

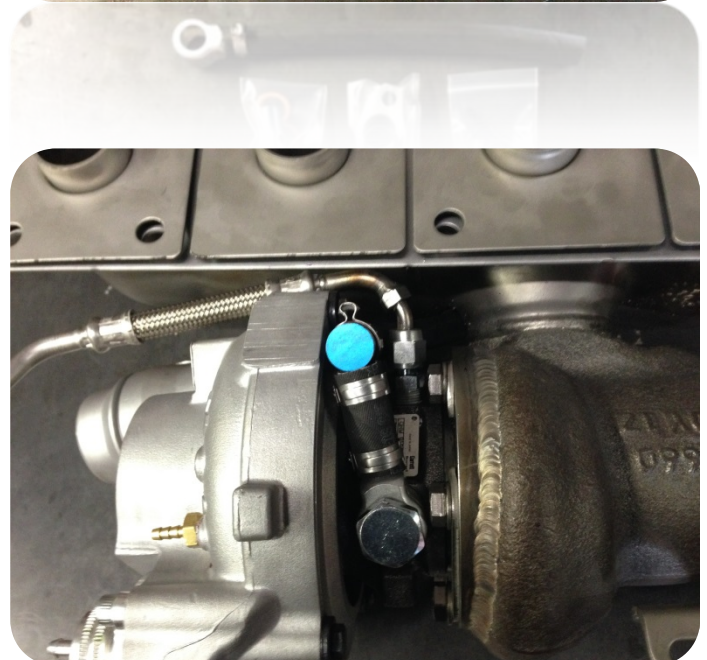


N55 Turbo upgrade install guide

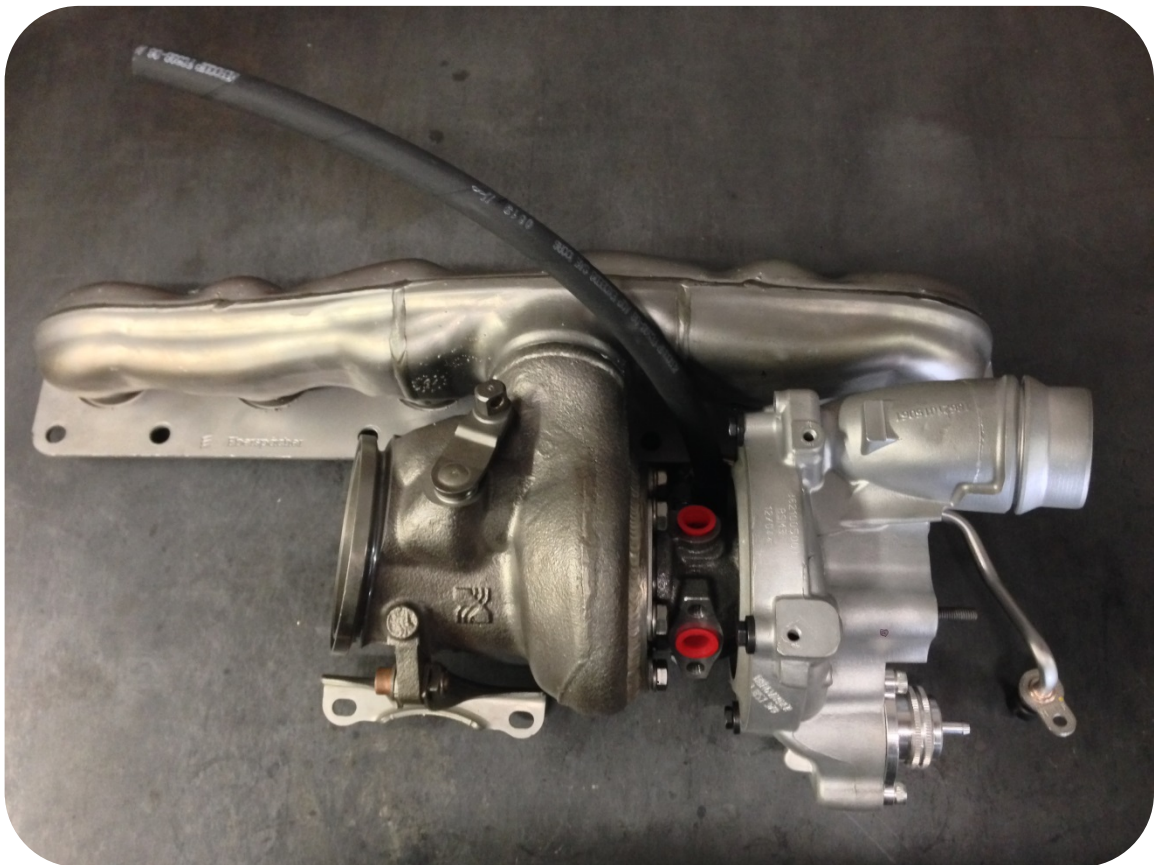


Thank you for your purchase of the VTT BMW N55 Stage 2 turbo charger upgrade! First thing to do when you open your box is to make sure all parts are in their respective bags and nothing has been left out or lost during shipping. Here is a breakdown of what you should have.

- 1 Garrett / VTT Hybrid Turbocharger
- 1 Forge DV (on turbocharger)
- 1 DV solenoid
- 5.5 ft. Vacuum hose
- 1 DV plug and play wiring harness
- 1 Oil drain adaptor (bag 2)
- 1 Oil drain Gasket (bag 2)
- 2 Oil drain O-rings (bag 2)
- 2 Allen oil drain bolts (bag 2)
- 1 Inner water line (on turbocharger)
- 1 Inner Water line O-ring (bag 3)
- 1 oil feed line (on turbocharger)
- 1 outer water line with fitting attached
- 1 banjo bolt (bag 1)
- 2 copper crush washers (bag 1)
- 2 hose clamps (bag 3)
- Vacuum Tee (bag 3)
- 4 large zip ties
- 4 small zip ties



Once all parts are accounted for you can proceed with the turbocharger Installation. We suggest this only be done by a qualified technician and recommend using a VTT certified install center. They can be found on our Website. If something was missing for your upgrade, please contact us immediately so we can remedy this. Contact info is on the last page of this guide.



INSTALL GUIDE

1. Following all factory procedures remove the stock turbocharger from the vehicle
2. The stock oil feed line and outer water hose will not be used, put them in a safe place in the event the car needs to be returned to stock.
3. The inner water line and oil feed line are already installed on your turbocharger in the correct position, **BUT ARE ONLY HAND TIGHT. Do NOT remove them, BUT TIGHTEN BEFORE INSTALL.** Also note do **NOT** remove the turbine housing or compressor cover, they are timed in a very precise position and loosening the bolts will compromise this position.
4. Next we will get the stock lines to be reused ready for reinstallation. Take the stock oil drain line and using a 5/16" drill; carefully drill out the bolt hole to fit the bigger bolt. (Fig 1)
5. Take the inner water line and cut the clamp from the hose, be careful not to cut the hose, if car is returned to stock this hose will be reused. Once clamp is removed, remove hose from the stock fitting, (it can be tough, using a small screwdriver to pry around the edge of the hose can help break it free.) Set both the drilled out oil drain hose, and inner water fitting aside to be installed with the turbocharger.
6. Prepare the cylinder head for turbocharger reinstallation by cleaning and removing all previous gaskets and residue.
7. **ALL** new factory gaskets are required to be used as part of the installation. This includes the exhaust flange nuts. (parts list at end of guide)
8. Take the inner water fitting previously removed, replace its o-ring with the provided Viton O-ring (bag 3), using a little lubrication on the o-ring itself, install it onto the engine, and tighten its holding bolt to factory torque specs.
9. On the bench find the oil drain adaptor bag (bag 2) and remove its contents. Install the supplied Viton o-ring on the stock drain line and using lubrication on the o-ring slide the drain into the oil drain adaptor (making sure the beveled edge is up) until it sits flush against the adaptor. Making sure the holes are lined up, use the supplied drain gasket and assemble the oil drain adaptor and oil

- drain hose using the bolts provided, be sure you have the drain hose facing the correct direction. Tighten bolts to factory torque specs to avoid any leaks. (fig 2)
10. Reroute the stock DV plug and wiring up towards the valve cover and secure for use later. If this step is forgotten, getting the plug up later is very difficult.
 11. Turbocharger is now ready for fitting onto the engine
 12. Carefully fit the turbocharger assembly to the engine, take extra care to make sure everything lines up and nothing is binding, once turbocharger is secure on the exhaust, get 2-4 nuts started to keep the turbocharger from sliding off. If by small chance the timing is slightly off on the turbocharger, please call or email us, and we will walk you through adjustment.
 13. Before tightening all nuts, replace the bottom o-ring on the oil drain hose with provided Viton O-ring, and install it into the engine. Tighten its hold down bolt to factory torque specs. (fig 3)
 14. Fit the oil feed line into its place in the engine and tighten its hold down bolt to factory torque specs. (Fig 4)
 15. Finish tightening turbocharger into place using factory torque specs on all bolts.
 16. Route the inner water hose around in a half loop and install on the inner water fitting using supplied hose clamp to secure it. Use one of the zip ties to secure the outer hose as far away from any heat and exhaust parts as possible. (Fig 5)
 17. Using supplied vacuum hose route vacuum hose from DV, and boost port on compressor cover (Fig 6), following the vacuum hose coming down to the wastegate actuator. (Fig 7). Be careful to make sure the hoses stay up top as they will be very hard to route once all parts are reinstalled.
 18. Reinstall factory water pipe using new o-ring, and factory torque specs, Install supplied Banjo bolt through the fitting in the supplied outer water line, with a copper crush washer on either side of the fitting (Fig 8). Hand tighten fitting into the turbocharger CHRA, route the new hose around the wastegate arm, and using supplied hose clamp secure the hose to the factory water fitting on the pipe Tighten banjo to 15 ft lbs, anymore can break the banjo.
 19. Now move up to the top of the engine, find the vacuum hose coming from the REAR nipple in the valve cover, it will be a little hard to access, be VERY careful not to break the nipple. Cut this

hose right in the center, and install the supplied Vacuum Tee in this hose. (Fig 9)

20. Now find the stock DV plug moved up top earlier, and plug the matching end of the plug and play harness into it. Take the other end and plug it into the supplied DV solenoid. Now using the supplied Vacuum hose, Follow the routing guide (Fig 10) and attach the hose from the DV, Boost nipple, and Vacuum tee to their correct ports see vacuum routing guide. Using supplied zip tie, secure solenoid away from any heat sources. (If you have any questions about this routing please contact us and ask. Do not for any reason T into the line going to the wastegate, or the existing wastegate solenoid. This can cause an overboost condition, if your rear port has a plug on it, simply remove the plug and run that port to the vacuum side of the solenoid included with the kit.
21. At this point, all parts of the upgrade are installed, follow the rest of the factory install procedure to finish turbocharger installation.
22. Oil and Filter **MUST** be changed with preapproved oils
23. We only suggest the use of this upgrade with. Upgraded Downpipes, Intercooler, and charge pipe. All charge piping clamps are suggested to be replaced with T-bolt style clamps, PCV system needs to be in good working order. We also suggest the use of an Oil Catch Can System.
24. Drive the car easy for the first 5-10 miles checking for any leaks, non-standard noises, etc.
25. This Turbocharger needs proper tuning to take advantage of its capabilities, 91 octane fuels and higher should always be used.
26. Enjoy your new VTT turbocharger upgrade..:)

Fig 1



Fig 4



Fig 2

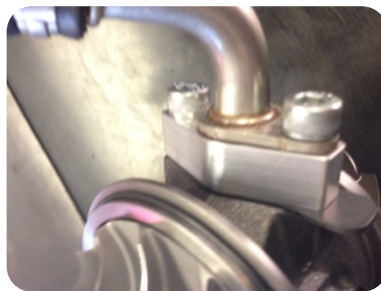


Fig 5



Fig 3



Fig 6



Fig 7



Fig 8



Fig 9



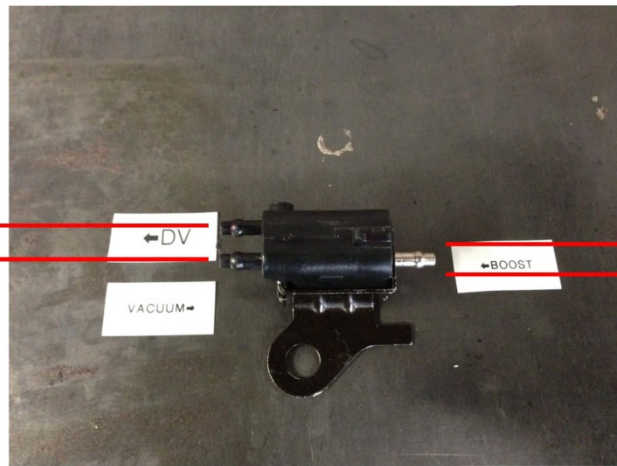
Fig 10



DV



Boost port on housing



This
OR
This



Vacuum source from valve cover



Silicone hose tap



ANY QUESTIONS, OR FITMENT PROBLEMS, PLEASE EMAIL TONY@VARGASTURBO.COM BEFORE TRYING TO FORCE OR MODIFY ANYTHING. THIS UPGRADE IS PLUG AND PLAY IF THESE INSTRUCTIONS ARE FOLLOWED, ANY ISSUES NEED TO BE ADDRESSED TO AVOID PROBLEMS.

VTTO 
VARGAS TURBOCHARGER TECHNOLOGIES

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Stock replacement parts list for N55

- **Donut Gaskets: 11627558906 – 6 required**
- **Flange Nuts: 18407502196 – 15 required**
- **Downpipe Gasket: 18307553601 – 1 required**
- **Water pipe gasket: 11537584829 – 1 required**
- **Turbo Inlet Gasket: 13717599291 – 1 required**

