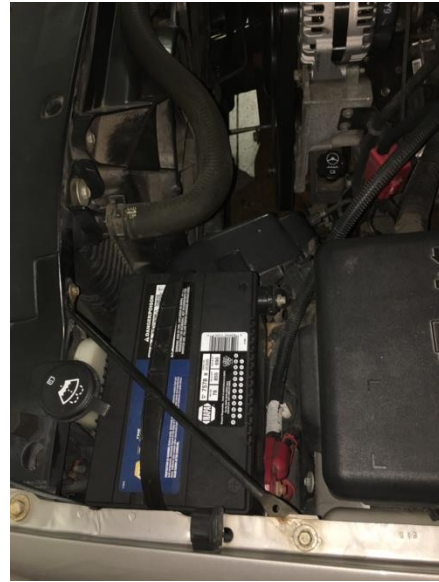






## Disassembly

- 1.) Disconnect Battery. Using 8mm wrench, disconnect negative battery cable from battery.



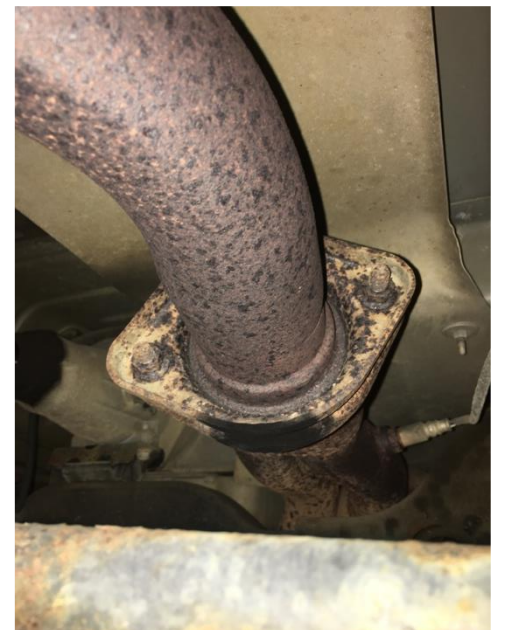
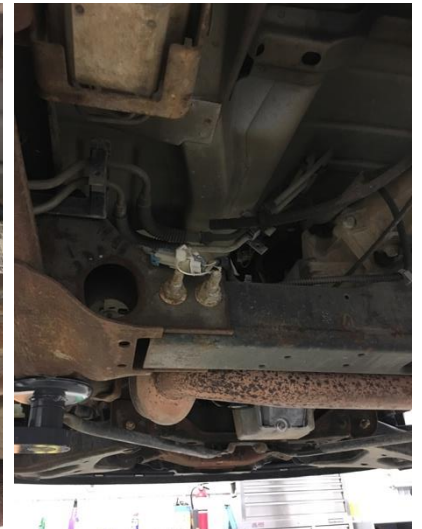
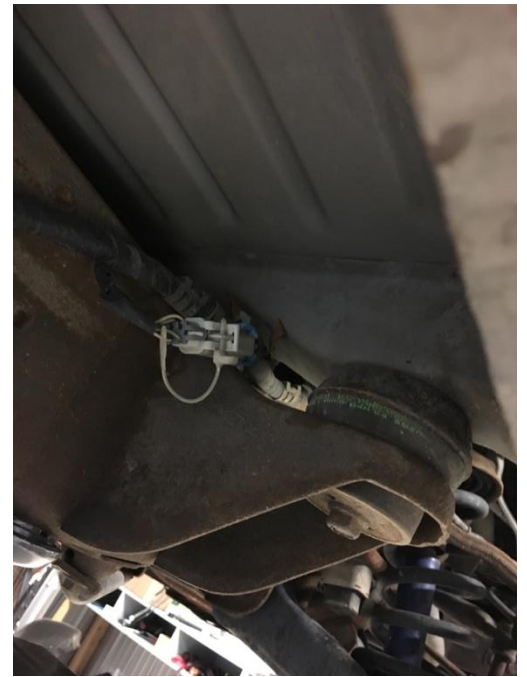
- 2.) Safely lift vehicle using a 2-post lift or a jack and securing with jackstands.



- 3.) Remove both front wheels.  
(stock lugnuts are 22mm) and the wheel well liners.



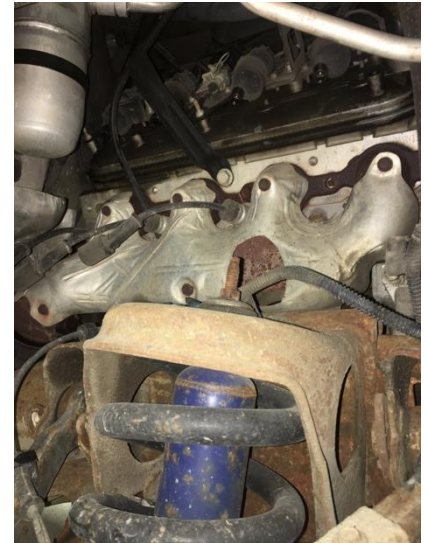
- 4.) From under the truck, begin removing the exhaust from the catback forward.
- A.) Disconnect all (4) O2 sensors:
- Driver Upstream – above PRNDL switch on transmission
  - Passenger Upstream – Behind Cab body mount
  - Driver Downstream – on Transmission crossmember (this sensor will not be re-used)
  - Passenger Downstream – on Frame rail directly behind upstream O2 (this sensor will not be re-used)
- B.) Remove the exhaust Y-pipe:
- Remove the (3) 15mm nuts on each connection of the Y to each exhaust manifold.
  - Remove the connection to the catback exhaust. This is a 2-bolt flange on earlier model trucks and a clamp on later model trucks



5.) Moving back up into the engine bay remove the spark plug wires and spark plugs from each side. Retain the plug wires as they will be re-used.

6.) Remove the engine oil dipstick tube from its mount on the passenger side cylinder head and remove from the truck. Retain as this will be re-used.

7.) Using a 13mm wrench or socket, remove the 6-bolts per side securing each exhaust manifold to the engine. Remove the exhaust manifolds, these will not be re-used. Retain the OEM exhaust manifold gaskets, if in fine shape they can be re-used (if not we recommend getting a fresh set of OEM gaskets).



8.) Remove the factory air intake tube by loosening the clamp at the throttle body, and then loosening the clamp at the air box. Remove the MAF sensor from the intake tubing (older trucks will be a tube style and later models a card style). Retain the MAF for re-use unless going with a Speed Density tune.

9.) Remove the air box by firmly pulling upward.



- 10.) Remove the coolant overflow tank on the passenger side of the engine bay via the 10mm bolt. This will lose some coolant when disconnecting, but the entire radiator system does not need to be drained. If your truck is equipped with a Y fitting going into the coolant overflow from the water pump (earlier model trucks) like the photo below, you will remove this Y fitting and the portion running to the overflow tank. The remaining hose running to the firewall can now be connected back directly to the water pump. Remove the Coolant overflow tank, this will not be reused.



- 11.) Properly evacuate the AC system and remove the AC Line from the compressor to the dryer as shown below. Replace with supplied AC line.



## Hot-side Installation

- 12.) Install the Driver's side exhaust manifold from the turbo kit re-using the factory gaskets or new OEM gaskets with the m8x1.25 30mm long bolts supplied in the turbo kit or OEM bolts if you desire. We recommend using a dab of anti-seize on the bolts. Leave loosen enough to wiggle the manifold, do not secure it down tightly at this time.

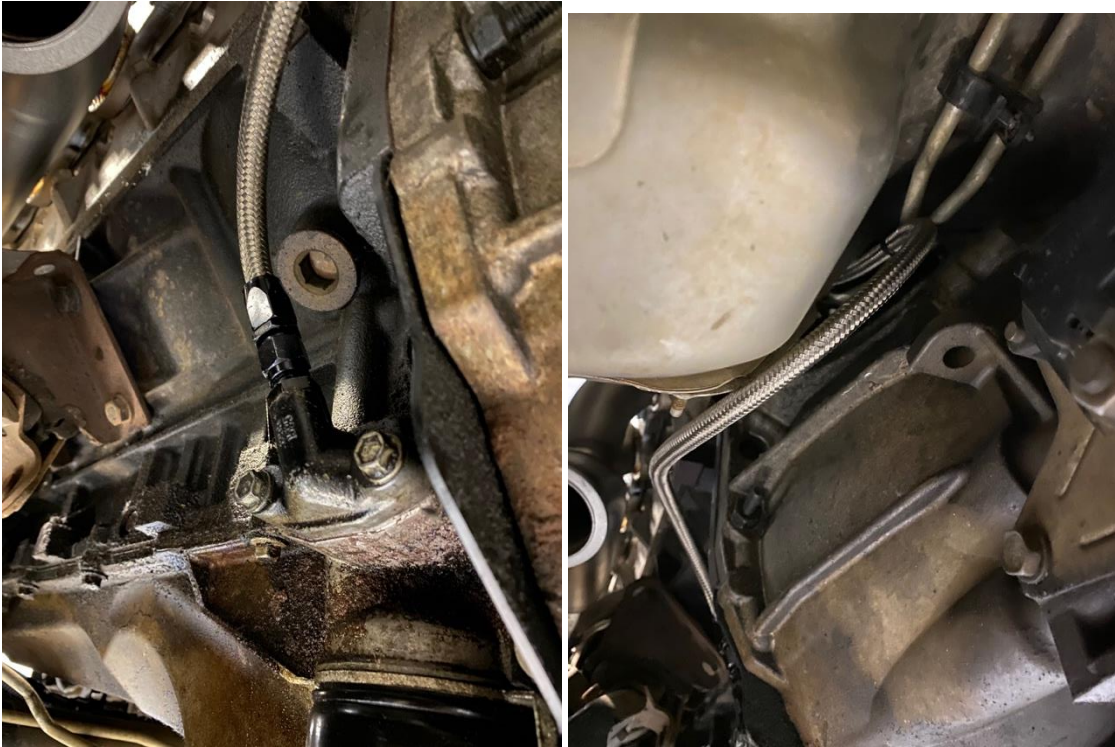


- 13.) Install the Passenger side T6 Turbo manifold from the turbo kit re-using the factory gaskets or new OEM gaskets with the m8x1.25 30mm long bolts supplied in the turbo kit or OEM bolts if you desire. Leave loosen enough to wiggle the manifold, do not secure it down tightly at this time.



14.) Oil feed install. This is easiest done now with the crossover not in the way yet.

You will remove the 2-bolt flange above the oil filter and drill/tap the top of the spout for 1/8" NPT. Once complete thread in with sealant the 2nd supplied 1/8" npt to -4an fitting and hook the other end of your feed line to it coming from the turbocharger's -4an feed. If your truck is equipped with a factory oil cooler in this location, you will install an optional fitting that will replace the allen headed plug on the driver's side of the engine block near the front as shown in the optional photo below for the feed source. Run the supplied -4an feed line from this fitting up to the passenger side valve cover area, we will hook it to the turbocharger later.



Optional oil feed location for those with a factory oil cooler:





15.) Install the exhaust crossover pipe to each manifold using the supplied 2.5" V-band Clamps and copper v-band gaskets at each connection. This can be broken into the 2 pieces for ease of install. The slip connection is a double joint slip fit that will allow movement while containing the exhaust.



16.) With the manifolds and the crossover installed, tighten down both v-band clamps ensuring both flanges are properly aligned with the copper gaskets in place and fully seated. Next tighten down the exhaust manifolds after the crossover connections are snug. Tighten the exhaust manifold bolts down from the center first, working your way out. Torque to 18 ft/lb.

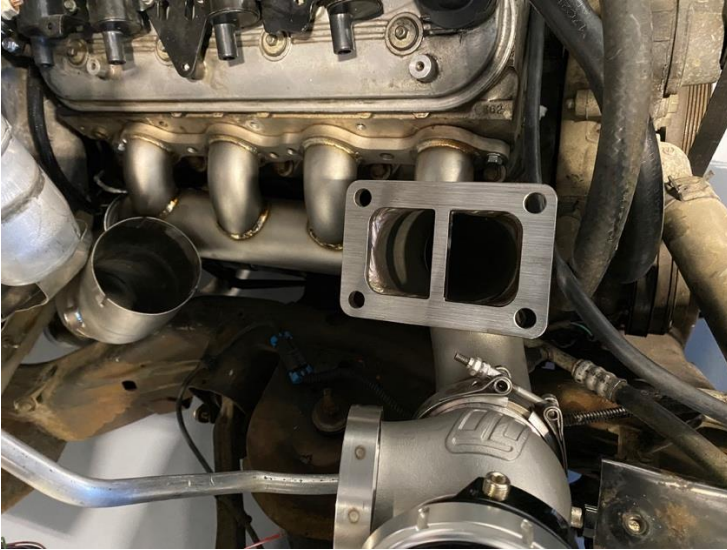
17.) On the passenger side re-install the oil dipstick and tube. Some minor massaging may be necessary to properly route around the new turbo manifold.



18.) Install a fresh set of spark plugs, we recommend at least 1-step colder than stock. (NGK TR6 work well for power levels around 450-600hp, BR7EF for 650 and above). Re-install spark plug wires.

19.) Installation of wastegate to the passenger side turbo manifold (comes flanged for a Turbosmart Power-gate 60 wastegate). Install your vacuum fittings and ensure clearances and all in place depending on if using boost controller or not. Ensuring firing ring/valve seal is in the bottom of the gate when securing to the manifold. Install using the wastegate's inlet clamp and leave loose so the wastegate can still rotate for connection to the downpipe in future step. Access through the wheel well is nice for this.

20.) Installation of downpipe. Place the second section with the downpipe equipped with the 4" slip fit and 4" v-band ends up into place through the frame of the truck from the bottom. You will have (2) of these pipes, the shorter of the (2) pipes is for 03-07 trucks and the longer version for 07.5-13 trucks.



21.) Once up in place you can attach the primary downpipe section with the 20\* flange and the wastegate recirculation into its place by slipping it over the second section of downpipe sitting in place.



22.) Now you can bolt the Turbocharger down to the flange. First you will want to loosen both V-band clamps on the inside of the turbo so both housings can spin freely. Install onto the T6 flange using the supplied gasket and the (4) longer M10x1.5 bolts with flange nuts. Leave the housings loose, free to spin, at this time.

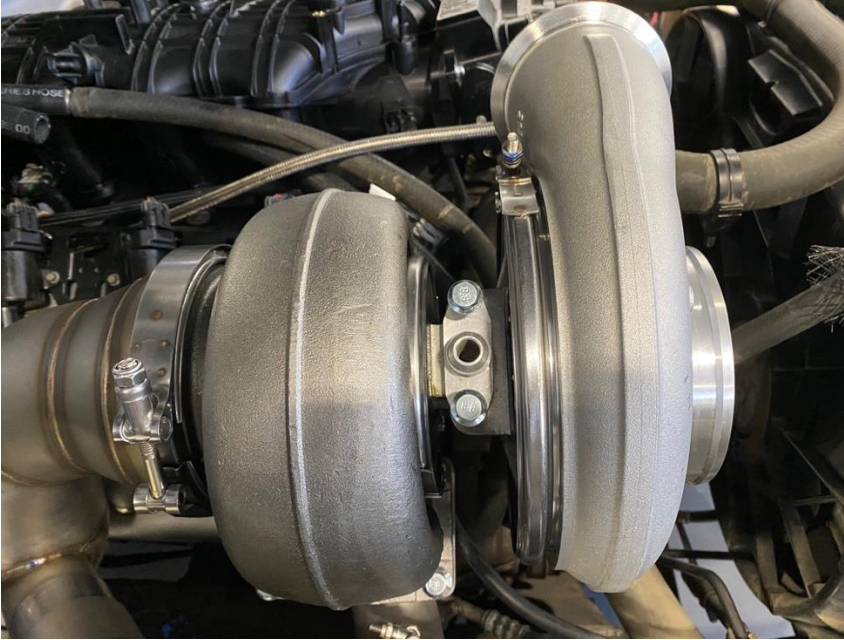
23.) Attach downpipe to the Turbocharger outlet using the supplied 5" V-band clamp. This will take some wiggling and spinning of the lower section at the slip fit joint to get your alignment correct.



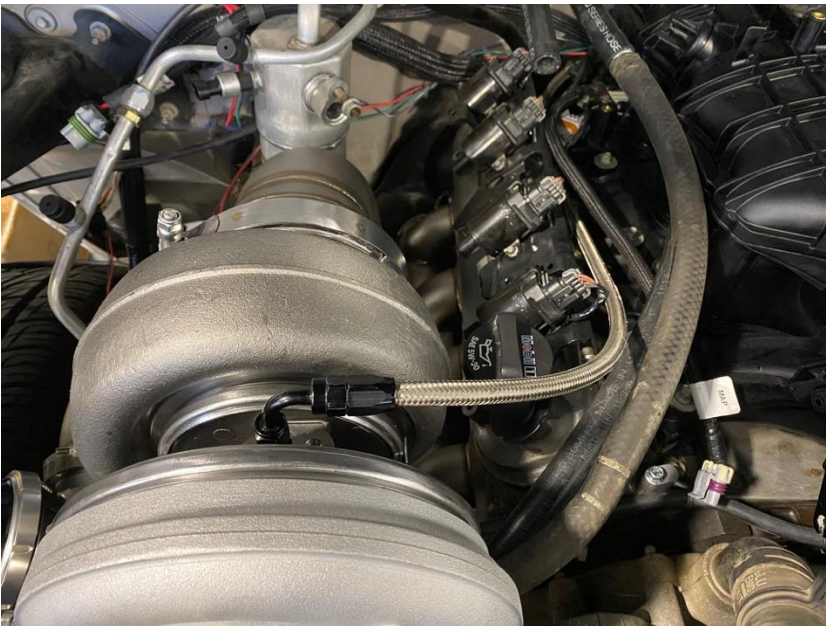
24.) Install the wastegate outlet using the supplied wastegate recirculation tube that features the double slip connection to the downpipe. Updated and current versions of the kit eliminate the 2-piece double slip joint and have a 1-piece w/ Flex. Use the wastegate's supplied outlet clamp to bolt the recirculation tube to the wastegate. The PS fender liner will remain off to clear the wastegate. If you wish to retain, mark it and trim to fit around the wastegate.



- 25.) With the housings still free to spin on the turbo, rotate the center section so the drain is accessible and bolt down the supplied -10an drain flange with the paper gasket and (2) M8x1.25 bolts. After this spin the center section back down so the drain is pointing straight down at the 6 o'clock position.



- 26.) Install the supplied -4an to 1/4" NPT feed fitting into the turbo's feed by threading in until snug using thread sealant on the NPT threads only into the turbocharger.



- 27.) If retaining the Air Conditioning with our optional AC hose, you can now connect that to the dryer and run down to the compressor. We recommend utilizing our supplied reflective heat wrap around this near any heat sensitive areas.
- 28.) Route the supplied -10an drain line down to the front crank pulley area and the other end attaching to the drain fitting install on the bottom of the turbo. Having the turbo housings still loose will allow you to spin the center some to be able to more easily access the drain flange to thread the drain line on. Once attached to the turbocharger, place the drain back at the 6 o'clock position and you can snug the v-band clamps back down on the turbo securing the housings in place.
- 29.) For the other end of the drain you will want to use the line already attached to the turbo and run it down to the front of the pan. With this routed how you like, mark the location on the pan where it will best clear and route. Recommended to remove the oil pan for this to prevent any metal shavings from entering your oil pan. Drill/tap this for 1/2" NPT. Go slow and use a lot of grease on the bit to catch any shavings. Repeat the same with the tap when running it to help catch shavings as well. Once done use whatever method you can of cleaning out any shaving that may have entered the pan here. Use your best judgment, it is imperative all shavings are removed if any enter the oil pan. The proper method we recommend is to do it with the oil pan out of the car, we are not liable for anything if you do not happen to remove shaving and run into an issue.



## Cold Side

30.) First you will remove the top plastic cover in the engine bay over the radiator with the (7) push pins (03-07 truck), and then remove the grill with the (1) 10mm bolt up top and the pulling out removing from the push clips.



31.) Remove the factory transmission cooler from the mounting location via the top (2) 10mm bolts and the (2) lower push clips. Push down and out of the way for now if you are keeping this cooler. If replacing with a larger Tru Cool style, you can remove the transmission cooler at this time. Remove the lower brace for the transmission cooler via the (2) 10mm bolts.



32.) Remove the (1) lower 10mm bolt holding the bottom portion of the power steering cooler, and move the bottom of the bracket just inside the hood latch brace as shown below for extra clearance to the intercooler.



33.) Bolt the intercooler bracket to the (2) open holes on the hood latch bracket using (2) m8x1.25x30mm bolts and (2) M8 nuts on the back side.



34.) Install the Intercooler to the bracket via (2) m8x1.25x30mm bolts as shown below.





34.A) We supply 2 additional brackets as shown below to mount to the bottom of the intercooler. These brackets are optional with their main goal to give you a location to mount a larger Tru-Cool 40k Transmission cooler which we highly recommend to help keep your transmission temperatures down. Please refer to the photos below for orientation of these brackets, mounting location off the bottom of the intercooler and how the optional Tru-Cool trans cooler can mount!



35.) Trim the plastic shown below around the headlight area so our cold-side tubes can pass around the radiator to the intercooler.

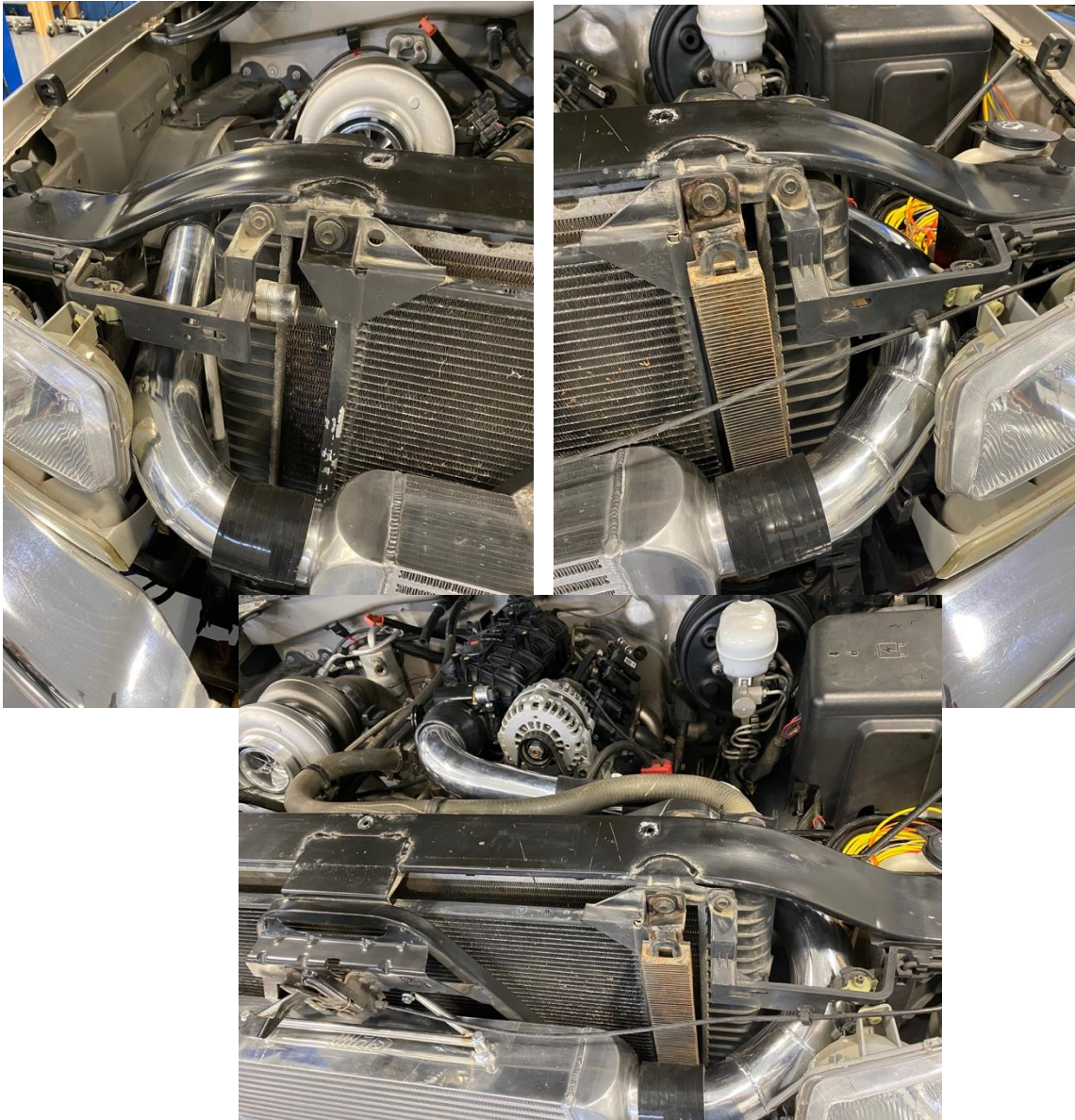


36.) Bolt the supplied V-band to slip fit adaptor to the compressor outlet of your S400 Turbocharger using the supplied V-band clamp and O-ring seal.



37.) From here you will run the cold side tubes as shown below. We recommend installing all loose and then after go in and add your t-bolt clamps to secure. The driver's side cold side tube from

Turbo to Intercooler connects using the tight bend, short lead 120\* coupler. Depending on the turbo and compressor cover you are using, you may find this tube a touch too long to mate to the turbo outlet, if so simply cut a couple inches off the end of the straight section on the tube leading to the Turbo. (We can assist with this if you like, simply shoot us an email to [huronspeedproducts@gmail.com](mailto:huronspeedproducts@gmail.com) ). On the other side, Connecting the 90\* aluminum tube off the throttle body to the pipe going to the driver's side will use one of (3) options. First being the OEM Barrel style MAF from earlier version trucks if you desire. This will have you use the (2) reducing couplers included. Another option is the supplied 3" tube with later model Card style MAF flange which will connect with the straight 3" couplers. The last option is the 3" tube with the 3/8" NPT IAT sensor bung for those running in Speed Density (No MAF). GM Sensor 25036751 is the threaded IAT sensor part number. Depending on your model of truck and options, you may find this combination of 3-pieces on the passenger side cold-side tubing too long. If so you can eliminate the short, middle tube and connect the other 2 tubes directly together, or to retain the short middle tube simply cut a few inches off the end of the straight section on the tube leading to the TB. (We can assist with this if you like, simply shoot us an email to [huronspeedproducts@gmail.com](mailto:huronspeedproducts@gmail.com) )



38.) You will attach the 4" 90° intake tube to the compressor inlet of the turbo and the supplied air filter at the other end using the supplied 5" to 4" reducing coupler. The short leg of the 4" tube goes into the Turbo connection.



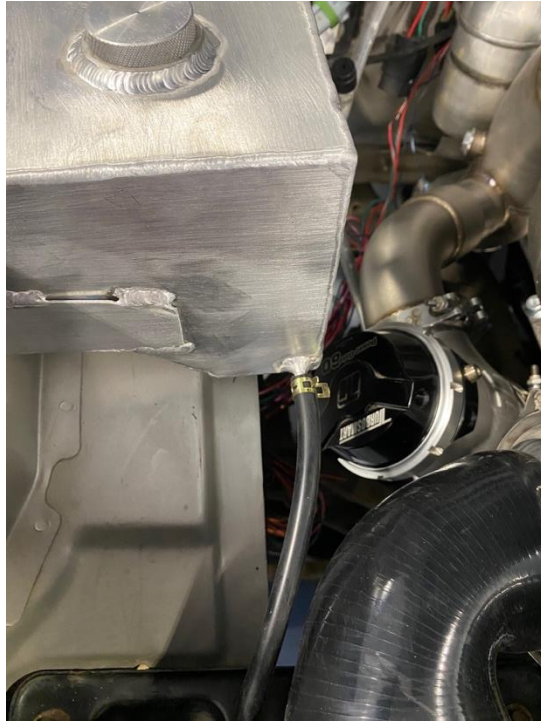
39.) Install the fabricated coolant overflow tank over on the passenger side fender in the OEM slot. You will use a self tapping screw to secure the other bracket.



40.) Next is to install the new Coolant fill location. This must be in this location as it has to be the highest point in the system. Mark as we shown below leaving yourself enough hose to fit up to the neck of the Fill T.



41.) Run the supplied  $\frac{1}{4}$ " Hose from the outlet on the Fill Tee to the Overflow tank, securing with the spring clamps as shown



42.) Install the supplied turbo blanket securing with the (2) supplied springs



43.) From here you will run your vacuum lines and set up your PCV system per your preferences. The Bottom port on the wastegate and the BOV both need a boost/vacuum reference line. We

would recommend running a Tee off the brake booster line to get all of your boost/vacuum reference which you can get everything you need by adding our Huron Speed Boost/Vacuum reference kit. The top port on the wastegate is left open to vent unless hooking up a boost controller then use their hook-up instructions.

- 44.) For the PCV we recommend running a can from Mightymouse or Motion Race-works. If you need a vacuum source from the suction side of the turbo you can tap in a barn fitting into the top of the air filter and attach a line to that.
- 45.) Ensure the truck has proper fueling upgrades for your desired power levels.
- 46.) Reinstall the front grill using the same clips and bolts. 07.5-13 trucks will require trimming out some of the center clips to prevent them from hitting the intercooler.
- 47.) Reinstall the upper radiator cover using the push clips.
- 48.) Down low for exhaust we supply a 4" Stainless vband flange for you to add on additional exhaust if you desire!
- 49.) Professional tuning is required. If you upgraded the fuel system, consult your tuner prior to firing up the setup.



