



TRASK
TURBO SYSTEMS

V-ROD TURBO SYSTEMS

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 understand 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 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 manufactured 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 indemnity 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 operating 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 is not responsible for any legal issues of any product you purchase here.

Introduction

Thank you for purchasing the Trask Turbo System. The most reliable, efficient, streetable, 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.**

****While there are several different tuning systems available, Trask Performance recommends the use of the Thunder Max Tuner and 2 bar map sensor. Running other systems may result in lack of performance or sub-par running issues.****






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	Nm	Ft lb	Nm	Ft lb	Nm
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) Disassembly:

We highly recommend referring to the Factory service manual for more detailed instructions of the disassembly process. The following are just a list of steps that need to be completed, but does not go into depth on how this needs to be done.



- Remove right front side frame cover and remove Main Fuse
- Remove seat
- Remove air box cover



- Remove air temp sensor from air box lid. Keep attached to harness as this will be used later during assembly.
- Disassemble and remove air box
- Once air box is out of the way, disconnect the battery terminals and remove battery from the bike



- Remove exhaust pipe system from bike



- Retain exhaust flanges, retaining rings, and nuts to be reused during assembly
- Remove horn



- Remove left and right plastic radiator side covers
- We recommend holding off on draining the radiator fluid until later, however this can be done now if you choose

3) Fuel Rail:

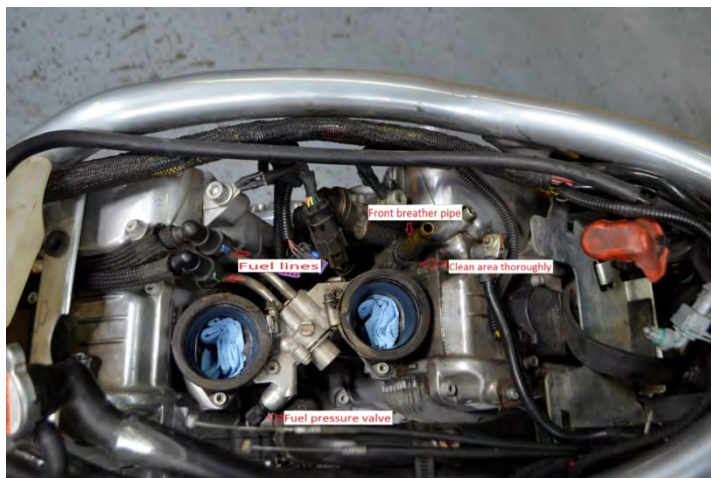
- Remove throttle body center stud
- Refer to service manual for removal of throttle body electrical sensors and throttle cables
- Loosen throttle body isolator boot clamps under the throttle body
- Remove throttle body
- **Immediately place clean rag or paper towel in both intake ports**



- Remove front breather stand pipe, however it is advised to thoroughly clean surrounding area before removal as this is a direct path into the crankcase.



- Once area is cleaned and pipe is removed, temporarily plug the hole to keep any debris from getting in hole



- Remove fuel rail
 - o Relieve fuel pressure by depressing Schrader valve under black cap directly on fuel rail. **CAUTION: Contents under pressure. Wear safety glasses.** Leave cap off for now
 - o Disconnect fuel lines
 - o Remove both clamps on intake isolator boots
 - o Remove the six 5mm bolts holding down the isolator boots and fuel rail
 - o It is advisable to first remove the isolator boots, leaving the fuel rail in place
 - o Disconnect fuel rail sub-harness from main harness

- Remove fuel rail with injectors and sub-harness still connected to fuel rail
- Thoroughly clean area in between cylinders. Be sure to plug off any openings that are exposed. We recommend taping off intake ports, injector holes, and rear breather. Any debris can cause severe engine damage



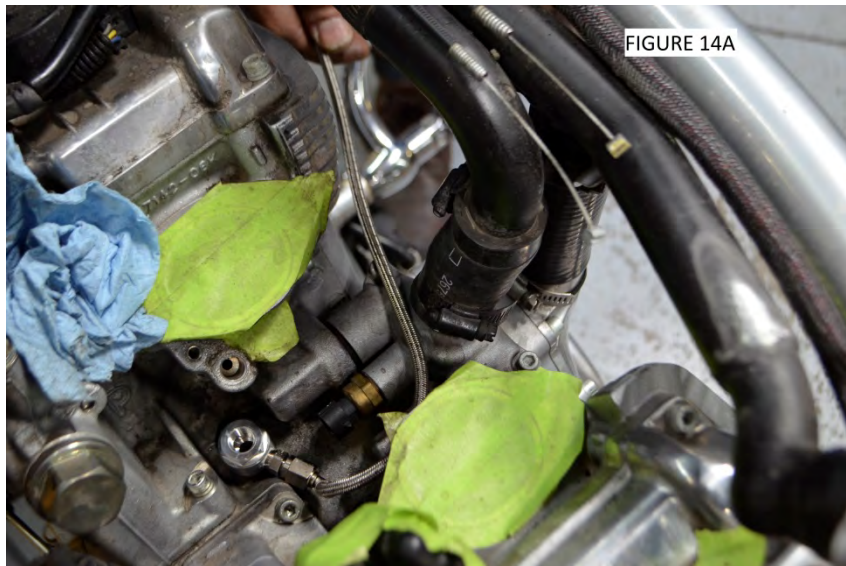
- Remove map sensor and oil pressure switch. Oil pressure switch requires a special tool obtained at your Harley dealer
- Prep oil adapter, -3 fitting, and oil sender with liquid Teflon thread sealer. We recommend Permatex Hi-temp thread sealer
- Begin by threading adapter into engine block. Orientate the -3 threaded hole toward center of rear cylinder



- Install -3 fitting into adapter

NOTE: NEXT STEP IS VERY IMPORTANT

- See Turbo system oil line install Addendum for proper line prep before moving on to the next step. See Addendum (Page 33)
- Install oil line onto -3 fitting



- Once oil line is installed and tight, feed loose end around right side of front cylinder (See Fig 14A)
- Reinstall oil pressure switch into top side of adapter
- Fuel rail disassembly/assembly
 - o Remove fuel rail sub-harness by disconnecting the plugs to injectors. **Note which plug goes to front and rear injector if not labeled. This is a critical step in reassembly**
 - o Remove fuel pressure Schrader assembly, regulator, and fuel lines from factory fuel rail. O-rings will most likely be stuck inside factory fuel rail and these need to be removed and reinstalled onto fuel lines
 - o Before beginning assembly of Trask fuel rail, be sure to inspect and clean part for and burrs or sharp edges
 - o Drill and tap fuel pressure regulator with 10-32 tap provided in the kit and install brass fitting provided. Be sure to apply red Loctite to threads of brass fitting



- Lube all O-rings with a silicone based lube or engine oil if nothing else is available
- The kit comes with a black O-ring that needs to be installed on the underside of the fuel pressure regulator



- Install regulator into Trask fuel rail with brass fitting facing away from “Trask” engraving on the fuel rail
- Install both hard fuel lines into rail
- Install the injectors into the fuel rail and secure with the two retaining clips in the kit along with 2 of the 4 Allen bolts. **Do not completely tighten these two bolts as it will make the installation of the completed assembly much easier**



- Install retaining bracket around fuel lines and regulator and secure with the 2 Allen screws remaining
- Attach smaller end of silicone hose in kit to the brass fitting on pressure regulator. Be sure to place a zip-tie around end of hose once in place

- Reinstall sub-harness by attaching to the two injectors making sure they are properly orientated to the front and rear cylinder



- Installing the assembled Trask fuel rail
 - Remove any tape or plugs covering the injector holes in the engine
 - Begin by plugging in sub-harness to main harness in bike



- Plug in oil pressure sender wire
- Plug in coolant temp sender
- Reinstall factory map sensor, but do not connect the plug



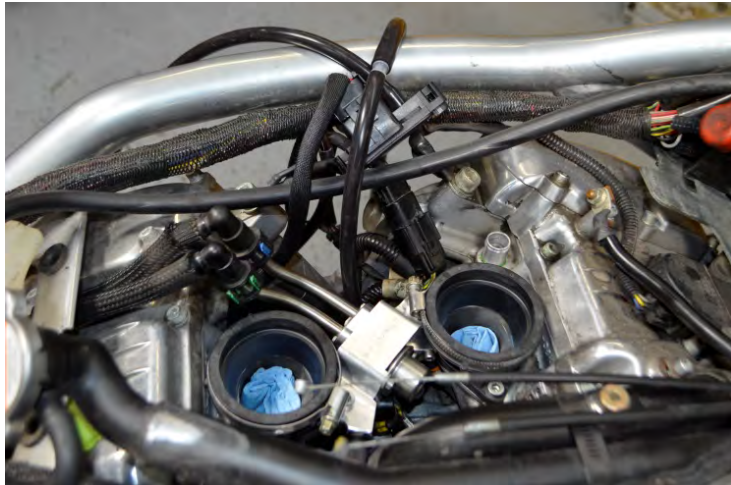
- We advise plugging the 2 bar sensor in at this time as you have more access to the plug
- Remove tape from intake ports, but leave rag or towel further down in ports to protect from anything dropping into motor

- When installing fuel rail, install front injector first. Rotating clockwise and angling rear injector towards the hole, twist unit into place. Press down to be sure injectors are seated properly. Confirm oil line is sitting below fuel rail assembly and not pinched between any parts



- Install fuel pressure tap into fuel rail and tighten the two injector retaining clip bolts now that everything is in place
- Clean and inspect intake isolator boots. Replace if necessary. We recommend using new ones or at the very least applying a small amount of high temp silicone sealant to the underside of the boots to make a secure seal
- Slide the boots into place using a similar twisting motion as used during the fuel rail installation

- Loosely install the six 5mm bolts removed during disassembly. Once all six bolts are in place, tighten the isolator boots first. Be sure if any silicone squeezes out into the intake port, it is wiped out. Now tighten the two bolts holding down the fuel rail
- Make sure hose clamps are in place and loose on both isolator boots. Note front cylinder clamp has bolt facing left side of bike and rear cylinder clamp faces right side of bike
- Reinstall the fuel lines to the hard lines coming off of the fuel rail. Lube the tips of the hard lines to make installation easier



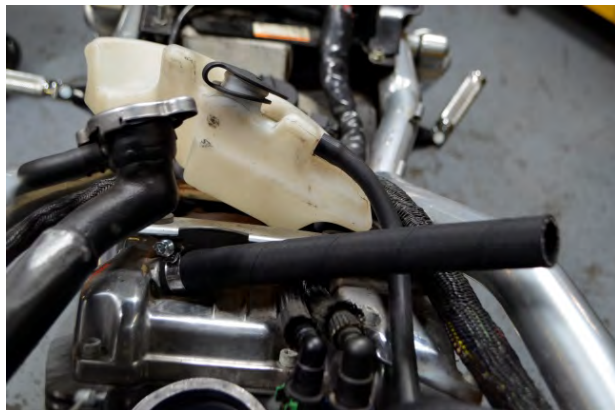
- Remove plug from hole where front breather pipe fitting was
- Install provided aluminum breather fitting using green Loctite. Fitting will need to be pressed in until fully seated



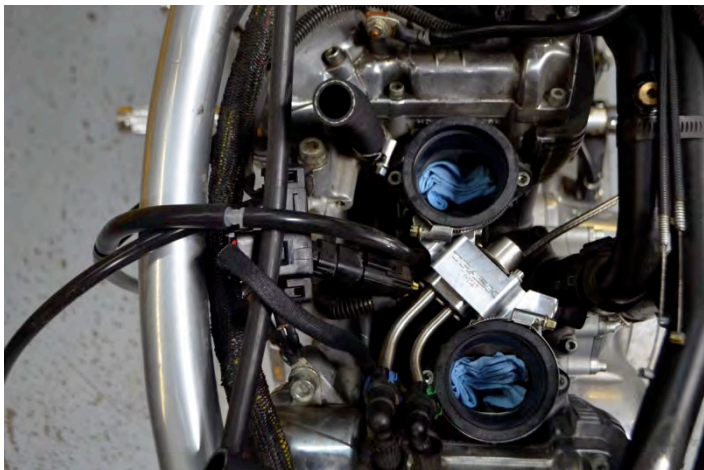
- Install short crankcase breather hose onto fitting using hose clamp provided (trim to 5-3/4"). We advise to open up clamp and place around aluminum fitting, then push hose down onto fitting. Move clamp into place and tighten accordingly



Place longer of the two crankcase breather hoses onto factory rear cylinder breather fitting using provided hose clamp (trim to 7- $\frac{1}{4}$ "). Tighten accordingly



Unplug and remove bolts securing the ignition coils



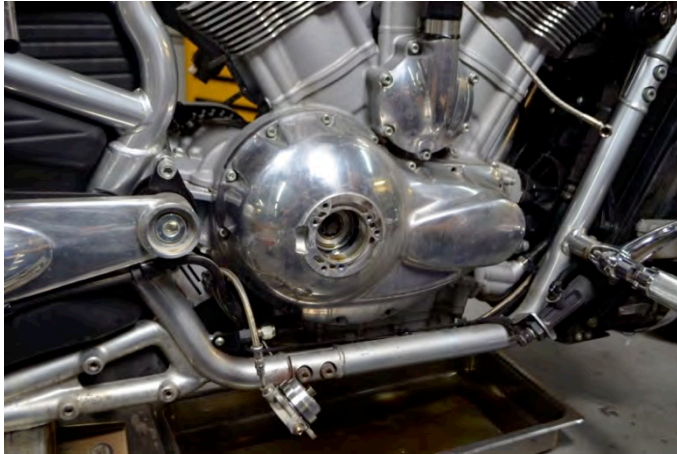
- Remove coils from motor
- Remove spark plugs
- Gap new spark plugs provided in kit to .035in and put a little bit of anti-seize on the threads of the plugs. It is important to use the plugs provided in the kit as they are a colder plug than the factory plugs. **Anti-seize only the threads. Do not get any on the electrode**
- Install new plugs and reinstall coils completely

4) Oil Drain:

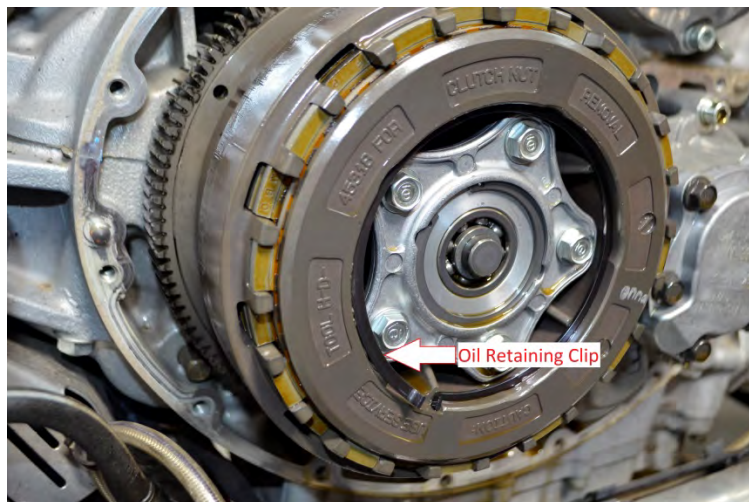
1. Place drain pan under motorcycle
2. Remove drain plug located towards front of oil pan.
3. Drain oil
4. Remove old oil filter
5. Before installing new oil filter, pre-fill filter with oil.
6. Now install new filter
7. Once oil is completely drained, reinstall oil pan drain plug. Note: There is no gasket or O-ring on V-Rod drain plugs. They also do not require any type of thread sealant. Just clean plug and install
8. New engine oil will go in after completion of next section

5) Clutch installation for 2002 – 2007 models:

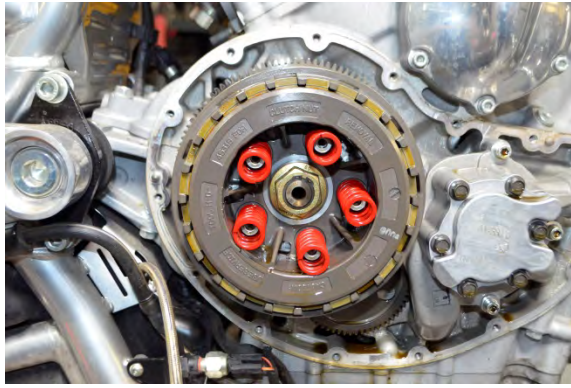
- Remove the clutch actuator
- Remove clutch actuator and let hang temporarily



- Remove bolts holding clutch cover on
- Remove clutch cover. This may require a slight tap with a rubber mallet. Take care not to tear the gasket as it can be cleaned off and reused. If necessary, replace gasket at this time
- **Note: Later model V-Rods use a 4 spring set up with assist and slip mechanism. In this case, one of the springs in the kit will not be used.**
- Remove oil retaining clip



- Remove bolts on clutch spring lifter plate. Take care removing these bolts in a staggering (star pattern) method only loosening a little at a time. Failure to do so can result in damage to the lifter plate
- Once lifter plate has been removed, slide the springs off of the clutch inner hub
- Replace springs with red springs provided in kit



- Reinstall lifter plate and bolts keeping light pressure pulling towards you on the lifter plate as you screw the bolts in. Again, tighten these bolts in a staggering (star pattern) and progressive pattern until tight
- We advise you perform a test to be sure the clutch assembly has been installed properly before moving on:
 - o Place the transmission in gear
 - o With the rear wheel off the ground. Try and spin the back wheel. If the clutch has been installed properly, the rear wheel should not spin.
- Reinstall the oil retaining clip
- Clean gasket surfaces on both the case cover and the engine case as well as the gasket itself

If you have a V-Rod Muscle, see addendum before installing clutch cover (Page 34)

- Reinstall cover and tighten bolts to factory spec
- Reinstall clutch actuator
 - o Once actuator is installed, complete one last test to confirm installation has been done correctly. With the clutch lever pulled in, you should now be able to rotate the rear wheel. This is easier done with the transmission in 5th gear rather than 1st.
- Install new Trask actuator cover provided in kit



- Remove and discard factory dipstick

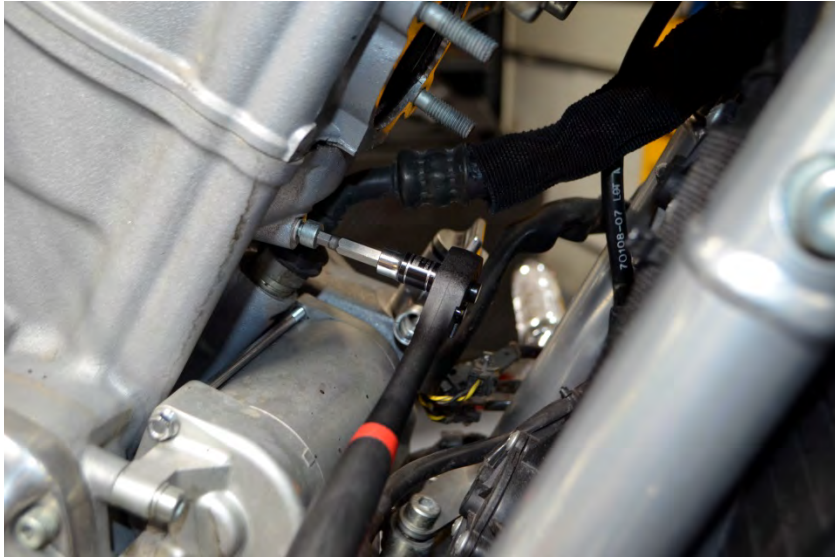
- Install oil fill drain line adapter into factory filler hole. Make sure to orientate the drain line bung facing the starter



- Add 5 quarts of high quality synthetic oil
- Install new longer dipstick provided in kit

6) Coolant System:

- Remove radiator drain plug and drain coolant into pan
- Once coolant is draining into a pan, remove radiator cap
- Remove 5mm bolt in front cylinder to drain remaining coolant from engine block



- Once coolant has completely drained, reinstall the drain plug and 5mm bolt in front cylinder
- Disconnect the overflow tank and remove from bike
- Drain tank and flush
- Remove lower hose from overflow tank and retain clamps
- Remove all clamps to remove radiator fill pipe from bike. The return pipe will stay in place on the bike



- Modifying the radiator filler neck:
 - o Once filler pipe is removed, flush to clean out
 - o The tube needs to be cut and repositioned.
 - o Make 1st cut 1" from "T" towards the filler cap
 - o Make 2nd cut ¼" from the weld closest to the radiator cap
 - o After cutting, connect the tubes with the supplied rubber hose and 2 clamps. You will need to trim the rubber hose supplied so the two pipes touch internally. You may need to reposition the filler neck once the plenum is installed so you can install/remove the radiator cap, so position hose clamps accordingly



- Reinstall modified filler pipe using all the clamps removed during disassembly

7) Intake Plenum/Throttle body:

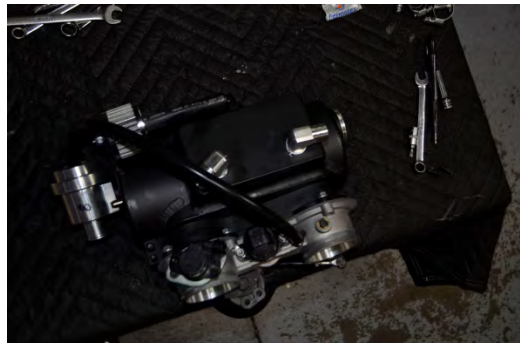
- Assembling the throttle body to the intake plenum
 - o Locate the six double sided studs in the kit



- o Apply a drop of red Loctite to the shorter side of each stud and screw them into the six threaded holes on the topside of the throttle body. Make sure each stud threads down until they bottom out in throttle body
- o Install throttle body to plenum gasket over studs
- o Place throttle body onto studs and install six nuts provided in kit. Use blue Loctite for these nuts and tighten down securely



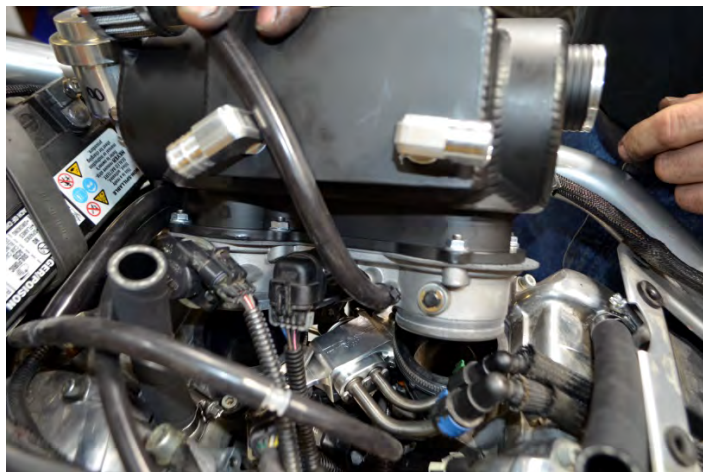
- o Install silicone blow-off hose from the vacuum port in throttle body to the blow-off valve on the plenum. Secure ends with small zip-tie



- Before installing the plenum assembly onto bike, be sure to blow assembly out with air to remove any debris inside
- Route boost line so the long end of the hose goes under the battery box and follows the back side of the radiator. The "T" in the line will then be directly across the front cylinder



- Reinstall the battery into the battery box, but do not reconnect the leads at this point
- Reinstall the throttle cables to the linkage on the throttle body
- **Remove any rags or towels in the intake ports** and install the map sensor hose as well as the boost pressure line (which is the hose off of the "T")
- Hook up TPS and IAC motor plugs to throttle body



- Push plenum assembly into isolator boots
- Making sure assembly is sitting all the way down, tighten isolator boot clamps

- Now is the time to confirm you have proper clearance for the radiator cap making any adjustments needed



- Place hose clamps over loose ends of breather hoses and install hoses onto fittings in plenum



8) Exhaust Manifold and Turbo:

- Begin by replacing the exhaust gaskets with the new gaskets provided in the kit
- Before installing the head pipe, be sure that all slip-fits on pipe are able to rotate for proper fitment
- Remove O2 plugs and blow out threads to remove any debris
- Place outside/rear turbo mounting bolt thru mounting plate from the bottom with threads facing up.



- Reinstall the factory exhaust flanges that were removed during initial disassembly
- Install heat shield onto head pipe. Make sure the two hose clamps are accessible from the top side of the pipe when installed. The heat shield will hold the bolt from the previous step in place once mounted
- Before installing the head pipe, we will relocate the factory ignition switch. This will give you more room when mounting the head pipe.
 - o Remove the two bolts mounting the factory switch



- o Disconnect the electrical connector
- o Install offset ignition bracket using the two 5mm bolts and lock washers provided in the kit. The bracket has an offset that will move the ignition further forward as well as further out.

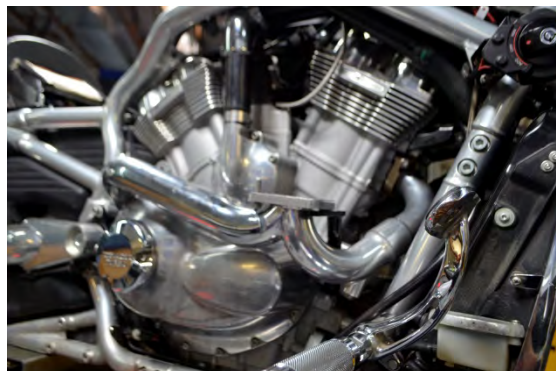
- Guide the electrical connector thru the bracket and plug back into ignition switch
- Using the two 5mm factory button-head bolts and the nylock nuts provided, install the ignition switch to the bracket



- Mount the turbo support bracket, but keep loose for now.
 - Remove the two bolts holding the starter to the front of the engine
 - Using the supplied longer 5mm bolts and lock washers along with some red Loctite, place the bracket into place on the engine



- Install the head pipe onto the engine. Tip: It is much easier to begin with the slip-fit rotated towards you and place the pipe in the rear cylinder first. Then rotate the slip-fit to install the front pipe. Use the factory nuts set aside earlier. Do not completely tighten the nuts so you are still able to move the head pipe slightly in order to properly align the system once the other components are installed.



- Loosely install tail pipe onto turbo housing
- With gasket in place for proper fitment, place turbo housing onto head pipe over the single bolt installed earlier
- Align bracket on the tail pipe with the bracket on the head pipe and thread the provided bolt in by hand
- With that bolt in place, and making sure the turbo flange is sitting flush on the head pipe flange, snug the five bolts on the tail pipe to secure the proper alignment of the tail pipe to the turbo housing. **Do not forget about the gasket between the tail pipe and turbo housing**
- With the tail pipe secured to the turbo housing, remove the complete unit together from the bike. The purpose of this step will be to properly tighten these two components together. While mounted on the bike, you will not have access to a couple of the bolts.
- Mount the oil drain line to the drain fitting under the turbo cartridge



- Before remounting the turbo/tail pipe assembly, we advise installing the rear O2 sensor only. Installing the front sensor at this time will make tightening certain bolts more difficult
- Run the O2 sensor wire up and across the top of the rear cylinder towards mounting point for the Thunder Max ECM



- Place the turbo/tailpipe assembly back onto the engine making sure the gasket is still in place. As you set the assembly in place, align the oil drain hose with the bung coming off the side of the oil filler neck. Make sure you have the hose clamp around the hose before connecting the two. **Note Muscle Addendum if applicable (Page 39)**



- Install the three remaining bolts connecting the two flanges and thread all four nuts onto the bolts. Keep these loose and thread the bolt in place connecting the two brackets on the tail and head pipe. Use Loctite on this bolt.
- With all the bolts in place, you will now tighten the bolts with this specific sequence:
 - o Rear exhaust flange (2 nuts)
 - o Turbo to head pipe flange (4 bolts)
 - o Tail pipe/head pipe bracket bolt (1 bolt)
 - o Turbo support bracket bolts thru starter (2 bolts)
 - o Front exhaust flange (2 nuts)
 - o Double check rear exhaust flange
- Tighten hose clamp on oil drain line
- Install the tail pipe heat shield with the two hose clamps in the kit
- Install front O2 sensor. Route the wire across the starter and up the left front frame rail



- You can now install the braided oil feed line to the fitting on the top side of the turbo cartridge. Do not use any Loctite or thread sealer on these threads as it is very easy to contaminate the oil passage. Just thread fitting on and tighten securely.



- Trim black silicone boost line that is currently exiting the right side of the bike just behind the radiator and plug it onto the fitting of the waste-gate



9) Intercooler:

- Blow the inside of intercooler out with compressed air to free any debris
- Make sure that the compressor housing sits just off of level, angled toward the engine. You can clock the compressor housing by removing the snap-ring securing the housing in place. Once surface is properly placed, reinstall the snap ring



- Cut silicone elbow to match picture



- Place three hole gasket over studs on compressor housing
- Put silicone elbow hose onto rear of the plenum with short cut side to plenum. Make sure both hose clamps are on the hose, but loose
- Slide the intercooler into place over the studs on the compressor housing and into the other end of the silicone elbow hose
- Install the three nuts on the compressor housing and tighten
 - o Note: If any further adjustment is required of the compressor housing, you can simply compress the snap-ring again and rotate everything accordingly

- Tighten the two house clamps around the elbow



10) Final Steps:

- Install the Thunder Max tuner in place of the factory ECM. Different year models have this mounted in different locations. Mount yours accordingly.



- Using dielectric grease between the connector and the Thunder Max, screw connector into place. Do Not use any dielectric grease on the other end of the plugs going to the O2 sensors



- Neatly route the wires to the connections for the O2 sensors and plug in. The Thunder Max instructions will explain the proper routing for your application

- Once the Thunder Max is installed, you can secure the 2 Bar sensor to the side of the plenum using some zip ties



- Reconnect the battery terminals
- Zip tie air temp sensor to frame bracket or any part of the harness close by
- Reinstall over flow tank and connect all hoses



- Refill coolant system using new Harley coolant. Make sure you remove the air bleed plug in the return coolant pipe to allow any trapped air out of the system. You will want to rinse off any spilled coolant on the engine or bike with water before you start up the bike. Failure to do so can result in staining.
- Reinstall the right and left plastic radiator side covers
- Install the air filter over the inlet of the turbo compressor
- Reinstall the horn

- Install the boost gauge
 - o Remove the 2 front brake lever perch clamp bolts
 - o Replace the clamp with the new Trask boost gauge and secure using the factory bolts and washers
 - o Route the 1/8" plastic boost line from the gauge alongside of the handlebars. Carefully route the line around the front of the upper triple clamp and back towards the intake plenum.
 - o Cut the line to length, making sure it is cut straight, and plug into the fitting on the front of the plenum
- Install the air box cover and seat



- Plug main fuse back in and install frame side cover
- You are now ready to start the bike*
- Start the bike and look closely for any signs of oil leaks around the oil feed lines or drain hoses
- After the bike has run for a short time, shut off and remove the oil dip stick. Look for signs of oil running down from the oil drain bung. This ensures we have oil running to and from the turbo unit.
- Double check all hardware and be sure everything is tight and secure

*If a Thunder Max Tuner was not purchased from Trask Performance with the kit, you can contact us about obtaining a map to download into your unit. If a Thunder Max Tuner was supplied with your kit, it will already have a base map loaded for your specific application.

11) Additional Notes:

- Regular maintenance. Our turbo systems have proven themselves to be very reliable over time with regular maintenance intervals. We highly recommend using full synthetic oil. Many fine brands are available. Oil and filter changes should be done every 2,500 miles.
- Cool down time. After running your bike, always let it idle for 20 to 30 seconds before shutting it off. This allows the turbo to coast down and cools off the bearing surfaces which will ensure longer life of your turbo.
- ENJOY! This will be, for the majority of people, the fastest bike you have ever ridden. Ride safe and give yourself plenty of room for stopping. The bike accelerates fast and can exceed the speed limit before you know it. Be careful, ride safe, and have fun.
- Drag Racing. If you plan to drag race your bike, we recommend using 100 octane fuel and don't hot lap the bike. Let it cool down after every run. Time will be more consistent if you allow the bike to cool properly between runs.

MAKE SURE **NGK DCPR9E** SPARK PLUGS ARE INSTALLED WITH THIS SYSTEM AND GAPPED TO .035. ENGINE DAMAGE OR SPARK PLUG FAILURE MAY OCCUR IF INCORRECT PLUGS ARE INSTALLED.

12) How to install an emailed turbo map:

Cable throttle application

Attached to the email will be a file with the map. Please follow these instructions for proper installation.

- Save attached map to your desktop
- Open the ThunderMax software
- Go to **file>open**
- Locate the map saved to your desktop and select **“open”**
- Turn the key and handlebar switch to the **“run”** positions
- Go to **file>write module maps and settings**
- Go to **configure>module settings**
- Check the box labeled **“enable”**
- Select **“2 bar”** and hit **“OK”**
- Go to **map editing** and select **“clear learned idle control adjustments”**
- Turn the key switch off for 30 seconds and then on for 30 seconds – repeat this step 2 more times
 - After the 3rd set, turn the ignition on, wait for the **“check engine light”** to go out and start the bike

13) Turbo systems Oil Line install Addendum:

Note: This procedure MUST be done before starting the bike for the first time. If it is not done, it can result in damage to the turbo cartridge

Before installing the oil feed line onto the oil feed adapter which is located off of the oil pressure switch, blow out the oil feed line with compressed air for any small particles or debris. We complete this step before packaging, but any small particles can be hazardous to the cartridge so it is best to complete this just prior to installation. Once you have the line clean, take an oiling gun and fill the line completely with oil (it is best to use the same oil you will be putting in the bike). Let some run out into a container to wash anything the air may have missed. You can now install the oil line onto the oil adapter. Once you have properly tightened the line to the adapter, fill the line with oil and temporarily cap off the top so the line remains full while you install the rest of the turbo kit. You can secure the line in a vertical fashion somewhere out of the way to make this easier.

The turbo cartridge is pre-oiled when it is assembled, but filling the cartridge with oil as well will ensure it will be well lubricated before the initial startup of the bike.

14) V-Rod Muscle Addendum:

The systems for the 2009 V-Rod Muscle are almost identical to the other V-Rod models with these exceptions:

- The turbo oil drain fitting is installed in the clutch cover vs. the oil adapter on other models
- The turbo has more air filter mount angle to clear the larger radiator shrouds
- We supply passenger peg mounts to replace the factory Muscle mounts which are removed once the stock exhaust is taken off the bike. The pegs mount in the stock location for the Night-Rod model.

See the pictures below for reference of these differences.



15) Trouble Shooting:

The following is a trouble shooting guide for our turbo kits. These are the most common issues we have encountered after installing a turbo kit.

- **Idle speed higher than normal:**
 - o Check for vacuum leaks and for proper vacuum hose routing
 - o Check the throttle body is fully seated and the injector O-rings in the manifold are not damaged
- **Low power output:**
 - o Check the fuel pressure while the bike is running. It should be 60psi and not fall off when the bike accelerates
 - o Check the woodruff key on the charging system rotor for shearing. This will cause the rotor to shift and effects the ignition and injector timing
- **Engine running hot or overheating:**
 - o Make sure your cooling system is full and you have bled out the air in the system by removing the 5mm screw on top of the radiator tube while filling the radiator
 - o Check the radiator cap to ensure it will hold 16psi
 - o Make sure the radiator fans are coming on

Note: If your bike did not run hot before installing the turbo, it should not run hot after installing the turbo. This means you did something during the install.
- **Check engine light is on, has code for IAC motor:**
 - o Check for vacuum leaks or vacuum hose routing

The preceding list should cover any problems you encounter, however we are available to assist you with any further questions you may encounter.

Contact us at www.traskperformance.com or call us 623-879-8488



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TURBO SYSTEMS

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