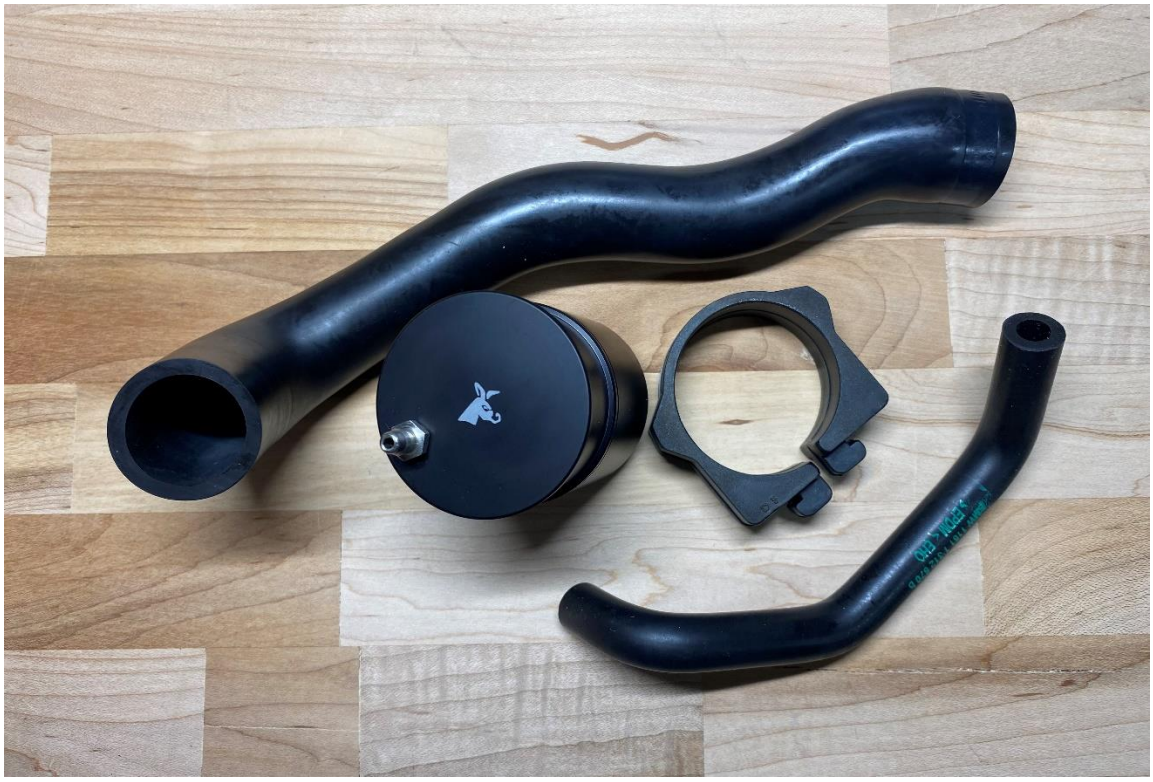
Angry Ass

Install Instructions

S38B36 Crank Case Ventilation



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Angry Ass

From all of the asses at Angry Ass, thank you for purchasing an Angry Ass S38B36 Crank Case Ventilation maintenance kit!

Please read this entire installation manual prior to attempting to install or use the S38B36 Crank Case Ventilation maintenance kit to ensure proper installation and safe use.

The S38B36 Crank Case Ventilation maintenance kit should only be installed by persons skilled in vehicle component installation and performance. Angry Ass Limited shall not be held liable for any damage or personal injury (including direct, indirect, or consequential damage) sustained as a result of improper installation of the S38B36 Crank Case Ventilation maintenance kit or its use and maintenance contrary to the instructions and warnings contained herein.

If you have any questions regarding the installation and/or proper use of the S38B36 Crank Case Ventilation maintenance kit, or this manual, please contact Angry Ass via our official website at: www.Angry-Ass.com.

All statements made are made in respect to the S38B36 Crank Case Ventilation maintenance kit being used “as is”. Any modifications to the S38B36 Crank Case Ventilation maintenance kit or its improper installation, use or maintenance that is not in accordance with this installation manual, may result in severe damage to the intake system and/or engine, as well as personal injury. The S38B36 Crank Case Ventilation maintenance kit and consumption of refreshing beverages (alcoholic or otherwise) may only be used in accordance with relevant laws and regulations, including state and federal, where applicable. Angry Ass Limited reminds you to be responsible and stay safe!!

PARTS LIST

The following parts are contained in your kit:

1. Vacuum reservoir
2. OEM BMW vacuum reservoir mount
3. 2X M8X1.25 jet nuts
4. OEM BMW crank case ventilation hose
5. OEM BMW separator drain line
6. 2X OEM BMW separator isolation mounts (Optional)
7. OEM BMW separator o-ring (Optional)
8. 2X Norma stainless steel hose clamps 20-32 (Optional)
9. 2X Norma stainless steel hose clamps 8-16 (Optional)

TOOLS & SHOP SUPPLIES

You will need to provide the following:

1. 10mm Wrench, ratcheting is a plus
2. 10mm Socket
3. 13mm Socket
4. Ratchet
5. Flat head screwdriver, long blade
6. Flat head screwdriver, stubby
7. Paper towel or shop rag
8. Degreaser
9. E8 Torx socket if replacing oil separator o-ring
10. Refreshing beverage of choice

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1. Equip yourself with a refreshing beverage or two. Install in your Angry Ass Koozie, if you have one. Pop the hood. See Figure 1.

Figure 1

2. Unpack your Angry Ass S38B36 Crank Case Ventilation maintenance kit and verify all components are accounted for according to the options you ordered.

3. Begin by disconnecting the MAF sensor harness by depressing connector release and set harness off to side. Slide under the cruise control cable, see Figure 2.

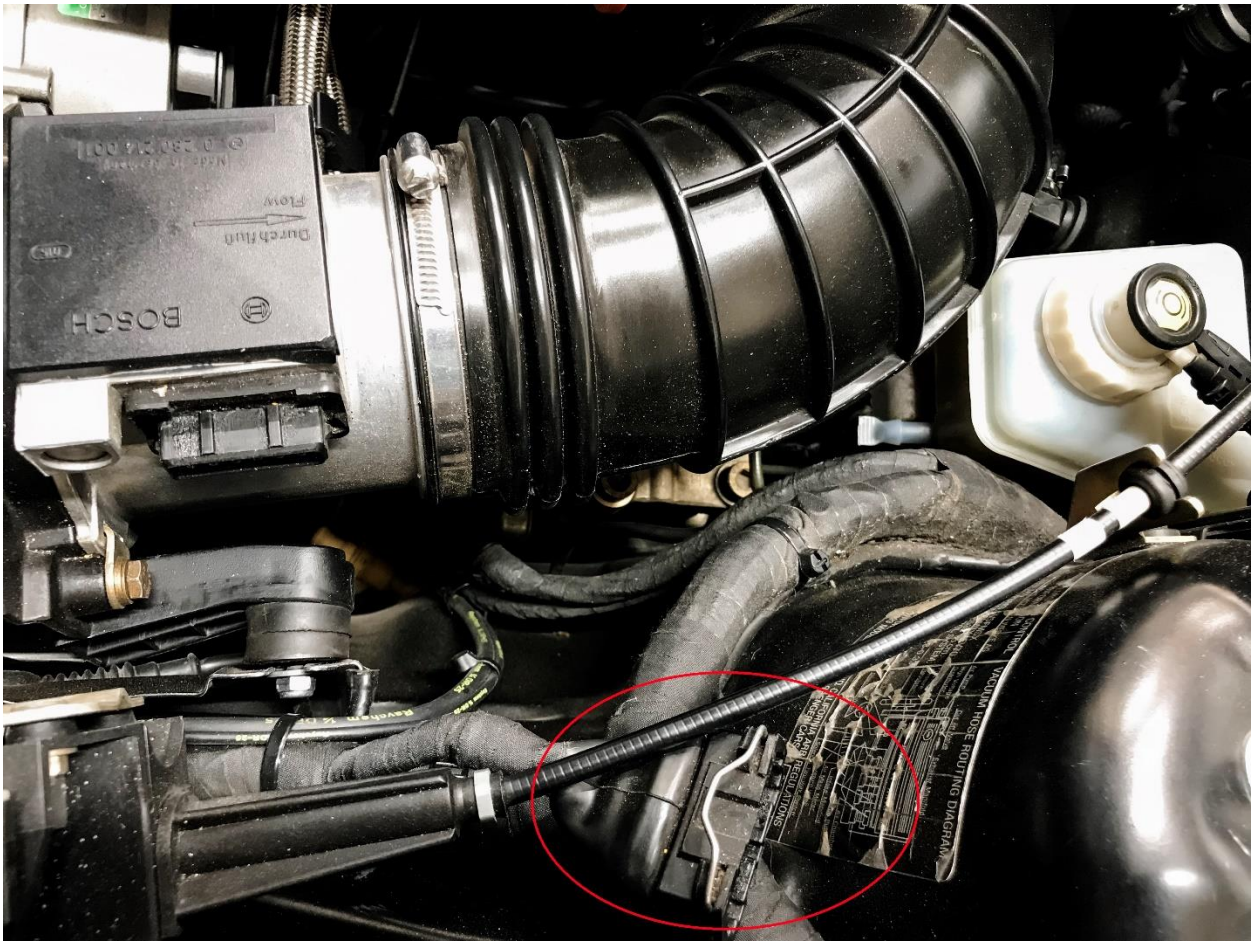

Figure 2

4. Proceed to removing the air filter box by first loosening the two nuts at chassis attachment point using a 10mm wrench. See Figure 3 (S38B38 shown).

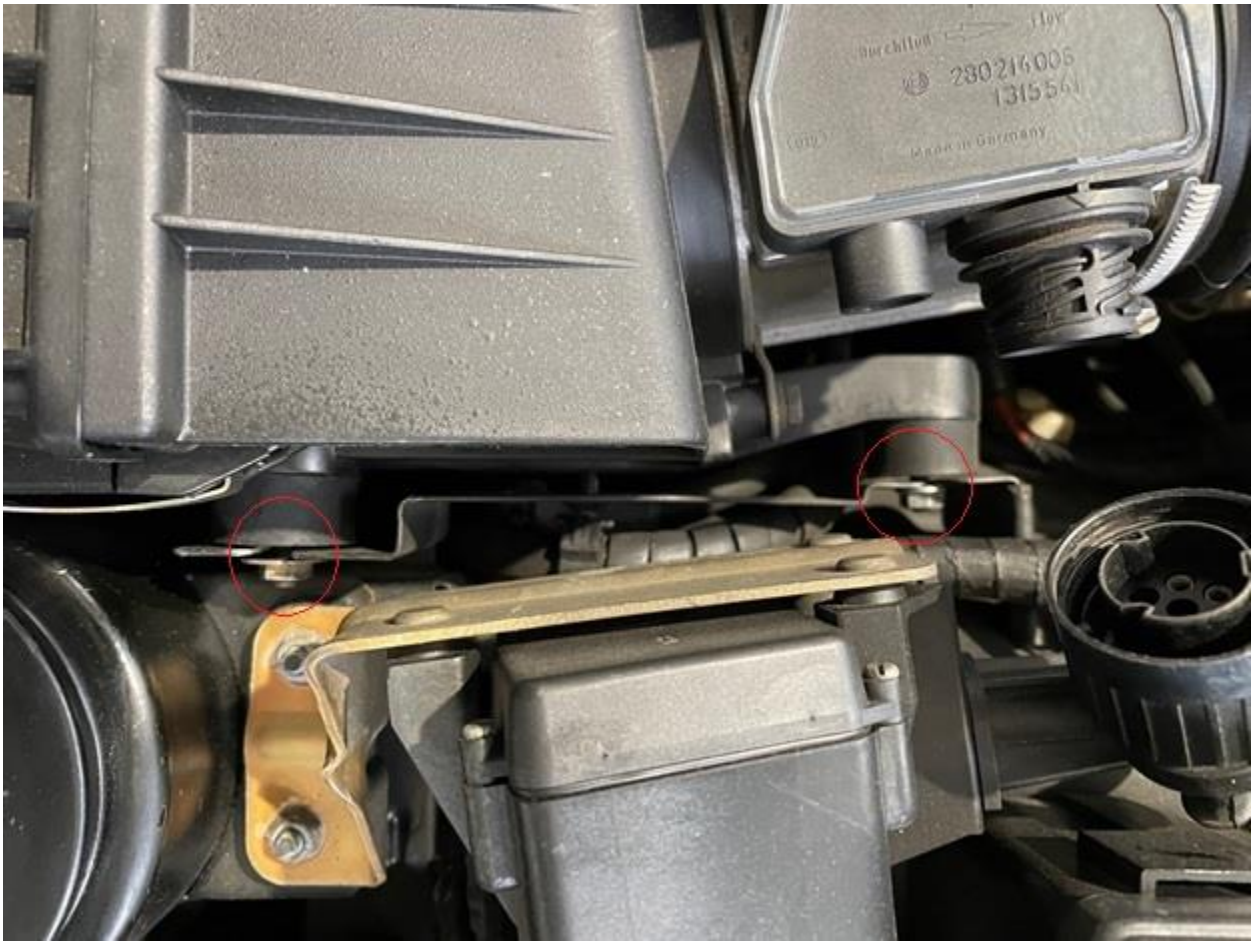

Figure 3

5. Next loosen hose clamp that secures main intake boot to MAF by using flat head screwdriver, ensure that intake boot can be slid off of the MAF. See Figure 4.

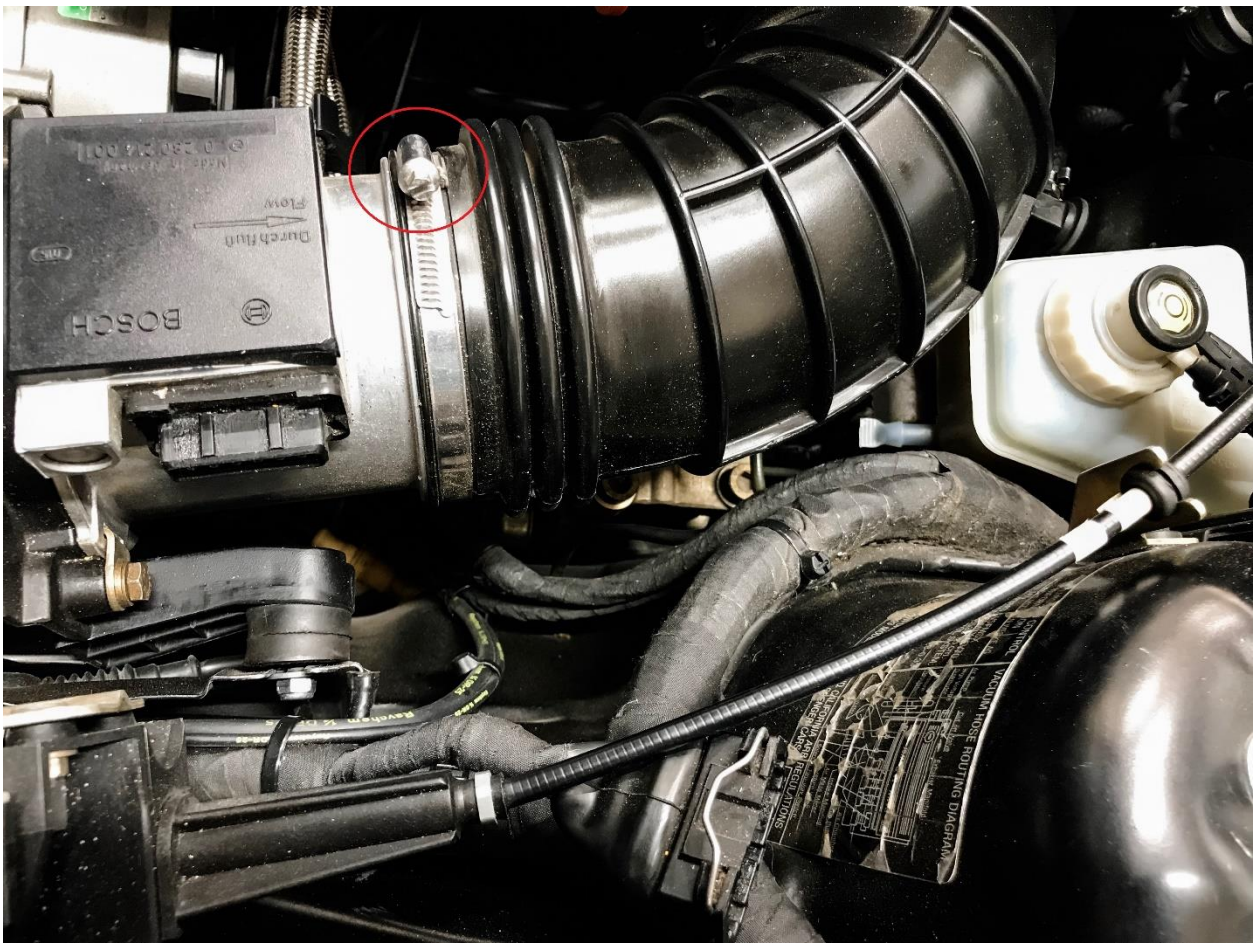

Figure 4

6. Lift airbox up and without placing strain on temperature sensor harness disconnect temperature sensor by depressing connector release. Set air filter box in a safe location and take a few drinks of your refreshing beverage.

7. Using your flat head screwdriver loosen the hose clamp that holds the main intake boot to the plenum. Remove intake boot and clean and inspect, looking for any cracks. If the boot is aged and showing signs of cracking and rigidity, we suggest replacement, part number is 11611312062 for the. See Figure 5.

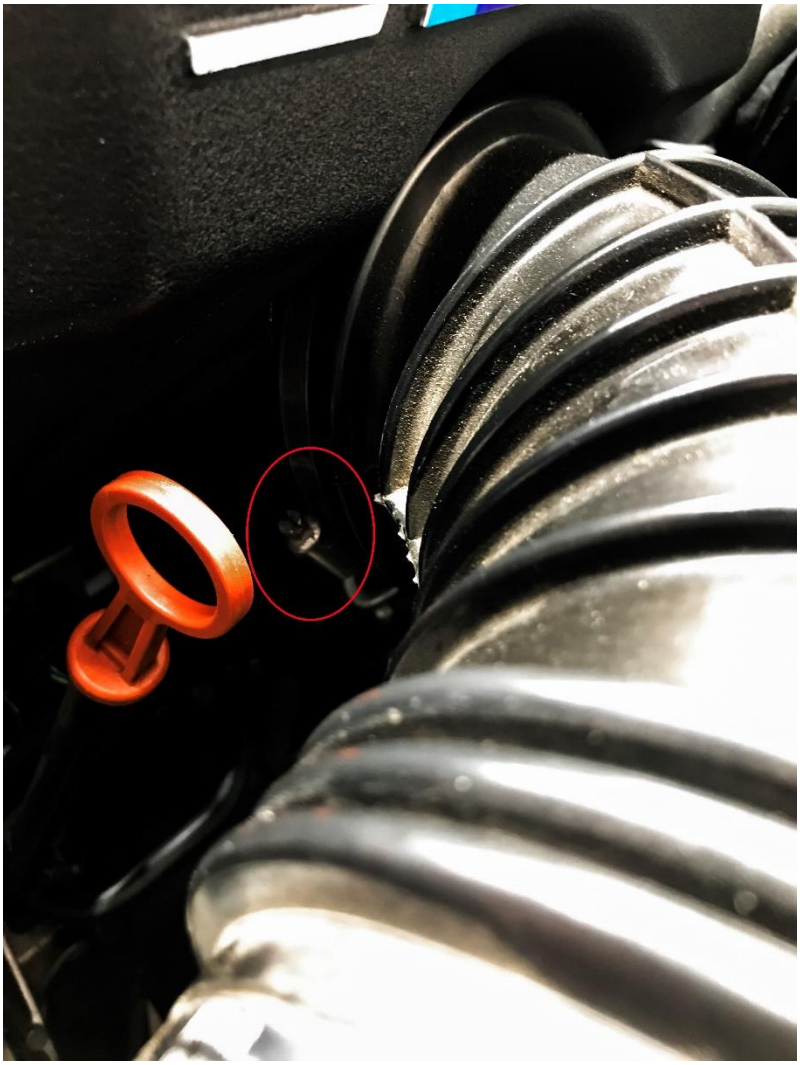

Figure 5

8. Using your flat head screwdriver disconnect the hose from the bottom of intake plenum inlet that feeds the idle air control valve. See Figure 6.

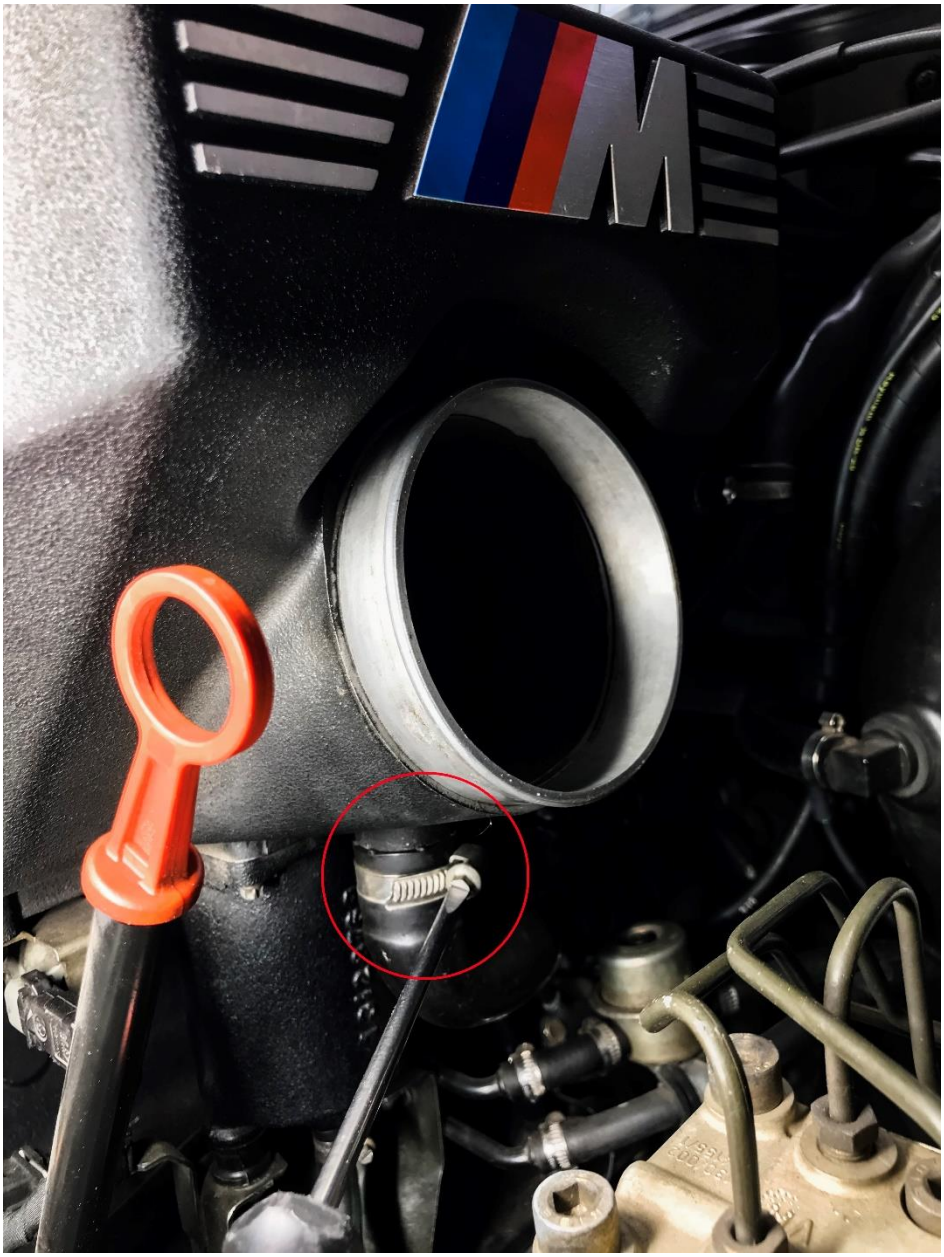

Figure 6

9. Again, using your flat head screwdriver disconnect the hose for the crank case cyclone separator under the plenum. This is the cylindrical aluminum casting that is bolted directly under the plenum. Have your shop rag ready as you will get a few drips of oil and its best to remove the hose clamp so it doesn't drop. See Figure 7.

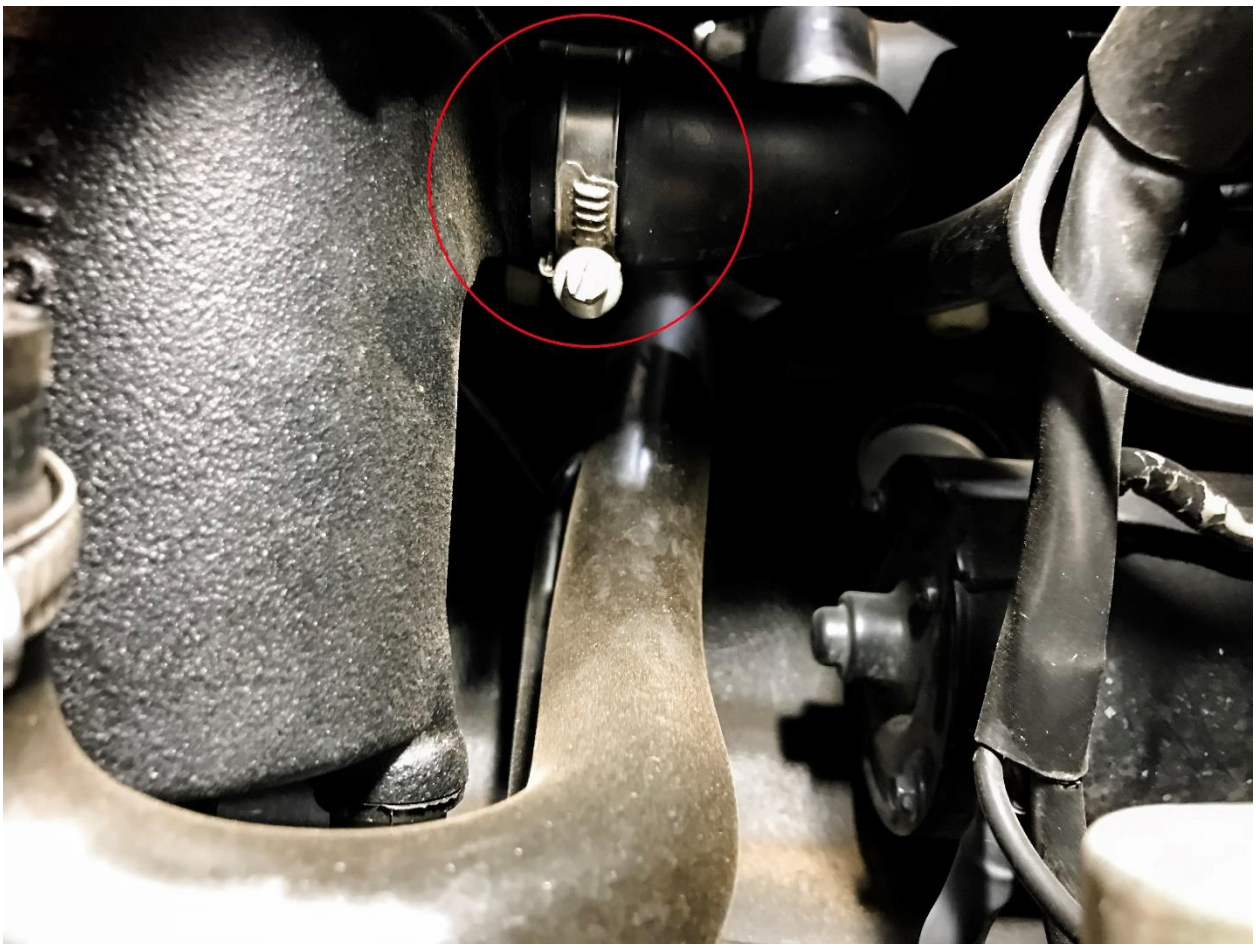

Figure 7

10. Disconnect vacuum servo electrical connection and vacuum feed located on bottom of plenum to left of plenum inlet. The vacuum feed line is the barb that points towards the engine. It will most likely be stubborn and require a bit of force, be sure to only pull in a parallel direction so as not to potentially break the servo hose barb! See Figure 8.

Figure 8

11. Disconnect oil drain line from cyclone separator by loosening the hose clamp securing the line to drain barb by using your stubby flat head screwdriver. Have your shop rag ready to catch any drips from the separator or hose. It's helpful to slide the hose clamp down the hose so it doesn't get lost and to tuck the hose clamp away towards the dipstick. See Figure 9.

Figure 9

12. Remove the two nuts that attach the rubber mounts on the bottom of the cyclone separator to the plenum support brace using your 13mm wrench. See Figure 10.

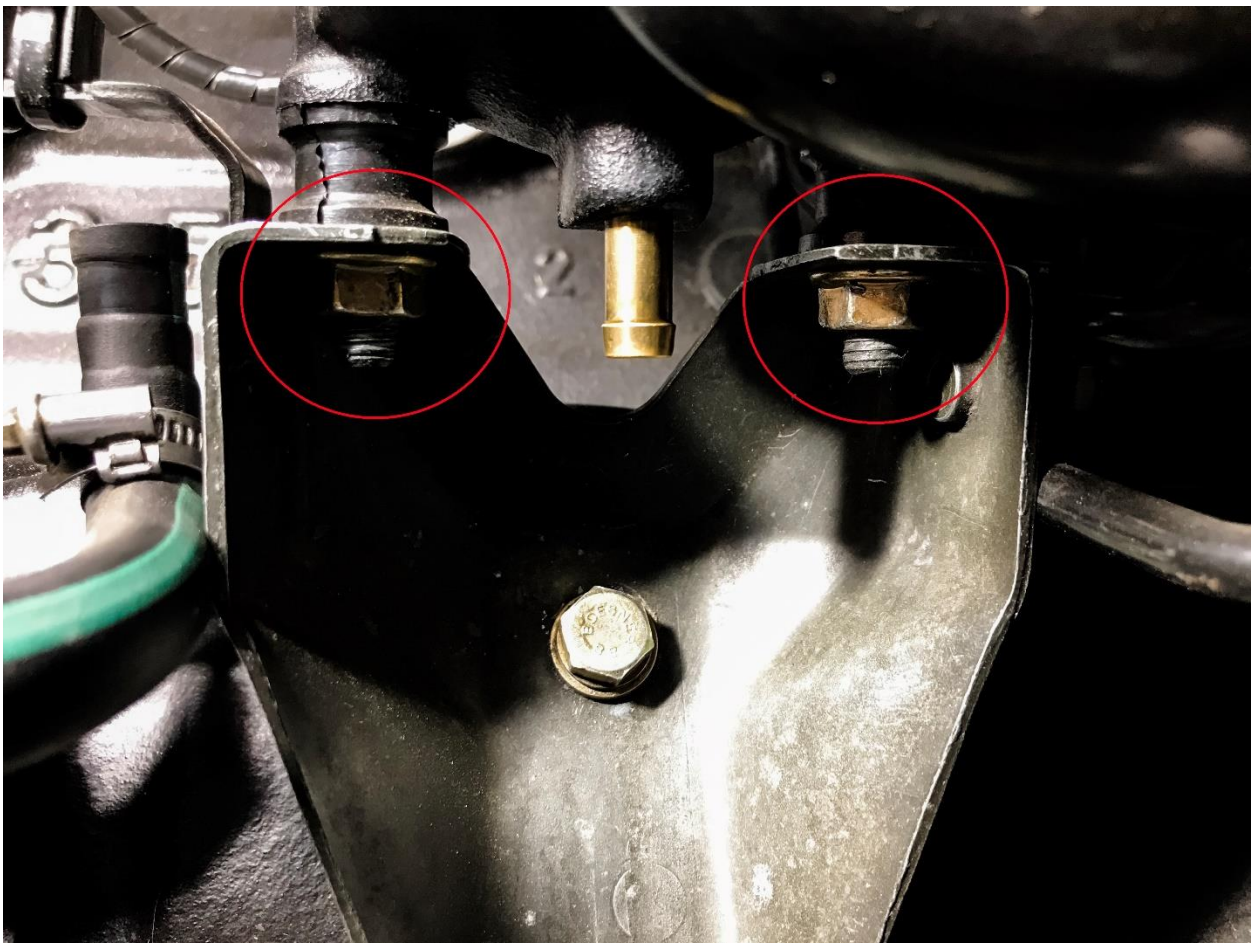

Figure 10

13. Free the wiring harness retention strap by removing the nut that attaches it to the plenum with your 10mm wrench. Slide the retention strap off the stud but make sure it stays on the harness. See Figure 11.

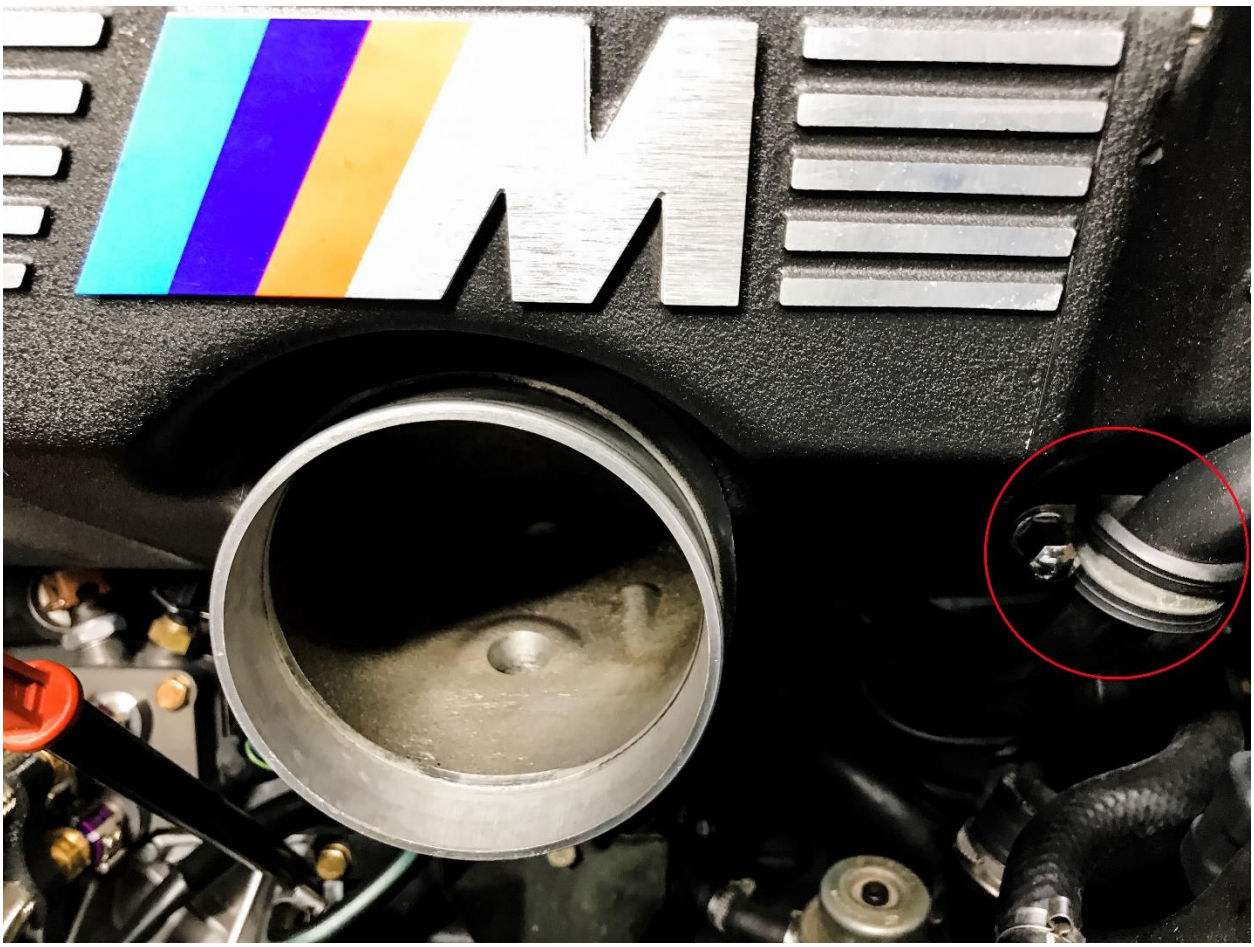

Figure 11

14. Disconnect throttle and cruise control cable next by pulling the throttle actuator plate towards you (US driver side) and then pinching the grommet and sliding grommet and cable out of throttle actuator. See Figure 12.

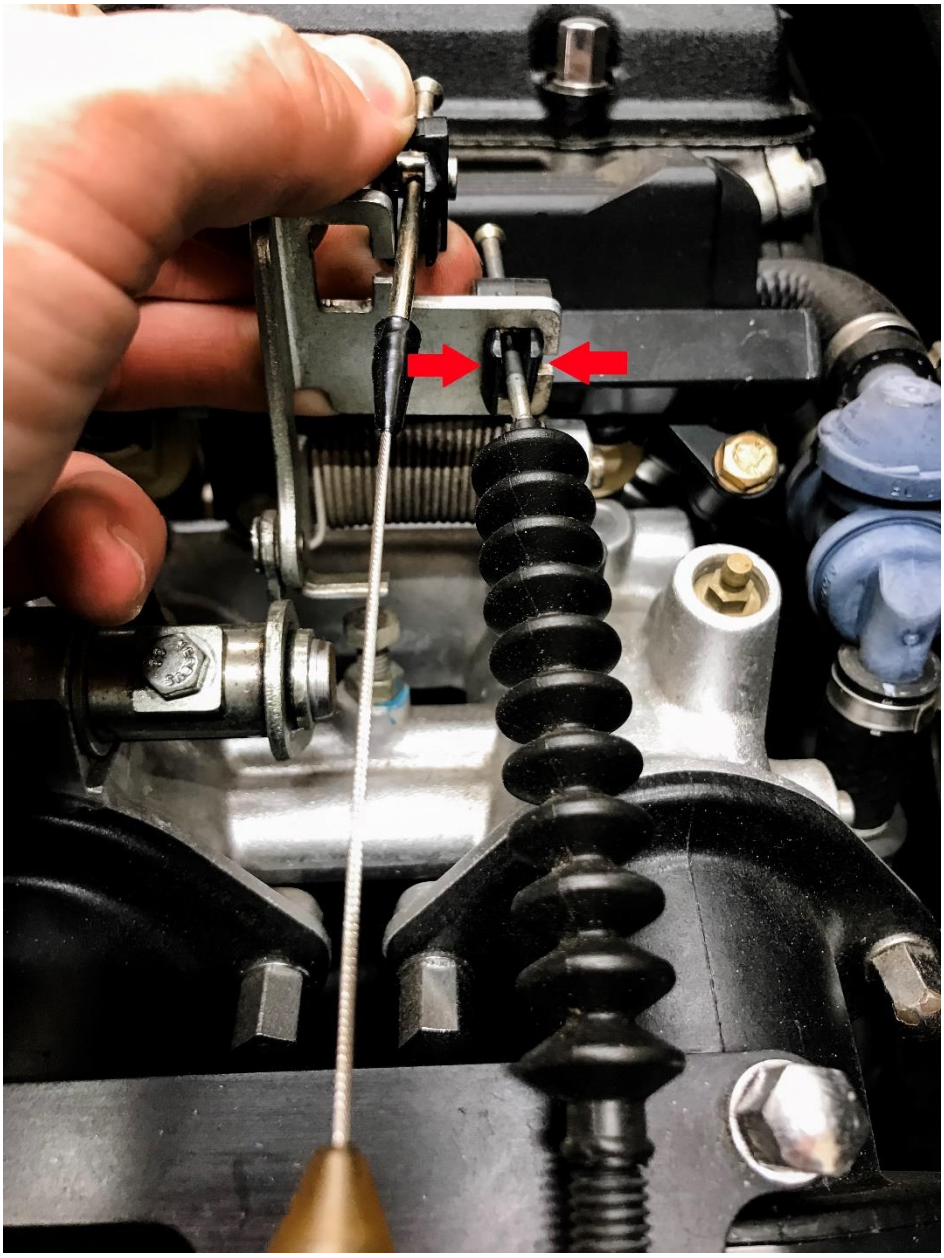

Figure 12

15. Remove the two nuts with your 10mm wrench that mount the throttle cable bracket to the velocity stacks and set the throttle cable bracket and cables on fire wall. See Figures 13 & 14.

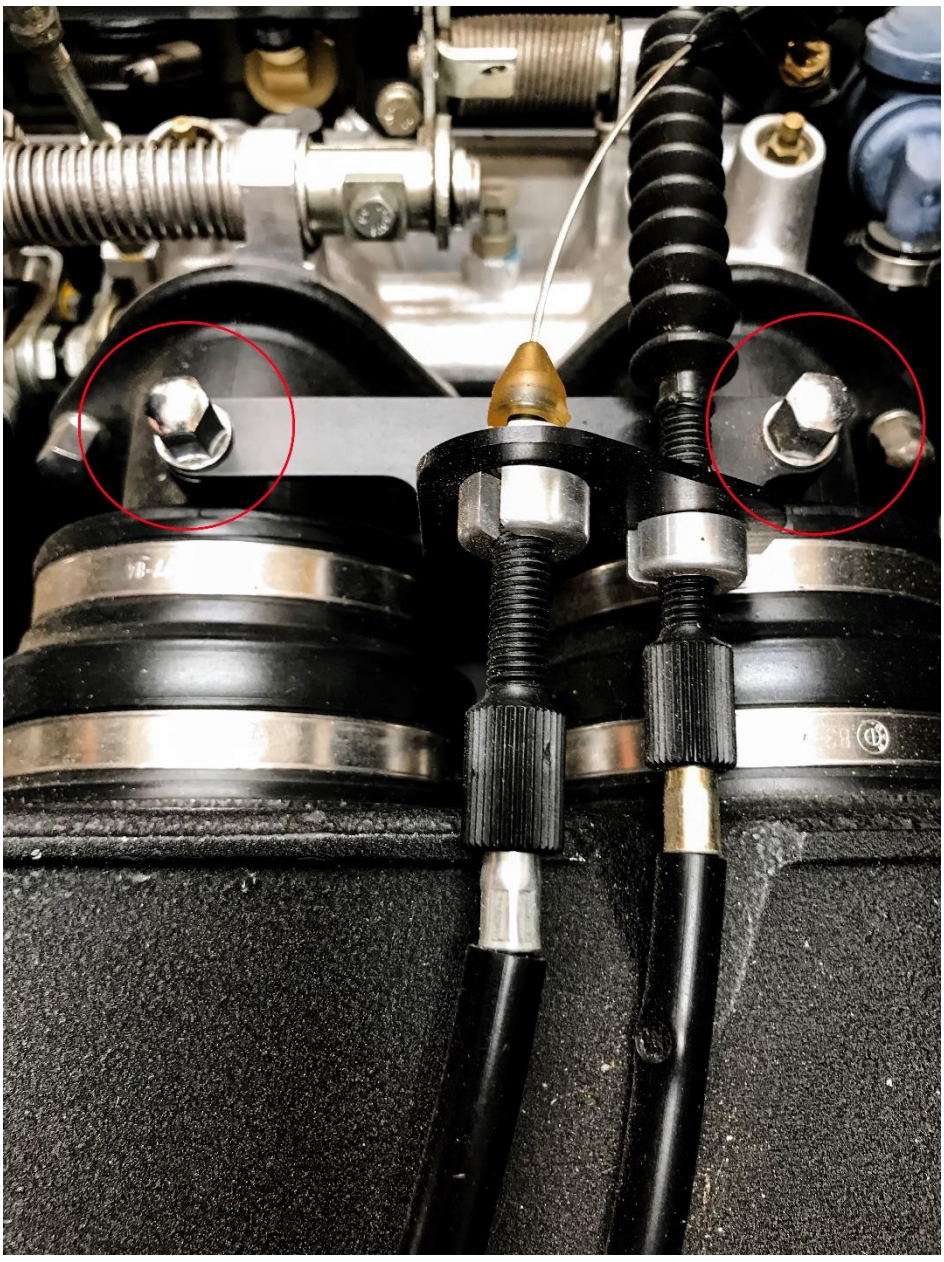

Figure 13

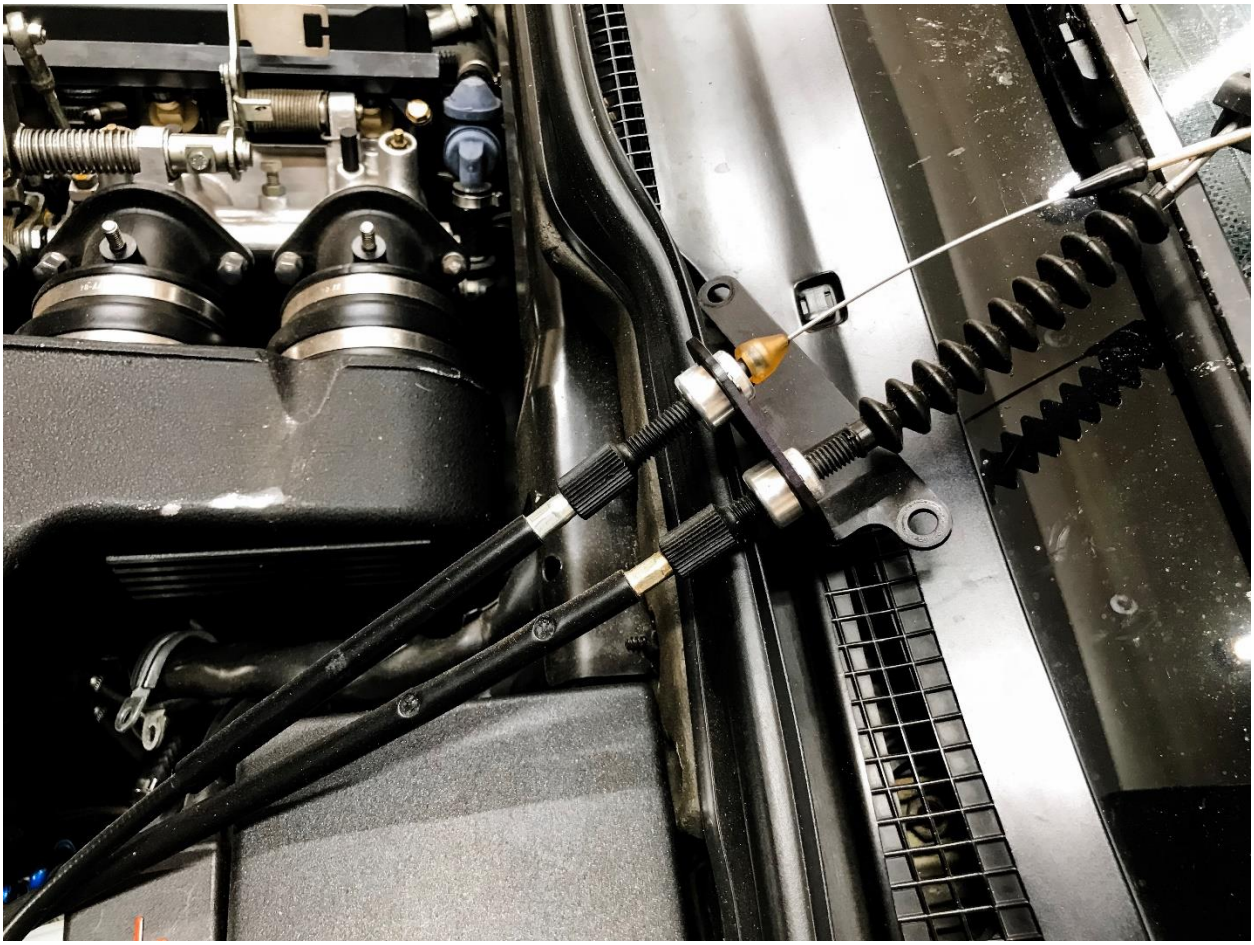

Figure 14

16. Remove all 12X nuts at the throttle body to velocity stack joint using your 10mm wrench. See Figure 15.

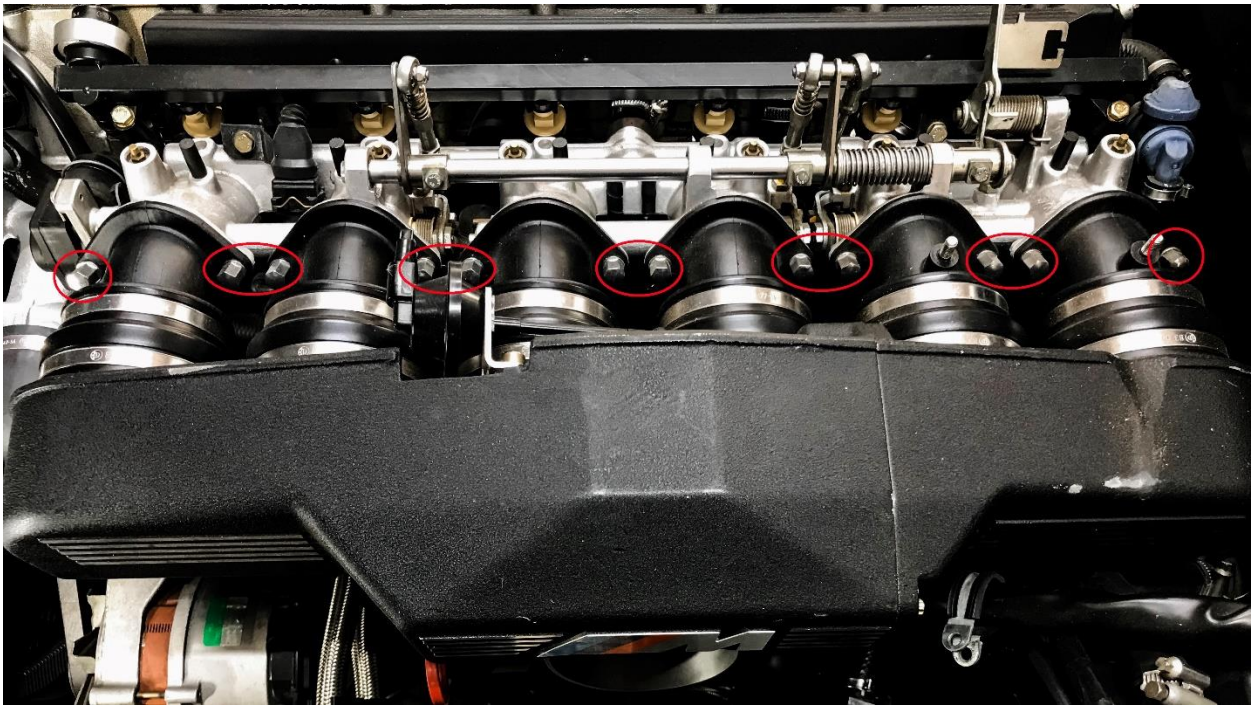

Figure 15

17. Ensure all connections and hoses are clear and lift plenum off throttle body studs and clear of lower plenum mount. This is a tilting motion towards the driver (U.S.) side strut tower. See Figure 16.

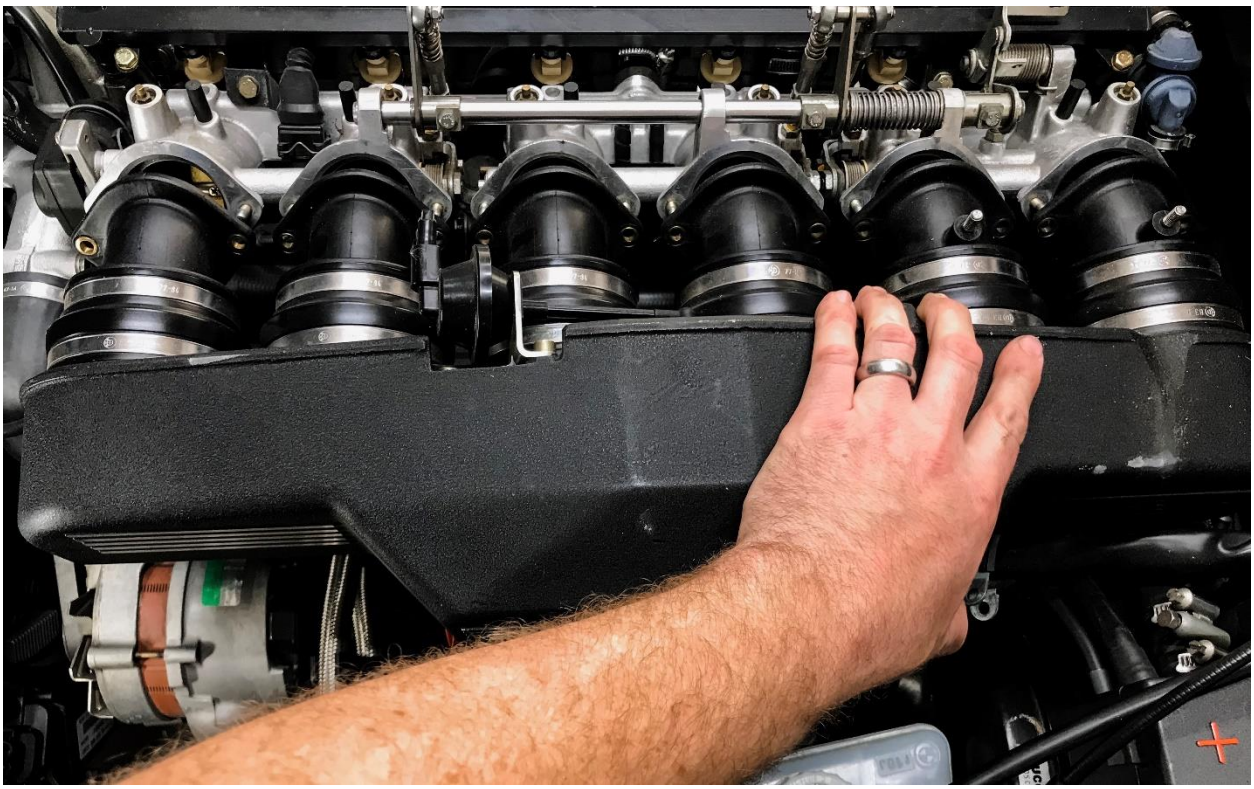

Figure 16

18. With the plenum off and on a flat surface clean and inspect the o-rings that seal the velocity stacks to throttle bodies as well as the velocity stack to plenum boots. The o-rings should be round and not have any nicks or cracking. The velocity stack to plenum boots should be free from cracking (replace as necessary). Now is a good time to take a few drinks of your refreshing beverage.

19. With the plenum removed disconnect the IAC valve electrical connector at the valve body. Located under and between cylinders #1 and #2 throttle bodies. See Figure 17.

Figure 17

20. Next disconnect the idle air control hose at the idle air valve body. Remove the idle air control valve by pushing the retaining bosses on the bottom of the rubber mount together to free them from the mounting plate. It can be helpful to remove the clips and hose for the heater return line. This is just to aid in clearance. See Figure 18.

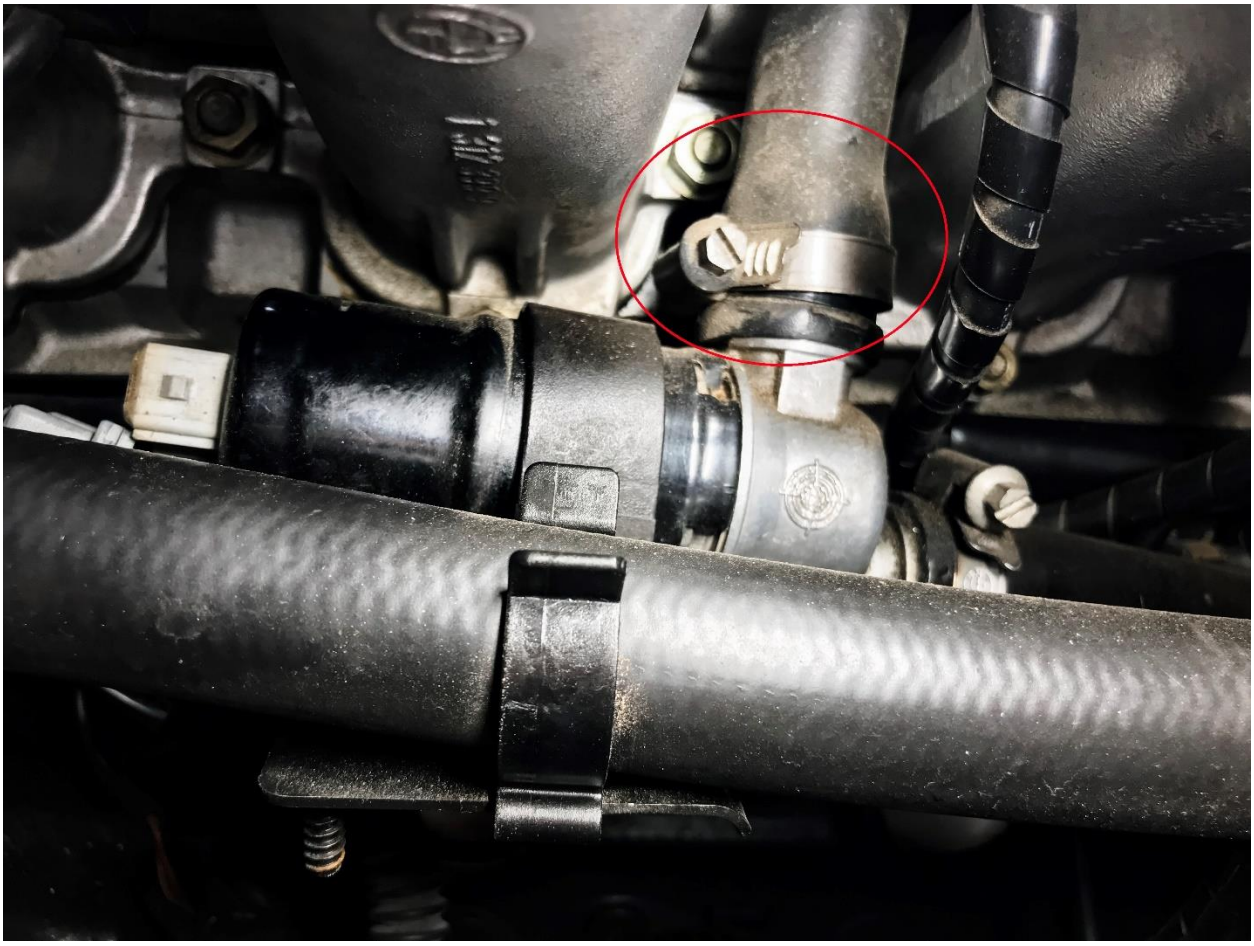

Figure 18

21. Disconnect the vacuum line for the reservoir at the fire wall side (white) of the check valve #11 and from the vacuum reservoir #8 and remove the vacuum reservoir and its mount by pushing the retaining bosses on the bottom of the rubber mount together to free them from the support rail. It can be helpful to remove the clips and hose for the heater return line as you did in step 20, again this is just to aid in clearance. See Figure 19.

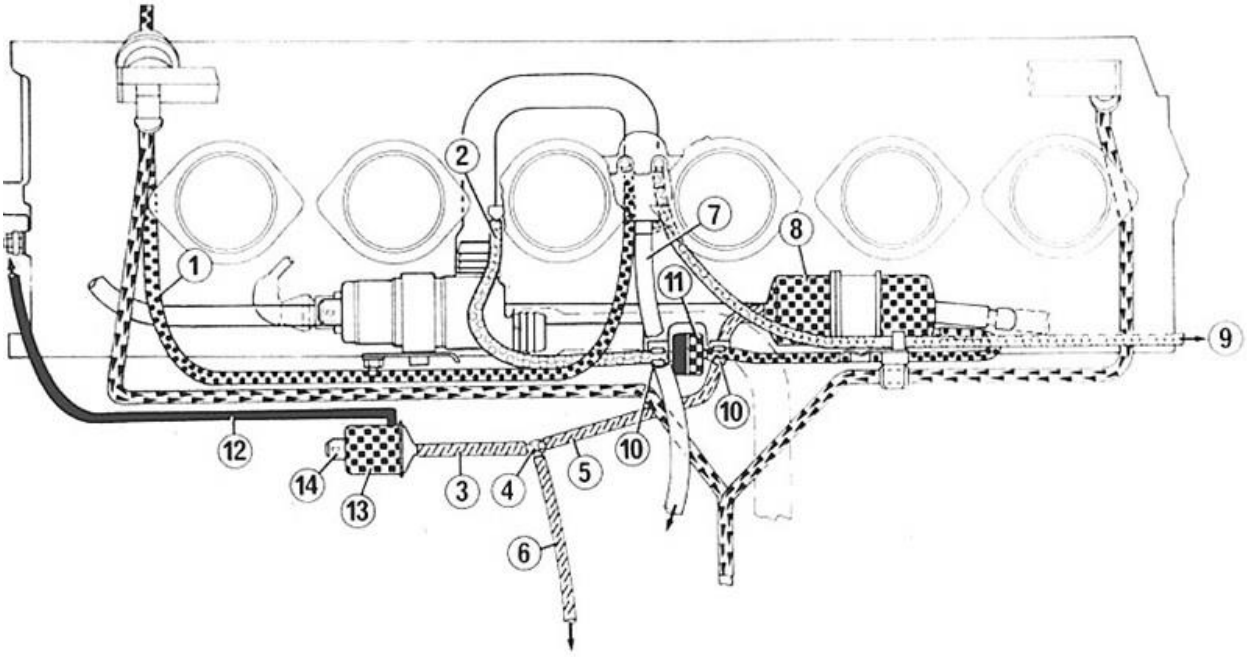

Figure 19

22. With the idle air control valve and old vacuum reservoir removed proceed to remove the mounting nuts for the support rail that are located behind them using your 13mm socket and replace with the M8 jet nuts provided using a 10mm socket. This is done to provide additional clearance and reduce the chance of chafing . . . Greg also went on a rant saying they save weight. See Figures 20 & 21.

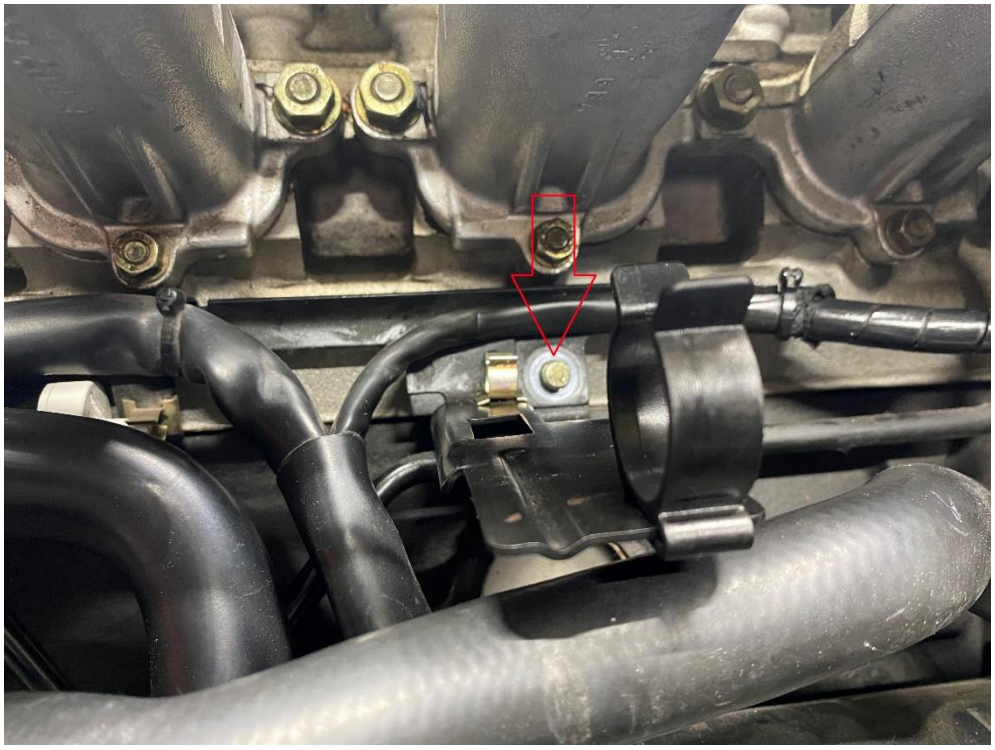

Figure 20

Figure 21

23. With the nuts replaced next locate your reservoir and mount and assemble as shown in Figure 22 (Prototype shown with no logo) & 23. The idea is to have the ports below the bumps in the mount.

Figure 22

Figure 23

24. Attach your vacuum line from the check valve to the rear of the vacuum reservoir (Non logo'd side). You want the loop here to be gentle, if you are doing this as part of a vacuum line replacement you will want a line length of 9.50"-10" (~240-250mm) and you will want to account for the shorter length of the new reservoir for the feed. **ATTENTION: Make sure the check valve and line are retained in the line clips on the support rail.** Install the vacuum reservoir, logo should face the front of the vehicle. See Figures 24, 25 & 26 (Prototype shown with no logo).

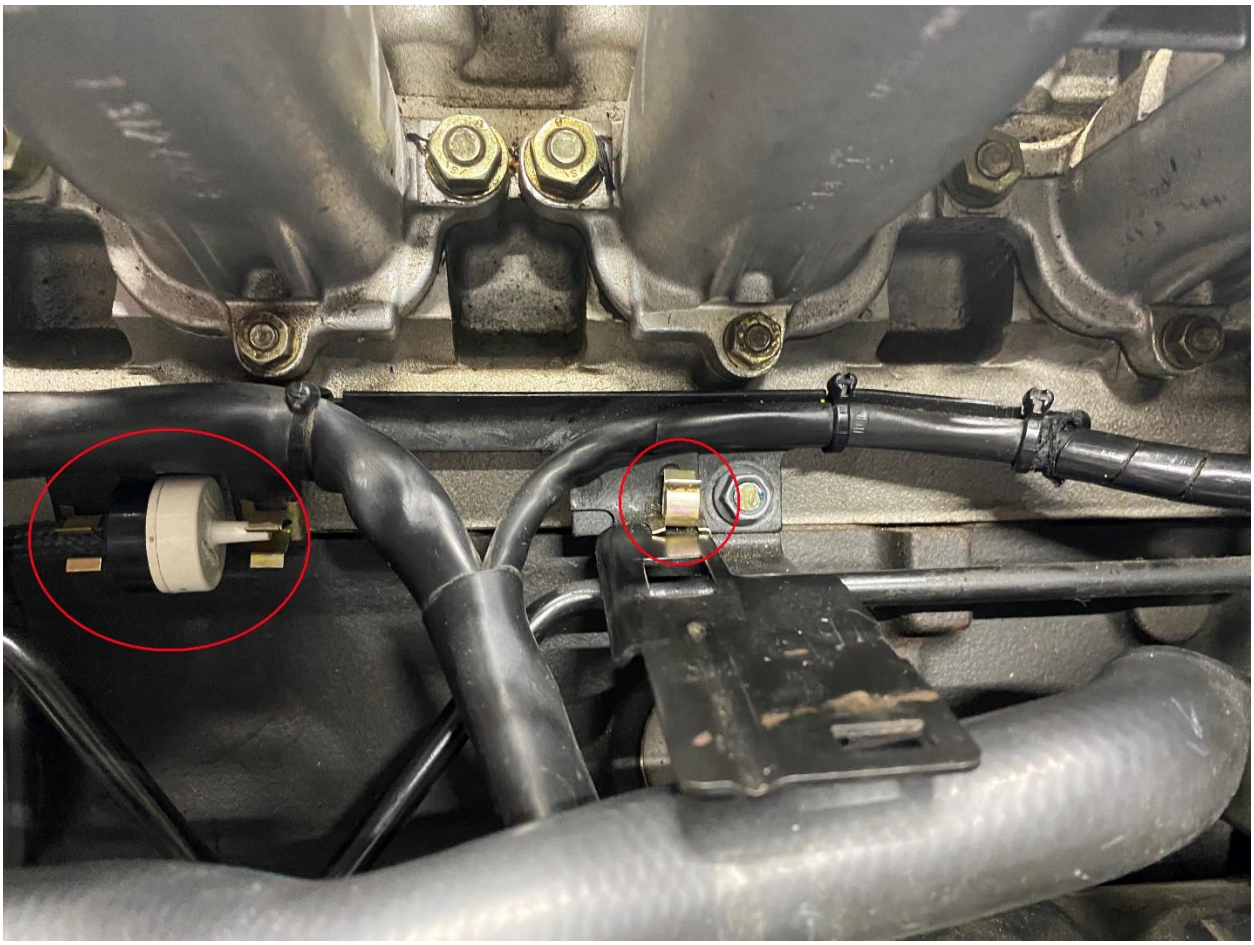

Figure 24

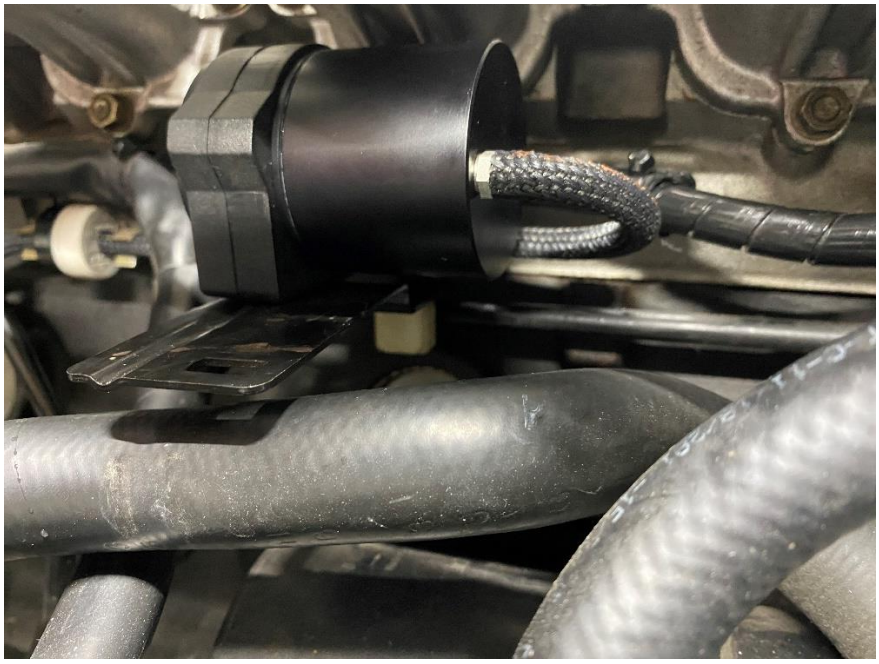

Figure 25

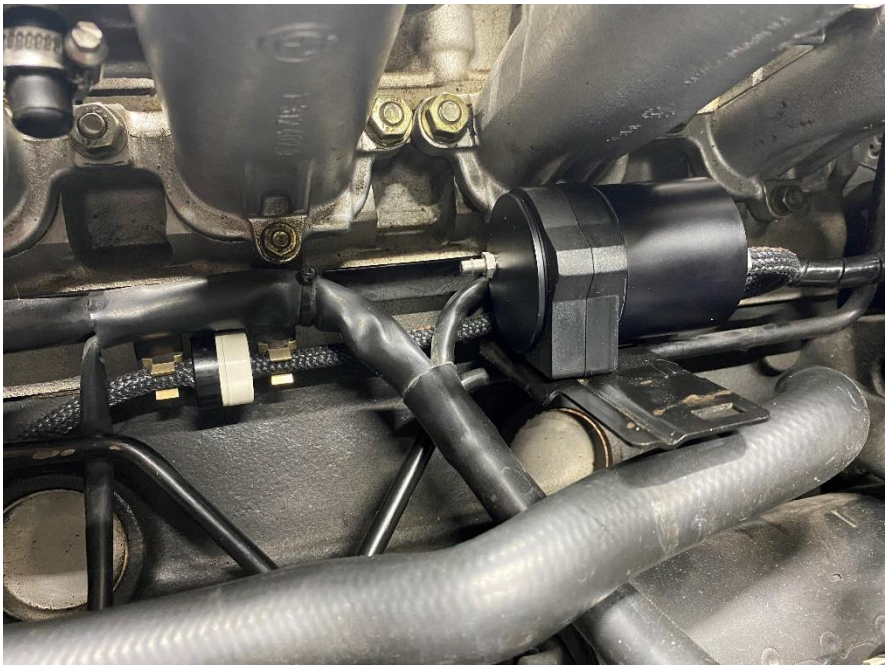

Figure 26

25. With the new reservoir installed and vacuum lines connected remove the crank case ventilation hose that is attached to the valve cover and replace with new hose and Norma 20-32 hose clamp if ordered otherwise reuse OEM. See Figure 27 for new hose installed.

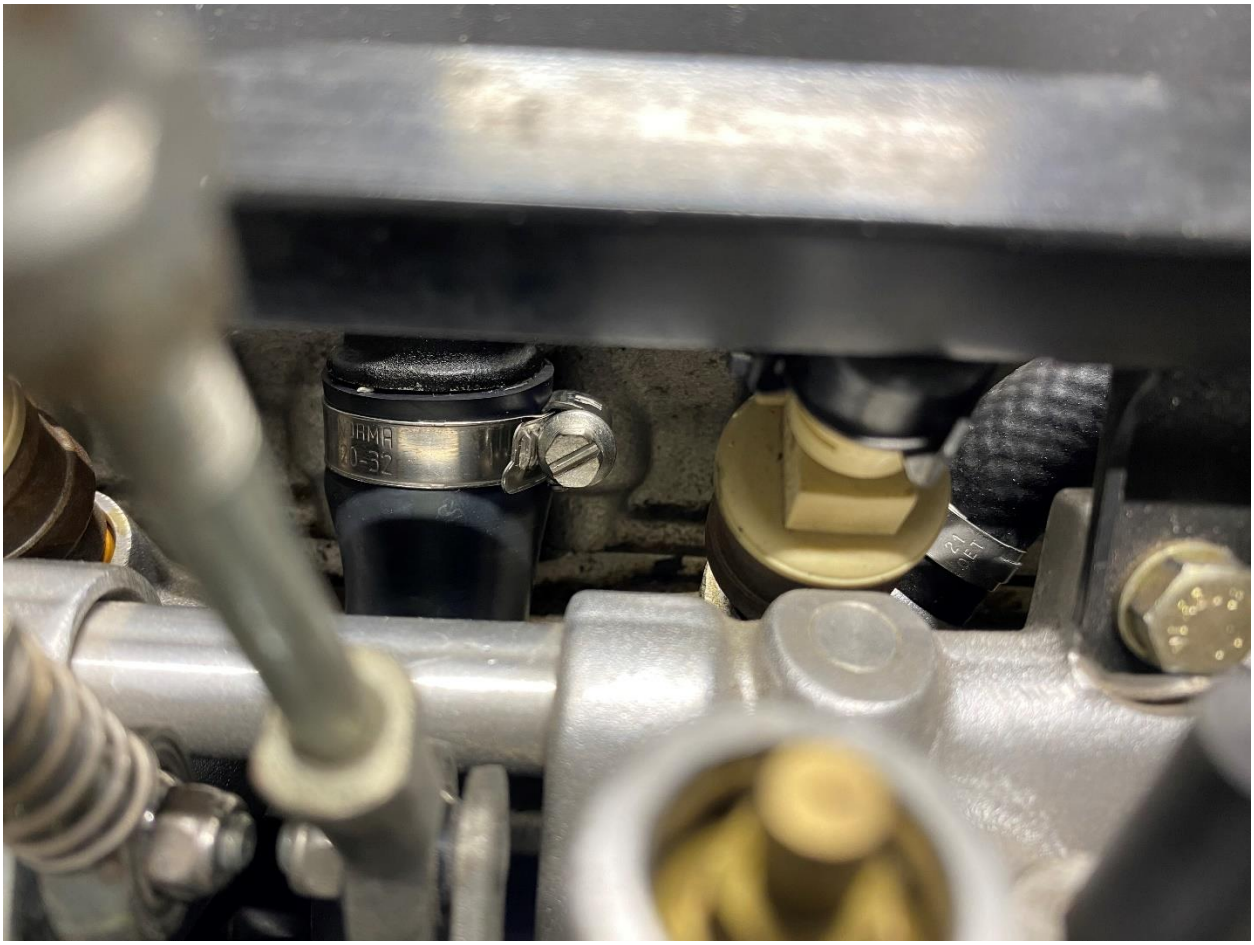

Figure 27

26. Reinstall idle air control valve and reconnect line and electrical connection. If removed reinstall clips and heater line. See figure 28 for crank case ventilation line and reservoir in installed position.

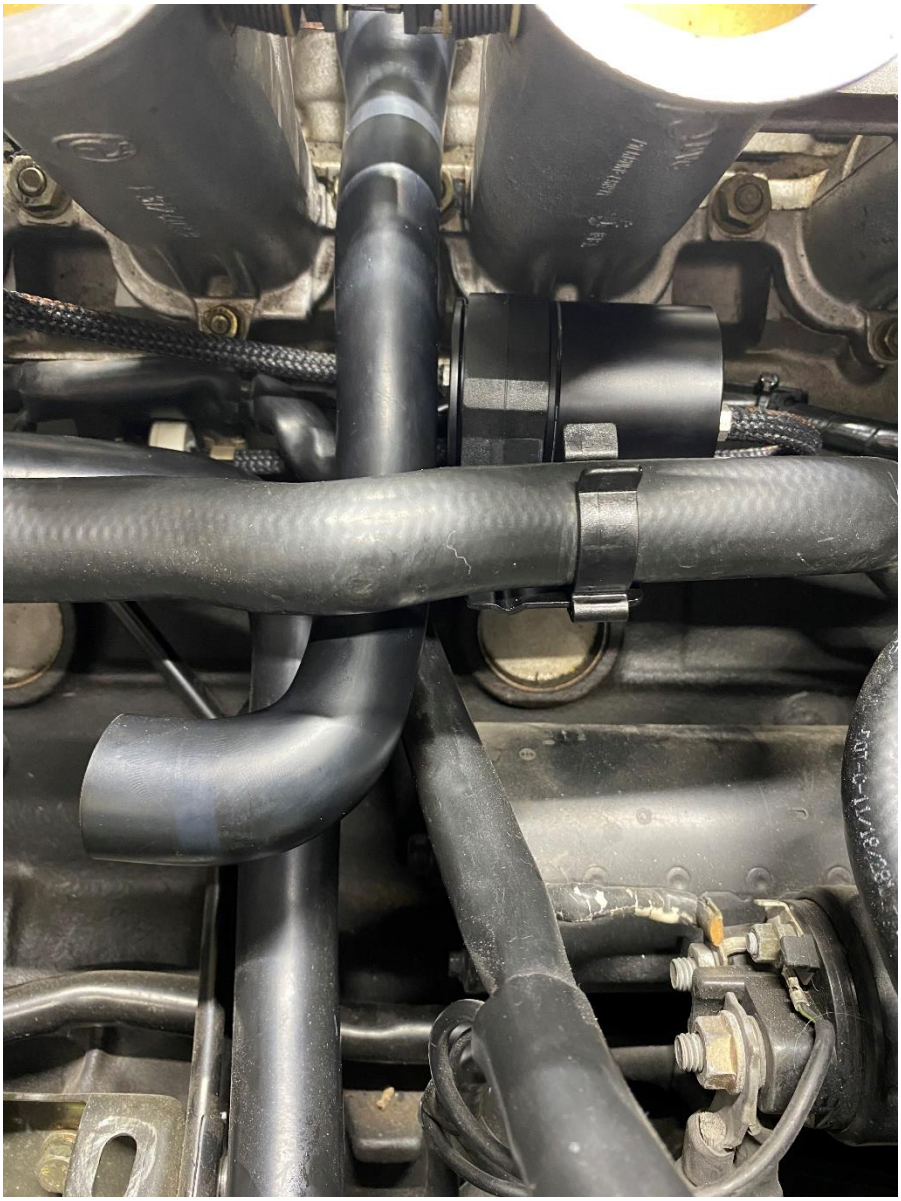

Figure 28

27. With the plenum removed its now much easier to access the oil drain line for the cyclone separator and remove it from its drain port using your stubby screwdriver on the dipstick tube. Wipe off any residue on the drain port on the dipstick tube with your rag and install new drain line with small hose clamp (Norma 8-16). **ATTENTION: Note orientation!!** See Figure 29.

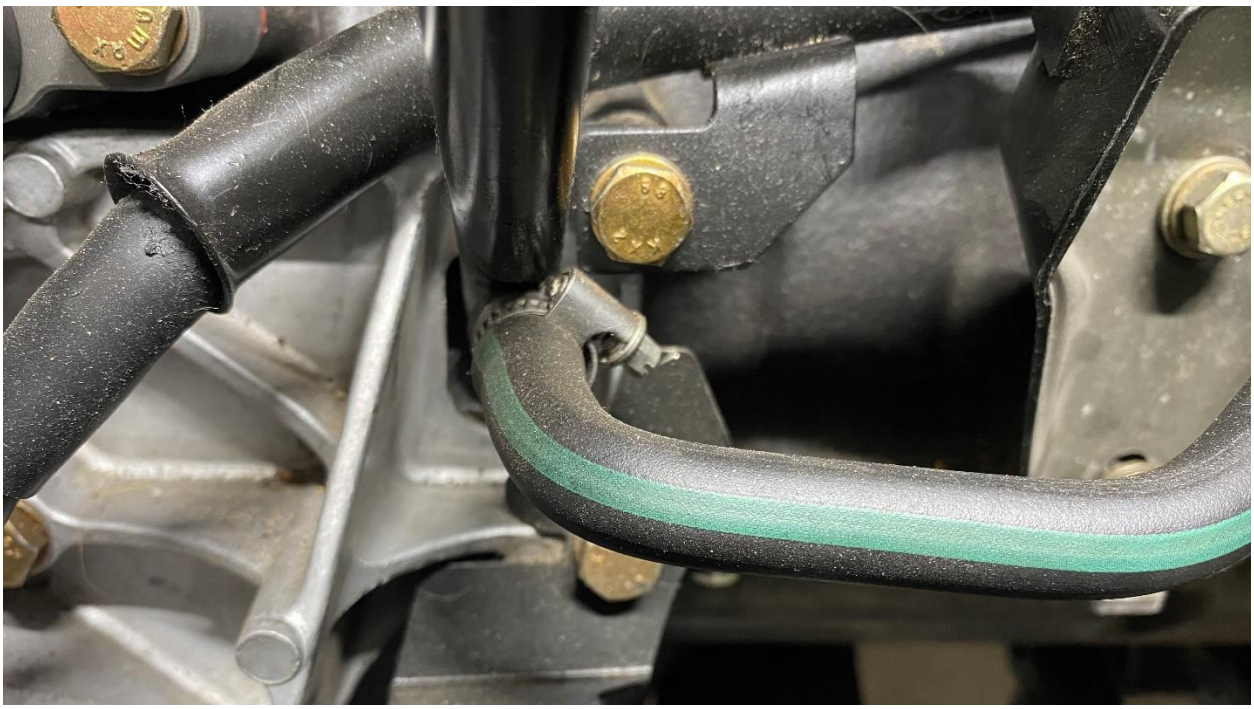

Figure 29

28. Have a drink of your beverage to make sure it's not getting to warm or cold. If you purchased oil separator mounts and sealing o-ring proceed to Step 29, if not proceed to Step 32.

29. Proceed to remove the two old isolation mounts from the oil separator by using the mounting nuts in a double nut method, **ATTENTION: These have a tendency to fail due to age and heat cycling!! If a mount comes apart you will have to use alternative methods to remove them, please contact us if you need assistance.** See Figure 30.

Figure 30

30. Install the new isolation mounts hand tight until flush, if needed use pliers and a rag to protect the mounts. **DO NOT OVER TORQUE!!**

31. Remove 3X Torx bolts that mount the oil separator to the plenum. Remove old o-ring and clean all surfaces. Degrease and clean separator, if desired it is possible to remove the internal baffle plate for additional cleaning. Reinstall with new oring and tighten all bolts ensuring the o-ring stays seated and does not get pinched.

32. With all of your lines replaced and properly routed, reinstall all components in reverse of removal steps. If you need further assistance with anything at all please feel free to contact us at Info@angry-ass.com .

33. Finish your refreshing beverage, take pictures, and post to your favorite social media platform(s). Be sure to mention us at Angry Ass! And never mix drinking and driving, but please enjoy your hard work when you are fit to drive. Thanks again from all of us at Angry Ass!

NOTES