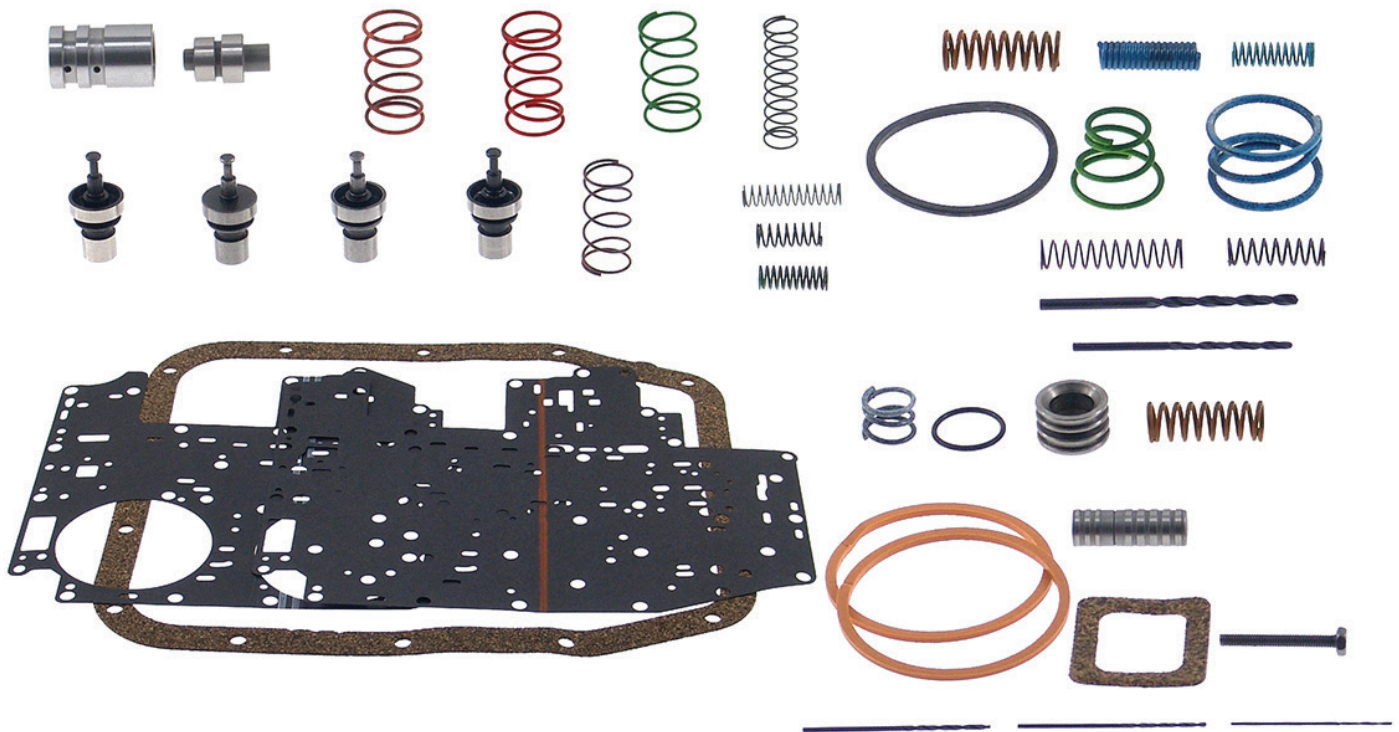


# Reprogramming Kit

555-60948

1980-1993 | Ford AOD 4-Speed

Non-Electronic Transmissions



# Introduction

We would like to take this opportunity to thank you for purchasing this JEGS 1980-1993 Ford AOD 4-Speed Non-Electronic Transmission Reprogramming Kit. We welcome any comments or feedback you might have. If you have any questions about this product or about the installation procedure, please feel free to contact us at 1.800.345.4545.

## Features:

- Tune-able wide open throttle shifts
  - 5,400 RPM to 6,800 RPM range
- Full-automatic operation in OD and D positions

## NOTE

**INSTALLATION DOES NOT REQUIRE REMOVAL OF THE TRANSMISSION.**

**FOR ENGINES WITH MORE THAN 300 HP TRANSMISSION REMOVAL IS REQUIRED TO INSTALL ADDITIONAL PARTS**

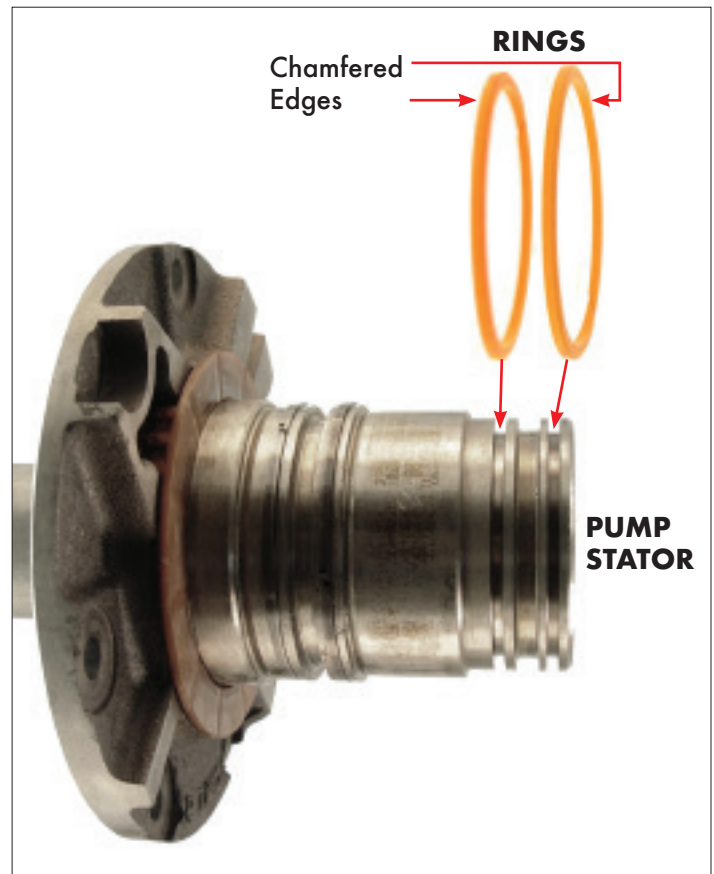
# Pump Stator Rings

(For engines making 300+ hp)

## INSTALLATION WITH TRANSMISSION REMOVED

If your engine has 300+ hp remove the transmission and install the supplied plastic rings.

1. The installation of the supplied special rings will reduce the chance of failure from high pressure.
2. The new rings have a slight chamfer on one side. When installing the rings make sure the chamfers faces away from each other. (Fig. 01.)

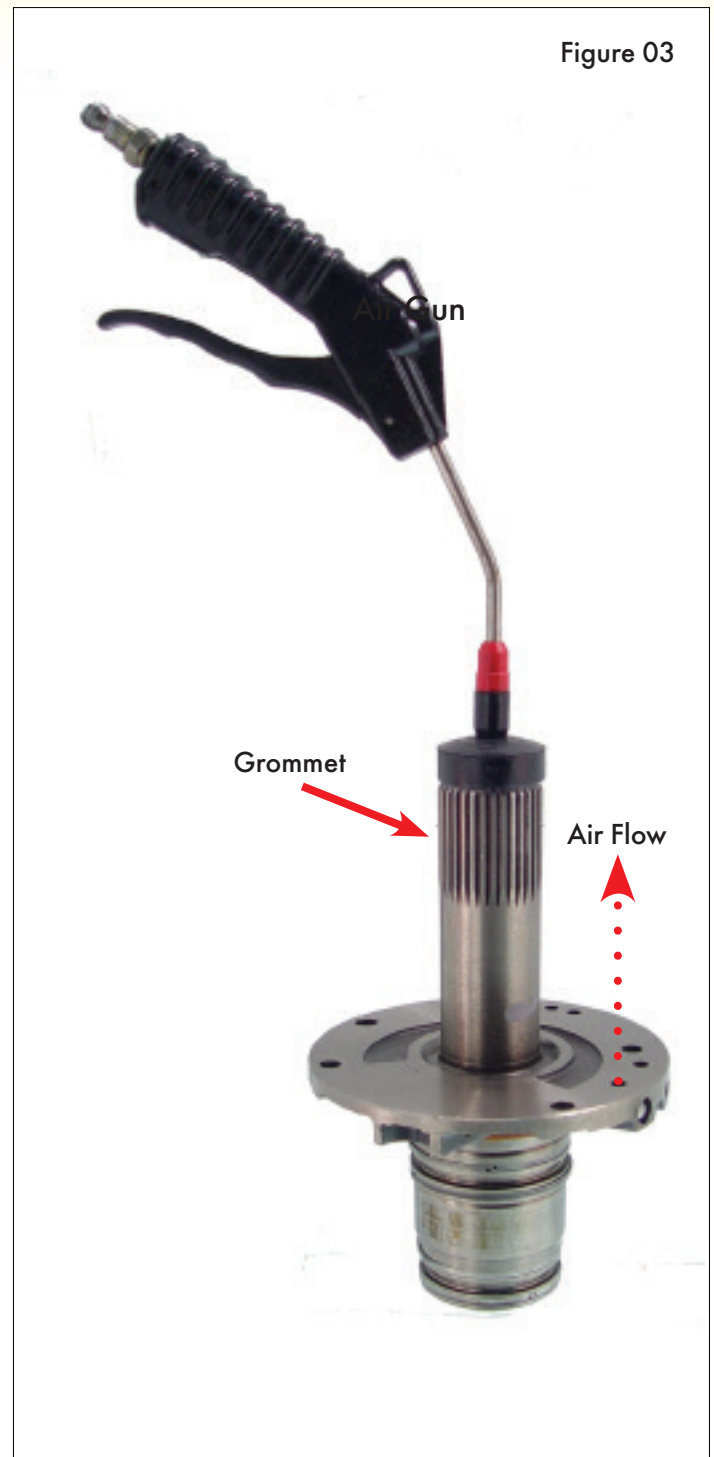
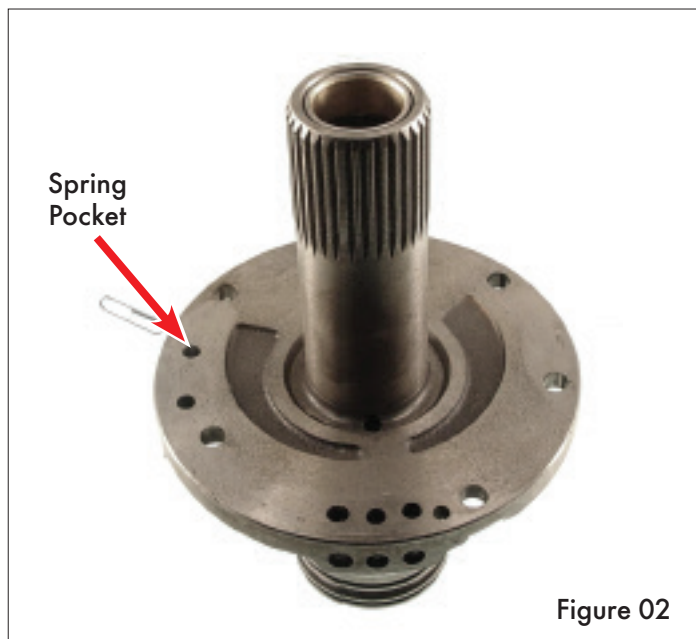


# Testing the Stator

(For engines making 300+ hp)

## TESTING WITH TRANSMISSION REMOVED

1. Using a hooked probe or paperclip pull the spring out of the stator. (Fig. 02)
2. Check that the ball inside the spring pocket moves freely.
3. After removing the spring, place the stator on a flat bench and cap one end of the stator with a rubber grommet. Insert an air gun through the grommet. Ensure that air is flowing through the stator tube. (Fig. 03)
4. If the ball is stuck there will be little or no air coming out.
  - If no air comes out spray penetrating oil in hole, let it soak and retest.
  - Do not clean the stator with a water-based parts cleaners.
  - A stuck ball will result in reduced or no cooling flow for the transmission.



# Installation (Boost & Pressure Regulator Valves)

## FOR ENGINES WITH 300+ HP ONLY

1. Using a  $\frac{3}{64}$  in. drill bit, drill a hole on an angle below the "X". (Fig. 04)
  - This hole will go through the side of the rectangular cavity on its upper wall to the passage behind it.
  - See the arrow in the figure below for the direction to drill.
2. Thoroughly clean any debris created by drilling.
3. Install the new springs for the pressure relief and boost valves. Different color combinations are for different horsepower ratings. (Fig. 05)
  - Engines UP TO 350 hp: Red outer and black inner pressure relief springs
  - Engines OVER 350 hp: Orange outer and black inner pressure relief springs
4. Install the new boost valve and bushing. Reuse the original retainer

## FOR ENGINES WITH LESS THAN 300 HP ONLY

1. Install the new springs for the pressure relief and boost valves. (Fig. 06)
  - Green outer and black inner pressure relief springs
2. Install the new boost valve and bushing. Reuse the original retainer

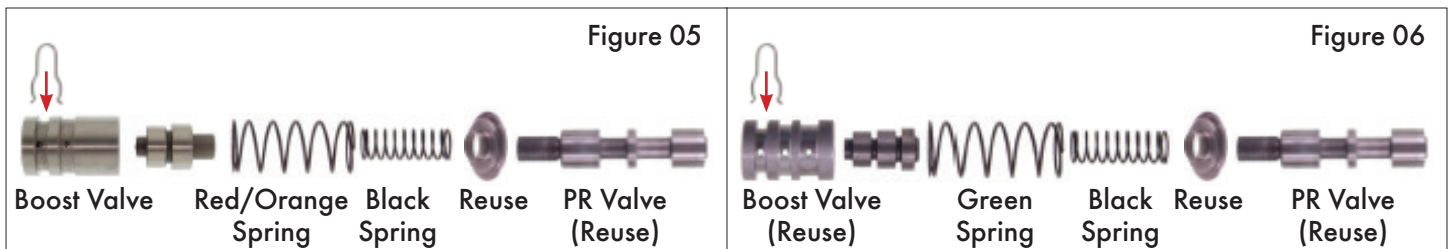
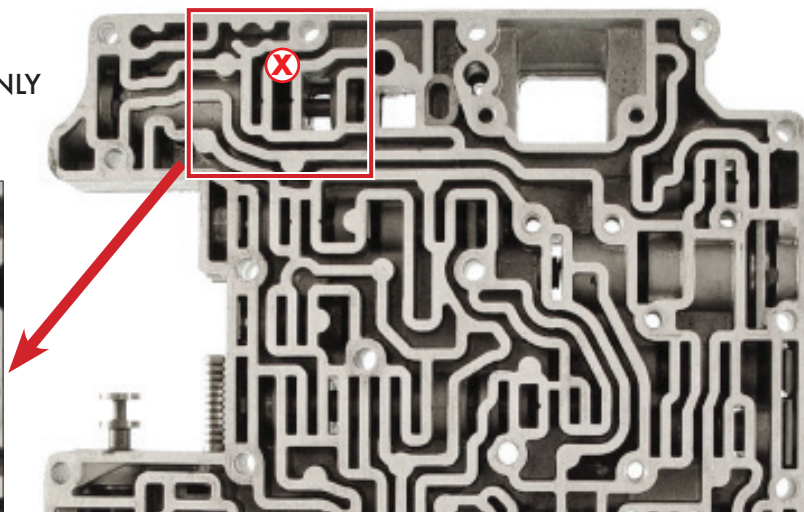
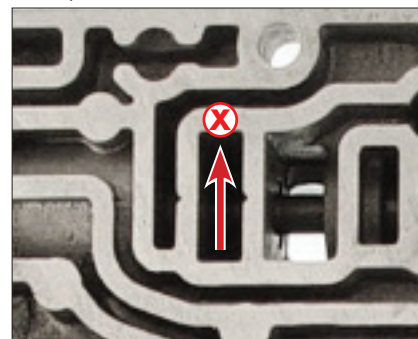


Figure 04

FOR ENGINES WITH 300+ HP ONLY

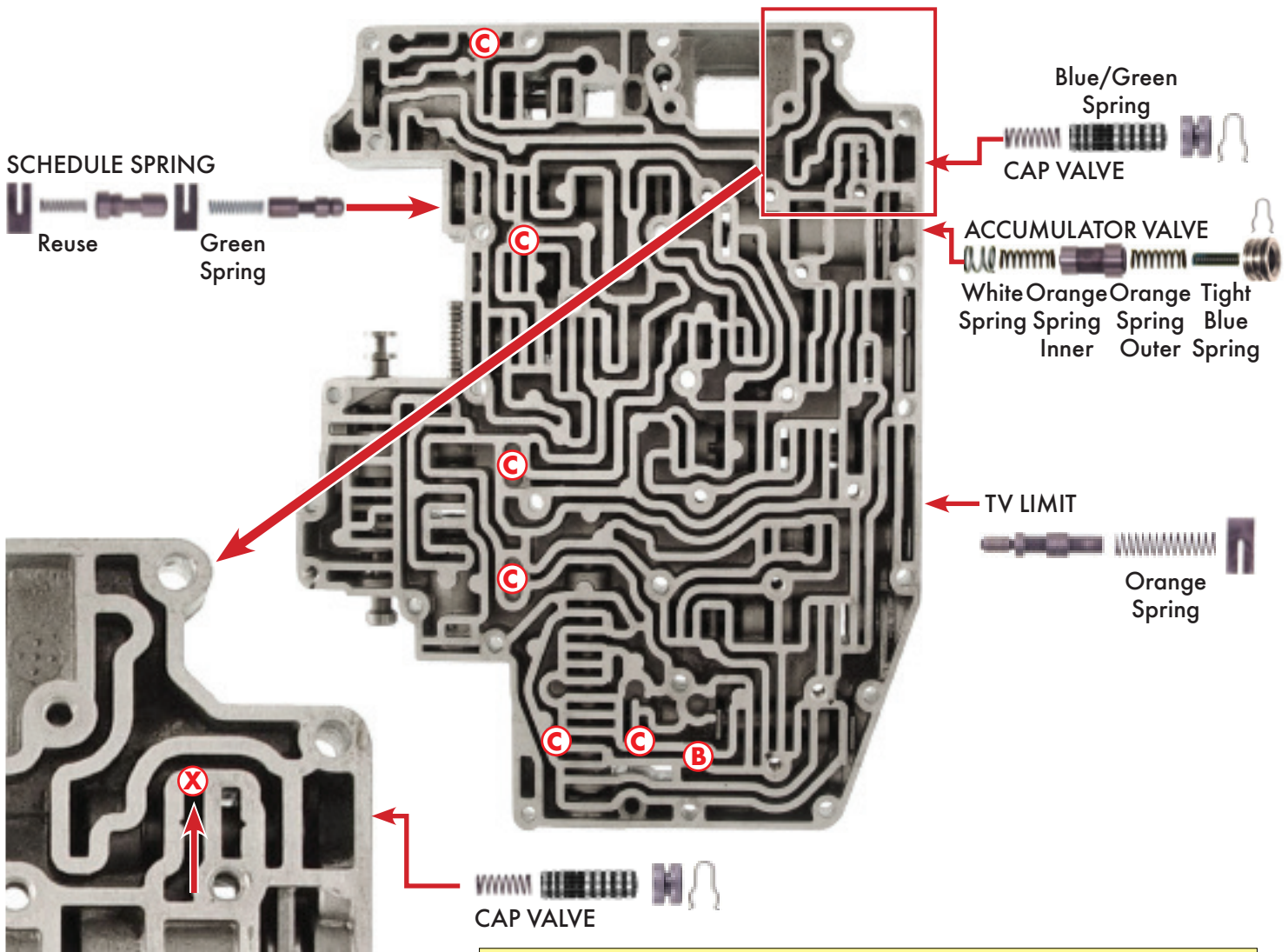
Drill  $\frac{3}{64}$  in. hole in direction of arrow.





# Installation (Valve Body)

- Verify or reinstall the checkballs as needed.
  - (6)  $\frac{1}{4}$  in. plastic checkballs "C"
  - (1)  $\frac{5}{16}$  in. plastic checkball "B"
- Install the green 2<sup>nd</sup> - 1<sup>st</sup> schedule spring
  - Police car valve bodies start in second gear when manual 1<sup>st</sup> is selected. They have a one-piece valve in this location.
- Install the new 1<sup>st</sup> - 2<sup>nd</sup> cap valve and spring
  - For a firmer shift use the blue spring
  - For a stock shift use the green spring
  - The spring fits into the valve bore
- Install the inner orange spring to the accumulator valve ONLY if there is a bore on the small end of the valve.
- Install the new accumulator valve end plug with the bore facing outward. Use an o-ring in the outer groove and clip the center groove.
- Use the small orange spring with the throttle body limit.
- If the blue 1<sup>st</sup> - 2<sup>nd</sup> cap valve spring does not give a firm enough shift drill a 0.055 in. hole just under the "X" in the direction of the arrow.
  - Remove the cap valve assembly first. Clean well.



**KEY:** (B)  $\frac{5}{16}$  in. Plastic Checkball (C)  $\frac{1}{4}$  in. Plastic Checkball

# Installation (Full Throttle Shifting in D)

For full throttle shifts at approximately 5400, 5900, 64-00 & 6800 RPM

## OPTIONAL STEPS (SKIP TO KEEP THE STOCK SHIFT TIMING)

### VALVE BODY (Figure 07)

1. Push throttle valve plunger in until it bottoms out. Insert probe or paperclip to hold the plunger in place.
2. Remove the manual valve e-clip. Push the manual valve inward to keep it out of the way.
3. Install the orange and green 2<sup>nd</sup> - 3<sup>rd</sup> shift valve springs.
4. Remove the probe/paperclip that was securing the throttle valve plunger.
5. Reinstall the e-clip on the manual valve.

### GOVERNOR (Figure 08)

1. Select the new governor valve for the desired approximate shift RPM.
  - Threaded bore (NO pocket).....5400 RPM      A
  - Threaded bore (Pocket).....5900 RPM      B
  - Non threaded (0.269 in. bore)..6400 RPM      C
  - Non threaded (0.327 in. bore)..6800 RPM      D
2. Remove and save clip from the original governor valve.
3. Install red spring into new generator valve with clip. (Figure 09)
4. Reassemble the governor.

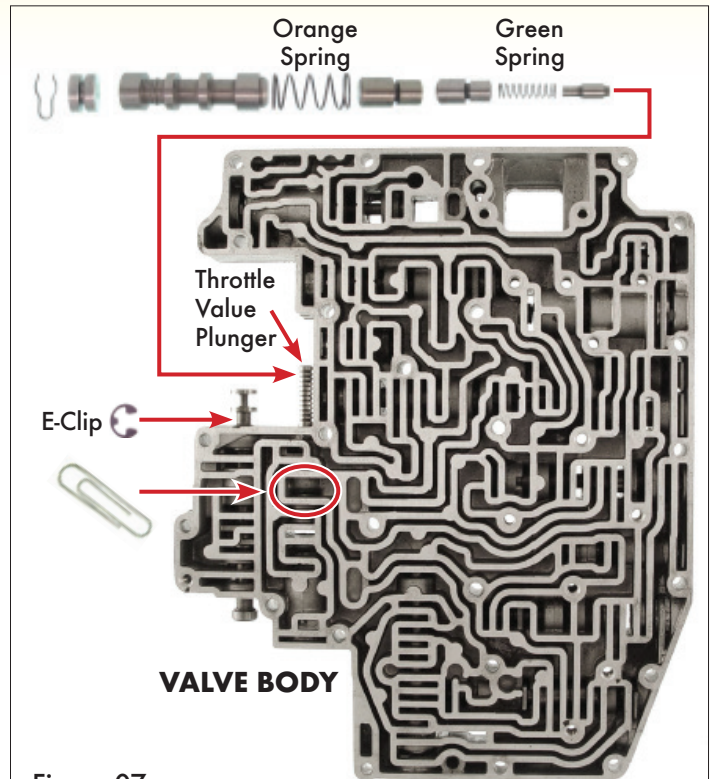
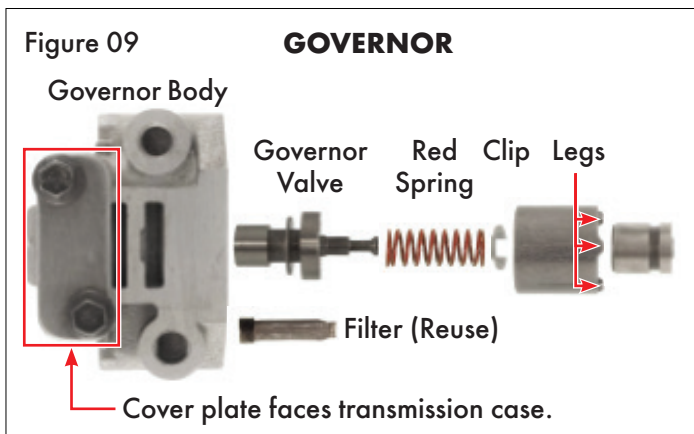
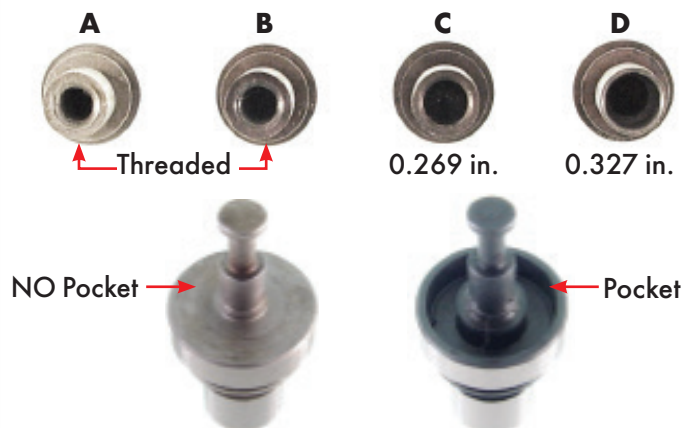


Figure 07

Figure 08

### GOVERNOR VALVE



### NOTE

The torque converter's stall speed and engine torque will effect the maximum up-shift RPM. RPM FIGURES ARE APPROXIMATE, NOT EXACT. This product will not work with Low Ratio Planetary Gear set (4R70W).

# Installation (Separator Plate & Gaskets)

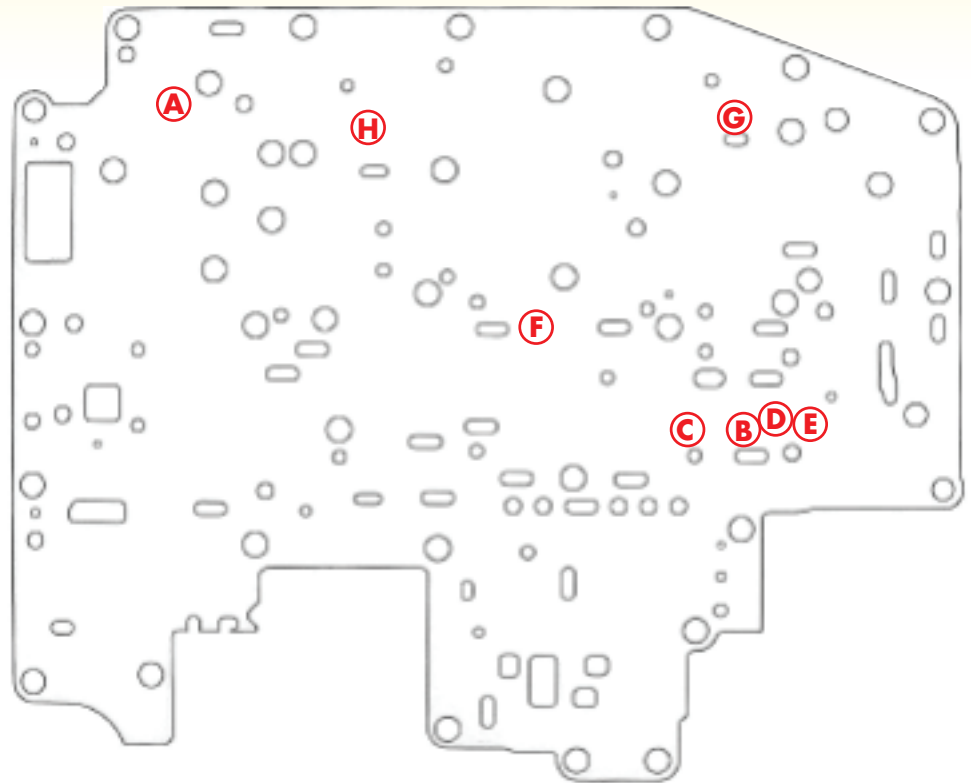
## PLATE HOLE SIZES

- A. If the plate has this hole drill it
  - 0.063 in. ( $\frac{1}{16}$  in.)
- B. 0.055 in. (# 54)
- C. 0.042 to 0.043 in. (# 57 or #58)
- D. 0.055 in. (# 54)
- E. 0.063 in. ( $\frac{1}{16}$  in.)
- F. 0.125 in. ( $\frac{1}{8}$  in.)
- G. 0.093 in.
  - Only drill if the plate has a hole. Leave it alone if there is a slot.
- H. 0.093 in.
  - Only drill if the plate has a hole. Leave it alone if there is a slot.

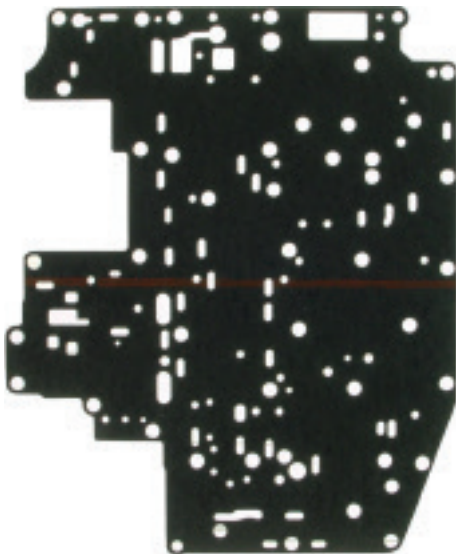
If holes B, C, D, or E are larger than listed, re-size the hole as follows:

- Place a  $\frac{1}{4}$  in. steel checkball over the hole with the plate on a HARD surface and smack the checkball with a light hammer and re-drill.

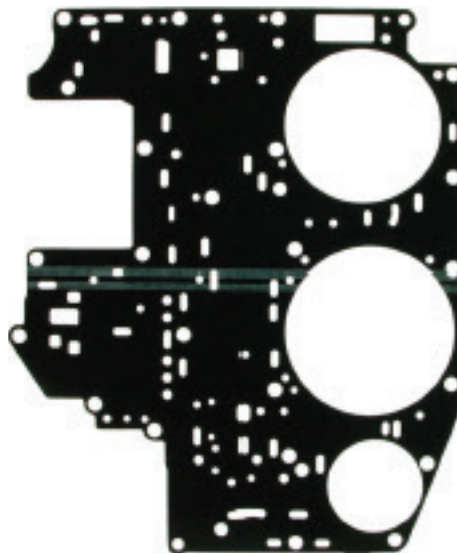
If the transmission is running an open torque converter (no damper assembly) drill holes D & E to 0.086 in. for a firm shift, or 0.116 for an aggressive shift.



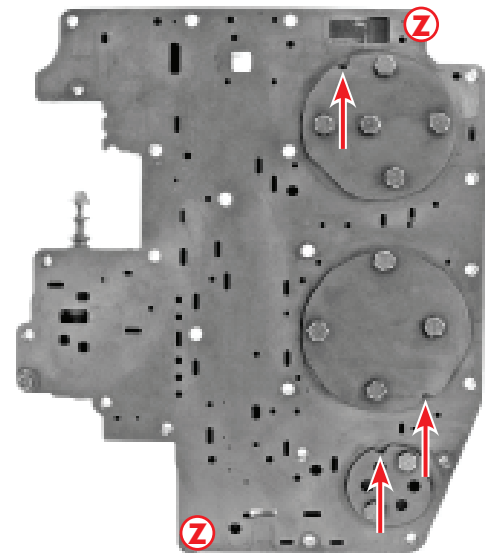
**VALVE BODY TO PLATE**



**VALVE BODY TO PLATE**



**VALVE BODY**



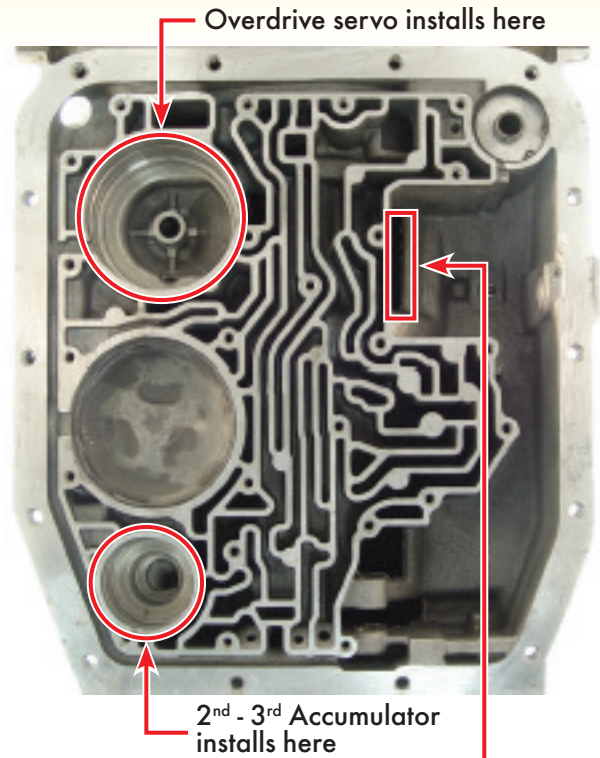
Hold-down plate notch locations (arrows)  
Install Z-bolts first. **Z**



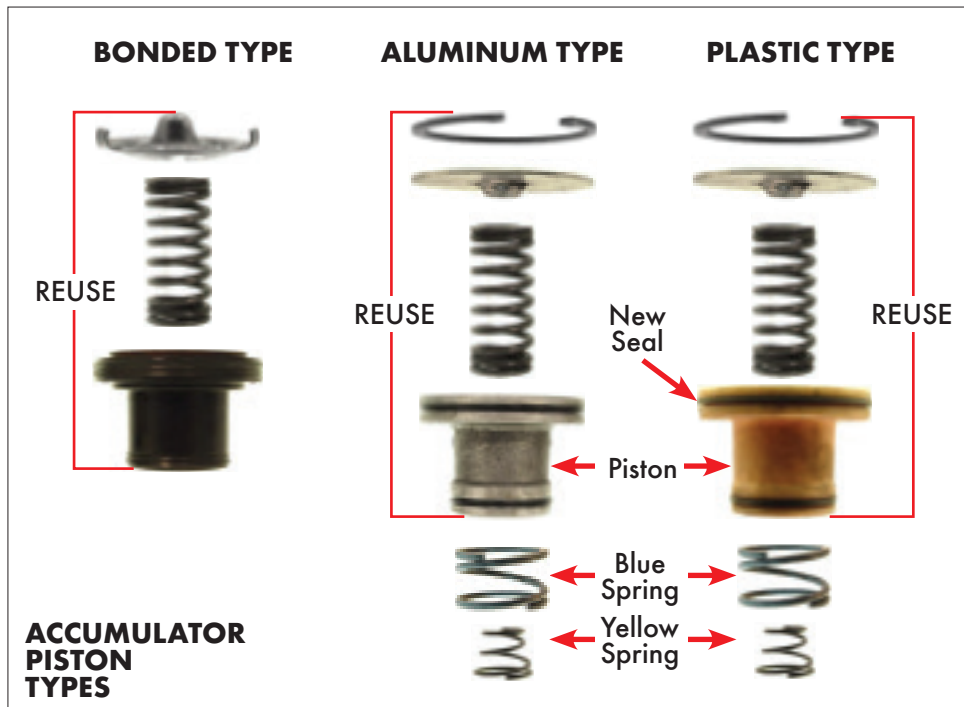
# Installation (2<sup>nd</sup> - 3<sup>rd</sup> Accumulator Piston)

## PISTON TYPES

1. Bonded Rubber Piston
  - No changes to assembly, reinstall as original.
  - Rubber must not be hard, torn or worn.
2. Aluminum Piston
  - If the o-rings and piston are in good condition, reuse them.
  - Install the new blue and yellow springs.
  - Reuse the factory spring between the piston and circlip.
3. Plastic Piston
  - Install the new seal on the piston with the chamfered edge facing outward.
  - Install the new blue and yellow springs
  - Reuse the factory spring between the piston and circlip.



If you are removing the servo, wedge the band here with a long thin screwdriver until after the servo is re-installed.





# Additional Information

## SETUP

This product is designed to work with a factory throttle pressure linkage. Having the correct throttle pressure linkage setup is crucial for proper transmission function, durability and performance.

A throttle cable that's hooked up to the transmission and carburetor on a transplant, conversion, or even just a replacement aftermarket carburetor may not have the correct geometry like the factory linkage does.

If the throttle linkage setup is not correct, it can compromise durability and performance. Engine power and line pressure must increase together from minimum line pressure at engine idle, to maximum line pressure at wide open throttle. Pressure should start to rise as soon as throttle is added and continue going up as throttle increases.

## MAX THROTTLE UPSHIFT TUNING DISCLAIMER

Before making any changes to the transmission's maximum RPM shifts determine what is the safe maximum RPM for the engine. This kit provides approximate, not exact, RPM settings.

If installing the optional full throttle shifting upgrade be sure not to exceed the engine's safe maximum RPM. JEGS is not liable for any vehicle or proper damage, personal injury, or loss of time and incurred expenses that may occur under any circumstances.