



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



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

[illegible]



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[illegible]

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 cap screw	2
6mm large washer	2
M6 lock nut	1
#6 x 1/2" 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 8.



Kit Contents (LIT Flare Only)

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

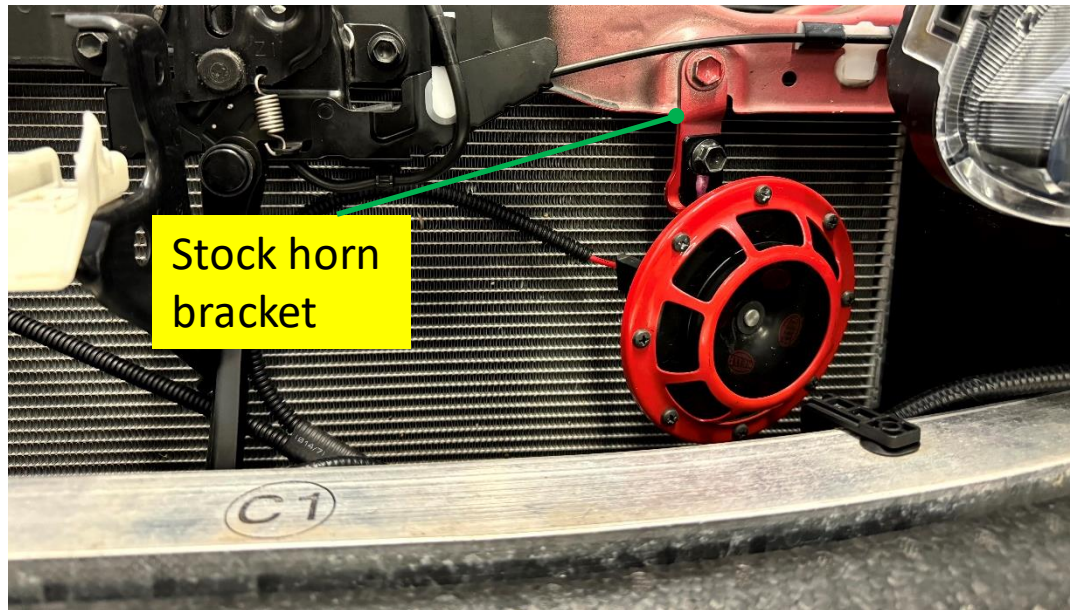
Kit Contents	Qty
Diode Dynamics RGBW Controller	1
Positive Cable w/ In-Line Fuse	1
Power Cable w/ Pigtail Connector	1
Switch	1
Switch Ground Cable w/Crimped Connector	1
8" Zip Ties	8
Cable Clips	2
M6 Lock Nut	2
Assembled LIT Flare	1



If you already own the Velossa Tech GEN 4 2023+ GR Corolla BIG MOUTH, skip to slide 15 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).

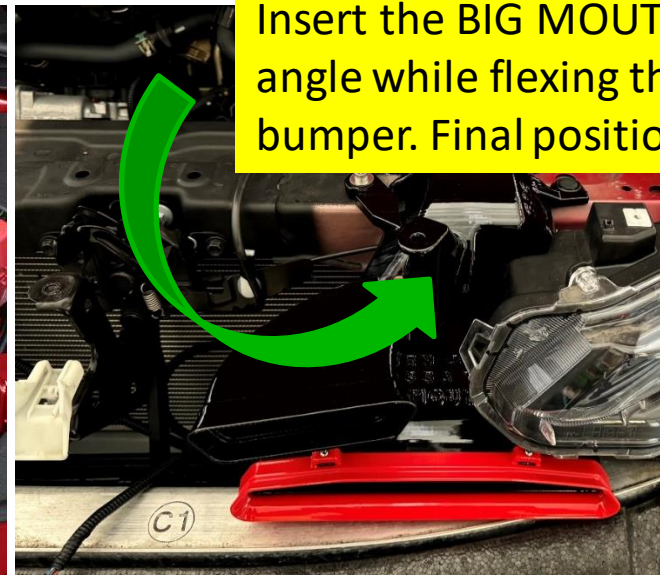
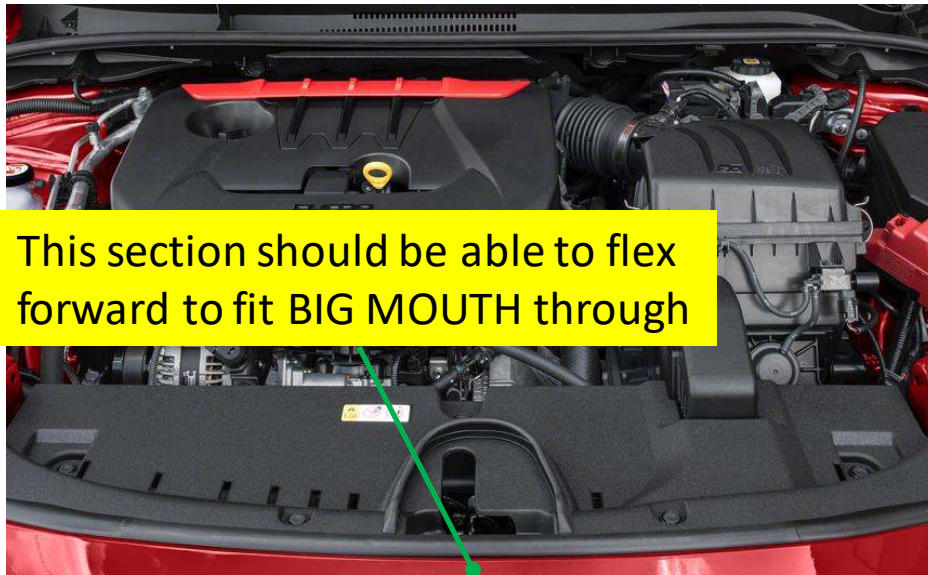


Loosen Stock Components

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

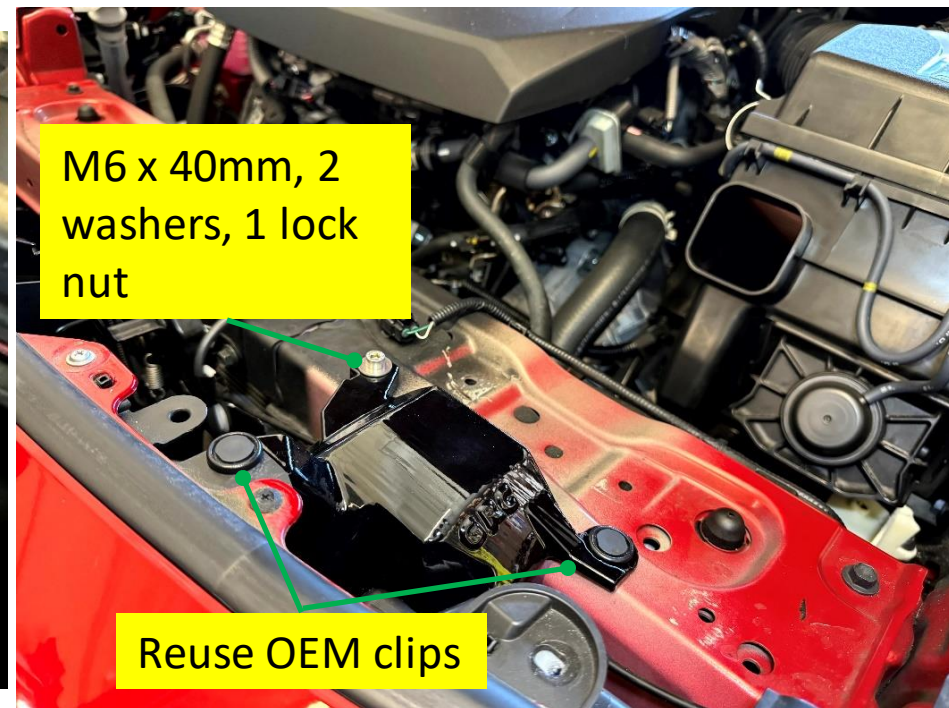
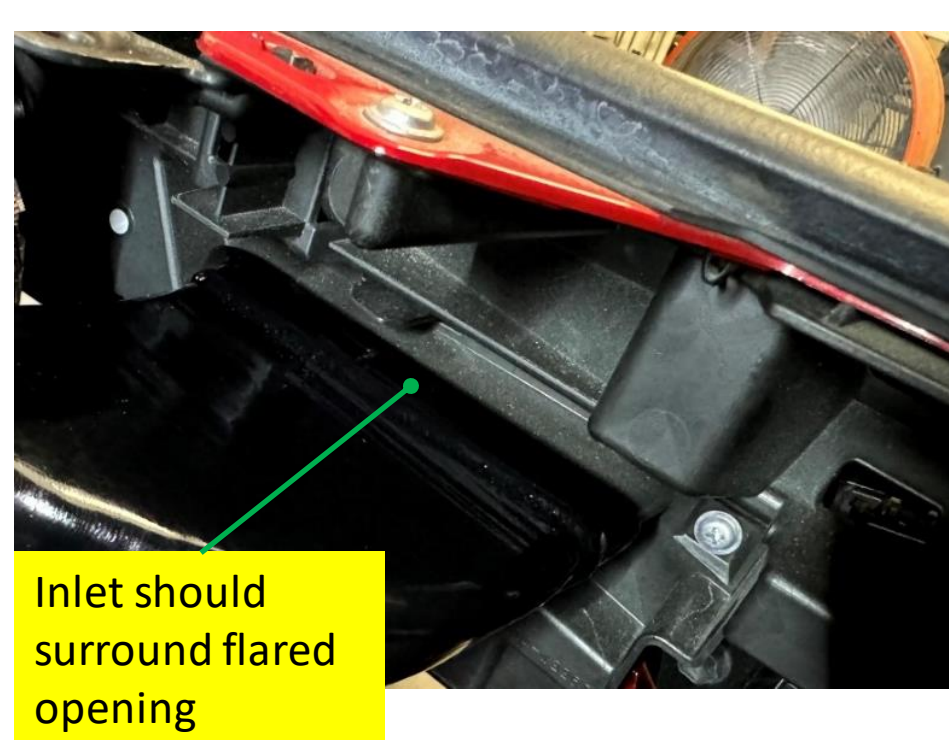
Remove the plastic cover by undoing the retaining clips. At this point, all that is required is the removal of the stock snorkel and the loosening of all fastening points along the top of the bumper so that the top-center section of the bumper can flex forward.

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.



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

VELOSSA TECH

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.



Orange border
corresponds to base
BIG MOUTH kit

VELOSSA TECH

Installing Big Mouth: Plenum

To install the plenum, follow these instructions:

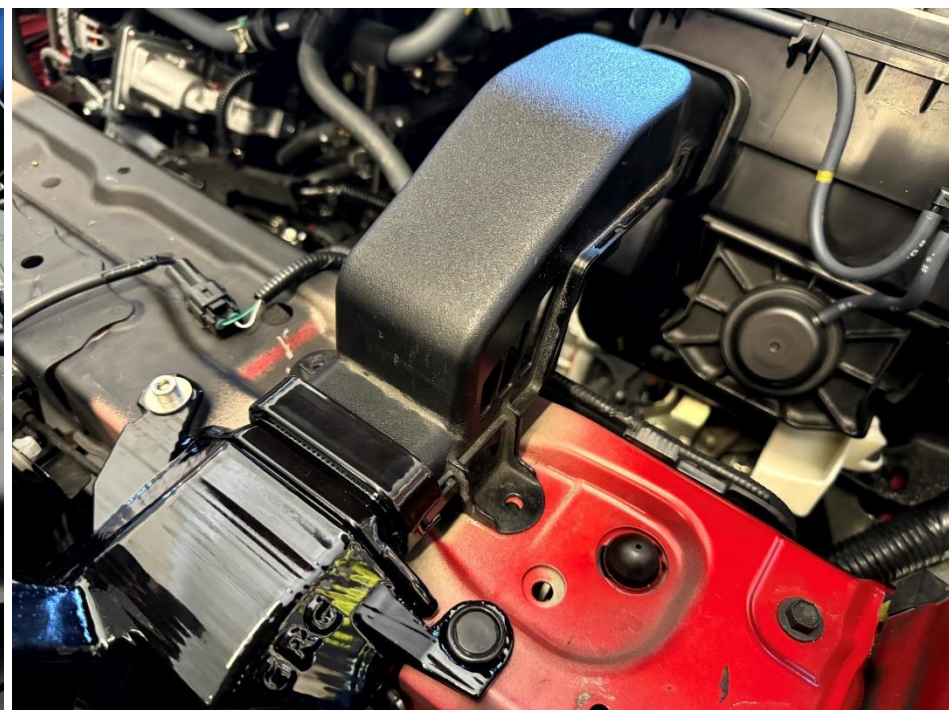
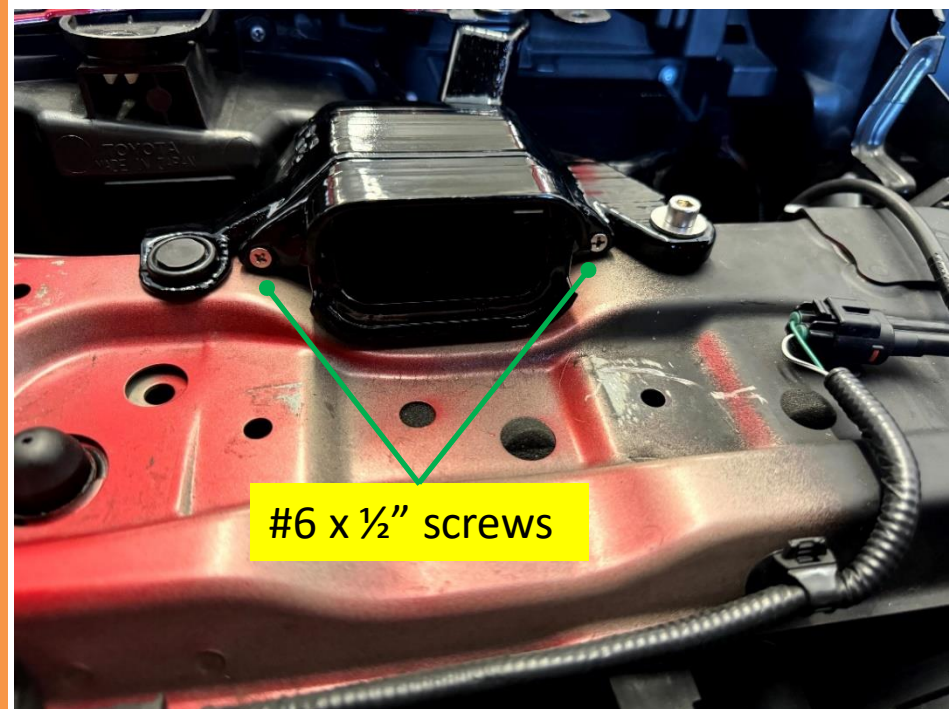
- Remove the OEM hex bolt and use an M6 x 30mm cap screw with 1x 6mm washer to fasten the right side (driver side). Do not fully tighten yet.
- Use an M6 x 30mm cap screw, 1x 6mm washer, 1x (1/4" by 1" fender washer) and 1x M6 lock nut to fasten the left side. Align the rearmost point of the plenum with the edge of the frame it is fastened to.
- Fully tighten both sides.



Blue border
corresponds to BIG
MOUTH PLUS High
Flow Induction kit

Installing BIG MOUTH: Adapter

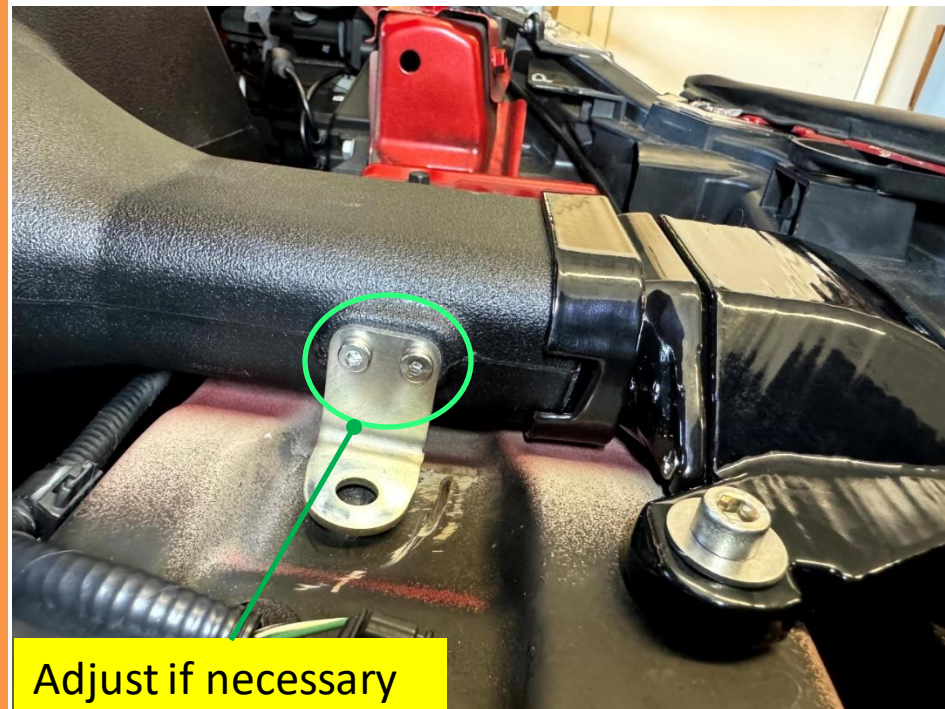
If you ordered the BIG MOUTH without the High Flow Induction kit, you will have received an adapter that is meant to hook up to your OEM or aftermarket airbox. Install it by using the supplied #6 screws to fasten it to the main body. **You will be threading into plastic so do not overtighten or you will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



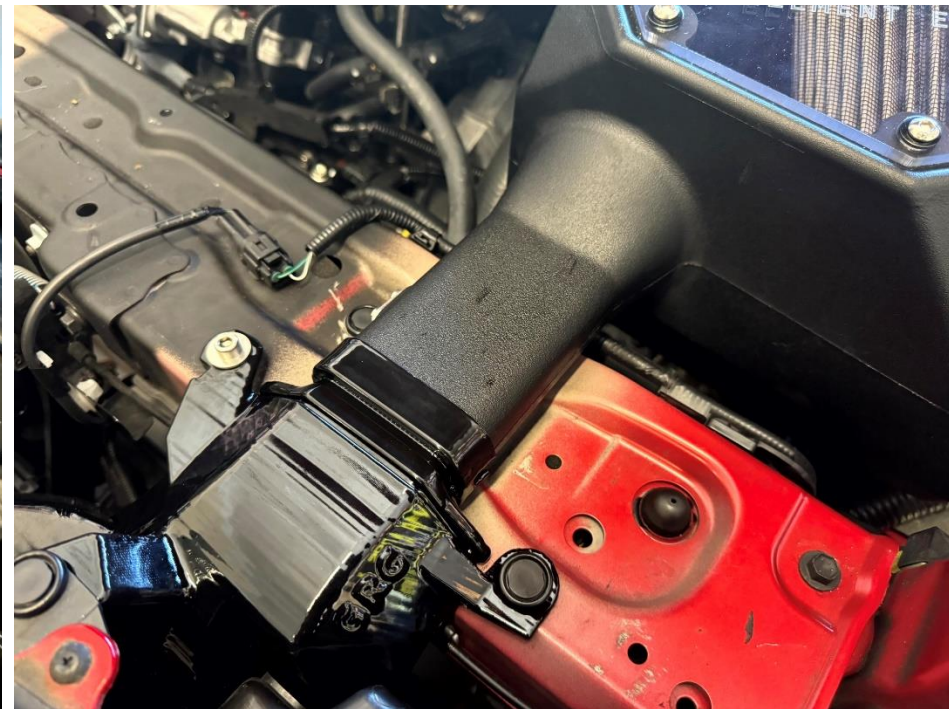
SXTH Intake Adjustment

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.



Adjust if necessary



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

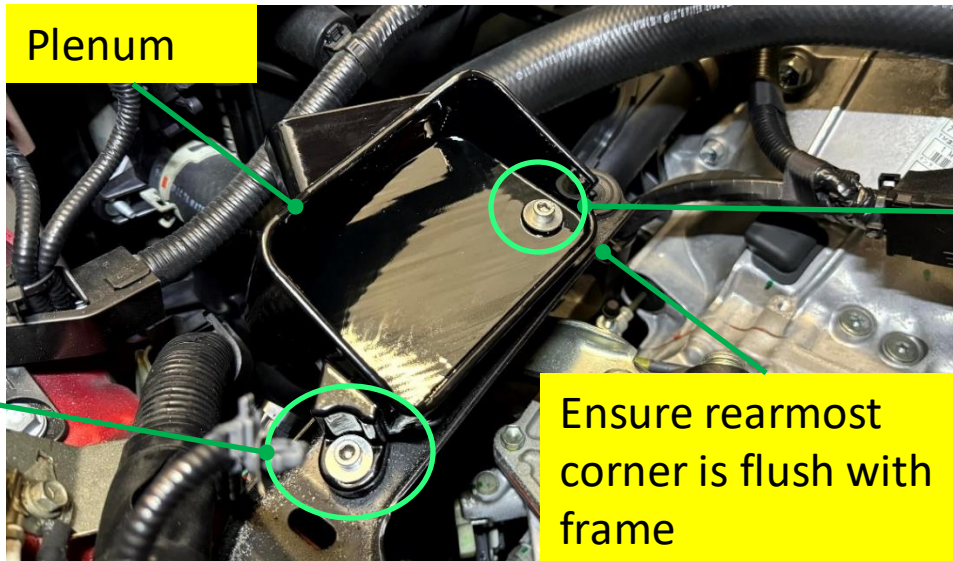
Installing BIG MOUTH: Plenum

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



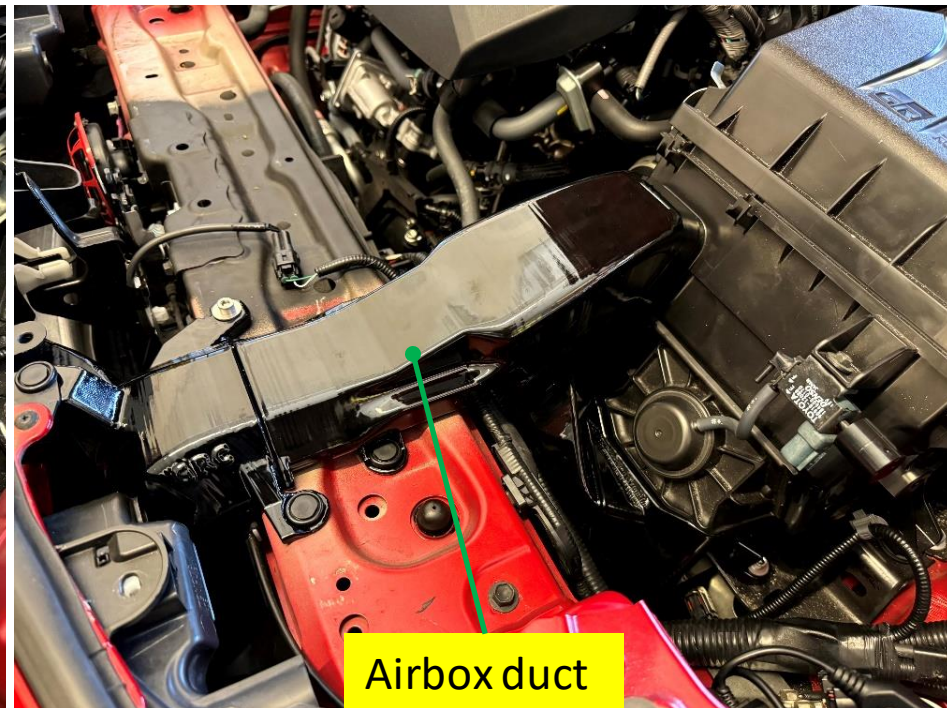
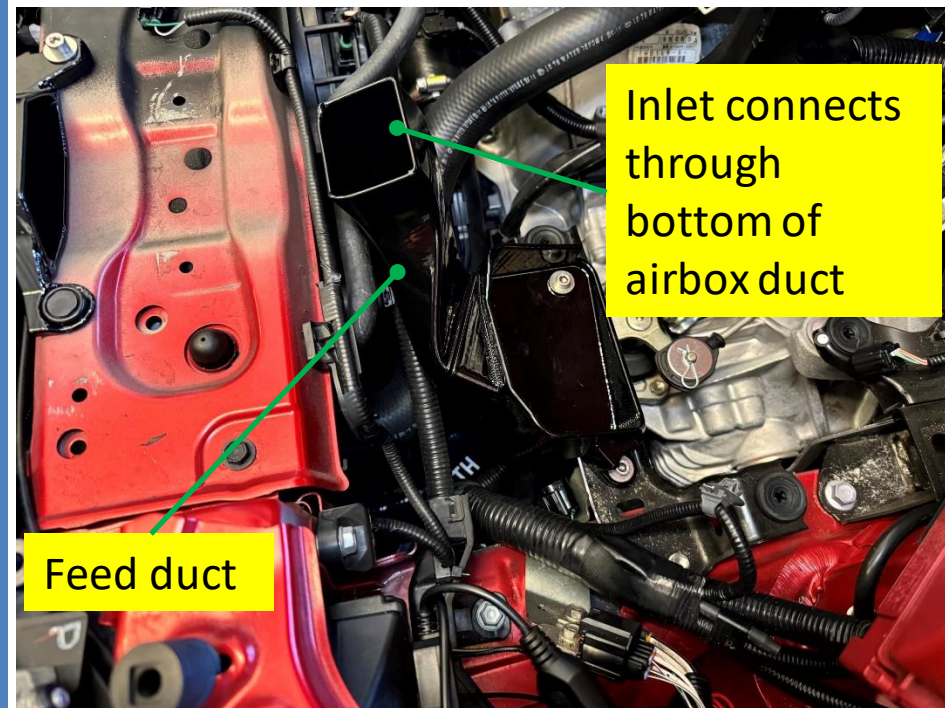
Ensure rearmost corner is flush with frame

Passenger side:

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

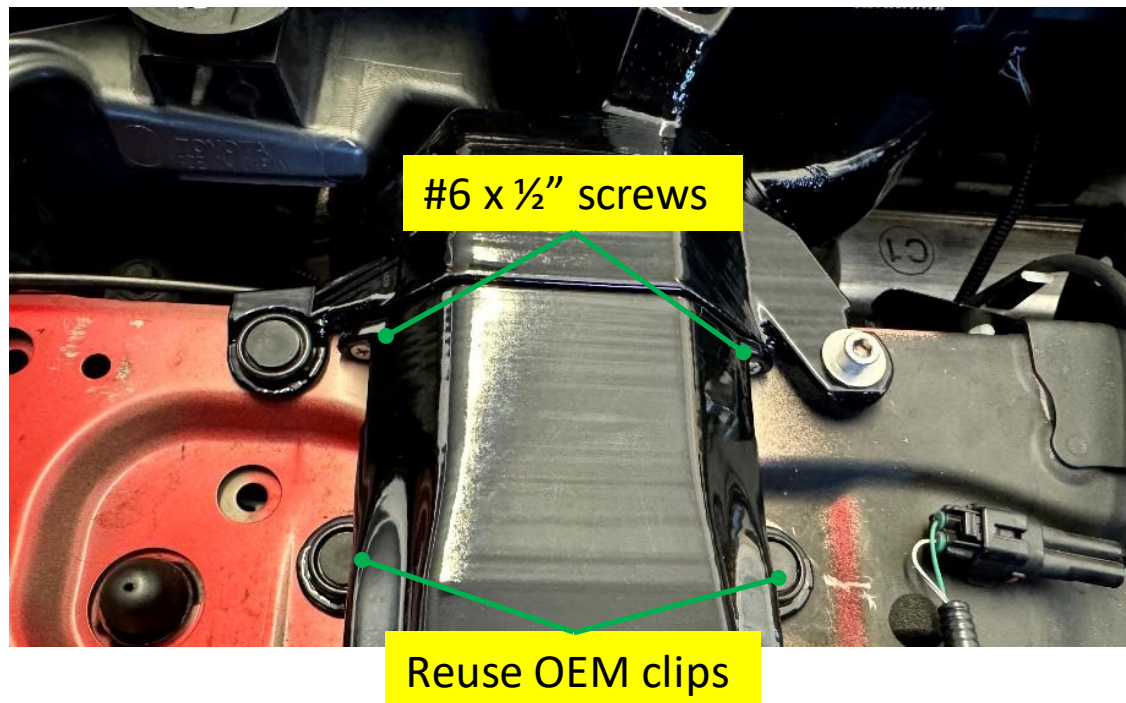
Installing BIG MOUTH

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.



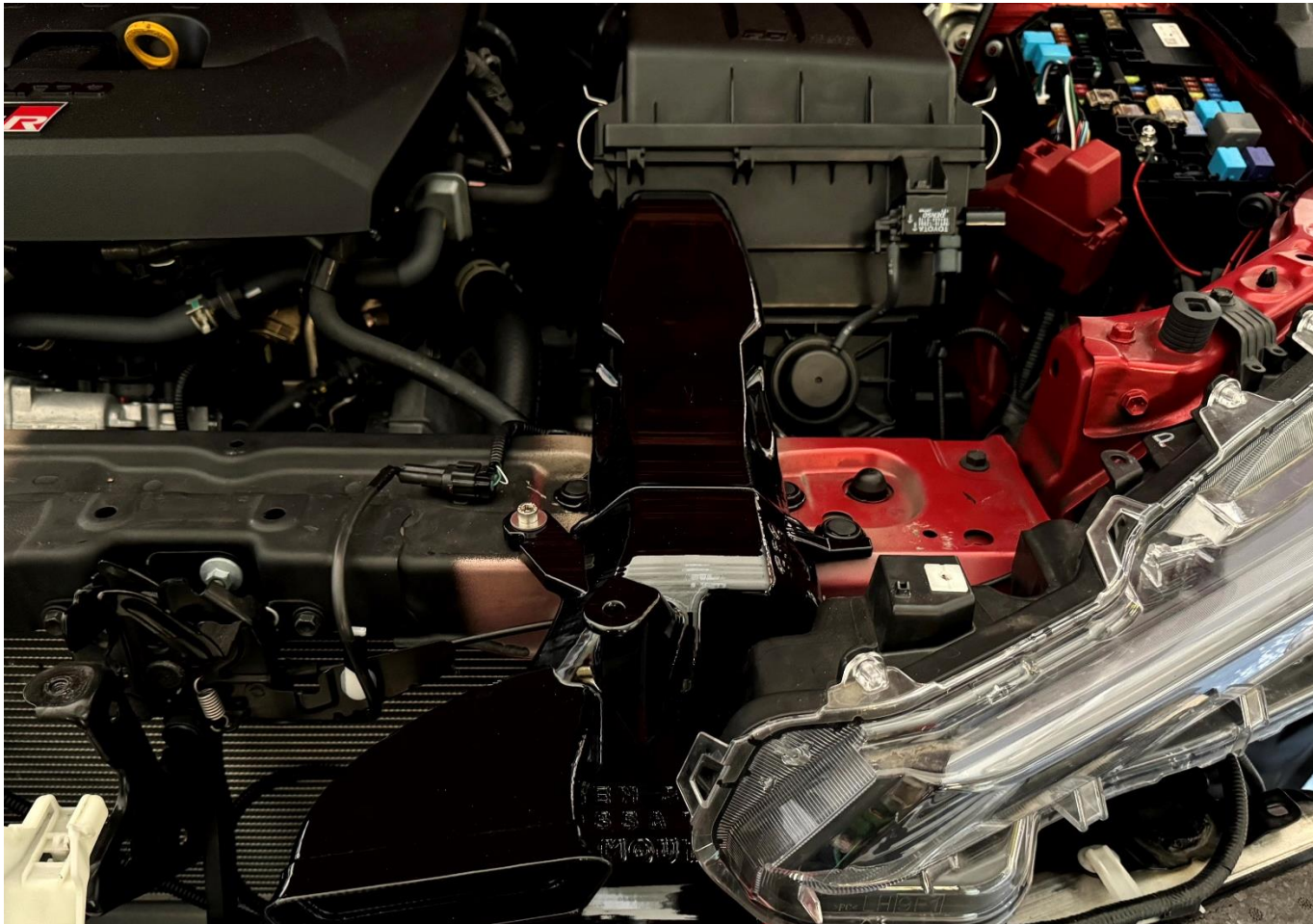
Installing BIG MOUTH

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



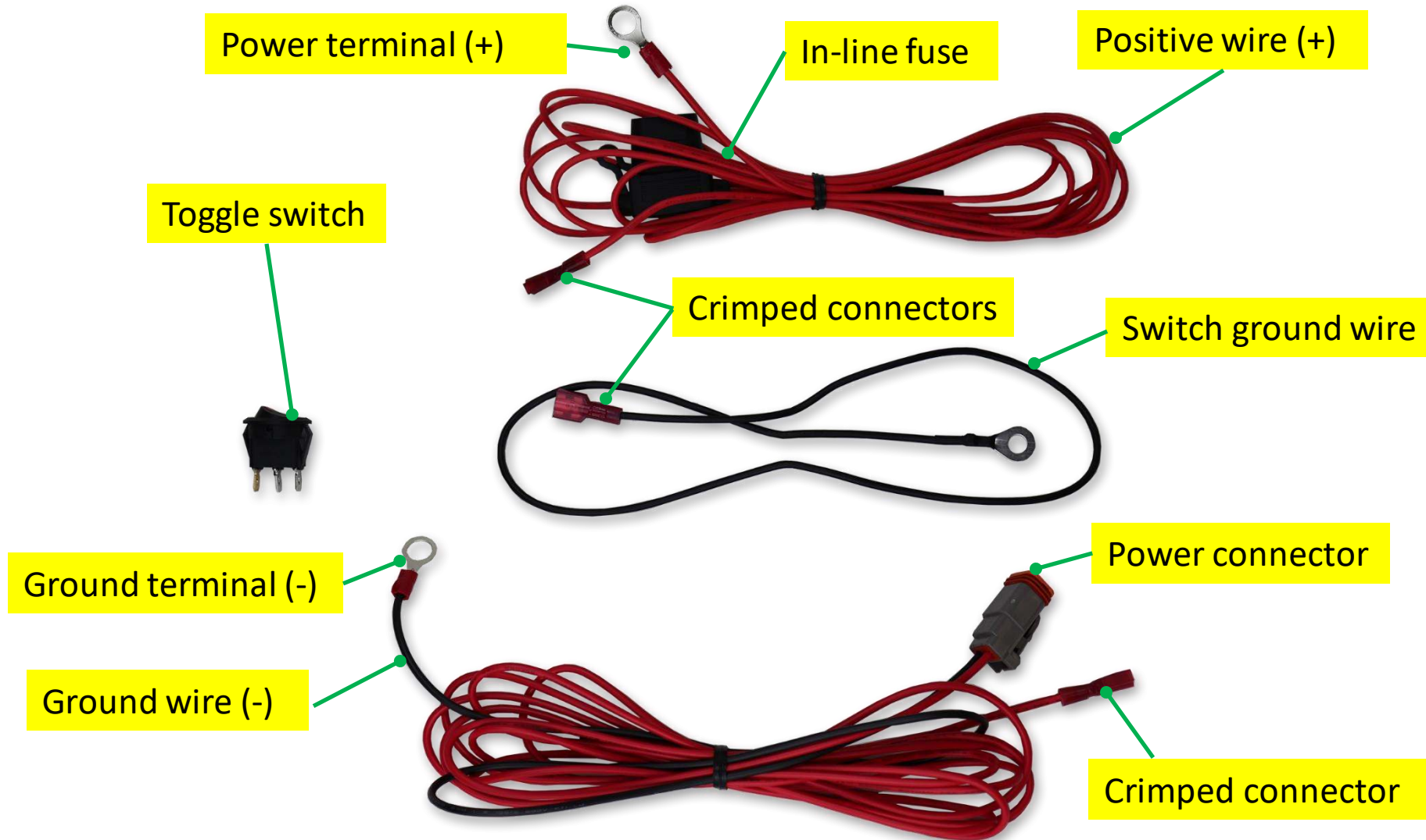
Finalizing BIG MOUTH Install

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.

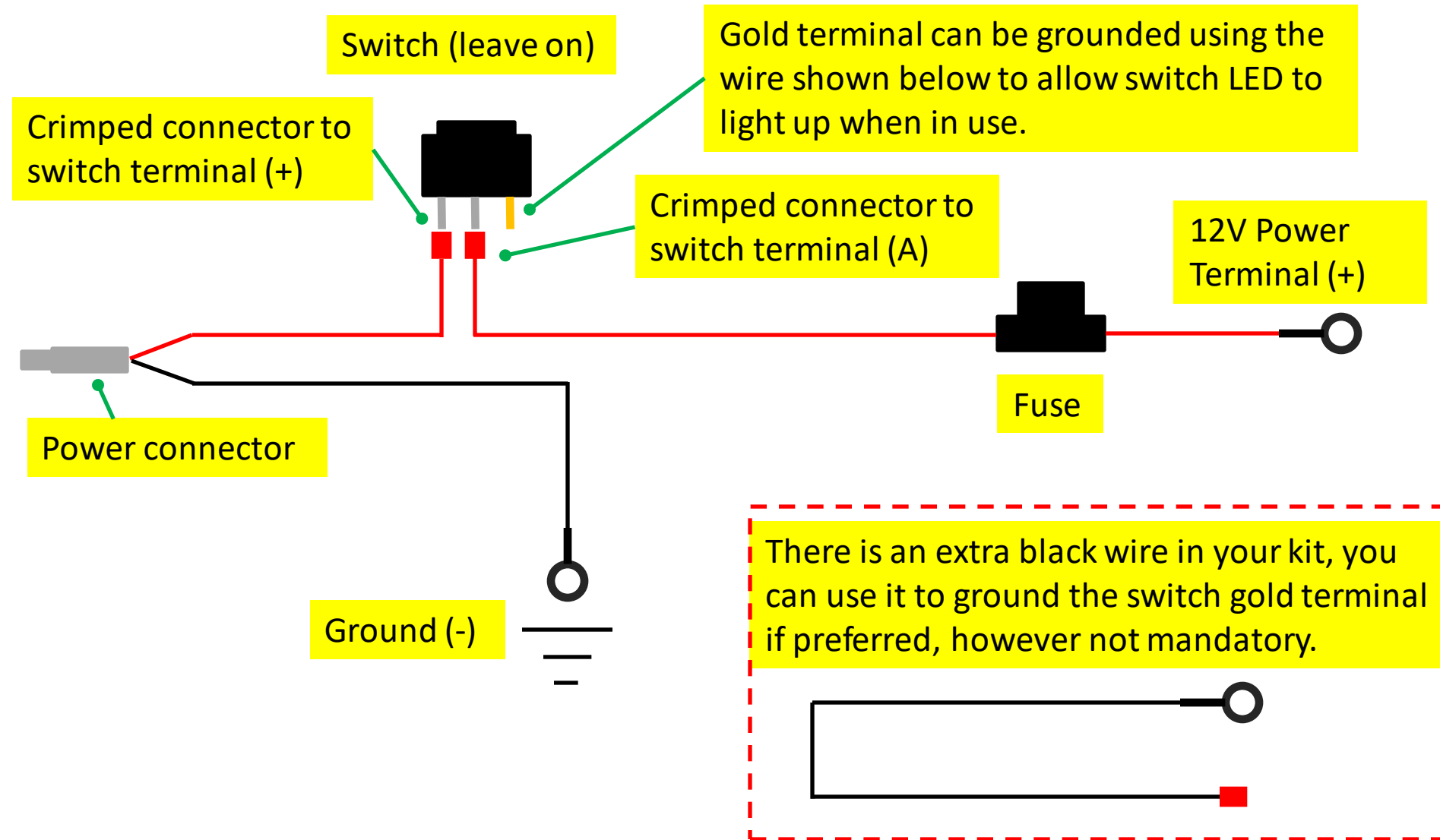




Wiring Harness



Wiring Harness Schematic

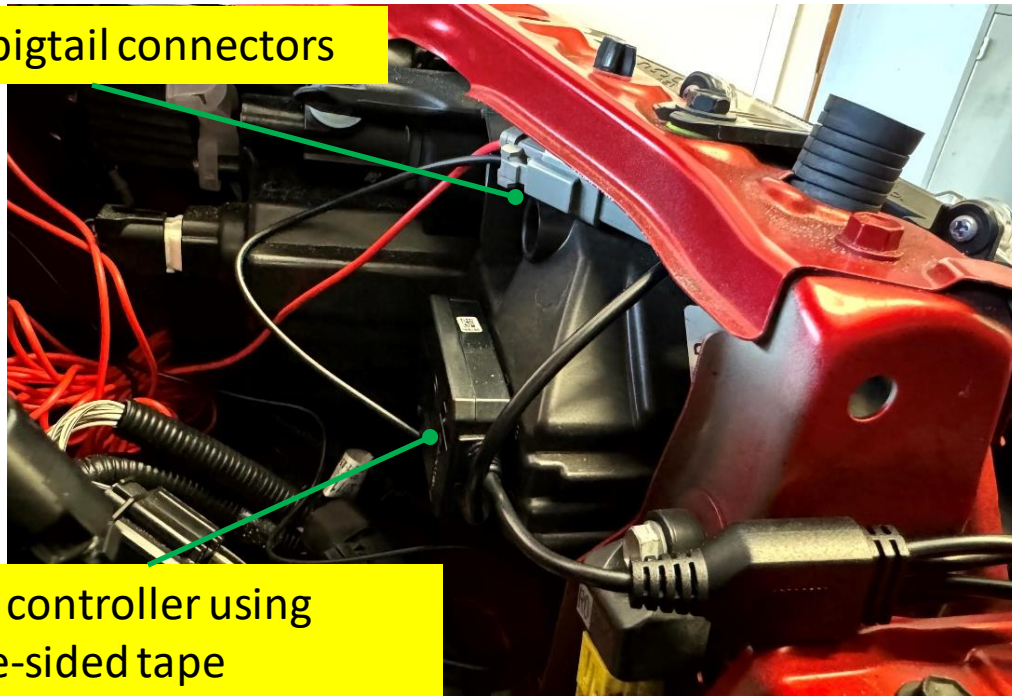


Wire Routing

Clean the shroud where the Diode Dynamics controller will be adhered. Use the supplied double-sided tape to adhere the controller to the indicated spot (take note of the controller orientation). Connect the LED cable to one of the 4 controller M8 ports (does not matter which one) and connect the pigtail connectors. Lastly, use the supplied cable clips to manage the cables as such to prevent wire strain. Use high-strength glue to ensure that the cables clips do not come undone over time.

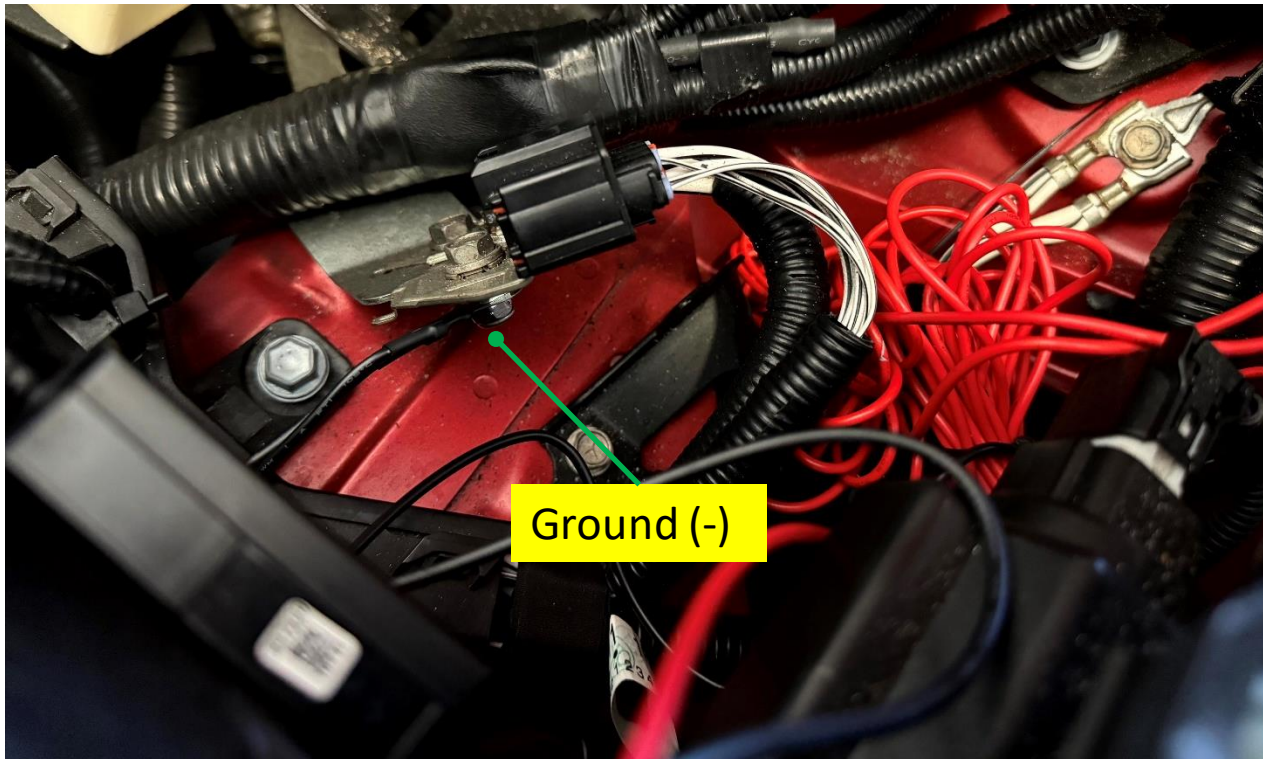
Connect pigtail connectors

Attach controller using
double-sided tape



Connect the Switch + Ground

Connect the switch in accordance with the wiring harness schematic and ground both the wires at the indicated location using one of the supplied M6 lock nuts.

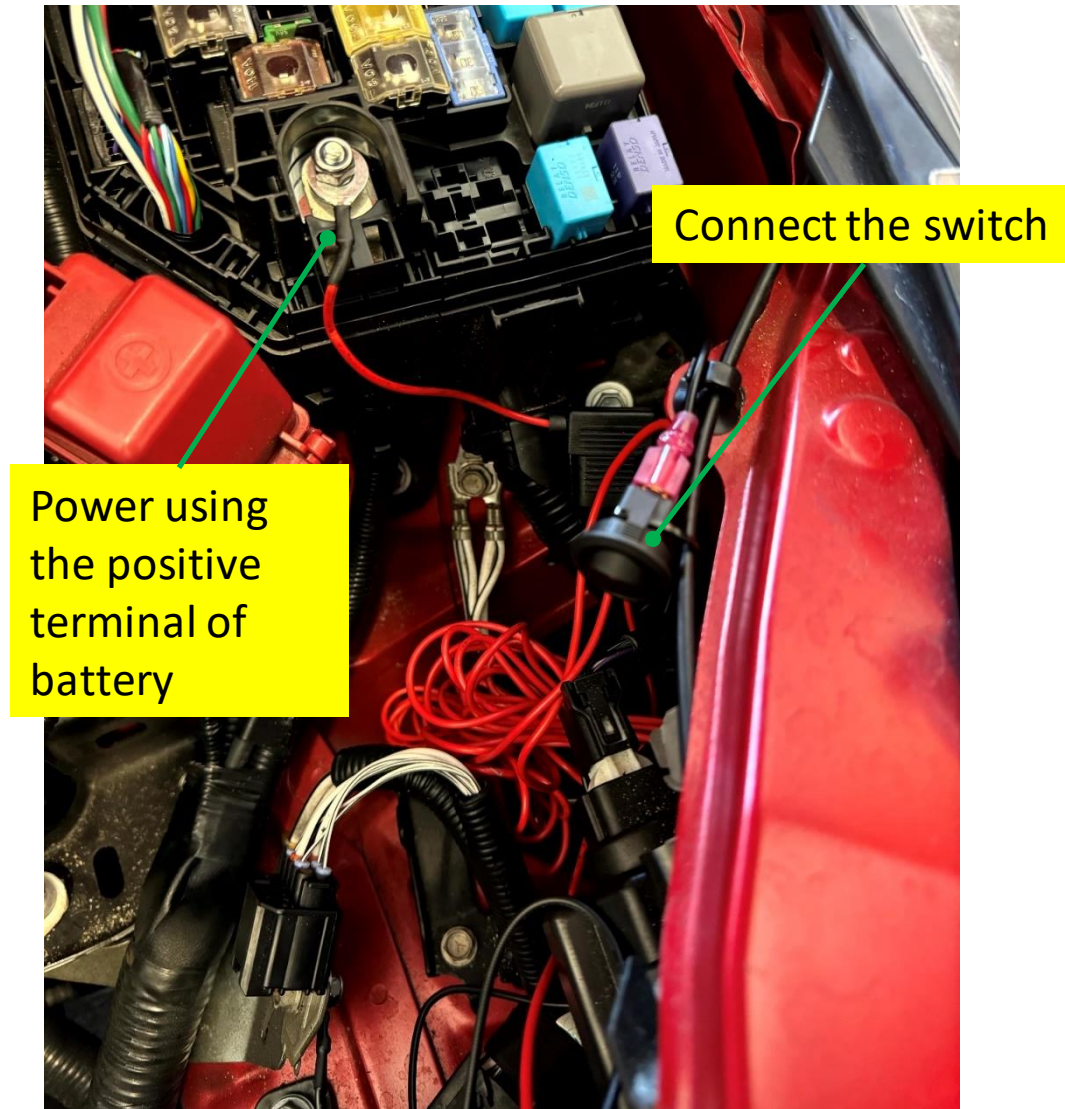


Wire Routing

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

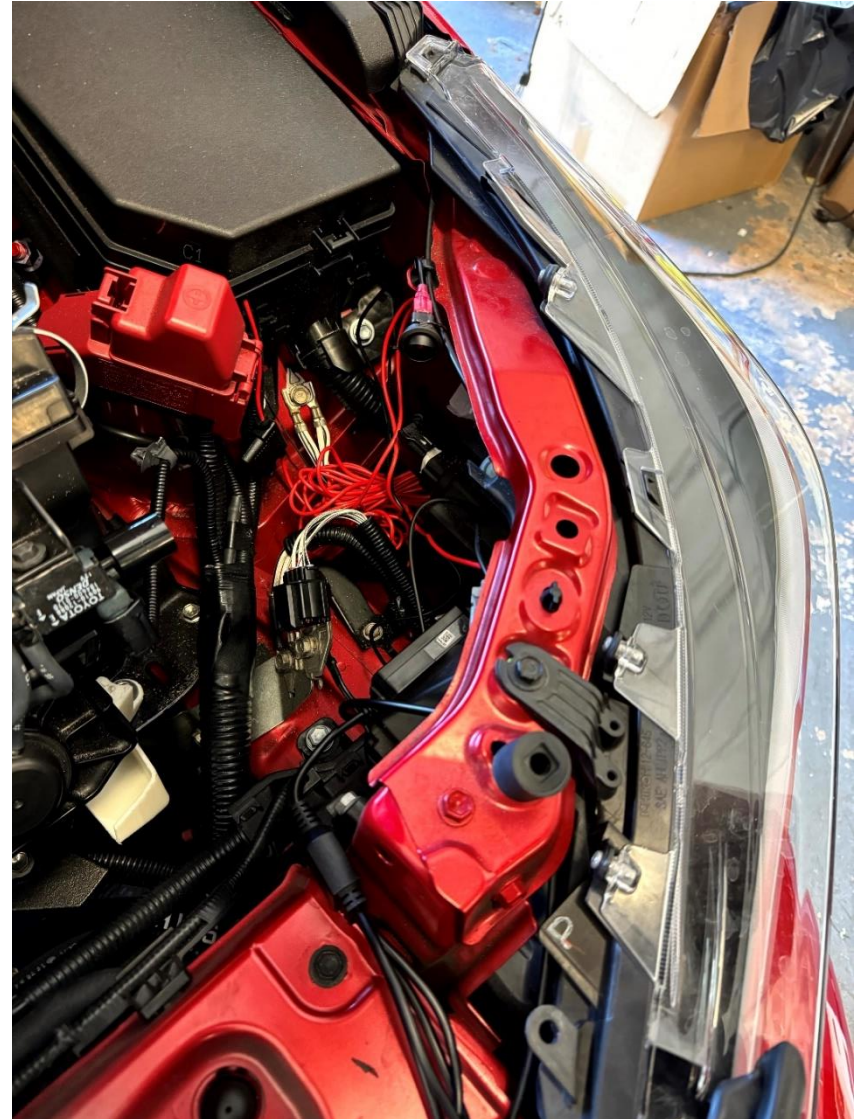
For the positive wire with the in-line fuse, put aside around 10" of wire to continue routing towards the battery. Connect the power ring terminal to the positive terminal on the battery.

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



Wire Routing

Organize the bundles of wire and switch as such. Use zip ties and cable clips to maintain clean cable management. Take care to avoid any wire snagging or and exercise strain relief of all wires. Turn the switch on.





Phone App

Download the Diode Dynamics app and connect via Bluetooth.

How to connect to the app:

1. After installing the app from the app store, open the app on your device.
2. Cycle the power to the Bluetooth controller by unplugging it and plugging it back in or flick the power switch and wait a few seconds, then turn it back on.
3. 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.
4. Once the controller shows up on the app, click it and connect. You have 30 seconds to select the controller once it shows up on the app. After 30 second you will need to refresh again to detect the controller again.
5. Note that if you mounted your controller behind a lot of metal components, this may degrade the signal and range.



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.