ALPHA Performance Packages

INFINITI Q50/Q60 VR30

AUXILIARY INTERCOOLER PUMP KIT

Introduction

The goal of AMS Performance is to provide the highest quality, best performing products available. By utilizing research and development, and rigorous testing programs AMS Performance will never compromise the quality or performance of our products. In addition, AMS Performance will only provide the finest customer service offering only parts and advice that are in the best interests of the customer. AMS Performance was built on a foundation of integrity. This is who we are; this is what you can count on.

A vehicle modified by the use of performance parts may not meet the legal requirements for use on public roads. Federal and state laws prohibit the removal, modification, or rendering inoperative of any part or element of design affecting emissions or safety on motor vehicles used for transporting persons or property on public streets or highways. Use or installation of performance parts may adversely affect the drivability and reliability of your vehicle, and may also affect or eliminate your insurance coverage, factory warranty, and/or new OEM part warranty. Performance parts are sold as-is without any warranty of any type. There is no warranty stated or implied due to the stresses placed on your vehicle by performance parts and our inability to monitor their use, tuning, or modification.

These instructions are provided as a guide only as there are many variables that cannot be accounted for concerning your particular vehicle, including but not limited to model year differences, model differences, the presence of non-OEM parts, and modifications that may already be or were previously installed. A basic knowledge of automotive parts and systems is helpful but a better understanding of the parts and systems on your particular vehicle may be required.

If you have any questions or issues at any time during the installation of your AMS Performance product(s) please call us for technical assistance. The AMS Performance tech line can be reached during business hours at 847-709-0530 for AMS Performance products only.

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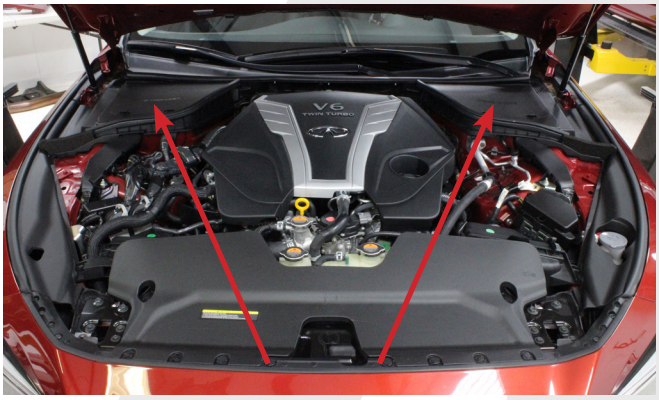
Note: The installation instructions performed here were done using a Q50 Silver Sport. Depending on your model and trim level, some steps will vary. There will be component differences between the model and trim levels but the same basic installation procedure still applies.

Note: Bleeding the intercooler system requires the use of the OEM CONSULT tool or bleeding system called an Air Lift or Vacuum Venturi Cooling System Refilling System that is available at any major automotive tool retailer. See the Bleeding Section at the end of the instruction before continuing.

1) Remove battery and brake master access cover panels. After removing the panels, completely disconnect the battery.

Caution! On certain models, it may be necessary to disconnect and/or remove an air bag sensor. Make sure to disconnect the battery!

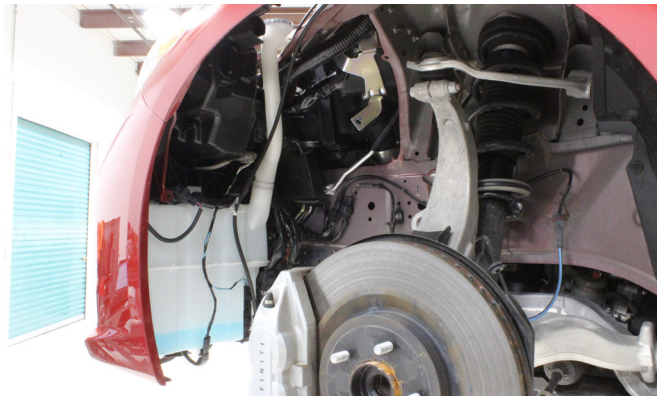


2) Remove the engine bay trim panels that run along the front fenders. These can be difficult to remove. Start at either end, pull straight upwards releasing the clips underneath. While pulling upwards, wiggle the panel around to try and release the clips. Plastic panel trim tools can also be used to get under the panel to pry upwards as well.

3) Remove the front core support cover / air box inlet duct panel.

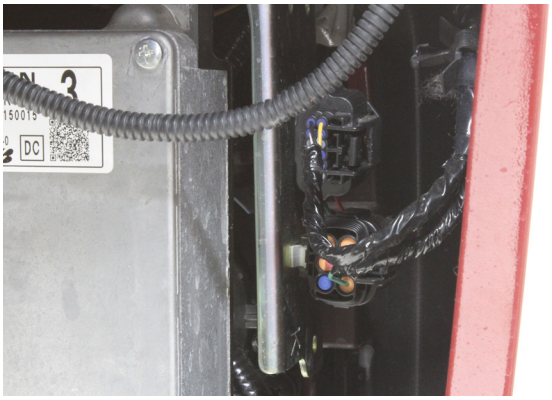
4) Raise the vehicle up and remove the center under tray.

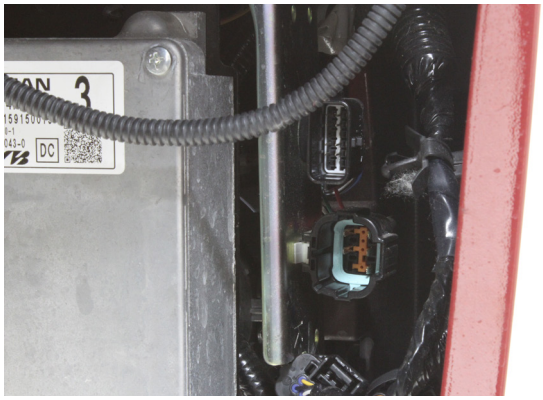
5) Remove both front wheels and both front wheel well liners. You only have to remove the front half of the wheel well liner.



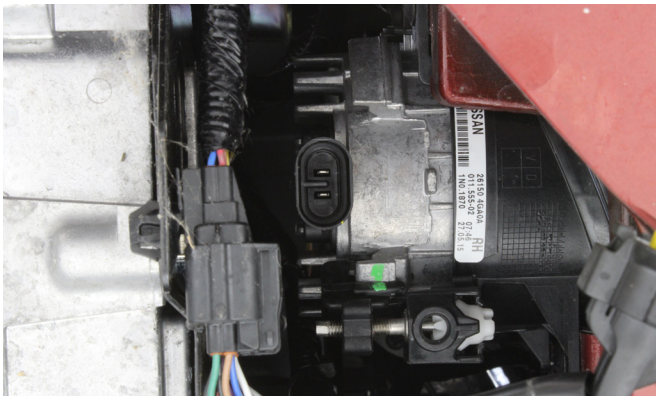
6) Disconnect the front LED running light harnesses on both sides. The connectors are located just below the headlights.

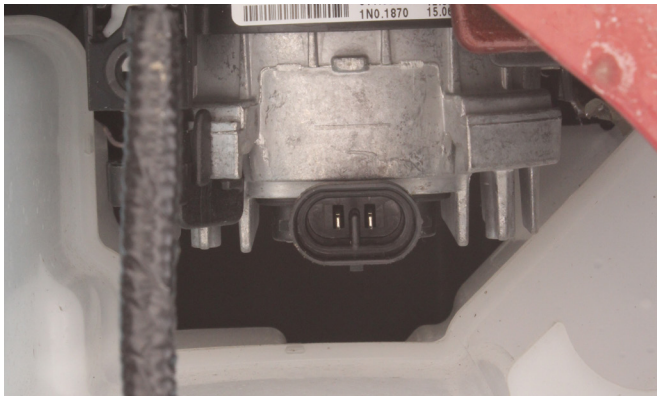
7) Inside the right-side wheel well just behind the bumper, locate and disconnect the two connectors for the parking sensors and front camera (if equipped).





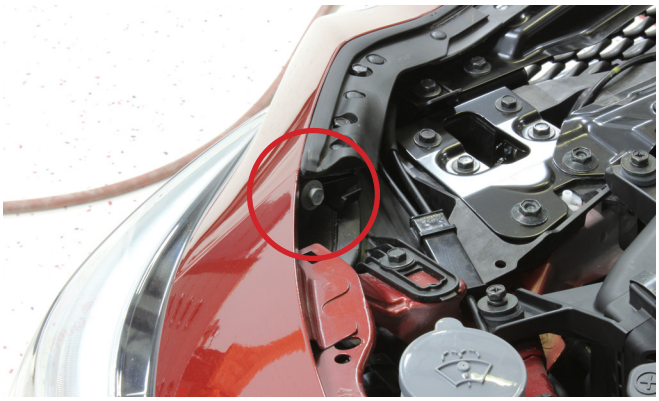
8) From the bottom of the car, disconnect both front fog lights. The left side is partially obscured by the washer fluid reservoir.



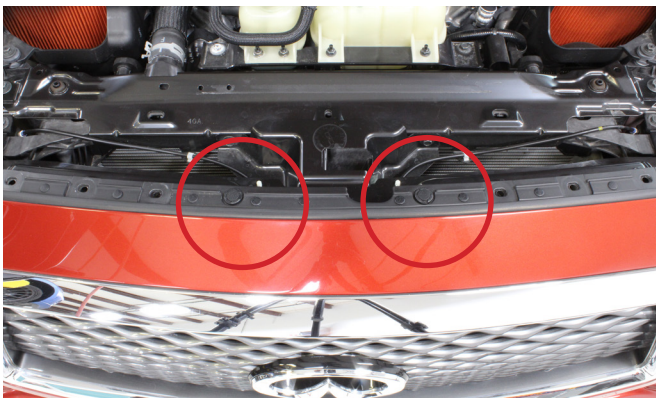


9) Remove the 10mm screw from the inside corner of the bumper where it meets the fender on each side.

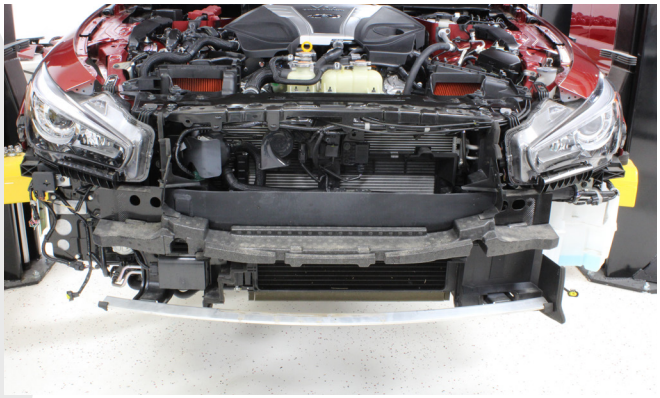
10) Just above the headlights where the top of the bumper and the fender meet, there is a 10mm bolt and retainer plate holding the two together. Remove the hardware shown



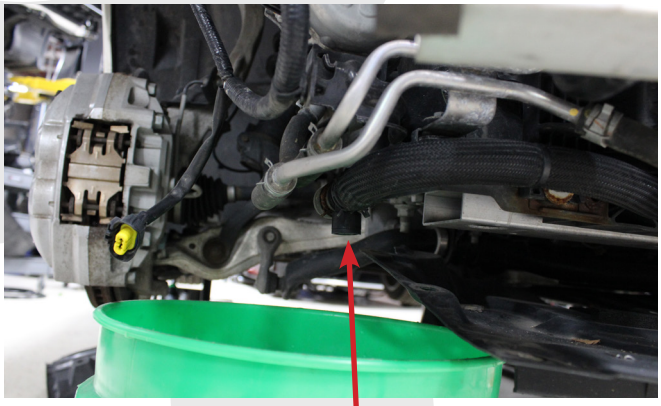
11) Remove both front wheels and both front wheel well liners. You only have to remove the front half of the wheel well liner.



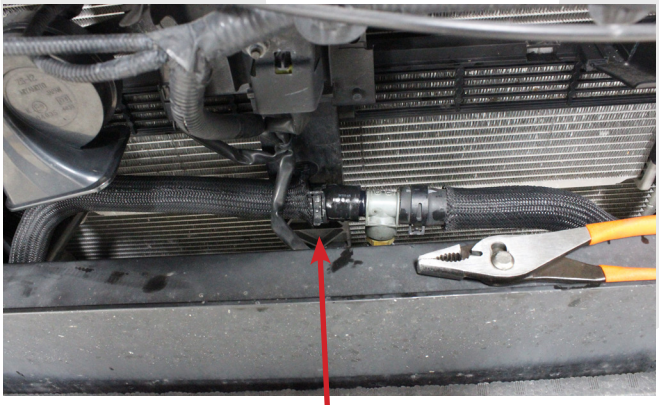
12) Carefully remove the front bumper. A second person is recommended for help. Make sure to pull the areas of the front bumper that meet the fender away from the headlights when removing. Masking tape is also highly recommended to protect any edges, panels, and headlights from being scratched during removal.

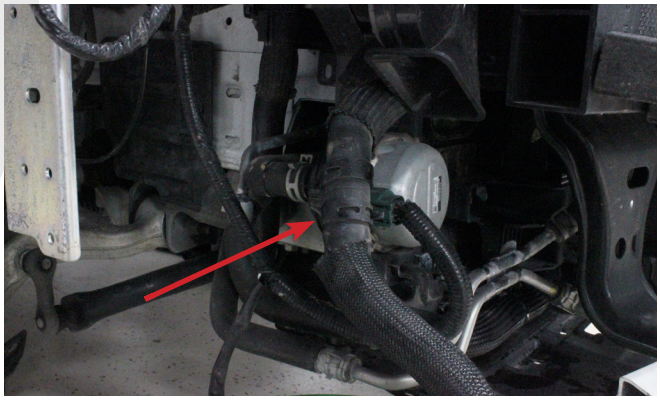


13) Drain intercooler coolant through the drain plug tee shown below. Re-tighten drain plug after coolant is drained.

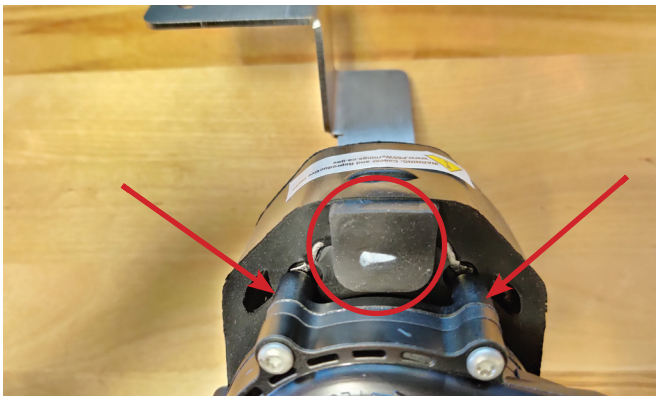


14) Remove the hose clamp indicated in the photo on the left and release it from the sensor tee. Pull the hose out from the zip tie towards the left (do not cut zip tie holding the hose, it will be reused). Feed the hose out through the plastic divider into the right wheel well area as shown in the picture on the right. Release the hose clamp indicated in the photo on the right and remove the hose. Set aside the hose clamps, they are identical to the two included in the kit and will be reused.

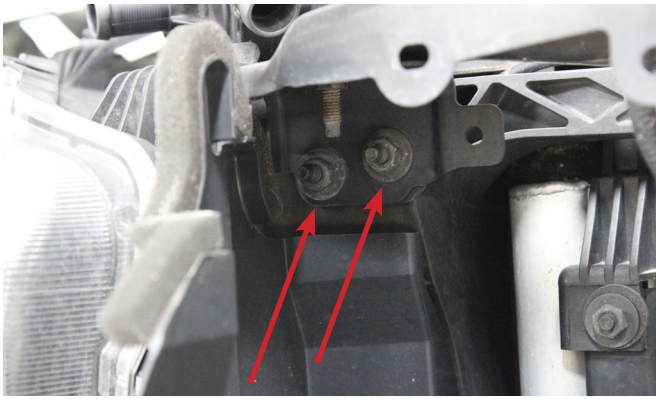


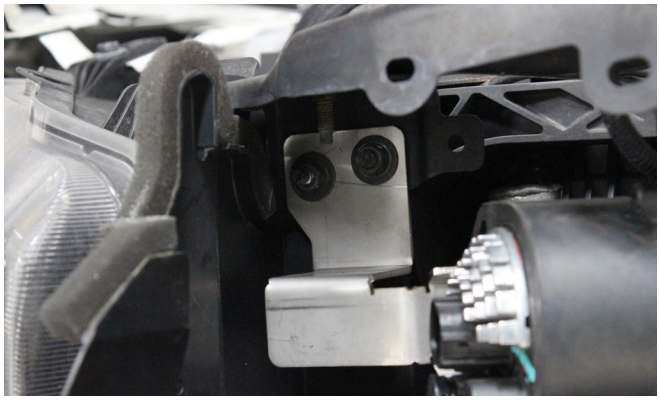


15) Prepare the new water pump by installing the included mounting grommet in the orientation shown, centering the top of the grommet between the two pump housing bolts. Ensure the D shaped boss on the grommet is facing towards the front of the pump. Insert metal bracket into grommet as shown and ensure it is fully seated.

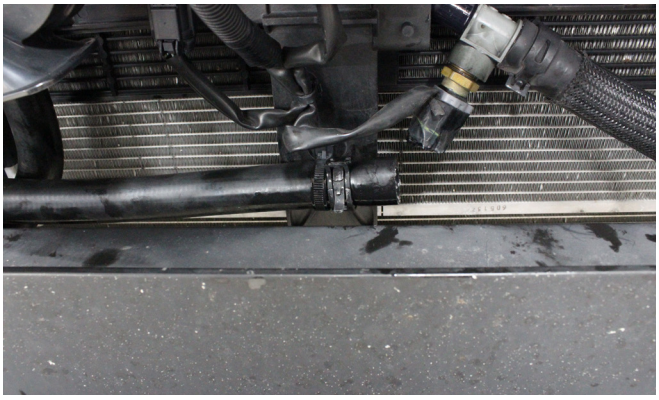


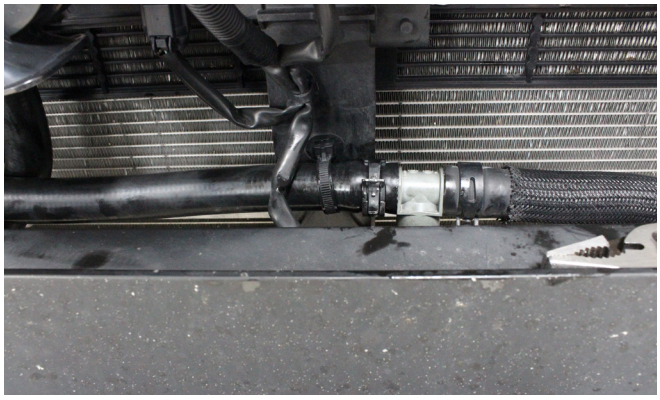
16) Remove the two nuts indicated and mount the pump. Tighten the two nuts back on to the studs.



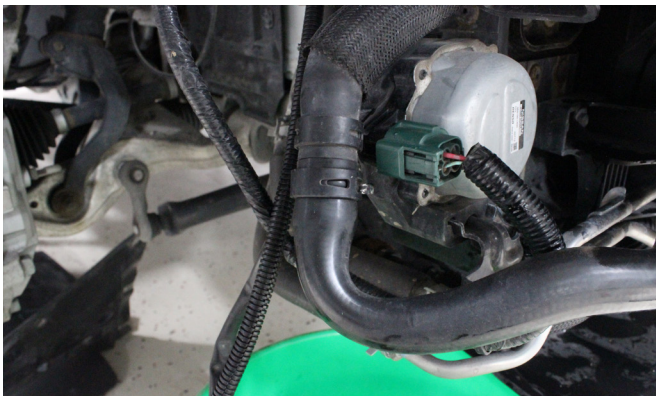


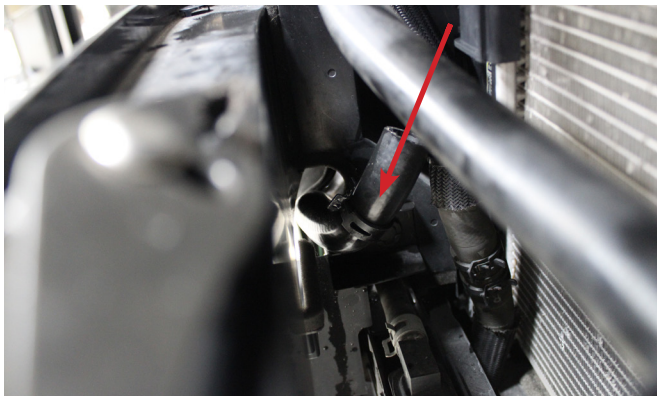
17) There are two formed hoses included with this kit. Using the straighter of the two hoses provided, feed the hose through the factory hose zip tie left behind in Step 14. Install a hose clamp on the new hose and connect it to the sensor tee fitting.



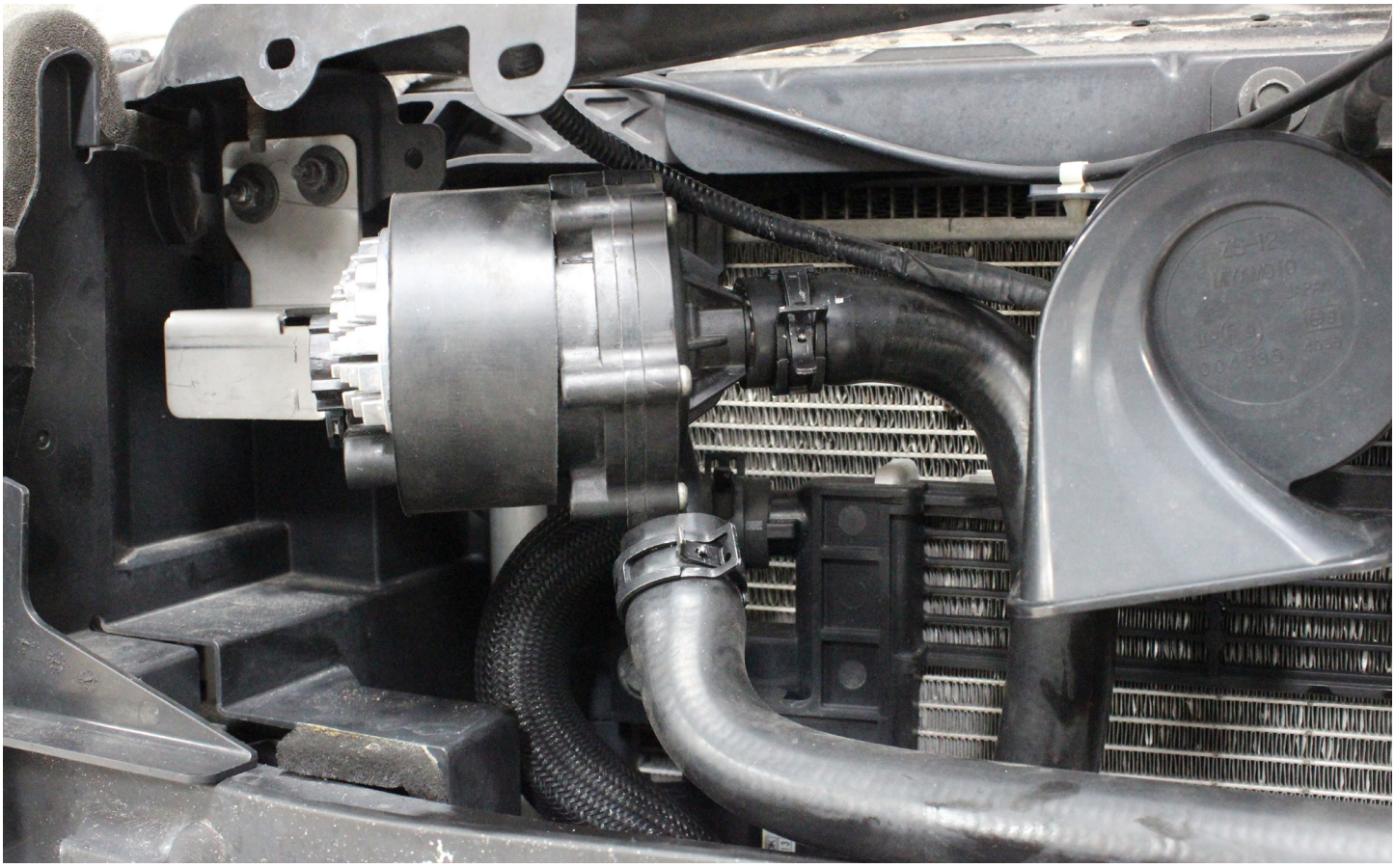


18) The remaining hose will have a 90-degree bend on one end and an obtuse angle bend on the other end. Attach the obtuse angle end of the hose to the fitting in the right wheel well area where the factory hose was previously removed. Use a hose clamp to secure it. Feed the other end of the hose through the gap in the factory plastic ducting shown.

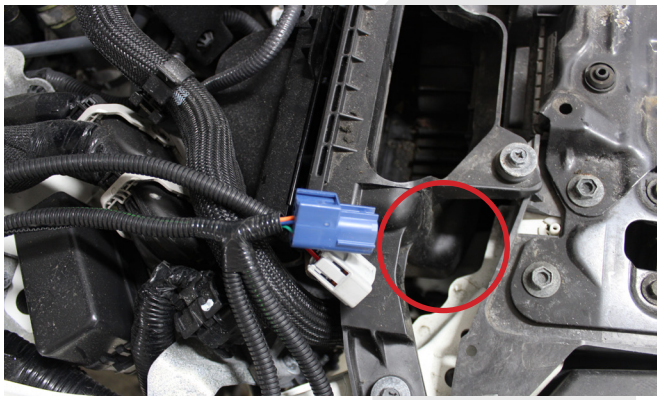




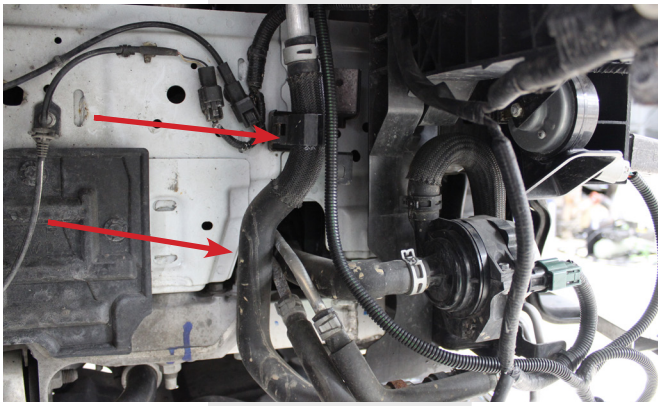
19) Attach hoses to the pump and secure with hose clamps as shown. The other end of the hose from the prior step will attach to the pump inlet (axial with the pump body). Ensure that the hoses are oriented such that they are not touching the heat exchanger or the crash beam. It is okay if the hoses lightly touch each other. The pump can also be adjusted within the rubber mounting grommet for alignment of the hoses.

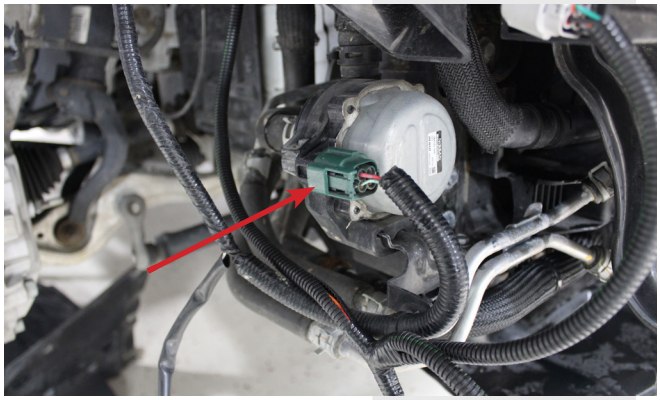


20) Lay the wiring harness out in the engine bay. Place the end of the harness with the relay, fuse, and ring terminals by the front right strut tower. Take care that the exposed metal on the harness does not short out the battery terminals. Feed the other end of the harness with the blue and grey pump connectors through the circled hole.

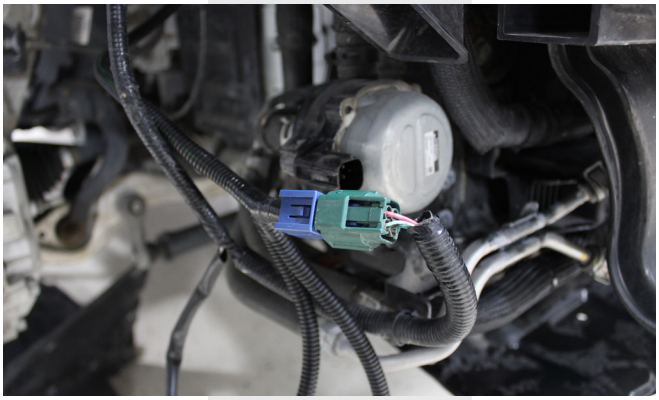


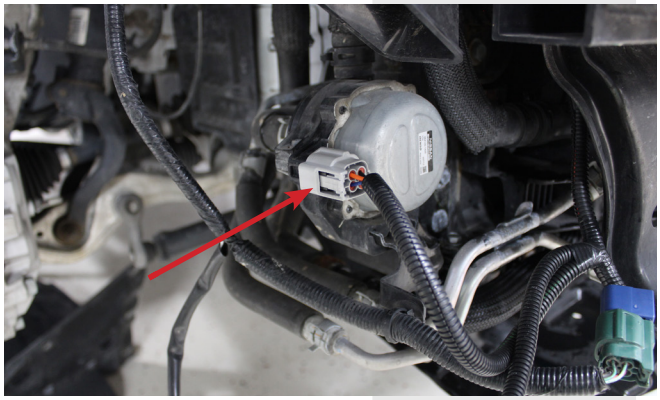
21) Route the harness down along the existing coolant line as shown. Disconnect the green OEM pump connector.



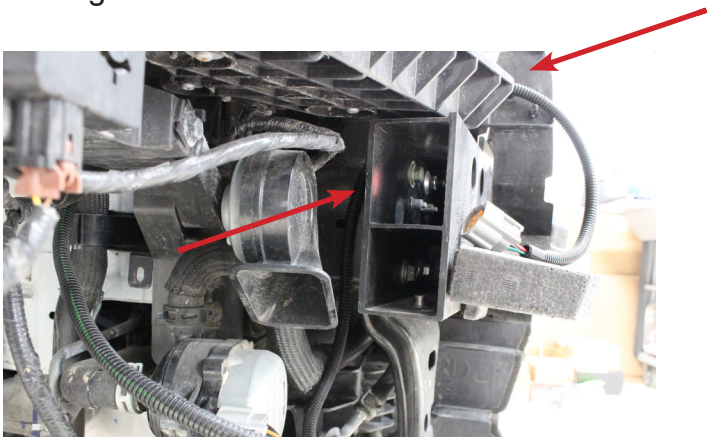


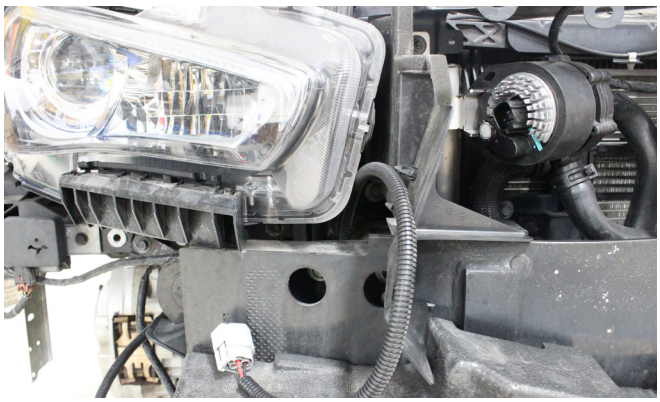
22) Plug the blue connector from the new harness into the green factory pump harness connector. Plug the shorter grey connector from the new harness into the factory pump.



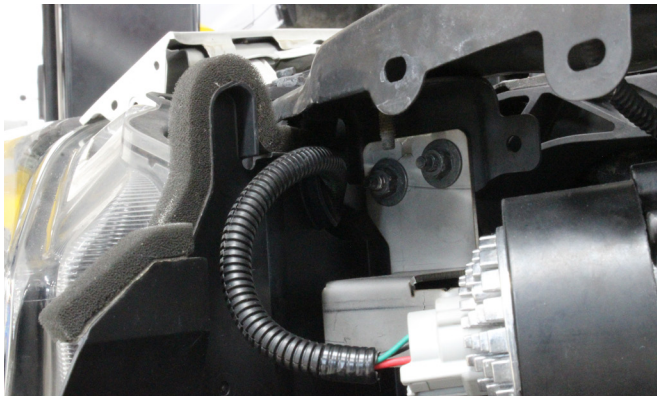


23) Route the remaining grey connector above the crash beam through a hole right below the headlight as shown.

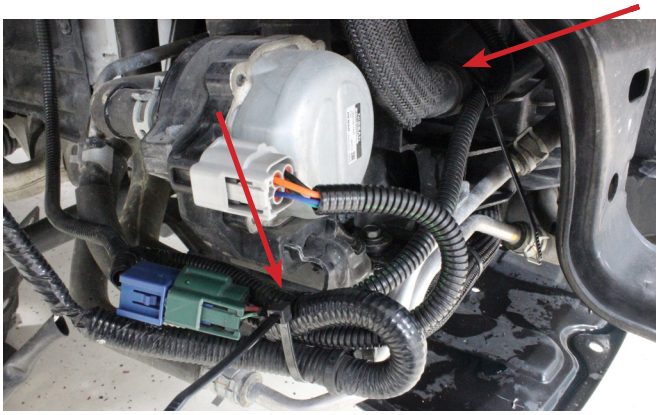


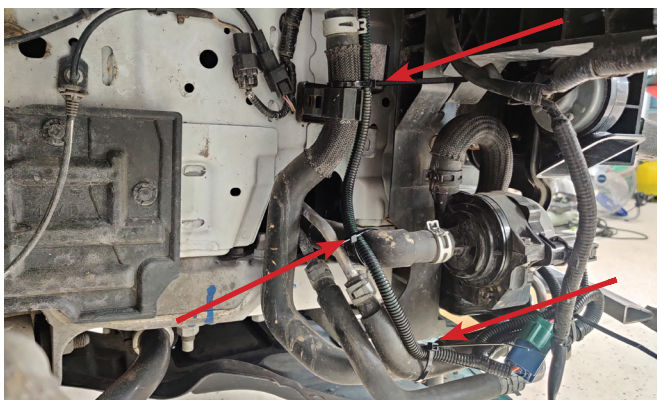


24) Feed the loom behind the plastic ducting by compressing the foam to get the loom up and over into the correct location.

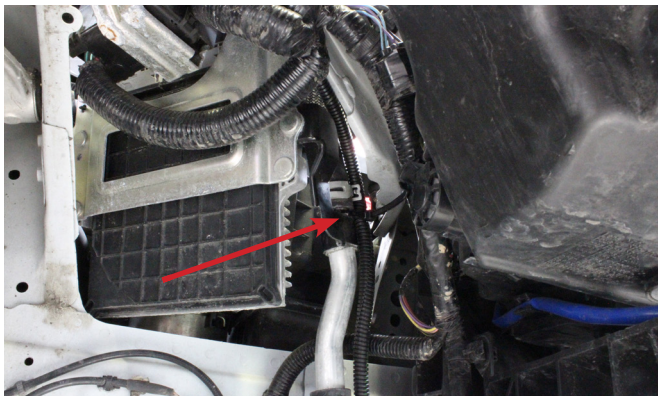


25) Position the harness as shown in the left image. Zip tie the harness in the locations shown with arrows. Ensure the harness has a little slack between zip ties. Orient the zip ties so that the head of the zip tie sits above the new harness loom.

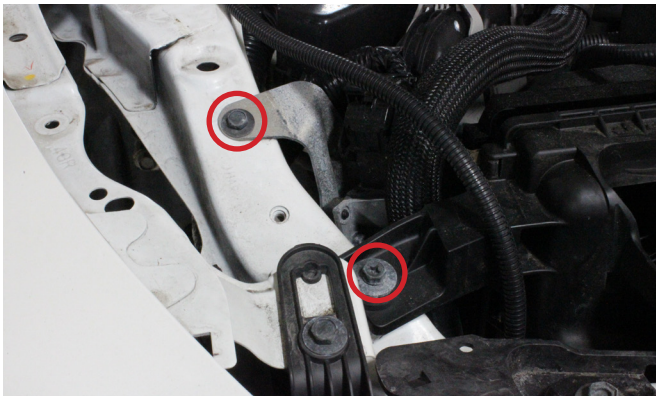


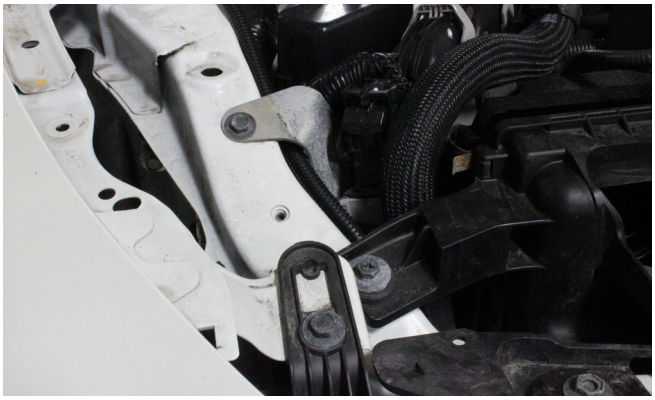


26) Zip tie (cont'd). Trim all 6 of the zip ties so they sit flush with the head.

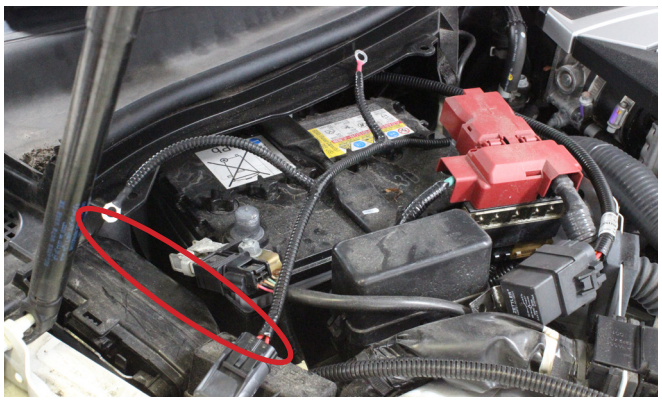


27) Undo the two 10mm bolts holding the ECU bracket and right side airbox bracket. Lift the two brackets and route the harness underneath them. Reattach the two 10mm bolts.

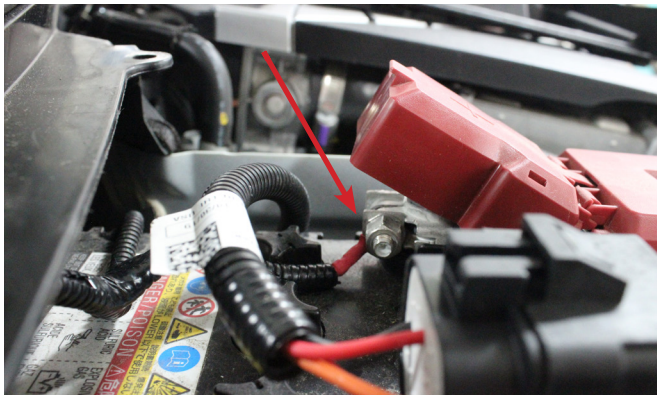




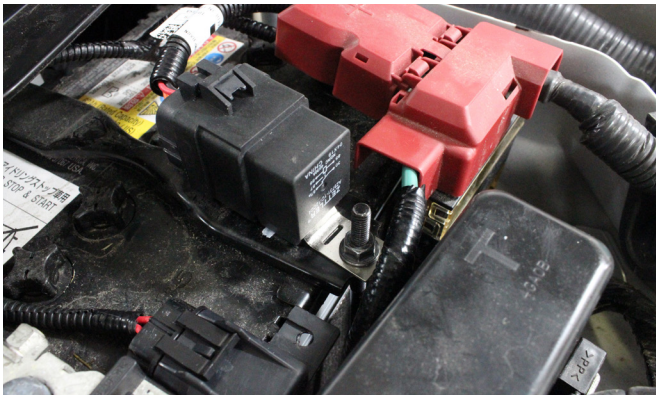
28) Route the relay end of the wiring harness around the battery in the battery box. Tuck excess harness length into the circled area to the left of the battery.

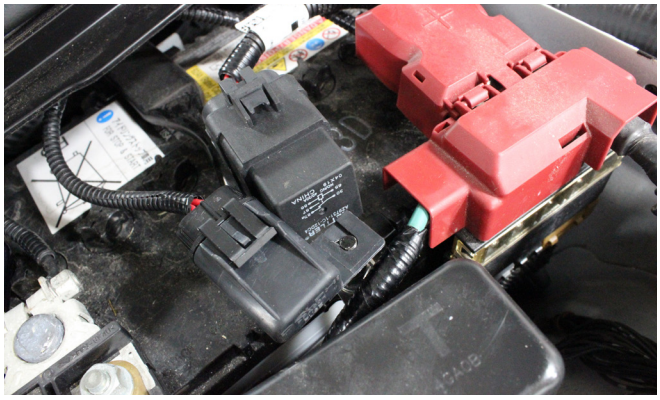


29) Loosely attach black and red ring terminals to the corresponding battery terminal by unscrewing the 10mm terminal nut. Attach the terminals back on to the battery. Orient black ring terminal pointing straight towards the back of the battery as shown. The red ring terminal must be angled down towards the battery and bent slightly to go in between the battery vents. A top and side view are given to show how to orient and bend the red ring terminal. Close the red plastic terminal cover.

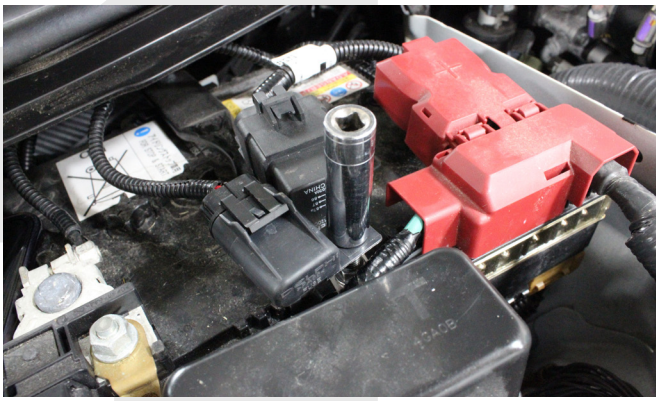


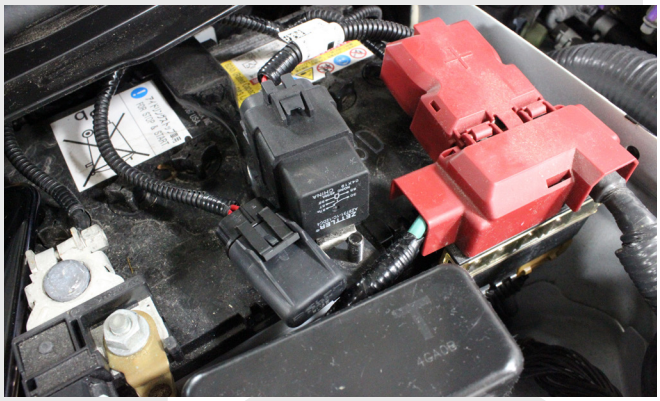
30) Undo the front battery tie down nut. Hold on to the hook as the nut is removed to prevent it from dropping down. Place the relay onto the tie down stud and reattach the nut. Place the mounting hole of the fuse holder over the stud. The hole is slightly undersized on the fuse holder so some pressure will be required.



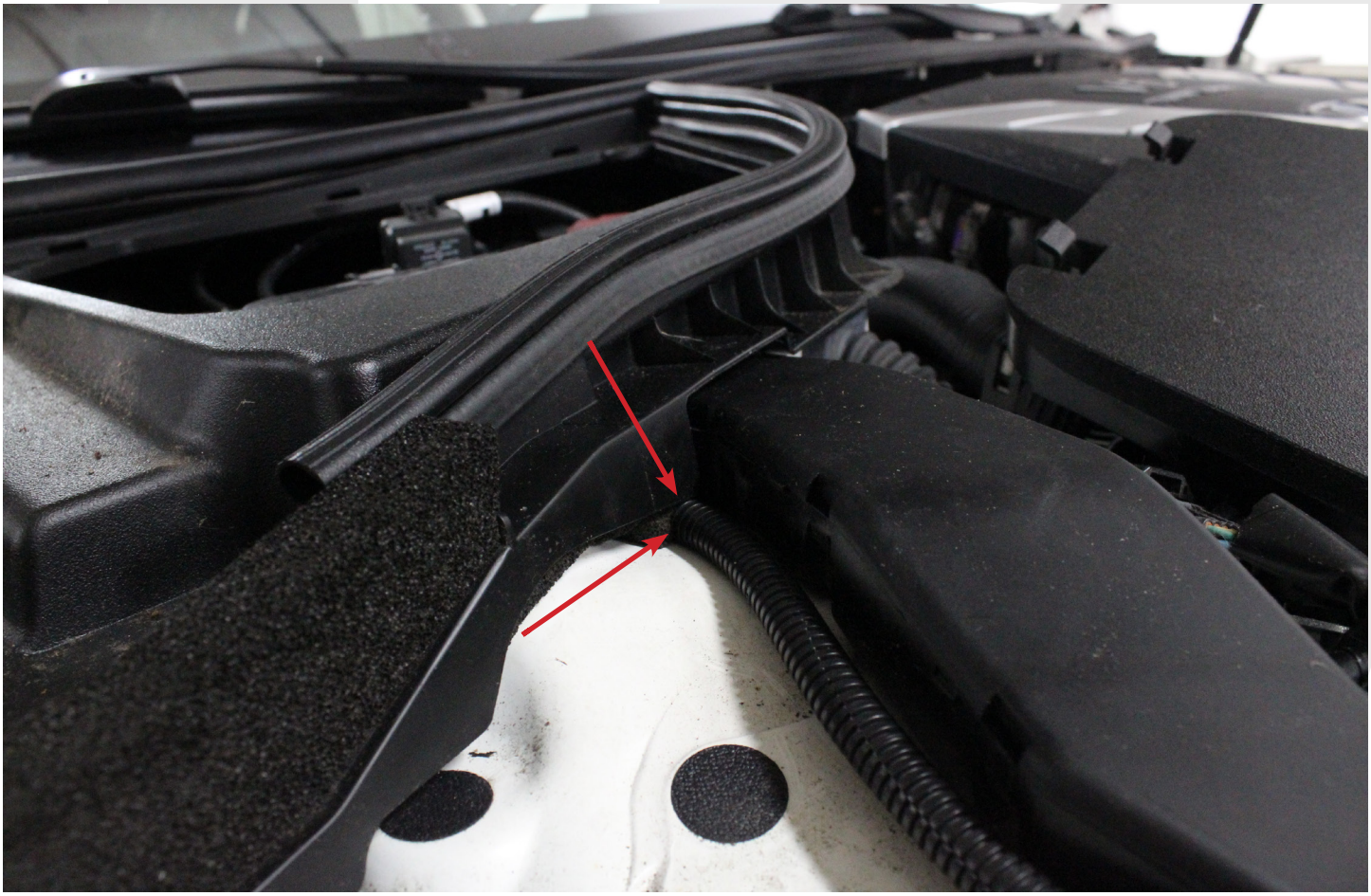


31) Use a 10mm deep socket or similar object to tap the fuse holder down on the stud. If more secure mounting is desired, a M6 x 1.0 flange nut can be added to hold down the fuse holder on the stud. Ensure that the harness is tucked neatly around the battery.





32) Reassembly of vehicle is opposite of the disassembly procedure. When replacing the battery box trim piece, ensure that the new harness is not pinched. Keep the new harness tight to the existing vehicle harness.

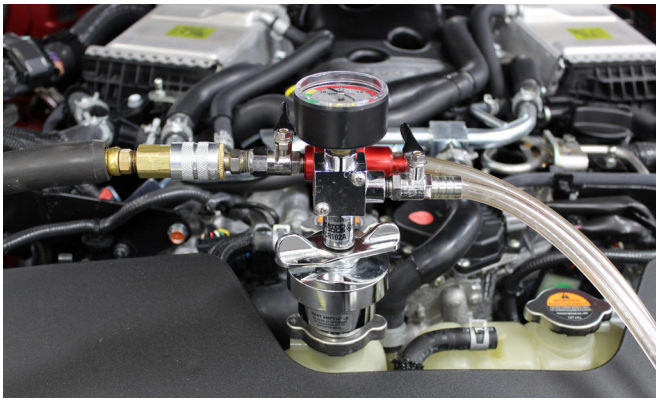


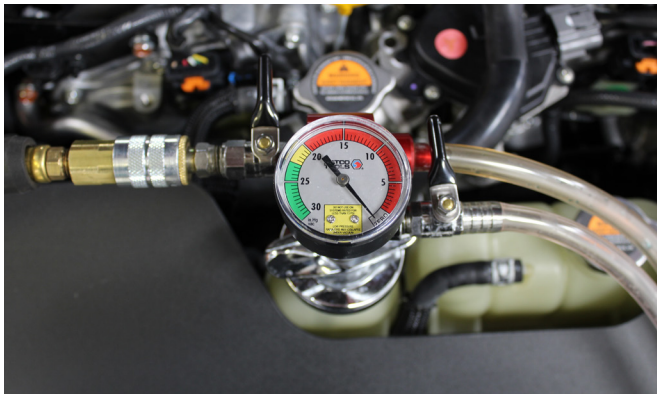
33) The intercooler system on these vehicles are difficult to bleed to avoid an “air lock” condition due to the intercoolers being the highest point. Since the intercooler pumps are not self-priming, they cannot move air. If one part of the system has an air pocket close to the pump, no coolant flow will occur. It is also important to know that damage may occur to the intercooler pumps if they are allowed to run dry with no coolant present in the system. **Avoid this at all costs!** Standard bleeding procedures will not work. Here are two options listed below.

A. The factory bleeding procedure requires the use of the OEM CONSULT tool to put the car into “Full Drive Mode” that will run the pumps at idle for bleeding. Coolant is added to an open system while the pumps run to circulate coolant. This procedure can be performed by your local Infiniti Dealer.

B. The method we use for intercooler system bleeding uses a widely available system called an Air Lift or Vacuum Venturi Cooling System Refilling. These systems use compressed air to draw the coolant system under a vacuum removing all the air. The vacuum then draws in coolant into the entire system. Almost no bleeding is required after.

https://www.matcotools.com/catalog/product/MCR103A/COOLING-SYSTEM-FILLER/





34) Follow your tools manufacturer instructions for bleeding.

35) After completion, test drive the vehicle and check the fluid level in the reservoir.

36) For users with an Alpha heat exchanger already installed: Once the coolant level has maintained a constant level, crack open the bleeder at the top of the Alpha heat exchanger with the engine off and reservoir cap removed. If properly bled, there should not be much, if any air in this area. The bleeder was added in the system due to the increased size of the core and the outlet being slightly lower than the top of the core. It is possible for some air to be trapped here. If this is the case, continue to drive the vehicle and check the bleeder screw for air until no more coolant comes out and the fluid level in the reservoir is stable and consistent.

37) Once the system is properly bled, Enjoy!