



2017-2021 INFINITI Q60 VR30 Twin Turbo / 2016-2021 INFINITI Q50 Twin Turbo

# INFINITI Q50/Q60

## Red Alpha Heat Exchanger

---

Whether you live in a hot climate region, enjoy racing, or long high speed pulls the Q60 and Q50 Infiniti Red Alpha Heat Exchanger will help keep your intake temps lower and maintain your INFINITI's maximum power output no matter the conditions.

PART# ALP.28.02.0002-2

# Table of Contents

PAGE **03** Introduction

PAGE **04** Disassembly

PAGE **15** Assembly & Installation

PAGE **19** System Bleeding

# Introduction

The goal of Alpha Performance is to provide the highest quality, best performing products available. By utilizing research and development, and rigorous testing programs Alpha Performance will never compromise the quality or performance of our products. In addition, Alpha Performance will only provide the finest customer service offering only parts and advice that are in the best interests of the customer. Alpha 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 Alpha Performance product(s) please call us for technical assistance. The Alpha Performance tech line can be reached during business hours at 847-709-0530 for Alpha Performance products only.



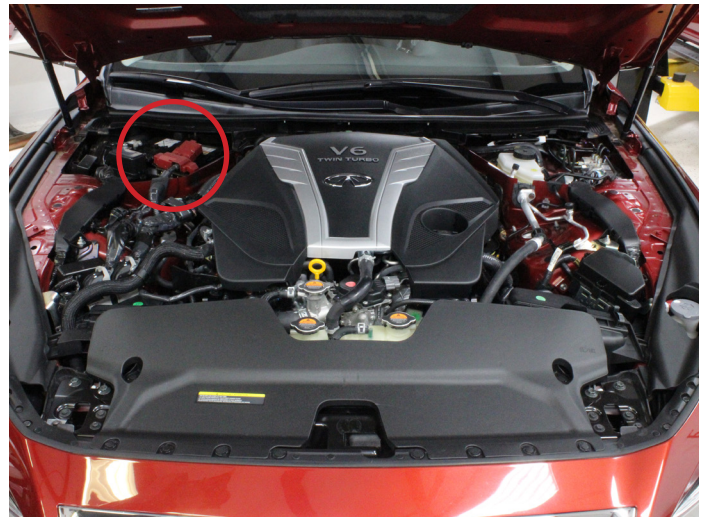
## Dissassembly

**NOTES:** The installation instructions performed here were done using a Q50 Red 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.

**NOTES:** 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. Please see the Bleeding Section at the end of the instruction before continuing.

01. Remove battery and brake master cylinder 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!



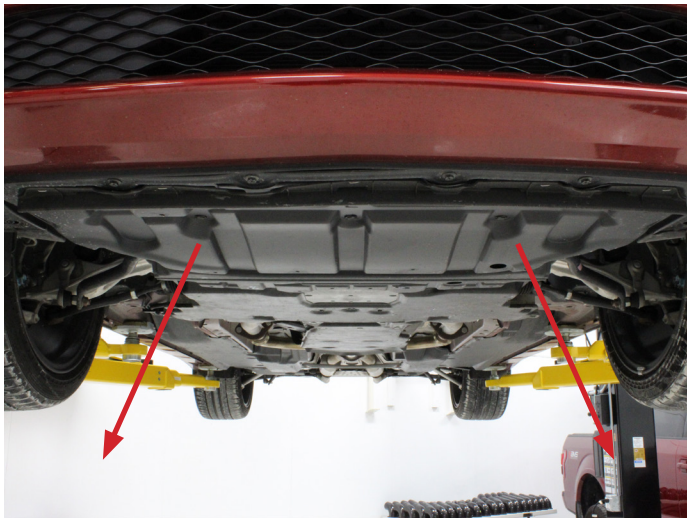
02. Remove the engine bay trim panels that run along the front fenders. These can be difficult to remove. Start at either end, pull straight upwards releasing the clips underneath. While pulling upwards, wiggle the panel around to try and release the clips. Plastic panel trim tools can also be used to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



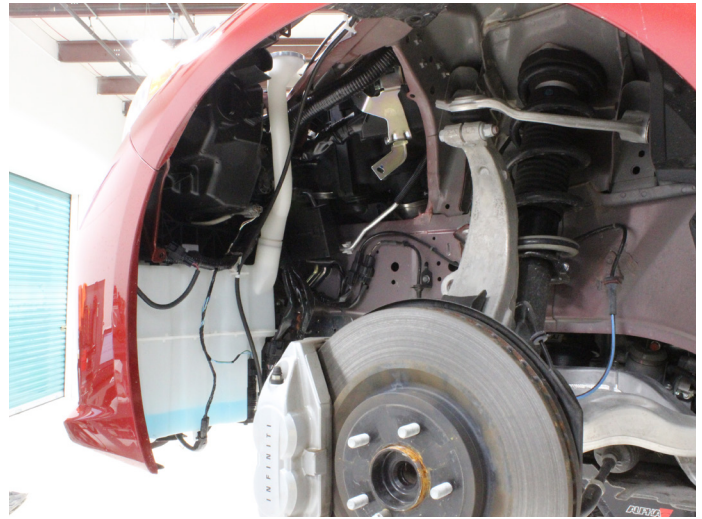
03. Remove the front core support cover / air box inlet duct panel.



04. Raise the vehicle up and remove the center under tray.



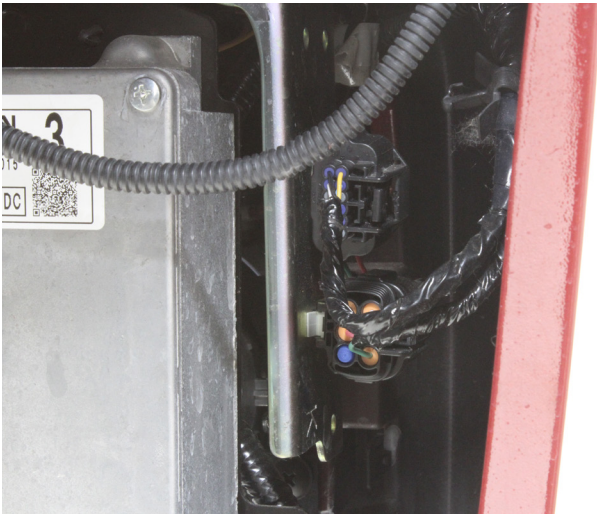
**05.** Remove both front wheels and both front wheel well liners. You only have to remove the front half of the wheel well liner.



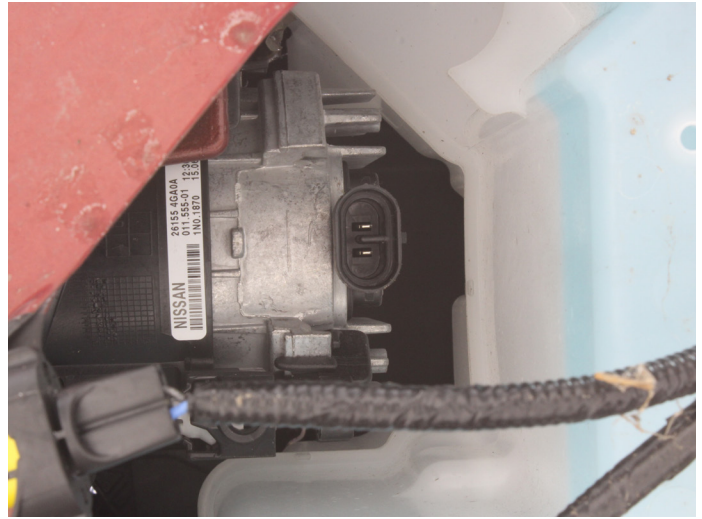
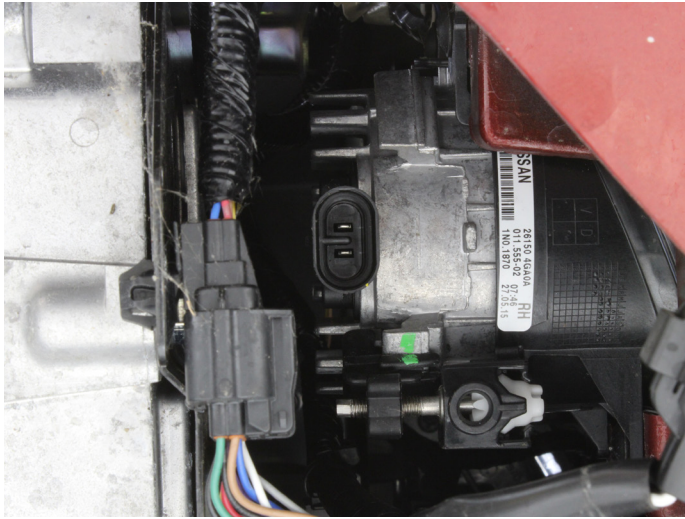
**06.** Disconnect the front LED running light harnesses on both sides. The connectors are located just below the headlights.



**07.** Inside the passanger side wheel well just behind the bumper, locate and disconnect the two connectors for the parking sensors and front camera.



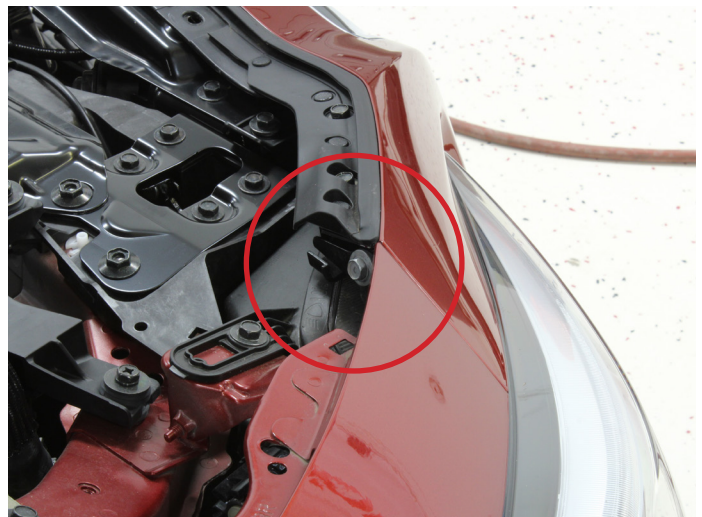
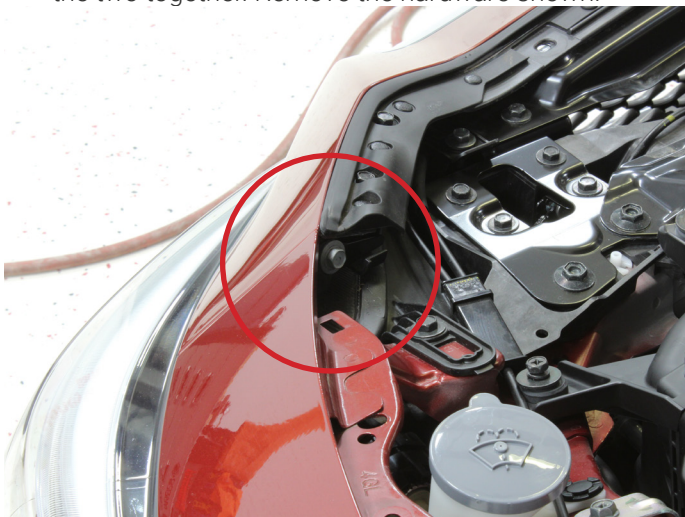
08. From the bottom of the car, disconnect both front fog lights.



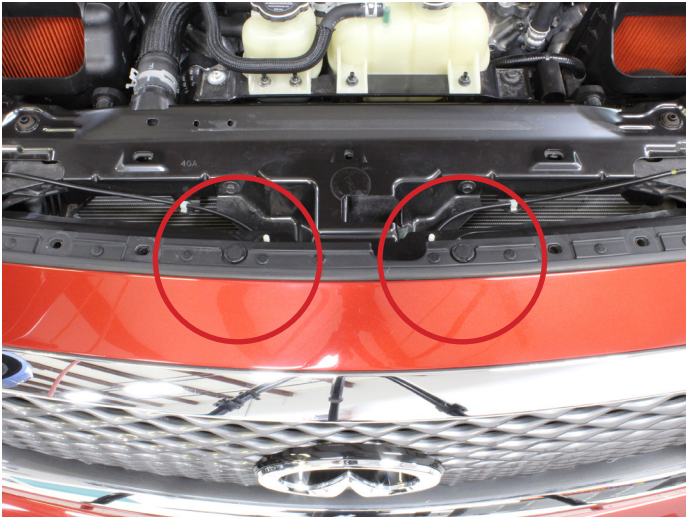
09. Remove the 10mm screw from the inside corner of the bumper where it meets the fender on each side.



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

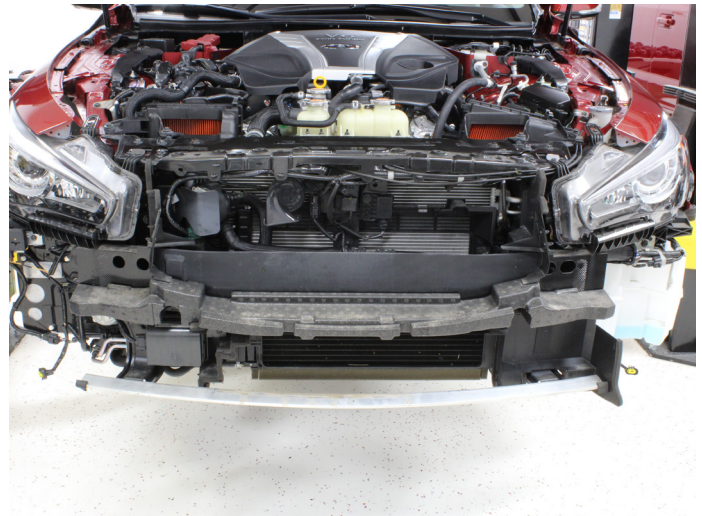


11. On the top of the bumper, remove the last two push pin clips.



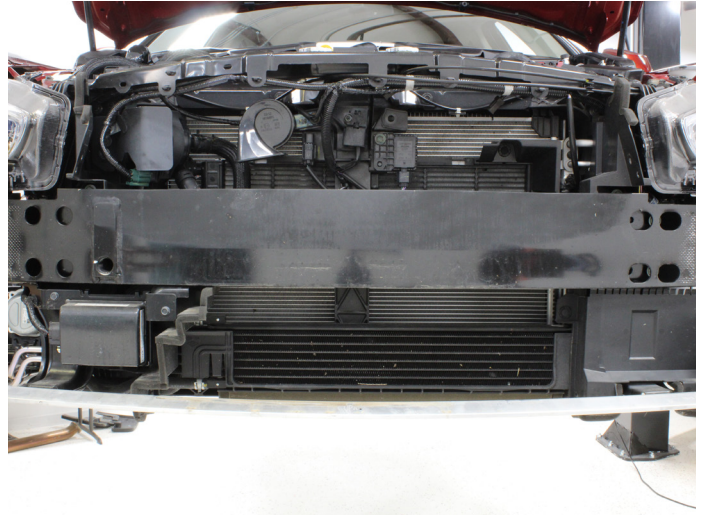
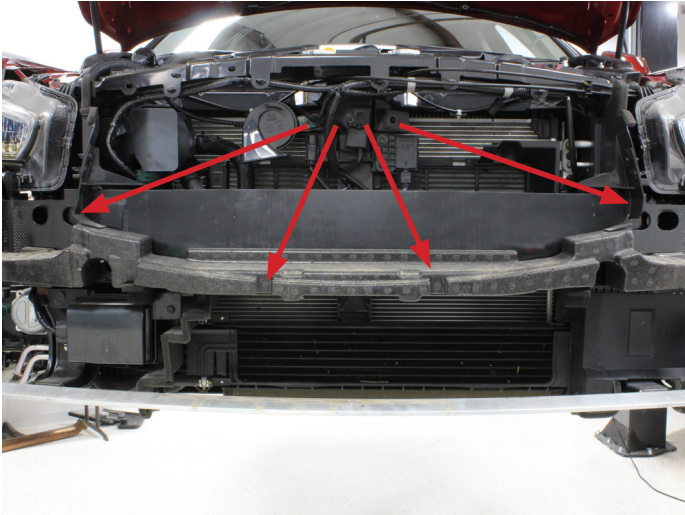
12. Carefully remove the front bumper. A second person is recommended for help. Make sure to pull the areas of the front bumper that meet the fender away from the headlights when removing. Painters tape is also highly recommended to protect any edges, panels, and headlights from being scratched during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

**NOTES:** Blue painters tape is recommended.

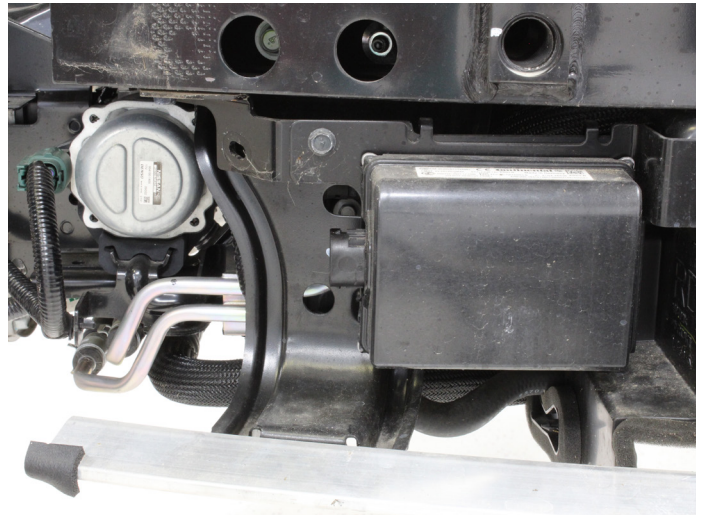
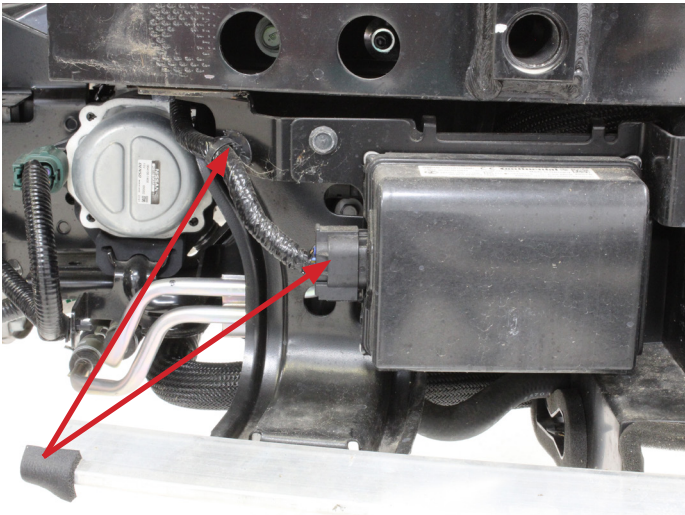




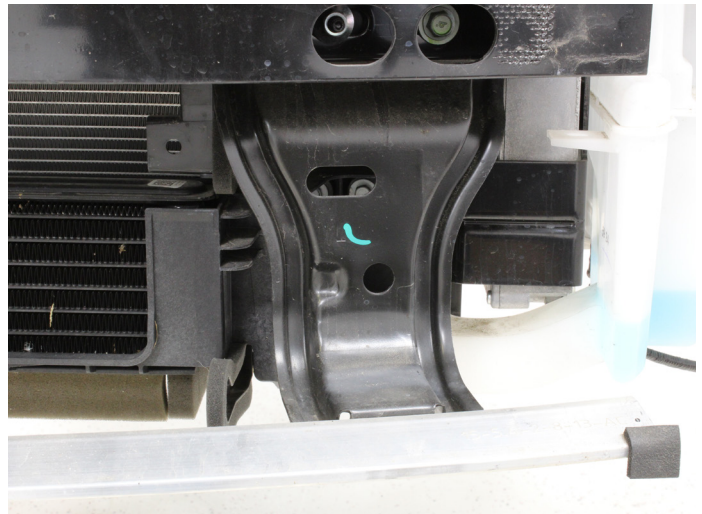
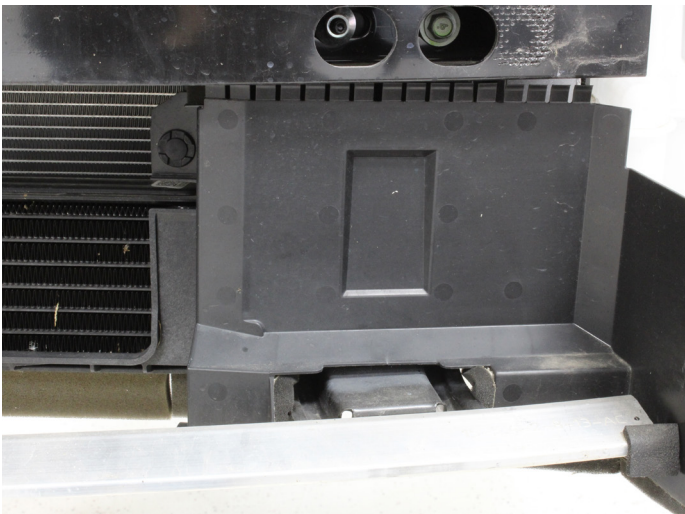
13. Remove the foam crash beam insert along with any plastic trim panels that overhang the crash beam.



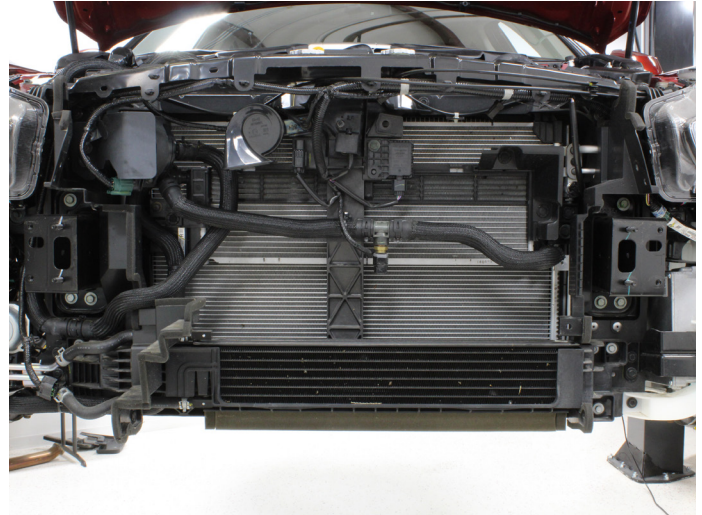
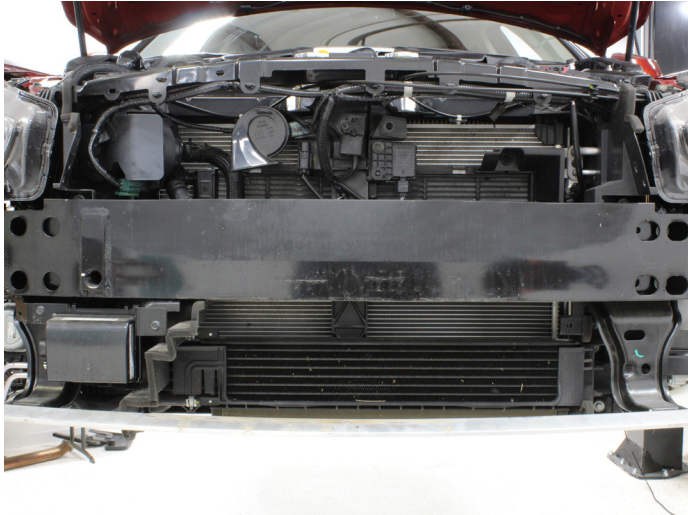
14. For the Q50 and Q60 if equipped, disconnect and remove the ICC (Radar Sensor) harness. The Q50 sensor is located in the lower right corner of the crash beam (shown). The Q60 is located on the top center of the crash beam.



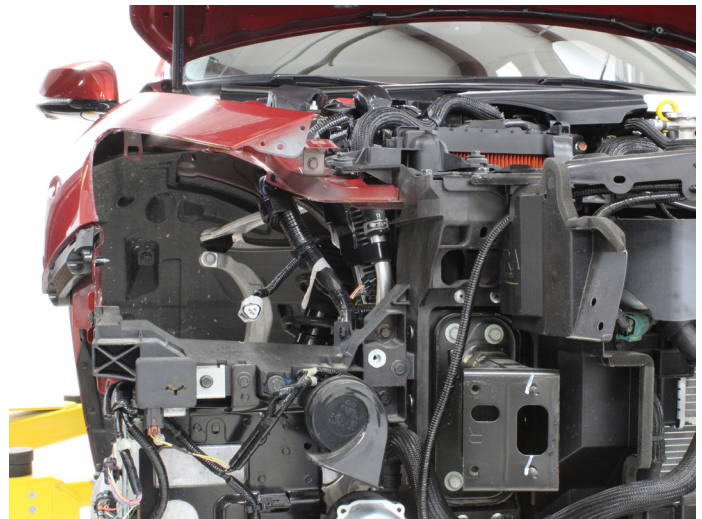
15. Remove the plastic panel that over laps the crash beam bracket.



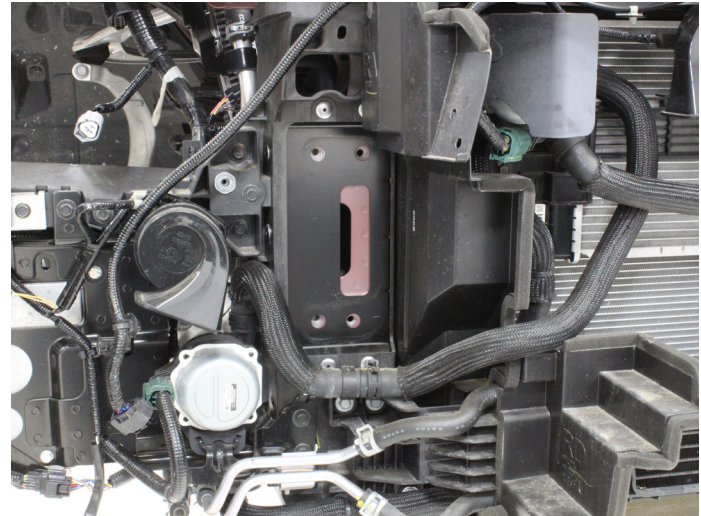
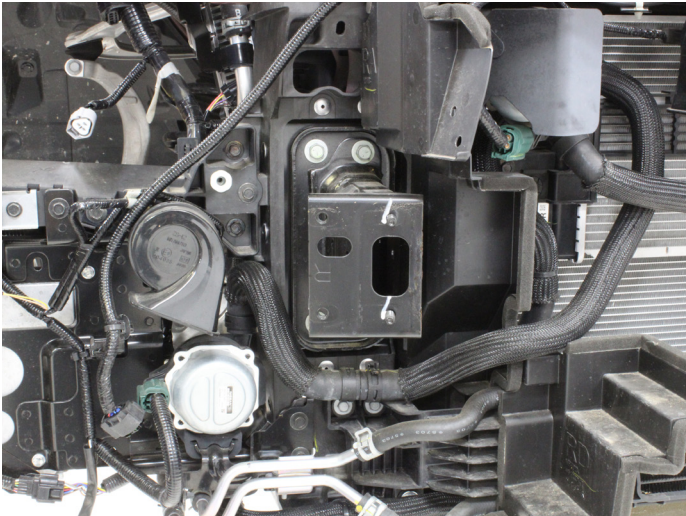
16. Remove the crash beam. The Q60 has a louvered lower section controlling air to the engine oil cooler. Make sure to disconnect the harness on the lower left side of the crash beam and remove as an assembly. Also make sure the outside temperature sensor on the Q60 is disconnected since it is attached to the crash beam.



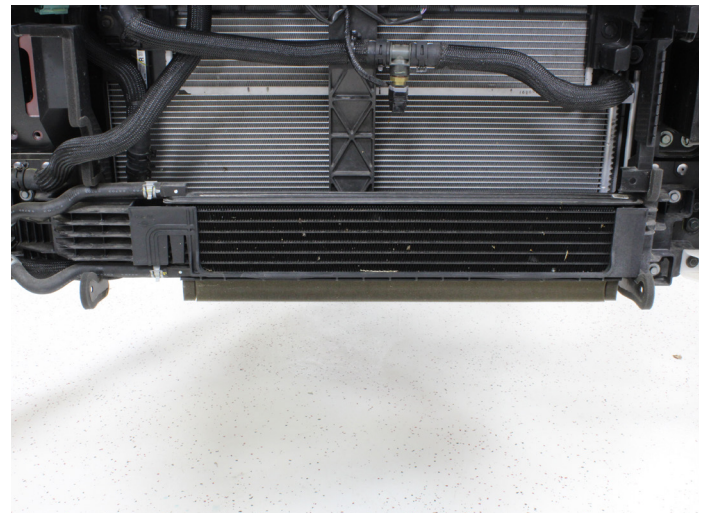
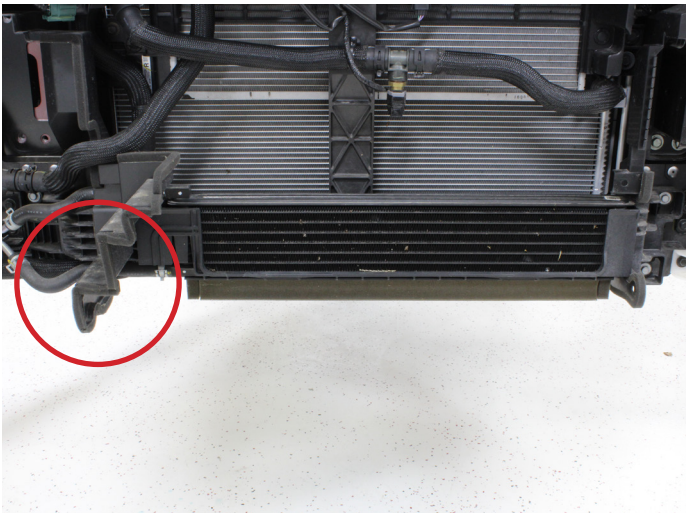
17. Remove the right side headlight. It is held in place with four M6 bolts and has three electrical connectors on the back side.



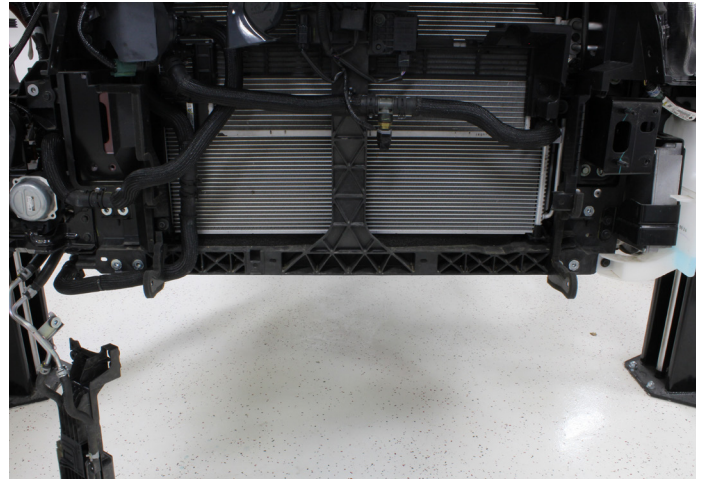
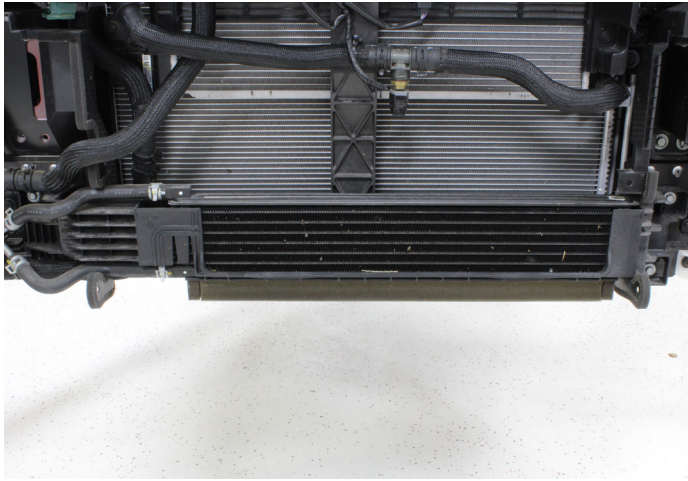
18. Remove the right side crash beam mount. These are specific bolts holding the mount in place. They are 13mm hex head bolts that look similar to the 12mm hex head crash beam bolts. Make sure not to mix them up during reinstallation.



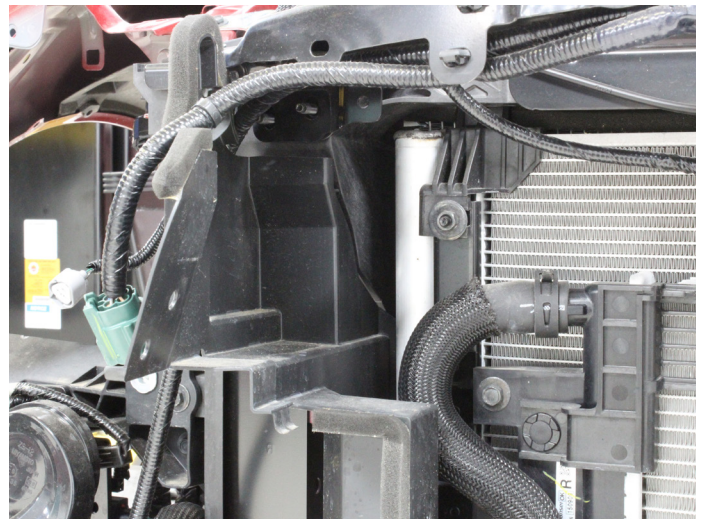
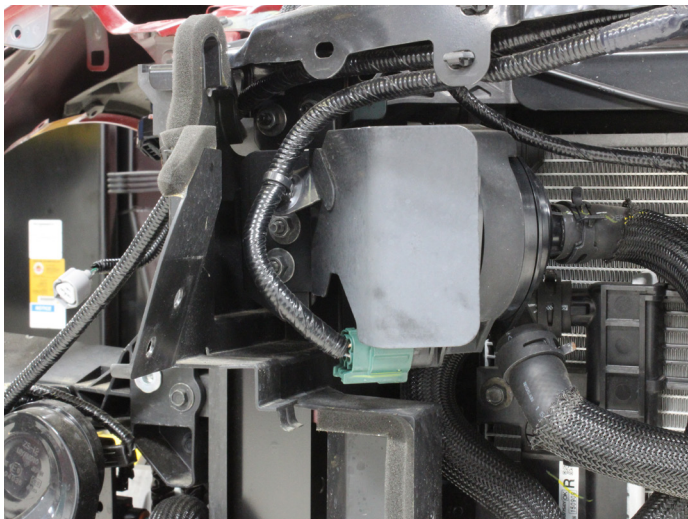
19. If equipped with an engine oil cooler, remove any plastic panels covering it.



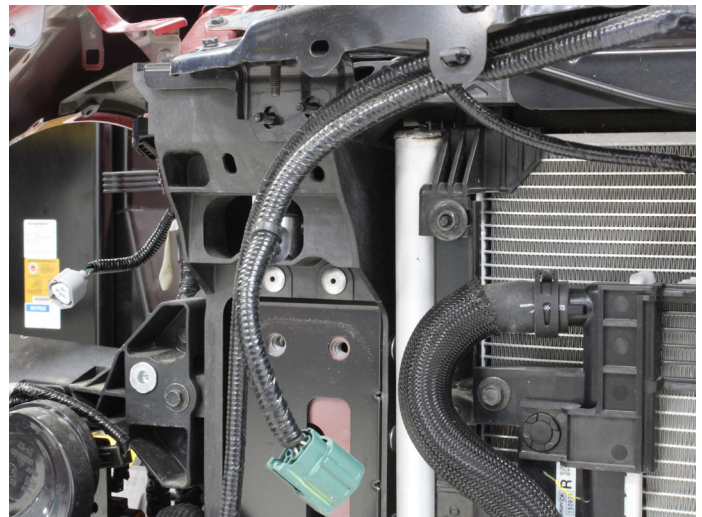
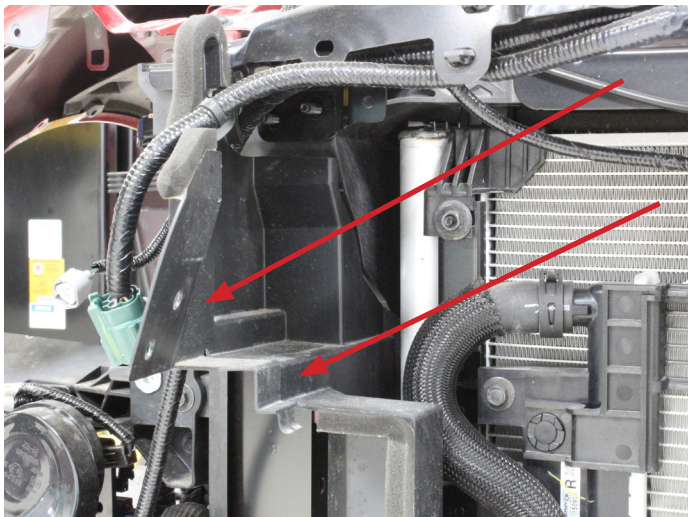
20. Remove the oil cooler. You do not need to disconnect the hoses. Remove the one bolt holding the metal lines in place on the right side and then remove the six bolts, three on each side. Allow the oil cooler to hang down.



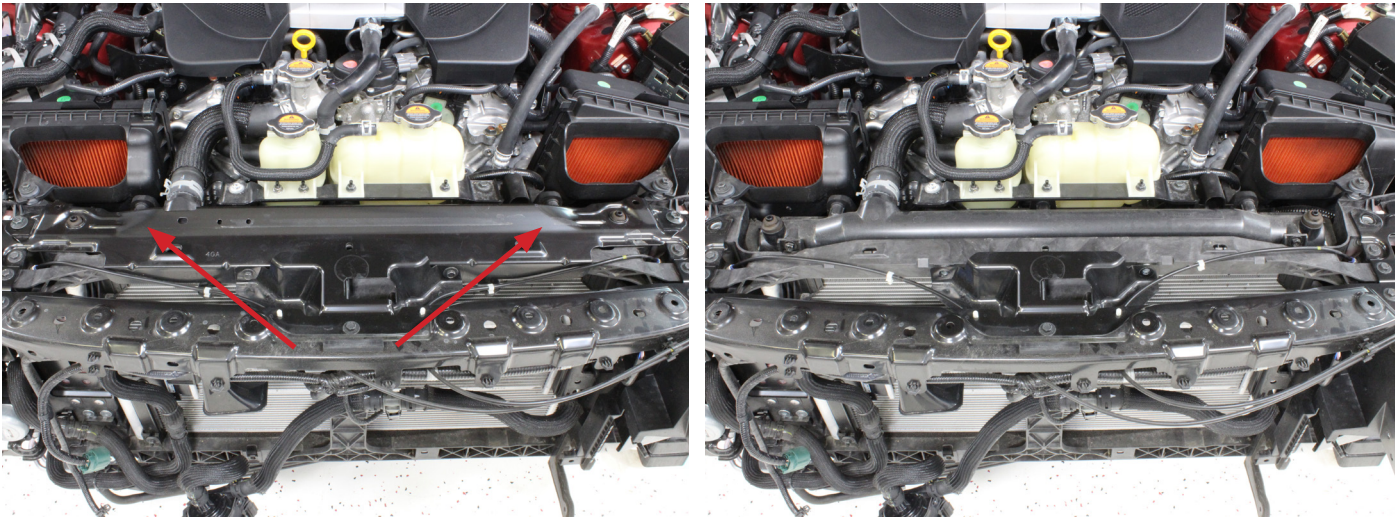
21. If you're Q60 or Q50 trim level is a Red Sport, you will need to unbolt the secondary water pump. Disconnect the electrical connector and unbolt the pump and bracket from the core support. You will not need to disconnect the hoses from the water pump. Allow the pump to hang.



22. Remove the plastic air duct.



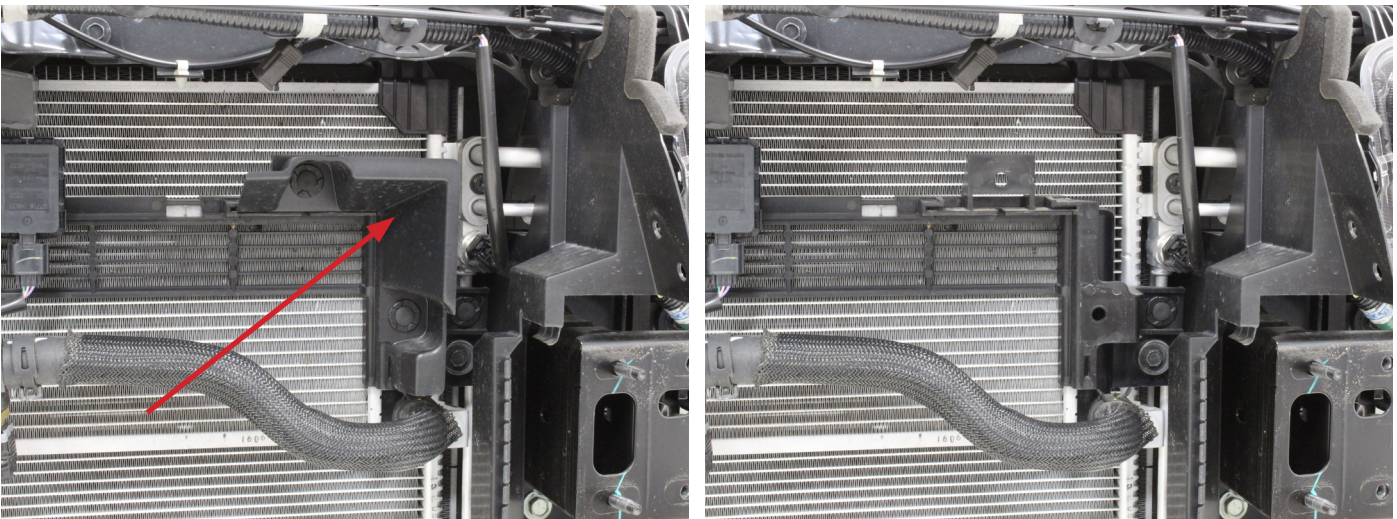
23. Remove the top radiator support plate. The Q60 and Q50 models vary slightly.



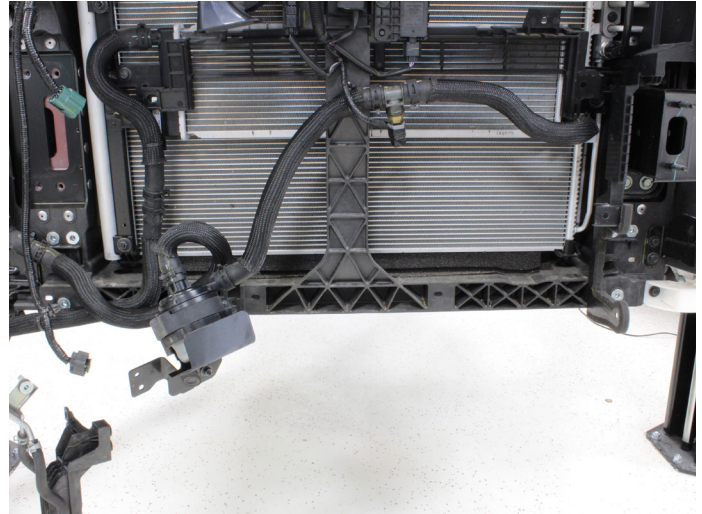
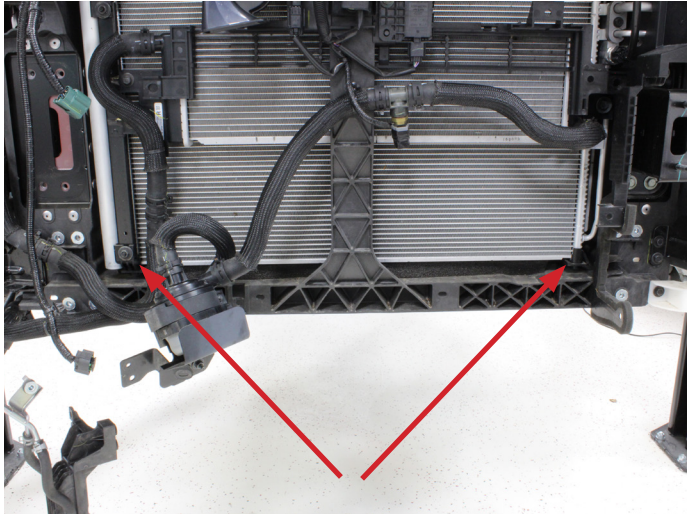
24. Drain the coolant out of the intercooler system only. The intercooler and engine coolant systems are separated. Remove the radiator cap from the small reservoir on the right side of the car. The system drain is on the bottom right side under the core support just under the main intercooler coolant pump.

**NOTES:** Make sure to drain as much coolant out of the intercooler system as possible. Bleeding the system will be difficult otherwise even using an air lift system.

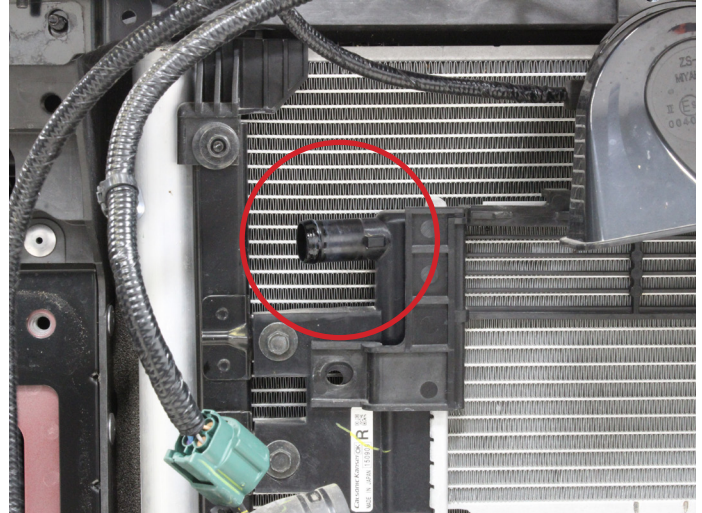
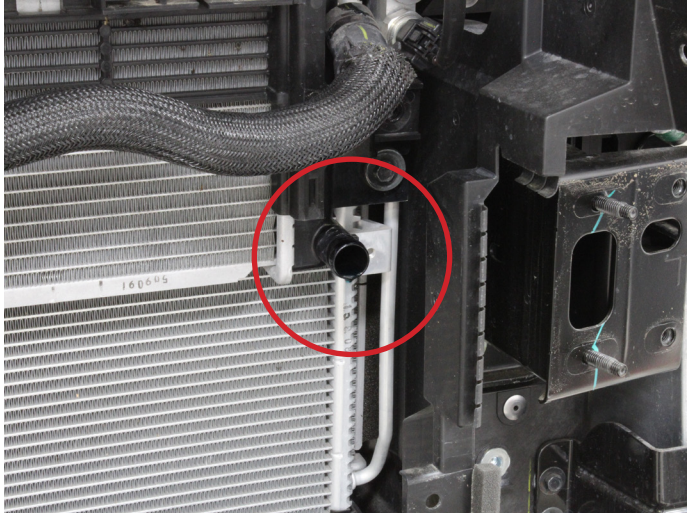
25. Remove the small corner air duct from the factory heat exchanger.



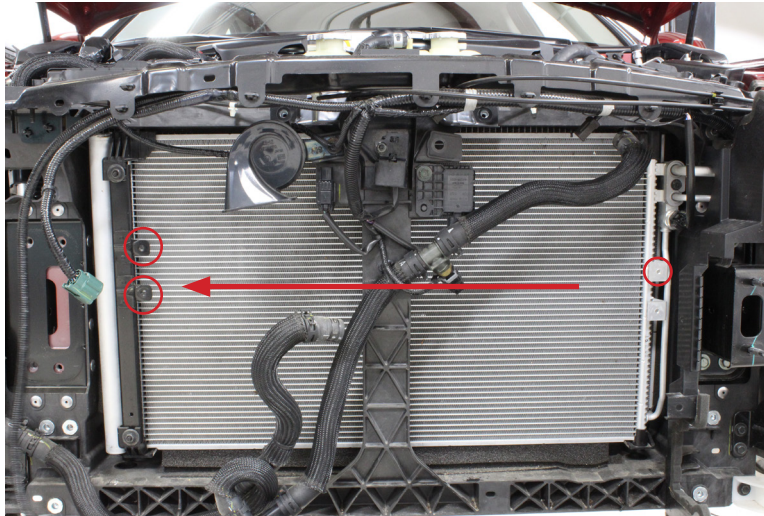
26. The radiator and A/C condenser needs to be moved towards the rear of the car. To do so, carefully use a pry bar and lift at the base of the rubber radiator mounts. **DO NOT LIFT ON THE PLASTIC END TANK OF THE RADIATOR!** You may also need to push the top of the radiator towards the rear of the car while lifting it upwards to clear the upper core support bracket. Once the rubber mounts are lifted out of the core support, push the assembly towards the rear.



27. Disconnect the inlet and outlet hose on the factory heat exchanger. Make sure to have a drain pan under the disconnection point to collect coolant that still remains in the system.

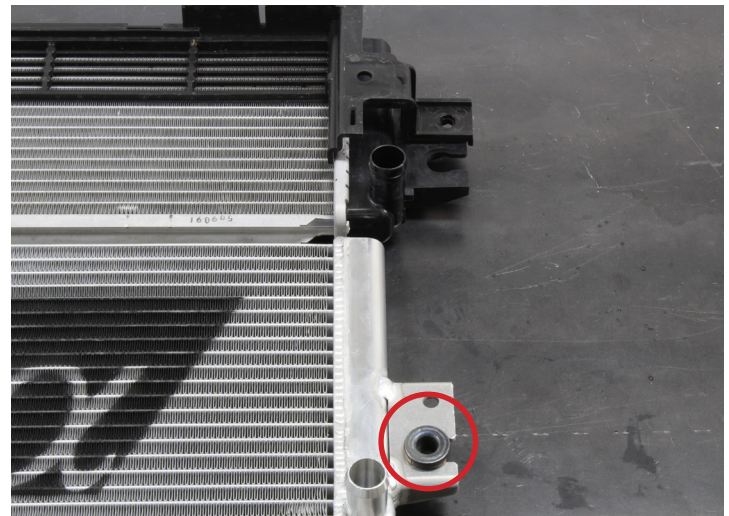
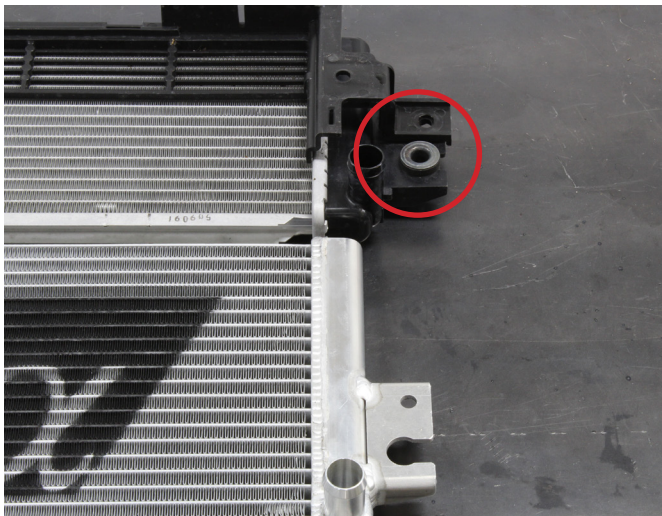


28. Carefully remove the three bolts holding the factory heat exchanger in place. Carefully remove the heat exchanger by sliding it out the right side of the car. There is a plastic guard still attached to the heat exchanger, remove if necessary.

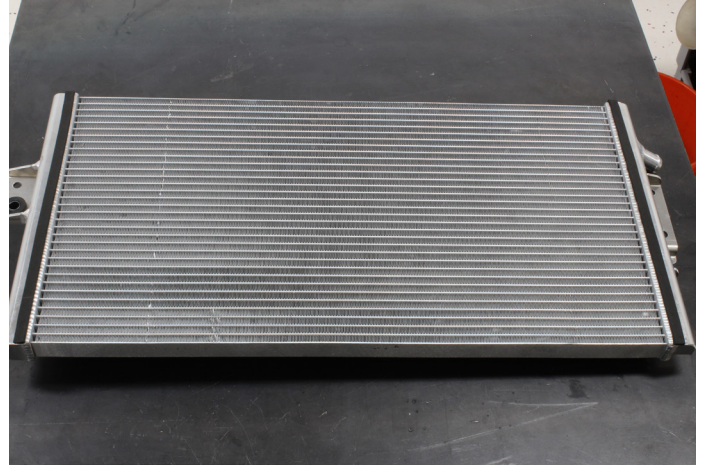
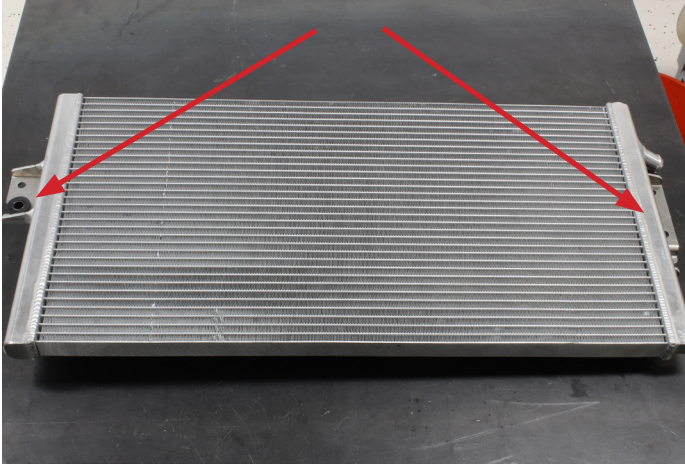


## Assassembly & Installation

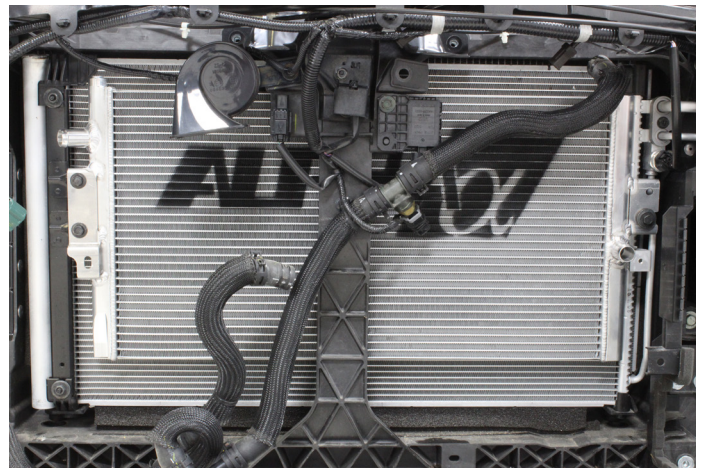
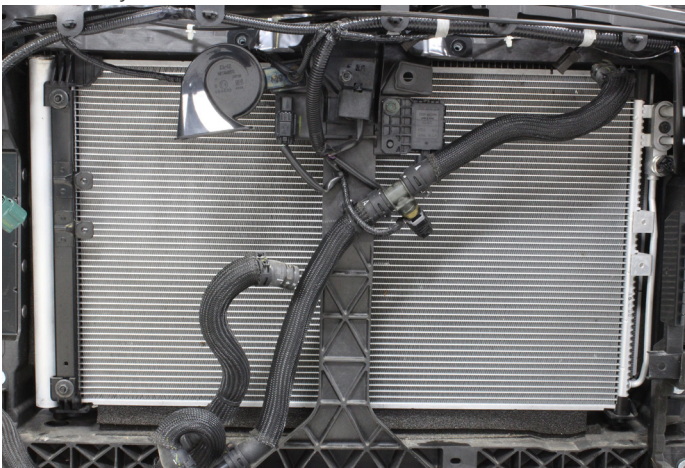
29. Remove the metal collar from the mounting grommet on the left side of the heat exchanger and then remove the grommet. Install the grommet and the collar in the reverse order onto the Infiniti Red Alpha front heat exchanger.



30. Locate the supplied foam stripping. Cut the material in half into two separate parts. Apply the foam stripping to the rear of the Infiniti Red Alpha heat exchanger along the weld seam.

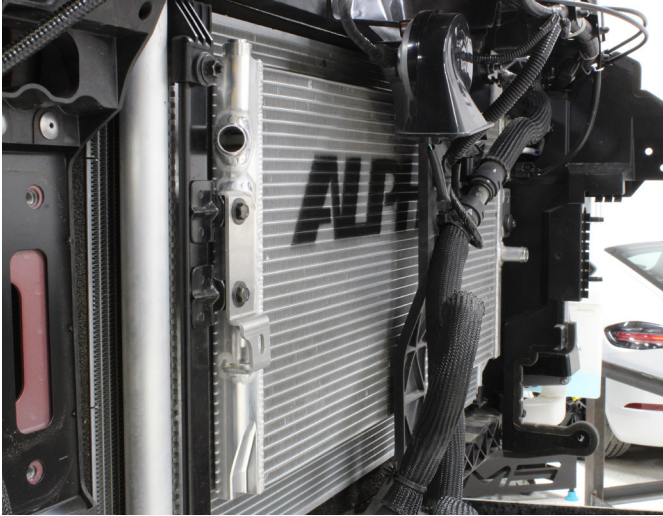


31. Carefully install the Infiniti Red Alpha heat exchanger in the car. Use the factory bolts and mount the heat exchanger loosely.

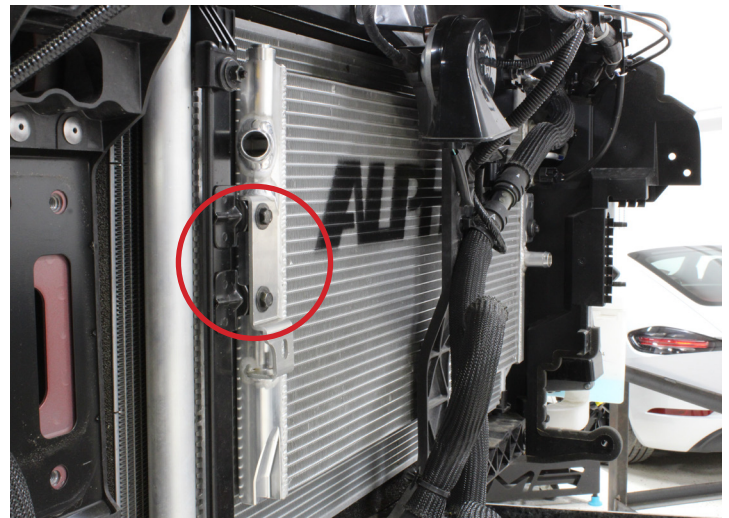
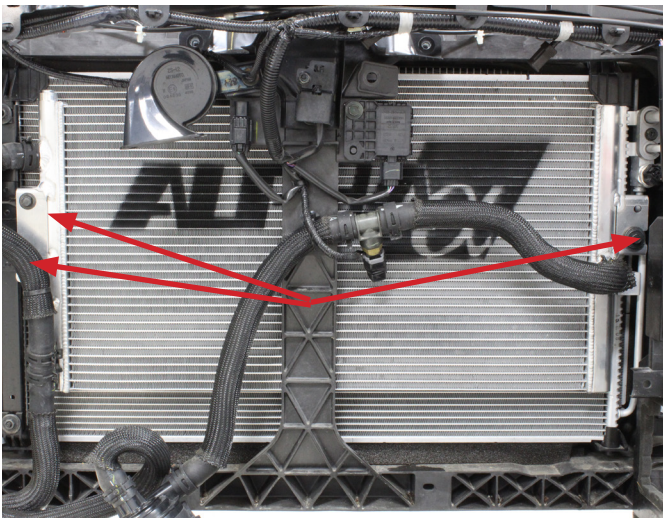




32. Set the radiator assembly back into the core support mounts. Reinstall the upper radiator mounting plate. Check the clearance of the Infiniti Red Alpha heat exchanger to the factory A/C condenser. There should be a very slight air gap between the foam stripping and the front of the condenser. If the foam stripping lightly touches the condenser, this is OK. We are looking for any misalignments causing abnormal fitment and part interference. We are also looking for any issues with the front of the Infiniti Red Alpha heat exchanger getting too close to the center support.



33. Since there are variations in manufacturing, we allowed for adjustments to be made. The heat exchanger was designed to sit close to the A/C condenser to allow adjustments outwards. If adjustments need to be made for additional clearance, there are two methods. We have supplied large OD M6 stainless washers that can be placed behind the heat exchanger mounting brackets to space the heat exchanger towards the front of the car. The other method is to modify the factory black left side mounting bracket. We have noticed that the mounting tabs can be pulled inwards towards the condenser on some vehicles. These tabs can be bent outwards and made straight again easily if needed and will usually correct any fitment concerns.



34. There is a union connection at the base of the heat exchanger on the right side. The clamps need to be rotated outwards from the heat exchanger to avoid damage to the heat exchanger.



35. On the Q60 and Q50 Red Sport models, check the clearance of the secondary intercooler coolant pump inlet hose to the Infiniti Red Alpha heat exchanger. During reassembly, this area can be adjusted in two ways. First would be to bend the bracket slightly rotating the intercooler pump outwards and the hose away from the heat exchanger. The second would be to disconnect the pump inlet hose and using hose cutters, trim a small piece off making the hose slightly shorter.



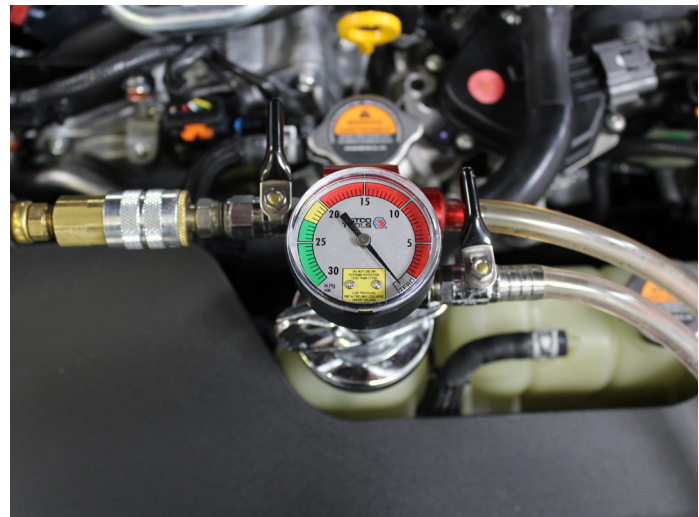
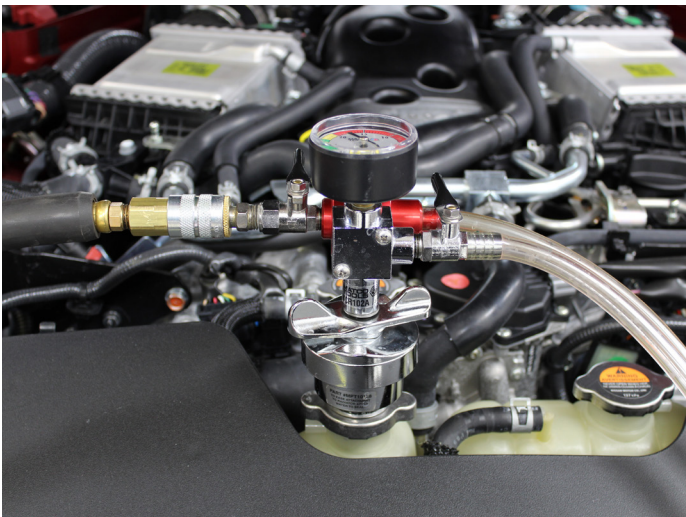
36. Reassemble the vehicle in the reverse order of removal.

## System Bleeding

37. 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 cost! Standard filling procedures will not work for this application.** 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 the start circulating coolant. This procedure can be performed by your local Infinity Retailer.
- b. The method we do 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/>



38. Follow your tools manufacturer instructions for bleeding.

39. After completion, test drive the vehicle and check the fluid level in the reservoir. Once the coolant level has maintained a constant level, crack open the bleeder at the top of the Infiniti Red 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.

40. Once the system is properly bled, Enjoy!