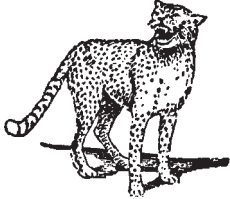


# TURBO ACTION

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## CHEETAH PRO BRAKE DRAG ONLY VALVE BODY (PRN123) (No Gear Braking in 1st or 2nd )

POSITIVELY NOT FOR STREET USE



Turbo Hydro "350" & "375B"  
1969-80 (Non-Lockup)

Part #23951

### SPECIAL NOTE:

This valve body can be installed without removing transmission, however for quickest reaction times and maximum longevity of transmission the internal changes should be performed at your earliest convenience.

FIRST, READ INSTRUCTIONS CAREFULLY, THEN PROCEED TO INSTALL VALVE BODY BY FOLLOWING EACH STEP INDIVIDUALLY.

<u>INCLUDES:</u>	1 - Valve Body	
	1 - 17258	5/16" ball Bearing
	1 - 23040	Special Plug
	1 - 23096P	2-3 Performance Plate
	1 - 23099C	Pan Gasket
	1 - 23100M	Spacer to Valve Body Gasket
	1 - 23101M	Spacer to Case Gasket
	1 - 23500-1	Special Valve Body Spacer Plate
	1 - 23520	Spring Modulator Valve
	1 - 24158	Modulator O-ring
	1 - 24280A	Tranz Brake Solenoid (Two Wire)
	2 - 00781A	Terminals
	2 - 00782A	Terminals
	1 - 23131	2 1/4" Freeze Plug

### Installation Instructions

STEP #1: Transmission should be cool before installing. Also, place gear shift selector in neutral. If vehicle is on the ground, secure so it will not roll.

STEP #2: Remove drain plug in pan and drain oil. Olds., Buick and Pontiac and some Chevy's do not have a drain plug, and therefore, must be drained by dropping pan on transmission. Recommend leaving a couple of bolts attached until most of the oil has drained.

STEP #3: Remove transmission oil filter by removing two screws. **Be careful not to lose gasket.**

STEP #4: Remove kickdown valve body wire by pulling pin out of kickdown lever in valve body. **NOTE:** These pieces can be discarded as they are no longer used. (Fig. #1).

STEP #5: Before removing valve body, note position of the gear shift linkage hooked to the valve body (Fig. #2). Remove 18 bolts from valve body. Carefully lower valve body and at the same time slide angled shift pin lever from gear shift selector.  
DO NOT drop valve body or manual valve with angled shift pin.

STEP #6: Holding spacer plate with your hand, remove spacer support plate bolts. Carefully lower plate as there are four small teflon balls sitting on plate. (Note: These balls can be discarded). Also, watch that the governor screen and oil pump screen do not fall out. These screens are located in case underneath the valve body spacer plate. See figures #3 & #4. Olds., Buick and Pontiac have two governor screens in rear of case, one in each passage. Chevy has only one governor screen.

STEP #7: Remove the governor screen or screens from transmission case and discard (Fig. #3). Hole Letter "A" in Fig. #3 must be drilled to 19/64" (Note some models this hole is already 5/16"). **DO NOT DRILL HOLE OVER 3/4" DEEP.**

STEP #8: Take Special Plug #23040 and very carefully with a broad, blunt, pointed punch tap into hole Letter "A". If you tap too hard, the punch will go straight through the bottom of the plug, therefore, be extremely careful.

STEP #9: Remove the front servo from the case, Fig. #4 & #5.

***Proceed with STEP #10 - #16, only if transmission is removed from car.***

STEP #10: Disassemble transmission.

STEP #11: Disassemble direct drum to drill bleed hole.

STEP #12: Drill 1/16" hole at 45 degree angle in drum as shown in Fig. #6.

STEP #13: Reassemble drum with new lip seals. Discard center seal, set clutch clearances .055 to .060 (4 clutches), .060 to .070 (5 clutches). Install new clutches if necessary.

STEP #14: Install new clutches in low-reverse clutch pack. You should have 5 clutches in

this pack.

STEP #15: Flat file case at valve body area--no low spots allowed.

STEP #16: Reassemble transmission retaining intermediate wave steel. Remove the intermediate band.

STEP #17: Grind modulator valve and remove plug from end of valve, Fig. #7.

STEP #18: Install modulator spring on to modulator valve and then place into transmission Fig. #8.

STEP #19: Install solenoid with O-ring into case. NOTE: Be sure that solenoid plunger bottoms before spring on modulator valve coil binds.

STEP #20: Check modulator valve position as follows: Solenoid pushed in : Lands 1 & 2 connected. Solenoid off : Lands 2 & 3 connected Fig. #9.

STEP #21: Using vasoline, place oil pump screen into place (Fig. #4).

STEP #22: Install 21/4" freeze plug into the servo hole in the case Fig. #3.

STEP #23: Check gaskets to be sure all holes in plate are open through the gaskets. Apply vasoline to separator plate both sides. Install valve body gaskets against plate. NOTE: Fig. #10, this gasket goes between valve body and separator plate. Now place 2-3 Performance Plate and Spacer Plate along with gaskets and separator plate into case Fig. #11. Tighten bolts finger tight. CAUTION: Be sure that spacer support plate has no rough edges. If it does, file smooth.

STEP #24: Install valve body. Be sure 5/16" ball is in place in valve body, Fig. #12. Be sure to install manual valve from old valve body.

STEP #25: Lift valve body into place, be sure to not damage gasket. Line up gear shift selector pin as valve body is lifted into place. Start all bolts, then tighten from center out on the valve body and the spacer plate (8 - 10 ft/lbs.).

STEP #26: Replace transmission oil filter with a Turbo Action #23008 filter, place back into transmission making sure that the holes in the filter line up with the valve body holes. **DON'T FORGET PAPER GASKET BETWEEN FILTER AND VALVE BODY.** Filter installed properly will have the word "Front" stamped on it (towards motor).

STEP #27: OPTIONAL: You can remove the governor cover on the driver's side, remove the governor and reinstall cover.

STEP #28: Install a Turbo Action pan gasket, #23099C and bolt up the oil pan.

CAUTION: Before testing on jackstands or on the ground! DO NOT bring engine over 3000 RPM against Tranz Brake. If on the ground and conditions permit safely, you may proceed to check at high RPM.

**CAUTION - CAUTION:**

**DO NOT NEUTRAL this transmission in the traps as it may cause severe damage to your transmission, car or yourself.**

STEP #29: Solenoid wiring: Wiring to solenoid should be 12 to 14 gage 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 is 8-10 AMPS.

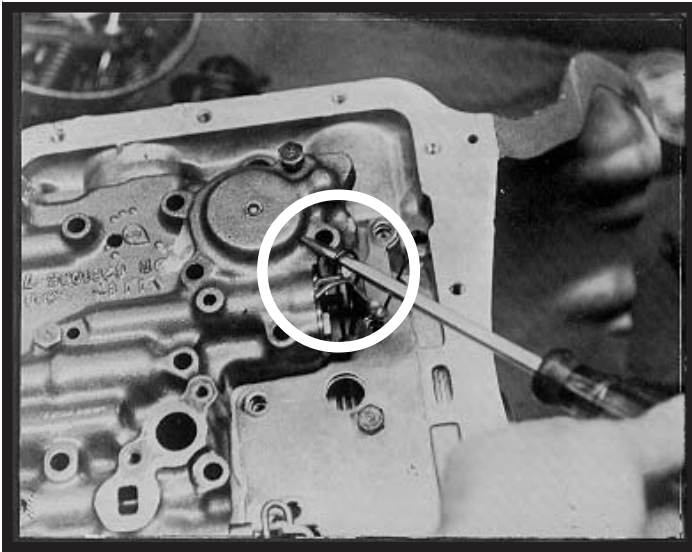
STEP #30: NOTE: If solenoid is two wire type, one wire to ground and one to 12 volts DC. If solenoid is one wire type, connect it to 12 volt DC source.

STEP #31: This transmission requires engaging Tranz Brake button while shifter is in reverse to back up. CAUTION: Transmission being engaged in neutral will also engage reverse, but only in a weak manner.

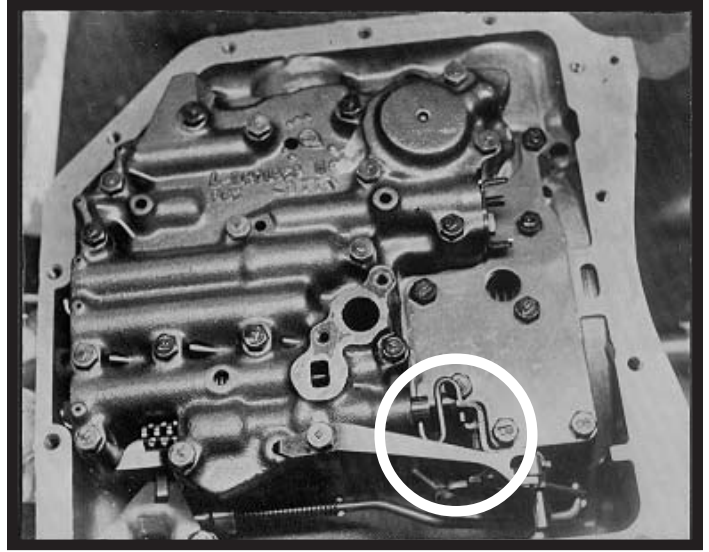
STEP #32: Refill transmission with a good brand of Dexron or Type "F" transmission fluid. Warm transmission up and place in all gears. Then check to make sure transmission level is on the add mark. The shift pattern for #23951 is PRN123 and is manually operated only and has no engine (gear) braking in low (first) or second gear. Take vehicle out and drive, then recheck oil level. Add if necessary, BUT NEVER OVER THE FULL MARK.

STEP #33: These options can be made if transmission is being overhauled and using this valve body:

1. Remove the center seal located in the direct clutch drum.
2. Drill 1/16" hole in direct drum.
3. Remove governor assembly.
4. Remove vacuum line and plug manifold.
5. Remove kickdown cable, but plug hole in case.



**FIGURE #1**  
**KICKDOWN ASSEMBLY**

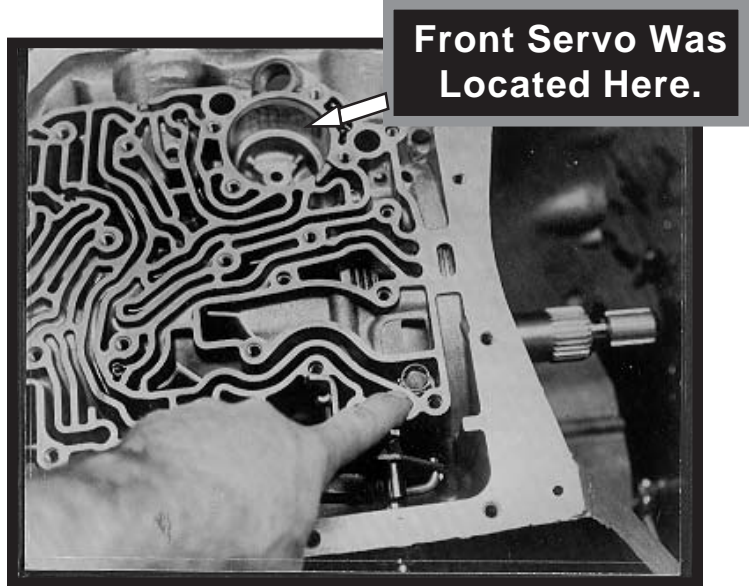


**FIGURE #2**  
**GEAR SHIFT LINKAGE**

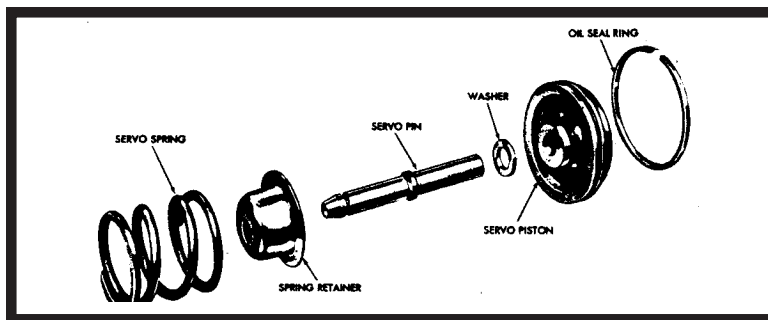


**FIGURE #3**  
**GOVERNOR SCREEN LOCATIONS**

A - Chevy Only  
A & B - Buick, Olds., Pontiac

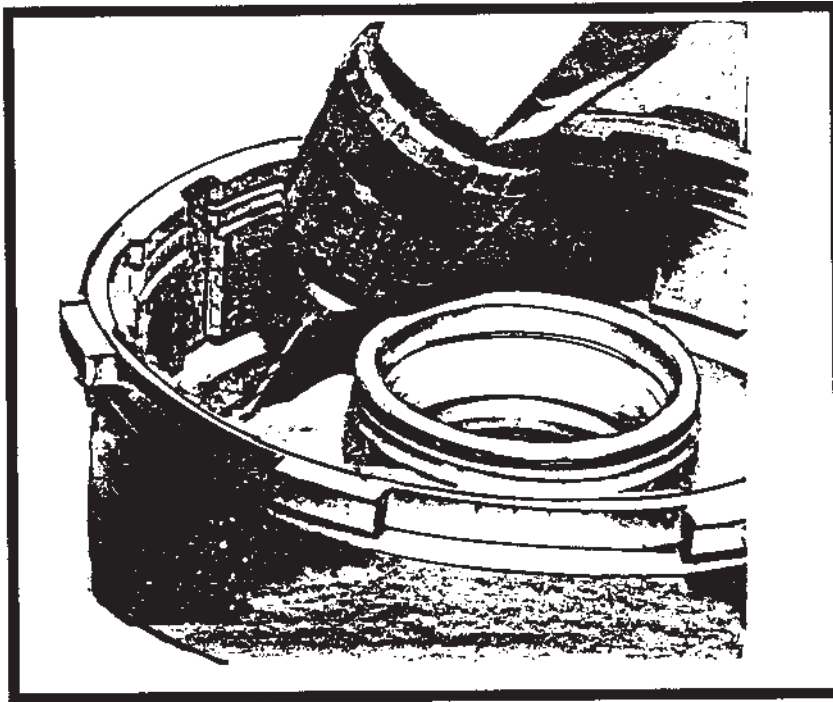


**FIGURE #4**  
**OIL PUMP SCREEN**



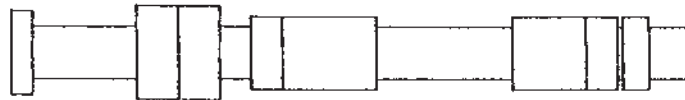
**FIGURE #5**  
**Remove the front servo from the case.**



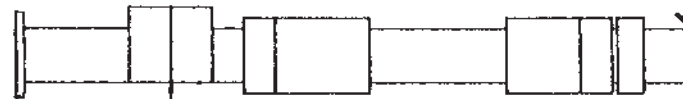


**FIGURE #6**  
Drill at 45° Angle.

## TH350 MODULATOR VALVE NORMAL



## MODIFIED



Remove Plug from  
inside valve.

LAND  
CTR. DIA.

CUT VIEW

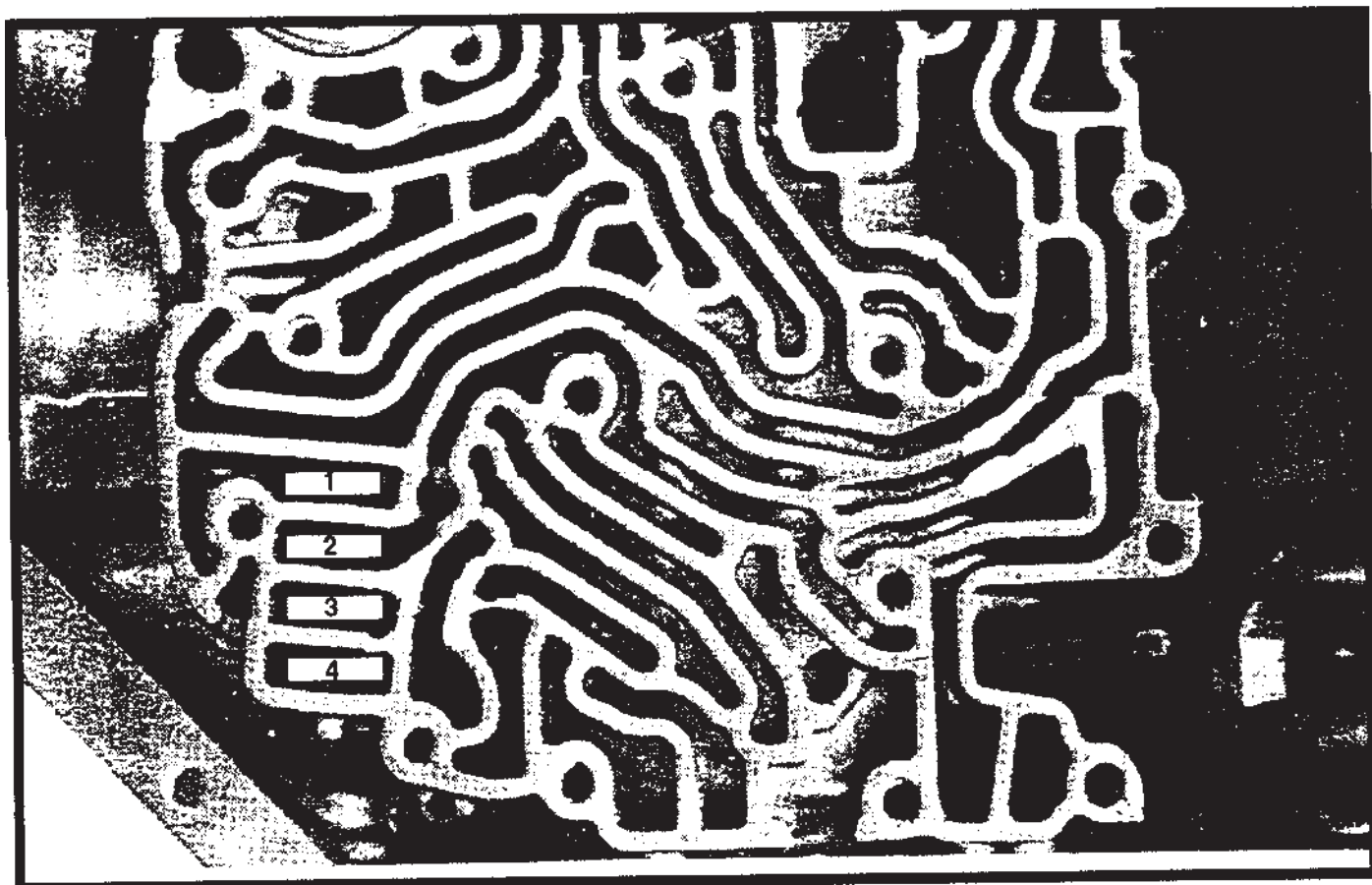
Grind this land to  
achieve proper  
solenoid throw--then  
check valve phasing.  
Solenoid plunger  
must bottom against  
solenoid body.

GRIND OFF THIS LAND  
FLUSH WITH BOTTOM OF CTR. DIA.

**FIGURE #7**

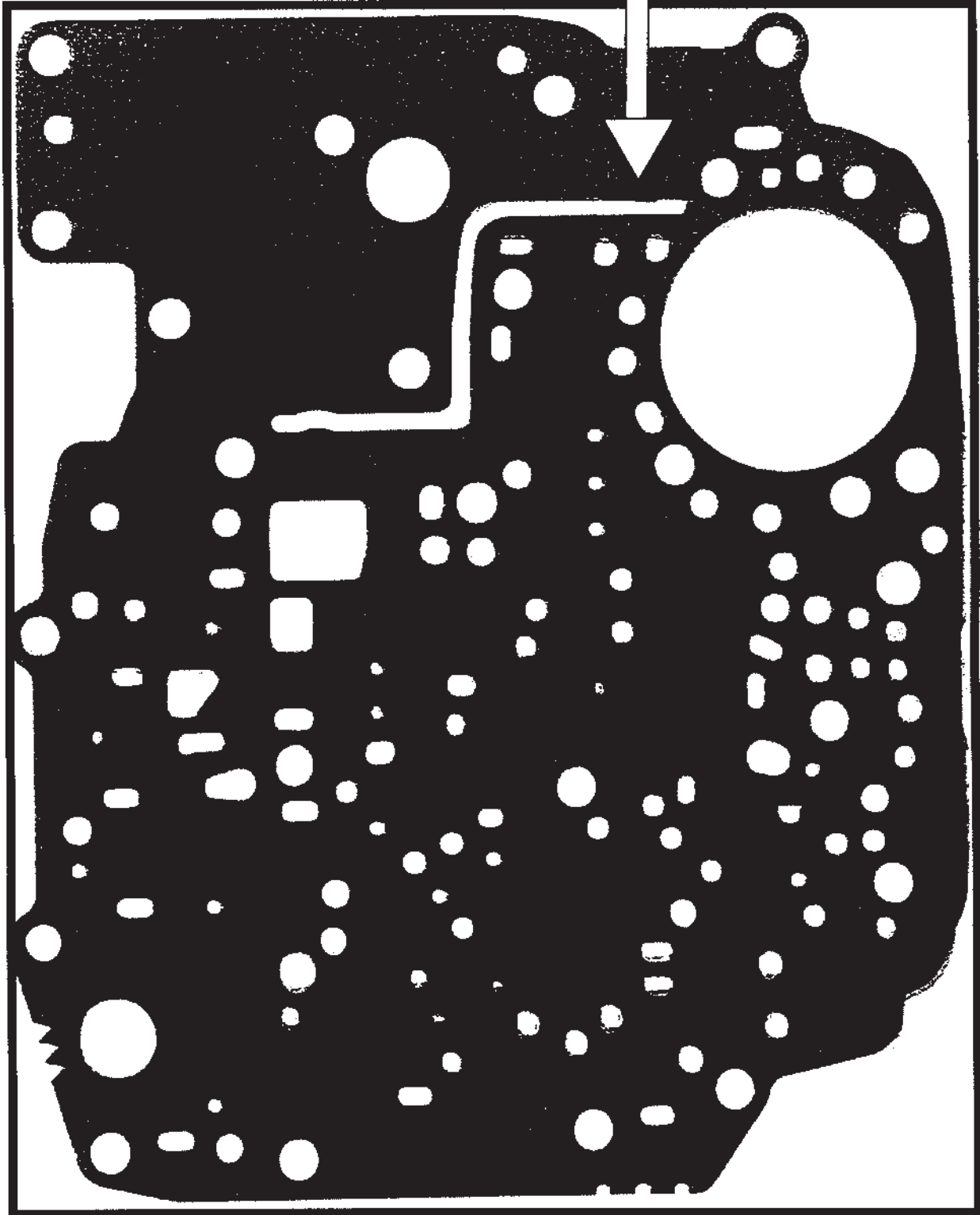


**FIGURE #8**  
Ground Modulator Valve with  
Modulator Spring in Place.



**FIGURE #9**  
Modulator Valve Position

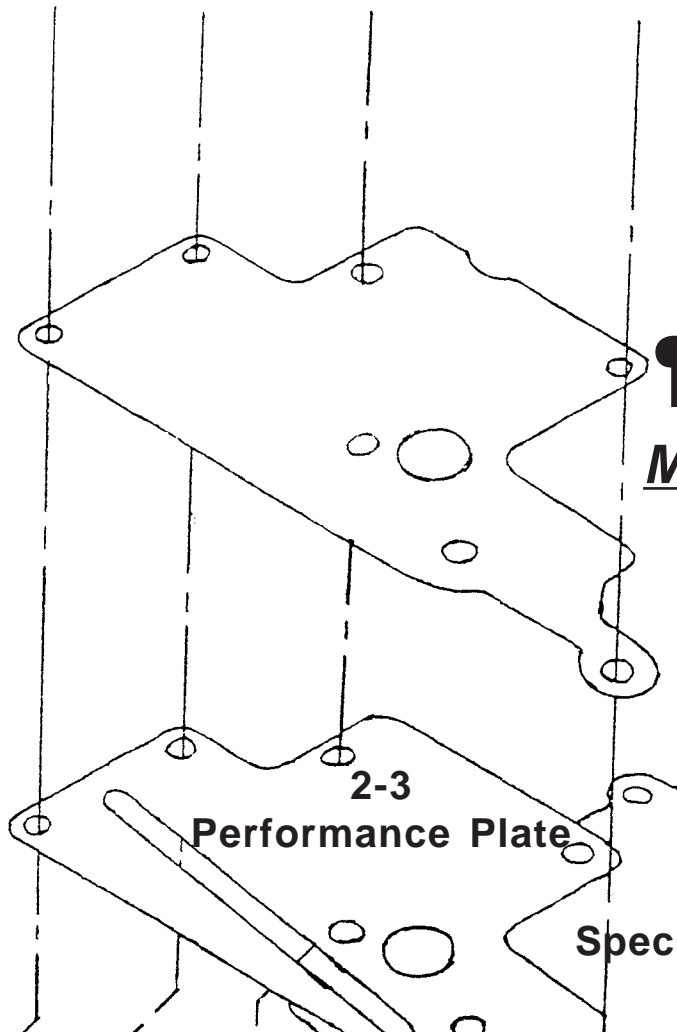
Note This Area



**FIGURE #10**  
**Valve Body to Separator Plate Gasket**



**CAUTION:** If Spacer Support Plate is not put back per drawing below, you will have a no reverse/no high gear condition, which means you didn't put Spacer Support Plate back.

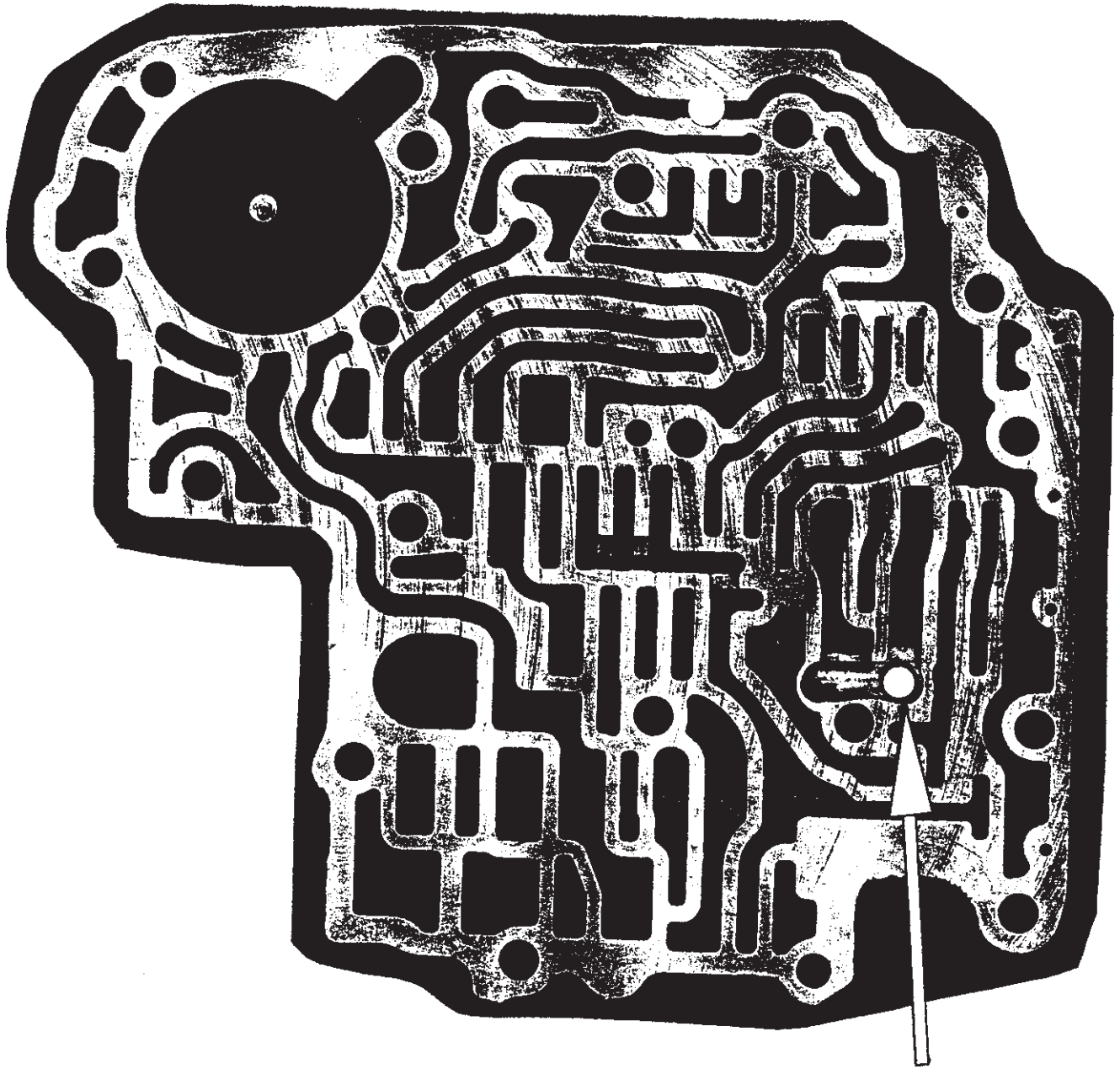


**Spacer Support Plate  
MUST BE REINSTALLED**

Gasket shown in Fig. #10 goes here, on top of separator plate.

**FIGURE #11**

# Valve Body



5/16" Ball Check

**FIGURE #12**