



9/15/08

6.6 GM Duramax Aurora 5000 Turbo Installation Guide

THIS IS A HIGH PERFORMANCE PRODUCT - USE AT YOUR OWN RISK!!!

Do not use this product until you have carefully read the following agreement.

This product may affect the ability of your dealer to diagnose any problem on your vehicle so it must be removed before taking it to your dealer. This product may also void your manufacturer's warranty.

This agreement sets forth the terms and conditions for the use of this product. The installation of this product indicates that the buyer has read and understands this agreement and accepts the terms and conditions.

DISCLAIMER OF LIABILITY

ATS DIESEL PERFORMANCE, its distributors, jobbers and dealers (hereafter termed SELLER) shall be, in no way, responsible for the product's proper use and service. THE BUYER HERBY WAIVES ALL LIABILITY CLAIMS.

The buyer acknowledges and understands that he is not relying on the Sellers skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof, and the Buyers hereby waivers all remedies or liabilities expressed or implied, arising by law or otherwise, (including without any obligation of the Seller with respect to fitness, merchantability and consequential damages) or whether or not occasioned by the Seller's negligence.

The Seller disclaims any warranty and expressly disclaims any liability for personal injury or damages. The Buyer acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the Buyer agrees to indemnify the Seller and to hold harmless the Seller from any claim related to the item of the equipment purchased. Under no circumstances will the Seller be liable for any damages or expenses by reason of use or sale of any such equipment.

The Seller assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

The Buyer is solely responsible for all warranty issues from the manufacturer.

LIMITATION OF WARRANTY

ATS DIESEL PERFORMANCE, (hereafter termed SELLER) gives a Limited Warranty as to description, quality, merchantability, and fitness for any particular purpose, productiveness, or any other matter of Seller's product sold herewith. The Seller shall be in no way responsible for the products proper use and service and the Buyer hereby waives all rights other than those expressly written herein. This warranty shall not be extended, altered or varied except be a written instrument signed by SELLER and BUYER.

The Turbo charger assembly, itself, does Not carry any type of warranty, implied, written or otherwise. The Turbo charger is deemed as a high performance product and is exempt from any such warranties. The Warranty is Limited to one (1) year from the date of sale and limited solely to the remainder of the parts contained within the products kit. All products that are in question of Warranty must be returned prepaid to the Seller and must be accompanied by a dated proof of purchase receipt along with return authorization. All Warranty claims are subject to approval by ATS DIESEL PERFORMANCE.

Under no circumstances will the Seller be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product or any other contingent expenses.

Under no circumstances will the Seller be liable for any damage or expenses incurred by reason of the use or sale of any such equipment.

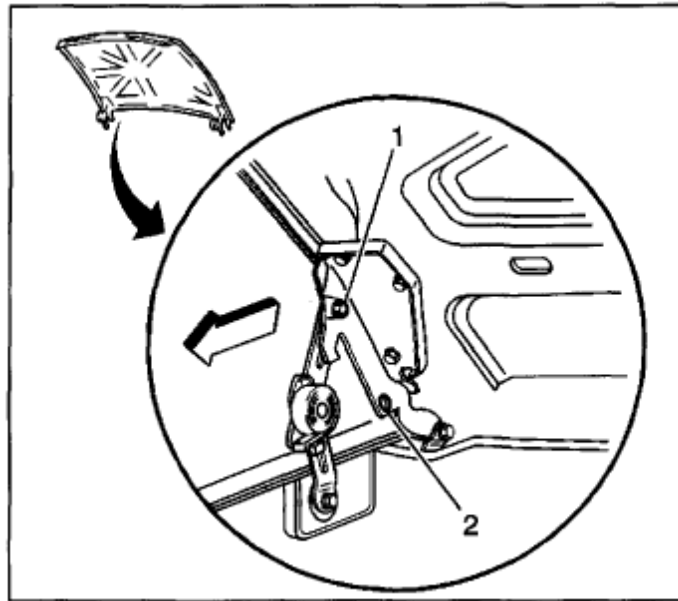
IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT, THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE TO THE PLACE OF PURCHASE WITHIN TEN (10) DAYS FROM THE DATE OF PURCHASE FOR A FULL REFUND OF THE PART. THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.

PRECAUTIONS:

Make sure not to drop anything into the intake port or intercooler tubes. The use of rags or plugs is suggested to insure nothing drops into the engine inadvertently.

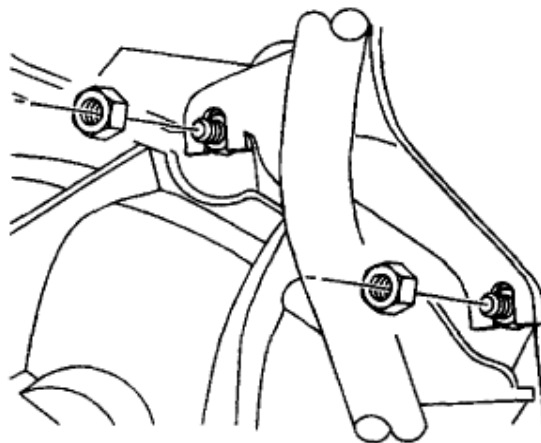
INSTALLATION

1. Disconnect both batteries. Move the hood hinges to the service position (Figure 1). Drain the cooling system. Disconnect the mass air flow sensor. Remove the sensor out of the intake tube and set it aside for later installation. Remove the air cleaner assembly and air intake tube to the turbo inlet.



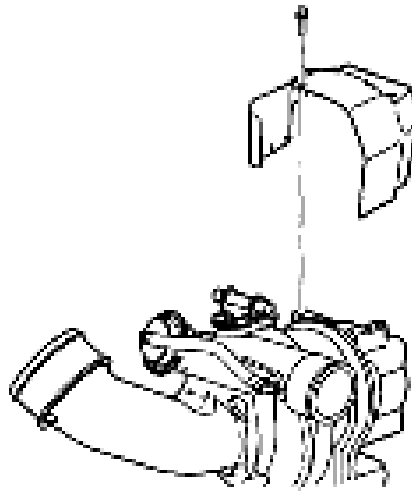
310799 (Figure 1)

2. Raise the vehicle up in the air. Remove the exhaust pipe outlet clamp and move it down on the pipe.
3. On vehicles with automatic transmissions, unbolt the transmission cross member to allow the angle of the transmission and engine to be changed for easier removal of the dipstick tube.
4. On vehicles with automatic transmissions, remove the transmission dipstick tube, by removing the retaining bolts on the bell housing. (Figure 2)



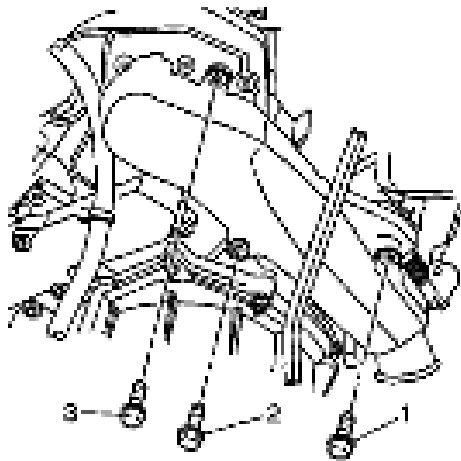
(Figure 2)

5. Remove the three bolts holding the heat shield to the turbocharger and remove the shield. (Figure 3)

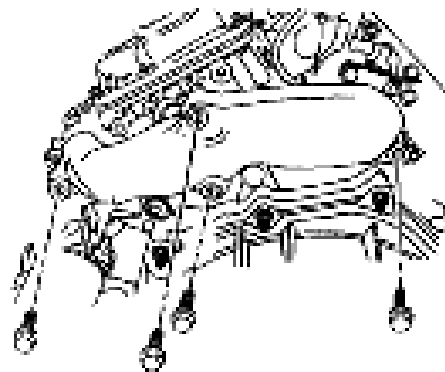


(Figure 3)

6. Remove the heat shield that covers the down pipe assembly at the rear of the turbo. (Figure 4)
Remove the heat shield on the driver's side that covers over the left rear exhaust transfer pipe. (Figure 5).

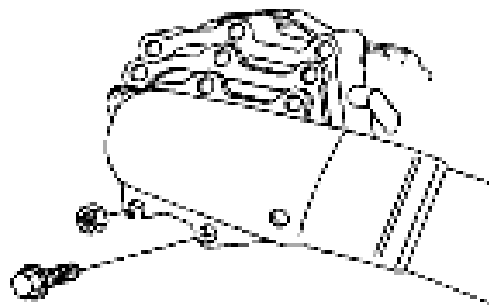


(Figure 4)



(Figure 5)

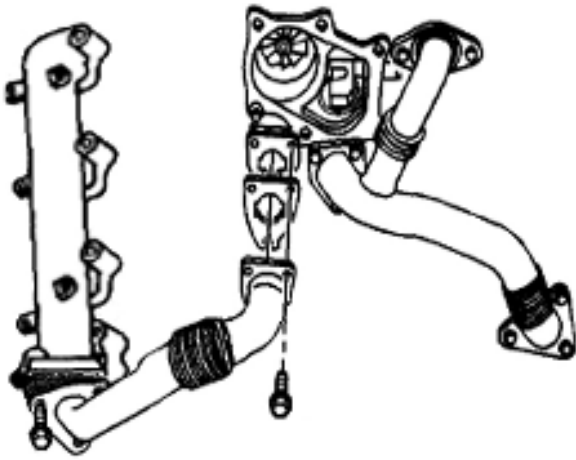
7. Remove the 4 bolts and 2 nuts that hold the exhaust outlet housing to the back of the turbo and remove it from the vehicle. (Figure 6) (On some vehicles, it may be necessary to wait until the turbo is removed to remove the down pipe)



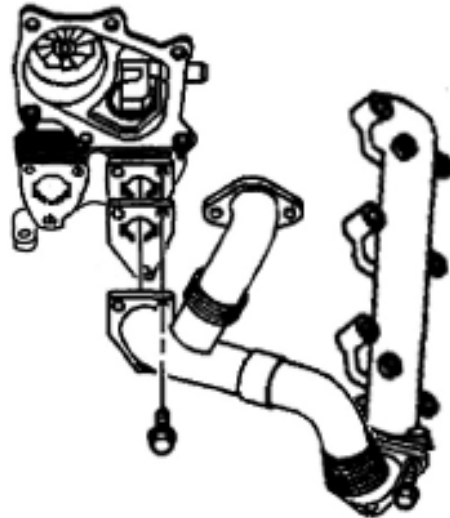
(Figure 6)

8. Remove the bolts out of the upper section of the transfer pipe to turbo mount and loosen the lower bolts as to allow the transfer pipes to swing out of the way. Do NOT bend the pipes out as this may damage the expansion joint in the pipe. (Figures 7 & 8) (on the next page)

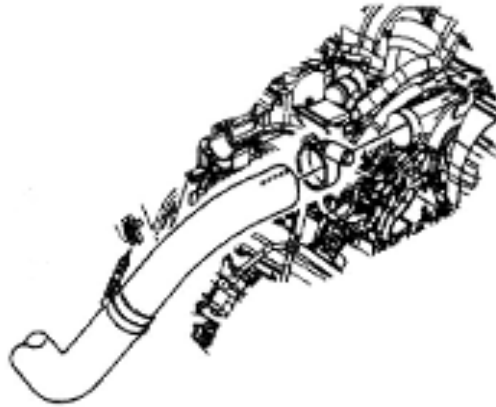
(Figure 7 ↓)



(Figure 8 ↓)

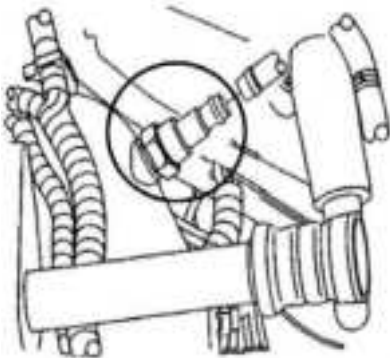


9. Disconnect the A/C compressor clutch electrical connector and A/C cut out switch connector.
10. Remove the drive belt and remove the A/C compressor mounting bolts. Move the compressor off to the side.
11. Remove the clamp and hose that comes off of the turbocharger that goes to the intercooler and move it to the side. (Figure 9.)

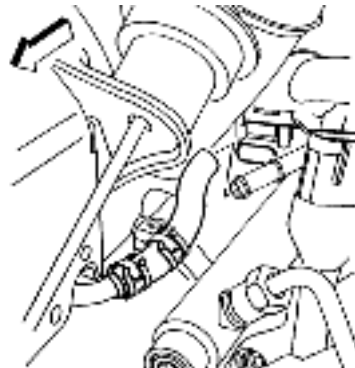


(Figure 9)

12. Disconnect the turbocharger coolant inlet (Figure 10) and remove the bypass valve (circled in the figure) out of the metal coolant line. Install the supplied plug using the OEM seal, back into the coolant line.
13. Disconnect the turbocharger outlet coolant hose from the turbo and cap off the line. (Figure 11)

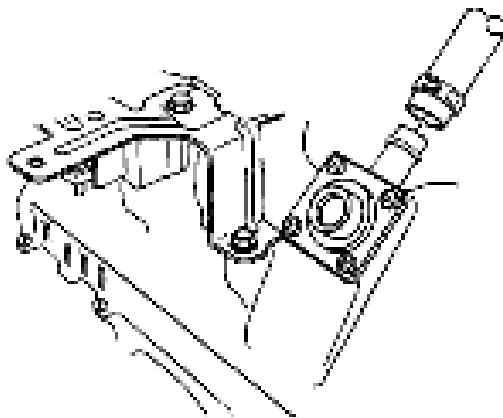


(Figure 10)



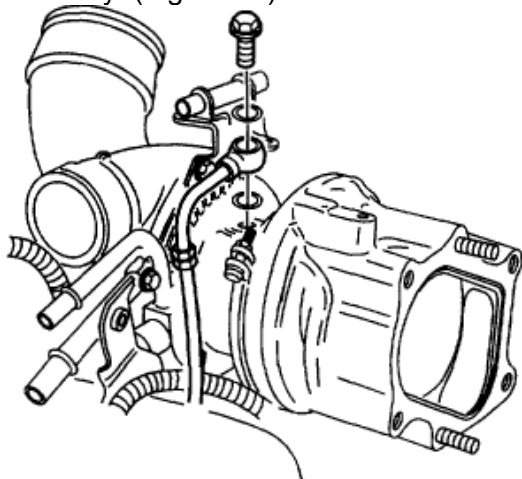
(Figure 11)

14. Remove the wire connector from the intake heater. If equipped, move the intake heater relay to the side.
15. Disconnect the PCV hose from the left valve cover assembly. (Figure 12)

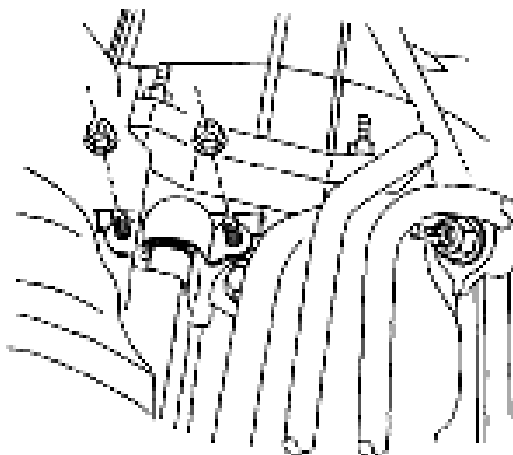


(Figure 12)

16. Remove the turbocharger oil supply line eye bolt, and washers. Move the oil supply line out of the way. (Figure 13)

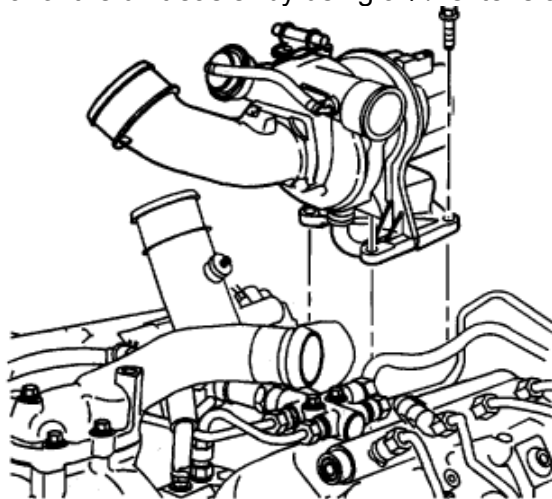


(Figure 13)



(Figure 14)

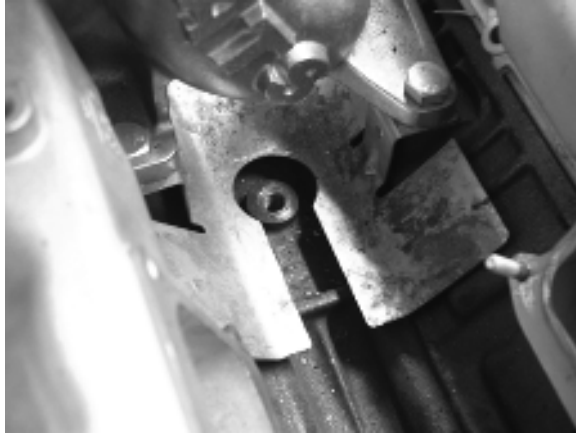
17. Remove the turbocharger oil drain pipe nuts at the flywheel housing and save the nuts. (Figure 14)
18. Remove the turbocharger three mounting bolts and remove the turbocharger with the oil drain pipe attached and save the mounting bolts. (Figure 15) (Removing the three inlet housing bolts off of the turbo may make removal of the unit easier by using a $\frac{1}{4}$ " extension and wobble socket.)



(Figure 15)

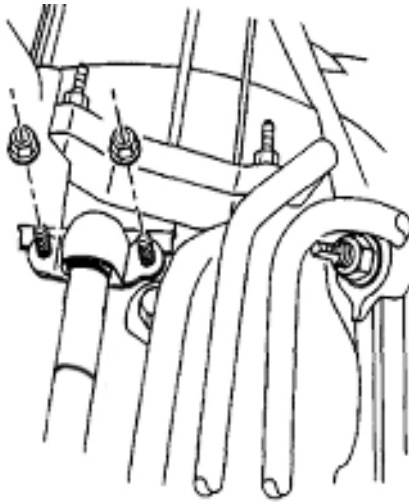
19. Remove the oil drain from the old turbo and save the mounting bolts.
20. Clean the gasket surfaces of any remaining gasket material. Remove the old oil line from the block and save the banjo bolt.

21. Install the new oil line into the block with the line pointing towards the front of the engine, following the cut out of the heat shield, using the old banjo bolt and crush washers. (Figure 16)

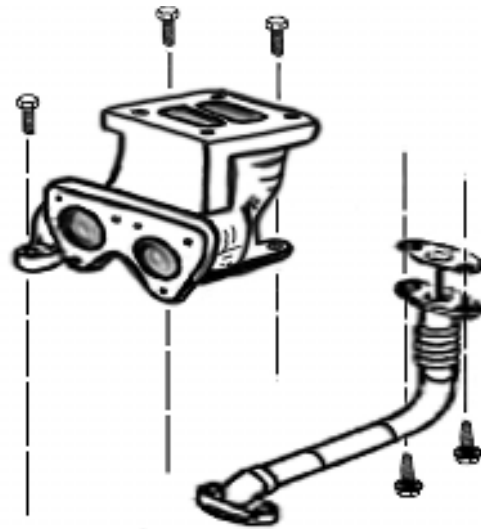


(Figure 16)

22. Install the oil drain line onto the flywheel housing but do not tighten the bolts at this time. (Figure 17)



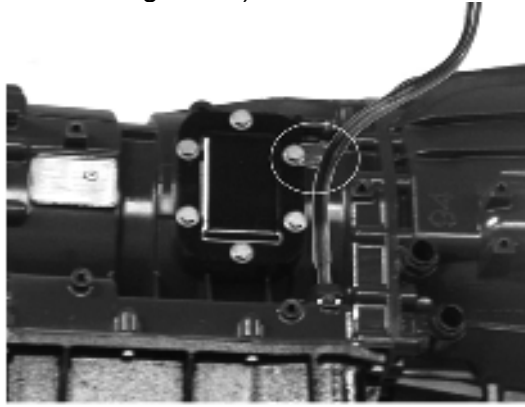
(Figure 17)



(Figure 18)

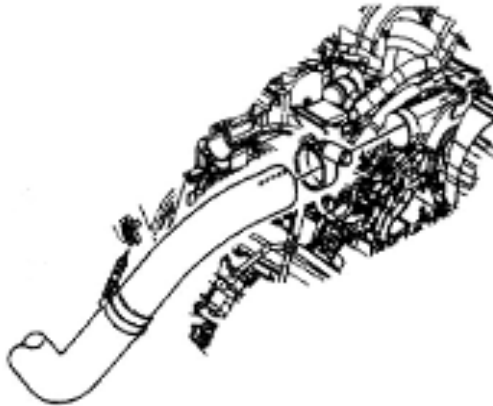
23. Install the supplied studs into the pedestal mount. Mount the new turbo pedestal onto the engine using the three stock bolts, but do not tighten the bolts at this time. (Figure 18).
24. Mount the exhaust transfer pipes and bolts back up into position, but do not tighten bolts at this time.
25. Slide the new down pipe into position and allow it to lie out of the way for the time.
26. Squirt a small amount of new motor oil into the turbo cartridge oil delivery port and swirl the turbo around to allow the oil to coat the internals of the cartridge.
27. Install the turbo assembly onto the turbo pedestal mount along with the gasket, with the compressor side to the front of the engine and install the nuts on loosely. Insert the gasket and mounting bolts for the oil drain and tighten these bolts along with the nuts for the drain to flywheel housing. (It may be necessary to bend up the A/C compressor line at the accumulator to be able to fit the turbo into place with the A/C compressor installed)
28. Tighten the turbo mounting nuts up.
29. Tighten the exhaust transfer tube bolts.
30. Tighten the turbo pedestal bolts up.

31. Slide the new dipstick tube down into position and mount it to the side of the transmission at the PTO cover, top front bolt. (Circled in Figure 19)



(Figure 19)

32. Cut the down pipe connector flange off of the truck's exhaust, after the bend to allow the new down pipe to connect into place. Insert the pipes together with the clamp, but do not tighten it.
33. Install the down pipe to the turbo outlet housing using the supplied v-band clamp, but do not tighten it.
34. Re-secure the transmission cross member back into position and tighten the exhaust clamps.
35. Note: this step is necessary for 2001 ONLY LB7 engines. Cut 2" off of the pressure hose and install the pressure hose. Tighten the clamp. (Figure 20)



(Figure 20)

36. Reattach the heater wire back onto the intake air heater and reattach the heater relay if it was removed.
37. Screw the 45° fitting (removed from the new oil line) into the turbo (using Teflon tape) so that it points to the passenger side and attach the oil line to the fitting.
38. Place the A/C compressor back onto its mount, install the mounting bolts and tighten them. Reinstall the serpentine belt back into place.
39. Reinstall the wiring connectors for the A/C clutch and pressure switch.
40. Reinstall the PCV hose back onto the left valve cover assembly.

41. Install the turbo air intake boot onto the turbo along with the supplied hose clamps. Aim the intake side up at about 10 o'clock (looking at the engine from the front). (Figure 21)



(Figure 21)

42. Install the new air cleaner assembly into place of the old air cleaner. (the AFE 54-10782 can be used, if already on the vehicle)
43. Reinstall the mass airflow sensor into the air intake tube and plug in the connector.
44. Refill the cooling system according to the manufacturer's directions.
45. Place the hood hinges back to the operational position.
46. Reconnect the batteries.
47. Start the engine and allow the engine to idle. Do NOT rev the engine. Check for any coolant leaks and any oil leaks. Allow the engine to idle for about 5 minutes and then drive the vehicle SLOWLY for about 2 miles. (This will allow the turbo to break in.)
48. Now, Go kick some butt on the track and Enjoy!