



## INSTALLATION GUIDE

### Tail-Turn-Brake Add-On LED Light Kit for PICKUP Trucks

**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 bench test, download this pdf: <https://docs.boogeylights.net/?wpdmdl=1305> . We also have a video: <https://www.boogeylights.com/how-to-bench-test/> . 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 here as a guide. You may need to vary your installation and/or make adjustments based on your vehicle. 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. Electricity is unforgiving.

#### **HEAVY DUTY LED STRIP WIRING WITH 4 WAY FLAT PLUG**

This light kit is based on our HEAVY DUTY (HD) LED light strip. Each HD strip has 3M VHB tape on the back. Installation of the strip requires 3M Adhesion Primer to be used to secure them to the mounting surface. We include this 3M primer with the kit – be sure to use it! The power lead cable hardwired to one end of the LED strip. **The black wire is always ground. All other jacket colors are 12vdc +.**

- **RED:** Black (ground), Red, Green, Blue
- **REDA:** Black (ground), Red, Green, Blue, Yellow (yellow = Amber Diodes)
- **REDW:** Black (ground), Red, Green, Blue, Yellow (yellow = White Diodes)

Regardless of which LED strip color you're using, the RED, GREEN and BLUE wires on the LED strip always light up the RED diodes on the LED strip. So, which wire you connect these to on the plug / truck side doesn't matter as long as it's not the ground. Just be consistent with the Left and Right LED strips. Typical wiring example for the RED LED strip using a 4 Way Flat plug:

#### **LEFT LED TRUCK / 4 WAY FLAT**

Black -> Ground (White on 4 Way plug)  
Red -> Tail Lights (Brown on 4 Way plug)  
Green + Blue -> Left Turn + Brake (Yellow)

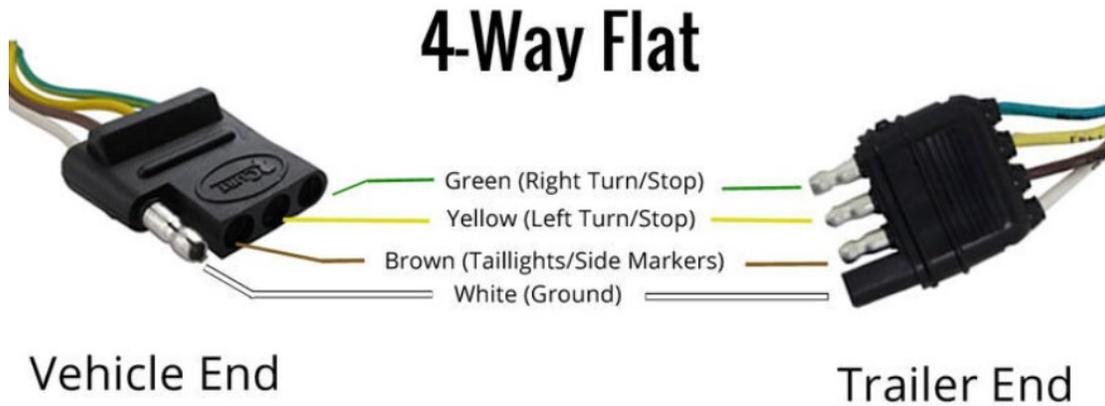
#### **RIGHT LED TRUCK / 4 WAY FLAT**

Black -> Ground (White on 4 Way plug)  
Red -> Tail Lights (Brown on 4 Way plug)  
Green + Blue -> Right Turn + Brake (Green)

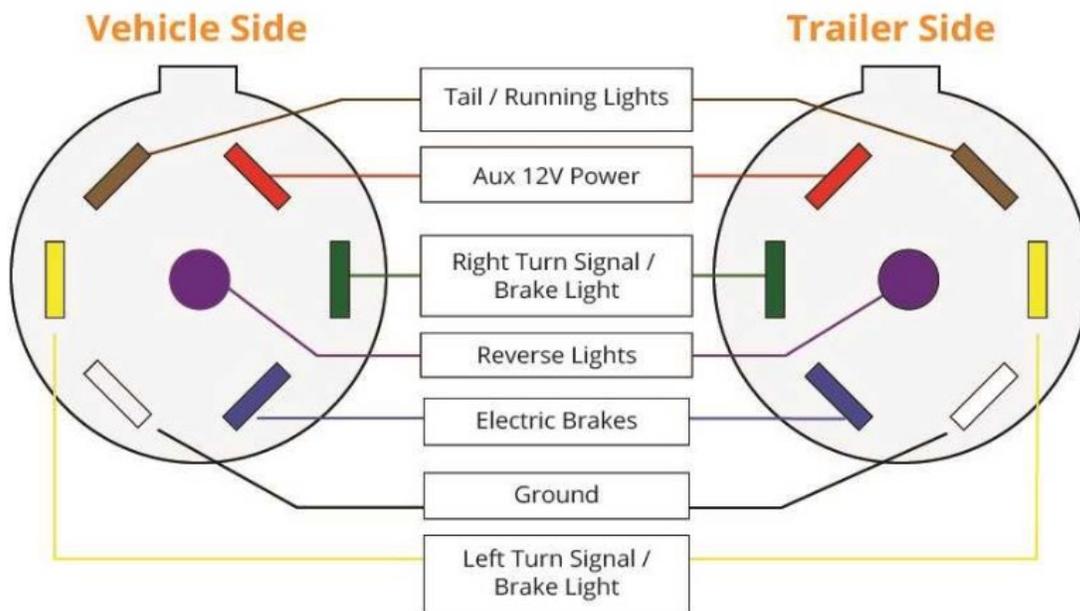
If you're using the RGBW strips, the Yellow wire (White diodes) on the LED strip connects to the REVERSE light circuit on the truck. This REVERSE light circuit is only available on the 7 WAY RV ROUND plug (or, inside the taillight assembly on the truck). If you're using the RGBA strips, the Yellow wire (Amber diodes) on the LED strip connects to the isolated TURN SIGNAL circuits from the truck's taillight assembly. Neither the 4 way and 7 way plugs have the turn signal circuit isolated from the brake circuit.

If you're using the 7 Way Round RV plug, see wiring diagram on the next page. If you're hard wiring these lights into your truck's taillight assembly directly (vs using a plug), see page 7.

If you're unsure about which wire jacket color matches the LED diode color on the LED strip, simply bench test the LED strip (you should be doing this regardless before installing). You'll quickly be able to determine which jacket color matches which LED diode color. If you're not sure how to bench test, download this pdf: <https://docs.boogeylights.net/?wpdmdl=1305> . We also have a video: <https://www.boogeylights.com/how-to-bench-test/> .



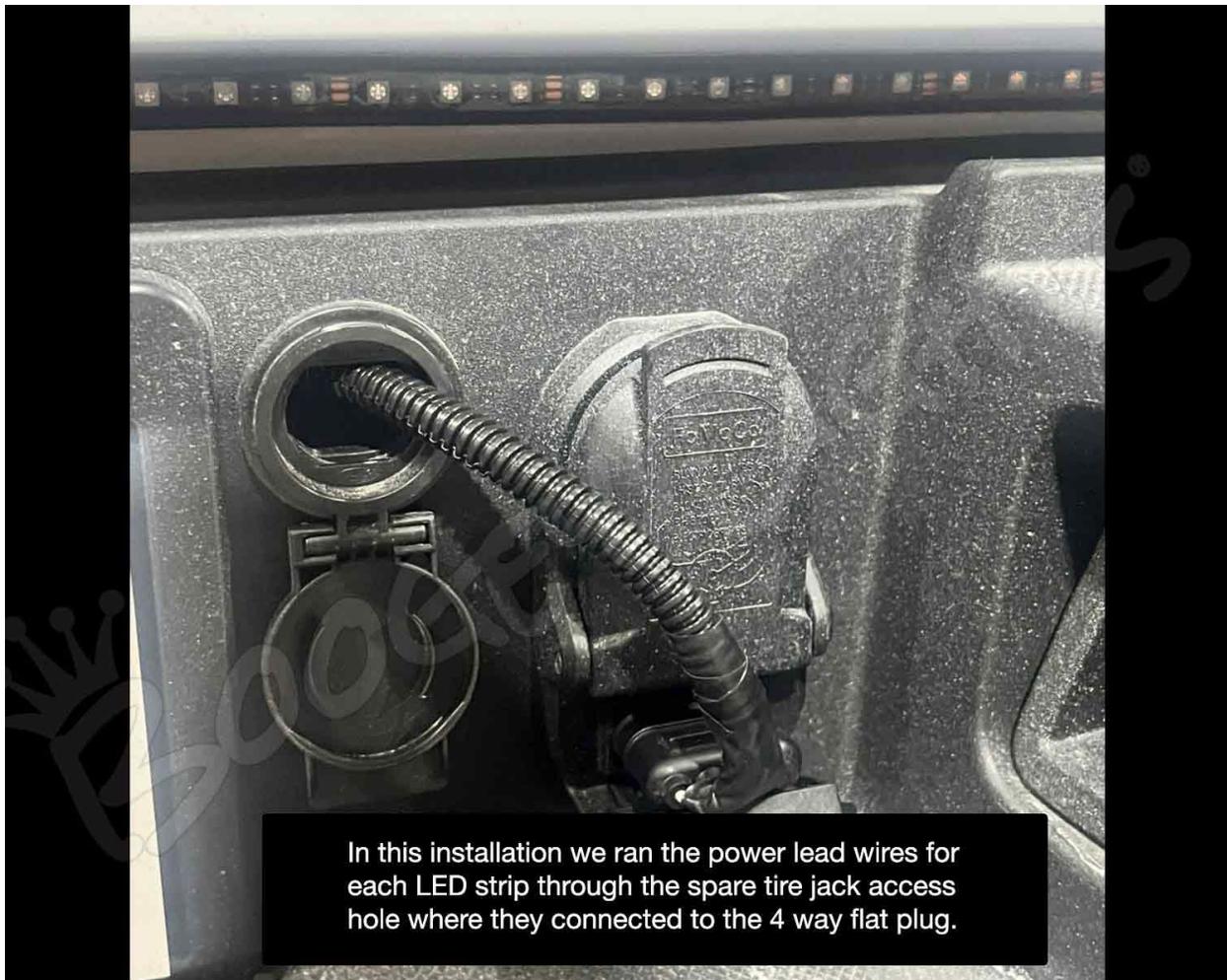
## 7 WAY ROUND RV PLUG



## Mounting & Placement Location

We suggest mounting these ADD-ON Tail-Turn-Brake lights in the space between the bottom of the tail gate and the top of the bumper. It's important that the LED strips be mounted in a location that makes the strips visible to the rear of the truck. See diagram below. The power lead for each strip runs down each side of the bumper and connect together in the middle when they are wired together to the plug. You'll need to extend the power lead wires for each of the LED strips using the included power lead wire to fit your installation. We include split loom too to wrap the final power lead wire assembly.





In this installation we ran the power lead wires for each LED strip through the spare tire jack access hole where they connected to the 4 way flat plug.

**Do not over-load your vehicle's lighting circuit.** Adding more LEDs to your vehicle's lighting circuit will increase the load (amperage) on that circuit. Depending on your vehicle, increasing that load **may** cause the lighting control module (LCM) to shut down the light circuit if that additional load exceeds the pre-programmed limit for your vehicle. We have no way of knowing if your truck will have this problem. **In our experience, it's not an issue on pickup trucks like it can be on RVs/campers/trailers.**

If your truck does throw an error, you can get around this limitation by using relays to power the additional LEDs. We offer heavy duty relays (<https://www.boogeylights.com/heavy-duty-12vdc-40-30-amp-relay/>) or they can be purchased at just about any auto parts store. We have a relay wiring diagram here: <https://docs.boogeylights.net/?wpdmdl=1145> .

## Mounting the LED Strips

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 is 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. (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.

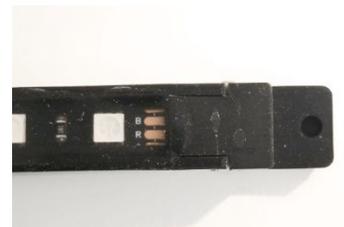
Do NOT bend the LED strip in a radius of less than 2 inches.



Do NOT bend the LED strip on a horizontal plane.



Before installing, we suggest dry mounting the LED strips to confirm correct product fitment. Is the strip where you want it? Is the power lead long enough to reach the connection point? **Keep in mind you only get one opportunity to do this.** Once the LED strip touches a properly prepared surface, that LED strip will be 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. 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. 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. For the HEAVY DUTY LED strips, you can also add a screw into each end. The screws are designed to only hold the ends of the strip to the surface. DO NOT TORQUE them down. Why? Because the end caps are glued to the black PVC rubber that encases the LED strip itself. Torqueing them down will most likely cause the end cap to spin and pull away from the PVC rubber. This is by design, so the LED strip itself isn't damaged.



## HARD WIRING DIRECTLY TO TAILLIGHT ASSEMBLY?

If you're going to hard wire these LED strips directly into your taillight assembly (vs using a plug), some trial and error may be required to identify which wires on your truck's tail-turn-brake light housing operate each of the lighting functions. **We assume the installer has the skills necessary to safely do this trial-and-error testing without blowing a fuse or damaging the truck's lighting control module.** Having a 12vdc multi-meter handy can be helpful in these cases. See suggested wiring for RED, REDA and REDW LED strips on the next page.

**3 Diode RED LED STRIP:** Each RED Boogey Lights HD LED strip contains THREE DIODES, all of which are RED. Each RED Heavy Duty LED strip has 4 conductors: One 12vdc negative (the black wire which is ground) and three 12vdc positive wires (color coded red, green and blue). Each of those three positive wires connects to one of the diodes in each LED. This gives you three different LED Diodes you can control.

<u>STOCK LIGHT</u>	<u>BOOGEEY LIGHTS HD LED STRIP</u>
• Existing Ground (12vdc-) ->	Black wire on Boogey Lights LED Strip (12vdc -)
• Existing Taillight 12vdc+ ->	Red wire on Boogey Lights LED Strip (12vdc+)
• Existing Turn Light 12vdc+ ->	Green wire on Boogey Lights LED Strip (12vdc+) *
• Existing Brake Light 12vdc+ ->	Blue wire on Boogey Lights LED Strip (12vdc+) *

**4 Diode REDA LED STRIP:** Each REDA Boogey Lights LED contains FOUR DIODES, three of which are RED and the fourth is AMBER. Each REDA LED strip has 5 conductors: One 12vdc negative (the black wire which is the ground) and then four 12vdc positive wires (color coded red, green, blue and yellow). Each of those four positive wires connects to one of the diodes in each LED. This gives you four different LED Diodes you can light up.

<u>STOCK LIGHT</u>	<u>BOOGEEY LIGHTS HD LED STRIP</u>
• Existing Ground (12vdc-) ->	Black wire on Boogey Lights LED Strip (12vdc -)
• Existing Taillight 12vdc+ ->	Red wire on Boogey Lights LED Strip (12vdc+)
• Existing Brake Light 12vdc+ ->	Green & Blue wire on BL LED Strip (12vdc+) *
• Existing Turn Light 12vdc+ ->	Yellow wire on Boogey Lights LED Strip (12vdc+) *

**4 Diode REDW LED STRIP:** Each REDW Boogey Lights HD LED contains FOUR DIODES, three of which are RED and the fourth is WHITE. Each REDW LED strip has 5 conductors: One 12vdc negative (the black wire which is the ground) and then four 12vdc positive wires (color coded red, green, blue and yellow). Each of those four positive wires connects to one of the diodes in each LED. This gives you four different LED Diodes you can light up.

<u>STOCK LIGHT</u>	<u>BOOGEEY LIGHTS HD LED STRIP</u>
• Existing Ground (12vdc-) ->	Black wire on Boogey Lights HD LED Strip (12vdc -)
• Existing Taillight 12vdc+ ->	Red wire on Boogey Lights HD LED Strip (12vdc+)
• Existing Brake Light 12vdc+ ->	Green wire on BL HD LED Strip (12vdc+) *
• Existing Turn Light 12vdc+ ->	Blue wire on Boogey Lights HD LED Strip (12vdc+) *
• Reverse Light 12vdc+ ->	Yellow wire on Boogey Lights HD LED Strip (12vdc+)

\* NOTE: It's possible the turn signal wires and the brake signal wire in your truck's taillight assembly use the same wire. If so, you cannot isolate the turn signal from the brake light signal using the taillight assembly. You'll have to look elsewhere in the truck's wiring to access the brake and turn signal separately.

## Additional Resources

- Product Page: <https://www.boogeylights.com/tail-turn-brake-add-on-for-pickup-trucks/>
- 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 Data: <https://docs.boogeylights.net/?wpdmdl=1137>
- Quick Search: <https://www.boogeylights.com/quick-find/>
- Relay Wiring Diagram: <https://docs.boogeylights.net/?wpdmdl=1145>

## 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. Full details:

<https://www.boogeylights.com/warranty/>.