



Installation Instructions

Four "O" Transbrake For Powerglide Transmissions

Part No. 21001

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#9500500-04

IMPORTANT SAFETY NOTICE!

"Reverse" gear can be engaged simply by pressing the Transbrake button when the shifter is in "Reverse." You must hold the Transbrake button down for as long as you want to remain in "Reverse" gear.

CAUTION:

This Transbrake should be installed only by a qualified race transmission technician. If you are unfamiliar with any of the operations or terms used in these instructions, you should take your transmission to a qualified race transmission shop. Improper installation may cause transmission malfunction, property damage, or personal injury.

INSTRUCTIONS:

Installation of the B&M Four "O" Transbrake requires minor modifications to the transmission case to optimize the operation of the brake. Certain oil passages must be enlarged in order to increase the volume of oil flow through the B&M Four "O" Transbrake valve body.

To perform the necessary modifications the transmission must be completely disassembled. The modifications are made to the bare transmission case.

Step 1. See Figure #1. Drill one 1/4" (.250") diameter guide hole from the back side of the case all the way through as far as you can go to the inside of the reverse piston pocket area. Use existing 1/4" diameter hole for this step.

Step 2. See Figure #1 and Figure #2. Using a 3/8" (.375") diameter drill, drill out the indicated passageway through to where the hole intersects the hole drilled in Step 1.

Step 3. See Figure #1. Using a 3/8" (.375") diameter drill, open up the 1/4" diameter hole drilled in Step 1. Drill from the back side (from inside the case) until the 3/8" hole you are drilling intersects with the 3/8" hole drilled in Step 2. There is no need to drill all the way through. **Note:** Dragster and non-suspended altered should use a 5/16" diameter drill instead of a 3/8".

Step 4. See Figure 3. This step is performed on early model Powerglide cases only that were originally equipped with a rear pump. The indicated hole must be plugged. The easiest way to do this is to drill and tap it with a 5/16-18 thread. Make sure you

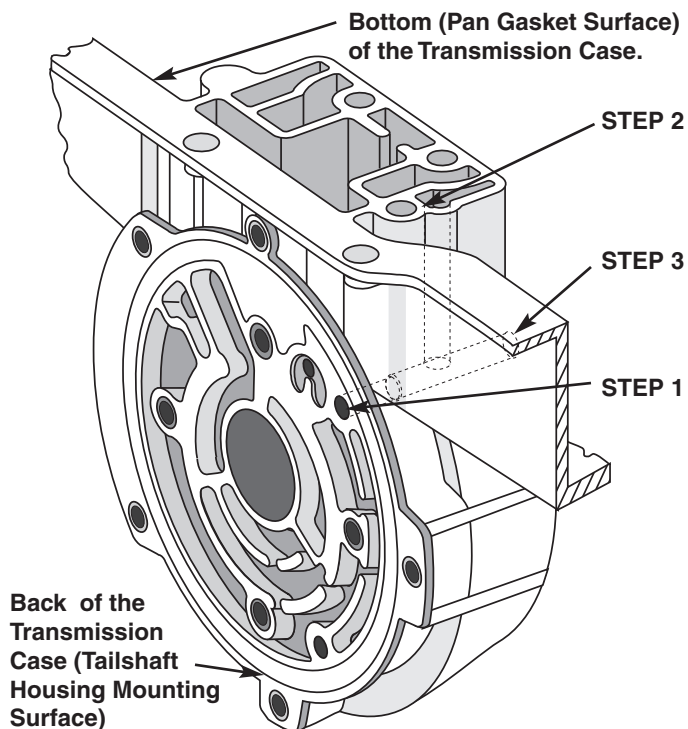


FIGURE 1

tap it deep enough that when a 5/16-18 set screw is bottomed out it ends up below the gasket surface of the case. Apply sealant to the threads.

Step 5. See Figure #3. This view is the back surface of the powerglide case. The 1/4" Step 1 guide hole must be tapped 5/16-18. Install a 5/16-18 set screw in this hole. Apply sealant to threads. Make sure set screw is below gasket surface.

Step 6. Deburr all drilled holes. Thoroughly wash case in solvent to remove any chips or grit that may have been created by your modifications.

Step 7. To insure quick set time and quick release times the reverse clutch pack clearance must be set between .070" and .090." Use five (5) friction clutches for small blocks and six (6) friction clutches for big blocks.

Note: Powerglide transmissions with a rear pump must be switched over to a non-rear pump style rear output shaft housing.

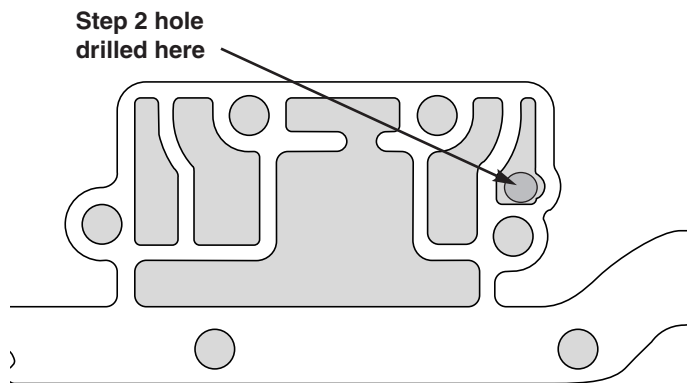
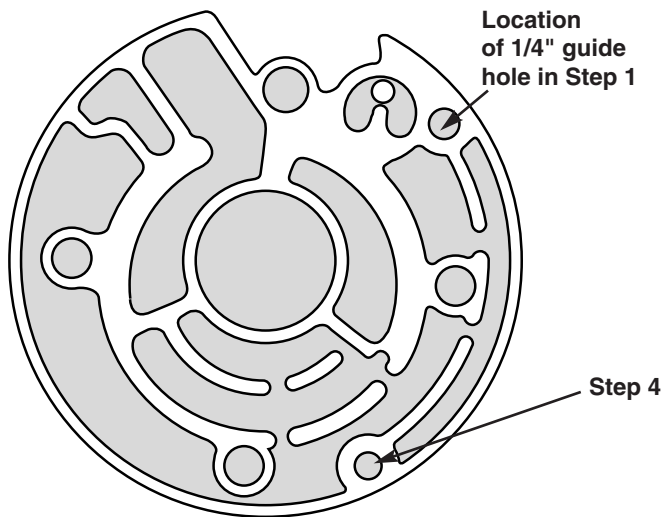


FIGURE 2



View of back surface of transmission case.

FIGURE 3

Important Safety Notice!

“Reverse” gear can be engaged simply by pressing the Transbrake button when the shifter is in “Reverse.” You must hold the Transbrake button down for as long as you want to remain in “Reverse” gear. **Do not engage transbrake unless the vehicle is at a complete stop.**

Tech Tips

1. Do not hit the throttle hard when backing up in reverse or you may slip the reverse clutches. If you slip the reverse clutches repeatedly, the transbrake will begin to creep when applied.
2. Readjust a new band after 4 runs. Loosen jam nut and tighten the screw down to 72 inch pounds and back off 4 full turns and then tighten jam nuts.
3. If your vehicle creeps backward with the transbrake engaged, you may need to readjust the band or replace the band if it is worn out. If the vehicle creeps forward, your reverse clutches are slipping and may need to be replaced.
4. Correctly positioning the brake valve will insure optimum reaction time. This must be done with the pan off the transmission. Notice the brake valve position with the solenoid engaged...the large diameter land must fill the valve bore with 50% of the large land going inside the bore. With the brake released, the entire diameter of the valve land must be clear of the casting surface revealing a gap.
5. This is a fluid release transbrake. The spring on the brake valve is for testing solenoid engagement when the engine is not running.
6. If the brake doesn't engage, check all wire connections. If the solenoid applies and the brake does not engage, check the movement on the brake valve and be sure it is not stuck in the bore. Check the brake valve and be sure the large land is entering the bore when the solenoid is engaged. If the large land does not enter the bore, the brake will not engage.
7. If the brake doesn't release, check the solenoid to make sure it is releasing. If the solenoid releases, check the brake valve to make sure it is not stuck in the bore.

Step 8. Install the stock low servo apply tube and the stock shift valve into the new B&M Four “O” Transbrake Valve Body.

Step 9. Be sure the mating surfaces between the valve body and transmission case are flat. Use a fine flat file to flatten the surfaces. Be sure to clean up any filing grit.

Step 10. Install the valve body to the case and torque bolts to 15 lb. ft. Re-install the manual shift guide plate, double checking the manual valve engagement with the shift lever. Then install the detent spring. Install the filter, pan gasket and pan.

Step 11. Install the brake valve and solenoid. There is a spring used behind the brake valve. Wiring to solenoid should be 12 or 14 gauge wire. Use a good quality release button and cord such as the B&M #46003. If another switch is used it must have a 20 amp

12 volt DC capacity. We recommend a 15 amp fuse be located between the Transbrake switch (release button) and the power source. Make sure wires are protected from sharp edges or hot exhaust pipes.

Step 12. Replace transmission in vehicle. Fill with Trick Shift trans fluid. Raise vehicle on jack stands. Do not have the wheels turning. this could cause damage to various parts of the drive train when brake is applied. Run trans through all gears. Test the brake several times. To engage Reverse you must have shift lever in Reverse position and press Transbrake button. **The B&M Powerglide Four “O” Transbrake retains the standard shift pattern PRN21.**