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## HIPSTER'S TURBO 400 TRANSBRAKE (P/N: 22748)

### 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 transbrake kit includes the following parts:

- (1) Hipster's Turbo 400 Transbrake Valvebody,
- (1) 5/16" Check Ball (Pre-Installed, Greased in Place),
- (1) Separator Plate,
- (16) Heavy 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 reverse shift pattern: **P - R - N - 1 - 2 - 3**.  
The brake applies/launches from first gear only.

### TO ENGAGE REVERSE

Either put shifter in reverse, or put shifter in neutral and push transbrake button. This transbrake employs standard reverse when the shifter is in R and safety reverse when the shifter is in N. There is no line pressure drop - solid reverse.

### 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.

### 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 TURBO 400 TRANSBRAKE

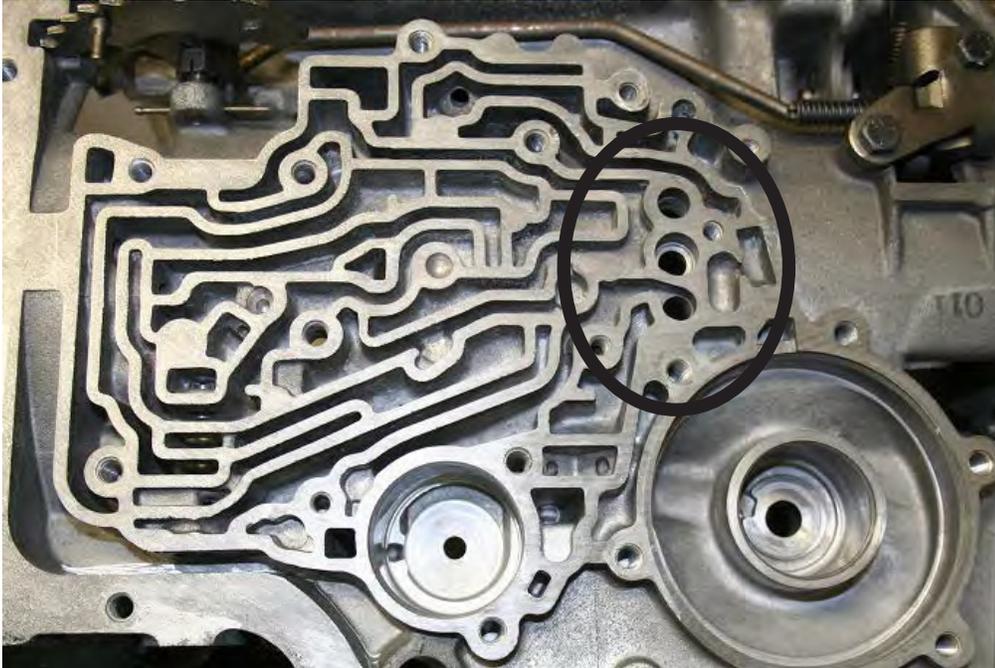
1. Disassemble transmission.
2. Disassemble direct drum. Drill 1/16" hole in direct drum at 45 degree angle as shown below.



3. Replace direct clutch apply piston lip seals and discard the center seal in the drum.  
*Be sure to install both seals on the piston, and none in the drum.*
4. Install apply piston in direct drum using the 16 new included heavy return springs, and install new clutches. Clutch pack clearance: .050" to .070".
5. Check pump for wear and replace as needed.
6. Replace stock PR spring with the new PR spring provided. *Use no horseshoe shims.*
7. Reinstall gear train, drums, and pump assembly. *Do not reinstall intermediate band or apply servo.*
8. Remove low/reverse servo piston and spring. Remove accumulator piston and spring from low servo assembly. *Do not reinstall accumulator piston or accumulator spring.*
9. Use blunt drift to install a 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 valvebody, and none in the case.*



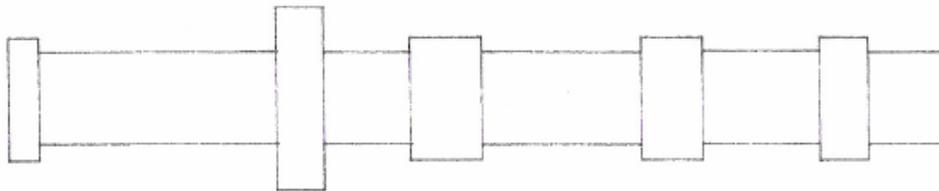
10. Flat file or wet stone entire channel passage area of case - absolutely no high spots or burrs allowed especially at center support case area shown below.



11. Reinstall low/reverse servo with new seal and steel gasket; air check to ensure proper apply.  
 12. Modify stock T400 modulator valve as shown below.

*The 45° chamfer should wrap around the entire circumference.*

400 BRAKE VALVE  
(NORMAL)

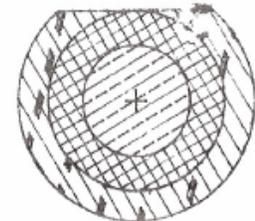
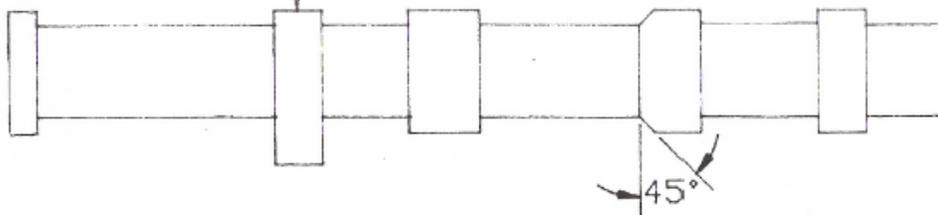


ENLARGED  
GROUNDED  
VIEW

400 BRAKE VALVE  
(MODIFIED)

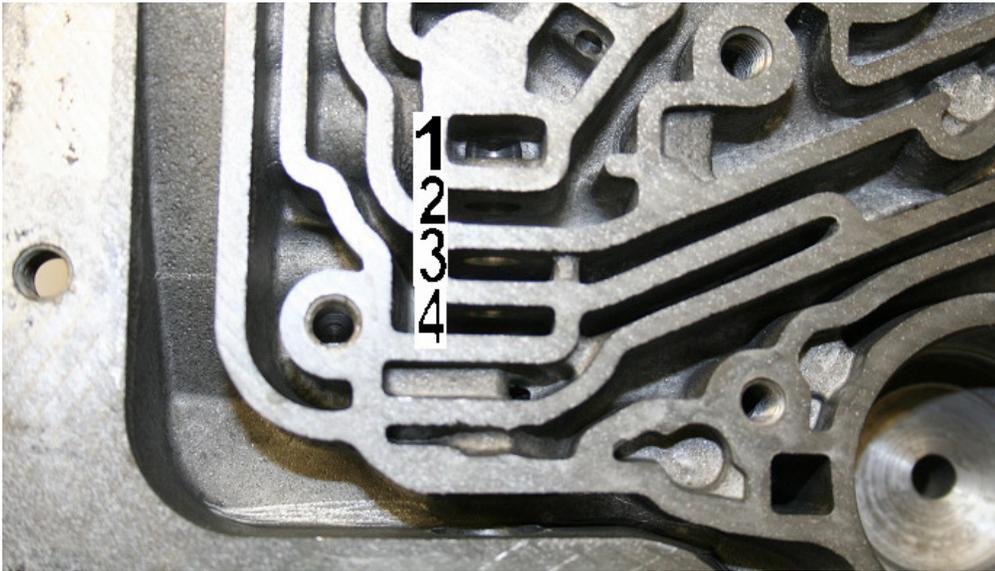
GRIND ON ONE  
SIDE TO LOBE  
HEIGHT

1/16"



400BRAKE

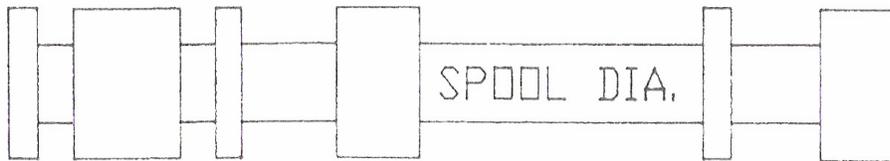
13. Install the included small brake release spring on modulator valve and install the valve into the case.  
*The brake valve must move freely in the case bore to ensure proper function.*
14. Install new O-ring on transbrake solenoid and install into the case.  
Check valve phasing when the solenoid is applied and released. Refer to the figure below.



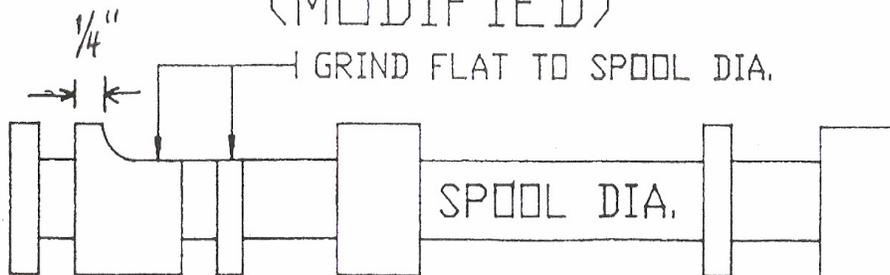
Brake On: Lands 3 & 4 are connected. Brake Off: Lands 2 & 3 are connected.  
Ensure solenoid plunger completely bottoms on solenoid back when stroked. Shims on bracket bolt may be needed when there is a shim on the solenoid.

15. Modify stock T400 manual valve as shown in the drawing below.

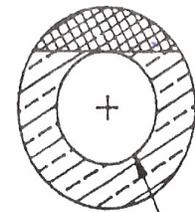
MANUAL VALVE 400 TURBO  
(NORMAL)



MANUAL VALVE 400 TURBO  
(MODIFIED)



ENLARGED  
CUT VIEW



SPOOL DIA. 1

16. Install the modified manual valve into valvebody bore, and ensure 5/16" checkball is in the proper location as shown below. *The checkball floats on top of a captive spring in the valvebody - do not remove the spring.*



17. Install transbrake valve body with included separator plate.  
***DO NOT install any gaskets on the case or valvebody!***  
Start all bolts by hand before tightening! Torque 5/16" bolts to 15 lb-ft and 1/4" bolts to 10 lb-ft.
18. Omit governor feed tubes and governor.
19. Install new filter (Allison screen type is preferred - Transtar #A34010B) and pan.
20. 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.
- The manual valve lands can be turned down or ground to print, either is acceptable.
- There may be light oil in the bag when you receive the product. This is from the manufacturing process to prevent additional rust/oxidation of the finished part. The oil may vary in color from contact with the iron, this is normal. The iron castings will vary in condition and color from piece to piece as these are manufactured from OE valve body cores. Please contact ATD with any concerns.