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TCI® 744600 Circle Track Valve Body Installation Instructions

TCI® 744600 Kit Contains:

Valve Body
Modulator Plug

Reverse Shift Pattern:

Park-Reverse-Neutral-Low-Low

Step 1 Remove and discard the modulator valve and vacuum modulator. Install the TCI® modulator plug.

Step 2 Remove transmission oil pan and gasket.

Step 3 Remove the detent guide plate bolts and the detent roller spring.

Step 4 Remove the valve body making sure to disengage the servo tube from the case.

Step 5 Install original manual valve in your TCI® valve body. Reverse removal procedure to install valve body being sure that the groove in the manual valve is indexed with the pin in the selector range cam. Tighten bolts to 10 foot-pounds. Install filter and gasket.

Step 6 Disconnect the drive shaft from output shaft and the speedometer cable fitting from the tailhousing.

Step 7 Unbolt the tailhousing from crossmember and transmission case and remove.

Step 8 Remove and discard the governor assembly and speedometer gear.

Step 9 1962-1966: Remove rear pump housing and discard the pump gears and drive pins. Reassemble pump housing leaving the wear plate in place. Replace O-ring and install tailhousing.
1966-1973: Replace O-ring and install tailhousing.

Step 10 Low Band Adjustment: Loosen jam nut. Torque band adjusting screw to 72 inch-pounds and back off 3 1/2 turns counter-clockwise. Retighten jam nut.

Step 11 After transmission and pump drive are properly installed, fill transmission with 3 (three) quarts of Dexron, TCI's Maxshift™ Transmission Fluid (Part #950600) or Maxshift™ synthetic fluid (Part#950655).

Step 12 With the rear wheels off the ground, start engine in neutral and check fluid level using dipstick. Add fluid until the level is between the "add" and "full" marks. **DO NOT OVERFILL.** Turn engine off and check for any transmission leaks.

Recommended Rebuild Procedures

Step 1 Install three (5) clutches in reverse and set clearance between .080" - .100".

Step 2 Planetary: 1.82 Ratio, Loctite® all planetary screws and tighten to 30-36 inch-pounds.

Step 3 Check the front pump for wear in gear pocket and the sealing ring lands. If you see an excessive amount of wear then discard and replace as needed. (Call TCI® for new parts)

Step 4 Thoroughly inspect case for cracks and stripped threads. Be sure dowel holes are not damaged. Reassemble transmission and adjust endplay to .010" - .025".

Operation

The best drivability is achieved by setting your engine idle speed below 1400 rpm. The 744600 valve body is equipped with standard carburetor jets to orifice the fluid in low and reverse. See **Figure 3**. The low gear jet supplied from TCI has a .118 orifice size (#96) and the reverse jet has a .104 orifice (#90). Installation of larger jets can help drivability if the car is trying to stall when stopped in gear, however, excess bleed off can lead to premature wear of the band and reverse clutches so it's advisable to get your idle speed as low as possible first. If you do change jets, check your mainline pressure @ 2000 rpm to be sure that you have at least 70 psi in low and reverse. To take off, simply put the shifter in the Low gear position next to Neutral and gently apply the throttle. Once the car is moving, move the shifter to "lockup" low gear and you ready to race!



Figure 3 - Jet locations.

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