

INSTALLATION GUIDE

**PETERBILT 379/389
GRILL LED LIGHT KIT**



Family Owned Motorsports Lighting Since 1989

800.847.1359

www.BoogeyLights.com

Thank you for purchasing genuine Boogey Lights® LED Lighting products! We know you're anxious to get started but we strongly recommend taking time to read through these instructions. You'll likely save yourself some grief and aggravation if you do. For additional installation support refer to www.BoogeyLights.com or give us a call at 800.847.1359 for assistance.

BEFORE YOU START

Please review this material before starting your installation.

It's simply not possible to provide detailed instructions for all installation scenarios. Far too many variables and truck variations. The information in this manual is intended to be used as a guide. You may need to vary your installation based on your truck. This is particularly the case with electrical wire routing and switching.

Make sure you have ample area in which to work and that the area is protected from rain or cold temperatures. The 3M adhesive tape works best if applied when the air temperature is above 40 degrees (and of course is DRY).

Bench test your setup. We know this takes a few extra minutes but we **STRONGLY** suggest you bench test your lights (and LED controller if purchased) on a table before doing anything further. While we test every light strip and controller before shipping, bench testing your lights will eliminate the possibility of any problems with the lights or controller before mounting. Also, the process of bench testing gives you an opportunity to understand the wiring system without interference from other wires, connectors and cables. You can use any 12vdc battery to do this (e.g. car battery, motorcycle battery, lawn tractor battery or 12vdc power supply). Bench testing takes an extra 10 or 15 minutes. You can also use a common 9vdc battery to test your lights if you don't have a 12vdc bench testing power source available (the lights won't be as bright). It's simple to do and can potentially save you hours of time and frustration down the road. Please take our advice. Bench test your LEDs AND controller before mounting.

Tools You May Need

Sockets/wrenches in the sizes necessary to remove the grill (maybe) as well as the driver's side steps to access the battery bank, wire cutters/strippers, crimping tool, electrical tape, rubbing alcohol, shop rag or two.

RGB/MULTI-COLOR KIT Installations

Installation of this led light kit takes 2 to 3 hours depending on whether or not you're adding this light kit to an existing installation or installing this kit as a stand-alone. If the LED Controller is already installed with another kit (e.g. Under-Glow), this kit will simply tie into that controller. If you need to also install the LED Controller, it will take additional time to do this. Wiring diagram is included at the end of the guide.

SINGLE COLOR KIT Installations

Installation of our single color kit typically takes 1 to 2 hours. With single color installations we always recommend using a dedicated on/off switch OR if you want to tie them into an existing circuit (e.g. marker lights), we suggest adding a relay to the circuit. If you purchased the on/off wireless switch we offer, you do not need a relay provided the grill lights in this kit are the only lights you're switching on it. The single color on/off wiring diagram is included at the end of this guide.

Mounting Locations

There is only one mounting location and it's inside the grill – see photo of exact placement. The power lead coming from the grill needs to be carefully run up one side of the truck (passenger's or driver's – your choice based on where you're making your electrical connection) where it will connect to the switching mechanism or, another light kit (e.g. Under Glow). To do this you will have to open the hood and maybe even remove the grill itself. We say 'maybe' because you don't have to remove the grill IF you have a means by which to support the hood when it's open such that you can put your body weight on it. It's also wise to put a piece of plywood across the inside of the grill before putting your body weight on it (see photo). This helps distribute the weight. This will allow you to climb inside (more or less) the front of the hood to install the LED light strip from the inside. Not everyone is going to be able to do this. In that case you're going to have to remove the grill so you can gain access to the inside of the grill from the front of the truck. Also, you'll likely need to remove the driver's side step to gain access to the truck's battery for power. When possible, we suggest pulling power directly from the positive side of the battery bank directly vs somewhere else on the truck. That way you know you're not overloading an existing circuit in the truck.

If you're installing an LED controller (or wireless on/off switch) with this kit, you'll need to remove the driver's side steps to access the batteries. You can mount it anywhere you have a dry area. We prefer to mount our led controllers in either the driver's or passenger's side storage box but it's not required. You can just as easily mount the controller in the engine compartment or also inside the battery box. The key is making sure you're mounting it where it is protected from water or extreme heat. There should be air flow too around the controller. If mounting inside either of the storage boxes, you will need to drill a hole in the floor of that box to connect power to the battery box, led wires and antenna. We provide some butyl tape to seal this hole.

What You Need to Know

In putting together this installation guide we assume the installer has access to and has a basic understanding of using the tools needed to complete this installation. We also assume the following:

- The installer knows how to gain access to the inside of the front grill – either by opening the hood and/or removing the grill itself.
- The installer knows how to remove the truck's driver side steps to access the batteries.
- The installer understands 12vdc electricity, the importance of not overloading a circuit, making electrical connections using crimp on connectors, the importance of having a fuse in the circuit at the battery location and polarity.
- How to access the batteries, remove / connect battery connections, how to make electrical connections (e.g. crimping) and the importance of making sure all electrical connections are sealed properly (e.g. no water intrusion).
- How to run power lead cabling such that the power leads and related wiring are secured in a way as to protect them from chafing, pinching or melting because they're too close to the engine or other extreme heat source.

WHAT'S INCLUDED

In addition to the LED light strips, power leads, quick-disconnects (and controller / switch if ordered), this kit includes some additional items you'll need. Here's a quick review of those items and why we include them. Some of the photos at the end of this guide reference these items too.

- 18AWG or 20AWG Feeder Cable – 4 Conductor for RGB, 2 Conductor for Single Color. Use this cable to extend the LED power leads back to the battery box and/or the LED controller/switch.
- 3M Adhesion Primer. Used to prep the surface before attaching the LED strips AND the 3M quick-lock tape. *Always, always, always* use this adhesion primer with 3M adhesive products if you want the bond to hold.
- 3M Quick Lock Reclosable Tape. This is a heavy duty “Velcro like” product. Used to mount the LED controller (if purchased) to the wall in the storage compartment or similar location.
- Split Wire Loom / ¼”. All power leads and the battery extension cables need to be protected from chaffing. Wrap them in this first.
- Split Wire Loom / ½” . We include the ½” split wire loom to be used when you're connecting multiple power leads together. Helps protect that connection.
- Battery Extension Cable (if LED Controller is purchased). We include some 12awg cable to extend the battery power inputs going to the LED Controller to the battery. Be sure to wrap this extension cable in split loom.
- Fuse Holder – 25AMP (if LED Controller is purchased). Insert this fuse holder on the 12vdc positive side of the battery connection before the battery extension cable. This is critical.
- Battery Terminal Lugs (if LED Controller is purchased). We include a couple of battery terminal lugs that attach to the battery extension cable (crimp on) to make it easy to connect the positive and negative power leads to the truck's battery to the LED controller. It's a much better way to make this connection than to just simply wrap the bare cable around the battery post.
- Butyl Tape. We use butyl tape in a number of places to secure the LED power lead to the truck as well as to fill in the gaps around the hood where the LED strip is mounted (see photo). Super important the LED strip is not mounted over the two seams on the hood without first putting butyl tape done. Butyl will only work if you apply it to a clean surface so make sure you first clean the surface with rubbing alcohol.
- 8” Zip Ties. We include some zip ties which you'll need to secure the LED power leads to the truck.
- Crimp On Wire Connectors. These are used to secure the wire connectors at the LED Controller as well as making all power lead connectors to the feeder cable. We recommend wrapping each connector after it's crimped with electrical tape to protect it from water intrusion.

NOTE: Every installation varies a little so you may need to purchase additional items (or more of them such as zip ties) for your install.

CUTTING YOUR LEDS- If you need to cut your LED strip you can do so as long as you cut in the proper location – which is every three LEDs as shown in the below photo. Cutting incorrectly could damage your lights and is not covered by the warranty. If you cut the strip, be sure to use the included heat shrink tubing to seal the cut end. You can also use silicone found at your local hardware or RV store. If you do need to cut your LED strip, we strongly suggest doing so BEFORE you mount the strip.



Cut Locations

Follow these steps for mounting your LED strips:

- The area where you are mounting the LEDs has to be clean: free of all dirt, oil or anything that might affect the LED from sticking. You only get one opportunity to mount the LEDs so it's critical the area be prepared properly.
- Use rubbing alcohol to clean the area where you are going to mount the LED strip. Be sure to let the alcohol dry completely before proceeding to the next step. (Note: Do not use acetone or similar cleaner).
- Next, use the 3M Adhesion Promoter supplied with your kit to "paint" on the promoter where you are going to mount the LED strip. ***This is an important step. Do not bypass.*** Allow the promoter to dry for 60-90 seconds.
- Peel off the red backing tape that protects the 3M adhesive tape on your LED strip. Be careful not to let the tape touch anything. The 3M backing tape on these LED strips are one-use only. They cannot be reused.

Do NOT bend the LED strip in a radius of less than 2 inches.



Do NOT bend the LED strip on a horizontal plane.



Carefully push the LED strip to the area you have prepared. You will want to apply only enough pressure to the strip to make sure it is firmly mounted. *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very difficult to remove. Moreover, if you do remove the LED strip, the strip cannot be used again without adding another layer of 3M adhesive tape to the back. DO NOT press too hard as too much pressure can damage the LEDs and connecting wires in the strip. Also, do not pull, stretch or twist the LED strip. Too much tension on the strip will also damage the LEDs such that some of the LEDs in the strip will not illuminate. The strip must be mounted flat against a single continuous mounting surface, in a straight line. Really important that the ENTIRE STRIP be stuck to the mounting surface and that you NOT attempt to span across multiple mounting surfaces.

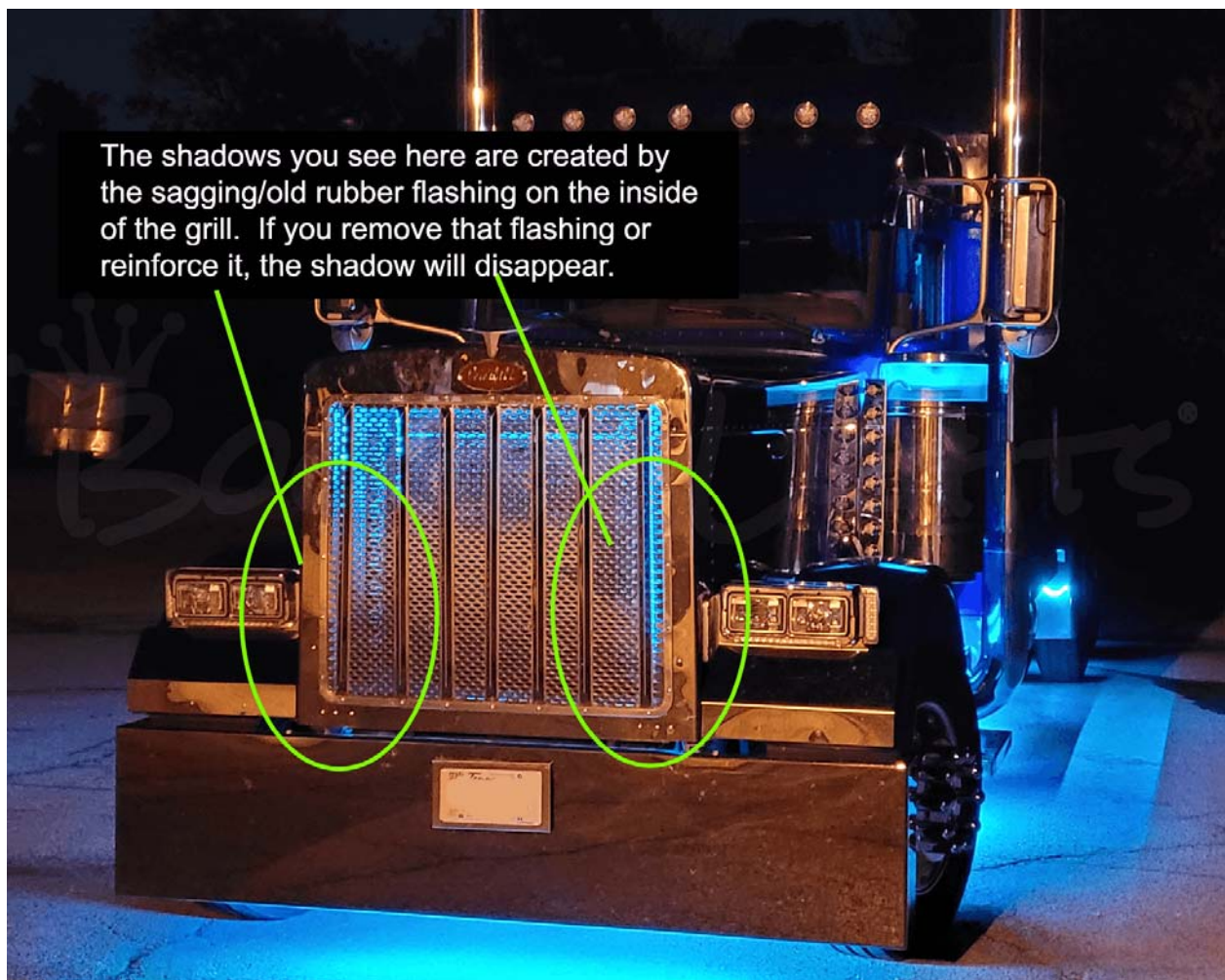
INSTALLATION

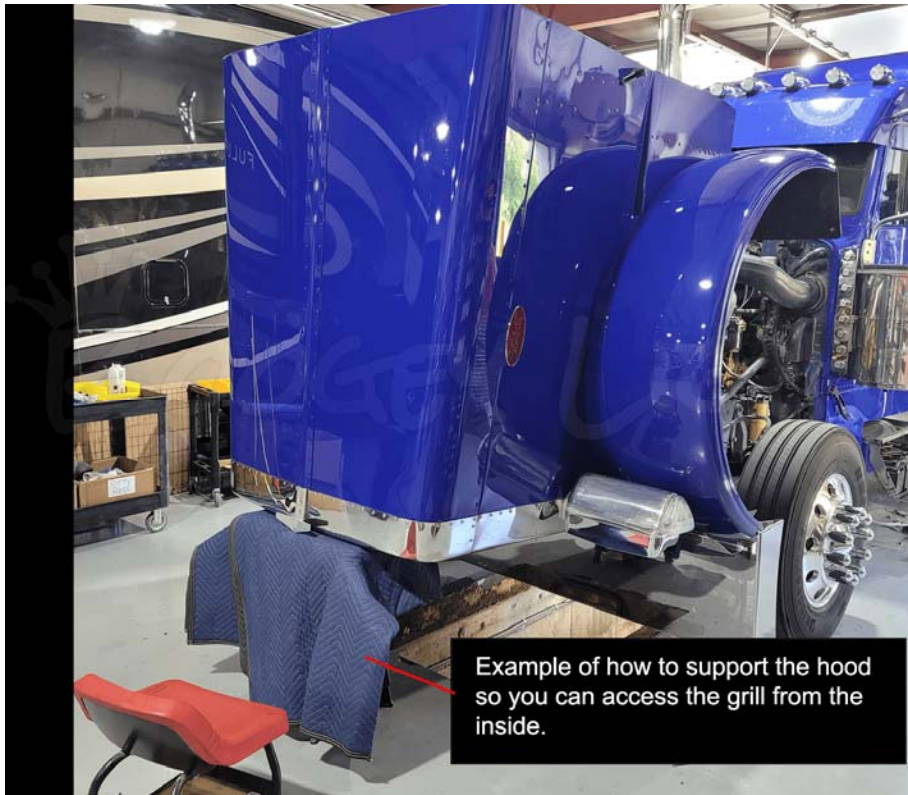
1. You need access to the inside of the grill. You don't have to remove the grill IF you have a means by which to support the hood when it's open such that you can put your body weight on it. It's also wise to put a piece of plywood across the inside of the grill before putting your body weight on it (see photo). This helps distribute the weight. This will allow you to climb inside (more or less) the front of the hood to install the LED light strip from the inside. Not everyone is going to be able to do this -- particularly for those who might be a little on the heavy side. In that case you're going to have to remove the grill so you can gain access to the inside of the grill from the front of the truck.
2. Clean the surface where the LED strip will be mounted with alcohol and then prep with 3M Adhesion Primer. It's important to make sure this area is clean and free of dirt, oil or grease before proceeding.
3. Place some butyl tape on any hood seams where the LED strip will be mounted on top. We have included a photo of the two seams for our installation. It's important the LED strip not be mounted on top of these two seams without butyl tape on it first. Also, do not mount the LED strip on top of screw or bolt heads. This part of the process is super important. Do not skip it.
4. Decide which side of the truck the power lead will route. In our installation we routed it out on the passenger's side because our other light kit power leads (Breather + Under-Glow kits) were on the passenger's side of the truck. We mounted the LED controller in the passenger's side storage box and thus why our connections are on the passenger's side. It could also go on the driver's side. Totally up to you.
5. Starting with the power lead end, peel off the red backing tape on the LED strip. Be careful not to let the tape touch anything. Carefully push the LED strip to the area you have prepared making your way around the three sides of the grill opening (see photo). Continue all the way around the grill opening until you get to the other side. You will want to apply only enough pressure to the strip to make sure it is firmly mounted. *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very difficult to remove. Moreover, if you do remove the LED strip, the strip cannot be used again without adding another layer of 3M adhesive tape to the back. DO NOT press too hard as too much pressure can damage the LEDs and connecting wires in the strip.

NOTE: If you're unsure about this part of the installation, we suggest drying mounting (don't remove the red backing tape) the LED strip first using some electrical, masking or scotch tape. It will give you an opportunity to see how the strip will fit before actually mounting it permanently.

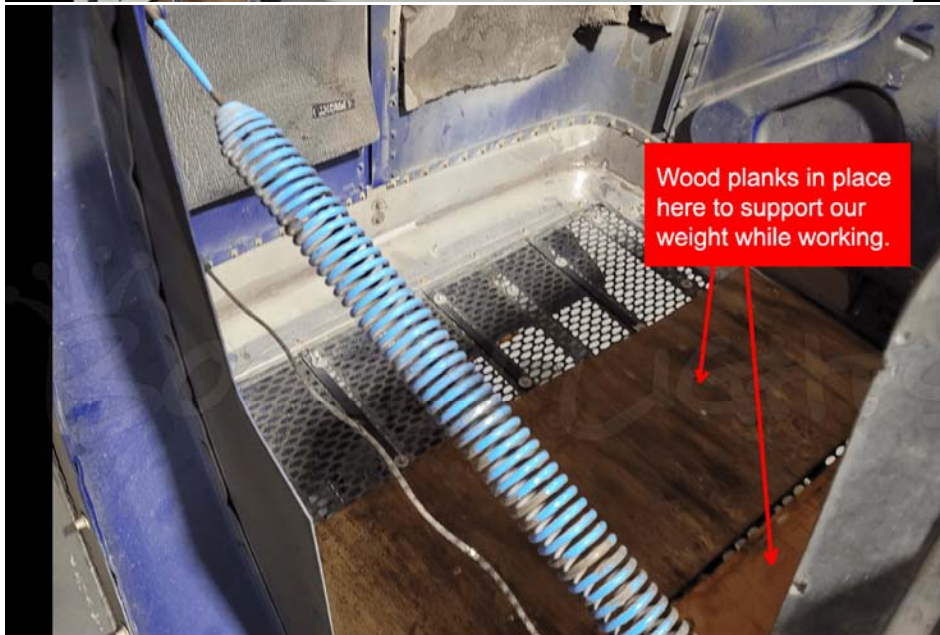
6. Once you have the LED strip power lead cable in the engine compartment, you can continue with wiring the LEDs to power and/or a switch. Be sure to wrap split loom around any exposed power lead cable.

One final note on LED strip placement. You'll notice a shadow on both the left and right side of the grill (see marked up photo below). The reason is some trucks have rubber flashing attached to the top, left and right sides of the radiator. That flashing is designed to funnel air coming in from the front of the grill into the radiator. In newer trucks, the rubber flashing is ridged; it generally won't be an issue. In older trucks however the rubber is quite worn and flimsy so it sags which is what causes the shadow. In our installation the top rubber flashing was so bad it was torn; hanging down and blocking air so we removed it. If you want maximum illumination and that rubber flashing is worn to the point at which it's creating the shadow you have a couple of options. First is to simply remove it - or - at least a portion of it. Whether or not doing so will impact air direction/flow to the radiator we don't know but we doubt it's that significant. Second, reinforce the rubber flashing with something rigid (or tie it back) so the rubber doesn't bend or sag. In our case we left the rubber flashing as it was and let the customer decide later what he wanted to do - and thus why you see the shadow on the left and right sides of the grill photos.



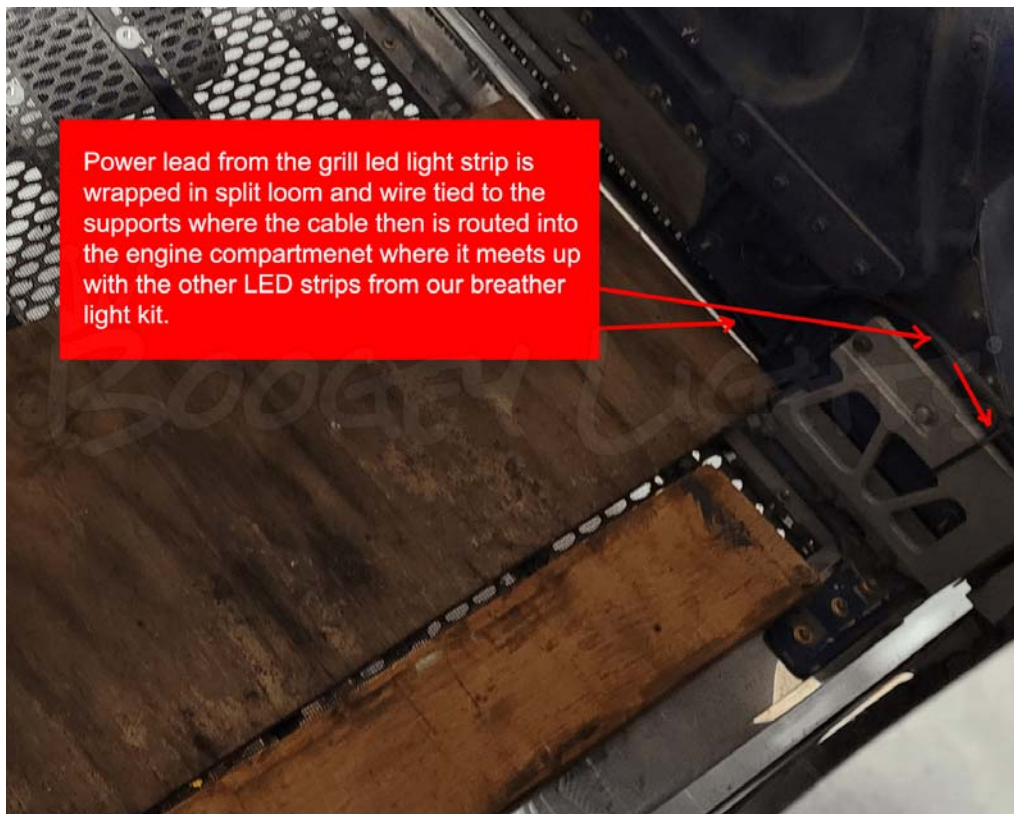


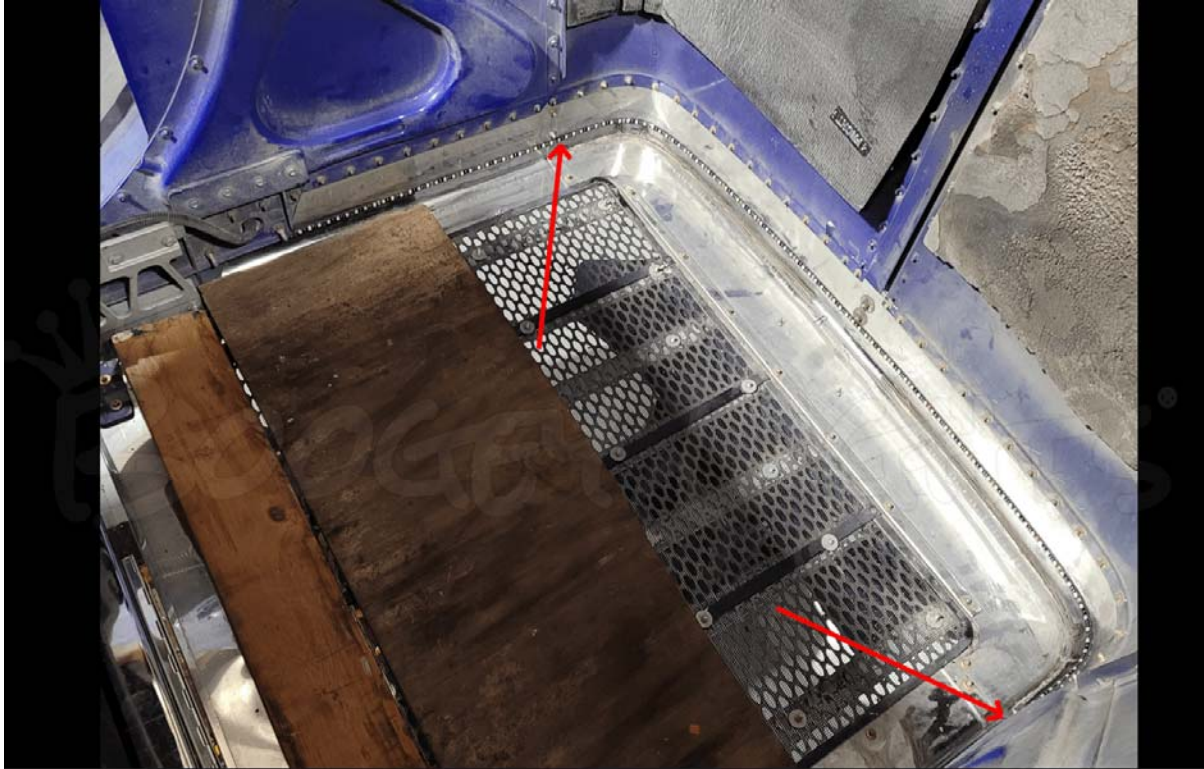
Example of how to support the hood so you can access the grill from the inside.



Wood planks in place here to support our weight while working.

View from the driver's side looking in toward the grill from the inside. Note the wood planks we put down before climbing into the grill area. It's the only way to do it and support the weight so you don't damage the grill. If you don't do it this way, you have to access the grill from the front which requires removing the grill first.





View from the passenger's side with the LED strip in place. In this installation the power lead came out on the passenger's side but it could also come out on the driver's side. Totally up to you. And while it's difficult to see in this photo, we put down some butyl tape first where the LED strip went on top of the metal seams as indicated by the red line pointers. Super important to put butyl down first.

Single Color Wiring Diagram w/o Remote Control

Using A Hard Wired Switch

FUSE

Important the positive connection is fused within 6" or less of the connection to the power source.

CABLE GAUGE

12vdc power drops quickly even over short distances. Always use the largest cable gauge wire you can for running both the positive and negative cables to the power source. We suggest at least 12awg. 10awg is even better.

SWITCHING

There are lots of options when it comes to SPST switches. The switch shown here is for illustration only. We offer a number of switching options including push-button, toggle and dimmer/on-off switches. You can also use your own switch.

Regardless of the type of switch you use, it's important the switch is capable of handling the total amperage of the LEDs you're switching (plus 10% for safety). If in doubt, use a heavy duty 30/40amp 12vdc RELAY. Use the switch to trigger the relay (milliamps) but pull the main power through the relay.

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Instead of running the ground wires to the negative terminal on the battery, it's usually easier to connect the negative side of the LED strips to the vehicle ground. Just make sure there's a good ground by making sure you're connecting the ground wire to bare metal of the vehicle chassis (eg. no paint or rust.)



RED = 12VDC Positive
BLACK = 12VDC Negative

RULE THE NITE™
BOOGEY LIGHTS

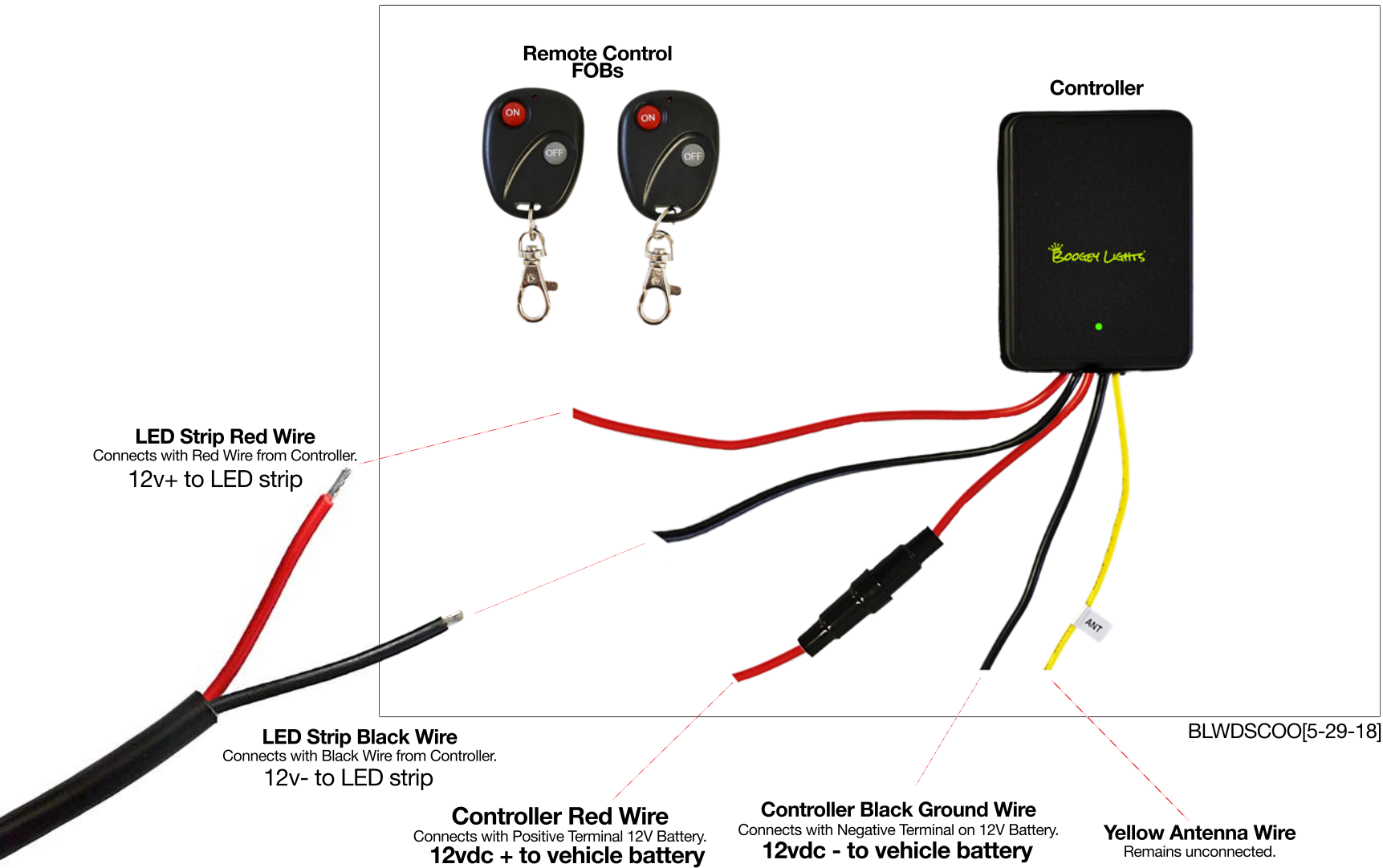
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Single Color Controller Wireless On/Off Remote

NOTE: Max amperage is 5 amps. If you need to go larger, use a heavy duty 40amp relay.



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[BLWDSCOO 10-22-21]

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Multi-Color RGB Wireless LED Controller COMBO Bluetooth + RF Wireless Remote Wiring Diagram



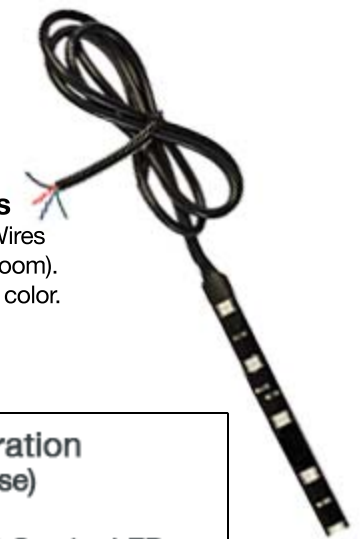
Red Fused Wired connects to 12vdc positive (usually the battery)

Black wire from controller connects to 12vdc Ground

LED STRIP WIRES:

Red, Green, Blue & Black Wires

Connects w/ Red, Green, Blue and Black Wires coming from the LED Controller (in the wire loom). Each wire represents its respective LED light color. BLACK is the GROUND wire.



Brake Flash Integration (Red wire w/o Fuse)

All KEY FOB PLUS & SUPER Combo LED controllers include Brake Flash integration. A feature typically used on motorcycles as a safety feature, when 12vdc power is applied to this circuit (e.g. the brake pedal is pressed), the LED controller will energize JUST the RED leds (or whatever LED color you have wired to the RED output wire from the wire loom bundle attached to the LED controller).

If you aren't using the brake flash feature, simply cap this red input wire; do not leave it exposed.

The M7 RF remote control version of the LED Controller does not include this brake flash feature and as such, will not have the extra red wire shown here.



POWER SOURCE CONNECTION

If the distance between your power source and the LED controller is more than two feet and you're having to extend the battery cable, be sure to use heavier gauge wire (e.g. 10AWG or 12AWG) when doing so. Also, make sure to add another fuse of equal or higher amperage as the blade fuse attached to the LED controller within 6" or less of the battery connection.

COMBO LED CONTROLLER: RF WIRELESS + BLUETOOTH

RF REMOTE CONTROL



Remote Control Option
KEY FOB or M7

BLUETOOTH ENABLED



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