VELOSSA TECH

2015-2021 Subaru WRX/STI BIG MOUTH LIT KIT Ram Air Installation Guide

Kit Contents (Full 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 12mm Cap Screw	1
M6 Washer	3
M6 x 20mm Cap Screw	1
M6 x 3mm Spacer	1
M6 Lock Nut	3
Cable clip	1
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
Assembled LIT KIT BIG MOUTH	1

VELOSSA TECH

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 Subaru WRX BIG MOUTH, skip to slide 9 to see install and wiring instructions.
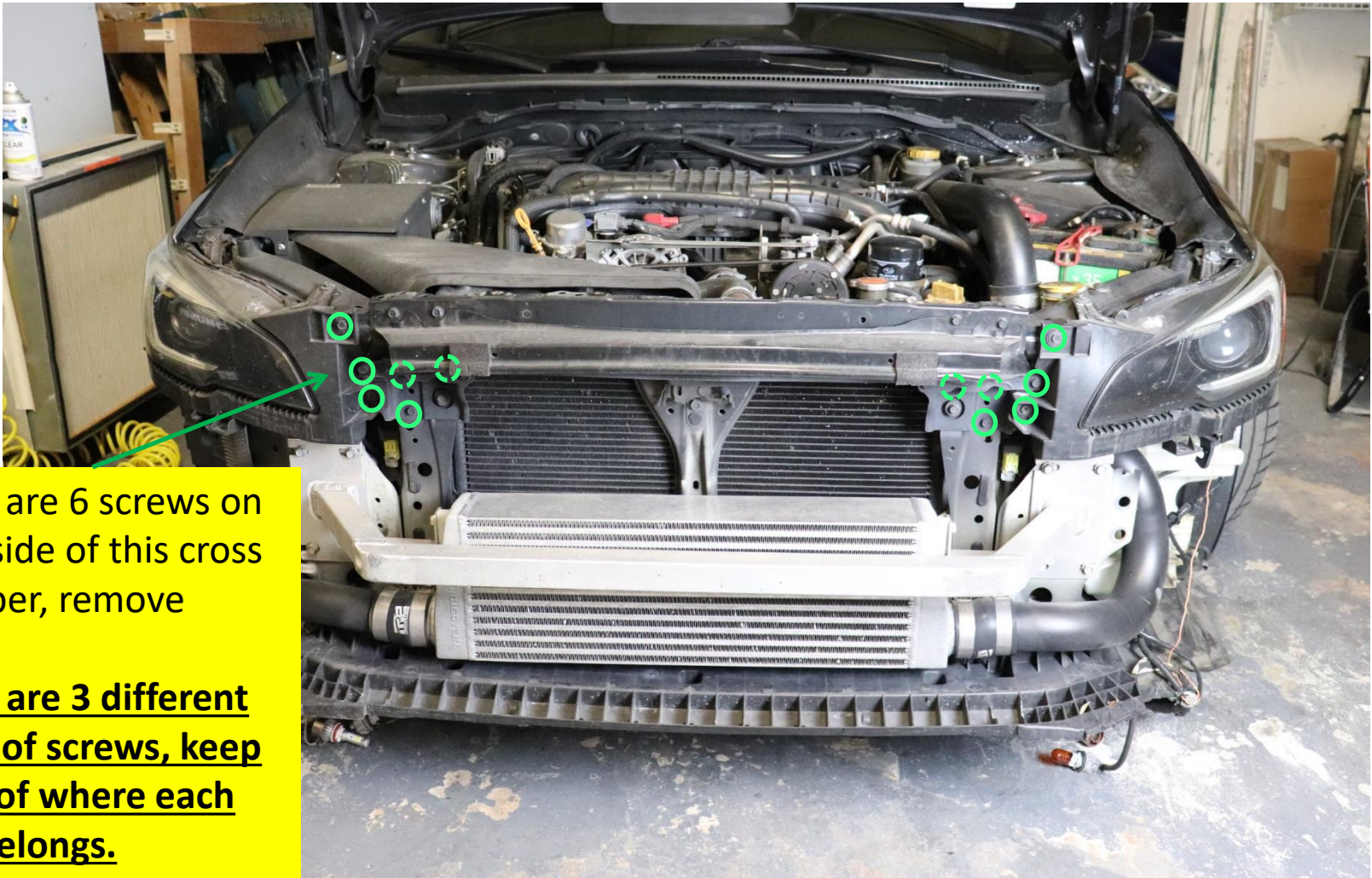
Stock Components Removal

It is best to Google "How to remove bumper" for your particular trim. After the bumper is removed, you will see the following.
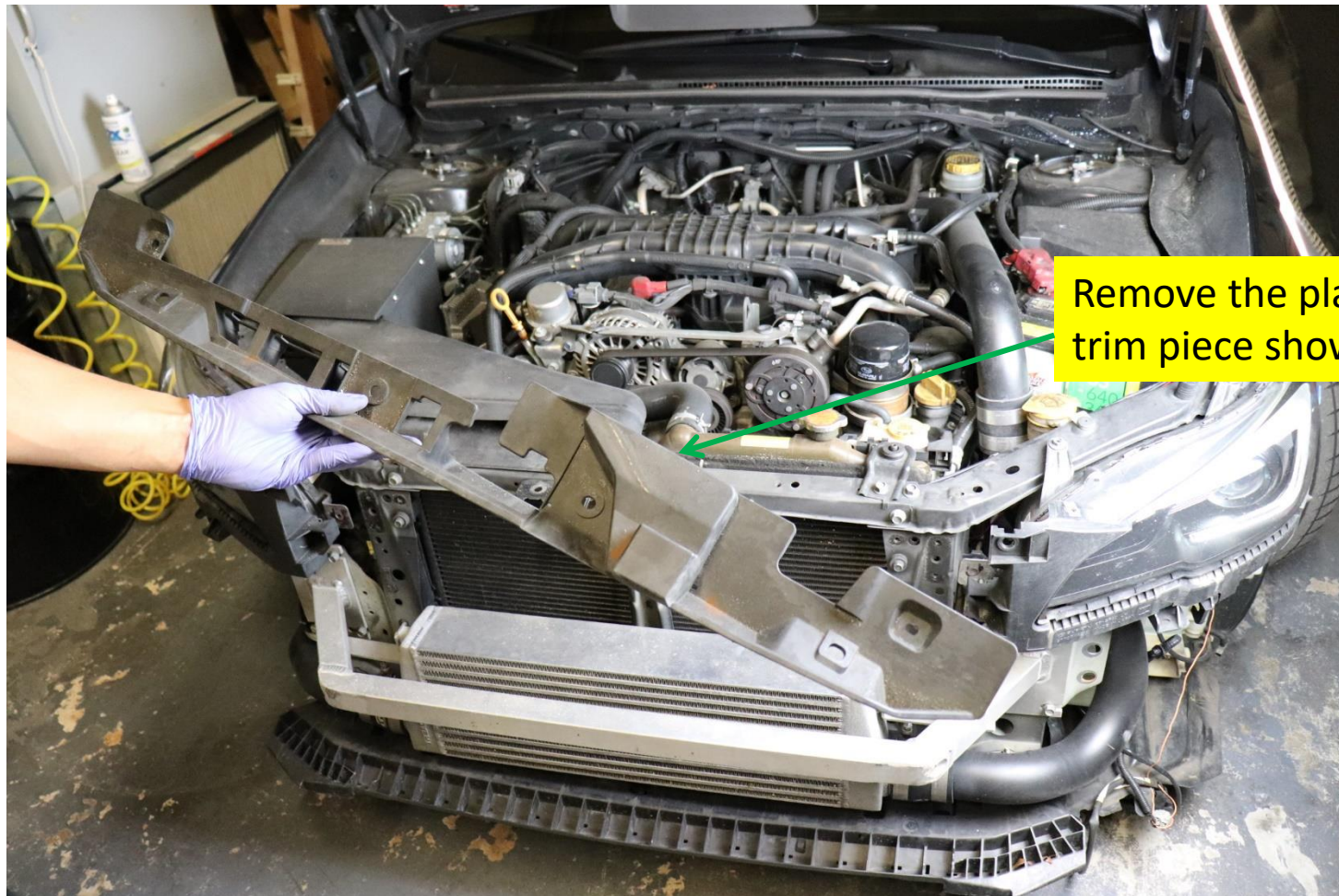
Remove the plastic trim piece shown.

Stock Components Removal

Remove front cross member.

There are 6 screws on each side of this cross member, remove them.
There are 3 different types of screws, keep track of where each one belongs.

Big Mouth Installation

The BIG MOUTH slides into position as shown, make sure that it is seated properly over the OEM tab with one hole that is present underneath.

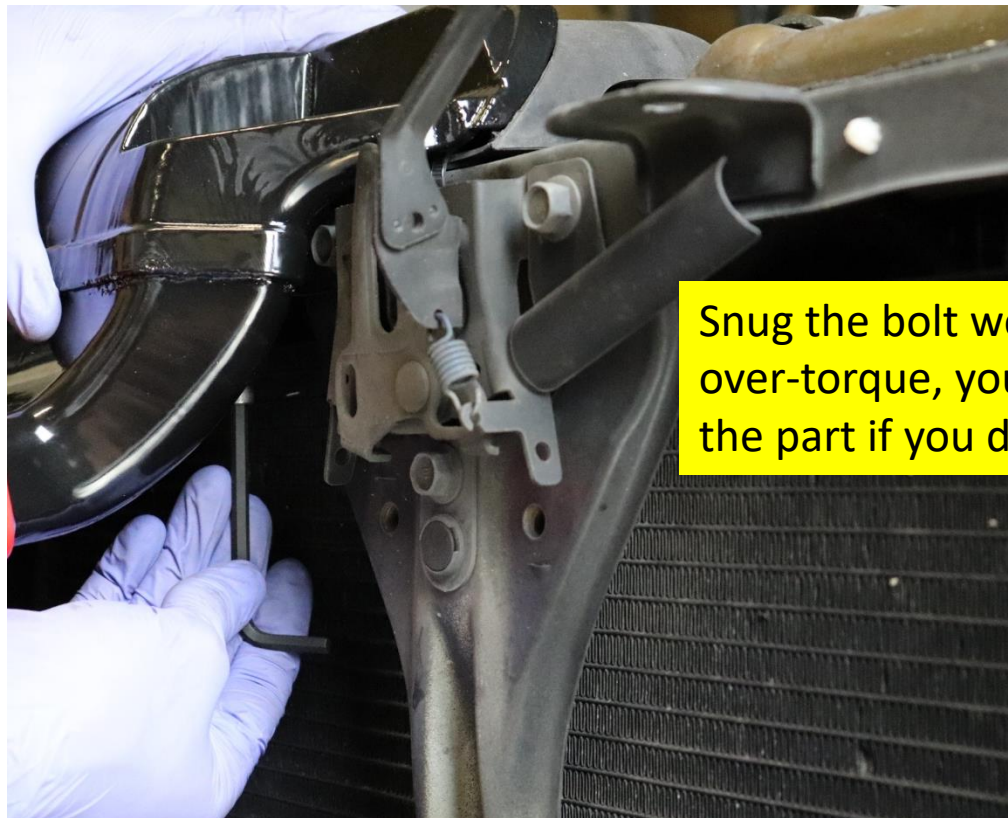**You MUST use the split ring lock washer on this bolt!**

Place the 6mm split ring lock washer over the short 6mm bolt and balance on allen key as shown.

Big Mouth Installation

Be patient with this next step. Ensure the bolt, OEM hole and BIG MOUTH fastening point are all lined up, feel for thread engagement and slowly begin to thread the bolt into the BIG MOUTH.

Snug the bolt well, but do not over-torque, you risk damaging the part if you do so.

Patience is key, reverse rotation of the bolt until you hear it click/step down from the first thread under the BIG MOUTH, then begin to tighten.

Big Mouth Installation

Install the M6x20mm bolt with washer on the driver side fastening point as shown.
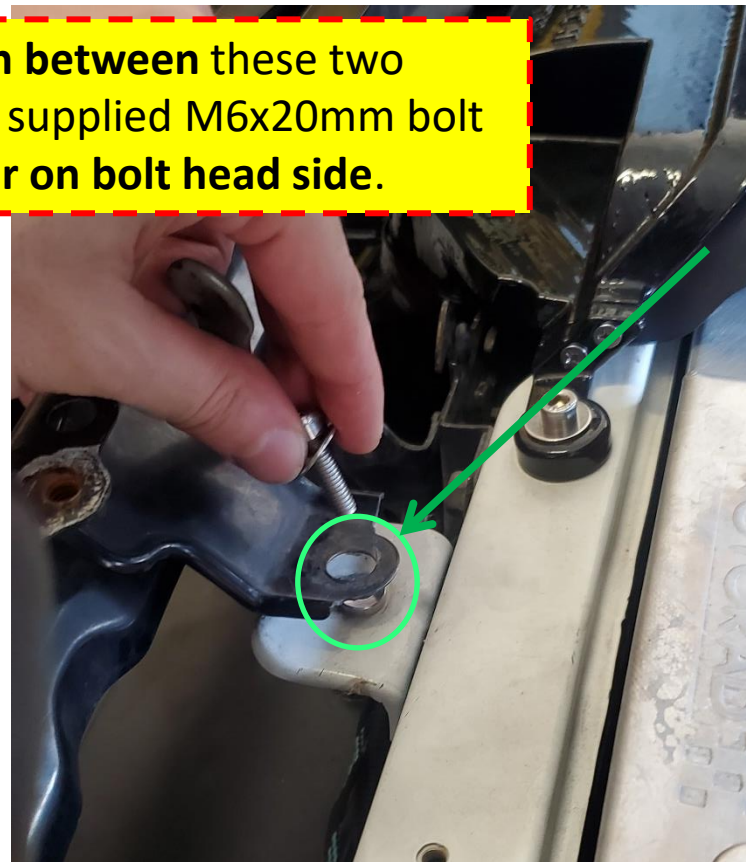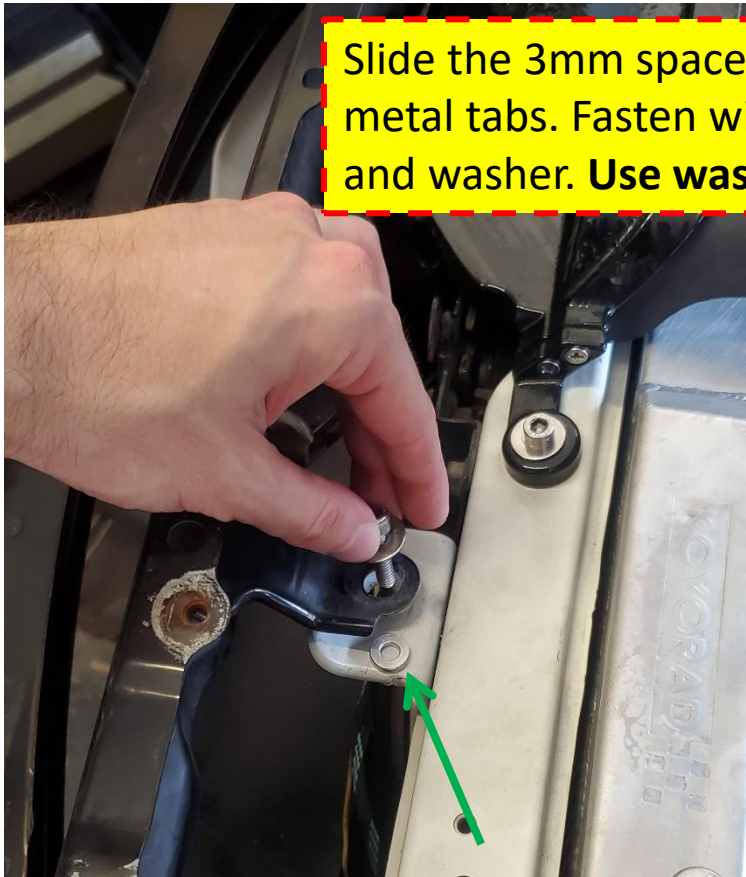

Push the supplied clip into this hold and fasten.

Big Mouth Installation

Once the BIG MOUTH is seated properly and screwed down, you may re-install the OEM cross member, ensure that the sides of the cross-member tuck behind the flaps behind the headlights before screwing together.
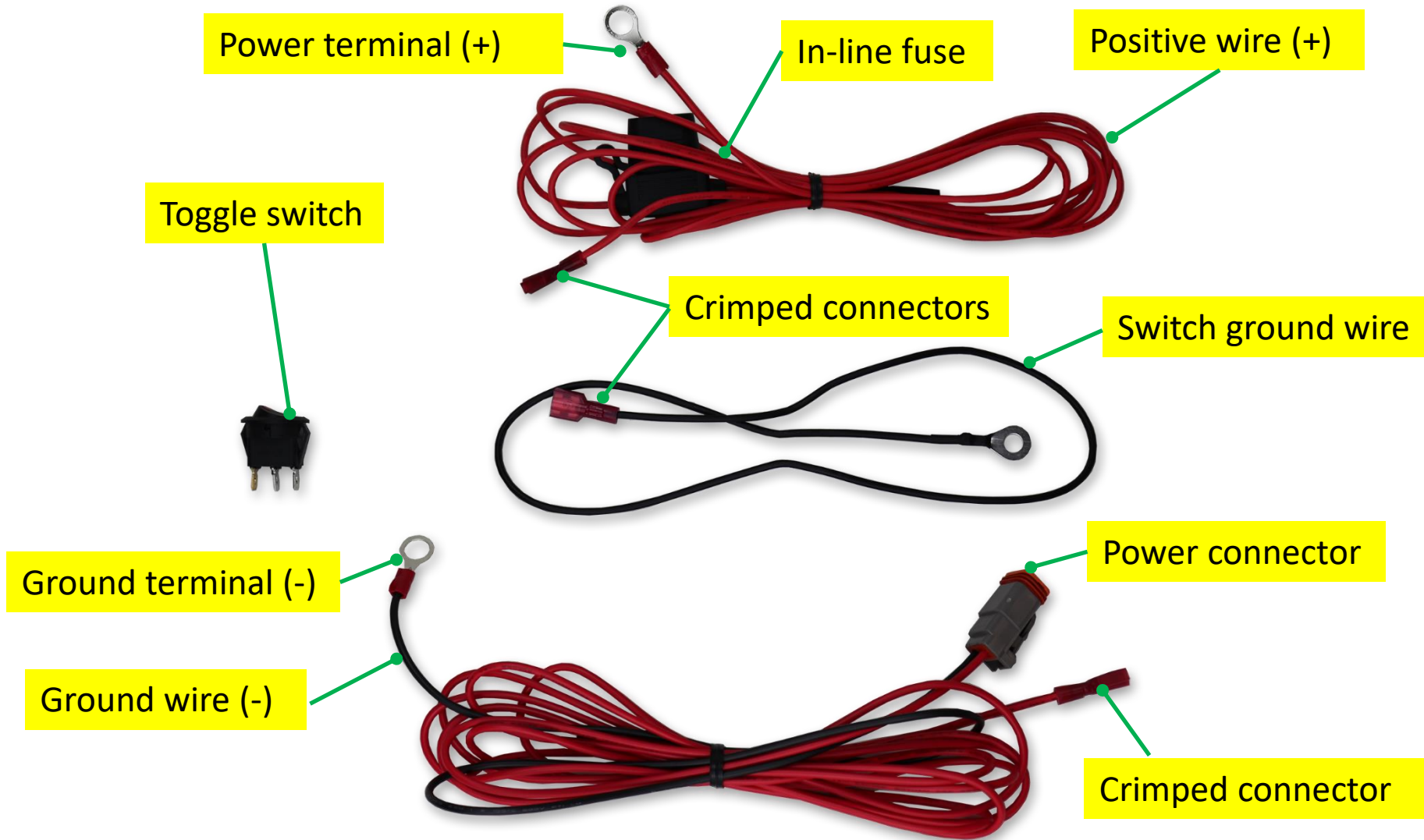

Slide the 3mm spacer **in between** these two metal tabs. Fasten with supplied M6x20mm bolt and washer. **Use washer on bolt head side**.

Wiring Harness

Power terminal (+)

In-line fuse

Positive wire (+)

Toggle switch

Crimped connectors

Switch ground wire

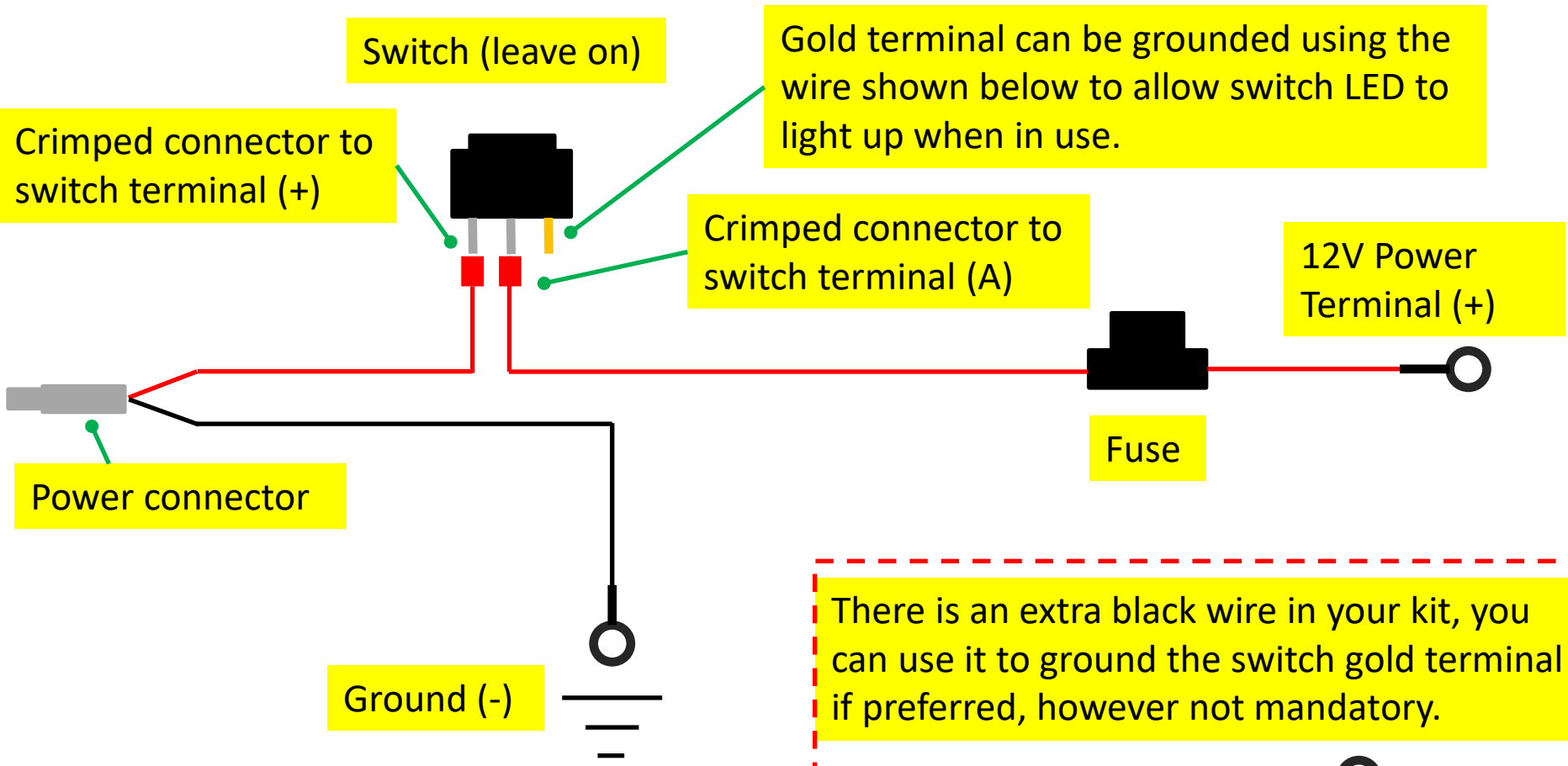Ground terminal (-)

Power connector

Ground wire (-)

Crimped connector

VELOSSA TECH

Wiring Harness Schematic

Switch (leave on)

Gold terminal can be grounded using the wire shown below to allow switch LED to light up when in use.

Crimped connector to switch terminal (+)
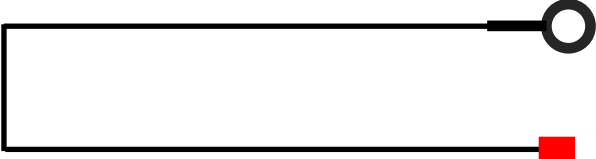
Crimped connector to switch terminal (A)

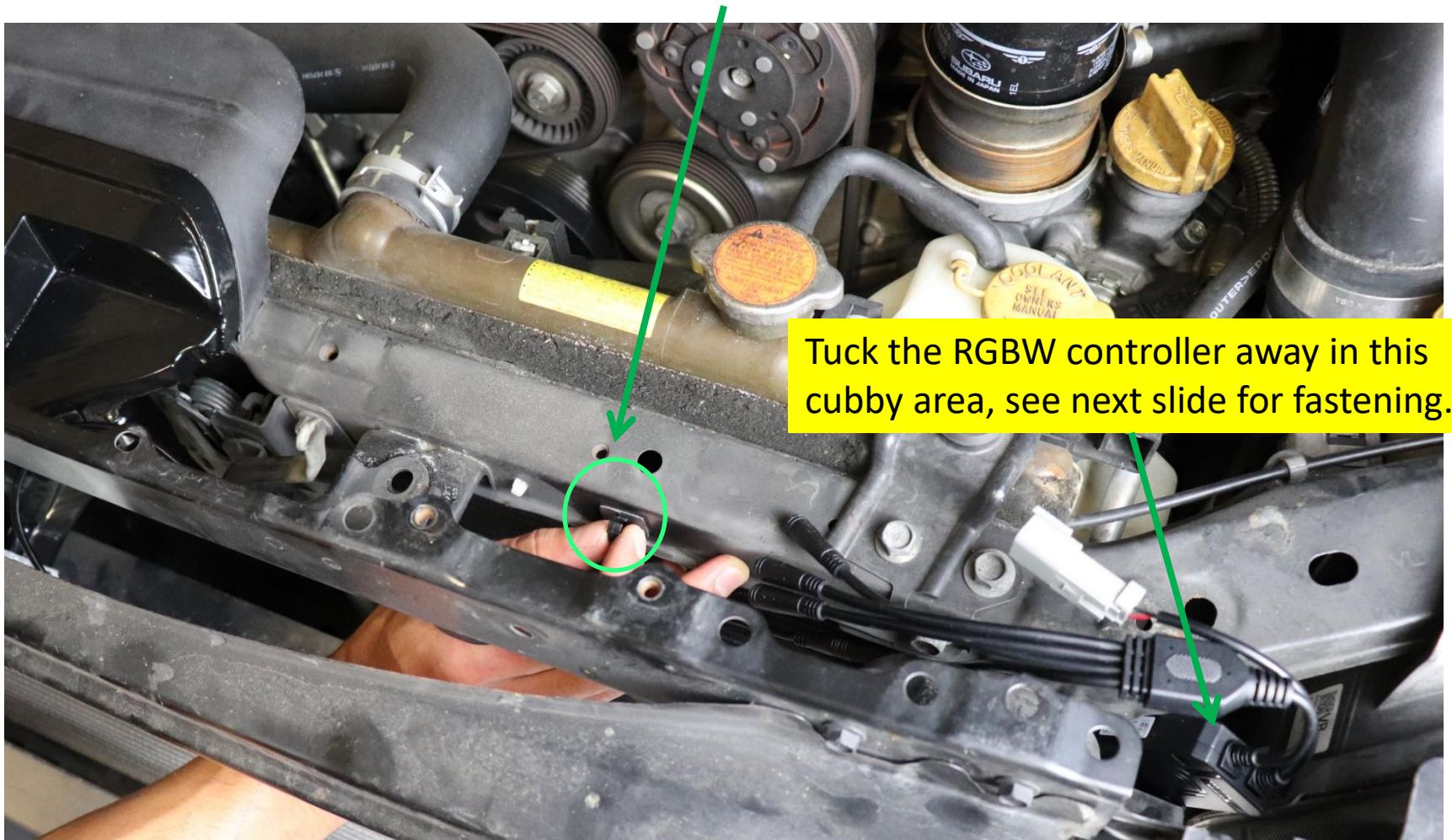12V Power Terminal (+)

Fuse

Power connector

Ground (-)

There is an extra black wire in your kit, you can use it to ground the switch gold terminal if preferred, however not mandatory.
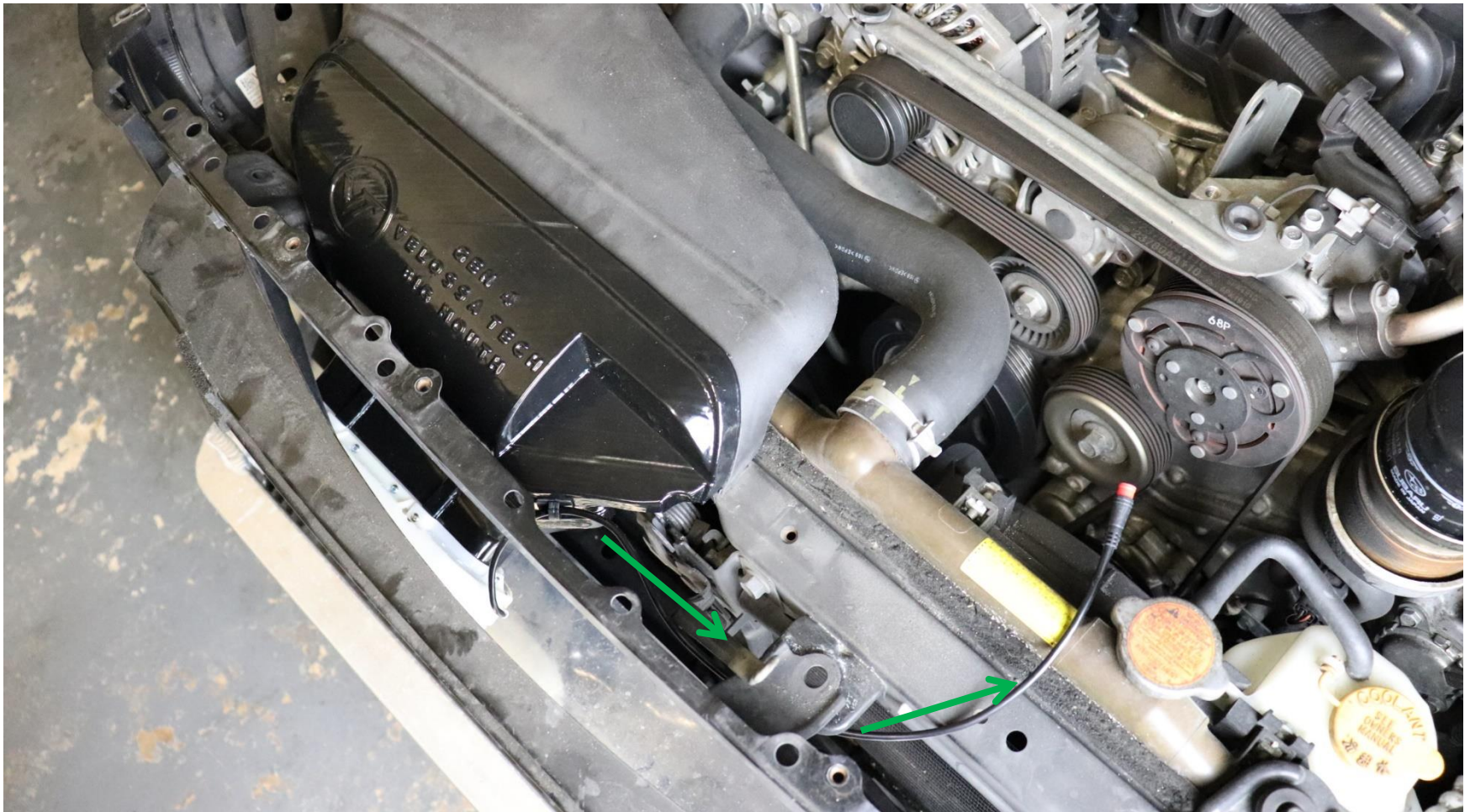
Wire Support

Clean this surface and place the cable clip as shown.

Tuck the RGBW controller away in this cubby area, see next slide for fastening.

Wire Routing

Route the LED power wire underneath the metal brackets as shown.

Wire Routing

Plug the LED into the controller, ensure that the wire is not being stressed!!!!

Line up the arrows on the round plugs, do not bend the pins!!
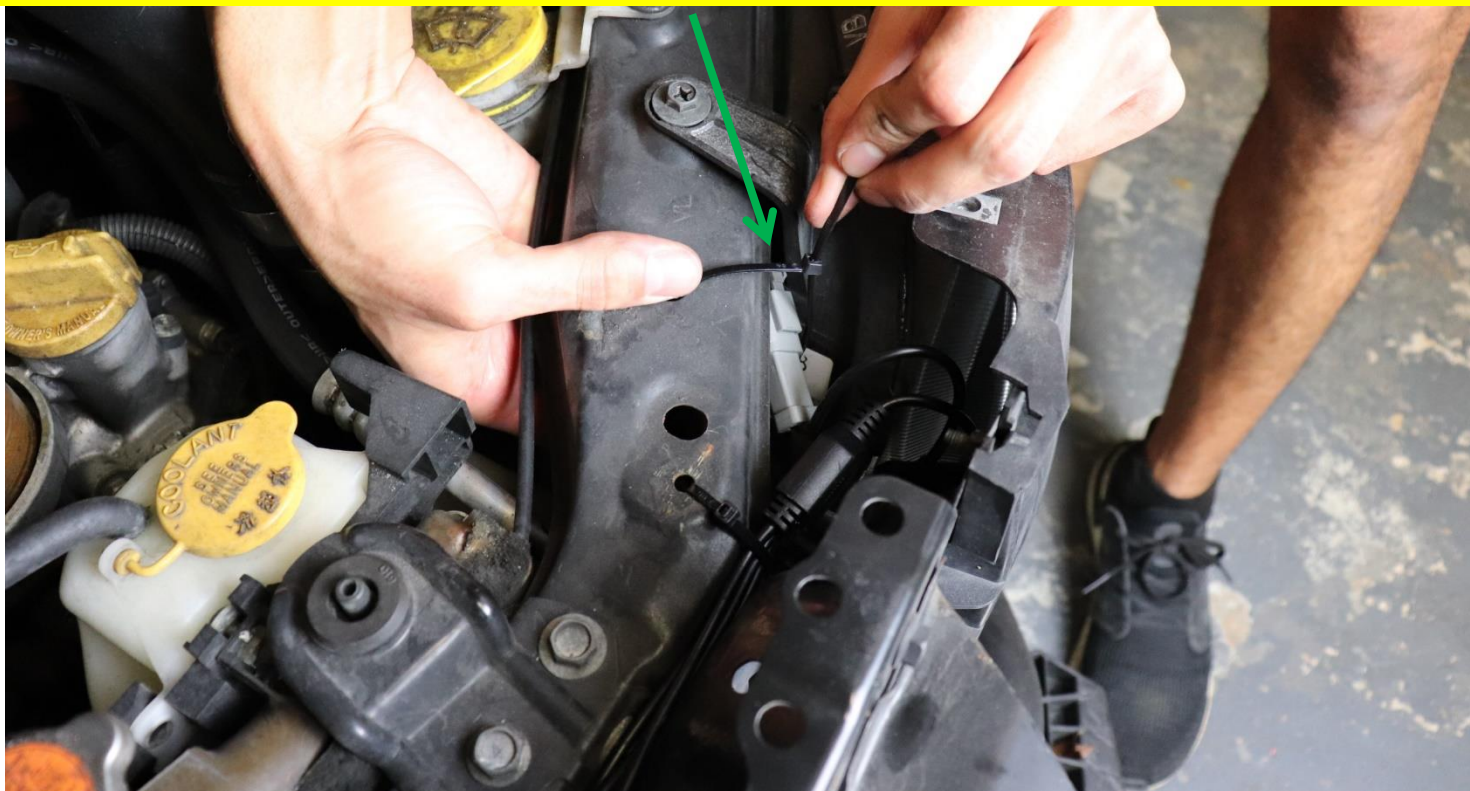
Controller Placement

Use a zip tie here, note the location of the tucked controller.
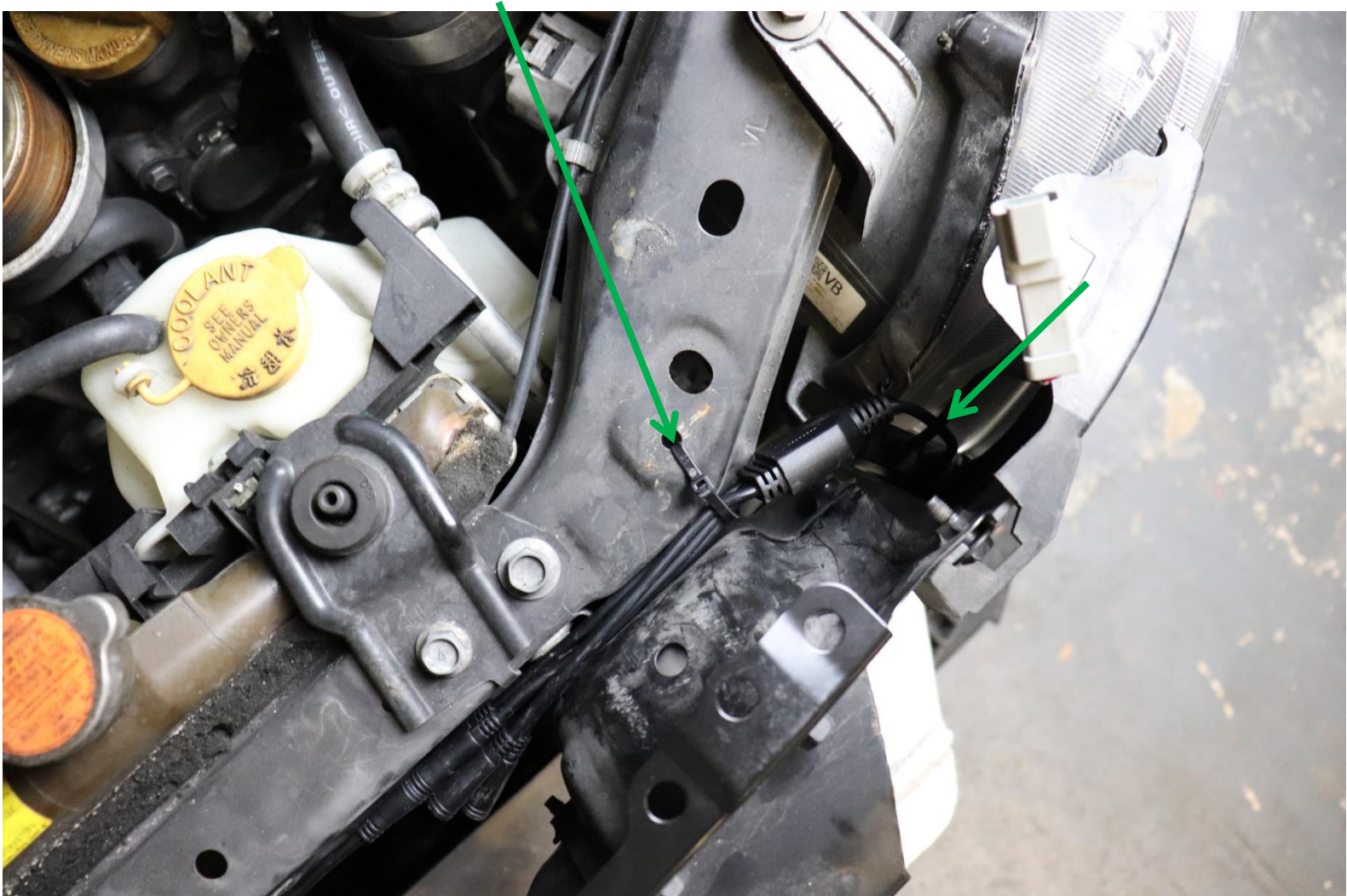
Power Plug

Zip tie the plug underneath this frame rail.

Plug the main power connector into the controller. Surround the two connectors with the zip tie as shown. Move the connectors to underneath the frame rail to conceal them and tighten the zip tie along the center.
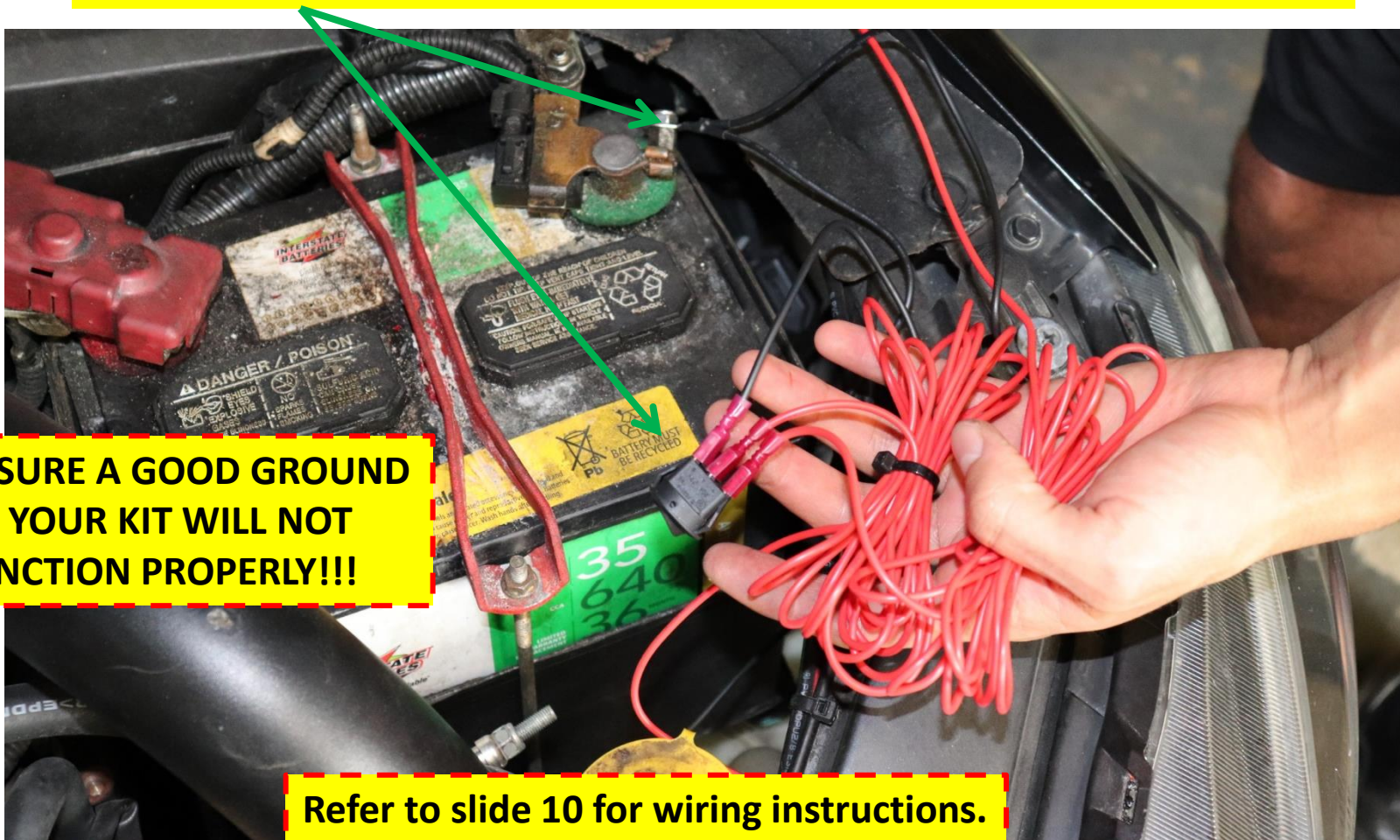
Power Bundles

The first bundle is power wire from the controller main plug, the second bundle has the in-line fuse as shown. Bundle them as shown. Leave a few inches of free wire on the first bundle and **~20" of free wire** on the second bundle (in-line fuse). Zip tie the bundles.
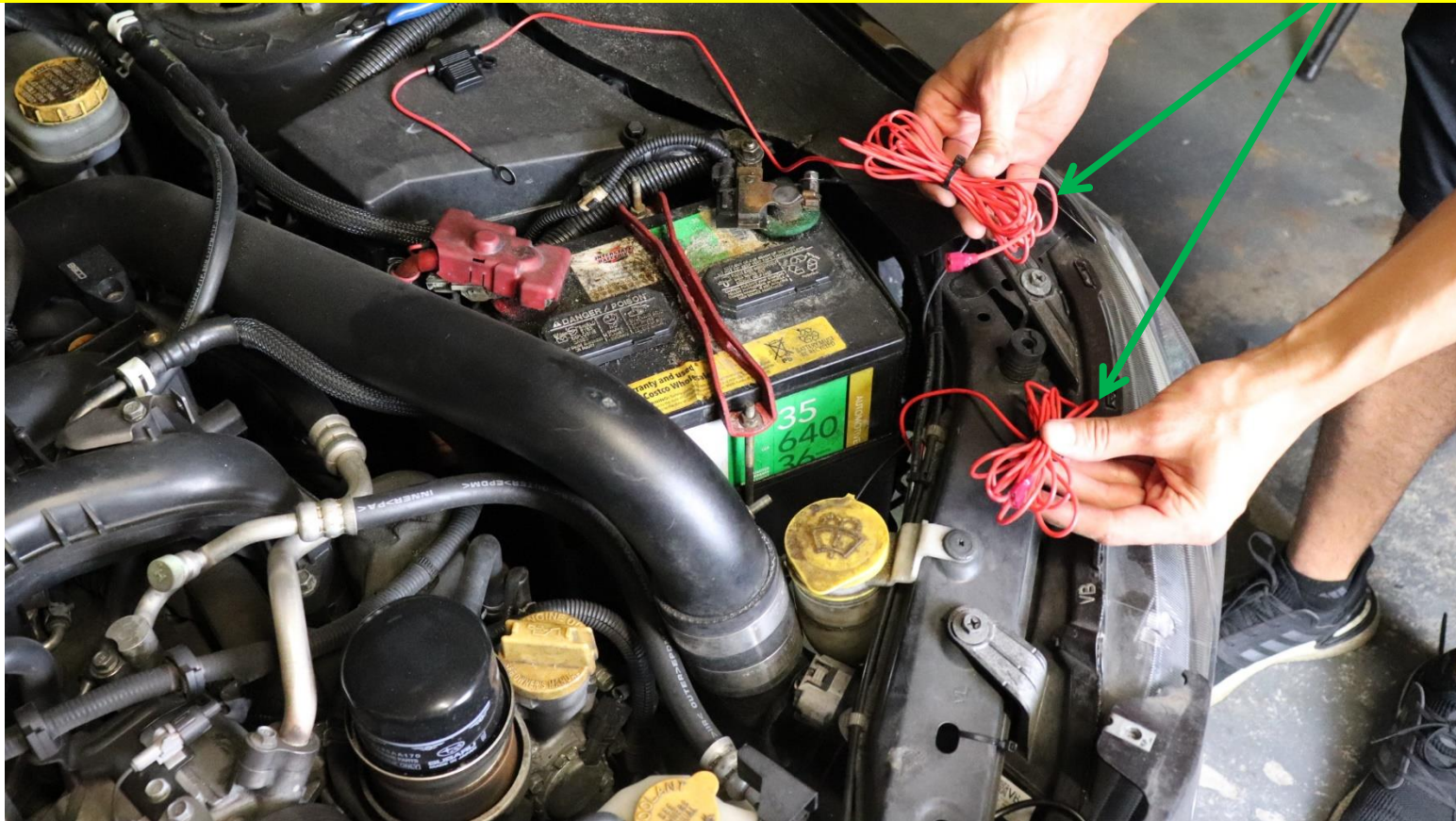
Main Switch and Ground

Note: the switch **IS NOT USED** to control the LED's, it is just used to cut power if needed.

Plug the 3 wires into the switch, ground both black wires at the battery.

ENSURE A GOOD GROUND OR YOUR KIT WILL NOT FUNCTION PROPERLY!!!

Refer to slide 10 for wiring instructions.

Main Power

Route the power wire around the battery and fasten to battery terminal using 6mm nut.

You may tuck the bundles away under frame rail or neatly behind the battery and zip tie.

VELOSSA TECH
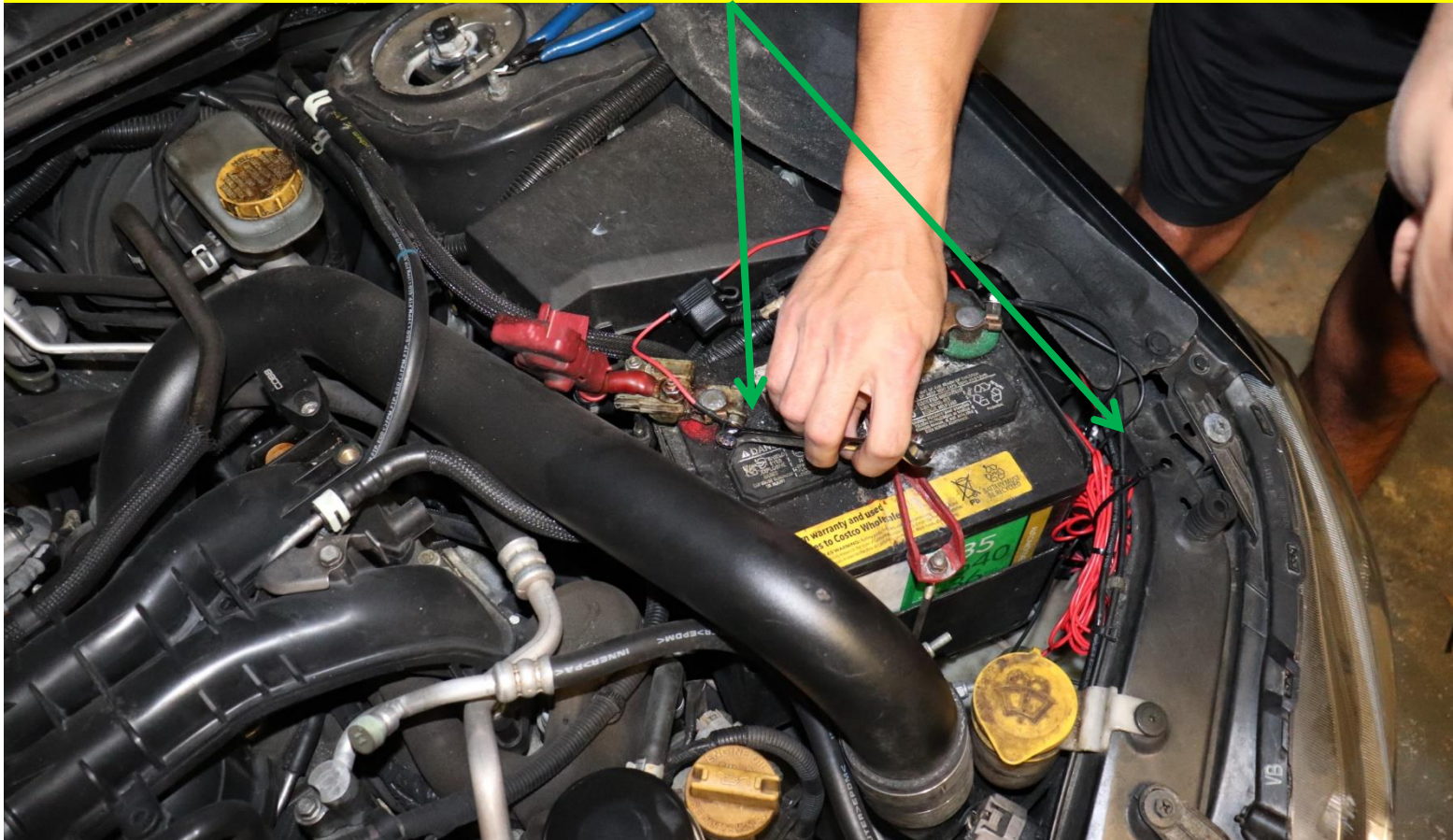
Phone App

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.

Finalize

Re-install the bumper the same way it was removed and ENJOY!