

INSTALLATION INSTRUCTIONS FOR RVs, TRAILERS & CAMPERS

UNDER-GLOW LED LIGHT KIT



BOOGIEY LIGHTS®

Motorsports Accent Lighting Since 1989!

RVs Motorcycles ATVs Boats Golf Carts Cars Trucks



Excellent ★★★★★ Trustpilot



ACCREDITED
BUSINESS



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 recommend you take the time to read through these instructions. For installation support refer to www.BoogeyLights.com or give us a call at 800.847.1359 for assistance.

BEFORE YOU START ... PLEASE READ

Installing our UNDER-GLOW LED kit is relatively simple if you do some pre-planning. We suggest you carefully review the following before you begin:

1. It's simply not possible to provide detailed instructions for all installation scenarios. The information in this manual is intended to be used as a guide. You may need to vary your installation based on your unique situation. This is particularly the case with electrical wiring.
2. 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 we use works best if applied when the air temperature is above 40 degrees (and of course is DRY).
3. Make sure you have adequate surface area where to affix the LED light strips to the bottom of your RV, trailer or camper. The fifth wheel toy hauler trailer used in our demo photos has an enclosed bottom which makes it easy to affix the LED light strips to the unit. However, not all RVs have an enclosed bottom. If your RV, camper or trailer doesn't have an enclosed bottom you'll need to make sure you have sufficient surface area to attach the LED strips. In addition, the area where you are attaching the LEDs needs to be reasonably clean and smooth. If not, the LED strips won't stick. If you don't have sufficient room to stick the entire 16' LED strip, you have the option of cutting the LED strip.

For units that don't have an enclosed bottom or the area isn't smooth, you can use WIRE-TRAK raceway to make the job easier. We offer WIRE-TRAK raceway for sale as an option. You can also purchase some aluminum flat stock locally. Mount the LED strip to the aluminum flat stock, then affix the aluminum flat stock + LED strip to the bottom of your RV. Doing it this way also makes it easier to remove the lights if for some reason you want to in the future.

4. Make sure you know where your electrical connections will terminate. Many RVs (motorhome, travel trailer or fifth wheel) have an electrical access panel somewhere on the outside of the vehicle where 12vdc power is available. We typically mount the remote control unit inside the electrical access panel and run all cables to that point (see photo). If you are using the optional 120/110vac power converter to power your lights you'll need to make sure you know where that 110vac power will be accessible and how you will run the power. If you need to extend the power leads for any reason, be sure you have purchased the additional cable necessary to this before starting the installation.

5. If you are adding additional LED strips beyond the LEDs included with our kits pay attention to the number of LEDs you are lighting and the total amps you will be drawing. The max amps draw on our Heavy Duty controller supplied with our Under-Glow LED kit is 20 amps. NOTE: If you are using the 110vac to 12vdc power converter to power the controller you'll need to make sure you have sufficient room to mount the power converter.



6. **Bench test your setup.** We know this takes a few extra minutes but we STRONGLY suggest you bench test your lights AND your controller 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. 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.** BTW ... Did we mention we suggest bench **testing your LEDs and** controller before installing? You would be surprised at how many people don't take our advice on this step; many regret it later.

IMPORTANT NOTE ABOUT ELECTRICAL WIRE COLORS

Modern RVs, trailers, motorhomes, fifth-wheels and campers often have a mixture of **110vac** and **12vdc** wiring installed. **ALL Boogey Lights® products are native 12vdc.** If you connect a Boogey Lights® controller or LED strip to 110vac instead of 12vdc, it will absolutely damage the controller and LED strip beyond repair. Similarly, if you reverse the polarity of the power (e.g. connecting 12vdc+ to the negative side of the controller), it will also damage the controller beyond repair.

In a typical 110vac environment the BLACK wire is the positive (hot) wire and the WHITE wire is the neutral/ground wire. HOWEVER, in a 12vdc environment, the BLACK wire is always 12vdc- (ground/negative) and the RED (or WHITE) wire is always 12vdc+ (hot). All Boogey Lights® controllers have the power leads clearly marked as to what is 12vdc positive and 12vdc negative.

While we suggest only connecting Boogey Lights® products directly to a 12vdc power source (e.g. house batteries) there are a couple of reasons why you may prefer to tie into the existing 12vdc circuitry. First, is convenience. It may be more convenient to tie into an existing 12vdc circuit rather than running power back to the house batteries. Second, the battery charger in your RV may not be capable of charging your house batteries fast enough to support the draw on the house batteries when using your Boogey Lights® (in which case your Boogey Lights will dim quickly). This is more commonly the case in lower to mid-range RVs/trailers that only have a Single-Stage battery charger vs. a Multi-Stage. **If you are going to tie into an existing circuit it is important to make sure you have properly identified the type of power you are tapping into (AC or DC) AND have identified the polarity of the wires (positive or negative).** **Do not assume the color of the wires will match the controller.** **We strongly suggest using a volt meter to make sure you are using the proper power and polarity.** **Also, make sure the circuit you are tapping into (both the circuit-breaker rating and wiring) is capable of handling the additional amperage draw (see website for amperage ratings). Overloading the circuit could result in overheating and potentially cause a fire. Wiring the power incorrectly will damage your controller beyond repair and invalidate the warranty.**

12vdc vs 110vac - We prefer to run our lights using 12vdc power. It makes for a cleaner installation and provides for greater flexibility in terms of using the lights. 12vdc power is almost universally available on any modern RV, 5th wheel trailer or camper sold today in the United States. 110vac power on the other hand is not always available – at least not without having access to shore power or an on-board generator.

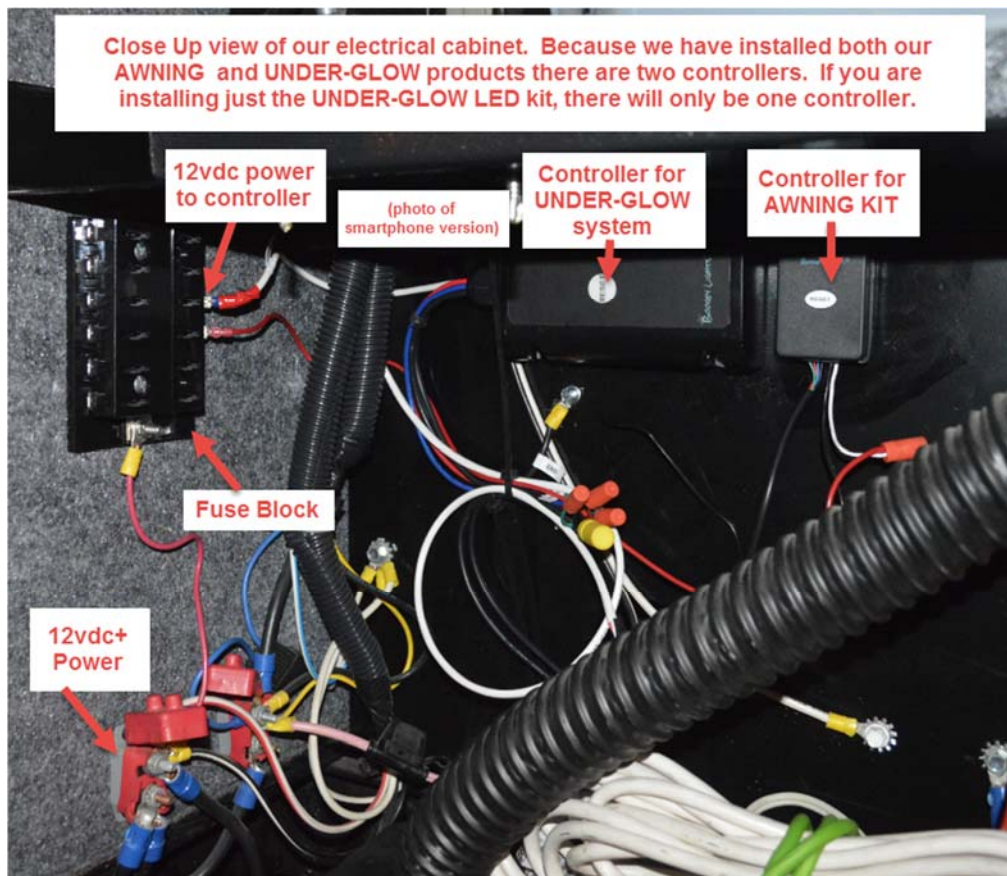
This is a photo inside the electrical closet of our demo unit. We have installed both our AWNING LED kit and the UNDER-GLOW LED kit. We've elected to install two remote control units so we can control the Awning light and the Under-Glow light separately (instead of both on one controller). The Awning LED light only has one LED strip so we can use the smaller controller. The Under-Glow LED lights has two LED strips which is why we need the larger, heavy duty controller.

You'll need to make sure you have room in your electrical cabinet to locate these controllers. In our installation we also installed another fuse block which makes it easier to terminate the 12vdc positive connections. This is just our preference and not a requirement.

While the controller provides the ON/OFF functionality for daily use, we recommend removing the included fuse to the circuit when your RV is going to be sitting for a long time. As an option, you can install a separate on/off hard-wired switch (not included) to isolate the circuit. If you decide to install a separate on/off hard-wired switch, make sure it's big enough to handle the amperage.



(Detailed close up picture of our electrical cabinet)



SELECTING THE LOCATION FOR YOUR LED CONTROLLER

Some things to keep in mind when choosing where to mount your LED controller:

- While water resistant, the LED controller is not intended to be submerged in water. Mount it someplace where it will not be subjected to the elements.
- Make sure there is enough air flow around the controller. Do not mount it inside a small sealed box without adequate air flow. Doing so will almost certainly mean the controller will shut down (or the lights will dim) when it gets too hot.
- The wireless remote control operates using radio signals (RF or Bluetooth depending upon the model). Where you mount the controller can impact the effective range of the wireless remote. For example, mounting the controller near other radio devices (e.g. wireless access point) or mounting it in a compartment that is encased in metal may impact the effective range of the remote control. If you're concerned about the reception, we suggest doing some testing of where you mount the controller before permanently mounting it.
- The short, yellow wire coming out of the LED controller is the RF antenna. Make sure that wire is not bundled with other wires or pinched. It should be hanging free and open. Also, do not attempt to extend or cut the antenna wire. Doing so will make reception worse, not better.

MOUNTING YOUR UNDER-GLOW LED STRIPS

The Boogey Lights® LED **UNDER-GLOW** RV light kit has two LED strips intended to be installed on the bottom of an RV, camper or trailer. Make sure you have adequate area where to affix the LED light strips. The Fifth Wheel Toy Hauler appearing in our photos has an enclosed bottom which make it easy to affix the LED light strips to the unit. However not all RVs have an enclosed bottom. If your RV doesn't have an enclosed bottom you'll need to make sure you have sufficient surface area to attach the LED strips. In addition, the area where you are attaching the LEDs needs to be reasonably clean and smooth. If not, the LED strips won't stick. In these situations we recommend using WIRE-TRAK Raceway. It can usually be screwed or wire-tied to the bottom of the RV and then the LED strips can be mounted to the smooth raceway surface. If you have questions on this method, give us a call and we'll be happy to share our knowledge with you. It's relatively easy to do and works well.

Tip: Since these LEDs are mounted to the bottom of your RV, we find the use of a "shop creeper" to be extremely handy in making the job much easier. You can purchase a simple shop creeper for less than \$50 at most auto parts stores. Of course you also need a flat smooth surface such as a warehouse or garage floor to make the use of a shop creeper possible.

With regard to placement, one option is to mount the two LED strips 12-18" in from each side of your RV and run parallel to each other. This placement provides the best "glow" effect without seeing the LEDs when lit. Of course this is a matter of personal preference. In deciding where to place these strips be mindful of where your electrical connection is going to be made. You will want the power lead end of the LED strips to be as close to the electrical connection location as possible.

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. A little dab will do you. If you do need to cut your LED strip, we strongly suggest doing so BEFORE you mount the strip to your RV/Camper/Trailer.



Cut Locations

Once you have your LED strips cut (if necessary) and you know where you are going to attach them, follow these steps:

- 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.

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



- Use the supplied alcohol pads 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 without reading the section "A Word About 3M Tape & 3M Promoter" on page 8).

Do NOT bend the LED strip on a horizontal plane.

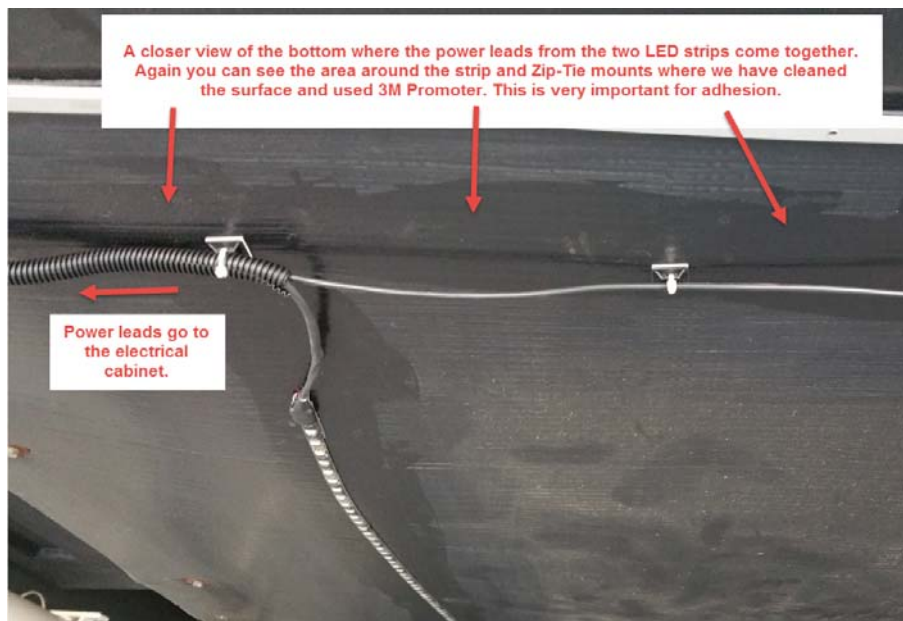
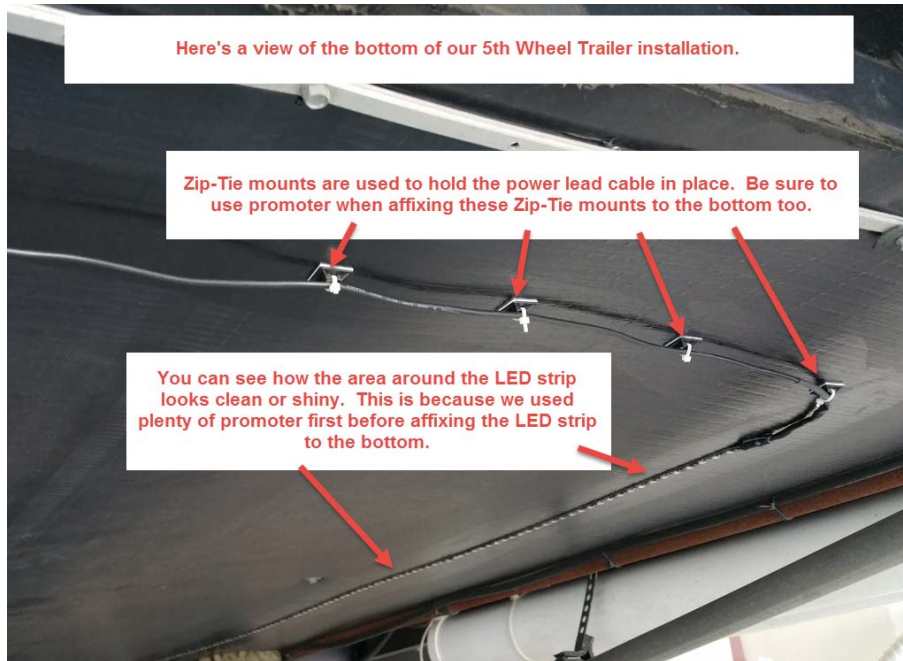


- Next, use the 3M Promoter tubes supplied with your kit to "paint" on the promoter where you are going to mount the LED strip. See the note below (on page 6) about the proper way to use promoter. ***This is an important step. Do not bypass.*** Allow the promoter to dry for 60-90 seconds.

- 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.
- 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.**

NOTE: With these large LED rolls we suggest you unroll the LEDs as you apply them to the side or bottom of your RV, camper or trailer.

- Use the supplied ZIP TIE mounts and ZIP TIES to affix the left over power lead cable running to the LED strip to the bottom of your RV. You don't want to leave this power lead cable hanging. Doing so will place too much stress on the LED strip itself causing it to fall off or fail. Before affixing the Zip Tie Mounts be sure to prepare the area with alcohol and 3M Promoter just like you did with the LED strip. It's important these Zip Tie mounts hold.



A Word About 3M Tape & 3M Promoter (aka Primer)

All Boogey Lights® LED strips have 3M Tape backing affixed to them. This 3M Tape is designed to make a more-or-less permanent bond between the LED strip and the surface to which it is attached. When properly prepared, 3M Tape can be affixed to polyethylene, polypropylene, ABS, PET/PBT blends, concrete, wood, glass, metal and painted metal surfaces. To make this bond you must however prepare the surface to which the LED strip will be affixed. You do this by first cleaning the surface with isopropyl

alcohol (50/50 mixture with water) and then painting on 3M Promoter. YOU CANNOT SKIP THIS STEP. Always apply 3M Promoter to any surface Boogey Lights® LED strips will be mounted. The promoter acts as a primer that ensures maximum adhesion. Porous surfaces may require 2 applications of 3M Promoter for uniform coverage and good adhesion. If you are going to add a second coat, allow the first application of promoter to dry before applying the second coat.

BREAK THE GLASS! The promoter tubes supplied with Boogey Lights® kits need to be squeezed in the middle of the tube to release the chemical to the applicator top. Simply press in the center of the tube until you feel the glass break. At that point the liquid promoter will saturate the applicator top and you can then paint on the promoter.

IMPORTANT NOTE: We recommend using rubber gloves when applying 3M Adhesion Promoter. Be sure to read the product handling warnings. Remember too that if you're using promoter while on your back (e.g. prepping the area for our Under-Glow LED lights) be sure you don't put yourself in a position where the Promoter can drip in your eyes.

Clean up: 3M Promoter can be removed with isopropyl alcohol.

Using Acetone on Heavy Oiled or Greasy Surfaces

For situations where you are affixing Boogey Lights® to a surface where heavy oils or grease are present, a "degreaser" solvent such as acetone may need to be used first. If you use acetone (or any other degreasing solvent) you must still apply the 3M Promoter. Acetone is not a replacement for promoter. In addition, if you use acetone to clean a heavy oiled or greased surface, you will still need to follow up with an alcohol cleaning to help ensure any residue or film from the acetone is removed. This is because acetone (and most other degreasing solvents) will thin the promoter as well as break down the adhesive in the tape greatly reducing the tape's stickiness. Any surface first cleaned with acetone must also be cleaned with alcohol and then thoroughly dried before painting on promoter.

Important Reminder! The 3M adhesive tape on the back of Boogey Lights® LED stripes are one-use only. If you apply them to a surface that has not been properly prepared, the holding power of the 3M adhesive tape will be greatly diminished perhaps making the light strip unusable. If you take the time to properly prepare the surface in accordance with our instructions here, you won't have any problems mounting your LEDs.

NOTE ABOUT RF KEY FOBS or M7 REMOTE PAIRING WITH THE CONTROLLER

If you purchased a controller that uses RF M7 or KEY FOBS to control your lights, they come already paired with the KEY FOBS in the box. If you accidentally press the PAIRING button on the controller during the installation process (when the controller is powered ON) you will delete the pairing settings between the controller and the remote. You will need to PAIR the controller with the KEY FOBS. The process to do this is simple. You can also find this information online in our INSTALLATION RESOURCES section.

NEED HELP? HAVE MORE QUESTIONS?

Links to all installation information including remote control functions and APP control instructions can be found on our website in the **INSTALLATION INSTRUCTIONS** section (<http://www.boogeylights.com/installation-instructions.html>)

If you need additional assistance or have questions, we offer a number of options. If it's during regular business hours you can call us TOLL FREE at 800.847.1359. If it's after hours, you can check our website installation section. We try to include as much information as we can online for 24x7 access. You can also send us an email by visiting Customer Care -> Contact Us. Even when we're closed we often check email in the evenings, weekends and holidays. We also have a lot of helpful information, including videos, on our website at www.BoogeyLights.com.

WARRANTY INFORMATION

The Boogey Lights® original-owner warranty is only available to customers who purchase genuine Boogey Lights® product from this website or an authorized Boogey Lights® dealer and present the original sales receipt from that dealer. **THIS WARRANTY IS NULL AND VOID IN THE ABSENCE OF AN ORIGINAL SALES RECEIPT FROM AN AUTHORIZED BOOGEEY LIGHTS® DEALER.**

This warranty is a product-only warranty and does not cover reimbursement for labor or any other charges you may incur having a defective product replaced.

RMA Authorization Required For Defective Returns

Defective product must be returned for inspection and warranty approval prior to replacement. Product that is physically damaged is not eligible for replacement under warranty. All returns must clearly display an RMA authorization number on the outside of the package. An RMA number will be issued by requesting an RMA number via email (select the appropriate option from the drop down box) OR by calling our office at 800-847-1359 and selecting option 2. If calling our office, please be sure to have your order number handy which will be printed on your receipt. Any shipment received at our offices without an RMA authorization number clearly listed on the package will be refused and returned to sender.

Hi-Intensity LED Products and all Remote Control Units

All Hi-Intensity LED products (TNT Strips, Fireworks Value Series Strips, RV Lighting) are backed with a 3-year, original owner warranty. The remote control box also has a 3-year warranty. Warranty does not cover batteries or the failure of a single fob. The warranty does not cover damage to the remote control units, LEDs, connectors or the strips resulting from improper handling, installation, misuse or abuse as determined by Boogey Lights®. This warranty is not transferable.

REGISTER FOR WARRANTY

You can register your purchase for warranty by visiting our website at <http://www.BoogeyLights.com/warranty-registration.html>. This is especially important if you purchased this product from someone other than the Boogey Lights website directly.

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