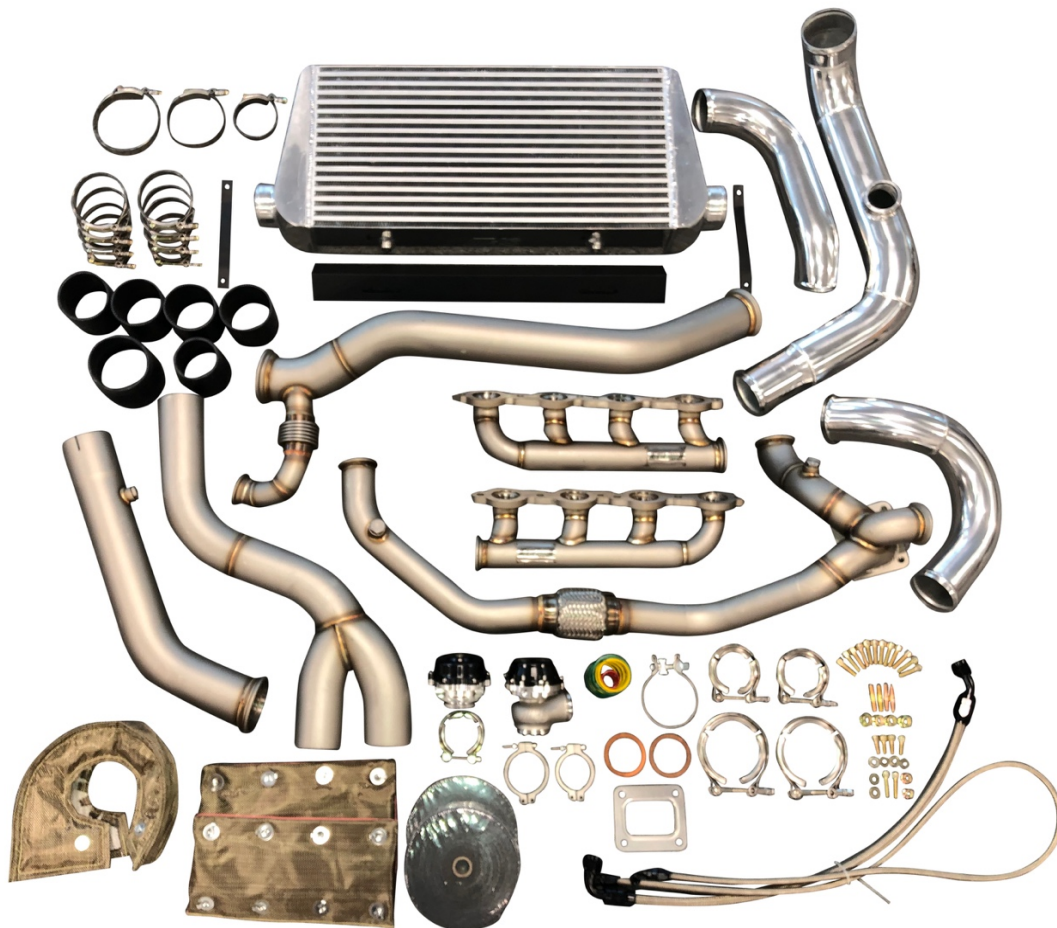


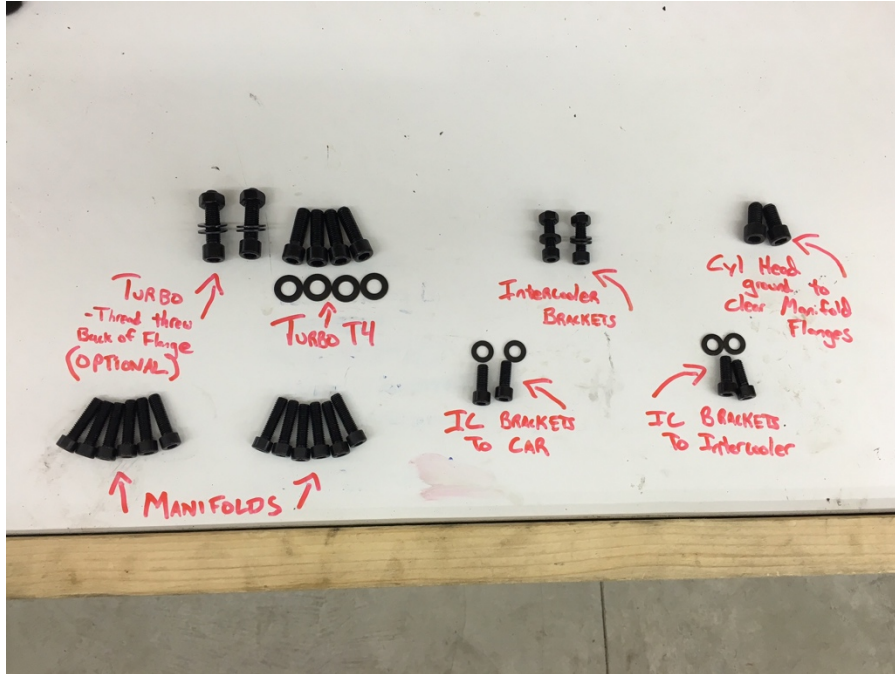


2010-15 5th Gen Camaro SS Single T4 Kit



Hardware:

-Here is a photo showing the included hardware for your installation. This will assist you so you know what goes where to hopefully prevent any confusion!



Prep:

-From the rear of the car, disconnect the battery. Up front Drain the coolant from the valve in the bottom of the radiator.

-Remove front bumper and front bumper support with inner wheel well plastic. Remove factory exhaust system starting from the bottom by removing the piping from the manifolds to the H-pipe (you can unplug and remove rear O2 sensors from vehicle as they will not be reused.) Moving up top to remove the plug wires, plugs, oil dipstick tube, followed by exhaust manifolds. Remove the windshield washer tank (this will not be reused so you can also remove the lines as well), remove the factory coolant overflow tank (this will be replaced with our fabricated overflow tank), and remove your Factory Air-Box assembly complete from the Throttle body disconnecting your PCV tube and MAF plug.

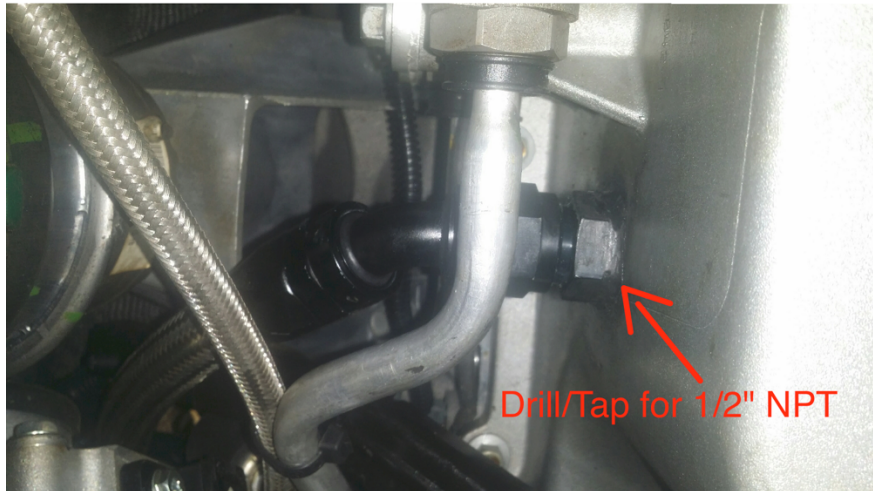
Oiling Set-up:

-For the absolute safest method to prevent any shavings in the oil pan, remove the oil pan to complete and re-install. You can do it on the car, however use a reverse feed bit keeping it greased constantly through the process to grab metal shavings to prevent them from entering inside the oil pan. After drilled also grease the tap for the same reason. After completion drain the oil to drain out any shavings that may have fallen in and re-fill the engine's oil system with fresh oil.

-View the photos below to drill/tap the Oil Pan for 1/2" NPT and thread in our supplied 1/2" NPT to -10an fitting with the Oil Line Kit using Teflon tape on the 1/2" NPT threads.

-View the photo after for the feed set-up doing the same with our supplied in the Oil Line Kit 1/8" NPT to -4an fitting for the feed line.

-Attach your oil lines and route up to the engine compartment on the driver's side.

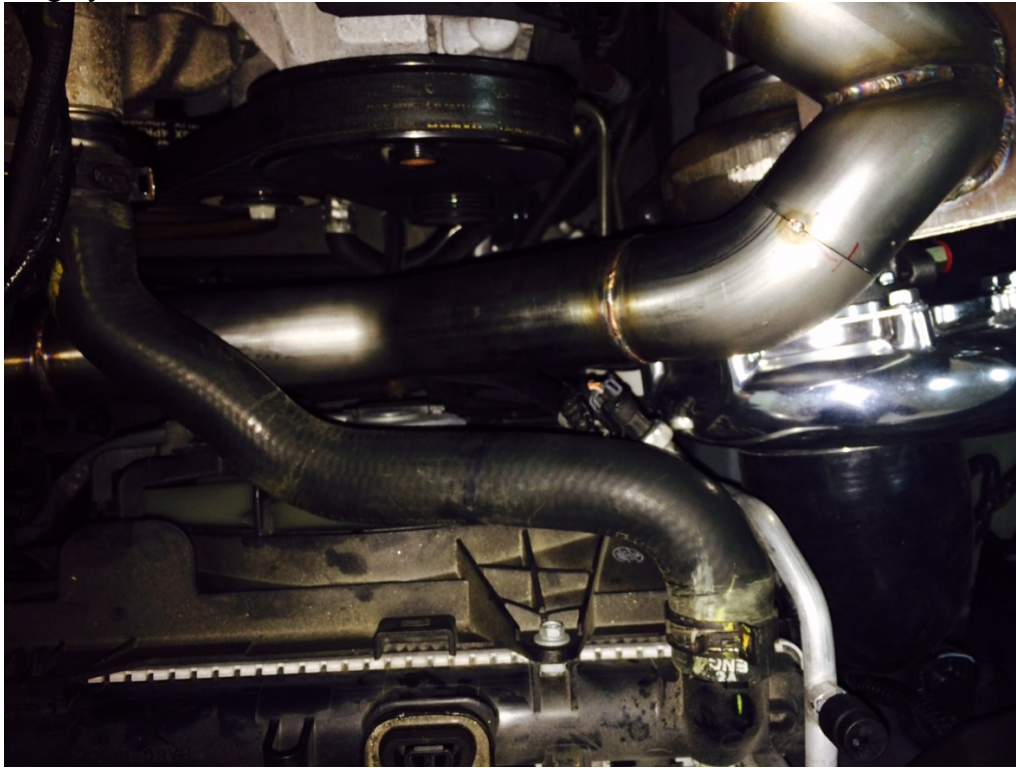


Hotside:

-Remove the primary O2 sensors from your factory exhaust and install in the crossover tube using a dab of anti-seize on the threads.

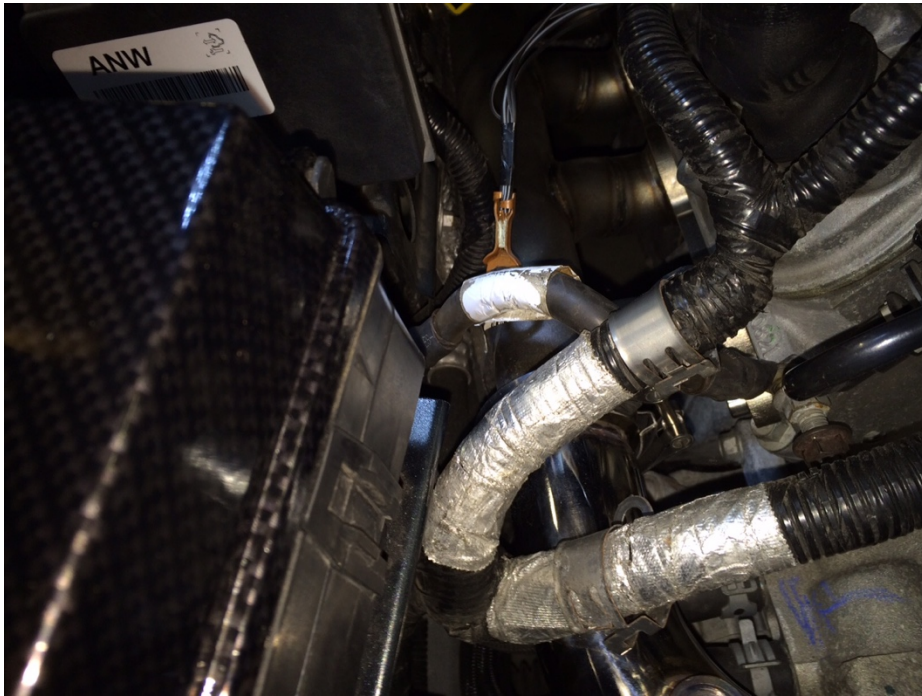
-Remove the upper coolant hose to the top of the radiator, flip it over so the end entering the radiator is now on the water pump and visa versa. On the end NOW at the radiator, trim off

roughly 1" of material and install.



-Remove the ground strap on the passenger side running near the fuse box to cylinder head. Flatten out the tab on the end as shown, and flip the strap installing in opposite orientation as shown in the 3rd photo below to gain clearance for the hot-side.





-Also remove the ground cable running to the passenger side head above the exhaust flange area, this will need to be bolted back down later using a supplied, short M10 socket head bolt.

-Place the 3" Downpipe into it's place on the driver's side. Just let this rest in the rough place for the time being. Without having it in place first, it is very difficult to snake it in after the hot-side is on the car so be sure to not skip this!

-On the passenger side, there will be a stud holding a factory heat shield. Using snips, trim off the excess of this stud to better clear the passenger side turbo manifold.

-Re-using your factory OEM gaskets (or new) install the turbo manifolds to the cylinder heads using our supplied hex head bolts if you prefer, or the factory bolts also work just fine, your preference. Note the manifolds install in an Up and Forward orientation. Early versions of the kit may have our logo welded on upside down here so do not let that fool you, the primaries run up and the log facing the front of the car. Leave the manifolds loose at the point.

-Install the crossover piece onto the manifolds with the supplied V-band Clamps. Tighten each side a little at a time, get the crossover pipe aligned on the manifolds and tight to ensure this connection is solid to prevent exhaust leaks. Then draw the turbo manifolds in tight to the cylinder heads letting the flex section in the crossover work as intended.

-Test fit your turbo now for Pre-Clocking. Crack loose the bolts on the compressor housing and turbine housing of the turbo (do not touch the inner bolts for the center section, just the outer most ring of bolts for each housing) The turbo housings should all be able to spin now. Set turbo into place hanging from the crossover. Using our supplied M10x1.5 bolt, thread in to attach the turbo to the crossover. Access from the driver's side wheel well works good here. Note, just install a couple bolts here for test fitment to properly clock the turbo. Note the orientation in the photo below, you will want the compressor housing to hang just outside of the frame rail to be able to attach cold side pipe, and you will want your oil feed fitting facing up, and the drain down. Once orientated properly, while still hanging on the crossover, snug up a couple of the bolts on the turbo housings to prevent them from spinning while you remove.



-Remove the turbo. Install the supplied fittings with our Oil Line Kit onto the turbo. If running a Comp 3BB turbo, thread in the supplied ½”NPT to -10an fitting using Teflon tape on the NPT threads into the turbo. For other turbos with the cast center section, install the supplied 2-bolt drain flange and gasket to the turbo’s drain location. Install the supplied 1/8”NPT to -4an oil feed fitting from the Oil Line Kit into the turbo’s feed location using Teflon tape on the NPT threads into the turbo.

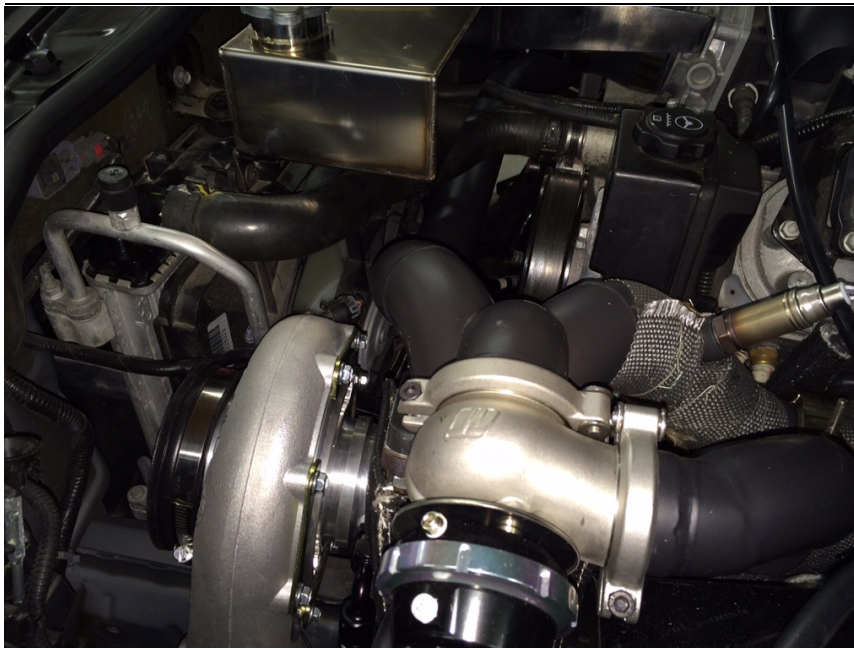
-Snug down the bolts on the turbo housings that were cracked loose so the housings are firm in place and no longer spin.

-Re-install turbo onto crossover using supplied M10x1.5 bolts and gasket supplied with the turbo. Copper RTV can be used on the turbo’s flange here just as well as a gasket. We also supply a longer m10x1.5 bolt with 2 washers and a nut in the event you are struggling to install all of the bolts from the bottom up into the flange. If this is the case, thread the bolt down from the top of the crossover flange and secure using the supplied washer and nut on the bottom turbo side. Attach your oil feed and drain lines onto the turbocharger that you ran up earlier.

-Loosely install the downpipe to the turbo that you had sitting in place from early on in the install using one of the supplied 3" V-band clamps. Do not tighten, leave loose.

-Install your wastegate to the downpipe first using the supplied clamp with the wastegate on the tube with the flex joint. Ensure your firing ring is in the bottom valve of the wastegate and using the flex, line the bottom of the wastegate with firing ring in place to the flange on the crossover, securing with the clamp also included with the wastegate.

-Snug down the wastegate clamps and downpipe clamp to turbo all together until snug ensuring your downpipe has proper clearance to the steering shaft based on it's orientation while tightening.





-Back down under the car, attached the Y-pipe from the downpipe using the 2nd supplied 3" V-band Clamp. Note the bung in the piping here with cap. This can be used while on the dyno for tuning with their Wideband sensor so please inform your tuner that your system already has this in place for them. You can also use later on if running a wideband gauge in the vehicle, if not simply keep plugged. This will now send your exhaust back into the center of the car so you can adapt your current exhaust to it, some modification may be needed depending on your system.

-Back up top, installing from both top and bottom, put a fresh set of plugs in the heads, NGK TR-6's are recommended for up to 13 psi of boost. For applications over 13psi, we recommend running a set of NGK BR7EF's.

-Install a new set of plug wires, we recommend our optional wires that route back to the firewall off each plug, then up and over to each coil avoiding the primaries. Standard routing of plug wires here is tight and may result in fighting issues. If trying this route understand that risk, and do your best to protect against the heat. Routing them away from the primaries all together is the best result!

-Reinstall your ground cable on the passenger side cylinder head using one of the supplied, short M10 socket head bolts.

Cold Side

-Moving up front with the bumper and support beam out of the way, install the front mount intercooler using the supplied brackets in the orientation noted in the photos below using the supplied M8x1.25 hardware.



-Install the cold side pipe from the Turbo outlet to the driver's side of the intercooler using the supplied straight 3" silicone couplers and 3" T-bolt clamps.



-Insert your factory MAF sensor into the 3.5" Charge pipe equipped with a welded on factory MAF flange. (it can only install in one orientation).

-Place the 3.5" Upper charge pipe into the engine bay snaking down by the fuse box as shown in the photo below.

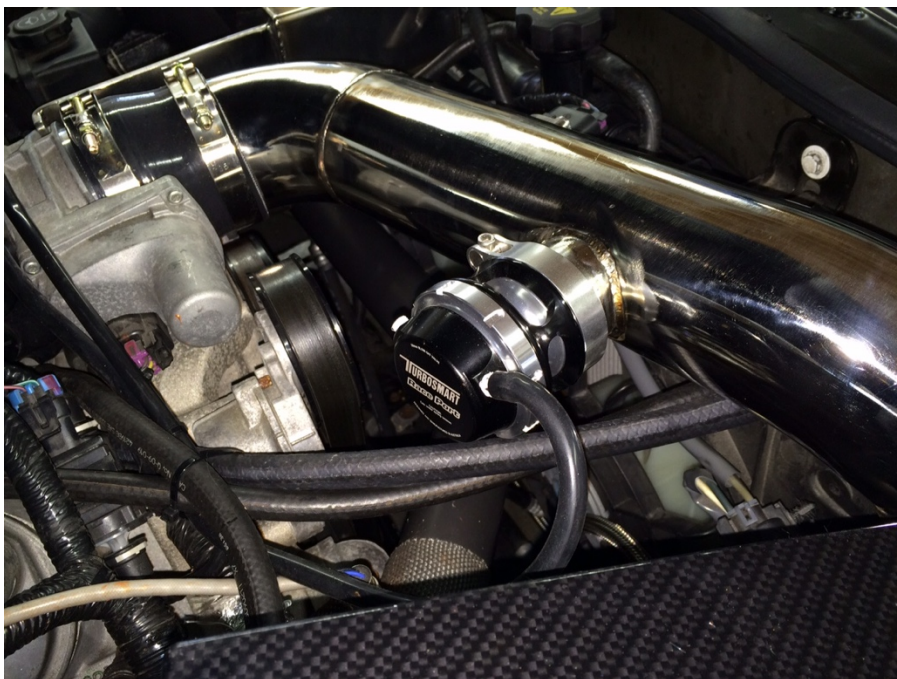


-Connect the passenger side 3" Charge tube to the Passenger side of the intercooler running around the frame connecting to the upper charge tube you put in place previously using supplied straight 3" silicone couplers and T-bolt clamps at both connections. Up top connect the main

charge tube to the throttle body using the supplied 4" to 3.5" silicone coupler and 3.5" and 4" T-bolt Clamps.

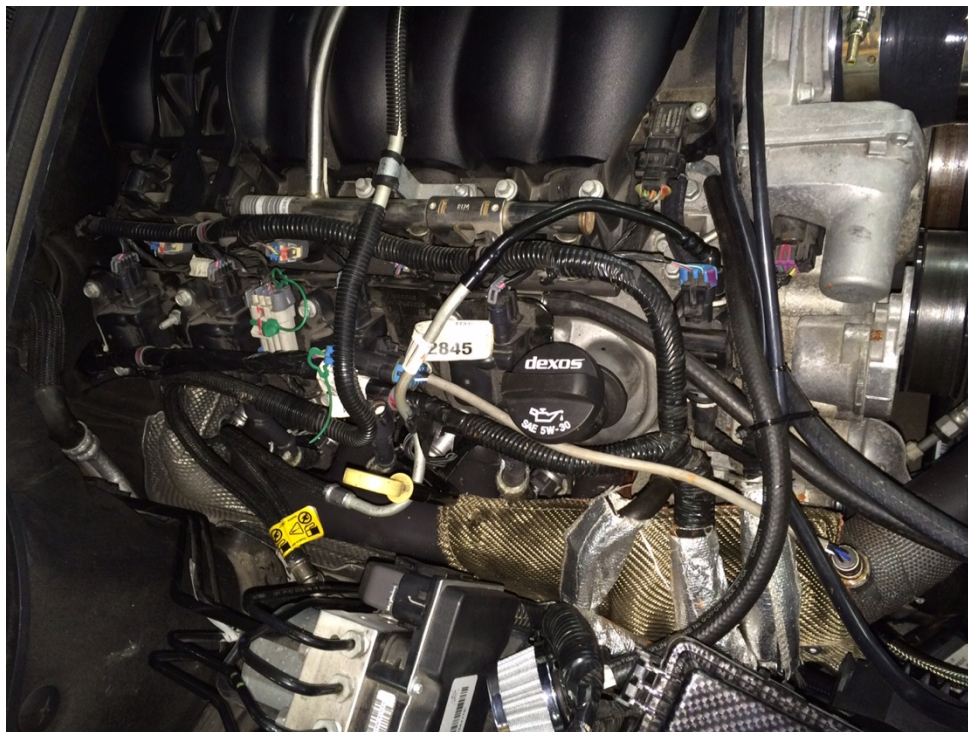


-Install your BOV onto the flange welded onto the main charge pipe using the supplied clamp with the BOV.



Heat Management

- The hot-side of any turbo system gets extremely hot, which is why the kit comes standard with a large amount of heat management products. In addition to this you will need to ensure proper heat protection and management on your end doing due diligence that no components such as wiring, electrical connections, fuel lines, power lines, ground straps, AC lines, etc have proper heat protection and clearance from heat sources. We have supplied (2) full 50' roll of exhaust heat wrap, (2) downpipe blankets, a turbine housing blanket, and a roll of wire fire sleeving. Areas of concern to heat would be the power wire running to the power power and AC line on the driver's side near the downpipe. On the passenger side the wiring running over the crossover and manifold to the fuse box area. Use the supplied heat management components to protect the following components and any others that appear close to any hot-side exhaust piping.
- We have found installing the power wire on the driver's side on the opposite side of the AC Line to help keep it further away from the downpipe. We recommend using some heat wrap on the hot pipes in this area (secure with stainless ties or simple mechanic's wire). We also recommend using some of the wire sleeves in the tight areas on the power wire and AC wire in this area. On the passenger side, we recommend using heat wrap on the crossover and manifold in the location close to the wiring. We recommend doing what you can with ties to further pull this wiring up and away from the piping, or relocating as best you can away from the heat. Additionally the downpipe blanket can be used in this area for additional protection if you choose, and more of the sleeves on the wiring or ground straps.
- Heat management is very important to reliability, so before running the vehicle at all, check, double check, and triple check all areas to ensure proper clearance in all areas around hot-side piping to any components, and in any areas that are tight be sure to not only move away as best as possible but also use the supplied heat management products to protect them!
- Install the supplied turbo blanket onto the turbo's turbine housing.



Air Intake

-For street applications, it is recommended to run an air filter or screen on the turbo's compressor inlet for protection of debris and any foreign objects from being sucked into and through the turbocharger. For our supplied stubby air filter, trim $\frac{3}{4}$ " off of the inlet rubber so the filter fits tighter to the turbo and clears the front components on the vehicle.



Fueling:

-Power is made from air and fuel, you now have the air portion completed by forcing in air with our turbocharger system. Now to make everything safe you need to be able to supply the engine enough fuel to make this power safely. We provide many fueling options and 2 excellent bundle packages to include a fuel pump and injector solution to meet your goals. Ensure your fueling system is up to task to support the power you intend on making whether you got that from us or elsewhere.

-Do NOT run the vehicle at all if you installed larger fuel injectors and have not have the vehicle tuned or computer flashed for them yet. Consult your tuner to get a flash tune if you must drive the vehicle to get tuned, or drive the vehicle to them with factory fuel injectors ensuring you do NOT get into any boost along the way as engine damage can occur. Running the engine with larger fuel injectors without being tuned for them can result in engine failure.

Tuning:

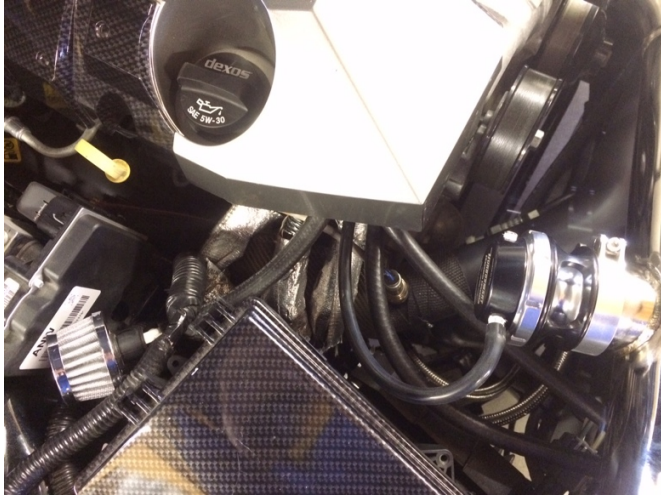
-Professional tuning is required after installation of the turbo kit. Turbocharging the vehicle without calibrating the computer for it will result in engine failure. We recommend consulting a local performance shop for a professional dyno tune!

Misc. Final Items

-Install a universal coolant overflow tank in the engine bay, front bumper, or wherever you desire. Nothing specific here is required. We used to offer the tank show below but ran into fitment issues in later years. You could install something universal in this area as well. Connect the factory overflow line from the radiator trimming as needed.



-Vacuum Lines. The BOV and wastegate require vacuum reference. We have found the easiest method for this if you already do not have a set-up in mind is to run a vacuum hose from the BOV over to the driver's side under the throttle body connecting to a vacuum line off the bottom port of the wastegate via a Tee fitting. Then securing to the vehicle at the post formerly used to hold the air-box, run a line back to the brake booster line connecting using a Tee fitting. This will get a vacuum/boost reference to your wastegate and BOV. If you have other items such as a boost gauge, boost controller, hobbs switch, methanol injection controller, etc, be sure to get a vacuum reference to them as well. For multiple items a vacuum block is a good idea getting the initial vacuum/boost from the brake booster or other intake manifold location.



-PCV system. Ensure your PCV system is set-up to not boost the crank case. You can run a fully operational PCV system using a proper PCV catch can, we recommend using Mightymousesolutions.com. You can also run an open PCV system capping the Intake and TB locations while venting the valve covers using breathers or running them into a catch can with breathers. Check out www.mightymousesolutions.com for an excellent PCV catch can and full connection directions to install!



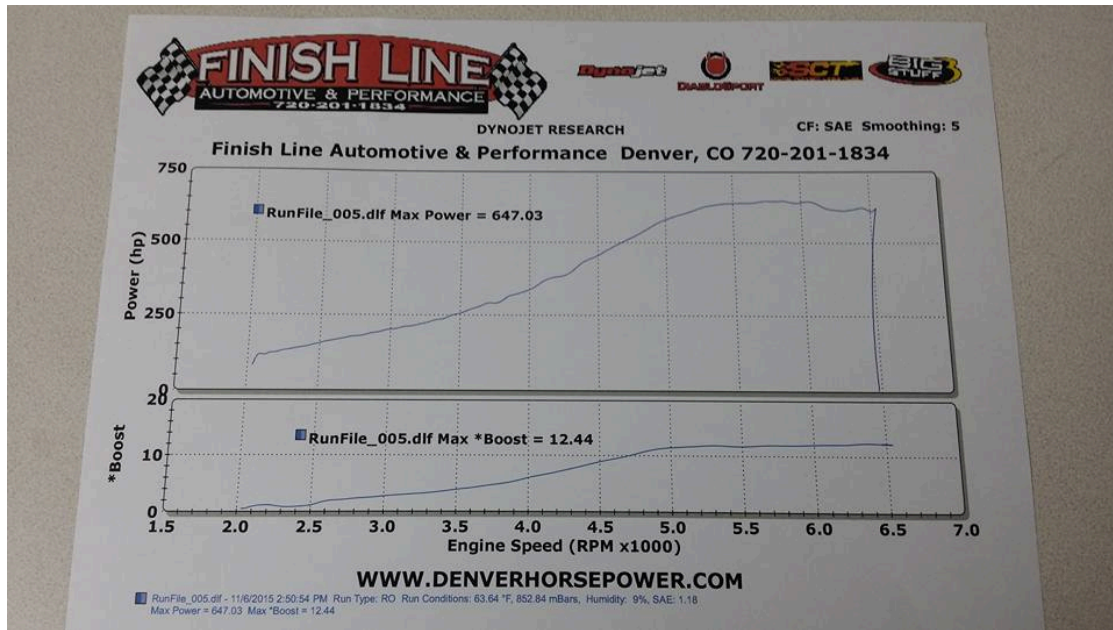
-You can choose to re-install your front bumper support beam. It is recommended to retain it for street use and protection, it will fit right back in the factory position over the intercooler.
-Be sure to fill the engine back with the fluids drained, coolant, and engine oil.
-Re-install the front bumper cover and plastics
-Ensure all electronic connections and sensors are plugged back in such as the primary O2 sensor, MAF sensor, harnesses unplugged from removing front bumper, etc.
-Ensure any ground straps and power wires are tightened back down.
-Quadruple check to ensure all components are protected and away from the hot-side piping and heat sources. Do NOT run the vehicle if any locations are not properly protected AND away from hot-side piping or other heat sources.

- Ensure your Oiling Lines are hooked up and tight at the locations you installed on the engine as well as at the turbocharger.
- Ensure all hot-side piping is tight with bolts and clamps. Any exhaust leaks will drastically decrease performance and spool time.
- Reconnect battery at the back of the vehicle.
- Again ensure the system is fully safe with heat management, flash tuning is completed if you have larger fuel injectors installed at this point, and before getting into at boost at all that the fuel system is completed, up to the task for your power, and the vehicle is professionally tuned!
- Additional recommended components to enjoy a long and happy boosted life would be a beefy set of dual valve springs, and if a L99 car, the DOD/VVT delete.

ENJOY the boost!!

These are just helpful steps and by no means a strict guide that must be followed as many cars are already in modded form. This is to help give you a good direction of what all is involved in the install and to bring up tips and tricks that may help you along. This kit is for off-road use only and should be installed by a professional. Please refer to Huron Speed's terms and conditions once again prior to install.





These results are on a 2015 1LE car with the LS3, 12psi of boost, 12* of timing, our Premium Bundle Package with fueling pack #1. 647 rwhp, 620 rwtq.
Comp Billet 7875, 3bb turbo with larger 1.15 a/r housing option.