

INSTRUCTIONS

MODEL: *Low-Hi Boost SideKick
Agility*



BoonDocker

*2018-2021 Arctic Cat 8000
Ascender/Alpha*



BoonDocker

AGILITY

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Contents List

Thank You
for Buying



Made in the USA

(1) F47 Turbocharger/Muffler Assembly with:

- (1) Bracket
- (1) Air solenoid
- Hoses, fittings, hardware

(1) Charge Air Box w/ Injectors & Bosch Sensor

(1) Charge Tube

(1) Cold Air Intake Tube

(1) Fuel Control Box

GENERAL KIT BAG

- (10) Long exhaust springs
- (2) Short exhaust springs
- (1) Clear Tube with Block Off Plug
- (1) Cup Plug
- (1) #4 Hose Clamp
- (1) 1/8" Vacuum Cap
- (6) Large 3/16" Rivets

CHARGE TUBE KIT BAG

- (1) #36 Hose Clamp
- (1) 2.5" Piece of 2" Silicone
- (1) 2 x 2 1/4" Silicone Reducer
- (2) 3" Piece of 2" Silicone
- (3) #32 Hose clamps
- (4) #4 Hose Clamps
- (4) #48 Hose Clamps

COLD AIR INTAKE KIT BAG

- (4) Norma Hose Clamp
- (1) Custom Silicone 90

MISC

- (10) 8" Zip Ties
- (10) 4" Zip Ties
- (6) 3/16" Rivets
- (2) 1/4" Washers
- (2) 6 mm Nylon Lock Nuts
- (2) 6mm x 10 mm SS Flange Bolts
- (2) Billet Throttle Body Adaptors
- (2) Billet Injector Plugs
- (1) Heat Shield
- (1) ECU Bracket
- (1) Injector Bracket
- (1) Fuel Line

User Manual

GENERAL SAFETY

1. ALWAYS wear your seatbelt (if applicable), helmet, and PPE when operating your vehicle.
2. Clutching, belts, motor, exhaust components and drivetrain may be HOT enough to burn you. Do not touch until vehicle has had sufficient time to cool. Wear proper PPE to prevent burns.
3. Clutching, belts, motor, exhaust components and drivetrain may be sharp. Wear proper PPE to prevent laceration.
4. ALWAYS follow the safety suggestions of your owner's manual.

GENERAL

1. Print entire instruction manual. In the print settings, you can choose to print multiple tiles per page (we suggest 4-6). However, the tunnel-cut-pattern needs to be printed full size.
2. Installation IS YOUR RESPONSIBILITY. During the first ride, take the time to pull over, OFTEN, and check for excess heat, leaks, rubbing wires, and general installation fit and completion. BoonDocker does not cover or warranty parts against melting. We strongly recommend venting and heat-shielding as necessary. These items may not be included in the kit, but are YOUR RESPONSIBILITY!

OPERATION

1. ALWAYS allow your vehicle to reach proper operating temperatures before driving. Refer to your owners manual.
2. Your Polaris comes with ECU-programmed "break-in". During this time, your Agility may not perform at the optimum level. Once break-in is complete, you will likely notice more power and cleaner engine performance. During break-in, expect your snowmobile to run rich.
3. Because of excessive oiling, during break-in mode, you will need to replace your plugs more frequently. After break-in mode, replace plugs AT LEAST every 500 miles for maximum performance. Recommended plug gap is between 0.022-0.024".
4. The Agility turbo kit is a HIGH PERFORMANCE accessory. Proper fuel and maintenance is critical (see "FUEL")
5. High performance machines are more prone to belt failure. ALWAYS carry a spare belt, and understand how to change/replace your belt BEFORE you get out in the field. Properly inspect your belt and clean your clutches before each ride.
6. ANY "DET" or Detonation codes are not acceptable. If you get a DET code during normal operation, you likely have bad gas. Drain all of the fuel, and replace with fresh fuel from a different source. If the problem continues, immediately contact your dealer.
7. Agility is calibrated for operation above 5,000 feet. Use below that elevation is at your own risk.
8. Check coolant levels after the first 10 minutes of operation. Coolant system may need to be bled.
9. Run your sled in "PREMIUM" mode. Switching to "ETHANOL" mode will make the vehicle run Richer (approx. 7% richer). Some sleds/fuel may require "ETHANOL" mode for a richer running condition. ONLY run "ETHANOL" mode if instructed. Refer to your owners manual to correctly configure your vehicle. DO NOT connect the "Map Jumper" unless instructed by BoonDocker.



User Manual

FUEL

1. The Agility is a HIGH PERFORMANCE accessory. Proper fuel is critical.
2. ALL KITS are initially calibrated for a 50/50 mix from BoonDocker. Using any other blend or straight pump gas may cause engine failure.
3. 50/50 Mix tunes require an exact 50% mix of 91-octane (up to 10% ethanol, and 50% 100LL Av-Gas. Using a 50/50 mix of 91/110 race gas is also acceptable.
4. When available (coming soon for Patriot 850) - Pump Gas tunes REQUIRE 91-octane fuel (or higher). Non-ethanol fuel is recommended. DO NOT use fuel with >10% Ethanol. If you're concerned about the quality of pump fuel, mix NO MORE than 15% Av-Gas. Using higher octane than required will cause poor performance.
5. When available (coming soon for Patriot 850) - AV-Gas tunes REQUIRE 100LL (or higher), Av-Gas tunes: INTERCOOLER REQUIRED.
6. USE ONLY THE FUEL DESIGNED FOR YOUR KIT!
7. Fuel degrades with time. Fuel stored in plastic containers should be used within two weeks. Fuel in the tank of your vehicle will also degrade. DO NOT run fuel from any previous season or extended period of non-operation. .
8. Operating your vehicle with old/degraded fuel may cause engine failure
9. Operating your vehicle with the incorrect fuel for your tune may cause engine failure.

CLUTCHING & CLUTCH MAINTENANCE

1. A primary-clutch puller is REQUIRED for clutching installation. If you do not have one, you can have your dealer install the clutching. BoonDocker sells clutch pullers, and most dealerships also stock them, some even rent them.
2. Our clutching is engineered and validated for the Agility. Using other clutching may cause a loss of performance, and is not supported or suggested.
3. Clutch springs wear out over time. We suggest replacing clutch springs every 500 miles.
4. Clutch maintenance is CRITICAL on high performance machines. We suggest you clean your clutches after each ride: Remove the belt. Use compressed air to blow weights may ship pre-loaded, or may be blank. Load weights 2-3-3-2 (from heel to toe). Total weight should be approximately 73g per weight for 50/50 Agility.
5. Any clutch-weight modification MUST be done to all three weights in unison. DO NOT run unbalanced weights. Turbocharged Polaris Patriots are expected to turn 8550 +/- 100 RPM's. Use provided adjustable weights to keep RPMs at recommended levels.
6. Adjusting peak RPM is possible by changing capsules



Initial Teardown



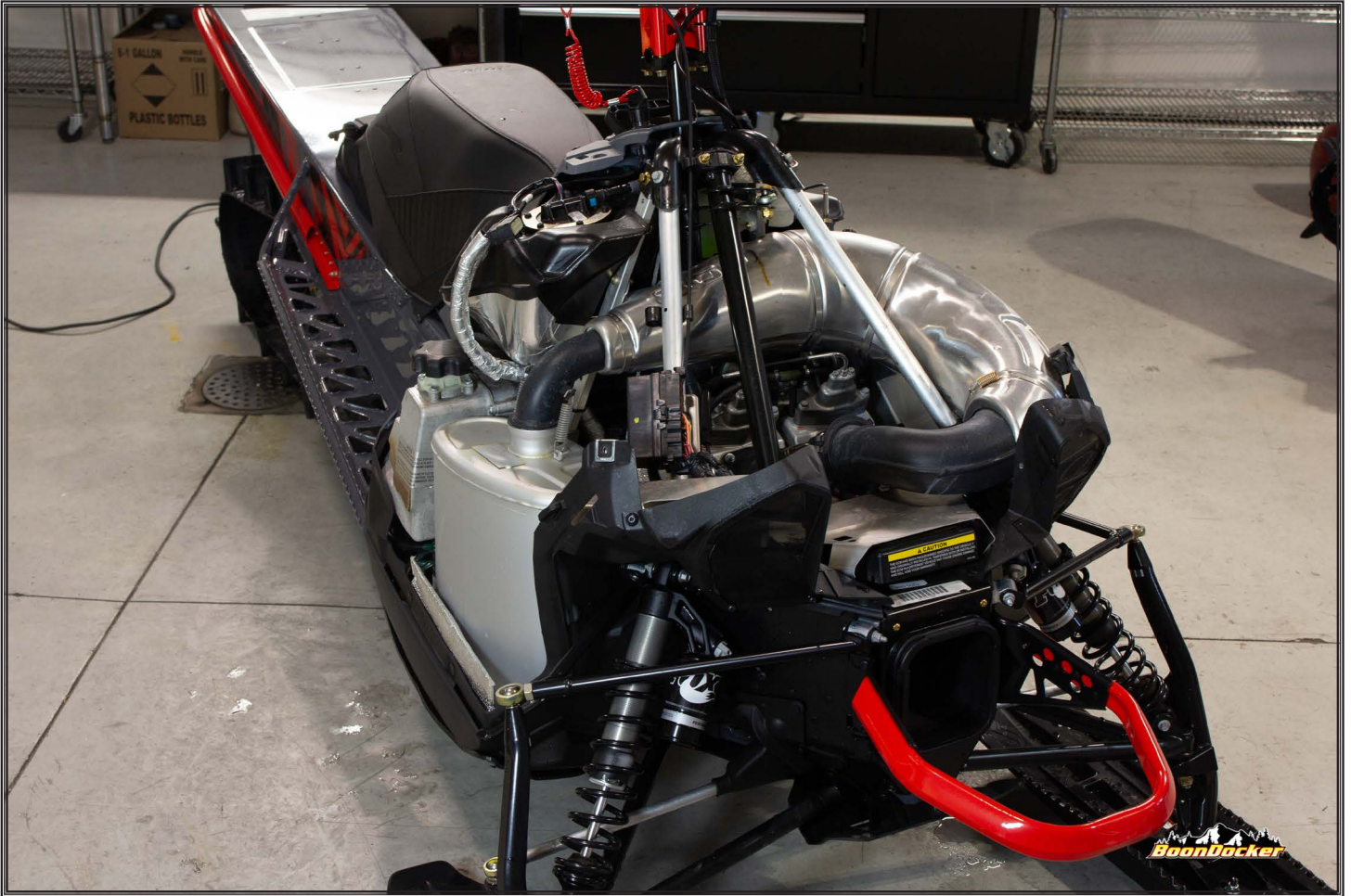
Remove side panels.

Initial Teardown



Unfasten bolt from under nose of hood.

Initial Teardown



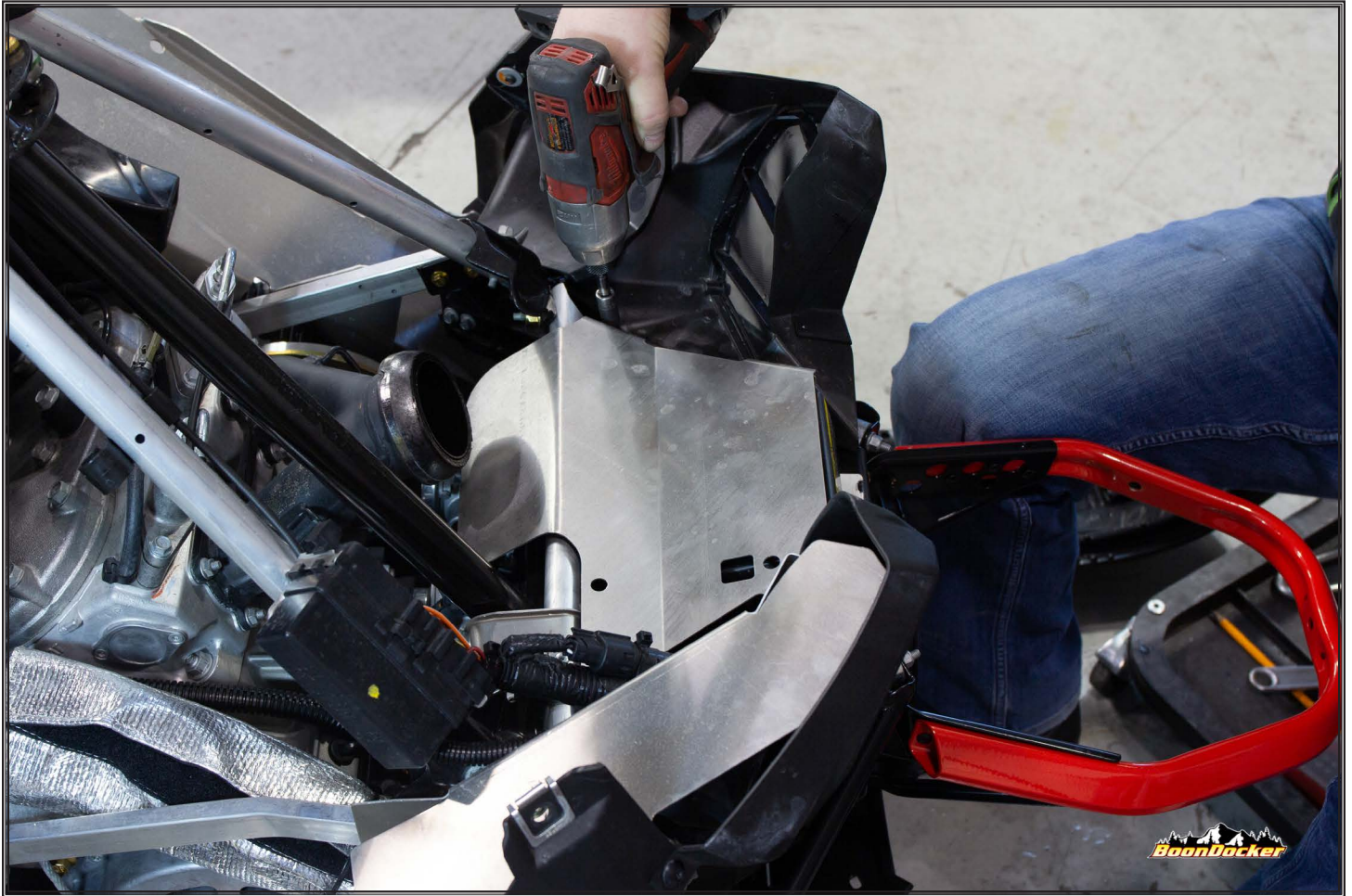
Unplug gauge cluster and remove hood.

Initial Teardown



Remove tune pipe and muffler.

Initial Teardown



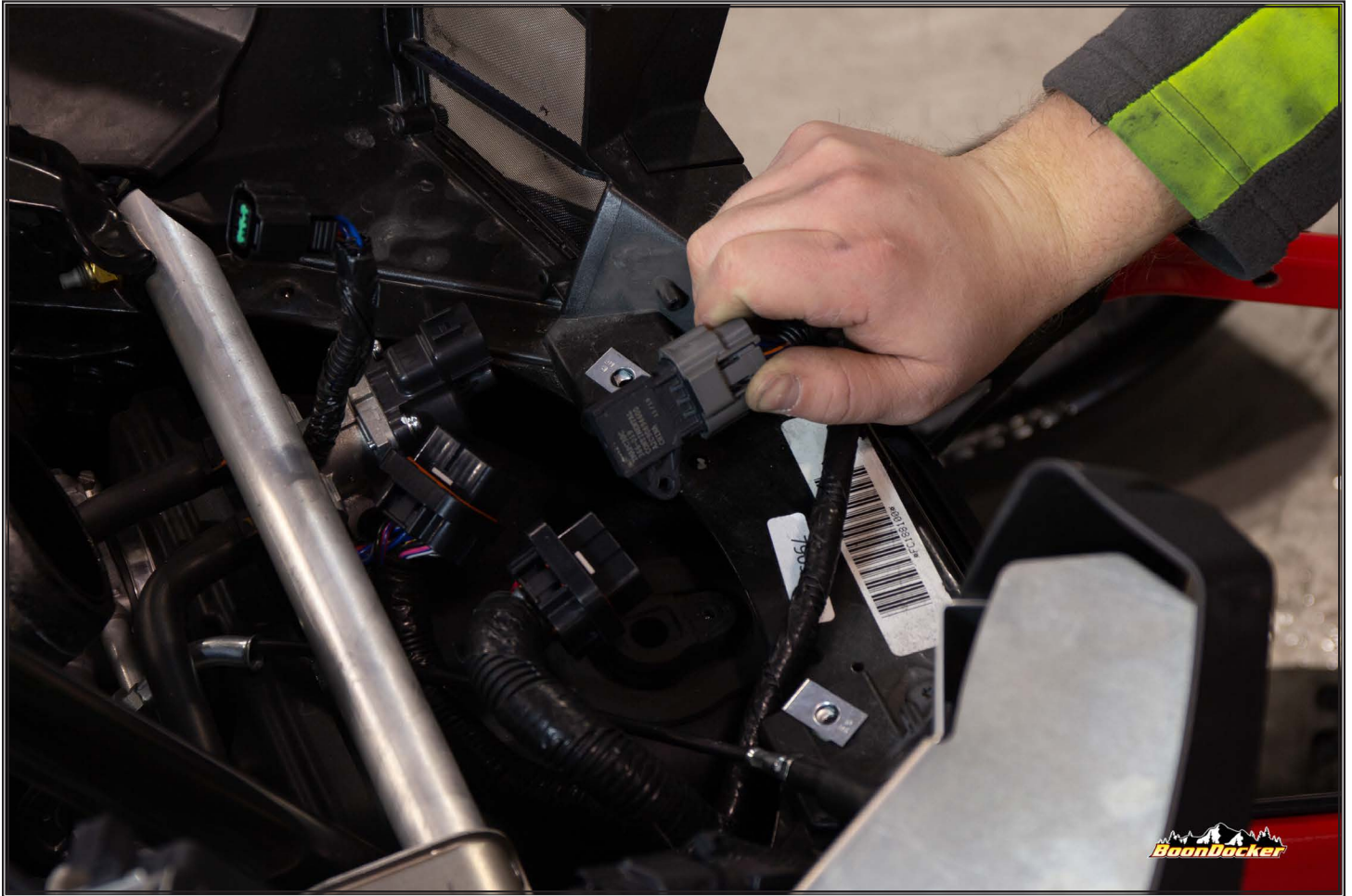
Remove ECU heat shield.

Initial Teardown



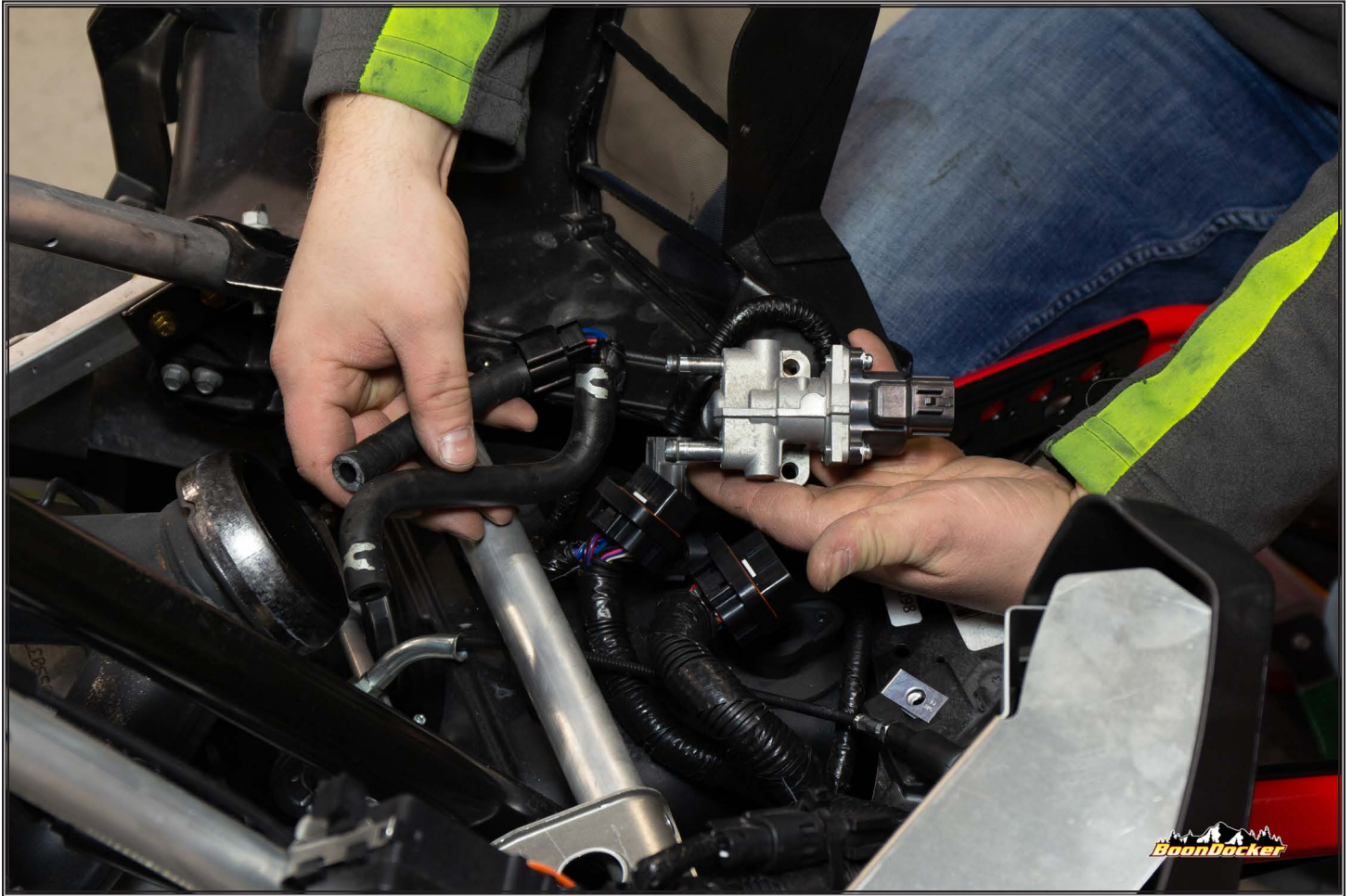
Disconnect ECU.

Initial Teardown



Unscrew map sensor from airbox.

Initial Teardown



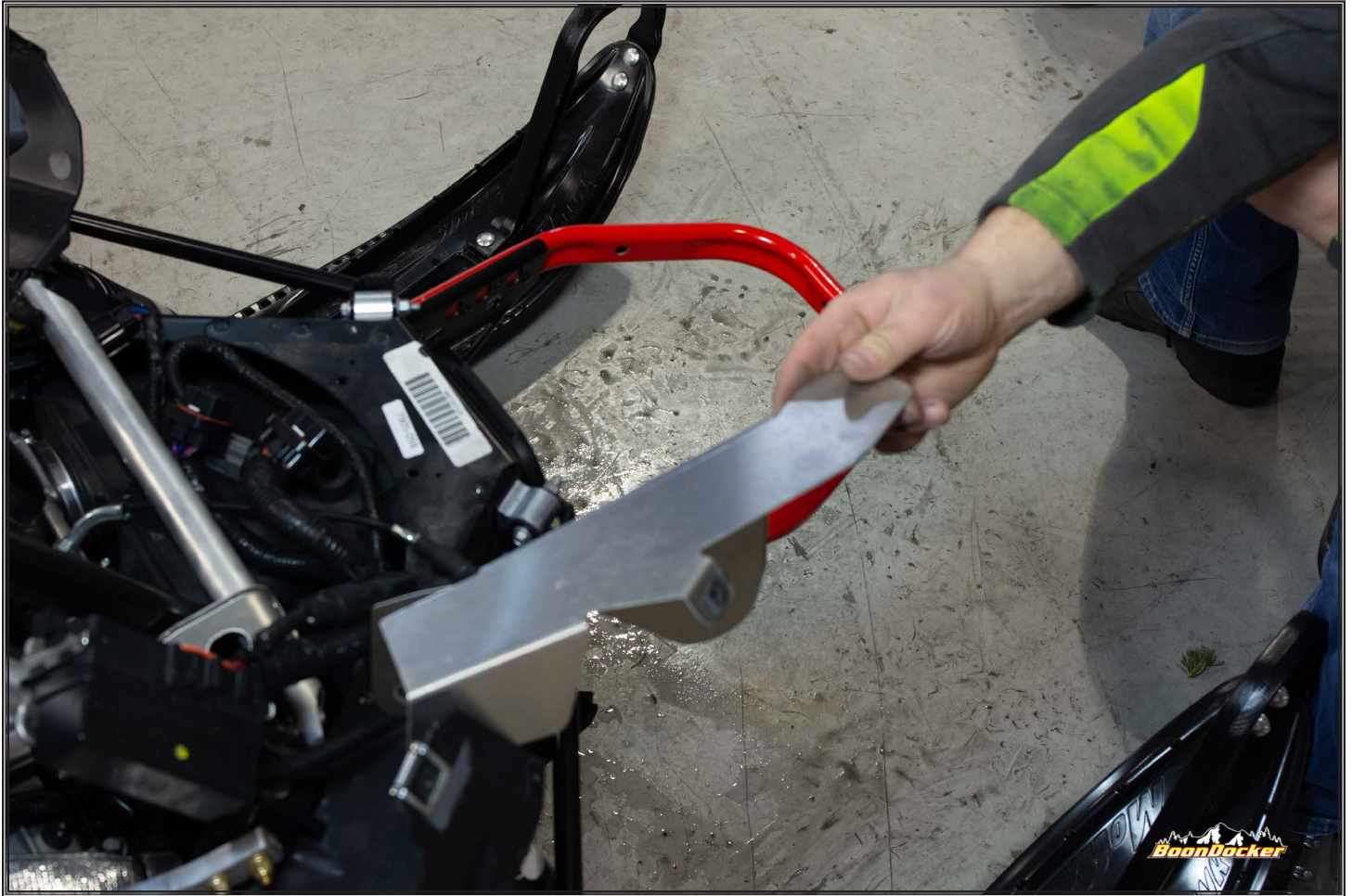
Remove Idle Air Control.

Initial Teardown



Remove air vents.

Initial Teardown



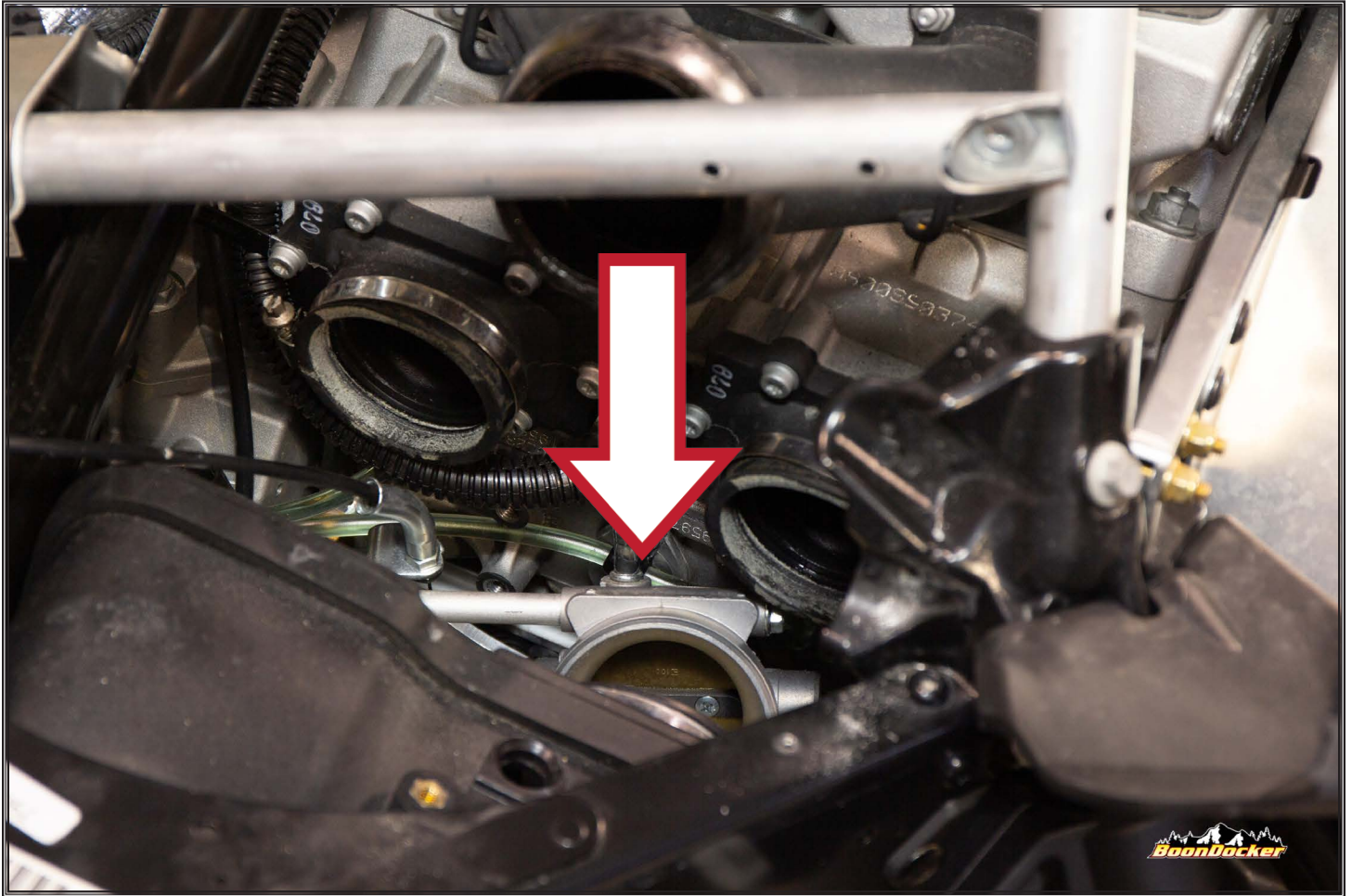
Remove aluminum shield.

Initial Teardown



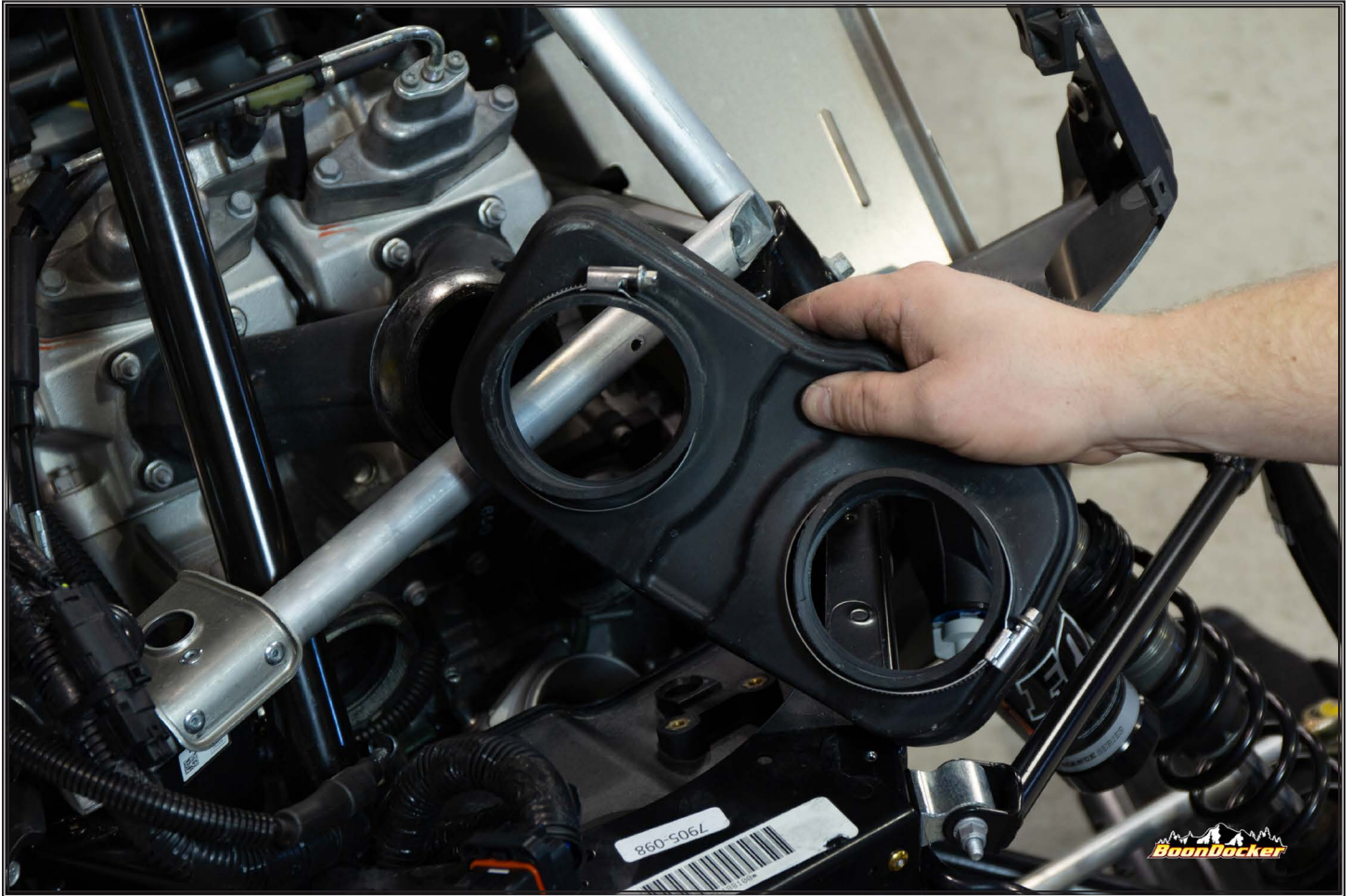
Unbolt crossbar.

Initial Teardown



Unbolt throttle body and push down out of the way.

Initial Teardown



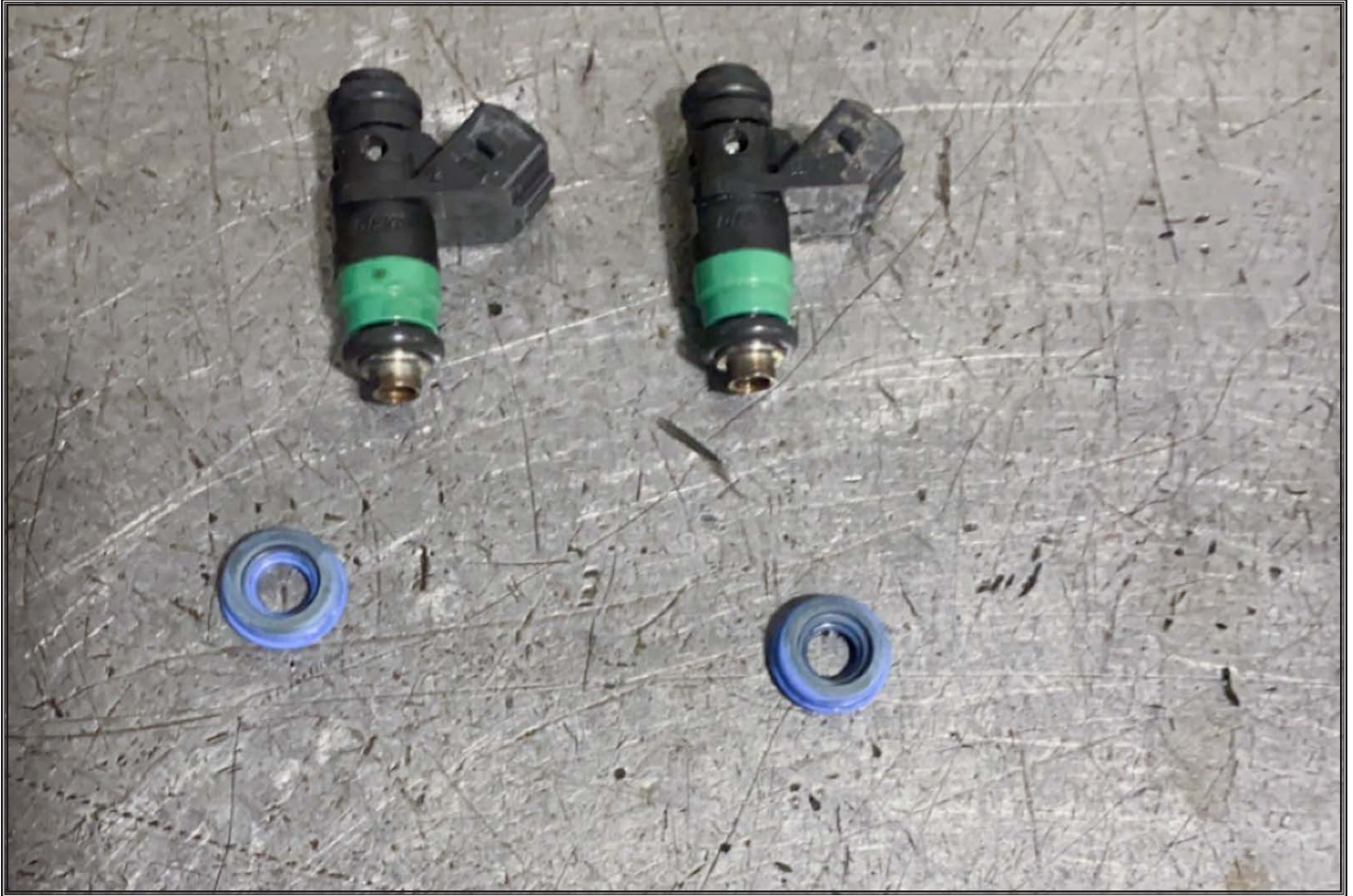
Remove airbox-throttle body grommet.

Initial Teardown



Remove factory airbox.

Fuel System



Remove OEM fuel rail and injectors from the back of the cylinder. Remove blue (or green) o-rings from OEM injectors and replace with supplied black o-rings.

Fuel System



Install previously removed OEM injector rings to supplied injector plugs as shown.

Fuel System



Install injector plugs in place of injectors in back of cylinder using original hardware.

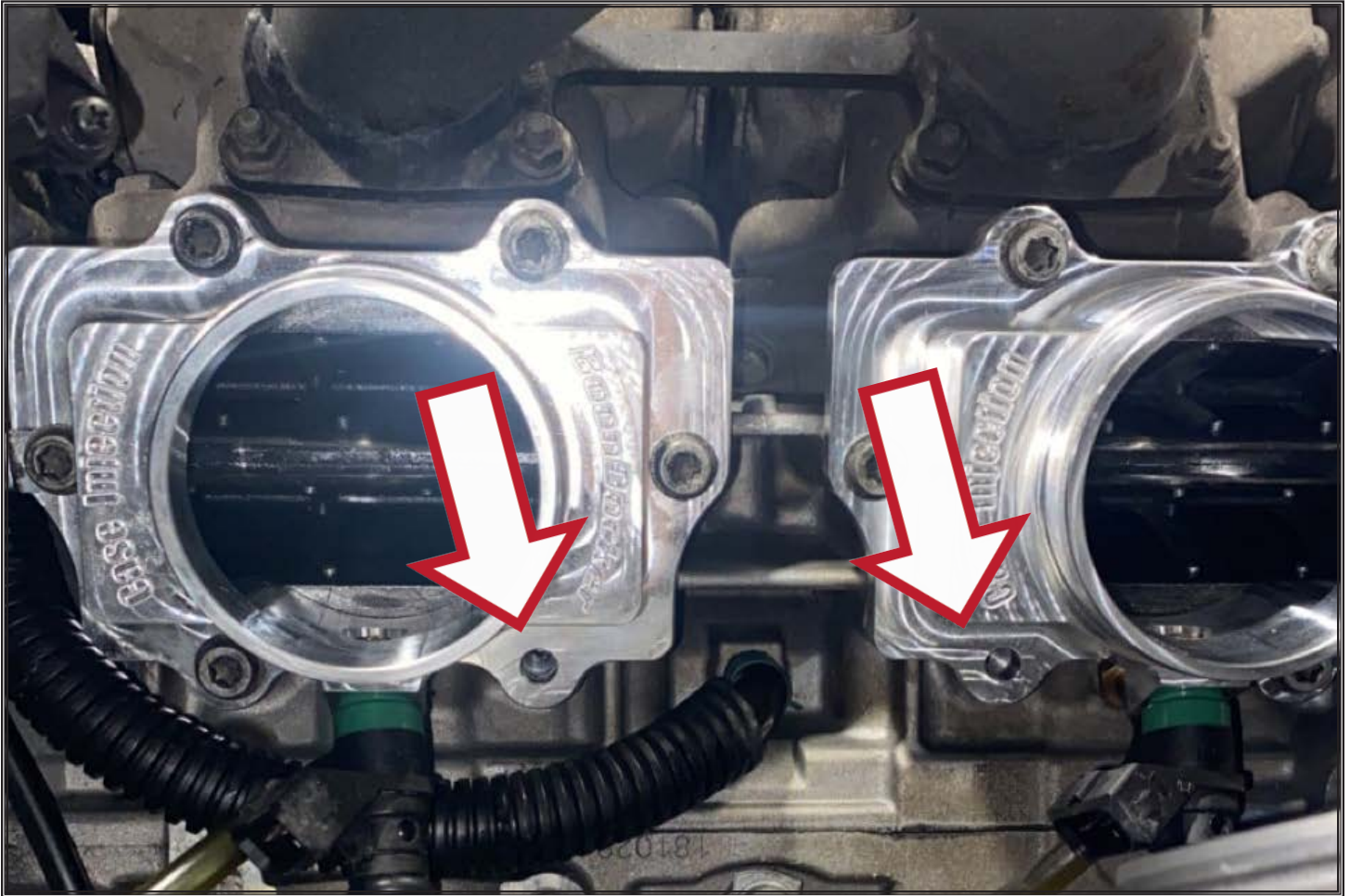
Fuel System



Grip OEM fuel liine at the barb and twist 90 degree fitting to point towards front of snowmobile.

***CAUTION: BE VERY CAREFUL NOT TO TWIST FUEL LINE IT WILL BREAK
ONLY TWIST THE CONNECTOR***

Fuel System



*Install BoonDocker throttle body adapters leaving out lower center bolts (indicated above).
Install OEM injectors as shown.*

Install reed cages in BoonDocker throttle body before installation

Fuel System



Install stock fuel rail to provided bracket as shown.

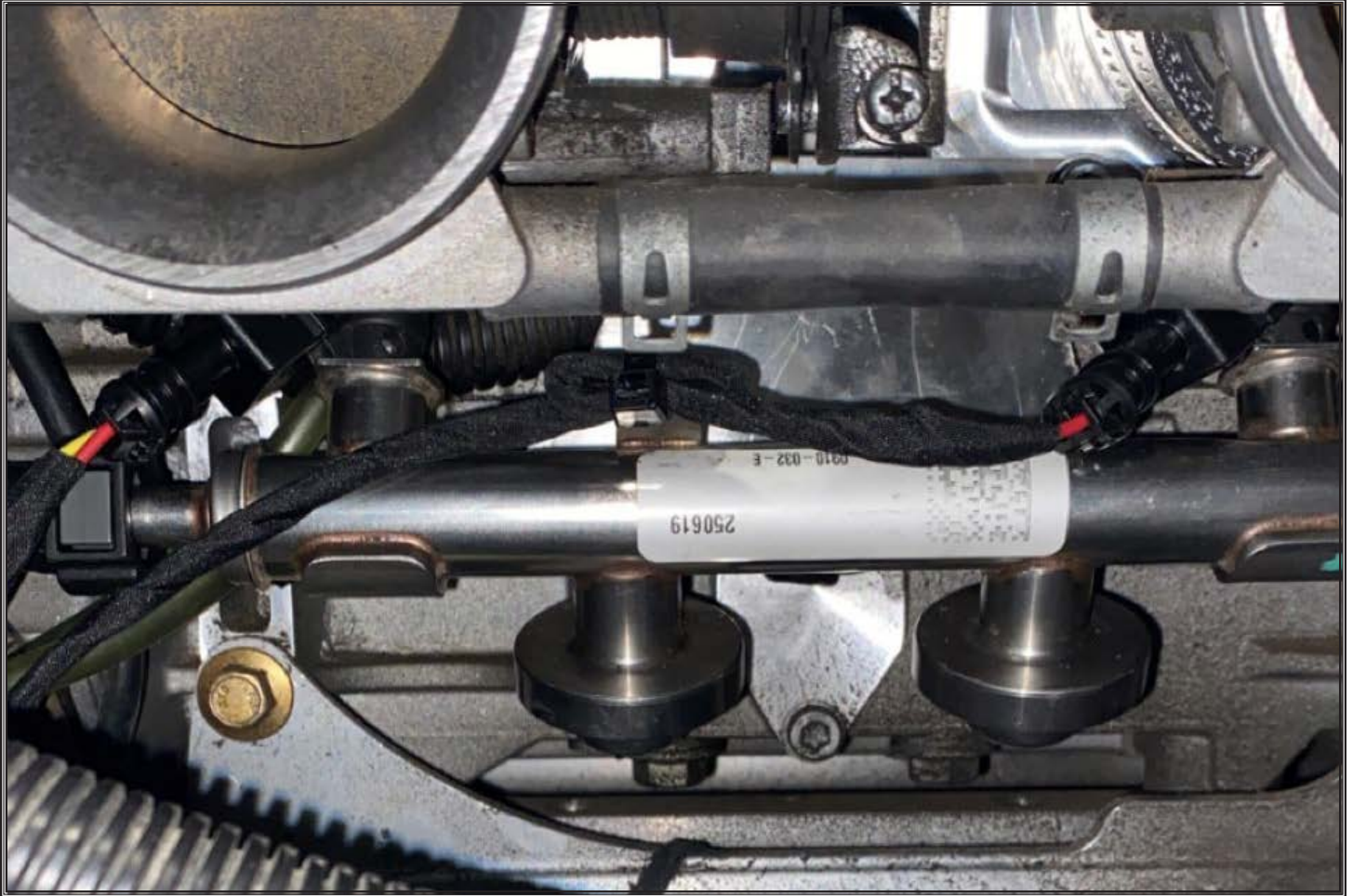
NOTE: ensure to connect fuel line before installation in sled for fitment.

Fuel System



Remove both P-Clamps then install fuel rail assembly to throttle body adapters using OEM hardware in open lower center holes left open previously.

Fuel System



*Install injector relocate harness and secure as shown.
NOTE: ensure oil line clearance behind fuel rail bracket.*

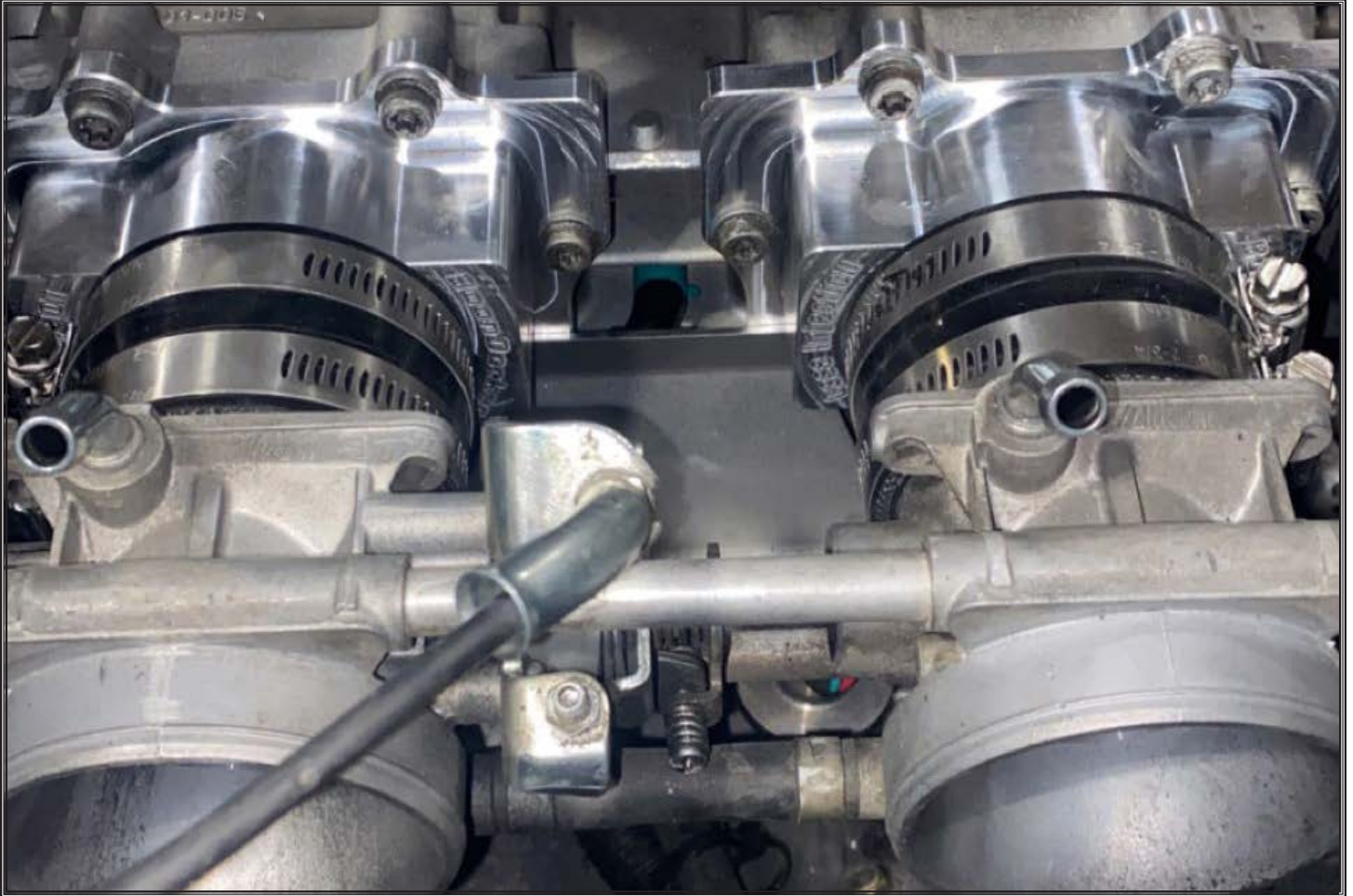
Fuel System



route fuel line back to OEM Fuel connector previously rotated on page 21

**NOTE: ensure to fasten OEM injector connectors as shown to prevent interference with jack-shaft*

Fuel System



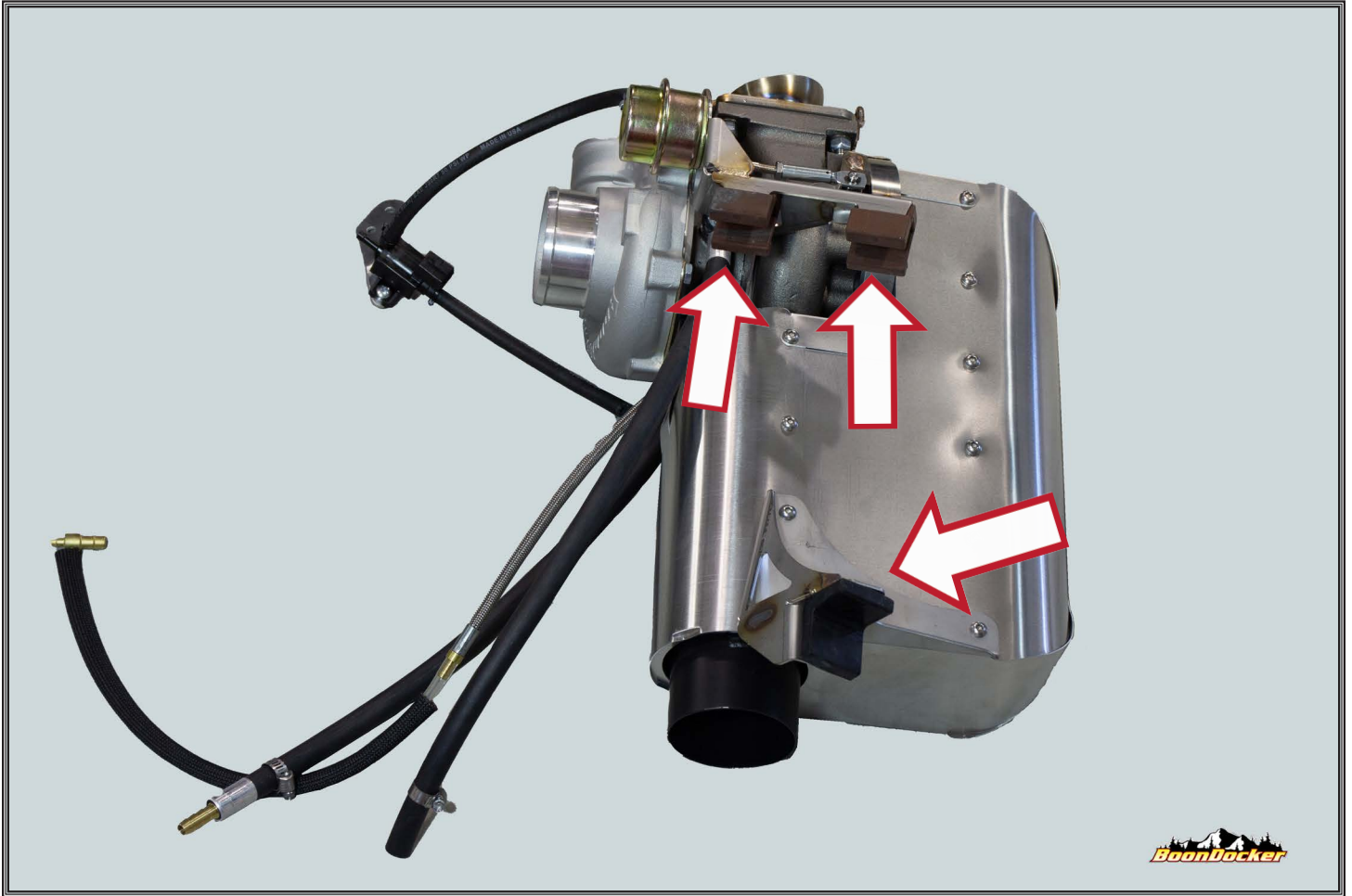
Re-install throttle bodies using supplied silicone and clamps.

Muffler/Turbo



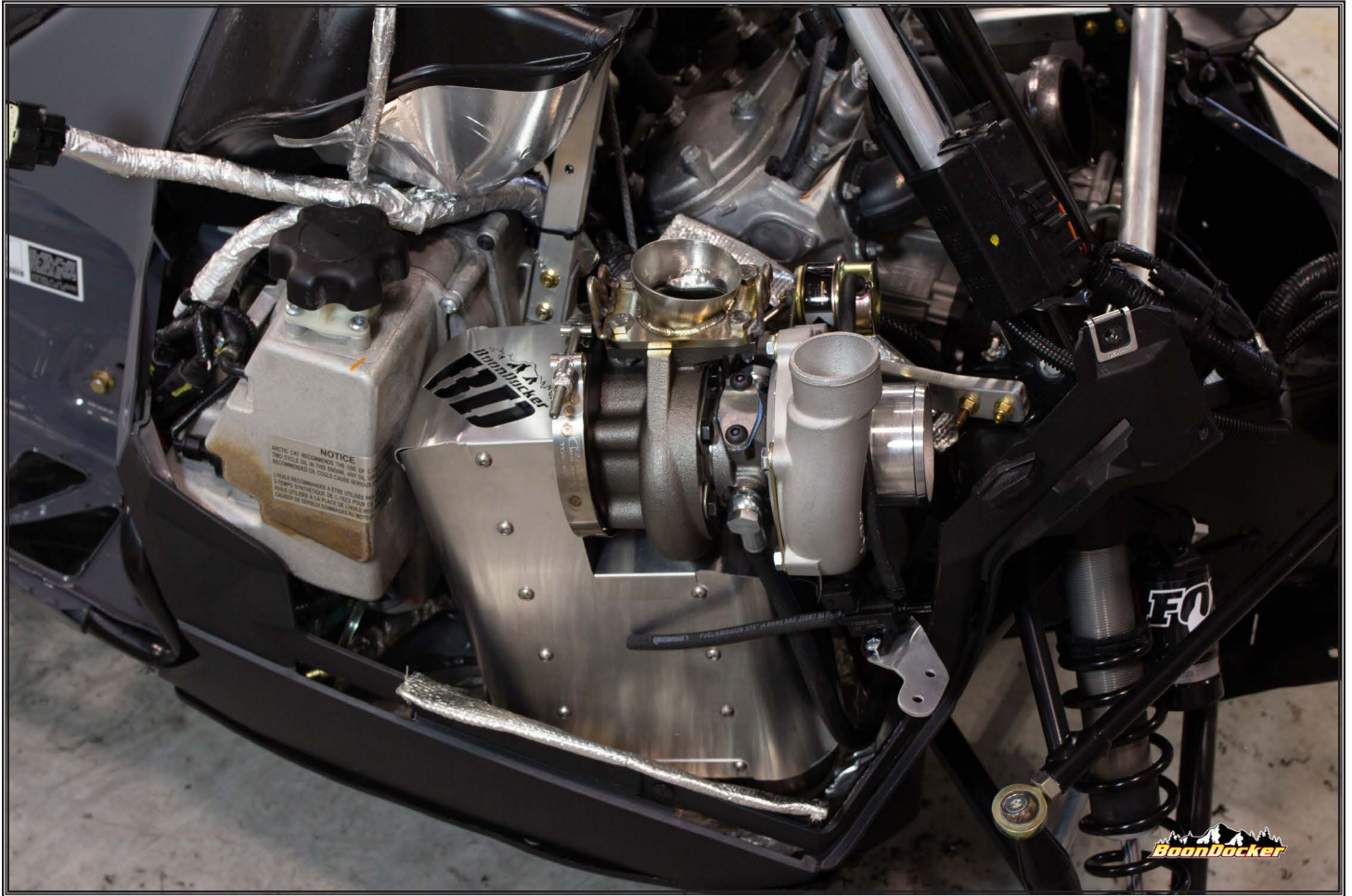
Remove rubber grommets from stock muffler.

Muffler/Turbo



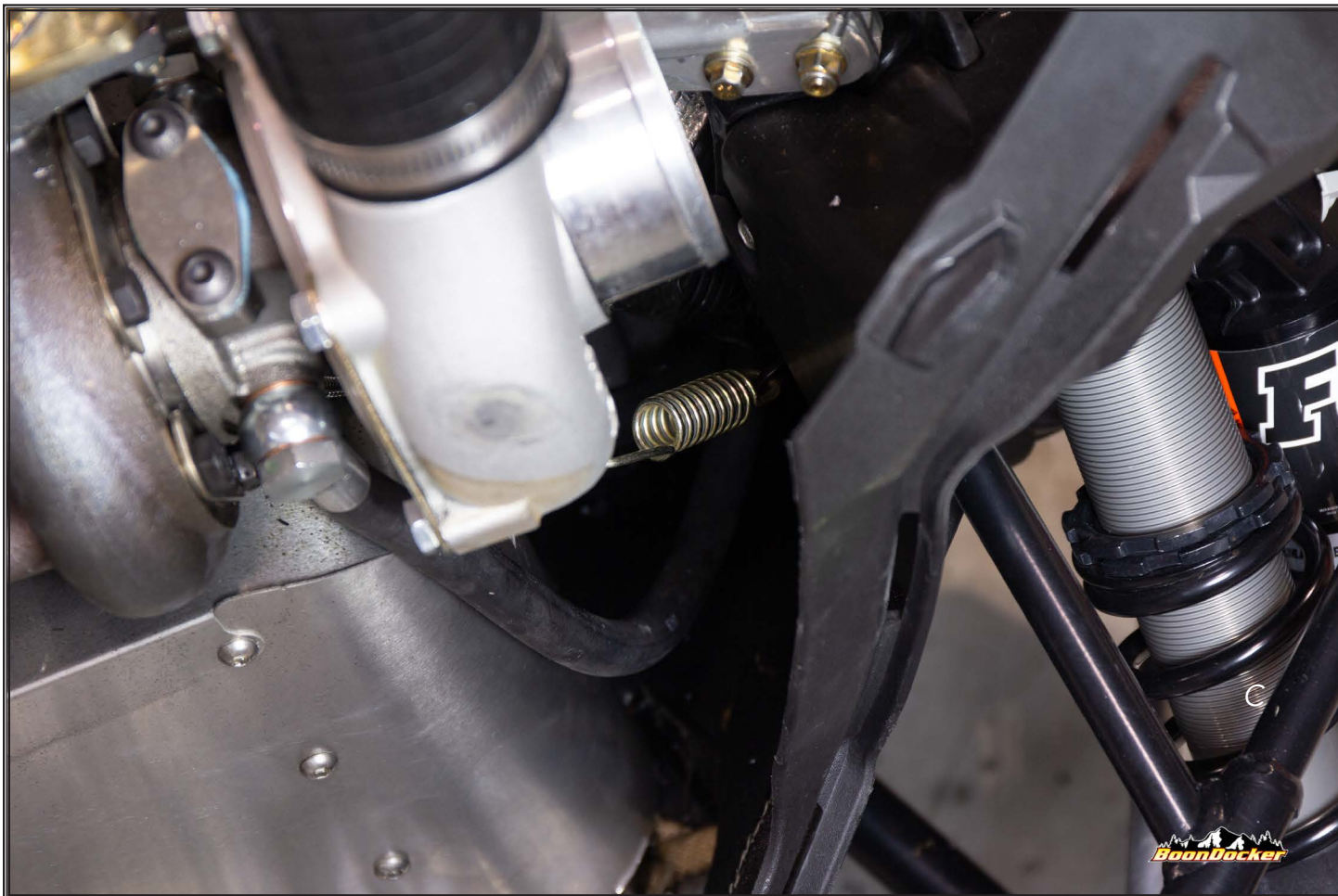
Apply stock rubber grommets to BoonDocker muffler/turbo assembly.

Muffler/Turbo



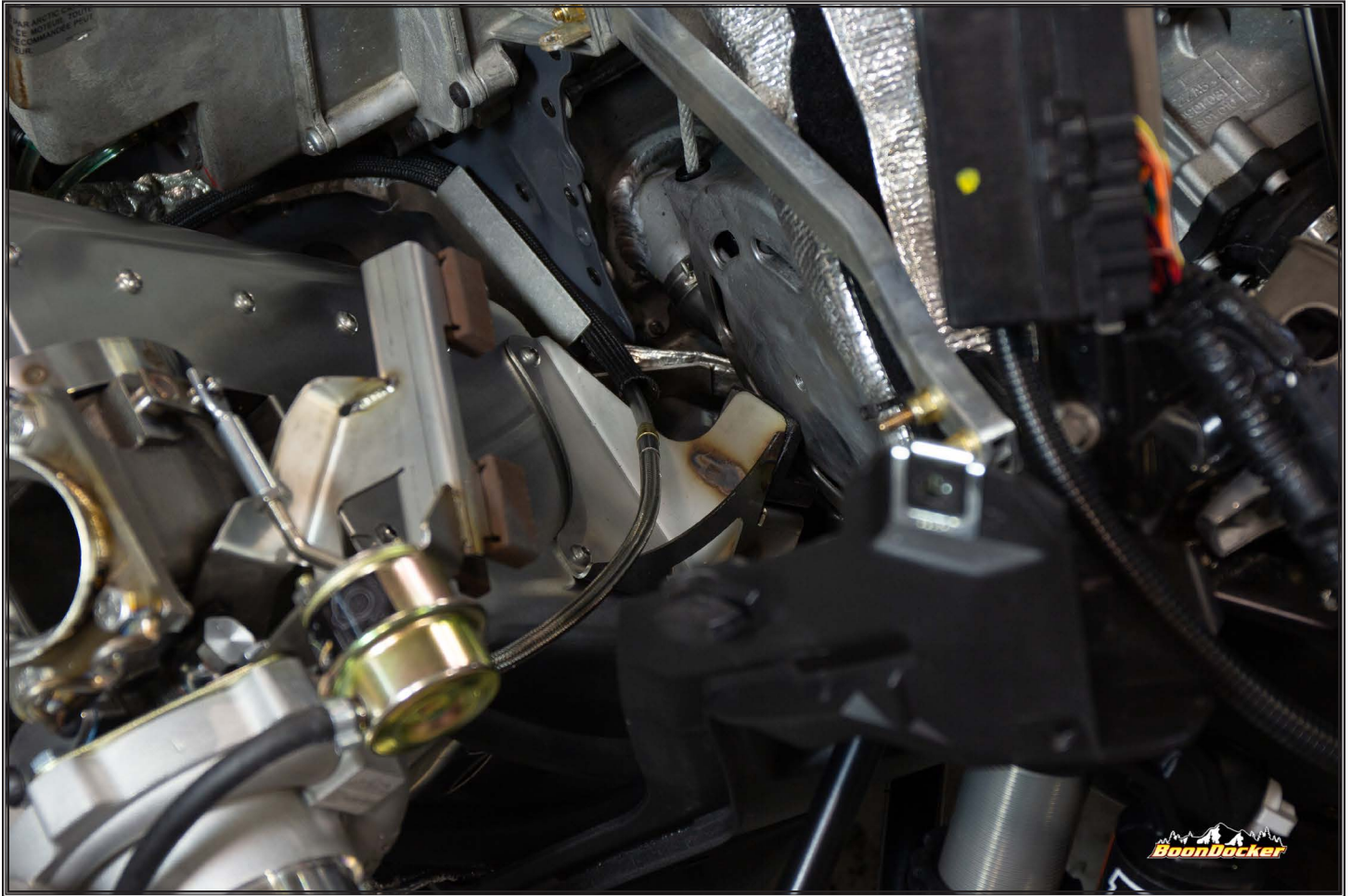
Hang turbo assembly on cross bar as shown. Ensure the turbo brackets are sitting square on top and bottom of frame before continuing.

Muffler/Turbo



Install supplied long gold spring to front of spring tab on V-Band clamp.

2020+ Oil System



2018-2019 Models: See "2018+ Arctic Cat M8000 Sidekick Instructions" steps 14-21 for connecting oil lines.

2020+ Model Only: Place turbo/muffler assembly in sled. Route oil line to pump and route coolant lines to throttle bodies.

2020+ Oil System



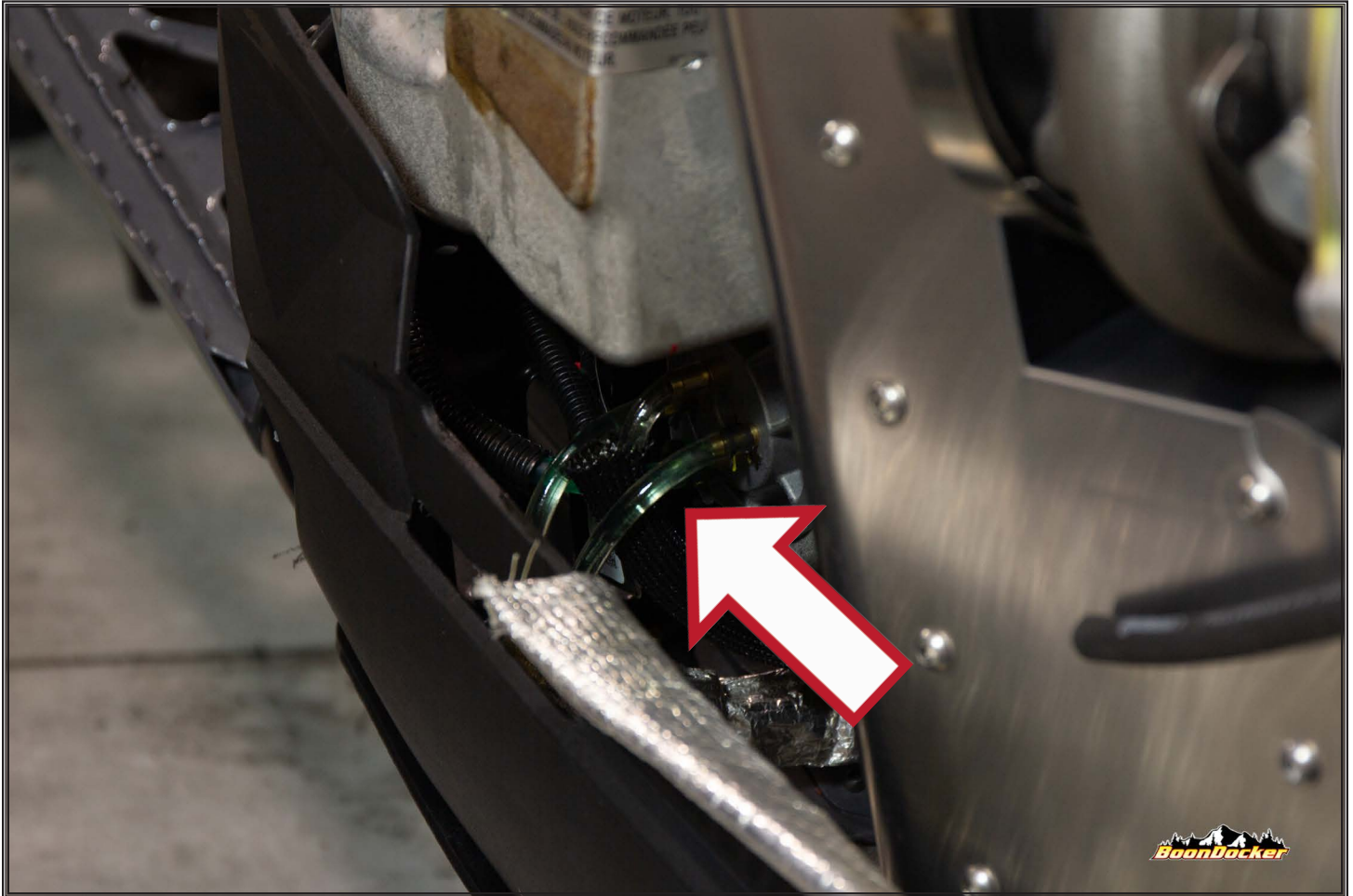
2020+ Model only: locate plastic nipple fitting. Remove line on right side and replace with supplied rubber block off. Fasten with 4" supplied zip tie.

2020+ Oil System



2020+ Model only Remove brass T from end of BoonDocker oil line.

2020+ Oil System



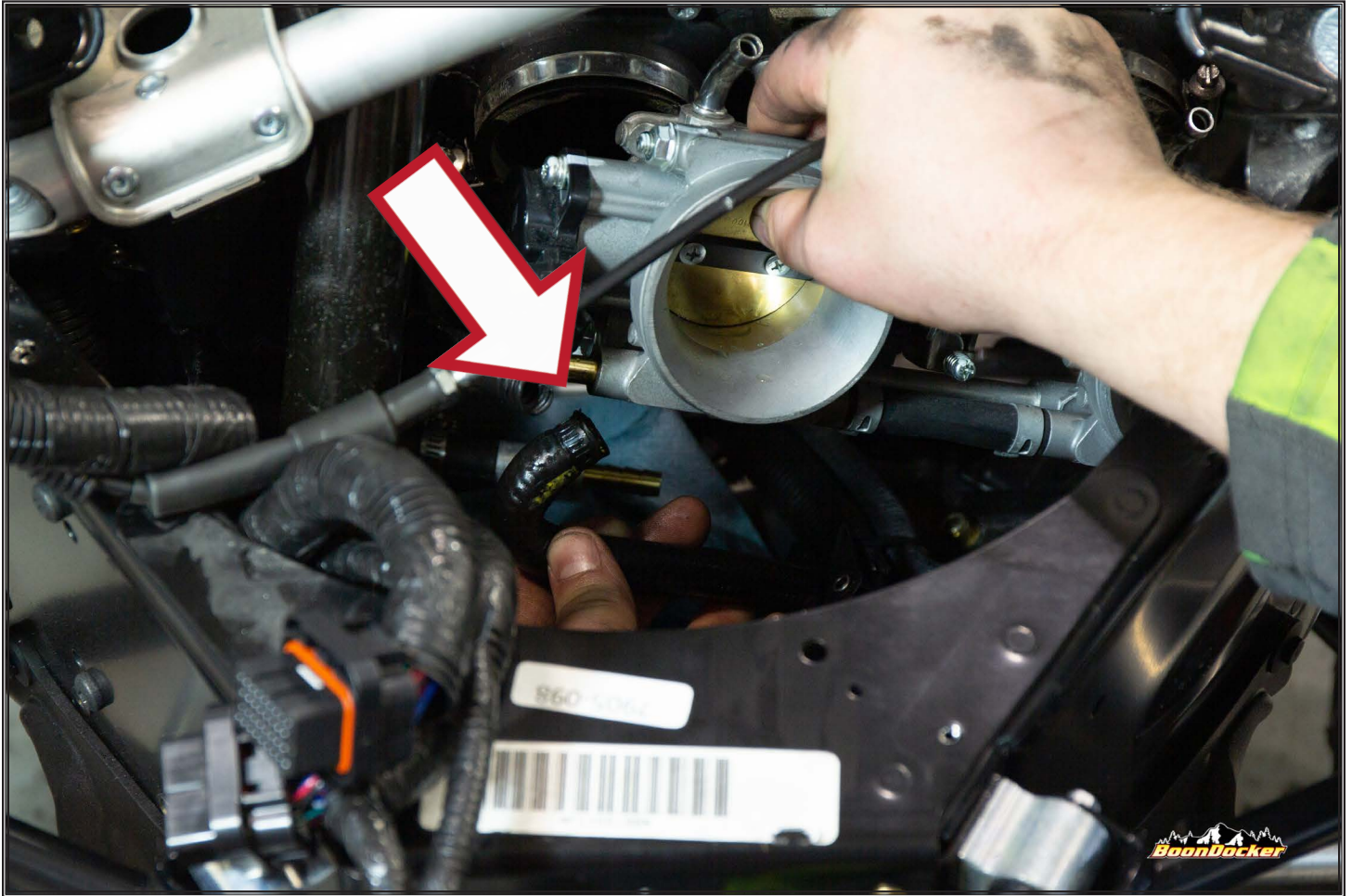
2020+ Model only: Remove previously unhooked oil line from oil pump, purge and install BoonDocker oil line onto pump and secure with 4" zip tie.

NOTE: oil CANNOT be pushed through the pump but it can be pulled through the pump with a suction device.

!WARNING!

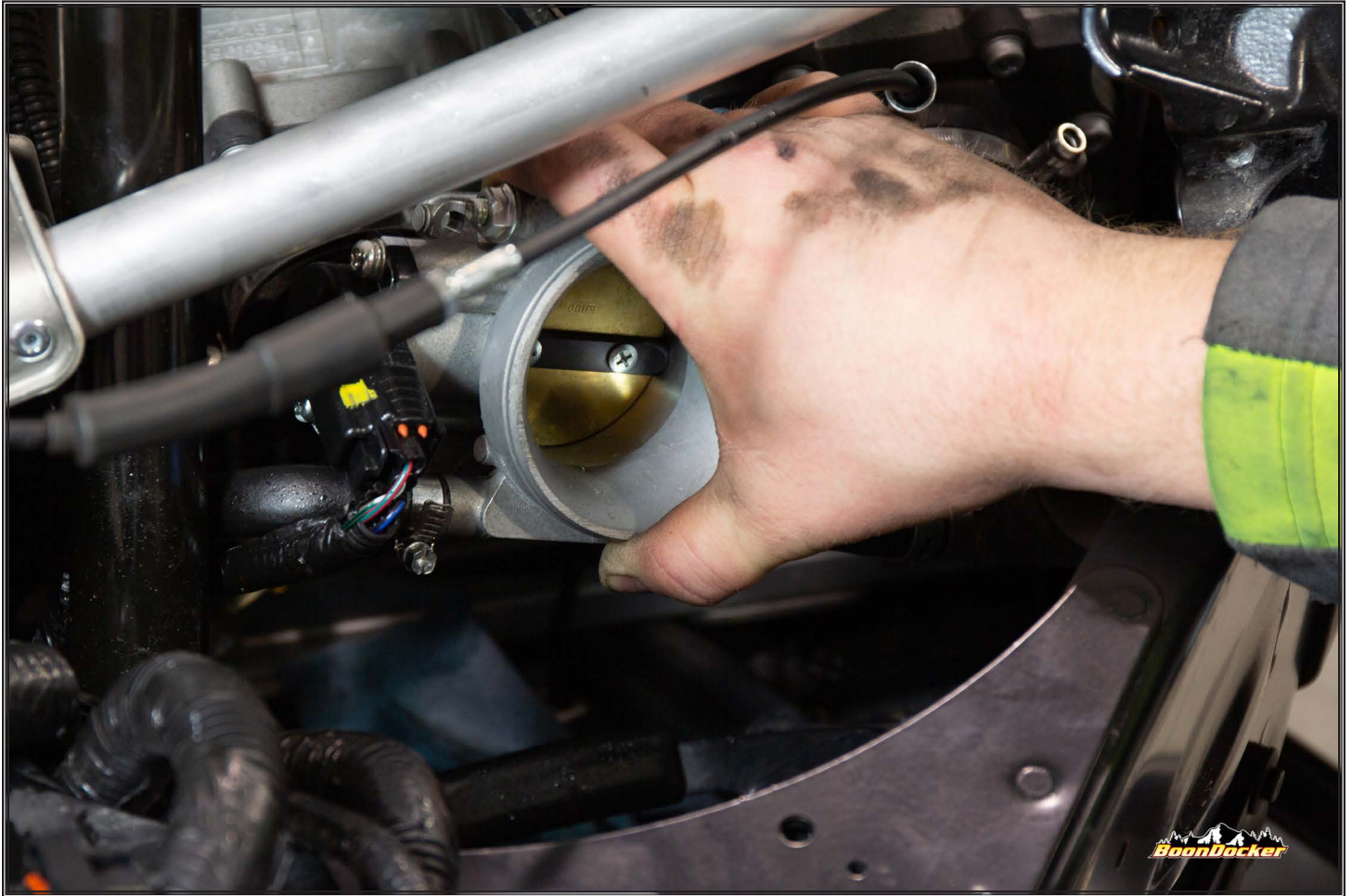
FAILURE TO PURGE
AIR FROM OIL LINES
WILL
RESULT IN
TURBO DAMAGE
DO NOT
PROCEED WITH
INSTALL UNTIL OIL
LINES ARE FREE OF
AIR

Coolant System



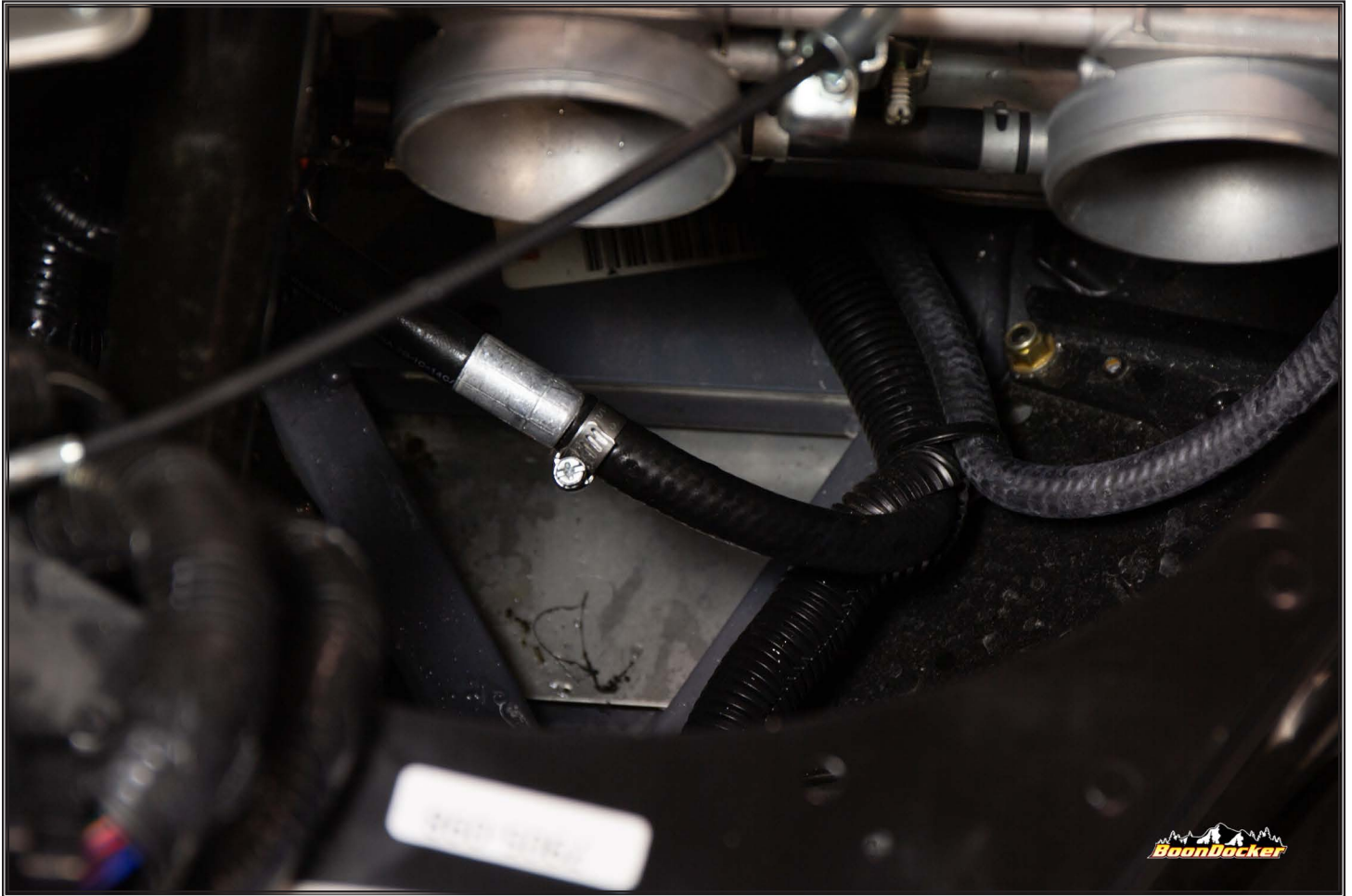
Disconnect coolant line from throttle bodies and cut 2" back, effectively removing elbow.

Coolant System



Install turbo coolant line to throttle bodies.

Coolant System



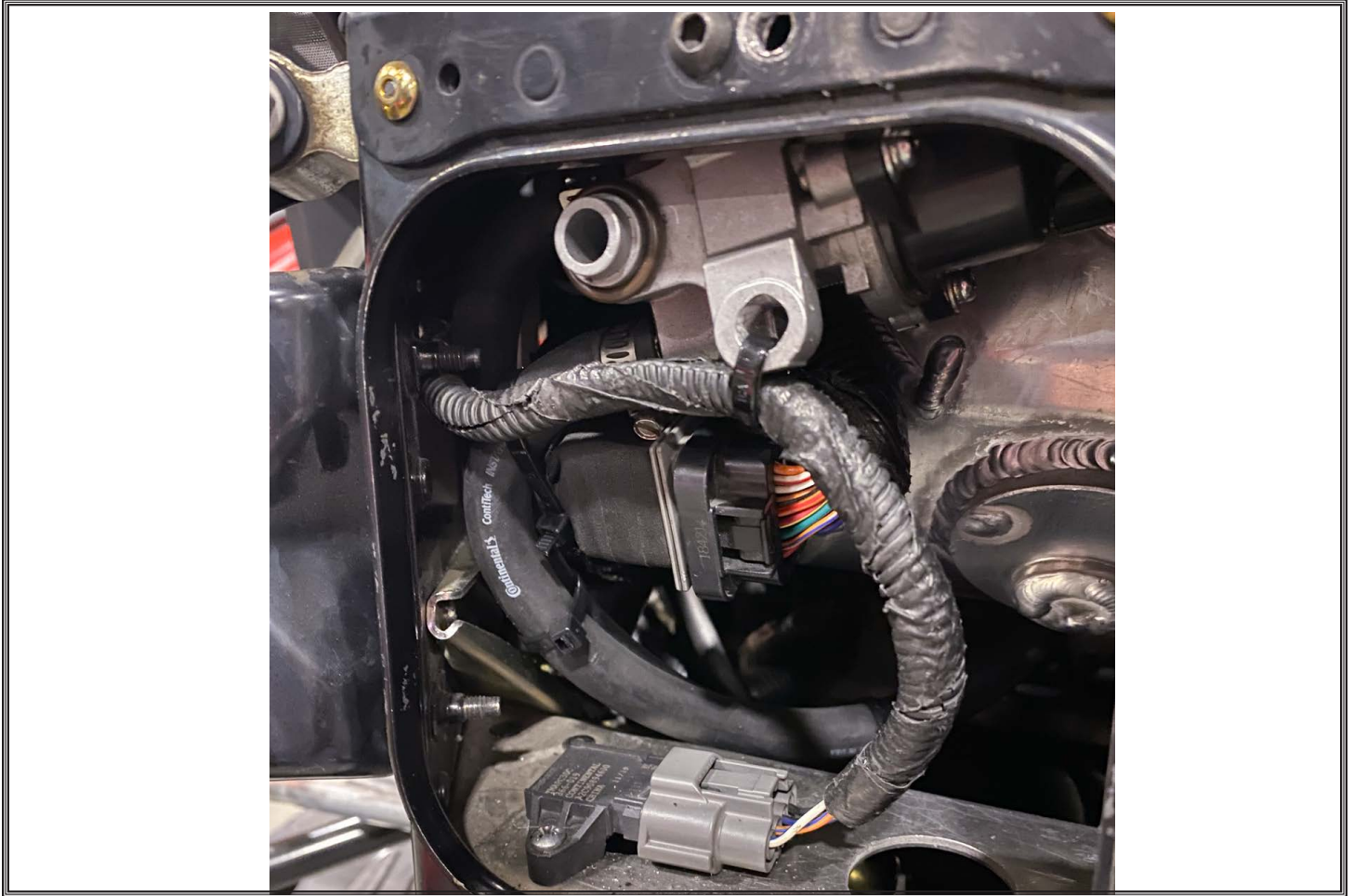
Connect barbed line from turbo to previously cut factory line as shown. Route other coolant line from turbo over to open barb on the throttle body and clamp.

Air/Fuel System



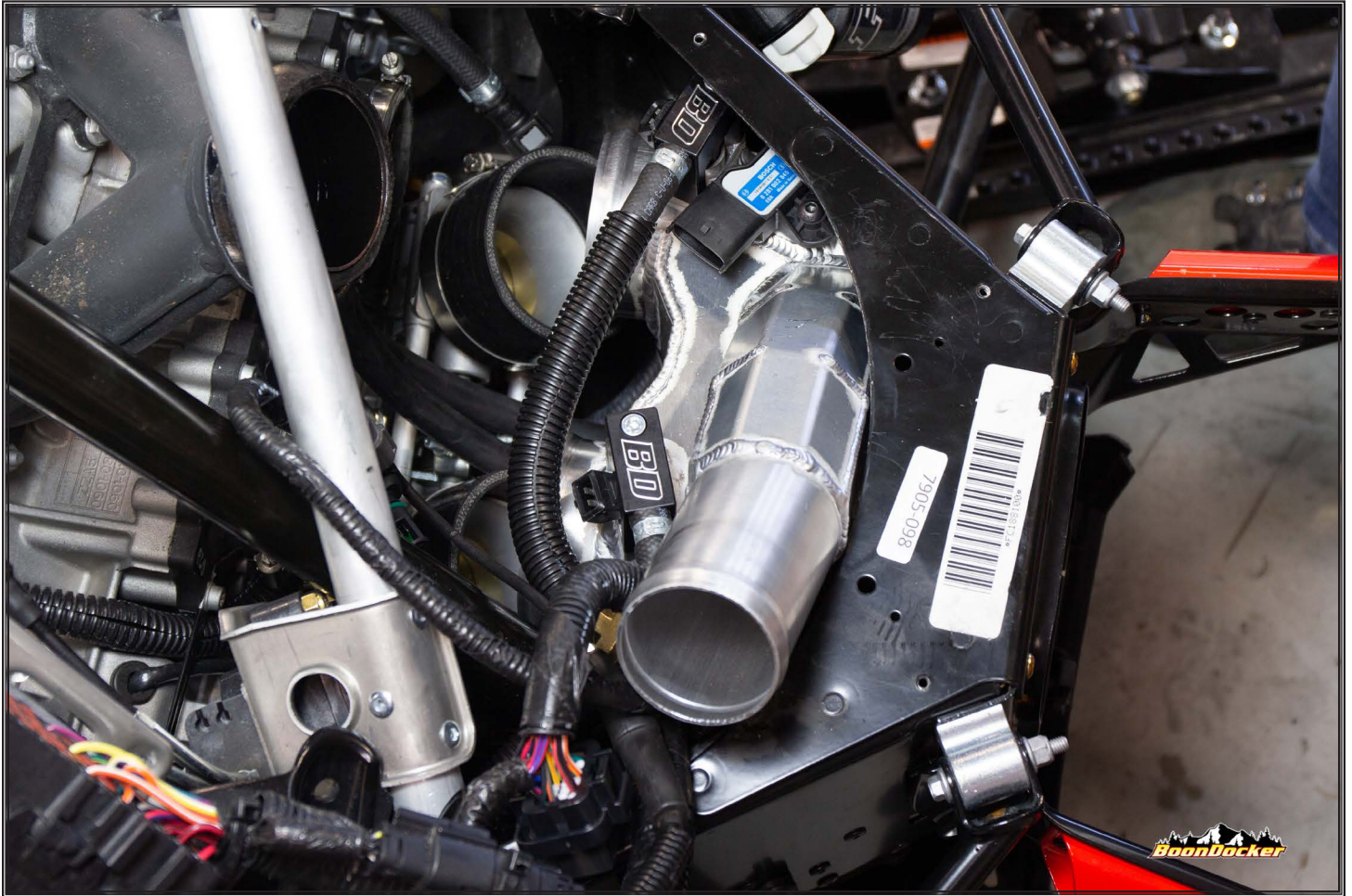
*Install supplied hose to idol air control & install to airbox.
NTE: if Airbox does not have place for IAC mount as shown on next page.*

Air/Fuel System



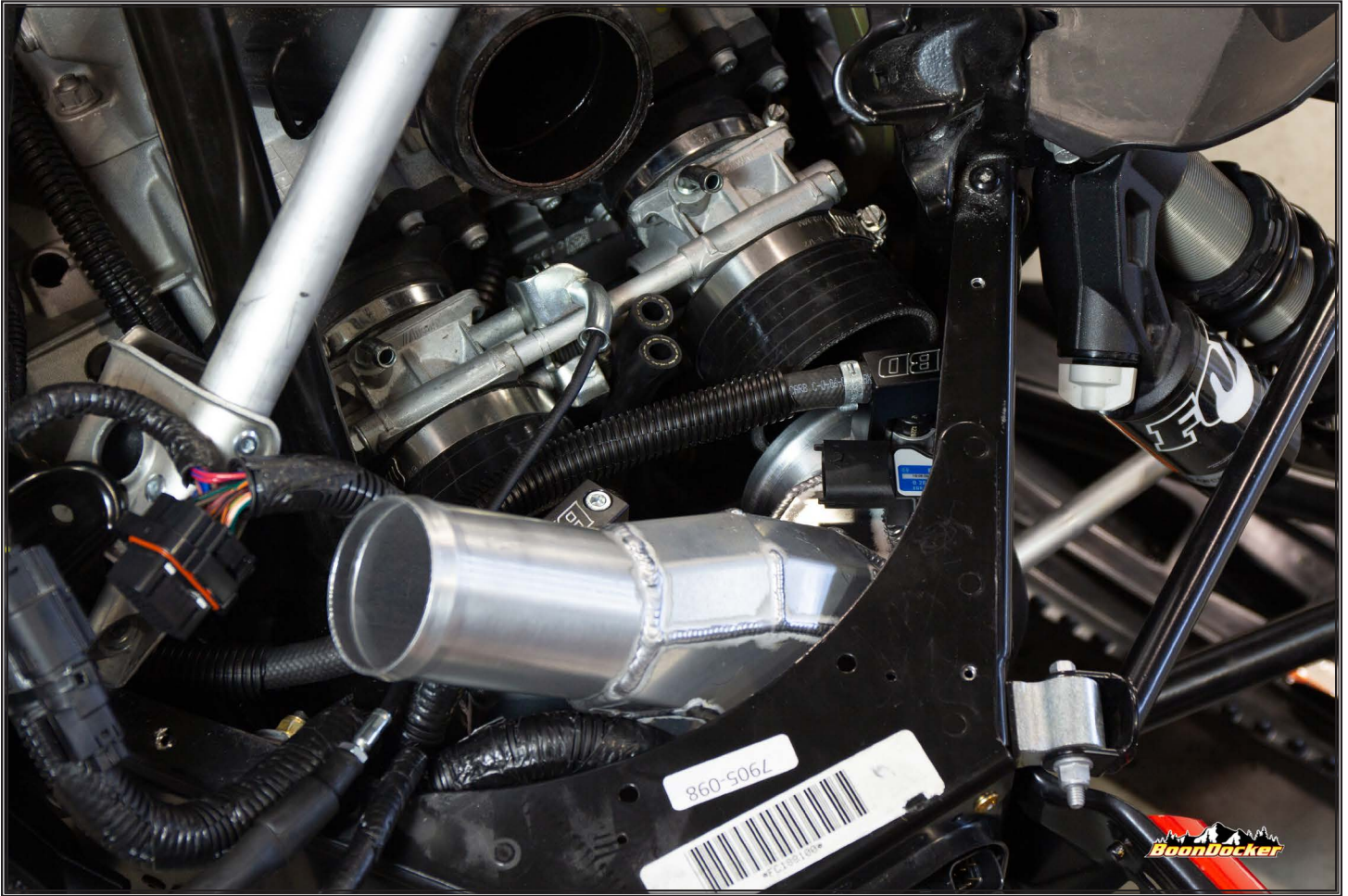
Install IAC as shown if Airbox deso not allow installation. Drill out rivet in center of bulkhead and secure with supplied bolt and nut. Install TBA as shown.

Air/Fuel System



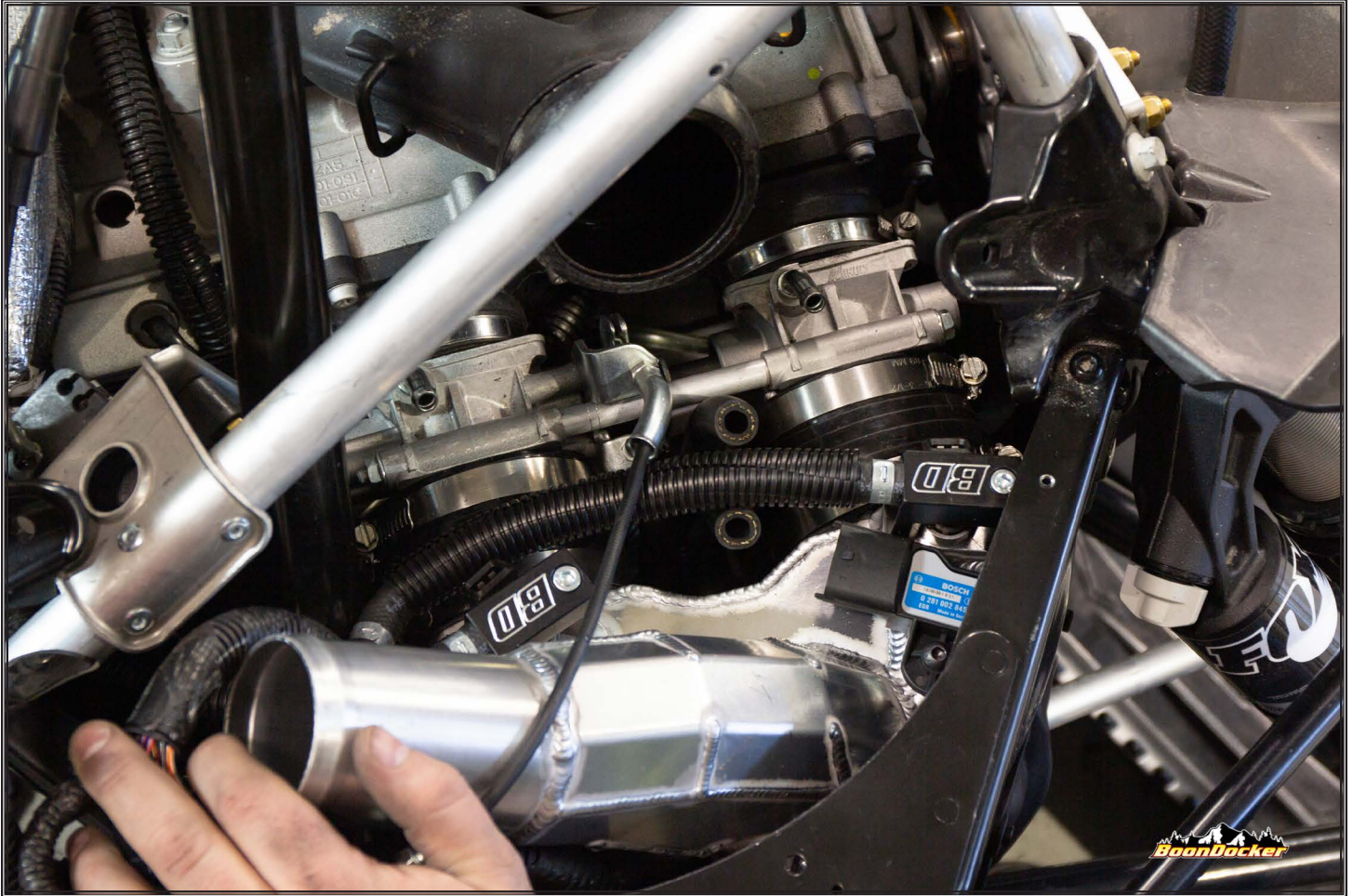
Set airbox in chassis as shown.

Air/Fuel System



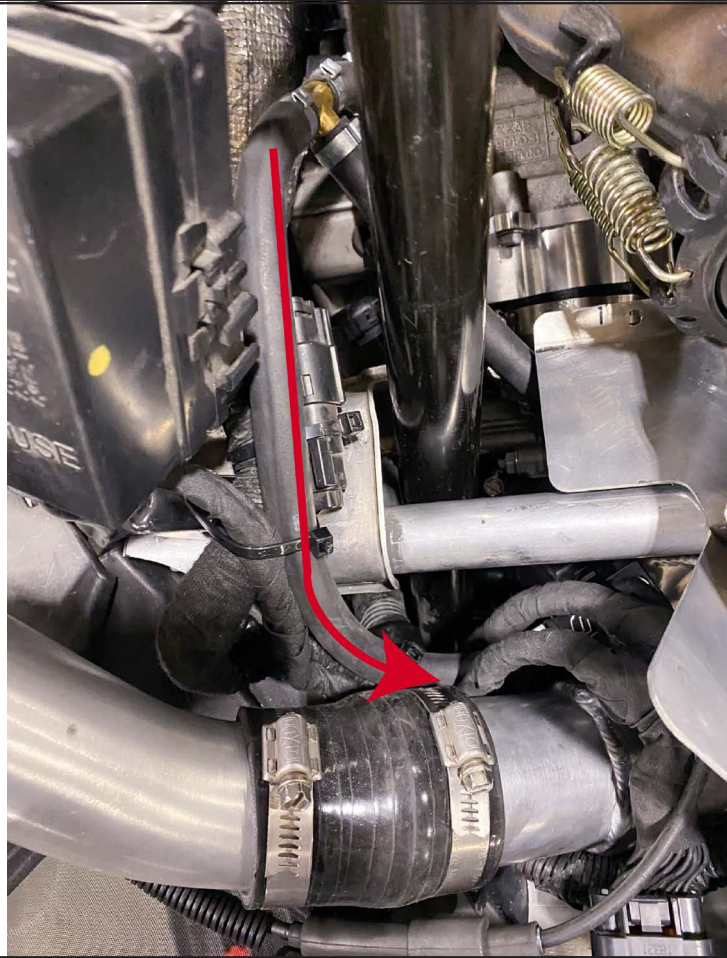
Re-install throttle bodies and install supplied silicone to airbox.

Air/Fuel System



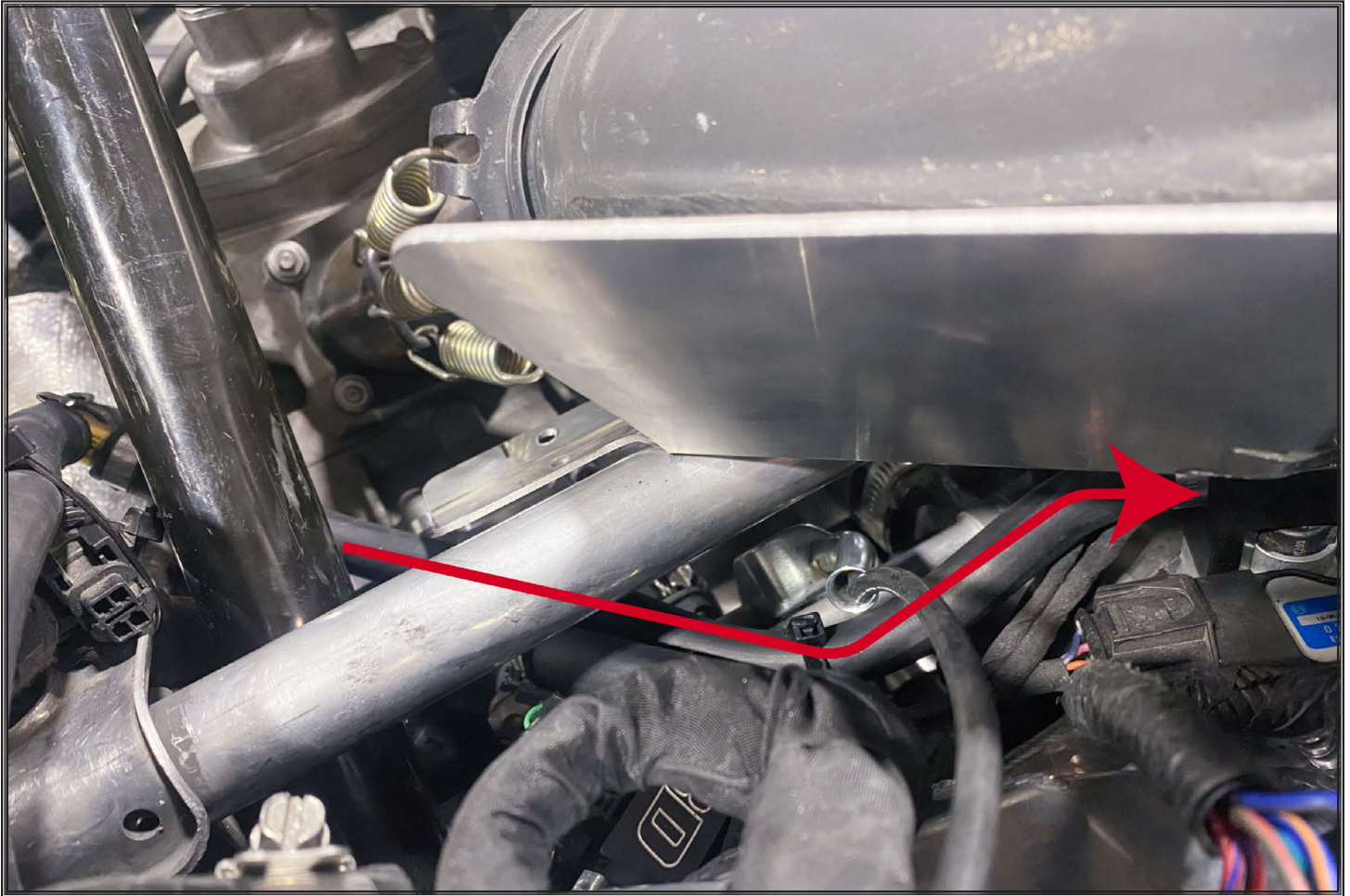
Install airbox to throttle bodies.

Fuel System



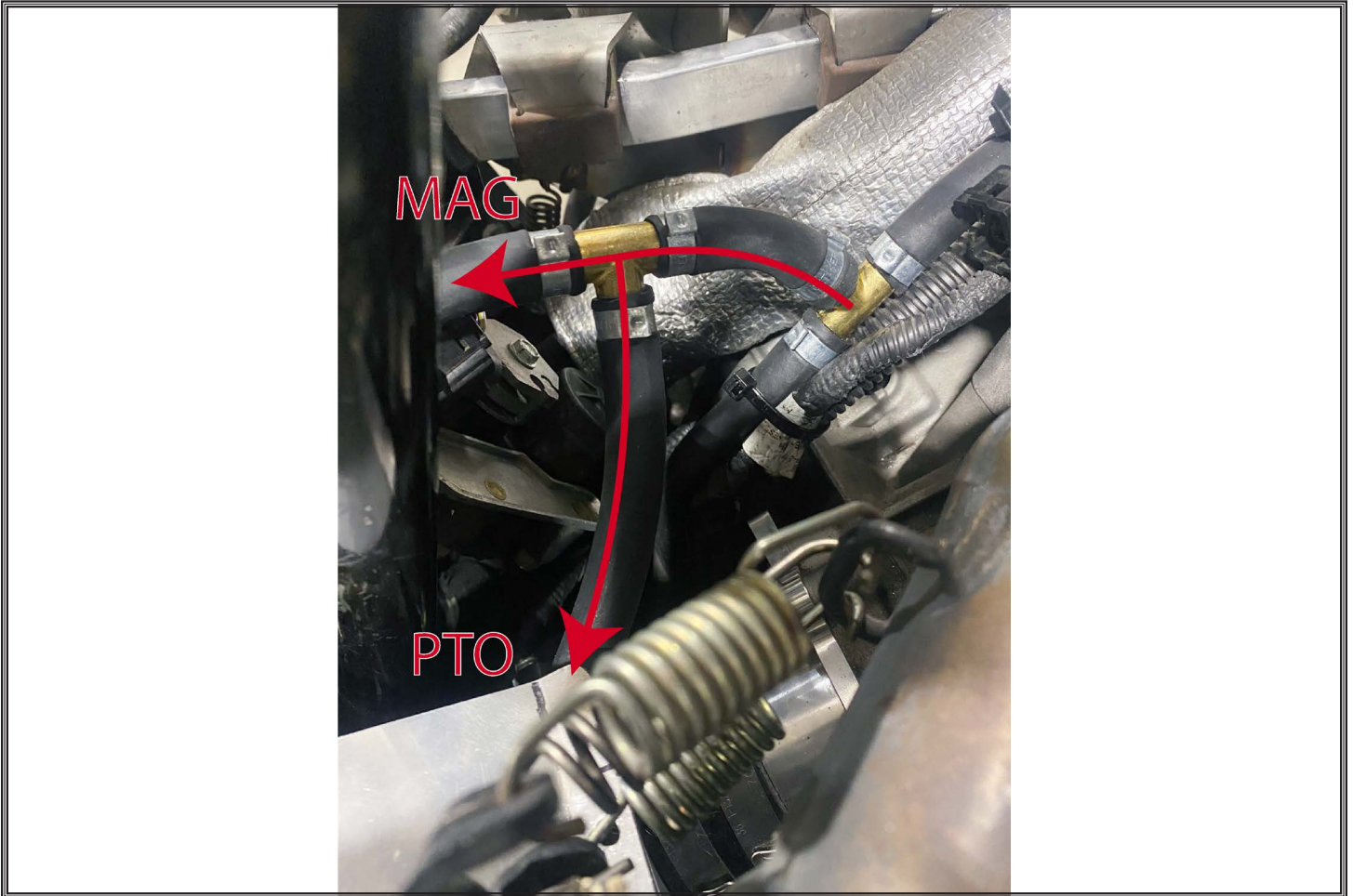
*Route MAG fuel line to auxillary injector as shown.
Take special care to ensure the line does not kink.*

Fuel System



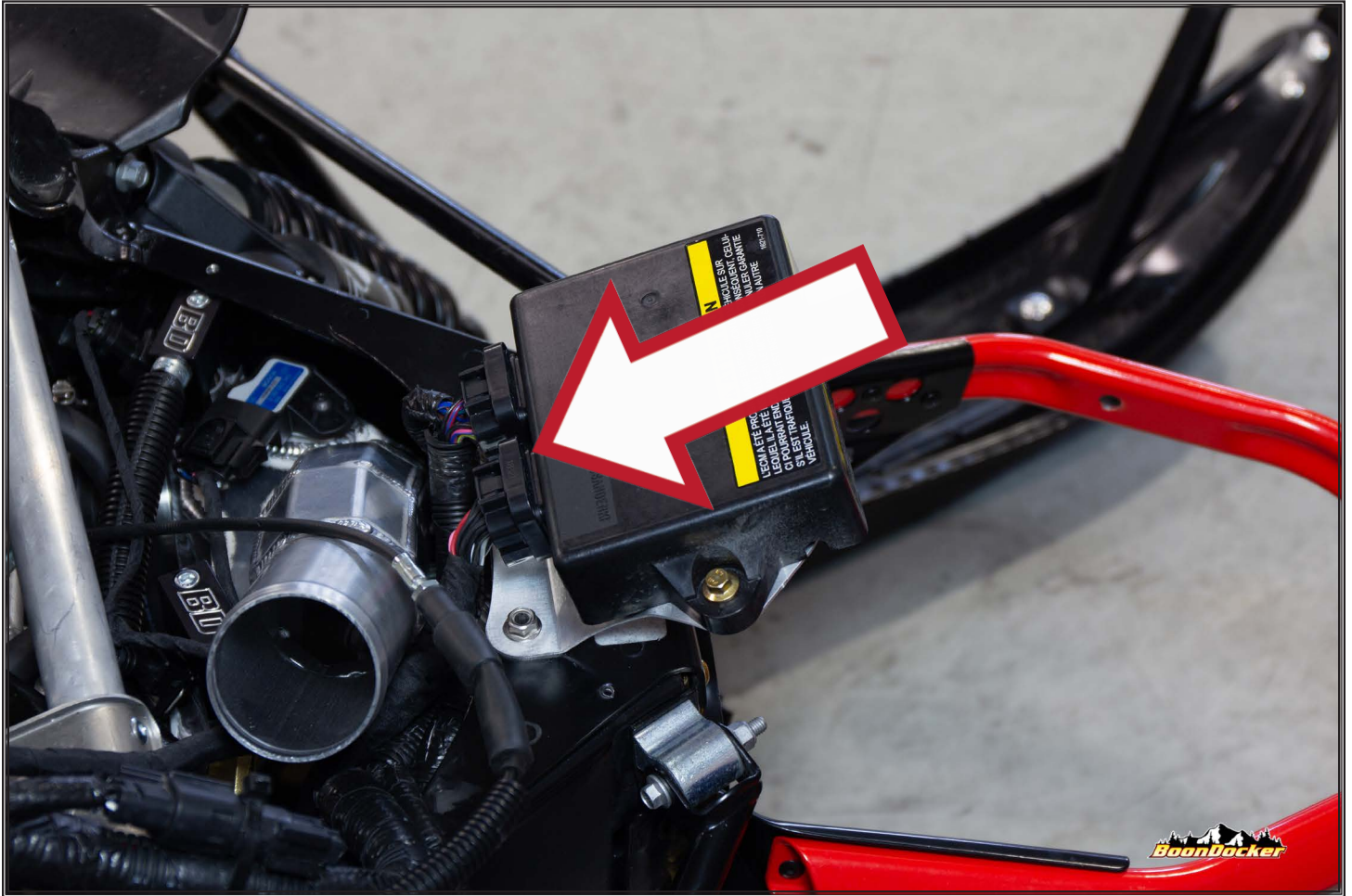
*Route PTO fuel line to auxillary injector as shown.
Take special care to ensure the line does not kink.*

Fuel System



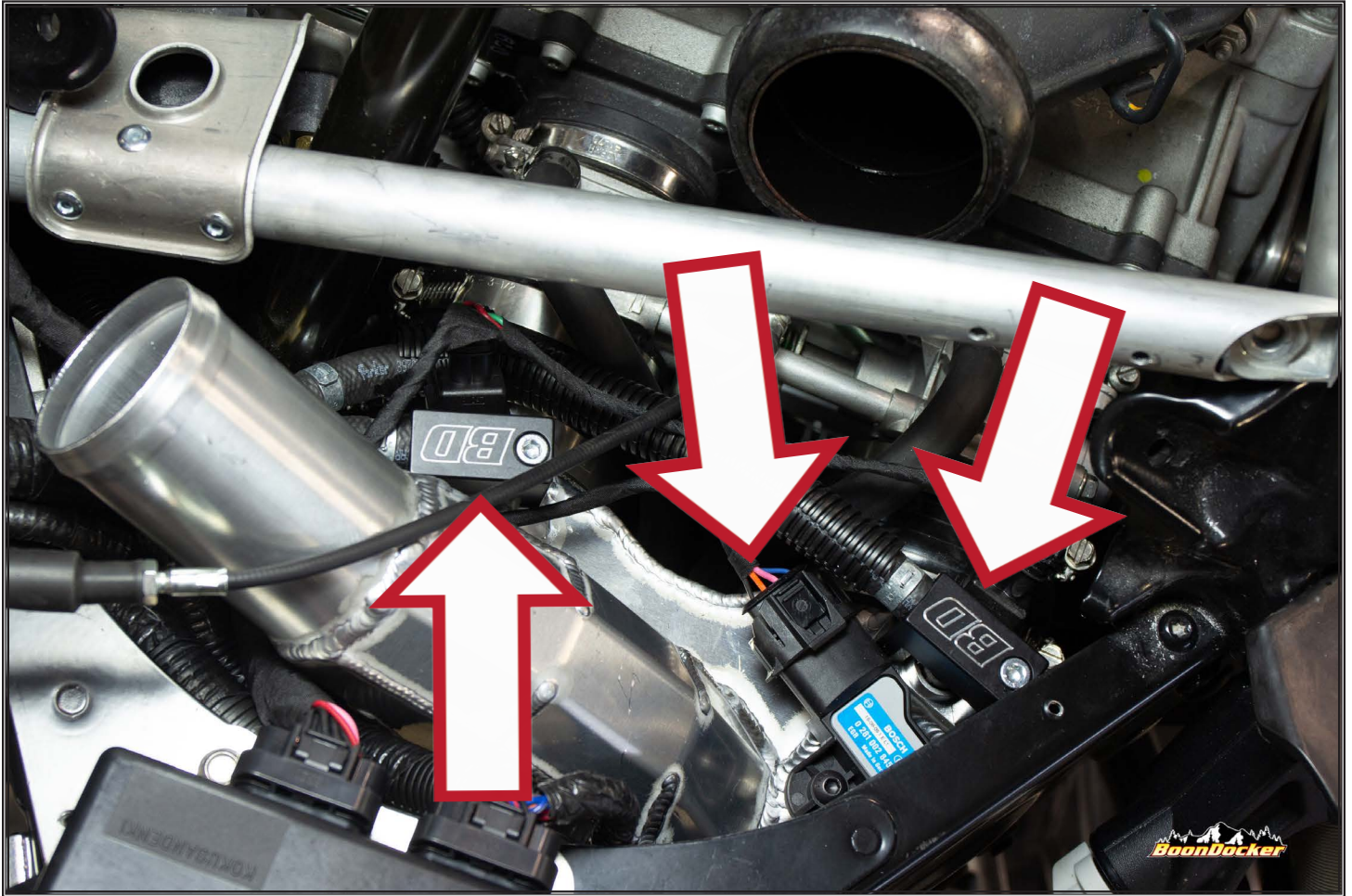
Pictured for clarity.

Electronics



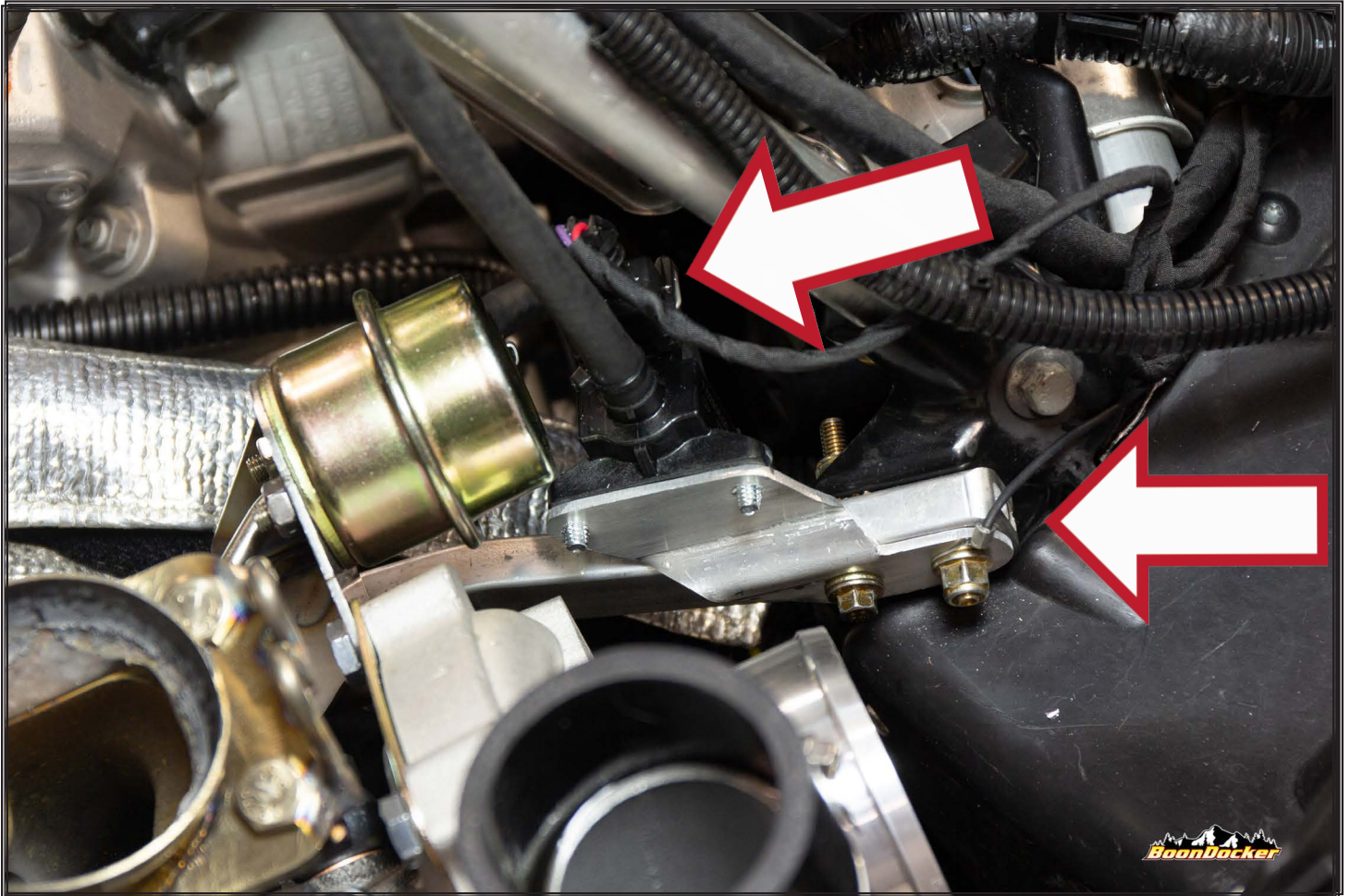
Install ECU relocate bracket and re-install ECU. Plug control box into ECU as shown.

Electronics



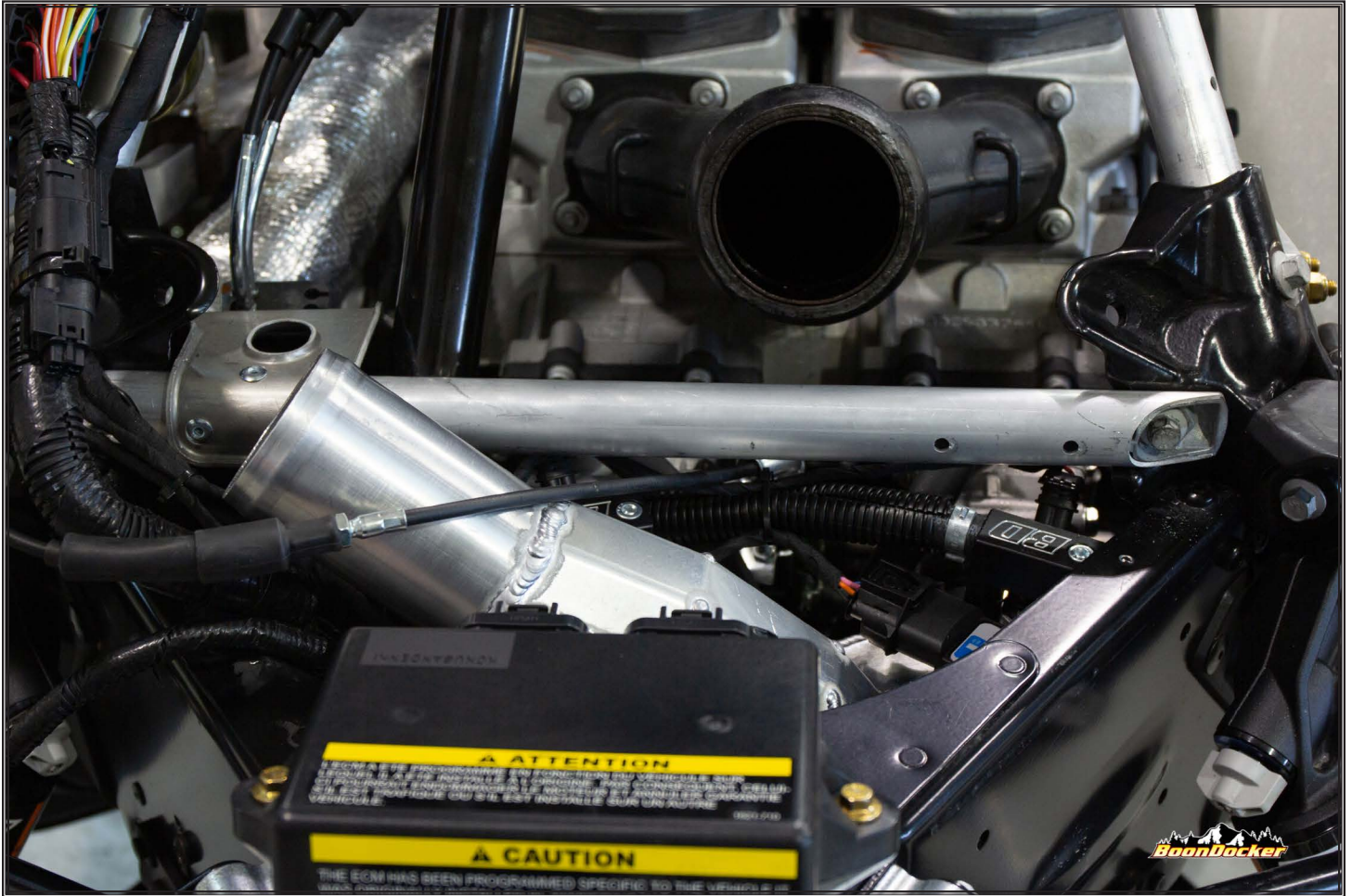
Plug in auxillary injectors and MAP sensor.

Electronics



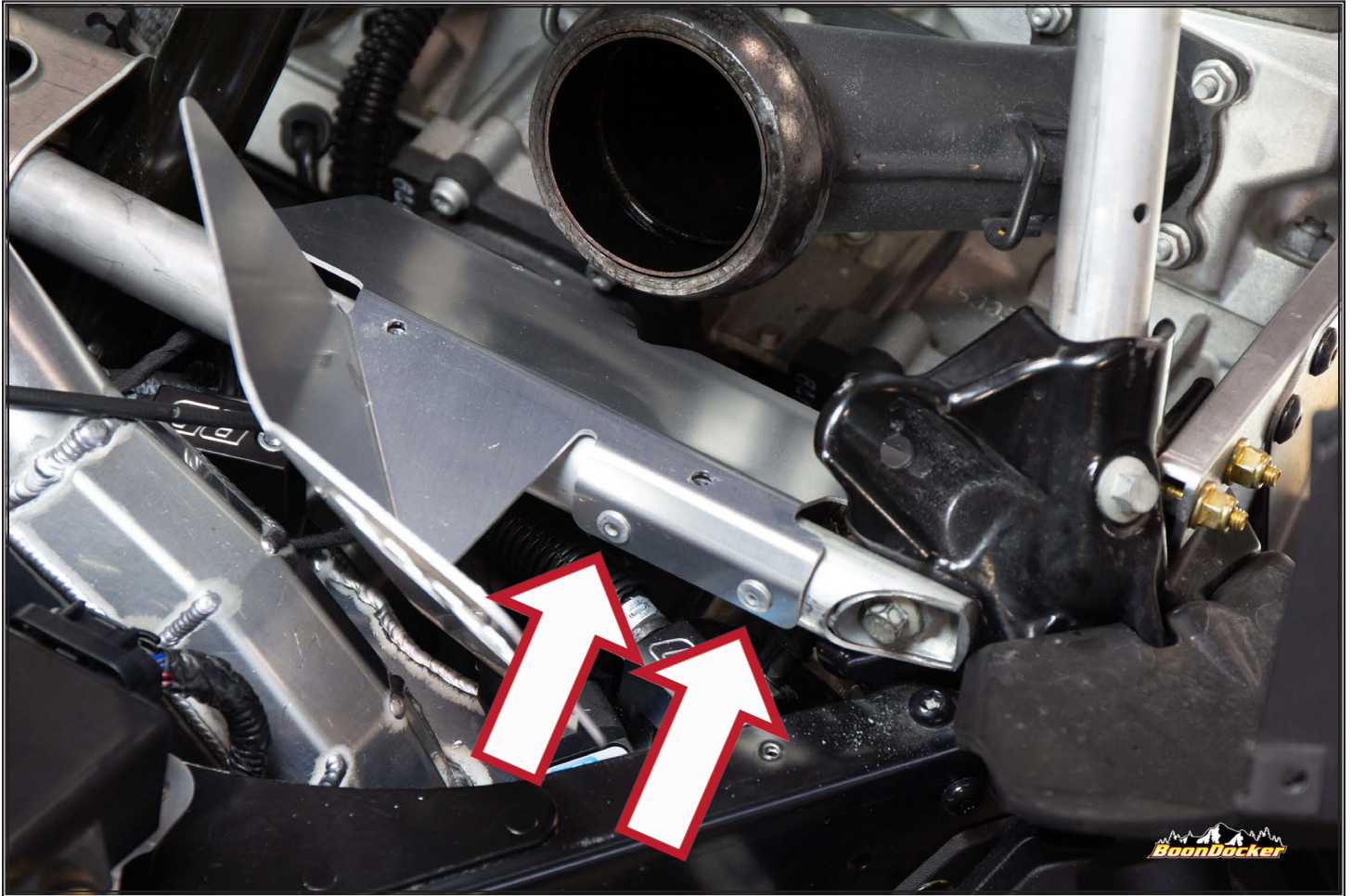
Install BoonDocker solenoid to support bar bolts located in front of turbo. Plug control box into solenoid and hook ground to front bolt as pictured.

Tune Pipe



Re-install cross bar.

Tune Pipe



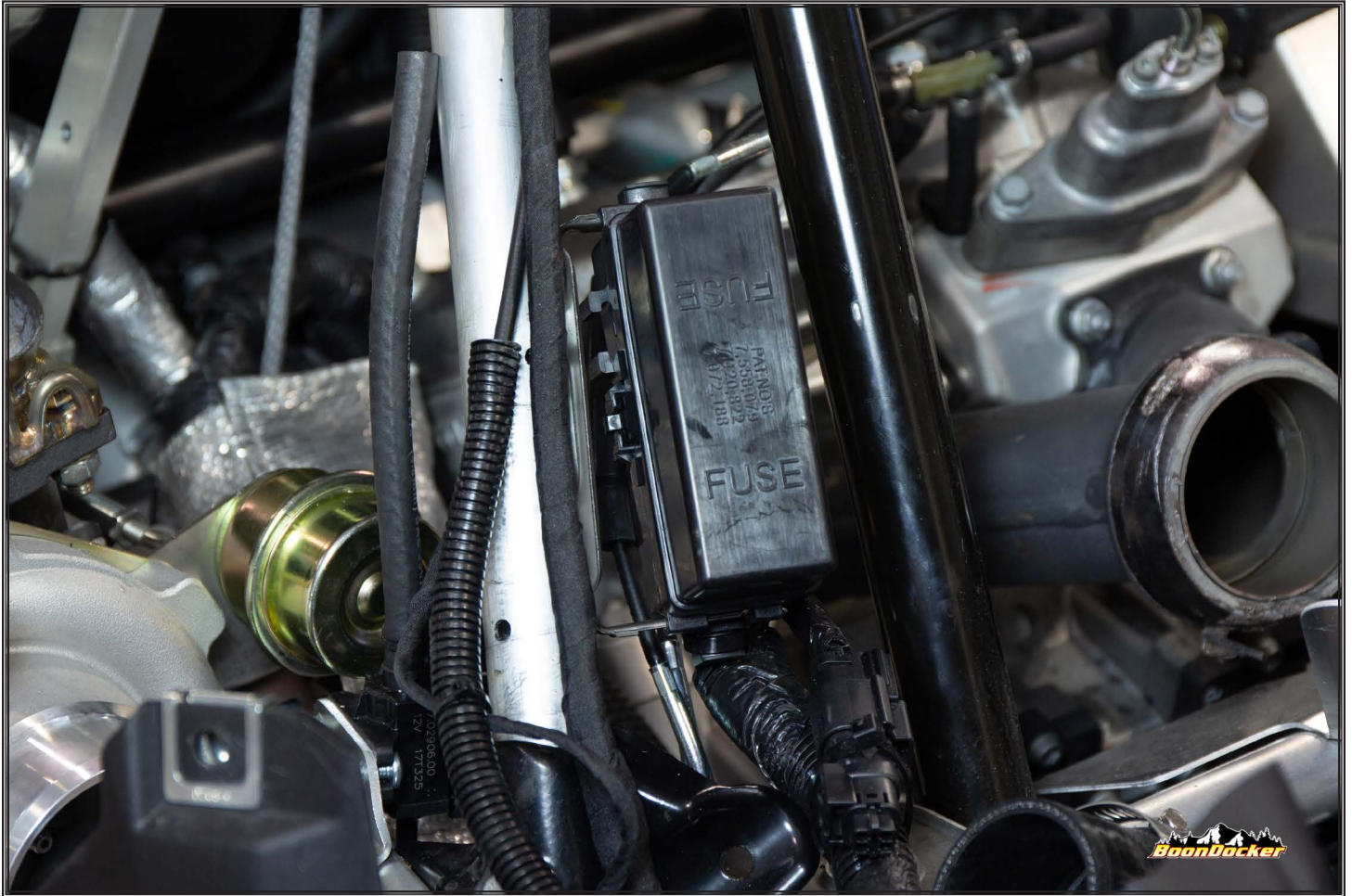
Rivet BoonDocker heat shield as shown.

Tune Pipe



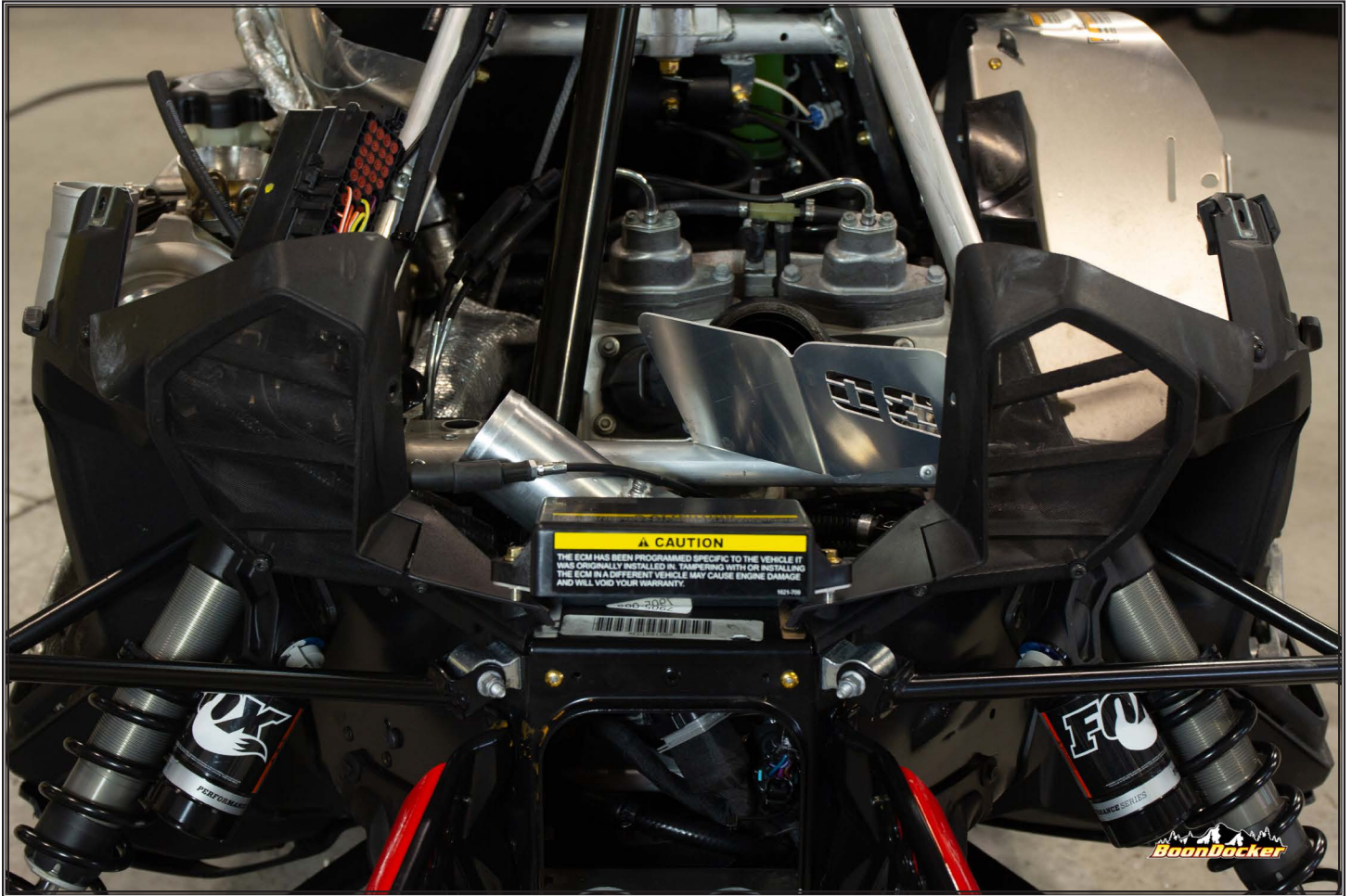
Drill two top holes with 3/16" drill bit and rivet in place.

Tune Pipe



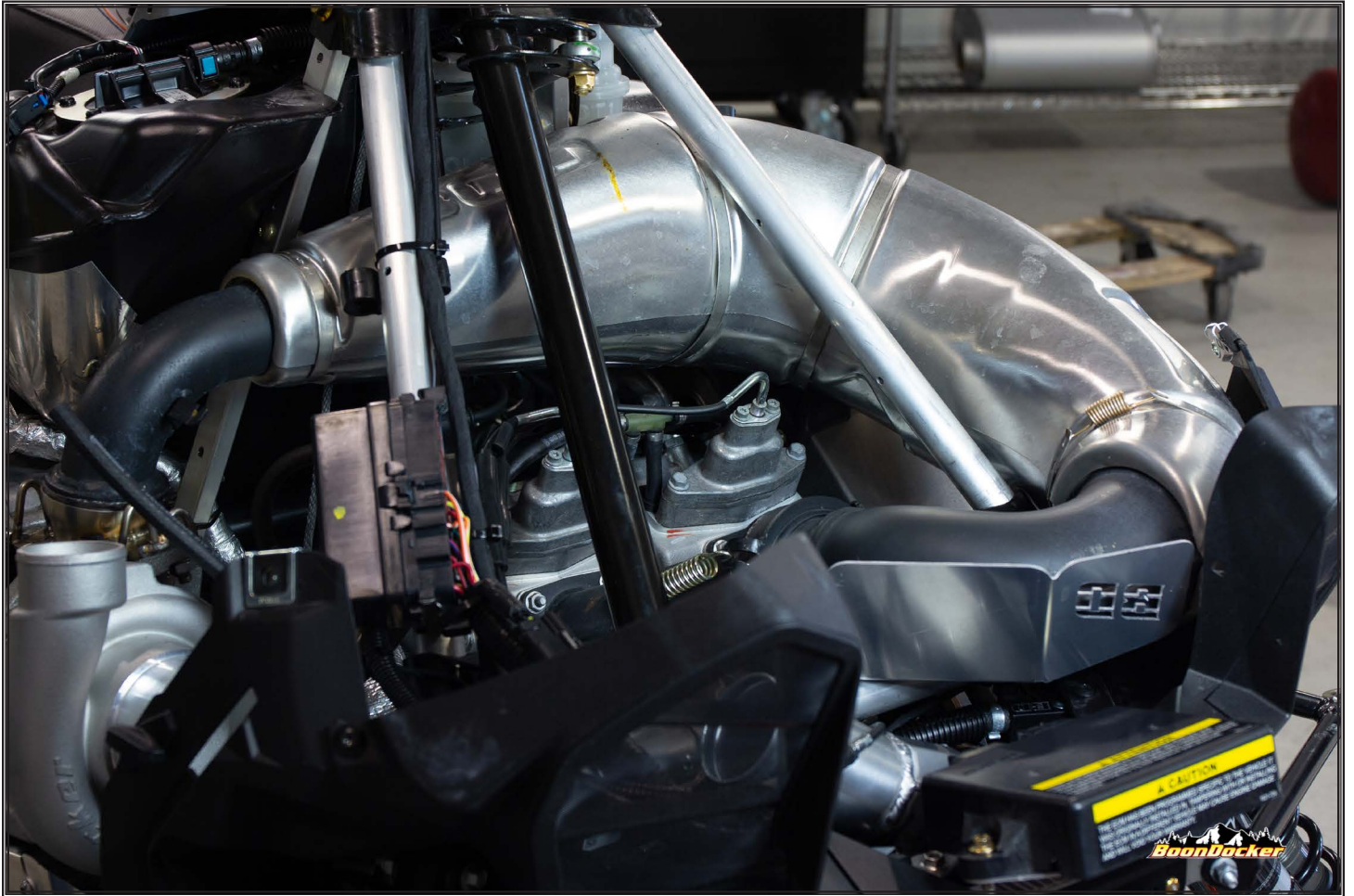
Drill rivets out of support bracket using 3/16" drill bit. Rotate approximately 90 degrees so fuse block will be facing straight up and down. Drill new 3/16" holes and rivet back to chassis as shown.

Tune Pipe



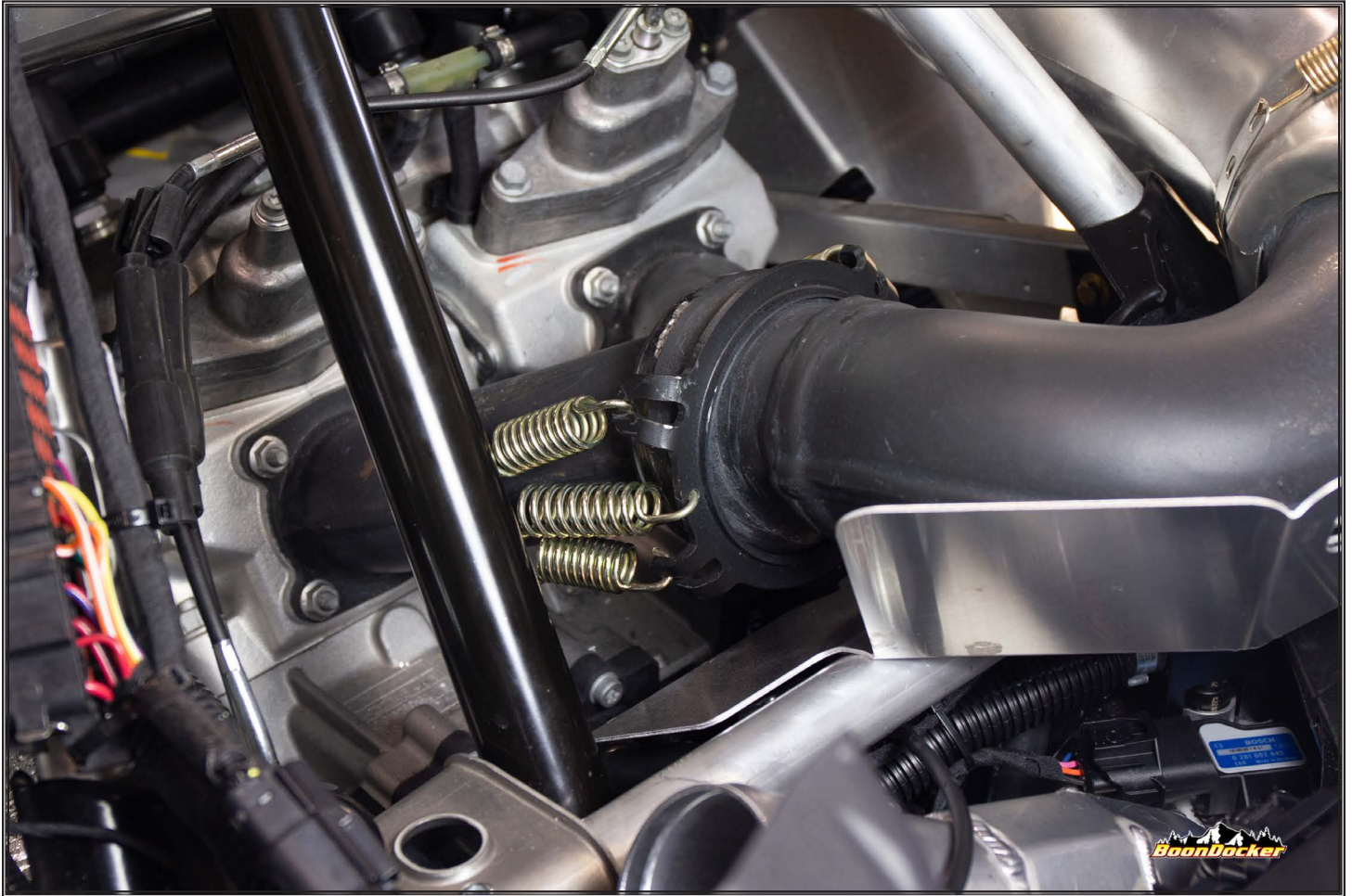
Re-install front air vents.

Tune Pipe



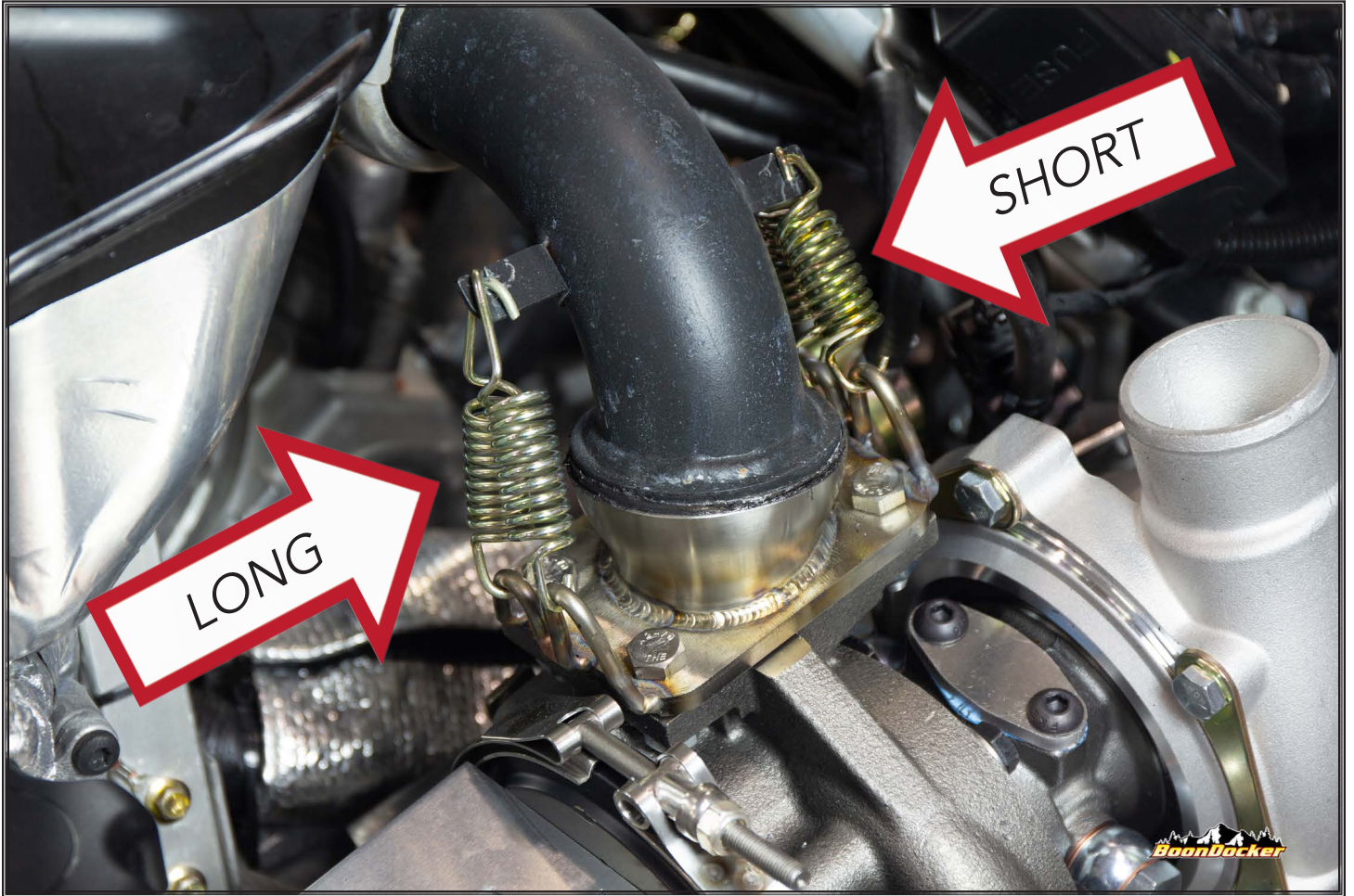
Place tune pipe back into chassis.

Tune Pipe



*Spring tune pipe to Y pipe using 4 stock springs and two Provided from BoonDoker kit.
Drill two 1/8" holes for additional springs.*

Tune Pipe



Spring tune pipe to turbo using the provided short(2) and long(2) gold springs.

Charge Tube



Install charge tube using supplied silicone and hose clamps.

Hood Tear Down



Remove 6 screws from bottom of hood.

Hood Tear Down



Remove 4 visible screws from top of intake plenum.

Hood Tear Down



Remove 3 screws holding gauge cluster/vent to hood and remove cluster.

Hood Tear Down



Remove headlights from hood.

Hood Tear Down



Remove 7 remaining screws holding plenum to hood and remove plenum from hood.

Hood Tear Down



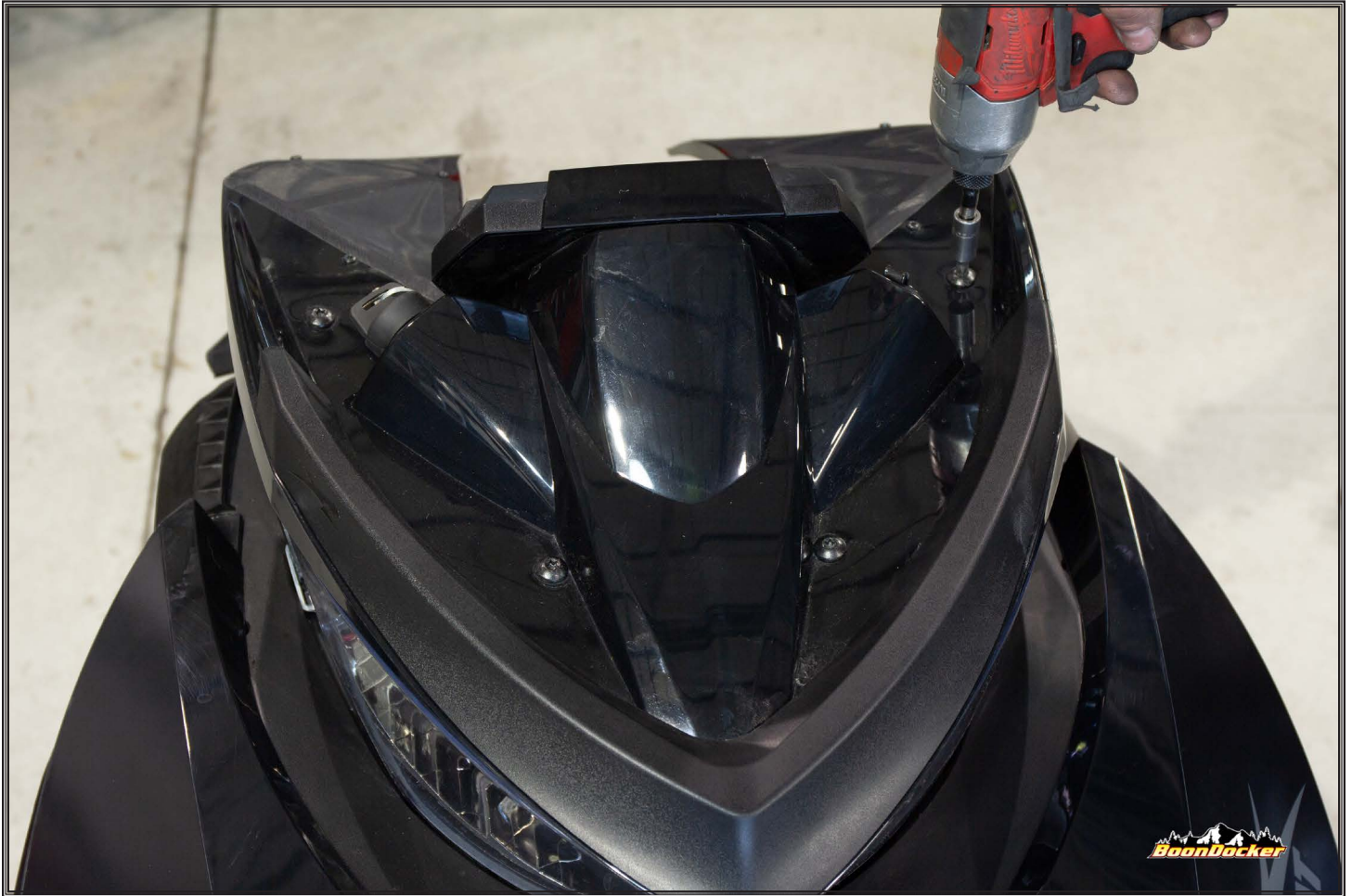
Install Boondocker intake plenum into hood and secure with supplied hardware.

Hood Tear Down



Re-install headlight.

Hood Tear Down



Reinstall guage cluster/vent shroud.

Reassembly



Reinstall hood.

HAVE FUN



Performing this installation is at your own risk. These instructions act as a general guideline, and may not include some steps. As the installer, YOU take responsibility for the entirety of the installation. YOU must ensure proper routing, fitment, shielding, etc to prevent melted parts, chaffed wires, poor performance, etc. Improper installation, of any type, is not covered as a defect under any warranty, implied or written.