

INSTALLATION GUIDE

MACK ANTHEM
Grill, Air-Vent, Hood Accent
LED LIGHT KITS



BOOGEY LIGHTS®

Family Owned Motorsports Lighting Since 1989

800.847.1359

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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

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.** 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 however we must assume the installer has the skills, knowledge and tools necessary to do the work using the information we provide. You may need to vary your installation based on your truck. This is particularly the case with electrical wire routing 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.

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 driver's side steps to access the battery bank, wire cutters/strippers, crimping tool, electrical tape, rubbing alcohol, shop rag or two and a heat gun (or hair dryer) for the heat shrink connections. We also suggest a 12vdc multi-meter to confirm/check voltages.

RGB/MULTI-COLOR KIT Installations

Installation of this led light kit takes 3 to 5 hours depending on whether or not you're adding this light kit to an existing installation such as the UNDER-GLOW kit or installing this kit as a stand-alone. Wiring diagram is included at the end of the guide.

SINGLE COLOR KIT Installations

Installation of our single color kit typically takes 2 to 4 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.

Mounting & Placement Locations / Planning Your Install

All the LED strips in this kit are built on our low profile hi-intensity surface mounted LED strips. For the Grill there are a total of 3 mounting locations. The grill light kit requires the use of 2 'L' brackets to assist with these mounting locations. We prefer to rivet these L brackets to the grill brace however you can also screw them in if you'd like. For the Air Vents, there are a total of 3 mounting locations for each vent (drivers and passenger's side). For the Hood Accent light, there is 1 mounting location for each side of the truck.

For power, you'll need access to the driver's side steps to access the batteries. Also, if you're installing an LED controller, the LED controller can be mounted in either the driver's side storage box or the passenger's. We prefer to use the driver's side as it is closest to the battery bank. While either location will work, be aware if you mount the controller in the passenger's side, you'll need to extend the positive battery cable a little further than if you mounted the controller in the driver's side storage. The 12vdc + power going to the LED Controller should connect directly to the 12vdc+ terminal on your truck's battery bank. You can connect the ground wire on the LED controller to any metal part of the chassis. Regardless of which side bay you use, you will need to drill a hole in the floor of that box to connect power to the battery box, led wires and antenna.

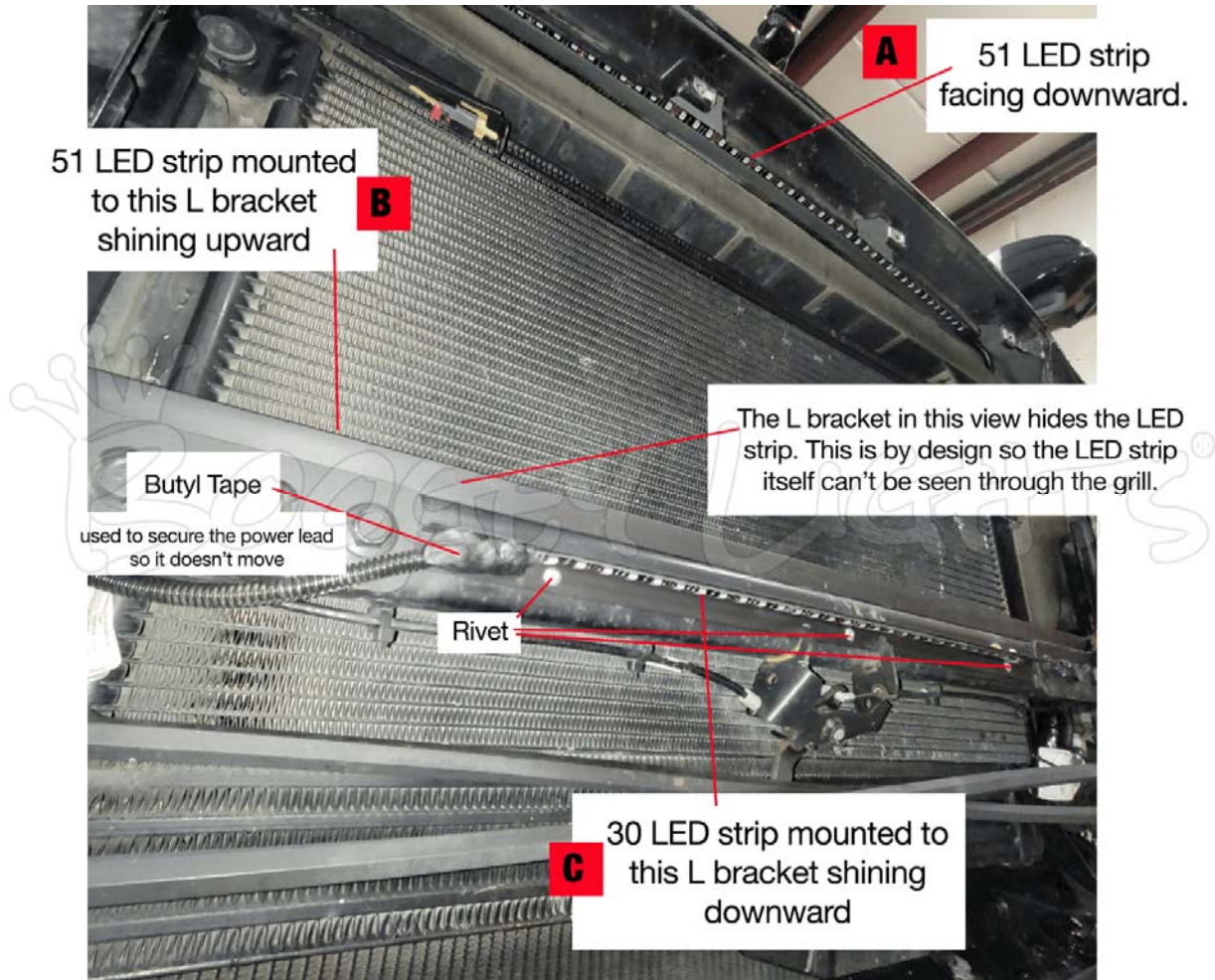
We recommend planning out your install on paper first. Be sure to wrap all power leads in split-loom which is also included and then secure them to the truck using zip ties.

LED PLACEMENT

These are the LED placement locations we used for this kit. It's important to follow this placement pattern to ensure the LED strips are protected. Mounting them in any other way voids warranty.

GRILL

You'll have to remove the grill for this installation. All of the work is done from the front of the truck facing the open grill. There are three mounting locations: A, B and C. See photo below.



- LED strip A (51 LEDs) is mounted to the top brace facing downward.
- LED strip B (51 LEDs) is mounted to a piece of 36" long plastic L bracket facing upward (riveted to the brace). Note that the L bracket is riveted to the top of the grill middle horizontal cross brace with one of the 90 degree angles facing forward so it blocks the light coming from the side of the LED strip that is facing forward (we only want to see the glow of the LED strip, not the LEDs themselves).
- LED strip C (30 LEDs) is mounted (riveted) to a piece of 24" long plastic L bracket to the face of the same middle horizontal cross brace such that the LED strip is facing downward. See photo below of these placements.

We suggest mounting the LED strips such that the power leads for each LED strip run out on the driver's side of the grill. The black plastic 'L' brackets are riveted to the grill structure. You can however screw them in too.

AIR VENTS

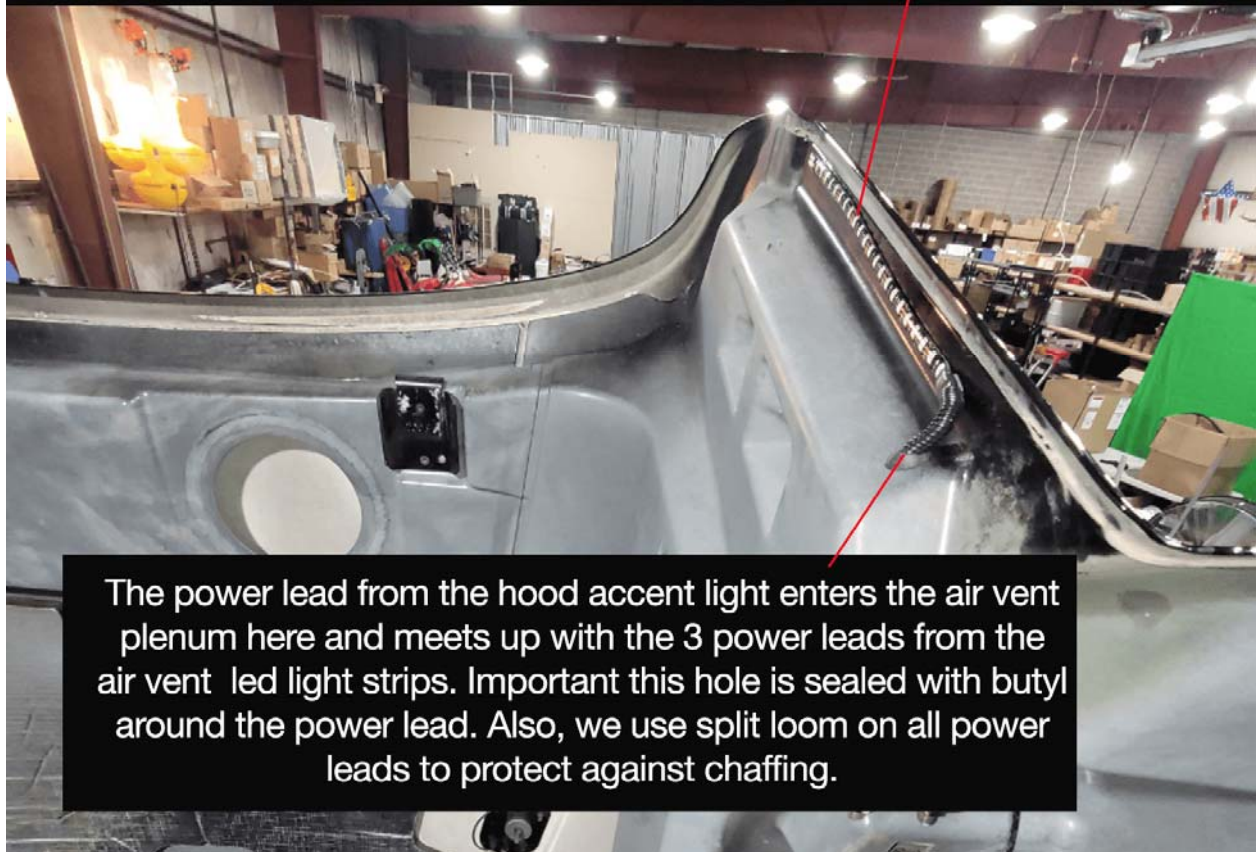
To install the optional Air Vent lights, you'll need to remove the outer grill on each side of the hood first. Then, clean the area on top, middle and on bottom of the vent opening on the inside. Then, attach the LED strips; one on top, one in the middle and one on the bottom of the hole vent on each side. You'll need to drill a hole in the bottom of the hood to allow the power leads from each side of the vents to exit the hood structure into the engine bay. The air vent power leads will need to connect into the same circuit as the grill lights do so they operate together. See photo below for placement.



Hood Accent Light Kit

To install the optional Hood Accent Light kit, you'll need to open the hood. Then, affix the LED strip on the inside of the hood on the vertical edge. See photo for placement. There is one LED strip on each side of the truck. If you're installing the air vent light kit too, you can gang all of these power leads together and then run them to the controller or switching point/on/off. See photo below.

Hood Accent LED Light Strip (24 LEDs) one on each side of the hood



WHAT'S INCLUDED

In addition to the LED light strips, power leads (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.

- 18 (or 20) AWG Feeder Cable – 4 Conductor will work for both RGB and 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.
- 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 holes drilled. 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. Here is a LINK to a page on our website that list some of these items: <https://www.boogeylights.com/other-items-you-might-need/>.**

If you purchased a SINGLE COLOR kit without an LED Controller we do not include any switching devices with the kit. We assume you already have a switch available in your truck or will be installing another switch of some type. Regardless of how you decide to switch your single color LEDs, be mindful of the amperage that adding more LEDs will draw. If you're considering adding these LEDs to an existing circuit (e.g. with your existing marker or running lights) we strongly suggest using a relay vs simply tapping into the existing circuit. This is especially important on newer trucks where the LCM will likely throw an error when you add more LEDs to the system.

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).

If the area is especially greasy, you'll need to clean it with a degreaser or similar solvent. IF you do, be sure to use rubbing alcohol on the surface next to completely remove any left-over residue from the degreaser.

- 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.

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.

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



Do NOT bend the LED strip on a horizontal plane.



Some additional installation photos.

View of the air vent power leads (3) and the hood accent LED strip power leads (1) exiting the bottom of the air vent plenum and into the engine bay.



A view of the top led strip mounted on the inside of the air vent opening.



