

2015-2017 Legacy 3.6R CVT Cooler Installation

WARNING!! - Modification and working on your car involves some dangers and risks and may cause injury to you or damage to your vehicle if not done properly and safely. Modifications also may cause issues with your factory warranty coverage. I cannot be held responsible for any damage, injury or liability caused by using these instructions. These instructions are merely provided as a courtesy. If you are not mechanically inclined, please consult the assistance of a professional.

The #1 cause of transmission failures is overheated transmission fluid. Today's cars generate extremely high under-the-hood temperatures. Add to that the heat generated by a CVT transmission, and you'll see why adding an auxiliary transmission oil cooler is a must for guarding against costly transmission repair.

CVT transmission fluid cools, lubricates and cleans transmission components. A transmission cooler is basically an auxiliary radiator that provides extra cooling for CVT transmission fluid. When CVT transmission temperatures exceed 250° F, transmission fluid is strained to its limit. Overheated fluid won't properly protect transmission seals and moving parts. When CVT Fluid temperatures exceed 250° F, the fluid breaks down, causing issues.

The 2015 - 2017 Subaru Outback 3.6R comes with a transmission cooler from the factory because it is setup for towing. These instructions will be installing the transmission cooler setup from the Outback 3.6R on the Legacy 3.6R to help protect the transmission from overheated fluid. Any Automatic transmission can benefit from a transmission cooler, extreme heat is what damages automatic transmissions so anything you can do to help keep it cool will prolong its life. This is extremely important if you use your car fully loaded, or pulling a trailer or with higher horsepower applications.

Parts Needed:

Part Name	Part Number	Quantity Needed	Retail Price
CVT Cooler	45510AL00A	1	\$97.13
CVT Cooler Hose-In	45520AL00A	1	\$28.38
CVT Cooler Hose-Out	45520AL01A	1	\$27.82
CVT Fluid Pipe	45522AL00A	1	\$61.80
Flange Bolt	010008160	3	\$0.22 Each
Hose Clamp	909170062	4	\$2.63 Each
Crush Gasket	806914120	1	\$2.32
High Torque CVT Fluid*	K0421Y0700*	2 quarts*	\$28.00*
Estimated Cost			\$318.11**

Part List Notes:

*The High Torque CVT Fluid Part Number Shown is for a 20 liter barrel of fluid, this is the only way it is sold to the dealers. Check for a dealer that will sell it to you by the quart, you may need to bring your own clean containers.

**Prices shown are Subaru's suggested retail price. Each dealer sets their own pricing so I encourage you to shop around, my out of pocket cost was less than \$200.00



Tools Needed

1. Small Flathead Screwdriver
2. Clip Remover
3. 3/8" Drive Ratchet Wrenches (various handle lengths, flex head)
4. 3/8" Drive Torque Wrench (ft lbs)
5. 3/8" Drive Ratchet Extensions (3", 6", 10")
6. 3/8" Drive Metric Sockets (10mm, 12mm, 13mm, 14mm)
7. 3/8" Drive 10mm Allen/Hex Bit
8. 1/2" Drive Ratchet Wrench & 19mm Socket (For lug nuts)
9. 14mm Combination wrench (Ratcheting style recommended)
10. Assortment of pliers (small standard, small channel lock, 10" - 12" long needle nose)
11. Hose Pinch Off Pliers (4)
12. Fluid catch pan
13. Floor Jack
14. Jack Stands (4)

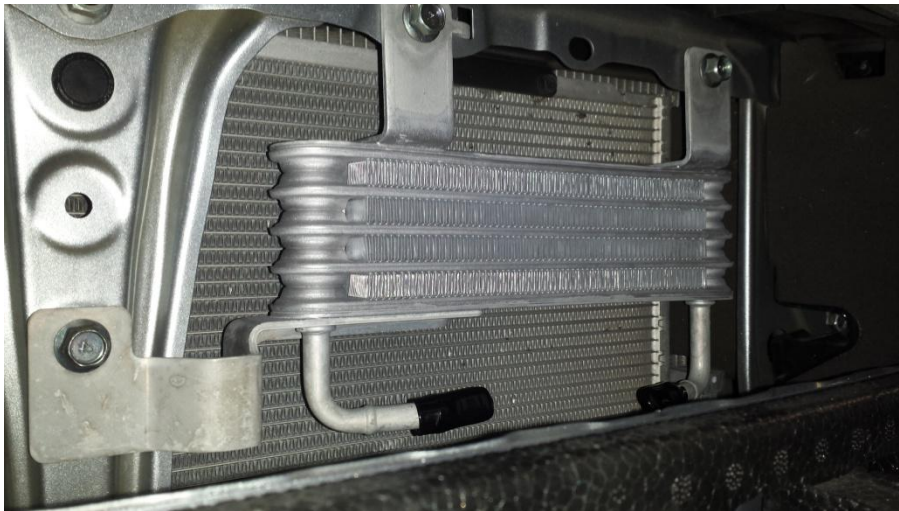
Note: You will be working in very tight, cramped places. I highly recommend having an assortment of tools handy to be sure you can complete the install. What I have listed here is the bare minimum you should have on hand.

Install:

1. Remove the front bumper cover (there are plenty of walkthroughs on this already)



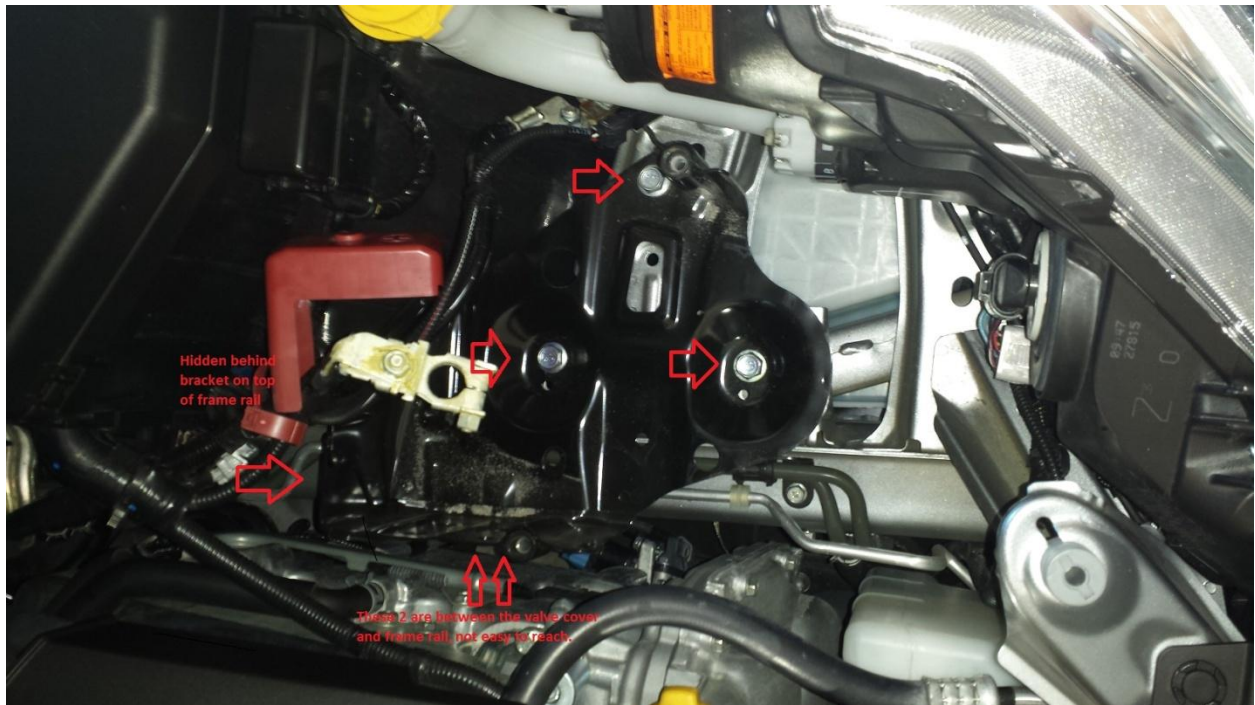
2. Remove the left front (Driver side) headlight assembly.
3. Mount the CVT cooler using the 3-13mm flange bolts to the existing threaded holes, tighten bolts to 8.9 ft lbs.



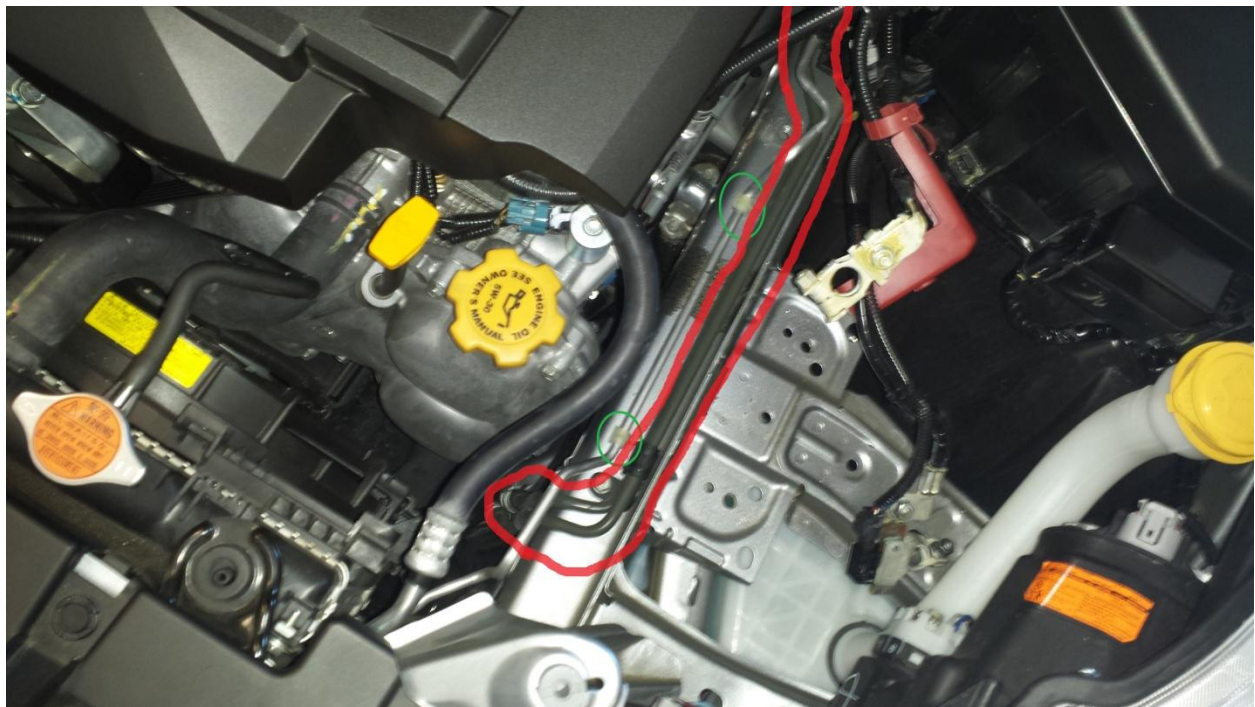
4. Attach the CVT cooler Hoses with 2 of the clamps to the CVT Cooler, run through existing hose holder in foam panel next to the drivers headlight and position them into engine compartment area under the headlight.



5. Remove the battery.
6. Remove the plastic battery tray, then remove the large metal battery pan. 6 - 14mm bolts hold it in, see picture.



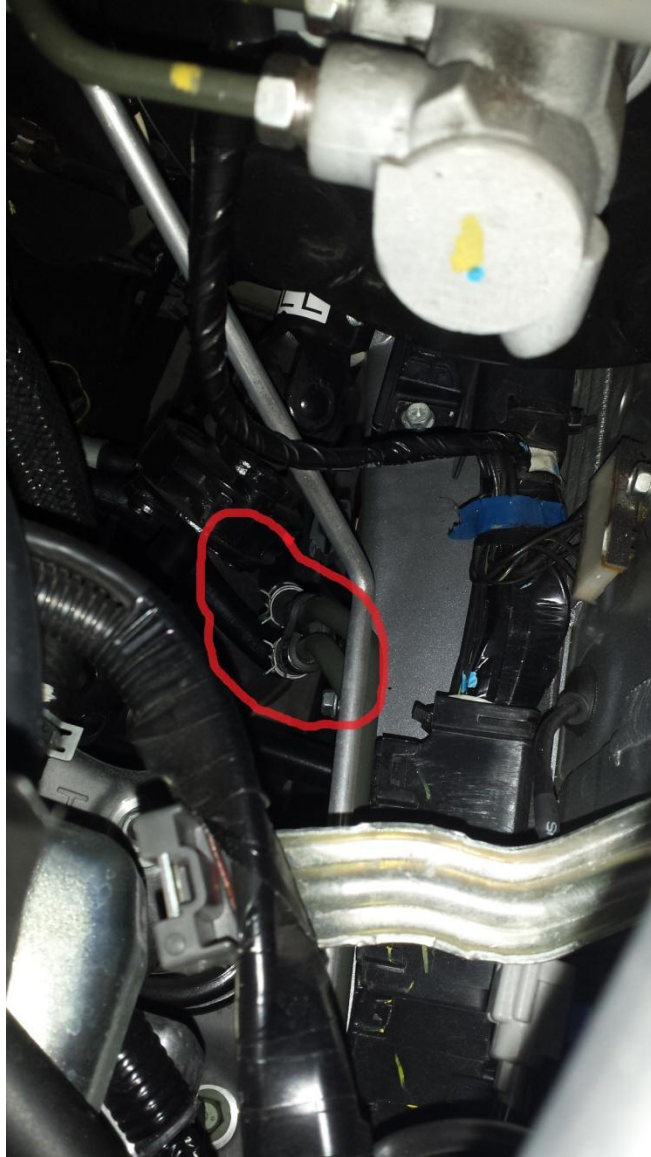
7. Remove coolant overflow tank. 2 - 12mm bolts.
8. You can now see the lines we are after. The greenish looking line, circled in red is the hard line we will be replacing. As you can see, it's in there pretty snug. Gently unclip the silver A/C line from the clips circled in green, there are two clips shown in the picture, and a 3rd one closer to the firewall. BE VERY CAREFUL NOT TO BEND OR CRIMP THE A/C LINE!!



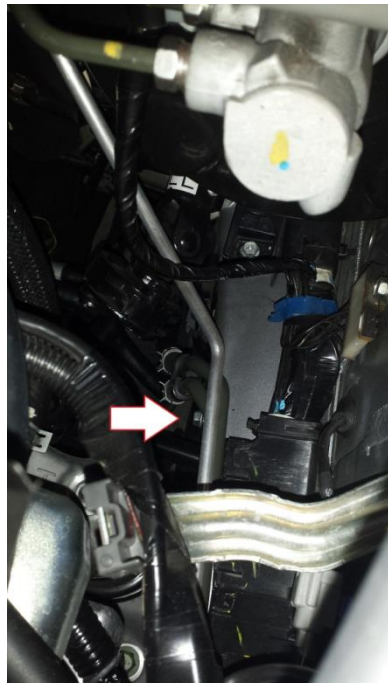
9. Jack up car, get all 4 wheels off the ground with car level and room to work underneath
10. Support car properly with jack stands!!

11. Remove plastic engine undercover.
12. Remove Left Front (Drivers side) wheel/tire.
13. From under car (front) and from left front wheel well (rear), Use pinch off pliers on existing rubber CVT fluid lines to minimize fluid loss.
14. Release hose clamps and disconnect rubber CVT fluid lines from the metal hard lines. NOTE: Due to the cramped space this is not very easy, take your time, be patient. BE SURE TO PROTECT YOURSELF FROM GETTING FLUID IN YOUR EYES! Use the catch pan to catch any spilled fluid.



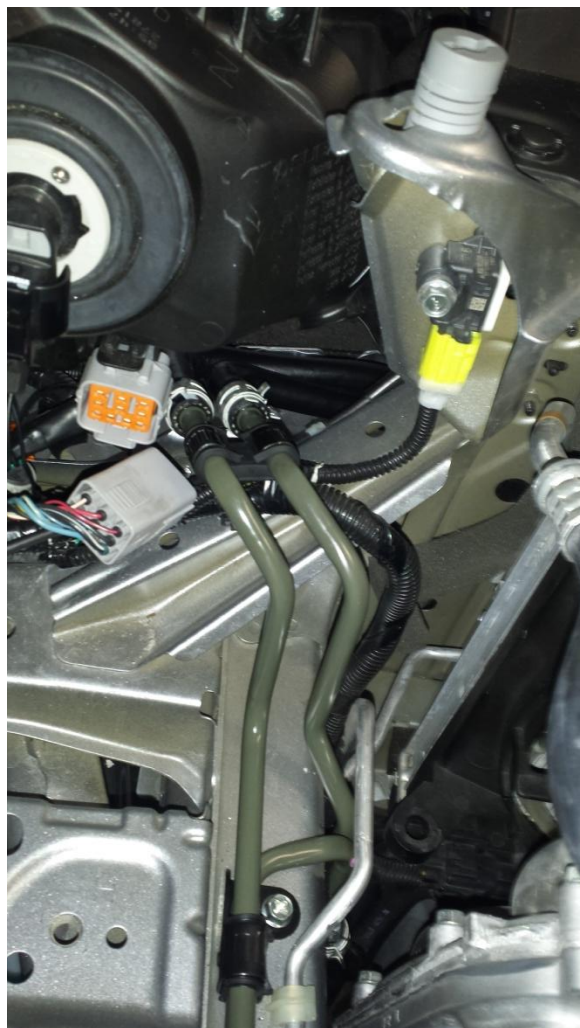


15. **WARNING!!! CVT Fluid is very flammable, BE SURE TO CLEAN ALL SPILLED CVT FLUID FROM THE EXHAUST COMPONENTS TO PREVENT A FIRE!!**
16. Once the rubber lines are free, remove the 3-10mm bolts that hold the CVT Hard Lines in place.



17. Now, take a deep breath and very patiently remove the CVT hard lines. It will take some finesse, **BE CAREFUL TO NOT DAMAGE THE A/C LINE!!**
18. Now install the new CVT hard lines, again, be patient, it will take finesse. Route the lines the same as the old lines that came out. **BE CAREFUL TO NOT DAMAGE THE A/C LINE!!**
19. Once in place, re-use the 3-10mm bolts to secure the CVT hard line and tighten to 5.5 ft lbs.
20. Reconnect the 4 existing CVT rubber hoses to the new CVT hard line and reinstall the hose clamps.
21. Clean off any residual CVT fluid from the sub-frame, hoses and exhaust components.

22. Use 2 new hose clamps and install the new CVT cooler rubber hoses to the new CVT hard line connections.



23. Gently snap the A/C line back onto its plastic clips on the frame rail.
24. Re-install Left Front Wheel / Tire. tighten to 90 ft lbs.
25. Re-install Left Hand Headlight Assembly.
26. Re-install the Coolant Overflow Tank.
27. Re-install Large Metal Battery Tray.
28. Re-install Plastic Battery Tray.
29. Re-install Battery.
30. Start car, with foot on brake shift from P > R > N > D and the D > N > R > P, leave car idling.
31. Check all CVT hose connections for leaks. Repair if any leaks are found.
32. Ensure car is LEVEL!!
33. With car idling in park, remove CVT Filler plug with 3/8" Drive 10mm Allen Bit, top off CVT fluid slowly until fluid runs out fill hole. Let any excess fluid run out.
34. Reinstall CVT Filler plug with new crush gasket, tighten to 36.9 ft lbs. Clean off any fluid.
35. Shut car off.
36. Re-install Plastic Engine Undercover.
37. Re-install Front Bumper Cover
38. Lower car off jack stands.
39. Reset Auto Windows, clock and radio stations (if lost)
40. Double check everything (lug nuts, clips, bolts, no tools left under the hood, etc).
41. Road test.
42. Enjoy!

