T-400 TRANS-BRAKE VALVE BODY KIT

ENCLOSED ARE THE INSTALLATION INSTRUCTIONS FOR THE TRANSMISSION SPECIALTIES T-400 TRANSMISSION BRAKE VALVE BODY. THIS VALVE BODY HAS BEEN DESIGNED IN A COMPETITION APPLICATION ONLY AND IS NOT INTENDED FOR USE ON THE STREET. PLEASE READ AND FOLLOW THESE DIRECTIONS CAREFULLY.

Attention: Please read before use

The reverse circuit in valve body has been modified.
To use reverse:
1. Place shifter into NEUTRAL position
2. Apply Trans-brake button
3. DO NOT USE IN REVERSE POSITION

Backing up in reverse position will lead to band and clutch damage

It is with great pleasure that we at TRANSMISSION SPECIALTIES assure you that you have purchased the best products available today. If you should need any kind of technical help or assistance, please feel free to call us at any time . Below is a step by step installation guide and tip sheet. Follow these directions carefully. If you don't understand something, please call and ask. We have found that 95% of all of our warranty problems are due to mistakes made during installation. Please help us to help you.

Enclosed in your package should be the following parts. Please check to make sure that you have everything you need.

1- T-400 TRANS BRAKE Valve Body and Separator Plate
1- Electric Solenoid
1- Set of High Gear Clutch return springs
1- Special Modulator Valve and Spring
1- Special Low Band Release Spring
1- Special Manual Valve

If you are installing this product into a racing transmission that is already finished, we recommend that you secure the services of an experienced transmission rebuilder in your local area. If you are Installing this product yourself, and you are not experienced with working with T-400s, please get yourself some kind of factory repair manual such as an Chilton Manual to assist you with the transmission assembly.

This guide is written to assist you in the installation of this product. It is not intended to be a transmission rebuilding guide. If you are interested in knowing more about how to build a racing T-400 please consult our Tech Department.

THE FOLLOWING PARTS SHOULD BE REMOVED FROM THE TRANSMISSION SINCE THEIR USE IS NO LONGER NECESSARY.

1. INTERMEDIATE BAND AND APPLY SERVO PARTS
2. GOVERNOR ASSEMBLY
3. GOVERNOR SUPPLY TUBES
4. REMOVE MODULATOR AND REPLACE WITH SOLENOID SUPPLIED
5. REMOVE THE CENTER LIP SEALS FROM BOTH THE FORWARD AND DIRECT DRUMS.
6. REMOVE AND DISCARD THE RINGS ON THE LOW AND REVERSE ACCUMULATOR PISTON.

NOTE: STEP 1 through 3 Do Not have to be performed to make this product work. However proceeding with these steps will greatly enhance the performance of this product.

STEP 1: Remove the direct clutch drum from the transmission. Remove the clutch and steel plates. Compress the clutch spring retainer, remove the springs and clutch piston. (If the proper tool is not available to you, go to your local transmission shop and have them do this for you. Installing the new springs can be very difficult.).

STEP 2: While the drum is apart, it is necessary to drill a constant bleed orifice in the drum using a 1/16" drill. At any place on the outer circumference of the drum measure in from the edge .410" and place a center punch mark. (Sprag Side) Drill through the drum, being careful not to let the drill score the machined surface for the outer lip seal, as it breaks through. Refer to fig. 1.

STEP 3: Once the bleed hole has been installed, remove the center lip seal from inside the drum and discard it. Install the piston and the return springs furnished with the kit. Replace the retainer and snap ring and reinstall the clutches and steels. We recommend that you replace the clutches with a Transmission Specialties high gear clutch lining and set the drum clearance at .050-.070".

STEP 4: Reinstall the front pump assembly. **Install pressure reg. spring in pump. see fig. 4**

STEP 5: Before installing the valve body, dip the special modulator valve enclosed in some transmission fluid. Then install it into the case. Slide the small spring furnished over the valve before installing it into the case. Then push on the valve while it is in the case to make sure that there is no drag and the valve moves freely.

STEP 6: Install the Electric Solenoid enclosed where the vacuum modulator was.

STEP 7: Remove the stock valve body, separator plate and gaskets. If you have governor supply tubes, remove and discard them. Remove and discard all check balls. Before installing the new valve body, remove the 6 bolts holding the rear servo cover and remove the servo assembly. Remove and discard the rings shown in fig. 2 that are on the accumulator piston. Remove and discard the accumulator spring shown in fig. 3 and replace with the one enclosed. Reassemble the rear servo assembly.

STEP 8: Install the new Trans Brake Valve body, separator plate, and manual valve. Install any valve body gaskets supplied with this valve body. Make sure when installing the valve body that you engage the manual valve into the shift linkage.

SOLENOID WIRING

Please use professional soldering techniques and heat shrink on all connections. 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 powerline to switch or use fusible link of sufficient capacity and solenoid.

To engage reverse

Put shifter in the Neutral position and hold down the brake button to engage reverse. Although the reverse position will work, the neutral position will have no line pressure drop and a very solid reverse. Failure to use the transbrake button for backing up will result in no reverse or a weak reverse that will eventually burn the reverse clutches.

Note:

Hooking a solenoid up to a toggle switch or any constant hot source like reverse lights leads to more solenoid failures than anything else. There is a very high probability that it will be left on. If you are running into an electronics box such as a delay, grid or other type please be careful and check with the manufacturer of the product for safe and proper installation of the solenoid. Solenoids and electronics are rarely, if ever, warrantied due to the fact that it's almost ALWAYS a installation error that causes the failure. Every solenoid is checked and fully operational before they leave our facility.

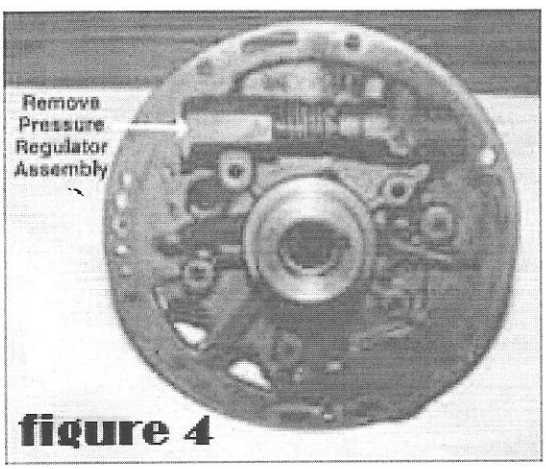


figure 4

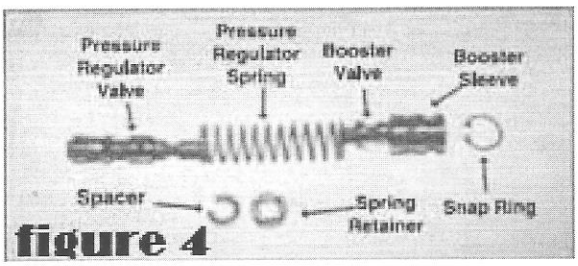


figure 4

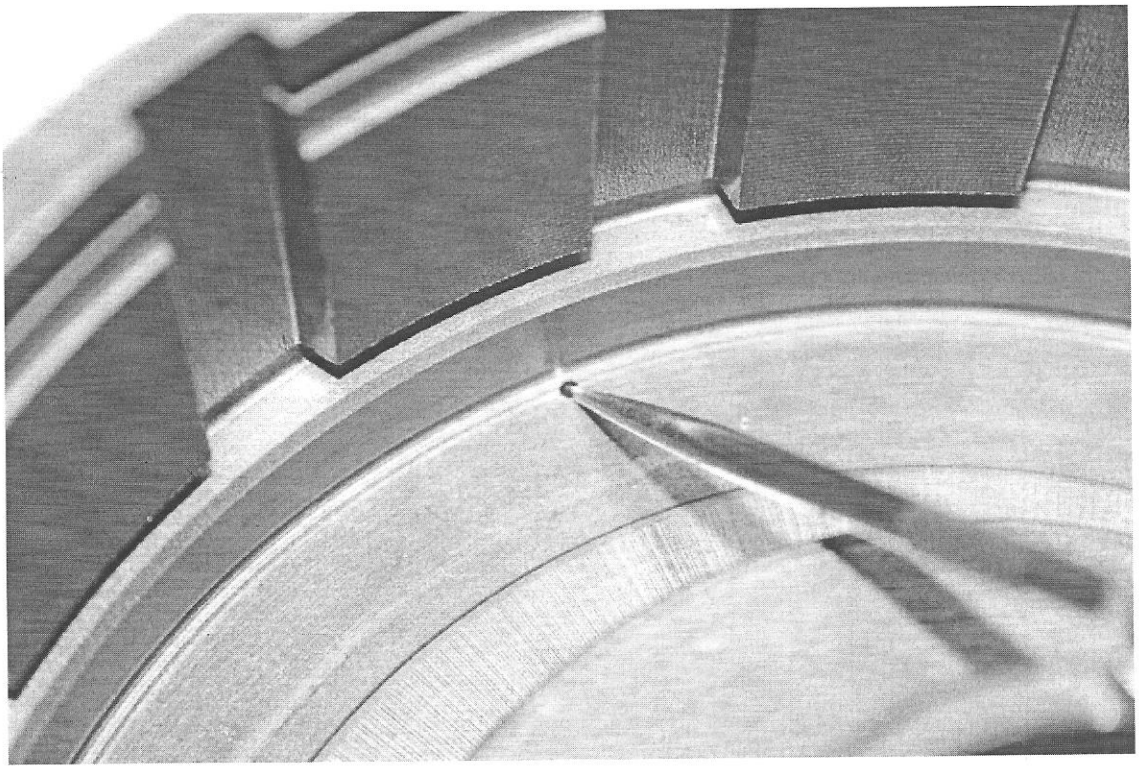


Figure 1
DRILL DRUM AT 45° (degree) ANGLE

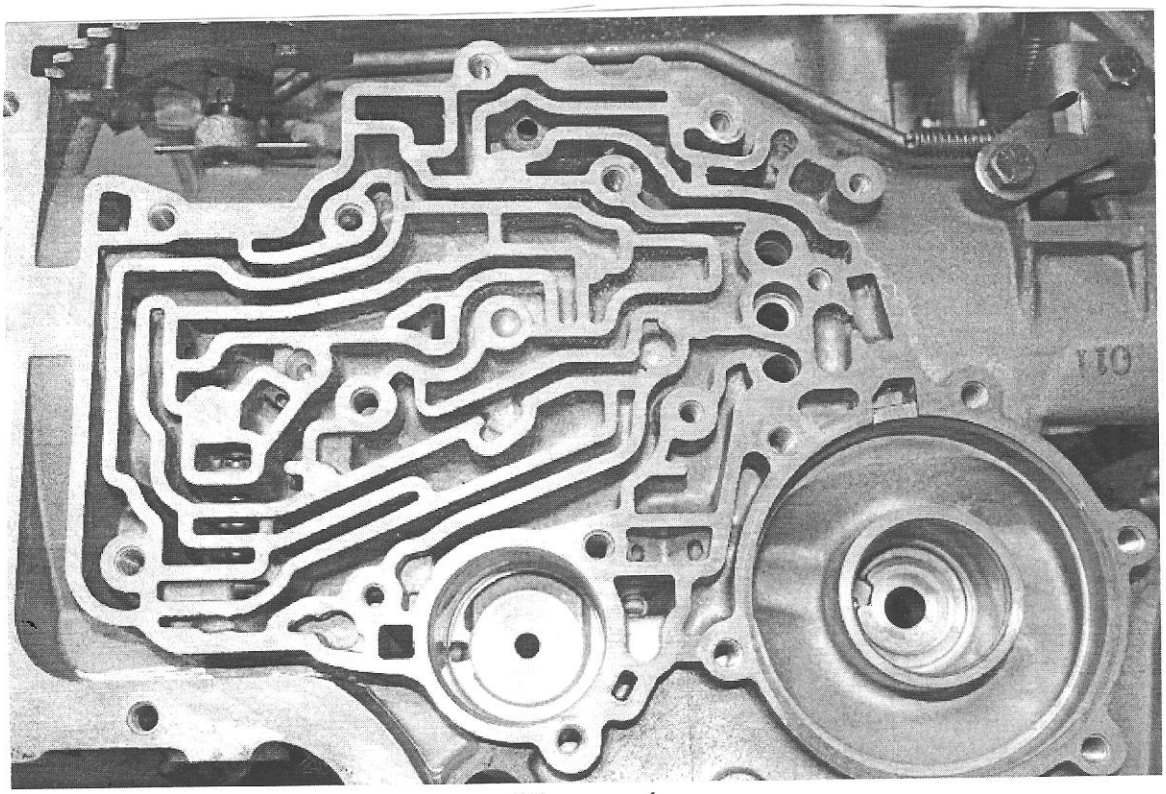


Figure 4
FILE CASE AREA FLAT!
NO UNEVEN SPOTS ALLOWED!

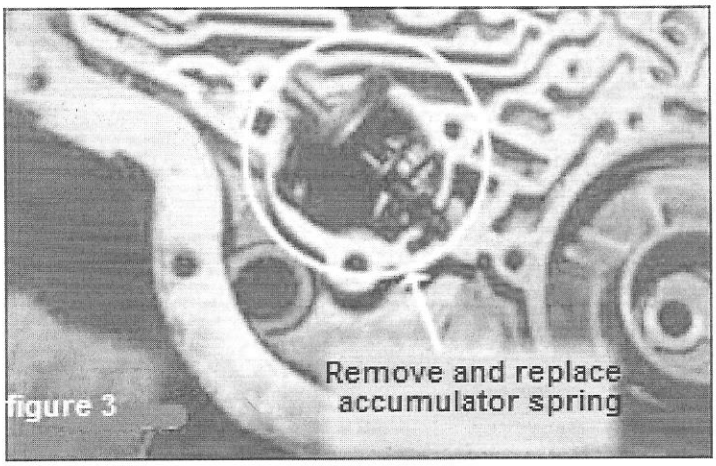


figure 3

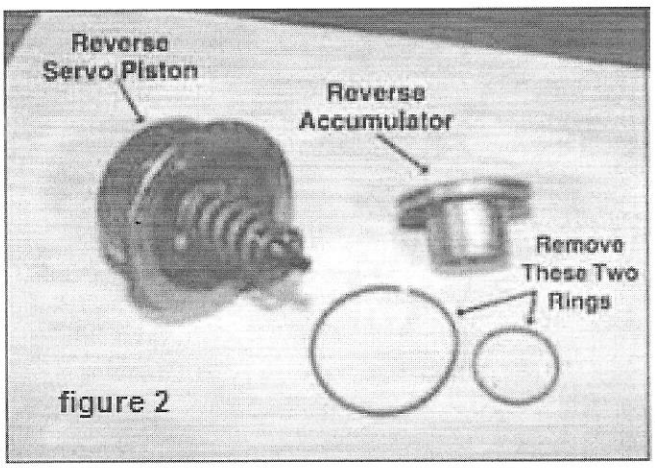
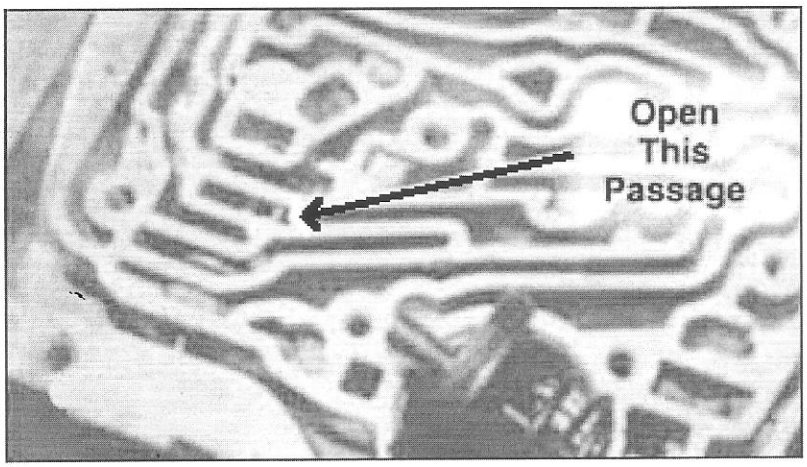


figure 2



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FILLING THE TRANSMISSION

WHAT YOU SHOULD KNOW ABOUT A.T.F.

When filling the transmission with A.T.F., keep in mind these little known facts listed below. I'm sure that you will find this section informative and helpful.

While checking the fluid level of the transmission, keep in mind that the level will change directly with the fluid temperature. If the fluid feels cool, about room temperature, the level should be between the two dimples below the "add" mark. Dimples are on only some models

If the fluid feels warm, the level should be close to the add mark.

If the fluid is hot, the level should be between the add and full marks. If fluid is added, recheck the fluid level after one to three minutes with the engine running.

Hydra-matic engineers note that automatic transmissions are frequently overfilled because the fluid level was checked when the fluid was cold and the dip stick indicated that fluid should be added.

As the fluid temperature increases, a level change of over 3/4" will occur as fluid temperature rises from 60 to 180 degrees. Refer to figure c.

TRANSMISSION FLUID TIPS

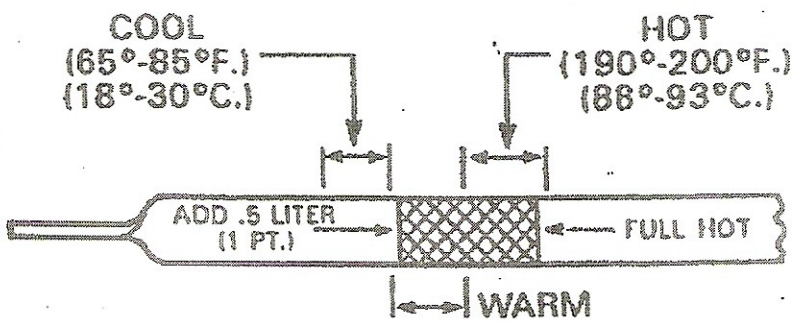
It really doesn't matter to me what type of fluid you put in the transmission (TYPE-F or DEXRON II) as long as it is a high quality brand. My personal preference in my race cars was KENDALL TYPE-F. It seemed to hold up the best for me. The basic difference is the DEXRON II has a little bit more of the lubricity additive. This will cause a little softer shift than TYPE-F.

COLOR

A few years ago, transmission fluid becoming dark indicated fluid failure. Hydra-matic engineers say this isn't true today. Dexron II turns dark early in its life; therefore, the color of the transmission fluid is not a good indicator anymore.

SMELL

Hydra-matic engineers say that smell isn't always the best indicator of the fluid anymore, either. After a few hundred miles, DEXRON II develops a definite odor. Engineers say the transmission fluid should not be replaced prematurely just on the basis of its smell. Although sight and smell alone should not be used to determine the condition of the fluid, do not overlook these symptoms when making a service determination.



NOTE: DO NOT OVERFILL. IT TAKES ONLY ONE PINT TO RAISE LEVEL FROM "ADD" TO "FULL" WITH A HOT TRANSMISSION

Figure C

WARRANTY

Transmission Specialties products carry a 90 day minimum guarantee against defects in material and workmanship. This warranty is implied on only products produced and manufactured in house by Transmission Specialties Inc. Transmission Specialties Inc. Will not warranty any defects due to improper installation or lack of proper maintainence. Transmission Specialties Reserves the right to determine weather or not a warranty should be granted. Transmission Specialties Inc. Will not warranty any failure of parts manufactured by the OEM Manufacturers.

HOURS:

9:00 to 5:00 Monday thru Friday

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Technical information

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