

## AMS VR30 INTERCOOLER

# INSTALL INSTRUCTIONS

Infiniti Q50 2016-2022  
Infiniti Q60 2016-2022  
Nissan Z 2023+

## Introduction ///

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A vehicle modified by the use of performance parts and tuning may not meet the legal requirements for use on public roads. AMS Performance makes no claims of compliance unless otherwise stated on a per-product basis. Use or installation of performance parts and tuning may adversely affect the drivability and reliability of your vehicle, and may also affect or eliminate your insurance coverage, factory warranty and new OEM part warranty. There is no stated or implied guarantee by AMS of continued OEM vehicle warranty, insurance coverage, or emissions compliance, due to the stress placed on your vehicle by performance parts and our inability to monitor its use, tuning or modification.

These instructions are not intended to be a comprehensive guide for installation as there are many variables that may affect your particular vehicle, including but not limited to model year differences, sub-model/trim/optional equipment differences, the presence of non-OEM parts, or other modifications that may have previously been completed. A basic understanding of automotive parts and systems and novice mechanical skills should be all that is necessary for installation, but certain circumstances may necessitate professional installation.

AMS Performance is committed to providing quality support for our products. If you are in need of technical support, installation help, or a replacement component, our Customer Service Team is available directly via telephone at 847-709-0530, or digitally via the contact form linked here: [amsperformance.com/support](https://amsperformance.com/support)

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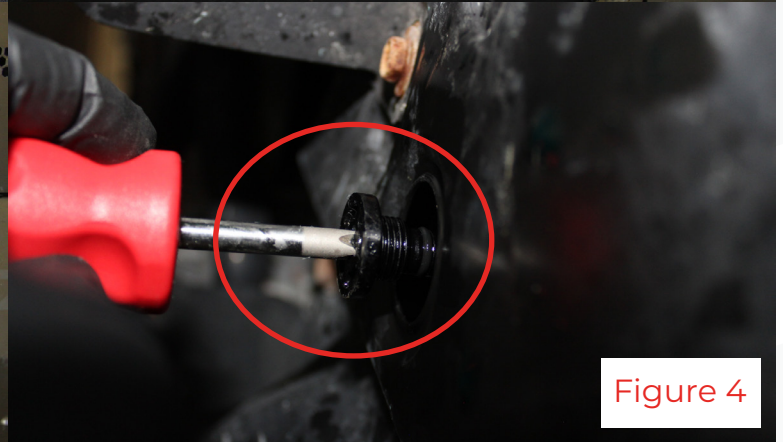
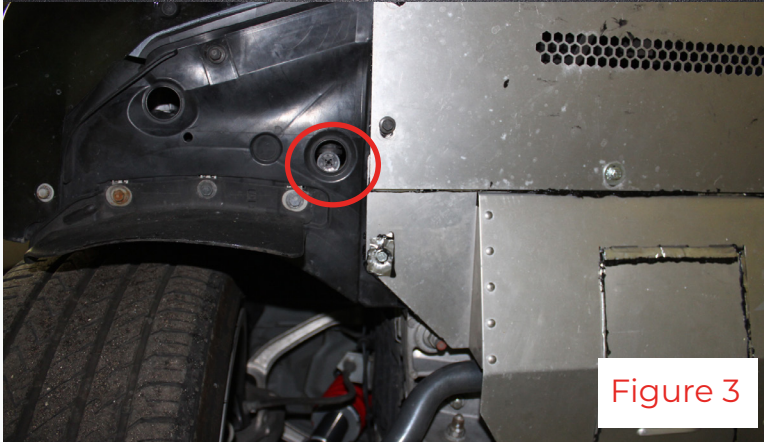
**Page 2** Stock Intercooler Removal

**Page 15** AMS Intercooler Installation

## STOCK INTERCOOLER REMOVAL **///**

**\*NOTE\*** - A MATCO TOOLS MCRI03A OR SIMILAR TOOL WILL BE NEEDED TO COMPLETE THIS INSTALL

1. Begin by opening the hood and removing the I.C. reservoir cap (Fig. 1), and then locating the I.C. drain on the underside of the front bumper on the passenger side (Fig. 2 & 3). Use a Phillips head screwdriver to and remove the plug (Fig. 4) and drain fluid into a pan.

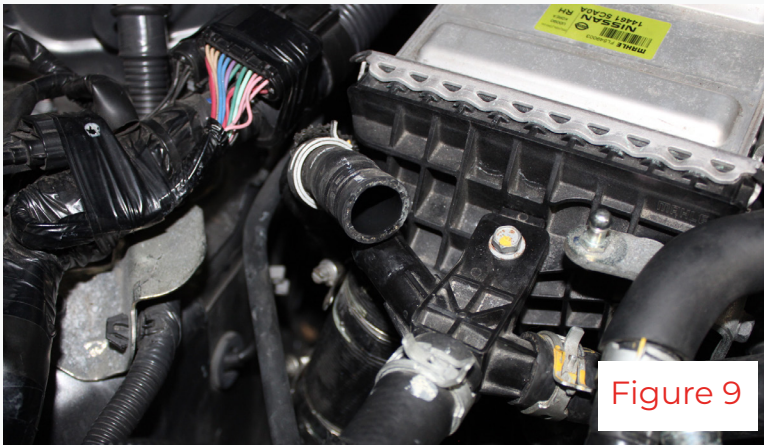




2. Remove the engine cover (Fig. 5 & 6) and unplug the MAP sensors from each intercooler. (Fig. 7 & 8)



3. Starting with the passenger side intercooler, remove the water-in, water-out, and the bleed line (Fig. 9, 10 & 11). After the water lines are removed, unbolt the water pipe Y that is mounted to the cooler (Fig. 12).

**Figure 9****Figure 10****Figure 11****Figure 12**



4. Remove the (4) bolts holding down the cooler. There are (2) on each side on the cooler (Fig. 13 & 14). With those removed, loosen the air in/out coupler band clamps (Fig. 15 & 16). Next, pull up on the cooler, then pull out to remove it (Fig. 17).



Figure 13

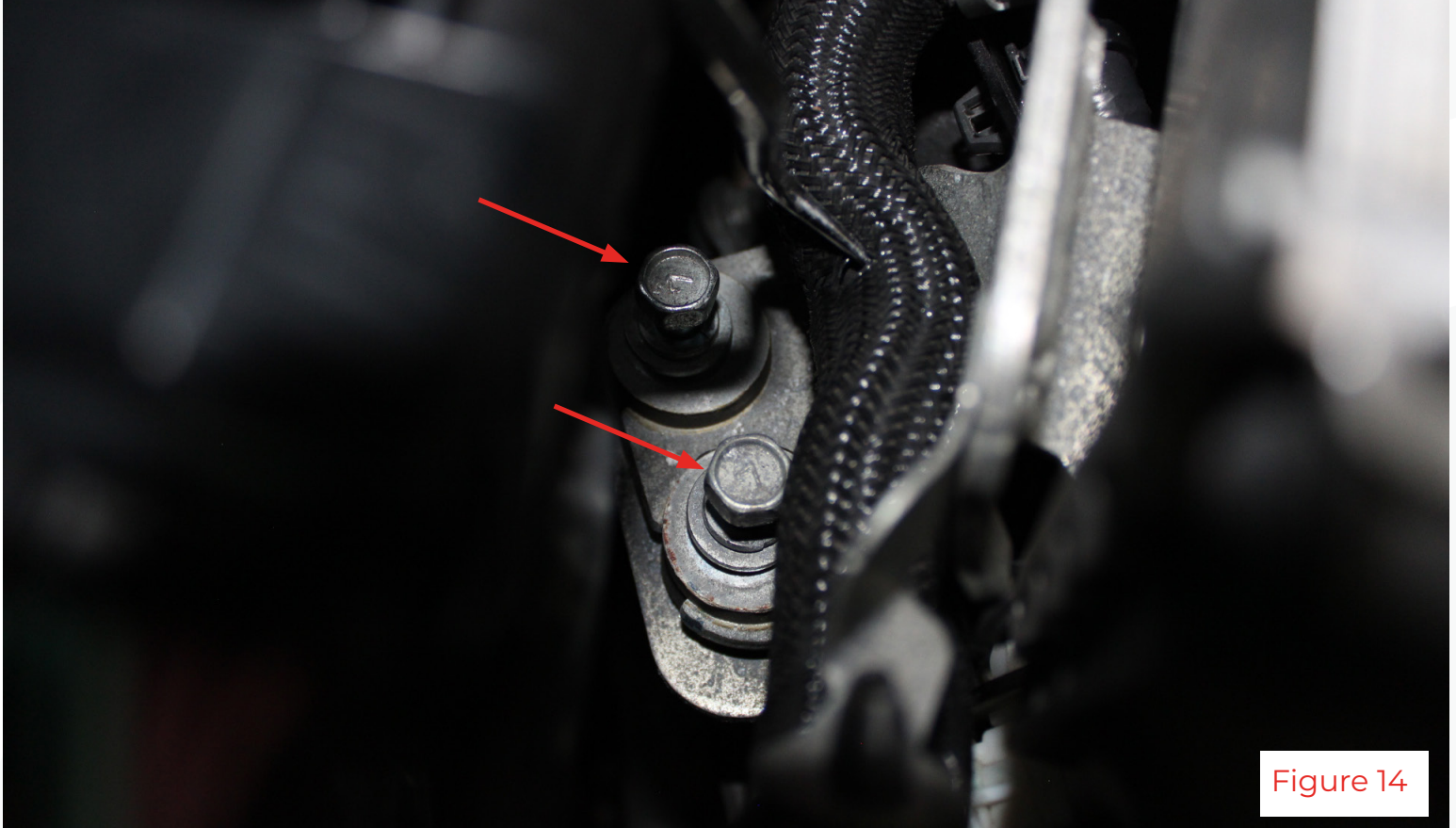


Figure 14



4) Continued...



Figure 15

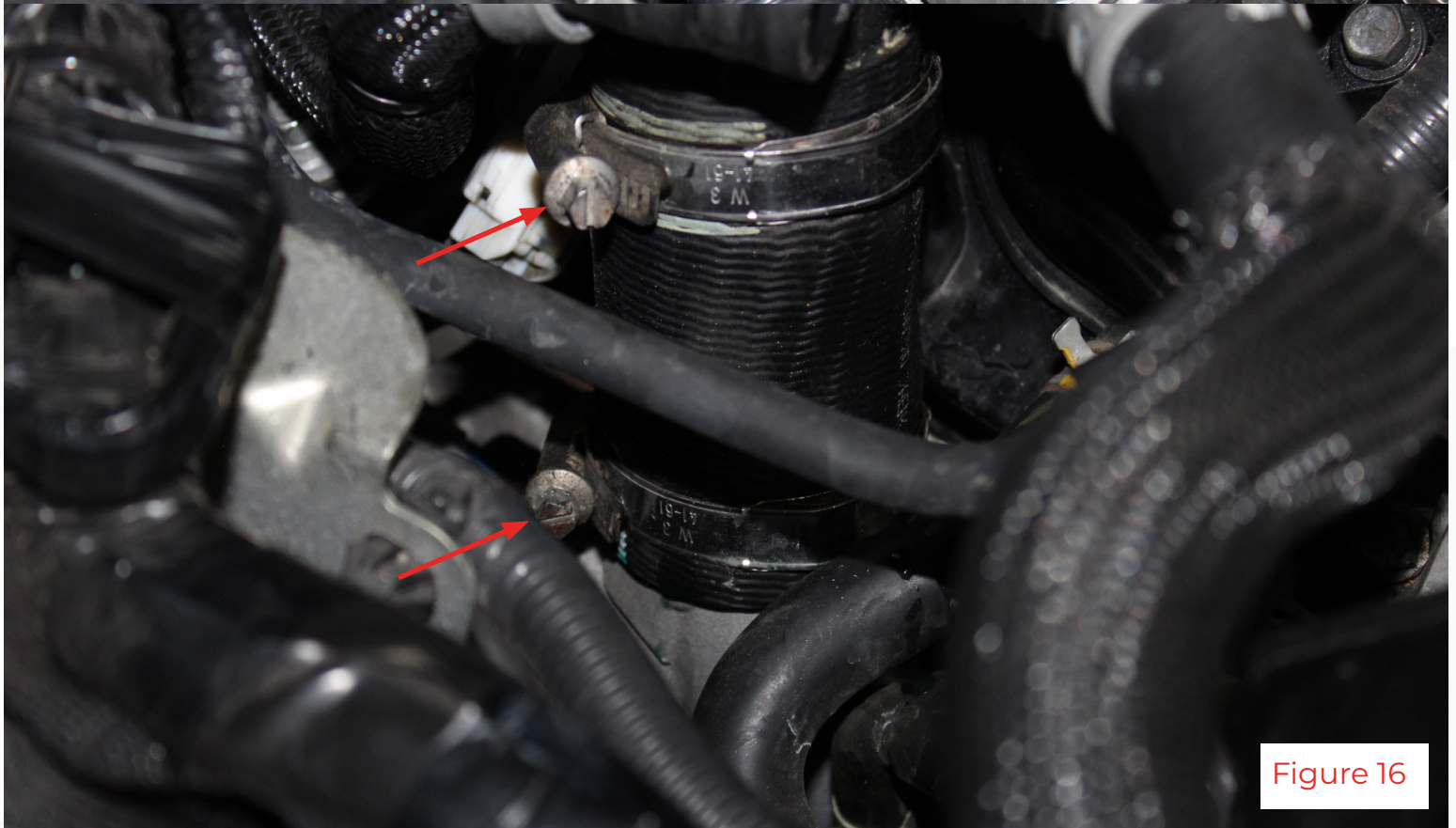


Figure 16



4) Continued...

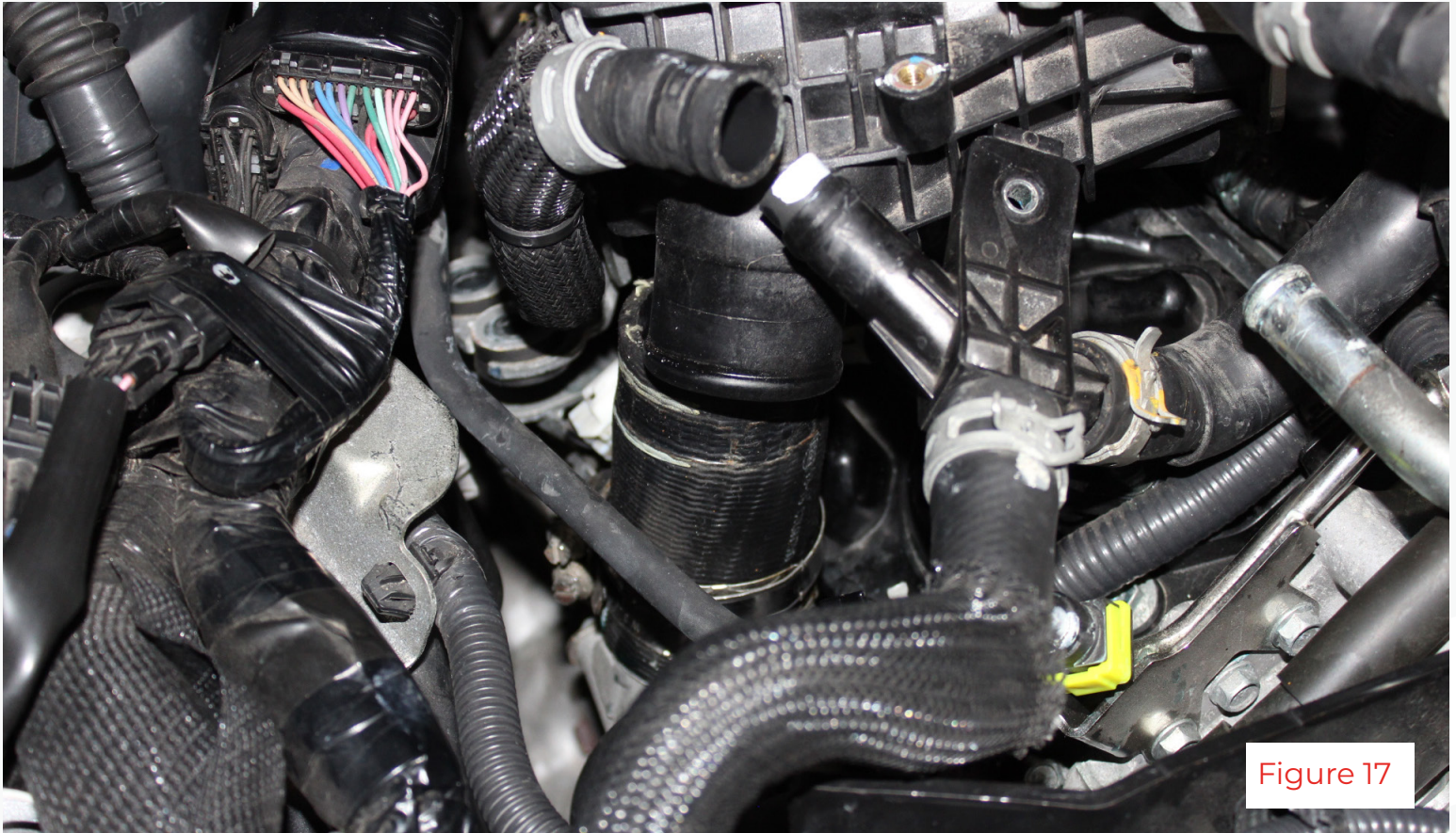


Figure 17



5. Before setting the cooler aside, you will need to remove the MAP sensor (Fig. 18-19) and reuse (3) of the grommets. (Fig 20-22).

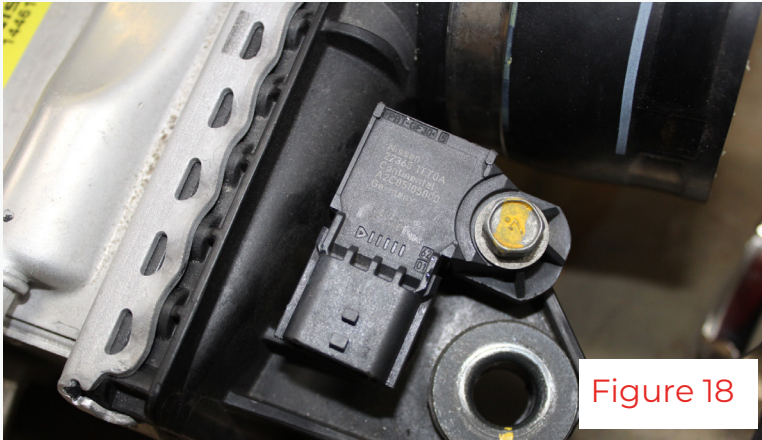


Figure 18



Figure 19



Figure 20

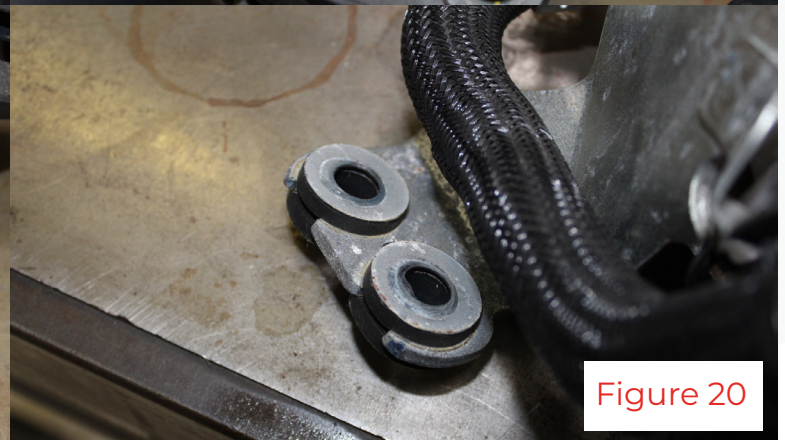


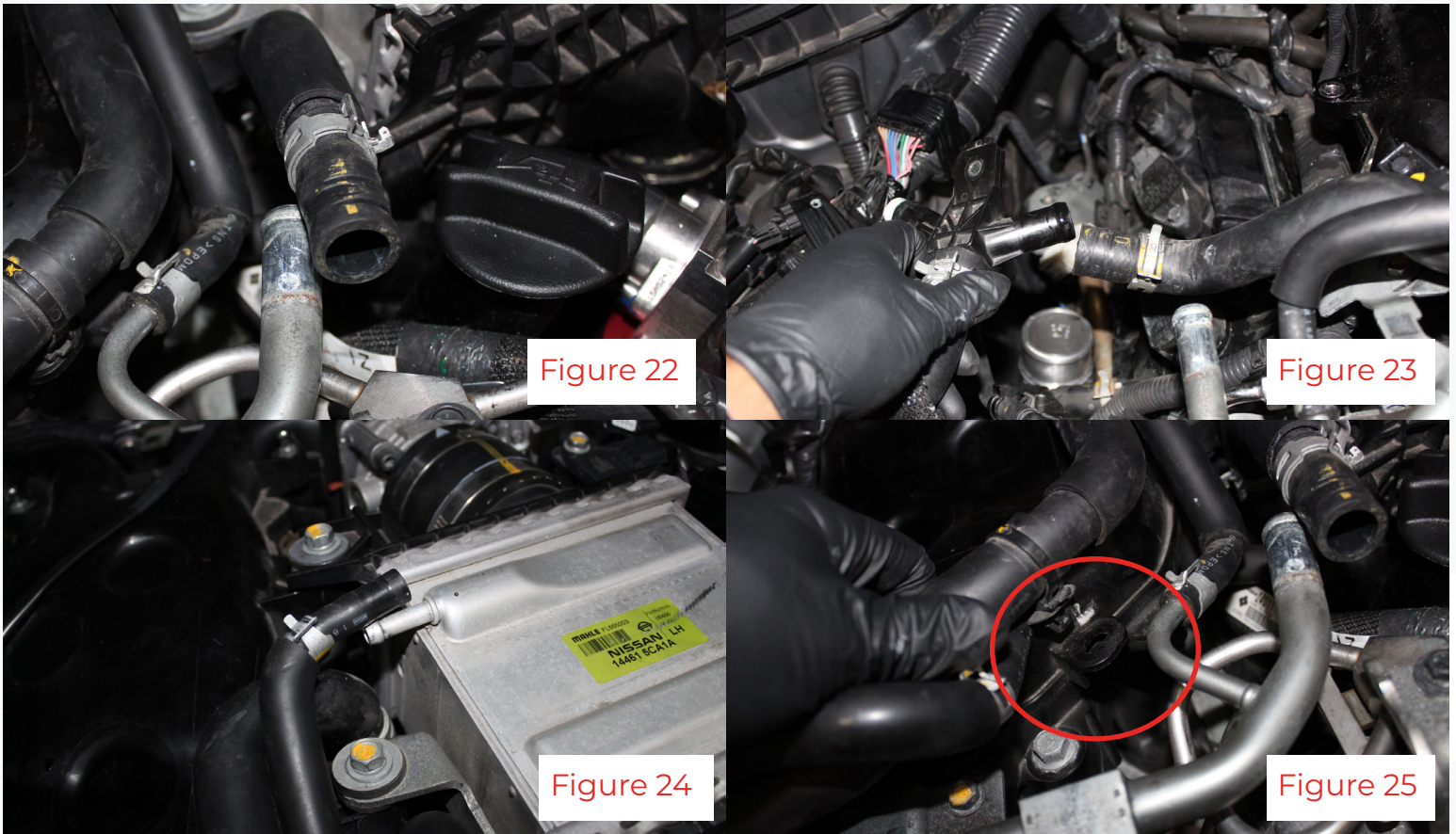
Figure 20



Figure 21



6. Repeat steps 1-5 on the driver side (Fig. 23-25). After repeating step 5 on the driver side, release the clip holding the water line going to the Y block.





7. Remove the (4) bolts holding down the cooler (Fig 27 & 28). Then, loosen the air- in/out couplers. Finally, remove the cooler by pulling up and out (Figures 29 & 30)..



Figure 27

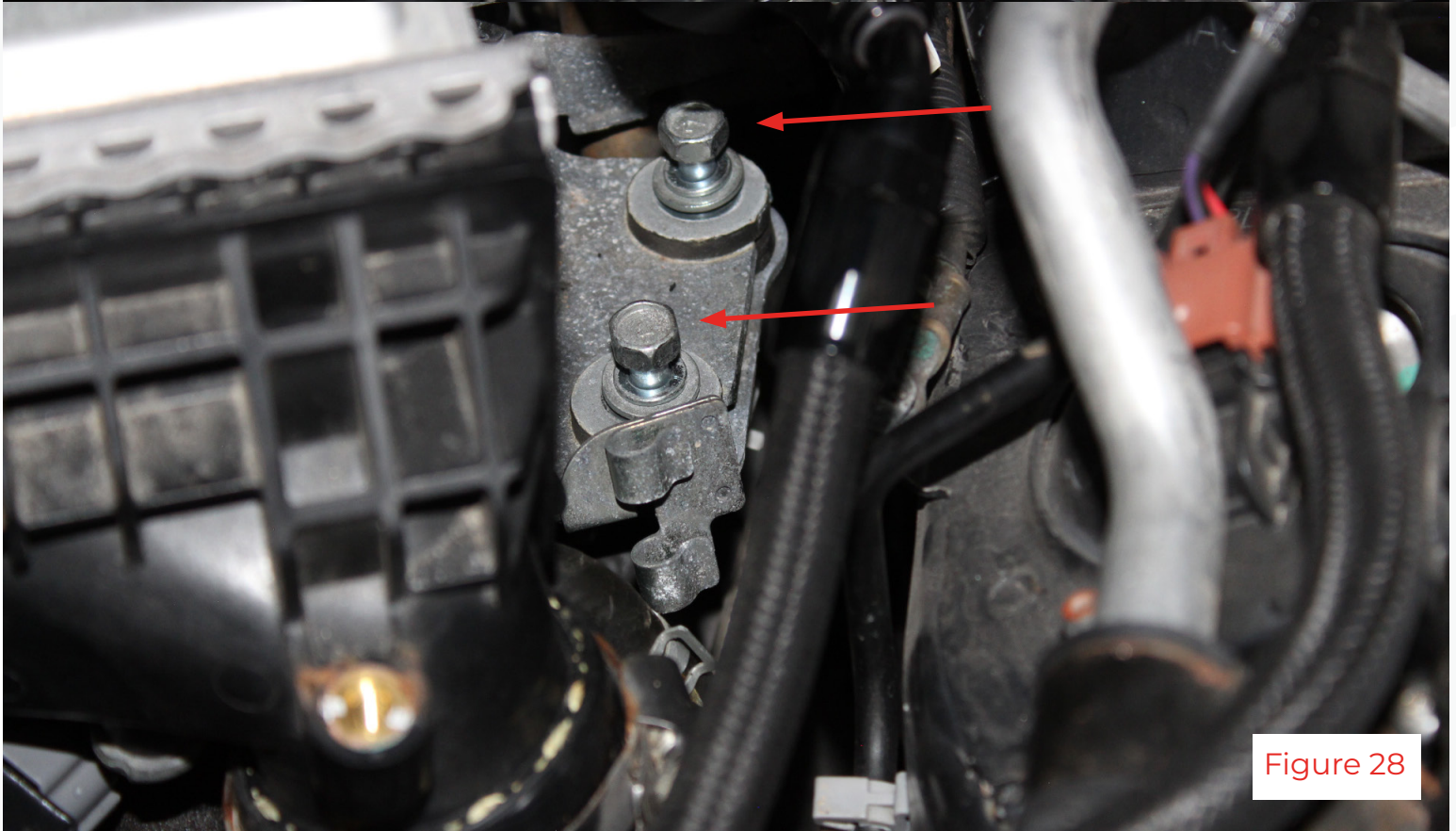


Figure 28



7. Cont...



Figure 29

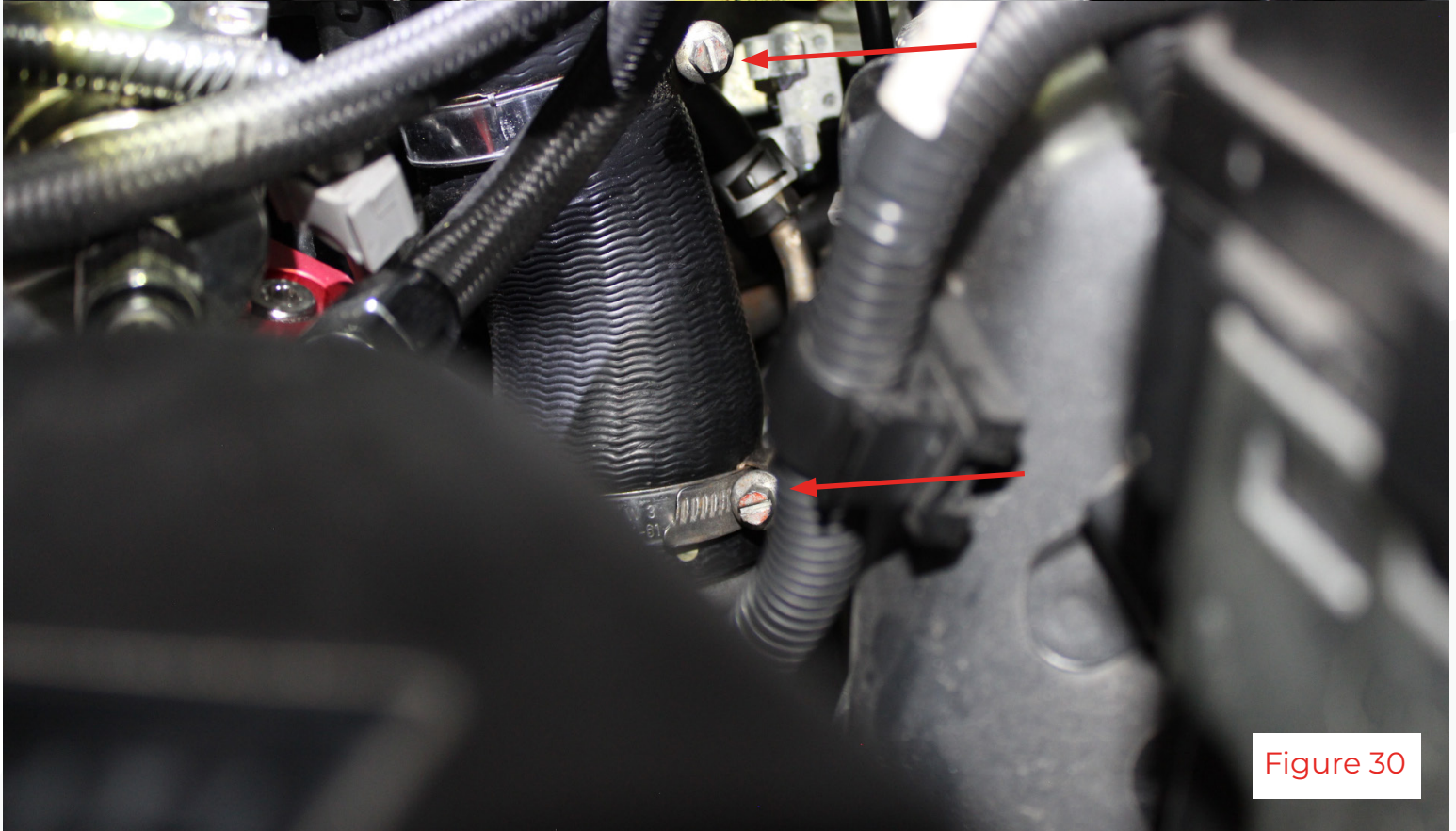
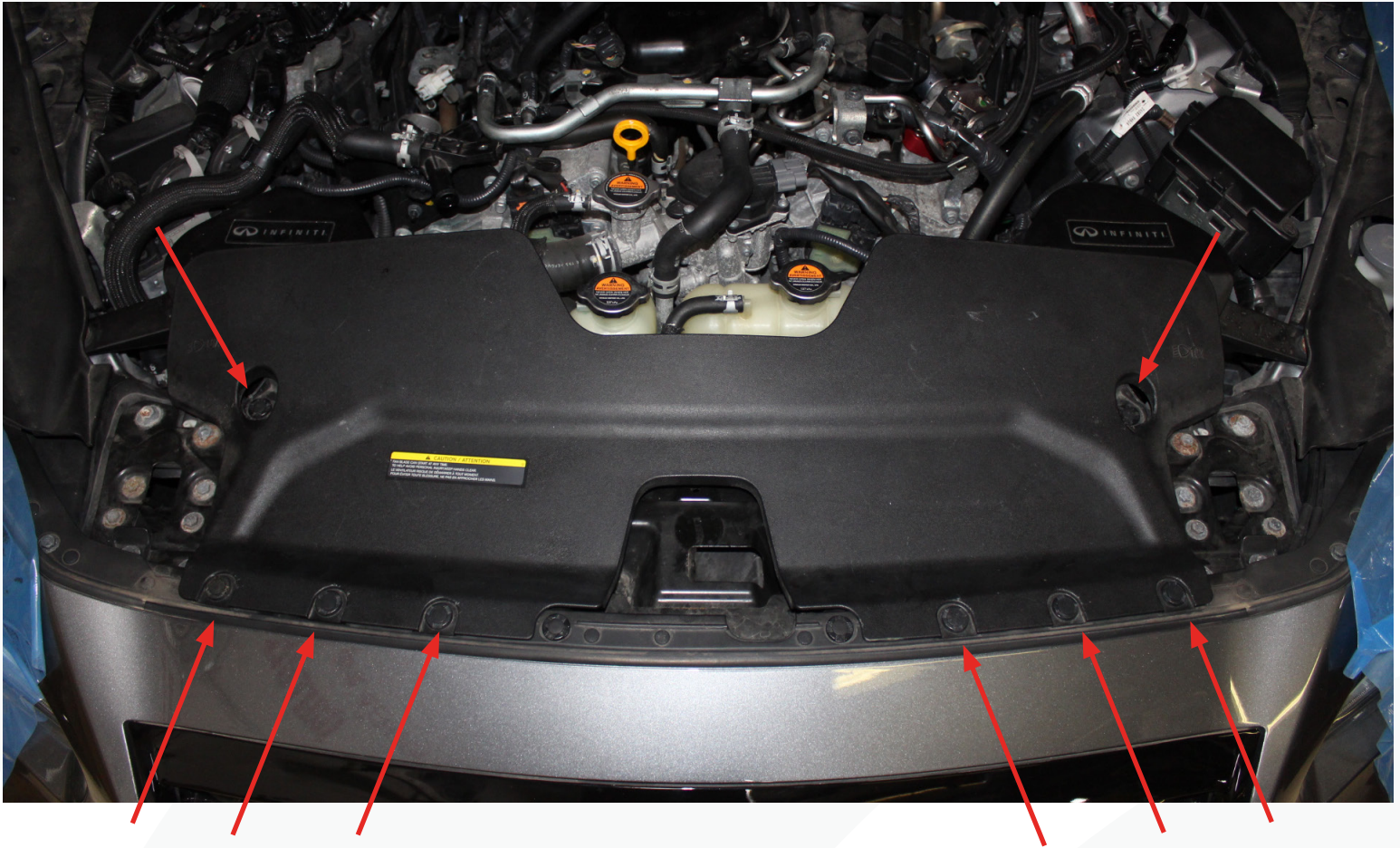


Figure 30



8. Before setting the driver side cooler aside, remove (3) grommets and the MAP sensor and save for later. See previous step (5).

9. Remove the clips holding down the center cowl (Fig. 31), then remove the cowl (Fig. 32).



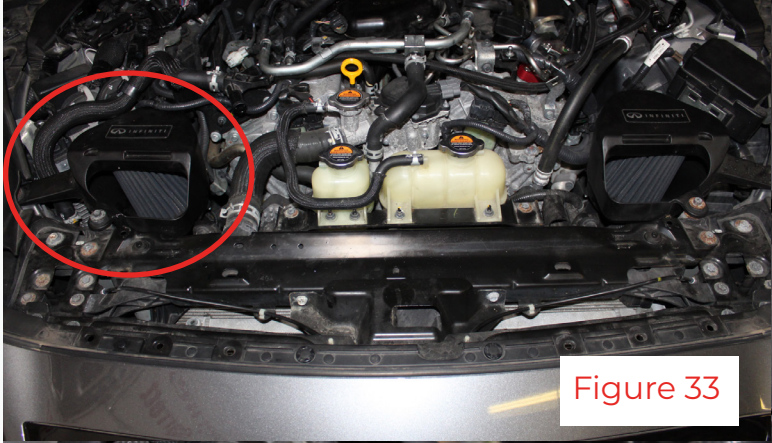
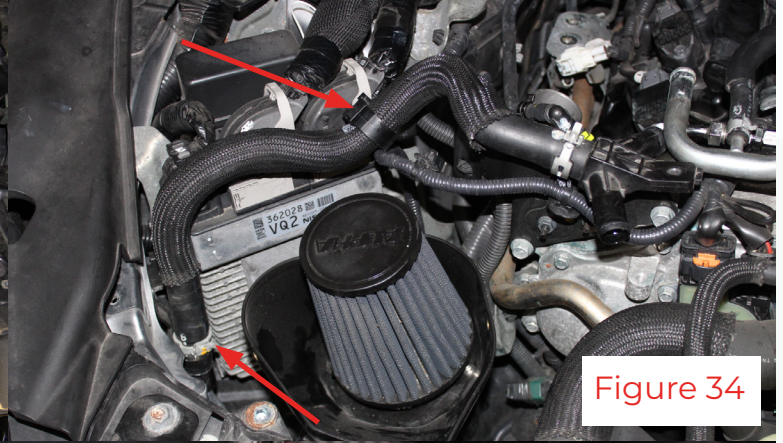
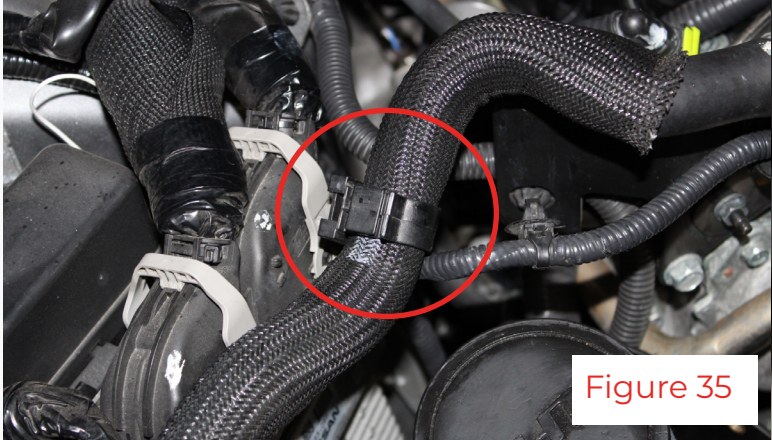
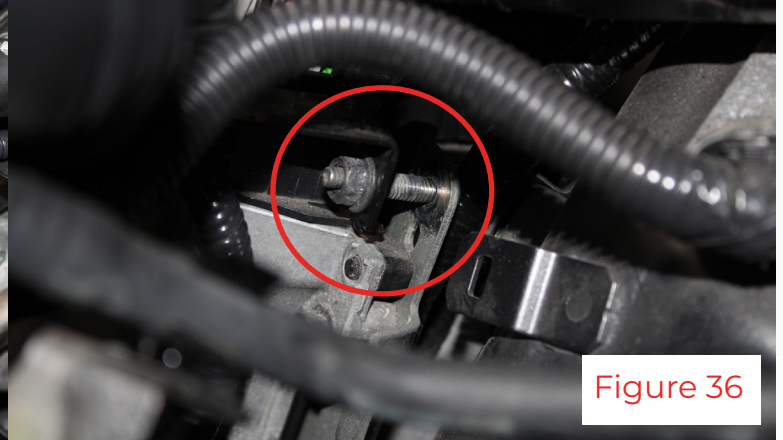
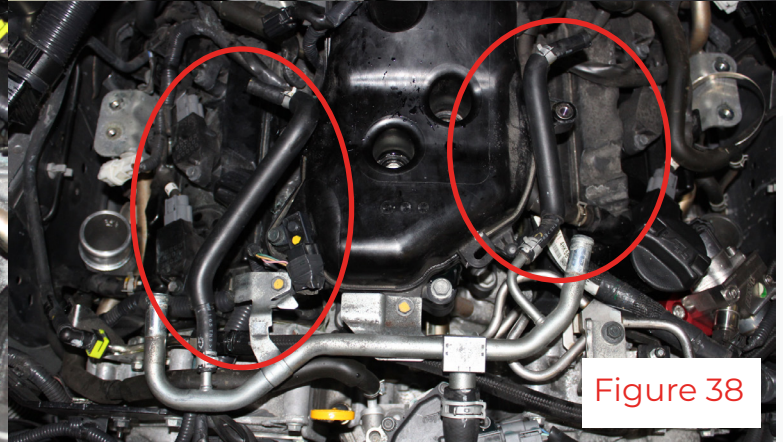


9. Cont...





10. To access the remainder of the factory water hose, some parts of the intake box may need to be removed to access the clamp. (Fig. 33). Once the hose is accessible, remove the spring clamp (Fig. 34) and then remove the bracket holding the hose near the ECU (Fig. 35 & 36). Then remove the hose (Fig. 37) . If you have not already, remove the coolant bleed lines connected to the coolant manifold (Fig. 41).

**Figure 33****Figure 34****Figure 35****Figure 36****Figure 37****Figure 38**



## AMS INTERCOOLER INSTALLATION ///



Figure 39



11. Begin by installing the large water-in line near the passenger side air intake and ECU (Fig. 40 & 41). Using the provided clamps, install the anti-abrasion sleeve where the line will contacts the ECU (Fig. 42).



Figure 40



Figure 41

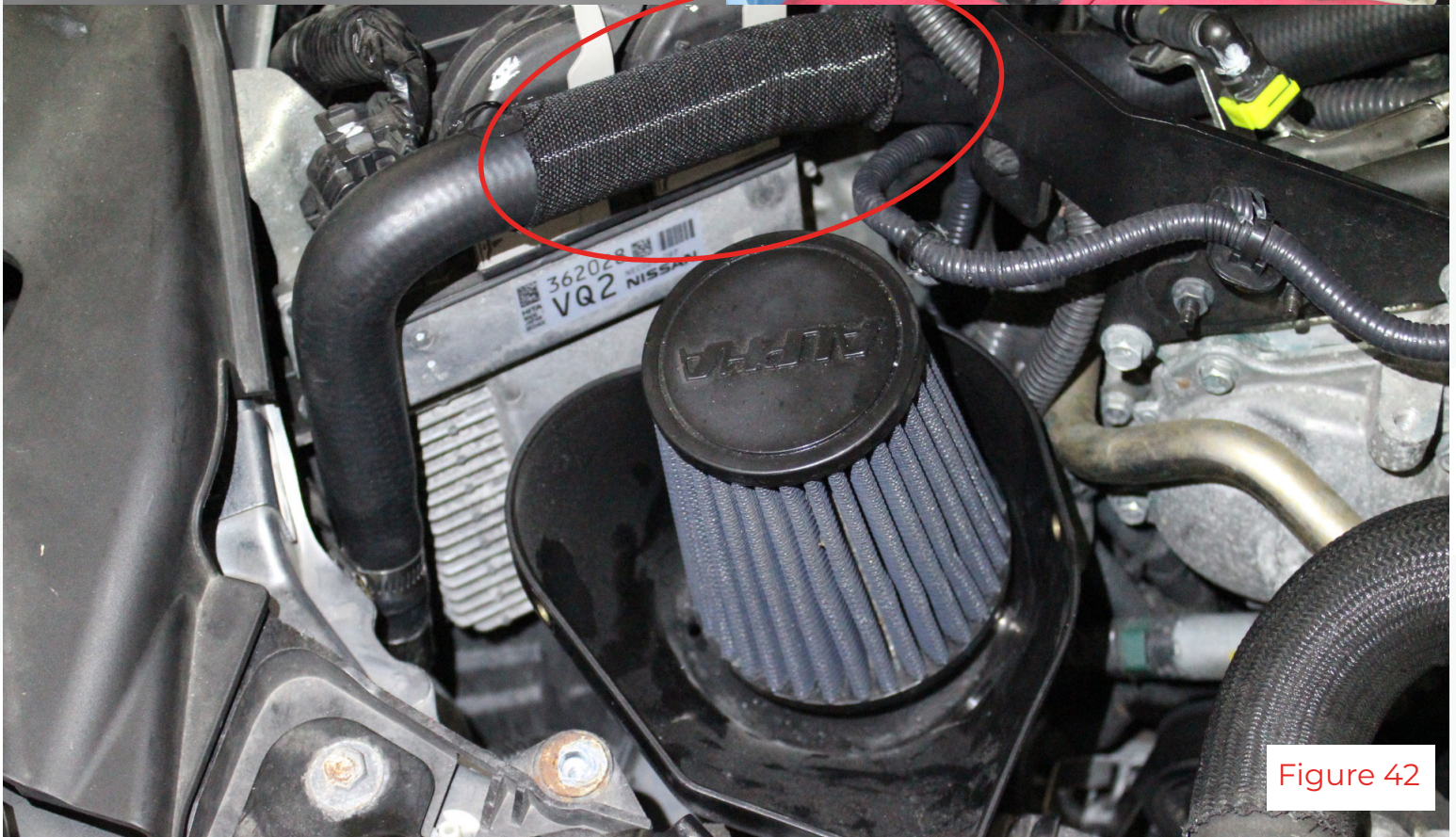


Figure 42



12. Prep the passenger side intercooler for install by installing the MAP sensor and the 3 grommets removed from the stock intercooler (Fig. 43 & 44).



Figure 43

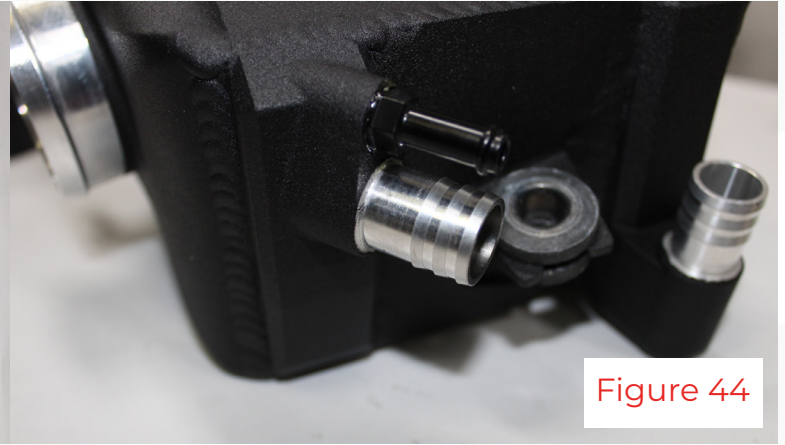


Figure 44

13. Install the intercooler using the provided silicone couplers and clamps. The throttle body side is the same between drivers and passenger side. The shorter of the (2) compressor cover silicones will be used for the passenger side (Fig. 45). This silicone can only be installed in one orientation (Fig. 46). Keep rotating the silicone until satisfied with the fitment. Install it in the reverse order that stock intercoolers were removed by, inserting the throttle body silicone first and then pushing the cooler down into the compressor cover silicone. With the cooler in place reuse (2) factory bolts and (1) provided button head bolt used on the manifold side to secure the intercooler in place. With the bolts tight, tighten the clamps (Fig. 47, 48, & 49).



Figure 45



13. Cont...

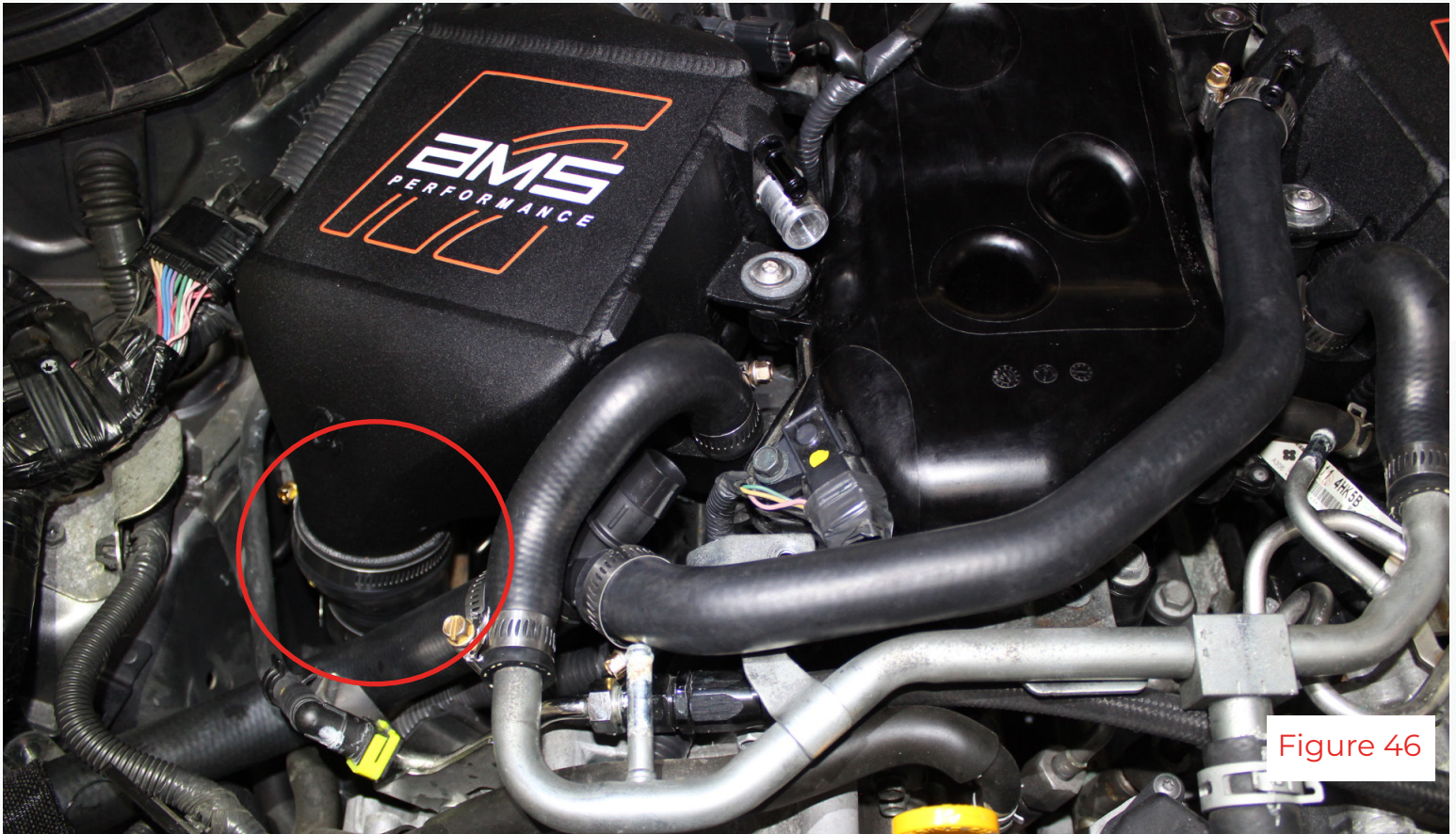


Figure 46



Figure 47



13. Cont...



14. Prepare the driver's side intercooler just like the passenger side (see step 12) (Fig. 50 & 51). Using the remaining silicone couplers and large clamps install the intercooler using the same method as the passenger's side. Similar to the passenger side, the inlet side silicone only fits in one orientation; keep rotating the coupler until you can install the intercooler (Fig. 52). With the intercooler in place, again use (2) factory bolts on the outside and (1) provided bolt on the inner manifold side (Fig. 53 & 54).. With the bolts in, tighten the clamps .





14. Cont...



Figure 51



Figure 52



14. Cont...



Figure 53



15. Now that the intercoolers are in place it's time to install the water lines. Begin with the longest water-in line on the driver side intercooler (Fig. 56). Connect the line to the cooler (the port closest to the throttle body) and then to the provided Y-block; connect the Y- block to the water hose that was installed in step (11). Next connect the drivers and passenger side water-out line to the coolant manifold (Fig. 57).



Figure 54



15. Continued: **Blue** arrows = water **IN**, **Red** Arrows = Water **Out**



Figure 55



16. Connect the passenger water-in line to the Y block (Fig. 57). Once all water lines are installed, install both bleed lines. (In figure 58 the photo below, the top line is the passenger side and the bottom line will be for the driver's side). Tighten all clamps (Fig. 59). Use the included zip tie to hold down the driver's side water-in line to the intake manifold (Fig. 60). **Do not overtighten and restrict the line with the zip tie.**



Figure 56



16. Cont...



Figure 57

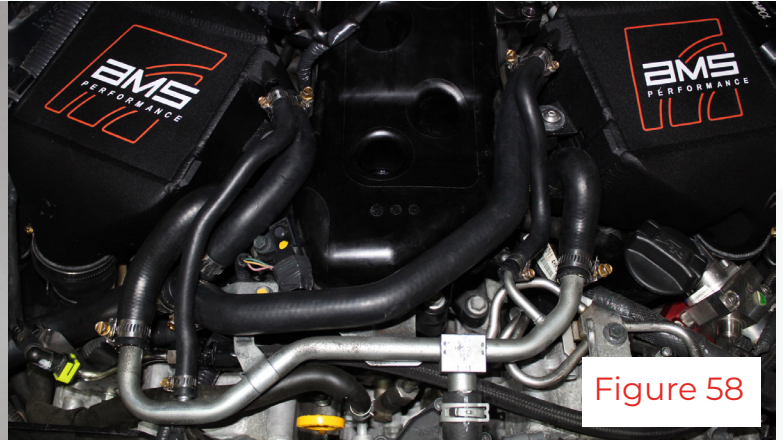


Figure 58

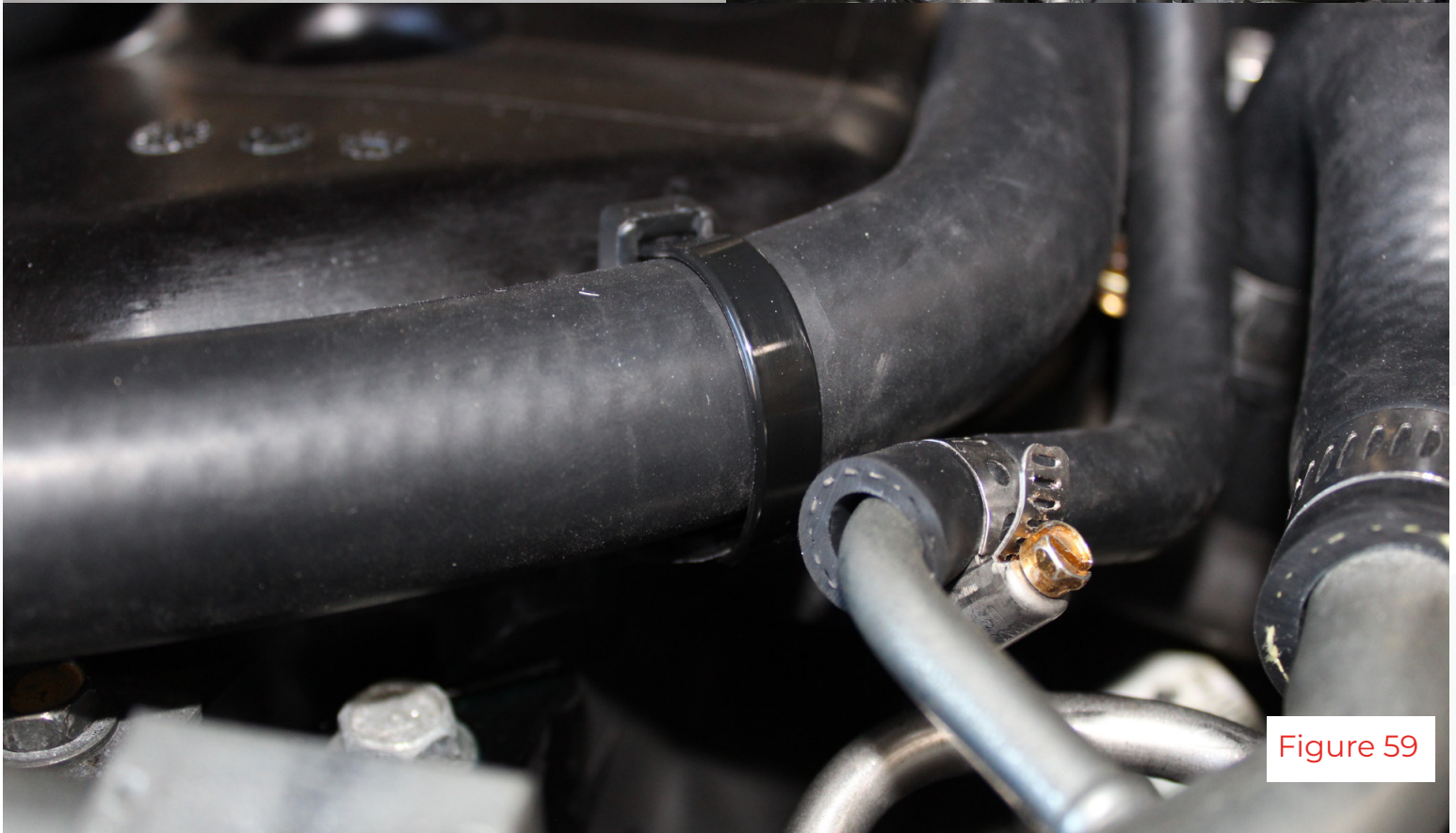


Figure 59



17. Verify all clamps are tight, and both MAP sensor electrical connectors are fully seated. Reinstall the passenger side airbox cover and front cowl.

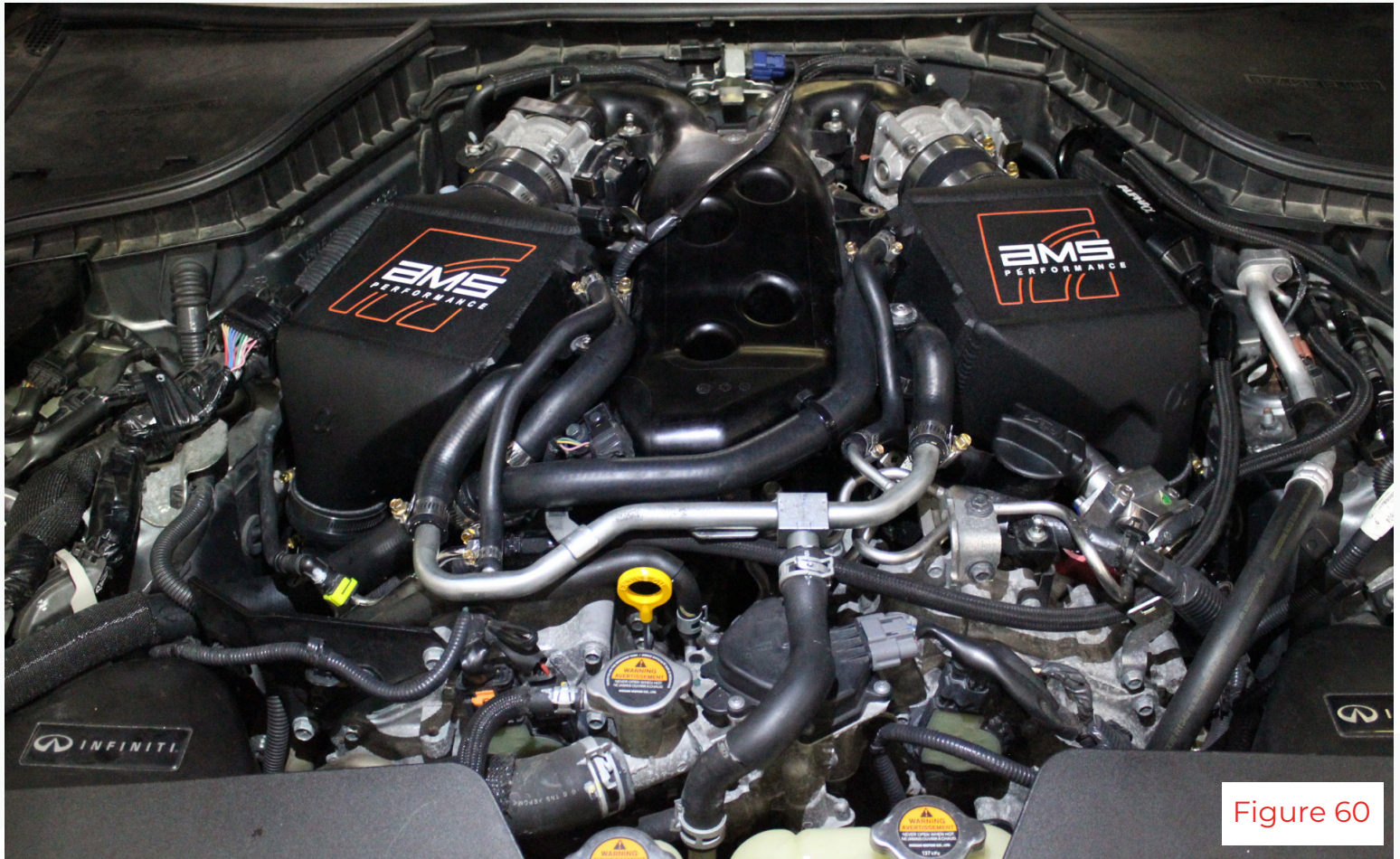


Figure 60



18. Air lift and fill the system using a Matco Tools MCR103A or similar cooling system filler. (Fig. 61). If you have an ECUtek dongle for your vehicle, you can use it to run the intercooler pump(s) to ensure that no air remains in the system before starting the vehicle. This will complete the install, enjoy your new AMS Infiniti Intercoolers!

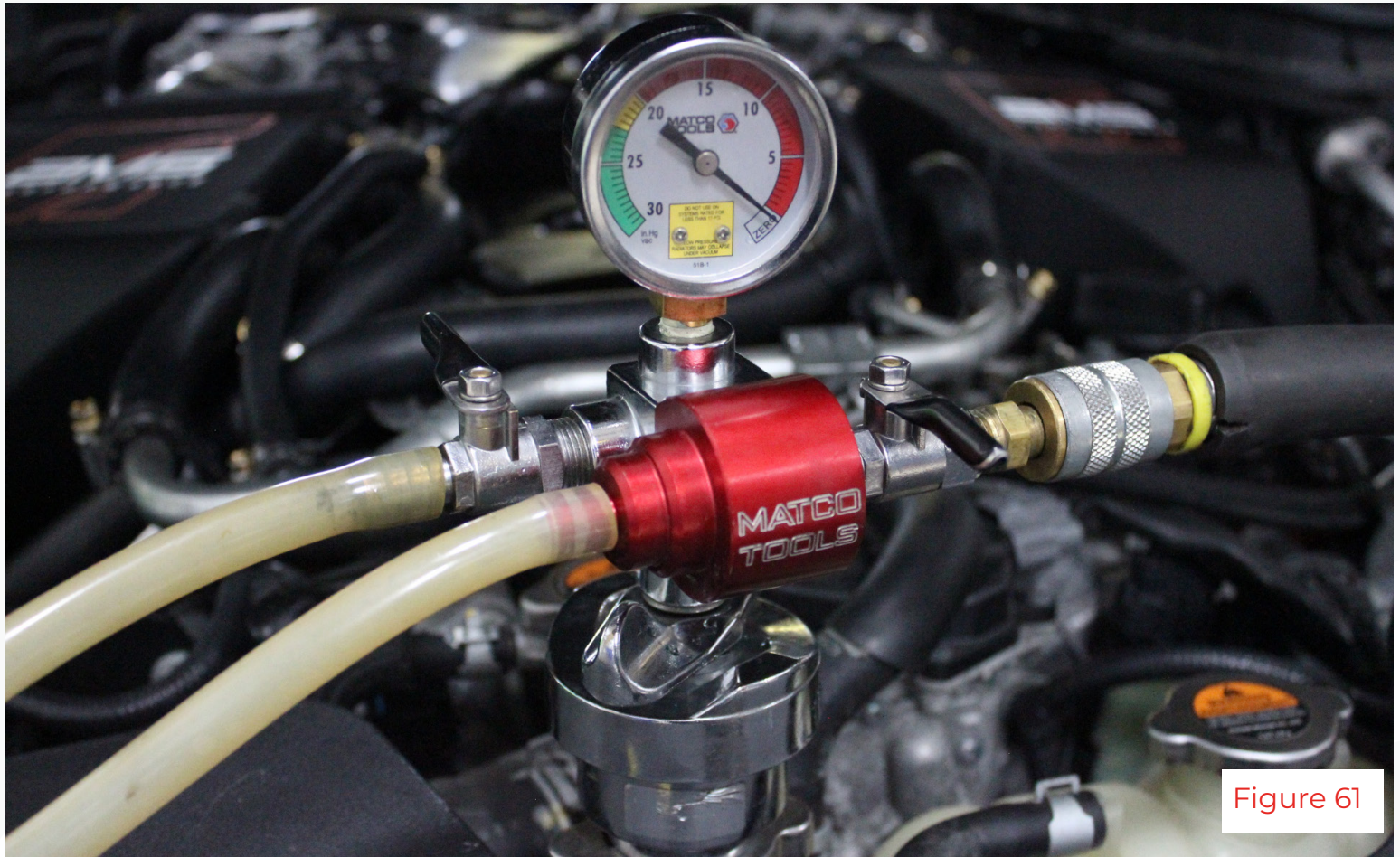


Figure 61

\* NOTE -- To remove the coolers for future repairs & engine work, it is recommended to remove the two outer mount bolts, followed by the inner mount bolt. This will allow you to remove the coolers without disconnecting/evacuating the water lines. \*