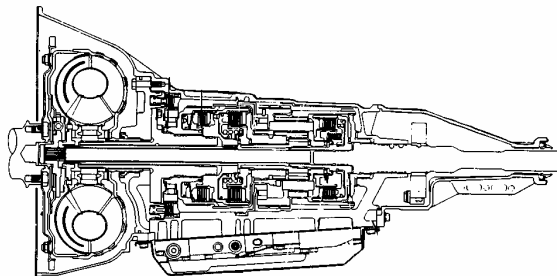




**21000** Ver.1.00

# FORD A.O.D. HI-TECH VALVE BODY KIT 1982-1993



## INTRODUCTION

Installation of this Hi-Tech Valve Body Kit can be accomplished in just a few hours by carefully following these instructions. Read these instructions thoroughly first to familiarize yourself with the parts and with the procedure. Then you must make the decision if you can do the job yourself, or have a reputable transmission shop install it for you. We do not assume any damage or harm to you or the vehicle.

Installation of this Hi-Tech Valve Body Kit is not intended to rejuvenate an ailing transmission. If your transmission is slipping or in poor general shape the installation of this kit may worsen the condition. If your transmission is in good condition you will be rewarded with a positive shift.

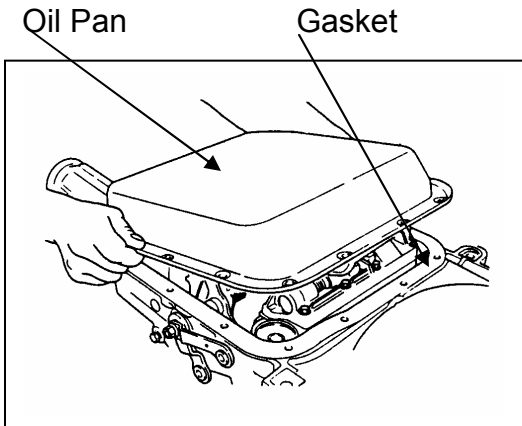
**CAUTION:** Normal operating temperatures for automatic transmissions range from 150° to 250° F.

Before beginning work on the transmission, we suggest that the vehicle be allowed to cool for at least two hours to avoid any possible injury due to the hot fluid. After the vehicle has cooled down, raise the vehicle off the ground 1 to 3 feet. This will give you plenty of room to work freely. **MAKE SURE THE VEHICLE IS FIRMLY SUPPORTED WITH JACK STANDS, OR WHEEL RAMPS.** You will need a drain pan to catch the oil, and a minimum of 6 quarts of new oil to put back in. We recommend using Dextron III/Mercon fluid. Always recycle your used oil.



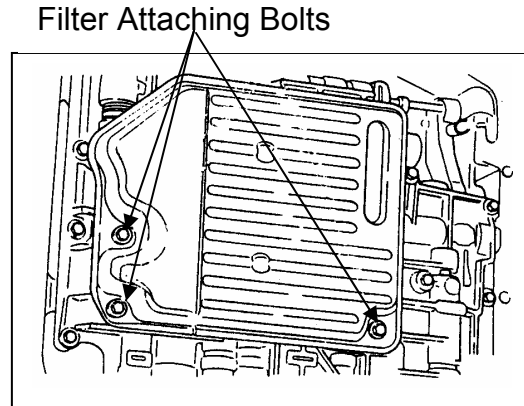
**STEP #1**

Remove the 14 oil pan attaching bolts, the oil pan and the pan gasket. Discard the gasket.



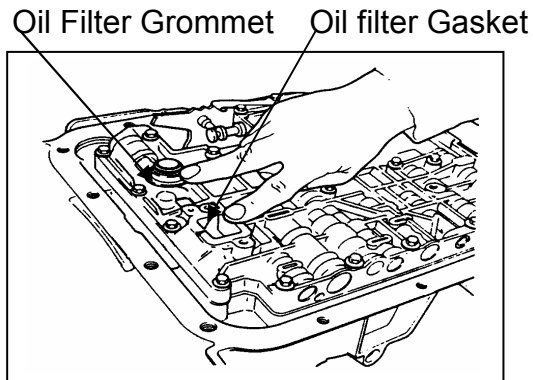
**STEP #2**

Remove the three oil filter attaching bolts



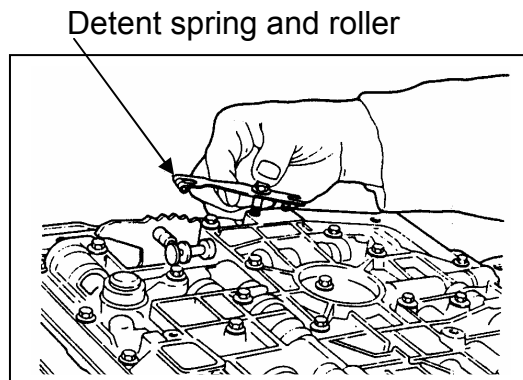
**Step # 3**

Remove the filter, grommet, and filter gasket.



**Step #4**

Remove the manual lever detent spring and roller assembly.

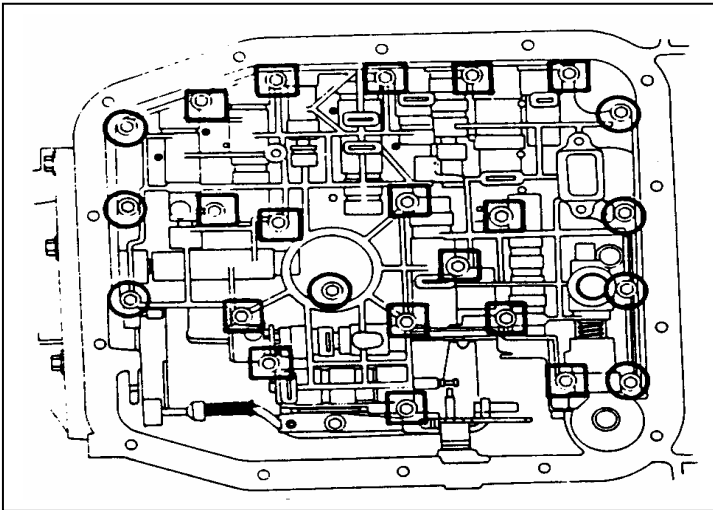


### STEP #5

Remove the remaining 24 valve body-to-case attaching bolts, the valve body assembly and the valve body gasket.

NOTE: The four front, one center and the three rear attaching bolts are shorter than the others.

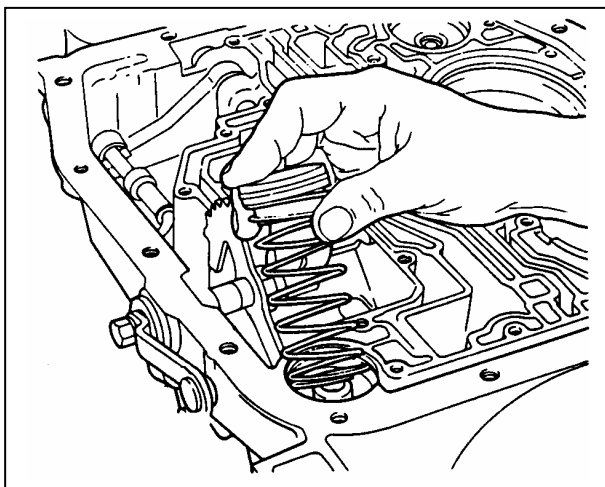
- ▣ Indicated a longer bolt
- Indicates a shorter bolt



### STEP #6

#### 3-4 ACCUMULATOR

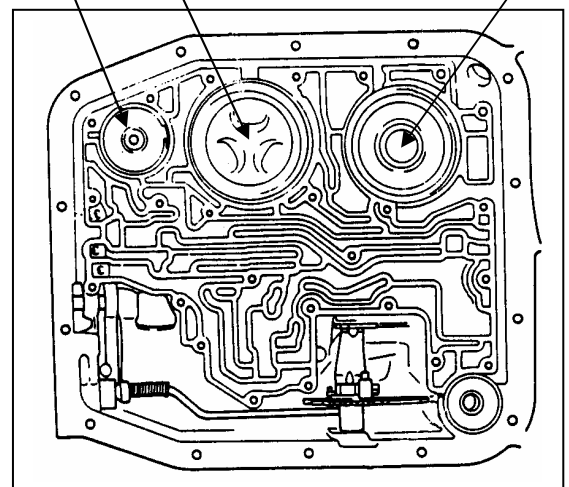
Remove 3-4 accumulator piston from case.  
Remove 3-4 accumulator piston spring and replace with supplied large raw colored spring.



NOTE: This accumulator is not used on all models. If your transmission does not have one, move on to Step #7.

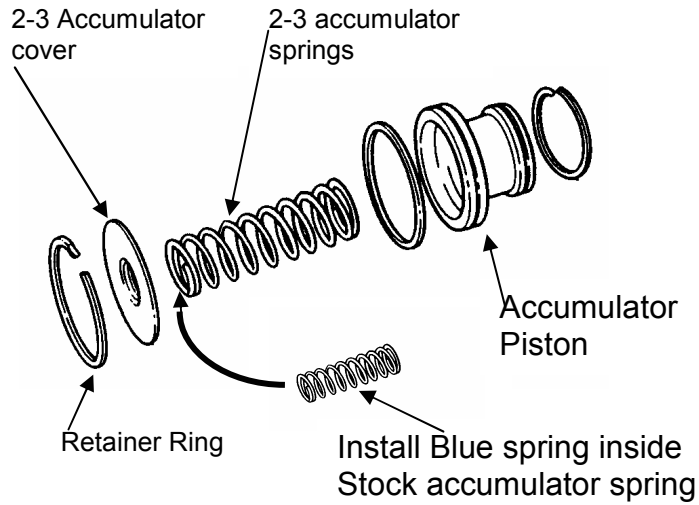
This illustration shows the position of the 3-4 accumulator, the overdrive servo, the low reverse servo, and the 2-3 accumulator

2-3 Accumulator      Overdrive Servo  
Low -Reverse Servo



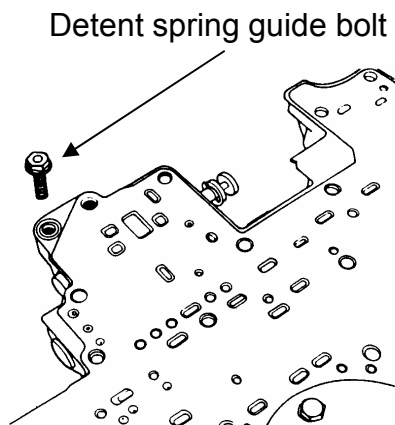
**STEP #7**  
**2-3 ACCUMULATOR**

Install the new four seal accumulator piston. Install blue spring inside of 2-3 spring.



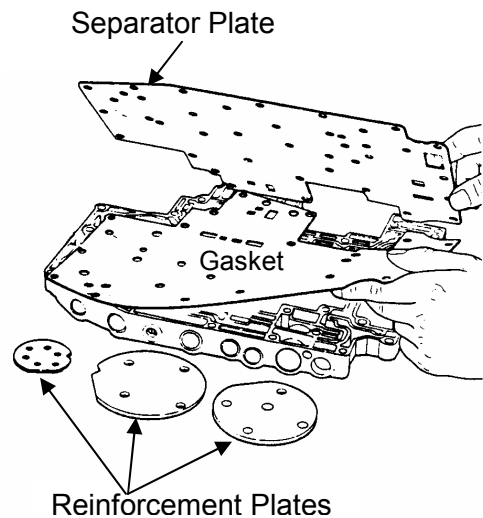
**STEP #8**  
**VALVE BODY DISASSEMBLY**

Remove and discard valve body gasket. Loosen and remove 11 bolts from reinforcement plates and detent spring guide bolt from separator plate using 10mm socket.



**STEP #9**

Remove separator plate, reinforcement plates and separator plate gasket. Discard gasket.



**STEP #10**

Remove the two relief valve and seven check balls from the valve body.

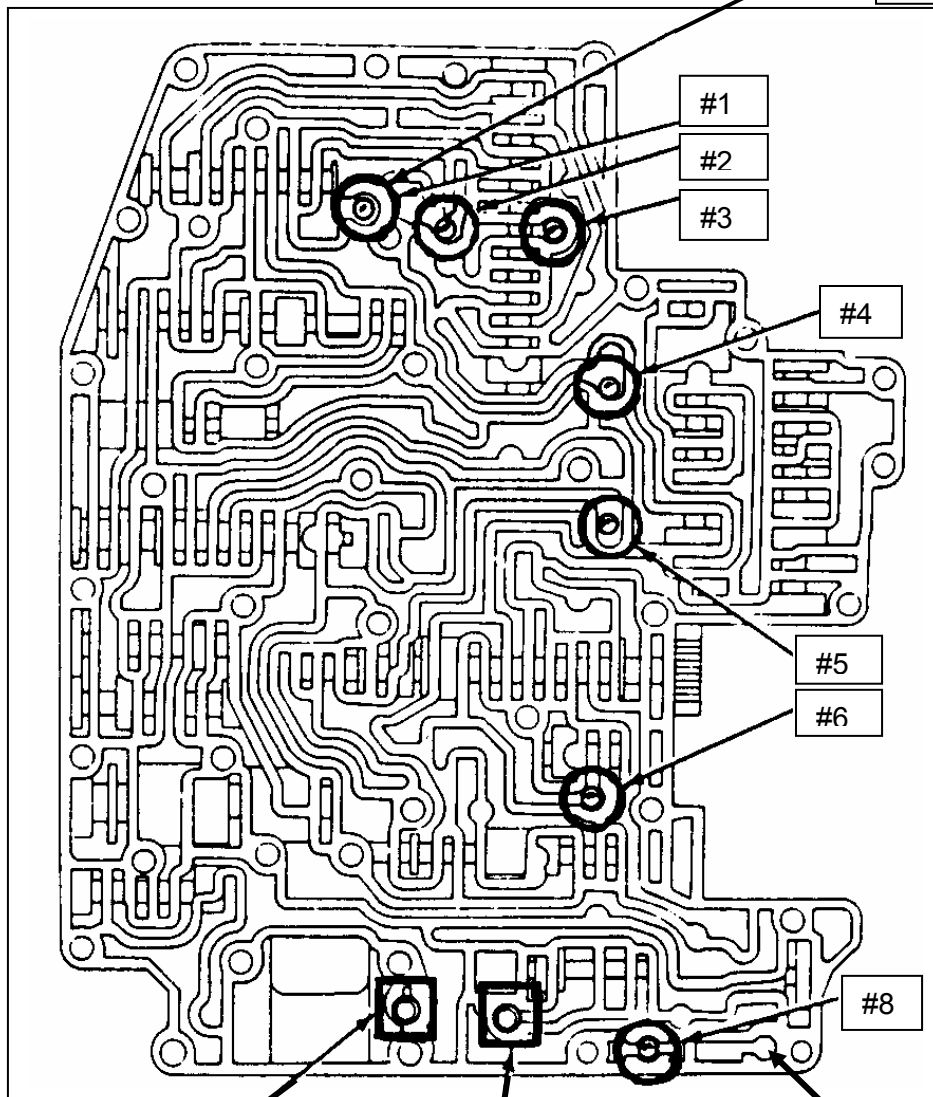
**Note the location of the orange ball.**  
**It is not interchangeable with the six black balls.**

**NOTE: The check balls are numbered one through eight. Check ball number seven was eliminated in a previous year. There are a total of seven check balls.**

□ Indicates Relief Valve

○ Indicates Check Balls

Orange Check Ball

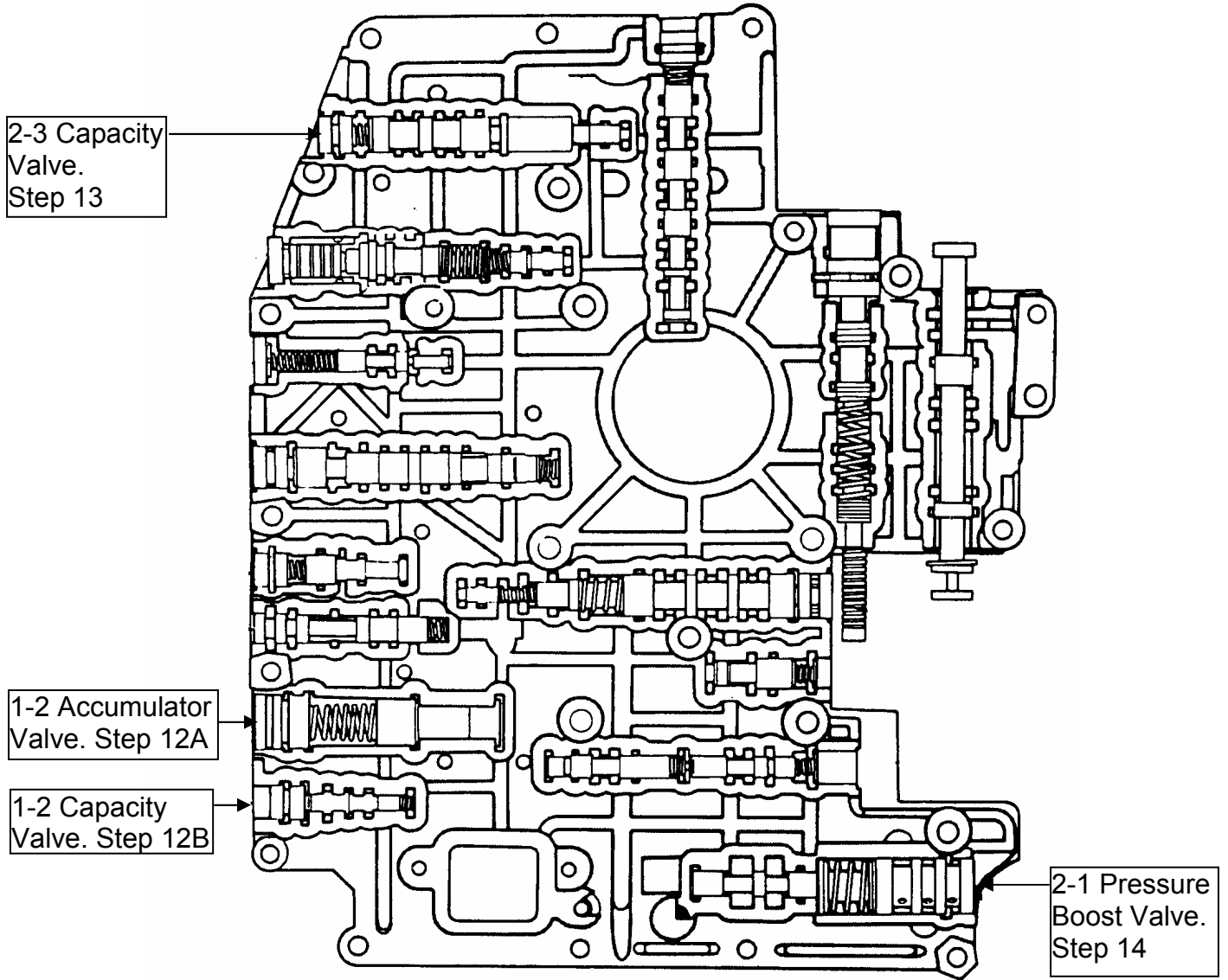


TV Pressure Relief Valve

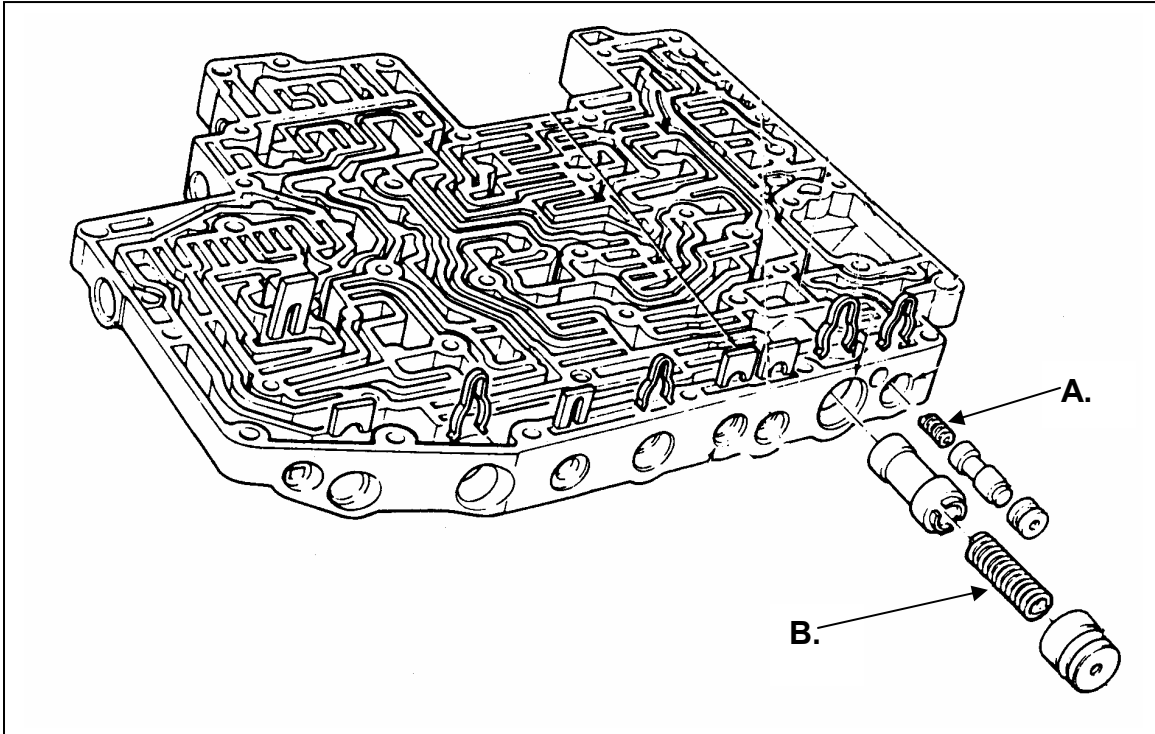
Converter Pressure Relief Valve

#7 No Ball Here

**Step #11**



## Step #12



- A.** 1-2 Capacity valve spring.  
Replace with white spring.

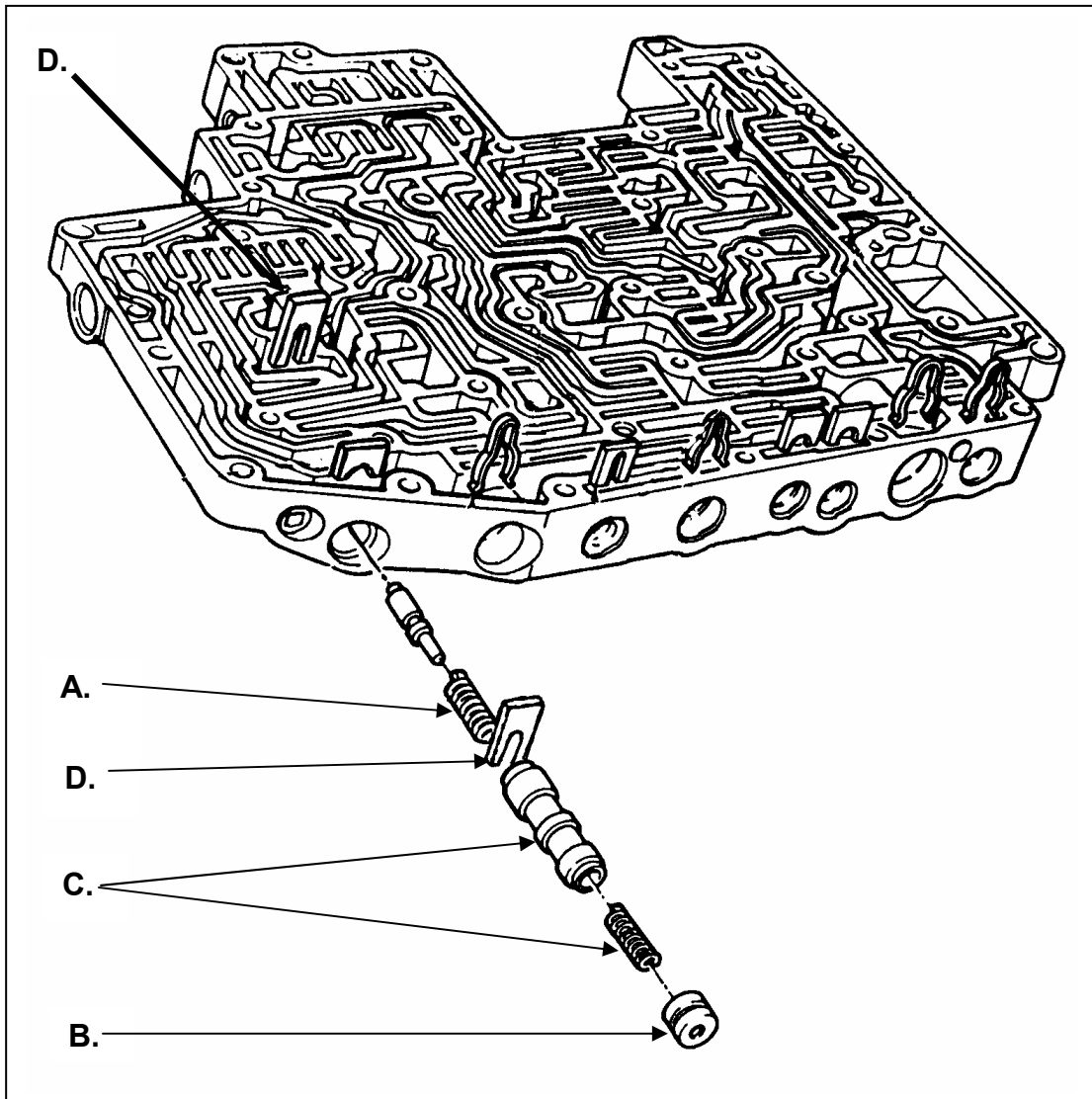
If a firmer 1-2 shift is desired,  
install blue spring in place of  
white spring.

- B.** 1-2 Accumulator valve spring.  
Install tight orange spring here.

**NOTE:** For larger vehicles; i.e., T-birds, full-size trucks and Broncos.

- A.** Install 1-2 capacity blue spring in place of white spring.  
**B.** Install 1-2 accumulator purple spring in place of tight orange spring.

Step #13



Pull plug (**B**) Remove 3-2 orifice Control spring and valve (**C**).

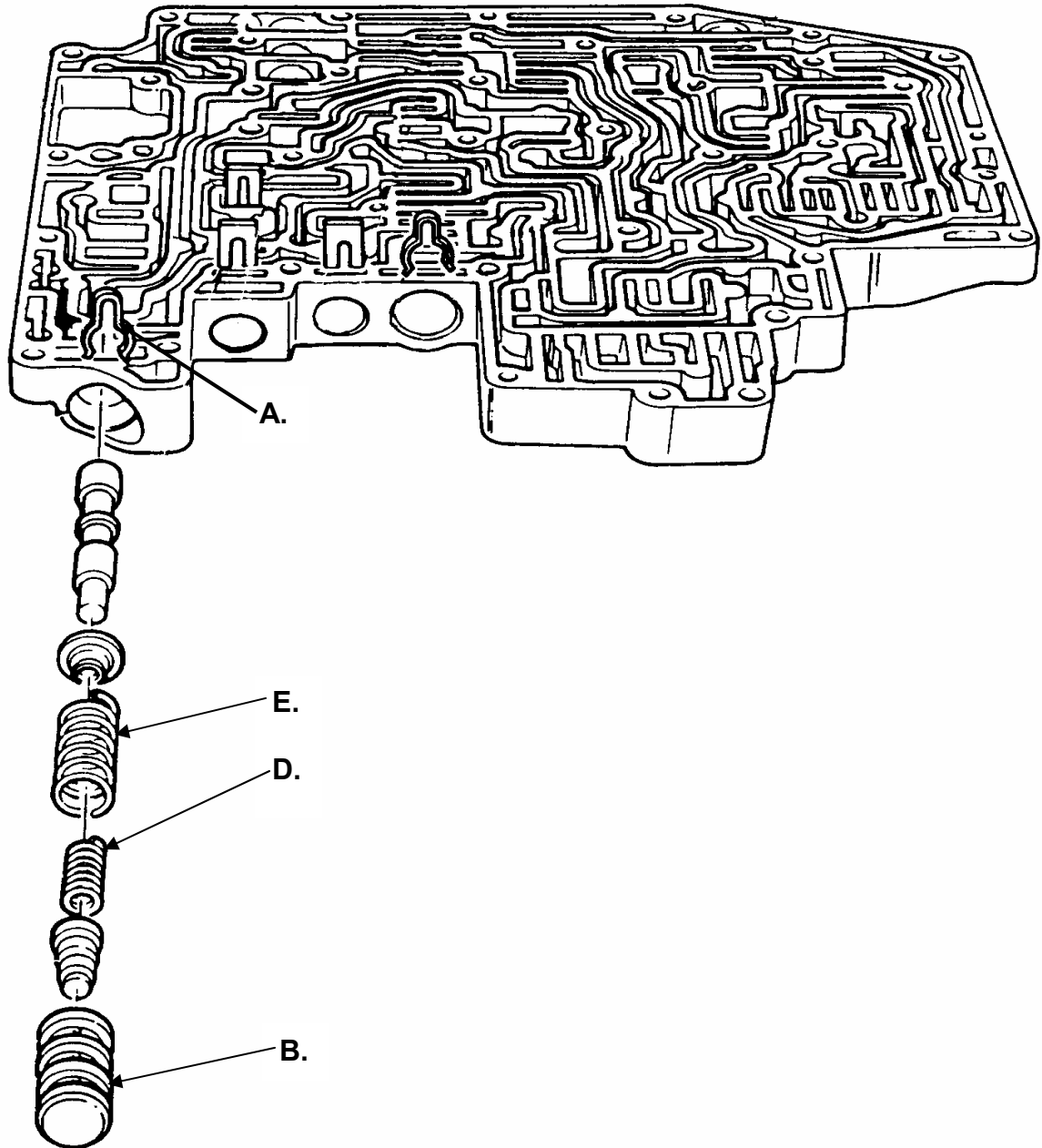
Remove spring retainer plate (**D**).

Install red spring in 2-3 capacity location (**A**).

Reinstall spring retainer plate (**D**).

Reinstall valve and factory spring (**C**). Replace plug

## Step # 14

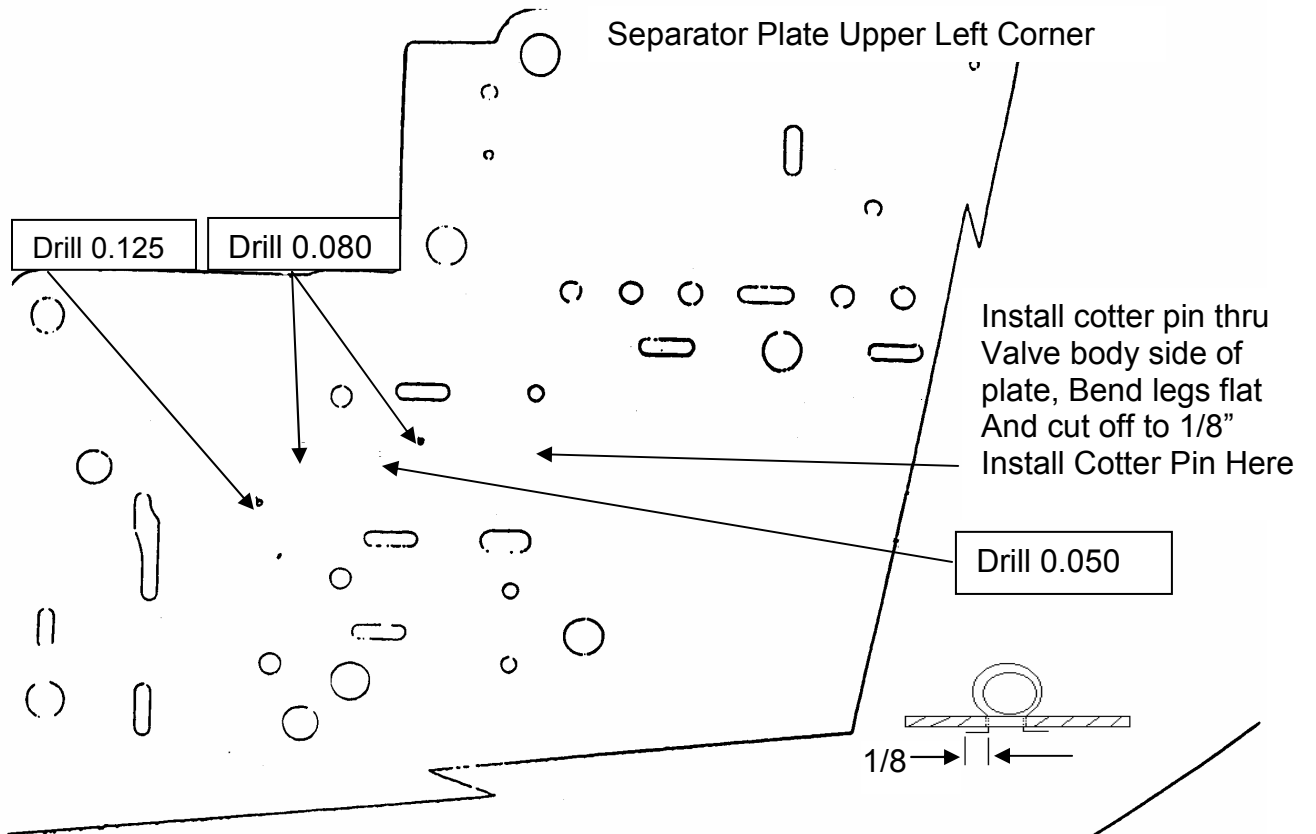


Remove plug (**B**) by pulling out clip (**A**)

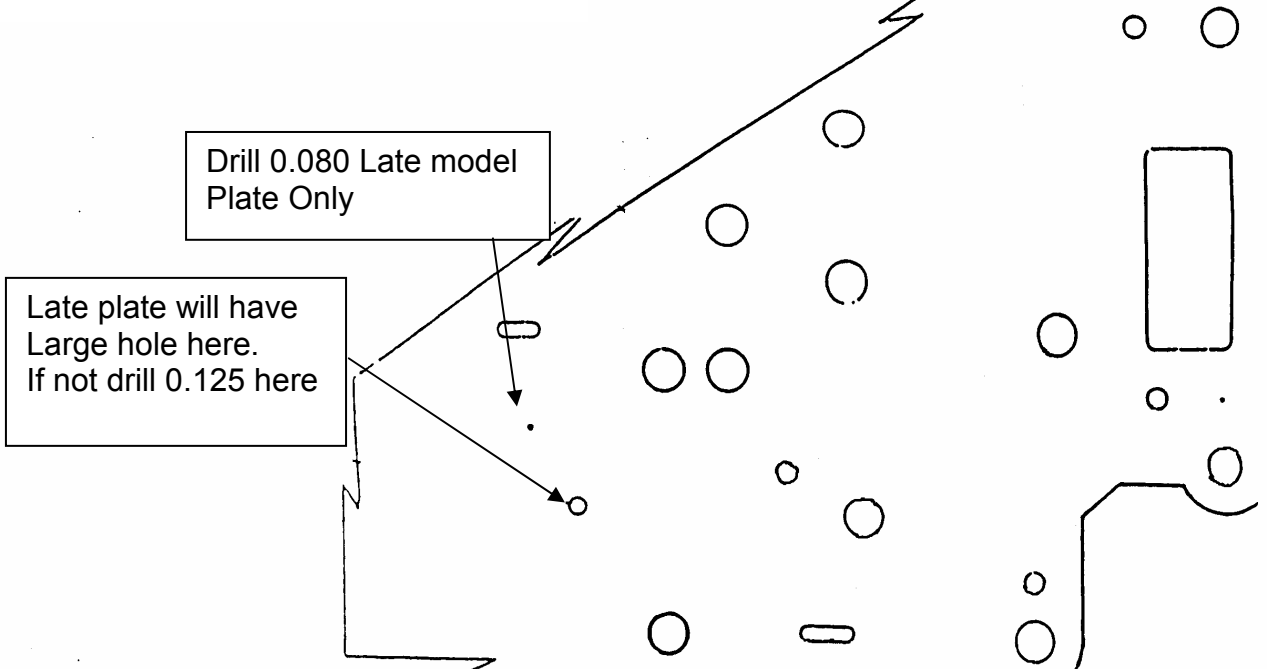
For firm shifts leave stock spring (**D**) in place.  
For hard shifts, replace spring (**D**) with smaller black spring.

Replace spring (**E**) with green spring.

You are done with the valve body, put aside and go to separator plate. Step #15.



Some plates will have this hole here  
If so install cotter pin here.



**Note:** 1989 Separator plates are different.  
Match up gaskets to make sure there are no holes covered up.

Bottom Right Corner

**STEP #16**

Install the two relief valve and seven check balls from the valve body.

**Note the location of the orange ball.**

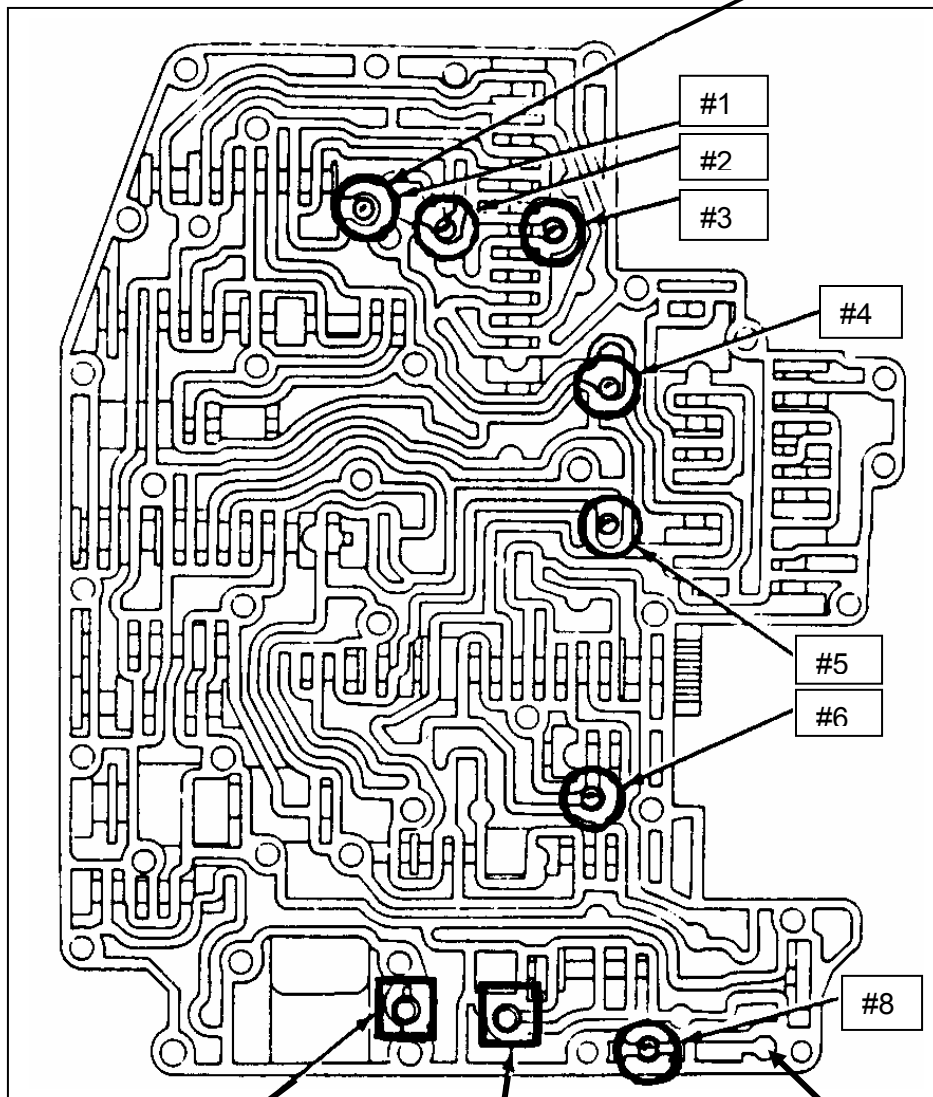
**It is not interchangeable with the six black balls.**

**NOTE: The check balls are numbered one through eight. Check ball number seven was eliminated in a previous year. There are a total of seven check balls.**

□ Indicates Relief Valve

○ Indicates Check Balls

Orange Check Ball



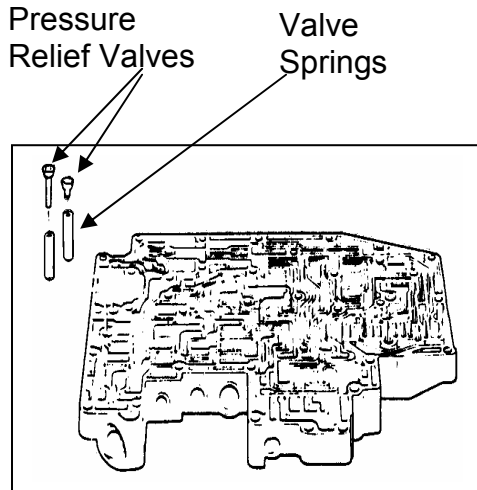
TV Pressure Relief Valve

Converter Pressure Relief Valve

#7 No Ball Here

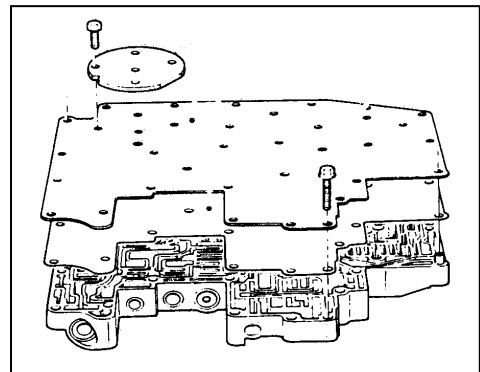
### Step #17

Install Pressure Relief Valves  
In the positions indicated by the  
squares on page 10.



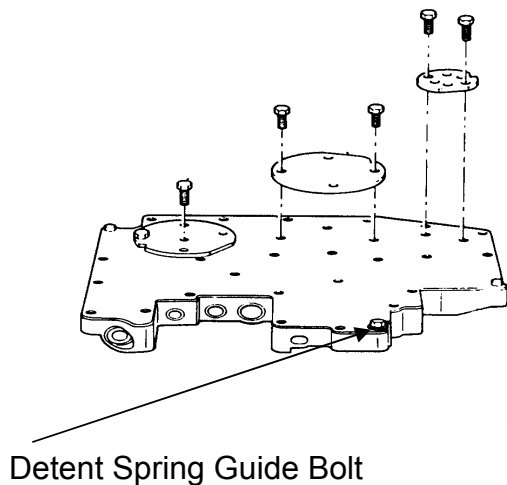
### STEP #18

Using a new separator plate gasket, position the three reinforcement plates and loosely install the 11 bolts. Loosely install the detent spring guide bolt. (This is the same as the short valve body assembly to case attaching bolts).



### STEP #19

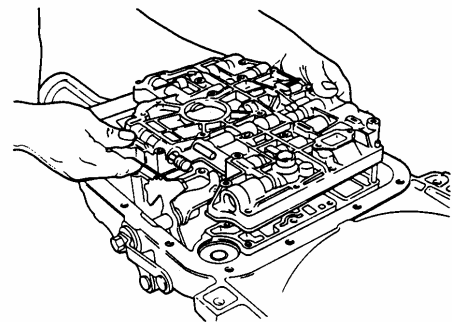
Starting at the center (large) reinforcement plate and working outward, tighten the 11 attaching bolts to 9-10 N.m. (80-100 lb-in). Tighten the detent spring guide bolt to 9-11 N.m. (80-100 lb-in).



### STEP #20

Install the valve body gasket and the valve body to the transmission.

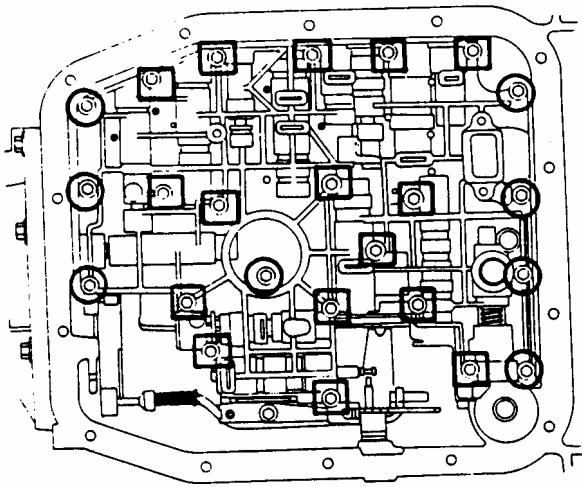
**NOTE:** Make sure the manual and throttle levers are properly positioned before installing the valve body attaching bolts



### STEP #21

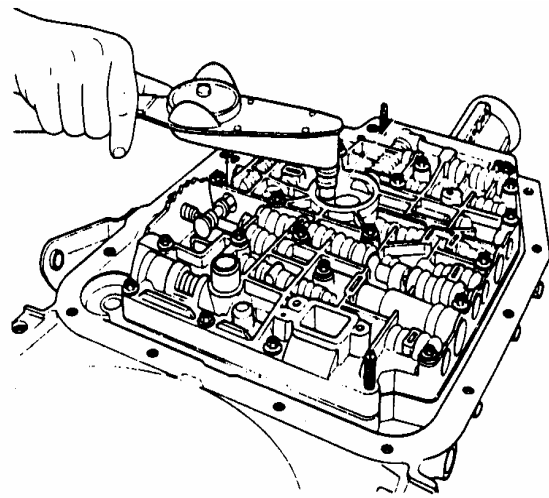
**NOTE:** Two different length bolts are used. The shorter bolts are used at the four front, one center and three rear locations. Refer to the illustration.

- Indicates a Longer Bolt
- Indicates a Shorter Bolt



### Step #22

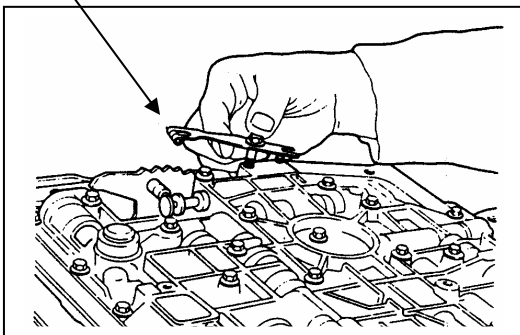
Loosely install 22 valve body attaching bolts using an 8mm socket. Starting at the center and working outward tighten the bolts to 9-11 N.m. (80-100 lb-in.).



### Step #23

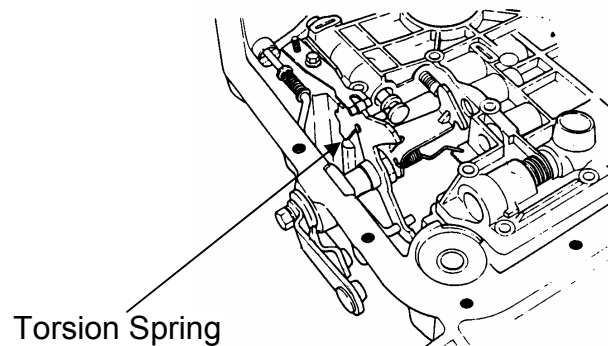
Install shorter bolts. Install the detent spring roller (long bolt)  
Torque bolts to 9-11 N.m.  
(80-100 lb.-in)

Detent spring and roller



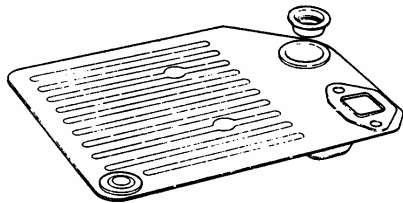
### STEP #24

Position the TV lever torsion spring against the separator plate V-notch. This spring pushes the throttle lever in the direction of wide-open throttle.



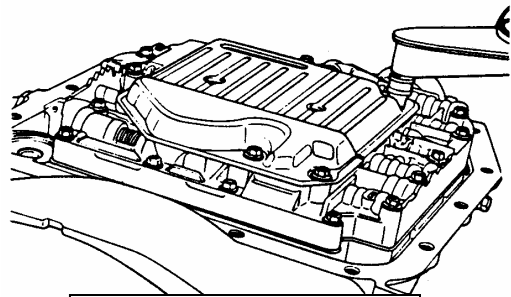
**STEP #25**

Install the filter gasket and grommet.

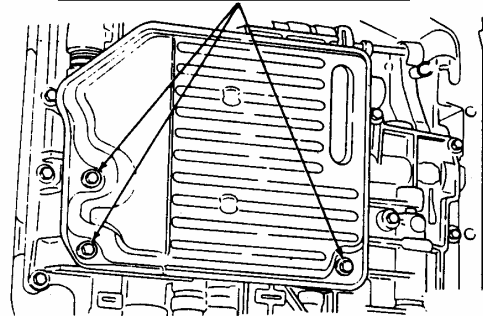


**STEP #26**

Install the filter attaching bolts. Tighten the attaching bolts to 9-11 N.m. (80-100 lb-in.)

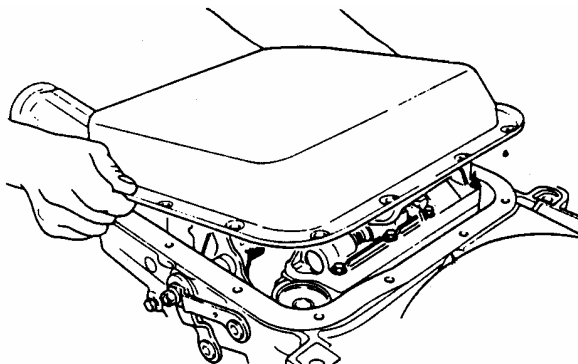


Filter Attaching Bolts



**Step # 27**

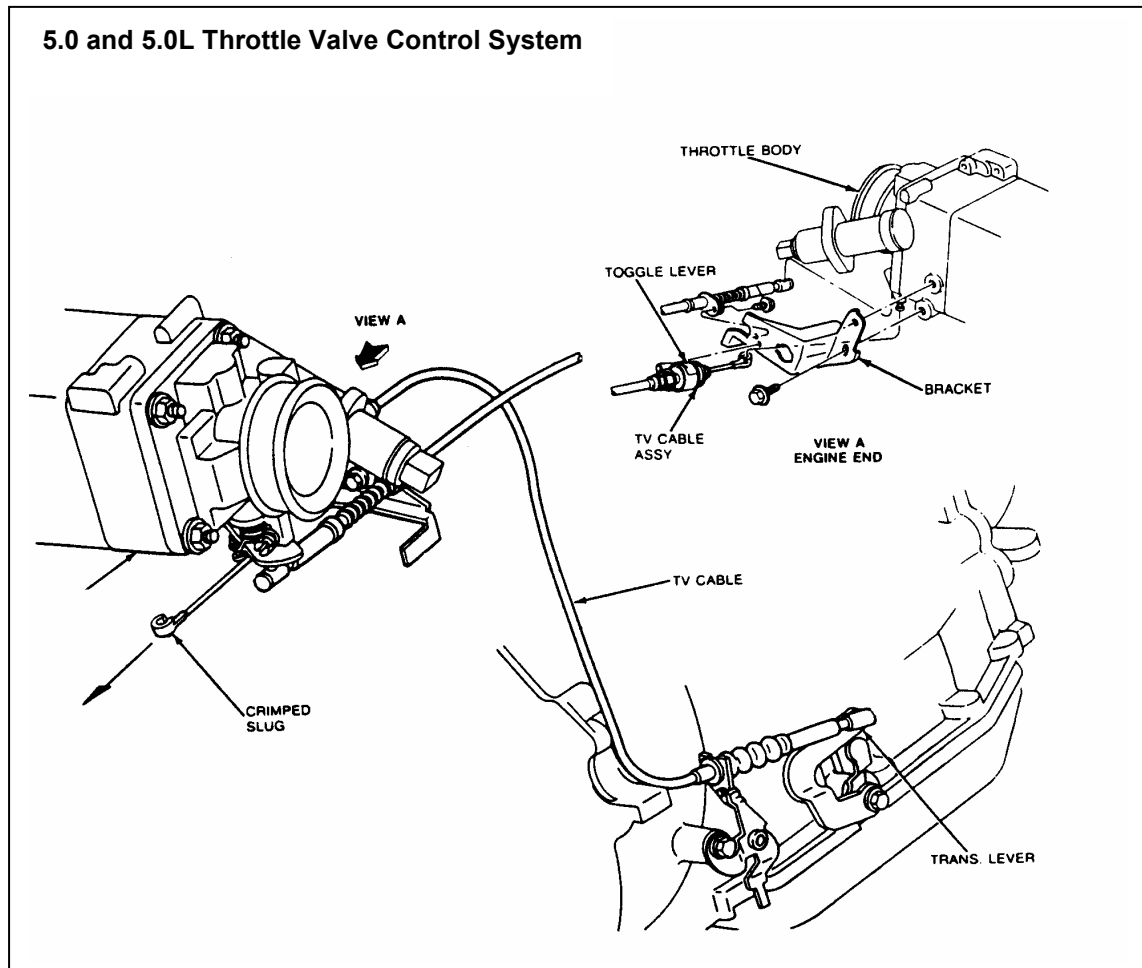
Position a new pan gasket and install the oil pan (10mm socket). Tighten the attaching bolts to 8-13.5 N.m. (6-10 lb-ft.).



## STEP #28

T.V. Cable adjustment must be checked at carb or throttle body. At wide-open throttle you must have full T.V. cable movement at full throttle.

**Warning ! : Check your T.V. cable.** A disconnected or inproperly adjusted cable will cause irreversible damage to your transmission.



## STEP #29

Lower front of vehicle, keep or raise the rear wheels off the ground. Add 5 quarts of Dextron III/Mercon fluid. Put the gear selector lever in neutral position and start the engine. Immediately check fluid level and fill to "Add" mark. Shift the gear selector lever into all gear positions. Immediately check fluid level again and make sure level is between "Add and Full" marks. Drive the vehicle slow at first to check all gears are shifting. After your test drive check fluid level one last time.

## LIMITED WARRANTY

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