INSTALLATION GUIDE

Golf Cart LED Light Kit

IMPORTANT! No two installation scenarios are the same. Accent lighting is highly subjective. Not everyone shares the same lighting or installation quality goals. Some folks are OK with twisting wires together, others want to solder and heat shrink them. Some folks are OK with running wires where they may be seen or unprotected to save money/time, others want a tidy, clean install so they wrap plastic split-loom around all exposed cables. Some folks are OK with mounting their LED strips to whatever surface they can find, others want to take the time necessary to build out appropriate mounting surfaces to provide the best lighting effect on their vehicle and maximize the longevity of their lighting system. The point is it's not possible to provide all the materials necessary for all installation scenarios on all types of vehicles to meet everyone's quality goals. Our light kits provide the essential components needed for a high-quality, functioning lighting system. Installation of our light kit to your specific vehicle will however likely require additional items to make it look, fit and work the way you want. This is particularly the case with electrical wiring, switching functionality and mounting surfaces for the LED strips. We have created a list of additional items you may need. Here's the link: **https://www.boogeylights.com/other-items-you-might-need/** . While we offer them for sale you can also find these items locally. We urge you to review this information before starting your install.

BENCH TEST YOUR LIGHTING COMPONENTS FIRST!

We know this takes a few extra minutes, but we STRONGLY suggest you bench test your lights AND your controller / switches on a table before doing anything further. Test all of them. 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. It also lets you know everything is working properly. 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.

Did we mention the importance of bench testing every LED strip and controller first?

THIS IS A GUIDE. NOT A HOW-TO. It's simply not possible to provide detailed instructions for all installation scenarios. Far too many variables. The information in this document is intended to be used as a guide. It is not a detailed step-by-step how-to installation manual. We do not spell out every single step along the way. We cover the essential steps related to installing this kit. Beyond that we assume the installer has the skills, knowledge and tools necessary to do the work using the information we provide as a guide. You may need to vary your installation and/or make adjustments based on your vehicle. This is particularly the case with electrical wire routing, electrical connections, electrical load sizing and switching. If you're unsure about how to do the installation – particularly the electrical components – we urge you to seek assistance from someone who has those skills.

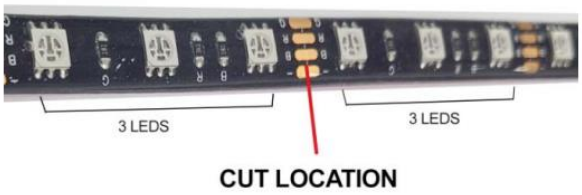
YOU MUST HAVE AN UNDERSTANDING OF 12V POWER. An essential skill with installation of any Boogey Lights LED products is knowing how to correctly wire the product to a 12vdc circuit. This includes understanding the importance of having a properly sized fuse at the power source, polarity, how to properly seal an electrical connection, using properly sized wire gauge for the load, measuring voltage and measuring the additional amperage draw you're adding. If you are uncertain or unfamiliar with any of these concepts, we urge you to ask someone who has the knowledge to assist you. Electricity is unforgiving.

MOUNTING SURFACE CONSIDERATIONS. Make sure you have adequate surface area where to affix the LED light strips to your Golf Cart. The area where you are attaching the LEDs needs to be reasonably clean (eg. free from oil, grease, rust, dirt, road grim), smooth, rigid, flat and one continuous flat surface. Do not bend the LED strip around corners, twist or span multiple mounting surfaces. If you don't have a smooth flat straight and rigid mounting surface we suggest mounting some 1.5" wide plastic flat stock (or similar) to the cart first and then mounting the LED strip to that plastic flat stock.

NOTE ON MOUNTING CANOPY LIGHTS. The canopy surface you install the LED strip to has to be rigid enough *such that the canopy mounting surface doesn't flex*. This is particularly important if your canopy is often used as a handle (or, has a handle built into it) when folks get in/out of the cart. Any flexing of the canopy mounting surface – particularly lateral flexing - will stress the LED strip causing it to prematurely fail (usually at the solder joint) which is not covered under warranty. If your Golf Cart Canopy is made of plastic and flexes as we describe here, we strongly suggest mounting the LED strip to a piece of plastic flat stock and then mounting that plastic flat stock LED strip assembly to the cart canopy. Also, if you mount the LED on the canopy facing downward versus on the side of the canopy facing inward, any flexing in that canopy surface will be less likely to stress and damage the LED strip.

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 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 to your cart.

HI-INTENSITY SURFACE
MOUNTED LED STRIPS



The LED strip can be cut one time on the copper solder pad where indicated; between the cluster of 3 LEDs. Important to cut in the center of the copper pads. Once cut, the end must be sealed using silicon, liquid electrical tape or even heat shrink to stop water intrusion from damaging the strip.

MOUNTING THE LED STRIPS

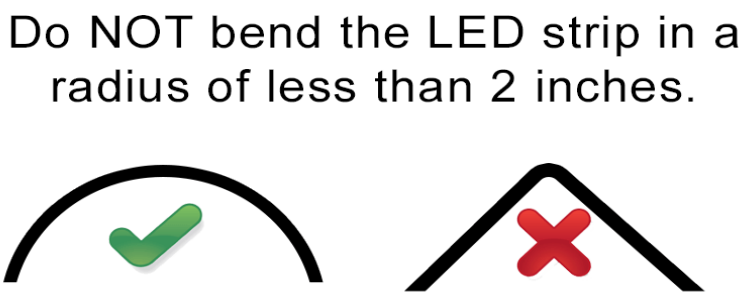
Once you know where you are going to attach them, follow these steps:

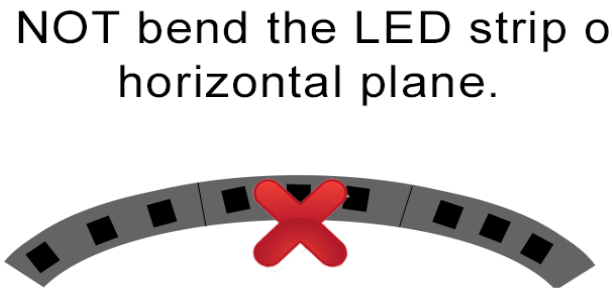
- The area where you are mounting the LEDs has to be clean: free of all dirt, oil or anything that might affect the LED from sticking. You only get one opportunity to mount the LEDs so it's critical the area be prepared properly.

- Use 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.

- 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 30-60 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.



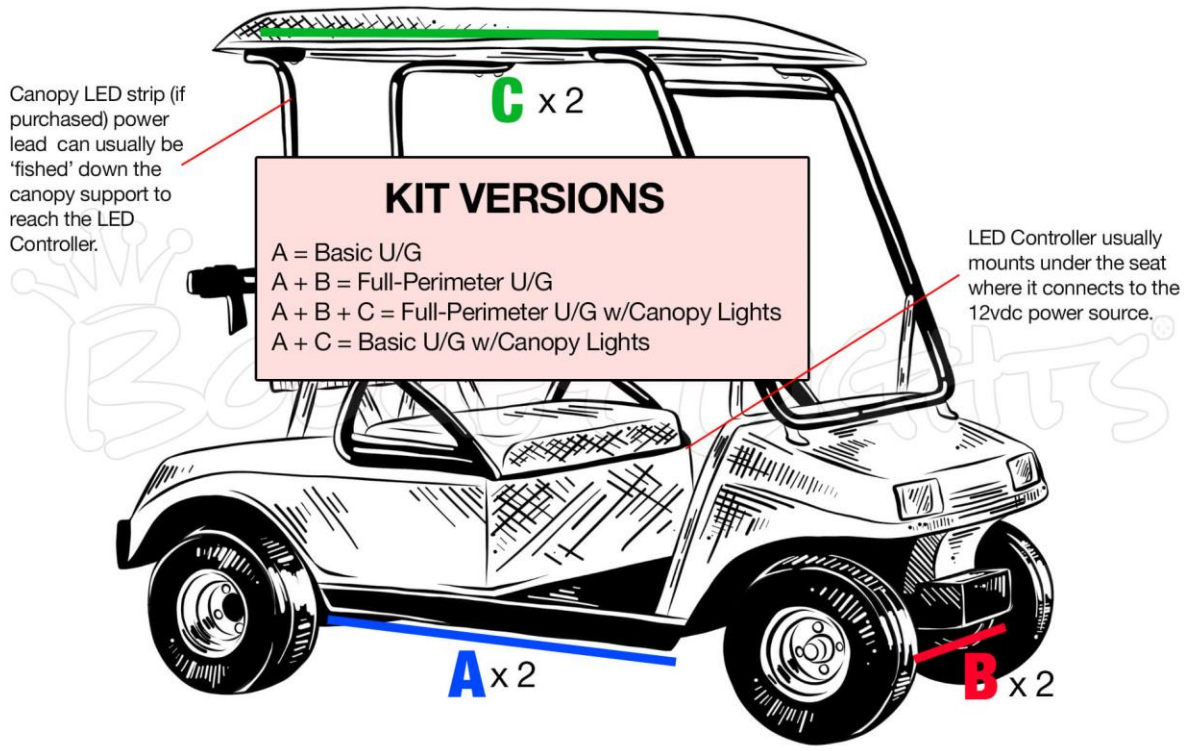


- Carefully push the LED strip to the area you have prepared. You will want to apply only enough pressure to the strip to make sure it is firmly mounted. *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very 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. 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.

- Use ZIP TIE mounts and ZIP TIES to affix the left-over power lead cable running to the LED strip to the bottom of your cart. 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 where the power lead connects to the LED strip. 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. If you need more support, add more zip tie mounts.

SUGGESTED PLACEMENT

How many LED strips you have depends on the kit configuration you ordered. The below diagram shows the possible options.



UNDER-GLOW LIGHT KIT

Depending on the kit configuration you ordered, you'll have 2 or 4 LED light strips for the under-glow. Mounting these strips to the bottom of the cart is pretty simple. Just make sure they're mounted to a clean, smooth, flat, straight, rigid surface. If you don't have a suitable mounting surface, use some plastic or aluminum flat bar to build out that mounting surface. If you need to cut the LED strips you can. Just be sure to follow our instructions for cutting the strips (see above). As for the power leads, we prefer to connect all of the power leads from the under-glow LED strips together on the bottom of the cart (bundle, seal and secure them to the bottom) and then run one single power lead up to the LED controller. It makes the connection at the controller cleaner with just the one under-glow power lead connection.

CANOPY LIGHT KIT

1. We include power lead feeder cable with the kit. That feeder cable can be used to connect the LED CONTROLLER to the LED strips mounted to the canopy. We will typically run just one feeder cable from the LED controller mounted under the seat up to the canopy. We do this by fishing the feeder cable through one of the canopy roof supports which are usually hollow inside. Then, we connect both canopy LED strips to that one feeder cable.

2. There's a push-button on/off button included with the Canopy kit to allow you to turn off the Canopy lights if you wish while still keeping the Under-Glow lights on. The push-button on/off switch can be surface mounted or mounted through-hole underneath the driver seat. This push-button on/off can be used on both single color and multi-color LED strips. The switch simply breaks the ground of the power lead running to the canopy LEDs thereby allowing you to turn off the canopy lights while the under-glow lights are still on. See wiring diagram if you're unsure on how to wire it to work.

POWER CONSIDERATIONS

BOOGEY LIGHTS are 12vdc devices only. Golf carts run on gasoline or battery powered electric motors utilizing 12v, 24v, 36v, 48v and 72v electric power. To operate our lights, you will need 12vdc power. We strongly suggest using a volt meter to test your power source is indeed 12vdc before making any connections. This is especially important if you have an electric golf cart. Do not assume the power source is 12vdc without testing it first. If you are not familiar with how to do this we suggest asking someone who is to assist you with the installation. Connecting a 12vdc device to a 48vdc power source will permanently damage the 12vdc device and potentially cause other electrical problems with your cart. Electricity is unforgiving in this way. Here are some suggestions for getting 12v from your cart:

Gasoline Powered Golf Carts: Most gas carts use a single 12v battery to start the engine. Power our lights from the positive and negative post on your 12v starting battery. If your cart has a 12vdc accessory port, you may be able to use that but do not assume that accessory port can handle the amperage of the lights you're adding. Double check the amperage rating of that 12vdc accessory port before using it to power your lights.

Electric Golf Carts: There are a wide variety of electric golf carts on the market today. They range in voltages from 24v all the way up to 72v. Most modern electric golf carts will already have a 12vdc accessory power shunt so customers can power their 12vdc devices. If you're going to use this as a power source for your light kit, *just make sure the amperage rating for that 12vdc power shunt will handle the additional amperage you're adding with your light system*. While you can find amperage ratings for our lights on our website here: https://www.boogeylights.com/amperage-data/, for any of our standard golf cart light kits, a max of 7 amps is usually a safe number. If your cart doesn't have a 12vdc accessory power shunt available, you have a couple of options:

1. Depending on the battery configuration of your cart, you may be able to pull 12vdc power from one or more batteries in the battery bank of your cart. For example, if your cart is 36v, that 36v is often made up of six 6vdc batteries. You can pull 12vdc by using two of those 6vdc batteries in series. **If you're going to do this, make sure you know how to wire this kind of configuration properly. Sorry – insurance regulations do not allow us to assist you in doing this over the phone. If you don't have the knowledge to properly wire batteries in series to achieve the proper voltage, we strongly urge you to ask someone with that knowledge to assist you on site.**

2. If your cart's battery bank doesn't have a combination of batteries that allow you to pull 12vdc from them (e.g. 48v cart with six 8v batteries), the solution is to purchase a voltage reducer. There are a number of commercially available voltage reducers on the market that will take 48vdc - 72vdc input and output 12v. We offer one on our website but you can purchase them online too. The only thing to be aware of is the amperage rating to match that of your light kit.