Stocker Compound Kit Instructions

2010 – 2018 Dodge Cummins 6.7L

Cast Hot Pipe Configuration

Year Range	Coolant Tank	Notes
2010–2012	Plastic low-pressure coolant tank (provided) – see Appendix A	Factory exhaust not cut. Cast hot pipe fits at factory v-band locations.
2013–2018	High-pressure aluminum coolant tank (provided) – see Appendix B	Optional: EGR Coolant Riser Relocation Kit available (see Appendix C).

CAST HOT PIPE – KEY ADVANTAGE: Unlike the stainless 2-piece version, this patented cast hot pipe requires NO cutting of the factory exhaust pipe. In a single casting, it carries exhaust from the OEM turbo to the S400 turbine AND from the S400 turbine outlet to the factory exhaust pipe — replacing the OEM cast elbow entirely. It connects at the factory v-band locations for a clean, direct-fit installation.

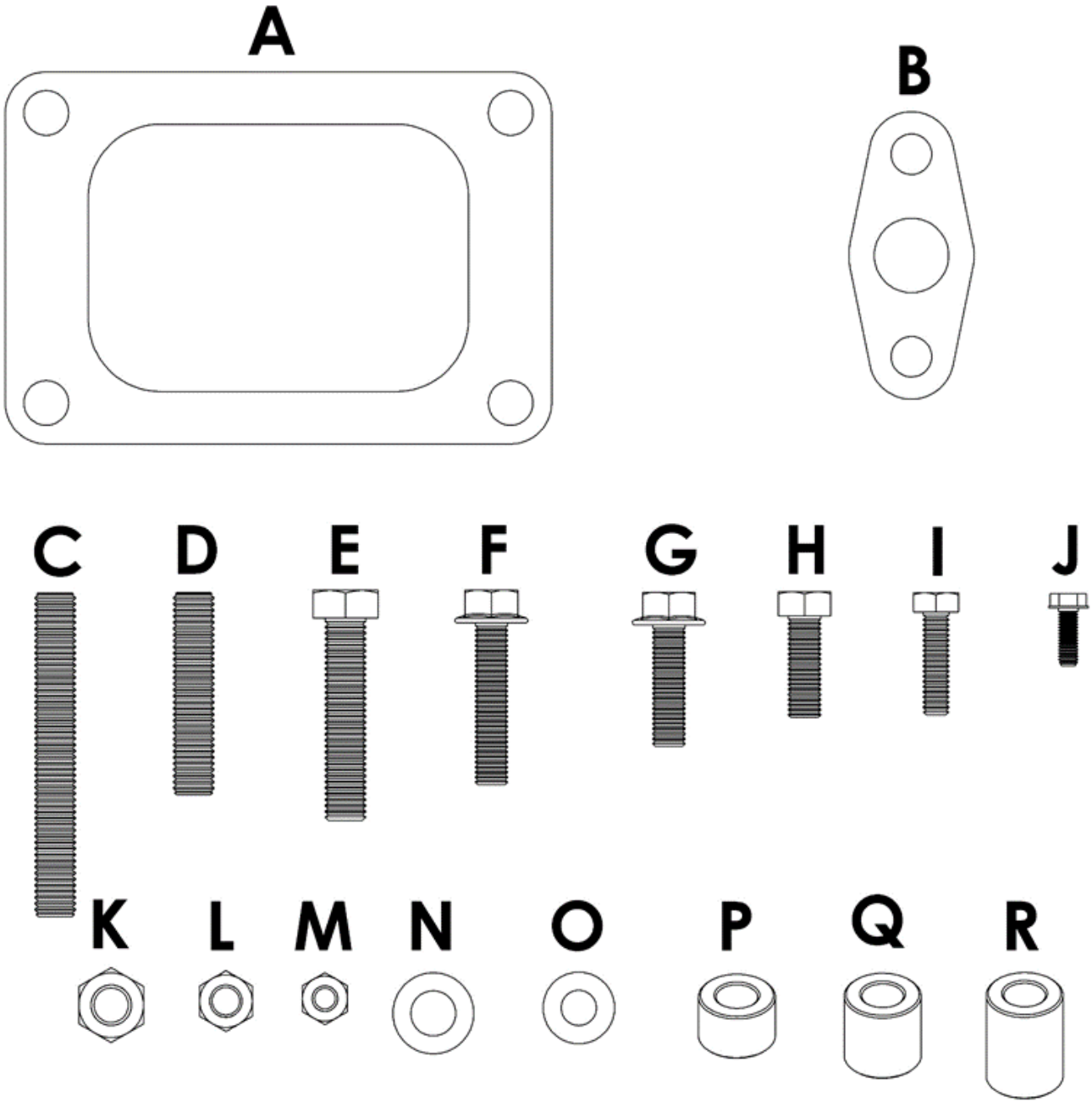
VERY IMPORTANT

Prior to installation, blow out all oil lines and air tubes to make sure debris is not inside any of the lines or tubes.

Please read all instructions before installation.

Note: This turbocharger system requires the installation of head studs.

6.7L Cummins Stocker Twin Gaskets and Hardware



Images Are Not to Scale

Letter	Hardware Specification	2010–2012	2013–2018
A	T6 Non-Divided Gasket	1	1
B	Oil Drain Gasket	1	1
C	M10-1.5 x 80mm Stud	1	1
D	M10-1.5 x 50mm Stud	2	2
E	M10-1.5 x 50mm Hex Bolt	4	4
H	M8-1.25 x 25mm Hex Bolt	4	4
I	¼"-20 x 1" Hex Bolt	2	2
J	#10 x ½" Self-Tapping Screw	1	1
K	M10-1.5 Nut	6	6
L	M8-1.25 Nut	2	2
M	¼"-20 Nut	2	2
N	M10 Narrow Washer	8	8
O	M8 Narrow Washer	2	2
P	½" Spacer	1	1
Q	¾" Spacer	2	2
R	1" Spacer	1	1

Initial Disassembly

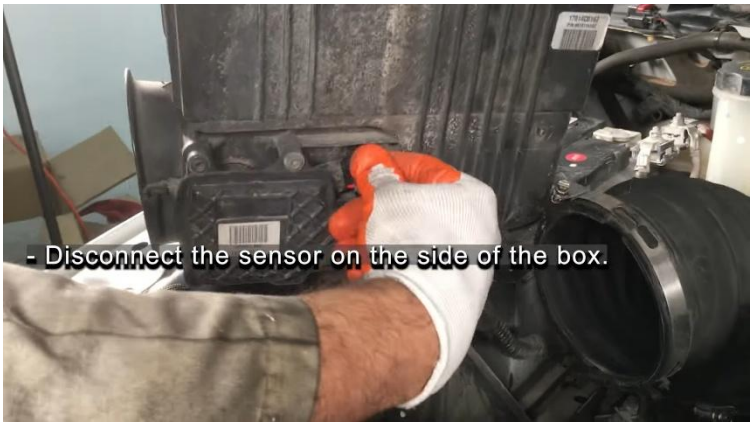
1. Make sure your vehicle is parked on level ground and the parking brake is applied.

2. Disconnect the negative battery terminals.

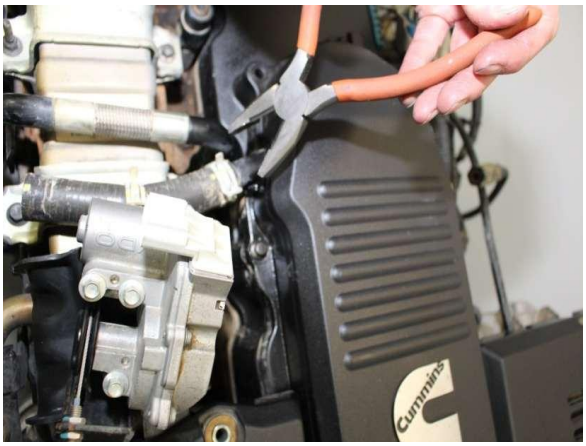
3. Loosen the hose clamp on the intake air box cover.

4. Disconnect airbox sensors from the wiring connectors. Remove the airbox. Loosen the screws holding it in. Remember to unplug the active air wiring connector.

5. Remove the airbox. Loosen the screws holding it in. Remember to unplug the active air wiring connector on the side of the airbox.



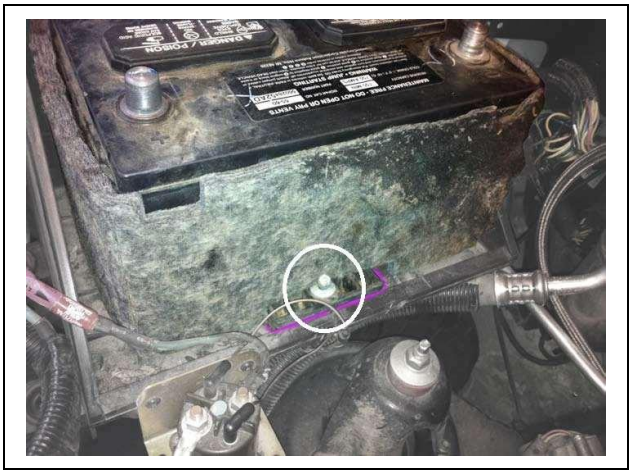
6. Remove the spring clamp from the barb on the valve cover and disconnect the crankcase vent tube. Keep the spring clamp to reuse later.



7. Remove the bolt holding the crankcase breather tube.

8. Loosen the hose clamp on the turbo where the intake tube connects. Remove the intake tube along with the crankcase breather tube.

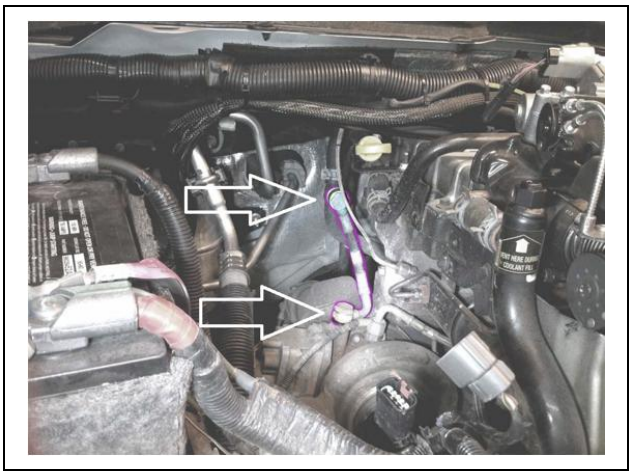
9. Remove the passenger side battery, and the entire battery tray. This provides more space for easier installation. The battery will be reinstalled later.



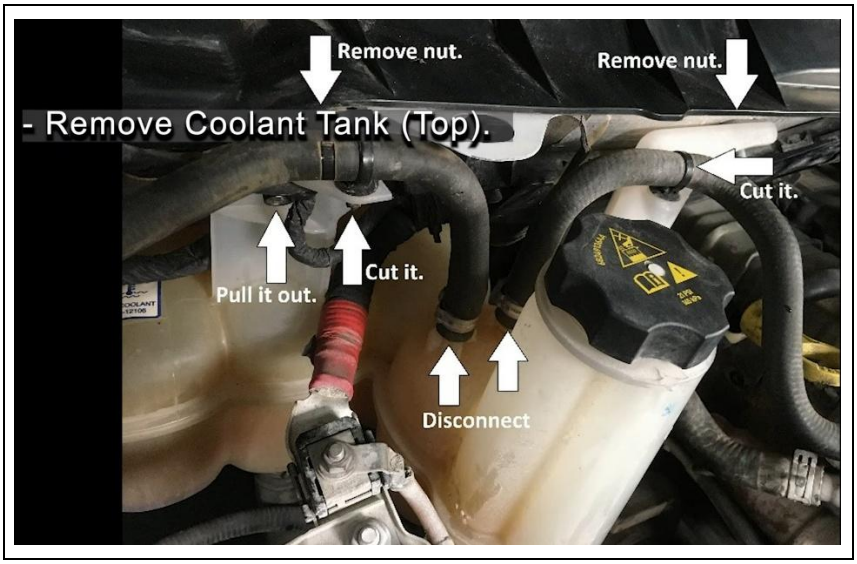
10. Drain the coolant from the radiator. Locate the petcock on the bottom of the radiator on the driver side. Turn the petcock counterclockwise just over one full turn. Do not remove it completely — it is difficult to reinstall.

11. Remove the passenger side inner fender for easier access. There are 8 hex-head screws and 1 push pin holding the inner fender in place.

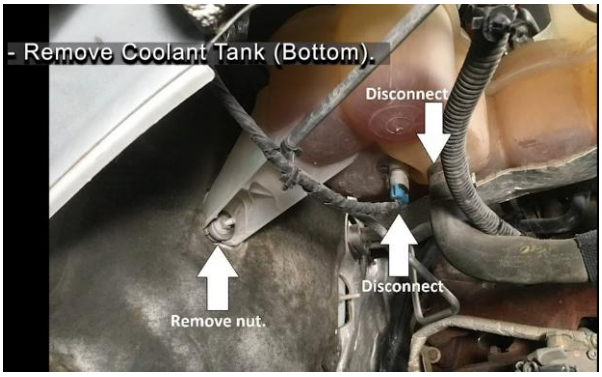
12. Remove the coolant supply line to the turbo. Remove the upper banjo bolt first. Have a rag below the line to absorb coolant that drains out. Keep the banjo bolt and washers — they will be reused later.



9. Remove coolant tank.

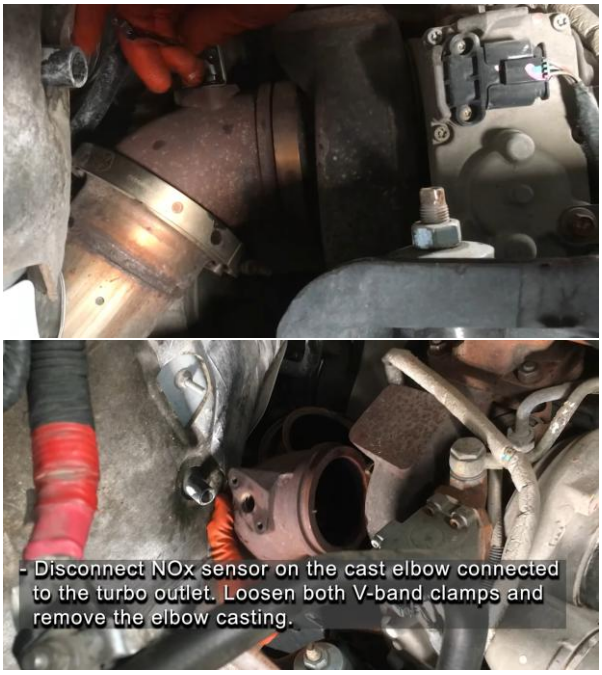


10. Some bolts on the coolant tank must be accessed from the bottom of the tank. Remove the remaining bolts and coolant connections, then lift the tank out.



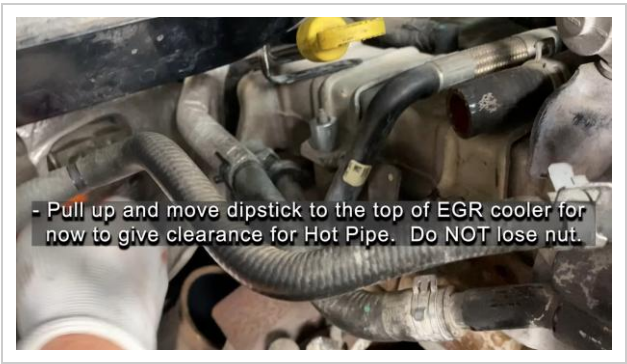
AC Relocation Kit & Cast Hot Pipe Installation

Disconnect the NOx sensor on the cast exhaust elbow connected to the OEM turbo outlet. Loosen both v-band clamps and remove the elbow.



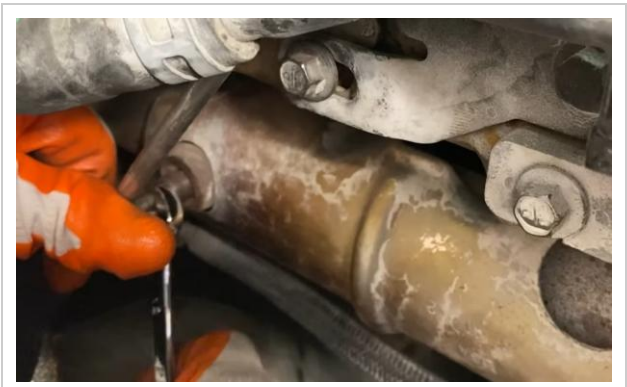
Remove the nut securing the transmission dipstick bracket and pull the bracket off the bolt.

Put the spacer on the bolt and pull up the dipstick to the top of the EGR cooler to give clearance for the Hot Pipe. Do NOT lose the nut.



Unplug and disconnect the exhaust pressure sensor. Do not lose it — you will need to reconnect it later.

Unscrew the pressure line located on the exhaust manifold that goes to the exhaust pressure sensor. Also remove the bracket holding the pressure line. Remove the line.



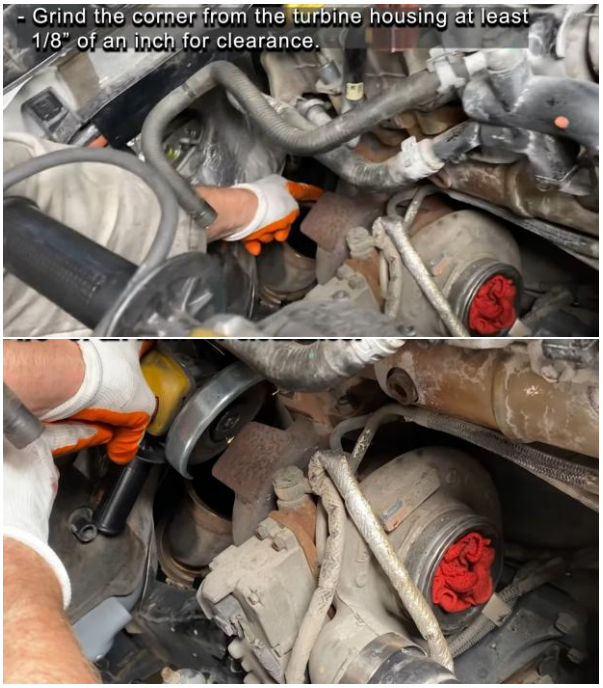
Sufficiently cover both ends of the turbo so foreign objects do not get inside during the install.

Cast Hot Pipe Installation

To install the new Cast Hot Pipe you must do ONE of the following:

- Grind the corner from the exhaust housing of the turbo for clearance to get the hot pipe in place, cutting at least 1/8" off; OR
- Uninstall the turbo to give clearance, install the Hot Pipe, then reinstall the turbo.

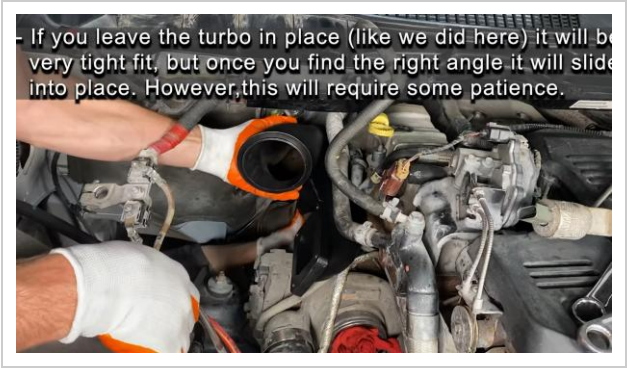
See our video at minute 3:51 for further clarification.



Before and after picture of the corner of the turbo exhaust housing after grinding.

Carefully slide the hot pipe into place and connect to the turbo exhaust outlet. You will need one person under the truck and one above.

If you leave the turbo in place it will be a very tight fit, but once you find the right angle it will slide into place.

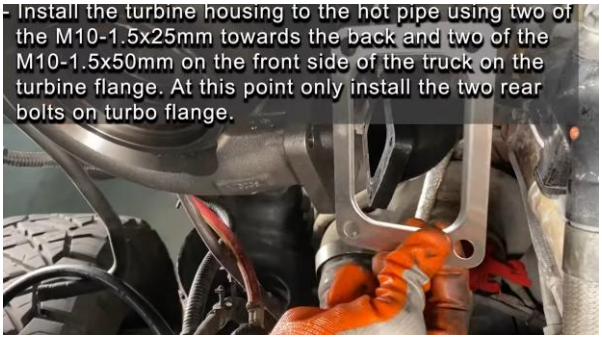


Use the factory v-band clamp and tighten enough to keep the hot pipe in place but loose enough so it can still rotate. Do NOT fully tighten yet — you will need to rotate and adjust the hot pipe in later steps.

On the top section of the hot pipe, place the 4.4" v-band clamp, slide it completely over the flange and let it rest on the casting.

Separate the exhaust housing from the CHRA of the turbo by removing the v-band clamp.

Install the exhaust housing by itself to the hot pipe using two M10-1.5x25mm bolts towards the rear and two M10-1.5x50mm bolts on the front (T6 turbo flange). At this point install only the two rear bolts. Remember the gasket. Then tighten the 4.4" v-band clamp on the hot pipe to the exhaust housing.

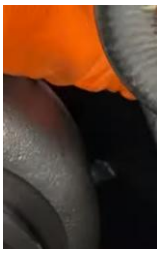


Heat wrap the water line that runs by the exhaust housing. If you have a 2013–2018 truck, we recommend purchasing our Coolant Riser Re-Route Kit for the cleanest result. Then install the two front bolts on the turbo flange and tighten all four bolts.

Turbo Support Bracket Installation

If you have EGR:

- Install the turbo support bracket using the factory bolt.
- Rotate the hot pipe as close to the engine as the support bracket will allow.
- Tighten all bolts on the bracket and the clamp on the stock turbo to secure the hot pipe.

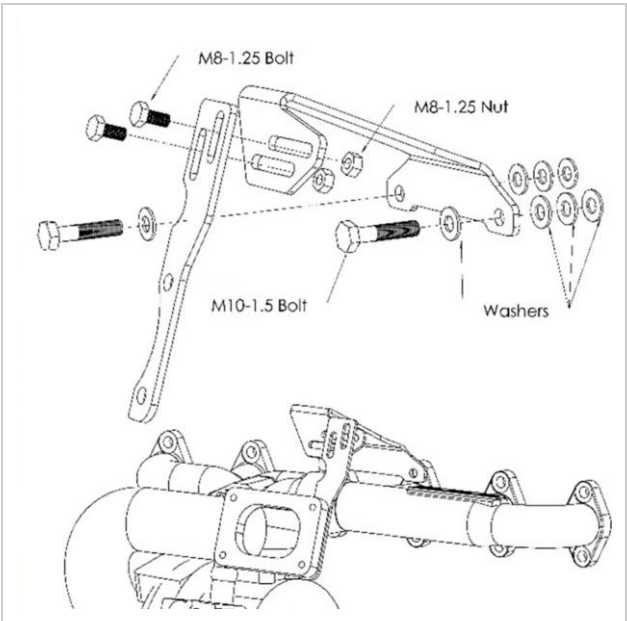


NOTE: If the battery seems like it won't fit, rotate the hot pipe closer to the engine. Engines sit differently in the chasis. If it seems like it's not fitting loosen all brackets, and the lower v-band clamp and push it closer to the engine.

Secure the support bracket by putting the nuts on the bracket below the turbo flange.

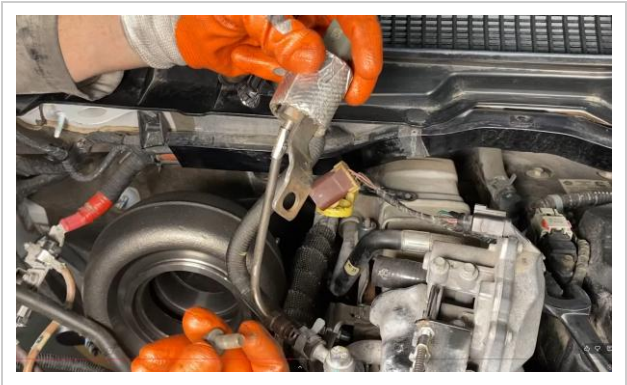
Attach the two support brackets together with 2 bolts and nuts.

If EGR is deleted, use the longer EGR bracket for deleted trucks. Attach the bracket to the two upper center bolt holes on the manifold (cylinders 3 & 4) using the provided hardware.



Turbo support bracket should be attached to the EGR bracket as shown.

Reconnect the exhaust pressure sensor, bracket, and plug.



Put the dipstick bracket back on the bolt and secure it with the nut.

Cut the zip tie holding the NOx sensor cord, then unbolt the clip. Feed the cord through the other side of the turbo and plug the NOx sensor into the port.

NOTE: Put heat wrap around the NOx wire to insulate it from the hot pipe.

AC Relocation Lines Installation

Install the fittings on the firewall by sliding the fitting over the firewall stud, then tighten the nut.

Attach both ends of the two A/C relocation lines to the correct fittings.

Attach the other ends of the A/C relocation lines.

NEXT STEP: Install the new coolant tank in place using the factory nuts. See the appropriate appendix for your model year: Appendix A (2010–2012) or Appendix B (2013–2018).

Freeze Plug Removal & Oil Drain Tube Installation

Locate the front freeze plug underneath the oil filter. The oil filter can be removed to improve accessibility.

Step 1. Gently tap on the outer rim of the freeze plug using a flat screwdriver or punch and a hammer to rotate it in the block.

Step 2. Once rotated, use needle-nose pliers to retrieve the freeze plug.

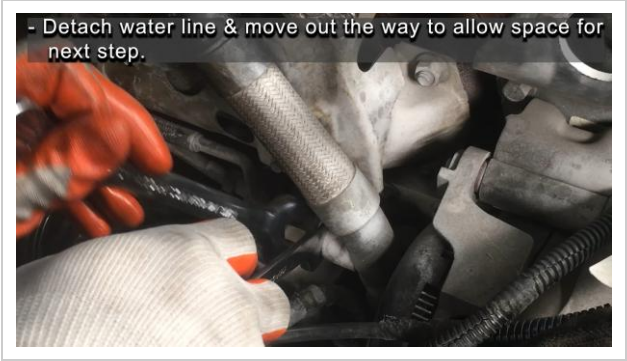
Insert the provided oil drain tube into the freeze plug hole in the block. Push it straight in until both O-rings are inside and it seats flush against the block.

Oil Supply Line & Coolant Line Installation

Install the silicone charge elbow on the front of the factory turbo using the provided clamp. Leave the clamp loose for adjusting.

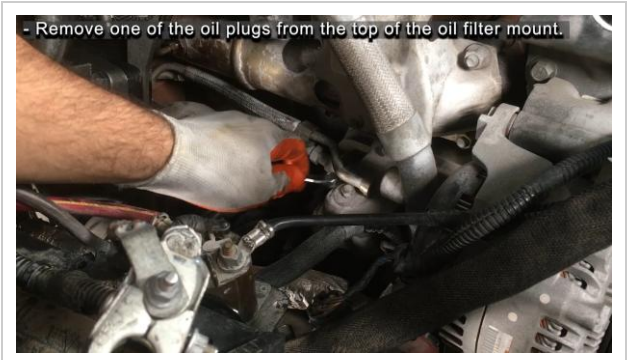
Reinstall the battery tray, 6 bolts total: 2 from the bottom, 2 from the top, 2 from the side.

Detach the coolant line and move it out of the way to allow space to attach the oil supply line for the turbo.

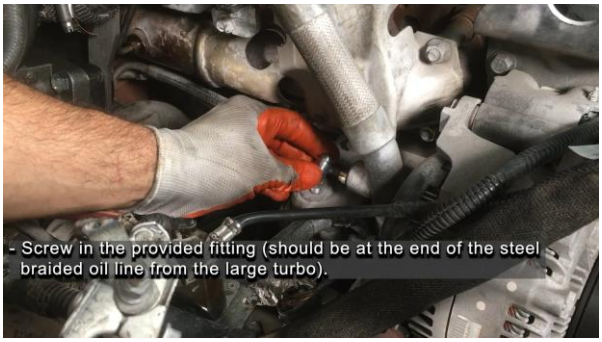


Remove the fitting from the end of the coolant line.

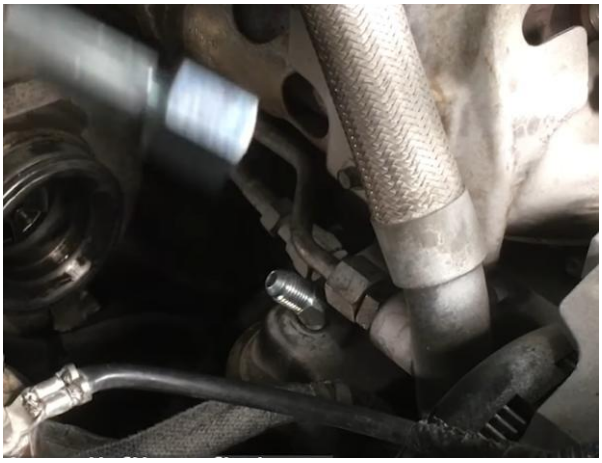
Remove the plug at the top (or side) of the oil filter mount.



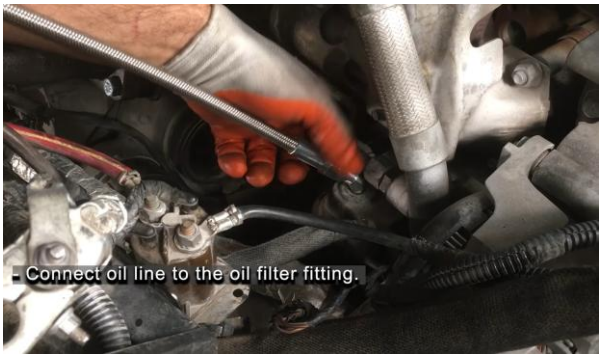
Screw in the provided fitting into the hole where the plug was removed. (This fitting should be at the end of the steel braided oil line from the large turbo.)



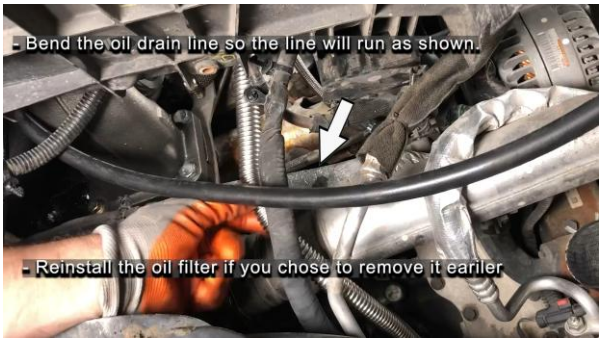
Reinstall the coolant line fitting and coolant line, making sure the oil fitting is at the approximate angle shown in the picture.



Connect the oil line to the oil filter fitting.



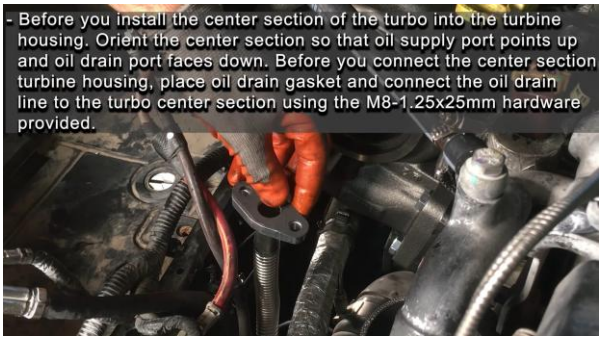
Bend the oil drain line so it runs as shown. Then reinstall the oil filter if you removed it earlier.



New Turbocharger Assembly

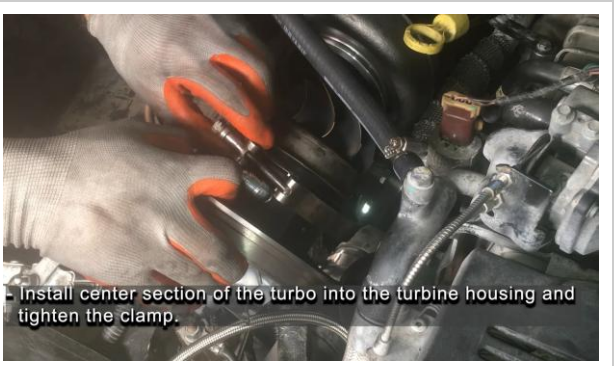
Install the silicone charge elbow on the front of the factory turbo using the provided clamp. Leave the clamp loose.

Before installing the turbo center housing rotating assembly (CHRA) into the exhaust housing, orient the center section so the oil supply port points up and the oil drain port faces down. Place the oil drain gasket and connect the oil drain line to the turbo center section using the provided M8-1.25 x 25mm bolts.



Partially slide in the CHRA and bolt the oil drain tube to the drain port of the turbo.

Install the turbo CHRA into the exhaust housing and tighten the v-band clamp.

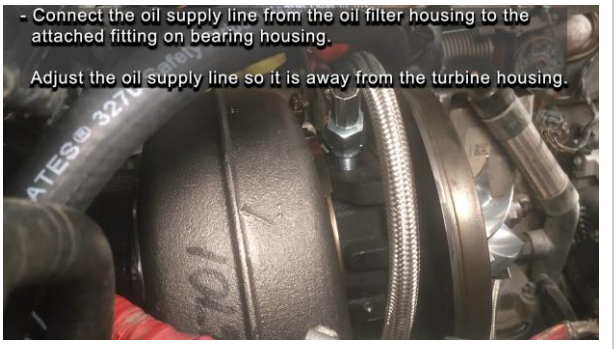


NOTE: The v-band clamp will need to be placed onto the housing first and the nut must be completely removed to spread it enough to slide the CHRA in.

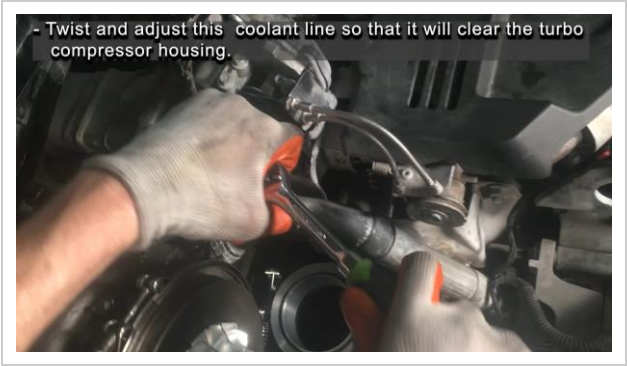
Spin the compressor wheel with your fingers to make sure it rotates freely after installation.

WARNING: Be very careful not to damage the exposed fins in any way. They are aluminum and can easily be damaged, causing catastrophic failure. Damage by installer will NOT be covered by warranty.

Connect the oil supply line from the oil filter housing fitting to the turbo. Adjust the oil supply line so it points away from the exhaust housing.

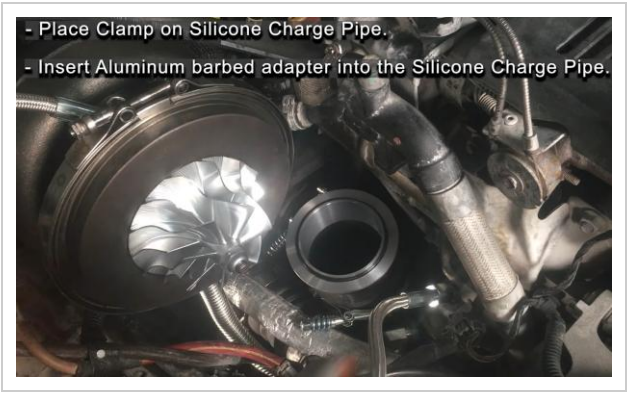


If you have not purchased our Coolant Riser Relocation Kit (2013–2018 trucks only), twist and adjust the upper coolant line so it will clear the turbo compressor housing you will be installing next.



Compressor Housing Installation

Place the t-bolt clamp and aluminum barbed adapter into the silicone charge pipe if you have not already done so.

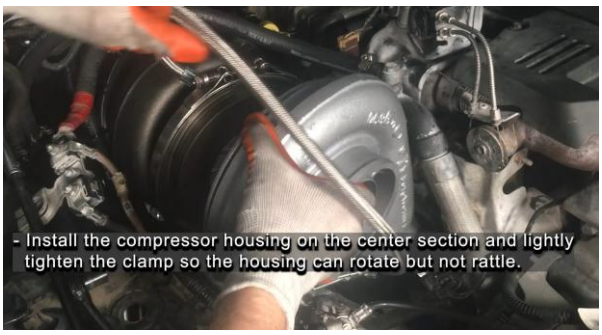


Make sure the O-ring seal is seated in the adapter.

Tighten the clamp on the silicone charge pipe around the barb section of the aluminum fitting.

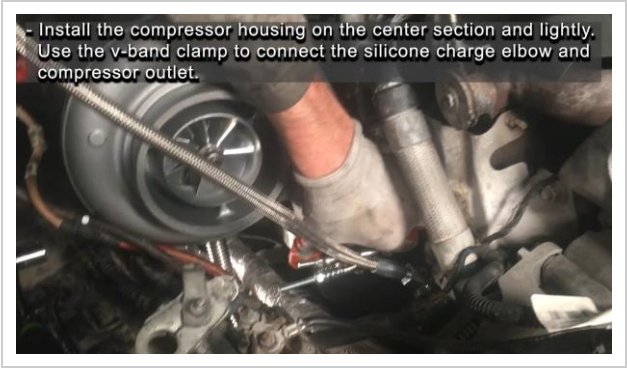
Slide the v-band clamp over the fitting. Also place the large v-band clamp onto the CHRA before installing the compressor housing.

Install the compressor housing onto the CHRA and lightly tighten the clamp so the housing can rotate but not rattle.

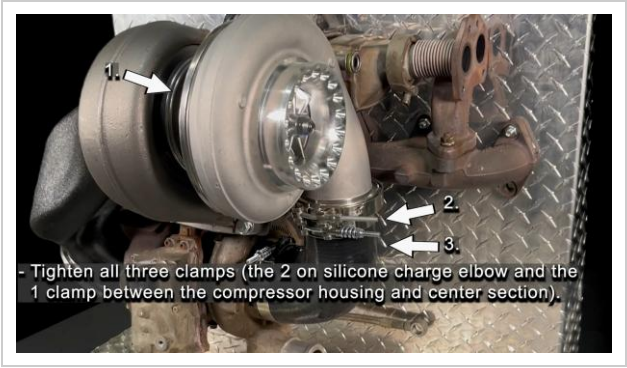


IMPORTANT: Spin the compressor wheel once installed to make sure it spins freely.

Use the v-band clamp to connect the silicone charge elbow to the compressor housing.



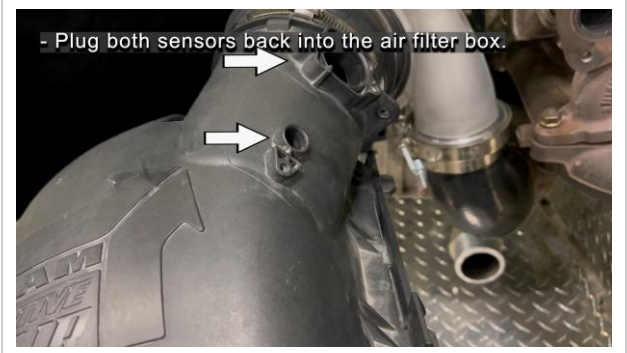
Tighten all three clamps as shown in the picture. Again spin the compressor wheel while tightening the large v-band clamp to ensure it spins freely.



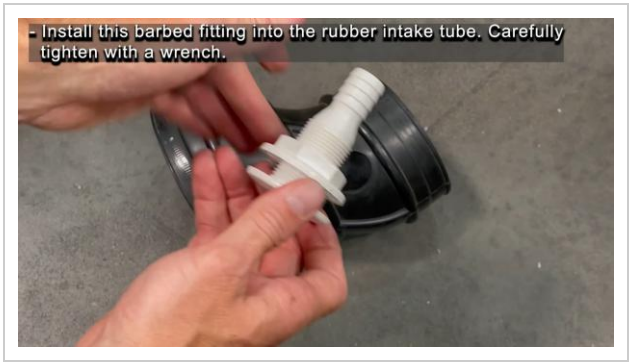
Intake & Final Assembly

Replace the air filter box using the new supplied air filter.

Plug both sensors back in to the air filter box connectors.



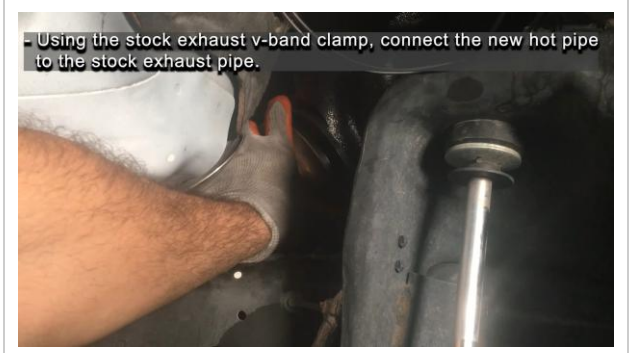
Install the barbed fitting into the rubber intake tube. Carefully tighten it with a wrench — it is plastic, so do not overtighten.



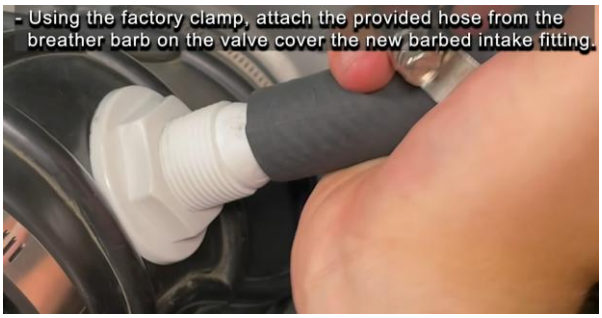
Install the rubber intake tube from the inlet of the compressor housing to the outlet of the air box using the provided clamps.

Install the turbo blanket on the top turbo using the two springs provided.

Using the stock exhaust v-band clamp, connect the new hot pipe to the stock exhaust pipe.



Using the factory clamp, attach the provided hose from the breather barb on the valve cover to the new barbed intake fitting. (This is the crankcase vent tube.)

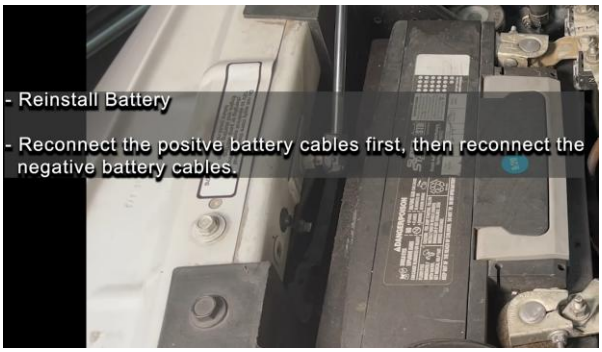


Final Steps & Startup

Refill the cooling system with approved coolant.

Recharge the A/C system if required.

Reinstall the battery and connect the cables.



Start the truck and check for coolant or oil leaks. Allow to idle approximately 5 minutes without revving the engine. Make sure oil pressure rises. Check for any other leaks or loose bolts/clamps. If no leaks are present, reinstall the passenger side inner fender.

Step – Startup Check: Start the truck and check for coolant or oil leaks and vibrations. Allow the engine to idle for approximately 5 minutes without revving. This allows oil to reach

the bearings of the new turbocharger. If leaks are found, make sure all clamps, bolts, and fittings are tight.

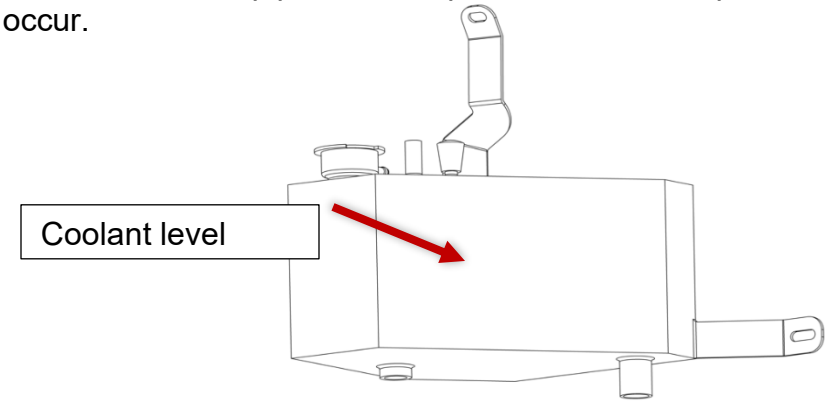
Break-In Period: Drive conservatively for approximately 100 miles to allow proper break-in time on the turbocharger. Avoid heavy boost or sustained high RPM during this period.

Appendix:

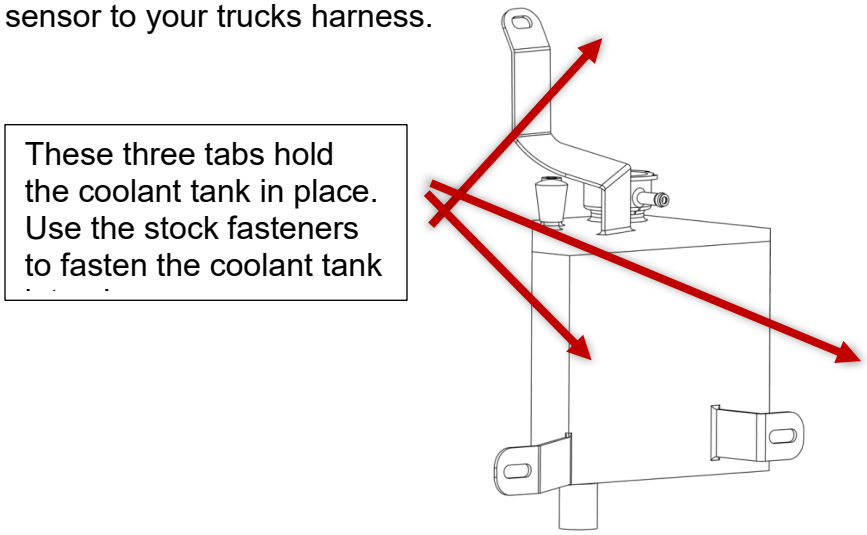
2013-2018 Trucks Coolant Tank Install: Min 7:30

Coolant Tank Installation:

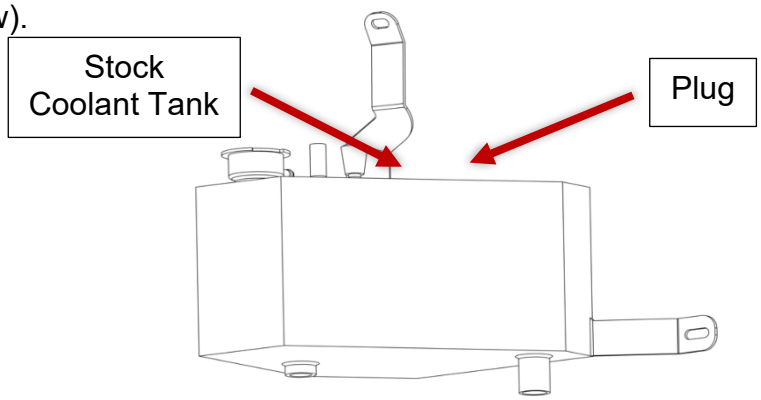
Step #1: Fasten coolant level sensor **J** into the threaded port located on the bottom of coolant tank **N**. include pipe thread tape to the threaded part of the sensor to ensure no leaks occur.



Step #2: Install coolant tank **N** in the stock coolant tank location. Use the stock fasteners to fasten the coolant tank in place. Once installed connect the coolant level sensor to your trucks harness.



Step #3: Clamp the stock coolant tank vent line to the port at the top of coolant tank **N** using the stock clamp. The other port at the top of the coolant tank will be plugged (see picture below).

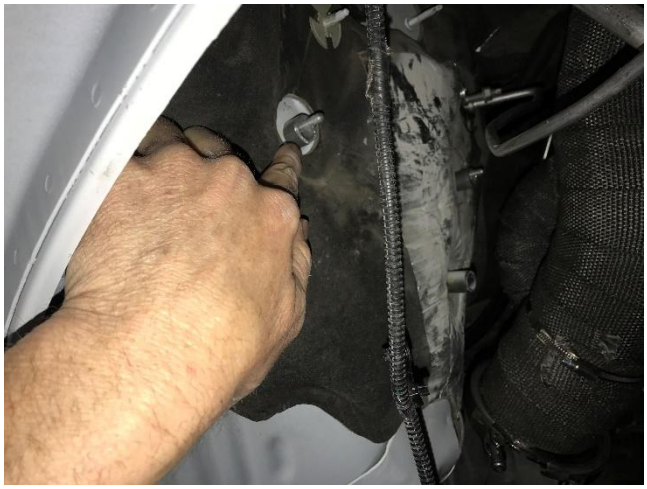


2010-2012 Model trucks only. Coolant Expansion Tank Replacement Instructions.

Remove the factory coolant expansion tank, sitting at the rear, passenger-side of the engine compartment. Keep the factory nuts that attach the factory coolant tank to the firewall they will be reused.

Take the relocation bracket provided with the kit, and using the provided **I** bolts, **O** washers, and **M** nuts, attach the bracket to the new expansion tank as shown in the picture. The tank is Dorman part number 603–317, or the Dodge part number is 55056493 AB (from a 2008 Dodge Ram Cummins 6.7L).

Take the new tank that is attached to the new bracket and place it as shown in the picture where the old coolant tank was.



Using the provided **P** and **Q** spacers slide them over the existing factory bolts that held the factory cooling expansion tank. Use the **P** spacer on the factory stud closest to the passenger side, and the **Q** spacer on the stud nearest the center of the truck.

Next attach the bracket with the coolant tank on to the studs and use the factory nuts. At this point you will be removing this tank one more time, but you want to tighten the studs at this point. Tighten the studs enough to hold the tank into position so you can mark the fender side where you need to drill a hole, in the truck body.

Use a marker (sharpie), to make a mark on the fender where the hole in the tab on the tank is. This is where you will drill a hole. Once again undo the bracket and remove the coolant tank so you can drill a hole where you just marked.

Using a 1/8-inch drill bit drill a hole in the truck body as shown in the picture where you marked the hole.

Replace the new coolant tank, and tighten the bolts on the bracket first. Do not over tighten these bolts as the tank is plastic and only requires about 30-50 inch pounds.

Use the provided **J** self-tapping screw to attach the coolant tank to the side fender where you just drilled your 1/8-inch hole.

Attach your existing coolant hose to the lower nipple on the tank. The top nipple near the cap of the new tank will simply be left open to allow for expansion into the new tank.