



BD SUPER SXE Turbo

2003-2007 Dodge 5.9L Cummins 24v ISBe

	Kit Part #	Turbo #
S361/76 SXE	1045286	1415286
S363/80 SXE	1045278	1415278
S364/80 SXE	1045271	1415271
S366/80 SXE	1045272	1415272
S369/80 SXE	1045273	1415273

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION.

UNLESS AN EO# IS LISTED, THIS PRODUCT IS LEGAL IN CALIFORNIA FOR RACING VEHICLES ONLY, WHICH MAY NEVER BE USED UPON A HIGHWAY.

Jacobs or Banks brakes *may* have insufficient firewall clearance.

BD Engine Brake Inc.

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Phone: 604-853-6096 | Fax: 604-853-8749 | Internet: www.bd-power.com

Kit Contents

Please check to make sure that you have all the parts listed in this kit before you start the disassembly of your truck.

DODGE 2003-2007 SUPER SXE TURBO KIT

See Table



Turbo; SXE

Qty:1

FT-110120342	3946275	1453152	1453240	1452811
<i>BOLT;3/8-16 x 3/4" ZP</i>	<i>Gaskets; Exhaust Manifold 24v</i>	<i>1/4NPT to ORFS</i>	<i>Wastegate Footer</i>	<i>Bolt - 10mm x 1.5 x 20mm</i>
Qty: 2	Qty: 6	Qty: 1	Qty:1	Qty: 1
1452812	1452813	1452814	1452815	1452822
<i>Bolt - 10mm x 1.5 x 30mm</i>	<i>Bolt - 3/8"NF x 1 3/4"</i>	<i>3/8"NF Nut</i>	<i>3/8" Washer</i>	<i>Bolt - 3/8" NF x 1 1/2"</i>
Qty: 1	Qty: 2	Qty: 2	Qty: 6	Qty: 2

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Required Tools

- Wrenches: 9/16", 13mm, 15mm, 17mm, 19mm, 21mm
- Sockets: 5/16", 7/16", 1/2", 9/16", 7mm, 10mm, 11mm
- Drill Bits: 25/64"

Installation Notes

A turbocharger is driven solely on exhaust energy. Therefore, if the vehicles current exhaust manifold is cracked or is leaking, it is recommended that new exhaust gaskets and a heavy-duty exhaust manifold be used.

Installation should occur on a cold vehicle, as turbo and exhaust components become very hot with use.

The BD turbo system is recommended for trucks with 400-500 RWHP with a maximum efficient boost pressure of 45psi. For optimum performance, the turbo should be operating between 37-45psi.

It is highly recommended that when installing this turbo, that our high-performance two-piece manifold be installed at the same time. This new manifold utilizes pulse technology/duel volute to spool the turbo faster than the stock single volute manifold. As well this manifold can handle much higher temperatures than the stock one.

Manifold part # 1045987

Upgrade Options

Description	Part#
BD "X" Torque Convertor	1070217X
BD HD Transmission	CALL
BD High Flow Injectors	CALL
BD Auxiliary Lift Pump Kit	1050310B
BD HD Exhaust Manifold	1045987
BD Intercooler Hose/Clamp Kit	1045215
BD Intercooler Replacement Pipe (06-07)	1042590

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Battery Disconnect

Record preset radio settings (if desired). Disconnect the negative terminals on both of the vehicle's batteries.

Installation

2. Disconnect the airflow sensor.

And remove the intake hose using a 7mm socket.



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3. Remove the passenger side inner fender well with a 5/16" socket.



4. Remove the exhaust cast elbow v-band clamp with a 7/16" socket.



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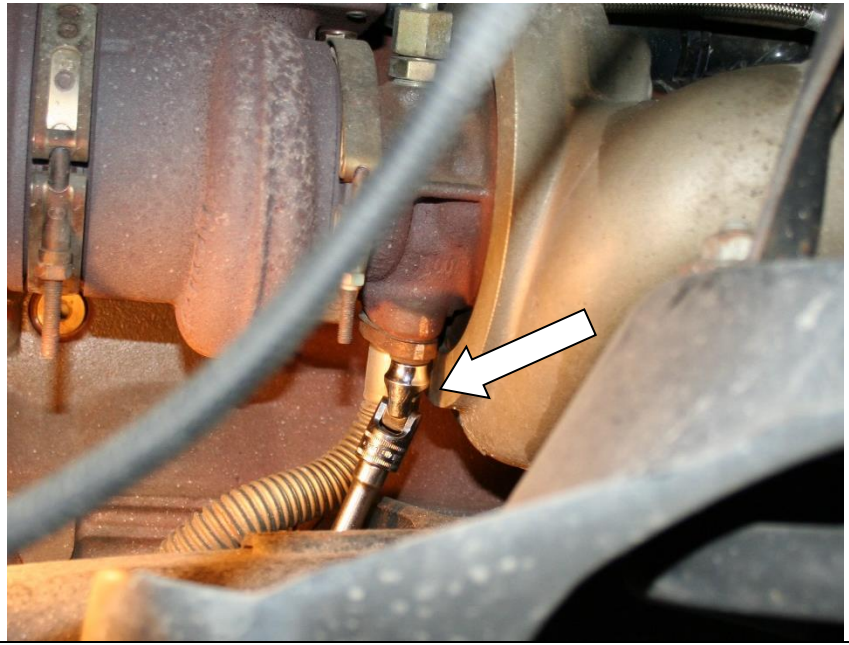
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5. Remove the turbo oil drain line with a 10mm socket.

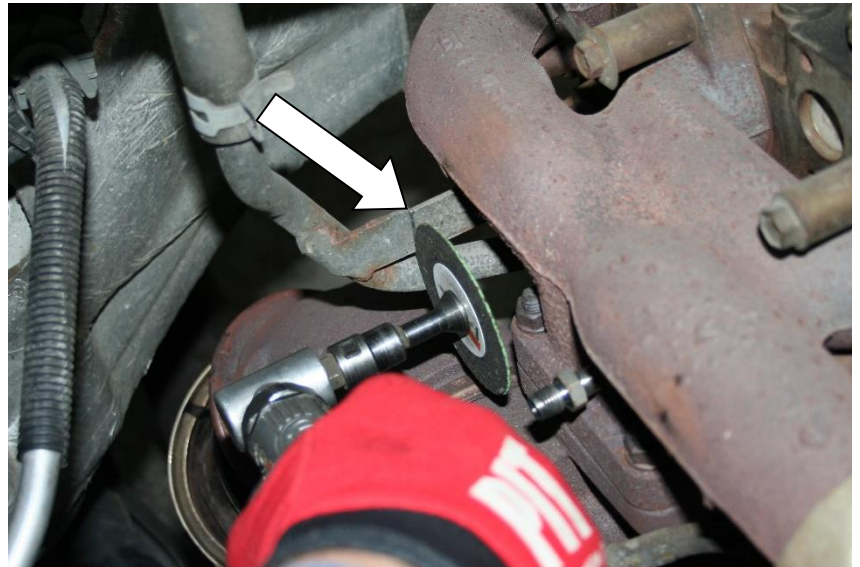
Then remove the oil drain tube out of the engine block.

Note: Some models require you to loosen gear clamps to remove the oil drain hose.



6. Cut the *heater pipe bracket* to assist in releasing the manifold.

Note: this bracket will need to be welded back on later in this installation.



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7. Remove turbo oil feed from the turbo.



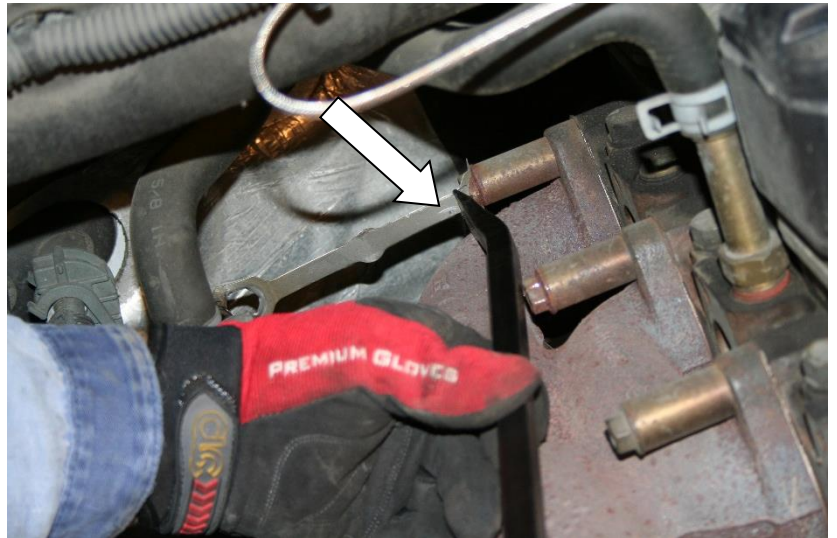
8. On **05-07** trucks, you will need to disconnect the solenoid connector



9. Remove the passenger side intercooler hose band clamp with a 7/16" deep socket.



10. Pry off metal lock from rear manifold bolts, remove the heater pipe bracket from the manifold and remove the manifold heat shield with a 15 mm socket.



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11. Then remove the rest of the manifold bolts using a 13 mm deep socket.



12. Remove the turbo/manifold assembly from the engine compartment.

Caution

The Turbo/Manifold assembly is very heavy; you may require help to lift it out safely.



13. Remove the four nuts holding the turbo to the exhaust manifold with a 15mm wrench. Then remove the two studs (double nuts each stud and turn out) from the factory manifold.

Note: Once the turbo is removed from the manifold clean the flange surfaces to ensure a clean connection upon reinstallation.



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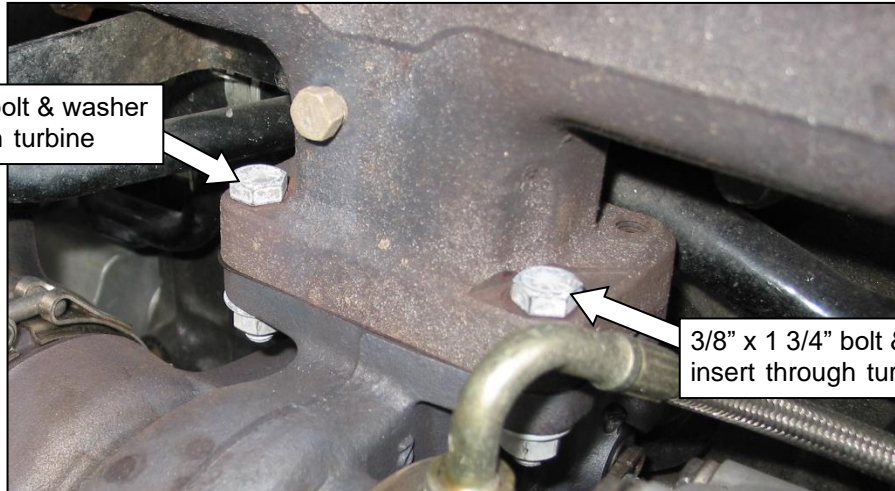
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Installing turbo with Stock Manifold

Mount the **Killer 'B'** turbo and new gasket in place using the metric 10mm bolts into the threaded holes in the manifold (shorter bolt to the rear of the engine). If you are mounting the turbo to a stock manifold you will require the supplied **3/8" x 1 3/4"** bolts for the unthreaded holes. These bolts should be inserted from the manifold side and fastened to the turbine housing using the supplied washers and nuts. Use an offset 17mm wrench to accommodate tightening of the inner bolts and two 9/16" for the outer bolts and torque turbo to manifold bolts to 32 ft/lbs.

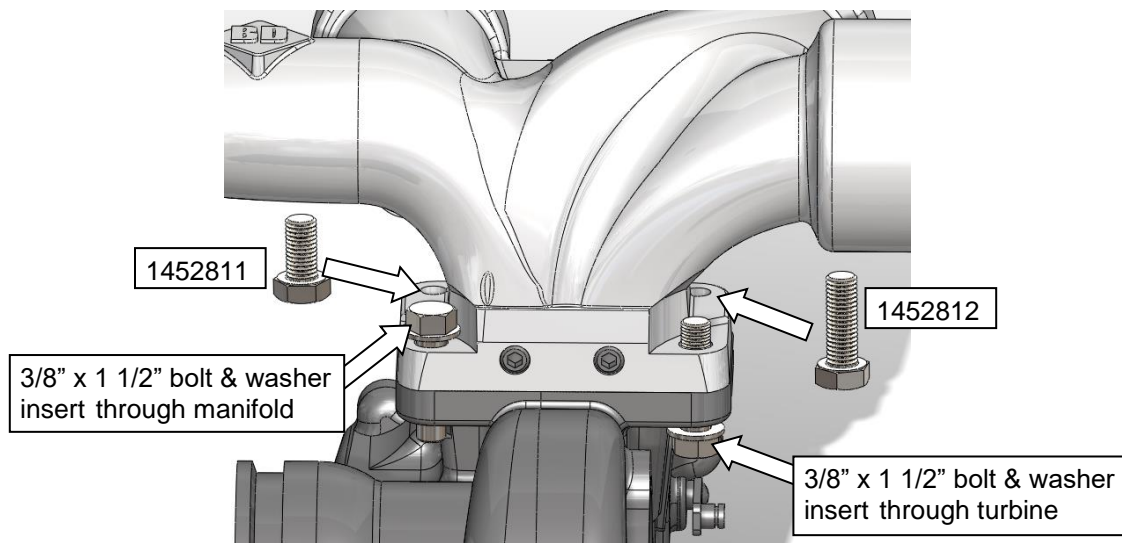
3/8" x 1 3/4" bolt & washer
insert through turbine



3/8" x 1 3/4" bolt & washer
insert through turbine

Installing turbo with BD Manifold

Mount the **Killer 'B'** turbo and new gasket in place using the metric 10mm bolts into the threaded holes in the manifold (shorter bolt to the rear of the engine). If you are mounting the turbo to a BD manifold you will require the supplied **3/8" x 1 1/2"** bolts for the unthreaded holes. One bolt will need to be inserted from the manifold side and the other will need to be inserted from the turbine side (see diagram for details) and fastened using the supplied washers and nuts. Use 17mm wrench to accommodate tightening of the inner bolts and two 9/16" for the outer bolts and torque turbo to manifold bolts to 32 ft/lbs.



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Note: Drill OE oil drain mounting holes with 25/64" drill bit

NOTE: Before you install the cast adapter to the BD turbo, remove the locating pins in the adapter with pliers.

When connecting the cast adapter to the BD turbo leave the v-band clamp loose to allow adjustment once it is installed in the truck.

Remove locating pins from cast adapter.



14. Before installing the Killer "B" turbo/manifold assembly clean the surface of the head that the manifold bolts to, and clean out any debris.



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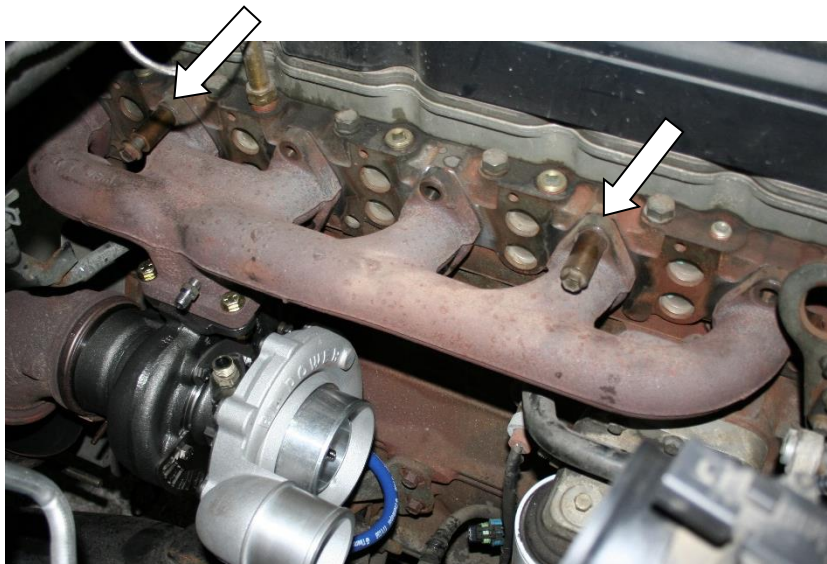
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15. Carefully maneuver the BD turbo/manifold assembly back into the engine compartment and start two manifold bolts with the supplied gaskets.

NOTE: You may require help to safely mount the BD Turbo/Manifold assembly into position.

Then feed in all the gaskets and torque all bolts to 35 ft/lbs.

Important – Once everything is tight double check the waste gate actuator has clearance.



16. Reinstall the manifold heat shield.



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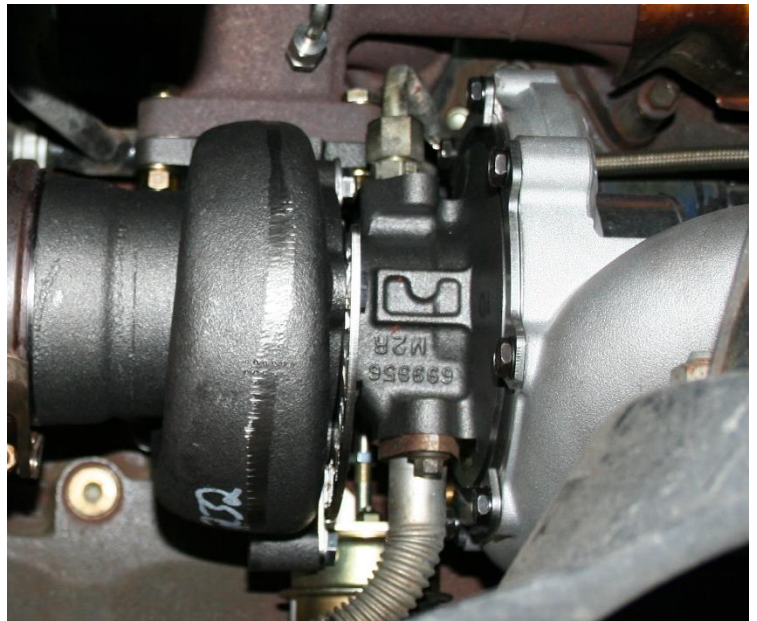
17. Reinstall the *heater pipe bracket* and tack weld back into position.



Turbo Clocking / Aligning (If Necessary)

Loosen the four bolts clamping the exhaust housing to the turbo body and rotate it until the oil feed and drains are straight up and down. Re-tighten the four bolts.

Loosen the eight bolts clamping the turbo compressor housing to the body and rotate the housing to align it with the intercooler tube. Tighten the eight bolts holding the compressor housing to the body to secure its position. Be careful that the compressor outlet elbow does not contact the shock tower.



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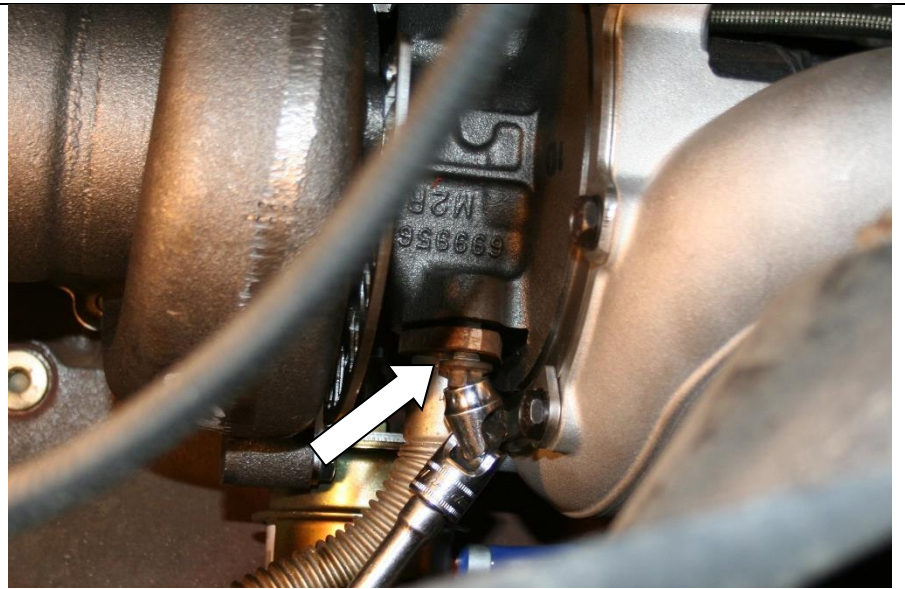
INSTALLATION CONTINUED

18. Reinstall the intercooler tube using a 7/16" deep socket.



19. You will need to drill out the factory oil drain holes to 10mm/13/32" or 25/64".

20. Secure the oil drain to the bottom of the turbo using the supplied gasket and FT-110120342 bolts torque to 18 ft/lbs, with 1/2" socket.



21. Secure the exhaust downpipe to cast adapter with the factory v-band clamp.

And tighten the cast adapter to turbo using the factory v-band clamp.

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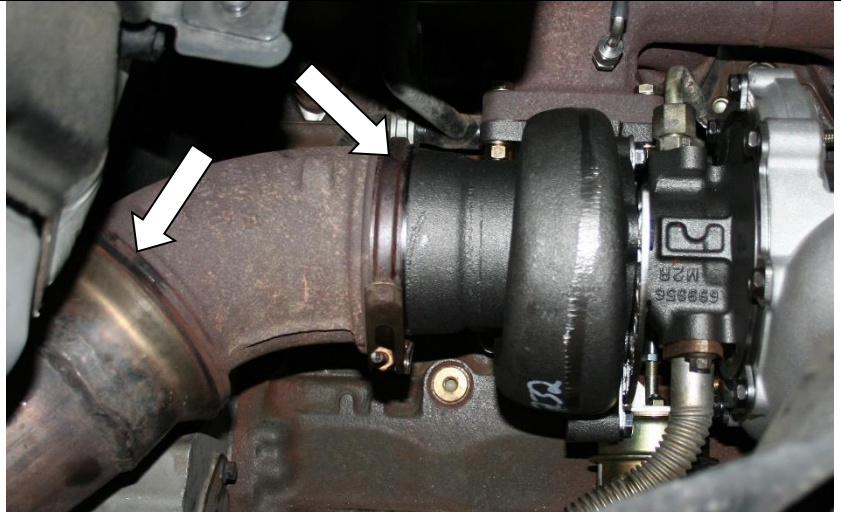
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Install

Then inject liberal amounts of fresh 15W40 diesel oil into the BD Killer "B" turbo while spinning the compressor wheel. Once the turbo is pre-lubed, secure the oil inlet hose to the turbo.



22. Install the **1453152** fitting into the turbocharger. Do not over torque.

Do not use Teflon tape. You may use a small amount of pipe dope.

Then inject liberal amounts of fresh 15W40 diesel oil into the turbo while spinning the compressor wheel. Once the turbo is pre-lubed, secure the oil inlet hose to the turbo.



23. Reinstall the plastic fender-well liner.



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05-07 Trucks Only

24. Connect the wastegate solenoid fooler to the solenoid plug.



25. Install the intake hose then reconnect the air flow sensor.

Reconnect the negative battery terminals and start the vehicle and let idle for 5-10 minutes. **Checking for any exhaust or oil leaks before and after the test drive.**



26. Take it easy on the turbo for the first 100 miles to allow a proper break-in period. Be very cautious of any unusual sounds or leaks during this time. Make sure that all clamps are tight.

Note: The exhaust housing of the turbo may smoke when new as the manufacturing residue on the housing must burn off.

Also, take care when shutting the vehicle down that you do not shut the vehicle down when it is still hot (>400°). This will cause oil coking and damage the turbo. The BD Cool Down Timer can automate this process for you.

IMPORTANT When idled for any length of time some oil may leak from the turbo. If the performance/boost is satisfactory and the wheel is not touching the housing (There will be some small movement), the excess oil is not a concern. Simply wipe with a clean cotton cloth and continue use.

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Questions

Please call our Technical Hotline at (800) 887-5030 if you experience problems or have questions about this kit, Monday to Friday, 8:30am – 5:00pm Pacific Standard Time (PST).

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Addendum A

In late model 5.9L (approx 2005-2006) years Chrysler changed the location of the transmission dip stick. Because of this you will need to cut and re weld the dipstick bracket in a new position to clear the downpipe. Some forgiving messaging with a ball peen hammer will free up just enough room to ensure no contact between the dipstick and downpipe.



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