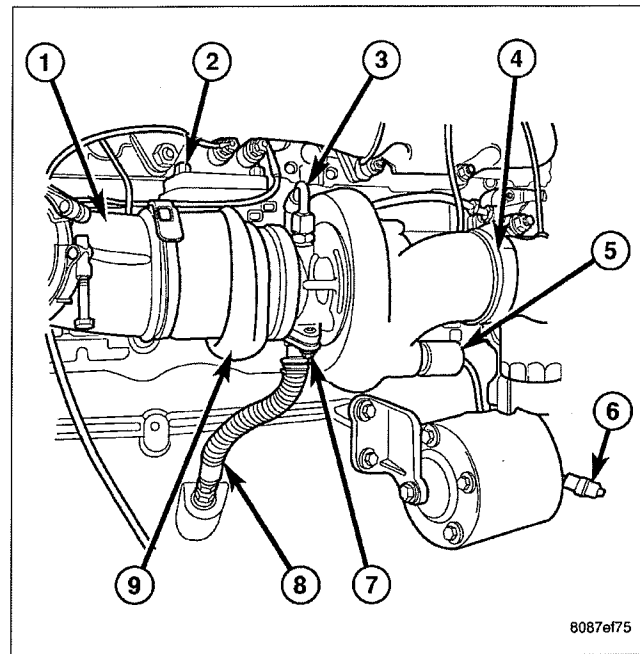


TURBOCHARGER OIL DRAIN TUBE

1. Disconnect negative battery cables.
2. Raise vehicle on hoist.
3. Remove two turbocharger oil tube mounting bolts
4. Pulling upward, remove the turbocharger drain tube from the engine block.



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CLEANING

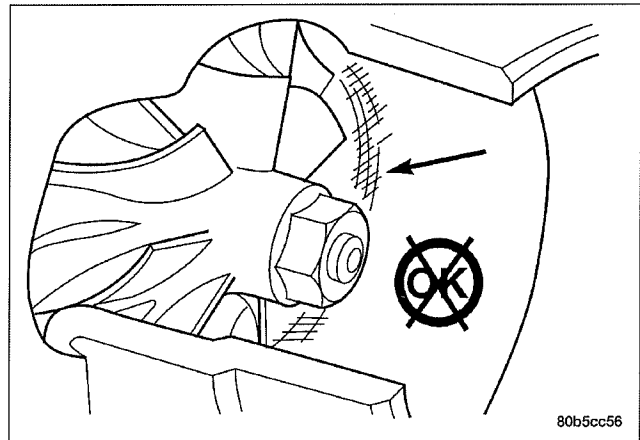
WARNING: To prevent damage or personal injury, do not use a combustible cleaner to clean the turbocharger.

Clean the turbocharger, turbocharger oil drain tube flange, and exhaust manifold mounting surfaces with a suitable scraper.

INSPECTION

Visually inspect the turbocharger and exhaust manifold gasket surfaces. Replace stripped or eroded mounting studs.

1. Visually inspect the turbocharger for cracks. The following cracks are NOT acceptable:
 - Cracks in the turbine and compressor housing that go completely through.
 - Cracks in the mounting flange that are longer than 15 mm (0.6 in.).
 - Cracks in the mounting flange that intersect bolt through-holes.
 - Two (2) Cracks in the mounting flange that are closer than 6.4 mm (0.25 in.) together.
2. Visually inspect the impeller and compressor wheel fins for nicks, cracks, or chips. Note: Some impellers may have a factory placed paint mark which, after normal operation, appears to be a crack. Remove this mark with a suitable solvent to verify that it is not a crack.
3. Visually inspect the turbocharger compressor housing for an impeller rubbing condition. Replace the turbocharger if the condition exists.

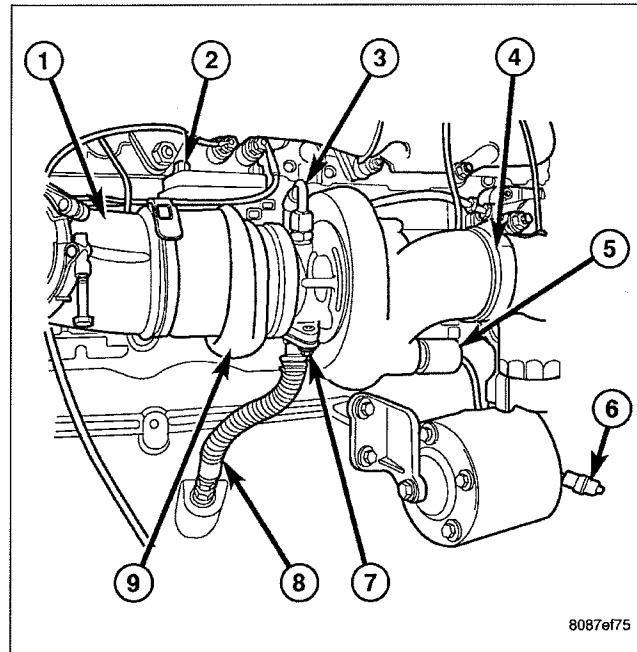


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INSTALLATION

TURBOCHARGER

1. Using a new gasket, install the turbocharger. Tighten the turbocharger mounting nuts to 43 N·m (32 ft. lbs.) torque.
2. Raise vehicle on hoist.
3. Using a new gasket, install the oil drain tube to the turbocharger. Tighten the drain tube bolts to 24 N·m (18 ft. lbs.) torque.



4. Connect the exhaust pipe to the turbocharger and tighten the bolts to 11.3 N·m (100 in. lbs.) torque.
5. Connect wastegate command valve connector.
6. Lower the vehicle.
7. **Pre-lube the turbocharger.** Pour 50 to 60 cc (2 to 3 oz.) clean engine oil in the oil supply line fitting. Carefully rotate the turbocharger impeller by hand to distribute the oil thoroughly.
8. Install and tighten the oil supply line to 24 N·m (18 ft. lbs.) torque.
9. Position the charge air cooler inlet pipe to the turbocharger. With the clamp in position, tighten the clamp nut to 11 N·m (95 in. lbs.) torque.
10. Position the air inlet hose to the turbocharger. Tighten the clamp to 4 N·m (35 in. lbs.) torque.
11. Connect the battery negative cables.
12. Start the engine to check for leaks.

