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## TCI® 321100

# Turbo 350 Full Manual Reverse Shift Valve Body

## Shifting Pattern: Park-Reverse-Neutral-First-Second-Third

This TCI® Manual Valve Body Kit has been designed to work with a Turbo 350 Non-Lockup transmission. This is a reverse shift pattern design and does not retain engine braking.

TCI® 321100 Kit Contains:

Qty.	Description
One (1)	TCI 321100 350 Manual Valve Body
One (1)	Separator Plate
Two (2)	Gaskets: Valve Body and Case
One (1)	Modulator Plug and O-Ring Seal
Two (2)	1/8" Allenhead Plugs

**Step 1** Transmission should be cooked before installing valve body. Place the transmission gear shift selector in the part position. If the vehicle is on the ground, secure so it will not roll during installation.

**Step 2** Drain oil pan. You will need a pan to catch the automatic transmission fluid. Remove the transmission oil pan bolts. When removing bolts, remove so pan will not drop completely off but will be held into place so that one side will allow the fluid to be drained. After the fluid has drained, remove the rest of the bolts and pour out the remaining fluid. Remove gasket and discard. If gasket material sticks to transmission pan or case, remove all material completely. Turbo 350 Olds, Buick and Pontiac transmissions do not have a drain plug. You may want to install a TCI® 805800 Universal Drain Plug Kit into your pan now that you have the pan off. Note: Remember to dispose of all used fluids or oils in a proper and environmentally safe manner.

**Step 3** Carefully remove the transmission oil filter by removing two (2) screws. Be careful not to lose gasket. Remove detent roller and spring assembly from valve body.

**Step 4** Remove kickdown valve wire by pulling pin out of kickdown lever in the valve body. Note: These components can be discarded as they are no longer used with the TCI® Full Manual Valve Body.

**Step 5** Before removing valve body, note position of the gear shift linkage hooked to the valve body. Remove seventeen (17) bolts from valve body. Carefully lower valve body and at the same time slide angled shift pin lever from gear shift selector. Do not drop valve body or manual valve with angled shift pin.

**Step 6** Holding spacer plate with your hand, remove spacer support bolts. Carefully lower plate as there are four (4) small Teflon® or steel balls sitting on plate (Note: These check balls can be discarded as the TCI® Full Manual Valve Body does not require these check balls.) Also, watch that the governor screen and oil pump screen do not fall out. These screens are located in the transmission case underneath the valve body spacer plate. Olds, Buick and Pontiac have two (2) governor screens in the rear of the transmission case, one (1) in each passage. Chevrolet has only one (1) governor screen.

**Step 7** Transmission Case Modifications: (See Illustration 1)  
Note: From 1967-1968, 1970-1979 and 1980, the Turbo 350 trans-

mission was manufactured with different case configurations. Your case may not look exactly like the illustration shows, but the functions of the transmission are the same. Remove the intermediate servo piston, washer, spring seat and apply spring and discard (See Illustration 1). Drill and tap a hole using an 11/32" drill in the area shown in Illustration 1. A second hole must be drilled and tapped in the second gear accumulator area. Plug both holes using 1/8" allenhead plugs included in kit.

**Step 8** After you have drilled the case, clean all metal savings from transmission.

**Step 9** Replace your vacuum modulator with the TCI® modulator plug supplied. The modulator valve will remain in place. Use the O-ring to seal the plug to the case and secure the plug with the original retainer clip.

**Step 10** You are now ready to reinstall the TCI® Full Manual Valve Body back into the transmission. Replace the old separator plate with the new separator plate and gaskets that came with your kit. Reinstall OEM support plate. Do not reuse check balls, this valve body does not require the use of check balls. Reinstall valve body in the reverse order of disassembly. Tighten the valve body bolts to 13 foot pounds. Remove governor from transmission and discard.

**Step 11** Replace the transmission oil filter with a TCI® 328500 filter. Make sure that the holes in the filter line up with the valve body holes. Don't forget the paper gasket that fits between the filter and valve body. The word "front" stamped on the filter should face towards the engine.

**Step 12** Clean the transmission pan in solvent and scrape any excess gasket material off the pan and case surface. Install the transmission pan with a new gasket. Install pan bolts and tighten to 13 foot pounds. Tighten the drain plug, if so equipped.

**Step 13** TCI® recommends using our automatic transmission fluid (RTF) or a premium grade fluid. TCI®'s RTF fluid is designed for race applications. When filling the transmission, you will use approximately four (4) quarts of fluid. Since the torque converter has not been removed this amount of fluid should be sufficient. If you are installing a new torque converter, additional fluid is required. Follow instructions on installing a torque converter. Once the transmission is filled, start the engine and let the transmission warm up. Shift the transmission several times and recheck fluid level on dip stick. You will need to add additional fluid until the fluid is level with the full mark on your dip stick.  
Do Not Overfill Transmission!

See Reverse Side for Illustration 1

**TRANS**  
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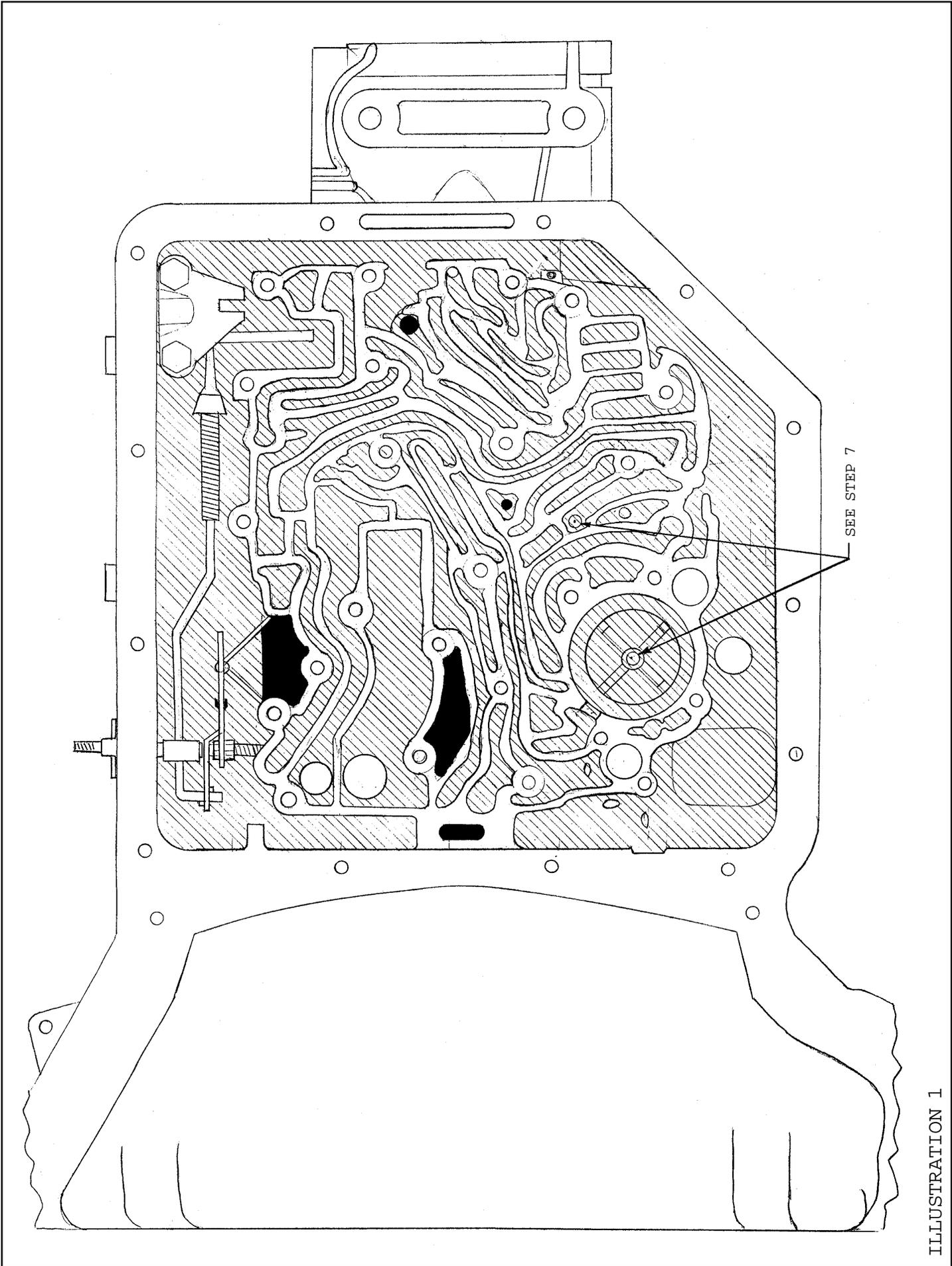


ILLUSTRATION 1