



BD 6.7L Super SXE Turbo Kit For 2008 - 2012 6.7L Dodge

	Kit Part #	Turbo #
S363/80 SXE	1045279	1415279
S364/80 SXE	1045274	1415274
S366/80 SXE	1045275	1415275
S369/80 SXE	1045276	1415276

-- Installation Instructions --

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.

AFTERMARKET TUNER OR PROGRAMMER WILL BE REQUIRED TO USE THIS TURBOCHARGER KIT.

BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2







U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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.

6.7L SXE364 SPECIAL 2008-2012

<p>1453255</p>	<p>1090012</p>	
		
<p>Down Pipe</p>	<p><i>EGB Kit</i></p>	
<p>Qty: 1</p>	<p>Qty: 1</p>	
<p>See Table</p>		
		
<p><i>Turbo; SXE</i></p>		
<p>Qty: 1</p>		
<p>1045987</p>	<p>1453152</p>	<p>FT-110120342</p>
		
<p><i>Exhaust Manifold Kit</i></p>	<p><i>Fitting, 1/4MPT x ORFS(-6)</i></p>	<p><i>Bolt; 3/8-16 x 3/4</i></p>
<p>Qty: 1</p>	<p>Qty: 1</p>	<p>Qty: 1</p>

Hardware Kit (BD# 1405178)					
1452811	1452814	1452815	1452812	1452822	1405926
					
Bolt – M10 x 1.5 x 20mm	3/8”NF Nut	3/8” Washer	Bolt - M10 x 1.5 x 30mm	Bolt -3/8”NF x 1 1/2”	Downpipe V-Band Clamp
Qty: 1	Qty: 2	Qty: 6	Qty: 1	Qty: 2	Qty: 1
1600035	1453123	1453113	1452821	1400113	
					
Sleeve	Drain Block Adapter	1 ¼” Clamp	1” Clamp	Insulated Clamp	
Qty: 2	Qty: 1	Qty: 3	Qty: 1	Qty: 1	
1453924	1453925	1453926	1900037	1401578	1130058
					
Hose Mender	7/8” Plug	Bracket	M6 Bolt	M6 Washer	M6 Nut
Qty: 1	Qty: 1	Qty: 1	Qty: 1	Qty: 1	Qty: 1
1900002	1100740		1045986		
					
3/4” Silicone Hose	4” Stainless Steel Down Pipe Clamp		<i>Exhaust Manifold Gasket Set</i>		
Qty: 26”	Qty: 1		Qty: 1		

BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

Tools Required

- Sockets : 8,10,13,14,15,17,19mm
- Wrenches: 8,10,13,14,15,17,19,21mm & 7/8"
- Pick Tool
- Pliers
- Torque Wrench

Upgrade Options

<u>Description</u>	<u>Part #</u>
68 RFE BD Transmission	Call for Application
68 RFE Torque Converter	Call for Application
BD High Flow Injectors	Call for Application
Flowmax Lift Pump	1050310B
07-09 Intercooler	1042525
BD Cool Down Timer	1081160
Cool air Intake	VOL16867
SS Exhaust System	Call for Application
68 RFE Pressure Loc	1030368
Intercooler Replacement Pipe	1042595

If you are installing a BD Engine Brake with this turbo you will require:

(1) Turbo Plate PN# 1453238

(5) M8-1.25 x 20mm bolts

BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

Pre-Installation Notes

This turbocharger works best for 6.7L that operate up to 3000 RPM with fueling designed for 500 H.P. & less to keep exhaust temp within operating temperatures of 1200-1400°F.

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

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

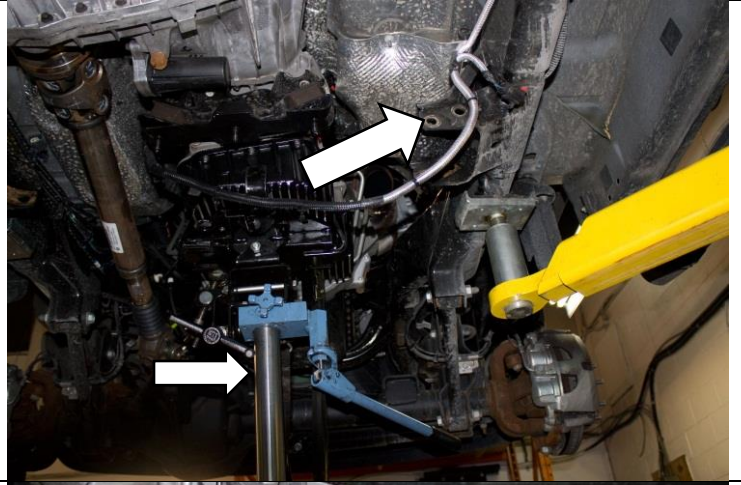
Procedure

Block wheels to ensure vehicle does not roll during installation. Record radio settings and disconnect the negative terminals on both batteries. Drain coolant from vehicle ***CAUTION*** coolant may be hot, use of protective gear is recommended.

1. With vehicle securely on a hoist, remove passenger side front wheel (7/8" or 15/16" socket) and inner fender (8mm socket).



2. Lift vehicle and support transmission using a jack. Then remove the cross member. By removing 3 (15mm) nuts at transmission mount and 4(18/21mm) bolts and nuts for cross member.

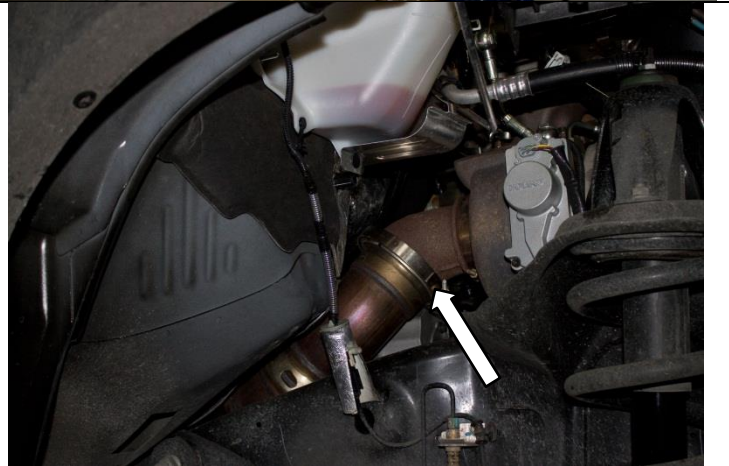


3. Disconnect downpipe at lower joint by transfer case.



4. Disconnect downpipe at turbo connection (11mm) to remove downpipe.
5. Reinstall cross member ensuring the transmission remains supported then remove jack.

NOTE: Do not fully tighten bolts on cross member as the cross member will need to be removed in alater step.



6. Remove the 2 oil drain bolts (10mm) to extract drain pipe. Pull pipe out of engine block. Cover and temporarily plug hole.

Lower vehicle to ground.



7. Disconnect intake sensors and remove the intake pipe (8mm socket & pliers) and air box (13mm).



8. Disconnect VGT & speed sensor then remove passenger side CAC pipe.



BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

9. Remove coolant lines that connect to the turbo, block and heater pipe.(7/8")

10. Remove oil feed line (21mm)



11. Remove 4 turbo to manifold 15mm nuts.

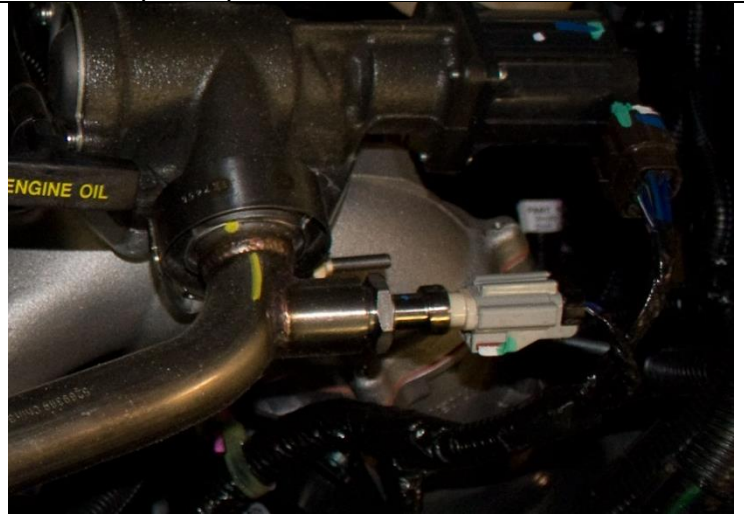
12. Lower turbo from manifold & remove



13. Pull out the oil dipstick to remove top engine cover (4 x 8mm bolts). Once cover is removed reinsert the oil dip stick.



14. Disconnect EGR temp sensor if equipped. (2011-2012 only)



15. Detach EGR cross over tube, one support bolt (8mm) & two V-band clamps to remove the tube(11mm)



BD Engine Brake Inc.

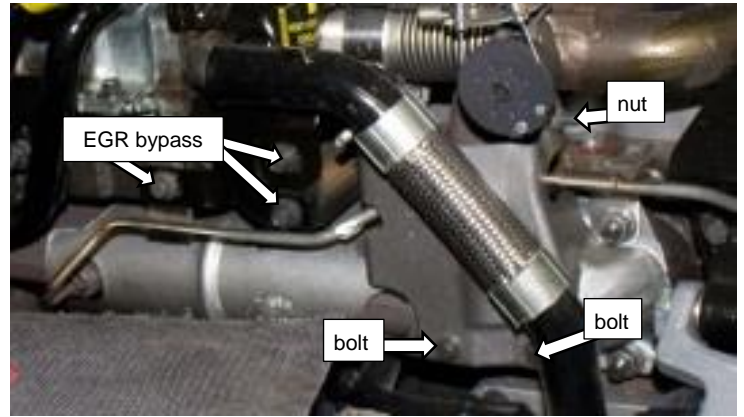
Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

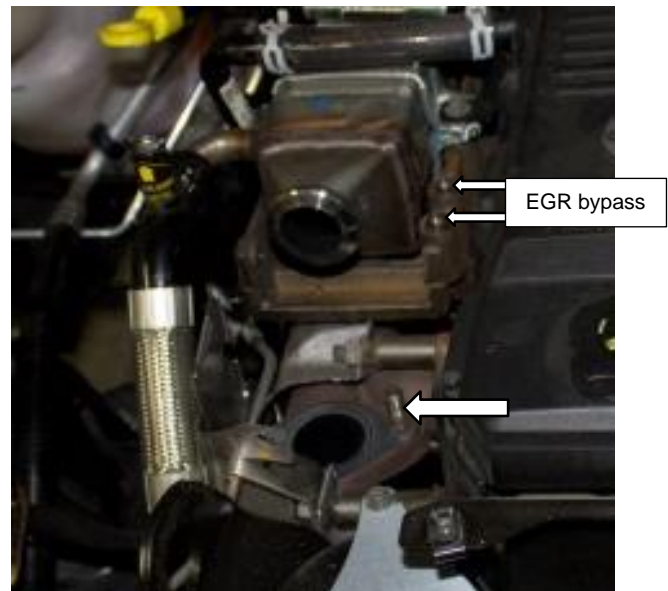
16. Remove lower heat shield, two (8mm) bolts & one (10mm) nut. Slide toward front of engine to remove.

17. Unbolt EGR bypass valve bracket, five bolts (10mm) and remove.



18. Loosen v-band clamp (11mm) at EGR bypass valve to EGR cooler. Then remove the two nuts holding mixer to the exhaust manifold.

Remove bypass valve & actuator then the lower heat shield.

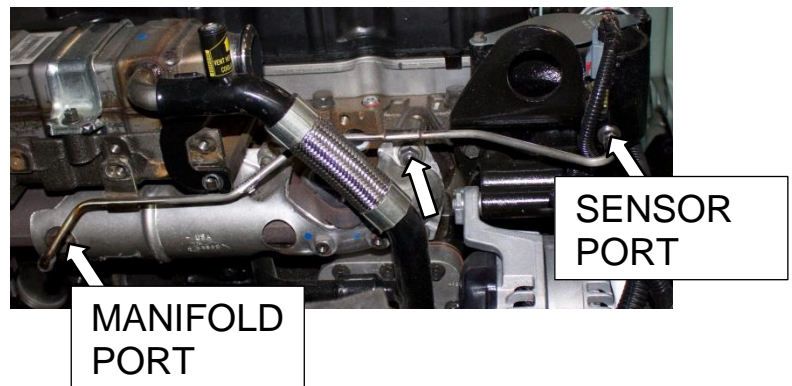


19. Disconnect PVC hose & remove hose/pipe assembly. (10 mm bolt)
20. Remove transmission dipstick tube, loosen (10mm) nut to remove tube off of stud.
21. Remove 10mm bolt holding coolant pipe bracket to EGR cooler then remove pipe.



22. Extract one (15mm) nut holding the exhaust pressure tube, then loosen manifold & sensor port to remove tube. (12mm)

NOTE: The sensor port is to be left open to atmosphere.



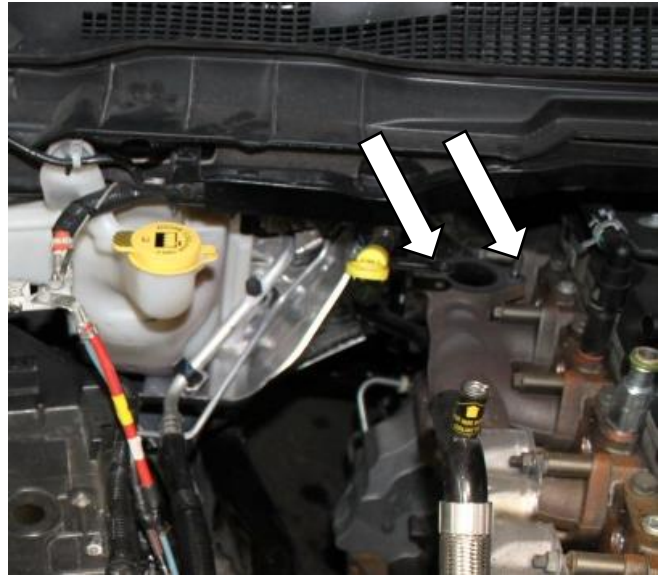
23. Remove two 15mm nuts securing EGR cooler to exhaust manifold at rear.

07-09 models only

Move spring clamp from EGR cooler toward coolant riser pipe and loose hose connection.

24. Lift rear of cooler off studs and slide cooler back to release coolant connection.

Lift cooler from vehicle.



25. Remove 15mm nut and 10mm bolt securing coolant pipe to exhaust manifold.



26. Pull coolant pipe out of the way and remove the locking tabs on exhaust manifold bolts.



BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

27. Detach exhaust manifold heat shield. Six (15mm) nuts.



28. Remove 12 (13mm) bolts on exhaust manifold and remove exhaust manifold.

29. Clean up cylinder head at mating surface.

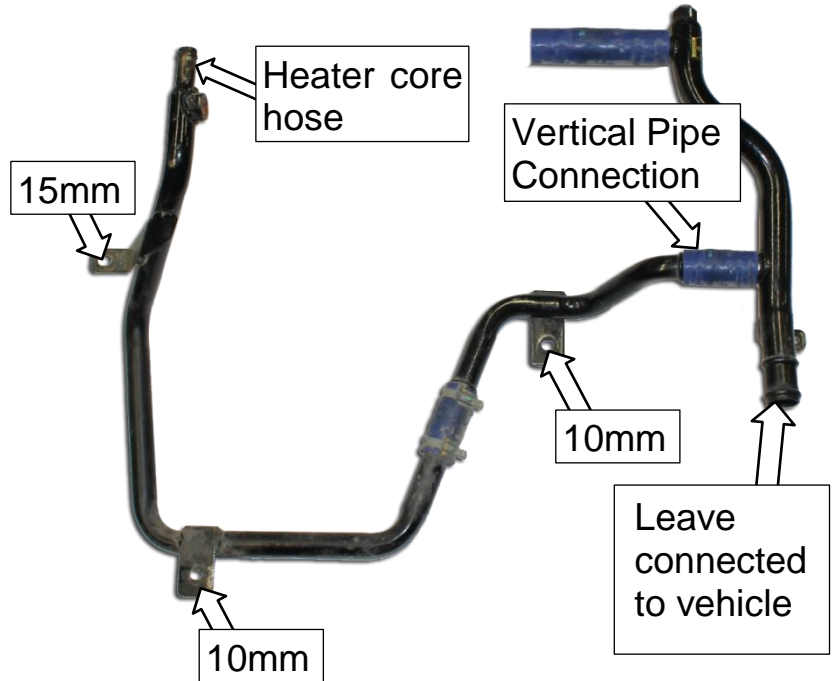
NOTE : If the vehicle is a 2010-2012 continue on step 34



2007.5-2009 Models Only

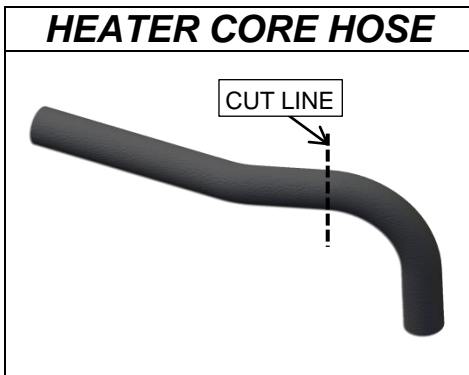
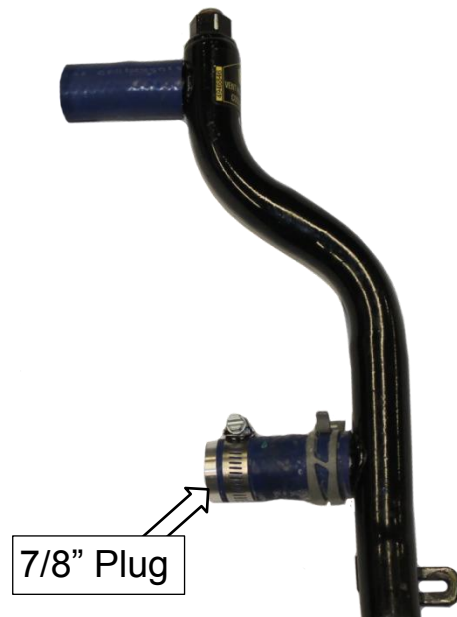
30. Disconnect coolant pipe from heater core hose and vertical pipe near oil filter.

31. Remove 2 (10mm) bolts holding coolant pipe to block and 1 (15mm) nut from the exhaust manifold stud then remove pipe from vehicle. Do not remove vertical pipe.

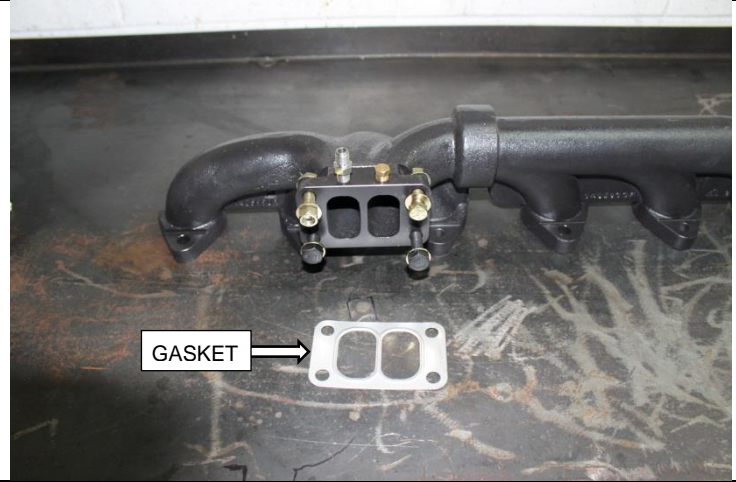


32. Install 7/8" coolant plug into hose with gear clamp and tighten section remaining on vertical pipe.

33. Trim heater core hose directly after 90° bend (see diagram below). The 5/8" to 3/4" hose mender can be inserted into the remaining heater core hose. Install and tighten gear clamp on the 5/8"



34. Prep BD Exhaust manifold for installation by installing 1/8" NPT plugs or pyro adapters into testing ports.
35. Insert dual volute gasket between exhaust manifold & turbo.



36. Attach turbo to BD manifold using the 2 supplied 3/8" NF X 1.5" bolts, nuts and washers inserted into the drilled holes and (1) M10 x 1.5 x 20mm bolt with flat washer in rear threaded hole. M10x1.5x30mm bolt and washer are used in the front threaded hole. (9/16" or 14mm wrench)



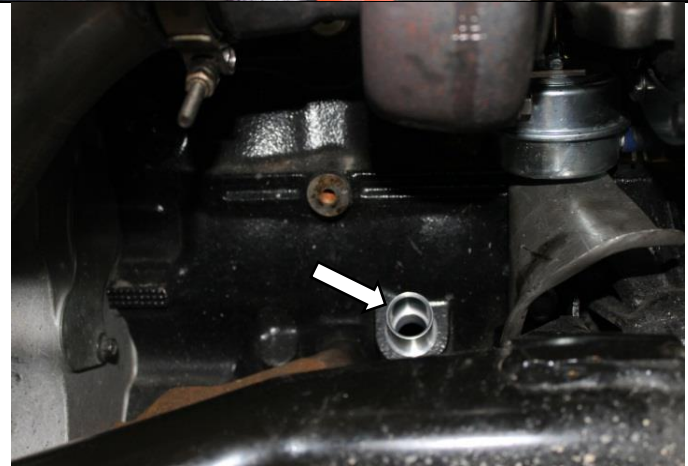
37. Install the provide 1/4NPT x ORFS fitting into the turbocharger (1453152). Do not over tighten. Do not use Teflon tape, you may use a small amount of pipe sealant.



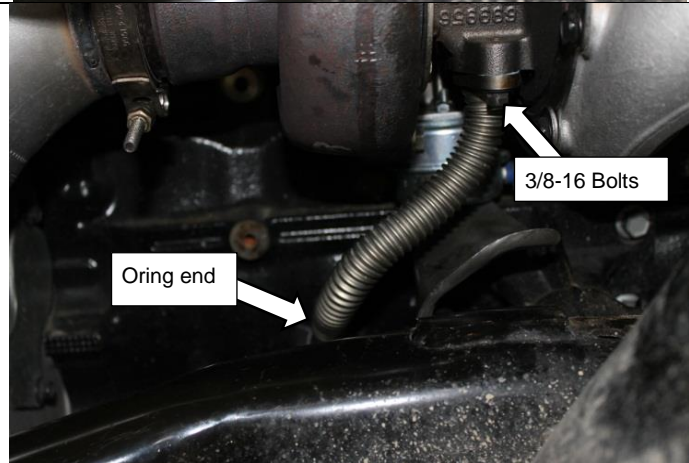
38. Carefully lift turbo/manifold assembly into engine bay. Mount assembly to cylinder head using new gaskets and OEM bolts (13mm) Torque to 35 ft/lbs.
39. Reattach coolant pipe to exhaust manifold stud (15mm nut) and block bolt (10mm)



40. Insert BD oil drain adapter until the shoulder touches the block.



41. Insert flexible OEM turbo oil drain into adapter and fasten oil drain to turbo using the FT-110120342 bolts and new gasket.



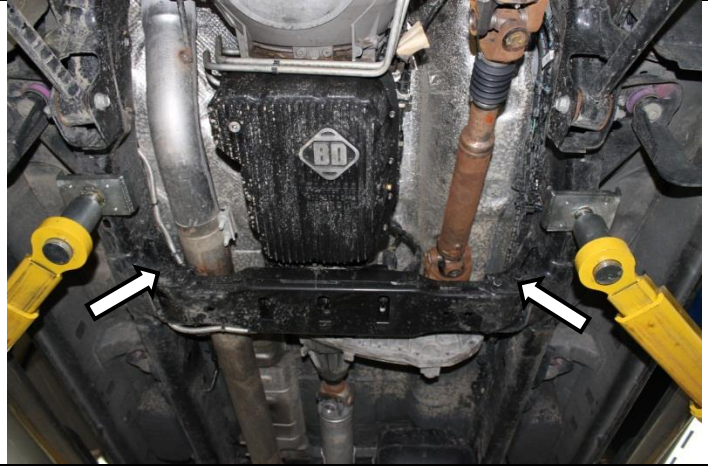
BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

42. Lift truck, support transmission and remove cross member.



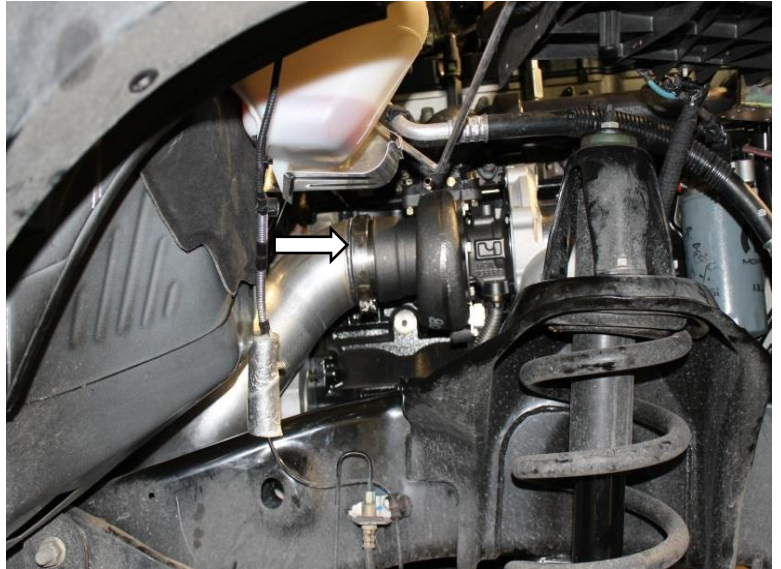
BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

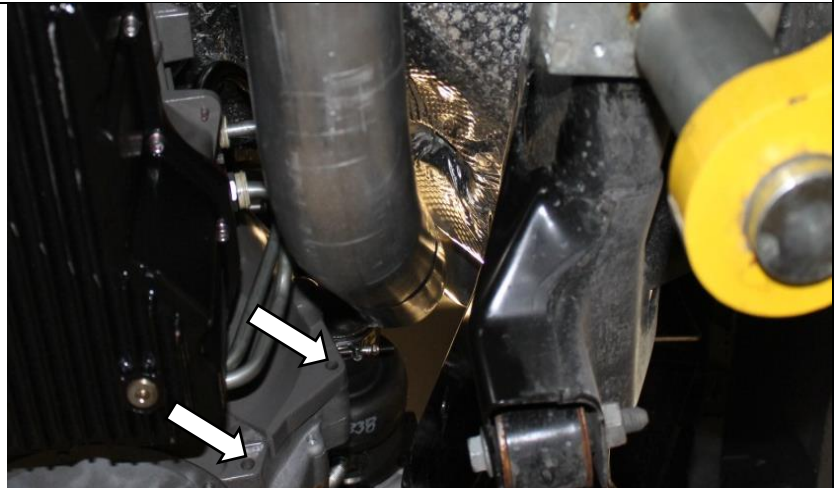
U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

43. Using the supplied V-band clamp connect the downpipe to the turbine outlet and tighten hand tight. Exhaust pipes may need to be trimmed to connect with downpipe , once pipes are connected tighten v band clamp.



44. Reinstall exhaust hanger onto bell housing.



45. Reinstall cross member then lower vehicle.



BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

46. Pre-oil turbo by putting oil in through oil fitting then reattach oil feed line.



47. Tape VGT Turbo Connections to keep dirt and moisture out.



BD Engine Brake Inc.

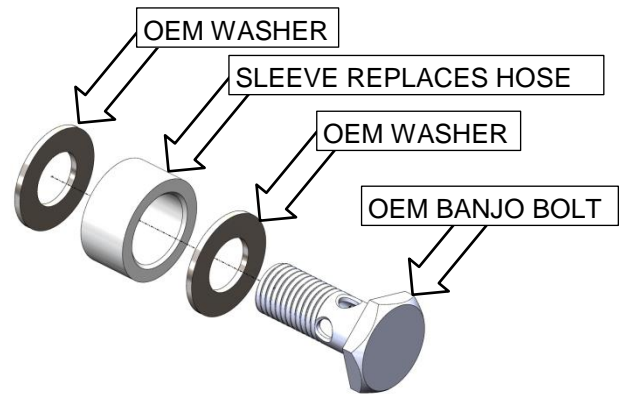
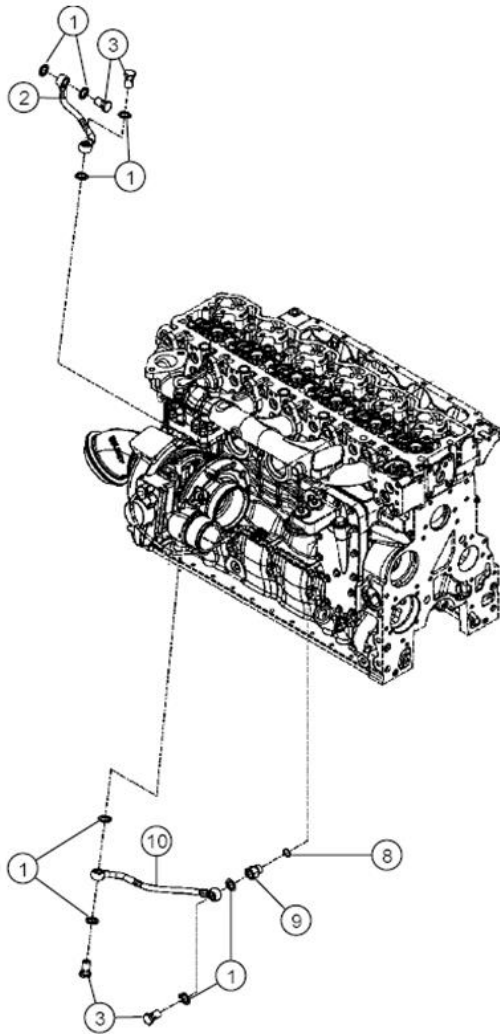
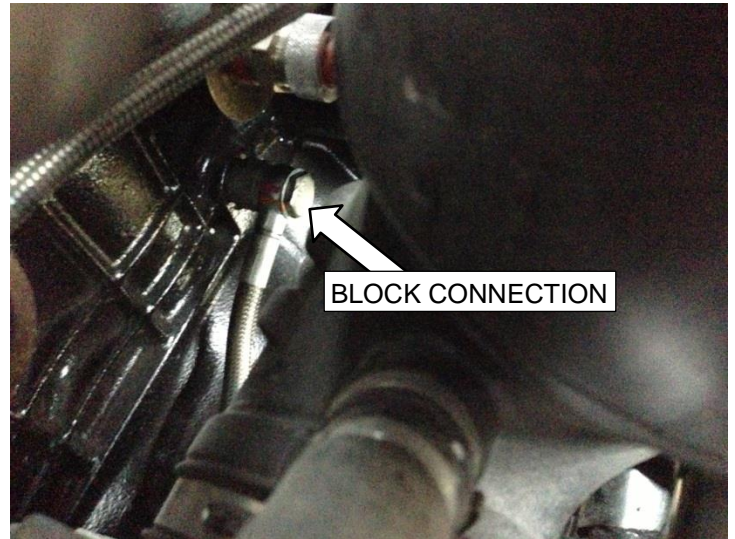
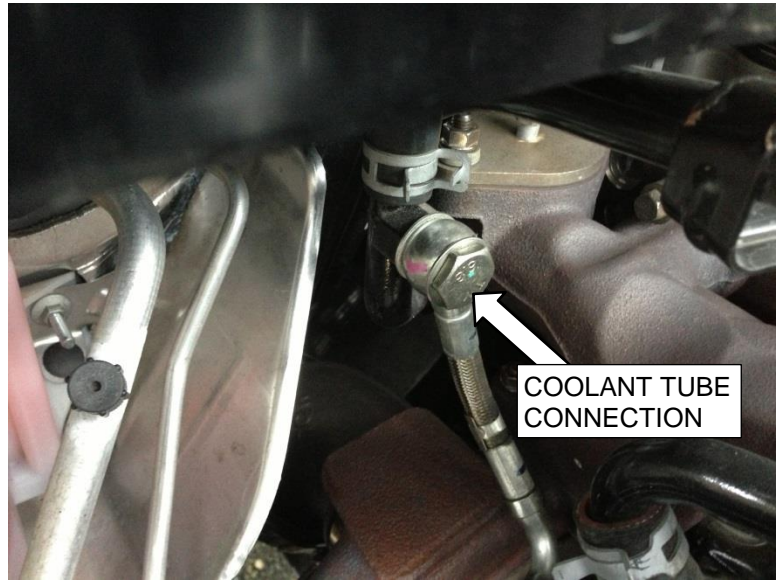
Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

48. Discard hoses 2 and 10.
(photo below)

At the block and coolant tube, use the provided sleeves (P/N# 1600035) to replicate the now removed banjo hose. Ensure to surround the sleeve with the OE washers and then insert the banjo bolt and tighten.



49. Reinstall OEM CAC pipe and tighten clamps. Clock compressor cover if necessary for proper alignment.

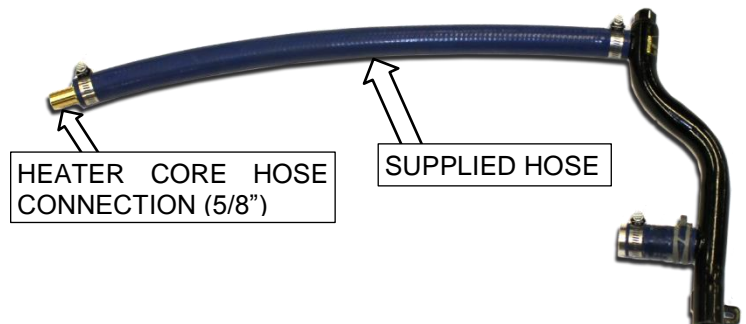


50. Remove coolant fitting from cylinder head with 1" wrench and install supplied pipe plug 3/8" square drive.

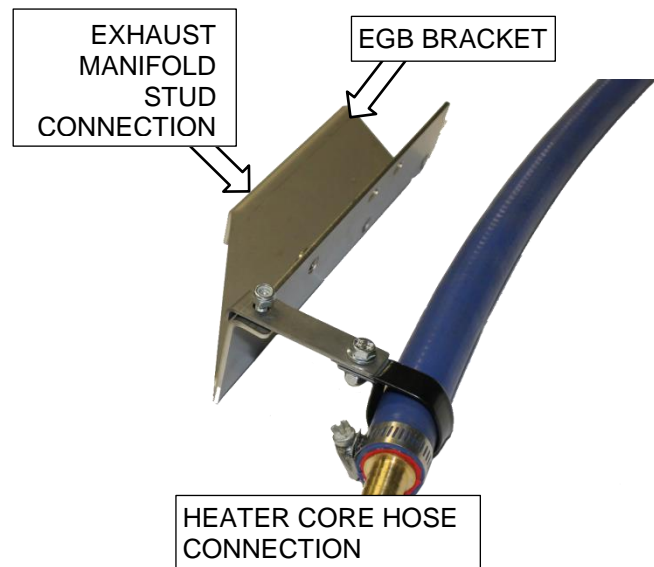


2007.5-2009 Models

51. Remove 3/4" coolant hose section from upper outlet of vertical coolant pipe.
52. Install supplied 3/4" silicone coolant hose between outlet and hose mender secure with gear clamps.



53. Install insulated clamp onto silicone hose with supplied M6 bolt/washer/nut to supplied bracket and tighten
54. Mount bracket to transmission dip stick mounting stud on EGB Bracket.



2010-2012 Models

55. Install support bracket onto exhaust manifold with 2-15mm nuts from heat shield removal.

Mount coolant pipe to support bracket with OEM 10mm bolt. Insert plug into coolant pipe with provided orings. Install bracket from coolant plug to support bracket with OEM 10mm bolt.



BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

Installation Continued

56. Mount transmission dipstick tube to support bracket with OEM 10mm nut.



57. Remove and disconnect EGR valve from intake horn.
4 (10mm bolts)



58. Install block off plates with new gaskets provided. Reuse 4-10mm mounting bolts.
59. Disconnect throttle valve connector located under intake horn.
60. Tape each connector end including EGR cooler valve connector and zap strap wires to secure in place.



BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

61. Reinstall air box and reconnect sensors. Then install the intake tube with PCV hose and secure PCV to bracket with OEM bolt.(10mm)



62. Reinstall inner fender and wheel torque wheel nuts to manufacturer specifications.



Refill coolant and reconnect negative battery terminals.

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 manufacturing residue on housing must burn off.

Also take care that when shutting the vehicle down that your EGT's are below 400°. EGT's hotter than 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.

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)

BD Engine Brake Inc.

Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2

U.S. Shipping Address: 88-446 Harrison St, Sumas, WA 98295 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295

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

