



N54 RELOCATED INLETS INSTALLATION GUIDE

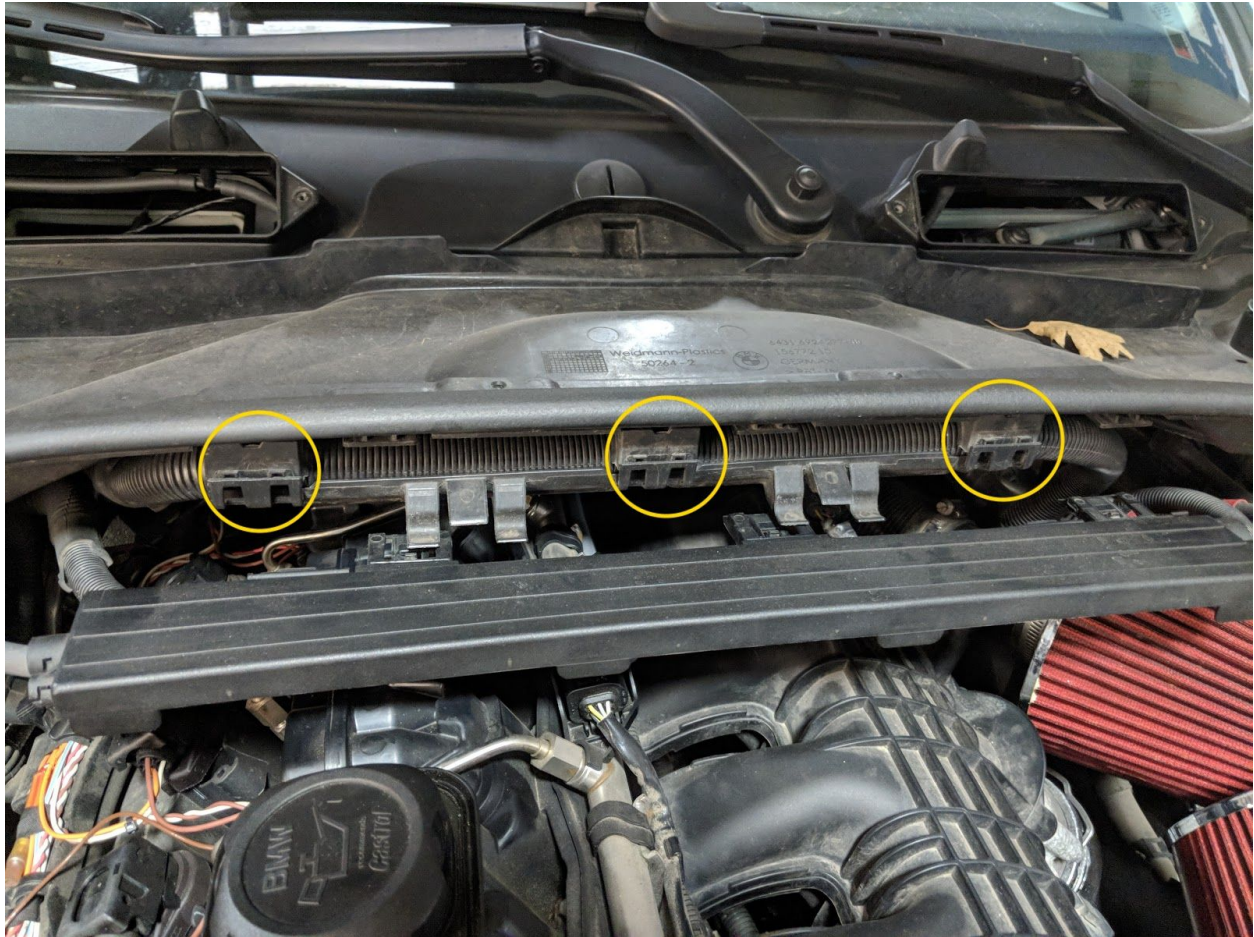


Remove Engine Cowl and Engine Cover

- Remove 6x 8mm screws holding in the charcoal filter on top of the engine cowl
- Remove the 2x plastic covers on top of the engine cowl by unclipping the clips on each side
- Remove the 2x 10mm bolts of the outer engine cowl
- Unclip the 2x rain sensors
- Remove 4x hex bolts holding in the engine cover.



-Unclip the 3x clips holding the harness hovering above the engine



-Remove the engine cowl by pulling towards the front of the vehicle



Remove Intake System

- Disconnect the brake boost line by pinching the ring around the connection.
- If you have a stock intake box uninstall it by disconnecting the two hoses from the stock inlets
- If you have an aftermarket intake, uninstall it according to the original instructions.

Uninstall the Charge Pipe

-Charge pipes will vary, but all are relatively similar to uninstall by disconnecting the 1x c-clip at the throttle body, 1x hose to intercooler connection, MAP sensor, and vacuum line to BOV/DV's.

Uninstall the Air Snorkel

-This is held in by 2x T-25 Torx bolts above the radiator fan, remove them and the snorkel will be able to be uninstalled from the engine bay.



Remove Splash Guard + Front Wheels

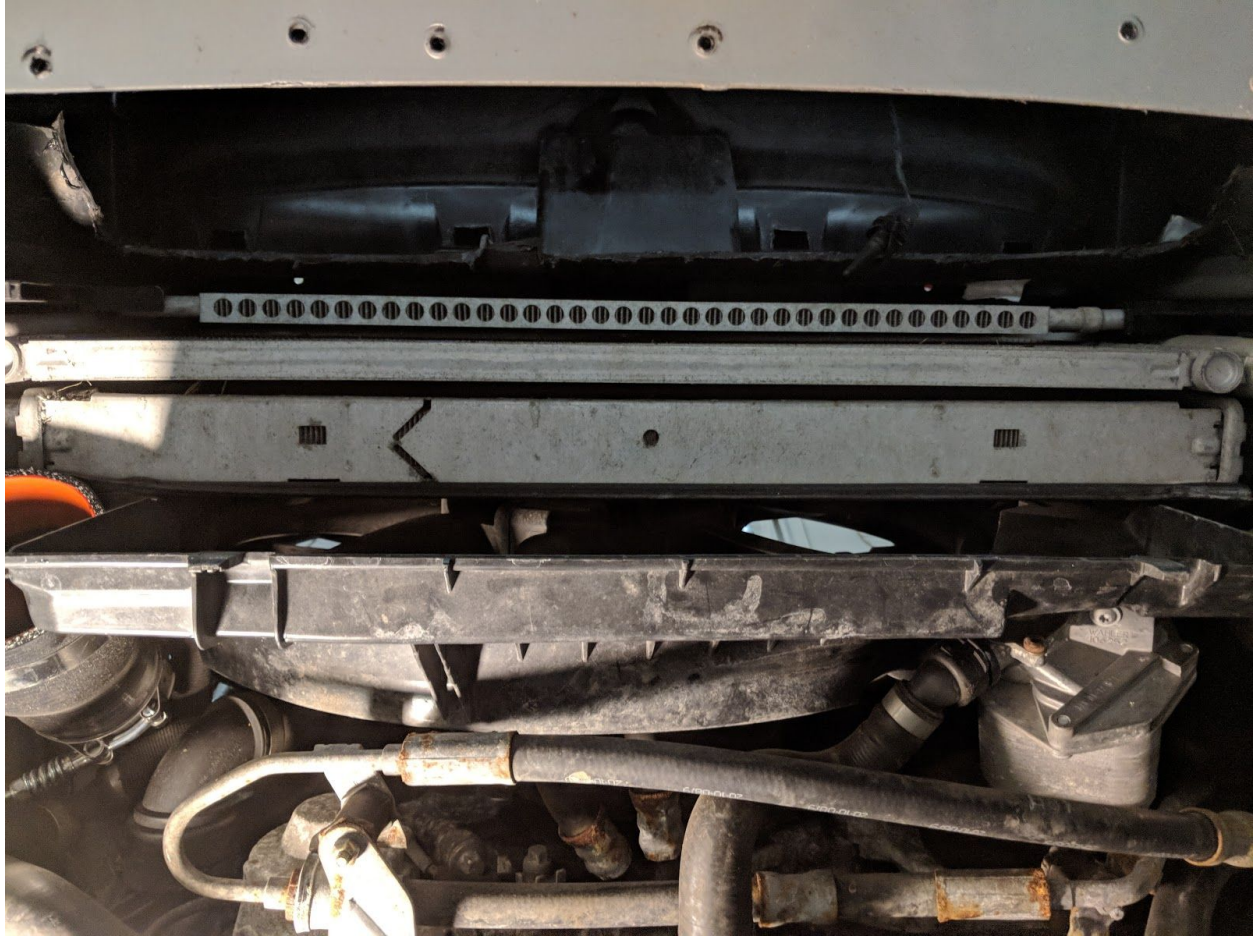
- Remove the 8mm screws holding in the splash guard. Depending on your model (335i/335xi/135i) the amount of screws will vary.
- If you have a 335xi there is an extra plate that need to be uninstalled by removing the 6x 16mm bolts holding it in place.
- Remove front wheels, you will need access through the front wheel wells for this inlet installation.

Remove Downpipes

- The downpipes will need to be removed for the inlet installation. They are held in by the 2x v-band clamps to the turbo and 4x midpipe bolts.
- Document position of and then remove 2x pre-catalyst O2 sensors and 2x post-catalyst O2 sensors.

Remove Intercooler

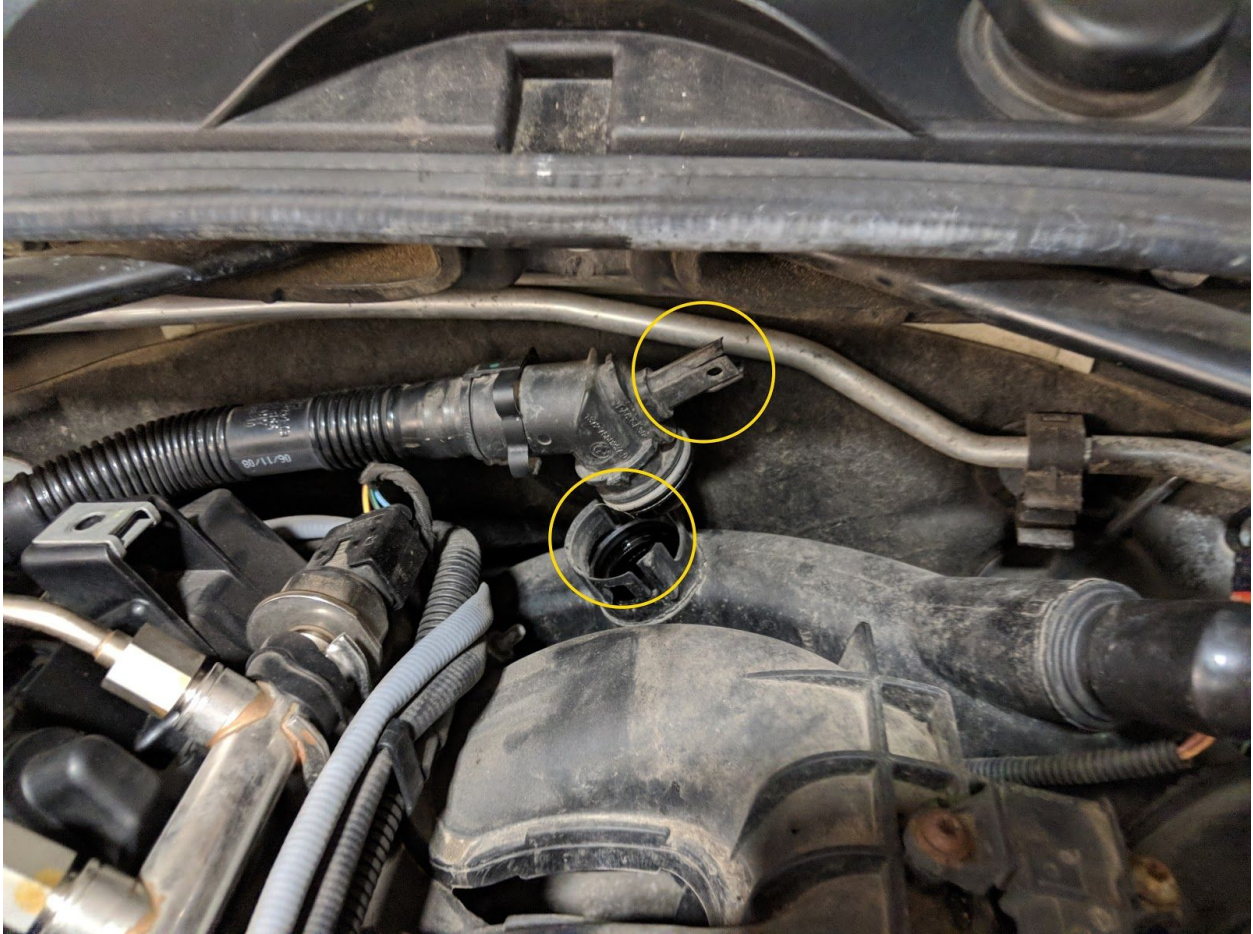
- The intercooler is held in by 2x screws and the 2x connections to the intercooler piping. Depending on your current setup you may have either clips or clamps at the intercooler connection points. Remove these and then remove the intercooler from the vehicle.



Disconnect PCV

-The crankcase ventilation system is connected to the rear inlet by one circular clip and sensor. Use a small

screwdriver or pick to disconnect these.



Remove Vacuum Canisters

- Document the position of the top vacuum lines (left and right) before removing them.
- Disconnect the vacuum canister bracket by removing the 3x 10mm bolts holding it in.
- Document the position of the bottom vacuum lines (left and right) before removing them.



Disconnect Heat Exchanger

-Remove the coolant line running to the heat exchanger connected to the radiator fan by removing the clip and pulling the connection off. Be prepared for coolant to run out.

-Once you have a bucket positioned below the line to capture the coolant you can open the coolant reservoir cap to help drain the coolant.

-With the coolant draining disconnect the heat exchanger from the radiator fan by removing the 1x T-25 torx bolt.



Remove Radiator Fan

- Remove the 1x T-25 torx bolt on the passenger-side of the upper radiator fan.



-Remove the radiator fan plug on the driver-side of the radiator fan.



-Remove the clips on each side of the radiator fan about halfway down. After removing these you will be able to

pull the fan out from the top of the engine bay.





Remove Coolant Reservoir

- Remove the 2x 10mm bolts holding the reservoir in place.
- Disconnect the coolant line running to the reservoir by removing the clip then pulling the connection off.



-With the reservoir loosened, disconnect the coolant level sensor and coolant hose from the bottom of the coolant reservoir. You can now remove the reservoir from the engine bay.



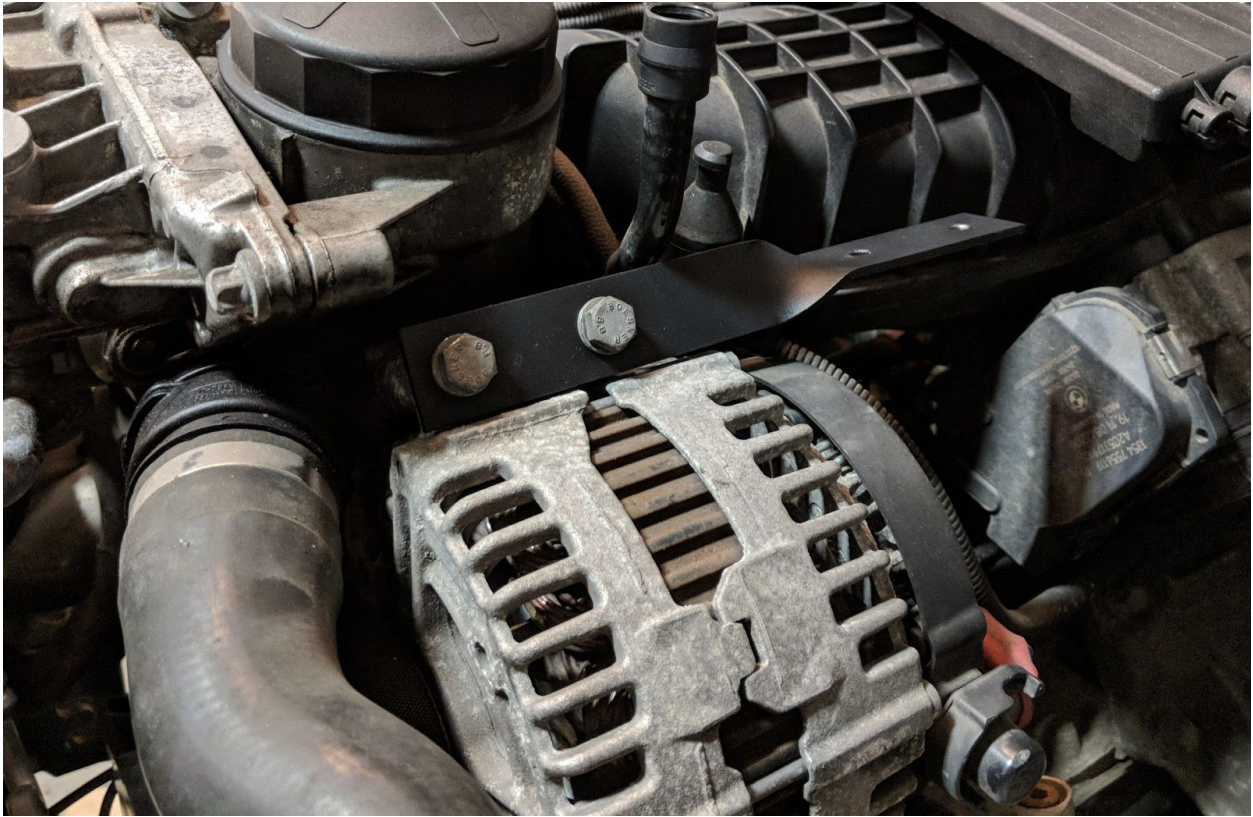
Relocate the Power Steering Fluid Reservoir

-This does not require disconnecting the lines to the reservoir. Simply free the reservoir from the bracket by disconnecting it from the bracket it is fastened to by removing the 2x 10mm nuts.



-Remove the 2x 13mm bolts above the alternator, and reinstall them with the included power steering fluid reservoir bracket attached.

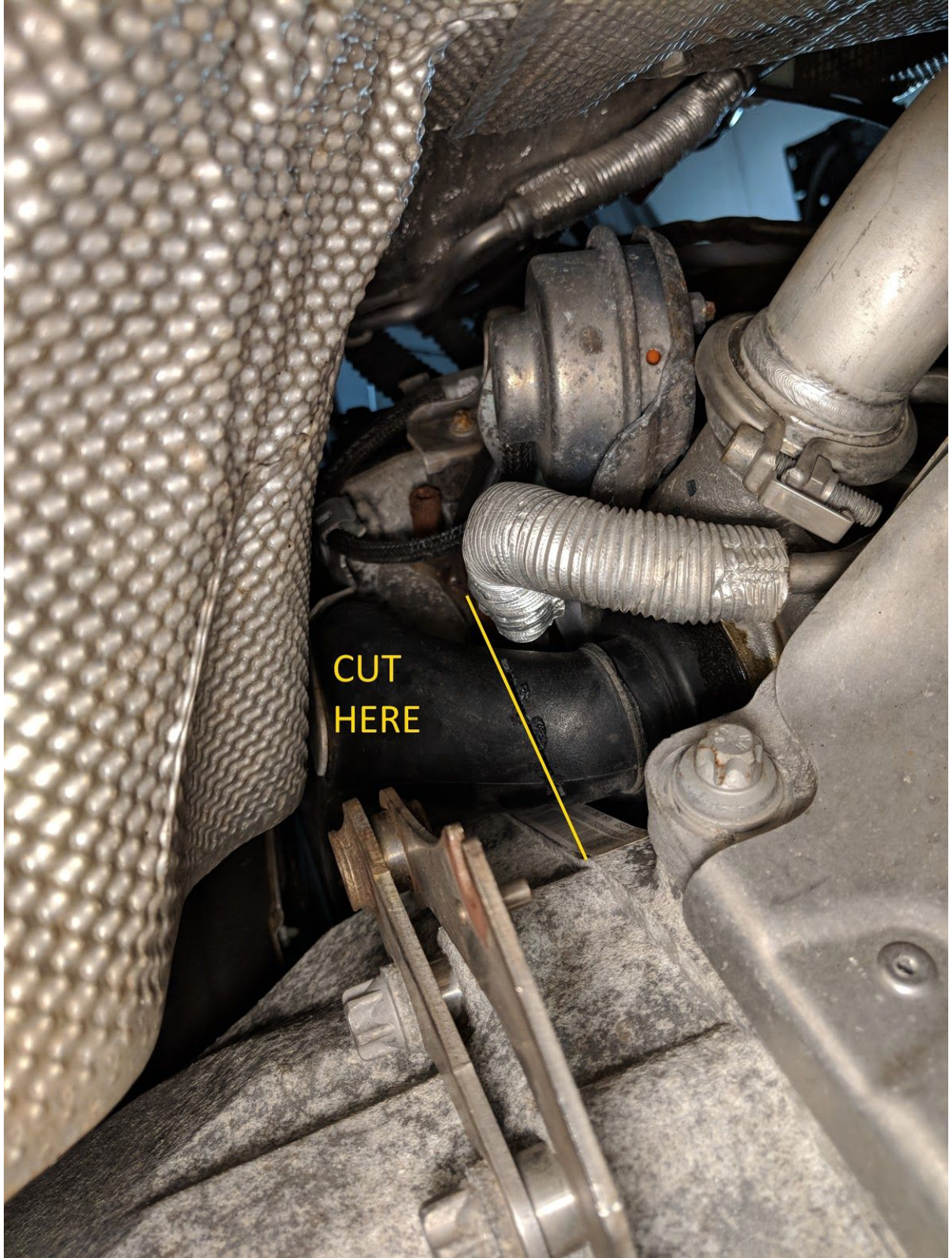
-Mount the reservoir to the bracket using included bolts and nuts.





Remove the OEM Inlets

-Remove the rear inlet by unbolting the 3x T-30 torx bolts holding it in. It is easiest to cut the rear inlet near the rear turbo and pull it out in two pieces. The rear inlet will then slide out through the top of the engine bay.



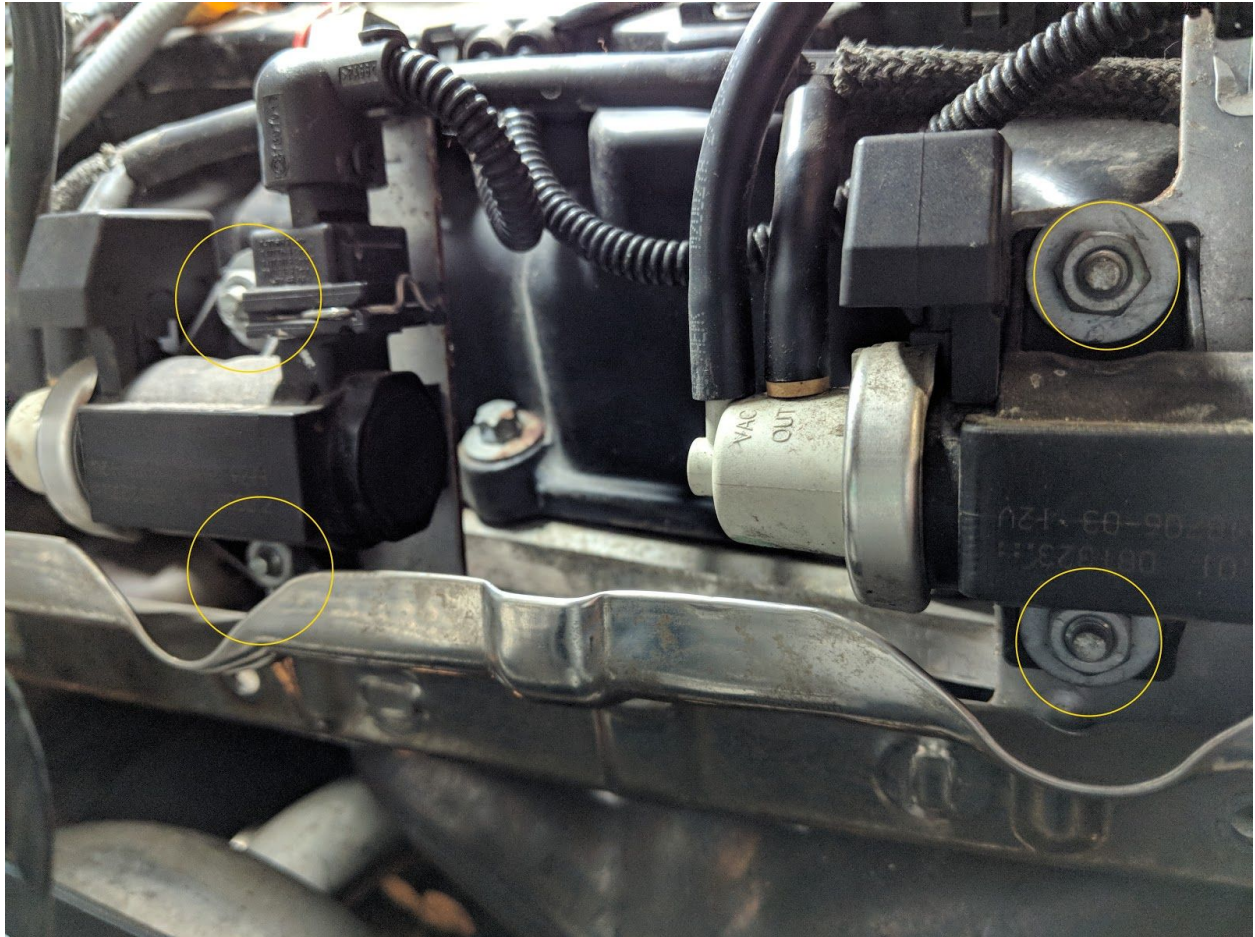
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-Remove the front inlet by unbolting the 2x T-30 Torx bolts and pulling the inlet out through the top of the engine bay.



Install ARM Manifold Heat Shield and Boost Solenoid Bracket

- Remove the 4x 10mm nuts on the boost solenoids to disconnect them from the stock bracket.



- Remove the 4x E8 Torx bolts on the stock manifold heat shield. This will completely disconnect the heat shield from the engine block.



- Install the ARM Manifold Heat Shield using the 2x outside E8 Torx bolts only.
- Then add the ARM boost solenoid bracket to the center two holes and secure it to the engine with the remaining 2x E8 Torx bolts.

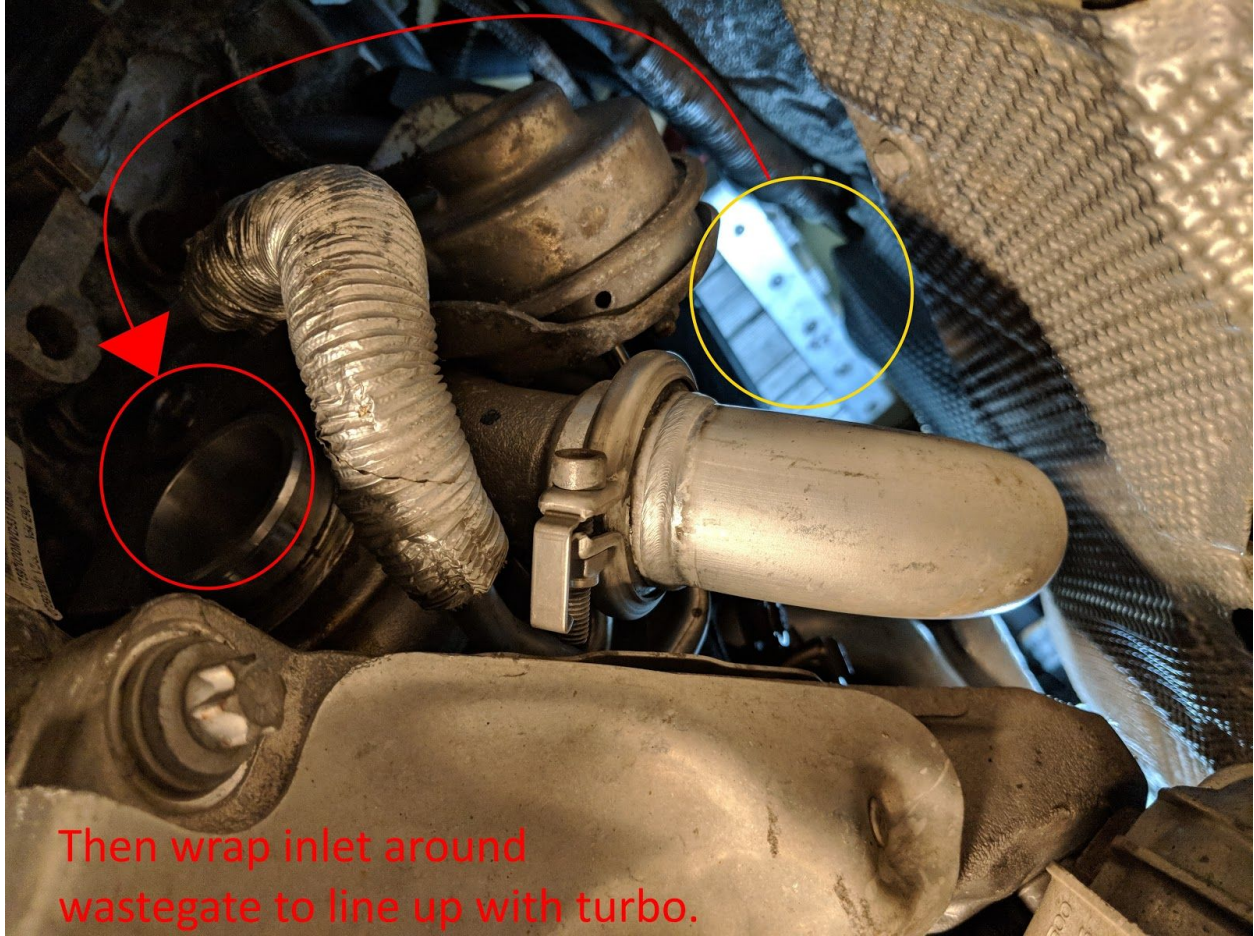


Install Rear Turbo Inlet

-The rear turbo inlet will be installed from underneath the vehicle by threading the filter-end of the inlet past the rear turbo wastegate as far as it will go. This is a good time to install the heat-reflective tape.

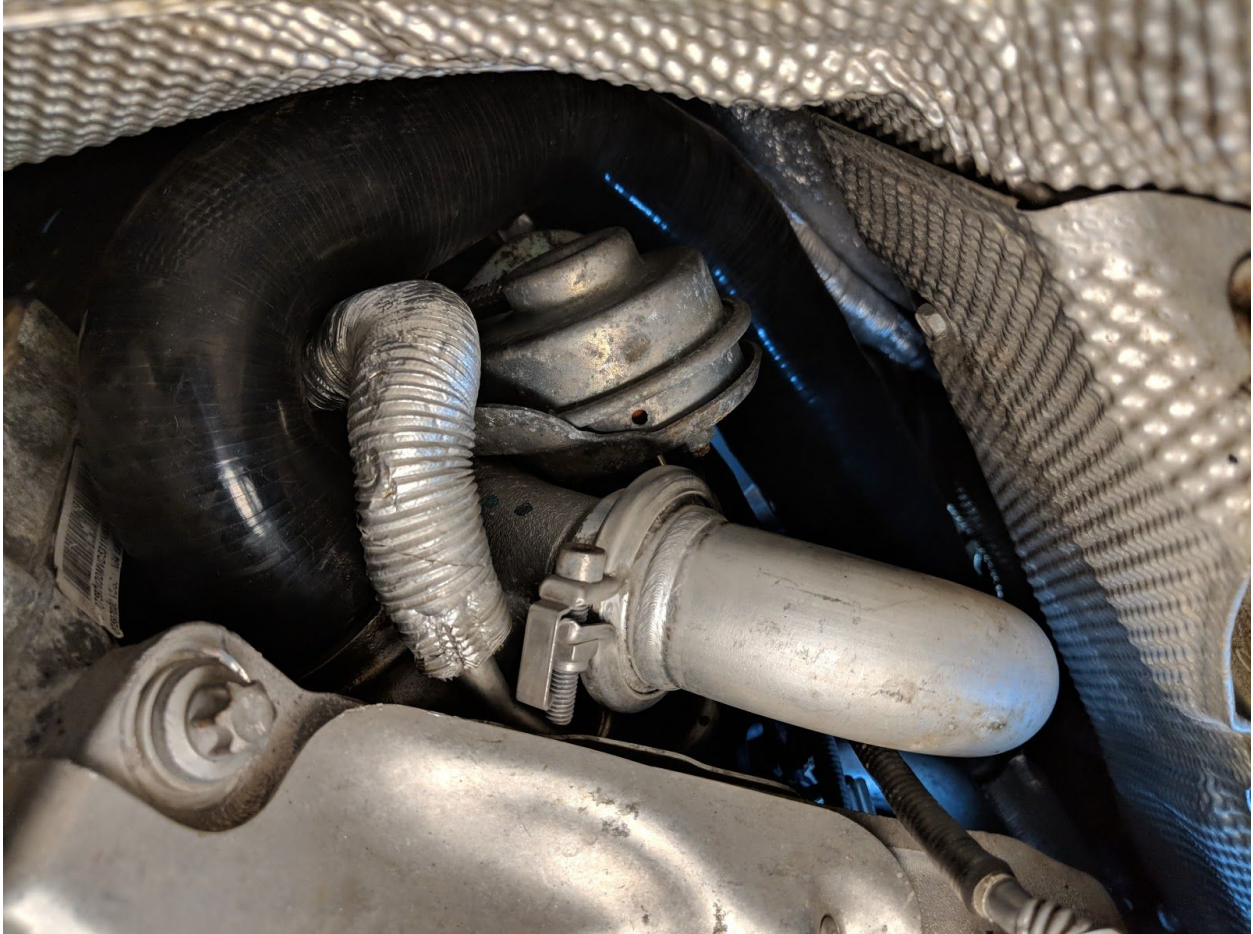


-Then orient the turbo-end of the inlet around the wastegate to line up the turbocharger.



Then wrap inlet around wastegate to line up with turbo.

-Final Position



Install Front Turbo Inlet

- The front turbo inlet will be installed from above the engine by threading it through the area shown below.
- Make sure you have the clamp positioned so you can access it from the top of the engine bay.



Reinstall Downpipes

-At this point you can reinstall the downpipes (and reattach subframe on 335xi models).

Install Air Filters

-Using the included clamps install the air filter bracket with the beaded side connecting towards the inlets.



-Then install the air filters onto the air filter bracket using supplied clamps.



-Install the air filter heat shield using the 2x supplied spacers and 2x supplied bolts.



Connect PCV Hose

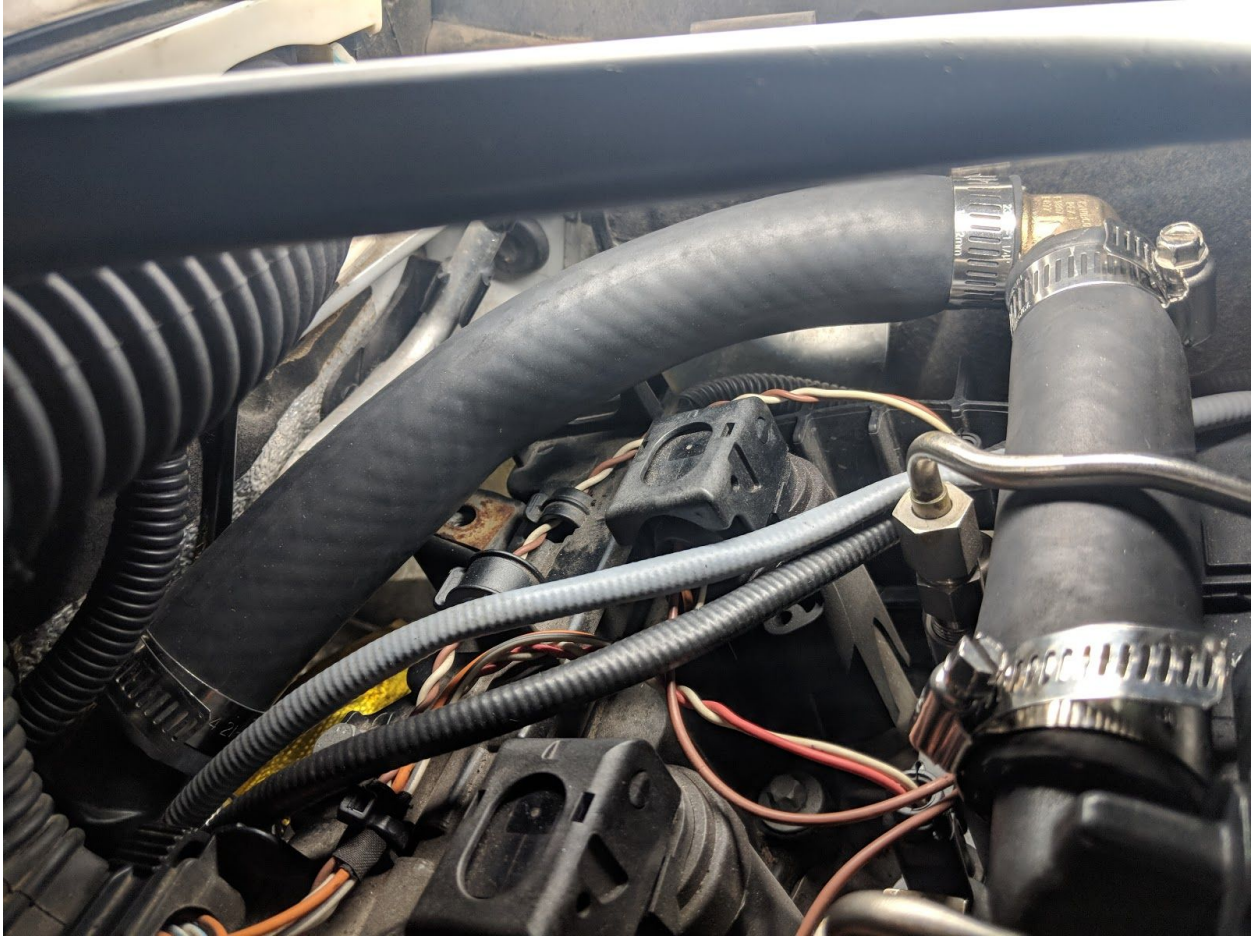
- Attach the PCV connection to the included connector for the inlets.
- With the PCV connector installed, place the 2x clips onto the connector to hold it in place.



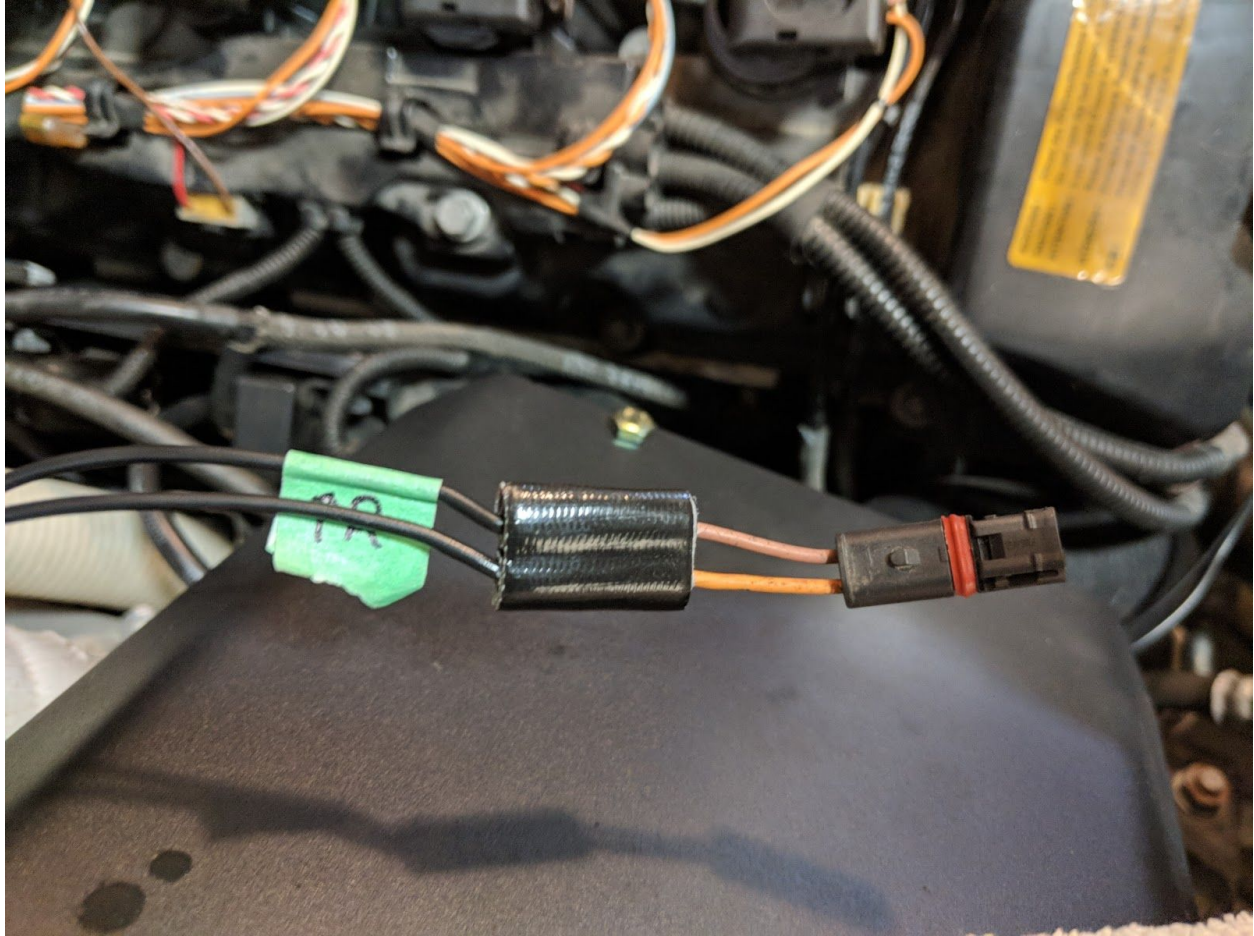
-Insert the assembly into the rear turbo inlet.



- Connect a piece of 9.25" hose to the inlet PCV connection and insert a 90 degree connector at the opposite end.
- Connect a piece of 4.75" hose to the 90 degree connector and the other end to the connection on top of the engine where the PCV was originally connected.



-Complete the PCV relocation by extending the sensor using the supplied wire. Make sure to label the extension wire so they are reconnected to the correct side.

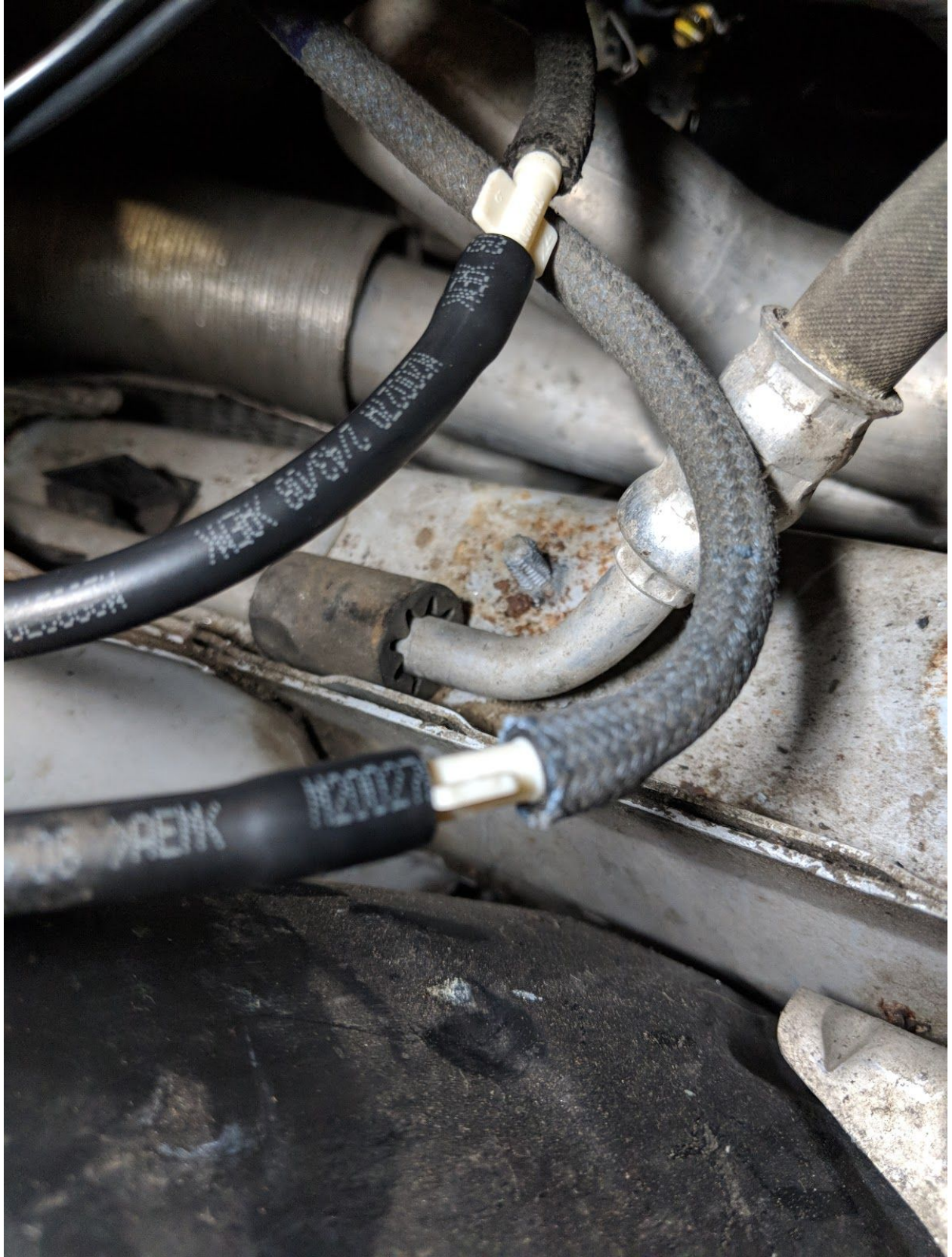


Reconnect Boost Solenoids and Vacuum Lines

- Reconnect the boost solenoids to the new bracket using the 4x supplied bolts



-Reconnect the vacuum lines from the top of the vacuum canisters to the lines from the bottom of the vacuum canisters. You can opt to remove the canisters entirely and join the two ends together with the supplied barbs as shown below.



Relocate the Coolant Reservoir

-Remove the bracket that formerly held the power steering fluid reservoir in place by removing the 3x 10mm nuts/bolt holding it in place.





-Reuse the coolant hose that was originally attached to the bottom of the coolant reservoir and reconnect it to the bottom of the coolant reservoir. You will need to disconnect the other end of this hose by cutting the permanent clamp on the other end.



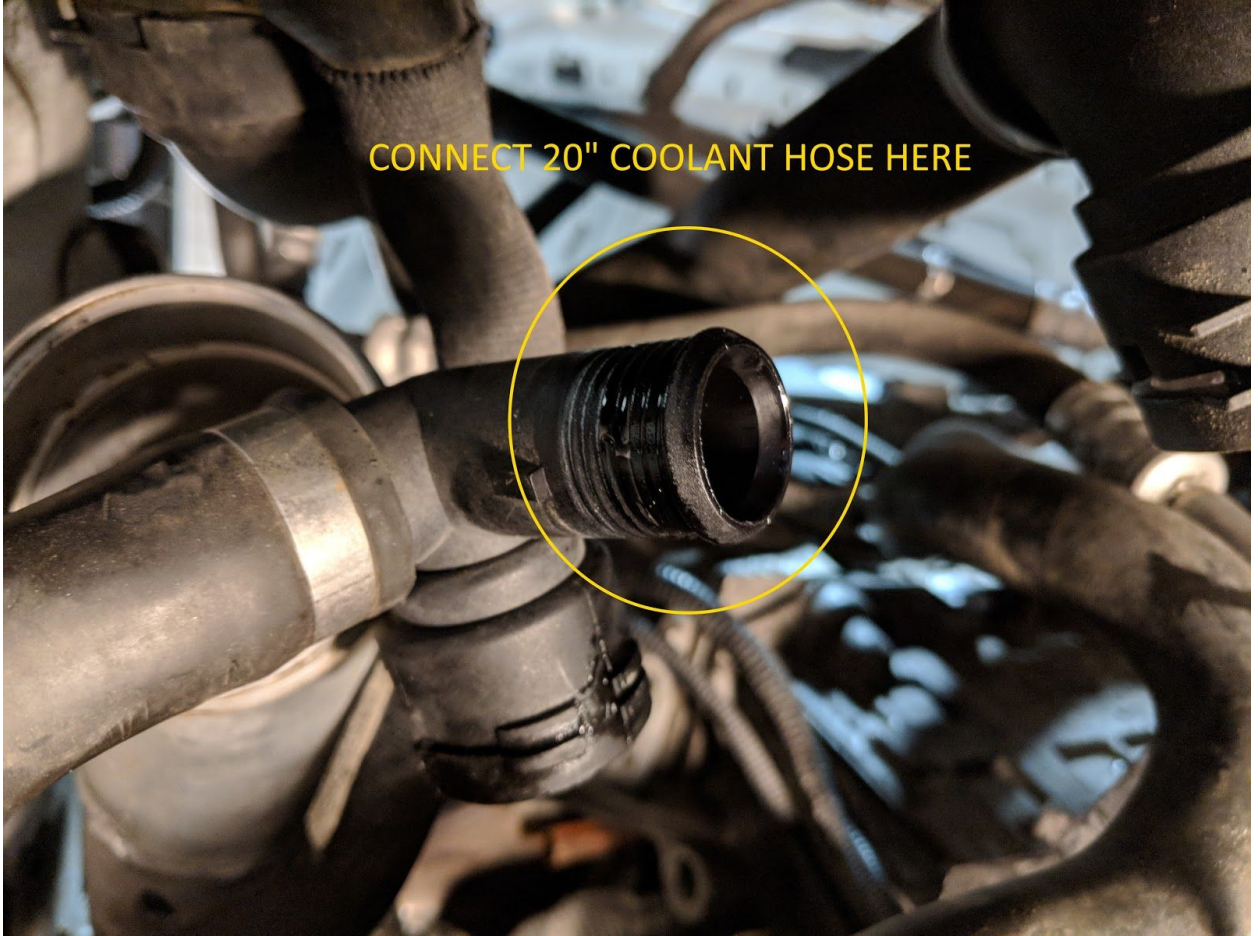


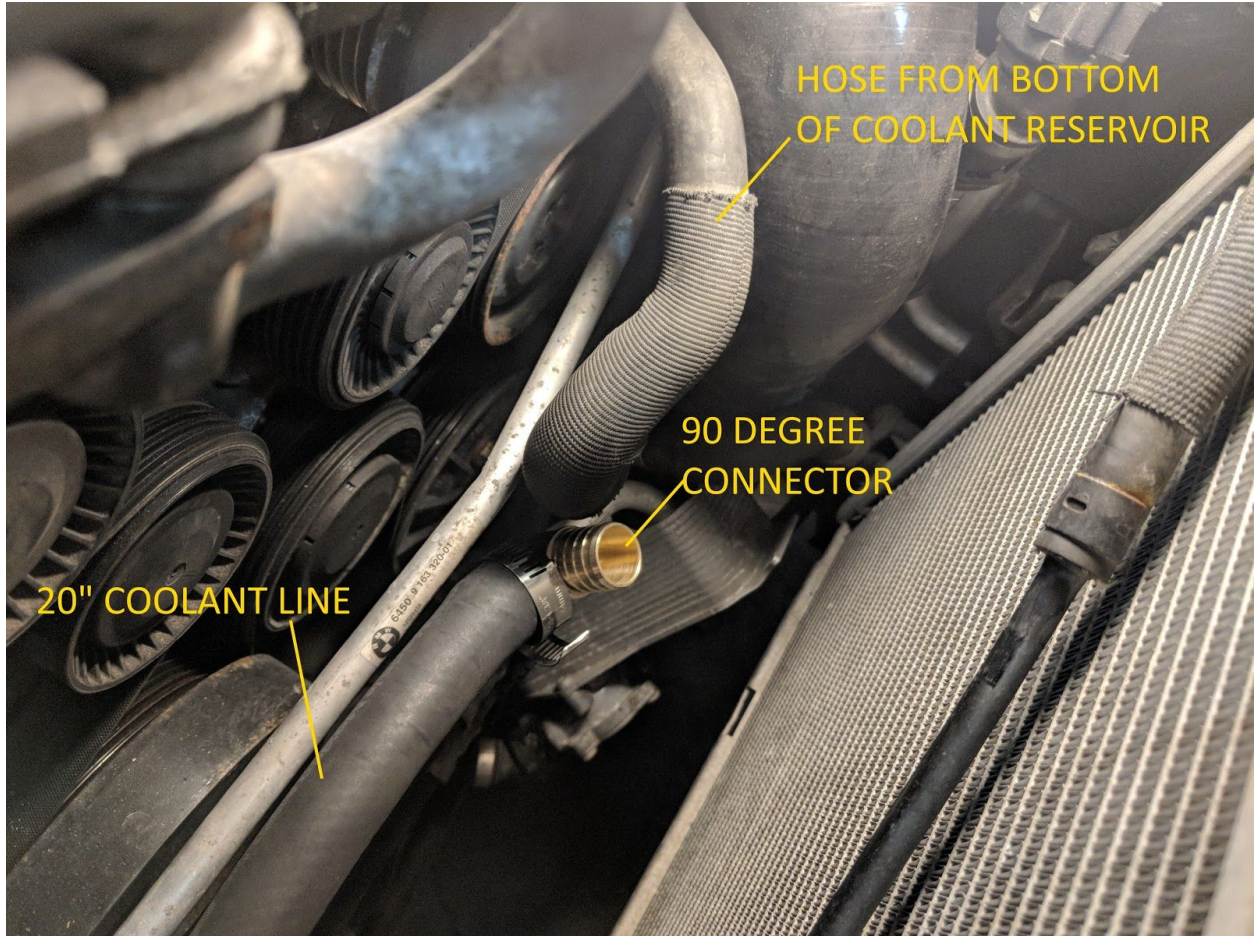
-Place the coolant reservoir on the driver side where the power steering fluid reservoir bracket was located and secure the coolant reservoir with the supplied bracket.



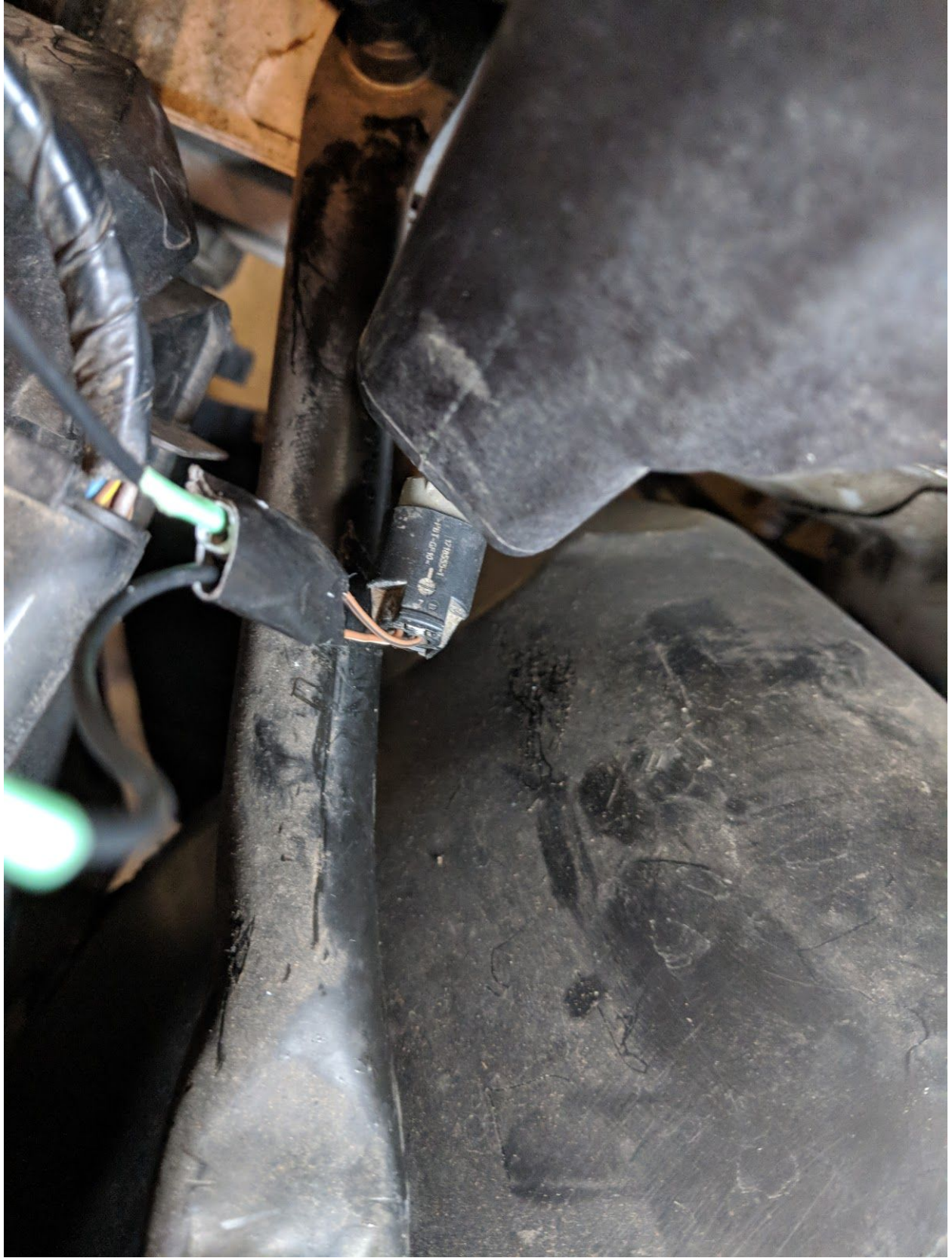
-Use the 20" coolant line to connect from the passenger side connector to the 90 degree elbow. Then connect the 90 degree elbow to the coolant hose you connected to the bottom of the coolant reservoir. Secure all connections with included clamps.

CONNECT 20" COOLANT HOSE HERE





-The last component for finishing the coolant reservoir is extending the level sensor by adding wire to the existing sensor so that it will reach over to the driver side.



Reinstallation

-To complete the installation reinstall the following components:

- Radiator Fan
 - FMIC
- Splash Guard
- Charge Pipe
- Engine Cover
- Engine Cowl

Coolant Fill/Bleed Procedure

-Fill the coolant reservoir and follow the bleeding procedure below

-To activate the coolant bleeding procedure turn the accessories on (engine off), turn both driver and passenger climate controls to maximum temperature setting and fan speed to lowest setting. Press the accelerator pedal all the way down for 10 seconds which will activate the bleeding process. Allow the process to run for 12 minutes. Check coolant level and repeat if necessary.

When you're finished check for any leaks.

The finished product should look similar to the picture below. Enjoy your new ARM Motorsports Relocated Inlets!



If you have any questions please email us at getarmed@armmotorsports.com

