

TCI[®] 274500/274501

274500 -1991-1996 4L80-E Trans Brake™ Valve Body 274501-1997-UP 4L80-E Trans Brake Valve Body

Shift Pattern: Park—Reverse—Neutral—1st—2nd—3rd — 4th

This Kit Contains:

- (1) 4L80-E Trans-Brake™ Valve Body
- (1) Separator Plate
- (16) Direct High Gear Springs
- (1) Direct Drum Piston
- (1) Pressure Regulator Boost Valve Assembly
- (1) Wiring Harness
- (1) Wire Eyelet Connector
- (1) Inner Lip Seal
- (1) Outer Lip Seal

The transmission must be removed from the vehicle to properly install the TCI trans brake valve body kit. **Read all instructions before installing!**

Use TCI® Tech Manual 893400 for general build procedures

Valve Body Removal

1. Drain the transmission fluid and remove 17 pan bolts and remove the pan. If the filter hasn't been recently replaced, TCI recommends that a new filter be installed.
2. Remove the wiring harness assembly from the case and six connectors. The wiring harness will be replaced with the new trans brake wiring harness.
3. Remove the six 8mm retaining bolts for the pressure manifold switch assembly. The manifold switch will not be re-installed.
4. Remove the twenty-one 10mm bolts from the valve body assembly, and then remove manual lever detent spring and roller assembly.
5. Remove the lube pipe retainer, lube pipe, and lube pipe clamp.
6. Remove the valve body assembly and eight check balls from the case and discard. The check balls will not be reused.
7. Remove the intermediate band servo assembly. The servo will not be reused.
8. Clean the transmission case of any gasket material left from the valve body.
9. Remove the 4th clutch housing bolt using a 40 torx socket. See Figure 1

Transmission Disassembly

1. Remove the o-ring seal from the input shaft and remove the seven 13mm pump bolts and o-rings.
2. Remove the pump from the transmission. Inspect the pump to case gasket for damage and replace if necessary.
3. Remove the overdrive carrier and input shaft assembly and then the 4th clutch housing assembly.
4. Remove the forward clutch assembly.
5. Remove the direct drum and remove the clutch plates, discard any waved steel plates. Discard the intermediate band.
6. Using a spring compressor remove the snap ring, spring retainer assembly, and piston from the direct drum. Discard the lip seal in the drum. See Figure 2
7. Install the furnished aluminum piston and lip seal assembly into the drum.
8. Next install the heavy duty clutch return springs and new spring retainer. Using the spring compressor,

compress the springs and install the snap ring. Make sure the snap ring is fully seated into its groove.

9. Reinstall the direct clutches beginning with a steel plate and alternating friction plates. Set the clutch clearance at 0.050"- 0.080" The use of an extra steel plate will be necessary.
10. Remove the second sealing ring from the top on the center support. See Figure 3

Transmission Reassembly

1. Reinstall the direct and forward clutch housings as removed.
2. Remove the clutches from the 4th clutch housing before installing the housing into the case. Align the 4th clutch housing bolt hole with the bolt hole in the case and install the 4th clutch bolt, but don't tighten at this time.
3. Install the input shaft and overdrive carrier
4. Install the 4th clutch plates, beginning with a steel plate and alternating friction plates.

Pressure Regulator Setup Figure 4

1. Remove the snap ring holding the boost valve and pressure regulator spring in the pump assembly. **Use caution when removing the snap ring as the boost valve is under spring pressure!**
2. Remove the boost sleeve and boost valve. Discard both of these parts. Do not remove the pressure regulator spring spacer, pressure regulator spring, or pressure regulator valve from the pump.
3. Install the new boost valve sleeve and valve assembly. Push down on the boost sleeve and install the snap ring you removed. Make sure the snap ring is fully seated into its groove. See Figure 5

Pump Installation

Before installing the pump assembly make sure the pump to case gasket is in place. TCI recommends replacing the pump o-ring seal and the pump seal.

Lube the pump o-ring and install the pump into the case. Replace the pump bolt o-rings and start all pump bolts before torquing to 18 lb.ft.

Install the o-ring seal on the input shaft.

Low/Reverse Servo Modification

1. Remove the six 10mm bolts on the low/reverse servo cover and remove servo assembly from the case.
2. Remove the two seals from the accumulator piston and discard. See Figure 6
3. Reinstall servo assembly, gasket and cover as removed. Torque servo cover bolts to 18 lb. ft.

Valve Body Installation

Tighten the 4th clutch bolt to 12 lb. ft.

1. Install the drilled 1/4" set screw into the case as shown. (photo) Tighten the screw three to four turns only. See Figure 7
2. Install the valve body onto the case making sure the manual valve is engaged into the shift selector linkage.

3. Position the support plate on the valve body, install the lube tube and tube hold down clamps and install manual lever detent spring and roller.
4. Install the six 8mm bolts and twenty-one 10mm bolts. Start all bolts then torque them to 100 lb. in.
5. Install the new wiring harness into the case making sure the connector is locked into place and connect the three wiring connectors to the three solenoids. The long wired connector goes to the TCC solenoid located at the front of the valve body and the other two connectors go to the two shift solenoids. It does not matter which connector goes to which shift solenoid.
6. Install the transmission filter, pan gasket, and transmission pan. Torque the pan bolts to 18lb.ft.

Wiring the Trans Brake and Torque Converter Clutch Switch

1. Locate a suitable ground location for the green, yellow, and black wires and cut to length. The rear speed sensor in the case is a good location. Strip approximately 1/4" insulation from these wires and install into the eyelet connector provided. Install bolt through eyelet connector and tighten the bolt where it was removed. The red wire connects to a trans brake button (+12V) and the blue wire connects to a +12V switch for the converter lock-up.

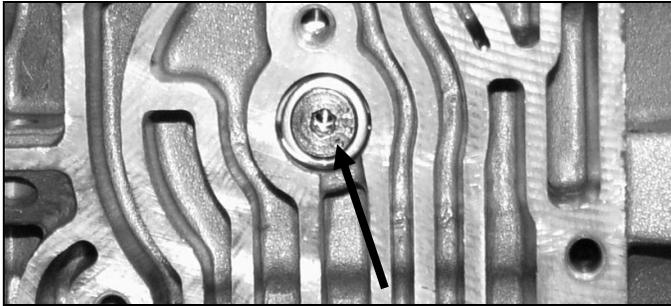


Figure 1 Remove This Bolt

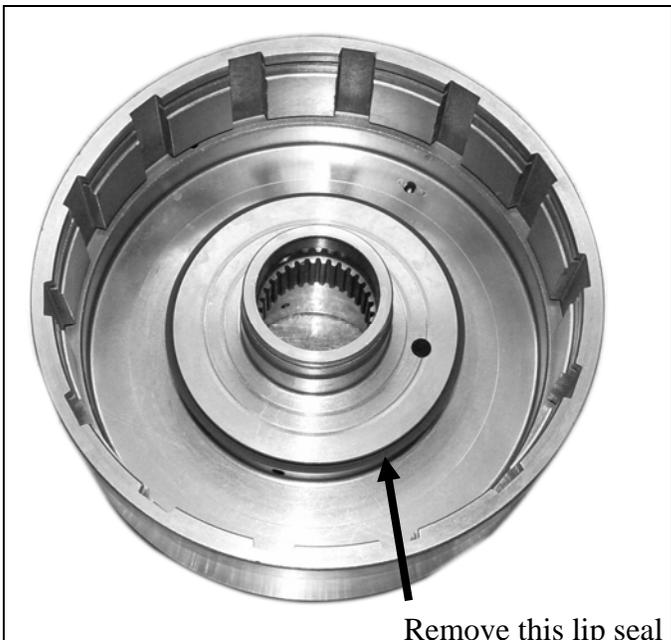


Figure 2



Figure 3



Figure 4

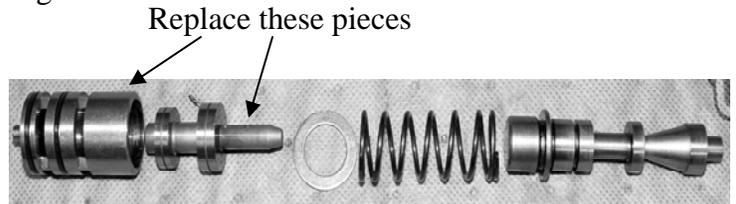


Figure 5

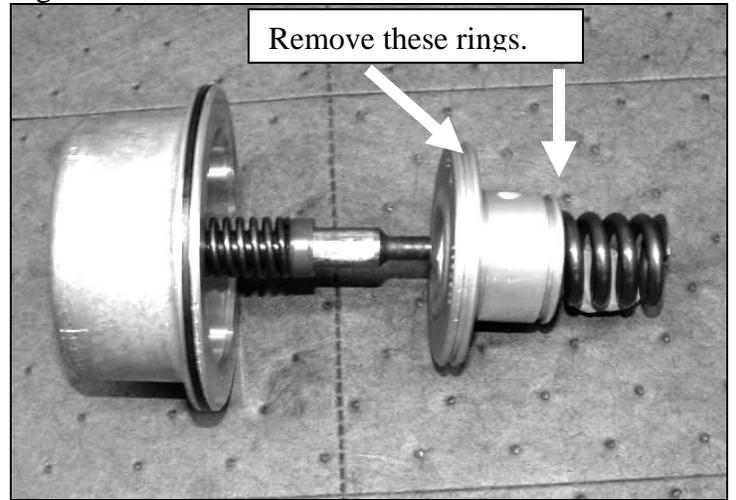


Figure 6



Figure 7

The 274500 & 274501 Valve Bodies have been engineered with a special Reverse circuit. In order to apply Reverse, please follow these steps:

- Put shifter in Neutral or Reverse
- Push Trans-Brake button to back up.
- Transmission will back up in Neutral or Reverse

* The 274501 valve body plate extends off the valve body casting. This is OK!

**TRANS
HELP**
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