

## **HIPSTER'S ALUMINUM POWERGLIDE BRAKE INSTALLATION INSTRUCTIONS**

Congratulations!! You have just purchased the quickest and most consistent releasing transbrake available. As with any innovative new product there are certain things that must be done to make this product perform as it was designed. Please read all instructions before proceeding.

**CAUTION:** The transbrake should only be installed by a qualified race transmission technician. If you are unfamiliar with any of the operations or terms, take your trans to a qualified race trans shop. Improper installation may cause property damage, personal injury or death.

1. Carefully remove the valve body; do not damage the low servo apply tube.
2. Modify the transmission case and set the clearances; see below.
3. The use of a new style double ring servo is strongly recommended. **Do not use a kevlar band.** Relined race bands (red linings) are best. These are available from ATD.
4. Use only stock reverse springs.
5. For maximum performance, pump clearance should not exceed 0.0015 inches.
6. Use only small feed hole pump stator. **Do not use quarter inch feed hole pump stator.** Hole is located directly next to stator tube.
7. Install your low servo tube and your stock shift valve (or the enclosed shift valve, if included) into the new valve body.
8. Be sure mating surfaces of the transmission case are perfectly flat as this valve body uses no gasket at the case area. Flat file or stone the case.
9. Install your detent lever on the socket head shoulder screw provided and attach to the side of the new aluminum brake.
10. Install the valve body and torque the bolts to 15 ft/lbs. *Please note on aftermarket cases: ensure that the aluminum valve body clears the reverse feed passage area. Minor case grinding may be necessary.* Use the two 5/16-18 x 1 1/2 bolts supplied to bolt the valve body to the case in the area under the new filter location. Replace the short valve body bolt at top center with a stock length longer bolt. The six flat washers supplied should be used under the valve body to case bolts except at guide plate location.
11. Install the manual shift valve guide plate, ensuring the valve to shift lever engagement. Install the detent spring and detent tab. Check clearance of detent plate under new PR sleeve.
12. Install the brake valve and solenoid.
13. Install filter and pan.
14. Brake solenoid draw is 8 amps or less; use a switch of sufficient capacity and one you are comfortable with. Use 14 to 16 gauge wire, tight connectors and an in-line fuse (10-15 amp).
15. Fill the trans with fluid and raise the car on jack stands.
16. Run the trans through all the gear ranges. Test the transbrake a few times. To engage reverse put shifter in reverse and press the brake button.
17. Replacement filters are available from ATD or any parts supplier. Ask for Chrysler 66-97 TF-8 large Dacron 1 hole filter.

**FOR TECHNICAL HELP CALL: 262-251-7777 9am - 6pm CST**

To adjust the pressure: Remove the end plug from the PR sleeve using 1/4" allen wrench. Turn the inside allen plug in to increase, out to decrease. A half turn changes the pressure approximately 30 psi. PR is preset to 190 psi which works for most applications. Do not increase pressure unless you experience holding problems. Increase is needed only for 950HP or higher. Do not exceed 220 psi at 1000 rpm or 240 psi above 4000 rpm. Do not disassemble the pressure cartridge.

**TRANSMISSION MODIFICATION INSTRUCTIONS**

When using this valvebody on transmissions already set up for transbrake use, we have found a slight improvement in reaction time by increasing the reverse apply/release case passage to 3/8 inch for suspended chassis cars. Dragsters and unsuspended altered should only need a 5/16 inch hole.

### **HOW TO DRILL THE STOCK CASE**

Do not modify any aftermarket cases (Dedenbear, JW, etc.). With the transmission disassembled, locate the reverse apply/release passage in the case. Using a 5/16 inch or 3/8 inch drill bit, drill from the valve body side of the case up to the intersection of the hole in back of the reverse piston area. Then drill from inside the case using the same bit until you intersect the drilled passage from the bottom. Do not drill through the back of the case or you will ruin the transmission case. If you have an early model case (rear pump style) with the hole at the top of the piston area, see case modification sheet for details.

### **REVERSE CLUTCH CLEARANCE**

To insure quick set-up and release, clearance reverse clutches between .050 and .065. Use of five clutches works best for most applications. Use only *stock* reverse springs.

### **BAND ADJUSTMENT**

Tighten to 72 inch lbs, then back off 3 1/2 turns.

### **SPECS AND OTHER INFO**

Brake release time: .012 second minimum

Brake solenoid draw: 7 amps

Solenoid wiring: One wire to a known good ground, one wire to a switched 12 volt source.

Safety reverse: Transbrake button must be depressed to engage reverse allowing the driver to safely neutral the car in the traps.

### **TROUBLESHOOTING**

Install pressure gauge in the low servo cover. With trans in low at 2000 RPM you should have 190-210 psi. Depress the brake button, pressure should instantly drop to about 50 psi and then instantly return to within 5 % of the original reading.

### **WARRANTY**

Your product from Automatic Transmission Design, Inc. is warranted for twelve (12) months from date of purchase in material or workmanship. During this period such defects will be repaired or the product exchanged at the option of Automatic Transmission Design, Inc. without charge. This warranty does not cover damage caused by misuse, alteration or negligence. All warranties, including but not limited to implied warranties of fitness and merchantability are limited in duration. Under no circumstances will Automatic Transmission Design, Inc. be responsible for special, incidental or consequential damages or costs arising from or in connection with the installation or use of any product of Automatic Transmission Design, Inc. Automatic Transmission Design, Inc. parts are sold "as is" and acceptance of delivery of said parts manufactured by Automatic Transmission Design, Inc. hereby release said Automatic Transmission Design, Inc. of all liability of any type whatsoever from accidents and/or injuries. Our products are sold as finished products and proper installation and operation are purchaser's sole responsibility and Automatic Transmission Design, Inc. assumes no responsibility for the installation of said products.

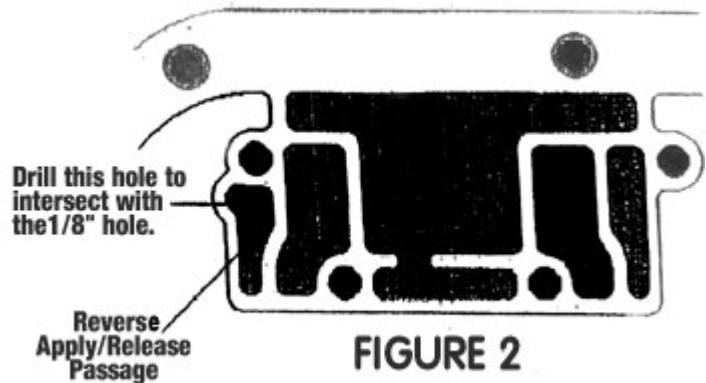
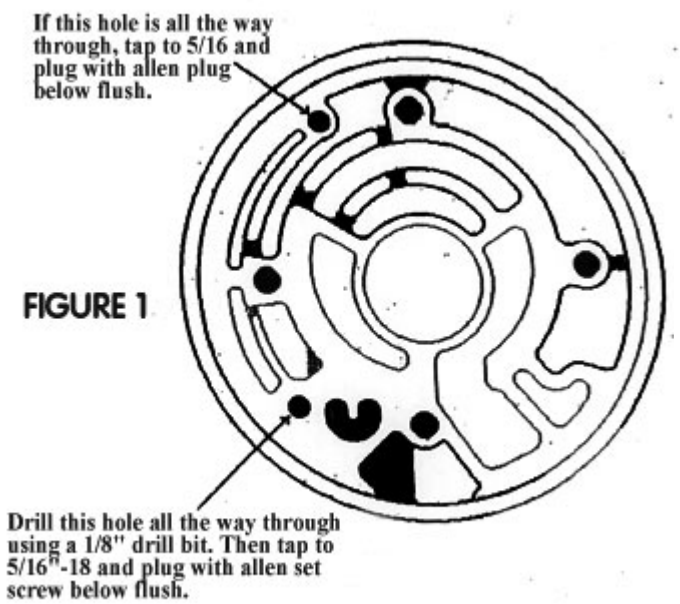
See Aluminum Valve Body Pressure Regulator Supplement Below

### **POWERGLIDE CASE MODIFICATION**

## REVERSE PISTON MUST BE REMOVED FROM CASE

### STEPS 1 AND 2 ARE FOR REAR PUMP STYLE CASES!

1. Refer to Figure 1 if the hole at the top of the case is drilled through the case, tap the hole 5/16-18 and install set screw below flush.
2. Refer to the bottom of Figure 1. Drill this hole all the way through using a 1/8" drill bit to create a pilot drill hole. Tap and plug hole with 5/16-18 setscrew below flush.
3. Refer to Figure 2. In the reverse apply passage, drill the case 5/16" or 3/8" to intersect the 1/8" hole in the piston area.
4. From the piston side of the case, locate the 1/8" hole and enlarge to match the hole drilled in the reverse apply passage. Be sure to intersect the hole drilled in the reverse apply passage.



## **ALUMINUM VALVE BODY PRESSURE REGULATOR SUPPLEMENT**

The pressure regulator assembly for the Hipster Aluminum Brake has been carefully adjusted to 200 PSI prior to shipping. This adjustment is performed on a fluid dyno. It is NOT a measured adjustment from the end of the cartridge sleeve. To make any changes REQUIRES a pressure gauge.

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**DO NOT DISASSEMBLE THIS CARTRIDGE!!!!!!**

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If you run any debris through the transmission that contaminates the valvebody, cleaning is performed by removing the brake valve, manual valve and cartridge assembly from the casting. Separating the valve body is not required. Solvent flush the oil delivery holes, manual bore and brake valve bore areas of the valvebody to remove the debris and allow the solvent to drain. Use a center punch (1/4" diameter) to depress the pressure regulator valve pintle (needle) into the cartridge body and flush any debris through the regulator body holes. If the contamination of the cartridge is too extreme, the cartridge assembly should be returned to our shop for thorough cleaning. Disassembly of the cartridge will result in excessive line pressure and corresponding transmission problems. Repeated disassembly of the valvebody will cause the bolt holes to strip.

**REMEMBER** - When the valves and regulator assembly are removed from the valvebody it becomes nothing more than a hydraulic manifold, hence disassembly is unnecessary!

**Address any concerns or questions to:**

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