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2016-2019 Cadillac ATS-V BIG MOUTH Ram Air LIT KIT Intake Installation Guide

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Kit Contents (Full LIT KIT)

Please review this document before attempting installation.

You will need basic hand tools and 2 hours of installation time.

Kit Contents	Qty
M5 x 14mm button head screw	1
M5 lock nut	1
M6 x 20mm socket head screw	1
M6 lock nut	1
6mm large washer	2
#8 x 1/2" round head screw	6
Push-style retainer clip (7mm)	2
L-bracket	1
Bluetooth controller	1
Rocker switch	1
Positive cable w/ in-line fuse	1
Remote	1
Cable clip	8
8" zip tie	10
M6 x 12mm socket head screw	1
Assembled BIG MOUTH kit	2
Drill and cutout template	2

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Kit Contents (LIT flare only)

Please review this document before attempting installation.

You will need basic hand tools and 2 hours of installation time.

Kit Contents	Qty
Bluetooth controller	1
Rocker switch	1
Positive cable w/ in-line fuse	1
Remote	1
Cable clip	8
8" zip tie	10
M6 x 12mm socket head screw	1
M6 lock nut	3
Assembled LIT flare	2

If you already own the 2016-2019 Cadillac ATS-V Big Mouth, skip ahead to slide 18 for flare installation and wiring instructions.

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Stock Components Removal

Use the resources available to research how to remove the bumper for your specific trim level.

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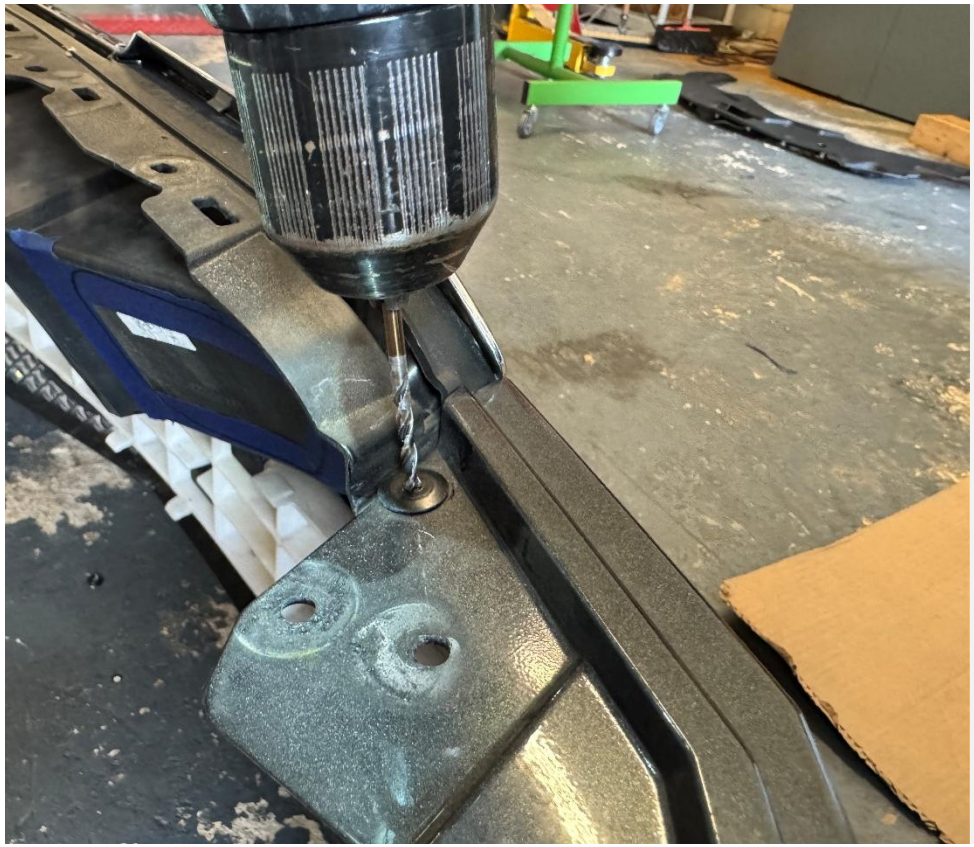
Stock Components Removal: Rivets

It is necessary to remove the indicated rivets to detach the air deflector from the grille. Use a ¼” drill bit to drill through the center of the indicated rivets until the rivet is weak enough to undo using pliers. They will be replaced with the supplied plastic rivets at a later point.



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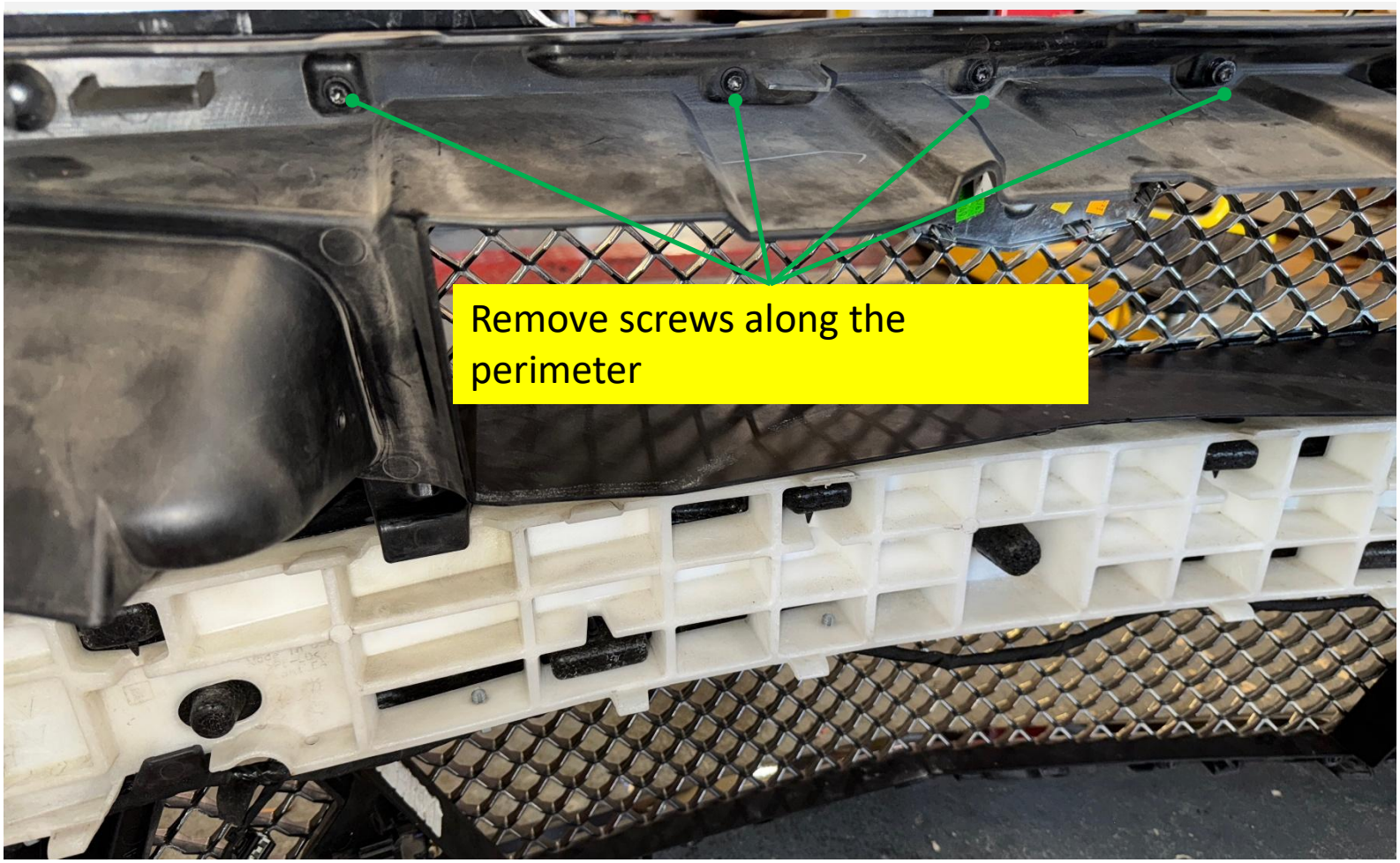
Stock Components Removal: Air Deflector

Remove the screws along the perimeter of the air deflector to separate it from the grille. There are recessed screws for which an extension will be handy.



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Stock Components Removal

Once the air deflector is detached, put the grille aside and find the supplied templates.

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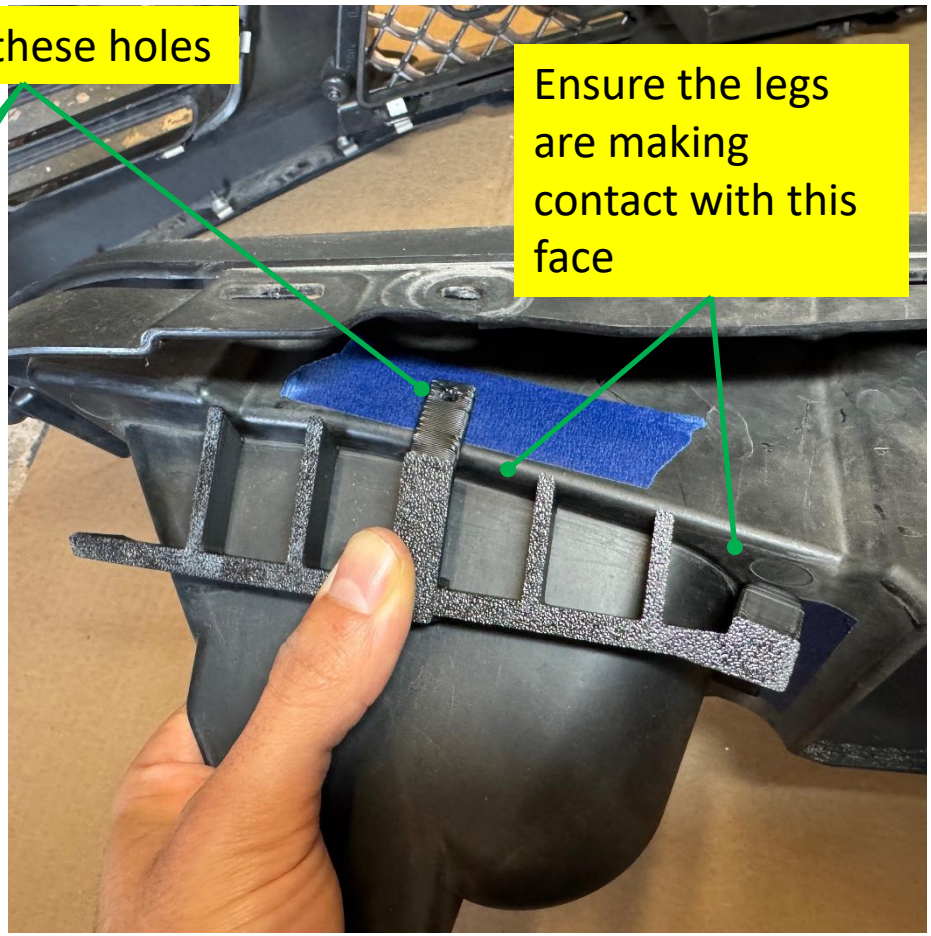
Template: Driver Side Marking

Arrange the driver side template as such and mark the 3 holes locations: two on the side and one on the top side. Ensure that all the “legs” of the template are butted up against the indicated face.



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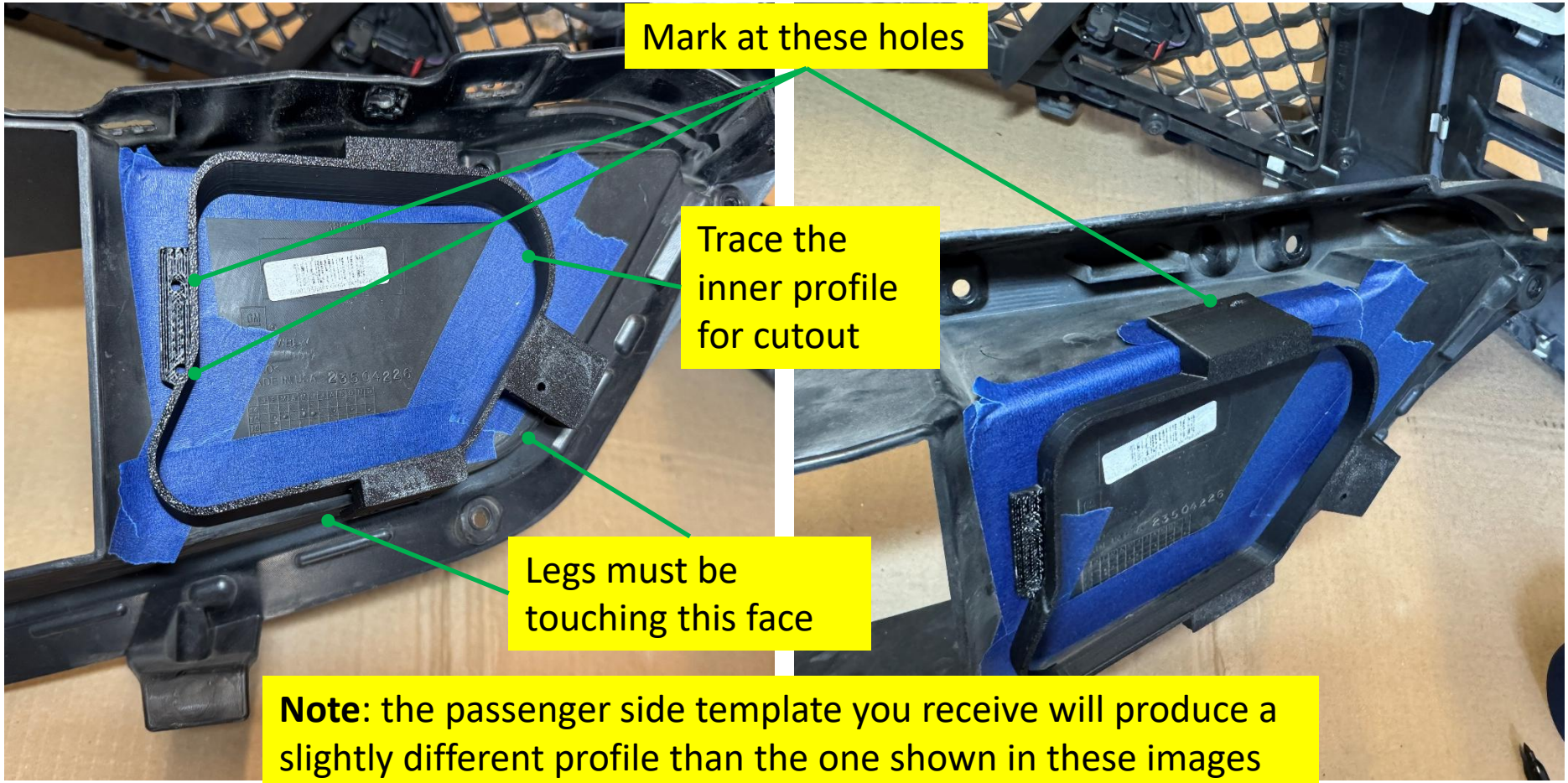
Template: Passenger Side Marking

Arrange the passenger side template as such and mark the 3 holes: two on the side and one on the top side. Ensure that all the “legs” of the template are butted up against indicated face. Next, trace the inner profile of the template as it will need to be cut.



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Drilling Marked Holes

Drill a pilot hole at the marked spots from the previous step. The holes will be sized up to a ¼” bit at a later point to allow for some adjustment.

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Preparation for Trimming

Use painter’s tape on the inside of the intake cavity to minimize fraying of the edges as the deflector gets trimmed. Repeat for the passenger side.

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Final Look Preview

Below is a picture that displays the driver side section of the air deflector without the molded air scoop. The goal is to remove the scoop to leave the area flat. Follow the steps in the coming slides to achieve this result.

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Trimming: Driver Side Pt. 1

Use a Dremel and a plastic cutoff blade along with the proper protective equipment to cut along the indicated edge. It’s best to go slowly and carefully to achieve a clean result.

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Trimming: Driver Side Pt. 2

As you approach the end of the cut, it may help to access certain areas by pulling up on the scoop or placing it inside the opening.

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Cleaning and Deburring: Driver Side

Once the scoop has been trimmed away, use a deburring tool/file to clean up the edges to attain a clean look.

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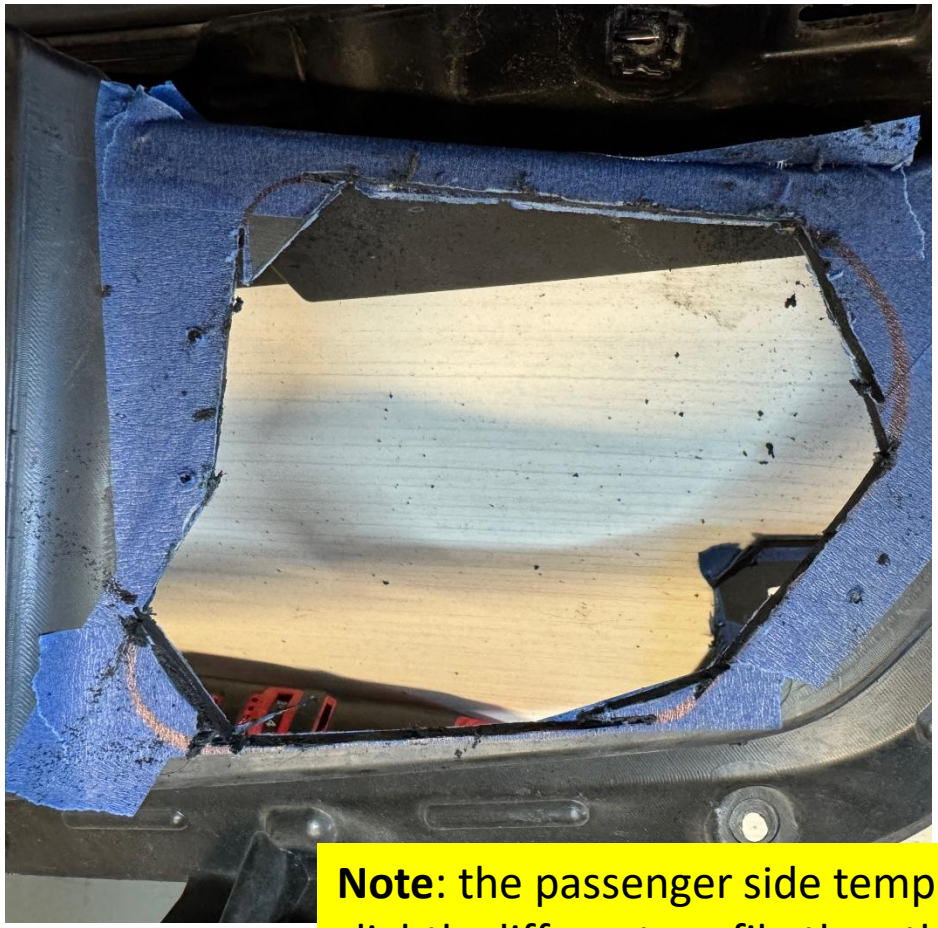
Trimming: Passenger Side

Repeat the same principles as was done for trimming the driver side. Make the cut slowly and cautiously, stick with the traced profile from the template as closely as possible.



Note: the passenger side template you receive will produce a slightly different profile than the one shown in these images

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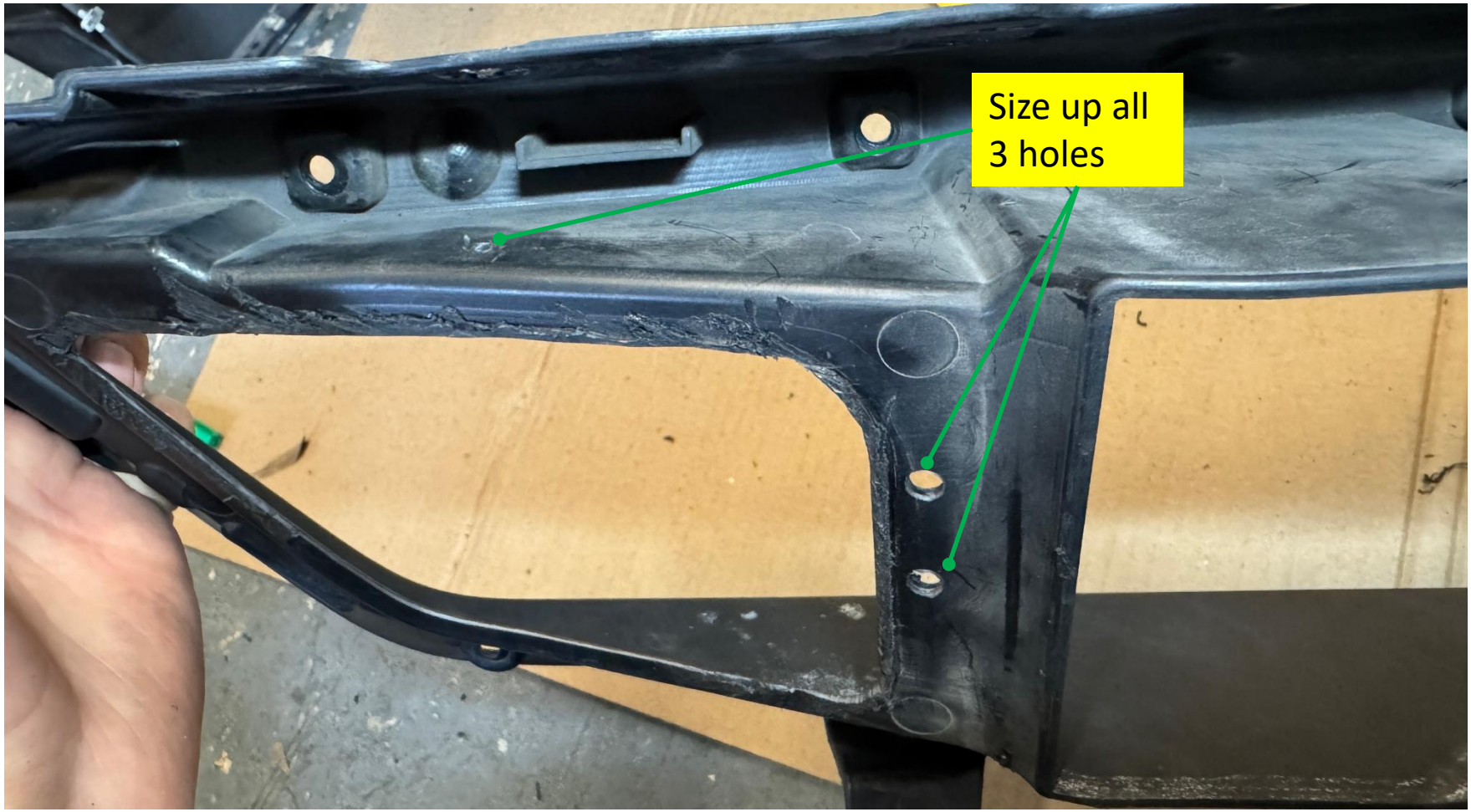
Drilling

Once the trimming is complete, revisit the pilot holes that were drilled previously and size them up to a ¼” hole. Complete this for the three holes on each side.



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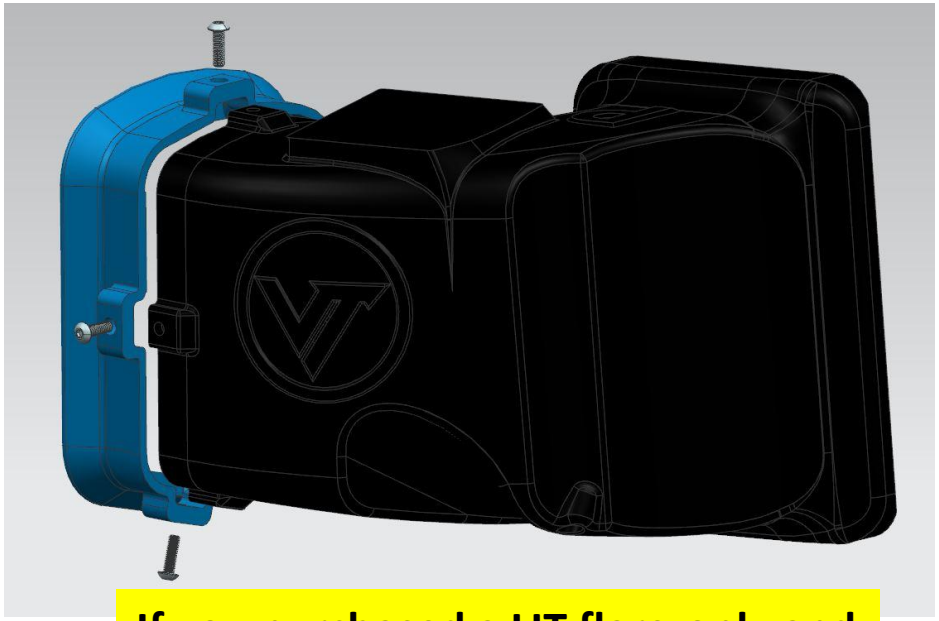
Install the LIT BIG MOUTH Flare

SKIP THIS SLIDE IF YOU PURCHASED A FULL LIT KIT

Loosen the 4 screws that attach your original flare, remove the flare and attach your new LIT flare. The flare should fit snug and should have no play once screws have been tightened.



If you purchased a LIT flare-only and already have a Gen 4 BIG MOUTH. Remove old flare and install the LIT flare with the screws as shown.

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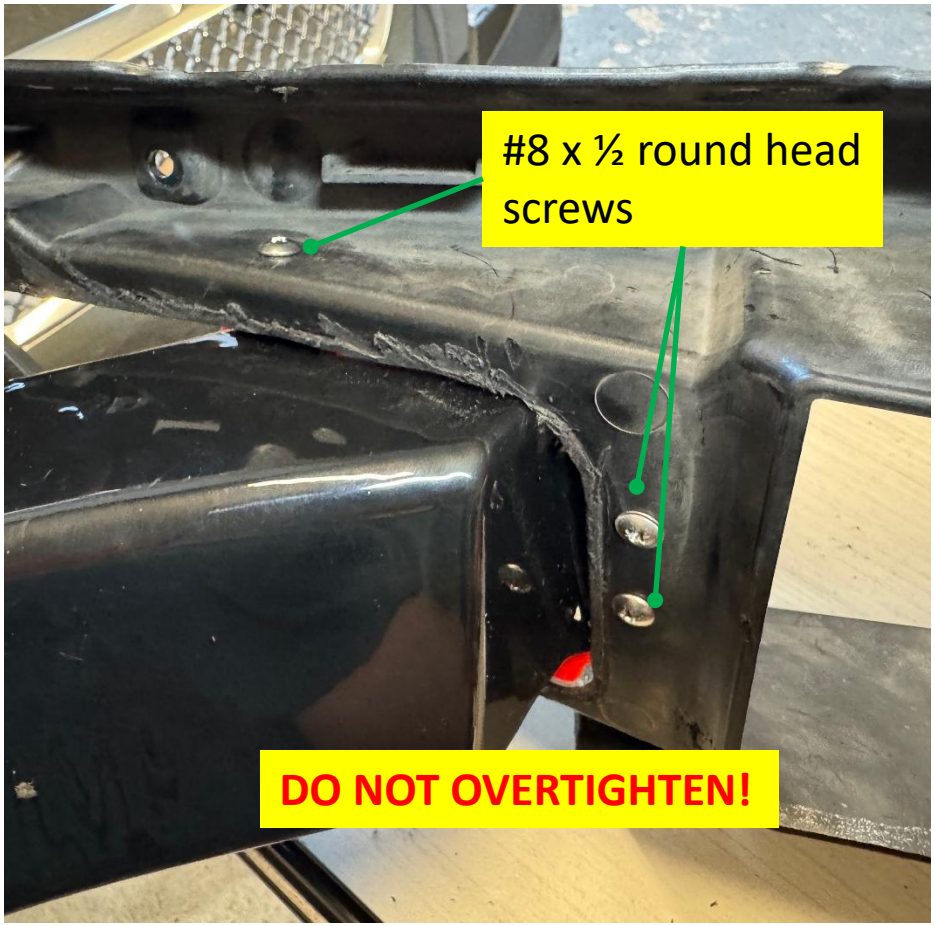
BIG MOUTH Installation: Driver Side Upper Body

The driver side snorkel is divided into an upper body and a lower body. The upper body, shown below with the red flare, gets attached to the air deflector. Slide it in from the front and use the #8 x 1/2” self-threading screws to fasten the driver side upper body.



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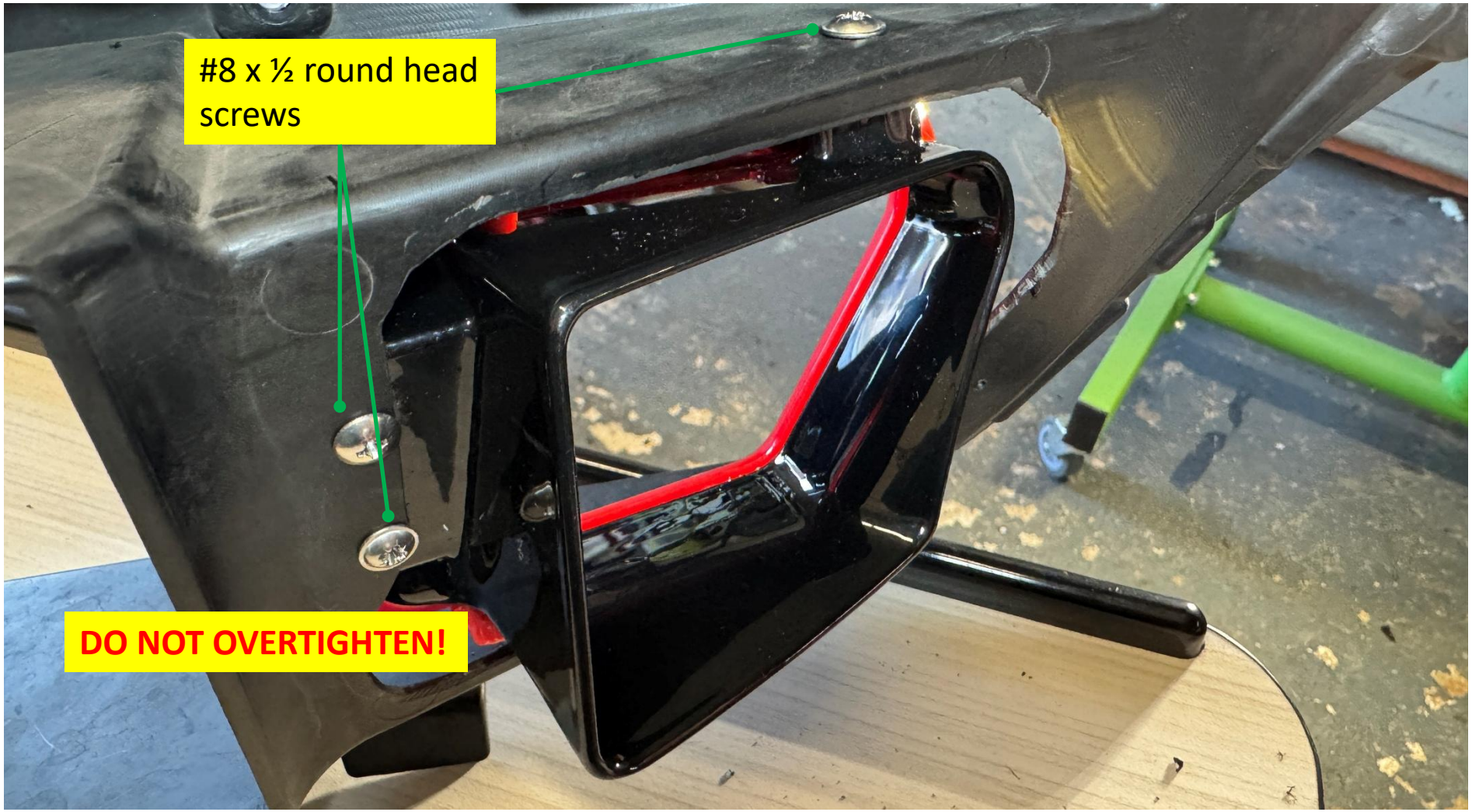
BIG MOUTH Installation: Passenger Side

Repeat the same procedure as the driver side upper body for the passenger side.



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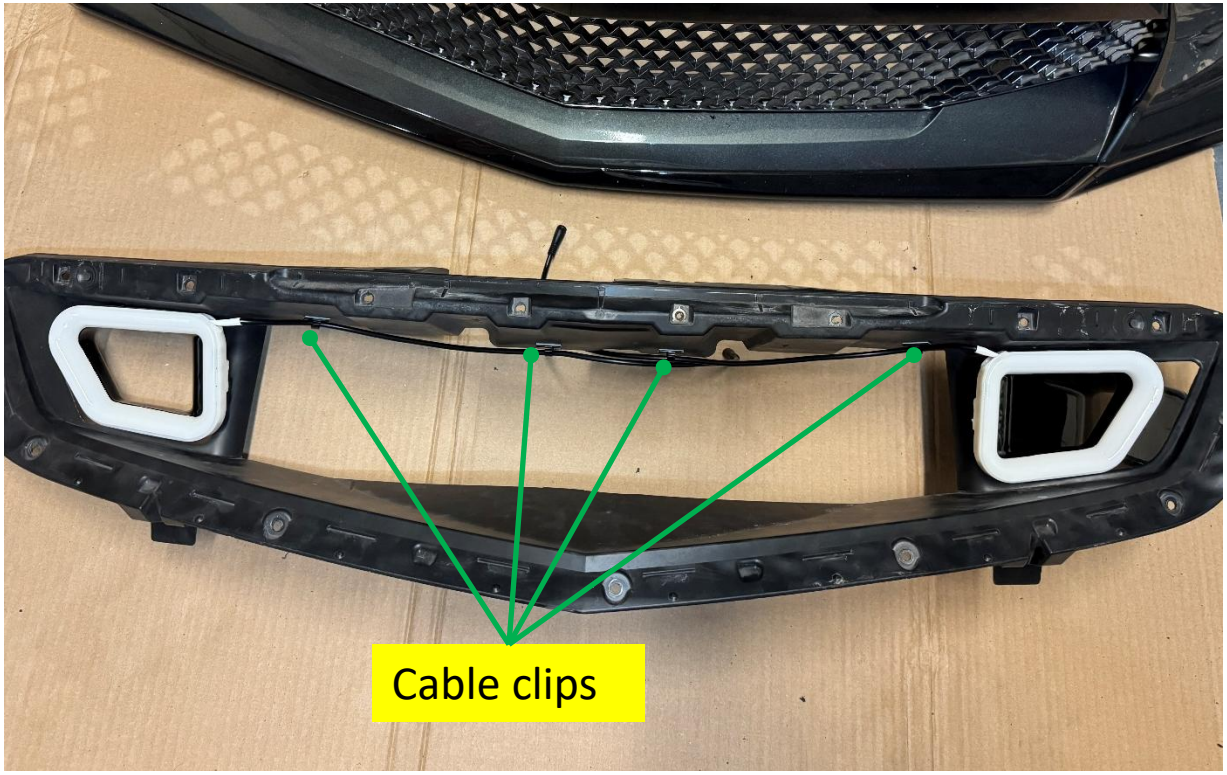
Reattach Air Deflector to Grille

At this point, the air deflector can be reattached to the grille. Use some of the cable clips to attach the LED cables to the roof of the air deflector. Reattach the screws along the perimeter of the air deflector. Use the supplied plastic rivets in place of the original rivets that were undone.



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BIG MOUTH Installation: Driver Side Lower Body

Use the supplied M5 hardware to attach the L-bracket to the driver side lower body. Tighten the lock nut just enough so that the L-bracket will stay in place but can be adjusted by hand if need be.

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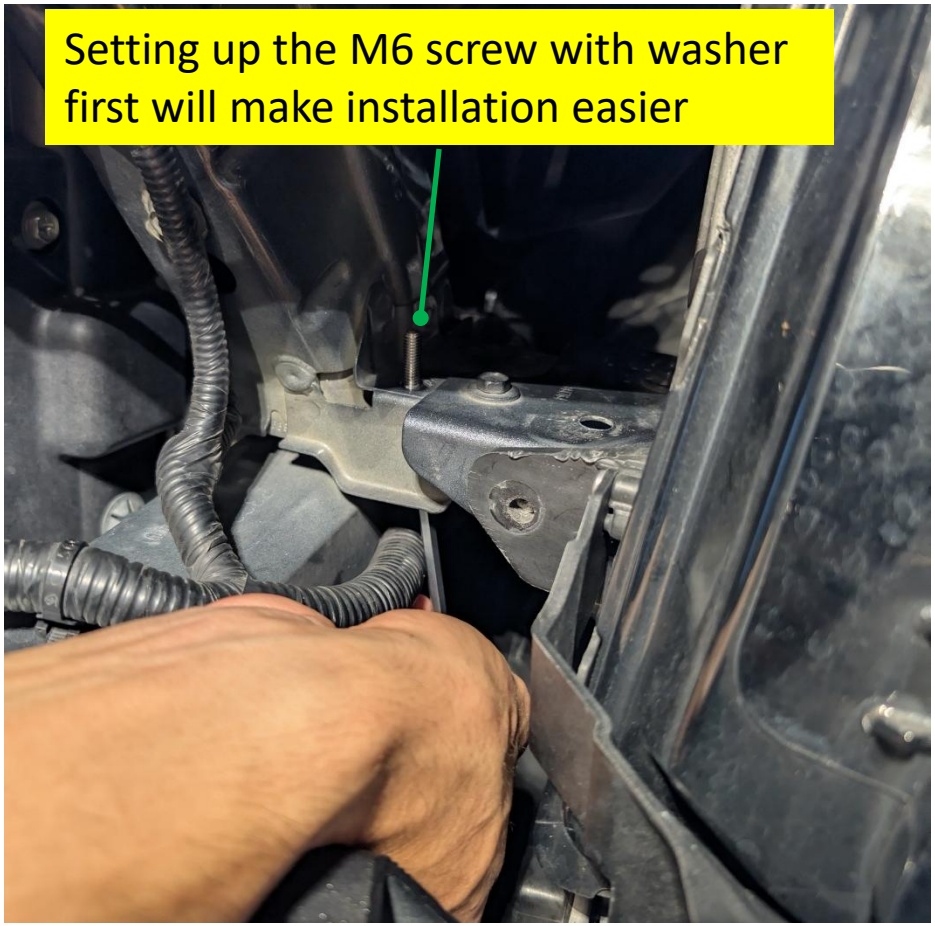
BIG MOUTH Installation: Driver Side Lower Body

Remove the foam air guard by prying the large tree-style retainer clips. Next, remove the indicated OEM screw. To install the lower body, it's recommended to get the M6 x 20mm with a 6mm washer set up prior to putting the driver side lower body in place.



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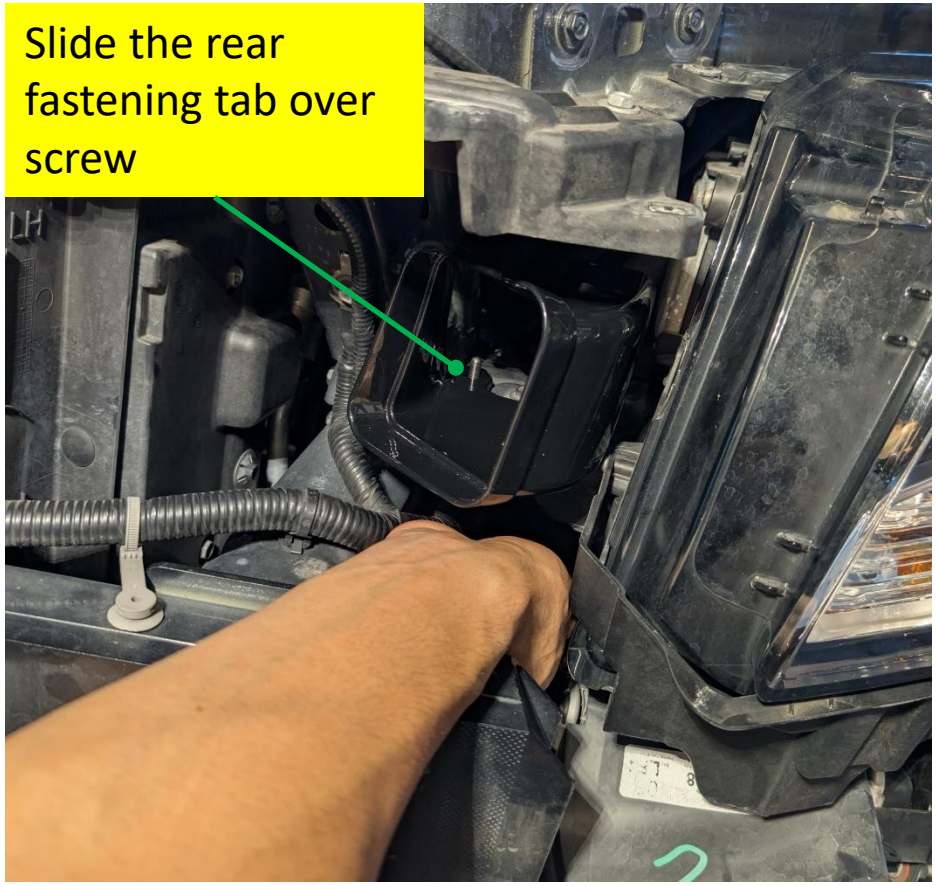
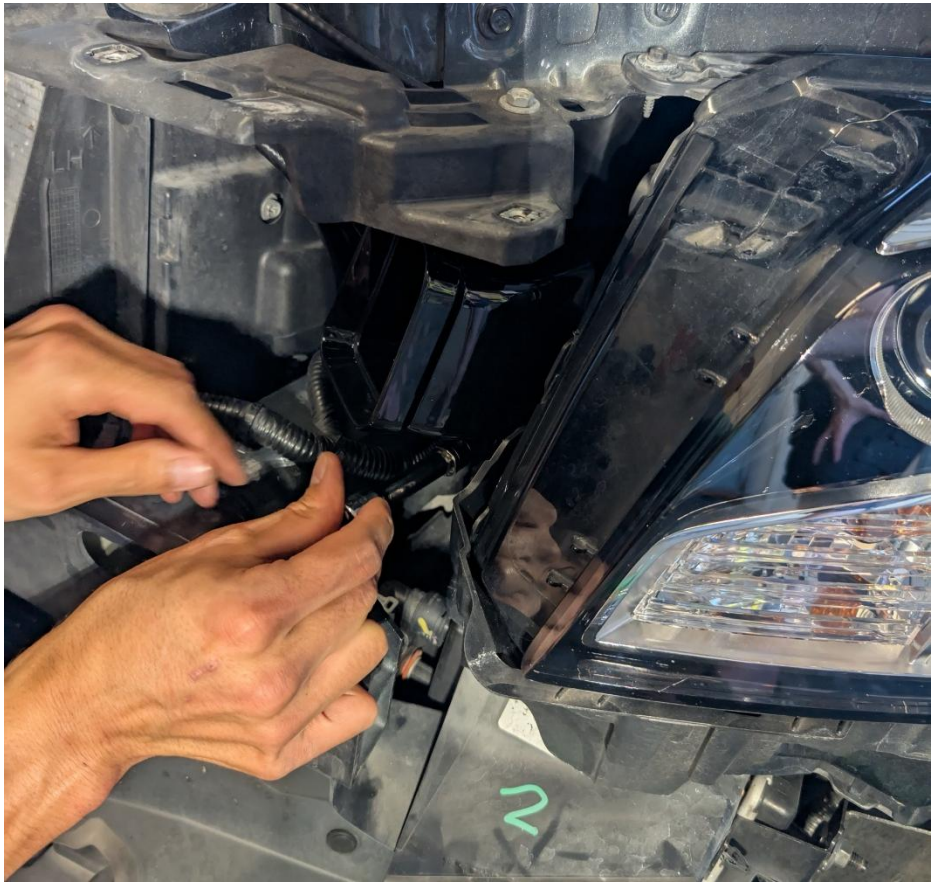
BIG MOUTH Installation: Driver Side Lower Body

While the M6 x 20mm screw is being held in place, slide the rear fastening tab of the lower body over the screw and lay the body in place. Use the other 6mm washer and M6 lock nut to fasten the lower body. Next, fasten the L-bracket using the previously removed OEM screw and tighten the screw retaining the L-bracket to the body.





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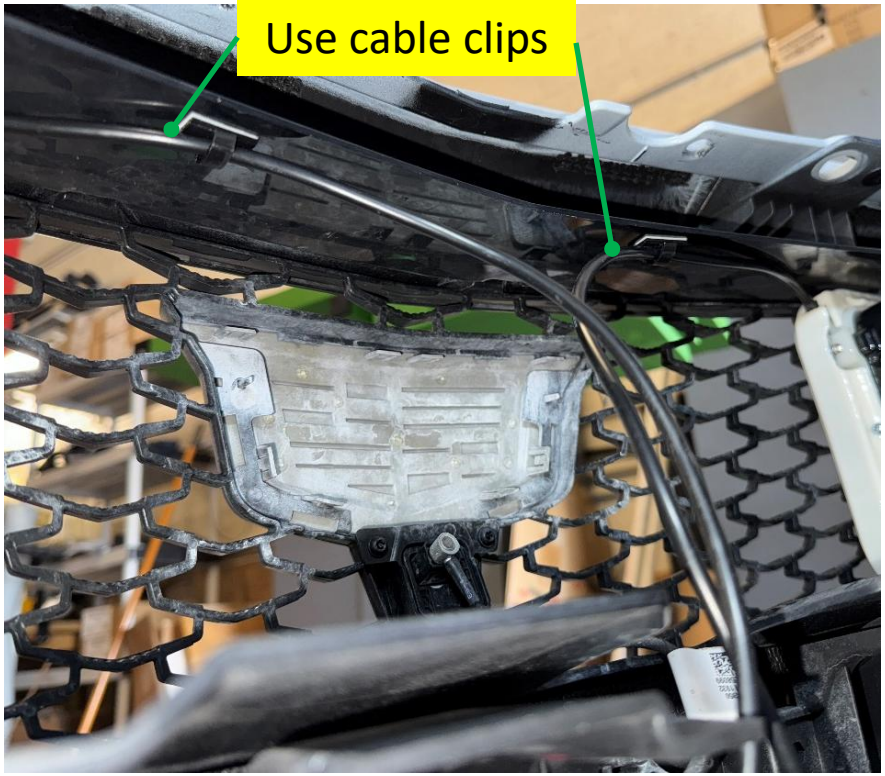
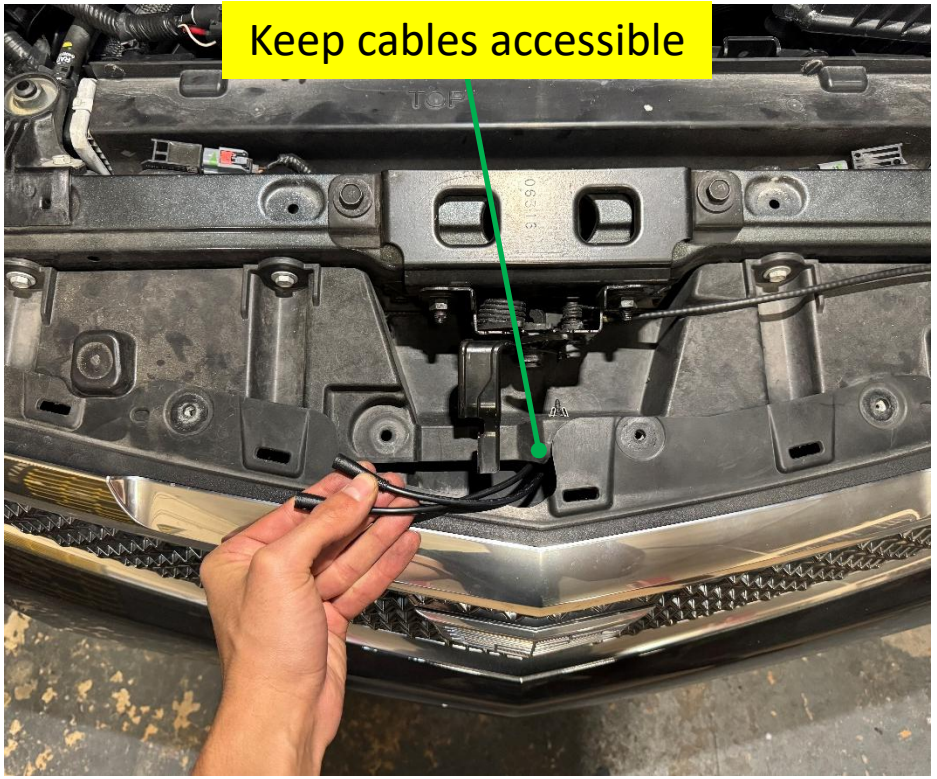
BIG MOUTH Bumper Re-install

If not already done, use cable clips to secure the LED cables to the top inner face of the shroud. You can set the bumper back on the car and clip it on but DO NOT FULLY FASTEN YET until all electrical connections are made and confirmed working. As you manipulate the cables into the engine bay, make sure that the cables are accessible from the top of the bumper as shown below. **Be mindful of the cables' proximity to the hood latch! Take extra precautions during the cable management stage.**





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BIG MOUTH Bumper Re-install

As you reinstall the bumper, be mindful that the driver side upper body that is fastened to the air deflector on the bumper needs to slide into the lower body that is attached to the car. Verify that that connection is properly made before continuing.

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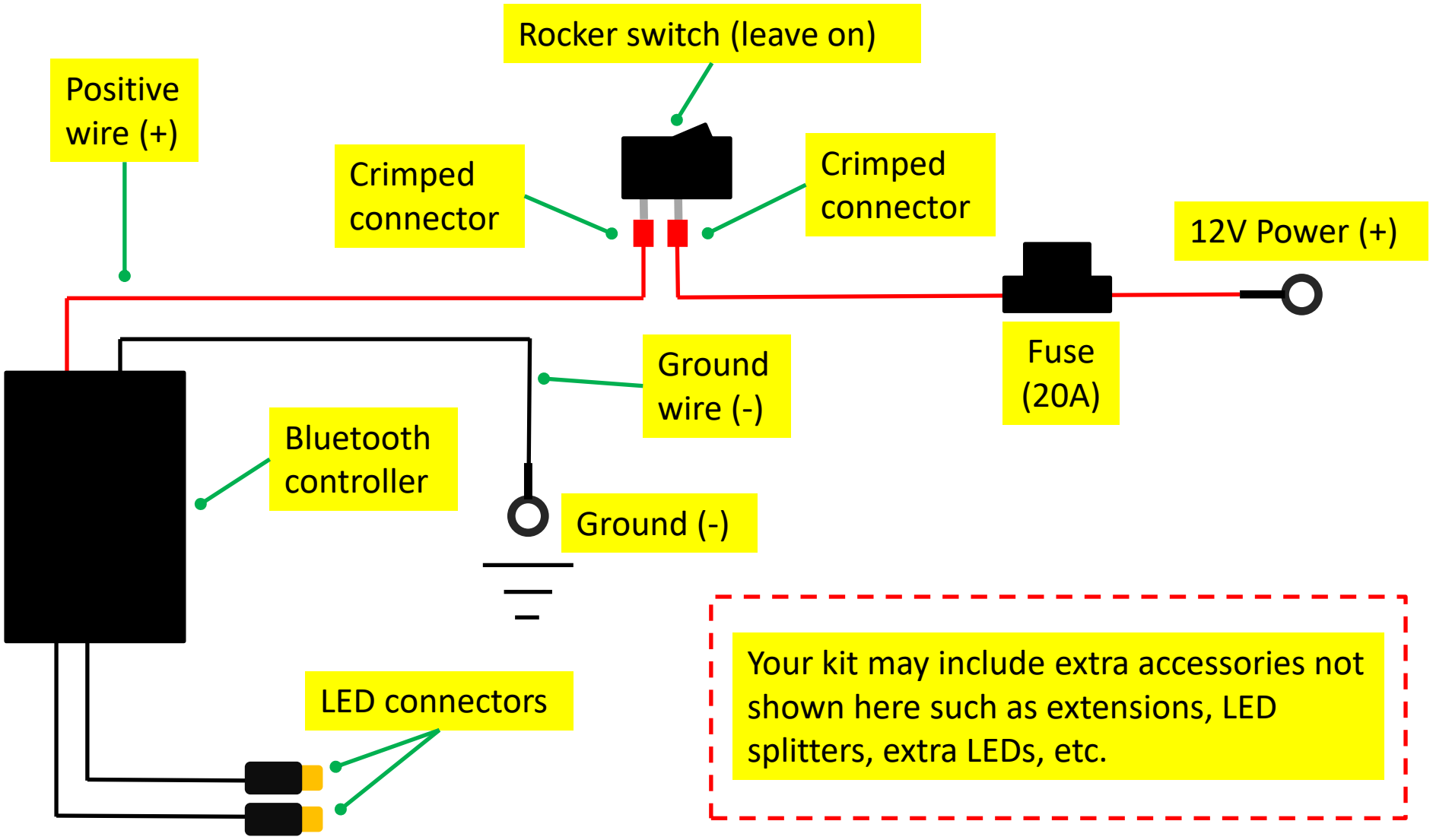
Wiring Harness Schematic



Your kit may include extra accessories not shown here such as extensions, LED splitters, extra LEDs, etc.

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LIT KIT TIPS: Controller Placement

When considering where to place your Bluetooth controller, pay attention to the following factors:

- **Distance**: The controller leads need to be able to reach the LEDs so proximity to the BIG MOUTH is important.
- **Bluetooth signal**: Placing the controller as close as possible to the driver will help with signal strength. Place the controller in a location where there is minimal metal mass in between the driver and controller.
- **Heat and weathering**: Avoid subjecting your controller to excessive heat and limit its exposure to environmental wear.

Some commonly found solutions for controller placement include:

- Adhere to a flat spot on the cowl, inside or near battery box, radiator support (driver side if possible), behind headlight, airbox, etc. using the supplied double-sided tape
- If using a location near the hood latch, take the necessary precautions to ensure the wiring will not get entangled with the hood latch.
- Using zip ties to attach the controller to a thick wire loom is also a handy solution
- Some locations near the firewall/battery tend to be good locations for signal and low temperature.

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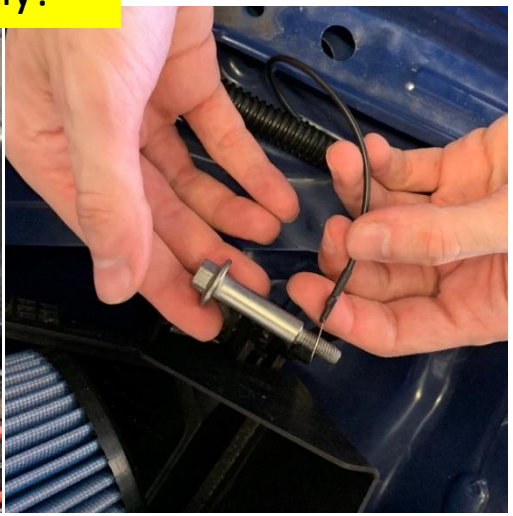
LIT KIT TIPS: Ground

When considering where to ground the circuit, pay attention to the following factors:

- **Location**: The best and most reliable ground connections exist on the chassis, on the engine block or on the negative terminal of your battery. These can exist as a threaded hole, shoulder bolt or stud.
- **Conductivity**: The ground point should be clean, unpainted and free of rust or grease for a solid connection. Fasten it securely to avoid vibration loosening the connection.
- **Distance:** Make sure the location of your chosen ground point is within range of the provided ground wiring.

Reference images only, your vehicle may vary slightly!



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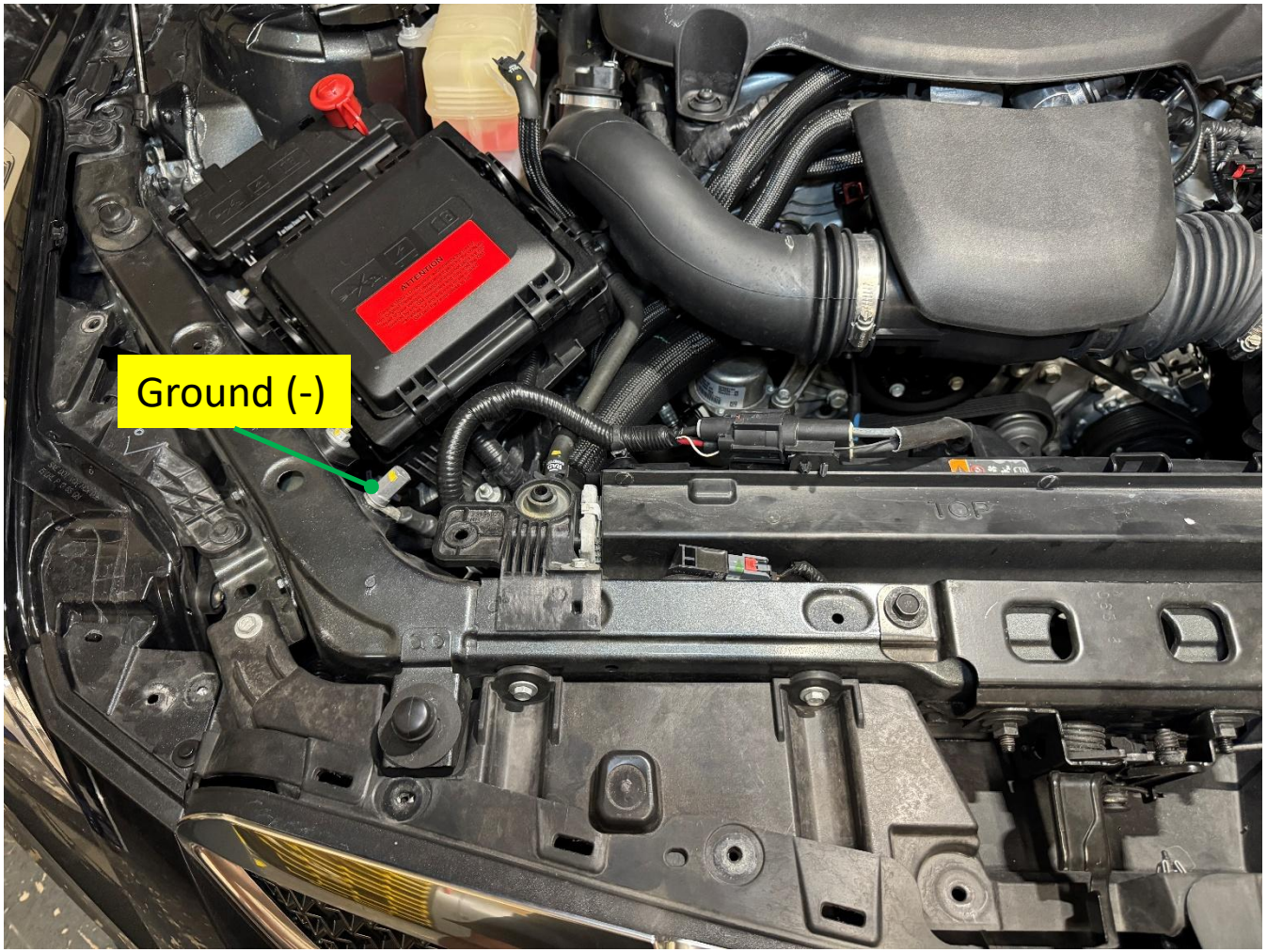
LIT KIT Ground

Indicated below is our recommended ground for the LIT KIT.
Ensure a tight connection when reconnecting.



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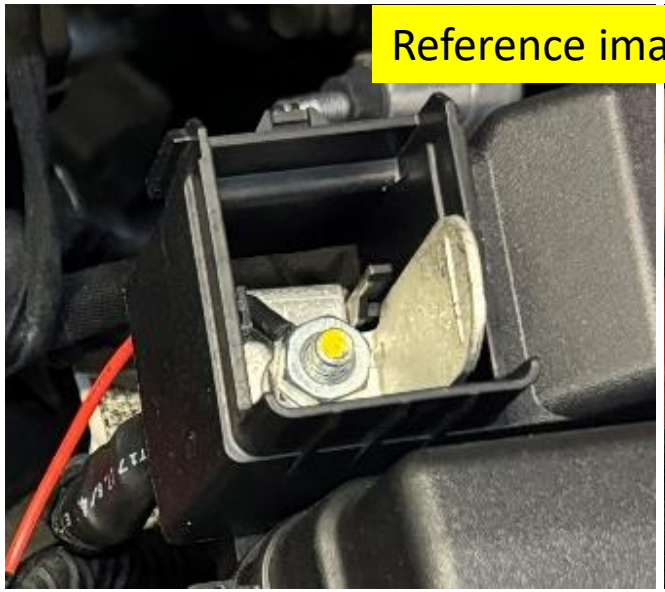
LIT KIT TIPS: Power

When considering the power side of the circuit, pay attention to the following factors:

- **Location**: By default, our LIT KIT is powered using the positive terminal on the battery. If you decide to re-configure your kit for a switchable power source, we recommend you research the use of a fuse tap and follow best practices outlined online.
- **Conductivity**: The connection to the battery must be tight and secure. Loose connections create excess heat and shorten the life of the electronics. Ensure the terminal is free from corrosion, damage or debris.
- **Safety**: When working with a car battery, exercise best safety practices such as using insulated tools and wearing the correct protective equipment.

Reference images only, your vehicle may vary slightly!



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LIT KIT TIPS: Wiring Best Practices

When considering how to route the wiring through your engine bay, consider the following:

- **Strain relief**: Use the provided zip ties and cable clips to secure wiring to its environment while maintaining slack at each point. All wiring should be free from strain and tension.
- **Components to avoid**: Avoid moving parts, such as hood latches and pulleys, and exhaust components that can melt wiring. Also take care to avoid pinch points.
- **Routing**: Whenever possible, route the wiring along factory harnesses, underneath trim or along the perimeter of the engine bay. Bundles of wire should be tucked underneath plastic covers and secured using zip ties.

Reference images only, your vehicle may vary slightly!

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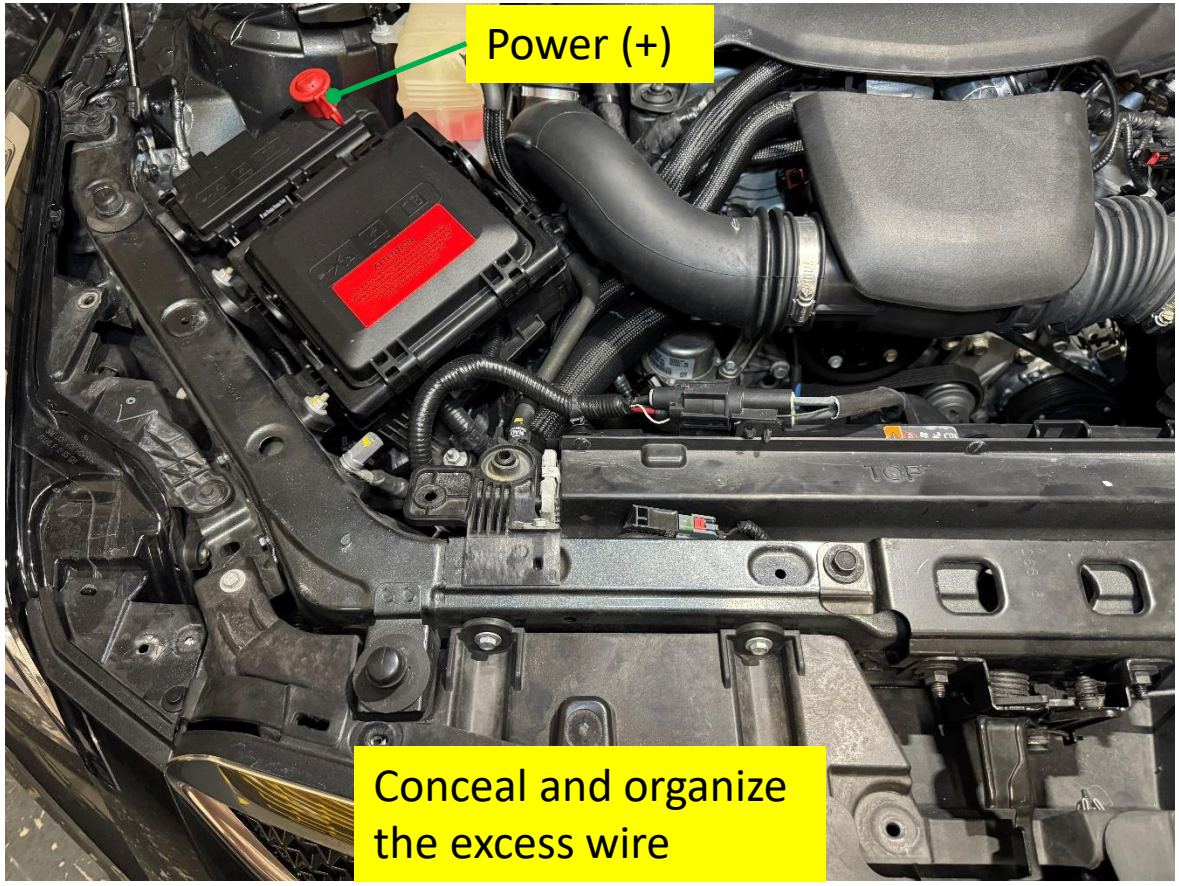
LIT KIT Power and Wiring

Use the car battery to supply power to the LIT KIT. Undo the nut located on the positive terminal of the battery and fasten the power cable to it. Take care to avoid damaging the wire when reinstalling the terminal cover.
Use any leftover zip ties and cable clips to organize and conceal any excess wire.



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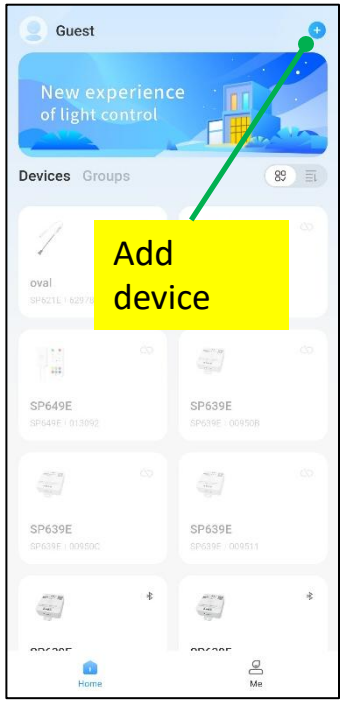
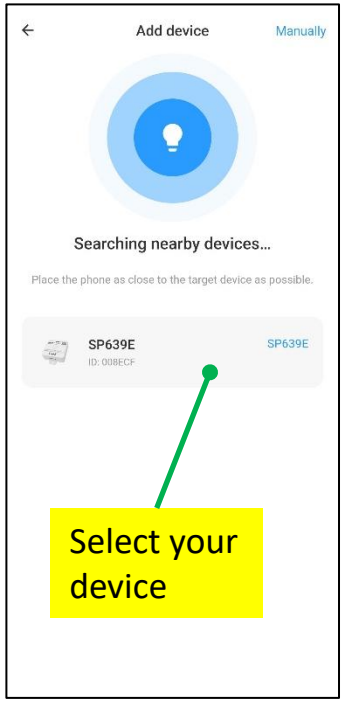
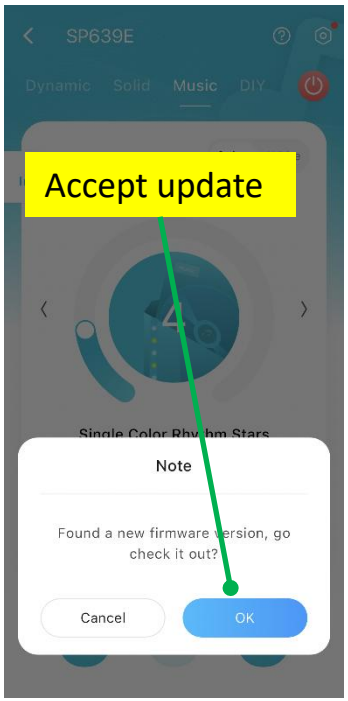
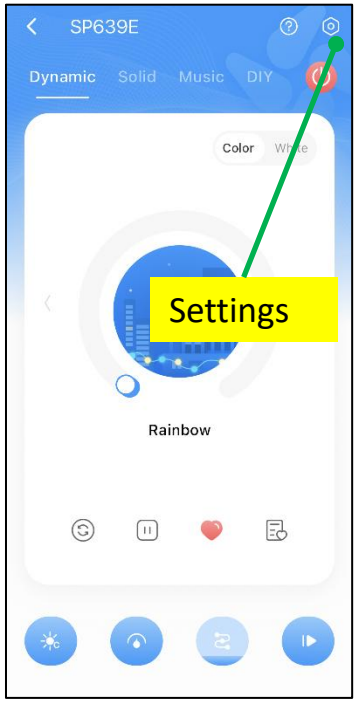
Phone App: Initialization

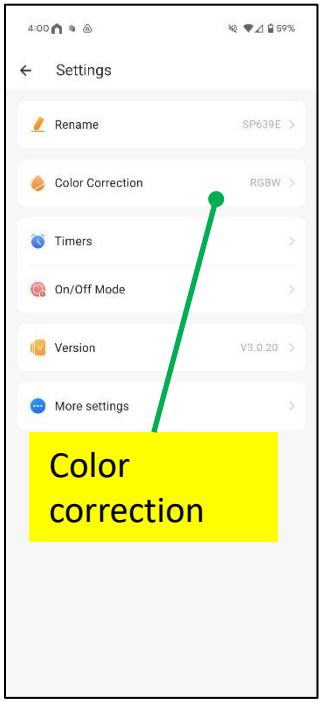
Download the **BanlanX** app from your app store and turn on your LIT KIT through the switch. Open the app and select the + sign at the top right of your screen. If you are within range and Bluetooth is on, your phone will search for nearby devices, and you will likely see your Bluetooth controller available as SP639E. Select your SP639E Bluetooth controller. Once selected, it is very likely that you will be prompted to update the firmware. Once the update is complete, navigate to the Settings -> Color Correction. Choose the colors that are displayed on your LEDs and once the calibration is done, go back to the 'Home' screen.











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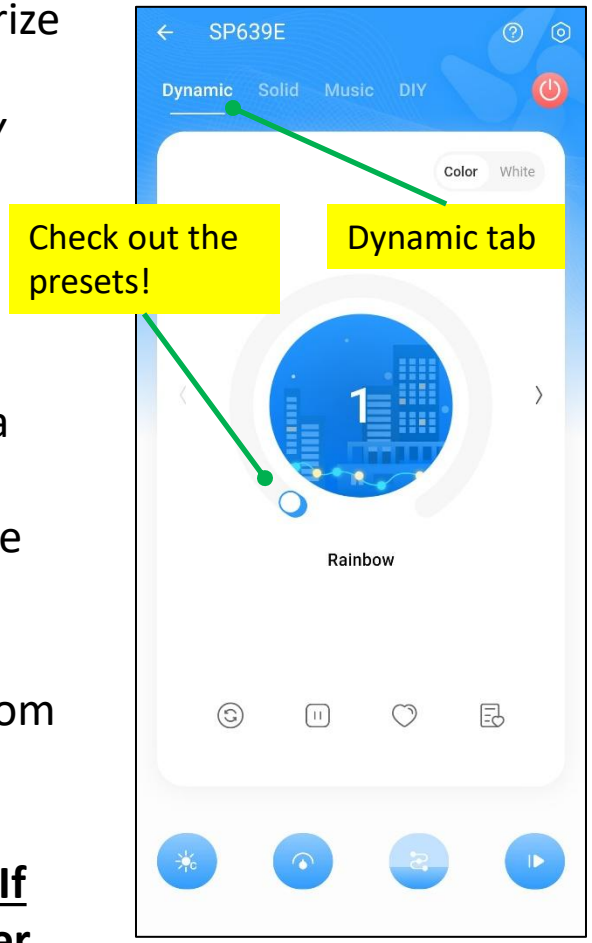
Phone App: Control

Once on the ‘Home’ screen, go to the ‘Dynamic’ tab, familiarize yourself with the interface and have fun with the presets! There are many ways to customize your LIT KIT, including DIY configurations.



Troubleshooting

If you are having trouble connecting, cycle the power to the Bluetooth controller by toggling the power switch and wait a few seconds, then turn it back on.

Wait for the app to detect the controller. It will pop up on the app screen as a Bluetooth controller. If necessary, cycle the power once more to refresh the controller.

If the problem persists, reach out to support@velossatech.com

Note that if you mounted your controller behind a lot of metal components, this may degrade the signal and range. If this is your case, reconsider the placement of your controller.

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Finalize

Reinstall the bumper the same way it was removed and enjoy!