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P/N# 1041481

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION

BD Engine Brake Inc. Plant Address: 33541 MacLure Rd. Abbotsford, BC, Canada V2S 7W2 U.S. Shipping Address: 1124 Fir Avenue, Blaine, WA 98230 U.S. Mailing Address: P.O. Box 231, Sumas, WA 98295 Phone: 604-853-6096 | Fax: 604-853-8749 | Internet: www.bddiesel.com

<u>KIT CONTENTS:</u>

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

1403	8116	1300131		1403115		
Up Pipe Passenger Side		Tie Wrap (Mediu	Tie Wrap (Medium)		Up Pipe Driver Side	
Qty	Qty: 2		Qty: 1			
MS19312			B32256			
Gasket Exhaust Manifold				Gasket (Turbo-Up pipe)		
	Qty: 1			Qty: 2		
1130020	1	1403119		1403118		
				0		
1/4" NPT Plug	Hex Manifold Spacer Short			Hex Manifold Spacer Long		
Qty: 1	Q	ty: 16		Qty: 3		
1900013		FT-11116245		1900015	1900014	
		lange bolt 25mm	Fla	ange bolt 30mm	Flange nut	
Qty: 4		Qty: 6		Qty: 1	Qty: 4	

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140	1403120	
A/C	A/C Seal Kit	
Qt	Qty: 1	
1401480-1	1401480-2	1200208
6-0-0-0		
Passenger side manifold	Driver side manifold	1/8" NPT Brass Plug
Qty: 1	Qty: 1	

Required Tools

- 10/12/13/15/16mm socket & Wrench
- 7/16" / 9/16" deep socket
- Pry Bar

- Scraper
- Torque Wrench
- Side Cutter



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6. Remove the LH turbocharger inlet pipe-to-turbocharger bolts and remove the EGR-OC bracket.

- 7. Remove the LH turbocharger inlet pipe-to-turbocharger bolts and remove the EGR-OC bracket.
- NOTE: On vehicles that have had previous service to the LH turbocharger inlet pipe, a service bolt will be in place of the upper exhaust manifold nut and stud.
 - 8. Remove the LH turbocharger inlet pipe-to-exhaust manifold nuts and, if equipped, service bolt.
 - 9. Remove the LH turbocharger inlet pipe from the vehicle.

RH Inlet Pipe Removal

- 1. Remove exhaust gas temperature (EGT) sensor from the RH turbocharger inlet pipe and position aside.
- 2. Remove the RH turbocharger inlet pipeto-exhaust manifold nuts.
- 3. Remove the RH turbocharger inlet pipeto-turbocharger bolts.



4. Remove the RH turbocharger inlet pipe from the vehicle. Discard the gaskets.

Exhaust Manifold Removal

 Disconnect the alternator plug & battery cable. Remove the serpentine belt off the alternator and remove the alternator (x3) 15mm bolts.



2. Remove a/c discharge tube from compressor by removing nut. (13mm socket). Cut zip ties to free heat shielding.





Installation

 Install BD exhaust manifolds (1401480-2) driver side and (1401480-1) passenger side using OE hardware and (1403119) spacers (M10 socket). Torque to 18 ft/lbs.



Passenger side only

 Install the provided threaded heat shield spacers (1403118) onto 2 upper forward exhaust manifold bolts and 1 lower 2nd from the front (M10 socket). Torque to 18 ft/lbs.



9

 Trim and modify OE heat shield to resemble picture and install using OE hardware (M10 Socket). Torque to 18 ft/lbs. Modification is to add clearance for a/c adapter.





4) Install the a/c tube (1403121) with new seal & o-ring (1403120) onto the compressor port and receiver dryer with OE nut (M13 socket). Torque to 11 ft/lbs. Install OE a/c discharge tube to adapter using M8 bolt (1900015) (M10 socket). Torque to 11 ft/lbs. Slide heat shield down over adapter fitting to compressor and secure either end with zip ties (1300131).

NOTE: Do not attempt to bend the BD supplied extension.

5) Install 1/4" NPT plug (1130020) (9/16" socket) into front port of driver side exhaust manifold. If not installing a thermocouple the 1/8" NPT plug (1200208) can be installed into the rear port (7/16" socket).

NOTE: The dipstick tube may need to be reformed for clearance around the manifold.



6) Clean up feed port mating surface on turbo assembly. Install driver side up pipe (1403115) with new gasket (8C3Z-6N640-A) and 3 M8 bolts (FT-11116245) (M10 socket) at turbo then 2 M8 bolts (1900013) and nuts (1900014) (M10 and M13 sockets) at manifold. Torque to 18 ft/lbs. *Repeat for passenger side.*





7) At this point please remove the Exhaust Back Pressure (EBP) sensor, tube and fitting from the OE driver side manifold. Install the fitting into the driver side feed pipe port (9/16" socket). Now connect EBP tube and adjust position to line up with original mounting bracket. Mount with OE M6 nut (M10 socket). Torque nut to 80 in/lbs and tube to 180 in/lbs. Now connect sensor plug.







8) Remove the OE thermocouple from the OE passenger side up pipe and install it in the BD passenger side up pipe (13mm wrench). Torque to 28 ft/lbs.



9) Refer to the removal procedure in reverse for installation.

If you have any technical difficulties, concerns, comments, or complaints, please phone our Technical Support hotline at (800) 887-5030 between 8:30am-5:00pm PST (Pacific Standard Time) Monday to Friday.