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## HIPSTER'S BILLET T400 2 SPEED REVERSE PATTERN TRANSBRAKE W/ CLEAN NEUTRAL (P/N: 22748-2A)

### CAUTION

*Please read all of these instructions before proceeding with installation.*

*This or any transbrake 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 22748-2A transbrake kit includes the following parts:

- (1) Hipster's T400 Billet 2 Speed Reverse Pattern Transbrake Valvebody w/ Clean Neutral Manual Valve,
- (1) 1/2" Torlon Check Ball,
- (1) Separator Plate,
- (8 / 16) Heavy Forward / Direct Drum Return Springs,
- (1) Pressure Regulator Spring,
- (1) Brake Valve Return Spring,
- (1) Hipster's Turbo Transbrake Solenoid,
- Instructions & Decals.



### SHIFT PATTERN

This transbrake employs modified reverse shift pattern: **Park - Safety Reverse - Neutral - 2 - 3 - Clean Neutral.**  
The brake applies/launches from second gear.

**Safety Reverse position will function as standard neutral when not engaging the solenoid.**

**WARNING: STANDARD NEUTRAL POSITION IS NOT CLEAN NEUTRAL!**

### SOLENOID WIRING

Wiring to solenoid should be 12 or 14 gauge wire. 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.

### TO ENGAGE REVERSE

Put shifter in reverse or neutral and push brake button. There is no line pressure drop - solid reverse.

### WARRANTY

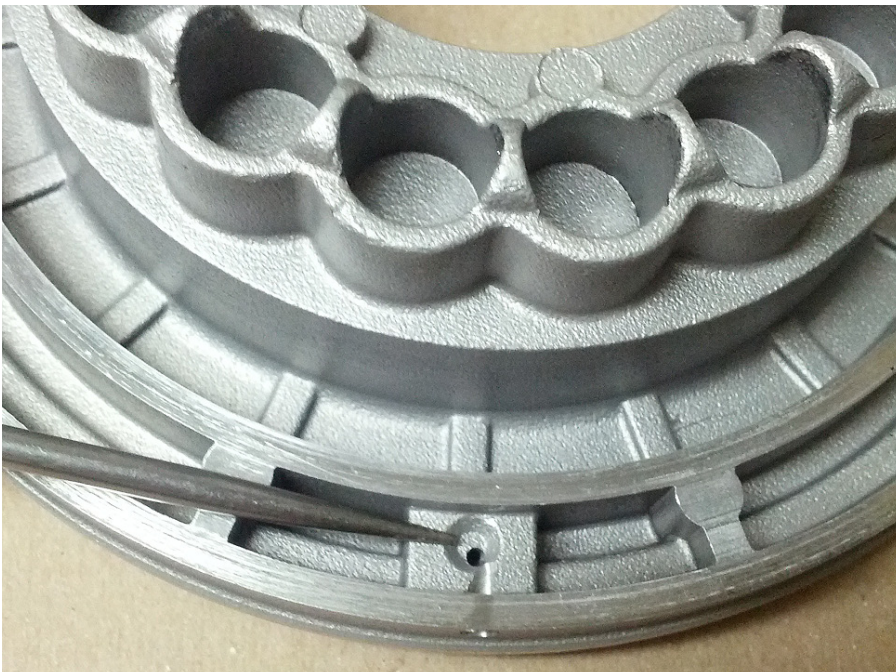
This product is warranted for 12 months from date of purchase against defects in material and workmanship. During this period such defects will be repaired or replaced at manufacturer's option. Return any defective products directly to ATD. This warranty does not cover damage caused by misuse, alteration, 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 T400 2 SPEED TRANSBRAKE

1. Disassemble transmission.
2. Disassemble direct drum. Drill 1/16" hole in direct drum at 45 degree angle as shown below.



3. Replace direct clutch apply piston lip seals and discard the center seal in drum. *Be sure to install both seals on the piston, and none in the drum.*
4. Install piston in drum using 16 new included return springs, and install new clutches. Clutch pack clearance: .050" to .070".
5. Discard intermediate brake band and apply servo.
6. Disassemble forward drum. Drill .040" hole in forward drum piston as shown below.



7. Drill 1/8" hole in forward drum piston at outer edge and in line with .040" hole, as shown below.





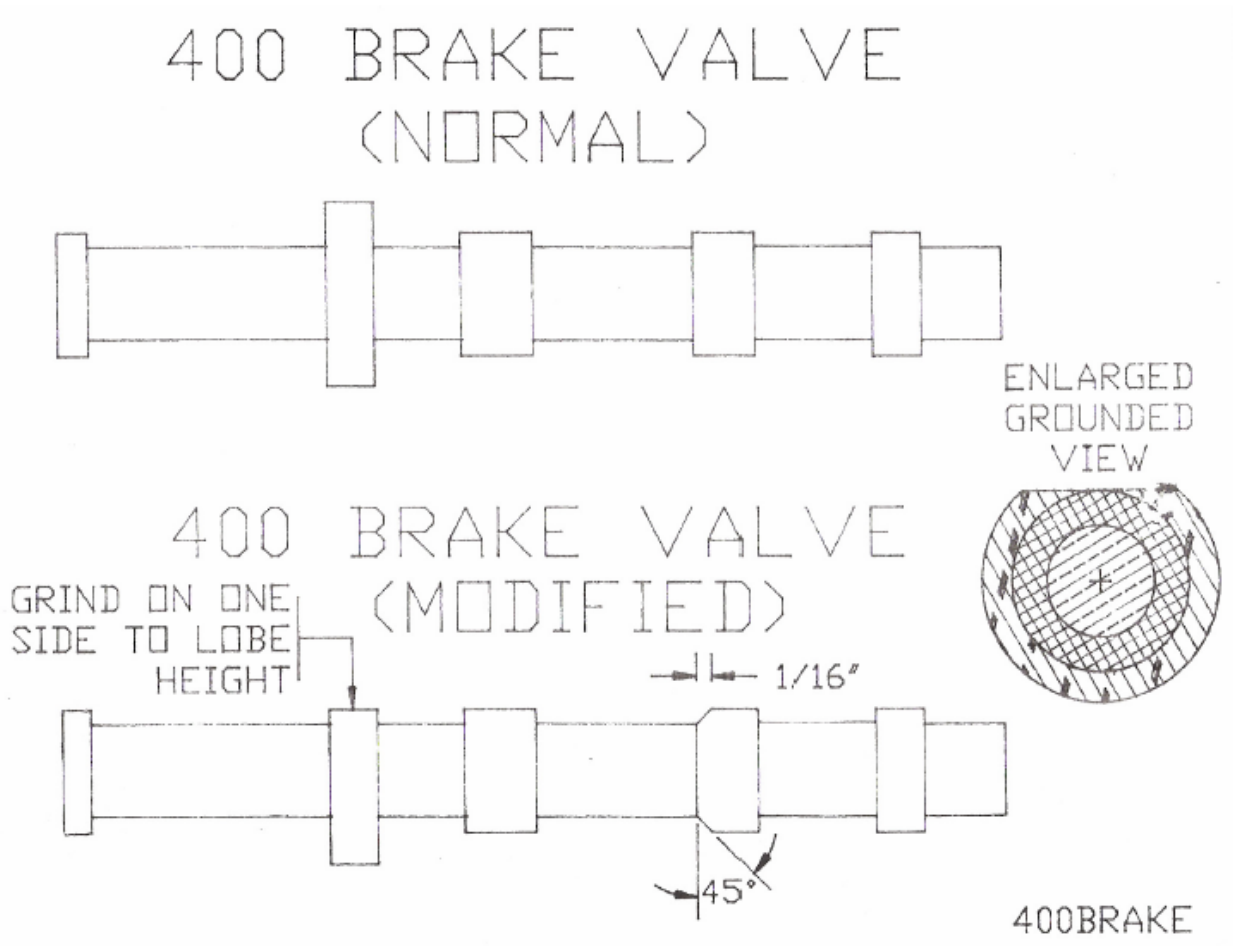
8. Install piston in drum and replace every other return spring with the 8 new included return springs, and install new clutches.  
Clutch pack clearance: .040" to .060".
9. Check pump for wear and replace as needed.
10. Replace stock PR spring with the one provided. *Use no horseshoe shims.*
11. Reinstall gear train, drums, and pump assembly.
12. Remove low/reverse servo piston and spring. Remove accumulator piston and spring from low servo assembly. *Do not reinstall accumulator piston or accumulator spring.*
13. Use blunt drift to install stock T400 1/4" steel check ball into accumulator feed passage in case, as shown below. This step is not required on Reid Racing SH400 cases. *DO NOT install checkballs in any stock locations in case. There should be one ball in the valve body, and none in the case.*



14. Flat file or wet stone entire channel passage area of case - absolutely no high spots or burrs allowed especially at area shown below.



15. Reinstall low/reverse servo with new seal and steel gasket; air check to ensure proper apply.  
16. Modify modulator valve as shown below.



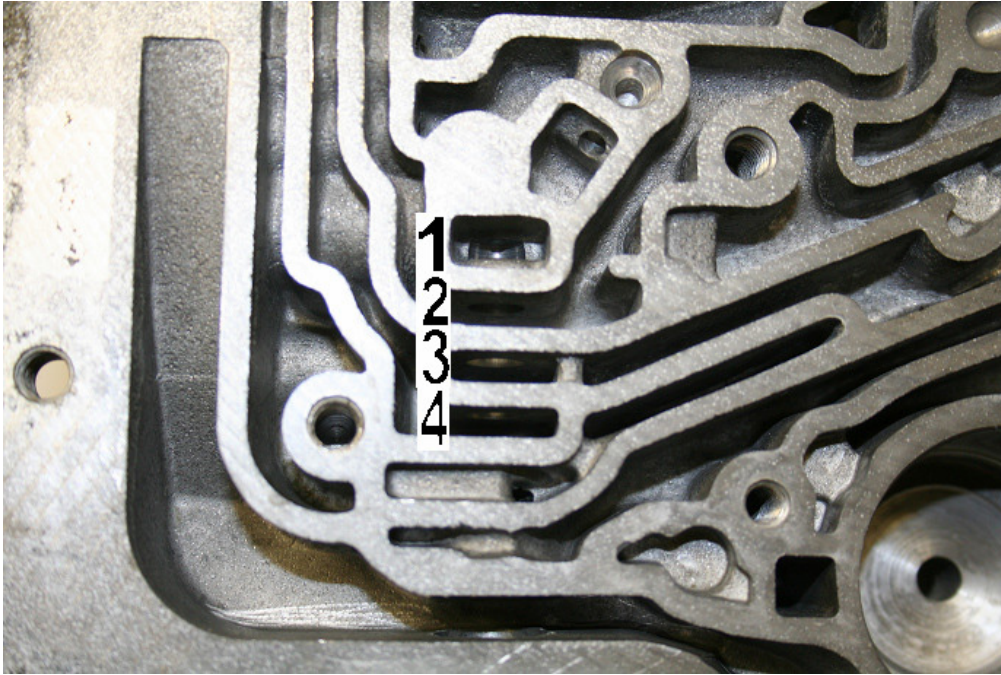


17. Install the included small brake release spring on the modified modulator valve and install valve into case.

*The brake valve must move freely in the case bore to ensure proper function.*

Install a new O-ring on the transbrake solenoid, and install into the case.

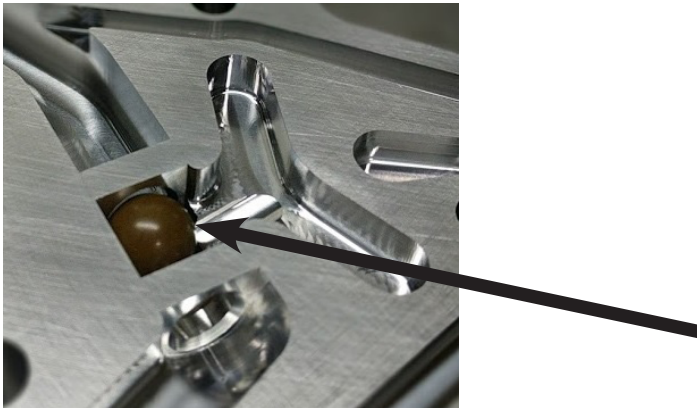
Check valve phasing when solenoid is applied and released. Refer to the figure below.



Brake On: Lands 3 & 4 are connected. Brake Off: Lands 2 & 3 are connected.

Ensure solenoid plunger completely bottoms on solenoid back when stroked. Shims on bracket bolt may be needed when there is a shim on the solenoid.

18. If not installed, install the clean neutral manual valve into bore and checkball in between the vertical seats.



19. Install transbrake valve body. **DO NOT install any gaskets on the case or valve body!**

Start all bolts by hand before tightening! Torque 5/16" bolts to 15 lb-ft and 1/4" bolts to 10 lb-ft.

20. Omit governor feed tubes and governor.

21. Install new filter (Allison screen type is preferred - Transtar #A34010B) and pan.

22. Smoke the competition.

## NOTES

- Use Teflon sealing rings on pump and center support.
- 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.