INSTALLATION GUIDE

CAN-AM SPYDER RT LIMITED LED LIGHT KIT

We realize there's a lot of reading here. We wish it was easier but if you want the best possible fit and finish (and you want your light system to last a long time), we urge you to take the time to read these directions as well as the wiring diagrams and related documents included with your order. You'll be happy you did.

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 RV. 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.

KIT OVERVIEW

Installation of this led light kit takes 8 to 10 hours to do it properly. There are 27 different mounting locations in this kit and all of the power leads need to be carefully run. Included in that number of mounting locations are the LED strips mounted to the inside of the removable lower engine covers on both the left and right sides of the bike. These two engine covers will require quick-disconnects to be installed such that these panels can be easily removed for service without having to cut the power leads. We include the quick-disconnects and heat shrink in our lighting kit so you can make these connections.

DIYers will need to be familiar with removing the plastics on the bike. You will likely need floor jacks to get the bike high enough off the ground to install the under-glow light strips. For the brake light interface, assuming you want to install it (optional), you will need to gain access to the rear brake lights to tap into the brake light circuit. We used the left rear brake light assembly. Note too that since this light kit was originally introduced in 2020, we have released a new generation of LED CONTROLLER (the GEN2). This new GEN2 LED controller has the ability to power LEDs that have up to 5 diodes (RGBxx) vs the standard 3 diodes with RGB. If you are going to be using the brake flash feature, be sure to read the BRAKE FLASH WIRING section on the next page.

The LED controller is mounted in the front storage compartment (aka "frunk") in close proximity to the battery. The wiring on the bike is segmented into 6 areas: left side rear, left side front lower, left side front upper, right side rear, right side front lower, right side front upper. The power leads coming from the LEDs mounted in each of these areas come together in their respective locations. For the left side rear and front lower, a feeder cable is run up to the left side front upper which ultimately connects to the LED controller. The same with the right side. This installation manual includes more detail on all of this including photos of the suggested mounting locations for each strip. We do not however include detailed instructions on how to remove the various plastics. We assume anyone attempting to install this light kit has the knowledge to do this already (or, is willing to figure it out on their own using any number of online sources).

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 access and remove the plastics on the Spyder.

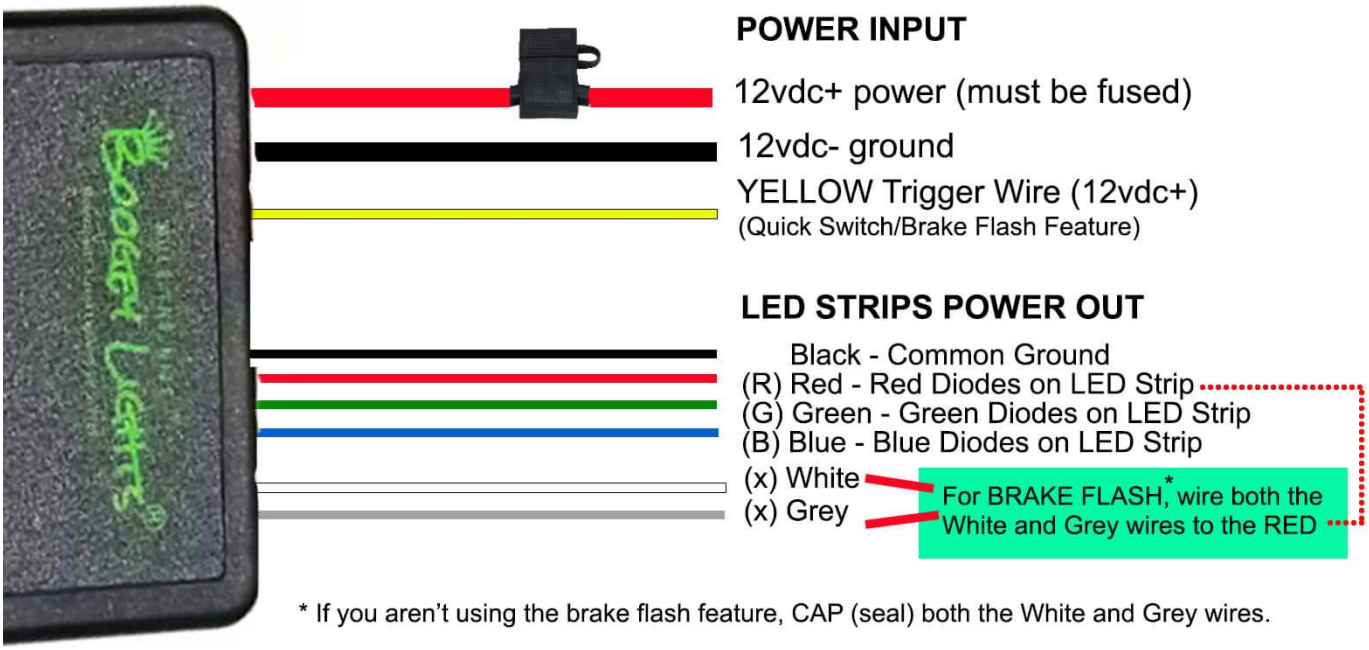
- The installer understands 12vdc electricity, making electrical connections using heat shrink tubing and crimp on connectors, the importance of having a fuse in the circuit and polarity.
- How to access the bike's battery, remove / connect battery connections, how to make electrical connections (e.g. crimping) and the importance of making sure all electrical connections are sealed properly (e.g. no water intrusion).
- How to run cabling such that the power leads/wiring are secured in a way as to not create a hazard when riding the bike and/or placing them in locations which might damage them (e.g. up against the exhaust pipe, against drive belt).
- A means by which to gain access underneath the bike (e.g. floor jacks) to be able to mount the strips to the bottom.

BRAKE FLASH WIRING WITH SUPER GEN2 LED CONTROLLER

Due to the number of LEDs in this light kit, we include our GEN2 SUPER LED CONTROLLER. It's capable of powering up to 900 LEDs whereas the GEN2 PLUS controller we typically use for motorcycle light kits has a max limit of 300 LEDs. The GEN2 SUPER and PLUS LED controller versions however are wired differently for the brake flash feature to work. If you want to use the BRAKE FLASH feature to automatically turn on just the RED diodes when you press the bike's brake lever, be sure to follow this wiring diagram.

WIRING BRAKE FLASH ON GEN2 SUPER OR HD CONTROLLER

If you have a GEN2 SUPER or HEAVY DUTY LED Controller and you want to use the brake flash feature to light up just the RED diodes when the brakes on your vehicle (eg. motorcycle) are applied, you'll need to also wire both the WHITE and GREY wires to the RED diodes of the RGB LED strip. That way when the yellow trigger wire detects 12vdc power input from the vehicle's brake light circuit, the controller will turn on just the RED diodes. See diagram below. If you aren't using the brake flash feature, be sure to cap the White and Grey output wires.



* If you aren't using the brake flash feature, CAP (seal) both the White and Grey wires.

TYPICAL LED PLACEMENT

These are the LED placement locations we used for this kit. Nothing says you have to use this placement though. At the end of this guide we include photos of all of these LEDs as located on the bike. Our strategy in placement is to light the areas of the bike that are have vents for light to shine through as well as the entire under-side of the bike (shining downward toward the pavement). When determining placement the goal is to locate the LED strips in locations where the strips themselves cannot be seen but the glow from the LEDs when lit are seen.

Left Side

- Engine Panel / Lower: 1 - 9 LED, 1 - 6 LED, 1 - 12 LED mounted to inside of this removable panel. All three strips connect to a quick-disconnect.
- Engine Panel / Upper: 1 - 9 LED, 1 - 6 LED mounted to the bike directly.
- Under-Glow: 1 - 9 LED under engine area, 1 - 6 LED under foot peg, 2 - 9 LEDs under wheel strut, 1 - 18 LED under saddle bag.

Right Side

- Engine Panel / Lower: 1 - 12 LED mounted to inside of this removable panel. Connects to a quick-disconnect. 1 - 9 LED mounts to the bike.
- Engine Panel / Upper: 1 - 9 LED, 1 - 6 LED both mounted to the bike directly.
- Under-Glow: 1 - 9 LED under engine area, 1 - 6 LED under foot peg, 2 - 9 LEDs under wheel strut, 1 - 18 LED under saddle bag

Front

- Under-Glow: 1 - 21 LED, 2 - 12 LEDs mounted to the bottom of the front nose area in a 'V' shape.
- Air-Intake: 2 - 6 LED strips mounted in each of the air-intakes (top)

Rear

- Wheel Well: 2 - 12 LEDs mounted on the inside edge of each side of the rear wheel fender facing inward toward the rear tire.

Center (Under-Glow)

- Under-Glow: 1 - 51 LED strip mounted to the support frame on the bottom of the bike running down the center of the bike.

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 the included heat shrink tubing to seal the cut end. You can also use silicone found at your local hardware or RV store. A little dab will do you. If you do need to cut your LED strip, we strongly suggest doing so BEFORE you mount the strip to your RV/Camper/Trailer. **NOTE:** Your LED strip might look a little different than this photo. Some of our LED strips have one solid oval solder pad with a dotted line going down the middle (e.g. the sciscors isn't there). Just cut down the middle of those solder pads.

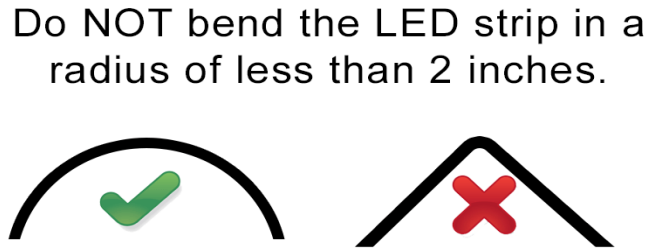
Follow these steps for mounting your LED strips:

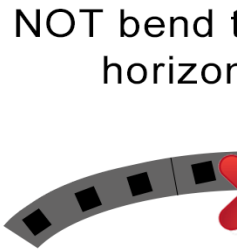
- The area where you are mounting the LEDs has to be clean: free of all dirt, oil or anything that might affect the LED from sticking. You only get one opportunity to mount the LEDs so it's critical the area be prepared properly.

- Use the supplied alcohol pads 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.

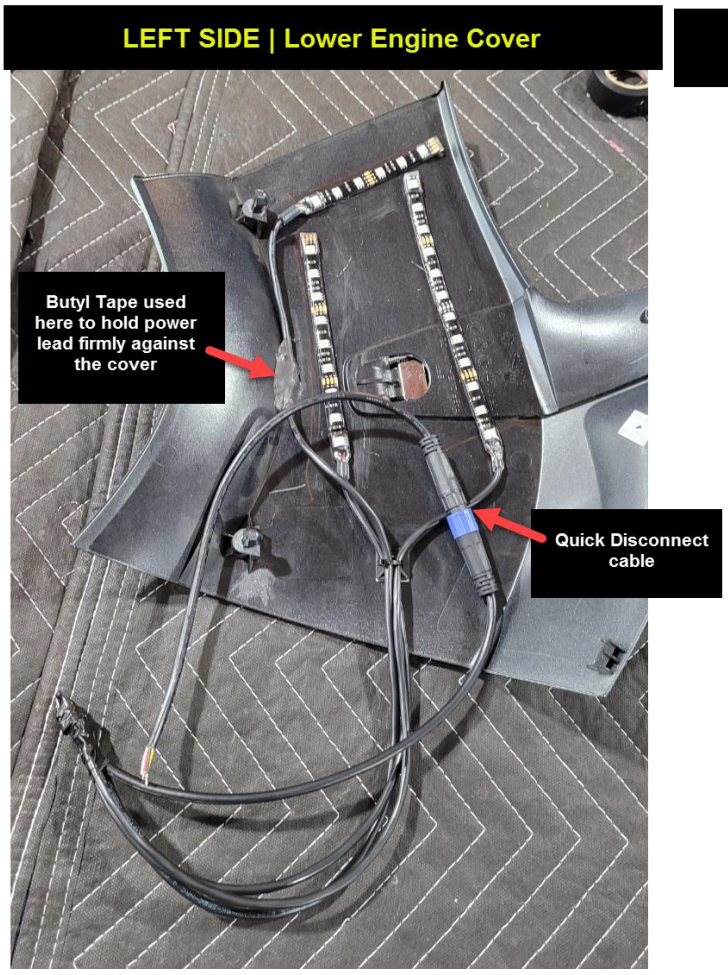


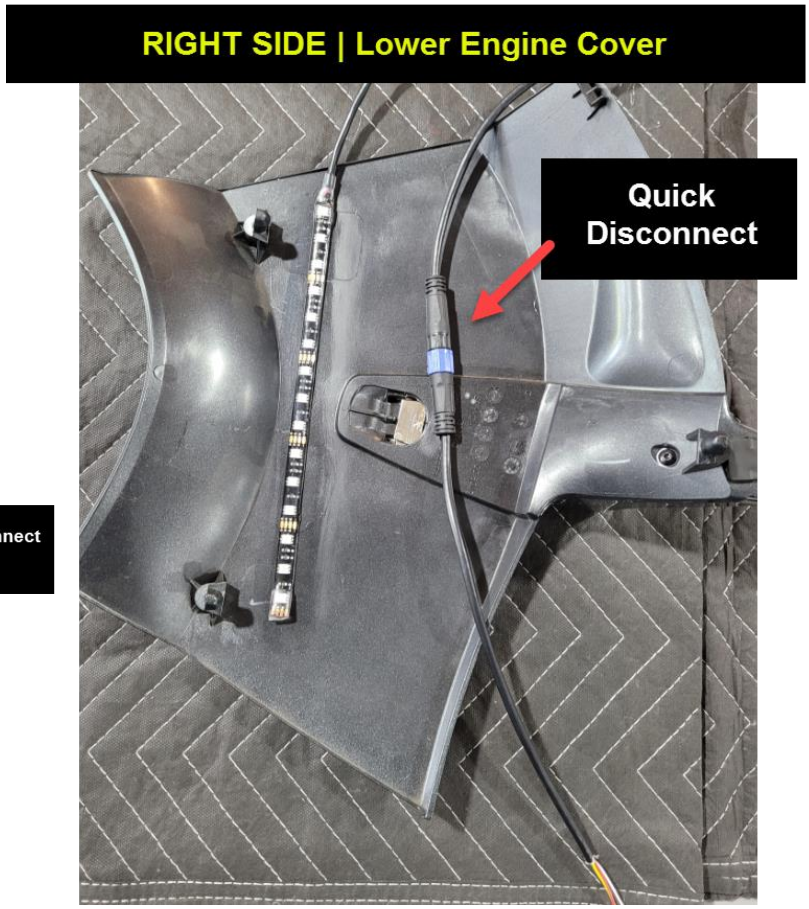


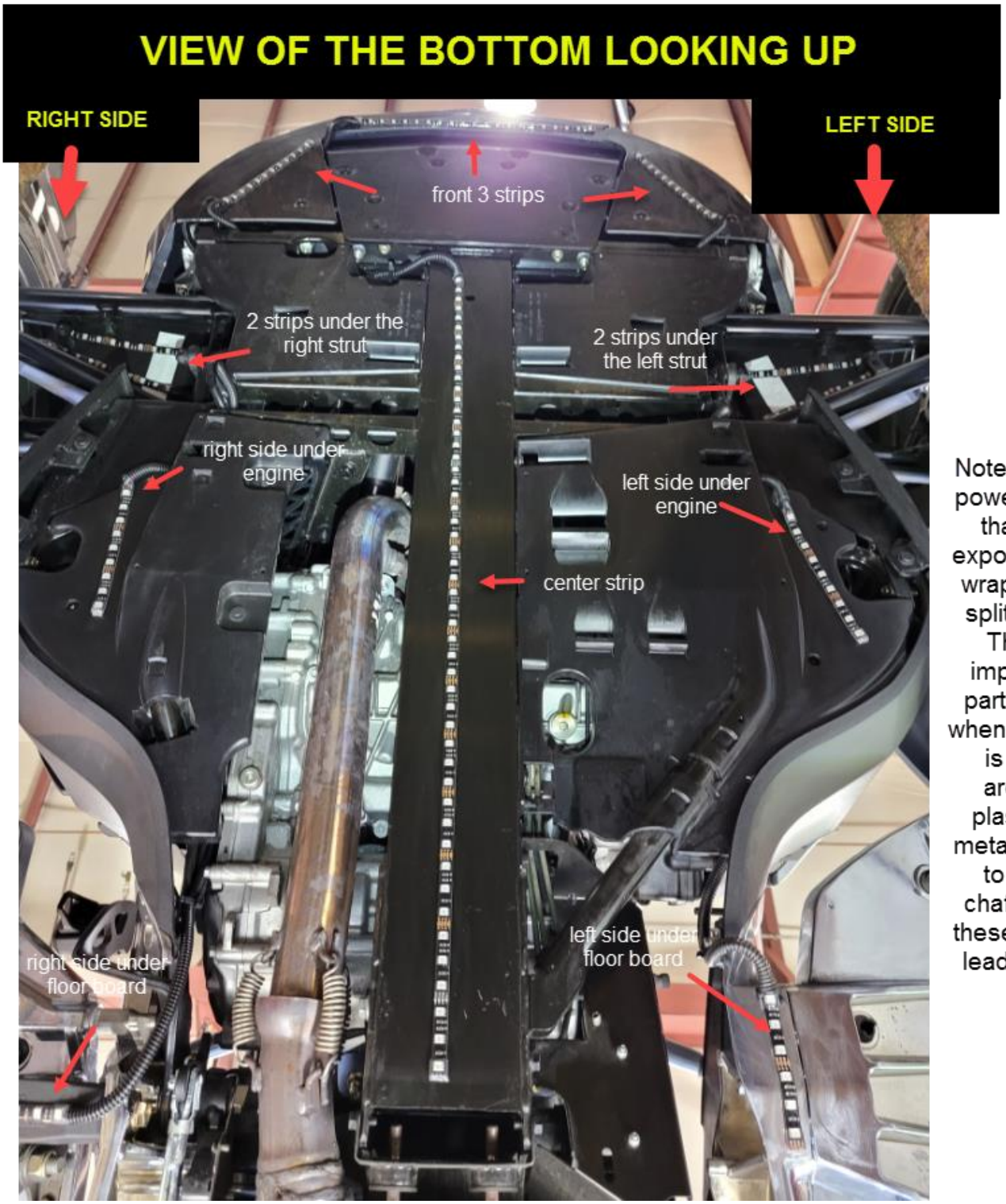
- Carefully push the LED strip to the area you have prepared. You will want to apply only enough pressure to the strip to make sure it is firmly mounted. *You only get one opportunity to do this.* Once the LED strip touches a properly prepared surface that has been promoted, that LED strip will be very 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 PHOTOS

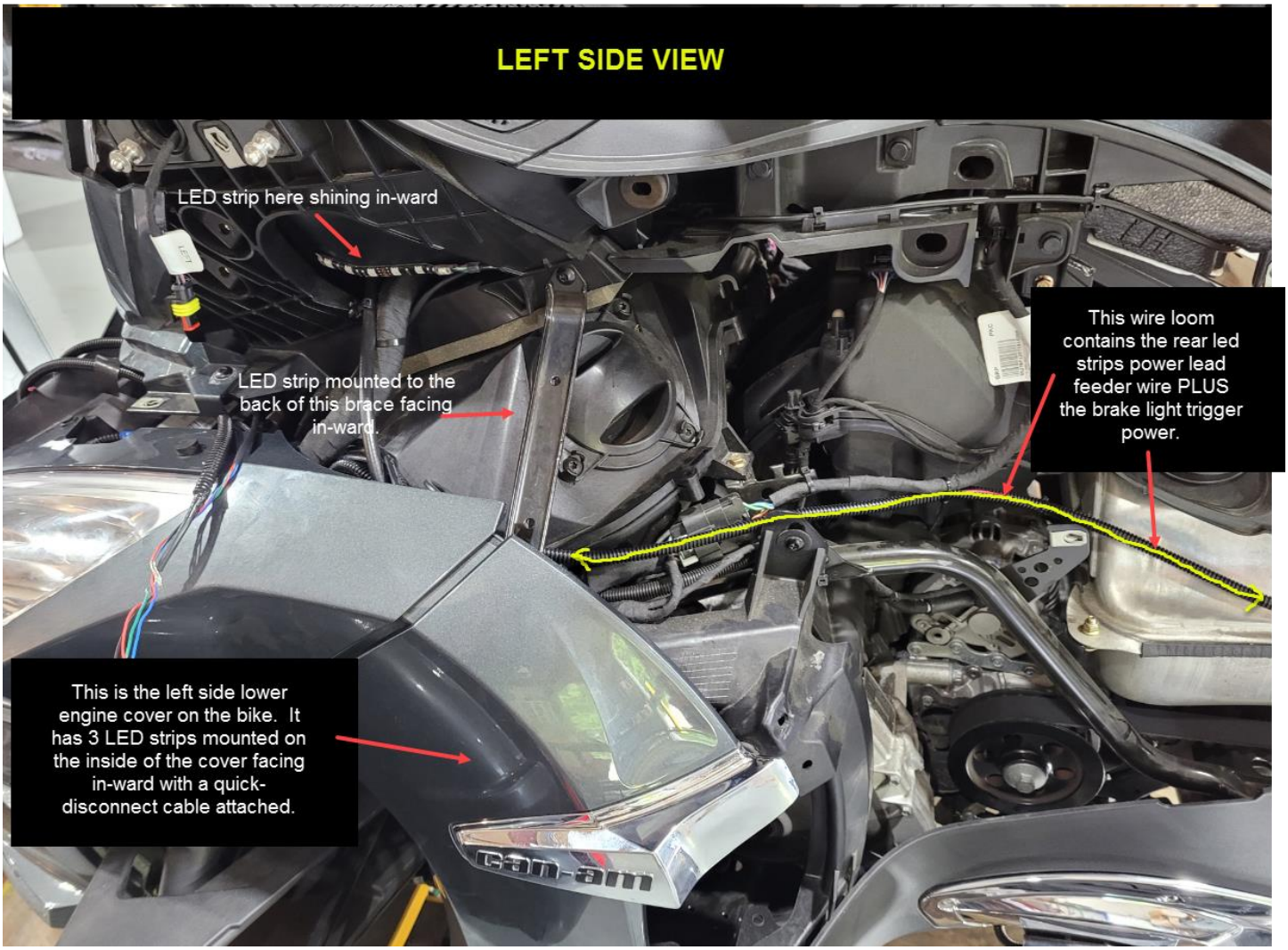
Here are some photos with comments on the installation we did in building this kit. We've commented on key parts of the installation along the way. We don't however cover every minute detail of the installation process.







Note how all power leads that are exposed are wrapped in split loom. This is important particularly when the wire is bent around plastic or metal edges to stop chaffing of these power lead wires.


LEFT SIDE VIEW
LED strip here shining in-ward
LED strip mounted to the back of this brace facing in-ward.
This wire loom contains the rear led strips power lead feeder wire PLUS the brake light trigger power.
This is the left side lower engine cover on the bike. It has 3 LED strips mounted on the inside of the cover facing in-ward with a quick-disconnect cable attached.
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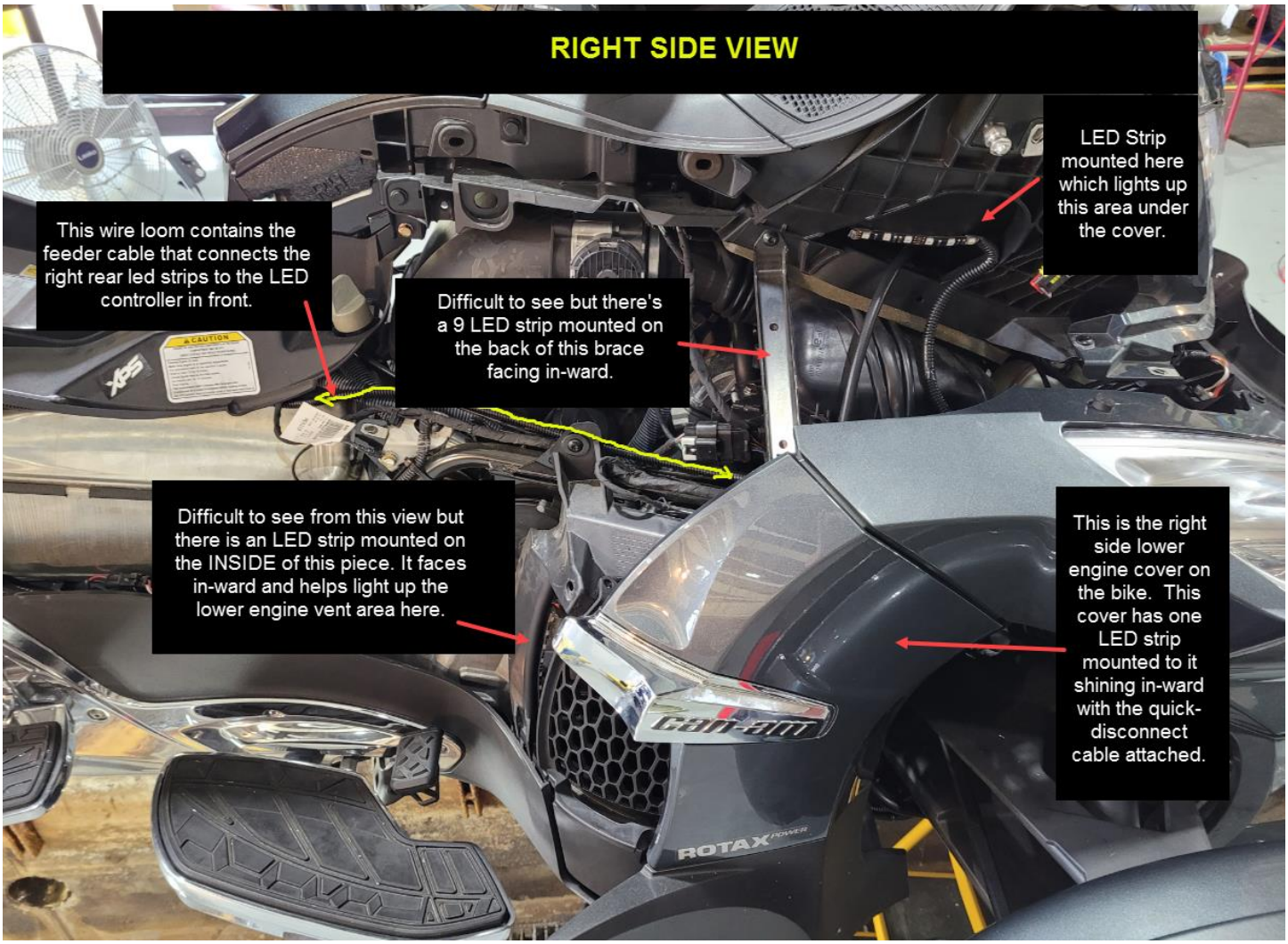
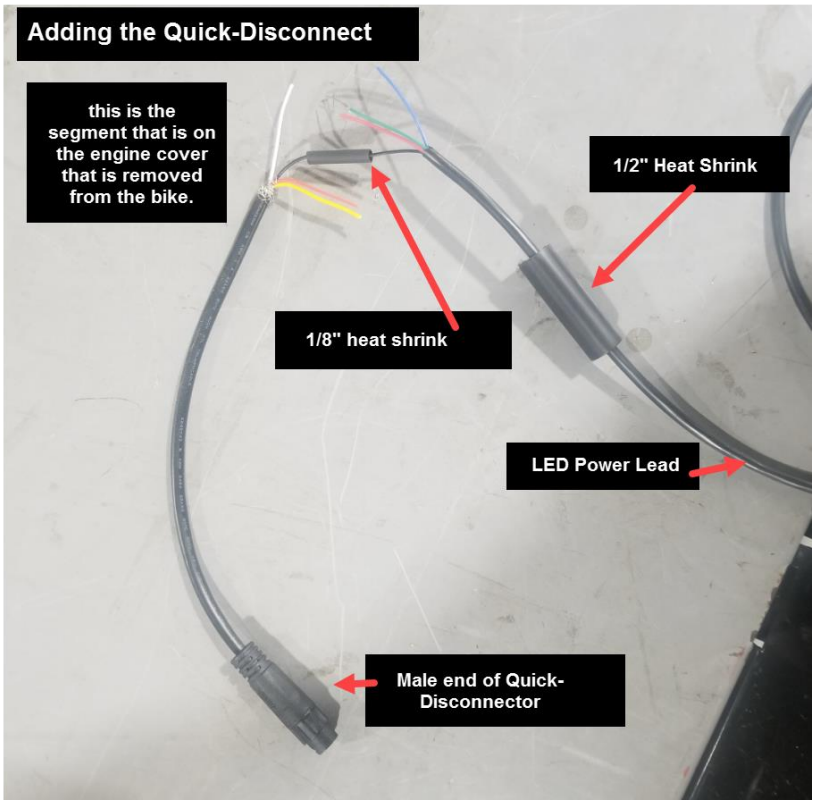
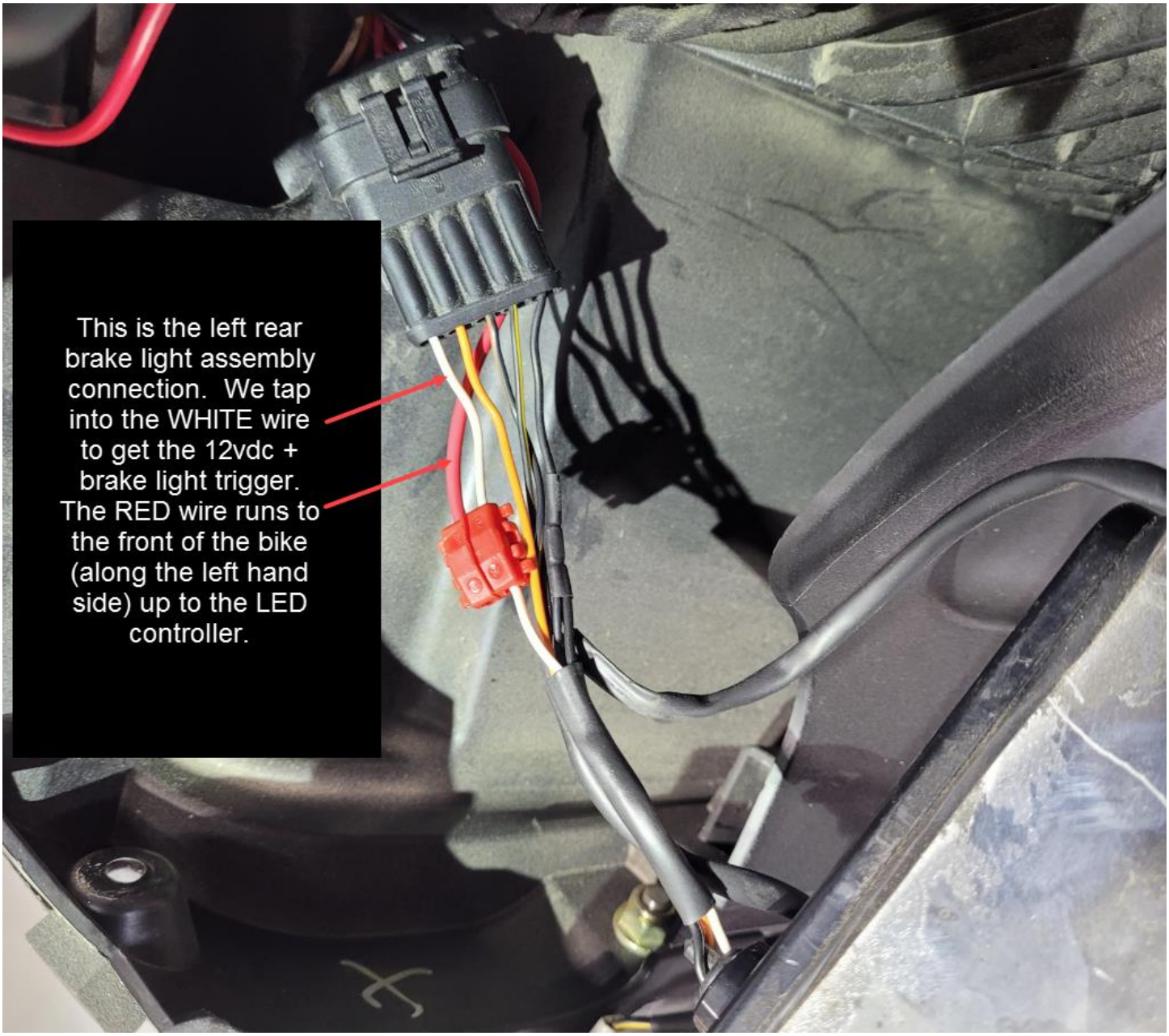
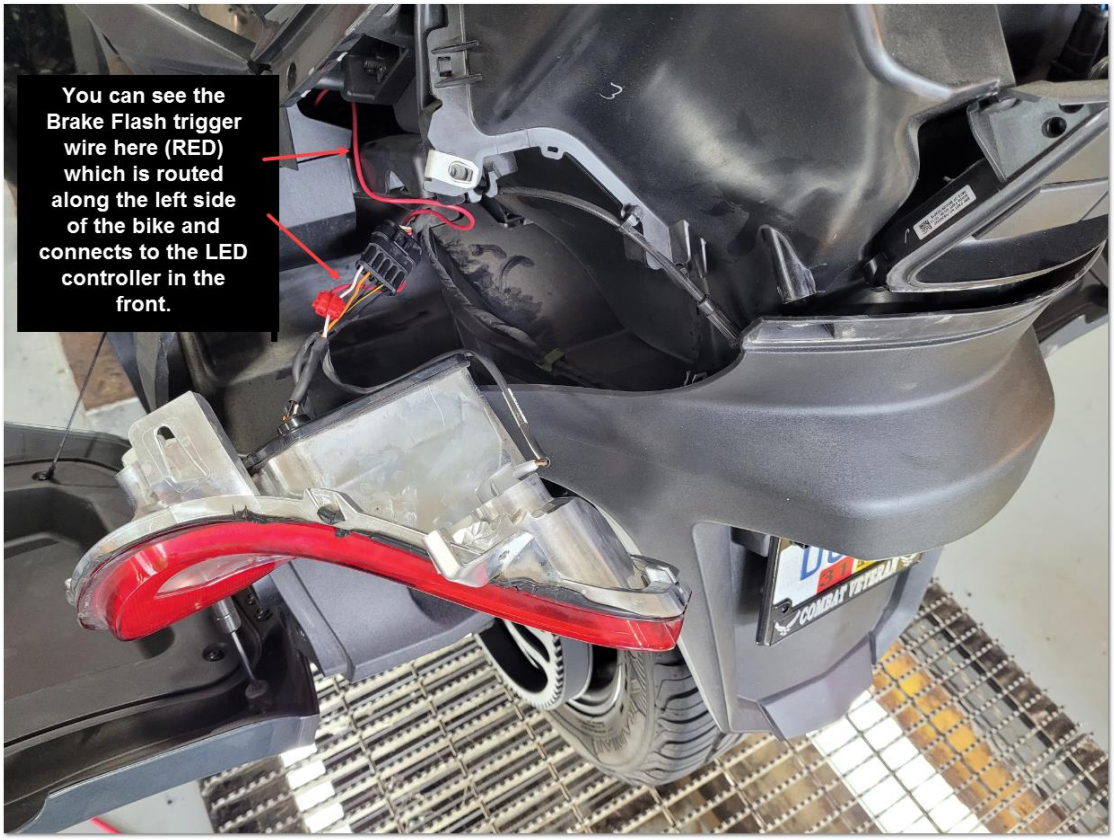
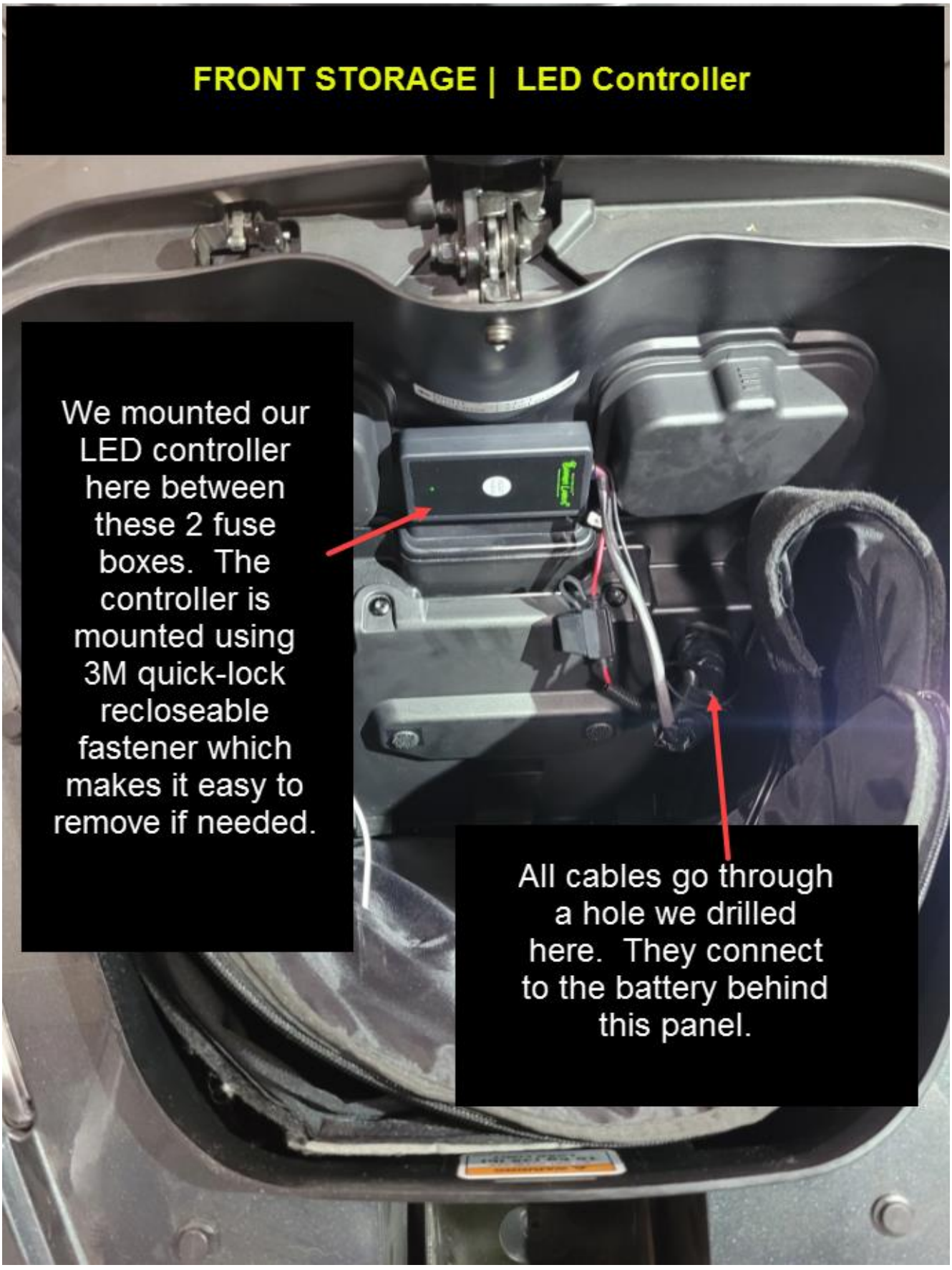

RIGHT SIDE VIEW
LED Strip mounted here which lights up this area under the cover.
This wire loom contains the feeder cable that connects the right rear led strips to the LED controller in front.
Difficult to see but there's a 9 LED strip mounted on the back of this brace facing in-ward.
Difficult to see from this view but there is an LED strip mounted on the INSIDE of this piece. It faces in-ward and helps light up the lower engine vent area here.
This is the right side lower engine cover on the bike. This cover has one LED strip mounted to it shining in-ward with the quick-disconnect cable attached.
CAUTION
ROTAX

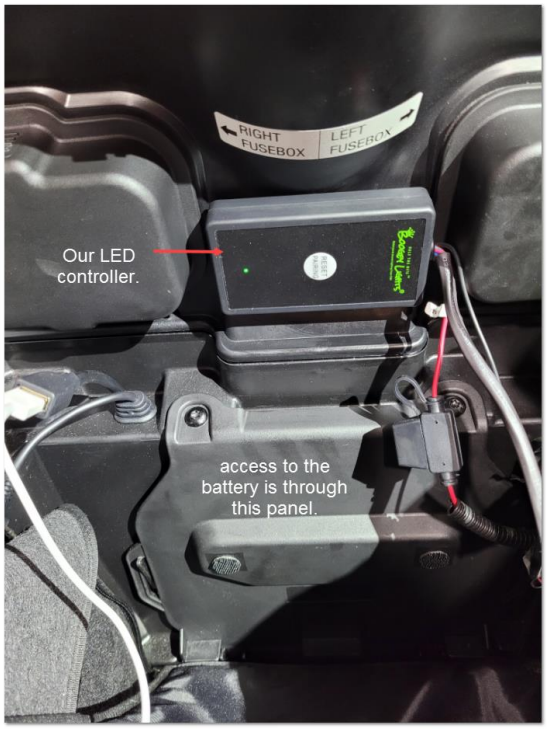

Adding the Quick-Disconnect
this is the segment that is on the engine cover that is removed from the bike.
1/2" Heat Shrink
1/8" heat shrink
LED Power Lead
Male end of Quick-Disconnector

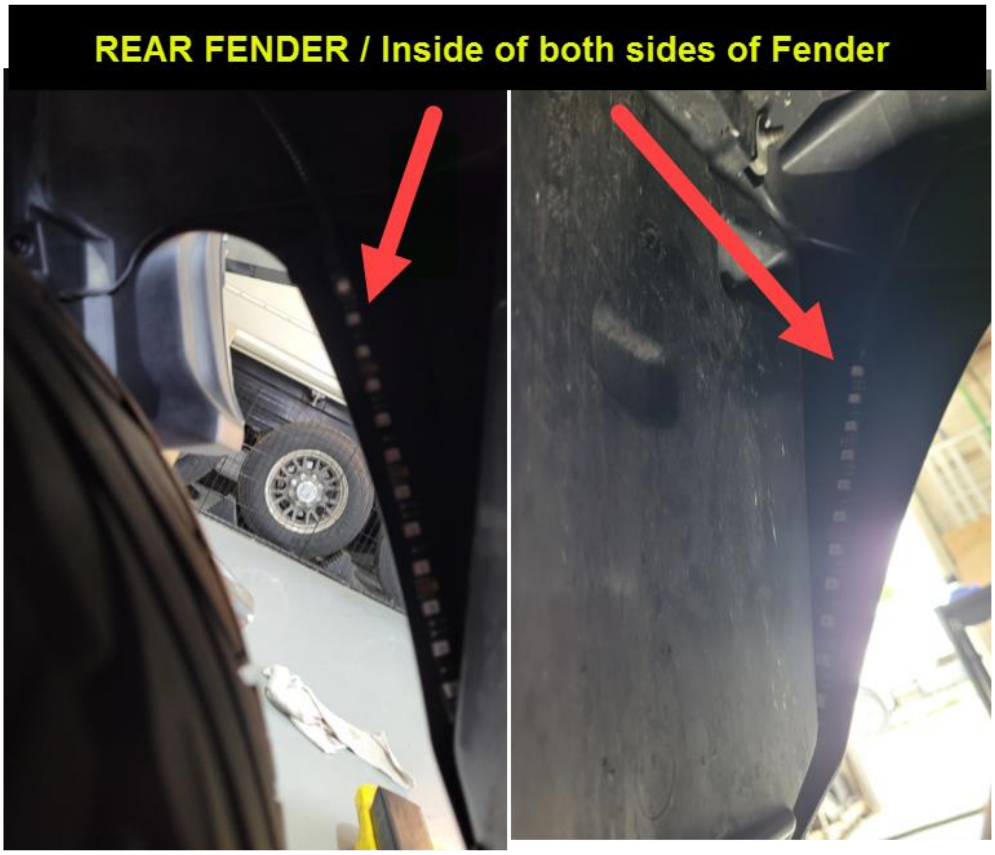

Expanded view of the left rear brake light assembly where we tap into the brake circuit for the brake flash feature trigger.
WARNING
COMBAT VETERAN


This is the left rear brake light assembly connection. We tap into the WHITE wire to get the 12vdc + brake light trigger. The RED wire runs to the front of the bike (along the left hand side) up to the LED controller.


You can see the Brake Flash trigger wire here (RED) which is routed along the left side of the bike and connects to the LED controller in the front.


FRONT STORAGE | LED Controller
We mounted our LED controller here between these 2 fuse boxes. The controller is mounted using 3M quick-lock recloseable fastener which makes it easy to remove if needed.
All cables go through a hole we drilled here. They connect to the battery behind this panel.


RIGHT FUSEBOX
LEFT FUSEBOX
Our LED controller.
access to the battery is through this panel.


REAR FENDER / Inside of both sides of Fender


LEFT SIDE / Under Saddle Bag


RIGHT REAR / UNDER-SADDLE BAG