



Front Mount Intercooler Boost Tube Kit for 2015-2021 STI

2026-02-17

PSP-ITR-438-3

Thank you for purchasing this PERRIN product for your car! Installation of this product should only be performed by persons experienced with installation of aftermarket performance parts and proper operation of high performance vehicles. If vehicle needs to be raised off the ground for installation, the installer must use proper jacks, jack-stands and/or a professional vehicle hoist for safety of the installer and to protect property. If the vehicle is lifted improperly, serious injury or death may occur! Please read through all instructions before performing any portion of installation. If you have any questions, please contact our tech department prior to starting installation. We can be reached in any of the following methods:

Email Tech@PERRIN.com

Instant Chat off the main page of www.PERRIN.com

Or simply call our tech team at 503-693-1702



WARNING: This product can expose you to chemicals including Lead which is known to the State of California to cause cancer birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov

GENERAL MODIFICATION NOTE

Modifications to any vehicle can change the handling and performance. As with any vehicle extreme care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts, and drive safely, recognizing that reduced speeds and specialized driving techniques may be required. Failure to drive a vehicle safely may result in serious injury or death. Do not drive a vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications (and combinations of modifications) are not recommended and may not be permitted in your state or country. Consult the owner's manual, service manual, instructions accompanying these products, and local laws before purchasing and installing these modifications. You are responsible for the legality and safety of the vehicle you modify using these components.

WHICH WAY IS THE RIGHT WAY?

In ALL situations, when describing left and right sides of the vehicle it is always as though you are sitting in the driver's seat looking forward.
Example of a US Market Vehicle: If standing in front of the car, looking at the engine bay, the Drivers side is described as the LEFT side the vehicle.

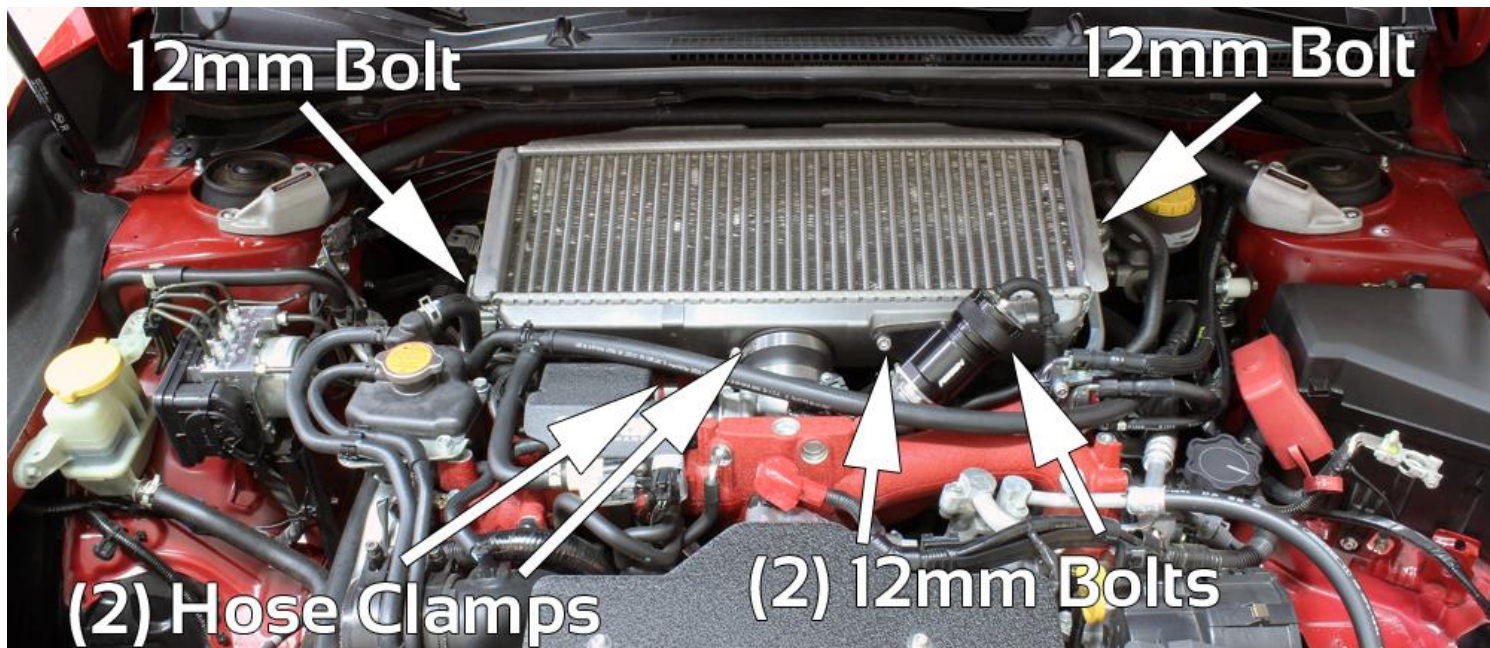
SPECIAL NOTES:

- This kit is meant to go with one of the PERRIN Front Mount Intercooler Core kits. Part way through this installation you will be directed to follow the instructions for the Intercooler Core you purchased.
- The stock intake system will not work with this intercooler kit. An aftermarket air intake (such as a PERRIN Cold Air Intake), must be used in order for this to be installed. Most aftermarket intakes that include a heat shield, will need to either modify the shield or remove it in order for the boost tubes to pass by it.
- Boost tubes will have tight clearances next to battery and secondary air pump cover. Take time in moving boost tubes to clear parts.
- Be prepared to empty your windshield washer tank into a container.
- Installation of this part does require destruction of your OEM windshield washer tank.

Parts Included with the PERRIN Front Mount Intercooler:

1	X-PSP-ITR-403-1	02-07 WRX/08-14 STI Boost Tube #1
1	X-PSP-ITR-438-2	Boost Tube #2 for 2015 STI (2.25"OD, 2 bends)
1	X-PSP-ITR-438-3	Boost Tube #3 for 2015WRX/STI (2.75" OD,U Bend w/3 bends)
1	X-PSP-ITR-438-4	Boost Tube #4 for 2015 STI (2.75"OD, 3 bends)
1	X-PSP-ITR-438-5	Boost Tube #5 for 2015 STI (2.75"OD, 3 bends)
1	ASM-ENG-505	Universal Overflow Tank
1	ASM-ITR-510BK	Washer Tank for 2015 WRX/STI Black
1	PSP-ITR-438-1	Direct Mount FMIC Bracket Kit for 15-21 WRX/STI
1	X-PSP-ITR-438BK	Silicone Coupler Kit for 2015 STI FMIC (8pc) Black
1	X-PSP-ITR-437Large	Stencil and Cut-Out for 2015 WRX/STI FMIC with Bigger Mouth
1	X-PSP-ITR-437	Stencil for 2015 WRX/STI FMIC
2	X-HOS-120	1/2" Emissions/Crank Case Vent Hose (27019) 250' roll
1	X-PSP-ITR-409BK	Bypass Valve Adapter Flange for 02-07 WRX FMIC Black
1	X-CON-009	Plastic 1/2"-1/2" Straight
1	X-CON-012	Plastic 1/2" Tee
6	X-BLT-M8X25WF-Z	M8 Fender Washer
2	X-CLAMP-024	Clamp Size 24 or 30-45mm
1	X-CLAMP-032	Clamp Size 32 or 40-60mm
4	X-CLAMP-036	Clamp Size 36 or 50-70mm
9	X-CLAMP-048	Clamp Size 48 or 60-80mm
1	X-PSP-ITR-407-1BK	Silicone Coupler 2"-2.25" offset 1" 4.75" long Jog, Black with PERRIN logo
1	X-PSP-ITR-407-3BK	Silicone Coupler 2.25"ID X 4"Long Black w/PERRIN logo
1	X-PSP-ITR-407-6BK	Silicone Coupler 2.25" - 2.75" ID X 4"Long Black w/PERRIN logo
1	X-PSP-ITR-301BK	Silicone Coupler 2.75"Id X 2" 3ply all Black "PERRIN" Logo Centered
1	X-PSP-ITR-407-4BK	Silicone Coupler 2.75"ID 4" Long Coupler Black w/PERRIN logo Perpendicular

- | | | |
|---|-------------------|---|
| 2 | X-PSP-ITR-407-7BK | Silicone Coupler 2.75"ID 90 Degree Elbow 1.75" Legs, 3ply all Black PERRIN logo |
| 1 | X-PSP-ITR-407-8BK | Silicone Coupler 1.375"ID 90 degree Elbow with 1"legs Black Silicone |



1. Raise hood and disconnect battery terminals. Remove battery, battery cover, and tray from car.
2. Remove existing intercooler from car by removing (2) 12mm bolts securing BOV to intercooler, (2) 12mm bolts securing outer mounting flanges to engine, (1) hose clamp at turbo, and (1) hose clamp at throttle body. Disconnect (3) crank hoses from black steel pipe on front of intercooler. Take note of these hoses as they will be connected in a future step. **NOTE: Some of this hardware will be reused in future steps.**
3. Remove rubber coupler from throttle body. Remove all intercooler support brackets that were holding intercooler. Left side has (2) 12mm bolts at the intake manifold. Right side is (2) pieces, with one bracket bolted to engine block and one bolted to intake manifold.
4. Remove intake system up to turbo inlet hose connection. This includes removing rubber intake elbow, air filter box and noise generator on models equipped with that. **NOTE: This step will vary greatly depending on what intake system is being installed. If installing a PERRIN ntake, stop and follow those directions before going to next step.**

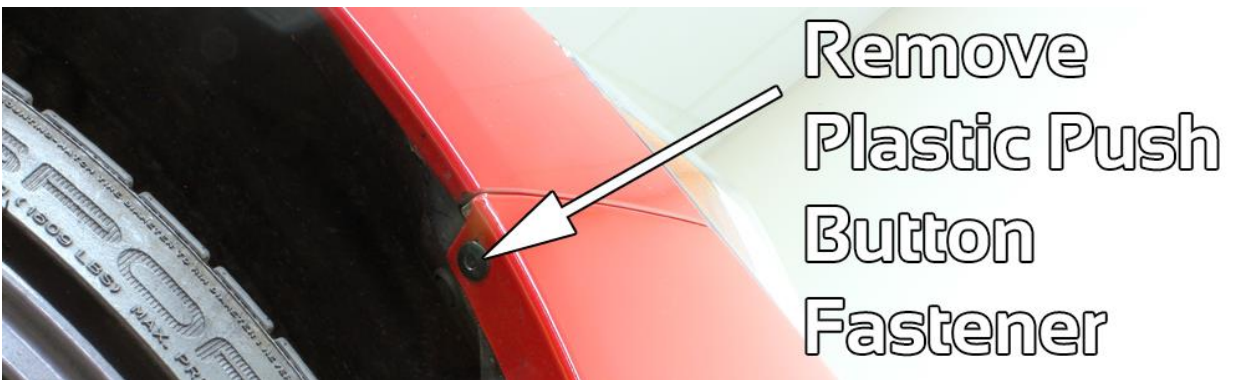


5. Remove OEM coolant overflow tank from radiator (snaps onto fan shroud) and drain coolant into suitable container, as this will be reused.
6. Remove bumper cover from car. Take care in removing all plastic connectors replace connectors as they can break.
 - a. Under hood, locate and remove (6) 10mm bolts and (3) plastic connectors holding seal to bumper. Remove metal seal from bumper.

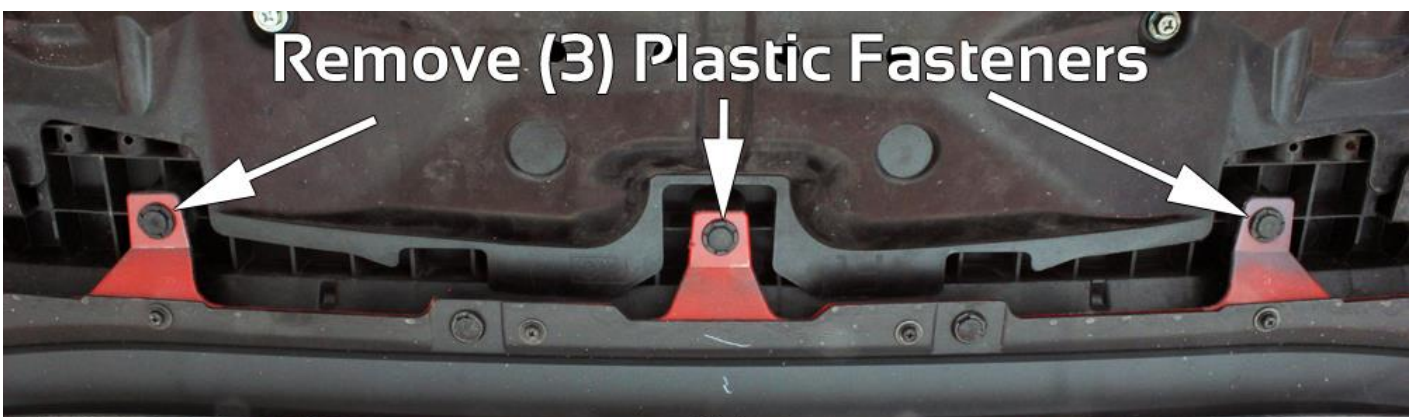


**Remove (6) 10mm Bolts
and (3) Plastic Fasteners**

- b. Inside of wheel wells, locate and remove (1) plastic fastener that is released by pushing the center of it in.



- c. Under the bumper locate and remove (3) plastic fasteners in center of bumper.



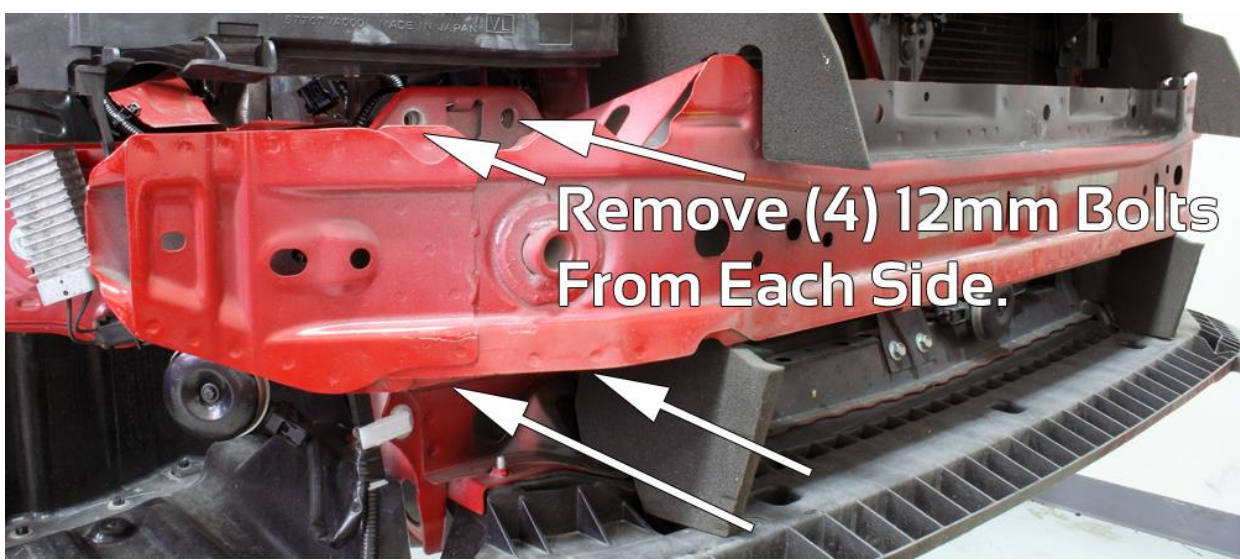
- d. Under the bumper, on both the left and right sides, locate and remove (3) additional plastic fasteners.



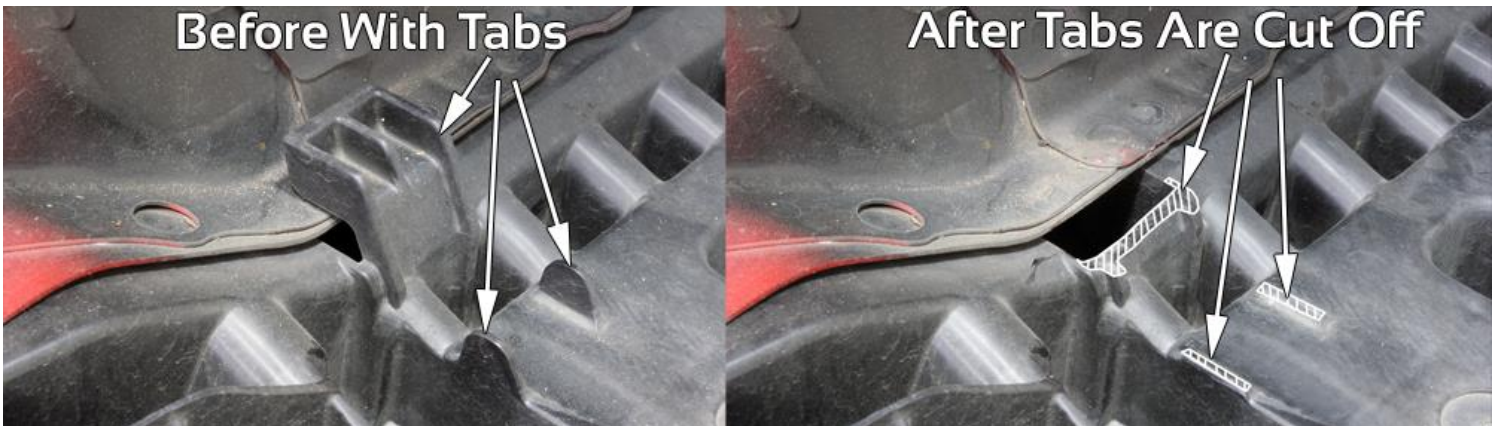
- e. Grab right side bumper where plastic push connector was, and pull straight away from car. Do this until most of the right side has come off, then do this to the other side. There should be enough length of wire (from the fog/blinker lights) to set bumper on the ground. Unplug each connector as shown below.



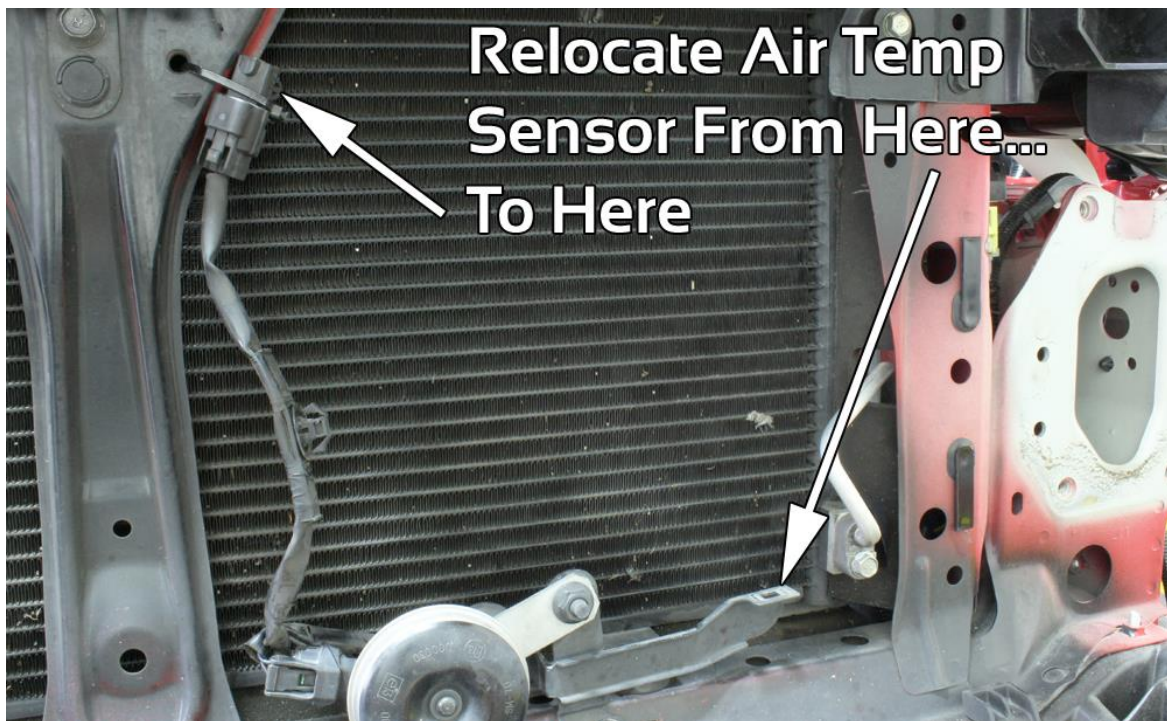
7. Remove (8) 12mm bolts secures bumper support beam to chassis and remove beam from car.



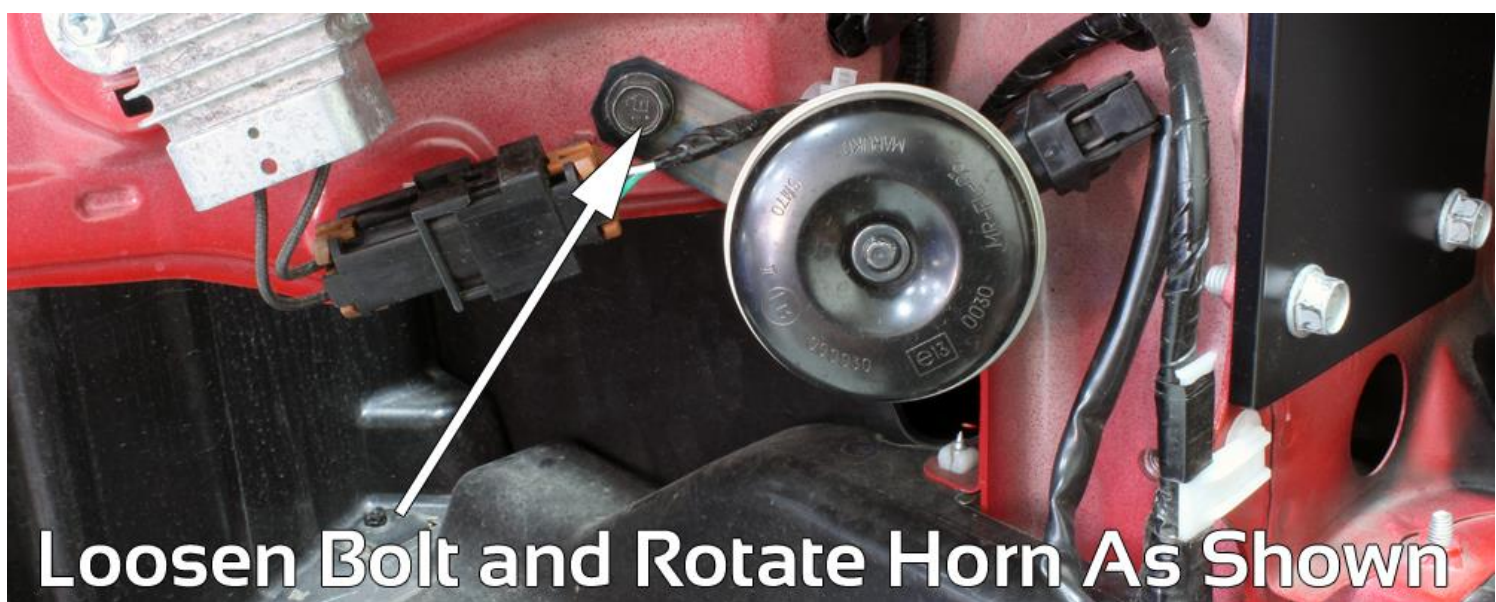
8. Locate plastic tabs as shown in picture below. Trim these pieces off of both sides of splash guard to allow intercooler to sit flush in next steps.



9. Locate air temp sensor as shown in picture and relocate to radiator support as shown using zip tie.

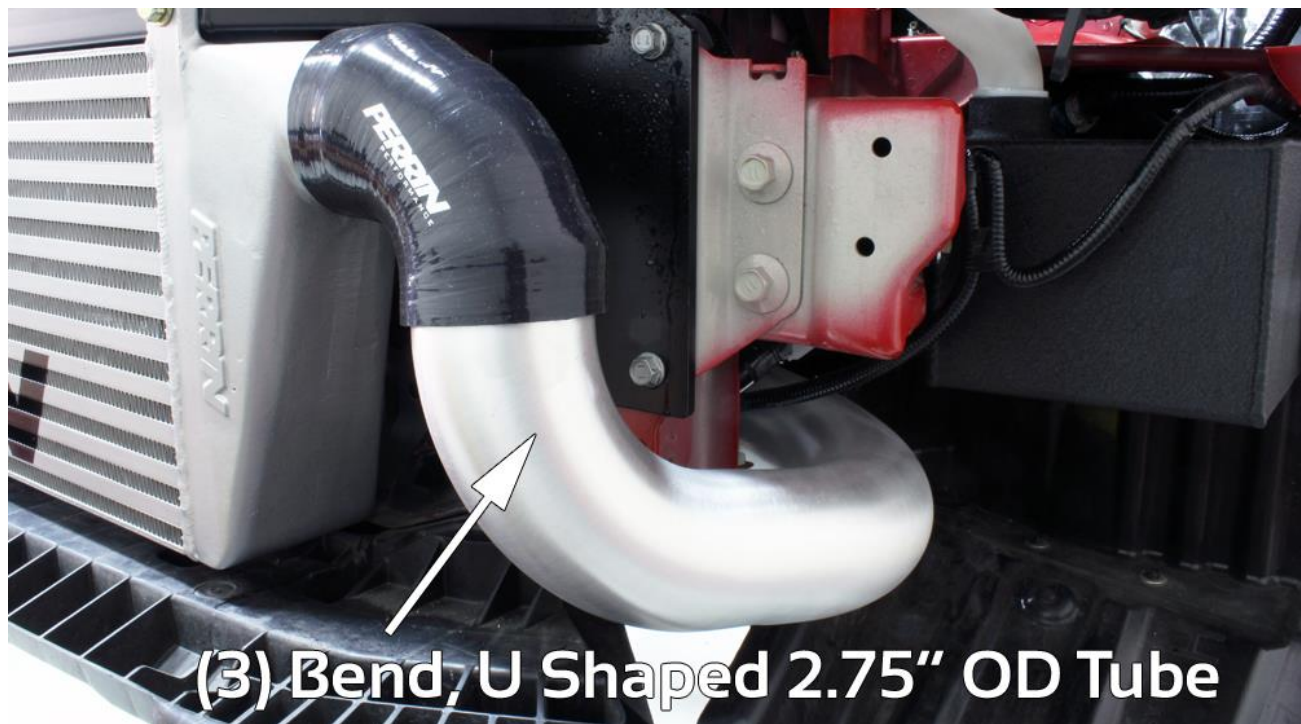


10. Locate horn on right side of car, loosen bolt and rotate out of the way as shown below. This is done to make room for boost tube to pass through.



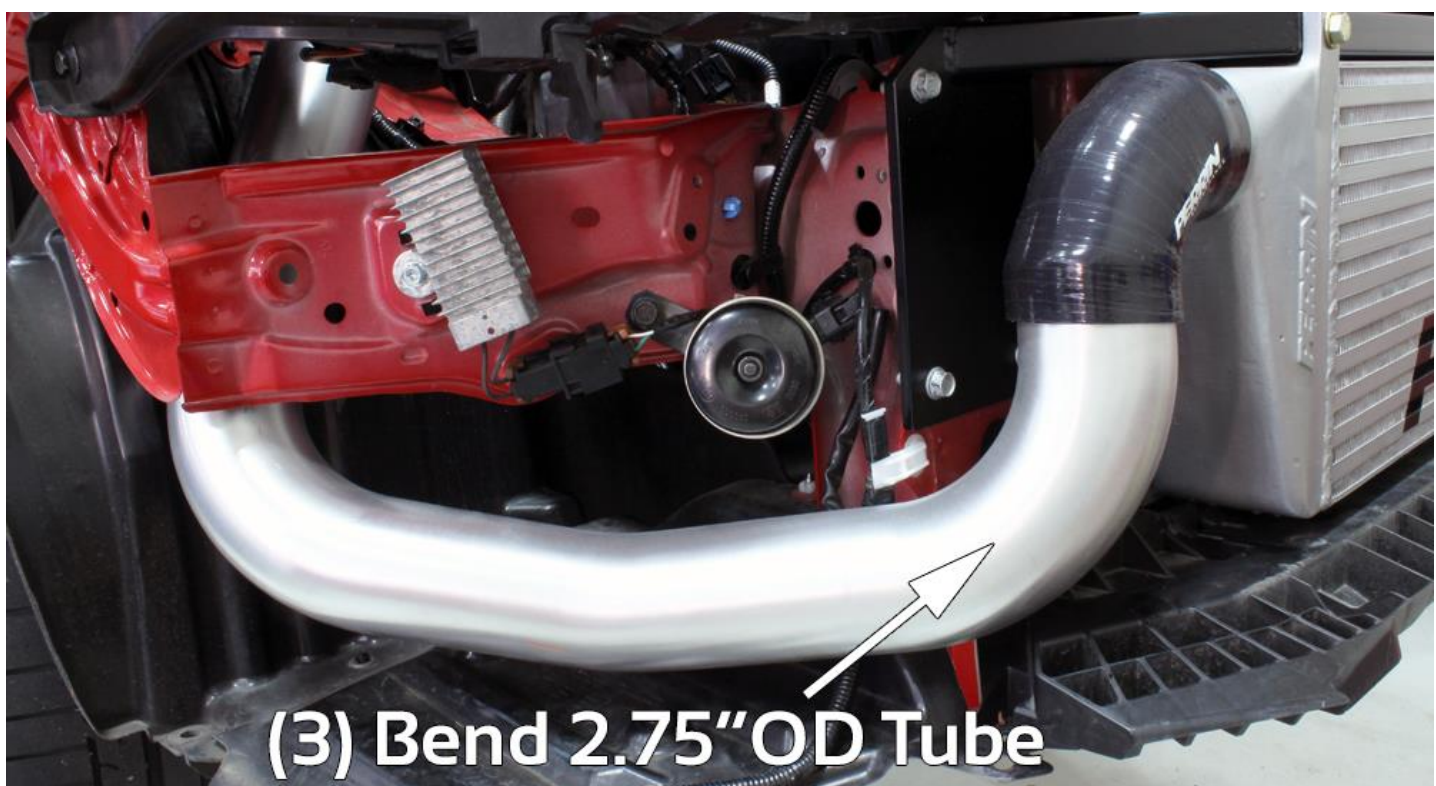
Loosen Bolt and Rotate Horn As Shown

11. Follow the instructions that cover the installation of the Direct Mount Intercooler Brackets that are included in the intercooler kit. These instructions are found on our website (in the instruction database) using the part number of found on the box of parts. These brackets allow the intercooler core to mount to the radiator core support.
 - a. **NOTE: If optional intercooler support beam is being installed (shown in pictures below), follow the separate instructions (found on our website) to install intercooler core to support bracket before continuing to the next step.**
12. Follow the instructions that cover the installation of the intercooler mounting to the brackets. These instructions are found on our website (in the instruction database) using the part number found on the intercooler box. **NOTE: The bottom edge of core may touch plastic portion of splash guard, this is normal.**
13. Follow the instructions that cover the installation of the PERRIN Windshield Washer Tank. These instructions are found on our website (in the instruction database) using the part number of found on the box of parts. **NOTE: These instructions will show you how to remove the bumper just as the above instructions do.**
14. Install supplied 2.75" 90 degree couplers to both sides of intercooler core. Use supplied size 48/60-80mm clamps to secure to intercooler.
15. Locate area below washer tank and cut hole as shown in both engine splash guard and fender well splash guard. This is done to make room for the 2.75" OD 3-bend, U shaped boost tube to pass through.

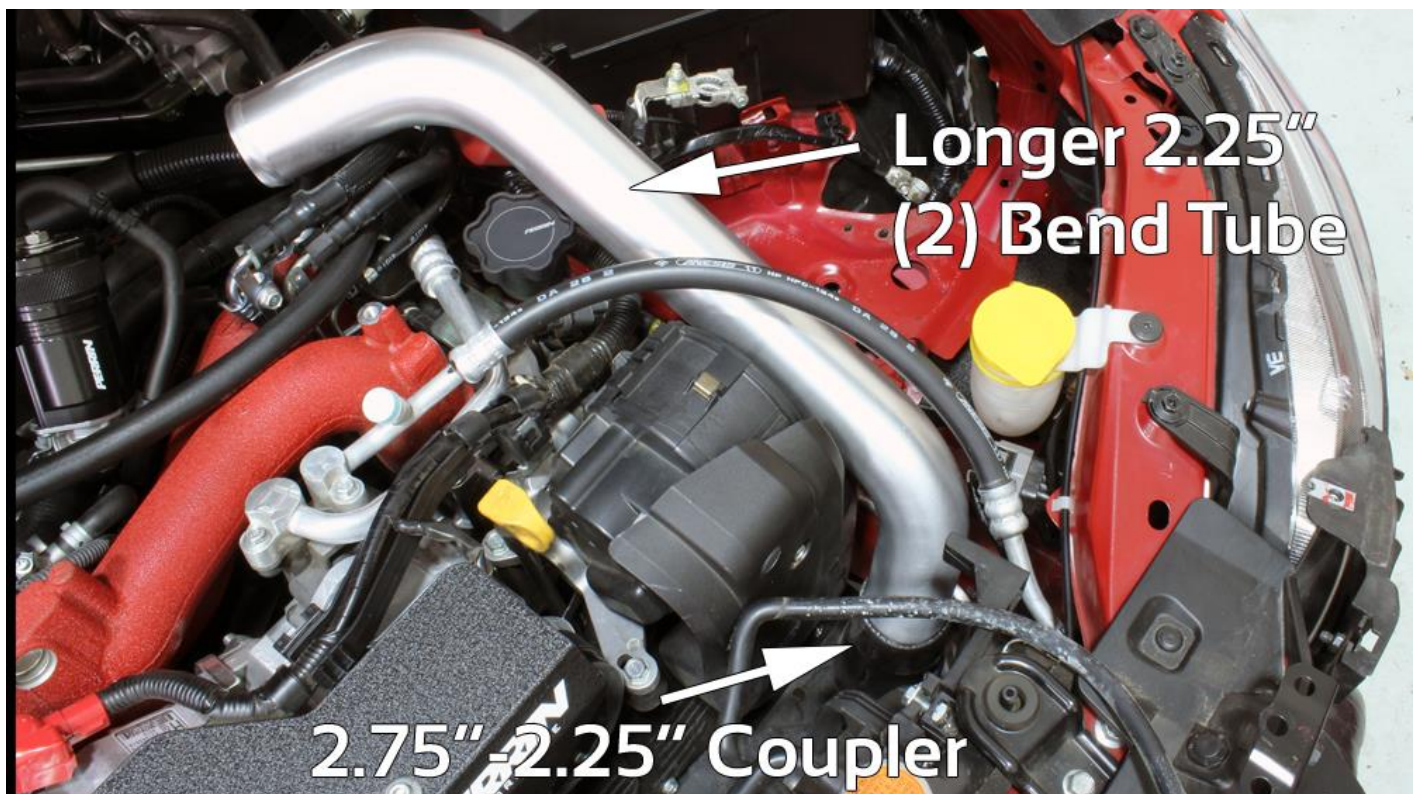


(3) Bend, U Shaped 2.75" OD Tube

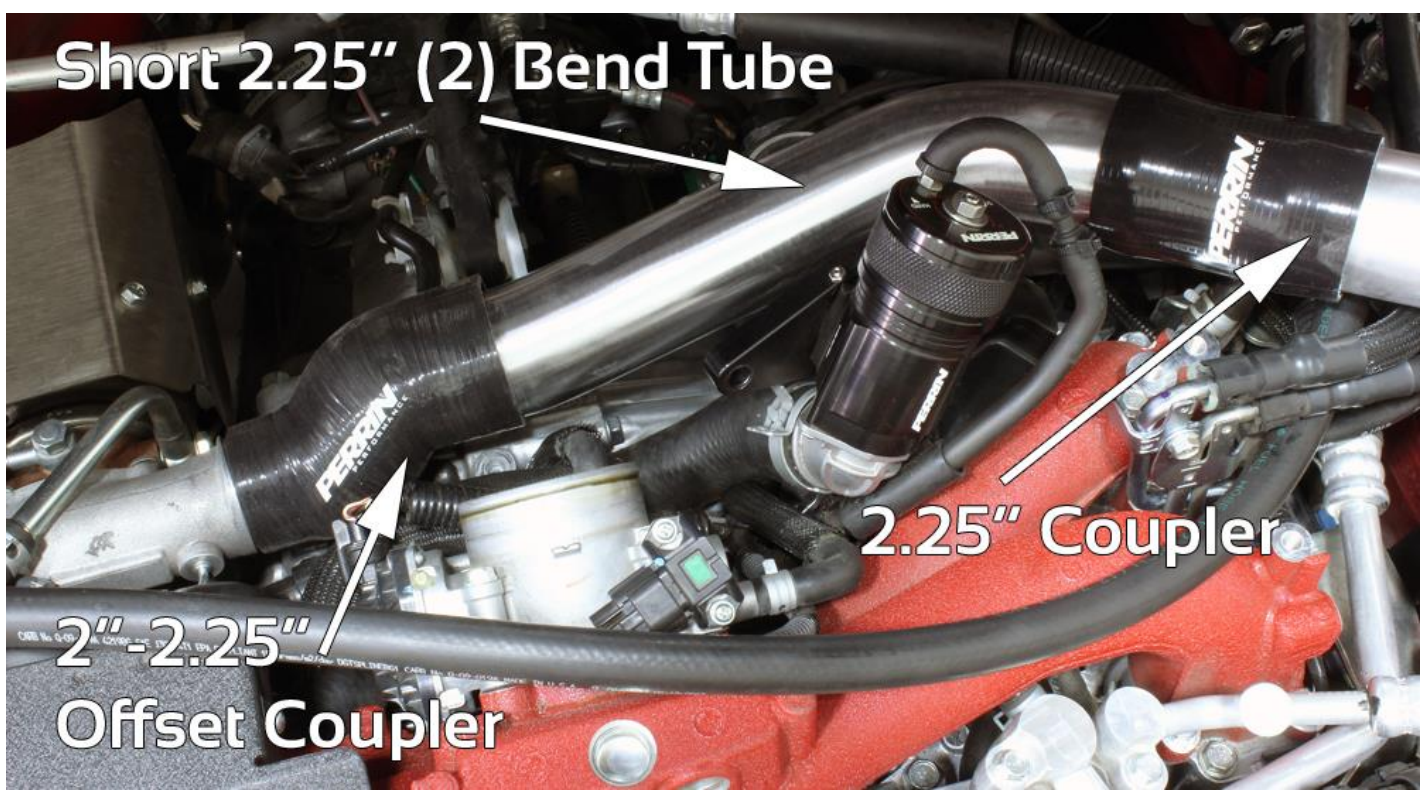
16. Install 3-bend U Shaped 2.75" tube on left side of intercooler as shown. Use supplied size 48/60-80mm clamp to secure to 90 degree coupler. **NOTE: Adjustments to boost tubes will be made in later steps.**



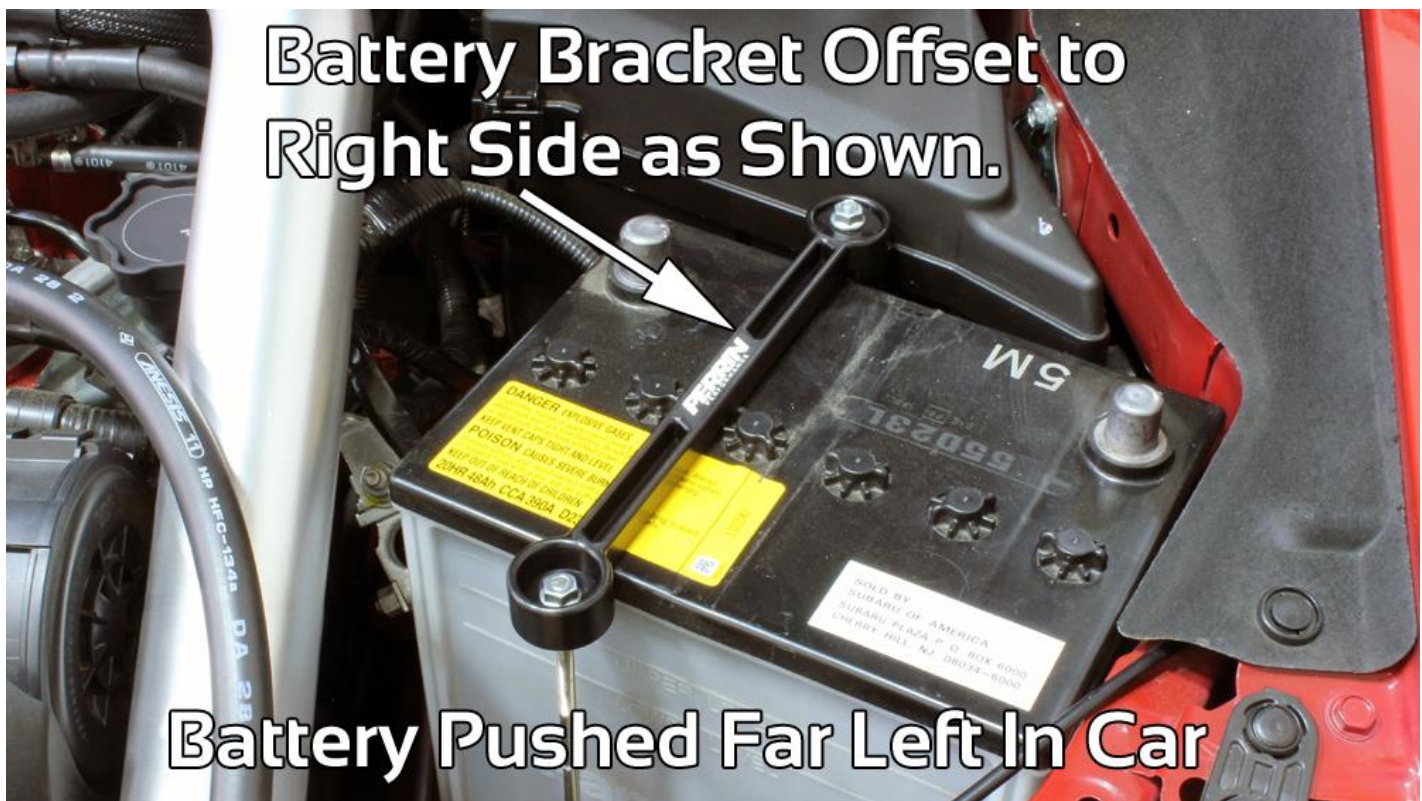
17. Install longer 3-bend 2.75" tube on left side of intercooler as shown. Use supplied size 48/60-80mm clamp to secure to 90 degree coupler. **NOTE: Adjustments to boost tubes will be made in later steps.**
18. Install supplied 2.75"-2.25" reducer coupler to left side U-bend tube and secure using supplied size 48/60-80mm clamp. **NOTE: Make sure and install clamp so it is easy to access in later steps.**
19. Install long 2.25" 2-bend tube into 2.75"-2.25" reducer coupler and secure using supplied size 36/50-70mm clamp. **NOTE: This tube is bent slightly different from end to end, if tube doesn't appear to line up properly, flip 180 degrees and reinstall.**



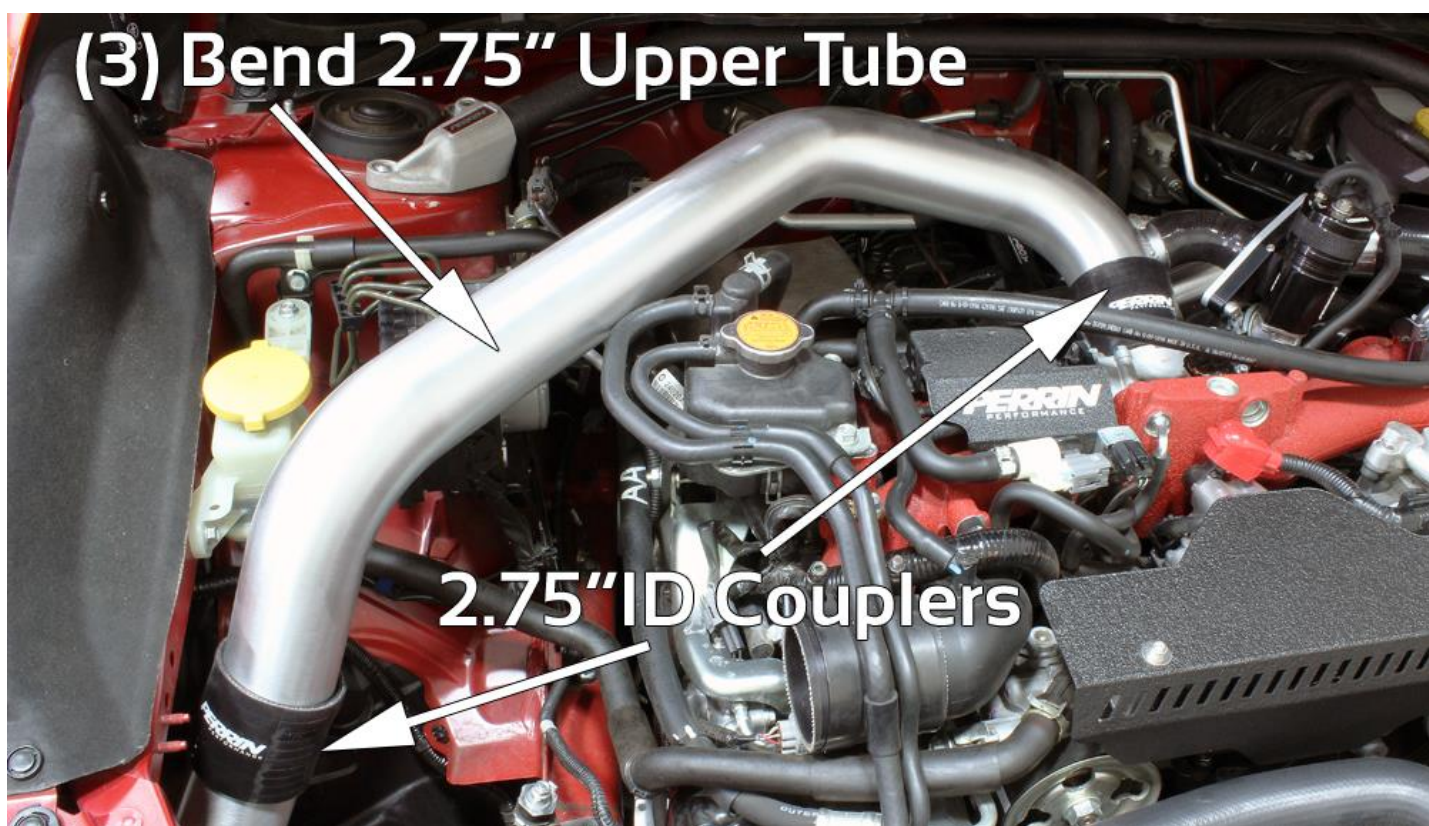
20. Install supplied 2.25" coupler onto 2.25" tube in above step and secure using supplied 36/50-70mm clamp.
21. Install supplied 2-2.25" offset coupler to turbo as shown below and secure with supplied size 32/40-60mm clamp.



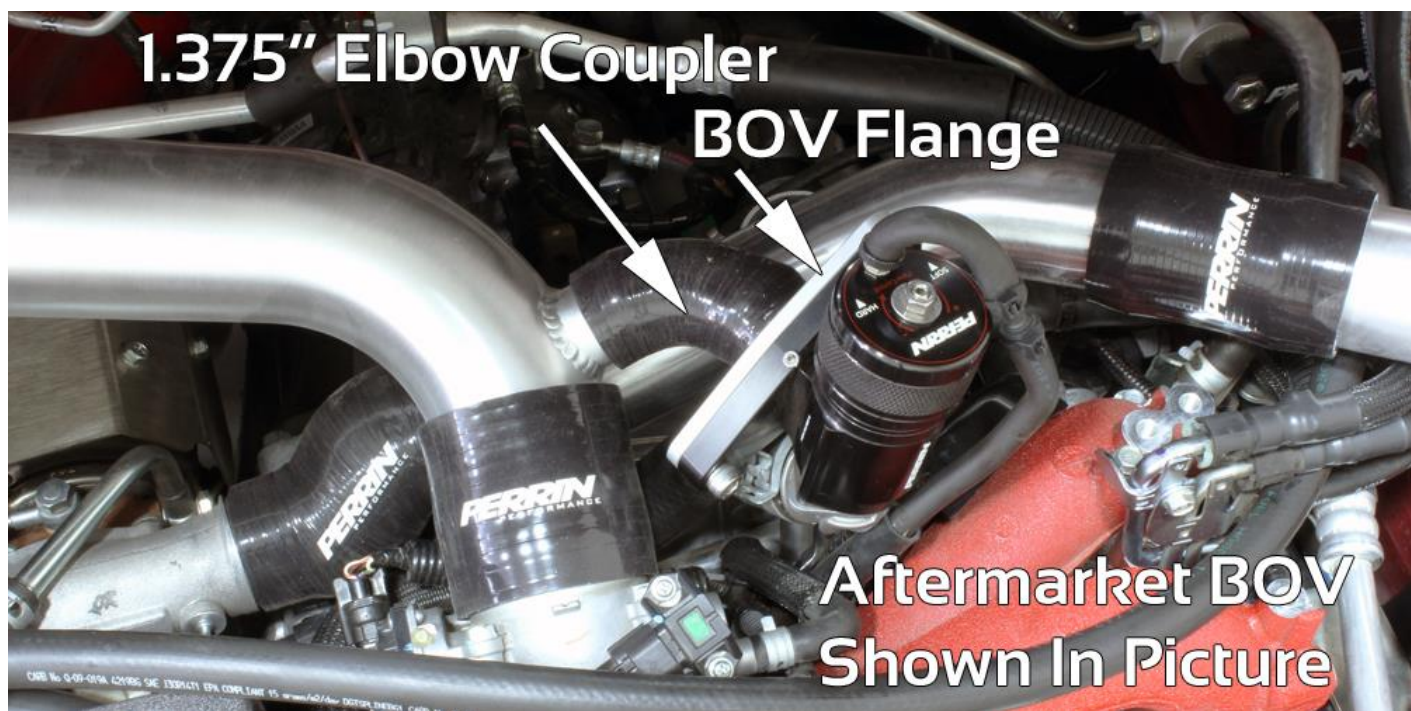
22. Install short 2.25" tube as shown into both couplers in above steps, and secure each end with supplied size 36/50-70mm clamps.
23. Set battery into engine bay, making sure to remove battery tray and battery cover. Slide battery as far left as possible, then secure with brackets and hardware as was removed in earlier step. You will notice that the bracket will line up with right side of battery as shown in pictures below. This is normal and is done to make room for tubes to fit next to battery and engine.



24. Adjust the rotation and length that tubes are pushed into the couplers. Adjust tubes so they do not hit the engine, and/or other parts of the car that will cause damage to the tubes. Tighten all clamps. **NOTE: These may need to be adjusted one more time before the install is complete.**
25. Install supplied 2.75" coupler to throttle body and to 2.75" tube on left side of car. Slide (2) size 48/60-80mm clamps on each coupler.
26. Install (3) bend 2.75" upper tube to throttle body and to left side 2.75" tube.

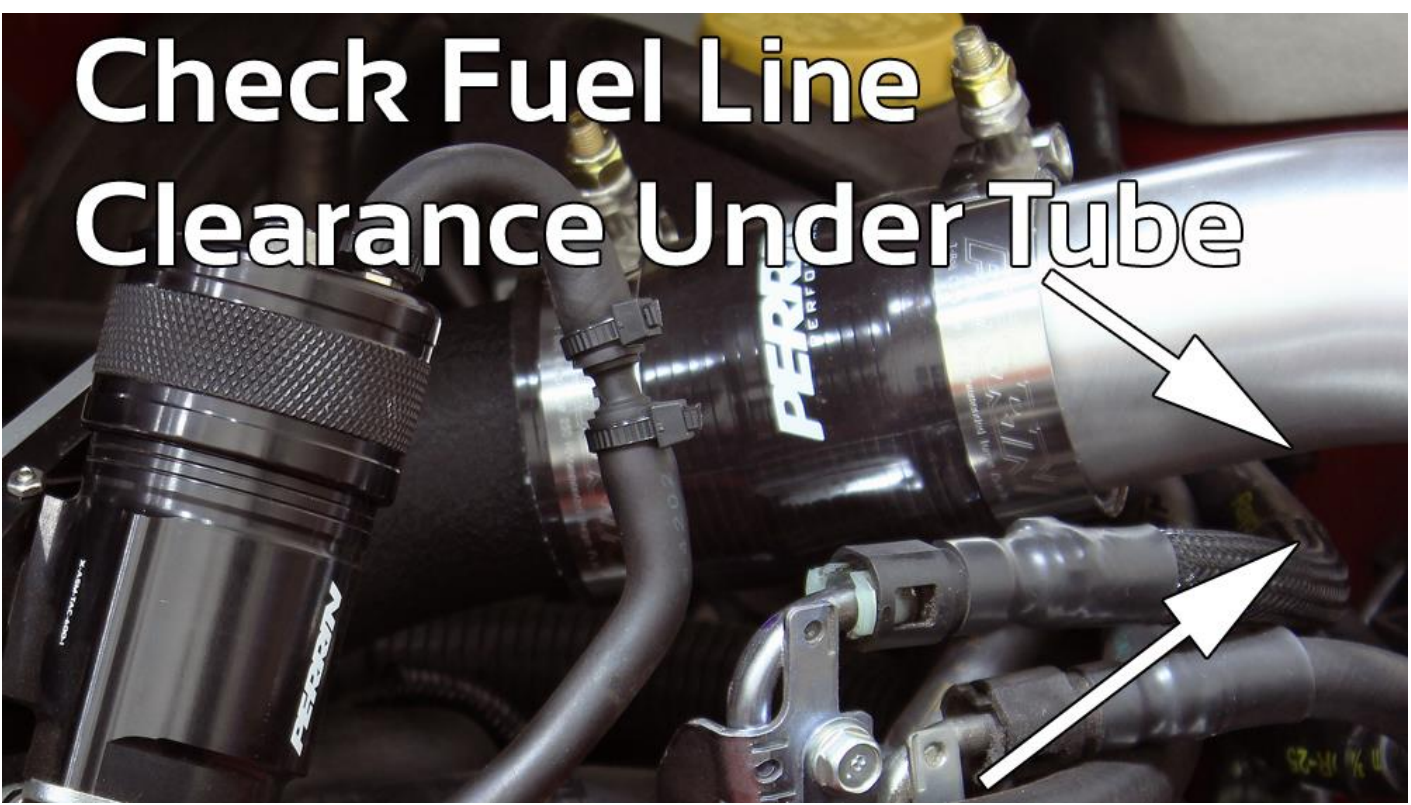


27. Adjust the rotation and length that tubes are pushed into the couplers. Adjust tubes so they do not hit on the engine, and/or other parts of the car that will cause damage to the tubes. Tighten all T-bolt clamps. **NOTE: These may need to be adjusted one more time before the install is complete.**



28. Install supplied 1.375" elbow coupler to (3) bent 2.75" upper tube as shown in picture below. Connect supplied BOV flange to tube, and using hardware removed in Step 2, install OEM BOV to flange making sure to place gasket between flanges. Secure with (2) supplied 24 size clamps. **NOTE: This flange is not necessary to use if using certain aftermarket BOV's.**
29. With all boost tubes installed and roughly adjusted, make one final adjustment to all tubes making sure to add as much clearance to all of them as well as align clamps in a direction that makes it easy to access in the future. **NOTE: The tight areas will be under the tubes at the throttle body, fuel lines, and above the ABS unit.**

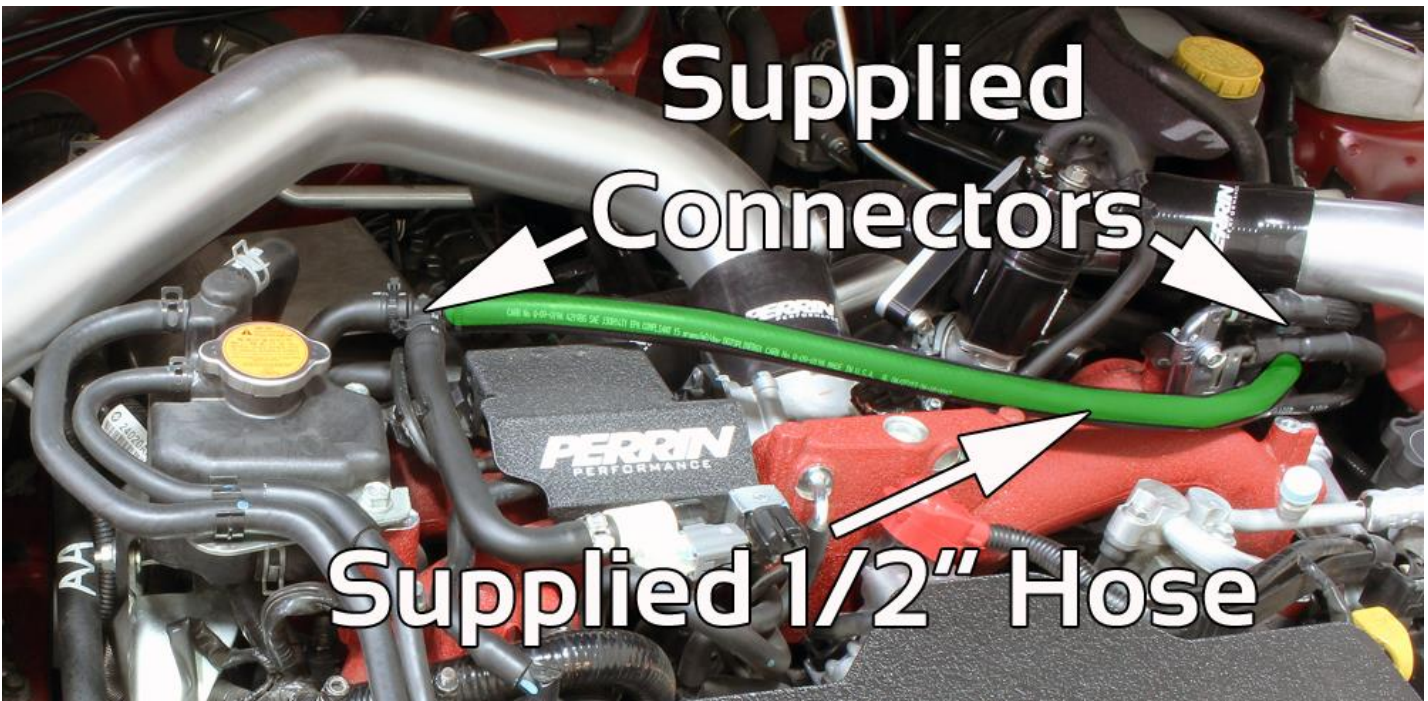
Check Fuel Line Clearance Under Tube



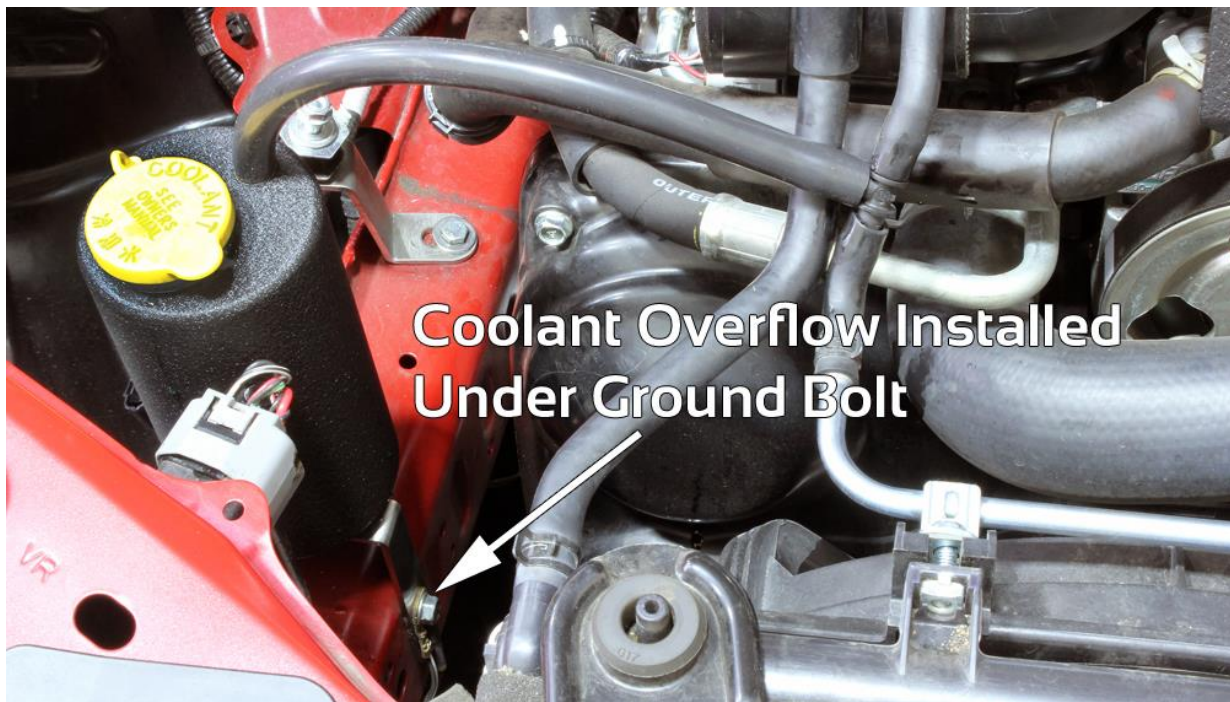
30. Install supplied 1/2" Tee to crank case vent hoses and to supplied 1/2" hose as shown in picture below.
31. Install supplied 1/2" to 1/2" connector to other end of 1/2" hose and connect to remaining crank case vent hose on left side of engine. **NOTE: Routing hose under or over intake manifold will work, picture shows over intake manifold for illustration purposes.**

Supplied Connectors

Supplied 1/2" Hose



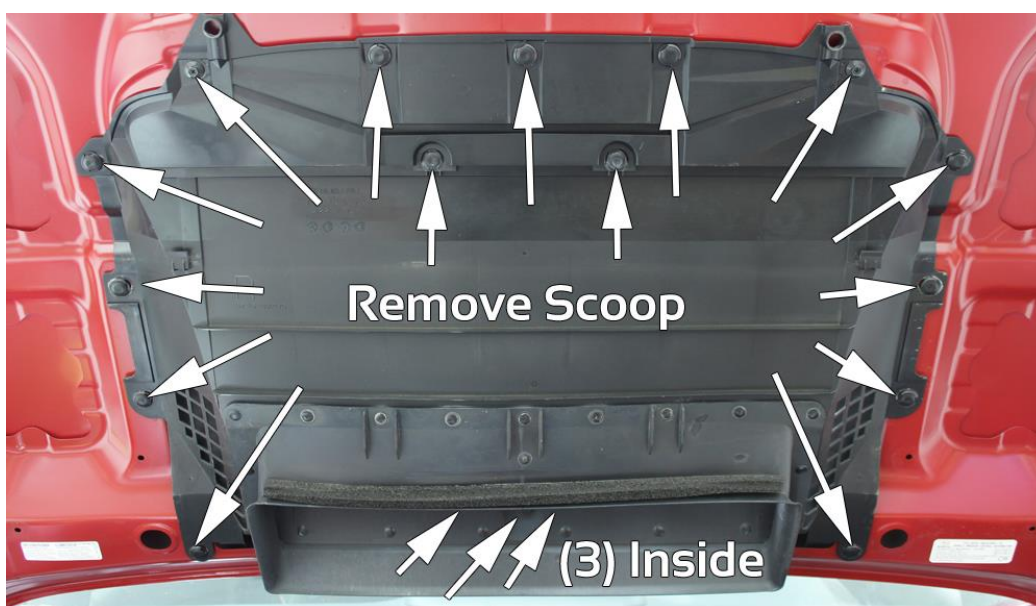
32. Follow the instructions that cover the installation of the coolant overflow tank. These instructions are found on our website (in the instruction database) using the part number of found on the coolant overflow box.



33. Add fluid drained from coolant overflow tank in earlier step.
34. Using picture below, remove (10) plastic push in connectors and remove them fiber type hood protector.



35. Using picture below, remove (16) plastic connectors and (2) bolts, then remove hood scoop. **NOTE: This step is important as failure to do so will cause damage to boost tubes as they may rub on scoop.**



36. Boost tube and clamp alignment:
 - a. Before tightening all the clamps spend time aligning all the tubes and making there is decent clearance around all the parts. Giving the tubes a jiggle here and there while you adjust them can help with determining if they are too close to another part.
 - b. Align clamps so the heads of them can be easily reach with tools after the installation is completed.
 - c. Make sure all the clamps are behind the beads of the tubes before tightening them down. Failure to do so will cause the boost tubes to pop off.
 - d. Any area where pipes can hit something metal need to be adjusted for extra clearance. Boost tubes that hit on other metal items will cause a knocking sound that the engine can pick up and it will cause a loss in power.
37. Install appropriate intake system into vehicle.
 - a. A PERRIN Cold Air Intake or similar intake is required for this installation. Consult our sales team to purchase proper intake.
 - b. In most cases, the brackets that hold the intake will need to be modified or removed in order for them to clear boost tubes and other moving parts.
 - c. On 2018-2021 vehicles, there is a large support beam located just below the intake system on the right side of the chassis, that can interfere with how they fit. While this is not required, removal of this support piece will allow for much easier installation of the intake system. See picture below showing this part.

Remove on 2018+ WRX/STI



**Right Side
Bumper Beam
Support**

38. Connect battery and start vehicle. Check for fluid leaks, boost leaks, and clearance around all boost tubes prior to road test. If leaks are not present, and clearances are good, proceed to next step.
39. Follow bumper installation guidelines below, then connect battery and proceed to test drive.

COMMON QUESTIONS:

- Car doesn't start? Check all vacuum connections and boost tube connections. Lastly check that the MAF sensor is pointed the right direction on the intake system. The plug should be facing front of car.
- Boost tubes keep blowing off? Make sure clamps are placed behind the bead on the tube when tightening. This will ensure that if clamps are tight enough they can't pop off. A small amount of blow-by will produce oil in the boost tubes. If this gets between the tubing and the coupler, this can also cause the boost tubes to pop off. Lastly, make sure that the hose clamps are tight enough and recheck periodically.

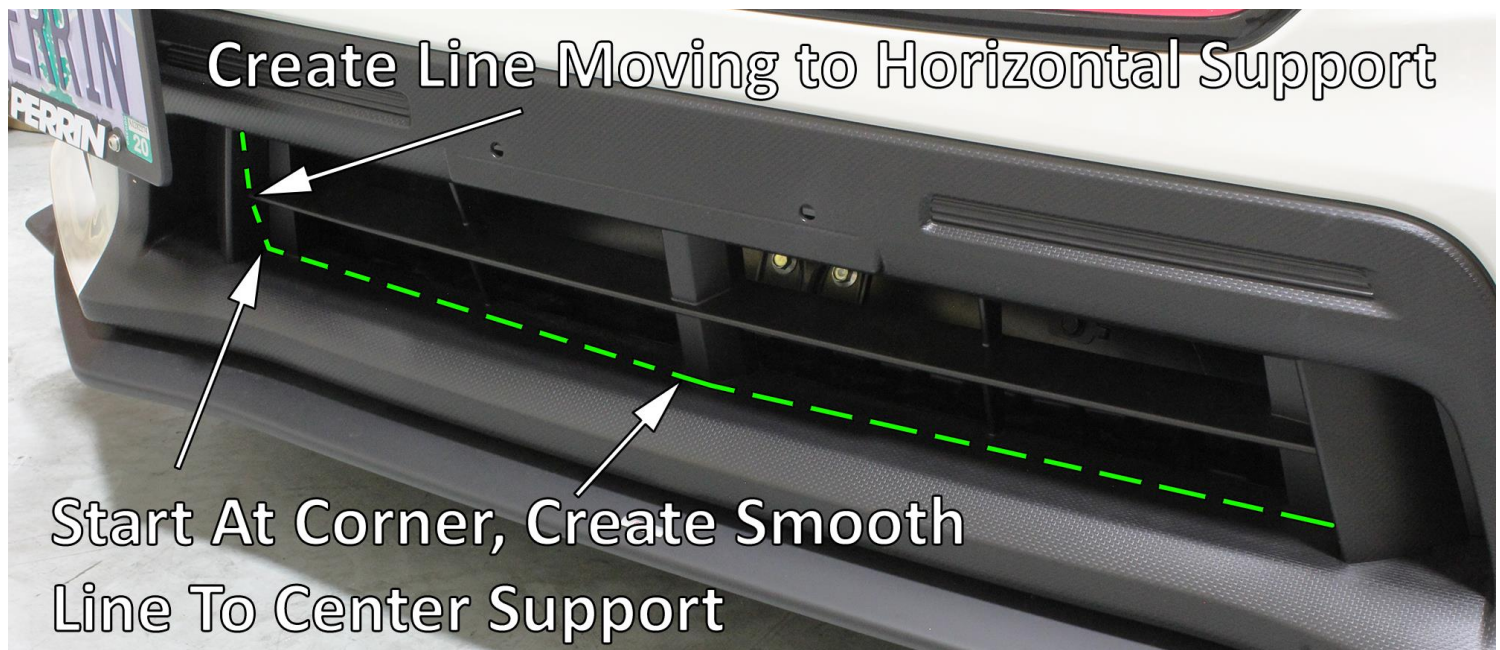
Bumper Installation Guidelines for 2015-2017 Cars:

- Decide if you want to leave the grill installed or remove for a more aggressive look.
 - If you choose to leave grill on, reinstall bumper in the opposite way it was removed in earlier steps.
 - If you choose to remove grill (as shown below) unsnap from either corner and slowly work your way around entire grill. Once free, decide to trim off plastic tabs (as you can see in the below picture). Use a utility knife or X-Acto knife to trim off. After trimmed, install bumper the same way it was removed in earlier steps.



Bumper Cutting Guidelines for 2018-2021 Cars:

- How should I trim my bumper cover? We highly recommend using a new utility/box knife, (or x-acto knife) to trim all plastic. This leaves a much nicer edge than using a dremel or air tool as these tend to cut by melting the plastic. But using either tool requires a steady hand and marking bumper very accurate. **CAUTION: Utility knives are very sharp, take extra precaution when cutting to avoid injury.**
- Using masking tape and diagram below, mark a straight line going left corner of grill to the center support. Continue with line to right side making sure to match left side.
- From the corners, make a line vertically as shown below (removing the horizontal grill part).



- Using a new utility/box knife, (or x-acto knife) make a light scribe mark on the correct taped edge. Go over scribed line over and over until knife cuts through bumper cover. It helps to cut bumper when ambient temp is above 65 degrees.
- Once bumper is trimmed properly, no additional cleanup should be necessary. But if your edges are a little wavy, you can clean up cut edge with knife, sand paper or even an air tool.

Questions, Comments and Suggestions Contact: Tech@PERRIN.com
Visit Our Website for Instant Chat Options at www.PERRIN.com
Call Our Tech Team at 503-693-1702