



2023+ GR Corolla BIG MOUTH “LIT KIT” Ram Air Intake Installation Guide



Kit Contents (Base BIG MOUTH “LIT KIT”)

Please review this document before attempting installation.

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

Kit Contents	Qty
M6 x 40mm socket head screw	1
M6 lock nut	1
6mm large washer	2
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 BIG MOUTH kit	1
Adapter	1





Kit Contents (BIG MOUTH + High Flow Induction “LIT KIT”)

Please review this document before attempting installation.

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

Kit Contents	Qty
M6 x 30mm socket head screw	2
M6 x 40mm socket head screw	1
M6 lock nut	2
6mm large washer	4
#6 x 1/2" flat head screw	2
1/4" x 1" fender washer	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
M6 lock nut	3
Assembled BIG MOUTH kit	1
Airbox duct	1
Feed duct	1
Plenum	1



Kit Contents (Upgrade Kit)

Please review this document before attempting installation.

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

Kit Contents	Qty
M6 x 30mm socket head screw	2
M6 lock nut	1
6mm large washer	2
#6 x 1/2" flat head screw	2
1/4" x 1" fender washer	1
Airbox duct	1
Feed duct	1
Plenum	1



If you are adding the High Flow Induction kit to your existing base Lit Kit, skip to slide 9.



Kit Contents (LIT Flare Only)

Please review the table below and make sure you have received the kit contents.

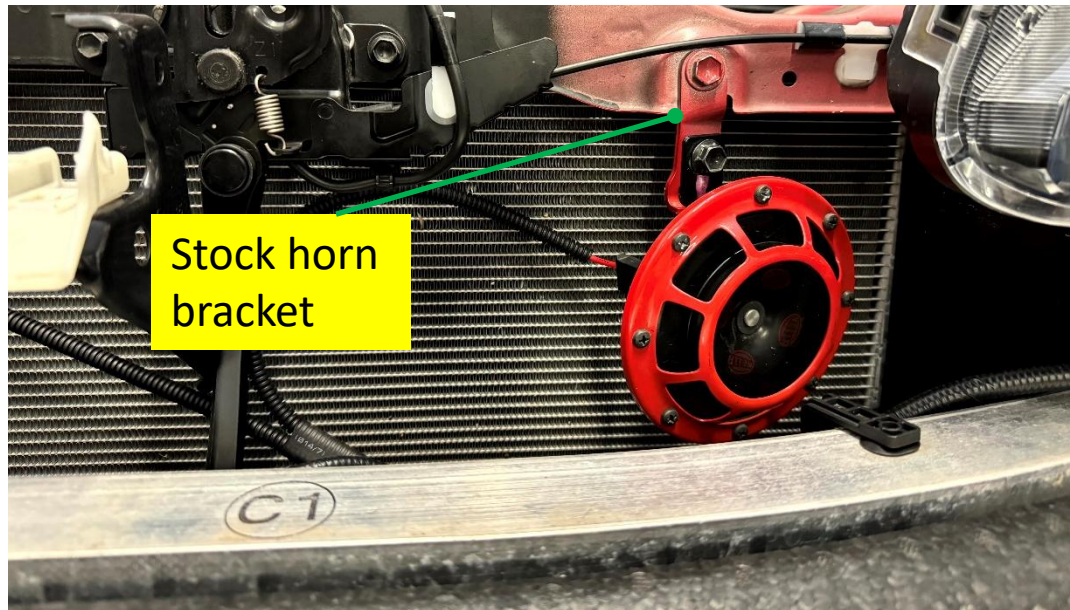
Kit Contents	Qty
Bluetooth controller	1
Rocker switch	1
Positive cable w/ in-line fuse	1
Remote	1
Cable clip	8
8" zip tie	10
M6 x 12mm socket head screw	1
M6 lock nut	3
Assembled LIT flare	1



If you already own the Velossa Tech GEN 4 2023+ GR Corolla BIG MOUTH, skip to slide 16 to see install and wiring instructions.

Hella Horn Repositioning

For GR Corolla owners who own Hella Horns, there is no need to remove the horn for the BIG MOUTH to fit but it's position will need adjusting. This adjustment can be done without bumper removal. Use the stock horn bracket and bolt to reposition the horn so that it sits **1.5" lower**. Without repositioning of the Hella Horn, the snorkel cannot be properly installed. Complete this step prior to installation of the BIG MOUTH (if applicable).

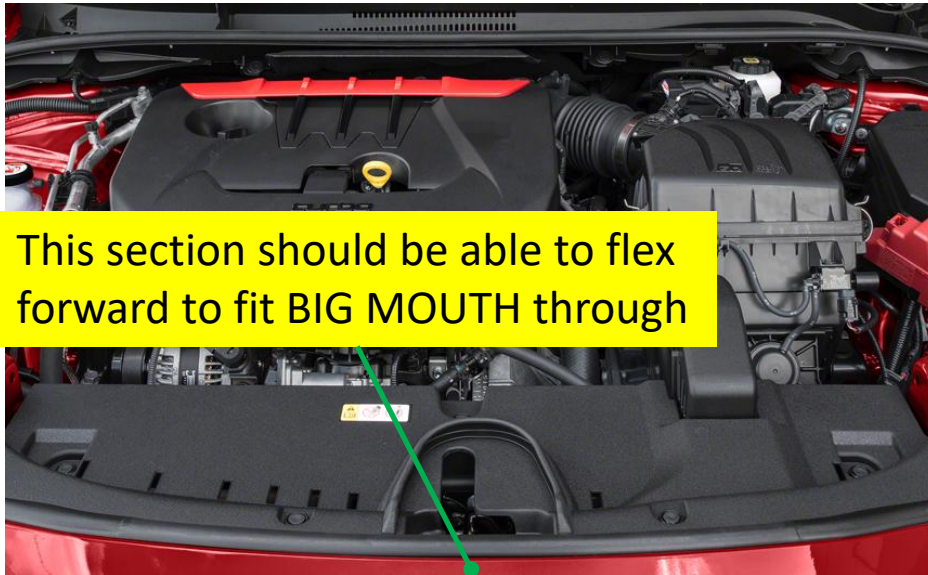


Loosen Stock Components

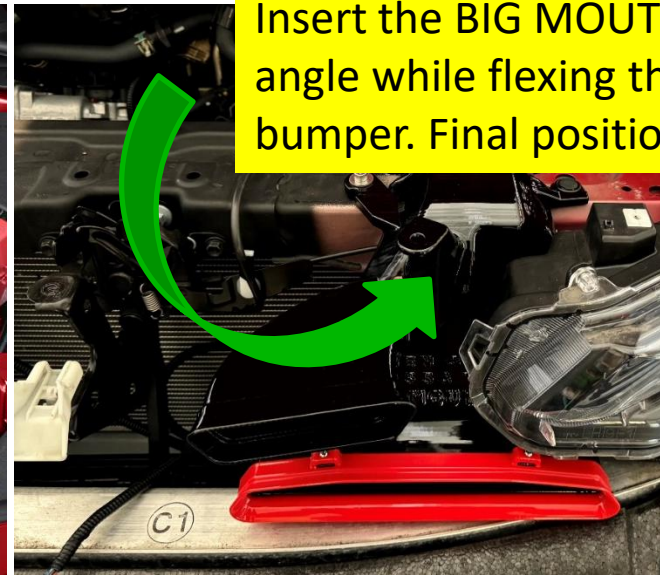
While bumper removal will make for an easier install, full bumper removal is not required to install the BIG MOUTH.

Remove the plastic cover by undoing the retaining clips. At this point, all that is required is the removal of the stock snorkel and the loosening of all fastening points along the top of the bumper so that the top-center section of the bumper can flex forward.

As the top-center section of the bumper is being held forward, maneuver the BIG MOUTH into position by starting at the center near the hood latch, coming in at an angle and working it towards the driver side of the car.



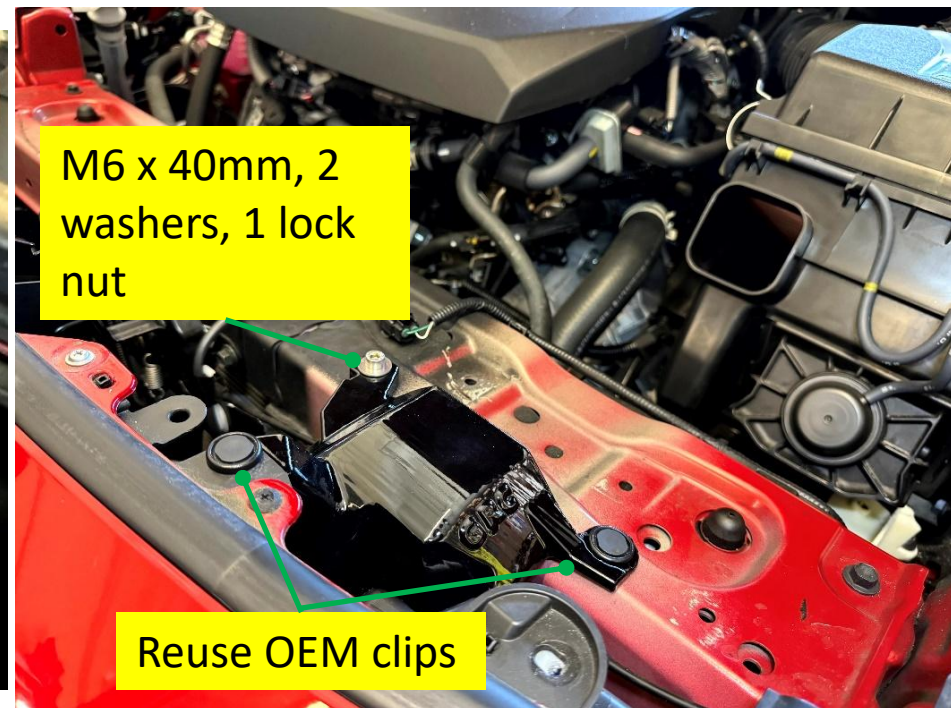
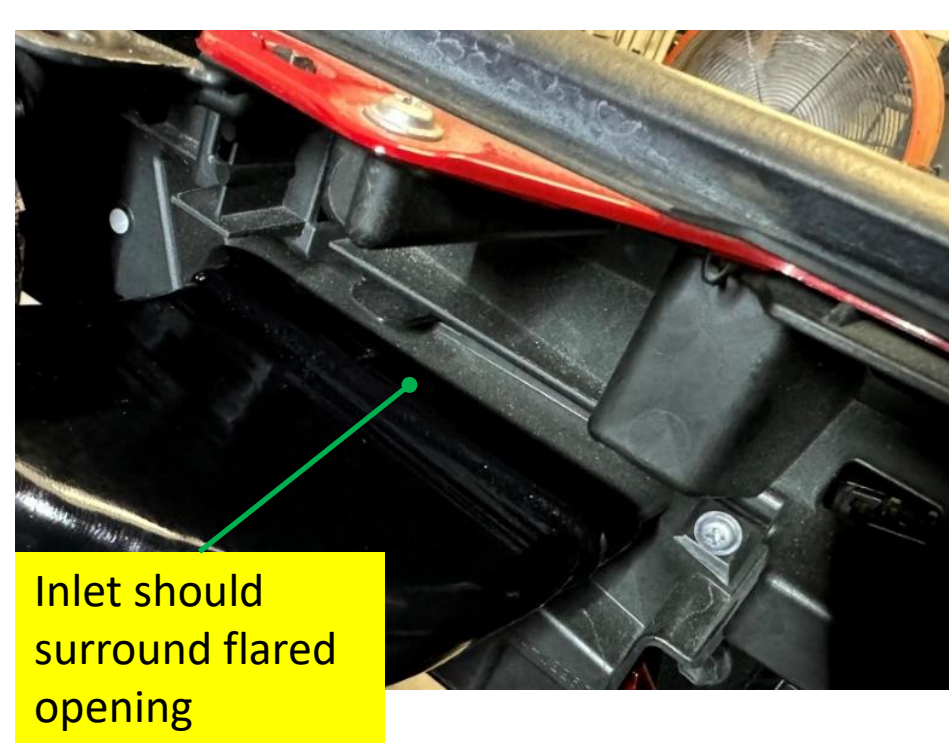
This section should be able to flex forward to fit BIG MOUTH through



Insert the BIG MOUTH at an angle while flexing the bumper. Final position shown.

Installing BIG MOUTH

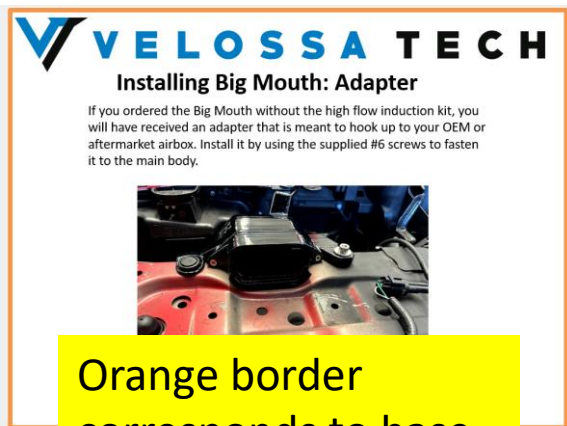
Place the BIG MOUTH such that the upper inlet lines up with the flared opening in the grille. Line the fastening points up with their respective holes. Use the OEM clips that were used to retain the OEM snorkel along with the supplied M6 x 40mm cap screw, 2x 6mm washers and 1x M6 lock nut to secure the body. An extra-deep 10mm socket or socket extension will come in handy for this step.



Instruction Sets

For the next few steps, there will be varying instructions depending on whether you purchased the (1) BIG MOUTH kit or (2) BIG MOUTH PLUS High Flow Induction kit.

- For those who purchased the Base Kit (no High Flow Induction kit), follow the slides with the orange border
- For those who have purchased the High Flow Induction kit, follow the slides with the blue border
- For those who are upgrading to a High Flow Induction kit, undo what is shown in orange-bordered slides and follow the steps in blue-bordered slides



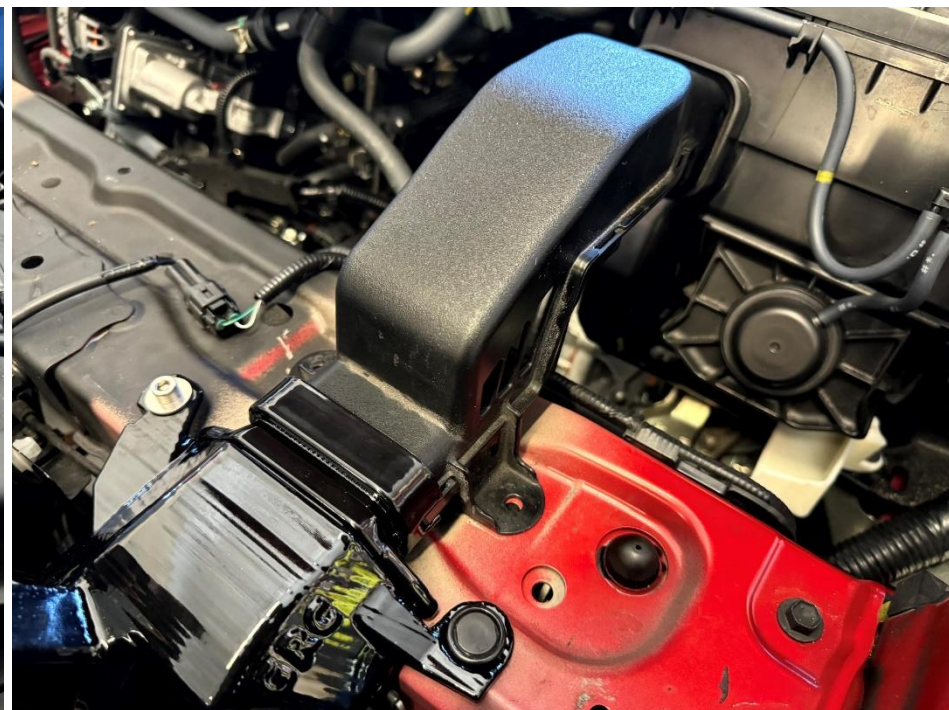
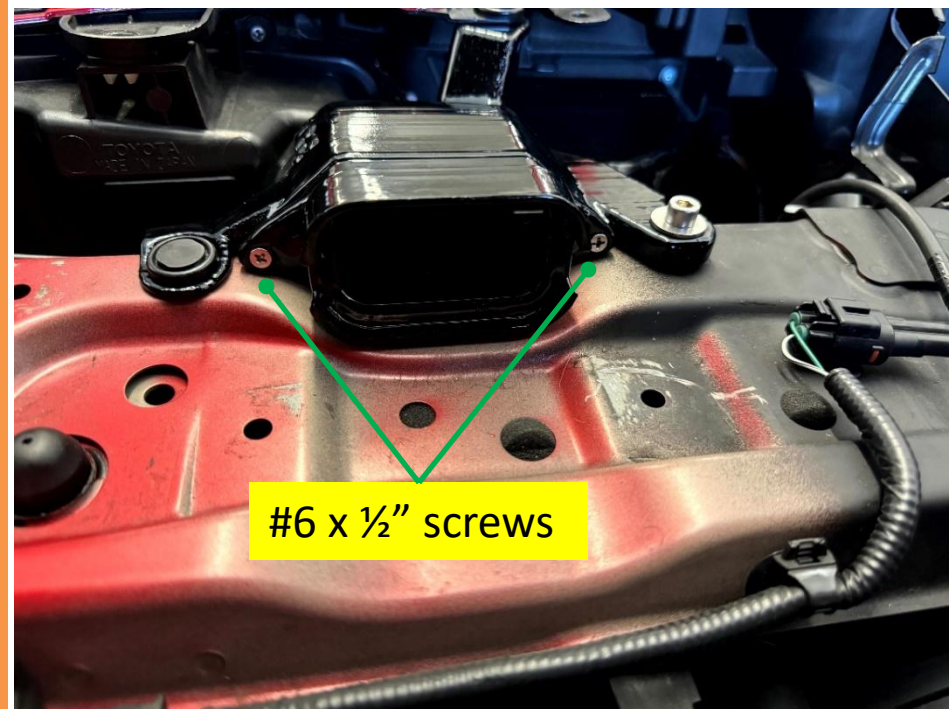
Orange border
corresponds to base
BIG MOUTH kit



Blue border
corresponds to BIG
MOUTH PLUS High
Flow Induction kit

Installing BIG MOUTH: Adapter

If you ordered the BIG MOUTH without the High Flow Induction kit, you will have received an adapter that is meant to hook up to your OEM or aftermarket airbox. Install it by using the supplied #6 screws to fasten it to the main body. You will be threading into plastic so do not overtighten or you will damage the parts. Reinstall your OEM intake (if applicable).





SXTH Intake Adjustment

For SXTH Element CPLT Intake owners

If needed, adjust the mounting bracket by loosening the two M4 screws, tilting to desired angle and tightening them in the proper position.



Remove Stock Components

To begin installing the High Flow Induction kit, it is necessary to remove the stock intake and temporarily move the OEM air box out of the way. Lift the airbox out of the rubber grommets that hold it in place while disconnecting the bare minimum in connectors and vacuum lines (if needed at all). Full removal of the air box is not necessary.



Full removal not necessary

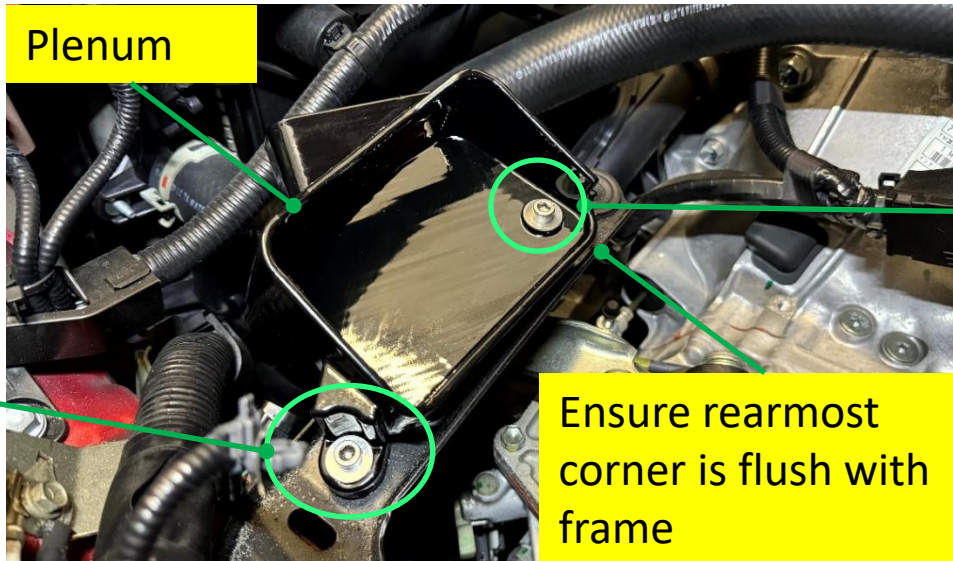
Installing BIG MOUTH: Plenum

To install the plenum, follow these instructions:

- **Driver side:** Remove the OEM hex bolt and use an M6 x 30mm cap screw with 1x 6mm washer to fasten. Do not fully tighten yet.
- **Passenger side:** Use an M6 x 30mm cap screw, 1x 6mm washer (bolt head side), 1x (1/4" by 1" fender washer [lock nut side]) and 1x M6 lock nut to fasten. Align the rearmost corner of the plenum with the edge of the frame it is sitting on. The orientation of the plenum will dictate where other elements of the kit will sit.
- Tighten both sides and place airbox on top of the plenum.

Driver side: remove OEM bolt and replace with M6 x 30mm + 6mm washer

Plenum



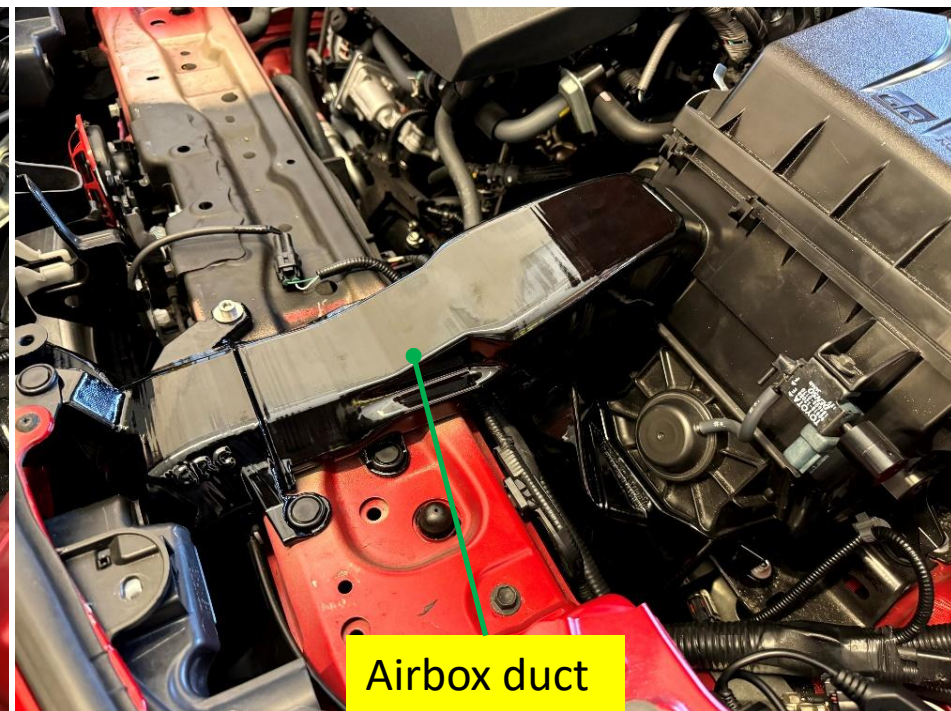
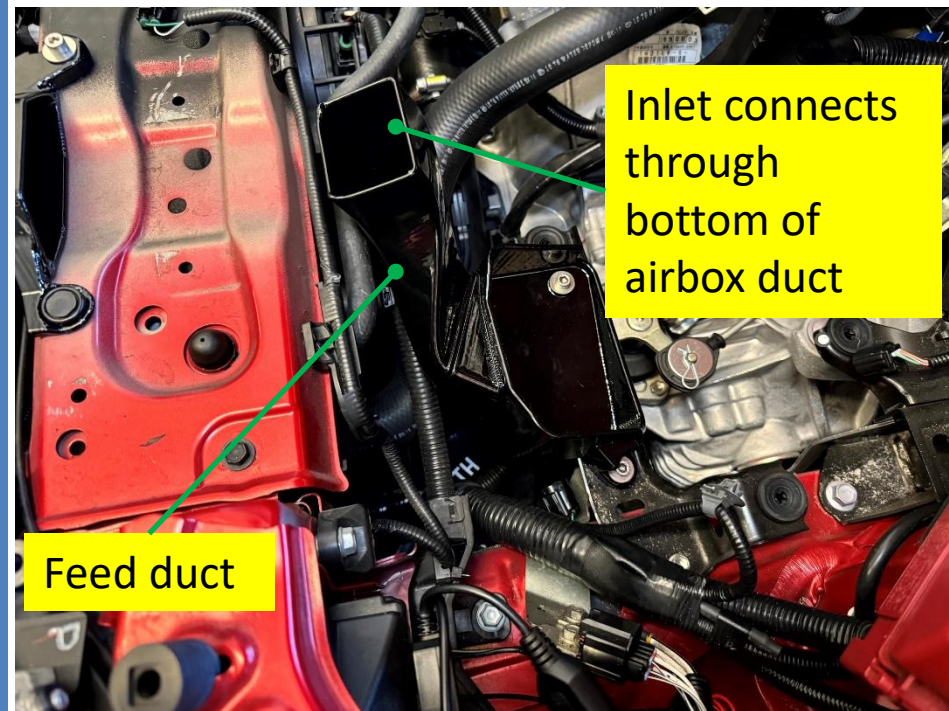
Ensure rearmost corner is flush with frame

Passenger side:

- M6 x 30mm cap screw
- 6mm washer
- 1/4" x 1" washer
- M6 lock nut

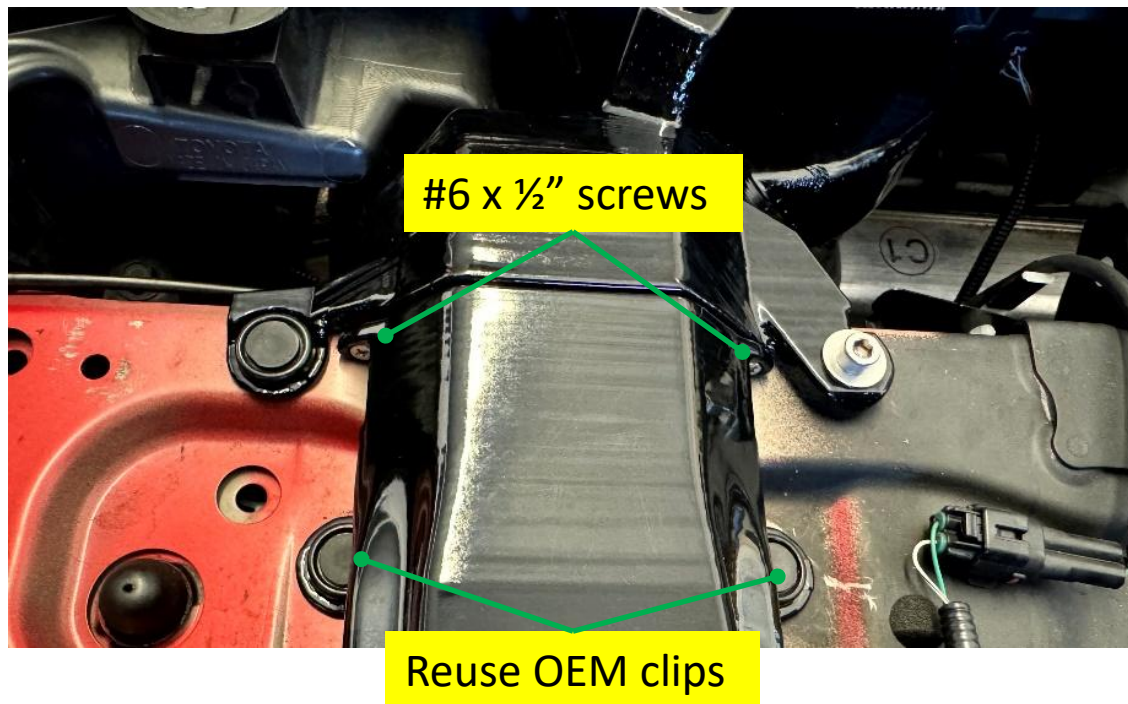
Installing BIG MOUTH

Insert the feed duct into the plenum opening until it bottoms out (the raised letters [GRC] face down). Next, install the airbox duct by inserting the feed duct into the airbox duct's lower opening and placing the airbox duct outlet over the airbox opening. If the parts are not lining up, adjust the angle at which the plenum sits.



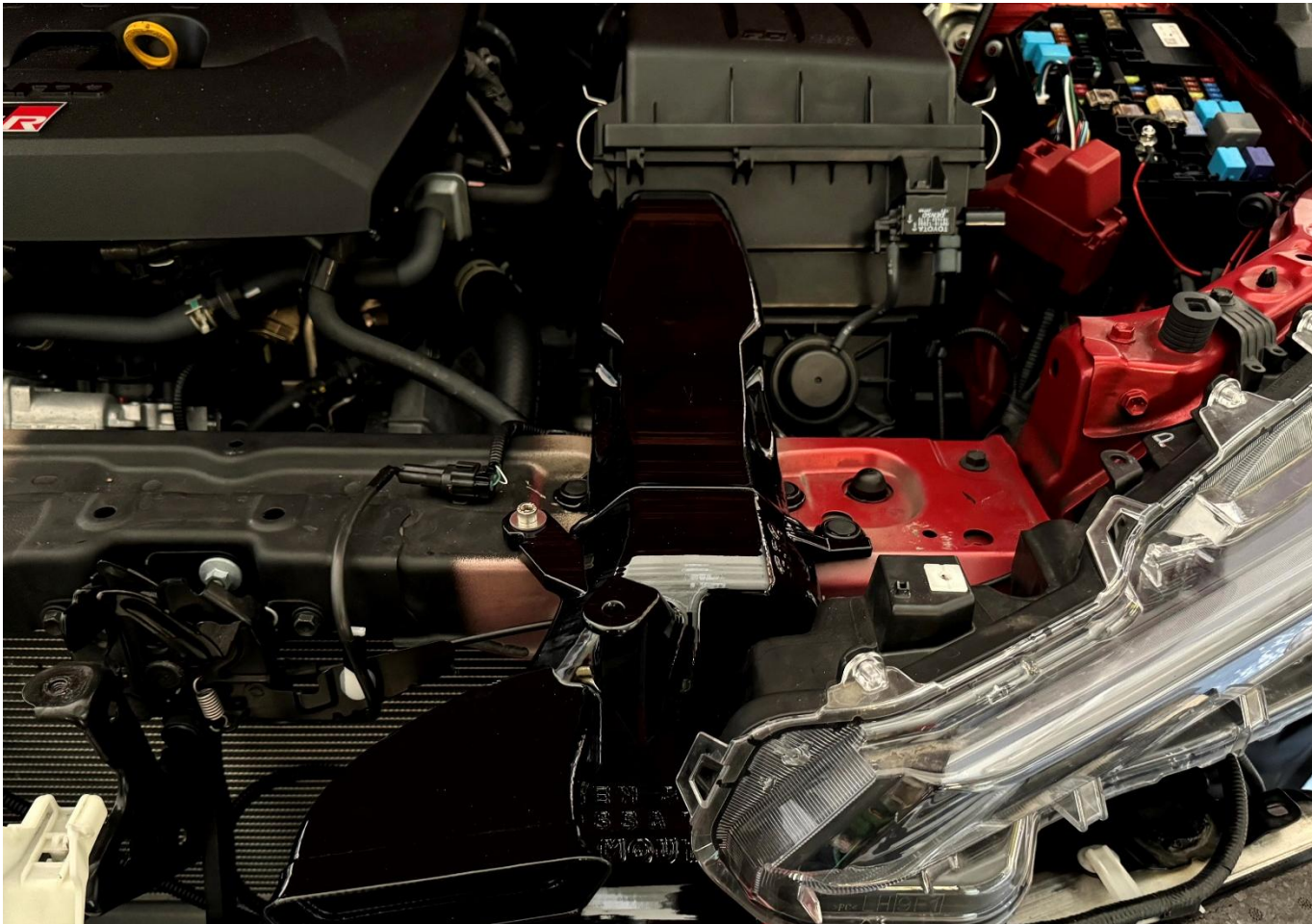
Installing BIG MOUTH

Install the airbox duct to the BIG MOUTH by using the supplied #6 screws. Reuse the OEM clips that retained the OEM intake to fasten the airbox duct. You will be threading into plastic so do not overtighten or you will damage the parts



Finalizing BIG MOUTH Install

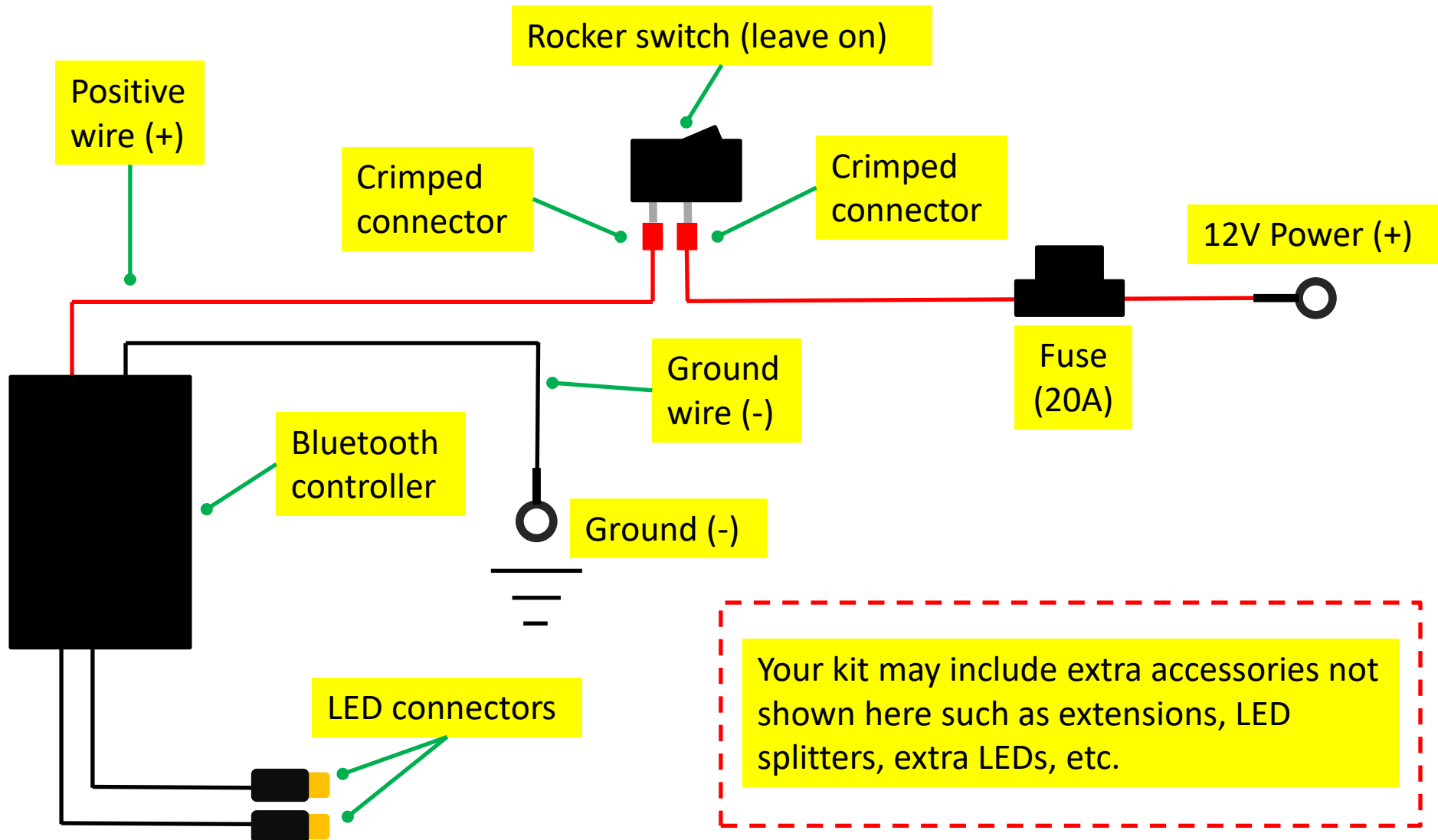
Ensure all the screws are tight and that the BIG MOUTH feels secure and free of interference before moving on to wiring the Lit Kit.





VELOSSA TECH

Wiring Harness Schematic





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:

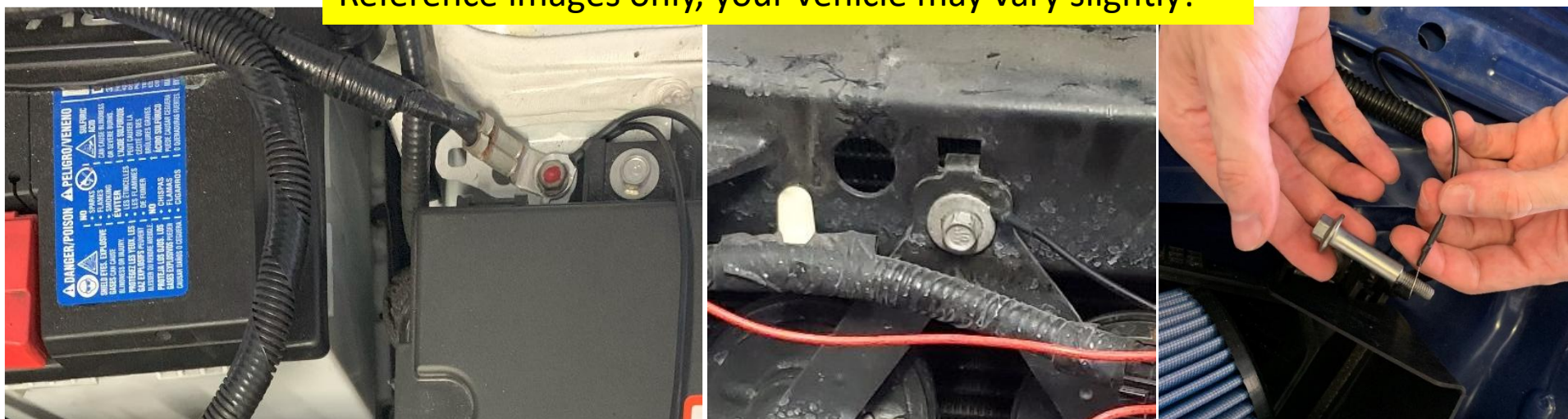
- Adhere to a flat spot on the cowl, inside or near battery box, radiator support (driver side if possible), behind headlight, airbox, etc. using the supplied double-sided tape
- If using a location near the hood latch, take the necessary precautions to ensure the wiring will not get entangled with the 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.

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!





LIT KIT Ground

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

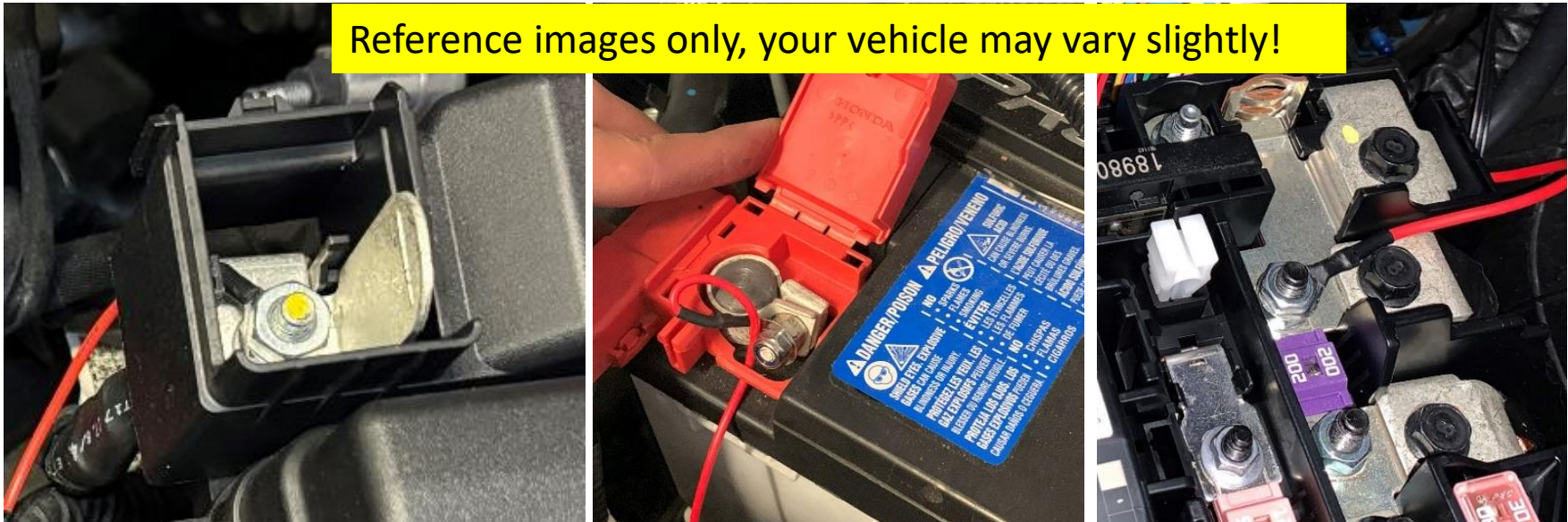


LIT KIT TIPS: Power

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!



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!

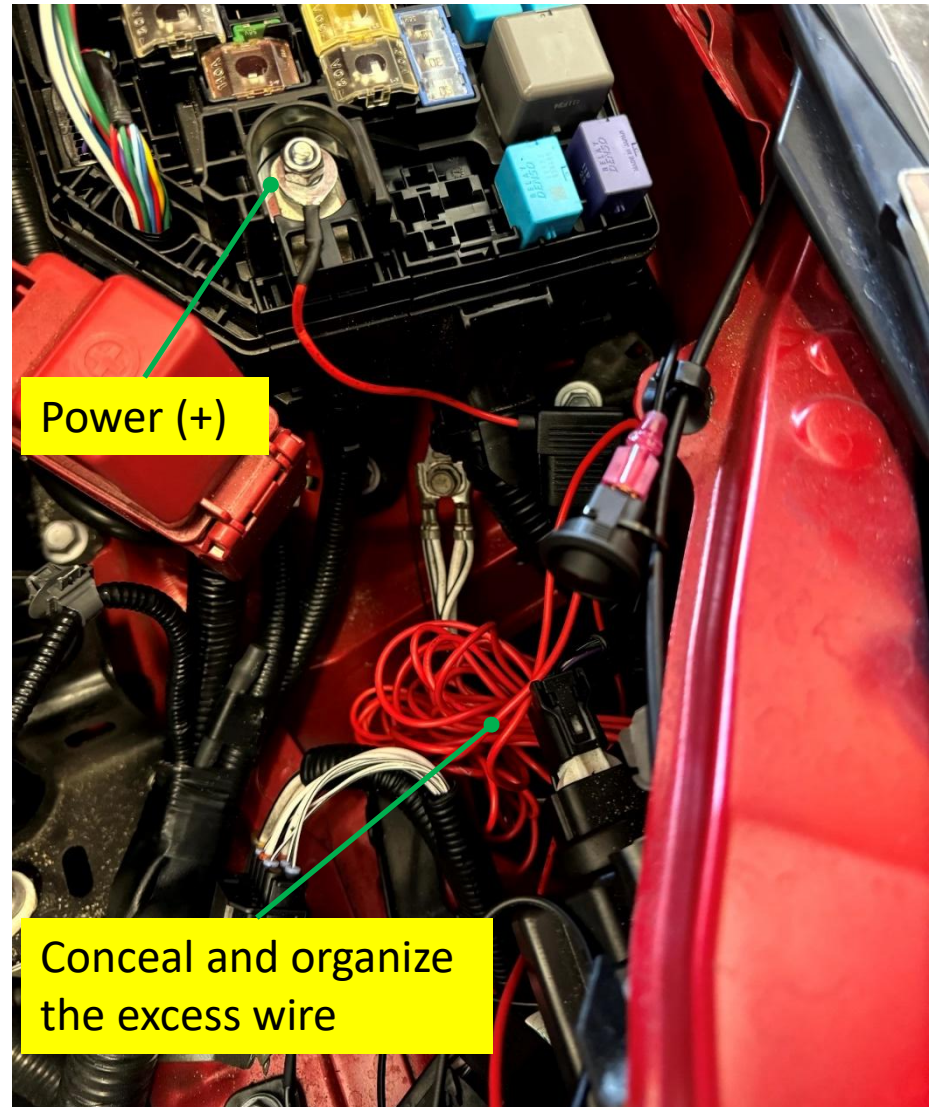


LIT KIT Power and Wiring

Bundle the power wires as such. Zip tie the switch at an accessible yet secure spot.

For the positive wire with the in-line fuse, put aside around 10" of wire to continue routing towards the battery. Connect the power ring terminal to the positive terminal on the battery.

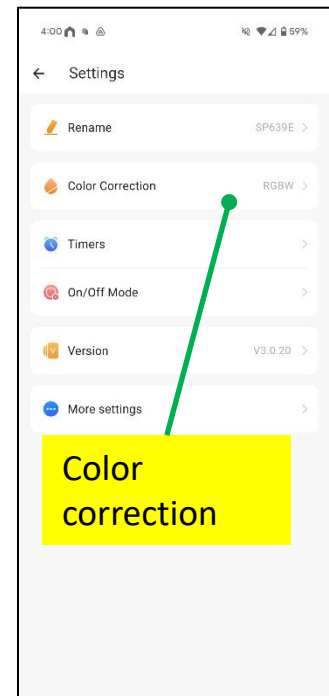
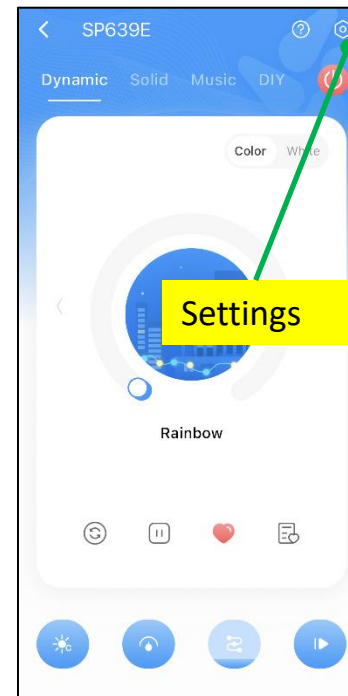
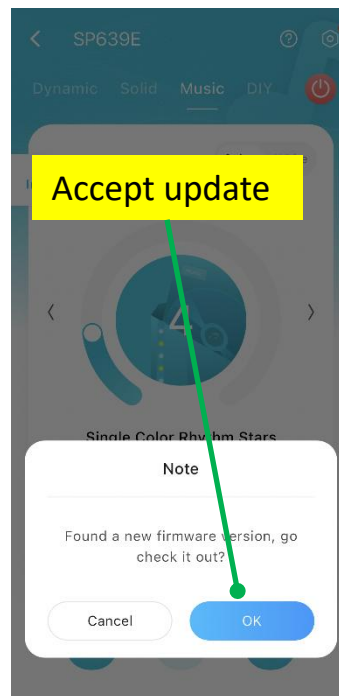
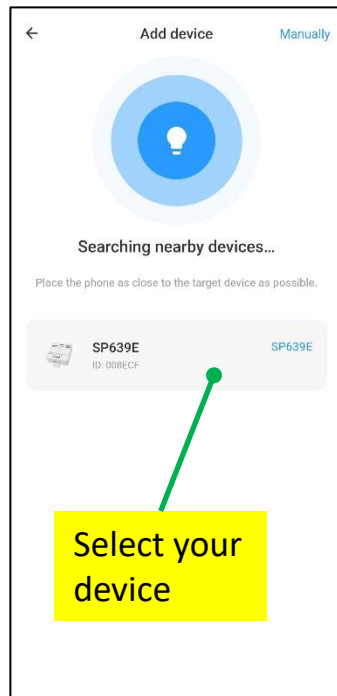
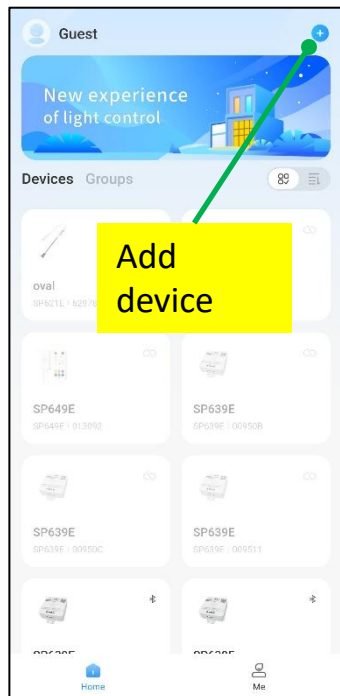
Ensure that the terminal cover will not pinch or crush the positive wire once reinstalled.





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.



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.

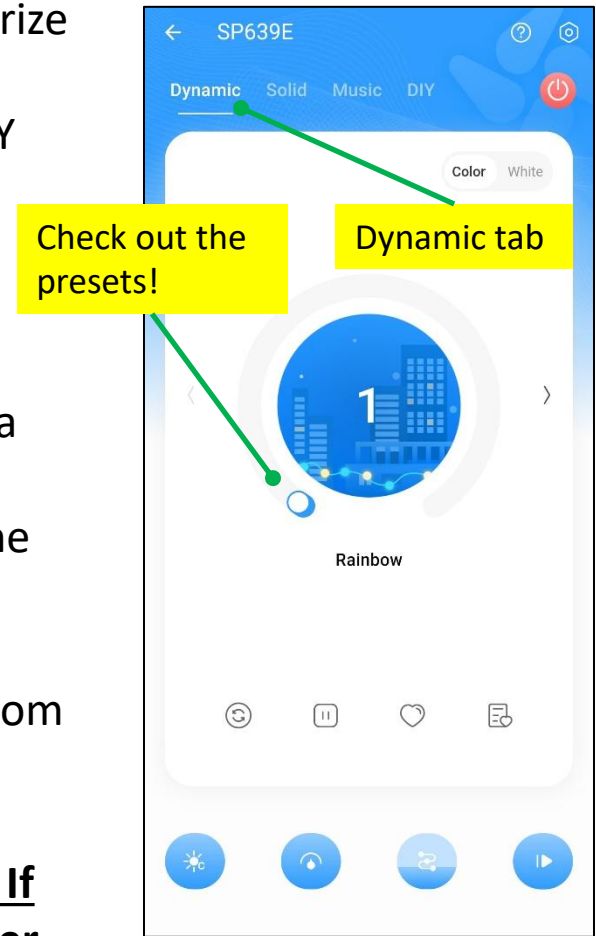
Troubleshooting

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.

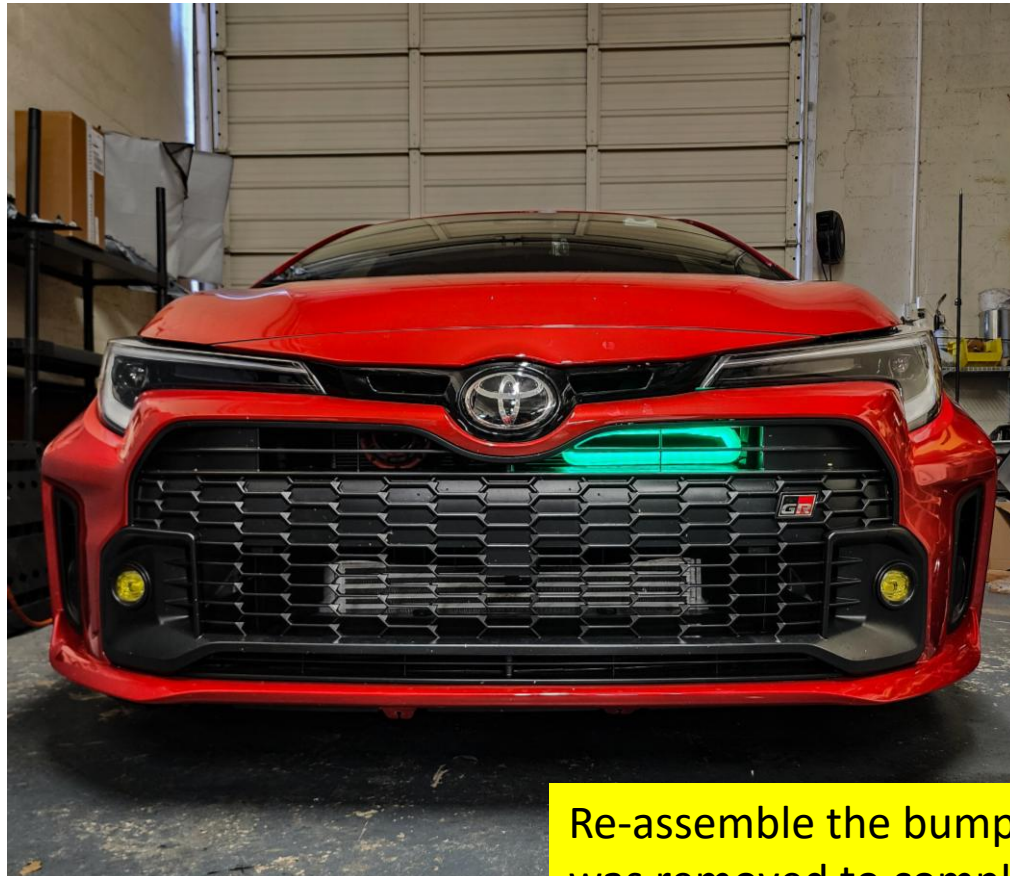
If the problem persists, reach out to support@velossatech.com

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.



Final Assembly Review

Review the install and make sure nothing is binding or causing any preload on any parts, ensure that screws are tight and that your hood can close properly.



Re-assemble the bumper the same way it was removed to complete installation.