



## INSTALLATION GUIDE

### Flatbed Side Light LED Kit

Aluminum Channels + Diffusers + Low Profile LED strips

**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). If you're not sure how to do this, we have prepared this document you can download: <https://docs.boogeylights.net/?wpdmdl=1305> . 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 manual 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 adjust 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 product 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 onsite.** We cannot advise you on these matters remotely either.

## INSTALLATION OVERVIEW

This light kit uses our LOW PROFILE LED STRIPS mounted inside an aluminum channel with a plastic opaque diffuser on top. Whether the LED color is single color or multicolor, the installation process is the same. The aluminum channel is secured to the flatbed first and then, the LED strip is mounted inside that channel and sealed with Lexel (included). The plastic diffuser snaps on top. Where possible, we recommend drilling a hole at the end of the aluminum channel and through the bed rail to route the power lead. This way, the power lead wire is totally hidden. If drilling through the bed rail isn't an option, the power lead wire will need to be carefully routed out of the aluminum channel and run to the power source or switching mechanism. If the flatbed moves (most do), it's important to make sure the routing of the power lead wires is done in such a way to make sure the wires move freely with the bed. For this flatbed light kit, the aluminum channels and diffusers are included. It's important to use them. Do not install the LED strip directly to the flatbed.

## ALUMINUM CHANNELS

Our Low Profile Aluminum Channels (<https://www.boogeylights.com/mini-t12-aluminum-led-strip-channel/>) are designed to work with Boogey Lights® RGB and 3 diode Single Color LOW PROFILE LED light strips. These aluminum channels and the diffuser make for a clean and professional look in situations where the LED strips are in plain view. Also helps protect the LED strip from damage. The diffuser gives off a nice glow lighting effect too.

The Mini T12 aluminum channel is a low profile design that can be mounted just about anywhere. We have used them in a wide variety of applications including: RV awnings, RV tail-turn-brake lights, RV roof lighting, food trailer roof perimeter lighting, under low-clearance sports cars, on the side of wreckers, on pontoon boats, on the bottom of RV slide-outs, inside of cargo trailers and even under semi-trailers.

**These channels work exceptionally well if you install them properly.** We urge you to take the time to read the information presented here before starting your installation. If you don't follow these instructions, you're likely to have problems with your LED strips failing prematurely which is not covered under warranty.

## PRODUCT INFO

The Mini T12 has an anodized finish (electrostatic sprayed) which provides maximum protection against the elements. They're ideal for harsh indoor or outdoor use to protect the LEDs. The channel can be mounted in any number of ways including adhesive tape, rivets or screws. For most applications we prefer riveting (details below). Then, our Low Profile LED strips fit nicely into the channel using the 3M tape already affixed to the back of Boogey Lights® LED rolls. The diffuser completes the installation by snapping into the channel. Available in standard ALUMINUM finish and BLACK finish. Diffusers come in two sizes: 1M (~39") and 2M (~78"). Note that we only offer the Black Aluminum channels and diffusers in the 78" lengths. There are no end caps. On outdoor installations we strongly advise adding some Lexel on the ends and on the diffuser sides to seal them (photos below). We include a tube of Lexel with this light kit for this very purpose. Be sure to use it. While the diffuser snaps in, it does not make a watertight seal. This is especially important on channels that are mounted facing up (e.g. roof lighting) or on the side of a truck facing straight out. Only when the channel is mounted underneath the vehicle (led strip pointing straight down) can you get away with not adding the Lexel. More about this issue below.

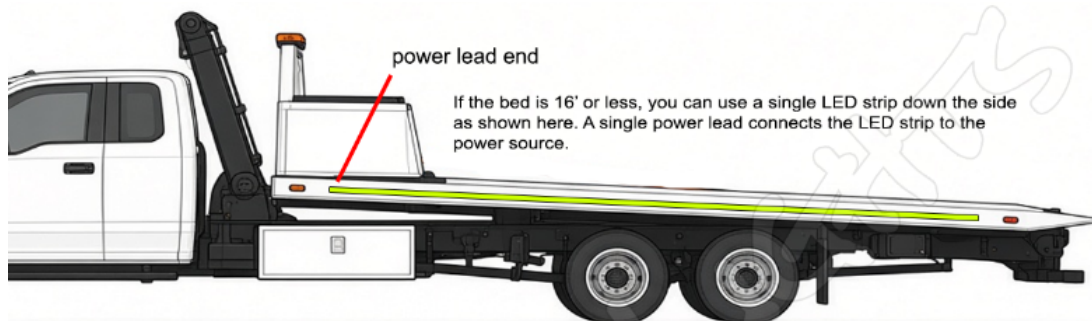
## MOUNTING CONSIDERATIONS

### Use Rivets if You Can

Whenever possible we like to use large flange pop rivets to secure the aluminum channel to the mounting surface. Why? Because they hold up well (won't easily break off or back out) and with the large flange, it's easy to mount the Low Profile LED strip on top of it without being concerned with the head of the rivet eventually working its way into the back of the LED strip's PCB board and shorting it out. For stationary applications it's not a big concern but when mounting these channels on vehicles that move, flex, contract and expand, if you use screws, our experience is they will eventually work their way into the back of the LED strip and short it out. Not a matter of if, but when. With large flange rivets, that isn't a concern. If you are going to use screws/bolts, they need to have a countersunk head so they sit flat. Even round head screws will cause issues.

### Using 3M Tape

For some applications, using rivets, screws or bolts isn't practical. RV roof lighting is one of those applications. No one wants to drill holes into the roof of their RV for roof lighting. In those cases we recommend using 3M VHB Tape + 3M Adhesion Primer. Yes – you have to use 3M Adhesion Primer if you want to make sure the channel doesn't fly off. We sell the 3M tape (and 3M adhesion primer) but you can also buy it online or at any automotive repair or paint center. It's widely used for those applications.



The power lead wires for each side of the bed usually run forward up to the cab area or tool / storage box where the lights are connected to a switch or LED controller depending on configuration. If connecting to the truck's running lights, be sure to use a relay in the circuit. Double check amperage draw.



## CUTTING THE CHANNELS & DIFFUSERS

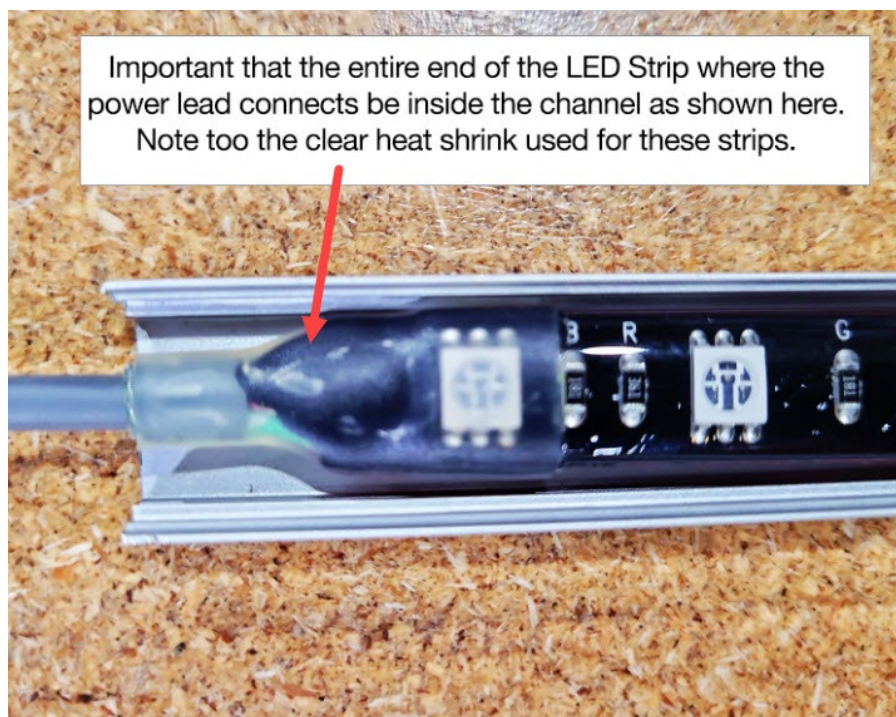
We ship these channels (and diffusers) in lengths of 39" or 78". For most installations, you'll need to mount multiple channels end-to-end to match the length of the LED strip. For example, a 10' LED strip will require about 122" of channel ( $120" + 2"$ ). In this example, you'll receive 2 – 78" channels w/diffusers. In almost all cases you will have to cut one of the channels and diffusers to fit your installation. No way around it. They are easy to cut with a band saw or hack saw but be sure to use a fine-tooth blade. The plastic diffuser can chip if you're not careful.

## LED STRIP POWER LEAD CONNECTION MUST BE INSIDE THE CHANNEL

All of our Low Profile LED strips have a power lead hard wired to the end of the LED strip. Doesn't matter which color configuration. They are all the same in this regard. It is super important to make sure the connection between that power lead and the LED strip is safely inside the channel. DO NOT allow that connection to hang outside of the channel. If you do, it will almost certainly fail (not covered under warranty). See photo below of what we are referring to.

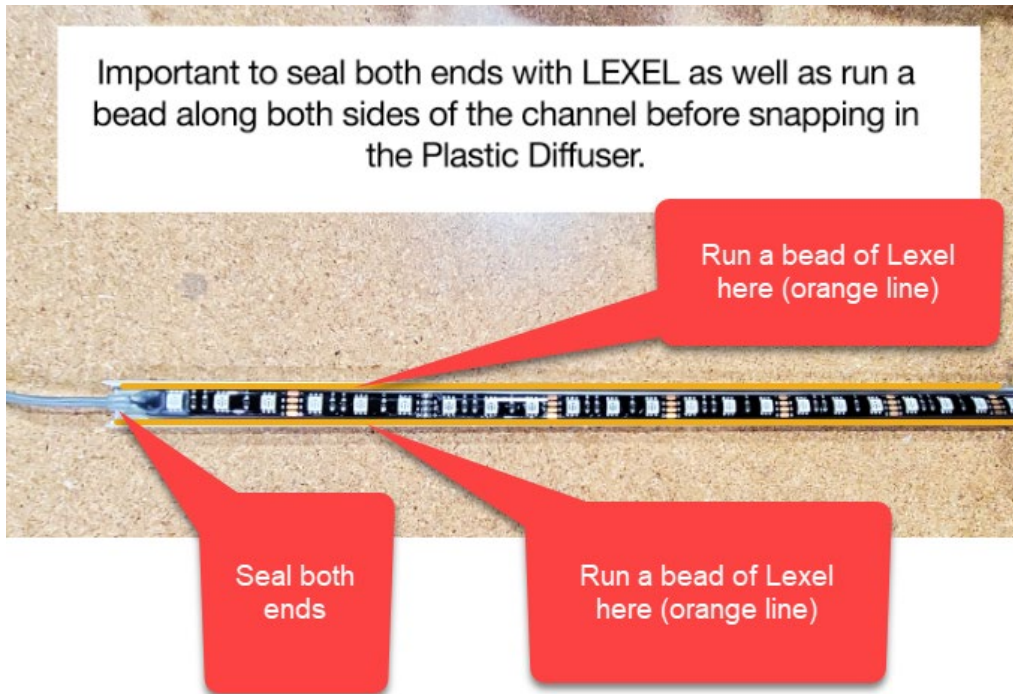
## LED STRIP POWER LEAD HEAT SHRINK

When we know the Aluminum Channels are being used with our Low Profile LED strips we only add one layer of clear heat shrink at the point where the power lead attaches to the LED strip. Why? Because the connection is less bulky (easier to seal inside the channel) plus the clear heat shrink allows the first diode to be seen. We normally will use two layers of heat shrink but it makes the connection bulkier and the second layer uses black adhesive heat shrink which covers up the first diode.

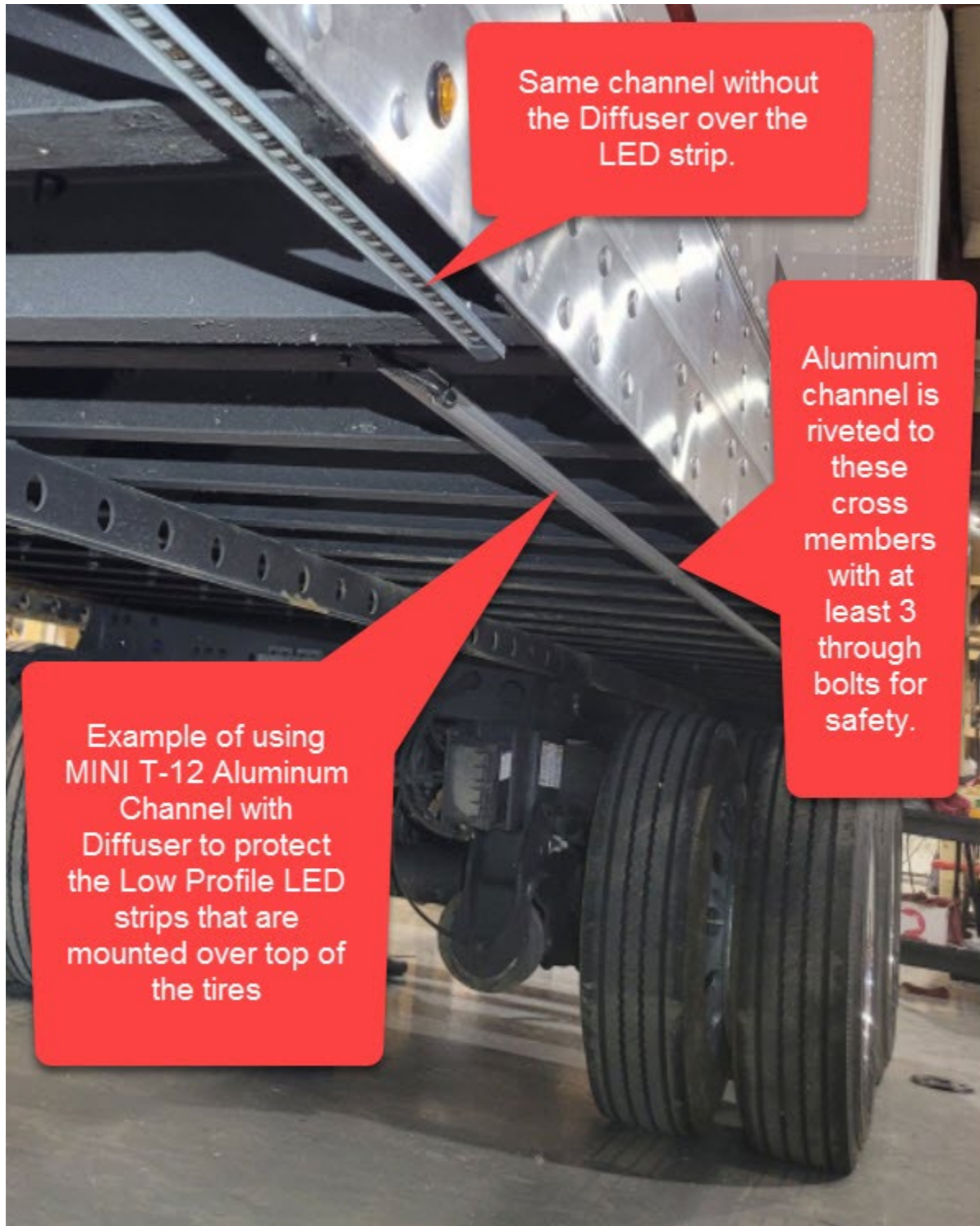


## SEALING THE ALUMINUM CHANNELS

**This is perhaps the most important thing to do.** Why? Because our Low Profile LED strips cannot be submerged in water for long periods of time. Yes, they are waterproof. No, they are not submersible – which is considered marine grade – an entirely different classification of lighting. If water gets into the channel with the diffuser on top, the LED strip will not dry out (the diffuser traps the moisture inside) and eventually the LED strip will fail. Not a matter of if but when. Not something covered under warranty. If you're using the Aluminum Channel with Diffuser on top and the LED strip is facing upward or to the side (vertically mounted), it's critical to seal the entire LED strip with Lexel Clear Sealant (made by Sashco). Yes – the entire strip -- both the ends and the sides where the diffuser snaps in. See below. And yes Lexel. Why? Because Lexel is petroleum based (adheres better to the LED strip epoxy coating) and it dries clear (does not impact the lighting).







## WIRING

If you purchased a single-color light kit, the power leads will be 2 conductor: one positive, one negative. You'll need some type of switch to operate the lights. Lots of options. If you purchased the RGB multicolor version of this light kit, the power leads will be 4 conductor: one negative and three positives. If you purchased a controller either to operate the RGB lights or the single color lights, the kit will include wiring instructions with that controller (they're linked too on the last page of this guide). **It's important to read those wiring instructions before proceeding.** We assume whoever is doing this installation understands basic 12vdc power and can make the connections as needed using the wiring documentation provided with the kit.

We include 50' of 18awg feeder cable to make the connections from the power source to the LED strip power leads. If the design of your flatbed installation requires more, we offer it for sale on our website or, you can also purchase 18awg (or heavier gauge) stranded fire alarm cable locally.

One word of caution: be sure to do some amperage calculations first. Why? Our lighting systems use larger LED chips, and we pack them in as closely together as possible. This means they're brighter – but – they also pull more current (amperage) as a result. This is especially the case if you're installing these lights on a motor vehicle that charges the 12vdc battery using a heavy duty or high-output alternator. To assist you in planning your installation, we have amperage data and an **AMPERAGE ESTIMATOR** on our website here: <https://www.boogeylights.com/amperage-data/> . While you can use this calculator for planning purposes, it's important to take your own amperage measurements of the installed system before using the lighting system.

## Additional Resources

- Product Page: <https://www.boogeylights.com/flatbed-side-light-led-kit/>
- How to Videos: <https://www.boogeylights.com/how-to-videos/>
- Troubleshooting: <https://www.boogeylights.com/trouble-shooting-guide/>
- Installation Resources: <https://www.boogeylights.com/installation-resources/>
- How to Bench Test: <https://docs.boogeylights.net/?wpdmdl=1305>
- Amperage Estimator: <https://www.boogeylights.com/amperage-data/>
- Amperage Data: <https://docs.boogeylights.net/?wpdmdl=1137>
- Quick Search: <https://www.boogeylights.com/quick-find/>
- GEN2 LED Controller Wiring Diagrams + Operating Info: <https://docs.boogeylights.net/?wpdmdl=1163>
- GEN2 RF Wireless Remote Operating Info: <https://docs.boogeylights.net/?wpdmdl=1164>
- GEN2 Bluetooth APP Operating Info: <https://docs.boogeylights.net/?wpdmdl=1169>
- GEN2 Bluetooth APP Quick-Start: <https://docs.boogeylights.net/?wpdmdl=1167>

## Support

- Phone: 800.847.1359 (M-F, 9-6 Eastern)
- Text: 859.955.8155
- Open a Support Ticket: <https://www.boogeylights.com/email-us/>
- Online: 24/7 resources at <https://www.boogeylights.com/installation-resources/>
- How to Make a Warranty Claim: <https://www.boogeylights.com/make-a-warranty-claim/>

## Warranty

The Boogey Lights® warranty requires an original sales receipt from Boogey Lights or an authorized dealer. It covers product replacement only, not labor or other costs. Register your purchase at: <https://www.boogeylights.com/warranty-registration/>. Full details: <https://www.boogeylights.com/warranty/>.