



C6 Transbrake Valve Body Installation Instruction

Description:

This is a reverse pattern full manual valve body with transbrake for use in 1966-1996 C6 transmission. The low/reverse clutch is applied in 1st gear to provide engine braking in 1st gear as well as to protect the one-way clutch from excessive torque loads.

Safety Concerns:

Please be advised that with this valve body, you do have the ability to shift into ANY gear at ANY speed. This can pose a hazard if not used properly. Driver must assume full responsibility for these risks. Improper installation as well as improper shifter adjustment can cause improper gear selection as well as bind up condition which could result in the rear tires to lock up. Never engage transbrake while moving.

Installation Tips:

*Adjust intermediate band to 120-inch lbs. tight, then back off 1 ½ turns.

*If transmission is disassembled it is recommended for optimum performance that the following changes be made:

- Set forward clutch clearance to .020-.035
- Install 15 return springs in direct drum. Most factory drums had 10. We have provided 5 additional springs. Set clearance to .050-.070
- Set low/reverse clutch clearance to .060-.100. Drill a .020-.040 diameter hole through piston 180 degrees from check ball (if equipped). The location is not critical. This is to create a small air bleed. Position this hole in the 12 o'clock position when installing into case.
- Do not modify your servo to only use 1 seal. Release side of servo MUST be larger than apply side to allow servo to release quickly on the 2-3 shift. Use of single sided servos will cause a bind up in the 2-3 shift.
- Governor and related components may be omitted but is not necessary.
- After replacing valve body, be sure to align your shifter properly in ALL gear positions. A slight misalignment will cause transmission failure and may even pose a safety issue as well. It is recommended to use a high-quality ratchet type shifter as well. OEM shifters are not recommended. When shifting through the gears, be sure to move the handle quickly and do not slowly drag the shifter through the gears as this can cause bind ups.

- Internal detent alignment MUST be checked and corrected or else you will have problems (refer to detent align instructions). If you are having shifting problems, binding gears or missing gears, the most likely cause is the detent alignment internally or externally at your shifter. Your valve body has been tested thoroughly before shipping to you. That is why it is filled with transmission oil when you receive it.
- Install spring valve then solenoid into modulator bore. Depress solenoid by hand and make sure plunger will contact solenoid body. Be sure valve will return freely when you release the plunger. This is critical to transbrake engagement and release. Install a switch inside driver compartment for transbrake engagement. Fuse protection is recommended. Install a key activated 12V source to one side of switch and run wire down to one of the solenoid wires (either wire will work). Hook other solenoid wire to a solid ground. Do not ground to transmission unless you are sure transmission is properly grounded. A poor ground to transmission can cause bearing damage. Power up switch and watch for proper solenoid activation. Solenoid should react instantly.

Transbrake Operation:

Transbrake will only apply in 1st gear. Please be sure you do not activate solenoid while moving. Transmission will try to lockup regardless of speed. Transbrake operation will cause serious heat to build up in torque converter. It is important that your torque converter have proper internal cooler flow paths as well as large unrestrictive cooler lines. A large fan assisted cooler is best. This valve body is modified to complement good cooler flow provided torque converter and cooler lines are proper. During transbrake operation, we recommend a maximum on time at wide open throttle of 2 full seconds. Staying on the transbrake longer than this will overheat the transmission and torque converter and will destroy clutches, etc. You can disconnect power to solenoid if desired and use as a full manual valve body. This will not harm transmission or prohibit its operation under normal conditions. Solenoid, valve and return spring must always remain in place for proper operation.