

INSTALLATION INSTRUCTIONS

SUBJECT: CHEETAH® TURBOCHARGER FOR 2003-2007 5.9L CUMMINS

FPE-2023-86
November, 2023

FITMENT: 2003-2007 Dodge Ram with 5.9L Cummins

P/N: FPE-351-0304 and FPE-351-0407

ESTIMATED INSTALLATION TIME: 4-5 hours

KIT CONTENTS:

Item	Description	Qty
1	Turbocharger assembly	1
2	Turbocharger oil drain gasket	1
3	T3 non-divided turbine flange gasket	1
4	Turbine housing nut	4
5	Turbine housing mounting stud	4



IMPORTANT NOTICES:

For California customers: An E.O. identification label is required for Smog Check inspection. The E.O. identification label included with your turbocharger MUST be placed near the turbocharger in the engine compartment so that smog check technicians can verify the E.O. number.



2400 Commerce Way - Pittsboro, IN 46167

CARB EO No. D-834-X
Cheetah Turbocharger

INSTALLATION INSTRUCTIONS

GUIDELINES AND CHECKLIST:

1. Inspect the intake and exhaust system leading to and from the turbocharger to ensure they are free of debris. If the vehicle has experienced a turbocharger failure that resulted in mechanical damage to the compressor wheel prior to installation of a new turbocharger, a new intake air filter must be installed. Debris from a failed turbocharger can become lodged in the original filter and easily drawn into the new charger. Small particles will cause severe damage at high speeds.
2. Use new gaskets at all air, oil, and exhaust connections. Never use silicone sealants on intake components. Silicone can become loose and become ingested into the turbocharger causing damage.
3. Use high temperature anti-seize compound on all threaded fasteners connected to the turbocharger.
4. Ensure the drain port tilt is no more than 20 degrees from the bottom center in either direction. Excessive tilt can create leakage on both the turbine and compressor seals.
5. Fill the oil inlet port with clean engine oil before connecting the oil feed hose to the turbocharger
6. Before connecting the oil drain hose, crank the engine without starting it until a steady stream of oil flows from the drain port.
7. Operate the engine at low idle for at least three minutes after completing the installation of any turbocharger. This will prevent oil starvation damage to the bearing system and will tend to purge any residual contaminants from the bearings housing.

FACTORS AFFECTING TURBOCHARGER SERVICE LIFE:

An analysis of turbochargers indicated that approximately 40% of the failures are due to foreign material going through either the turbine or the compressor. An additional 40% are due to lubrication issues. The remaining 20% are of a miscellaneous nature. Some of the foreign material damage is the result of pieces of burned or broken valves, improperly installed gaskets, casting fins that may break out of the manifold, pieces of the air cleaner, and in small cases nuts or bolts that were dropped into the intake system. Undersized or plugged oil lines are the most common lubrication issue. It is essential to have an adequate supply of oil at full engine oil pressure.

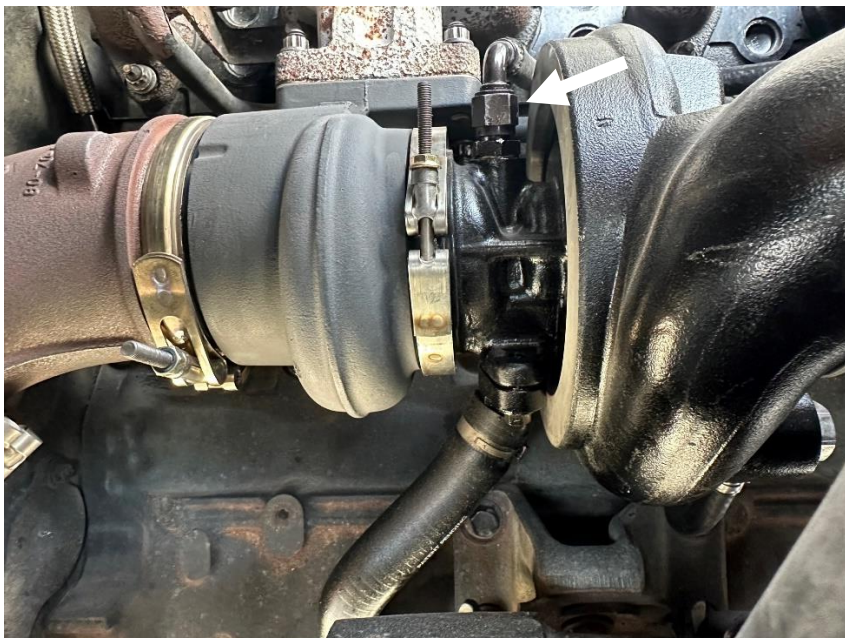
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TURBOCHARGER REMOVAL:

1. Disconnect the battery negative cables on both batteries.
2. Remove the two clamps that connect the intake air tube to the turbocharger. The two clamps will be reused during reassembly. Disconnect the intake air flow sensor connector and remove the air inlet tube from the turbocharger and air cleaner housing.



3. Disconnect the turbocharger oil supply line from the top of the turbocharger. Remove the adapter fitting between the oil feed line and turbocharger, this fitting will be reused.



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4. Disconnect the intercooler coupler pipe from the turbocharger outlet by loosening and removing the hose clamp. Use caution not to tear the rubber coupler when removing it from the turbocharger. The hose clamp and rubber coupler will be reused.

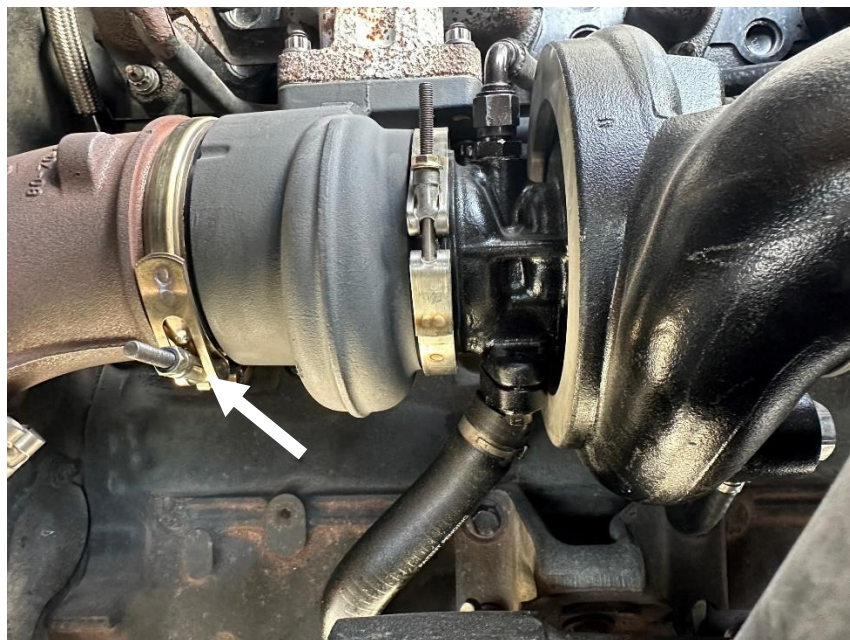


5. For MY 2004.5-2007 trucks that are equipped with a wastegate control solenoid. Disconnect the electrical connector and remove the solenoid from the front cover of the turbocharger by rotating it counterclockwise. This instruction only applies to turbocharger model FPE-351-0407.

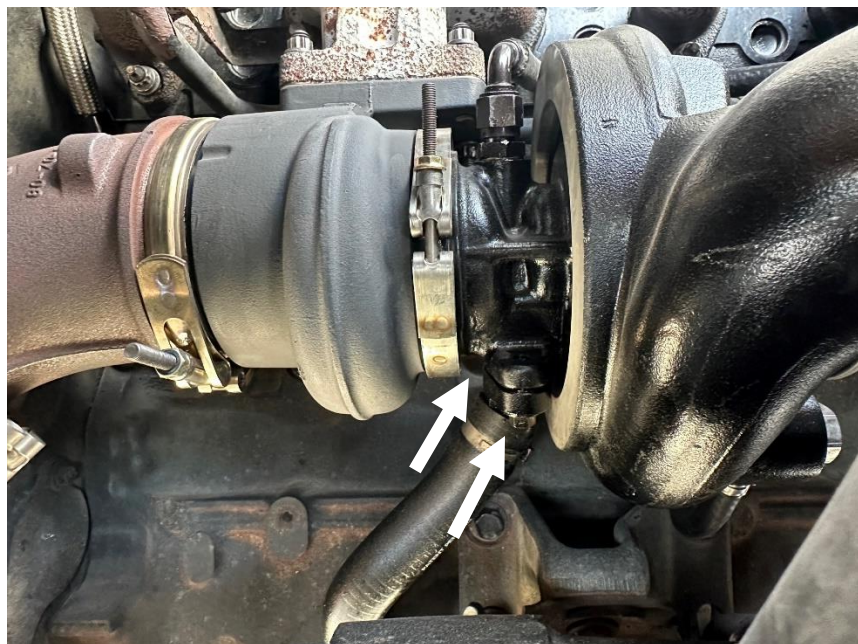


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6. Disconnect the exhaust pipe elbow from the turbocharger by loosening and removing the top clamp only. The clamp will be reused.

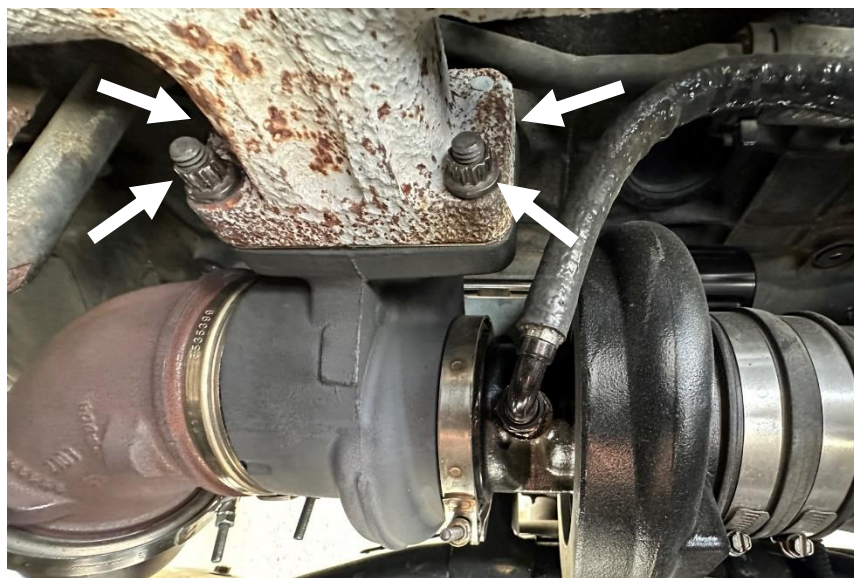


7. Remove the two bolts that retain the turbocharger oil drain tube. Discard the original turbocharger oil drain tube gasket.



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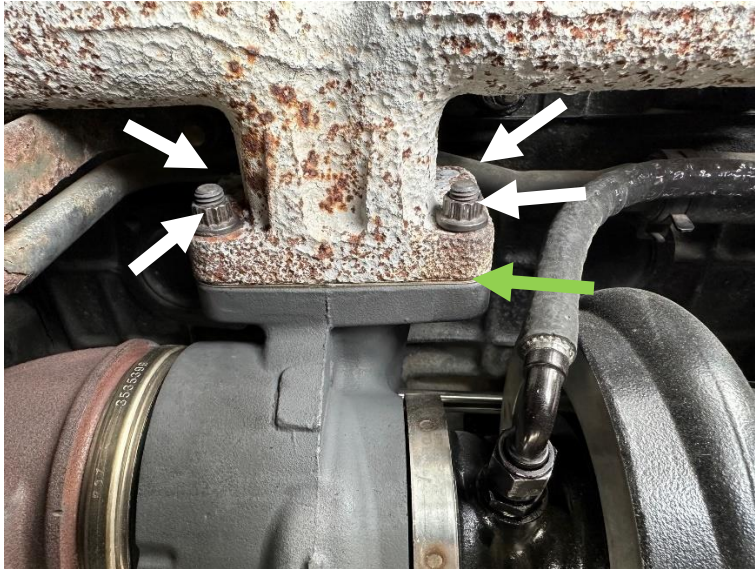
8. Remove the four turbocharger mounting nuts from the manifold and turbocharger. Remove the turbine flange gasket from the exhaust manifold. Discard the original manifold gasket, nuts, and studs.



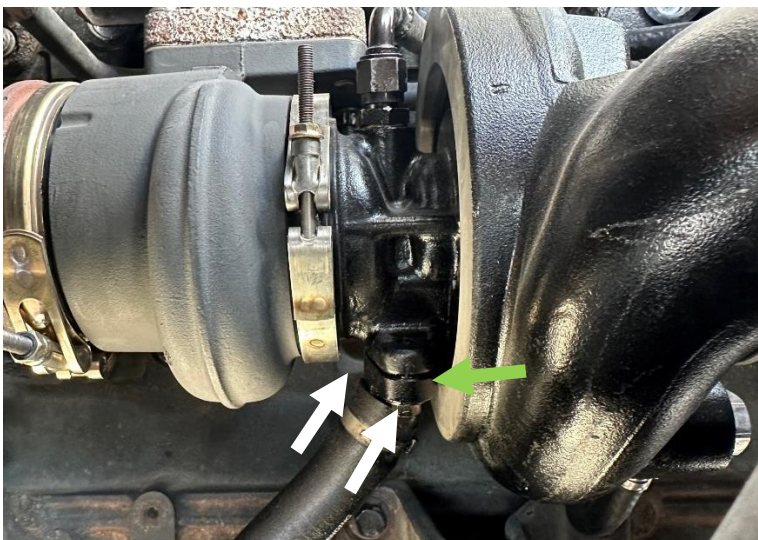
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TURBOCHARGER INSTALLATION:

1. Clean and inspect all mating surfaces.
2. Install the new turbine flange gasket included with the new turbocharger and apply anti-seize compound to the new mounting studs and nuts included with the turbocharger. Install the turbocharger to the exhaust manifold. Tighten the turbocharger mounting nuts to 32 ft-lbs.

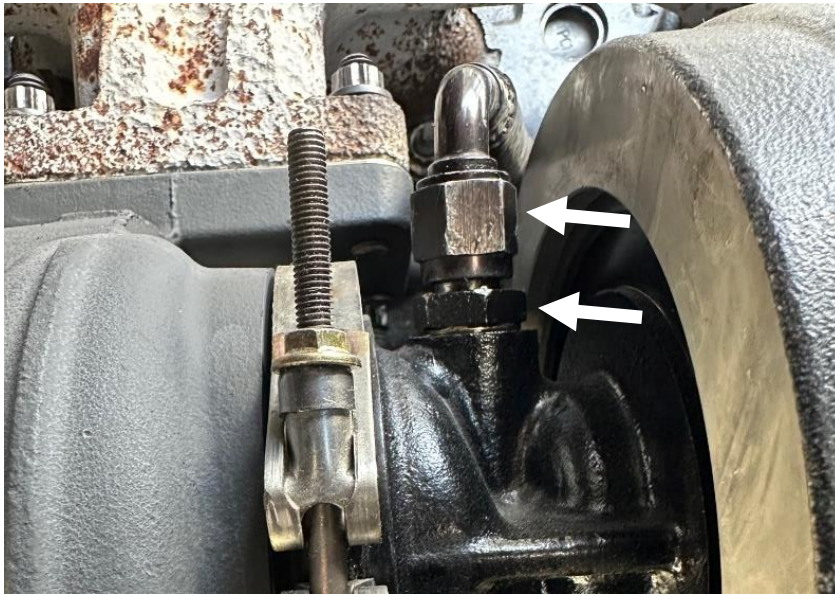


3. Using the new turbocharger oil drain gasket provided with the turbocharger, connect the turbocharger oil drain line. Tighten the two drain line connection bolts to 24 N·m (18 ft. lbs.) torque. If you are using an aftermarket oil drain tube with an integral O-ring seal, no additional gasket is required.



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4. The turbocharger must be pre-lubricated with clean engine lubricating oil before engine start up. Using a funnel, pour 2-3 ounces of new oil into the supply fitting bore while rotating the compressor shaft by hand. Do not install the oil feed line until this step is complete.
5. Install the oil feed fitting removed from the original turbocharger onto the new turbocharger. Install the turbocharger oil supply line. Tighten the oil supply line fitting nut to 15 N·m (11 ft. lbs.) torque.



6. For MY 2004.5-2007 trucks equipped with a wastegate control solenoid. Reinstall the solenoid into the front cover of the turbocharger and connect the electrical connector. This instruction only applies to turbocharger model FPE-351-0407.

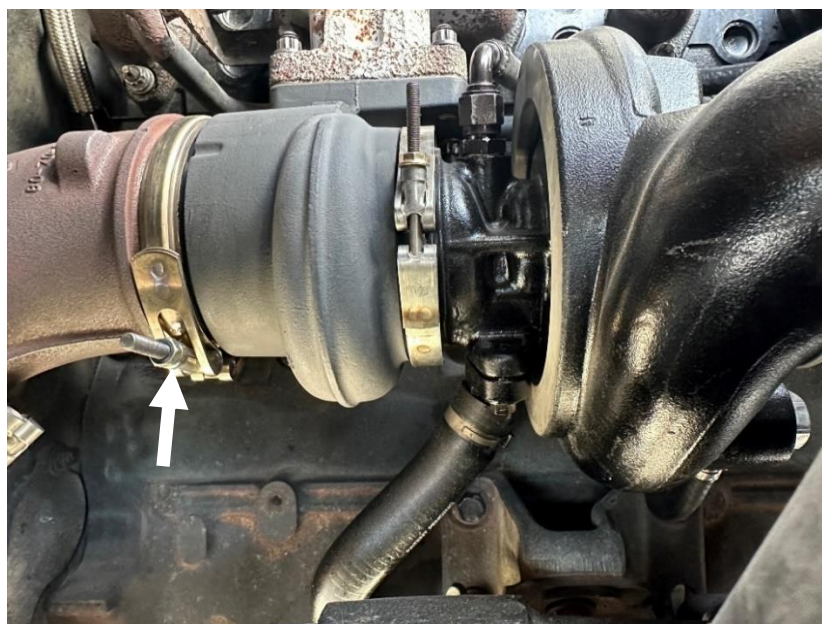


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7. Position the intercooler coupler pipe and connect it to the turbocharger. With the clamp in position, tighten the clamp nut to 8 N·m (72 in. lbs.) torque.

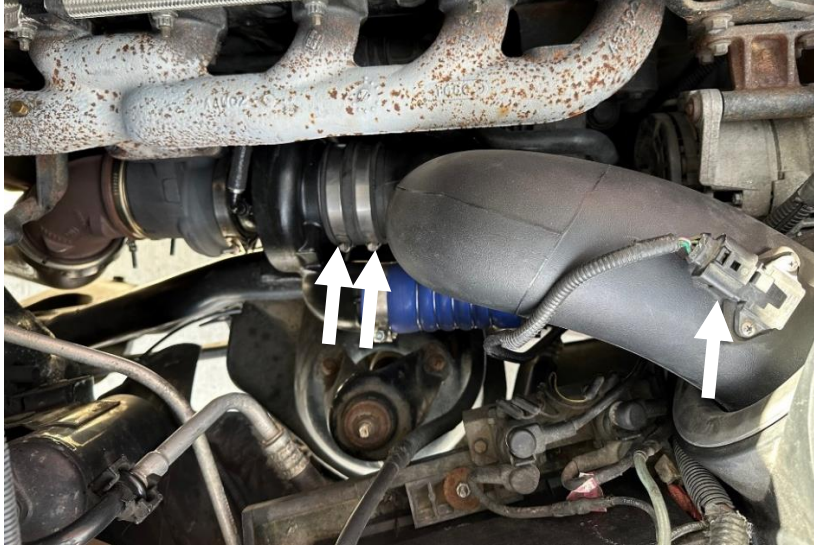


8. Connect the exhaust elbow to the turbocharger and tighten the clamp bolts to 11 N·m (100 in. lbs.) torque.



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9. Install the air intake tube and re-install the two clamps that connect the intake air tube to the turbocharger. Re-connect the intake air flow sensor connector.



10. Reconnect the negative battery cables. Start and crank the engine and check for leaks.
11. For California customers the E.O. identification label included with your turbocharger MUST be placed near the turbocharger in the engine compartment so that smog check technicians can verify the E.O. number.