Handguard LED Kit

Part # 34290 & 34490

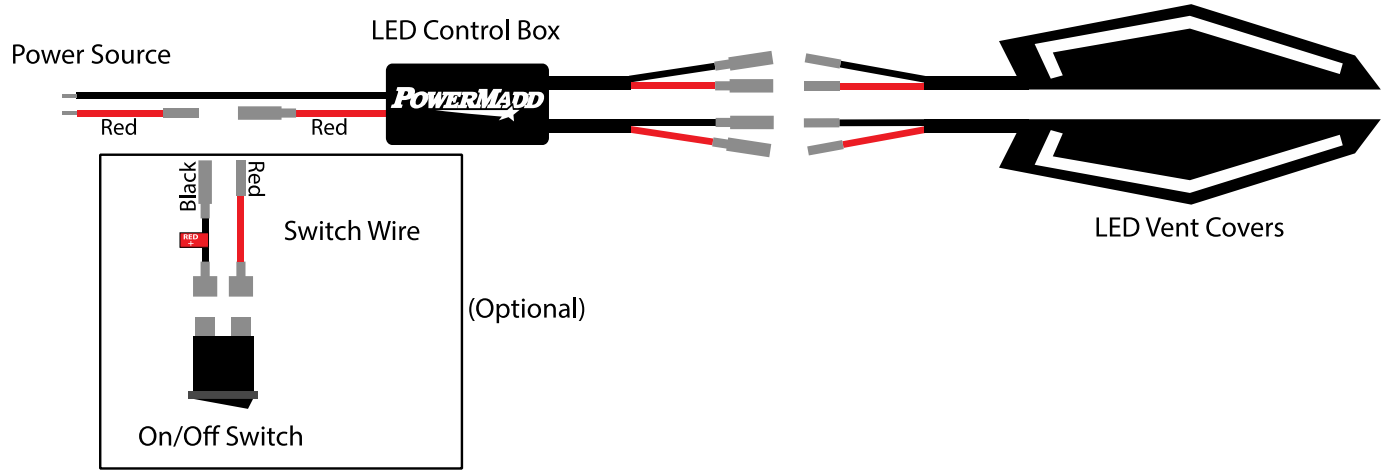
Installation Instructions

Attention: The assembly of this product can be complicated and requires good technical understanding. If you are not sure on how to do this or have a vehicle with complex electronics, have a service center perform the installation. PowerMadd accepts no liability for damages caused by improper installation.

Before proceeding familiarize yourself with all the parts contained in the Handguard LED light kit and the wiring schematic. Reference parts list and schematic. Please note that all parts may not be used depending on application.

Tools needed: pliers, small magnetic Phillips screw driver, side cutters, wire crimp tool, electrical tester or continuity tester, drill, ¾" drill bit, file

Wiring Diagram:



LED Vent Cover Installation

These instructions assume that you already have the PowerMadd Star Series or Sentinel handguards installed. If not, refer to the specific handguard instructions for installing the handguards. Before you get started, take a look at the wiring schematic.

Remove the original vent covers from the hand guards by first unsnapping the bottom three tabs on the inside of each vent cover, then the cover should pop off from the front.

Install the LED light vent cover assembly by first feeding the LED light wires through the vent hole closest to the other handguard. Take care when handling the LED Vent Cover. **Note:** it is possible for the LED light to become detached. If this happens, simply snap the LED light back into the vent cover. Snap the LED vent cover in place by inserting the top tabs of the vent cover into the vent holes. Next, press on the bottom front section to clip the lower tabs. **Optional**: With the supplied #4 screw and flat washer, secure the LED light vent cover to the handguard using the two standoffs on the back of the vent cover. Do not over tighten these screws only a small amount of torque is required. **Photo 1**

Photo 1

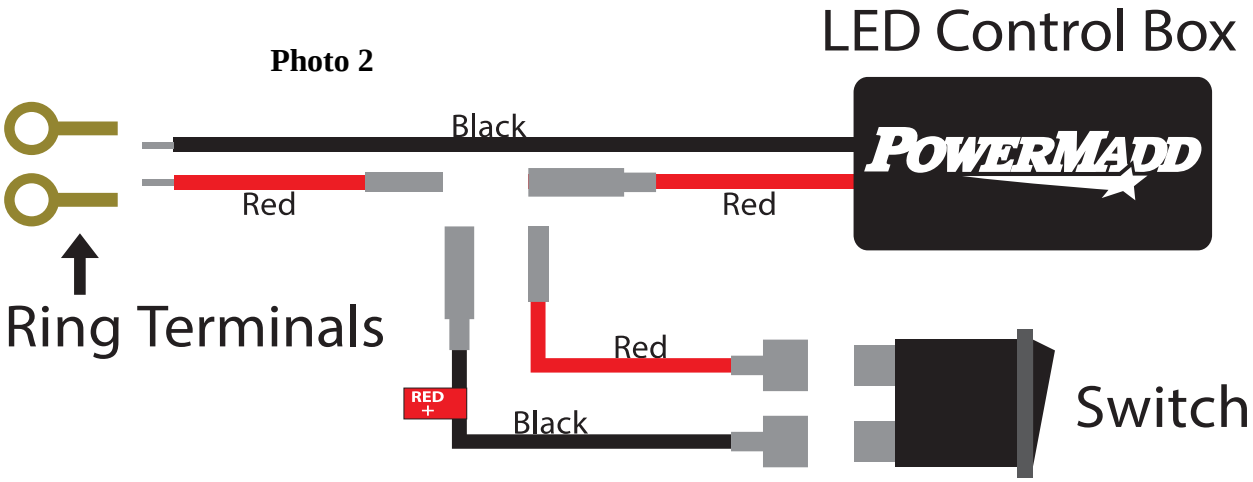
Route LED light wires along handlebar towards the steering stem. after you have completed all the steps secure the wires to the handle bars using the supplied cable ties. Note: Verify that no wires will be cut or pinched by any moving parts.

Wiring Option 1:

Direct connection to 12-volt power source using the 12v Switch

Constant power is always on and a switch will need to be used to turn off the LED lights.

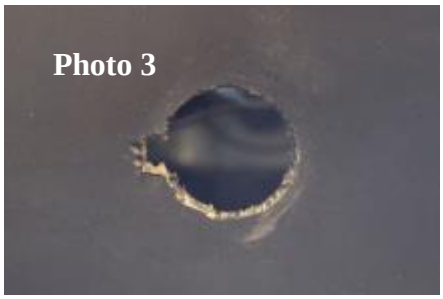
Photo 2



If connecting directly to the battery, crimp the supplied 12-volt ring terminals on the end of the single red and black wires labeled "Power Source". **Photo 2** These will be connected to the battery terminals in the last step.

Find a convenient spot for your 12-volt switch. Somewhere near the handlebars that is easily accessible. You will need approximately 1.25" of clearance behind the hole for the switch and wires. Drill a ¾" hole and with a small file create a slot for the indexing tab on the 12-volt switch**.** **Photo 3**

Photo 3



Connect the two spade terminals from the 42" switch wire to the 12V switch. It makes no difference which color wire you attach to the switch terminals. Feed the wires through the drilled hole and with firm pressure, press the 12volt switch into place.

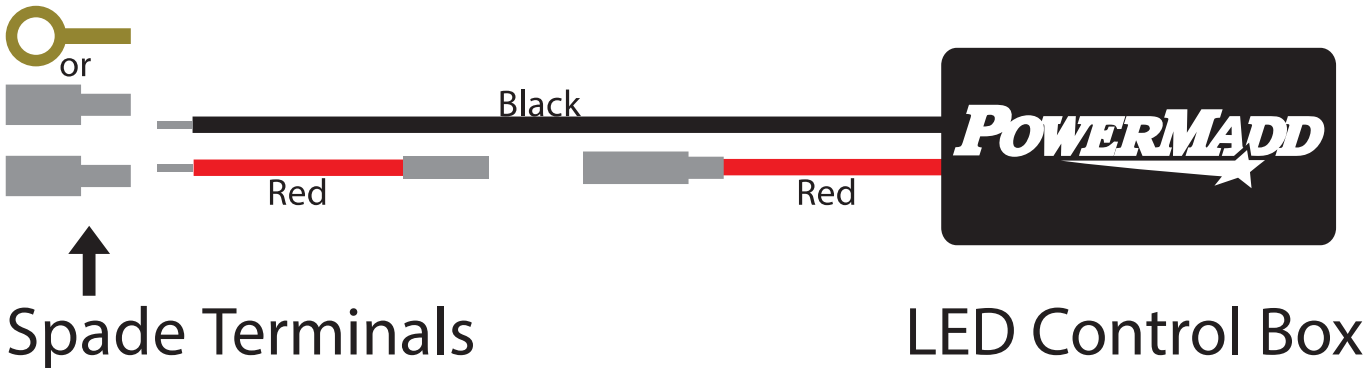
Connect the black switch wire to the connector on the red wire going to the power source. Connect the red switch wire to the red wire going to the LED control box. **Photo 2**

- Find a safe location to secure the LED control box away from heat sources and impact damage. Secure the LED control box using supplied zip ties.
- Connect the two LED light wires to the 2 sets of wires coming out of the LED control box.
- Connect the 12-volt ring terminals to the battery. Red to the positive post and black to the negative post
- Test your lights with the 12-volt switch.
- Using the supplied zip ties secure all wires.

Wiring Option 2:

Connect to existing vehicle Power Source using switched power

Switched power is only on when the ignition key is on and will allow the LED lights to turn off when the key is turned off so as to not drain your vehicles battery.



Connecting to the ground wire of the power supply

1. Determine your ground source. If connecting to a bolt/nut on vehicle crimp a supplied 12-volt ring terminal to the black wire on the power side of the LED control box. If tapping into an existing ground wire, crimp a supplied spade terminal to the black wire from the power side of the LED control box. Once you have found the ground wire to splice into, connect a supplied 3M T-tap onto the ground wire. **See T-Tap instructions on page 4.**

2. Now either connect the ring terminal from the black wire to the bolt/nut or insert the spade terminal from the black wire into the T-Tap of the ground wire.

Connecting to the hot wire of the power supply

Crimp a spade terminal to the red wire on the power side of the LED control box. See T-Tap instructions on page 4.

Determine the switch on your vehicle you want to control the LED light. You most likely have two options; the vehicles key or an existing light switch, if the vehicle has one. You will tap into the "hot" wire for this switch. Once you have determined the switch follow the wires of the switch to where you will be installing the LED control box. There should be a quick connect that you can back probe into to determine the power wire when the switch is turned on. See back probe instructions on page 4.

Once you have found the hot wire to splice into, connect a supplied 3M T-tap onto the hot wire. **See T-Tap instructions on page 4.**

- Find a safe location to secure the LED control box away from heat sources and impact damage. Secure the LED control box using the supplied zip ties.
- Connect the two sets of LED light wires to the two sets of wires coming out of the control box. Reference Wiring Diagram for this section.
- Connect the red wire from the LED control box to the 3M T-tap on your hot source.
- Connect the black ground wire from the LED control box to the ground source.
  If you are connecting the supplied 12V switch refer to "12V switch Instructions on page 2
- Test your lights using the vehicles switch.
- Using the supplied zip ties secure all wires.

Back Probe Instructions:

How to back-probe to find a 12v power source.
When looking for a power wire to tap into, it is most often easiest to look at the wiring diagram for your specific machine. If that is not available, you can typically back probe or test for voltage on the wires going into your key switch. In order to protect against the elements, electrical connectors typically have rubber insulators where the wire enters into the connector. Our goal is to slip voltmeter probe in between the insulator and the wire.

– Disclaimer- Be careful when dealing with live voltage sources. Grounding battery voltage can lead to harm. For best results and safety, use the appropriate probes for your voltmeter.

Simply insert the voltmeter probe as shown in Photo 6. It will take a little work, but you should feel the probe rest against the bottom of the wire inside the connector.

The finished product should look similar to the **Photo 4**.

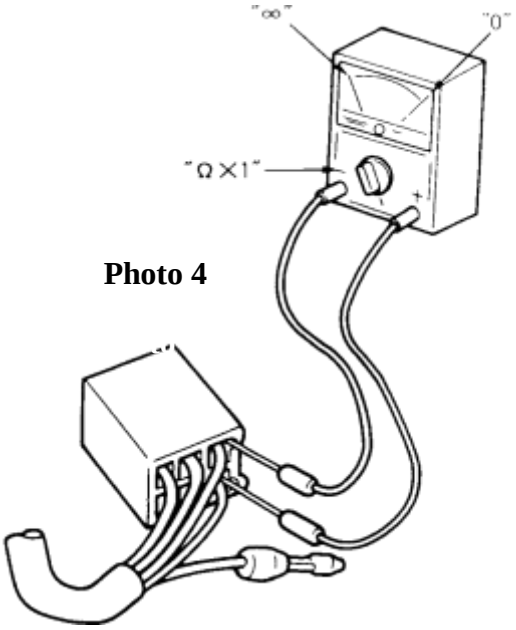
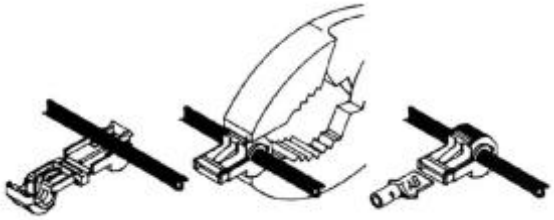


Photo 4

T-Taps Install Instructions:

1. Place wire in open channel of the T Tap.
2. Fold T Tap connector body until element contacts wire.
3. Crimp T Tap closed with pliers. Find a safe location to secure the LED control box away from heat sources and impact damage. Secure LED control box using supplied zip ties.



Trouble shooting
If you light do not work or have intermittent power most likely you have a loose connection.

1. Thoroughly check all connections for a positive connection and if wired correctly. Refer to the wiring diagrams.
2. Check vehicles fuse if you are connecting to a fused hot wire.
3. If connected to battery make certain battery has a charge.

LED light Trouble shooting guide

Lights do not come on:

Check for 12v power coming off your power source. Using a volt meter test the power source. **(PHOTO 1)** If you have used our T-tap connectors slide a volt meter probe into the T-tap to test for power. If you do not have power check and make sure your connections are good. Open the T-tap connector and make sure it has a good contact to the wire.


PHOTO 1

Verify that all bullet connectors are connected correctly and have a solid connection. **(PHOTO 2)** It is possible that from the factory the bullet connectors were crimped incorrectly and are crimped to the wire insulation instead of the actually wire. This can be inspected visually.

Test that the two sets of wire coming out of the LED module have 12 DC volts. **(PHOTO 3)** Test each pair of wires with a volt meter. At this point if you do not have power here and have verified that the power connections are good please contact PowerMadd.

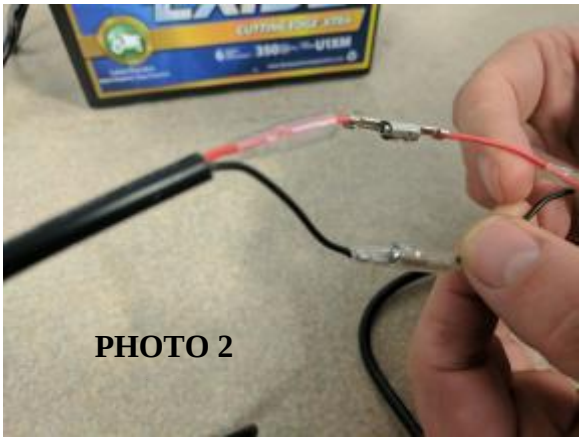


PHOTO 2

If you do have power coming out of the two pairs of LED light wires coming out of the LED control box and have verified that all the bullet connections are good, please contact PowerMadd.

Only one light comes on:

Verify that all bullet connectors are connected correctly and have a solid connection. **(PHOTO 2)** It is possible that from the factory the bullet connectors were crimped incorrectly and are crimped to the wire insulation instead of the actually wire. This can be inspected visually.

Test that the two sets of wire coming out of the LED module have power. **(PHOTO 3)** Test each pair of wires with a volt meter. At this point if you do not have power here and have verified that the power connections are good please contact PowerMadd.

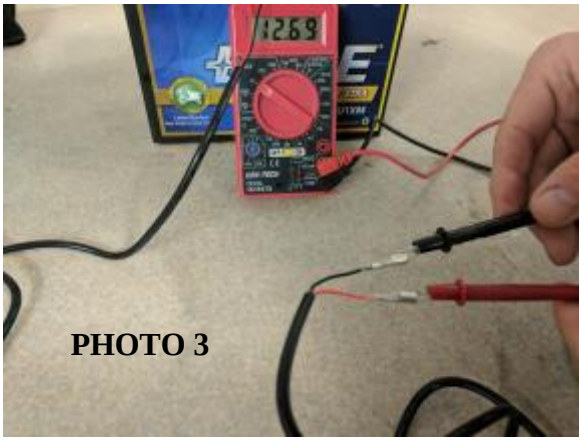


PHOTO 3

If you do have power coming out of the two pairs of LED light wires coming out of the LED control box and have verified that all the bullet connections are good, please contact PowerMadd.

Lights flicker

Check for 12v power coming off your power source. **(PHOTO 1)** Using a volt meter test the power source. If you have used our T-tap connectors slide a volt meter probe into the T-tap to test for power. If you do not have power check and make sure your connections are good. Open the T-tap connector and make sure it has good contact the wire.

Verify that all bullet connectors are connected correctly and have a solid connection. **(PHOTO 2)** It is possible that from the factory the bullet connectors were crimped incorrectly and are crimped to the wire insulation instead of the actually wire. This can be inspected visually.

Test that the two sets of wire coming out of the LED module have power. **(PHOTO 3)** Test each pair of wires with a volt meter.