ATI PERFORMANCE PRODUCTS
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Installation Instructions

TH400 INTERNAL TRANSBRAKE

Part # 403080

KIT LIST

- Set of instructions for installation in your GM T-400 transmission
- Wiring instructions
- Compu-Flow transbrake plate and gaskets
- Modulator plug & O-ring
- 16 springs for high gear
- 1 checkball
- Activating solenoid with aluminum adapter block and bolts

The T-400 brake has the following features: Allows for maximum stall speed, releases instantaneously, operates only in first gear, draws less than 1 amp when applied (no need for a larger battery), no additional maintenance as with external brakes, reverse shift pattern (P-R-N-1-2-3) and equalized traction at all drag strips to help you run consistently.

ASSEMBLY PROCEDURES FOR THE TURBO-400 INTERNAL BRAKE

Normal assembly procedures with the exception of these modifications:

IMPORTANT! OMIT NO MODIFICATIONS

HIGH CLUTCH DRUM

Preparation of the high clutch drum is extremely important. Remove piston and drill .063" (1/16") bleed off hole through the drum in the area behind the piston. It is best to drill from the inside out, placing the hole as close to the outer sealing position of the drum as possible. The drill may be held at a slight angle for more drilling room. (Figure 1) Reinstall piston in the drum using only the inner and outer lip seals. **DO NOT USE CENTER SEAL ON DRUM.** (Figure 2) All 16 original piston springs are to be discarded and replaced with special springs provided with this kit.

SET CLUTCH PACK CLEARANCE BETWEEN .070" & .090"

INTERMEDIATE BAND

Do not install the intermediate band. Leave out intermediate servo and spring assembly. Notice that there is no hole in the Compu-Flow separator plate for the intermediate servo. (Figure 6) Remove the entire intermediate servo assembly.

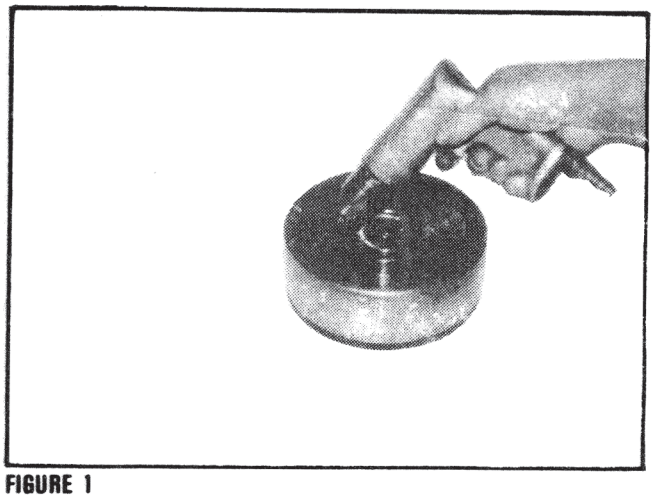

FIGURE 1

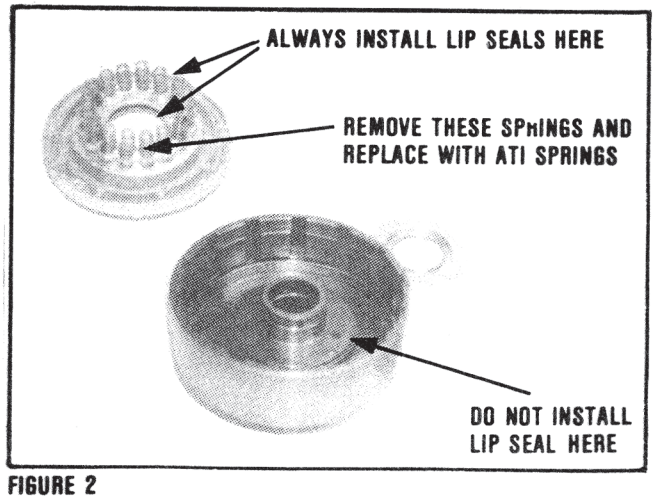

FIGURE 2

REAR SERVO
Remove and discard small and large accumulator rings, teflon or aluminum. (Figure 3) Reinstall rear servo assembly in the usual manner.

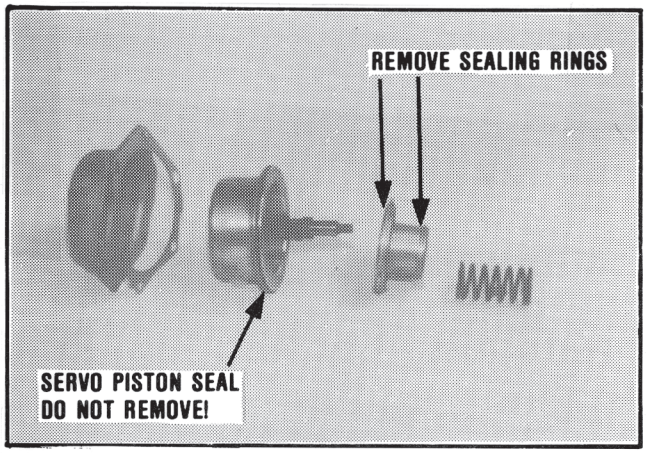

FIGURE 3

MODULATOR PLUG
Remove and discard modulator. Do not remove the modulator spool valve from the case. (Figure 4) Reinstall hold down clamp and bolt.

MAKE CERTAIN MODULATOR VALVE DOES NOT MOVE!

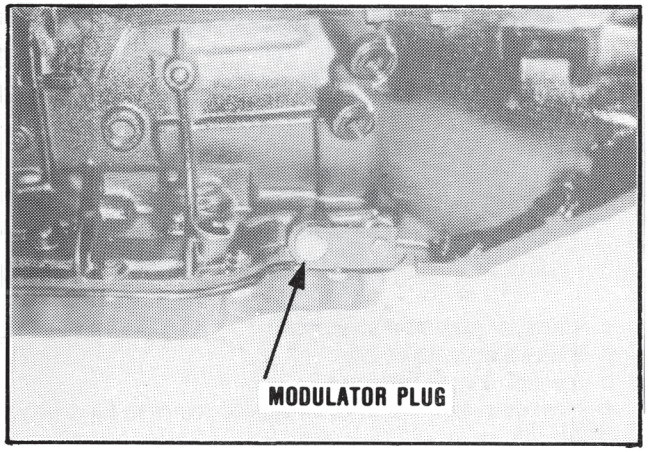

FIGURE 4

GOVERNOR ASSEMBLY
Remove and discard the governor assembly.

INSTALLATION INSTRUCTIONS FOR THE TURBO-400 EXTERNAL TRANSBRAKE
Install guide pins as indicated in Figure 6. Install either valve body gasket to the case surface followed by the transbrake spacer plate and then the other gasket (to help gaskets stick, apply small amounts of grease). Install special solenoid with aluminum block that is supplied with the kit. Use the supplied bolts. Tighten these two bolts finger tight for now. Do not use any other gaskets. (See Figure 5 for reference.) Connect wire on the solenoid to the electrical connector in the transmission case.

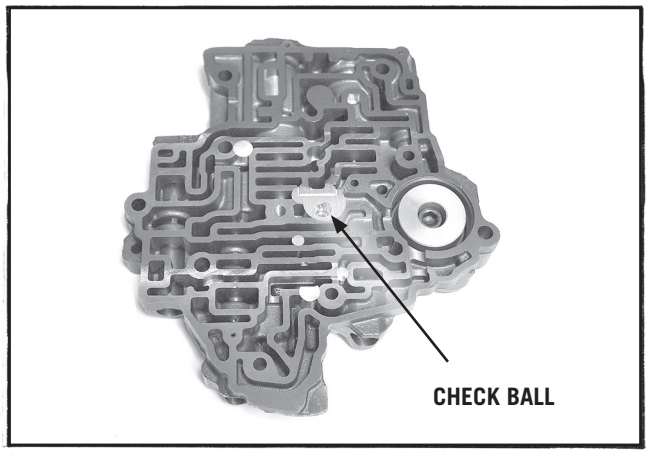

FIGURE 5

Before installing the valve body, grease the checkball supplied with the kit and place in aluminum plug located in the center of the valve body. (Figure 5) Clean your stock manual valve, dip it in clean transmission fluid and install in your ATI valve body. Install valve body over guide pins making sure checkball does not fall out. Install bolts in the usual manner. Make sure the manual valve is engaged with inner selector pin. Torque all 5/16" bolts to 10 ft lbs. Torque 1/4" bolts to 10 ft lbs.

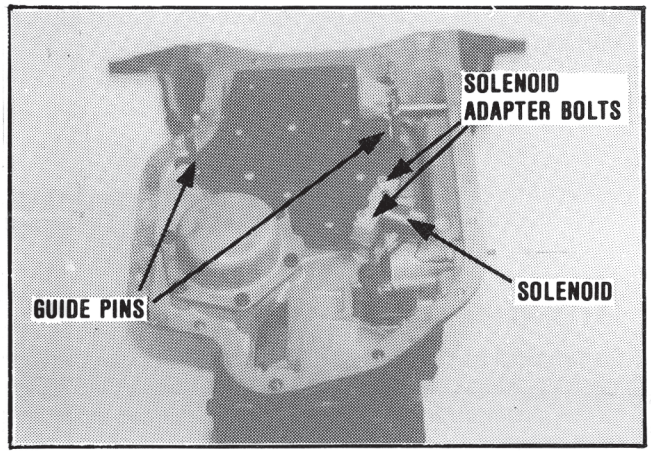

FIGURE 6

OPERATING AND WIRING INSTRUCTIONS FOR THE TH400 INTERNAL TRANSBRAKE

Your transmission is now equipped with the finest and safest internal transbrake made today. A few hints on wiring and operating will make your use of the Compu-Flow transbrake both rewarding and enjoyable.

1. ATI uses the transmission case as ground, assuming most race cars use solid mounts on both engine and transmission. If by chance this is not the case in your application, be sure that your engine is grounded properly to the frame.

2. The Compu-Flow Transbrake draws only 1 amp when activated, therefore, an 18 gauge wire can be used as a hot lead to the external connector on the transmission case. We do recommend, however, that the 12 volt be fused for safety. (See the diagram below for sample wiring.)

3. Although not mandatory, we have found that hooking up the transbrake in conjunction with a roll-control system allows the car to stage perfectly at any RPM. (Refer to the diagram below for hook-up.)

4. If your car does not have a roll control system in it, any quality micro-switch will do the job. Transbrake switches are available from ATI.

   Part #940020 - Transbrake button with coil cord
   Part #940025 - Transbrake switch
   Part #940028 - Transbrake switch with oversized button

5. The Compu-Flow Transbrake only works in first gear, therefore, if you should accidentally hit the activating switch while in any other gear, the mechanism will not engage. Only apply the transbrake when the car is at a complete stop.

6. Your unit will operate normally if you choose not to use the transbrake. Simply flip the toggle switch to the OFF position as shown in the diagram. The transbrake is an added feature to your transmission and will not adversely affect its operation when the transbrake is not used.

7. If you should encounter a delay or hesitation in the release of the transbrake, check the following:
   - Fluid level in the transmission - a low level will cause a delay in the transbrake release.
   - Faulty release switch - check the operation of the switch used to release the transbrake.
   - Dirt in the solenoid - remove and inspect

