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INSTALLATION INSTRUCTIONS FOR: **HP7482X** **POWERGLIDE TRANSBRAKE KIT** 2/21/17

For over 45 years our goal has been to provide racers and enthusiasts with reliably engineered, U.S. manufactured, torque converters and drive train components for your high performance application. *Before you start your build, please take a few moments to review the important Product Safety Information and installation steps set out within this instruction manual.* If you still have questions; Hughes Performance® technical team is here to help:
(1-800-274-RACE).

Important Product Safety Information

Throughout these instructions important safety information is generally preceded by one of three signal words indicating the relative risk of injury. The signal words mean:

! WARNING a hazardous situation which if not avoided could result in death or serious injury. **You CAN be Killed or Seriously Injured if you do not follow instructions.**

! CAUTION a hazardous situation which if not avoided could result in minor or moderate injury. **You CAN be moderately INJURED and also may suffer property damage if you don't follow instructions.**

NOTICE careful attention is required to follow this installation instruction or operation but does generally not relate to personal injury. Damage to your product or other property may result if you do not follow instructions.

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! WARNING: Improper selection of Hughes Performance® products, failure to follow installation instructions and/or misuse increases the risk of injury or accident. For your safety and the safety of others:

- Assure the Hughes Performance® product selected is intended for your application with an additional safety margin above your expected horsepower, torque, and intended usage of product and vehicle.
- These instructions are not intended to address all risks related to modification of your vehicle or use. Remember: *you are the builder and chief safety engineer for your modified vehicle.* Consult and follow all OEM warnings and operating limitations.

(For Calif. Residents-Prop. 65):

! WARNING

This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

(for more information on Prop. 65 see www.P65Warnings.ca.gov/product)

To reduce risks: work with gloves, safety glasses, wash hands before eating, and dispose of any fluids properly.

! WARNING: Use protective eyewear and gloves. If dusty, use face mask, wet and wipe clean working surfaces. Transmission fluids and cleaning products are highly flammable! Avoid open flame, welding sparks, smoking, or other sources of ignition. Flexplate, torque converter, and transmission assembly involves heavy parts and pinch points. Use support jacks and review installation steps before attempting.

! WARNING: Cooler fittings should never be plugged. If a cooler is not used, connect lines together with a loop of hard line or appropriate flexible hose that is compatible with automatic transmission fluid and that carries a minimum 500 PSI rating.

Please read all instructions carefully before beginning installation!

HP7482X

Powerglide Transbrake Kit

"No-button" Reverse

This valve body has been designed for use in competition and motorsports applications, and is not intended for use in street-driven applications. Please read and follow these instructions carefully. !

CAUTION: *Installation should be performed by qualified personnel. Improper installation may cause personal injury, property damage, or death.*

Follow these instructions carefully! Most warranty complaints and concerns are related to improper installation and improper use of the product. If you require technical assistance, please contact Hughes Performance immediately. Please do not proceed with the installation if you are unsure or do not understand the installation procedures.

Enclosed in your transbrake package will be the following components:

- (17) reverse piston release springs (gold)
- (1) transbrake valve and return spring
- (1) transbrake solenoid
- (1) transbrake valve body assembly

Please verify that all contents listed above have been included with your package. If you find that any components are missing then please stop installation and contact Hughes Performance immediately.

***PLEASE NOTE:** *Hughes Performance does not include the manual valve, servo tube, detent rocker arm, detent rocker arm*

spring, or detent rocker arm retaining c-clip. You will have to swap these parts over from your original Powerglide valve body. You may return your original unmodified Powerglide valve body core to Hughes Performance for a credit.

If you are installing this product into a transmission that is already finished we recommend that you secure the services of an experienced transmission builder in your area. If you are installing this product yourself please obtain an appropriate repair manual to assist you with transmission assembly.

This guide is written to assist you in the installation of our product. This guide is not intended to be a transmission rebuilding guide.

STEP 1: *For best results, the transmission should be completely disassembled, cleaned, and freshened.*

STEP 2: *With the transmission disassembled and the reverse piston removed, locate the reverse apply/release fluid passage in the case. 1962-1966 cases use a rear pump. 1967-later cases do not use a rear pump. Early cases will have a hole at the 1 o'clock position when looking from the reverse piston side. This model of case will require drilling a guide hole from the back side of the case (see Figure 1). Viewing from the back side of the case, locate hole at the 7 o'clock position that intersects with reverse apply/release passage (viewing from valve body side). Use a 1/4" drill bit and drill from the back side of the case all the way through to the reverse piston area (see Figure 1).*

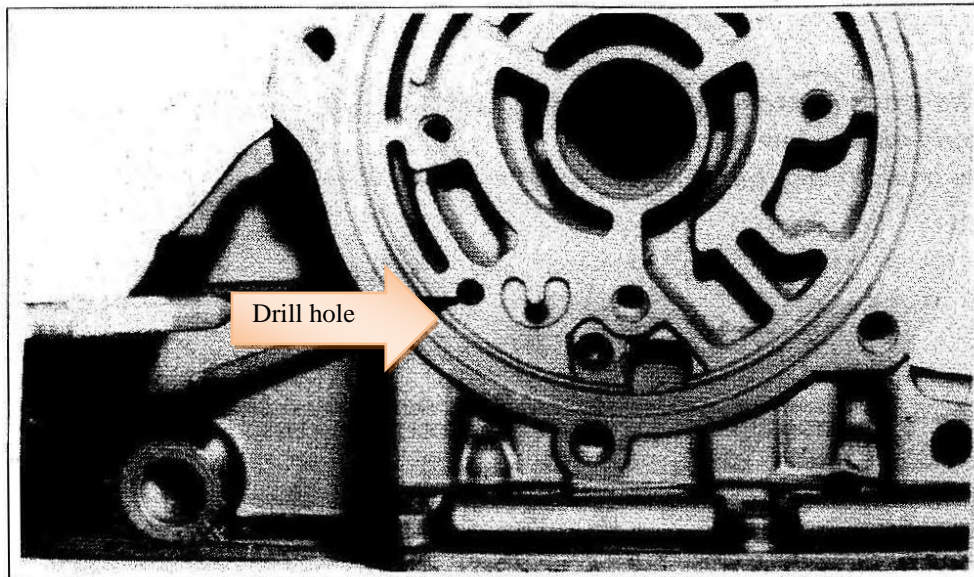


Fig. 1

STEP 3: *On 1967-later cases you must enlarge the original reverse fluid passage. This passage is located at the 5 o'clock position when looking from the reverse piston side. **! CAUTION** Use a 7/16" drill bit for maximum hit at the release of the transbrake. Use a 5/16" drill bit to reduce shock at the release of the transbrake. You may also use any drill bit between 5/16" and 7/16" to alter how aggressively the transbrake releases. Drill the hole approximately 1/2" deep in the case. Turn the case over so that you're looking at the valve body side of the case. Drill a hole to intersect with the hole that you drilled on the reverse piston side of the case. Drill from both directions to create a 90-degree passage.*

Perform the same intersecting procedure on 1962-1966 cases by drilling the intersecting passage into the 1/4" guidance hole that you previously drilled (ref: Step 2).

NOTICE: *When using a 7/16" drill bit **DO NOT** drill through the back of the case or you will ruin the transmission case!*

STEP 4: *Verify that the valve body mating surface on the transmission case is perfectly flat.*

STEP 5: *Install new reverse piston springs supplied in the kit. Make sure all springs are installed straight up and down. Incorrect installation of these springs will result in the loss of reverse range and the loss of transbrake function.*

STEP 6: **NOTICE** :Reassemble transmission. Set reverse clutch clearance to .045" – .050". Set high gear clutch clearance to .090" - .100". Tighten band adjuster to 72 inch-pounds, then loosen band adjuster 3-1/4 turns when installing a used band, and 3-1/2 turns when installing a new band. Hold the adjuster from turning and tighten the lock nut. Do not install waved steel plates in either clutch pack. Install a minimum of 5 frictions in both high and reverse clutch packs.

STEP 7: **NOTICE** :Install servo tube, transbrake valve, return spring, detent rocker arm, and manual valve into valve body. Install valve body onto transmission making sure that you properly align the manual valve with the internal shift linkage in the transmission. Failure to align the manual valve will result in total loss of all transmission function, and may damage the transmission. Tighten valve body bolts to 120 inch-pounds. Tighten front pump bolts to 15 foot-pounds.

STEP 8: Install filter and pan. **NOTICE** We do not recommend the use of filter adapters and Chrysler Torqueflite filters. This style of filter is restrictive and can lead to cavitation of the front pump and torque converter. Cavitation will create a loss in pressure and will result in damage to the transmission assembly and the torque converter. We strongly recommend the installation of a conventional Powerglide screen-type filter.

STEP 9: **! CAUTION** Once you have the transmission installed into your vehicle proceed with connecting the transbrake solenoid. The transbrake solenoid does not have polarity. As such, either wire may be used for power or ground. Connect one solenoid wire to an activation switch such as a push button or momentary switch. Connect the other side of the activation switch to 12 volts positive (+). Connect the other solenoid wire to a good source of chassis ground. **DO NOT** ground the solenoid to the transmission case. The ground surface must be clean and free of all paint, rust, grease, etc. Activate the switch with the transmission placed in low gear in order to activate the transbrake. The HP7482X transbrake valve body is unique in that you do NOT have to activate the switch in order to activate reverse gear when the shifter is placed in reverse range. **! CAUTION** Do not attempt to operate the transbrake in any other range than low gear. Do not activate the

transbrake unless the vehicle is completely stopped and in low gear.

STEP 10: *You may verify proper transmission line pressure by connecting a 0 – 300 PSI pressure gauge to the 1/8" NPT port located in the servo cover on the passenger side of the transmission. Line pressure should be 225 – 250 PSI in all ranges at 1,500 RPM or higher. Line pressure lower than 225 PSI indicates that there may be an internal problem with your transmission such as a worn front pump, damaged internal seals or gaskets, or a sticking pressure regulator. Further diagnosis of a low line pressure condition will typically require disassembly of the transmission. Contact Hughes Performance for further assistance in diagnosing a low line pressure condition.*

UPDATE

Hughes Performance will no longer be supplying the shift detent arm with our HP7482X Powerglide Trans-Brake Kits. This must be removed from your existing valve body and transferred to the new unit. Locate the shift detent arm on your valve body, remove the circlip from the shaft and remove shift detent arm (Figure 1). Reinstall shift detent arm on new valve body and secure with circlip.

