

INSTALLATION GUIDE

MACK ANTHEM Rear Fairing Accent / Optional TTB LED LIGHT KITS

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

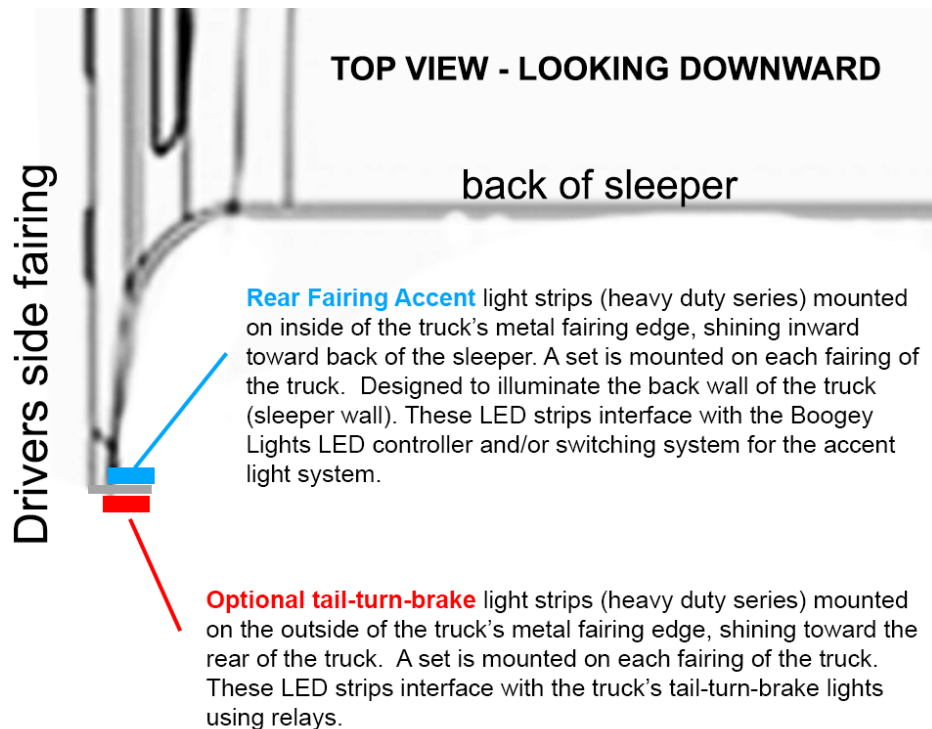
We know this takes a few extra minutes, but we STRONGLY suggest you bench test your lights AND your controller / switches on a table before doing anything further. While we test every light strip and controller before shipping, bench testing your lights will eliminate the possibility of any problems 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). 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 document 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 vehicle. This is particularly the case with led strip mounting locations, 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 products 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.

MOUNTING SURFACE. Both the Rear Fairing Accent (RFA) Lights and the Tail-Turn-Brake lights use our HEAVY DUTY LED strip series. The Rear Fairing Accent lights attach to the inside edge of the vertical fairing on each side of the truck shining toward the back (sleeper) of the truck. The MACK ANTHEM fairing has a sturdy, metal right angle lip on each fairing extension. A set of RFA lights mount on the inside of that right angle lip as shown in this diagram.



SECURE THE POWER LEADS. Make sure the power lead wire that connects to one end of the LED strip is firmly secured to the truck. Do not allow that power lead to move or flex at the point where it attaches to the LED strip. If you do, it will fail prematurely and is not covered under warranty.

INSTALLATION TIME. We suggest allocating 2 hours to properly install this RFA light kit. Add an additional 2 to 3 hours for the optional Tail-Turn-Brake light kit.

POWER LEAD CONNECTIONS. All of the power leads coming from the REAR FAIRING LED strips will need to be routed back to your power source/switch/controller which is usually mounted near the battery bank. If you're installing this kit along with another one of our light kits, you can usually merge the wiring together. It's important these power lead be secured (especially at the point where the power lead attaches to the LED strip) and wrapped in split loom to prevent chafing.

RFA PLACEMENT LOCATIONS. All the LED strips in the Rear Fairing Accent light kit are built on our HEAVY DUTY LED strips. We use 1 – 45 LED Heavy Duty Strip and 2 – 30 LED Heavy Duty LED strips on each side. See photo on next page for placement.

TAIL-TURN-BRAKE PLACEMENT LOCATIONS. All LED strips in our Tail-Turn-Brake light kit are built on our HEAVY DUTY LED series. We use 3 – 30 LED strips and 1 – 15 LED strip on each side of the truck. See photo on the next page for placement. We install a quick-disconnect connector on the 15 LED strip only since the side skirt may need to be removed for service at some point. We include both photos below of how we wire the tail-turn-brake system using a series of 3 relays. **** RELAYS MUST BE USED. DO NOT CONNECT THE TTB LIGHTS DIRECTLY TO YOUR TRUCK'S LIGHTING CONTROL MODULE ****

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.

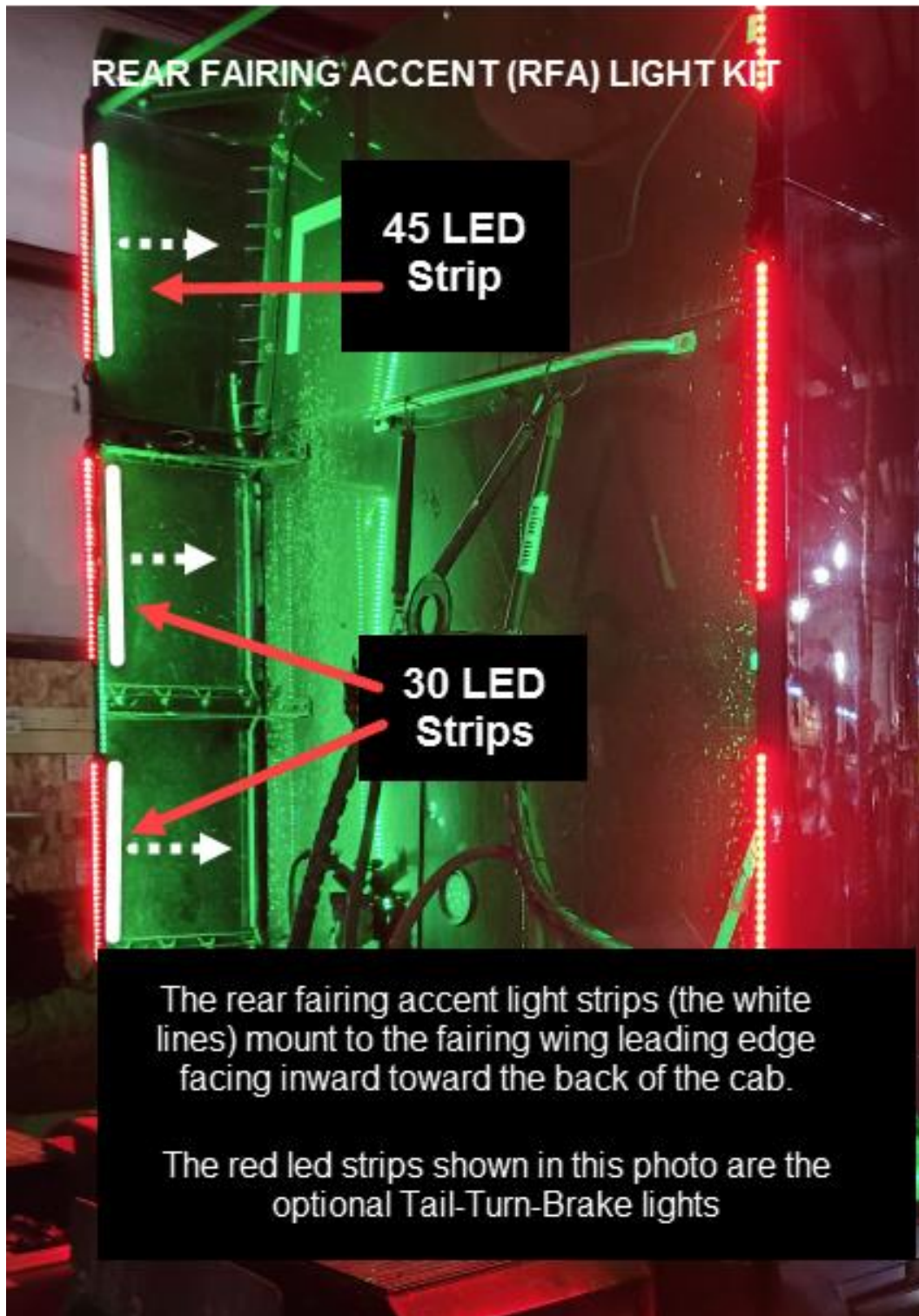
We recommend planning out your install on paper first. Be sure to wrap all power leads in split-loom which is also included and then secure them to the truck using zip ties.

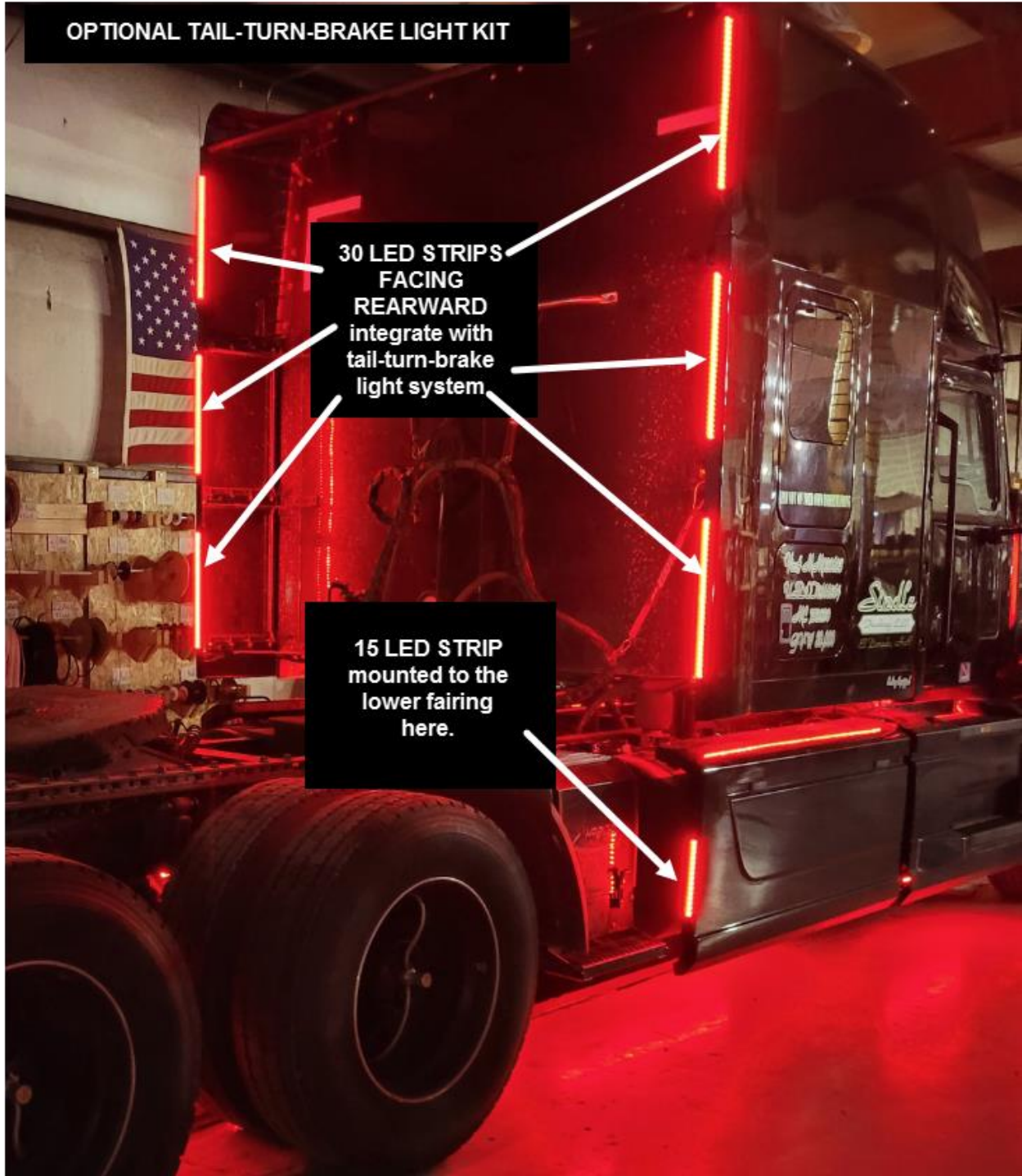
WHAT'S INCLUDED

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.

- Feeder Cable (18 or 20awg) – 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.

If you purchased the optional Tail Turn Brake light kit your kit will also include 3 – 40 amp relays and the relay housing along with 2 pairs of male-female quick disconnect connectors.





TAIL / TURN / BRAKE LIGHT INTEGRATION

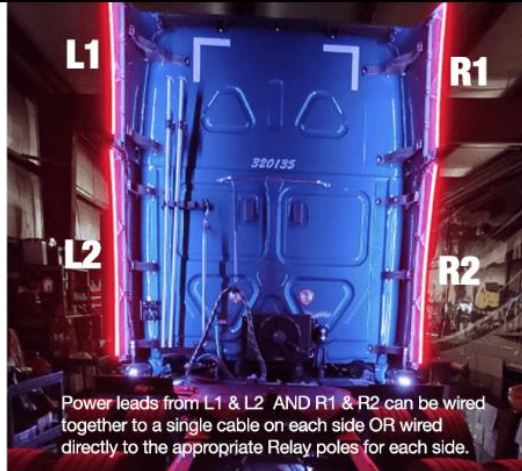
For the MACK ANTHEM, there are THREE LED strips on each side (not 2 as shown here)

BOOGIE LIGHTS LED STRIP

LEFT SIDE power leads coming from L1 & L2



BLACK = chassis ground
BLUE (diode 1) -> RELAY 2
GREEN (diode 2) -> RELAY 1
RED (diode 3) -> RELAY 1



BOOGIE LIGHTS LED STRIP

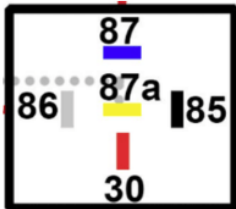
RIGHT SIDE power leads coming from R1 & R2



BLACK = chassis ground
BLUE (diode 1) -> RELAY 2
GREEN (diode 2) -> RELAY 3
RED (diode 3) -> RELAY 3

RELAY WIRING

RELAY 1



view of bottom of relay
each pole is numbered

85: Frame ground.

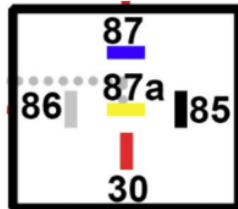
86: 12vdc+ trigger wire INPUT from truck's LEFT turn signal.

87: 12vdc+ OUT to Diodes 2 and 3 on the LEFT SIDE Boogey Lights LED STRIP.

87a: not used. cap the wire

30: Connects to 12vdc+ side of battery (with inline fuse).

RELAY 2



view of bottom of relay
each pole is numbered

85: Frame ground.

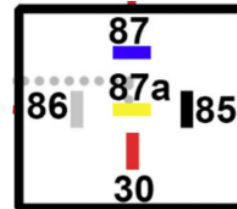
86: 12vdc+ trigger wire INPUT from truck's TAIL LIGHT aka Running Lights.

87: 12vdc+ OUT to Diode 1 on BOTH the LEFT and RIGHT SIDE Boogey Lights LED STRIPS

87a: not used. cap the wire

30: Connects to 12vdc+ side of battery (with inline fuse).

RELAY 3



view of bottom of relay
each pole is numbered

85: Frame ground.

86: 12vdc+ trigger wire INPUT from truck's RIGHT turn signal.

87: 12vdc+ OUT to Diodes 2 and 3 on the RIGHT SIDE Boogey Lights LED STRIP.

87a: not used. cap the wire

30: Connects to 12vdc+ side of battery (with inline fuse).

MOUNTING THE LED STRIPS

Once you have your LED strips cut (if necessary) and you know where you are going to attach them, follow these steps:

- 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 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 without reading the section "A Word About 3M Tape & 3M Promoter" further on in this document).

- Next, use the 3M Adhesion Promoter supplied with your kit to "paint" on the promoter where you are going to mount the LED strip. See the note below (on page 6) about the proper way to use promoter. ***This is an important step. Do not bypass.*** Allow the promoter to dry for 30-60 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.
- Secure all power leads. Do not leave the power lead cable hanging. Doing so will place too much stress on the LED strip itself causing it to fall off or fail where the power lead connects to the LED strip. Be sure to wrap all power leads in split loom to avoid chaffing.

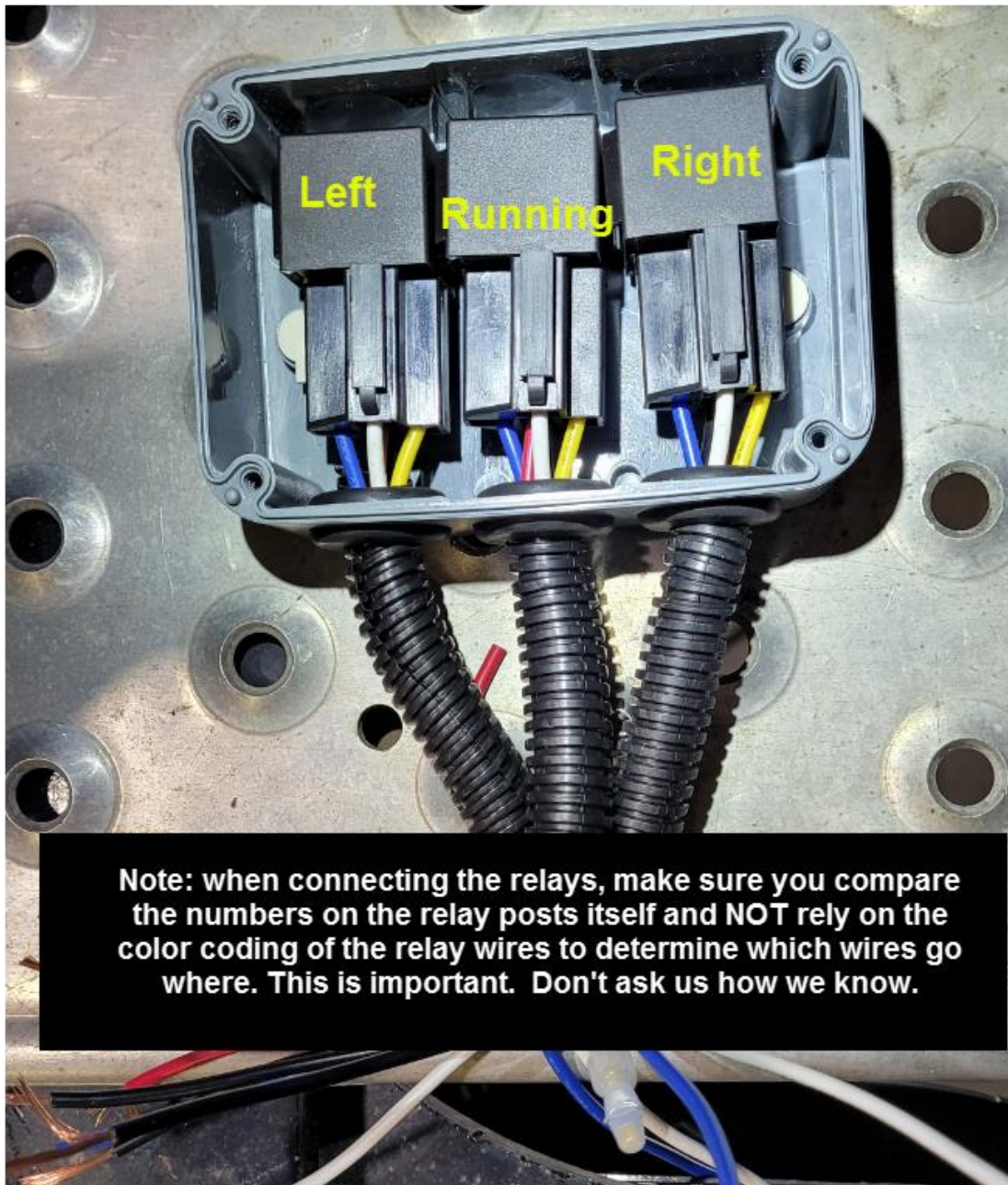
Do NOT bend the LED strip in a radius of less than 2 inches.



Do NOT bend the LED strip on a horizontal plane.



View of the 3 relays in the water proof housing.



QUICK – DISCONNECTS FOR TAIL-TURN-BRAKE

If you purchased the optional TAIL-TURN-BRAKE light kit for the two 15 LED strips mounted on each of the lower side skirts you'll need to add a quick-disconnect connector in the circuit (included in the kit if the tail turn brake light option is ordered). This will allow the side skirts to be removed from the truck without having to cut the power lead cables going to each of the 15 LED strips mounted on each side. Below is a diagram of how we suggest making those connections using 1/8" and 1/2" heat shrink.

