

PERRIN

2015-21 WRX CVT Transmission Cooler

2024-09-25

PSP-OIL-200

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.

SPECIAL NOTES:

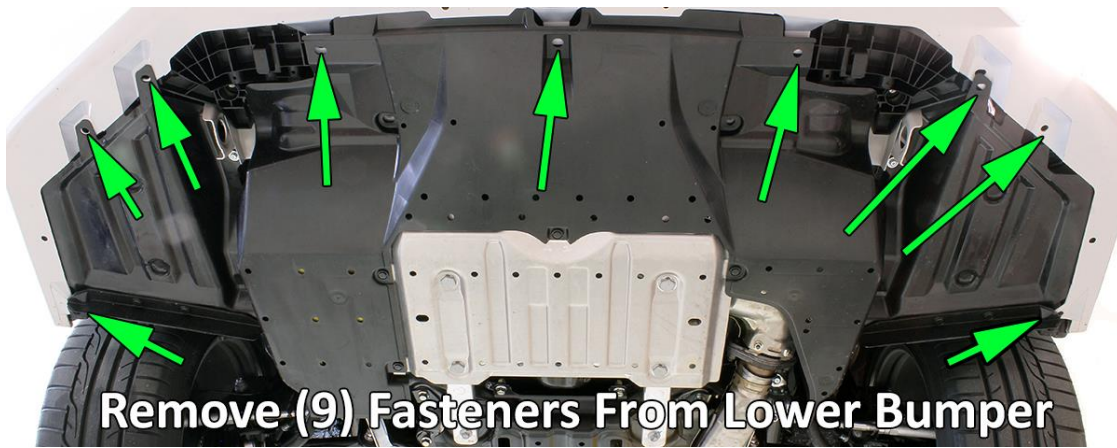
- Installation of this part will require additional CVT oil to be added to the transmission. It is very important to use the correct CVT oil and proper fill procedures or damage to the transmission can occur. Follow the factory service manual or take car to dealer to have this done. The transmission can handle small changes to the oil level, so it is ok to take car for a test drive or to drive the car to the dealership to get the oil topped off.
- Make sure car has not been running for at least 3 hours to ensure oil has cooled off and drained from the OEM warmer/cooler.
- You will need a high quality 10.0mm or 25/64" drill that can be used to drill into steel. Read through all instructions regarding drilling bumper beam.

Parts Included with the PERRIN WRX Oil Cooler:

QTY	Part#	Description
1	X-BLT-M6X20CH10.9-Z	M6 X 20 Hex Head Bolt 10.9
2	X-BLT-M6X25CSB-SS	M6 X 25 Button Head Socket Cap Screw SS
1	X-BLT-M6NS-SS	M6 Lock-Nut SS
2	X-BLT-M6X14.7NRA	M6 Rivet Nut Heavy Duty Aluminum
3	X-BLT-M618WF-SS	M6 x 18 Fender Washer SS
1	X-BLT-M8NF-Z	M8 Nut
8	X-BLT-M8WF-SS	M8 Flat Washer Stainless Steel
8	X-BLT-M8X10CSB-SS	M8 X 10 Button Head SS Screw
1	X-PSP-BDY-400-1ZINC	Rivet Nut Tool for M6 and M4 Zinc Plated
8	X-CLAMP-002	Clamp Size 2 or 8-16mm
2	X-CON-M22PL06-45	Fitting for M22 45 Degree x -6 Push On Type
1	X-PSP-OIL-003-1T	Bracket for Oil Cooler, Upper SS Version 2002-21 WRX/STI
1	X-PSP-OIL-003-1B	Bracket for Oil Cooler, Bottom SS Version 2002-21 WRX/STI
1	X-PSP-OIL-100stencil	Stencil for all PERRIN Oil Coolers
1	X-PSP-OIL-005P	Oil Cooler Core PERRIN 8 Row x 250mm Wide w/ M22 Inlets
12.5'	X-HOS-128	3/8"ID Transmission Oil Hose (27059)
2	X-CON-023	Plastic 3/8"-3/8" Straight
2	X-CON-013	Plastic 3/8" 90 Degree
1	X-TRM-002	Trim Door Edge

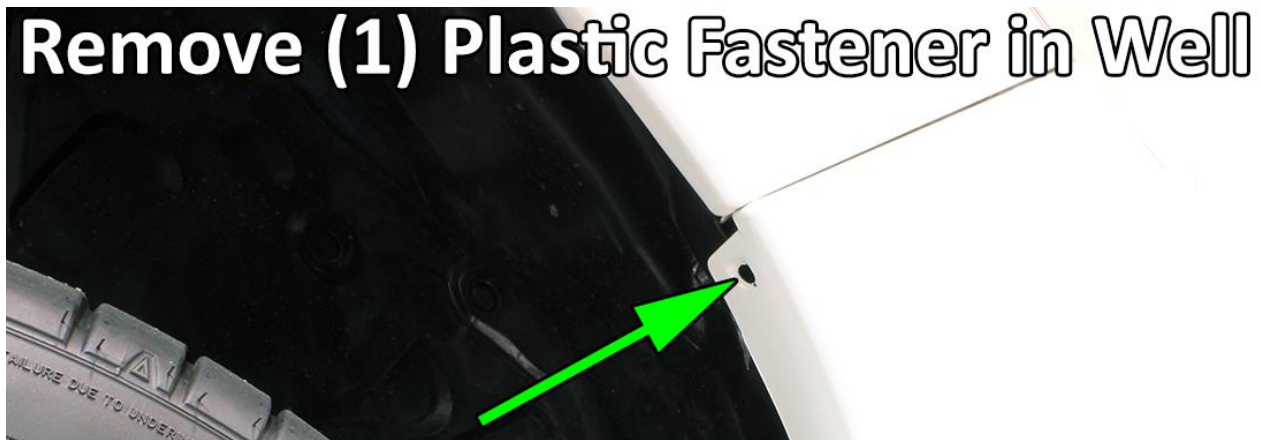
WHICH WAY IS THE RIGHT WAY?

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.

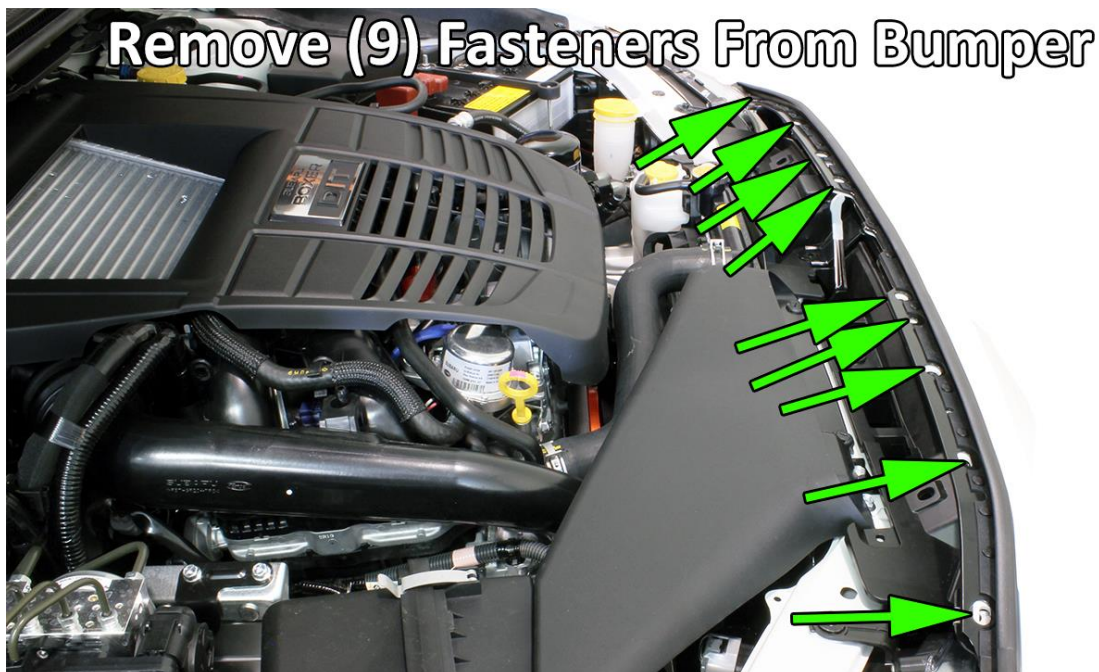


Bumper Removal

1. Raise front of vehicle off ground using proper jack and jack stands. Never work under a car solely supported by a jack, death or injury may occur.
2. Let vehicle cool off for at least 3 hours to ensure engine oil and coolant will not burn you.
3. Remove front bumper skin from vehicle.
 - a. Remove (9) plastic fittings under car. See above diagram.
 - b. Locate (1) plastic fitting on inside of each fender well. See diagram below.



- c. Remove (9) fasteners on upper portion of grill. See diagram below.
- d. Starting at outer edges of bumper where it meets the steel fender, pull straight out. Do this on both sides.
- e. Pull bumper from around each headlight and pull bumper off just a few inches to be able to unplug each fog light/blinker. **Note: There are two plugs, one at the fog light and one more toward the chassis. Unplug only the one at the chassis as this is easier to reinstall.**
- f. Carefully remove bumper from car and place in a safe area.

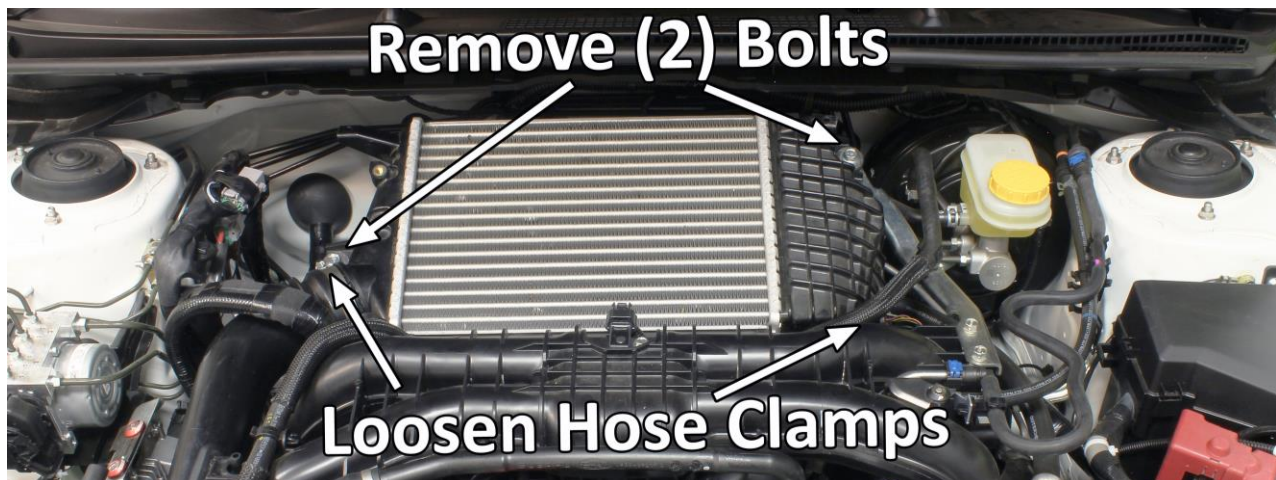


Removal of Intercooler To Access OEM CVT Cooler/Warmer

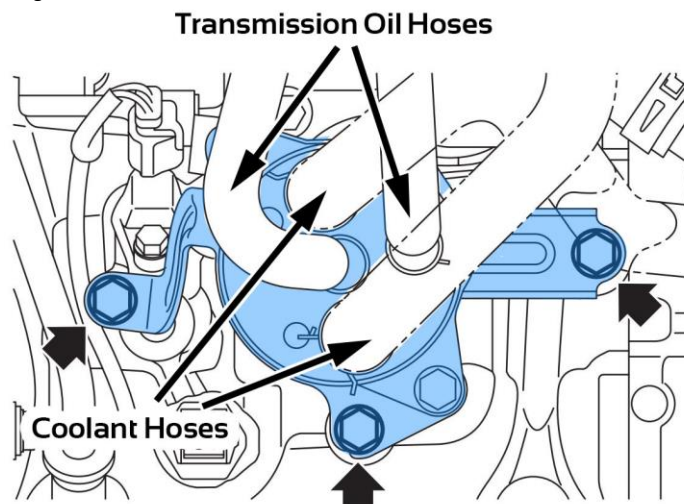
1. If there is strut bar installed, remove at this time.
2. Locate and remove (2) plastic fasteners on the upper section of the engine cover and remove engine cover from engine bay.



3. Loosen hose clamp holding throttle body coupler to intercooler (left side) and charge pipe to intercooler (right side).

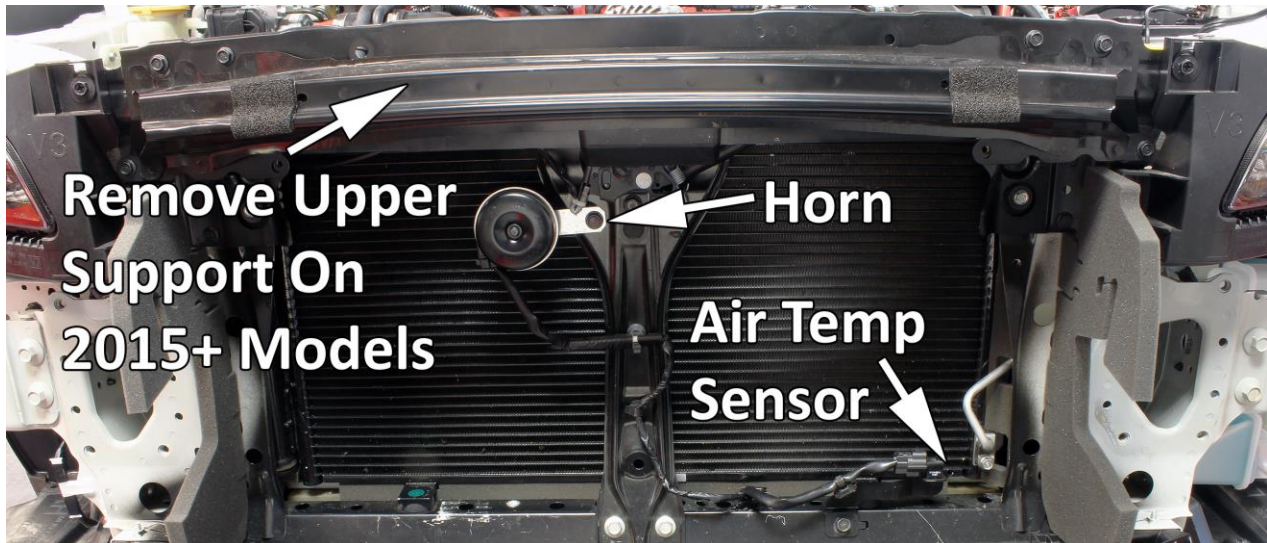


4. Lift up on sides and back of intercooler to free from both the throttle body and charge pipe, then remove intercooler from engine bay. **NOTE: This step can be difficult, make sure that the hose clamps are very loose to ensure they are not holding anything up. Using spray lubricant around connections can aid in removal of intercooler.**
5. Locate OEM CVT Cooler/Warmer on right side of transmission just below the intercooler. Below is a picture of this as though you were looking directly at the hoses and fittings.

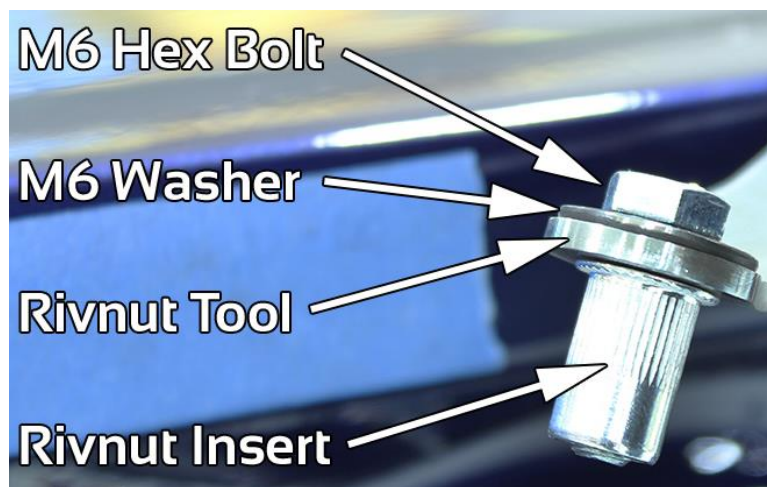


Install PERRIN Oil Cooler

1. Locate (6) plastic fasteners and (8) M6 bolts, then remove upper black steel bumper support and plastic radiator diverter from car. This is done to access radiator support. See picture below for more details.



2. Locate lower core support and small hole on right side, located between two large holes. Enlarge hole using a 25/64 drill bit. Take care not to damage the AC condenser while drilling out. **NOTE: Using a stepped drill bit with a 13/32 size is also another option as these are more common and can be found at most hardware stores.**
3. Install (1) M6 fender washer onto M6x20 hex bolt, apply grease to threads and under head of bolt, install bolt through supplied tool, and install supplied M6 Rivet nut (with flange side facing tool). See picture below.

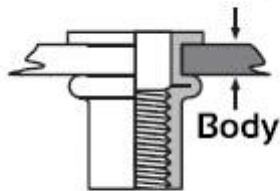


4. Using rivet nut tool, rivet nut, supplied M6 bolt and M6 washers install rivet nut into hole.
 - a. While holding the tool and rivet nut tightly against core support, slowly tighten M6 bolt. **NOTE: You will feel some force on the wrench for the first couple of turns, then it will get much easier.**

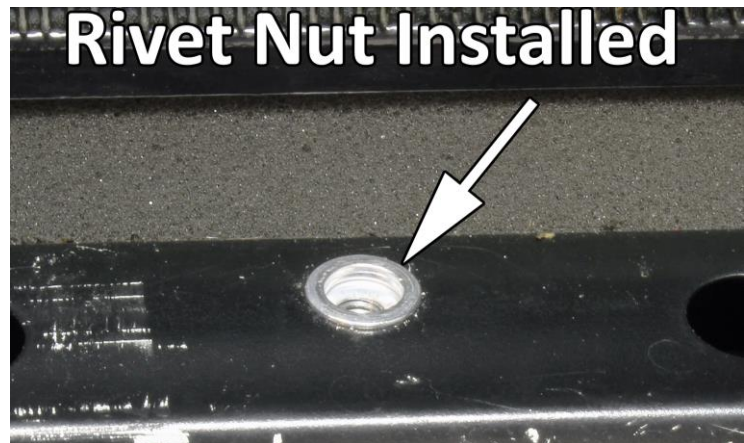


- b. Continue to tighten M6 bolt (while holding the tool steady) until the turning force becomes much harder, and/or stops. **NOTE: During this stage, the rivet nut is compressing and biting into the core support from the inside.**
- c. Once the bolt/rivet nut have hit this stopping point, remove screw, washer, and tool and check that flange of rivet nut is sitting flush as shown below.

Rivet Nut Shown Compressed



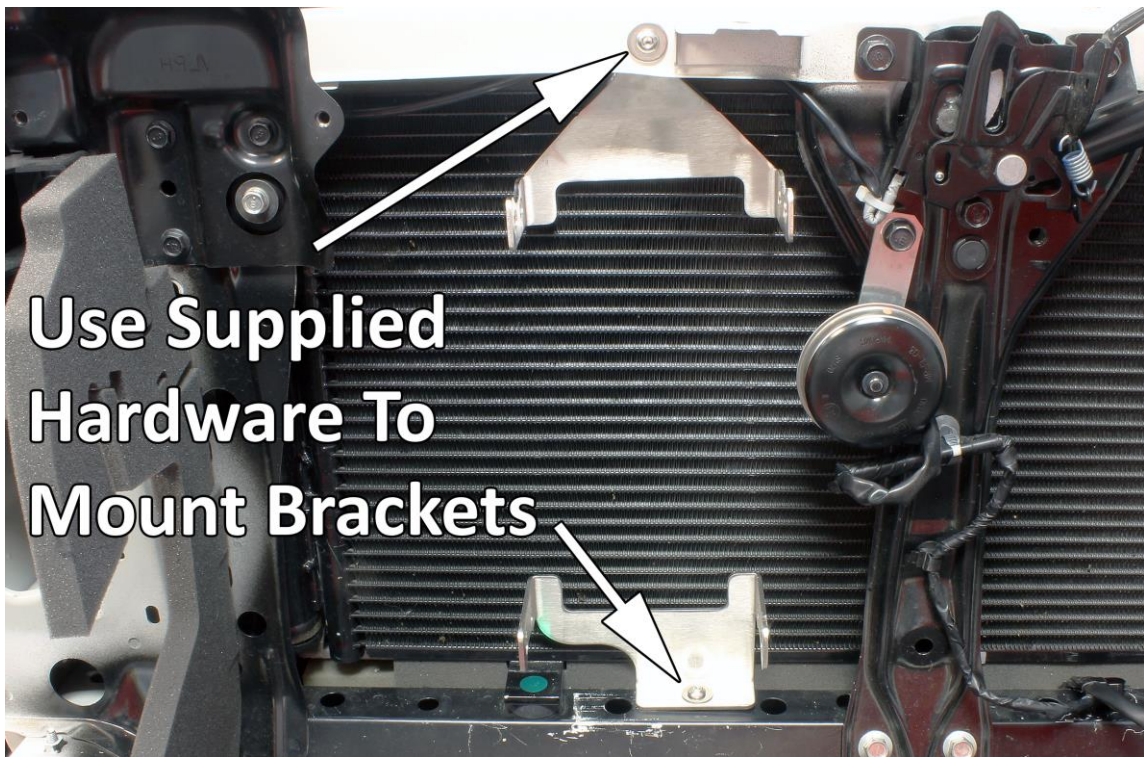
Visual Representation Of When Tool Stops During Installation



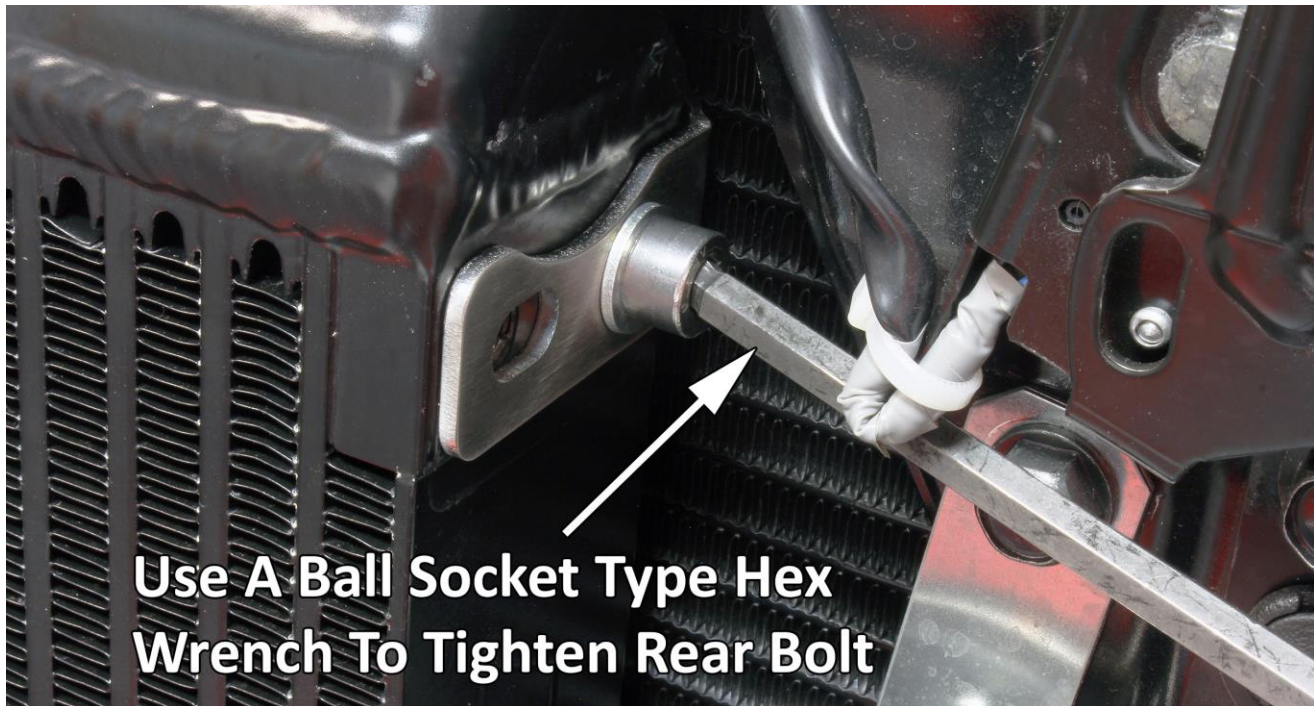
5. Locate horn mounted to core support and loosen bolt enough to allow horn to rotate/point toward the ground. Tighten bolt to secure horn.
6. Locate small hole on upper core support and remove plastic clip from hole. The harness that was attached to it can simply rest behind core support.



7. Install upper bracket behind core support as shown and secure with supplied M6x25 screw, fender washers and nut. Leave bracket finger tight for now. **NOTE: This bracket is slotted and may need adjustment in the upcoming steps.**
8. Install lower mounting bracket to M6 rivet nut and secure with supplied M6x25 screw and fender washer. Leave bracket finger tight for now. **NOTE: This bracket is slotted and may need adjustment in the upcoming steps.**

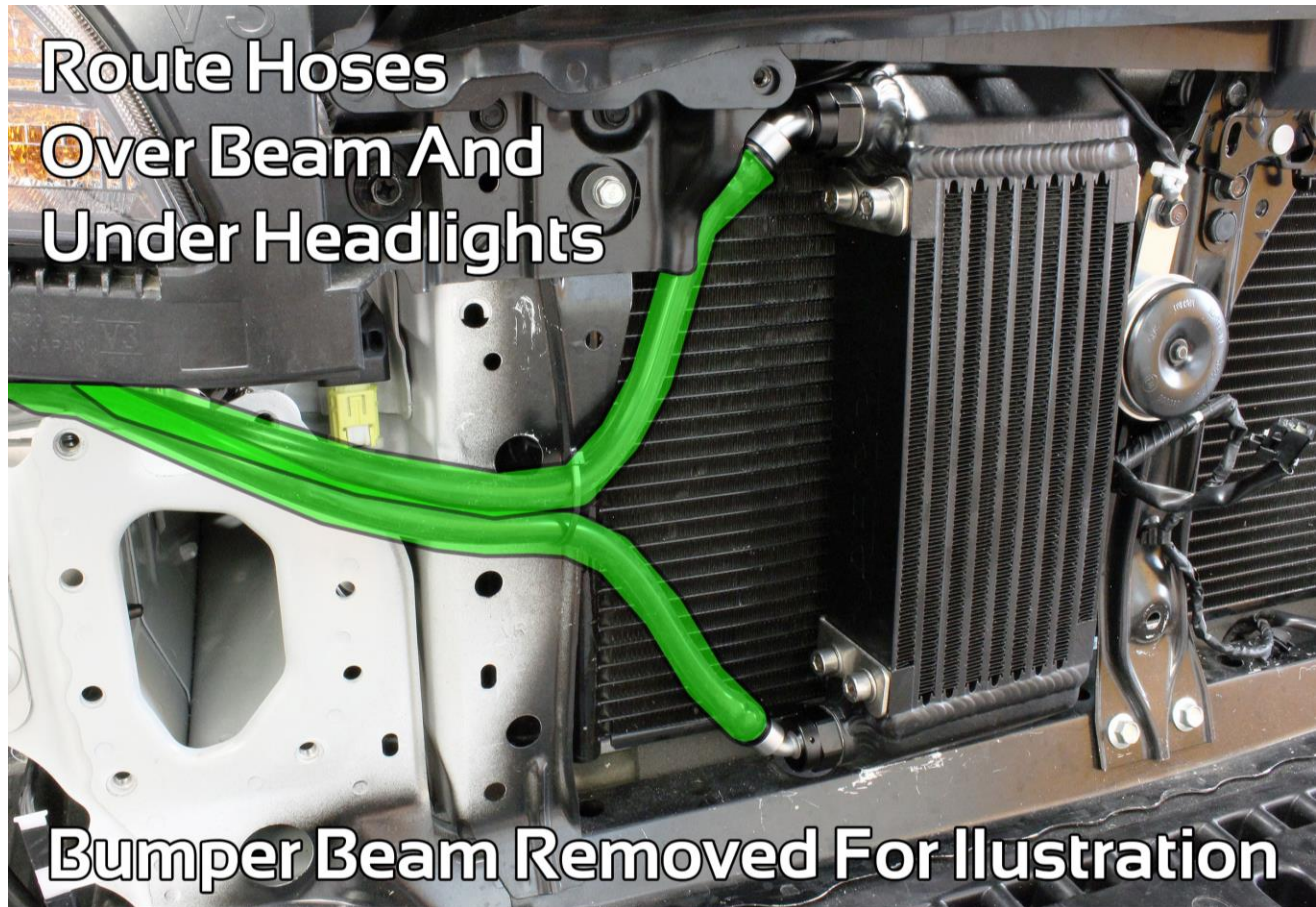


9. Set oil cooler into brackets to check for alignment vertically and that all side mounting holes line up to the slots in the bracket. Make any adjustments to the brackets and carefully remove oil cooler from the chassis. **NOTE: The lower portion of the core may touch slightly on one of the brackets depending on how it is adjusted. This is normal and will not cause any issues.**
10. Tighten M6 bolts securing brackets to chassis to 10-12ft-lbs or torque.
11. Apply a small amount of oil or grease to threads on a 45 degree bent swivel fitting and inside of oil cooler, then install fittings into core and tighten to 30ft-lbs. **NOTE: Take time while threading it in to ensure it does not get cross threaded. The fitting seals using an O-ring and will seal as soon as the fitting is bottomed out. Given that info, and that the fittings are hard to get an actual torque wrench on, as long as the fittings are tightened slightly more than hand tight, they will not leak or come loose over time.**
12. Apply a small amount of grease or oil to barbed fittings, then install entire loop of supplied 3/8" transmission hose to each fitting. Secure each hose to fitting using supplied hose clamp. **NOTE: Hose must be pushed onto fitting until they completely stop at the small floating washer, or they will not be properly sealed.**



13. Slide oil cooler back into the brackets and secure with supplied M8x10 bolts and washers. Tighten all bolts to roughly 15ft-lbs. **NOTE: It is extremely important to use the proper hardware and washers to ensure core is not damaged from bolts being too long. If improper hardware is used, this will void the warranty on your core. Second note, as shown above, the rear most upper bolt is best tightened with a ball type hex wrench.**

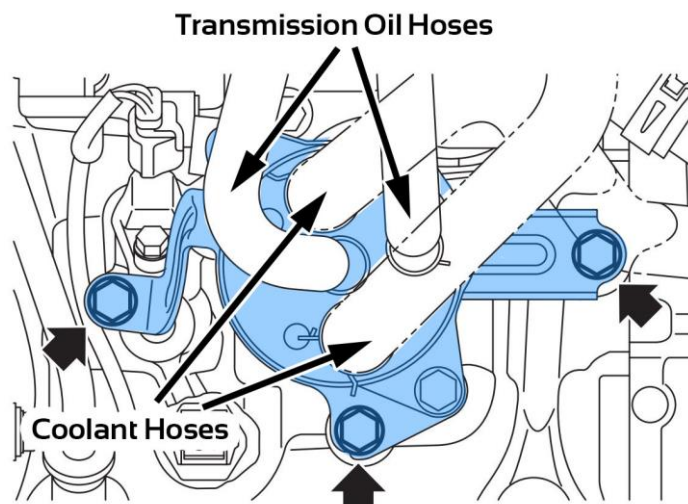
14. Route hoses from core, over bumper beam (not shown in picture below), under headlight area then toward the engine bay. As the hoses pass into the engine bay, make they don't rest on any sharp objects. **NOTE: Final hose routing will occur in future steps. For this step, route hose roughly where you feel it should go.**

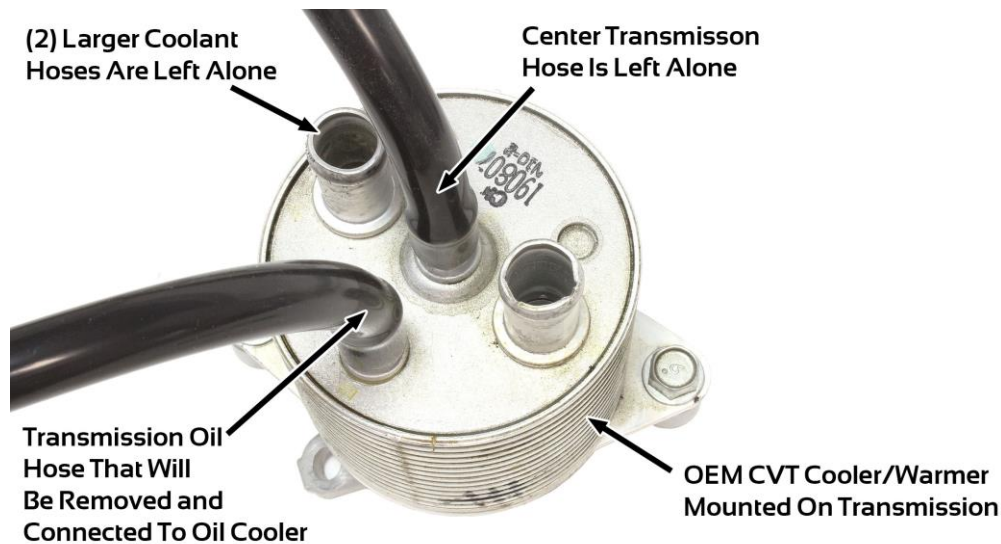


15. Continue routing hose along frame rail down toward right side of transmission. A few notes about routing the hoses:
- Do not secure hoses at this time as you may need to re-route hoses after connecting them to the transmission.
 - Hose may become slightly rotated in an undesirable way. This can be fixed after the hose is first cut to length in follow steps.
 - Included is some edge trim that can be used to protect the hose from sharp edges as it is routed toward the transmission.

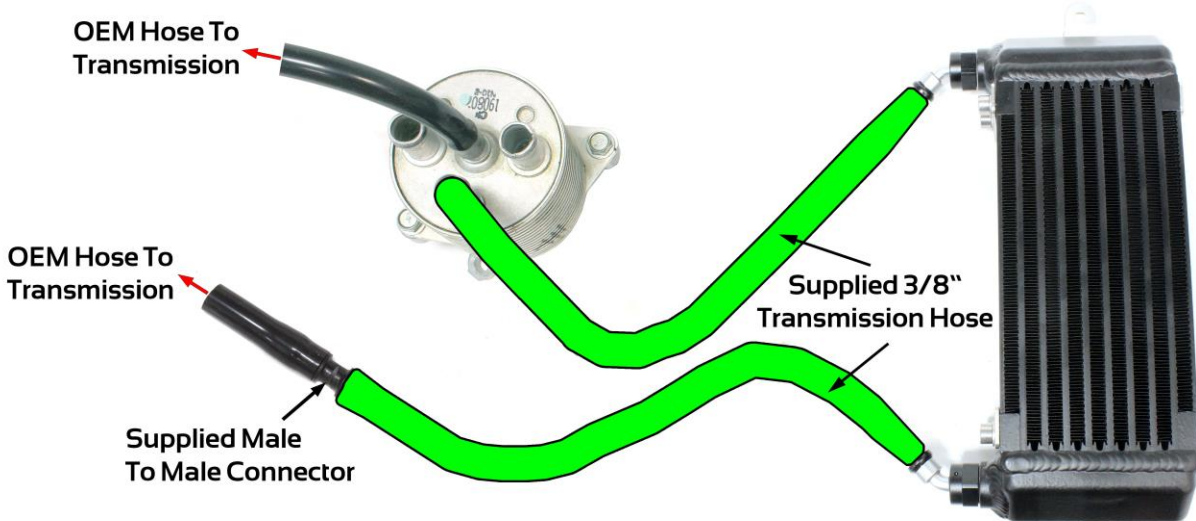
Connecting Hoses To Transmission

Locate the OEM CVT Cooler/Warmer mounted to the transmission. Take note of (2) larger coolant hoses and (2) smaller transmission oil hoses. The hose that is mounted on the outside edge of the OEM cooler/warmer is the one the PERRIN CVT Cooler will intersect. The PERRIN CVT Cooler is installed so it creates a loop from this hose back to the fitting on the OEM Cooler/warmer. While these hoses do not operate at extreme pressures, it is important to install the hose clamps behind the small beads on all fittings. Make sure all hose routing is done so hoses are not pinched off or kinked in any way. Included are 2 90-degree plastic fittings to help with routing around tight areas.





1. Using the picture above, locate and remove the outside transmission hose and be prepared to catch a small amount of oil.
2. Install supplied 3/8" plastic connector into the left open hose and secure with supplied hose clamps.
3. Route previously installed transmission hose from the PERRIN CVT Cooler toward the OEM CVT cooler/warmer. Make a rough cut in looped 3/8" hose to split hose into (2) pieces. **NOTE: Make sure that the rough cut of the hoses will allow each hose to easily connect to the OEM CVT Cooler/Warmer.**
4. Run one of the supplied 3/8" hoses (doesn't matter which one) toward the 3/8" fitting installed and trim hose to best fit, then secure with supplied hose clamp. **NOTE: When cutting hoses its always better to cut it long and test fit before making the final cut.**
 - Included are (2) straight and (2) 90-degree connectors that can be used to make sure hose is not kinked or pinched. If these are used, make sure and secure hoses with supplied hose clamps



5. Run remaining supplied 3/8" hose toward the side fitting (left open) on the OEM CVT cooler/warmer and trim hose to best fit, then secure with supplied hose clamp. **NOTE: When cutting hoses its always better to cut it long and test fit before making the final cut.**
 - Included are (2) straight and (2) 90-degree connectors that can be used to make sure hose is not kinked or pinched. If these are used, make sure and secure hoses with supplied hose clamps.

First Start After Installation

1. Reinstall intercooler that was removed earlier. Start your car like normal and let it run for 5 seconds, then shut engine off. **Thoroughly inspect all oil lines and connections for leaks.** If no leaks are found, start engine, let it run for at least 5 minutes. During this time check all hoses and fittings for leaks. If any are found, stop the engine and fix, then retest.
2. If no leaks are found, reinstall bumper back to car in the reverse order it was removed.
3. Take car for 15min test drive and check to make sure that there are no visible oil leaks. If any leaks are found, stop and repair.
4. The PERRIN CVT Cooler will require the CVT oil to be topped off. Follow factory service manual as to the procedures how to check the oil level and properly fill it up. Do not drive car under high loads or for extended periods of time without having this procedure done.

Questions, Comments and Suggestions Contact: Tech@PERRIN.com

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