

INSTALLATION INSTRUCTIONS



MAKE: Dodge / Ram
MODEL: 2500 / 3500
YEAR: 2007.5 - 2018
ENGINE: L6 - 6.7L (td) Cummins

Turbocharger (GT Series)
46-60252

	<p style="text-align: center;">Parts Included:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Turbocharger</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Oil Injector</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Turbocharger flange to exhaust flange gasket</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Turbocharger to exhaust outlet V-band clamp</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Rubber sealing washers</td> <td style="text-align: right; padding: 2px;">4</td> </tr> <tr> <td style="padding: 2px;">O-ring gasket – upper actuator</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">O-ring gasket – lower actuator</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">M6 x 1.0 x 60mm Bolt</td> <td style="text-align: right; padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">M6 x 1.0 x 20mm Bolt</td> <td style="text-align: right; padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">M10 x 1.50mm x 50mm studs</td> <td style="text-align: right; padding: 2px;">3</td> </tr> <tr> <td style="padding: 2px;">Oil return gasket</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Oil supply banjo washers</td> <td style="text-align: right; padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">Oil Injector</td> <td style="text-align: right; padding: 2px;">1</td> </tr> </table>	Turbocharger	1	Oil Injector	1	Turbocharger flange to exhaust flange gasket	1	Turbocharger to exhaust outlet V-band clamp	1	Rubber sealing washers	4	O-ring gasket – upper actuator	1	O-ring gasket – lower actuator	1	M6 x 1.0 x 60mm Bolt	2	M6 x 1.0 x 20mm Bolt	2	M10 x 1.50mm x 50mm studs	3	Oil return gasket	1	Oil supply banjo washers	2	Oil Injector	1	<p>Qty.</p>
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CAUTION: Allow time for your vehicle to cool down prior to installation. When working on your vehicle proceed with caution. Wear protective safety equipment; eye goggles and gloves to ensure a safe installation. **aFe recommends professional installation on this product. Thoroughly inspect the aFe turbocharger to make sure there is no damage from shipping (if damage is noted, immediately contact aFe customer service).**

Note: The installation of this part requires the use of a tool that can communicate with the on-board computer of the vehicle and can calibrate the actuator on the turbo.

1. Disconnect the negative battery cables on both of the vehicle's batteries.
2. Remove the right front inner wheel well liner.
3. Drain the coolant system.
4. Remove the air intake system.
5. Remove the EGR cooler system.
6. Remove the heat shield from the exhaust manifold.
7. Cut the cable ties from the wiring and disconnect the turbocharger speed sensor connector.
8. Open the clip retaining the turbocharger speed sensor wiring, turbocharger actuator wiring, and the NOx Sensor wiring (if applicable).
9. Remove the bolt retaining the clip which secures the NOx wiring and the turbocharger actuator wiring to the VG (Variable Geometry) actuator (if applicable).
10. Disconnect the turbocharger actuator connector.
11. Remove the oil supply line.
12. Remove the coolant supply line.
13. Remove the exhaust steady bracket from the transmission.
14. Disconnect the exhaust down-pipe from the turbocharger exhaust elbow.

Note: It may be necessary to leave the turbocharger exhaust elbow in the vehicle if your vehicle is equipped with a NOx sensor.

Note: Do not disconnect the NOx sensor connector. If you are removing the turbocharger exhaust elbow, loosen the NOx sensor first, take the turbocharger exhaust outlet off the turbo and unscrew the turbocharger exhaust outlet from the NOx sensor. (if applicable).

15. Disconnect the turbocharger exhaust elbow from the turbocharger.

Note: It may be necessary to remove the passenger side motor mount or bend the heat shield near the passenger side motor mount to gain access to the oil return line and the coolant return line.

16. Disconnect the oil return line.
17. Disconnect the coolant return line.
18. Remove the intake heater relay from the battery tray.

Note: The stock manifold and the turbo will come out together.

Note: The turbo and the exhaust manifold are extremely heavy. Please be careful while removing the assembly.

19. Remove the stock exhaust manifold and the turbocharger.
20. Remove the turbocharger from the exhaust manifold. Save nuts for reuse.
21. Remove the oil flow restrictor from the top of the turbocharger. Save for reinstallation.

22. Remove the turbocharger speed sensor from the turbocharger. Save for reinstallation.
23. Take the VG (variable geometry) actuator off the factory turbocharger. Save for reinstallation.
24. Place the stock turbocharger to the side.
25. Prepare the mating surface on the head for the exhaust manifold.
26. Prepare the mating surface on the exhaust manifold turbocharger flange for the supplied aFe turbocharger.

Note: Please make sure that you do the follow steps prior to installation.

Note: The sector gear will require moderate force to move while inspecting.

27. Rotate the sector gear clockwise and counterclockwise on the aFe turbocharger. Movement should be smooth and without binding.

Note: If the holes don't align and the drill bit does not slide thru the sector gear into the turbocharger case, please call our tech support line.

28. Rotate the sector gear counterclockwise towards the turbocharger compressor cover until it stops (away from the exhaust outlet). Hold the sector gear in the stopped position. Slide a 3/16 drill bit thru the hole in the sector gear and into the hole on the turbocharger housing. If the drill bit does not slide into the hole, stop and call technical support. The sector shaft should be close to perpendicular when the holes are aligned. After checking the sector gear alignment, remove the drill bit.
29. Install the turbocharger speed sensor into the aFe turbocharger and reconnect the wiring connector.
30. Install three (3) supplied M10 x 1.50mm x 50mm studs in the aFe turbocharger.
31. Install the supplied turbocharger flange to exhaust flange gasket.
32. Attach the aFe turbocharger to the exhaust manifold using the nuts removed in Step 20. Torque to factory specifications.

Note: aFe Power recommends the use of new exhaust manifold gaskets.

33. Install the aFe turbocharger and exhaust manifold onto the engine. Torque to factory specifications.
34. Reinstall the intake heater relay onto the battery tray.
35. Install the turbocharger exhaust elbow to the turbocharger using the supplied V-band clamp. Torque to factory specifications.
36. Reconnect the coolant return line using two (2) supplied rubber sealing washers. Torque to factory specifications.
37. Connect the oil return line using the supplied gasket. Torque to factory specifications.

Note: If the motor mount was uninstalled, reinstall it now. If the heat shield was bent, bend it into the correct position.

38. Connect the exhaust down-pipe to the turbocharger exhaust elbow. Torque to factory specifications.
39. Install the exhaust steady bracket back onto the transmission. Torque to factory specifications.
40. Connect the coolant supply line using two (2) supplied rubber sealing washers. Torque to factory specifications.
41. Using the supplied oil injector, oil the supplied aFe turbocharger through the oil inlet.
42. Install the oil flow restrictor removed in Step 21 onto the aFe turbocharger.
43. Connect the oil supply line. Torque to factory specifications.

Note: aFe Power recommends the use of new EGR cooler gaskets.

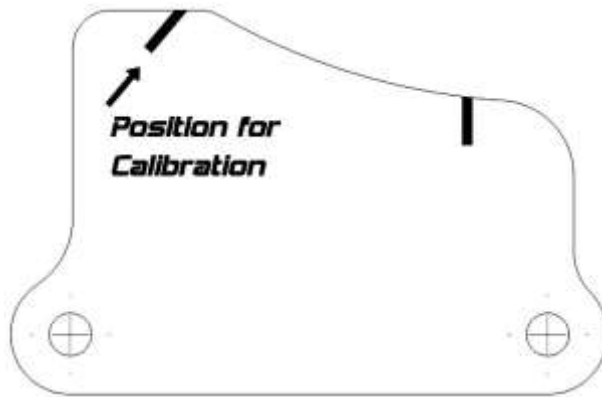
44. Reinstall the EGR cooler system.
45. Reinstall the air intake system.
46. Clean the mating surface on VG actuator and remove the factory O-rings gaskets.
47. Install the two (2) supplied O-ring gaskets onto the VG actuator.
48. Coat the teeth in the VG actuator with grease.
49. Reconnect the turbocharger speed sensor wiring connector.
50. Reconnect the VG actuator wiring connector.

Note: Please read the instructions below carefully.

51. Make sure the sector gear on the turbocharger is rotated clockwise towards the turbine housing. This is the position needed for the calibration of the turbocharger.
52. Connect the negative battery cables back onto both of the vehicle's batteries.

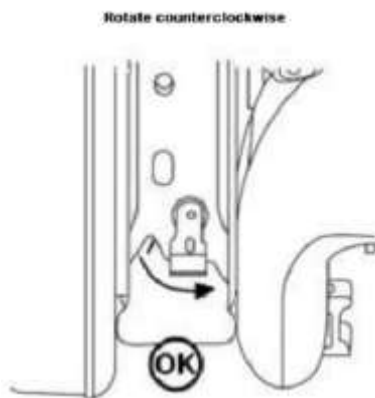
Note: You will need a tool that can communicate with the on-board computer in the vehicle and can calibrate the actuator on the turbo. Follow the instructions in the tool to calibrate and install the VG actuator.

53. Calibrate and install the VG actuator using the two (2) supplied M6 x 1.0 x 60mm bolts and the two (2) supplied M6 x 1.0 x 20mm bolts. Tighten to factory specifications.
54. Reinstall the retainer clip which secures the NOx wire harness (if applicable) and the VG actuator.
55. Reinstall the inner wheel well liner on the passenger side (front).
56. Refill the coolant system.
57. Your installation is now complete. Start the vehicle and verify again that all connections are secure and that you have no leaks. Let idle for 5-15 mins. to allow the aFe turbocharger to properly lubricate before driving.



Turbocharger Actuator Movement Template

Cut this out and place on the turbocharger while inspecting the sector gear movement.



Warranty

General Terms:

- aFe warrants their products to be free from manufacturer's defects due to workmanship and material.
- This warranty applies only to the original purchaser of the product and is non-transferrable.
- Proof of purchase of the aFe product is required for all warranty claims.
- Warranty is valid provided aFe instructions for installation and/or cleaning were properly followed.
- Proper maintenance with regular inspections of product is required to insure warranty coverage.
- Damage due to improper installation, abuse, unauthorized repair or alteration is not warranted.
- Incidental or consequential damages or cost, including installation and removal of part, incurred due to failure of aFe product is not covered under this warranty.
- All warranty is limited to the repair and/or replacement of the aFe part. To request Return Goods Authorization ("RGA"), email RGA@afepower.com or call (951)493-7100. Upon receipt of the RGA, you must return the product to the address provided in the RGA, freight prepaid and accompanied with a dated proof of purchase and the RGA. Upon receipt of the defective product and upon verification of proof of purchase, aFe will either repair or replace the defective product within a reasonable time, not to exceed thirty days.

<u>Product Category</u>	<u>P/N Prefix</u>	<u>Warranty duration</u>
Direct OE Replacement Filters	10, 11, 30, 31, 71, 73	Life of the vehicle
Racing Filters	18	1 year
Universal	21, 24, 72	2 years
Air Intake Systems	50, 51, 54, 55, 75	2 years
Exhaust Systems	49	2 years
Intercoolers & Intercooler Tubes	46-2	2 years
Intake Manifolds	46-1	2 years
Differential Cover	46-7	Life of the vehicle
Transmission Pans / Oil Pans	46-7	Life of the vehicle
Turbochargers	46-6	2 years
Exhaust Manifolds	46	2 years
Throttle Body Spacers	46-3	2 years
Fluid Filters	44	90 days
Pre-Filters	28	2 years
Heavy Duty OE Replacement	70	2 years
Power Sports OE Replacement	81,87	2 years
Power Sports Intake Systems	85	2 years

No other warranty expressed or implied applies nor is any person or advanced FLOW engineering authorized to assume any other warranty. Some States do not allow the exclusion or limitation of incidental or consequential damages or do not allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.