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Instruction Sheet

Part Number APG-28999FT Powerglide Full Tree Transbrake

Contents:

Full Tree Transbrake Valve Body
Governor Block-Off Plate
2 Wire Solenoid
Reverse Spool Valve
Instruction Sheet

Note: Before installation, read instructions carefully. If you do not understand any part of these instructions please call our tech line at the number listed above.

Safety Warning!!

Never operate any transbrake equipped transmission without the proper safety devices in place. This includes both an SFI approved transmission safety shield and flexplate shield.

If you are unfamiliar with transmission repair and modifications, do not install this part. Instead, have it installed by a competent transmission technician who is familiar with such devices.

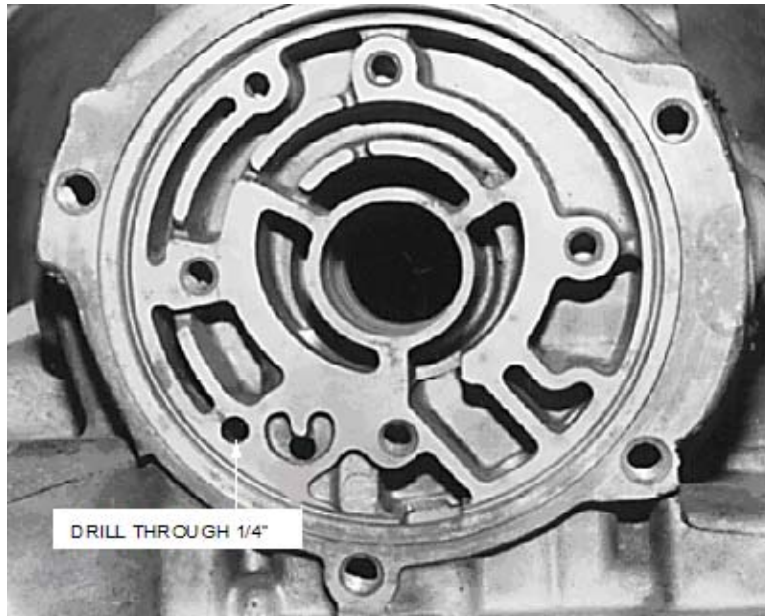
Failure to follow these directions and follow all safety procedures can result in serious injury or death!

- To install this valve body in a case that has never been modified the transmission must be completely disassembled.
- If your transmission has been previously modified to accept a transbrake please carefully check to be sure that the modifications are the same as detailed here.
- Check the bottom of the case for flatness, if the case is not flat where the valve body attaches, flatten the case with a large fine flat file.

- The valve body is installed without any modifications other than adding your manual valve and detent roller.
- The valve body does not require gaskets.
- You must place the shifter in **reverse** and **press** the transbrake button to back up.

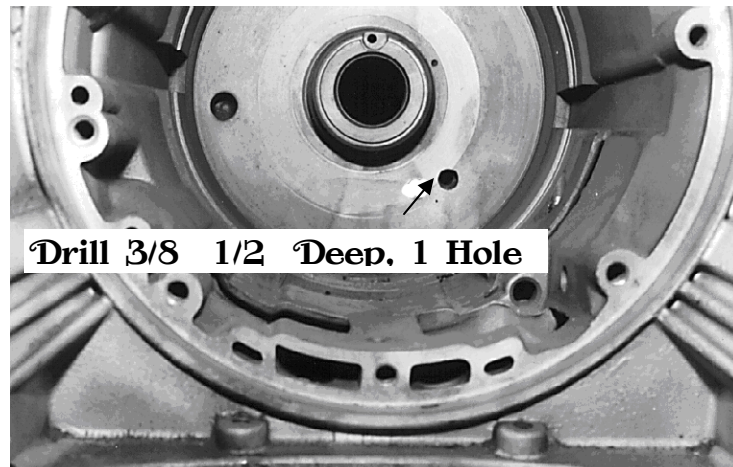
Step 1.

Drill $\frac{1}{4}$ " hole from the rear of the case as indicated in the photo below. Drill the hole completely through the rear of the case into the area of the reverse piston.



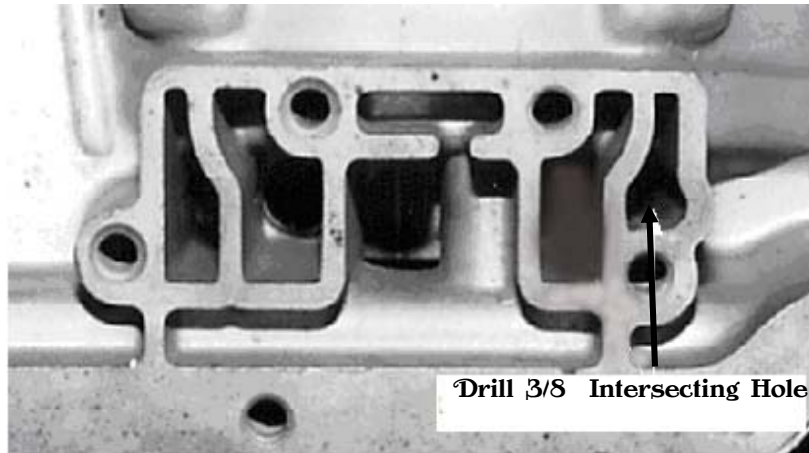
Step 2.

Turn the case around and locate the hole you drilled in Step 1. Drill this hole $\frac{3}{8}$ " to a depth of about $\frac{1}{2}$ " or until the drill intersects with the passage from the bottom of the case. Refer to the photos below. Do not drill all the way through the case, as this increases the possibility of a pressure leak around the governor support.



Step 3.

Turn the case over and locate the passage indicated in the photo. Drill the hole with a 3/8" drill being sure it intersects with the hole drilled in Step 2.



Step 4.

Lightly chamfer all the holes to remove any burrs, clean the case of all chips and debris.

Step 5.

The reverse piston should be machined to provide between .075" and .100" clearance for the reverse clutch pack.

Drill a 1/16" hole in the outer edge of the reverse piston as shown in photo below. When installing the piston, place the hole at the top. This allows air to escape the cavity behind the piston as the reverse circuit fills, and seals the bleed when the piston is applied.

Note: Dedenbear and JW cases do not need to have the reverse piston drilled. These cases have an air bleed provided from the factory.

The stock reverse springs should be replaced with heavy duty springs. The reverse spring retainer should also be replaced with a hardened unit. These components are available through TSR Racing Products.



Step 6.
Assemble the remainder of the transmission.

Step 7.
Lubricate the reverse spool valve with ATF and install through the modulator hole in the rear of the case. Using a new gasket; thread the solenoid into the case and snug with the appropriate wrench.

Step 8.
Wire the solenoid using a least 14 gauge wire. There is no polarity; run one of the wires to a ground on the **vehicle frame**, do not ground the wire to the transmission case.

OPERATION OF TRANSMISSION

After installation of this valve body the transmission will exhibit much different characteristics than stock.

There will no longer be any automatic functions. You must start in low and manually up-shift to high. The shift pattern will be forward (PRN21).

The transmission will not back up unless the transbrake button is engaged.

When backing up, you must stop, place the shifter in reverse, press the transbrake button, and then the transmission will engage reverse. If you are running a delay box, remember the solenoid will not disengage immediately upon release of the button. For this reason, your delay box should be wired with a safety switch. After a pass this switch should be tripped to disengage the delay box; this allows the transbrake button to release reverse immediately.

Caution: Be very careful not to activate the transbrake while in motion!!!

To operate the transbrake, place the shifter in low, come to a complete stop, and activate the transbrake button. Raise engine RPM to the desired level. When the button is pushed, the transmission is in both low and reverse, which effectively locks the vehicle in place. When the button is released, the reverse pressure is relieved and the car moves forward.

You may find it necessary to vary your delay and starting line RPM slightly from time to time to match changing track conditions, but overall, there is no starting system in drag racing that is more consistent.

It is recommended that before operating this transmission under racing conditions that it is fully warmed up.

Burn-Outs

On vehicles with line-loc, the burn out can be started in low gear, shift to high. Lighter dragsters and alteredds can use high gear.

Recommended Clearances

Endplay: With washer: .025"- .040"

With bearing conversion: .010"- .015"

High Clutch Pack: .080" - .100"

Reverse Clutch Pack: .075"- .100"

Recommended Additional Components

- APG-QSOEM "Quick Set" OEM Case
- APG-QSDB "Quick Set" Dedenbear (Reid) Case
- APG-K28821BI, APG-K28821BA, or APG-K28821BT Billet Servo Piston
- APG-28709HD Heavy duty reverse spring retainer
- APG-2832HD Heavy duty reverse spring kit (17)