



# Installation Instructions

## Turbo Hydro 350, 400 and Powerglide Transmissions

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### INTRODUCTION

Your B&M Transmission is a precision piece of equipment and should be treated as such. The amount of satisfaction you receive will be dependant on how well you read and follow the instructions. If you do not understand something, DO NOT pass it up and assume it is right. Check with our customer service department, or check in a Chevrolet or any General Motors shop manual.

### INSTALLATION INSTRUCTIONS

1. Check the engine block for “nicks” and “burrs” that may keep the transmission from bolting up flush to the block. Make sure there are two dowel pins (alignment pins) in the block. All engines must have these two dowel pins, as they are the only thing that will place the transmission on center with the crankshaft.
2. Check the crankshaft flange for “nicks” and “burrs” that may keep the flex plate from bolting up flush to the crankshaft. Use General Motors bolts (or equivalent) to bolt the flexplate to the crankshaft. Torque crankshaft-to-flexplate bolts to approximately 60 ft. lbs.
3. Install torque converter onto transmission. The “slots” in the pump drive snout must be engaged in the pump, and the splines on the input shaft and the splines on the stator shaft must be lined up before the converter will install all the way. Inspect for full engagement by measuring from the face of the transmission case to the flexplate face of the converter drive lugs. This should measure at least 1 inch.
4. Install the transmission to the engine. (Be careful that the converter does not fall out of position.)
5. Tighten transmission-to-engine bolts approximately 40 ft lbs.
6. No vacuum modulator hose is necessary on “manual control” units. Vacuum modulator hose connected from the vacuum modulator to manifold vacuum is necessary on automatic control units. The vacuum modulator on the B&M transmission is an adjustable modulator. You can adjust the modulator with a small screw driver. Turn the screw clockwise to raise shift points and counter-clockwise to lower shift points. This adjustment will change the shift point.
7. On manual control units no kickdown control is required. On manual-automatic units the kickdown control is required. On the Turbo Hydro 400 the electrical connection from the kickdown switch must be made. If you do not have the factory kickdown switch, B&M offers a kickdown switch #20297. On the Turbo Hydro 350 the kickdown control cable must be connected and adjusted to factory specs. B&M offers an adjustable universal kickdown cable # 30287.
8. When fabricating or installing your driveshaft, make sure there is 3/4 inch of slip clearance for street, 1 inch slip clearance for competition cars. Make sure the engine CAN NOT move forward or backward. Make sure the rear end can not move forward or backward any more than the springs allow. Driveshaft “pile driving” into the rear of the transmission will cause severe damage.
9. Coolers: A transmission cooler is definitely recommended. A separate radiator (oil to air) is the ideal type.
10. A transmission can be run without a cooler for a short period of time... providing the cooler outlet port in the case is connected to the lubrication port in the case with 5.16” copper or steel tubing. DO NOT attempt to run the unit with these ports “plugged” as they provide the lubrication oil to the unit. If a cooler is not used, be conscious of overheating the transmission. Reconsider installing a cooler to prevent premature failure.  
**Please Note:** An overheated transmission is not covered under warranty.
11. Selector sequence - Note: Selector shafts may be SAE or metric. Be sure to use the proper nut.
  - A. On some manual control units the selector sequence has been changed. Stock 3rd position is now 1st, and stock 1st position is now 3rd. The rest of the selector is unchanged.
  - B. On manual-automatic units the selector sequence is stock.
  - C. See next page for Four “O” Valve Body Transbrake operation.
12. Fluid Level: (dry unit) install five (5) quarts of fluid. Start the engine and fill to stock full mark. (Operate through all the gears before the final check.) Use B&M Trick Shift Transmission fluid for best results or use a name brand, Type F, automatic transmission fluid.
  - A. Fluid level (refill): install four (4) quarts of fluid. Start the engine and fill to stock full mark. (Operate through all the gears before the final check.

**NOTE:** Transmissions that are over full will leak out of the breather hole located at the top of the case.

## **Four "0" Transbrake Operation**

If your B&M Transmission is equipped with a Four "0" Transbrake, carefully follow these instructions for proper operation.

The brake solenoid draw is 8 amps. Use a good quality release button and cord such as the B&M #46004 or #46003. A 15 amp fuse is recommended to be located between the transbrake switch (release button) and the power source. Make sure the wires are protected from sharp edges or hot exhaust. The solenoid supplied is a two wire unit. Be sure the wire used for "ground" goes directly to the frame or the battery.

## **Powerglide Operation**

Test the brake several times by activating the switch.

To engage reverse, you must have the shift lever in reverse position and press transbrake button. The B&M Powerglide Four "0" Transbrake retains the standard shift position PRN21.

The Powerglide Four "0" Transbrake is intended for Super Comp, Super Gas, Super Street and any other racer when a .400 "Pro Tree" is used. When using a delay box, a Four "0" Transbrake will work well for .500 bracket tree racing. The B&M Powerglide Racing Transmission #127002, 127003, 127005, 127006 and 127013 are equipped with the B&M full tree bracket brake transbrake. The bracket brake is intended for the Bracket Racer using a .500 tree.

The B&M Bracket Brake uses a single wire solenoid. 12 volts must be supplied to the single wire through the button you use to control the bracket brake transbrake. The solenoid draw is 8 amps. Use a good quality release button and cord such as the B&M #46003. A 12 amp fuse is recommended to be located between the transbrake switch (release button) and the power source. Make sure the wires are protected from sharp edges or hot exhaust. Be sure the transmission case is properly grounded to the chassis or battery.

## **TH-400**

### **IMPORTANT SAFETY NOTICE!**

"Reverse" gear is engaged by putting shifter into "Neutral" and pressing Transbrake actuation button. There is no line pressure drop so be prepared for an immediate firm shift into "Reverse." Button must be held down to maintain "Reverse."

**WARNING!** Do not shift this transmission into "Neutral" at speed. The transmission will explode. **WARNING!** This valve body provides a reverse shift pattern: **P R N 1 2 3**.

**Do not press trans brake unless the vehicle is at a complete stop.**

## **TH-350**

### **IMPORTANT SAFETY NOTICE!**

This is a reverse shift pattern valve body (PRN123), "Reverse" gear is engaged when shifter is in "Reverse" and Transbrake button is pressed. Hold button down for as long as you want to be in "Reverse." Line pressure in "Reverse" is reduced so you may not feel a strong engagement.

**WARNING:** If Transbrake button is pressed when shifter is in "Neutral" you may engage "Reverse" and you will also damage the transmission.

**Do not press trans brake unless the vehicle is at a complete stop.**

### **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 press trans brake unless the vehicle is at a complete stop.**