

PowerMax Diesel Upgrade For PowerStroke Engines

Installation Instructions

1999.5 - 2003 7.3L Excursion &
F-Series Diesel Trucks

Part Number: 739619-5004S

Parts List			Tools Needed	
Item	Description	Qty		
1	GTP38R Turbocharger	1	• 7/16" deep-well socket	• 13mm open end wrench
2	4-inch Inlet Hose	1	• 7mm socket	• 14mm open end wrench
3	V-Band Clamp	1	• 8mm 12-point socket	• 13/16" open end wrench
4	Oil inlet o-ring	1	• 10mm socket	• Torque wrench
5	Oil outlet o-ring	1	• 13mm socket	• 6" extension
			• 14mm socket	
			• 10mm hex socket	
			<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>	
			<h3>Recommended Other Items</h3> <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 • RTV or Grease • 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.

Installation Instructions

Before beginning, be sure to disconnect the negative terminal of the battery.

1. Unplug the green hose from the compressor intake duct. Remove the intake duct and crankcase breather.



Fig. 1

2. Remove the boost control module from the front of the x-section pipe.

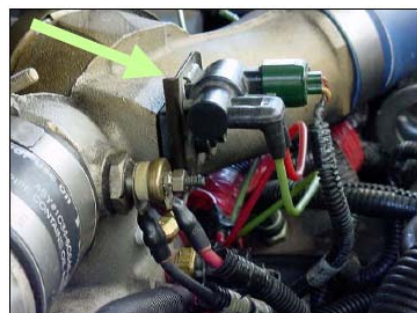


Fig. 2

3. Remove the temperature sensor wires from the front of the x-section pipe.



Fig. 3

4. Unplug any remaining hoses and electrical connections from the x-section pipe.

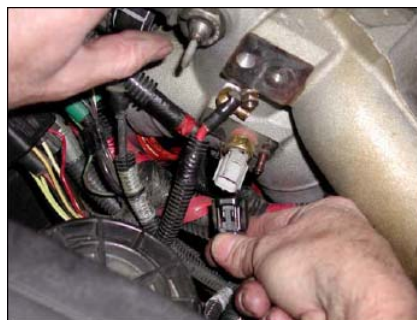


Fig. 4a

Installation Instructions (cont'd)

4. Unplug any remaining hoses and electrical connections from the x-section pipe.

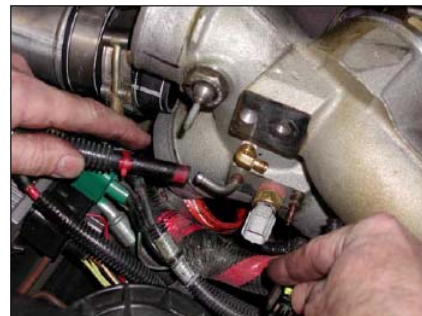


Fig. 4b

5. Loosen hose clamps and remove the x-section pipe from the engine. Cover intake manifold openings to prevent foreign objects from entering the pipework during this installation.



Fig. 5

6. Using a **7/16" deep-well socket**, loosen turbine outlet v-band clamp and move clamp off of the flange. Separate down-pipe from turbo.



Fig. 6

7. Using a **7/16" deep-well socket**, loosen turbine inlet v-band clamp & move the clamp off the flange. This is the most difficult step of the installation. Use penetrating oil to help loosen the clamp.



Fig. 7

Installation Instructions (cont'd)

8. Reach under turbo and slide the *clip* on the EBPD control rod towards the pedestal to free the EBPD crank.



Fig. 8

9. Remove the 2 bolts holding the turbo to the pedestal and unplug the red pressure line from the actuator.



Fig. 9

10. Make note of the turbo's position and how it fits on the engine for future reference. Lift the turbo off the pedestal and remove from the vehicle.



Fig. 10

11. Remove the backpressure valve assy from the old turbo and install on the new turbo. Use anti-seize compound on the threads & torque the bolts to 185 - 215 lb-in.



Fig. 11

Installation Instructions (cont'd)

12. Ensure the supplied oil inlet and outlet o-rings are properly seated on the pedestal. The turbo oil drain hole will pilot on the raised sleeve.

NOTE: Before installing turbocharger, inspect and remove all foreign material from turbo air inlet, exhaust inlet, & exhaust manifold.



Fig. 12

13. Install new turbo.

NOTE: Turbine inlet flange should line up with the mating exhaust flange. The pin in the Yflange should mate with the hole in the turbine housing flange.



Fig. 13

14. Ensure the crank pin for the EBPD drops into the hole in the control arm rodend. Slide retaining clip back into place ensuring the clip fits into the crank pin groove.



Fig. 14

15. Install and tighten 2 turbo "hold down" torque to 35-37 lb-ft.

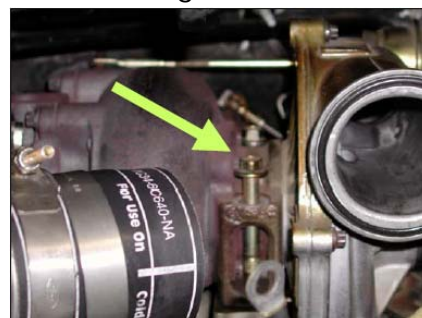


Fig. 15

Installation Instructions (cont'd)

16. Position and install turbine inlet v-band clamp and torque to 110-130 lb-in.



Fig. 16

17. Install downpipe. Guide the v-band flange to mate with the turbine discharge flange. Install v-band clamp & torque to 110-130 lb-in.



Fig. 17

18. Remove covers (rags in this picture) from the intake manifold openings. Re-use the original compressor discharge o-ring and mount it into the new compressor discharge groove. A light coating of RTV or grease can be used to hold it in place.

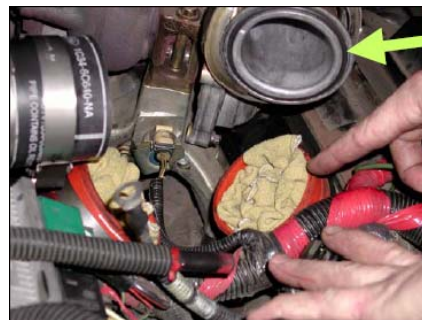


Fig. 18

19. Position the x-section pipe in place and re-install hoses. Tighten compressor discharge v-band clamp to 110-130 lb in. Tighten hose clamps to 50-60 lb-in, and re-install all electrical and temperature connections.

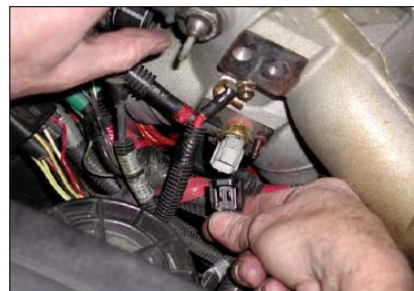


Fig. 19

Installation Instructions (cont'd)

19. Position the x-section pipe in place and re-install hoses. Tighten compressor discharge v-band clamp to 110-130 lb in. Tighten hose clamps to 50-60 lb-in, and re-install all electrical and temperature connections.

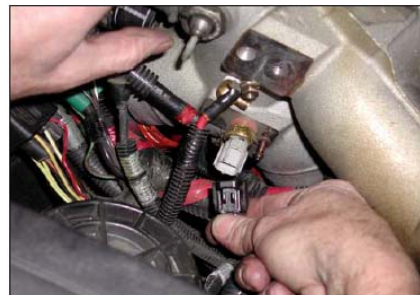


Fig. 19b

20. Re-install the red wastegate hose onto the wastegate hose actuator



Fig. 20

21. Double check that the compressor inlet area is free from any foreign objects and that the inlet hose is clean. Install the new compressor 4-inch inlet hose in place and insert the green hose into the boss. Tighten clamps snugly.



Fig. 21

22. Re-install the crankcase breather assy, again verifying that everything is clean.



Fig. 22

Installation Instructions (cont'd)

23. Re-install the hose from the breather duct to the air filter housing, snug the clamps. Reconnect battery, and you're DONE!!



Fig. 23

24. Now retrace your steps to verify that everything has been re-installed, re-tightened or re-connected and that there are no loose wires, hoses, or fasteners. Make sure that you have retrieved all rags, tools, etc. from the work area. DO NOT OPERATE the engine without the inlet ducting in place.

25. Start engine and watch for signs of oil leakage at the turbo/pedestal joint. If none exists, drive the vehicle a short distance to fully warm the engine and then re-inspect. Investigate any unusual noise or condition.

26. If all checks out, then there is no further break-in necessary and the vehicle can be driven as usual.