

THE PURCHASER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF ANY AND ALL PRODUCTS PURCHASED

Please note all products are designed for off road use only.

Purchaser understands and recognizes the Trask Turbo System equipment provided by manufacturer and or sold by Authorized Dealers are subject to varied conditions due to the manner in which they are to be installed and used. Purchaser further recognizes and agrees that suitability of any part sold or manufactured for a particular application is the purchaser's decision and that the purchaser is not relying on the skill or judgment of the manufacturer and/ or Authorized Dealer regarding suitability of any product or service.

Manufacturer and Authorized Dealer make no warranties whatsoever, expressed or implied, orally to purchasers with regard to off-highway use equipment all warranties are contracted in writing. The right to make changes in design or add to or improve on product without incurring any obligations to install the same on products previously manufactured is expressly reserved. Buyer agrees to indemnify and hold seller harmless from any claim, action or demand arising out of or incident to the buyer's installation or use of products purchased from Manufacturer and/ or Authorized Dealer. All parts are aftermarket replacement parts. No implication is made that these parts are the original manufacturers', are from the original suppliers, or are approved by them.

Before operating vehicle, always utilize all safety applications.

WARNING

Installation of any component or kit should only be performed by persons experienced in the installation and proper operation of vehicle systems. It is also the responsibility of the person installing any component or kit to determine the suitability of the components or kit for that particular application. Products are intended for off-road use only. The manufacturer and Authorized Dealers are not responsible for any misuse of these products. Check with your local authorities for highway laws in your area because highway laws and the enforcement of those laws vary widely. Please check with your local DMV or vehicle department for regulations and information, manufacturer and distributor are not responsible for any legal issues of any product purchased here.

Introduction

Thank you for purchasing the Trask Turbo System. The most reliable and efficient, forced air induction system on the market. This system is designed for stock Harley Davidson Milwaukee 8 engines, if you have engine modifications please contact Trask Performance.

Before you get started with installing your Trask Turbo System, we would like to go over a few recommendations. Please read and familiarize yourself with the instruction booklet before proceeding with the install. If at all possible have a trained technician help or install the system. *****NOTE: Engine oil and oil filter MUST be changed. The Turbo System utilizes the engines oiling system. Be sure to change the oil every 2000 miles with premium synthetic oil***** Like your motor and factory drive train, the turbo needs to maintain a service life of its own and by properly following the Trask 2000 mile intervals, this will ensure the life of your turbo system.

*****NOTE: We strongly recommend having the appropriate service manual for your model and year of Harley Davidson. There are specific removal and installation procedures along with torque specifications for your bike. This is a must if you are upgrading your camshaft.*****

You must have the appropriate tools for the installation of this system, this will include the use of standard and metric tool sets. Other important tools will be listed in the Harley Davidson manual.

The standard Trask Turbo System is preset @ 8lbs of boost minimum running premium 91 octane pump gas. **Running over 8lbs will require higher octane fuel, high boost mapping, MLS head gaskets and other performance upgrades.**

Once the system; is installed, the proper adjustments have been made, and final tuning has been completed, we recommend at least 100+ miles be put on the bike. After ride, follow up with a check of all fasteners on the system, especially the exhaust, as this receives the most heat and temperature change. Check over fasteners of entire system at recommended service intervals (2000 miles).






WARRANTY AND RMA AUTHORIZATION

Trask Turbo System has a 90 day warranty period on all Trask manufactured items against manufacturing defects, this does not include items sold by Trask Turbo Systems made or manufactured by another company. If you expect a manufacturing defect within the 90 day warranty period on a Trask Turbo System item, **ONLY** you must contact Trask Turbo Systems and request an RMA number so the item may be sent back. Trask Turbo Systems may request photos of the subject parts to be emailed before issuing the RMA. If said customer is unwilling to comply with the return policy procedures Trask Turbo Systems has the right to refuse the warranty submission.




If product is returned without proper authorization no warranty repair or refund for product will be given, and any shipping and handling fees will not be returned. If any returned items are not claimed and organized to be removed from Trask Turbo Systems within 30 business days Trask Turbo Systems will treat item as abandoned. Although all Trask Turbo Systems sales are final, if a return is authorized by Trask Turbo Systems, all refunds other than warranty items will be charged a 20% restocking fee. If product is damaged in shipping it is the sole responsibility of the customer to file a claim with the shipping company Trask Turbo Systems is not responsible for shipping damage compensation.

Fastener Torque Chart

Metric

Relative Strength Marking	4.6		4.8		8.8 or 9.8		10.9		12.9	
Bolt Markings										
Diameter (MM)	Maximum Torque		Maximum Torque		Maximum Torque		Maximum Torque		Maximum Torque	
	Ft lb	Nm	Ft lb	Nm	Ft lb	Nm	Ft lb	Nm	Ft lb	Nm
M3	0.3	0.5	0.5	0.7	1	1.3	1.5	2	1.5	2
M4	0.8	1.1	1	1.5	2	3	3	4.5	4	5
M5	1.5	2.5	2	3	4.5	6	6.5	9	7.5	10
M6	3	4	4	5.5	7.5	10	11	15	13	18
M8	7	9.5	10	13	18	25	26	35	33	45
M10	14	19	18	25	37	50	55	75	63	85
M12	26	35	33	45	63	85	97	130	111	150
M14	37	50	55	75	103	140	151	205	177	240
M16	59	80	85	115	159	215	232	315	273	370
M18	81	110	118	160	225	305	321	435	376	510
M20	118	160	166	225	321	435	457	620	535	725
M22	159	215	225	305	435	590	620	840	726	985

Standard

Bolt Markings	 18-8 Stainless Steel		 Grade 5		 Grade 8	
	Diameter (MM)	Maximum Torque		Maximum Torque		Maximum Torque
	Ft lb		Ft lb		Ft lb	
1/4 20	6.3		6.3		9	
1/4 28	7.8		7.3		10	
5/16 18	11		13		18	
5/16 24	11.8		14		20	
3/8 16	20		23		33	
3/8 24	22		26		37	
7/16 14	31		37		52	
7/16 20	33		41		58	
1/2 13	43		57		80	
1/2 20	45		64		90	

Note: Some fasteners on the system will not allow you to apply a torque wrench to it. These charts are for a reference so those fasteners are not over torqued possibly causing damage to the fastener or stripping threads.

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1. Prep & Tank Removal



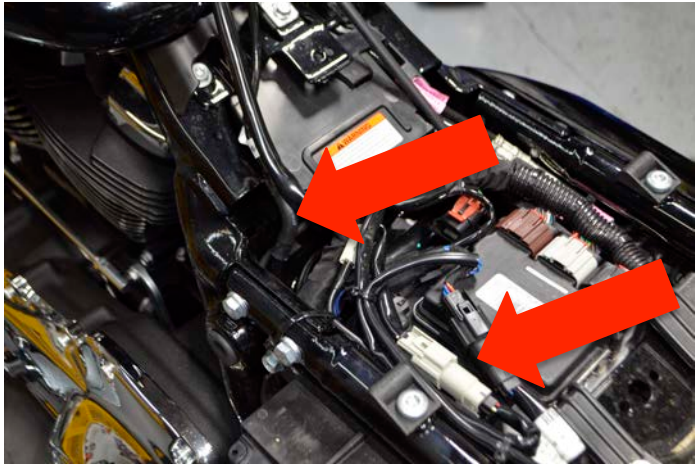
Now that you have your Trask Turbo System it is time for prep and install. To better prepare for the install, make sure you have all the needed tools and the factory service manual for your year/model bike, to aid in the installation.



Remove the kit from the box and packaging. Lay the kit out for ease of installation and make sure everything is accounted for. A clean area prevents things from getting lost.



Refer to the Harley service manual for relieving fuel line pressure. This evacuates any built up pressure in the fuel line so you can safely remove the fitting from the tank.



Disconnect the breather line and harness plug for the fuel pump as indicated by the arrows.



Disconnect the battery by locating and removing the "Main Fuse", found by removing the bags and left side cover. Remove the "Main Fuse" for safety during installation and to prevent damage to your bikes electrical system.

***NOTE: If your bike is equipped with the factory security system it is important that you turn on the ignition BEFORE you remove the Main Fuse. This deactivates your alarm.



For the other breather line on the right side of the tank cut the two zip ties fastening it to part of the harness as shown. Pull the line out, undo the fasteners for the tank and remove tank.

2. Floor Board & Exhaust Removal



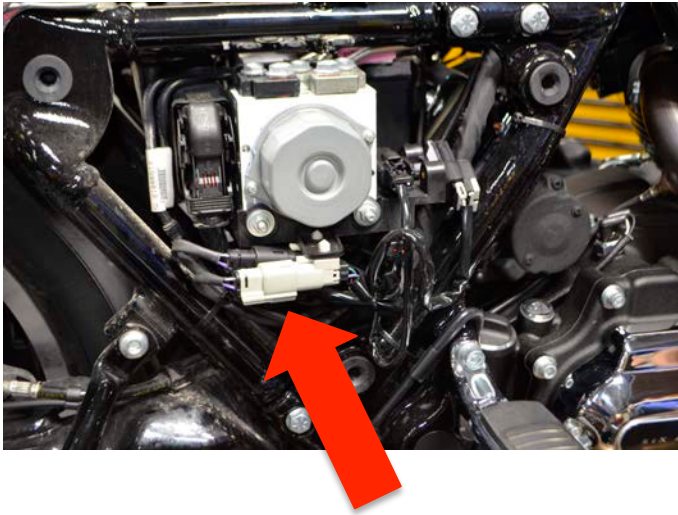
Remove the right floor board.



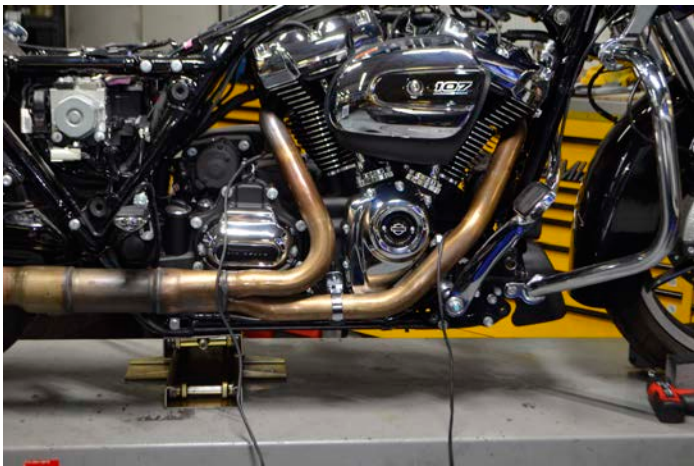
Remove left muffler first with crossover bracket and pipe.



Remove right side muffler.



At this point disconnect the two o2 sensor plug from harness.



There is one zip tie to cut, along with retaining clips that hold the sensor wires along the frame rail. Once wires are removed and free from the frame, you can now take off the exhaust.



***NOTE: DO NOT discard the factory exhaust flanges and retaining clips. You will need these for the turbo head pipe.

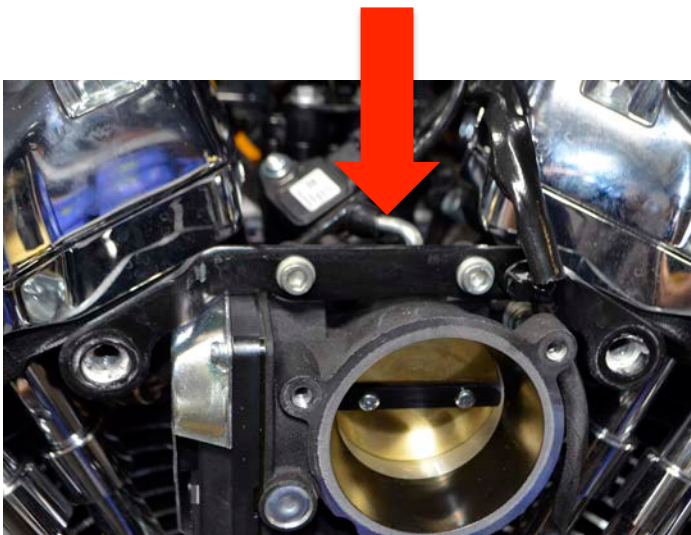
3. Air Box Removal



Remove the factory air box. Use factory service manual for reference.



Remove breathers and all hardware from the air box assembly.



Remove throttle body support bracket.

4. Cam Cover Removal & Install

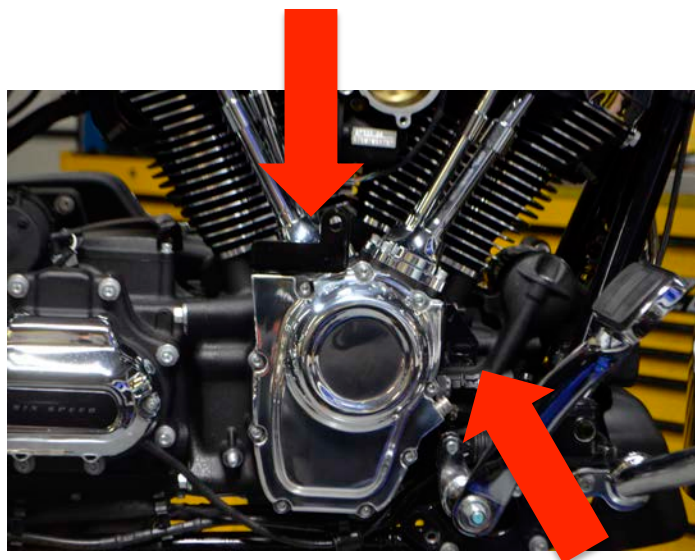


To remove the factory cam cover, loosen and remove all fasteners. Be sure to put an oil pan underneath to prevent oil spill.



Be sure to clean gasket surface of any gasket material and oil.

Install Trask Turbo cam cover using the supplied gasket and factory fasteners. Apply Blue Loctite and torque to factory specs.



***NOTE: Orient header support brackets on cam cover and DO NOT tighten at this point. (shown)



5. Oil Feed Adapter and Feed Line Install



To install the oil feed adapter, locate the plug on the oil filter boss on the front of the motor as shown.



With the supplied fitting use high temp thread sealant.

*****NOTE:** Do not use thread seal tape.



Install the fitting as shown. Be careful not to over tighten and strip the threads.



Install the oil feed line with the 30 deg. end connecting to oil feed fitting on the motor, and the 90 degree end going toward the oil feed fitting on turbo cartridge. This will route between the front head and frame rails. DO NOT tighten at this time.

6. Injector & Injector Harness Install.



The factory injectors must be replaced by the supplied injectors in the turbo kit. To do so, locate the rear oil cooling lines on the rear head.



Loosen/Remove the fasteners of the rear cooling lines only. Be sure to put something underneath to catch the oil.



Remove line out of its port. This will give you enough space to access the two fasteners on top of the injector block.



To remove the fasteners you will need a T25 torx bit. We recommend a torx allen set with a ball end.



Use the short end to break loose and the longer end with ball to fully remove.



Remove the factory injectors and block. Replace with supplied injectors and be sure to use Sil-Glyde (lubricating compound) when installing the new injectors. Also plug the supplied adapter harnesses onto the injectors.



Install the injector block. Again use Sil-Glyde to seat injectors in their ports. Plug the harness into the front and rear adapters.



With the supplied M6 Hex bolts tighten the injector block to the manifold. Reinstall rear oil coolant line using Red Loctite and torque to factory specs.

7. Plenum Spacer & Breather Install



Before install, take note of how the breather bolt/spacers only go together one way. The ID of the spacer on one side, is the same as the OD of the breather bolt. That side faces towards the cylinder head.

****IMPORTANT****

Installing these spacers incorrectly (backwards), will result in trapping crankcase pressure, not allowing it to externally breathe through our system



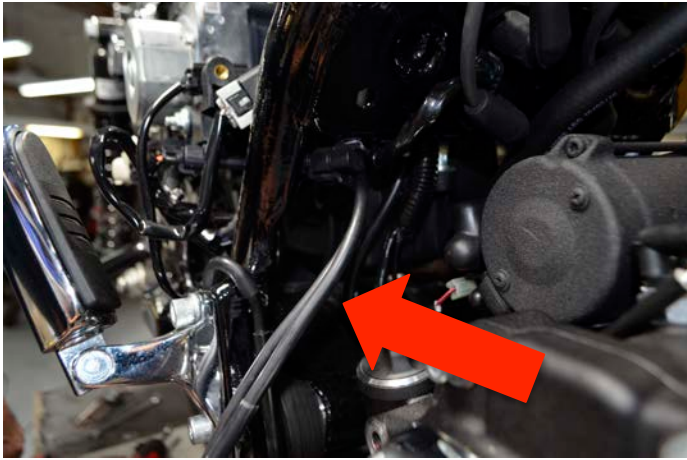
Bolt the plenum adapter plate to the throttle body using the supplied 1/4-20 socket heads. Orient the breather spacers between the head and adapter plate correctly, making sure the o-rings seat against the appropriate surfaces.

Apply red loctite to breather bolts and torque them to factory spec.

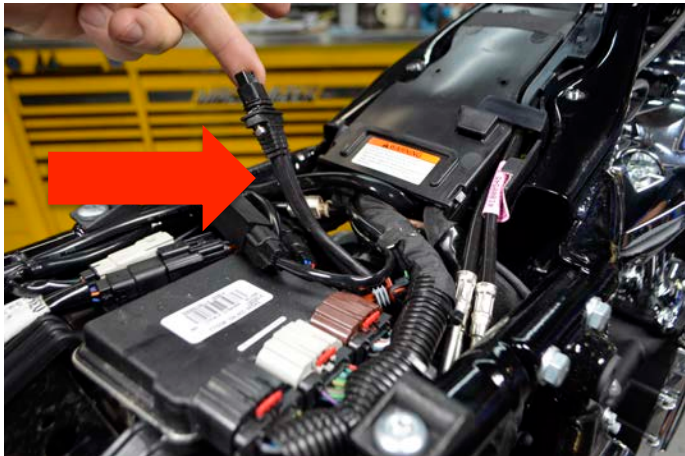


Install breather lines and route towards front of the motor trimming excess just below the frame.

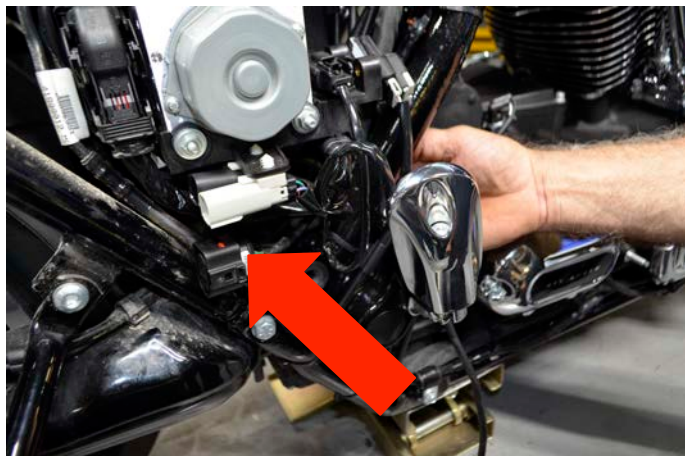
8. T-Max o2 Harness & Exhaust Bracket Install



Route the T-Max o2 wire harness through the frame rail as shown.



Continue routing to where the T-Max unit will be installed.



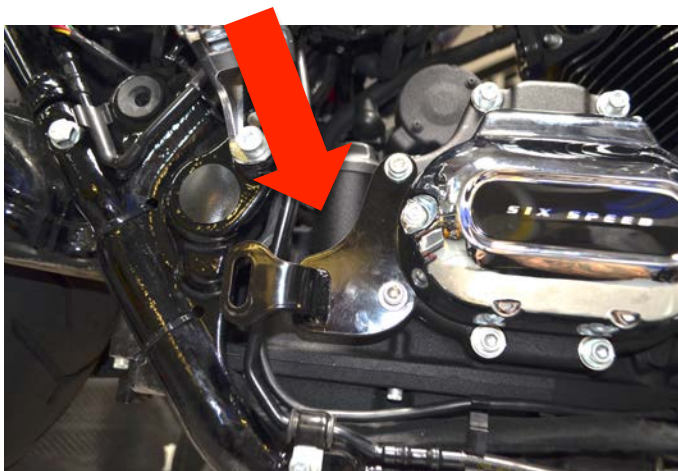
Route the rear o2 plug as shown here.



Route the front O2 sensor plug as shown. Use the clips that held the factory O2 harness for the T-Max harness.



Zip tie and secure the rest of the harness as shown.



Remove the two factory fasteners on the transmission cover. Install the supplied exhaust support bracket with washers/fasteners and torque them to factory spec.

***NOTE: Exhaust support brackets are kit specific. Yours may differ from the one pictured.

9. Head Pipe Install



Remove existing exhaust gaskets. Be sure to clean any remaining gasket material prior to installing the new one.



Press the new gasket into the port. Be sure the gasket is seated all the way.



Install shields on headpipe at this time. Rear shield first, then the middle shield, with it overlapping the rear shield at the slip fit.



Install the T-Max O2 sensors.



Place head pipe into the exhaust ports and adjust to line up with the support brackets on the cam cover. Thread the exhaust stud nuts, and support bracket fasteners, but do not tighten down at this time.



Install the oil feed line at this time with the 30 degree angle coming off the fitting from the engine as shown. Clock it as shown and tighten.

10. Turbo & Tail Pipe install



Place the drain tube with sheathing and clamp as shown on the turbo drain fitting and tighten clamp.

***Note the clamp is facing down. This gives you access to tighten the clamp while the turbo is installed on the bike, if need be.



Place the turbo onto the head pipe with supplied gasket. Connect the oil drain tube to the drain fitting on the cam cover and tighten clamp as shown.



Install tail pipe with supplied gasket and loosely thread in fasteners at the exhaust support bracket and at the turbo. Do not tighten at this time.

11. Waste Gate & Plenum Install

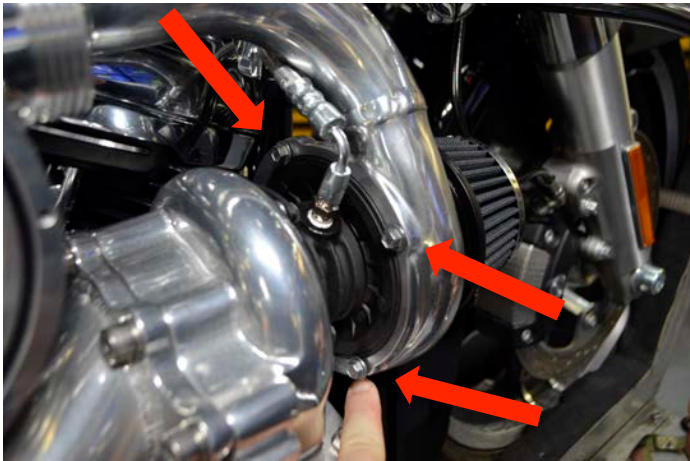


Line the waste gate up with the head pipe and tail pipe as shown. Adjust till the ports line up and install the clamps. Tighten the waste gate into position. Also route silicone line and sheathing towards plenum.



Install plenum using the supplied ¼-20 fasteners. Torque to factory spec. At this time tighten these fasteners in sequence.

1. Exhaust to Turbine Fasteners
2. Turbo to Head Pipe
3. Exhaust Port Nuts
4. Turbo Support Brackets
***NOTE: adjust the front bracket first by closing the gap between the "L" bracket and head pipe first (DO NOT TIGHTEN) you can then tighten the "L" bracket to the cam cover. Then tighten the fastener for the bracket to head pipe. Do the same sequence for the rear support bracket.
5. Finally tighten the fastener for the exhaust support bracket.



To align the compressor housing with plenum body, loosen the four flange bolts to adjust housing to the left or right. (last bolt not pictured)

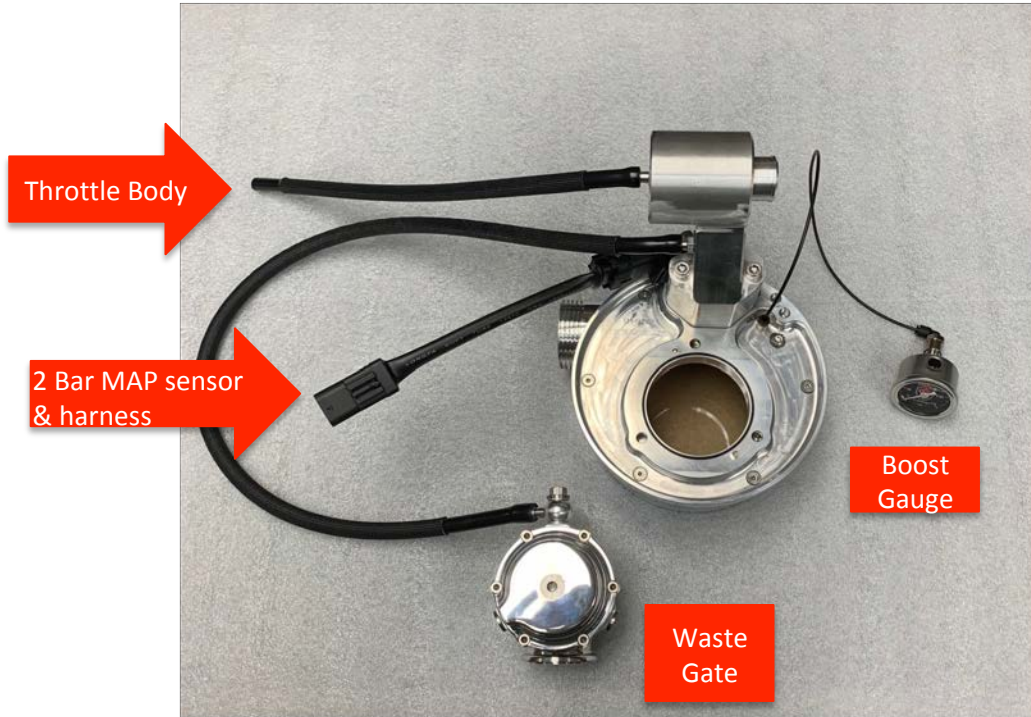


Measure/cut the provided silicone boot and slip over the compressor housing charge tube with clamps. Rotate to align the outlet and inlet of the compressor and plenum. Then slide the boot onto the plenum and tighten clamps into place. You can now tighten the (4) compressor housing flange bolts.



Install the exhaust pipe heat shield and tighten clamps. Next, insert the plenum velocity stack and clear faceplate cover. Hold clear cover in position and install plenum bezel ring. Be sure to start the threads of each fastener securing bezel ring before tightening them all down. This ensures a proper seal without distortion of bezel or damage to fastener/plenum assembly.

12. Vacuum/ Boost Diagram



13. Priming the Turbo

***NOTE: When installing the system YOU MUST CHANGE THE OIL & FILTER. No matter the previous mileage on your last oil change. This reduces particles going through the new turbo.

BEFORE HOOKING UP YOUR OIL FEED LINE TO YOUR NEW TURBO, BE SURE TO:

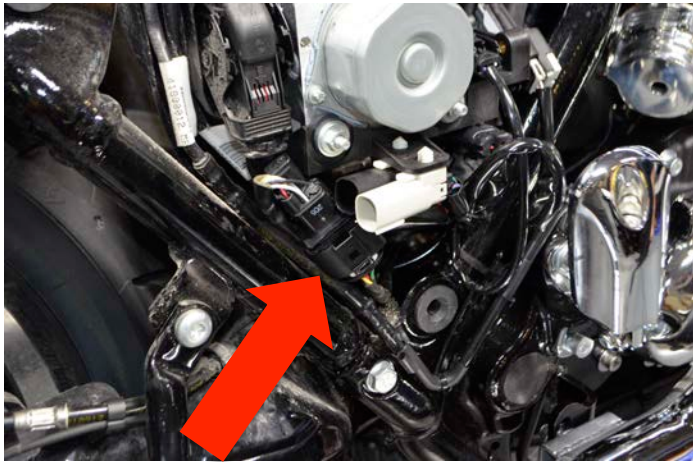
1. Pump a small amount of clean engine oil into the top oil feed fitting on turbo cartridge. (A small, hand pump oil can works great)
2. With spark plugs removed from cylinder heads, and battery reconnected, crank engine until you get clean, fresh oil coming out of the feed line. (**NOTE- Do not crank engine for more than 15 seconds at a time & be sure to monitor starter temp.)
3. Connect/tighten feed line to turbo cartridge & install spark plugs.



14. T-Max & o2 Sensors



Install the T-Max ECM and plug in all connectors securely. ***NOTE: Use supplied dielectric grease for plugs.



Plug the rear O2 and zip tie securely as shown.



Plug the front O2 and secure to frame using a zip tie.

15. Final Assembly



Install the supplied floor board spacers matching up left and right sides. Torque to spec.



Install boost gauge replacing factory clamp. Torque to spec.



Route boost gauge line from plenum along the back bone of the frame to the boost gauge. Use zip ties as need to secure line.



Install the supplied tank risers (marked "L" & "R")

***NOTE: Be sure to run factory brake lines above the spacer.



Install tank and torque fasteners to factory spec. Re-connect the fuel pump harness plug and all breather lines at this time.



Install the "Main Fuse" along with side covers, saddlebags and seat.