

# PERRIN

## PERFORMANCE

### 2015 WRX Engine Oil Cooler

2015-09-16

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@PERRINperformance.com](mailto:Tech@PERRINperformance.com)

Instant Chat off the main page of [www.PERRINperformance.com](http://www.PERRINperformance.com)

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

#### GENERAL MODIFICATION NOTE

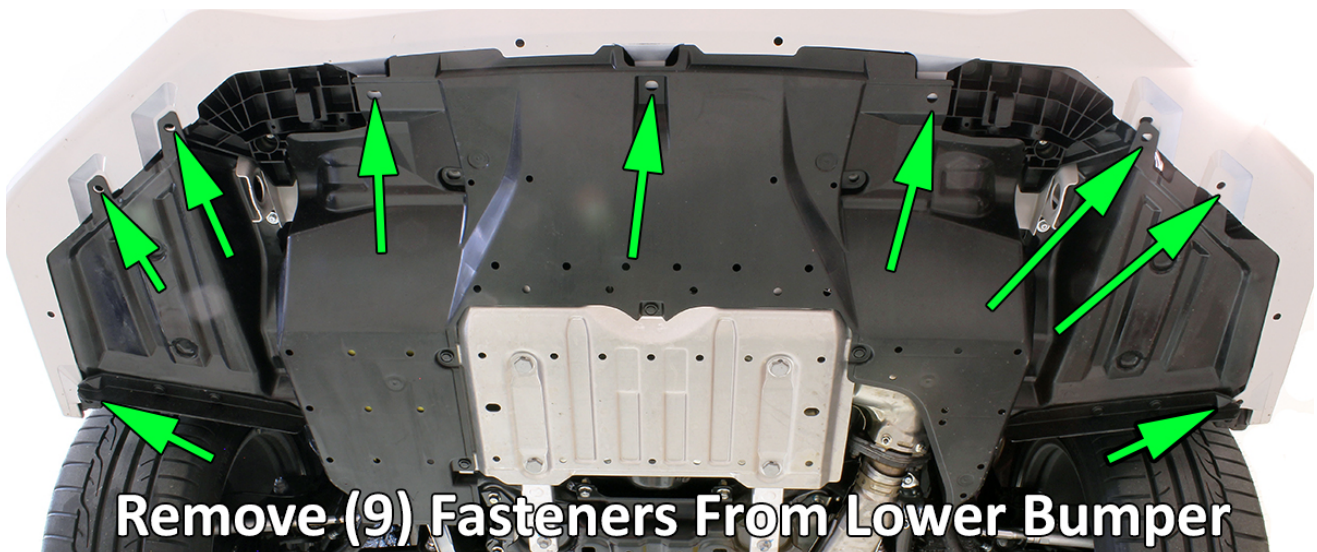
Modifications to any vehicle can change the handling and performance. As with any vehicle extreme care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts, and drive safely, recognizing that reduced speeds and specialized driving techniques 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:

- You will need an additional QT of oil after installation is complete. Make sure and have a new QT of oil ready to be added, or be prepared to do a full oil change after installation. For additional oil changes, check oil level after adding factory fill level, and add more if needed.
- Using an AN wrench to tighten fittings will greatly aid in being able to install all fittings tight and properly.
- Each connection where the hose meets the fitting can be rotated to allow better alignment. Rotate hose on fitting by slowly twisting.

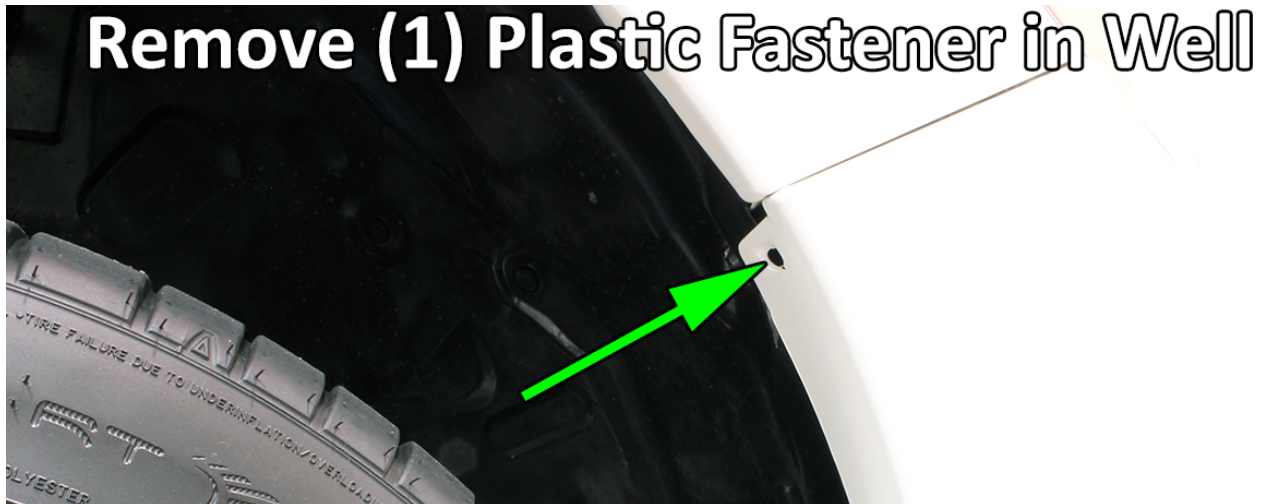
#### Parts Included with the PERRIN WRX Oil Cooler:

- (1) PERRIN Oil Cooler Core
- (1) PERRIN Oil Filter Spacer
- (1) Thermostat Oil Filter Adapter
- (1) Longer High Pressure Hose
- (1) Shorter High Pressure Hose
- (1) PERRIN Upper Oil Cooler Mounting Brackets
- (1) PERRIN Lower Oil Cooler Mounting Brackets
- (1) Oil Feed Pipe
- (1) 1/2"-3/8" Connector
- (1) 3M Adhesive Tape
- (6") 3/8" Heater Hose
- (3') Door Edge Trim
- (1) Subaru Factory Oil Filter
- (1) Subaru Male to Male Adapter
- (9) M6x10 Button Head Bolts
- (2) M6 Fender Washer
- (7) M6 Washer
- (10) Zip ties

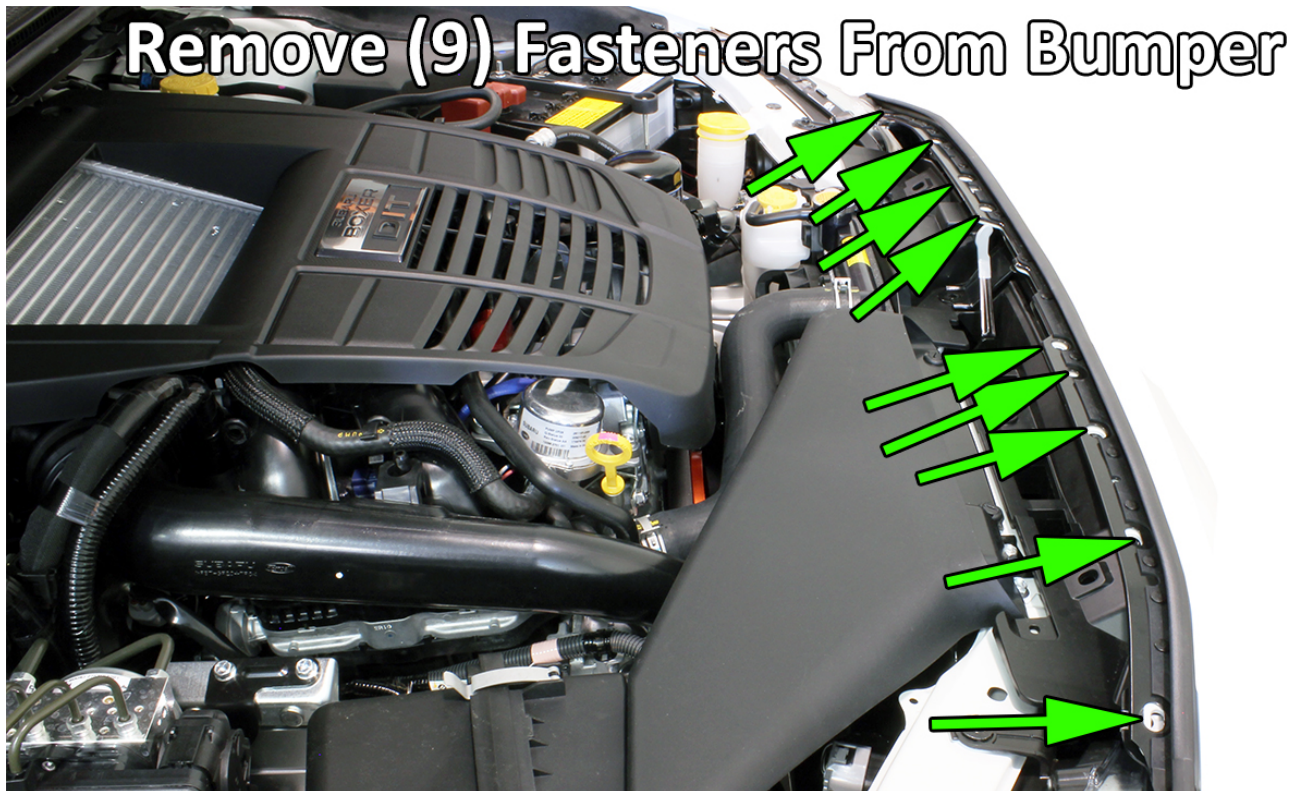


## Installation

1. Raise front of vehicle off ground using proper jack and jack stands. Never work under a car solely supported by 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.



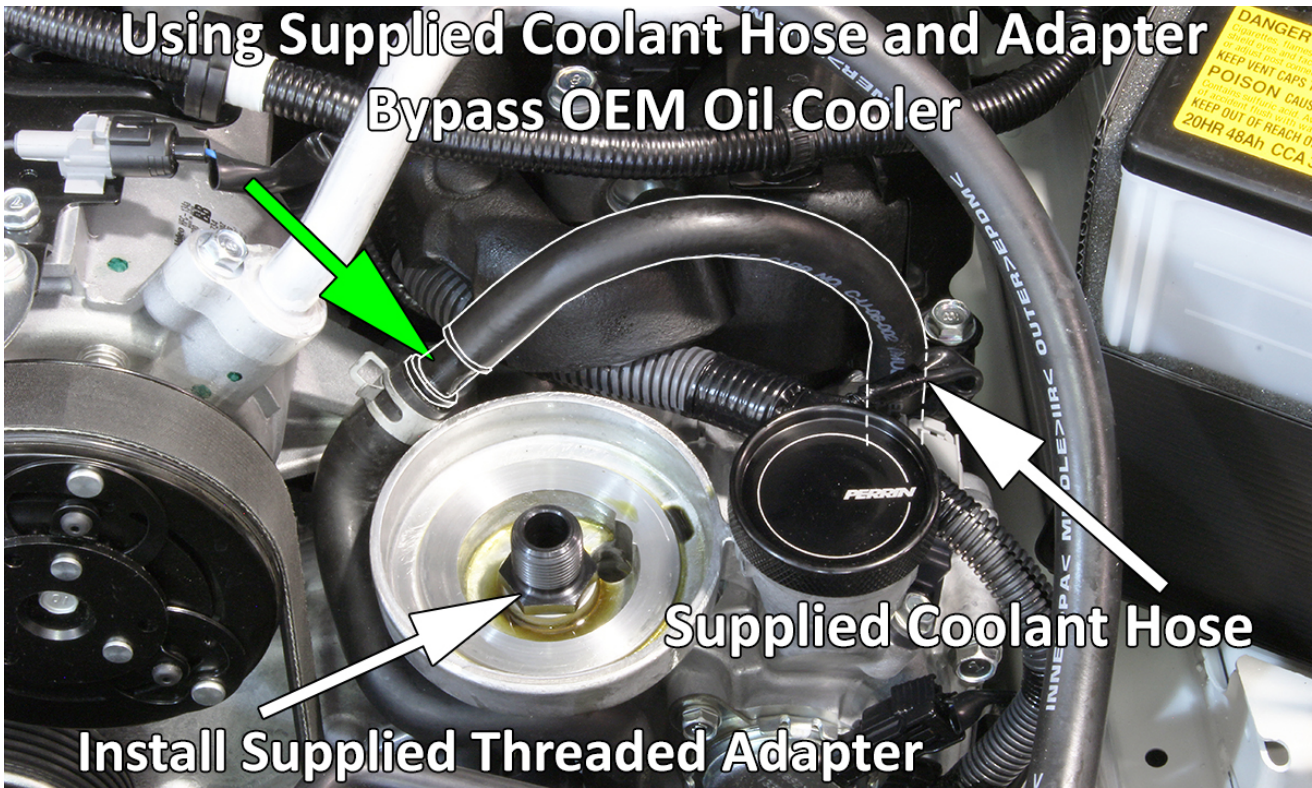
4. Remove oil filter from engine. **NOTE: If the car has sat long enough, there will be no oil mess to clean up.**
5. Remove large center oil feed pipe using a 24mm deep socket and wrench. This will free up OEM oil cooler and some additional oil may drain out.





**Remove OEM Oil Cooler and Left Side Coolant Hose From Engine**

6. These next few steps should be done quickly to reduce the amount of coolant lost.
  - a. Prepare to bypass OEM oil cooler and catch some amount of coolant. You will reuse three OEM pinch clamps.
  - b. Locate left coolant hose (shown above) and disconnect from OEM metal pipe going into engine, NOT the OEM oil cooler.
  - c. Disconnect right side coolant hose at metal pipe going into OEM cooler. Remove OEM cooler from engine.
  - d. Install supplied 1/2"-3/8" connector into OEM rubber hose (right hose).
  - e. Install supplied 3/8" Heater Hose to left over metal fitting on engine block. Secure with OEM pinch clamps.
  - f. Trim 3/8" Coolant hose to length and connect to plastic 1/2-3/8 connector. **Note: Trim hose short enough that it keeps rubber hose (Right side) from rubbing into belt, but also long enough that it will not pinch the hose.**
  - g. Slide Clamps back over hoses behind the barbs to ensure they will not slide off.



**Using Supplied Coolant Hose and Adapter Bypass OEM Oil Cooler**

**Install Supplied Threaded Adapter**

**Supplied Coolant Hose**

7. Install supplied male to male adapter fitting into engine block as shown above. Tighten to 25ft-lbs.
8. Install PERRIN Oil Filter spacer as shown making sure to place rubber seal down toward engine block.



9. Install thermostat housing adapter on top of PERRIN oil filter spacer making sure to place rubber seal down toward PERRIN Spacer and engine.
10. Install supplied oil feed pipe through thermostat housing and spacer. Snug down temporarily. **NOTE: Align so threaded oil fittings point in the direction shown in pictures above and below. This may need one final adjustment later on.**

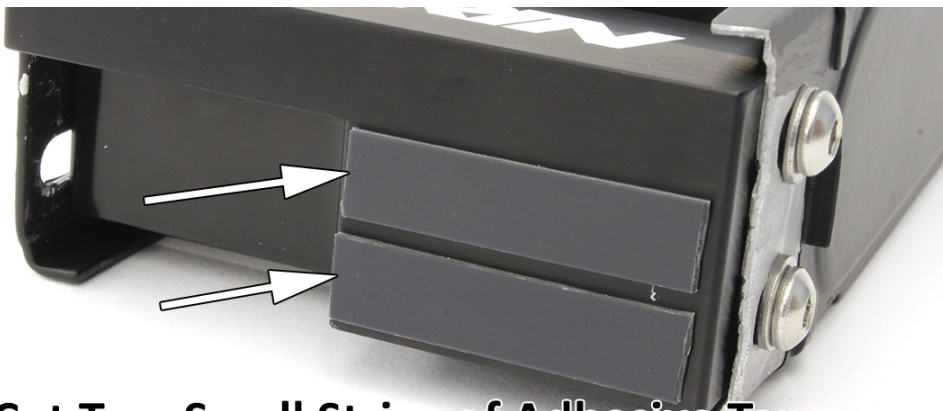


11. Install brackets to oil cooler in the orientation as shown below. Secure using M6x10 bolts and washers. Move brackets toward center of oil cooler as shown then hand tighten hardware.

## Adjust Brackets Toward Center of Cooler



12. Cut two strips of adhesive tape as shown below and place on bottom bracket. Make sure bracket is free from oil and any other contaminants. If there are contaminants, they will affect how the tape adheres.



**Cut Two Small Strips of Adhesive Tape and Place on Bottom Bracket As Shown.**



13. Once tape is firmly pressed into place, remove clear backing from both strips. **Note: From this point on, the adhesive is very sticky and shouldn't touch ANYTHING except where it will be mounted. If adhesive gets dirty, take it off and start over. It's important to NOT touch the strips until Cooler is mounted.**
14. Clean area on chassis where bottom bracket will mount. It's important to use something that will remove all oil and grease or adhesive will not stick.
15. Install oil cooler with brackets into car starting by sliding upper bracket behind mounting location. Secure upper mount using supplied M6 bolt and M6 Fender washer. Tighten all M6 hardware to 15ft-lbs.



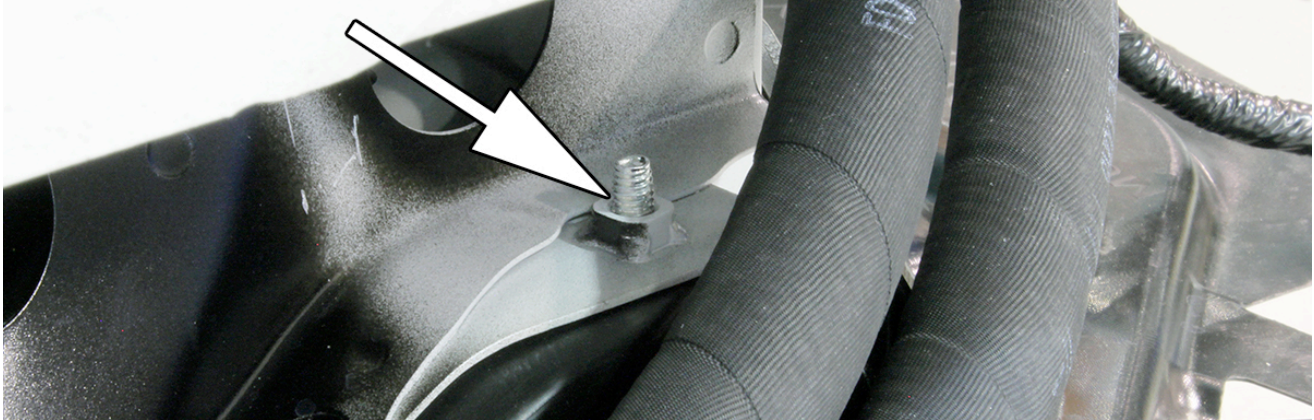
16. Oil cooler should easily clear lower part of chassis and be able to move around a small amount.
17. Align cooler front to back and up and down as best as possible. While holding cooler in desired location, loosen all (7) M6 bolts and prepare to set lower bracket onto chassis.



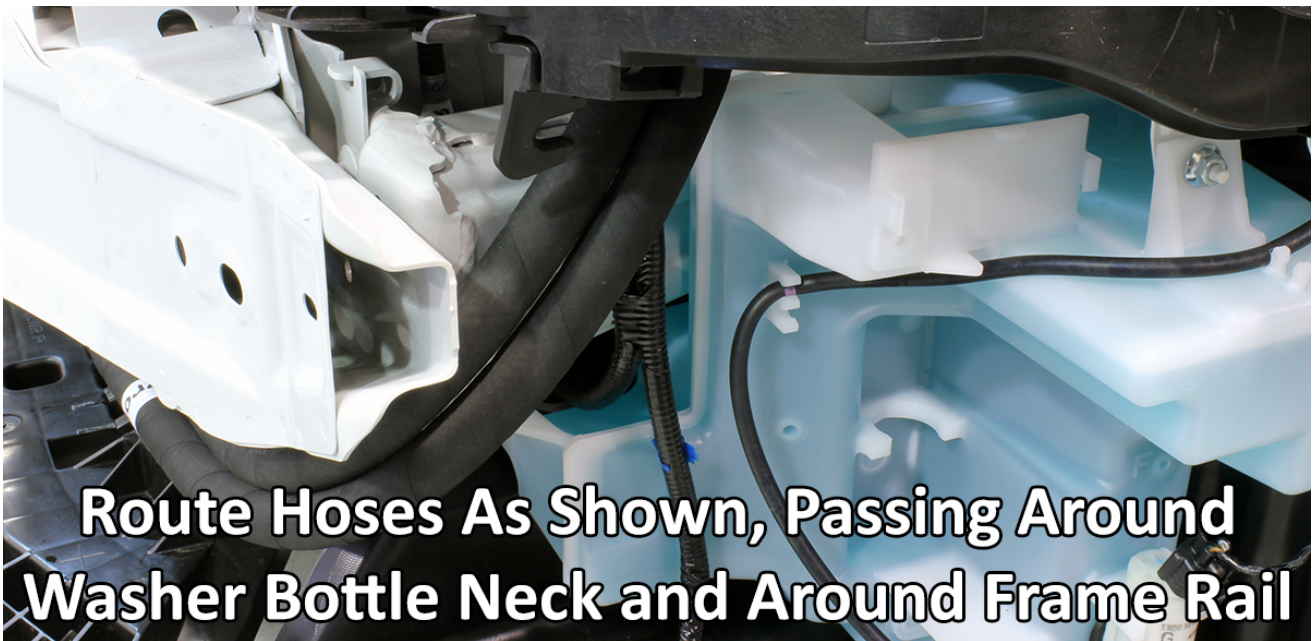
18. Slowly drop cooler and bracket onto chassis. Once tape has started to stick, grab a large flat head screw driver or pry bar and place between lower bracket and cooler. Very lightly pry bracket away from cooler and tighten down (3) M6 bolts to 15ft-lbs. Do the same thing on upper bracket. **Note: This step is import as it creates tension on the adhesive to allow it to stick better. Let adhesive sit for at least 20 minutes before proceeding.**
19. Align brackets and cooler if they were misaligned during the above step. If bolts are loosened again, use a screw driver or pry bar between each bracket and cooler to ensure some tension is created between upper and lower mounting locations.
20. Locate small bolt protruding up through nut welded on to chassis. Remove bolt and install supplied shorter M6 bolt and washer. **Note: This is done to remove a potential object that could wear through the high pressure lines over time.**



## Locate and Replace Bolt With Supplied M6 Bolt and Washer



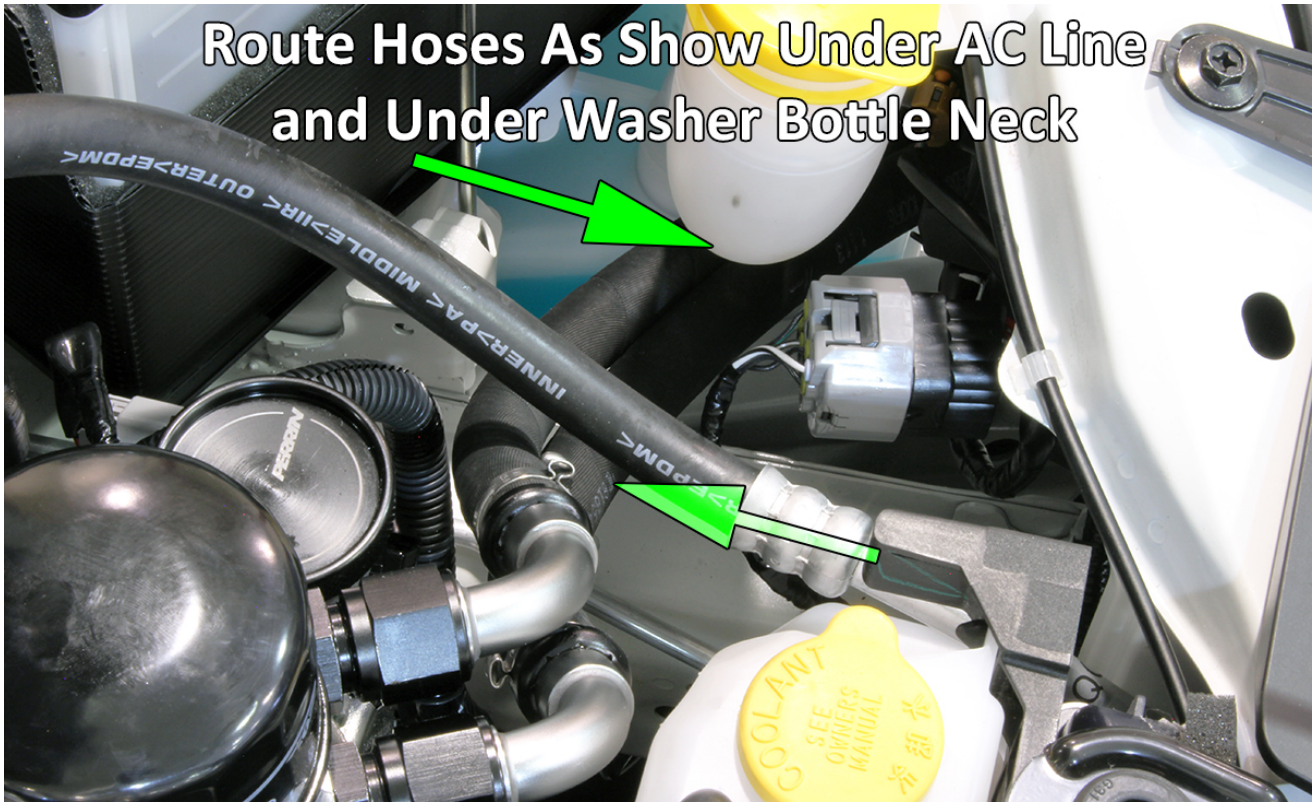
21. Locate oil cooler hose with 90 degree bend on one end. Thread this into upper fitting on oil cooler. Make sure and use two wrenches to tighten to roughly 30-40ft-lbs. One to hold large nut part of the oil cooler and one to tighten fitting into cooler. **Note: Dripping a small amount of oil on the thread as well as where the black fitting meets the silver tube, is a good idea to aid in fitting threading into oil cooler.**



22. Route hose down and around left side of vehicle around washer bottle tank, then up toward T-Stat housing, and under washer bottle fill neck. Temporarily snug fitting up as this will need to be adjusted after second hose is installed.



## Route Hoses As Show Under AC Line and Under Washer Bottle Neck



23. Locate oil cooler hose with 45 degree bend on one end. Thread this into lower fitting on oil cooler. Make sure and use two wrenches to tighten to roughly 30-40ft-lbs. One to hold large nut part of the oil cooler and one to tighten fitting into cooler. **Note: Dripping a small amount of oil on the thread as well as where the black fitting meets the silver tube, is a good idea to aid in fitting threading into oil cooler.**
24. Route hose down and around left side of vehicle around washer bottle tank, then up toward T-Stat housing, and under washer bottle fill neck. Temporarily snug fitting up as this will need to be adjusted after second hose is installed.
25. Align fittings at T-Stat housing so they are routed away from coolant overflow and engine block as shown above. This step may require loosening and fully tightening fittings a few times until they line up perfectly. **Note: During these steps, it's a good idea to have a -10 AN wrench to tighten each fitting as they are in close proximity to one another.**
26. Fully tighten down oil feed pipe to 25ft-lbs to lock orientation of T-stat housing and high pressure lines.
27. Starting at oil cooler, zip tie oil lines together in pairs. Slowly work your way to the T-stat housing. Keep in mind that zip ties too close to the header will melt. It's not necessary to zip tie hoses close to header as the tightened down AN fittings will hold themselves in place.
28. Using remaining supplied zip ties, secure hoses to the chassis. Making the hoses super tight isn't necessary as the engine will move around and require some slack in the hoses.
29. Use included rubber trim to protect hoses from contacting sharp edges.
30. Apply a small amount of oil to lubricate oil filter o-ring. Thread oil filter onto thermostat housing until o-ring starts to seal. Further tighten filter on 1/2 to 2/3 of a turn.
31. Before starting/running the engine, turn key to the on position and apply 100% throttle to your car, then try to start your car with the throttle still at 100% (or floored). Your engine will not start but turn over only. Do this for roughly 5 seconds and wait 10 seconds, then do this one more time for 5 seconds.
32. Start your car like normal and let it run for 5 seconds, then shut engine off. **Heavily inspect all oil lines and connections for leaks.** If no leaks are found, add your additional QT of oil at this time.
33. Start engine let it run for at least 5 minutes and check one more time for oil leaks.
34. Reinstall bumper back to car in the reverse order it was removed.
35. After roughly 15 minutes of driving, recheck all fittings and hardware to ensure it hasn't started leaking or has come loose.
36. If you are unsure of how tight you made them, double check the tightness after 2 hours of driving.

**FOR QUESTIONS & COMMENTS PLEASE CONTACT**

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**503-693-1702**

**Live Chat with us on our website**