

INSTALLATION GUIDE

KENWORTH W900 FIFTH WHEEL HITCH HIGHLIGHT 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

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. The photos we include may not precisely match your truck. 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 slightly 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 (and 3M Adhesion Promoter) 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. 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'll Likely Need

If you're adding this kit as a stand alone kit, you'll need tools to remove the driver's side steps to access the battery bank for power. If you're adding this kit to an existing Boogey Lights LED light kit and you're connecting to existing wiring already in place, you'll likely only need 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 1 to 2 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 / DUAL-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 breather lights in this kit are the only lights you're switching on it.

Mounting Locations

The hitch highlights mount to the frame rails under the hitch. Two heavy duty LED strips on each side. We prefer to mount the strips as high up as we can on the inside of the frame rails and mount the LED strips such that the direction of the LED is inward toward the hitch on both sides. We have a photo below showing these mounting locations. Whether or not these locations are available for mounting on all trucks will vary so you'll need to examine your truck to determine how much room you have. You may need to relocate existing wires / air hoses for optimal lighting effect.

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 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, 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.

- Additional 4 conductor, 22awg power lead cable to extend the power leads on the Heavy Duty LED strips.
- 18AWG or 20AWG Feeder Cable – 4 Conductor for RGB, 2 Conductor for Single Color. Use this cable to extend the 4 Heavy Duty LED strip 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.
- 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.

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.

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.

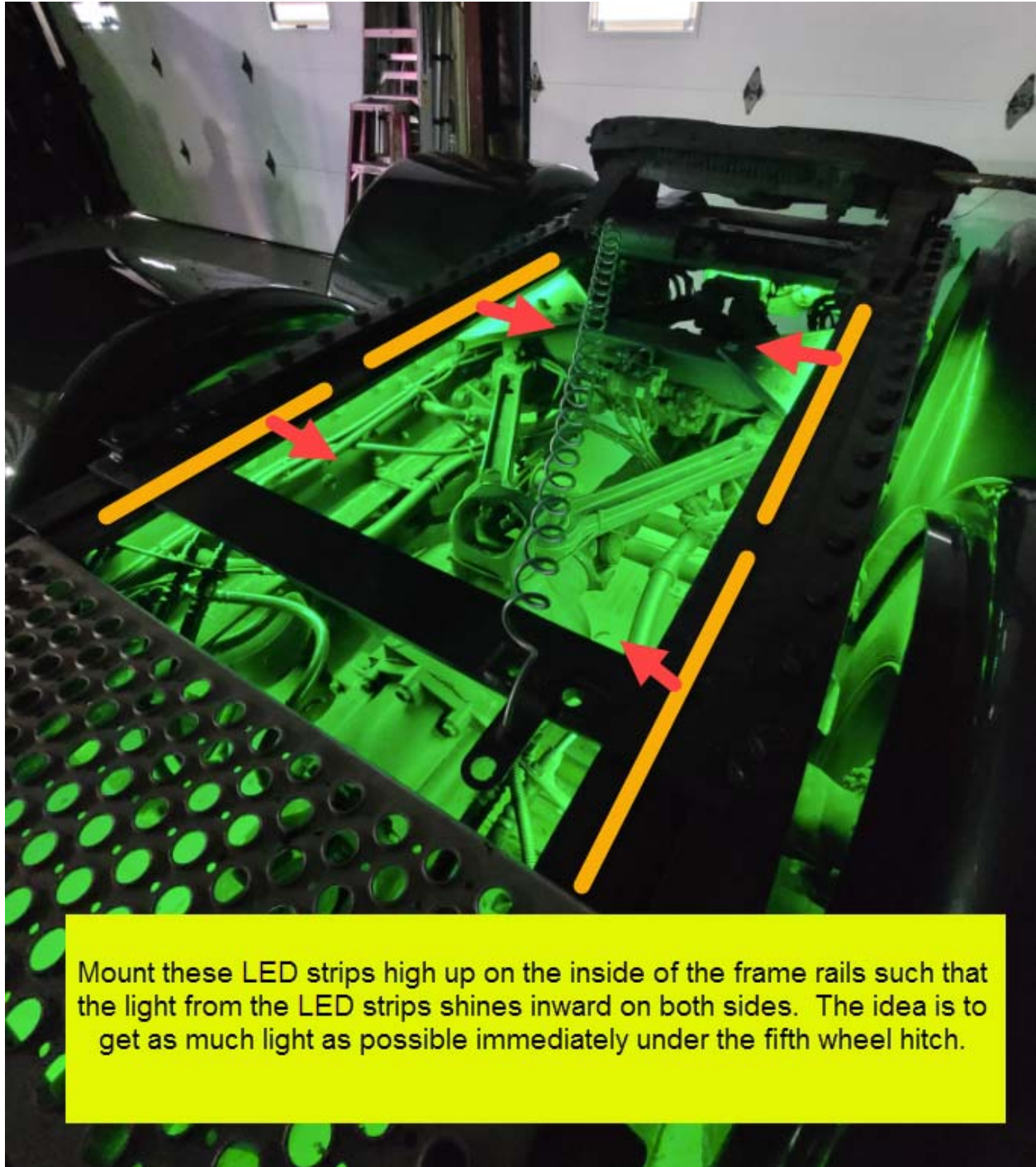
Do NOT bend the LED strip in a radius of less than 2 inches.



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.



Mount these LED strips high up on the inside of the frame rails such that the light from the LED strips shines inward on both sides. The idea is to get as much light as possible immediately under the fifth wheel hitch.