

PowerMax Diesel Upgrade For Cummins Engines

Installation Instructions

1998.5 - 2002 Dodge Ram
2500 & 3500 Diesel Trucks

Part Numbers: 759361-0001 (Stage 1)
759361-0002 (Stage 2)
759361-0003 (Stage 3)

Parts List			Tools Needed	
Item	Description	Qty		
1	Turbocharger	1	<ul style="list-style-type: none"> • 7/16" deep-well socket • 7mm socket • 8mm 12-point socket • 10mm socket • 13mm socket • 14mm socket • 10mm hex socket 	<ul style="list-style-type: none"> • 13mm open end wrench • 14mm open end wrench • 13/16" open end wrench • Torque wrench • 6" extension
2	Ancillary kit 759360-1 (includes)	1		
3	Installation Instructions	1		
4	Compressor housing clamp	1		
5	Gasket Kit 716909-36	1		
6	Turbine inlet gasket	1		
7	Oil drain gasket	1		
8	Turbine inlet bolt	2		
9	Turbine outlet adapter kit 764192-1	1		
10	Turbine outlet adapter	1		
11	Bolts	6	<p>• NOTE: Bolt and fastener sizes may be different from one model year to the next depending on OE specifications. Different tools than those listed above may be required.</p>	
12	Water Line Kit 764062-1	1		
13	Water line, inlet (small)	1		
14	Water line, outlet (large)	1		
15	Banjo bolt	2		
16	Crush Washer	4		
17	Oil inlet fitting kit 759359-1	1		
18	Oil fitting, inlet	1		
19	O-ring seal (small)	1		
20	O-ring seal (large)	1		
21	Bolt	2		
			Recommended Other Items	
			<ul style="list-style-type: none"> • Factory Service Manual • Safety glasses • Catch basin for engine coolant • Engine coolant (quantity per service manual) • Anti-seize compound • Oil filter • Oil (quantity per service manual) 	

IMPORTANT INFORMATION - PLEASE READ CAREFULLY



We recommend that this turbo upgrade kit be installed by a qualified automotive technician. If you have any doubts as to your ability to install this turbo upgrade kit, consult with a local automotive repair company. Please be sure to carefully read all of the attached instructions prior to starting the installation process. If you have any questions about the enclosed parts or the instructions, call the distributor that you purchased the kit from for clarification.

Prior to the PowerMax Kit installation, be sure that the vehicle is parked on a level surface and the engine is cool. Engine fluids and components can be extremely hot following normal vehicle operation. Avoid direct contact of engine fluids or components with your skin; may cause personal injury.

NOTE: It is recommended that the oil and oil filter are changed prior to installing the Garrett turbocharger. This will provide clean oil to the new turbocharger. To ensure optimal performance, always follow oil and filter change intervals per the Factory Service Manual.

The turbocharger comes with the actuator pre-calibrated for stock boost level. The actuator can be adjusted to achieve higher boost and each half turn of the actuator rod end will raise boost by approximately 1.5 psi. Increased boost places additional stress on the entire drivetrain. Excessive boost will lead to overspeed of the turbocharger, which is not covered by any warranty. Refer to spec sheet for maximum boost recommendations.



IMPORTANT INFORMATION - PLEASE READ CAREFULLY

Return Policy

Only unused and complete merchandise will be accepted for return subject to inspection and acceptance by Honeywell Turbo Technologies. No goods will be accepted without prior return authorization from Honeywell Turbo Technologies. No returns are accepted after thirty (30) days from original ship date from Honeywell. All accepted returns are subject to a 20% restocking charge - NO EXCEPTIONS.

Damaged Shipments

The customer must file a claim with the shipping company if goods arrive in a damaged condition. The customer must also notify the distributor from which the goods were purchased with pertinent information.

Refused Shipments

Sending a shipment back to The Garrett Garage (or Honeywell) does not automatically give rise to a complete refund or credit. Honeywell Turbo Technologies may, at its sole discretion require different payment means for any shipment refused and then reshipped. It is the customer's responsibility to make all arrangements with Honeywell Turbo Technologies for disposition of refused shipments.

Shortage or Discrepancy Claim

Shortage or Discrepancy claims must be reported within forty-eight (48) hours of receipt of goods to the distributor from which the goods were purchased. The Honeywell distributor will determine the best solution on how to address shortages or discrepancies.

Limited Warranty

Honeywell Turbo Technologies warrants to the original purchaser of its Turbocharger Products that such Turbocharger Products will, for a period of 1 year from date of shipment and subject to the Limitations on Warranty, be free from defects in materials and workmanship. For approved warranty claims Honeywell Turbo Technologies will, at its sole discretion, either credit the original purchaser in an amount equal to the original purchase price, or replace the applicable Turbocharger Product free of charge, within 60 days of Honeywell Turbo Technologies' approval. This is purchaser's sole and exclusive remedy and provides the complete financial responsibility of Honeywell Turbo Technologies for a warranty claim. To be eligible for reimbursement, Customer must (a) submit all warranty claims to Honeywell Turbo Technologies within 30 days of the discovery of the alleged Turbocharger Product defect; and (b) complete and return a Returned Material Authorization Form. Consumers are required to work through Honeywell's distributors in order to process any warranty claims.

When Honeywell Turbo Technologies requires the examination of a failed part, Honeywell Turbo Technologies will promptly notify Customer and will await receipt of the failed part before further processing the warranty claim. If Honeywell Turbo Technologies ultimately determines that the failed part is covered under the Limited Warranty, Honeywell Turbo Technologies will reimburse Customer for the actual cost of ground shipment for any part found to be defective.

IMPORTANT INFORMATION - PLEASE READ CAREFULLY

Limitations on Warranty

The Limited Warranty does not apply to any parts: (a) not used in accordance with Honeywell Turbo Technologies' written instructions (b) for which no fault is found; (c) that have been modified in any manner not specifically approved by Honeywell Turbo Technologies; (d) for which an inspection indicates that reasonable and proper installation and/or preventative care and maintenance has not occurred; (e) that have been subject to damage attributable to or caused by misuse, abuse or vandalism; mishandling, improper shipping or other transit related damage; acts of god or insurrection; foreign object entry; any part not supplied by Honeywell Turbo Technologies; any repair, maintenance or service by anyone other than Honeywell Turbo Technologies; or any other acts that are beyond Honeywell Turbo Technologies' reasonable control; or (f) attributable to parts not supplied by Honeywell Turbo Technologies. Honeywell Turbo Technologies expressly disclaims any and all warranties relative to the foregoing circumstances.

Honeywell Turbo Technologies shall not be liable to Customer under any circumstances for any special, incidental or consequential damages, including without limitation, damage to or loss of property other than for Turbocharger Products; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of Turbocharger Products; the cost of replacement transportation, power, or compression; the cost of substitute products; or claims of third parties for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise).

The Limited Warranty is the only warranty made by Honeywell Turbo Technologies for any of its turbochargers and related parts and/or services, and is in lieu of and excludes all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. Honeywell Turbo Technologies hereby disclaims all other warranties not expressly set forth. Some jurisdictions do not allow for the exclusion of implied warranties, so the above exclusions may not apply to you, however if implied warranties do apply they are limited to the original purchaser and for a period of one (1) year from the date of shipment.

Diagnosing Your Vehicle

Do not rely on diagnostic software without seeking the advice of an ASE certified mechanic. Diagnostic software should only be used as a general guideline to help you facilitate the repair of your car. If you experience or suspect any malfunction of vital safety equipment, such as your brakes, exhaust, motor, transmission, fuel delivery system, your car's structural integrity or any other potentially life threatening malfunction, cease driving your vehicle immediately and seek professional help. Always consult your owner's manual.

Vehicle Modification Notice

Any modifications to your car are AT YOUR OWN RISK. You should consult the owner's manual and service manual. You should also contact your car's manufacturer to determine what effects modifications may have on your safety, warranty, performance, etc. Please also contact your local authorities to determine whether your intended modifications will make your car illegal to drive on public roads. A vehicle modified by the use of competition parts may not meet the legal requirement for use on public roads. It is your responsibility to comply with federal, state, and local laws prior to driving your vehicle on public roads.

IMPORTANT INFORMATION - PLEASE READ CAREFULLY

OTHER PRECAUTIONS

Observe all safety precautions and warnings contained in the installation instructions. Wear eye and ear protection and appropriate protective clothing. When working under or around the vehicle support it securely with jack stands. Use only the proper tools. Exercise extreme caution when working with flammable, corrosive, and hazardous liquids and materials.

LEGAL INFORMATION

The Garrett turbo kits are for use off the public roadways. Federal law restricts the removal or modification of any part of a federally required emission control system on motor vehicles. Also, many states have enacted laws which prohibit tampering with or modifying emission or noise control systems. Vehicles which are not operated on public roadways may be exempt from certain regulations, however the buyer is strongly urged to check all applicable local and state laws and is ultimately responsible for compliance with the applicable laws and regulations.

Contact Information for Questions

Please contact the Honeywell distributor from which the equipment was purchased for any questions regarding this Shipping/Returns/Cancellation Policy, for notifications to Honeywell Turbo Technologies, and for instructions on processing damaged shipments and authorized returns.

Honeywell Turbo Technologies
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Installation Instructions

1. Disconnect the negative terminal from both batteries.
2. Drain engine coolant according to the service manual.
3. Loosen the clamp on the compressor inlet hose and remove hose (Fig. 1). Leave the hose attached to the air filter housing.



Fig. 1

4. Unclip the four clips on the top of the air filter housing (Fig. 2). Remove the top of the air filter housing with the hose still attached and set aside.

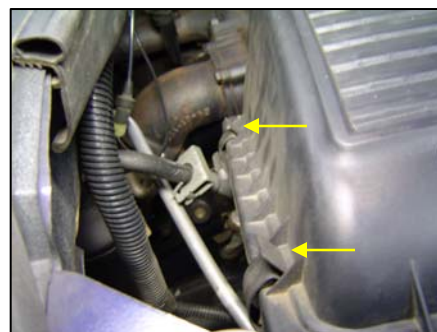


Fig. 2

5. Remove the three fasteners on the inside bottom of the lower half of the air filter housing (Fig. 3). Remove the lower half of the air filter housing and set aside along with the three fasteners.



Fig. 3

Installation Instructions (cont'd)

6. Remove nut on compressor housing discharge V-band (Fig. 4) and set aside.

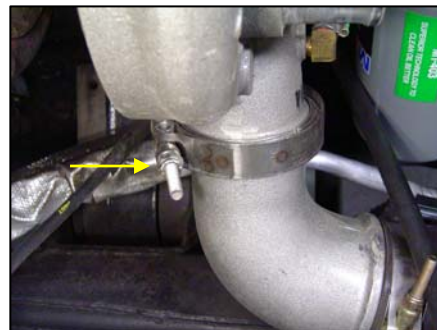


Fig. 4

7. Slide V-band down elbow, reinstall nut loosely, and move elbow down out of the way as shown in Fig. 5.



Fig. 5

8. Remove the oil line from the top of the stock turbocharger (Fig. 6).



Fig. 6

9. Using a rag, move the oil line out of the way (Fig. 7).



Fig. 7

Installation Instructions (cont'd)

10. Remove the two bolts on the oil drain flange, located on the bottom of the turbocharger (Fig. 8). Set the two bolts aside. Separate the oil drain from the turbocharger center section. Inspect the oil drain flange for remaining gasket material. Remove gasket material prior to Garrett turbocharger installation.

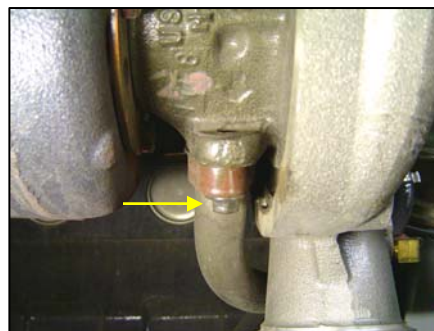


Fig. 8

11. Remove the bolts on the exhaust elbow flange and set aside (Fig. 9). The bolt head is on the bottom side of the flange.



Fig. 9

12. Remove the two rear exhaust flange nuts located on the bottom of the turbocharger flange and set aside (Fig. 10). While supporting the turbocharger, remove the front two flange nuts and set aside. Carefully remove the stock turbocharger from the vehicle.

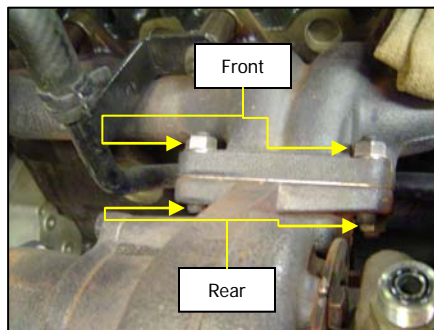


Fig. 10

13. Disconnect and remove the coolant hose (Fig. 11) from the tube and move it out of the way.



Fig. 11

Installation Instructions (cont'd)

14. Remove the nut on the coolant tube bracket and pull the bracket off of the stud. Reinstall the nut (Fig. 12) and torque to 18 lbf-ft.

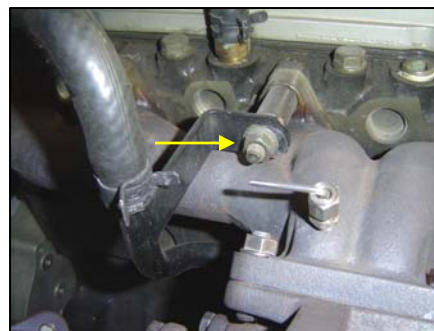


Fig. 12

15. Remove the coolant tube assembly from the engine (Fig. 13). This assembly will not be used with the Garrett turbo upgrade kit. Retain the rubber hose and clamps.



Fig. 13

16. Place the Garrett turbocharger on a workbench and remove the two compressor housing bolts and clamp shown in Fig. 14. One of these bolts will be reused.

Note: A single clamp will be used for the Dodge application to provide clearance for the stock drain flange.

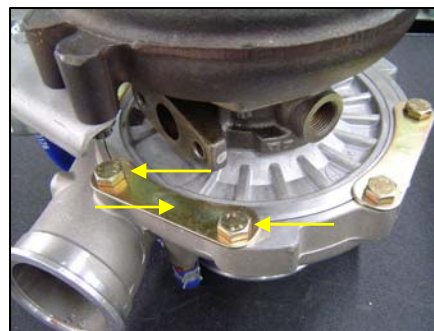


Fig. 14

17. Install the compressor housing clamp provided in ancillary kit 759360-1 using one of the bolts from Step 16 as shown in Fig. 15. Torque to 100 lbf-in.

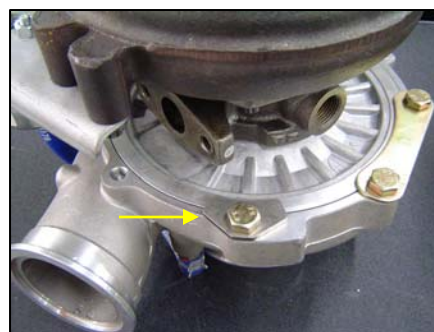


Fig. 15

Installation Instructions (cont'd)

18. Using the smaller (inlet) water line, one banjo bolt and two crush washers from kit 764062-1, install the water line on the center housing. This water line will use the port nearest to the turbine housing inlet flange as shown in Fig. 16.

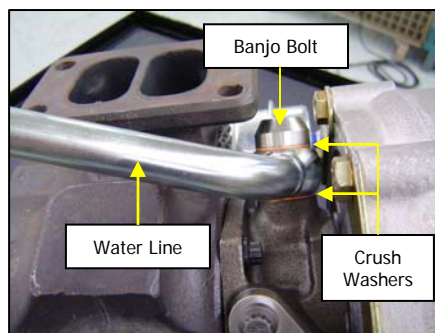


Fig. 16

19. Position the water line so there is about a ¼" – ½" of space between the tube and the turbine housing as shown in Fig. 17. Using a **10mm hex socket** torque to 30 lbf·ft.



Fig. 17

20. Use the turbine outlet adapter (or exhaust elbow) and the six bolts from kit 764192-1 and install onto the turbine housing using a **8mm 12-point socket** as shown in Fig 18. Torque to 17 lbf·ft.



Fig. 18

21. Use the larger (outlet) water line from kit 764062-1 and install into vehicle prior to the turbocharger installation. Insert the tube into the hose. Leave the clamp in the position on the hose as shown in Fig. 19.



Fig. 19

Installation Instructions (cont'd)

22. Remove the bolt and spacer from the bottom right location on the exhaust manifold. Assemble the bolt and spacer onto the bracket of the Garrett supplied water line (outlet or large) as shown in Fig. 20. Torque to 32 lbf-ft.



Fig. 20

23. Reinstall hose and clamp so that it is over the barb of the tube as shown in Fig. 21.



Fig. 21

24. Fig. 22 shows the water line properly installed prior to the installation of the turbocharger.



Fig. 22

25. Use the turbine inlet gasket from kit 716909-36 and place it on the studs on the stock manifold as shown in Fig. 23.

Note: It is recommended to place anti-seize compound onto the stud threads prior to installation.



Fig. 23

Installation Instructions (cont'd)

26. Obtain the four stock nuts that were set aside in Step 12 and the two turbine inlet bolts from the kit 759360-1. Carefully install the Garrett turbocharger onto the studs and hand-tighten the back nuts. Put anti-seize compound on the bolt threads and install the bolts and nuts as shown in Fig. 24. Torque to 32 lbf·ft.

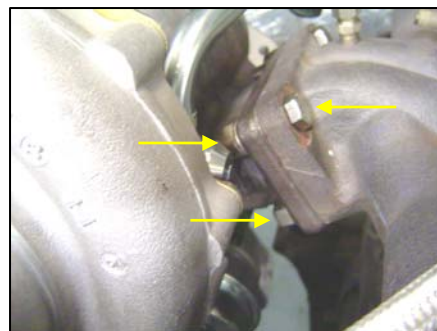


Fig. 24

27. Install the hose onto the tube approximately $\frac{3}{4}$ " - 1". Install clamp onto the hose as shown in Fig. 25.

Note: Do not install the hose too far onto the tube. This could cause the hose to be pulled too tight.

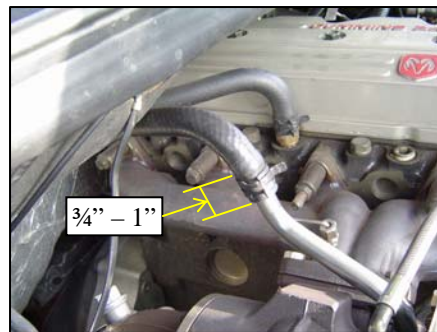


Fig. 25

28. Reinstall the compressor discharge pipe onto the Garrett compressor housing using the stock V-band and nut as shown in Fig. 26. Torque V-band nut to 72 lbf·in .



Fig. 26

29. Assemble the down-pipe to the Garrett turbine outlet adapter (or exhaust elbow) using the stock bolts as shown in Fig. 27. Torque to 25 lbf·ft .



Fig. 27

Installation Instructions (cont'd)

30. Use the oil drain gasket from 716909-36 kit and place it on the stock oil drain flange as shown in Fig. 28.



Fig. 28

31. Using the stock bolts, assemble the oil drain flange onto the center housing of the turbocharger as shown in Fig. 29. Torque to 18 lbf-ft.

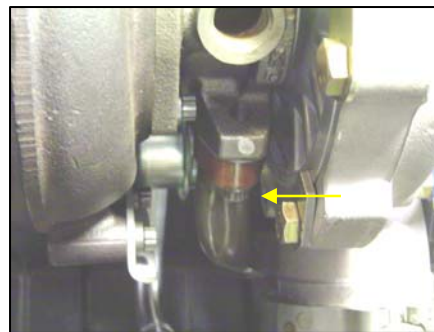


Fig. 29

32. Use the last banjo bolt and two crush washers from kit 764062-1. Pull the flexible end of the water line up to the water port on the center section and assemble using a **10mm hex socket** as shown in Fig. 30. Torque to 30 lbf-ft.

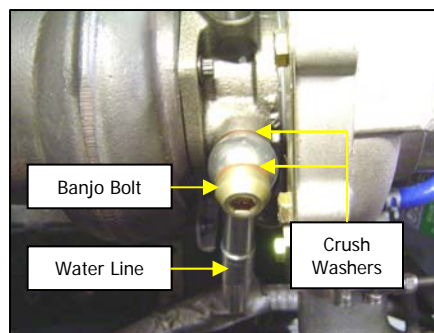


Fig. 30

33. Pre-lube the turbocharger. Fill the oil inlet hole with clean engine oil and rotate the compressor wheel by hand several times to distribute the oil thoroughly. Refill the oil inlet hole one more time prior to installing the oil inlet fitting.

Installation Instructions (cont'd)

34. Use the oil inlet fitting and larger O-ring from kit 759359-1. Install the O-ring into the groove on the bottom of the fitting as shown in Fig 31.



Fig. 31

35. Using the two bolts supplied in kit 759359-1, install the fitting onto the Garrett turbo's center housing using a **8mm 12-point socket** as shown in Fig. 32. Pay close attention that the O-ring did not come out of the bottom groove during installation. Torque to 17 lbf·ft. Install the small O-ring from kit 759359-1 onto the oil inlet fitting.

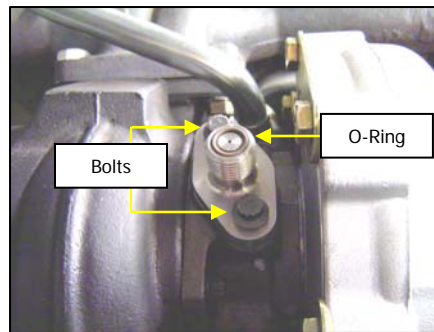


Fig. 32

36. Assemble the stock oil line onto the fitting as shown in Fig. 33.

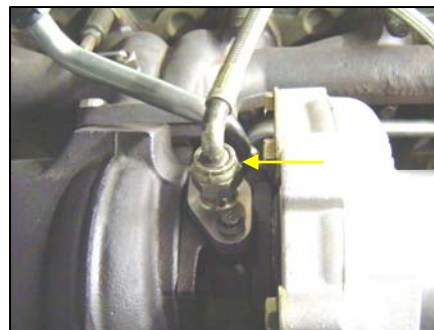


Fig. 33

37. Using the stock three fasteners, reinstall the lower half of the air filter housing as shown in Fig. 34.



Fig. 34

Installation Instructions (cont'd)

38. Install the air filter and the top of the air filter housing, with the hose attached, using the four stock clips as shown in Fig. 35.



Fig. 35

39. Assemble the hose onto the compressor housing inlet as shown in Fig. 36 and tighten the clamp. Torque to 72 lbf·in.



Fig. 36

40. The installed PowerMax Kit is shown in Fig. 37.



Fig. 37

41. Refill the engine coolant per the service manual.

42. Check the engine oil level.

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759361-0003 (Stage 3)

Installation Instructions (cont'd)

43. Attach the negative battery terminals on both batteries.

44. Start the vehicle and allow it to idle until the engine is at operating temperature. Check for leaks.

45. Once it is confirmed that there are no leaks, you are ready to enjoy your new PowerMax turbocharger upgrade kit!

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