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BD 2003-2007 5.9L Cummins Stock Replacement & Screamer Turbo

Drop-in Turbo

1045768	**BD Screamer**
1045767	**Stock Replacement**

Table of Contents

Pre-Installation

A new turbocharger will not solve the following failures:

- Oil contamination
- Restrictive oil drain
- Overspeed due to a boost leak or clogged air filter
- Exhaust leaks due to faulty bellows, clamps, or seals

Turbo overspeed will lead to premature turbo failure. Boost pressure can be used to estimate turbo speed. A turbo intake restriction, clogged filter, high altitude, or boost leak will cause increased wheel speed.

Turbo 1045768	Estimated Airflow	Max boost
	75 lb/min	39

Turbo Mount Exhaust Brakes

The BD Diesel Screamer turbo retains the factory turbine outlet. If your stock turbo has a turbo mount exhaust brake it can be transferred to your Screamer turbo. If you plan on purchasing an exhaust brake with your Screamer turbo buy according to the year of your truck; see the optional accessories section for year ranges and part numbers for BD Diesel exhaust brakes.

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Kit Contents

	1407557 (Plug) 1453157 (Small O-ring) FT-920155095 (Large O-ring)		**1462430**
			
Turbo; Screamer 03-07 5.9L Cummins	Compressor Cover Plug with 2 O-rings	Oil Drain Gasket	Stud M10-1.5x30 - M10-1.5x42
Qty: 1	**Qty: 1**	**Qty: 1**	**Qty: 2**

3678603	**FT-920156020**		**1462441**
			
O-ring	O-ring	Exhaust Elbow V-Band	Mounting Nuts
Qty:1	**Qty: 1**	**Qty: 1**	**Qty: 4**

Optional Accessories

Part	Description	
Exhaust Elbow • 4.5-07: 1045100	Turbine outlet exhaust elbow.	
BD Diesel Exhaust Brake • 03-04: 2023138 • 04.5-07: 2023331 • 06-07: 2023330	Turbo mount exhaust brake. Will work with a BD Diesel Screamer Turbo or a stock turbo.	
BD Diesel Hose and Clamp Kit • 10452515	Boots can withstand over 100psi and are secured by rugged, spring-loaded, stainless steel clamps.	

Introduction

The BD Screamer turbo series is now available for the 2003-2007 Dodge 5.9L Cummins. The Screamer turbo is designed to be a drop-in stock-appearing performance turbocharger that increases boost while decreasing drive pressure and peak EGTs without affecting low-end drivability.

The 5.9L Cummins Screamer turbo utilizes a 63mm billet compressor wheel and a 76mm high-flow turbine wheel, offering increased turbine flow and efficiency. The wastegate for the Screamer turbo is pre-set to 30 psi. With supporting modifications, the Screamer turbo is capable of 625hp.

Tools Required for Installation

- 7mm-22mm Metric Socket and Wrench Set
- 5/16”-9/16” Socket and Wrench Set
- Hose Clamp Plier
- Torque Wrench
- 21mm Crows foot

Installation

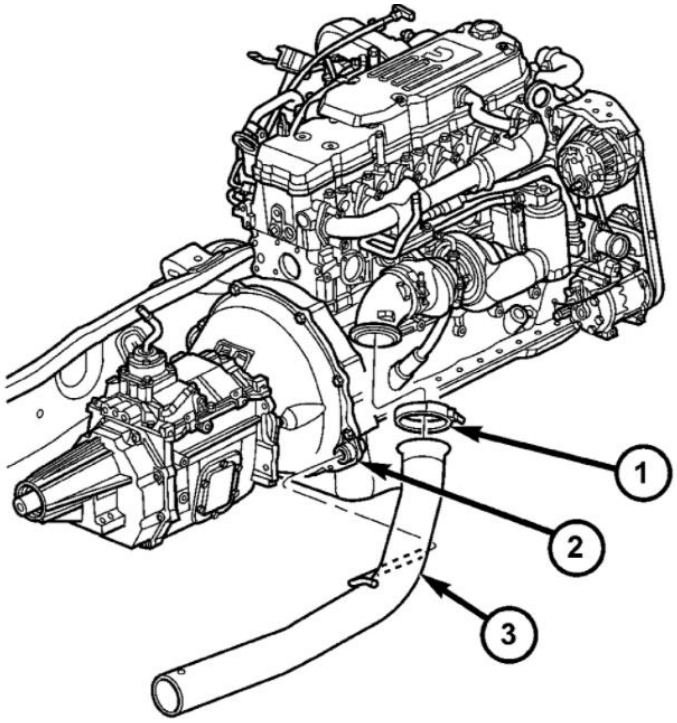
Removal

1. Disconnect the battery and raise the vehicle.

2. Remove the passenger side inner fender well with a 5/16’’ socket.

3. Disconnect the exhaust pipe from the turbo exhaust elbow.

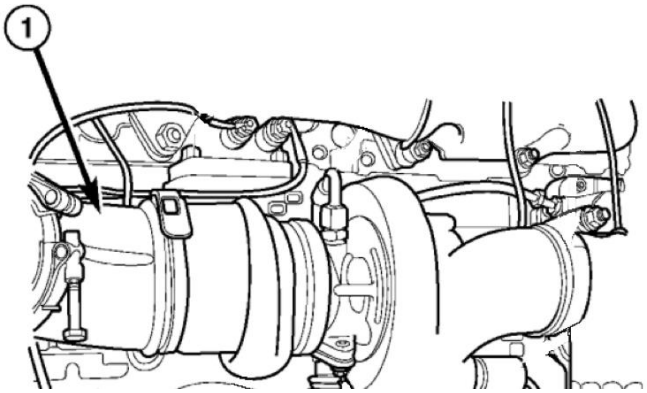
- Saturate the bolts and nuts with heat valve lubricant. Allow 5 minutes for penetration.
- Remove the exhaust pipe-to-extension pipe clamp using a 11mm socket. Separate the exhaust pipe and extension pipe
- Remove the exhaust pipe-to-turbo elbow clamp using a 10mm socket.
- Remove the exhaust pipe from the transmission support.



1 - Exhaust pipe to turbo clamp
2 - Transmission support
3 - Exhaust pipe

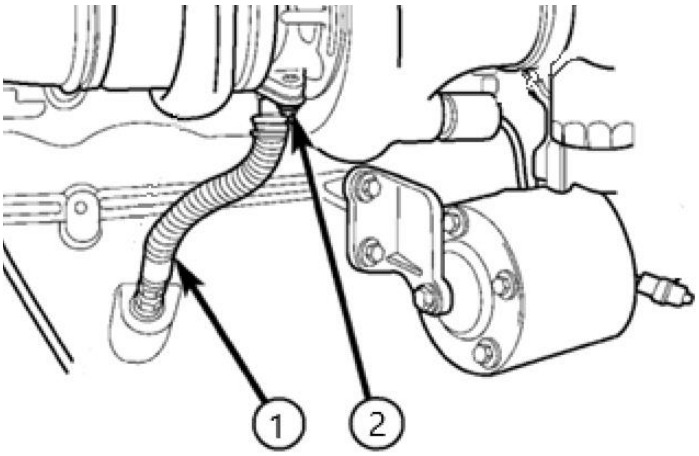
4. Remove the exhaust elbow from the turbo by removing the v-band clamp using a 10mm socket.

Note: Put this elbow aside, it will get used with the new turbo.



1 - Turbo Exhaust Elbow

5. Remove the oil drain line from the turbo with a 10mm socket, and discard the gasket.

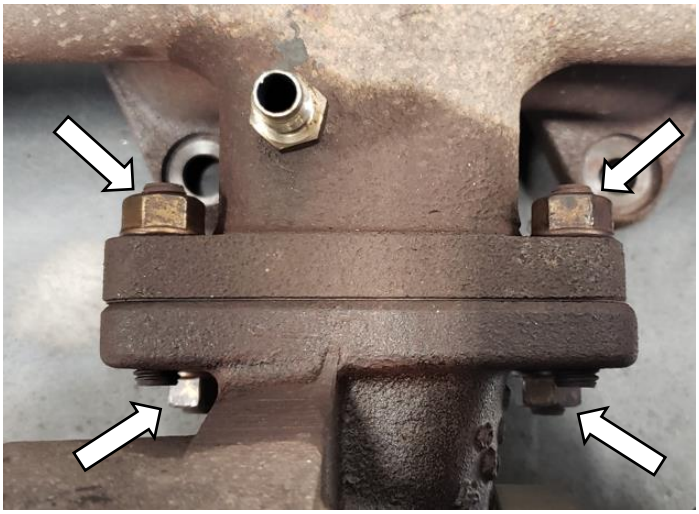


1 - Turbo oil drain tube bolt
2 - Turbo oil drain tube

6. Disconnect the turbo oil feed using a 21mm wrench.

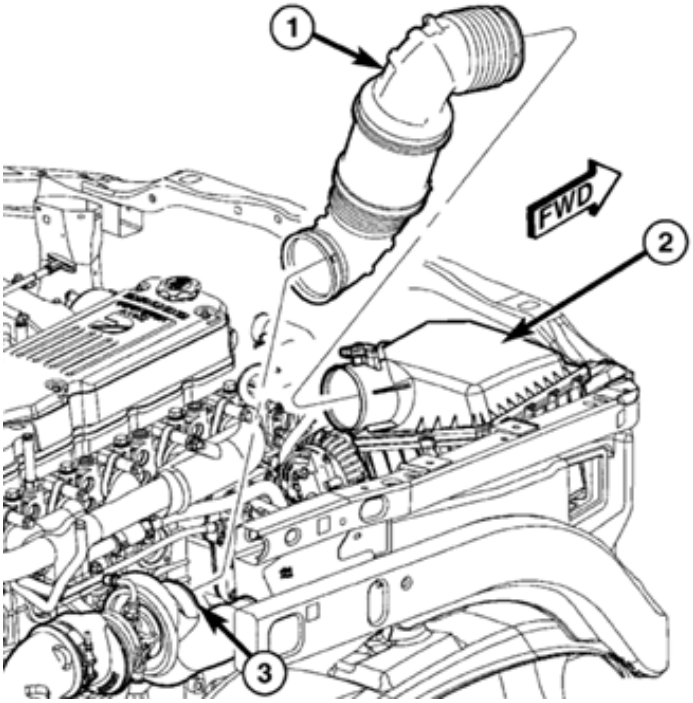
7. Remove the two lower turbo mounting nuts with a 15mm socket and extension.

   Break the two upper turbo mounting nuts loose with a 15mm wrench.



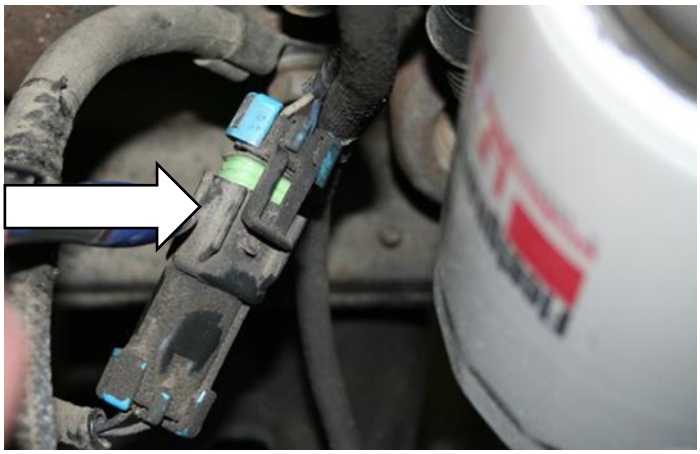
8. Lower the vehicle.

9. Disconnect the air intake hose using a 7mm socket.



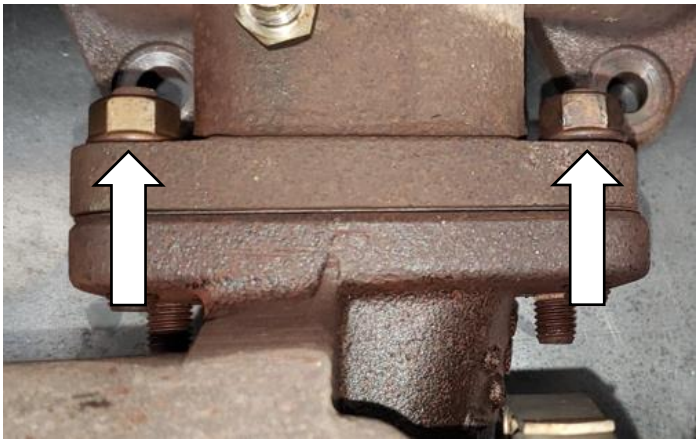
1 - Air inlet tube
2 - Air filter housing
3 - Turbo

10. On 04.5-07 trucks, you will need to disconnect the wastegate solenoid connector.



11. Disconnect the intercooler inlet pipe from the turbo compressor outlet. Use a 7/16'' socket for the hose band clamp.

12. Remove the two upper turbo mounting nuts with a 15mm wrench.



13. Remove the turbo and gasket from the exhaust manifold.

14. If the turbo is not being installed immediately, cover the opening to prevent material from entering into the manifold.

15. Remove the turbocharger oil supply fitting and put it aside. This fitting will be used on the new turbo.

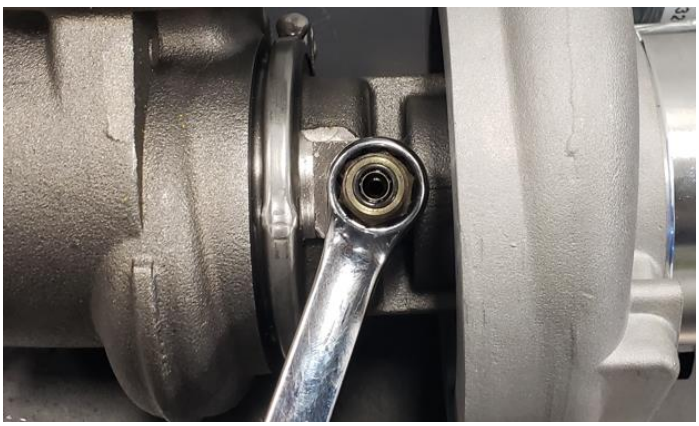
Installation

For **2003-2004.5** make sure the compressor cover plug with 2 O-rings is installed on the compressor cover.

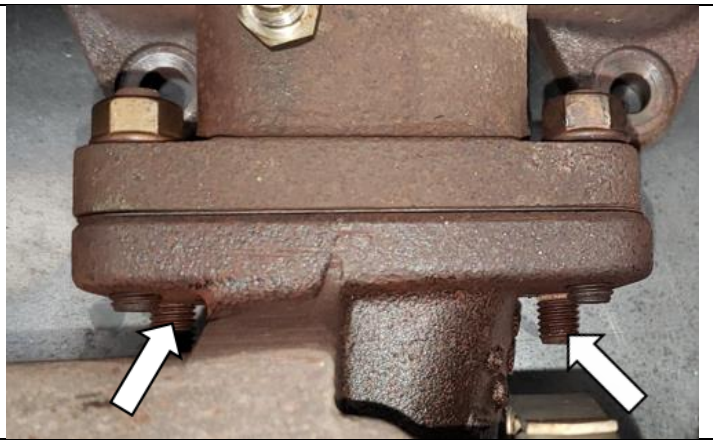
For **2004.5-2007** make sure the solenoid is installed on the compressor cover.

Be sure to torque either the plug or solenoid to **13.5 Nm (10 ft.lbs)**.

1. Using the new gaskets (FT-920156020 & 3922794) provided in the kit, install the oil supply fitting from the old turbo to the Screamer turbo. Tighten fitting to **36 N.m (27 ft.lbs)** with a 19mm socket.

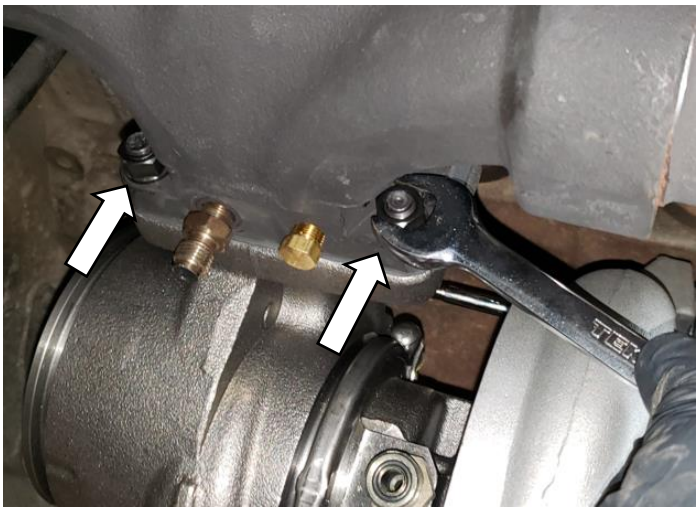


2. From 2003 - 2004.5 the two rear manifold factory studs are too short so you must replace those two factory studs with the supplied studs (1462430).



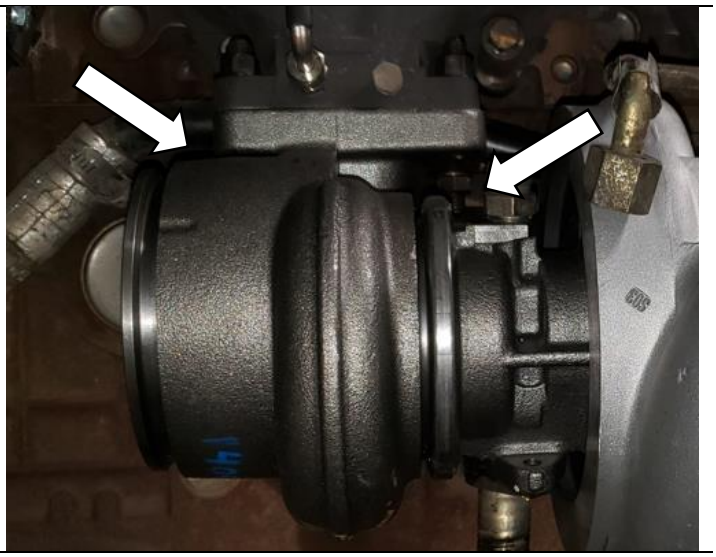
3. Secure the turbo to the exhaust manifold with the two upper turbo mounting nuts. Use the NEW gasket provided with the turbo, and tighten nuts to **43 N.m (32ft. lbs)** with a 15mm socket.

   Important! Improper torque of the flange can lead to exhaust leak, gasket failure, and flange damage.

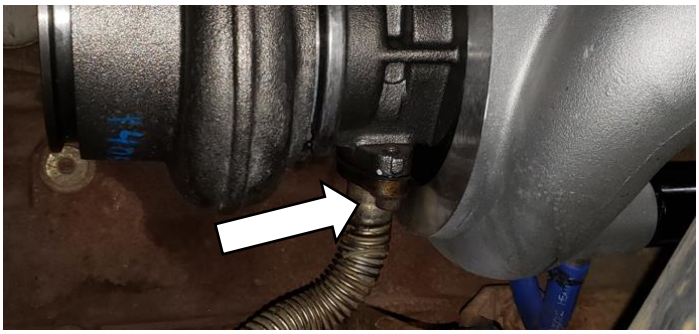


4. Raise the vehicle.

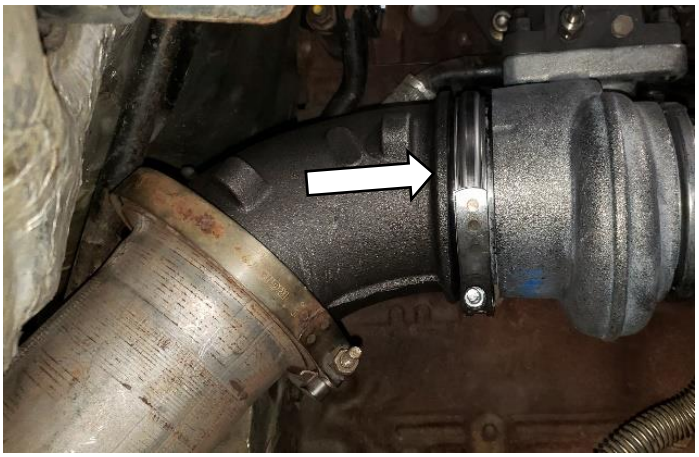
5. Tighten the 2 lower turbo mounting nuts to **43 N.m (32 ft.lbs)** with a 15mm socket.



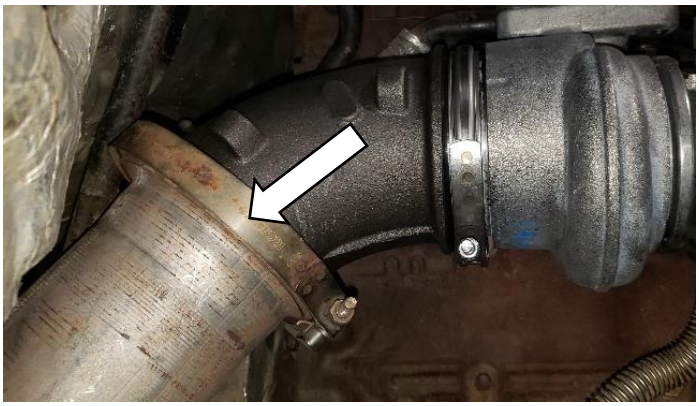
6. Using the new gasket provided in the kit, install the oil drain tube to the turbo. Tighten the drain tube bolts to **24 N.m (18ft.lbs)** with a 10mm socket.



7. Connect the exhaust elbow to the turbo using the new v-band clamp provided in the kit. Tighten the v-band clamp to **11.3 N.m (100in.lbs)** using a 10mm socket.

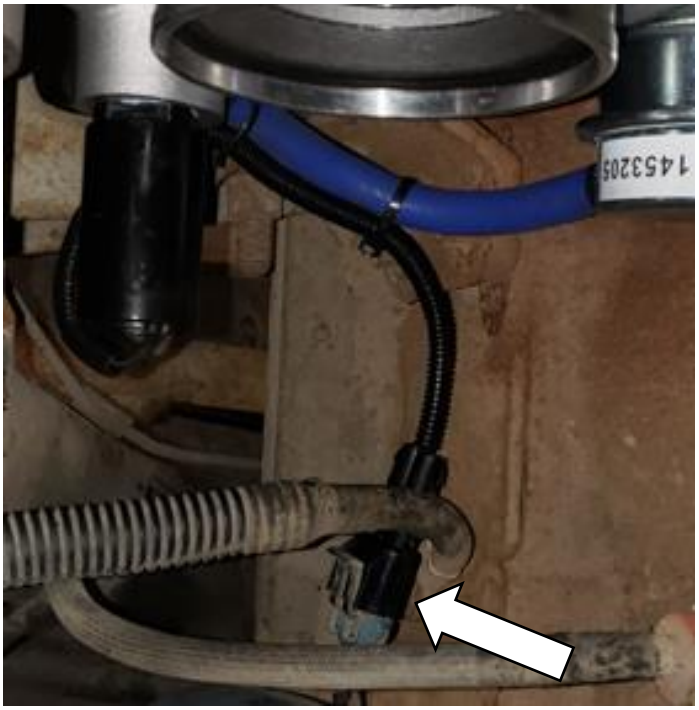


8. Connect the exhaust pipe to the turbo and tighten the v-band clamp to **11.3 N.m (100 in.lbs)** using an 11mm socket.



9. Lower the vehicle.

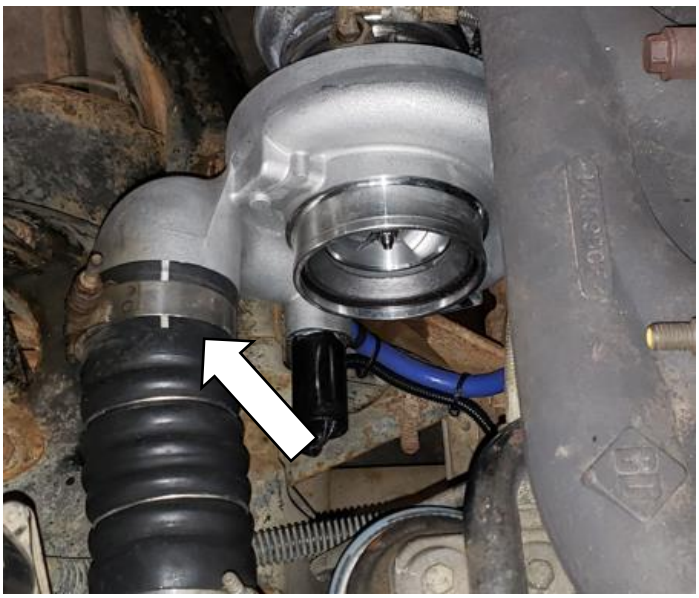
10. On 04.5-07 trucks, connect the wastegate solenoid connector.



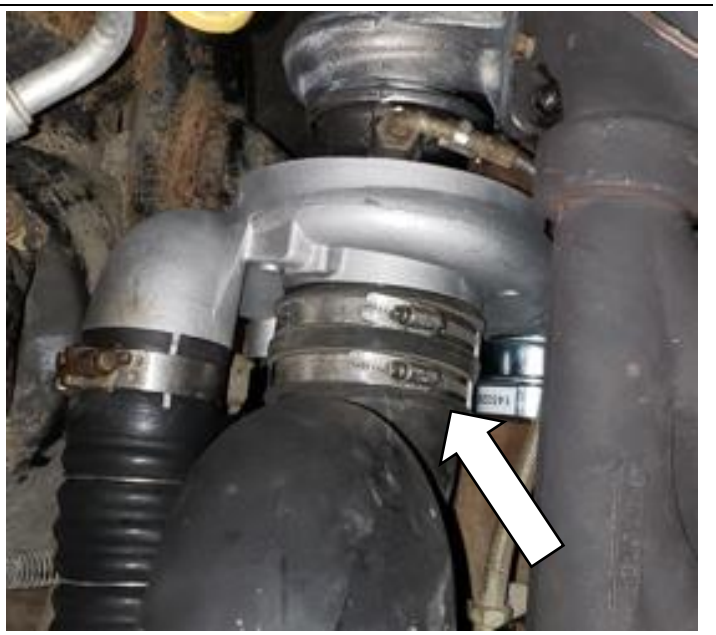
11. Pre lubricate the turbo. Pour 50 to 60cc (2 to 3 oz), of clean 15w40 engine oil in the oil supply inlet. Carefully rotate the turbocharger by hand to disturb the oil thoroughly.

12. Install and tighten the oil supply line with a 21mm wrench. Torque to **24 N.m (18 ft. lbs)** with a 21mm crow's foot.

13. Position the intercooler inlet pipe to the turbo. With the clamp in position, tighten the clamp nut to **11 N.m (95 in. lbs)** with a 7/16'' socket.



14. Position the air inlet hose to the turbo. Tighten the clamp to **4 N.m (35 in. lbs)** with a 7mm socket.



15. Connect the battery and start the engine and check for leaks

Troubleshooting

Error Code	Possible Causes	Solution
P0234 Turbocharger Overboost Condition	• Wastegate Stuck • Turbocharger and/or wastegate damaged • Wastegate control valve damaged (04.5-07)	Ensure the wastegate is set at 30 psi.
P0236 MAP Sensor Too High Too Long	• MAP sensor intermittent condition	Follow OE diagnostic testing procedure to determine the fault.
P0243 Wastegate Pressure Control PWM (04.5-07)	• Fused ignition switch output open • Wastegate solenoid control circuit open • Wastegate solenoid control circuit shorted to ground • Wastegate solenoid control circuit shorted to voltage wastegate solenoid. • Engine control module	Follow OE diagnostic testing procedure to determine the fault.
P0299 Low Boost Pressure/ Turbocharger Underboost	• Intake air system restriction • Intake air system leak • Boost pressure sensor • In rare instances with the Screamer, fueling conditions underperform for turbo requirements	Follow OE diagnostic testing procedure to determine the fault. In the rare instance of under fueling, consult with your preferred aftermarket tuning provider.