



BD PERFORMANCE TRANSMISSION

Dodge Installation Instructions

2WD Transmissions		
1030310	1991-93	518
1064152	1994-95 (12V)	47RH
1064162	1996-98 (12V)	47RE
1064172	1998-99 (24V)	47RE
1064182	2000-02 (24V)	47RE
1064192	2003-04 (24V)	48RE
1064212	2005 (24V)	48RE
1064232	2006-07 (24V)	48RE

4WD Transmissions		
1030311	1991-93	518
1064154	1994-95 (12V)	47RH
1064164	1996-98 (12V)	47RE
1064174	1998-99 (24V)	47RE
1064184	2000-02 (24V)	47RE
1064194	2003-04 (24V)	48RE
1064214	2005 (24V)	48RE
1064234	2006-07 (24V)	48RE

*** Transmission kits are also available, which include a BD PressureLoc.
Please read the instructions and disclaimer before beginning installation.**

BD Engine Brake Inc.

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REMOVAL:

1. Disconnect the negative battery cable(s).
2. Remove the torque converter access cover and inspection plate.
3. Remove the transmission pan, drain the fluid and re-install the pan.
4. Remove the fill tube bracket bolt and pull the tube out of the transmission. Retain the fill tube seal. On 4WD models, it will also be necessary to remove the bolt attached to the transfer case vent tube to the converter housing.
5. Rotate the crankshaft with a pry bar from under the vehicle until the converter bolts are accessible.
6. Mark the drive shaft and pinion yokes for assembly alignment. Disconnect and remove the drive shaft. On 4WD models, remove both drive shafts.
7. Disconnect the electrical wiring from the park/neutral position switch, transmission solenoid, and speed sensor.
8. Disconnect the gearshift rod and shifter shaft assembly from the transmission.
9. Disconnect the TV (throttle valve) cable from the transmission bracket.
10. On 4WD models, disconnect the shifter rod from the transfer case shift lever.
11. Raise the transmission slightly by using a service jack to relieve the load on the cross-member and supports.
12. Remove the bolts securing the rear support and cushion to the transmission and cross-member.
13. Disconnect the vacuum lines and remove the steel line from the cross-member and frame.
14. Remove the bolts attaching the cross-member to the frame. Spread the frame with a Port-A-Power to remove the cross-member.
15. On 4WD models, remove the transfer case with a transmission jack or with the aid of a helper.
16. Disconnect the fluid cooler lines at the transmission.
17. Remove all bell housing bolts.

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18. Carefully work the transmission and torque converter assembly rearward off the engine block dowels.
19. Lower the transmission and remove assembly from under the vehicle.
20. Carefully slide the torque converter out of the transmission.

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INSTALLATION:

1. Flush the cooler and all cooler lines before installing the transmission.
2. ***NOTE: If new bolts are supplied with the converter, be sure to remove the bolts before installing the transmission.
3. Lubricate the converter drive hub and oil pump seal lip with petroleum jelly.
4. Lubricate the converter pilot hub with transmission fluid.
5. Align and install the torque converter into the oil pump.
6. Carefully insert the converter into the oil pump. Rotate the converter back and forth until it's fully seated in the pump gears. Two loud "clunks" should be heard to ensure it is seated properly.
7. Position the transmission on a service jack and secure it with chains.
8. Check the condition of the converter drive plate. If the plate is cracked, distorted or damaged, it must be replaced before installation can continue. **Also be sure the transmission dowel pins are seated in the engine block and protrude far enough to hold the transmission in alignment.**
9. Raise the transmission and align the torque converter with the drive plate, and the bell housing with the engine block.
10. Move the transmission forward. Raise, lower or tilt the transmission to align the bell housing with the engine block dowels.
11. Carefully work the transmission forward and over the engine block dowels until the converter hub is seated in the crankshaft.
12. Install the bolts attaching the bell housing to the engine.
13. Tighten the bolts and check the torque converter rotation.
14. Install the rear support. Lower the transmission onto the cross-member and install the bolts attaching the transmission mount to the cross-member.
15. Reconnect the vacuum lines and re-install the steel line to the cross-member and frame.
16. Reconnect the shift linkages.
17. Connect the gearshift and throttle cable to the transmission.

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18. Connect the electrical wires to the park/neutral position switch and transmission solenoid(s). Be sure the transmission harnesses are properly routed.

CAUTION: It is essential that correct length bolts be used to attach the converter to the drive plate. Bolts that are too long will damage the clutch surface inside the converter.

19. Install the torque converter to drive plate bolts using Loctite. On models with a 12.2" converter, tighten bolts to 47 Nm (35 ft. lbs.).

20. Install the torque converter housing access covers.

21. Install the cooler line bracket.

22. Connect the cooler lines to the transmission.

23. Install the transmission fill tube. Install a new seal on the tube before installation.

24. Align and connect the drive shaft.

25. Adjust the gearshift linkage and throttle valve cable if necessary.

26. Lower the vehicle.

27. Reconnect the negative ground cable(s) to your battery(s).

28. Fill the transmission with ATF+4, Type 7176 fluid.

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KICK-DOWN CABLE ADJUSTMENT

Kick-down cable adjustment is one of the most critical adjustments that affect the operation of the transmission.

The BD Performance Valve Body is a performance product and not stock, therefore the factory specifications for this adjustment are used only as a guide.

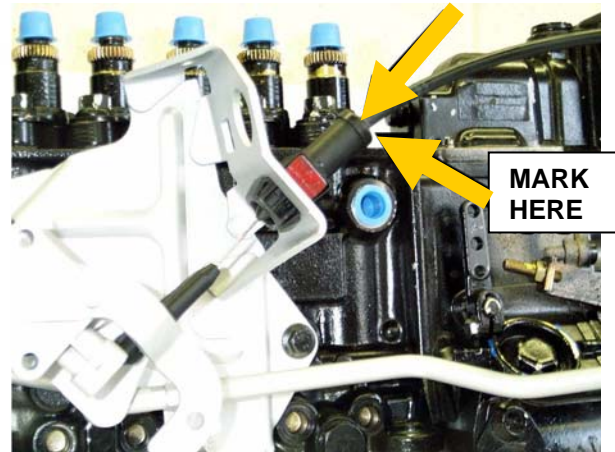
Your drivability and performance demands will determine your shift points and pressure adjustments.

Kick down cable adjustments are for Full Throttle shift points & passing gear only. Light Throttle shift points should be adjusted on the valve body throttle valve stop.

12 VALVE ADJUSTMENTS

On trucks equipped with the **12-valve 5.9 6BTA**, full throttle shift between 2nd and 3rd should occur between 2400 – 2500RPM (OEM) with the transmission at operating temperature.

IMPORTANT - Locate the kick-down cable and **MARK THE CABLE** at the original setting before any adjustments are made.



NOTE: Disconnecting the cable from the support bracket and the throttle lever is a difficult task; it may be easier to adjust without removing cable.

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24 VALVE ADJUSTMENTS

On trucks equipped with Cummins ISB engines, full throttle shift between 2nd and 3rd should occur between 2800 – 3000 rpm (OEM) with transmission at operating temp. The kick down cable will be located underneath the plastic cover as indicated below.



The plastic cover is held in place by 2 plastic Phillips head screws, only light pressure is required to remove them. Do not lose the screws or washers when you remove them. Remove the cable from the throttle linkage and support bracket.



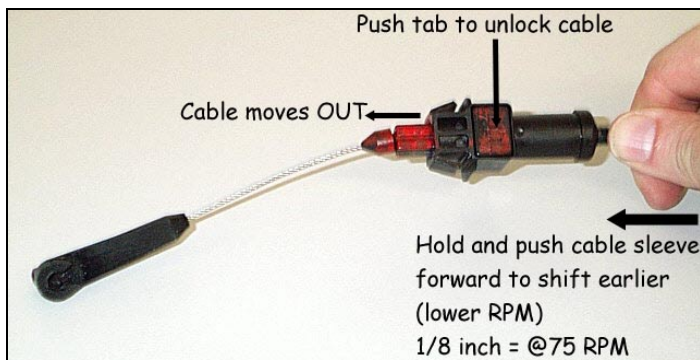
****IMPORTANT: MARK THE CABLE** at the original setting before any adjustments are made.

Remove the white colored locking clip from the cable.

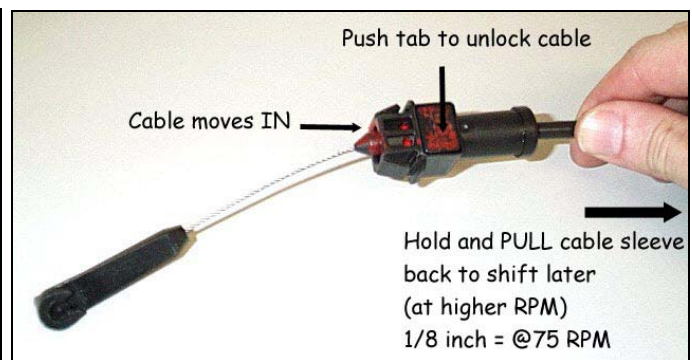
Press the lock tab (this will take considerable force) to release the locking mechanism.

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Adjusting the cable forward, towards the radiator, will make the transmission shift sooner.



Adjusting the cable rearward, towards the firewall, will make the transmission shift later.

****CAUTION** DO NOT USE A SCREWDRIVER TO REMOVE CLIP, IF THE CLIP BREAKS THE CABLE WILL HAVE TO BE REPLACED!**

(Adjustment spec - 1/8 inch movement = ~75 rpm)



Install white locking clip and then re-install the cable through the support bracket and then on to the throttle lever. Install plastic cover when job is complete.

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BD ENGINE BRAKE, INC.
LIMITED WARRANTY STATEMENT

BD Engine Brake, Inc. (BD) warrants to the original purchaser that any parts purchased shall be free from defects in material and workmanship. BD limits the liability to the repair or replacement, at BD's option, of any warrantable product returned prepaid with a complete service history and proof of purchase. A valid proof of purchase is a dated bill of sale. Repaired or replaced product will be returned to the customer freight collect. Accepted warranty units, which have been replaced, become the sole property of BD.

A Return Material Authorization (RMA) number, obtained in advance from a BD customer service representative, must accompany product, returned prepaid by the purchaser, for warranty determination. BD will be the final authority on all warranty decisions.

This parts warranty shall terminate at the end of 12 months or 24,000 miles in service with original user, whichever comes first. Labor costs incurred by the removal and replacement of a BD Performance Converter while performing warranty work, will be covered for 12 months at authorized centers with prior approval. Until the product has been approved at the original installing dealer or at one of our distributors, the consumer should cover these costs.

NOT COVERED UNDER THIS WARRANTY

This warranty shall not apply to any unit that has been improperly stored or installed; or to misapplication, improper operation conditions, accidents, or neglect, or which has been improperly repaired or altered or otherwise mistreated by the owner or his agent.

NOTE: The fluid coupling is designed for heavy throttle acceleration and as such the TCC should be UNLOCKED in this situation. If the TCC is locked up under light acceleration, BD recommends the use of no more than 1 psi of boost for every 100 rpm of engine speed.

The nature of this product is PERFORMANCE and is designed to perform at above OEM specifications. This product was designed with this in mind and should NOT be used in RACING and/or HIGH HORSEPOWER applications and will only be considered for warranty on vehicles with a maximum of 400 REAR WHEEL HORSEPOWER. Using this product on vehicles with a higher rating will cause premature failure and therefore BD will not consider such claims. BD reserves the right to void the transmission warranty if a BD torque converter is not used throughout the warranty period of the transmission.

Except as set forth in our parts outline, BD disclaims any implied warranties of merchantability and fitness for a particular purpose. BD also disclaims any liability for incidental or consequential damages including but not limited to, repair labor, rental vehicles, hotel cost or any other inconvenience cost. This warranty is in lieu of all other warranties or guaranties, either expressed or implied, and shall not extend to any consumer or to any person other than the original purchaser residing within the boundaries of the continental U.S. or Canada.



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