

Huron Speed Products

V1 Truck Manifold Turbo Kit for 98-02 F-body



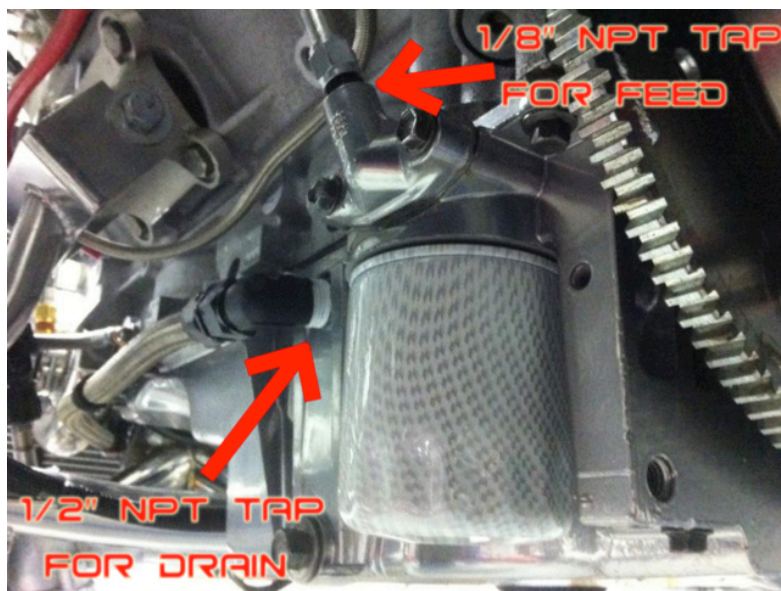
Prep:

-Remove all A/C Components, Alternator and brackets, tensioner, front bumper, front bumper foam, and front bumper support. Remove radiator and cooling fans. (Fans will not be reused). Remove AIR pump from under the front drivers side of vehicle. Remove front Sway Bar from vehicle.

If using an oil-required turbo, follow the next step, if using a Comp Oil-Less Turbo, skip to relocation

-Remove oil pan to prepare for oil drain and feed fitting installation.

-Clean out oil pan and prep surface. Note the following picture for a good location of oil drain and feed fittings.



-Drill/Tap for your supplied fittings. Good recommended fittings are 1/2" NPT x -10an for the drain (tap pan for 1/2" NPT) and 1/8" NPT x -4an for the drain (tap the spout fitting above the oil filter for 1/8" NPT)

-Secure fittings into the oil pan using Teflon Tape on NPT sides of the fittings.

Relocation:

-Using the 3 pieces, relocate the Alternator and the tensioner. The triangular bracket is used to relocate the tensioner down where the alternator used to be for ALUMINUM block engines. This bracket can be used on iron block applications, but due to different provisions in the block, a piece of added stock will need to be welded to the bracket to extended to a different bolt of location. The straight bracket is used on the far passenger side bolt hole of the passenger side cyl.

head. The silver spacer is used on the upper most bolt hole of the passenger side cyl. head. Mount the alternator using this location and the pictures here. For a modified version for Iron blocks, see last photo below:



-A 73" belt is needed if running all factory sized pulleys (71.5" with Underdrive pulley). *The tensioner will have the smooth side of the belt running on it. You can run as is, or utilize one of the smooth idler pulleys from your unused alternator idler bracket.* -Ensure wiring to alternator is relocated up to the passenger side cyl. head area. It is easier to remove the black power wire from the wire loom running across the front of the engine. The plug with the single small red wire going to the alternator is easier to lengthen and run up to this area.

Hotside:



-Wrapping the Hot-Side pipes in heat wrap is strongly recommended to keep engine bay temps down, prevent melting of any close clearance components, and keep as much heat in the piping for best performance!

-Insert front 2 O2 sensors into the crossover pipe with a couple dabs of anti-seize on the threads of each.

-Attach bottom of 44mm waste gate to the fitting on the crossover with the side port exit of the gate facing DOWN to dump to the atmosphere. Ensure the valve seal (firing ring) is installed in the bottom of the wastegate.

-Remove Low Oil Level sensor from bottom, passenger side of oil pan. Plug this hole using a M20x1.5 plug with Teflon Tape. (You can jumper the electrical plug to prevent the light from coming on the dash)

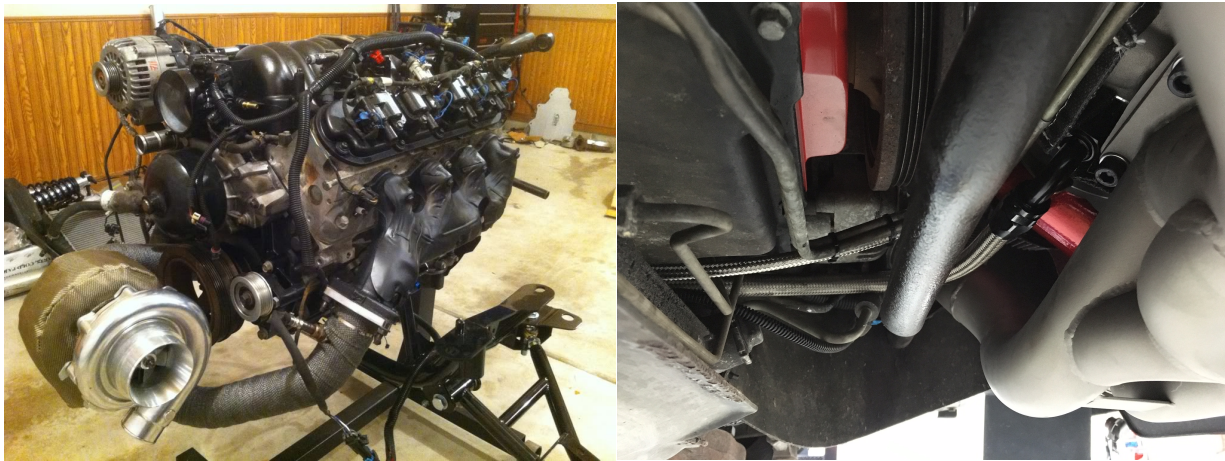
-Slide down-pipe in between motor mount and block of passenger side and let sit in there -Attach truck manifolds to engine facing forward. A fresh set of new GM manifold gaskets is recommended.

-Ensure clearance of Power Steering lines to manifold on drivers side. Bend out of way for desired clearance, or run our Power Steering Line relocation kit.

-If you have a factory K-member, we recommend removing the stud in the truck manifold that will be bolting to the passenger side of the car, farthest stud to the passenger side of the car once mounted. (clearance is tight here to factory K-member)

-Ensure all gaskets in place. Utilizing a ring of high-temp copper RTV along with the supplied gaskets is a good idea.

-Bolt cross over pipe to truck manifolds. Passenger side can be tricky if you have a stock K-member. Some vehicle have this issue, others don't. Either run a shorter bolt up through the crossover into the truck manifold if you can. If not, use a M10x1.5 Stainless T-nut from Home Depot or the like, and place into crossover pipe, and run a M10x1.5 bolt down through the opposite side of the truck manifold from the top into the T-nut. Secure the T-nut with a tack weld or screw onto the crossover to ensure it won't spin. -Place turbo onto crossover and ensure it is clocked properly. You want the oil drain and feed as straight up and down as possible, and you want the compressor housing as shown. The oil drain pointed slightly towards the rear of the car to clear the T4 flange as shown.



-Turbo to crossover pipe will use M10x1.5 bolts, lock washers suggested as well. -Ensure all connections are tight as any loose connections may result in a leak which will drastically effect performance in a turbo application.

-Run your Oil Lines from the installed fittings in the oil pan to the turbo. A -10an Drain line using a 90* fitting out of the Turbo, roughly 3' in length works well, with another 90* fitting into the oil pan fitting. A -4an (roughly 42" long) works well for the feed. A straight fitting on the end into the turbo and a 90* fitting onto the oil pan fitting works well.

*Consult with the turbo manufacturer to note if a restrictor is recommended to run in your feed line to the turbocharger.

Cold Side:

-Bolt the intercooler to the intercooler brackets using M10x1.5 bolts and washers, and leave somewhat loose.

-Bolt the Intercooler/Bracket combo to the vehicle where the bumper support used to be. This will be used with 4 nuts/washers/bolts through the holes in the crash support beams. In 3 of these holes, a M10x1.5 bolt works well (30mm long) with washers, lock washers, and nuts. The other

has a smaller hole that a M8 sized bolt combo set-up works best in. -Once the combo is all bolted to the car, tighten all bolts and nut/bolt combinations.



- Attached a straight 3" silicone coupler on each end of the intercooler. Secure each to the intercooler using a 3" T-Bolt clamp. (7/16 ratchet on the t-bolt nuts)
- Use the J shaped pipe to run from the turbo to the passenger side of the intercooler. The short end of the J will connect to the passenger side inlet of the intercooler. Secure this to rubber coupler using a 3" T-Bolt clamp.
- Attach the other end of this pipe to the compressor outlet of the turbo using the 90* 3"- 2.5" silicone coupler (2.5" side on the compressor outlet). Use corresponding T-Bolt clamps to secure this coupler. If your turbo has a 3" outlet, use the additional supplied 90* 3" to 3" Coupler and secure with the additional 3" T-bolt clamp supplied.
- Attach the 90* pipe with the attached BOV flange to the driver's side outlet of the intercooler. Attach so the BOV flange is facing UP. Secure this to the intercooler using a 3" T-Bolt clamp. Attach your BOV to this pipe using the BOV's supplied V-band clamp.
- Attach the 60* 3" Silicone coupler to the open end of the 90* BOV Cold Side pipe. Orientate as shown in the picture below and secure using another 3" T-Bolt clamp.

-Insert your OEM IAT sensor into the pre-drilled hole on the cold side tube leading to the Throttle Body. Insert the factory grommet first followed by the sensor.

-Install final Cold Side charge pipe. This will run through the hole beneath the fuse boxes on the driver's side. Some minor trimming of the plastic surrounding the fuse boxes may be required.
-Install this charge pipe into the open end of the 60* 3" silicone coupler and secure using another 3" T-Bolt clamp.

This cold side is set-up to run in Speed Density. You will remove the MAF sensor from the car and need to upgrade your MAP sensor located on the back of the intake manifold to a 2 or 3-bar sensor. GM offers a 2-bar sensor, and EFI-Source offers a great plug and play 3-bar sensor.

Final Notes:

*Attach and wire your supplying pusher style fans to your radiator and reinstall radiator and upper radiator support. Wiring for Derale #16925 fans is as follows:

1.) Take the green wire that is supposed to go to the A/C clutch and cut it off. If you do have A/C and wish to use this feature, by all means run it to the A/C compressor.

2.) Take the Orange Power wire with the in-line fuse and tie the Black wire into it. Then run them to 12v power. I run these orange wires to the post on the fuse box. I also had some issues with the supplied 30a fuses. Switched to 40a fuses and never blew a fuse again.

3.) Run the Red power wires to the Power wires (blue) on the fans. I like to use connectors here so you can easily remove the radiator/fan combo in the future should you have to and not have to cut wires.

4.) Run the 2 yellow wires together into 1 wire, extend and run across to the passenger side by the battery. Here you will want to find the dark blue wire in the harness that runs over the shock tower. This is your PCM's trigger to turn the fans on (ground). You can tap into this blue wire, or cut and connect it to the PCM side as the other side goes to your own fan harness (unused). This is just a trigger wire so if you extend, 18awg will be fine.

5.) The power wires from the fans connect to the red wires of the harness as mentioned above. Keep at least 12awg.

6.) The ground wires from the fans run to a good chassis ground. Keep at least 12awg.

*Reinstall front bumper. Some minor trimming of the bottom may be required for it to tuck nicely up around the bottom of the intercooler brackets. Some self-tapping screws can secure the bottom flap of the bumper to the bottom beam of the intercooler bracket if desired.

*Run vacuum lines from the side port of your waste gate (top port vented to atmosphere unless using a boost controller), and BOV to a boost/vacuum source.

*Ensure your PCV is properly set-up so you do not boost the crank-case. The stock PCV system set-up WILL boost the crank-case.

*Attach your supplied Air Filter to the compressor inlet of the turbo.

*Ensure all electrical connections/plugs/grounds are plugged back in (O2 sensors, IAT sensor, etc)

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.