RULE THE NITE™

BOOGEY LIGHTS

Family Owned Motorsports Lighting Since 1989!

INSTALLATION GUIDE

PETERBILT BREATHER LED LIGHT KIT

IMPORTANT! No two installation scenarios are the exact 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 and lighting coverage goals. Our light kits provide the essential components needed for a high-quality, functioning LED light 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 – usually less expensive. We urge you to review this information before starting your install to make sure you have the proper materials available.

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 good 12vdc battery to do this (e.g. car battery, motorcycle battery, lawn tractor battery or 12vdc power supply capable of supporting a 5 amp load). If you're not sure how to do this, we have prepared a document explaining the process here: 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 before installing?

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 make adjustments based on your truck. 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. Electricity is unforgiving.

WORK AREA. 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).

KNOW YOUR AMPERAGE DRAW. Pay attention to the number of LEDs you are lighting and the total amps you will be drawing. We manufacture a number of LED Controllers of varying capacities. If you over-load the LED controller, it will either not work at all or the lights will dim in a short period of time. Amperage data for all our LED products are on each product page. You can also download it directly here: https://docs.boogeylights.net/?wpdmdl=1137

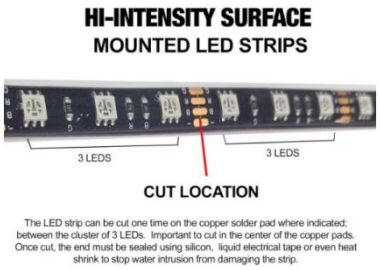
MOUNTING LOCATIONS.

For VERSION 1 there is only one mounting location for each breather in this kit (inside the breather) – see photo of exact placement. For VERSION 2, there are two mounting locations (upper and lower). For both versions, the power lead coming from each LED strip mounted inside the breather needs to be carefully run out of the breather cap (2 ways you can do this) and then into the engine compartment where each will connect to the switching mechanism or, another light kit (e.g. Under Glow). To do this you will obviously have to remove each breather cap first. And, you'll likely need to remove the driver's sidestep to gain access to the truck's battery for power. Note too we include a set of male/female quick-disconnect connectors that will need to be wired into the circuit. These allow the breather cap to be easily removed for service without damaging the electrical connections. When possible, we suggest pulling power directly from the positive side of the battery bank directly vs somewhere else on the truck. That way you know you're not overloading an existing circuit in the truck.

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.

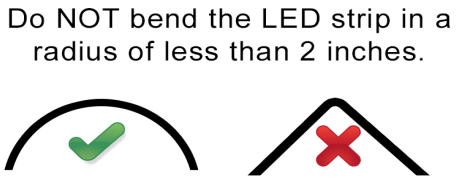
The key is making sure you're mounting it where it is protected from water or extreme heat. There should be air flow too around the controller. If mounting inside either of the storage boxes, you will need to drill a hole in the floor of that box to connect power to the battery box, led wires and antenna. We provide some butyl tape to seal this hole.

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 use some heat shrink tubing to seal the cut end. You can also use petroleum-based 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.



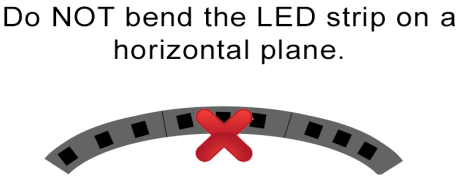
MOUNTING THE LED STRIPS

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 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.

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.

INSTALLATION

The installation for Version 1 and Version 2 is largely the same in terms of wire routing. Both versions require the LED strip power lead to exit the breather housing at the back and then routed into the engine bay for connection to the switching and power source. What's different is where the LED strips are mounted.

1. Remove the top of the breather. There are usually 4 bolts. Take the top of the breather to a workbench or flat surface where it's easier to work on it. NOTE: If your breather has a rubber or plastic boot (see photos at the end of this guide), the installation is easier since you can mount the LED strips to that boot vs mounting them directly to the breather can itself. If your breather has the one piece boot/air cleaner, you'll need to mount the LED strips on the inside of the top of the breather. See photo on the next page for LED placement.

2. Determine how you're going to run the power lead that attaches to the LED strip from inside the breather top and into the engine compartment. There are two ways you can run the power lead from inside the breather top into the engine compartment where you'll make your electrical connections (or, connect to an existing Boogey Lights light kit already installed). We provide a diagram on the next page showing both options. Pick the option that works best for you.

3. The first way is to route the power lead down into the air intake manifold hose that connects the breather to the engine and then exit that intake manifold hose once inside the engine compartment. We find this to be the easiest and cleanest since it doesn't require removing the entire breather can from the truck. It might not however always be that way depending upon your truck.

4. The second option is to route the power lead out of the back of the top of the breather. This is done by drilling a hole through the screen mesh at the back of the breather top at the seam and then routing the power lead through an existing hole in the truck behind the breather and either into the cab area or the engine compartment. This option may require removing the entire breather can from the truck to gain access to a suitable access hole.

5. Once you've determined which method of routing the power lead cable you're going to use, you'll need to either drill a 5/16" hole into the base of the breather top (see photo) for wiring option one OR into the screen seam for wiring option two (see photo).

6. Clean the LED mounting surface with rubbing alcohol and then apply the 3M Adhesion Primer. At this point you can mount the LED strips. Make sure you plan the layout such that the power lead points toward the rear of the breather. Use the supplied Butyl tape to secure the power lead firmly against the breather top (see photo).

7. Route the power lead wire through the hole you drilled in the breather top. Once you have the power lead through the hole, you can wire in the supplied male end of the quick disconnect plug. Important that the breather top be able to be removed easily for service with the LEDs installed inside. Installing the quick-disconnect plug does that. We suggest allowing 12" to 18"of slack in the power lead cable so you have some room to work; but not too much that you have to coil up excess

cable inside the air intake hose. The female end of the quick-disconnect plug needs to be wired to the included feeder cable with the opposite end going through the hole you'll drill in the intake hose inside the engine compartment (see photo). The male and female quick-disconnect plugs will connect inside the air intake hose just inside the engine compartment.

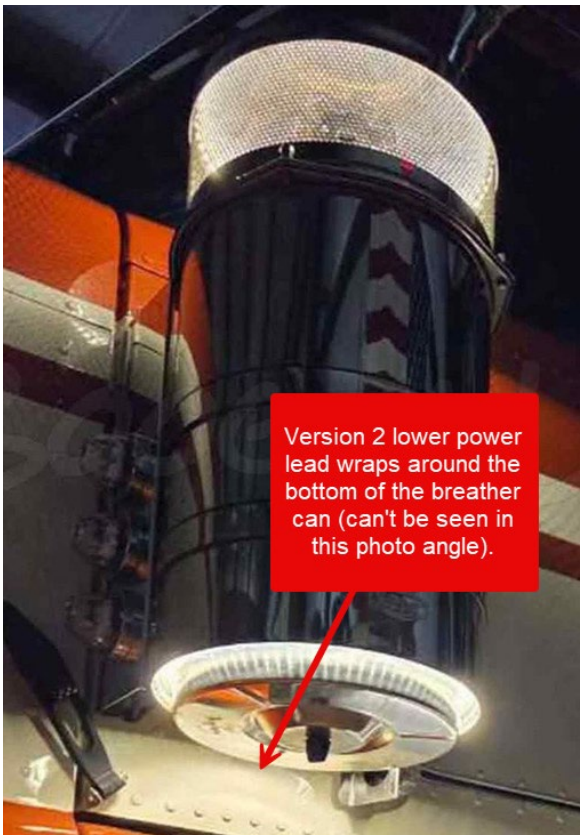
8. Once you have the power lead cable in the engine compartment, you can continue with wiring the LEDs to power and/or a switch.

This diagram shows the wiring options for both Version 1 and Version 2.



This is a look at the top with the power lead wire existing the breather can through a hole we drilled. This works for both Version 1 and Version 2.





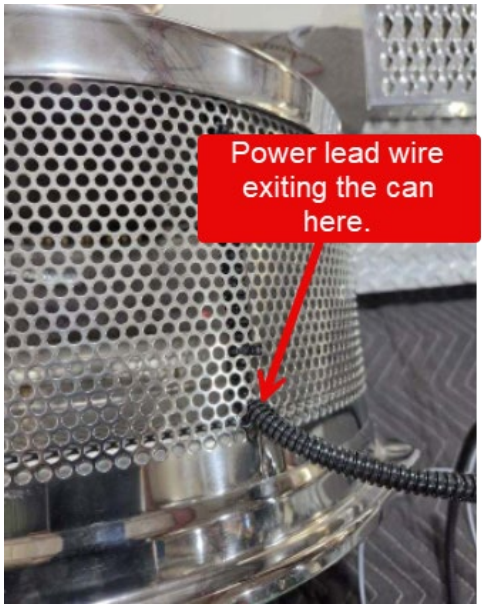


Diagram of the larger picture with the power lead routed into the engine compartment. Note the location of the quick-disconnect connectors.

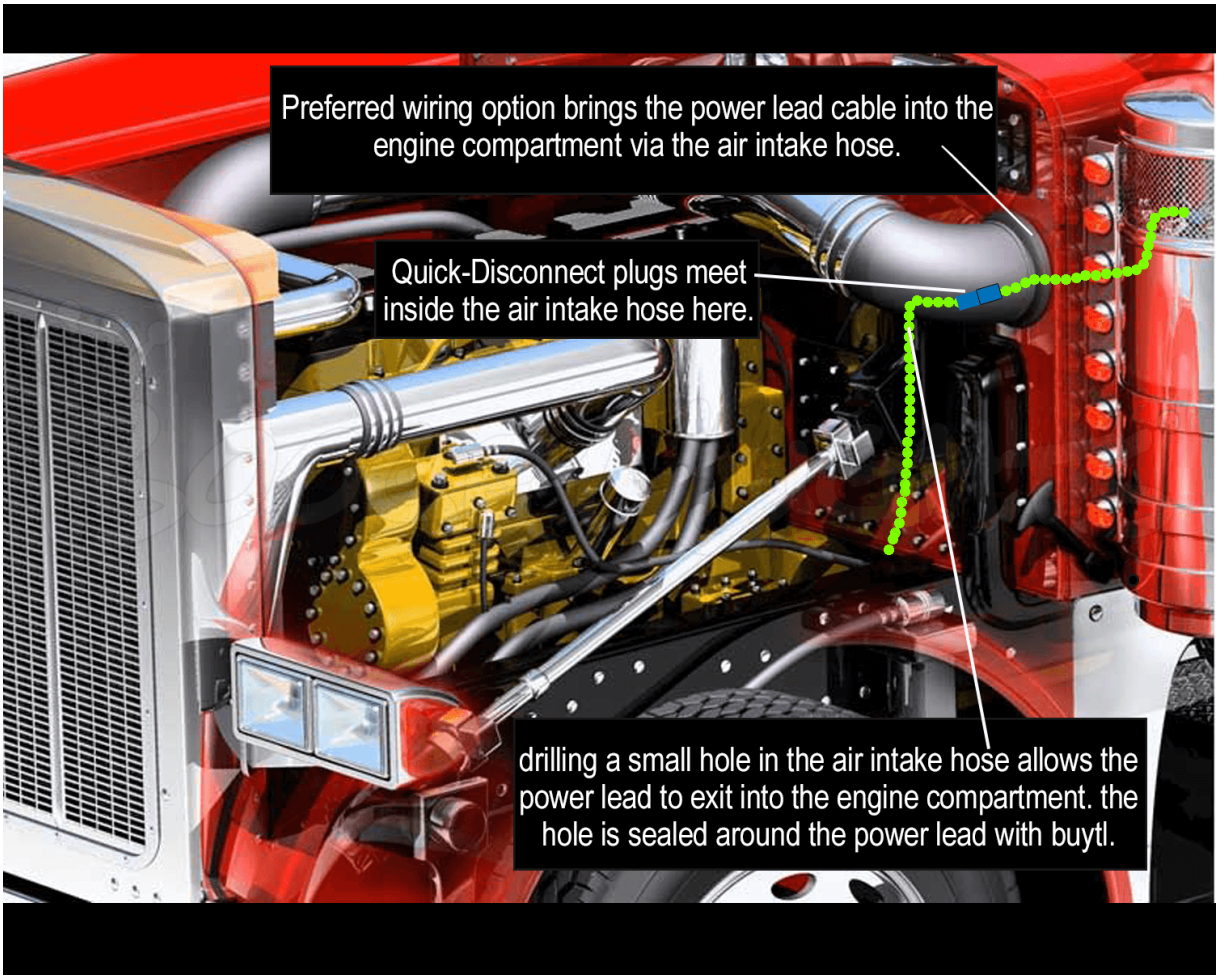
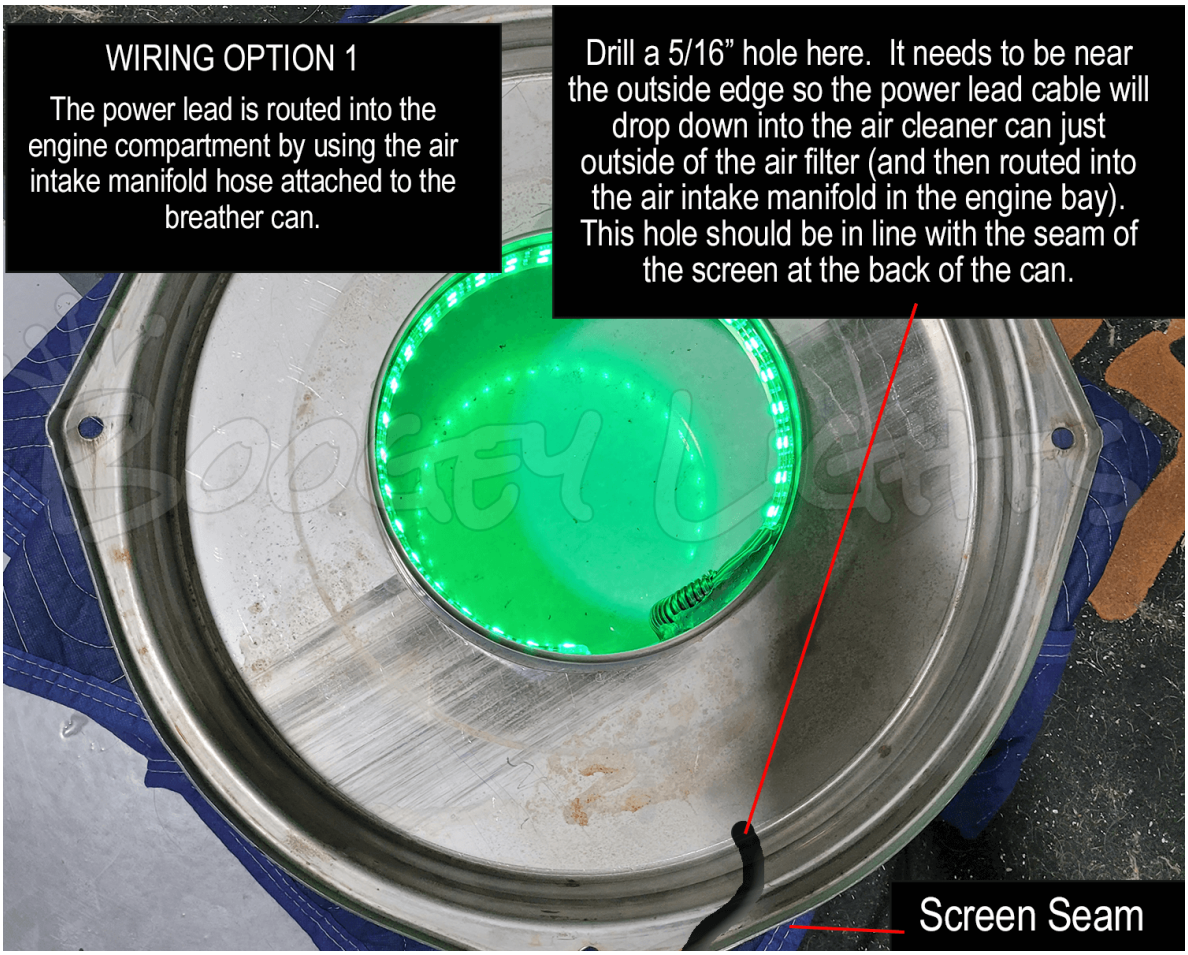
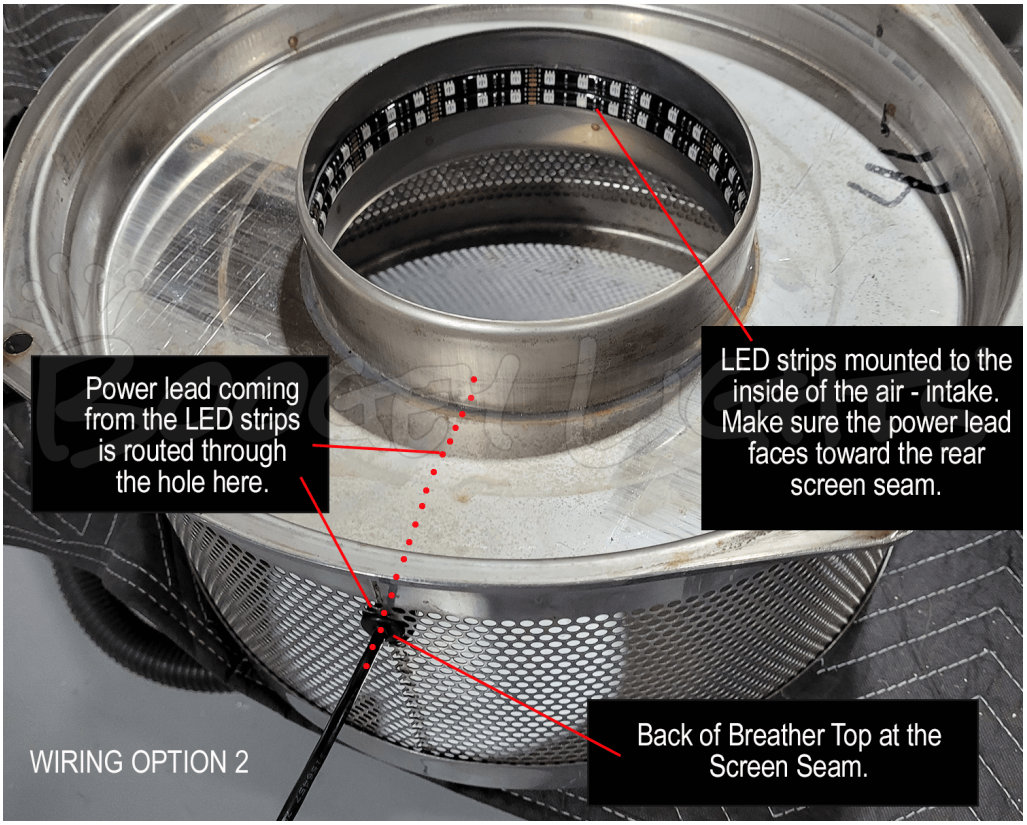


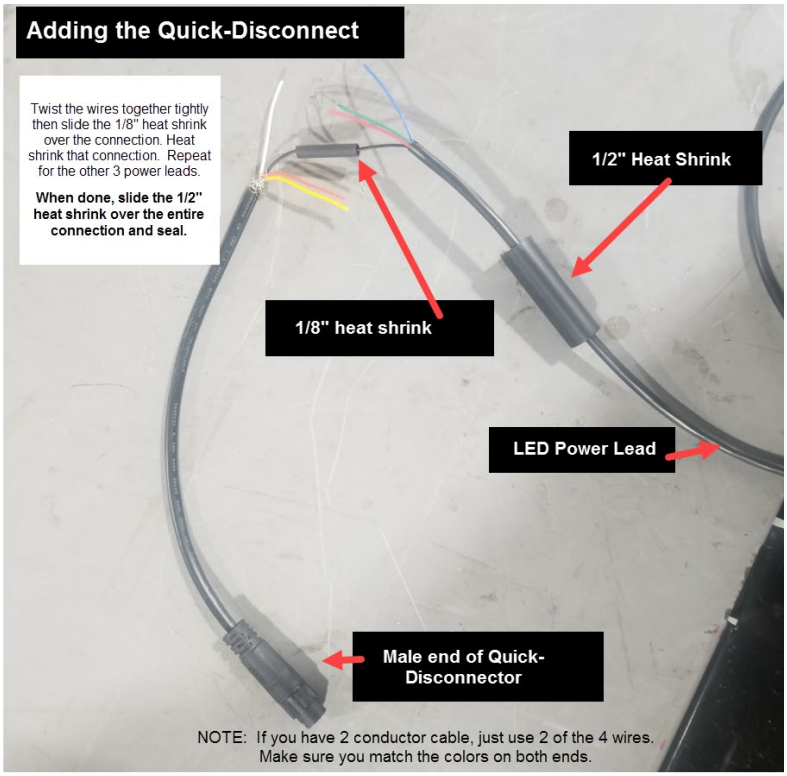
Photo of a LED strip that fit inside the breather. Note there are two LED strips that mount side by side inside each breather. They share one power lead which is fed out of the breather cap and into the engine compartment.



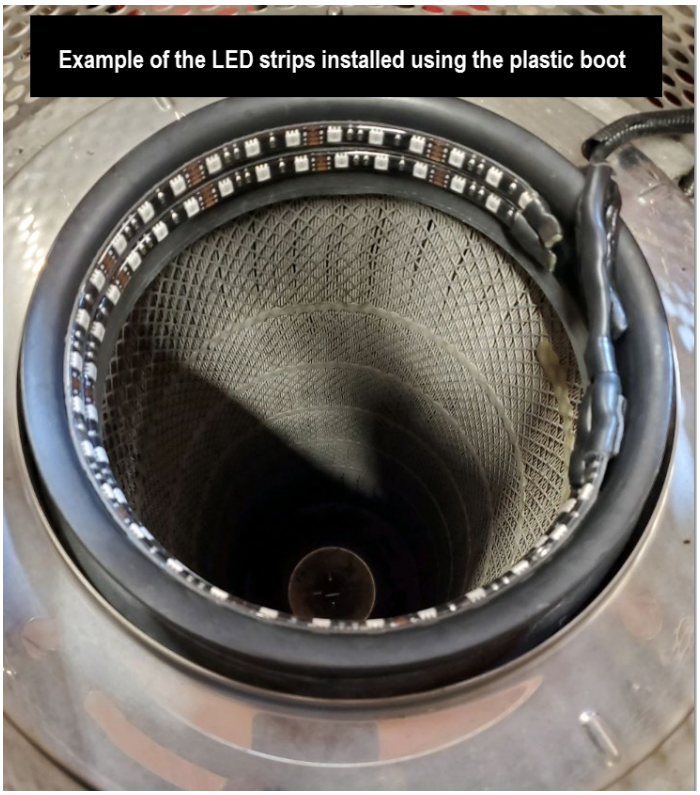


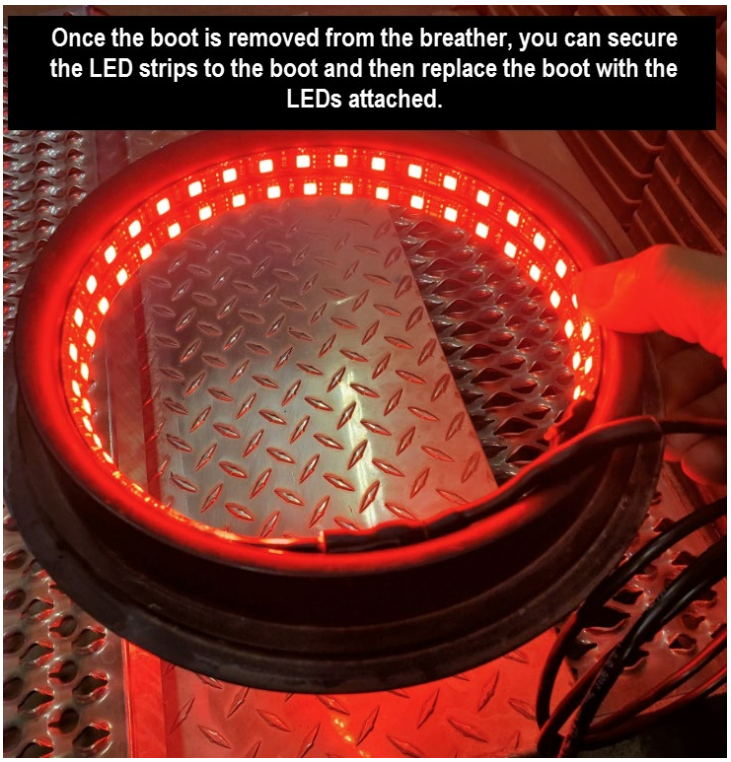

Power lead coming from the LED strips is routed through the hole here.
LED strips mounted to the inside of the air - intake. Make sure the power lead faces toward the rear screen seam.
Back of Breather Top at the Screen Seam.
WIRING OPTION 2


Butyl tape here secures the power lead as it exits over the top of the intake.


Adding the Quick-Disconnect
Twist the wires together tightly then slide the 1/8" heat shrink over the connection. Heat shrink that connection. Repeat for the other 3 power leads.
When done, slide the 1/2" heat shrink over the entire connection and seal.
1/2" Heat Shrink
1/8" heat shrink
LED Power Lead
Male end of Quick-Disconnector
NOTE: If you have 2 conductor cable, just use 2 of the 4 wires. Make sure you match the colors on both ends.


If your breather has a plastic or rubber boot, the installation is even easier since you can remove the boot and secure the LED strips to that boot.


Example of the LED strips installed using the plastic boot


Once the boot is removed from the breather, you can secure the LED strips to the boot and then replace the boot with the LEDs attached.

Additional Resources

- Product Link: https://www.boogeylights.com/peterbilt-air-cleaner-lights/
- 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
- Other Items You May Need: https://www.boogeylights.com/other-items-you-might-need/
- 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/.