

# LBZ Twin kit Install

**Step 1:** Disconnect both batteries.

**Step 2:** Drain coolant and oil also remove passenger side inner fender.

**Step 3:** Remove intake box and piping. **(Remove and save the MAF sensor in the intake piping)**

**Step 4:** Unhook and remove the coolant reservoir tank.

**Step 5:** Remove the passenger side battery and battery tray.

**Step 6:** Remove and **save** the MAP sensor for later use.



**Step 7:** Remove the passenger side intercooler pipe and the EGR intake manifold.

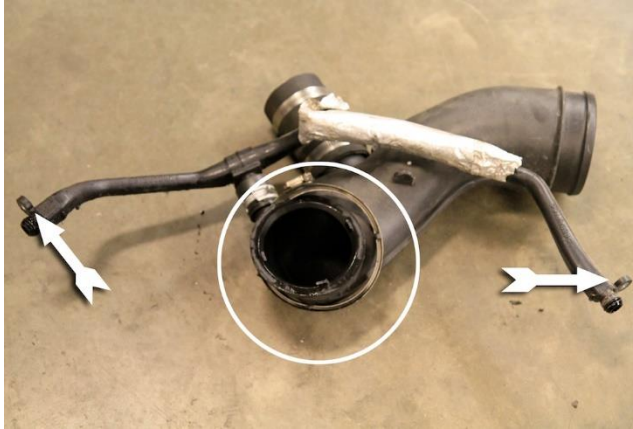


**Step 8:** Loosen the 2 lower intercooler boot clamps and remove the boot off the upper piping. (Save the lower elbow, boot, 2 clamps and snap ring)



**Step 9:** (A) Remove the 2 bolts in the valve covers on the crank case breather tubes (both sides of the engine) then remove the clamp around the turbo mouth piece. (B) Disconnect the intake air temp sensor and remove. Remove the mouth piece. (Save the mouth piece clamp)

**A.**



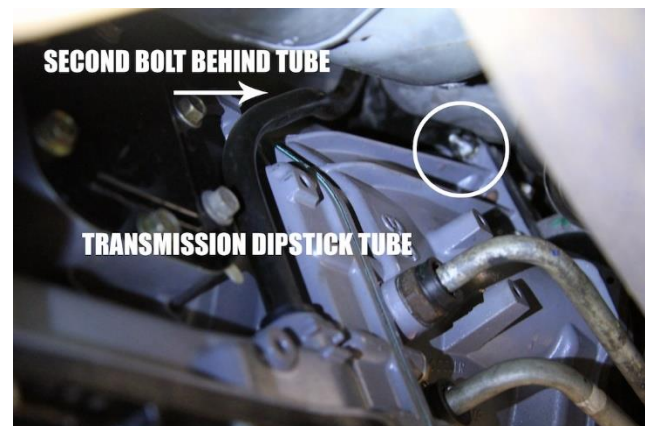
**B.**



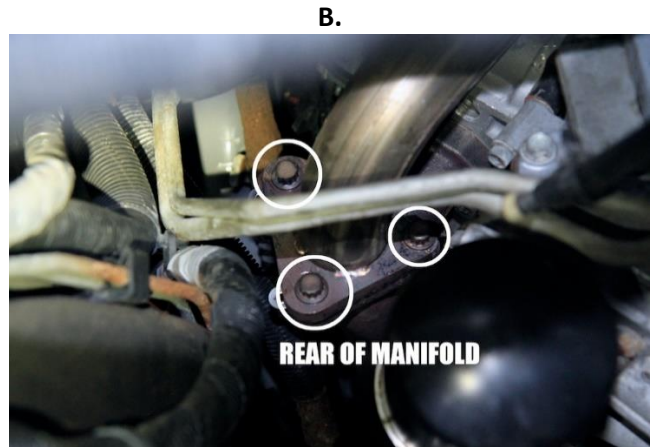
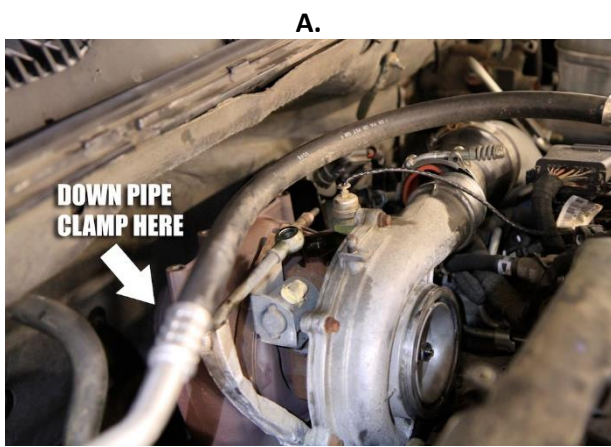
**Step 10:** Remove coolant hoses going to the EGR cooler. Remove the nuts for up pipe going into the EGR cooler. Remove the EGR cooler and EGR valve assemble.



**Step 11:** Remove the transmission dipstick tube. (2 nuts on the transmission bell housing for dip stick bracket) Shown from underneath truck

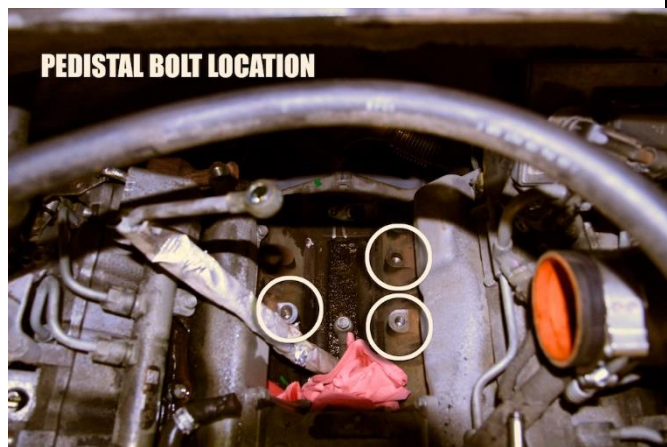


**Step 12:** (A) Remove the factory turbocharger down pipe. (B) Also remove the up pipes going from the manifold to the rear of the turbo.



**Step 13:** Remove all coolant and oil lines going to the turbo

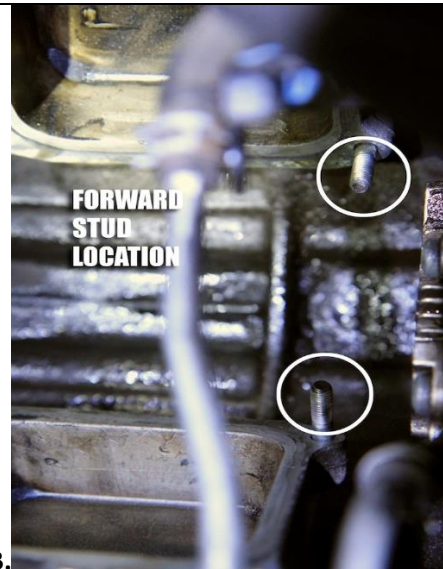
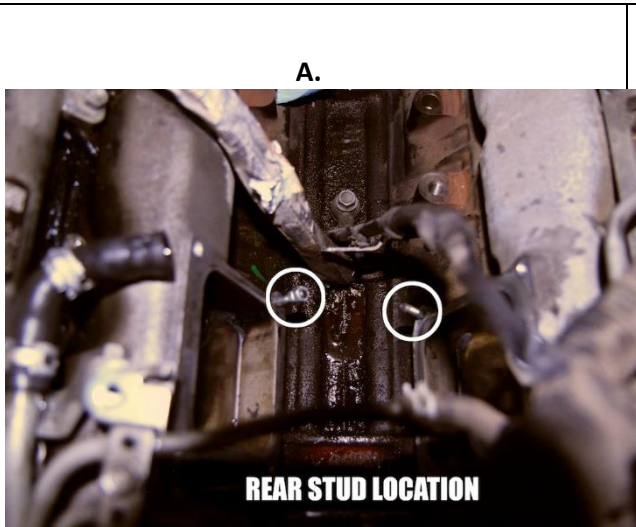
**Step 14:** Remove the 3 turbo pedestal mounting bolts underneath the turbo. Turbo should be free for removal.



**Step 15:** Remove the front mouth piece out of the y-bridge you can then access the lower mounting bolts. Then remove the y-bridge



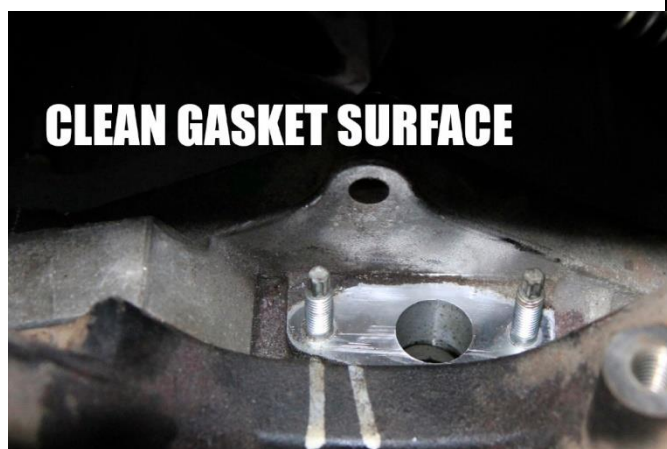
**Step 16:** (A) Remove the Y-bridge studs using 2 nuts. (B)Relocate and install them into the front location of the intake runners



**Step 17:** Install the new supplied Y-bridge and torque the bolts and nuts to 80in-lbs. (Recommend using new gaskets, GM part # 97363570) to assist with install apply petroleum gel to gaskets.



**Step 18:** Make sure sealing surfaces are clean, be sure to put a new oil drain tube gasket on before installing the turbo charger. (GM part # 97227012) Install turbo and torque turbo mounting bolts to 80ft-lbs. Torque oil drain tube nuts to 18ft-lbs



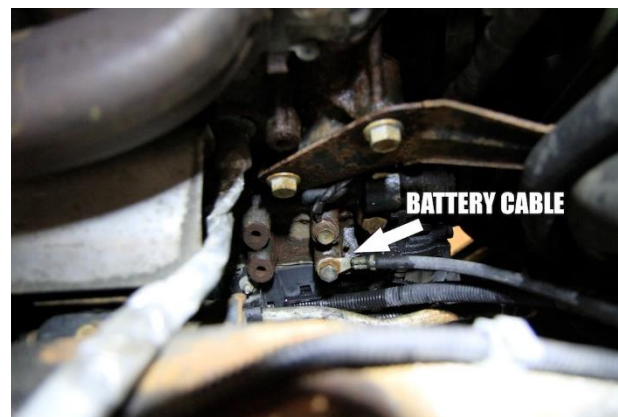
**Step 19:** Hook up coolant and oil supply lines going to the turbo. Torque oil supply line to 25ft-lbs

**Step 20:** Reinstall the up-pipes going from the manifolds to the back side of the turbo. Torque the bolts to 39ft-lbs (use anti-seize) the lower gasket GM part # is 97188685, The upper gasket GM part number is 97192618

**Step 21:** (A) Remove the hard plastic wiring cover on the main harness. (B) Wrap the bare harness with electrical tape and put plastic wire loom over the harness. The loom comes from the positive battery cable on the passenger side it's not used any more.



**Step 22:** Remove the passenger side battery cable from the block. Save this cable for reinstallation later on.



**Step 23:** Unbolt the plastic battery cable bracket along the passenger side oil pan rail. Cut the 2 zip ties and remove positive battery cable from bracket. Then reinstall bracket.



**Step 24:** Before installing the new turbo mounting bracket make sure you use a thread tap to clean up the threads. (Tap size is a 10mm-1.5)



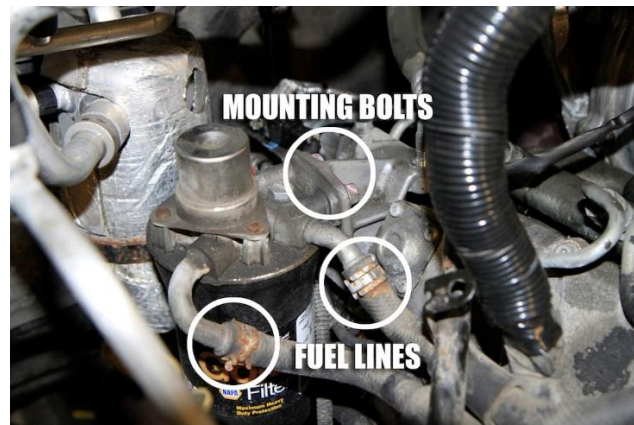
**Step 25:** Install the turbo mounting bracket to the engine block using the 4 bolts supplied. (make sure to put the 2 ground wires back onto the 2 mounting bolts.)



**Step 26:** Remove the dip stick mounting bracket. Cut the end of the bracket off as shown for better clearance. Then reinstall



**Step 27:** Remove the 2 fuel lines going into the fuel filter head. (These will be replaced with new fuel line supplied in the kit. Unbolt the 2 bolts for the filter head mount.



**Step 28:** (A) Using the supplied fuel filter relocating bracket. Bolt it to the filter head first and then to the original mount. Use the new fuel line and clamps. (B) Cut 2 new lines to fit to the filter head.



A.

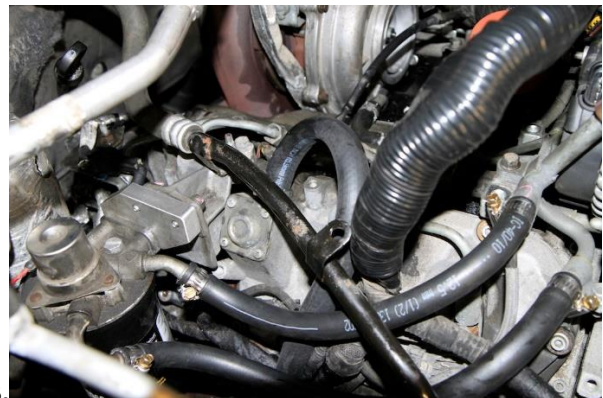


B.

**Step 29:** (A) Install the supplied breather fittings into each valve cover. (B) Then route the hose toward the ground.

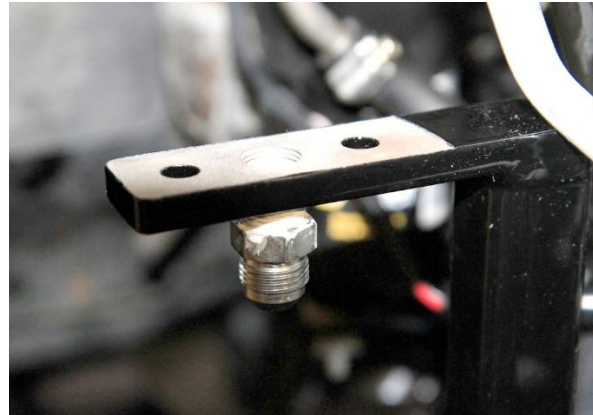


A.

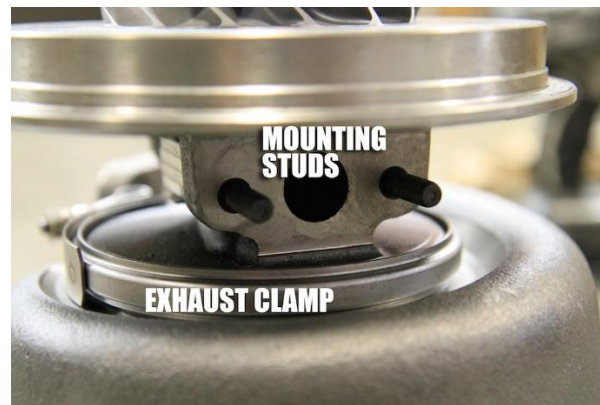


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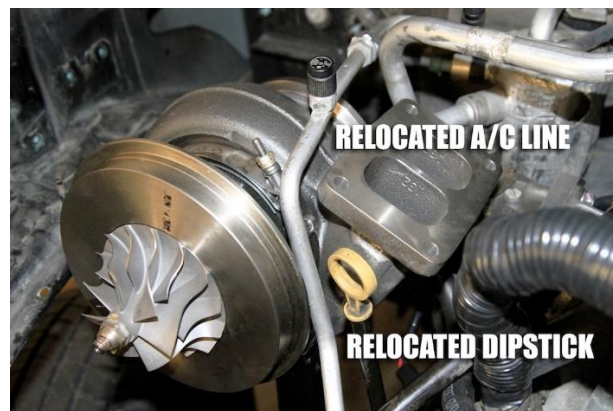
**Step 30:** Install the turbo drain fitting into the turbo mounting bracket. (Be sure to use a thread sealant on the fitting.)



**Step 31:** Remove the compressor housing and clamp. Then installed the two studs supplied in the kit for the oil drain on the turbo. Loosen the exhaust housing clamp so it can rotate.



**Step 32:** Install the turbo onto the mounting bracket and just hand tighten the nuts so the turbo can move a little. Then reroute the engine oil dip stick and A/C lines around the turbo for clearance.





**Step 33:** Remove the cross member that is running under the oil pan. Also unhook the transmission cooler lines going into the passenger side of the transmission.

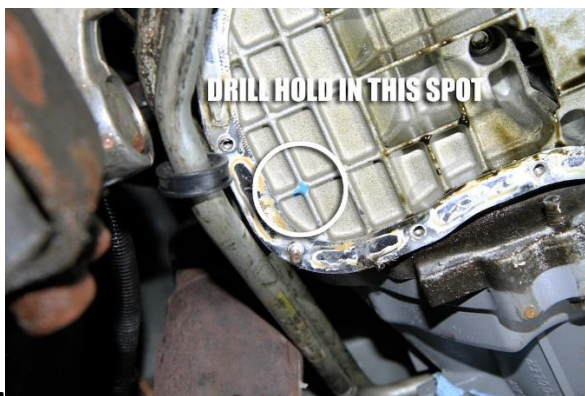


**Step 34:** Remove the oil pan. Clean the gaskets off of both sealing surfaces.



**Step 35:** Unbolt the starter. Shouldn't have to remove wiring, it just needs to be loose

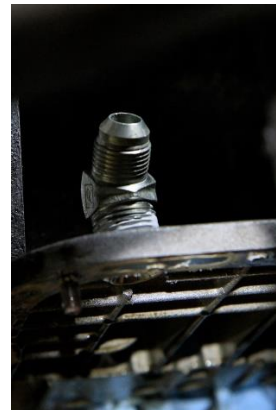
**Step 36: Before drilling cover up the oil suction tube with a clean rag to keep debris out of it. (A)** Drill a smaller pilot hole in the passenger side rear corner of the oil pan. (B) Then use a 37/64 drill bit for the final hole size. (This is a very critical position for the hole.)



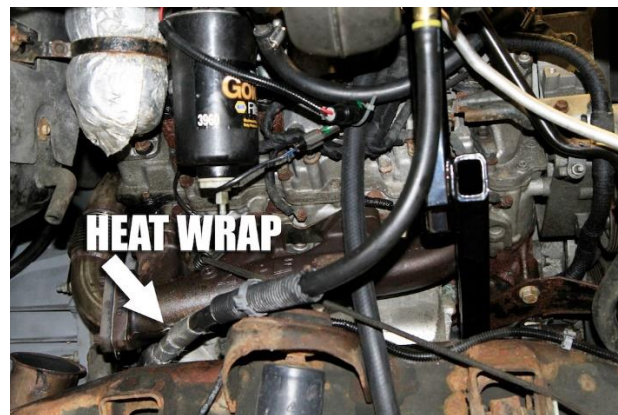
**Step 37:** Once its drilled then thread the hole from the **TOP** of the oil pan using a 3/8-18 NPT tap. **Make sure to clean any metal shavings off of any surrounding internal areas.**



**Step 38:** Now apply a thread sealant onto the 45 degree pipe fitting. Thread this fitting until it's tight and positioned facing the passenger side frame rail



**Step 39:** Use the supplied hose and 2 push lock fittings install the hose onto the turbo drain and to the oil pan fitting just installed. Route the hose so it's away from any hot exhaust pieces. (You can use a thermal heat wrap if there is a chance of melting the hose.)



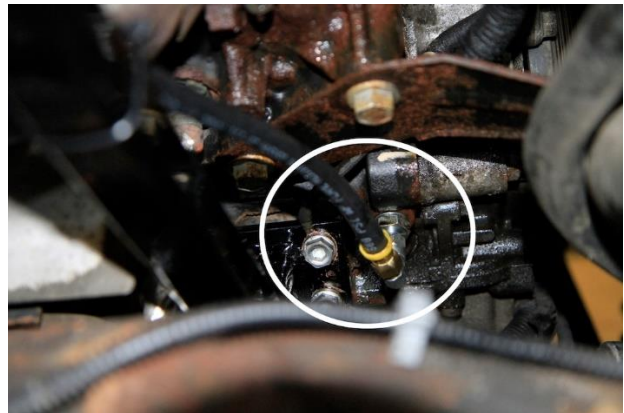
**Step 40:** Reinstall the starter.

**Step 41:** Apply a thin coat of silicone to the sealing surface of the oil pan and then reinstall. Torque the oil pan bolts/nuts to 89in-lbs.

**Step 42:** Wrap the intermediate pipe with the supplied heat wrap. Then install the pipe, it goes from the rear of the factory turbo to the exhaust inlet of the new turbo. Make sure to install the gasket onto the turbo mounting flange. Tighten up the v band clamp on the back side of turbo and then tighten the 4 exhaust flange mounting bolts. Last, tighten the 2 turbo mounting nuts on the bottom side of the turbo oil drain.

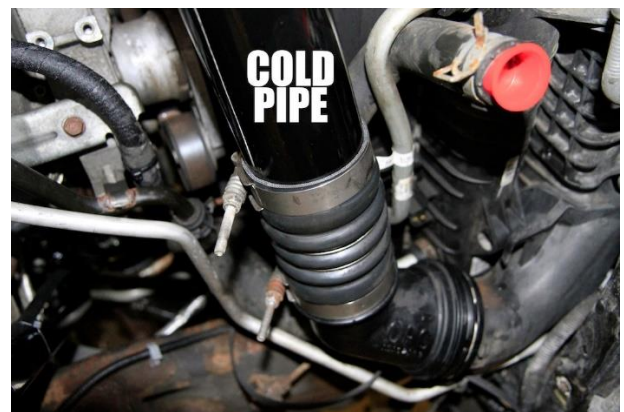


**Step 43:** Install the supplied fitting into the front passenger side of the block and then route the hose from the block fitting up to the oil inlet of the turbo. **(Do not use Teflon tape)**

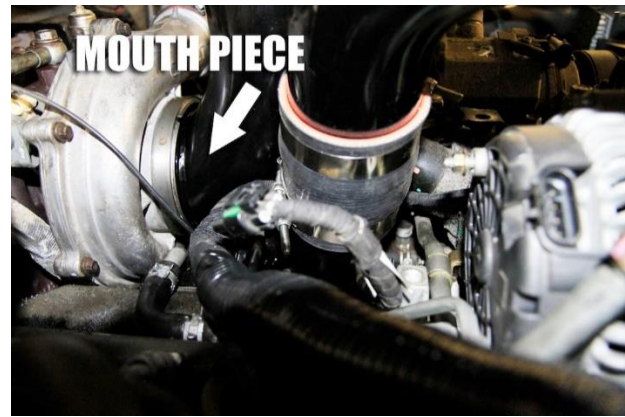


**Step 44:** Reinstall the intake air temperature sensor back into the y-bridge. This sensor is fragile! Take care not to damage the wires or over tighten.

**Step 45:** Install the 3in straight boot onto the y-bridge. Then install the factory lower elbow that goes onto the factory intercooler outlet. Then install the cold pipe. Tighten the clamps and reinstall the MAP sensor.



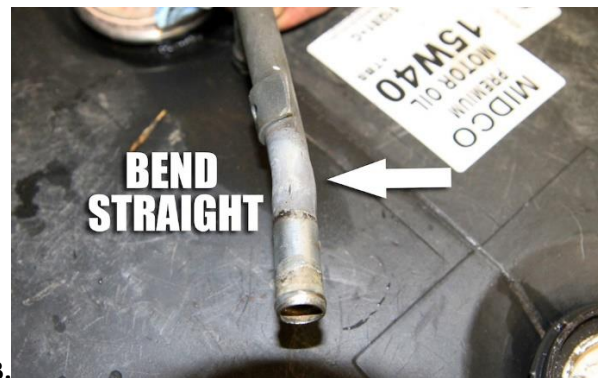
**Step 46:** Before installing the turbo mouth piece make sure to install the new O-ring that is supplied. Then install the mouth piece onto the turbo using the original v band clamp.



**Step 47:** (A) Cut off the mounting tab on the small coolant heater pipe. This pipe has a small 45degree bend to it. (B) Bend it straight. This piece is going to the thermostat housing. Lube O-ring and install pipe. Route new 5/8 hose from the pipe to the heater core fitting in the firewall



A.



B.

**Step 48:** Install turbo compressor housing. Leave clamp loose so housing can rotate. Install the 90 degree boot onto the turbo mouth piece. Put a new supplied O-ring into the intermediate cold pipe and then install the pipe. Make sure the sealing flange it completely flush with the compressor housing. Tighten all piping clamps.



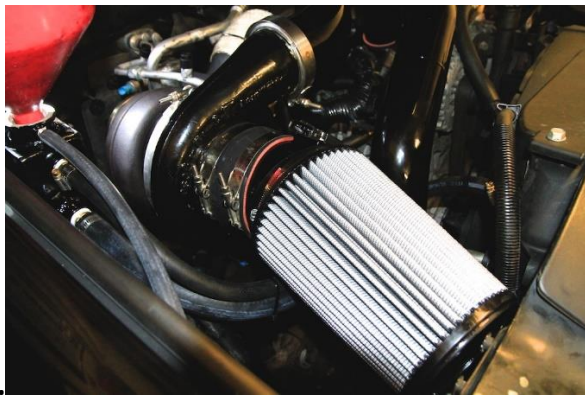
**Step 49:** Prep the coolant tank by installing all of the fittings and cap. (Use thread sealant on all threaded fittings) Then mount the coolant tank on the passenger side inner fender along the fire wall. There should be 2 threaded holes it mounts to.



**Step 50:** Install the new supplied coolant lines from your coolant tank to your factory hoses.



**Step 51:** (A) Install the filter adapter piece. Install the filter. Position everything so there is good clearance on the filter. (B) Then install the MAF sensor. This has to go in a certain way (**the element needs to face the filter.**)



**Step 52:** Reconnect all of the factory wiring harness back to their original connectors

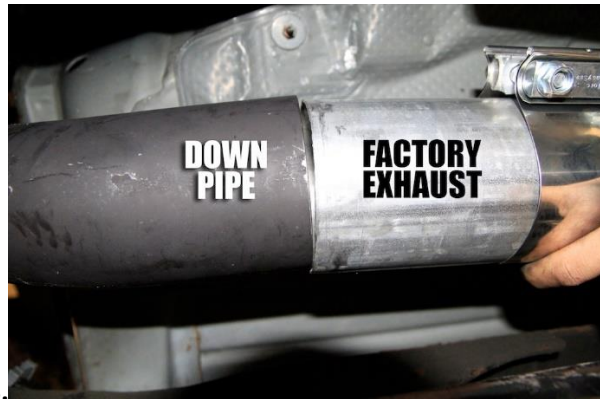
**Step 53:** Route the negative and the positive battery cables along the passenger side of the frame. Then locate where you would like the battery tray to be located. Then drill the frame and mount the tray with the battery in it.



**Step 54:** (A) Wrap the new down pipe with the supplied wrap. (B) Then hold pipe up to exhaust and make a mark where it needs to be cut. Once the factory exhaust is cut then install the down pipe and make sure there is nothing touching the exhaust. If down pipe has close tolerances try and put pipe closer to the engine. Tighten clamps.



A.



B.

**Step 55:** Fill engine with fresh oil and filter. Fill with fresh coolant. Check system for any signs of leaks. Then hook up battery cables. Double check all of your work and then start your engine. Check for any leaks.



