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ATD/HIPSTER'S BILLET 4L80 TRANSBRAKE W/ ENGINE BRAKING & 4TH GEAR TCC (P/N: 82748Bv2)

CAUTION

Please read ALL of these instructions before proceeding with installation.
This or any valvebody should only be installed by a qualified race transmission technician. If you are unfamiliar with any of the operations or terms, take your transmission to a qualified race transmission shop. Improper installation may cause property damage and/or death.

Your 82748Bv2 4L80 Transbrake kit includes the following parts:

- (1) ATD 4L80 Billet Transbrake Valvebody w/ Manual Valve,
- (1) Separator Plate,
- (1) Hipster's Powerglide Transbrake Solenoid w/ Brake Valve & Billet Mount Assembly,
- (4) M6x25 Socket Head Solenoid Mount Bolts,
- (4) 1/4" Torlon Check Balls,
- (1) 1/2" Torlon Check Ball,
- (1) Heavy Duty Pressure Regulator Spring & ATD Boost Valve Eliminator,
- (16) Heavy Duty Direct Drum Springs,
- (1) Billet Aluminum Case Connector Plug & Retention Screw,
- Installation Hardware: (23) M6x40 Bolts, (2) M6x50 Bolts, (3) M6x35 Bolts, (1) 3/8-16 Set Screw.
- Instructions & Decals.

SHIFT PATTERN

This valvebody employs reverse shift pattern: **Park - Reverse - Neutral - 1- 2 - 3 - 4**.
This valvebody is designed with engine braking and low band apply.
The transbrake applies/launches from first gear.
Do not neutral this transmission at speed or the transmission may explode!

TO ENGAGE REVERSE

Put shifter in reverse. This transbrake employs standard reverse when the shifter is in R. There is no line pressure drop - solid reverse.
Do not attempt to use transbrake when shifter is in N for reverse, it will not work and unintended damage may occur.

SOLENOID WIRING

Wiring to solenoid should be 12 or 14 gauge wire. Use either pin at connector, the solenoid is not polarity sensitive. Ground wire should return to good battery ground - case/pan/chassis ground is not sufficient. Use a switch that you are comfortable with and that has 20 amp 12 volt DC capacity. Install a 10-15 amp fuse in power line to switch or use fusible link of sufficient capacity at solenoid. Solenoid draw: 8 amps.

TORQUE CONVERTER CLUTCH/LOCK UP

TCC is automatically engaged when in 4th gear. This valvebody does not have a provision for TCC in any other range. No wiring is required for TCC function. *Do not come to a stop in 4th gear or TCC will stall the engine.*
To eliminate TCC, add one checkball as noted in instructions.

EARLY/LATE LUBE
This valvebody will work universally with all cases - Early, Late, or Reid Super80. Modification to the lube tube is required for late lube applications. See the included instructions and diagrams for proper lubrication for your application.

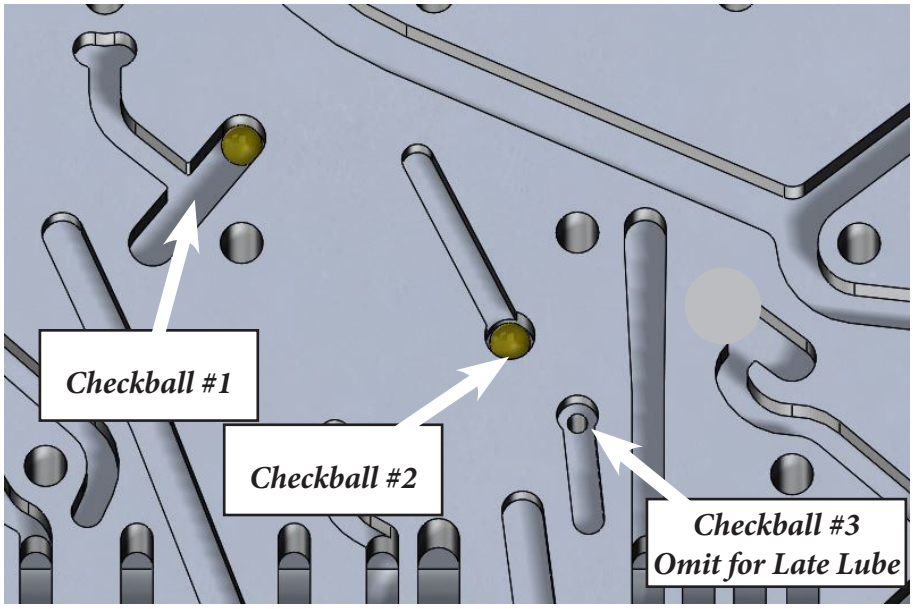
WARRANTY
This product is warranted for 12 months from date of purchase against defects in material and workmanship. During this period such defects will be repaired or replaced at manufacturer's option. Do NOT return any defective products to your supplier, contact ATD directly. This warranty does not cover damage caused by misuse, alteration, or negligence. All implied warranties, including but not limited to implied warranties of fitness and merchantability are limited in duration. Under no circumstances will manufacturer be responsible for special, incidental, or consequential damages or costs arising from or in conjunction with the installation or use of any product of the manufacturer.

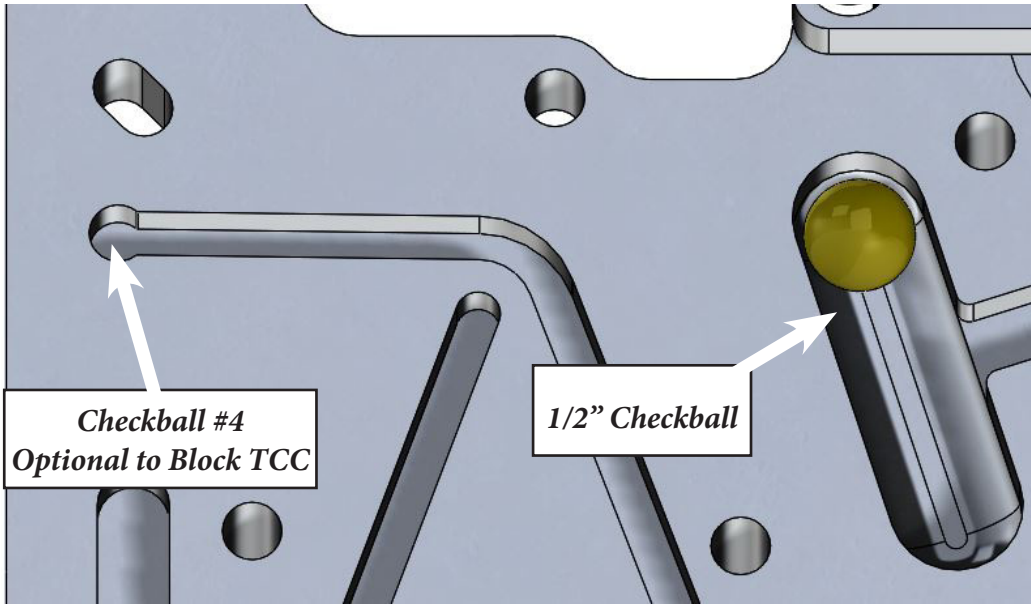
INSTALLATION INSTRUCTIONS FOR HIPSTER'S BILLET 4L80 TRANSBRAKE VALVEBODY

1. Disassemble and thoroughly clean transmission. Set aside stock valvebody assembly and wiring harness.
2. Disassemble direct drum. Drill 1/16" hole in direct drum at 45 degree angle as shown below.

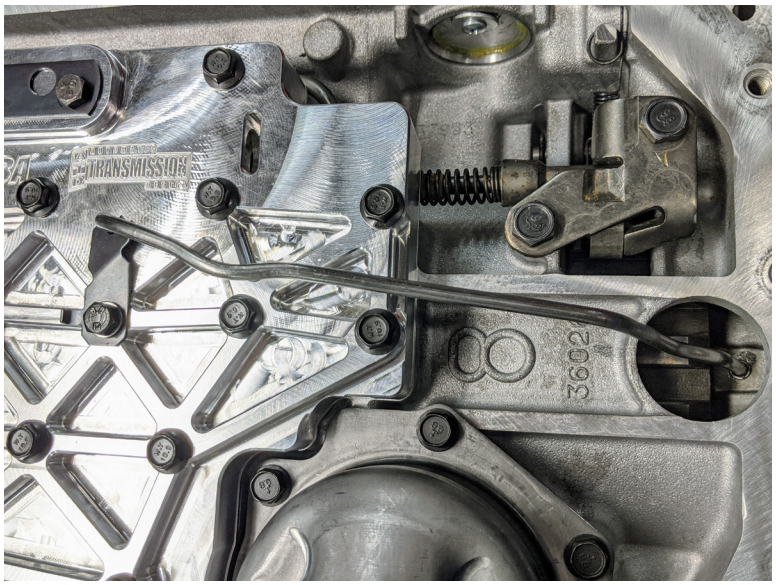
3. Use a TH400 style aluminum piston or aftermarket billet piston. ***Do NOT use stock style stamped piston & spring cage.*** Replace piston lip seals and discard center seal in drum. ***Be sure to install both seals on the piston, and none in the drum.***
4. Install piston in direct drum using 16 new included return springs, and install new clutches.
   Clutch pack clearance: .050" to .070" (.010-.015"/clutch).
5. Check pump for wear and replace as needed.
6. Replace stock PR spring with the one provided. Omit boost valve and replace with the included boost valve eliminator. Use a screw driver or other tool in the dimple on one end of the boost valve eliminator to help during installation. Use no shims for 200-210 psi. One shim for 240+ psi.
   Do NOT omit any other pump component.
   Note: This valvebody utilizes fixed line pressure - there is no pressure rise or reverse boost vent.
7. Block the reverse boost feed oil in the pump stator by tapping and installing the provided 3/8-16 set screw at the location shown below.

8. Reinstall gear train, drums, OD components, and pump assembly.
   Note: This valvebody requires the intermediate band to be installed for engine braking functionality.
9. Wet stone or flat file entire channel passage area of case. *Absolutely no high spots or burrs allowed especially at the center support area.*
10. Install intermediate band apply servo with new sealing ring. Install the low/reverse band servo with new seal and steel gasket. ***Do NOT install the 1-2 accumulator and spring assembly***. *Air check to ensure proper apply.*
11. Omit/remove PWM Solenoid Filter in case passages.
12. Do NOT install check balls in any stock locations in case. There should be a maximum of (4) 1/4" check balls and one (1) 1/2" check ball pre-installed in the valvebody, and none in the case.
    Check ball #3 must be installed for early lube applications to block off the late lube orifice.
    Optionally, TCC can be removed by installing Check ball #4 to block TCC signal (use 1/4" Torlon check ball).
    Check ball locations noted below:





13. If the manual valve is not installed, install it into the bore. *Use stock OE manual valve only!*
    Install the valvebody. ***Do NOT install any gaskets on the case or valvebody!***
    Start all valvebody bolts by hand before tightening! Use the M6x35 (short) bolts for the thinner region only, near early lube area. The two (2) M6x50 bolts are for the detent spring location.
    Ensure the solenoid wires are free and do not get pinched in the case.
14. ***Early lube*** applications, install the tube and clip as per stock. For ***Late lube*** applications, slight tube modification is required. Carefully bend the tube approximately as shown below.



Before tightening/torquing bolts, note locations for late lube clip and filter support shown below. Use one (1) stock wiring harness clip to support the filter.

15. Torque all bolts to 10-12 lb-ft (14-16 Nm).
16. Omit all of factory wiring harness, solenoids, and install the provided case plug & connector. Retain the case plug with the included screw and washer.
17. Route and extend solenoid wiring as needed to connect to case connector. It does not matter which wire goes to which pin - the solenoid is not polarity sensitive.
18. Install new filter and pan.
19. Smoke the competition.

NOTES

- This transbrake valvebody requires absolutely no PCM/ECU/TCM/etc - "electronics free". It only requires simple 12V transbrake button input.
- This transbrake valvebody can be safely downshifted at speed. This valvebody will not allow the trans to freewheel. Be careful when downshifting to 1st at higher road speeds, it will check the seat belts.
- This valvebody is dual feed design - it supplies direct clutch oil to both sides of the center support with no additional modifications. You can install all center support rings, or omit the second ring - there is no difference in function with this transbrake.
- You must either remove the 1-2 accumulator & spring from the low/reverse band servo assembly, or at the very least you must remove both rings from the accumulator.

BEFORE CALLING FOR TECH HELP

You MUST verify and confirm your trans has the following already done:

- 16 heavy springs in the direct drum using an aluminum piston that has both lip seals installed and matching spring retainer,
- The bleed hole has been drilled in the direct drum (relying on a drum checkball is NOT sufficient),
- The pump has been plugged for reverse boost per instructions,
- The 1-2 accumulator has been removed from the low/reverse band assembly,
- You have a proper ground back to the battery and a minimum of 12 volts at both your transbrake button & the solenoid (it is unlikely that you will hear it "clicking" in the pan),
- You must have line pressure readings in all ranges and transbrake, measured at 1200+ RPM.