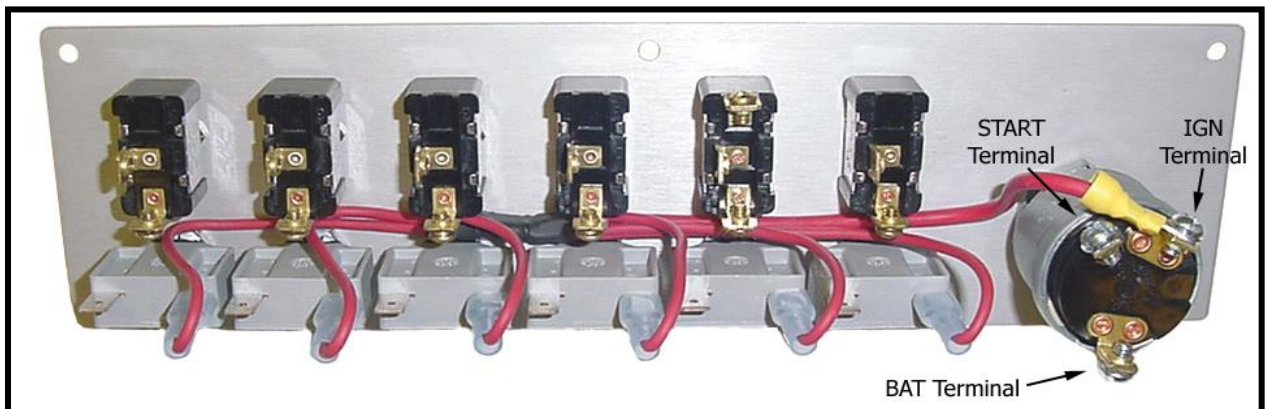


In order to allow the maximum amount of room for the switch labels, line the switch boots up with the flat sides of the hex-shaped nut running parallel with the top and bottom sides of the switch panel. Follow this same procedure for installing the push button circuit breakers. **NOTE: A thread locker may be used to assist in keeping the switch and circuit breaker mounting nuts from vibrating loose.**



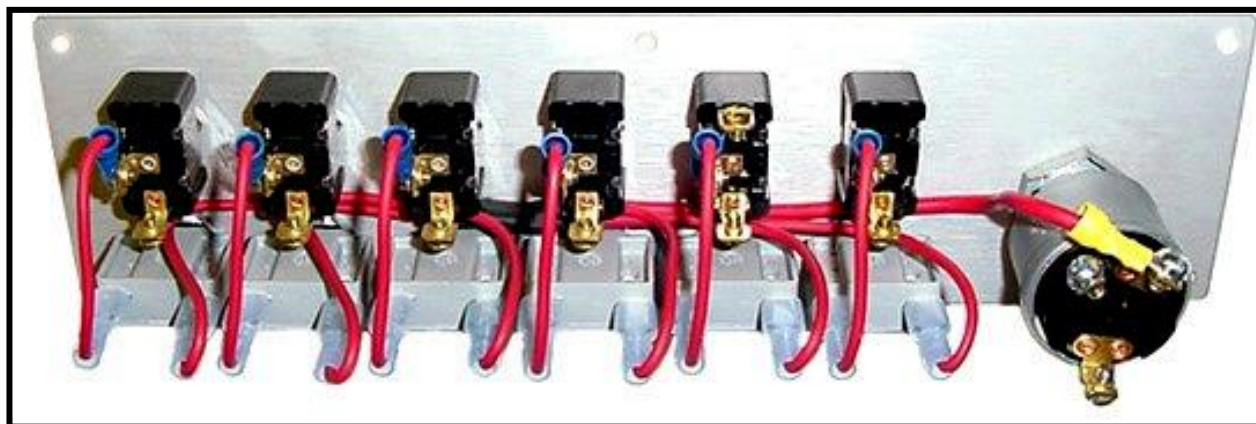
Install the keyed ignition switch into the switch panel. Pass the key through the weather-resistant retaining nut and then insert the key into the ignition switch cylinder. Tighten the weather-resistant retaining nut by hand using the key to properly align the switch. The key should face up and down in the off position. Next tighten the ignition switch backing nut to fully secure the ignition switch to the panel. **NOTE: A thread locker may be used to assist in keeping the ignition switch nut from vibrating loose.**

The large single red wire is included to provide power from the battery to the keyed ignition switch "BAT" terminal. Also, a shorter red wire that has been spliced several times is included to provide power from the keyed ignition switch "IGN" terminal to the circuit breakers.





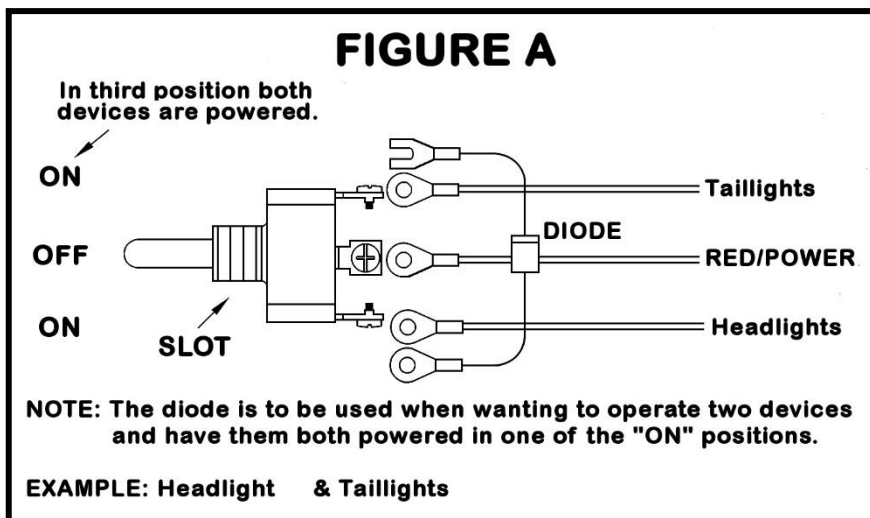
Six or Four (depending on which kit you have) terminated jumper wires are provided to supply power from the circuit breakers to the toggle switches. **See Illustration B.**



Individual wires with terminals on one end are the wires to be routed from the toggle switch to the device being controlled. The terminal end is for the switch and once the wire has been routed, the extra length may be cut off and then terminated. Each kit has one extra switch and one extra wire, which may be needed in your particular application. The following blank chart is to help you keep track of which wire color is controlling which component. An example of those connections can be seen in the far right column. The ignition switch has a dedicated “**START**” terminal for use with the purple starter wire included in this kit.

| <b>CIRCUIT #</b> | <b>WIRE COLOR</b>       | <b>CONNECTED TO</b> | <b>Example</b>             |
|------------------|-------------------------|---------------------|----------------------------|
| 1                | Pink                    |                     | Ignition Coil              |
| 2                | White                   |                     | Headlights                 |
| 3                | Yellow/White            |                     | Fuel Pump                  |
| 4                | Orange                  |                     | Fuel Pump 2                |
| 5                | Blue                    |                     | Water Pump                 |
| 6                | Gray/White (50332 Only) |                     | Electric Cooling Fan Relay |
| 7                | Brown (50332 Only)      |                     | Taillights                 |

**Figure "A"** illustrates the proper hookup of wires using an on/off/on switch when two devices are to be operated and one of the devices is to be on in both positions. An example might be headlights and taillights. With the switch in the lower position only the taillights are on and in the upper position the headlights and taillights are on. The diode, in the illustration, allows this function to take place. If the diode is not used, the switch operates two devices independently as shown in **Figure "B."**



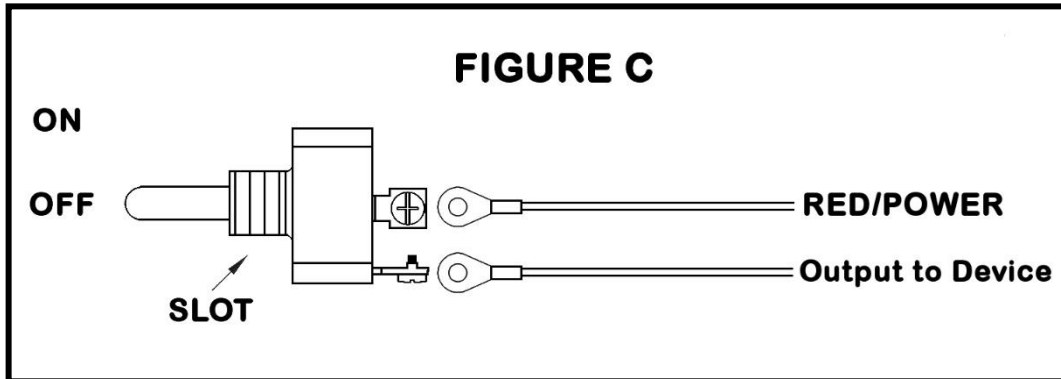
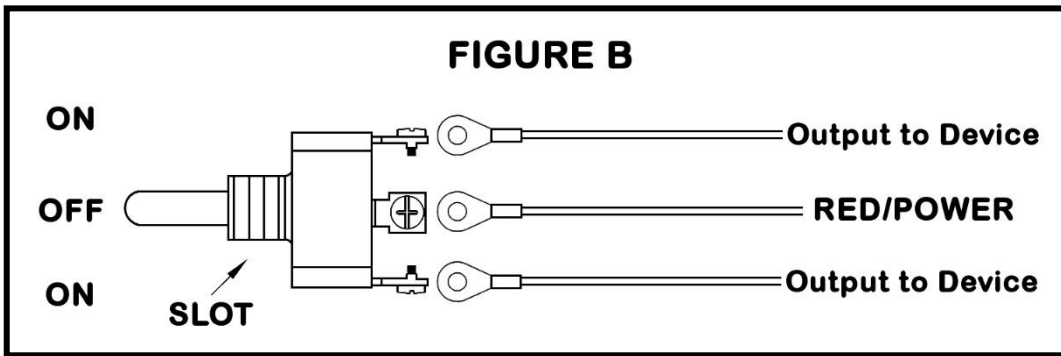
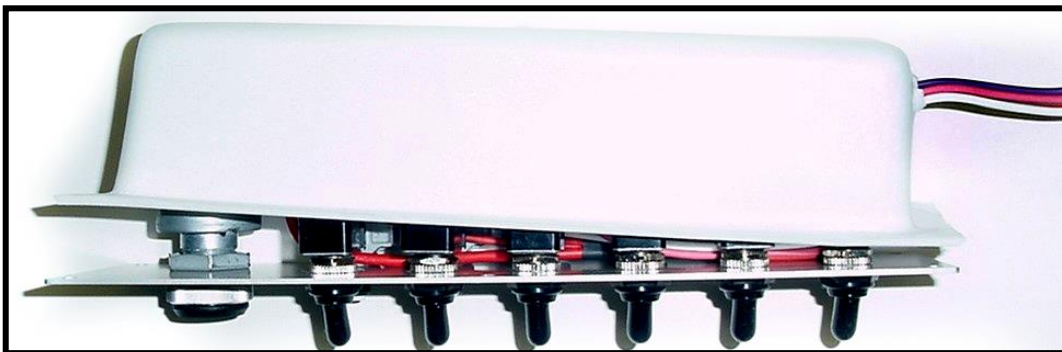


Figure "C" illustrates the proper hookup of wires to an on/off switch, which will control a single device.

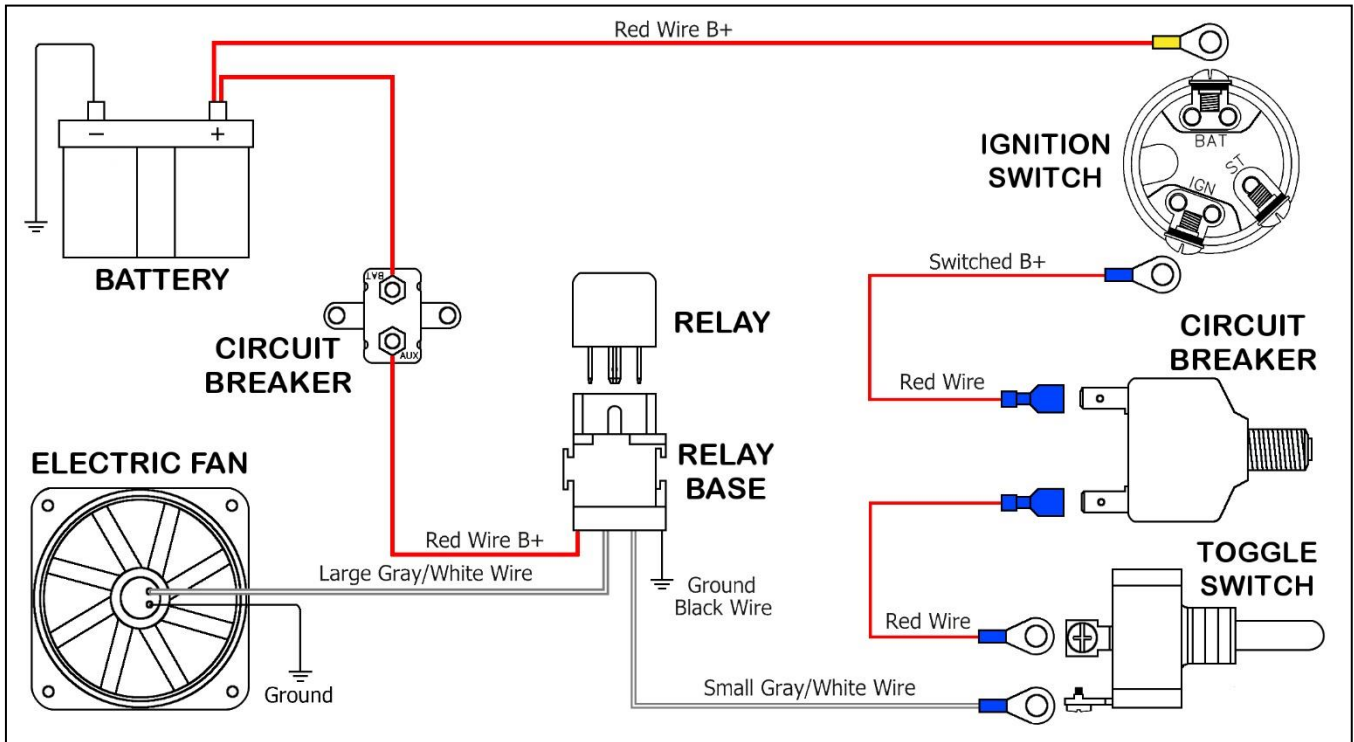


Once all of the wires have been connected to the switches, the polyethylene liner can be installed. First decide where the wires will be exiting and make a small hole in the liner and pass the wires through the opening, then slide the liner over the switches and flush to the panel.

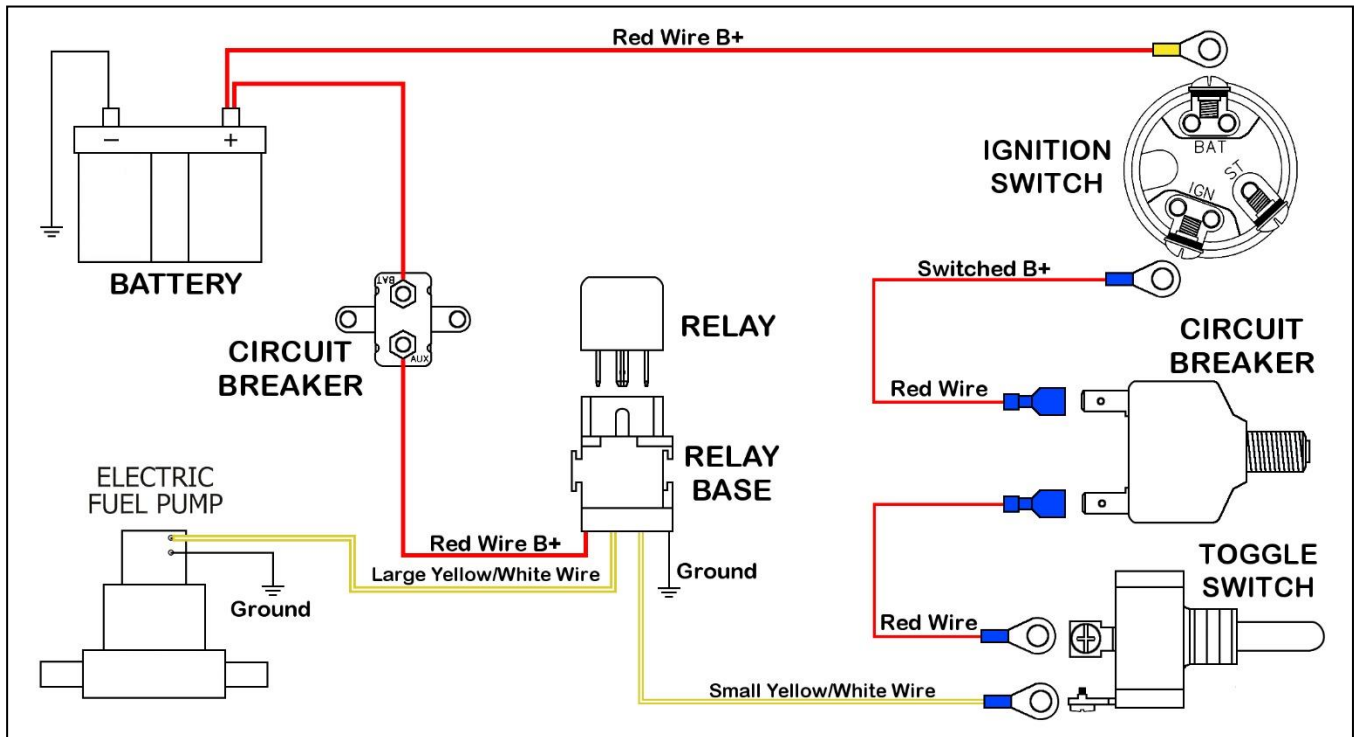
For dash mounted panels, you must cut a 7 ¼" x 2 ¼" opening for the four switch panel or a 9 ¾" x 2 ¼" opening for the six switch panel to allow room for the polyethylene liner.

- The plastic wire ties are for looming and securing the wires to the vehicle.
- The label sheet included is to identify each switch of its function. Simply peel off the label needed and place it under the switch wired for that function. The "R" and "L" labels are for right and left in the event an on/off/on switch is turned sideways for turn signals

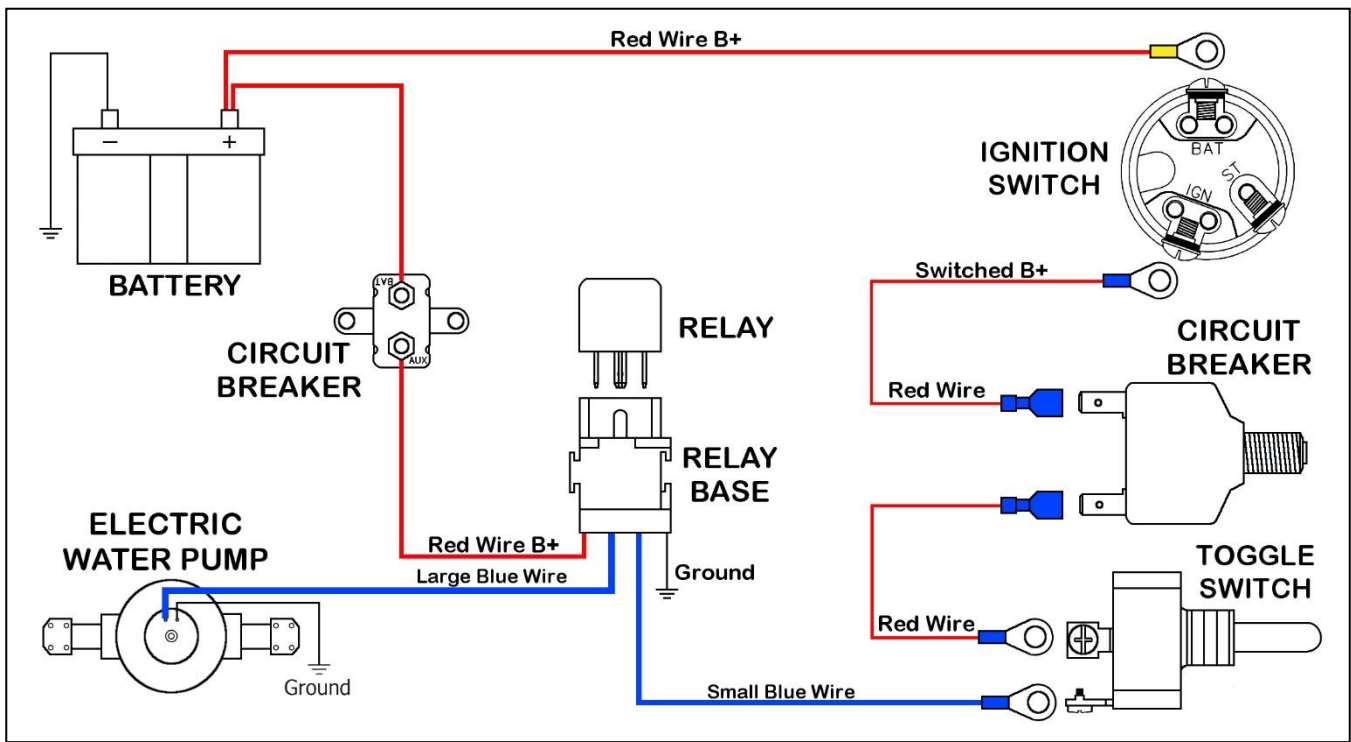
The illustrations below are some examples of typical relay installations.



**Electric Cooling Fan** connection using Painless weatherproof relay kit #30130



**Electric Fuel Pump** connection using Painless weatherproof relay kit #30131



**Electric Water Pump** connection using Painless weatherproof relay kit #30132

## **Painless Performance Products LLC** **Limited Warranty and Return Policy**

Chassis harnesses, fuel injection harnesses, and switch panel units are covered under a lifetime warranty.

All other products manufactured and/or sold by Painless Performance are warranted to the original purchaser to be free from defects in material and workmanship under normal use. Painless Performance will repair or replace defective products without charge during the first 12 months from the purchase date. No products will be considered for warranty without a copy of the purchase receipt showing the sellers name, address and date of purchase. You must return the product to the dealer you purchased it from to initiate warranty procedures.

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