

Shift Improver Kit

555-60932

1993-2015 4L60E Series



Introduction

We would like to take this opportunity to thank you for purchasing this JEGS 4L60E Shift Improver 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.

This kit is designed to address the following:

- Diagnostic trouble codes
 - P1870
 - PO894
- Converter slip/shudder
- Harsh 1st - 2nd shift
- Double bump 1st - 2nd, 2nd - 3rd shift
- 2nd - 3rd flare up
- Burnt 3rd - 4th clutch plates
- 2nd, 3rd, & 4th band failure
- Pump and valve bore wear
 - Resulting from pump slide bounce

Features

- Increased durability
- Short smooth shifts
- More efficient TCC apply
- Increased line pressure

NOTE

FOR MODELS WITH OR WITHOUT DOD (DISPLACEMENT ON DEMAND).

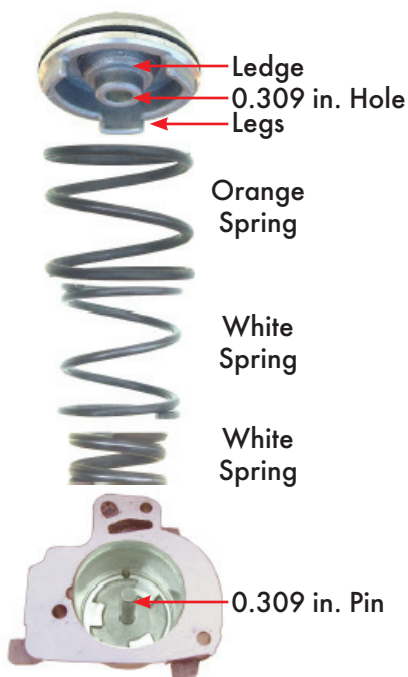
INSTALLATION DOES NOT REQUIRE REMOVAL OF THE TRANSMISSION.

1st - 2nd Accumulators

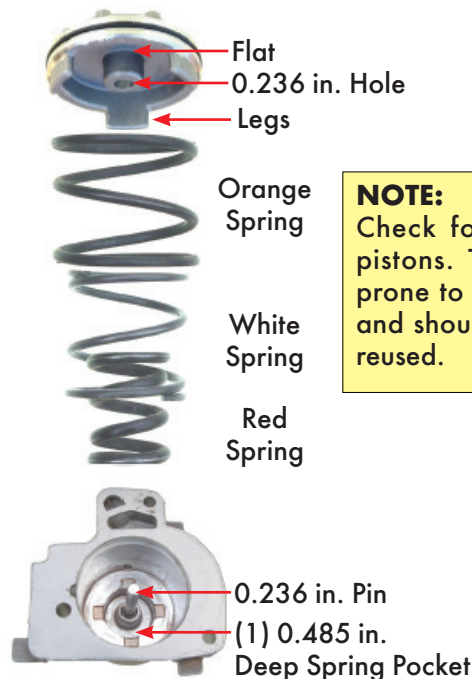
NOTE:

Install pistons as shown, regardless of previous layout.

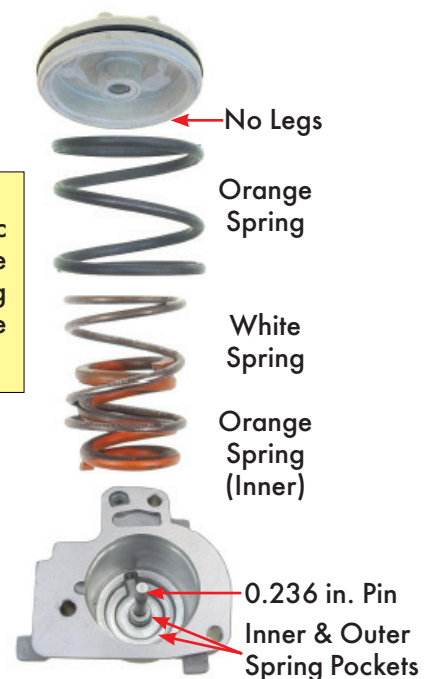
1st Type *Same as 700R4*



2nd Type



3rd Type



NOTE:

Check for plastic pistons. They are prone to breaking and should not be reused.

2nd Piston Upgrades

These upgrades are designed to prevent the constant shifting between 1st and 2nd. It will also fix the shift bump that occurs between 20-24 mph. 2nd to 3rd upshifts and 3rd to 2nd kickdowns will be tighter and shorter.

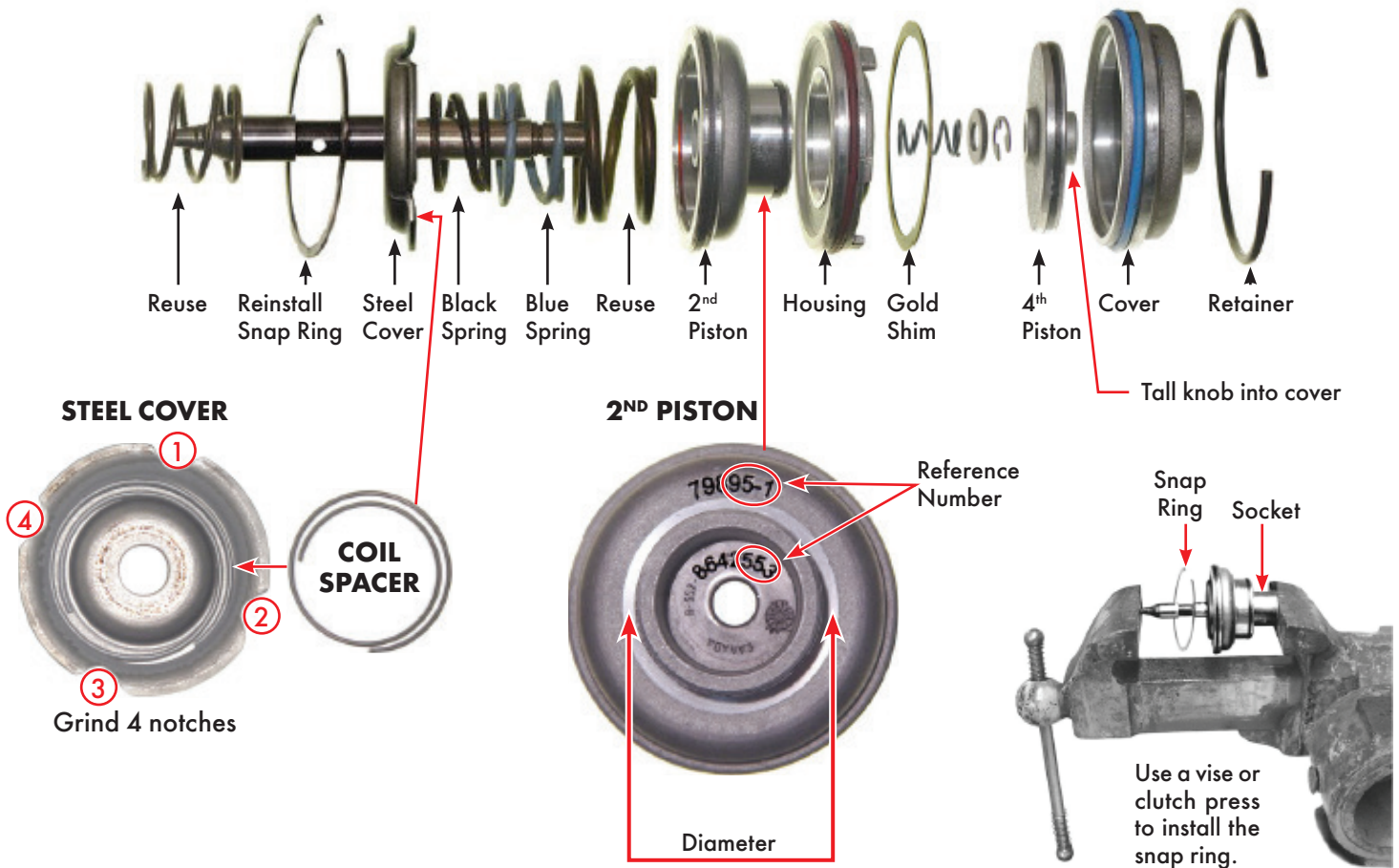
1. Grind (4) four oil exit notches on the steel cover. The cover will get very hot so keep water nearby to periodically cool it.
2. Stick the supplied coil spacer into the recess of the steel cover with some assembly gel.
3. Install the blue and black cushion springs inside the original cushion spring and reassemble. Install the gold shim between the housing and cover. Make sure that the band moves freely on the drum from front to rear. If band is too tight remove shim, don't shorten pin.

- Confirm there is the correct amount of band clearance. See 4th Accumulator paget for details .

4. Identify the 2nd Piston by number:

- There are two sets of numbers on the 2nd piston. Note and save the last three digits of both.

2 ND PISTON DIAMETER		
Number	Application	Diameter
093	Corvette	1 ³ / ₄ in.
95-1	Corvette	1 ³ / ₄ in.
159	5, 6, or 8 Cyl	2 ¹ / ₁₆ in.
553	5, 6, or 8 Cyl	2 ¹ / ₄ in.
554	Light Duty	2 ¹ / ₂ in.



Installation

1. Install the bolts in "Z" locations first.

PRESSURE REGULATOR

2. Install the orange bumper and the ORANGE pressure regulator springs.

EPC SCREEN FIX (Large screen in valve body plate)

3. Sides of screen suck together causing low line pressure at high throttle. The low line pressure can result in burned-up clutches and band. Using the supplied wire spacer helps keeps the screen sides apart.
- for additional safety, drill four 0.040 - 0.047 in. or two 1/16 in. holes through the top of the screen.

REVERSE INPUT PISTON (Requires Transmission Removal)

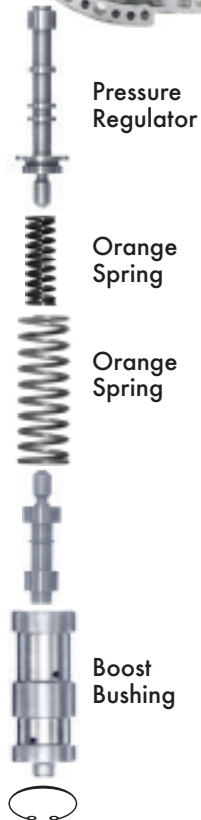
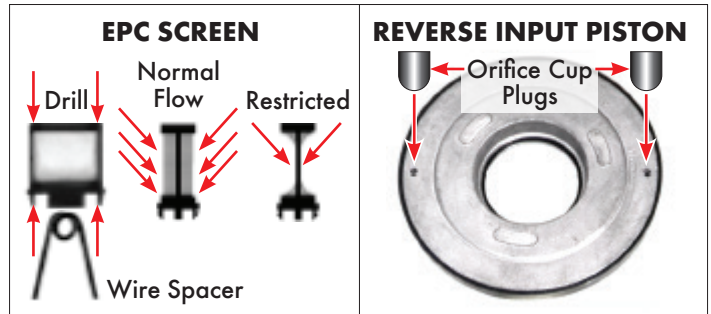
4. With a 0.055 - 0.120 in. drill bit, enlarge the existing bleed holes in the reverse input piston. Once drilled, install the orifice cup plugs furnished into holes.

SEPARATOR PLATE

5. Enlarge select holes, marked "X", in the separator plate according to the diagram below.



PUMP STATOR



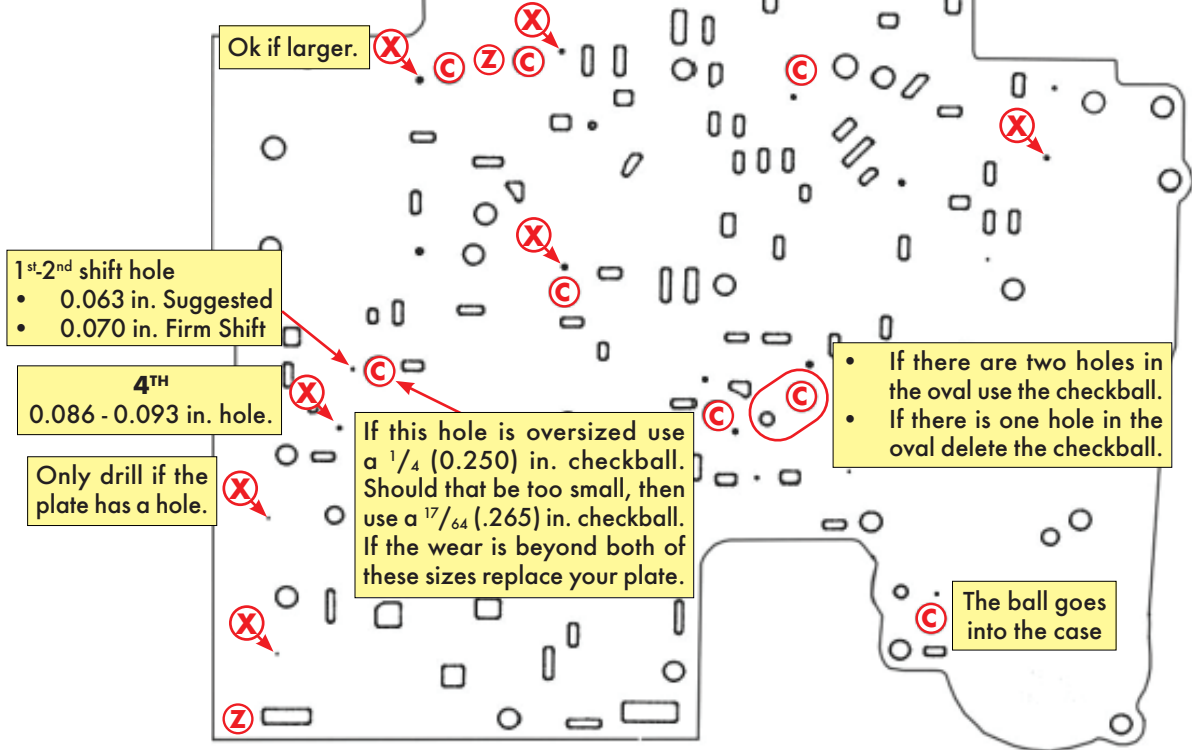
Pressure Regulator

Orange Spring

Orange Spring

Boost Bushing

SEPARATOR PLATE



KEY: (X) Drill to 0.093 in. (C) Checkball (8 Total)

Isolator & Converter Regulator Valve

The New Upgraded Isolator & Converter Regulator Valve works great even in a very worn valve body.

This upgrade lets you use a torque converter with any style lockup plate. But, if you're working on a vehicle with cylinder deactivation (DOD) then it's important to use the correct converter lining (woven carbon) and use the new spacer instead of the blue spring. The reason for this is that the computer needs to intentionally slip the converter when cylinder deactivation is commanded to reduce a driveline vibration from being "felt" while shutting off cylinders.

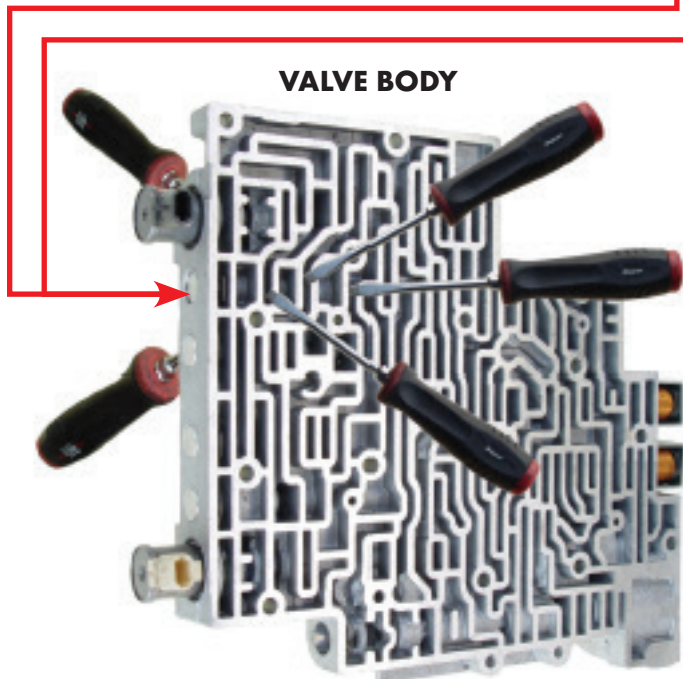
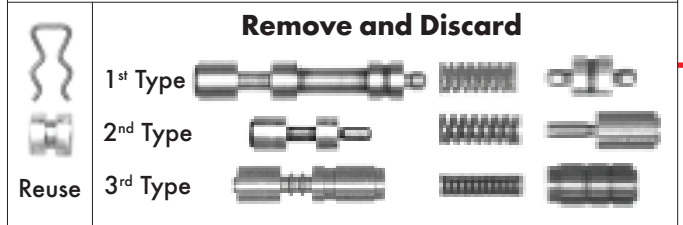
1. Remove and discard the converter reg valve, spring and isolator valve. Save the end plug and clip.
2. Insert the new ISO-CONV valve into bore. Using hex bolt as a handle, push the valve in and out at least 20 times with slight side pressure. The valve must fall in and out of bore. Clean the bore. Remove the bolt.
 - The new ISO-CONV valve replaces all of the original equipment type 0.441 in. diameter isolator and converter valves. Measure the valve diameter that you are removing.
 - **NORMAL USE:**
 - Install the blue spring and ISO-CONV valve.
 - **DOD (CYLINDER DEACTIVATION):**
 - Install the spacer, with the recessed end outward, and the ISO-CONV valve. Do not use the blue spring for this application.

STICKY VALVES

3. Insert the new valve into the bore. Using a screwdriver, place the tip against valve between the lands. Tap the screwdriver, moving it to contact all angles. Once this is done repeat step 2.

CYLINDER DEACTIVATION INFORMATION	
Year	Application
2005-2007	Buick Rainier (5.3L)
2007-2009	Chevy Avalanche (5.3L)
2008-2009	Chevy Avalanche (6.0L)
2005-2009	Trailblazer & Envoy Denali (5.3L)
2007-2010	Silverado, Sierra, Suburban, Yukon, Tahoe, 1500 (5.3L)
2007-2008	Silverado, Sierra, Suburban, Yukon, Tahoe, 1500 (6.0L)

CONVERTER REGULATOR VALVE, SPRING, & ISOLATOR VALVE



Valve Body

PRESSURE CONTROL SOLENOID

1. Install the white spring inside of the original spring.

TORQUE VALVE

2. Install the $\frac{3}{16}$ in. steel ball inside the original spring.
3. Install the roll pin through the divider after the spring. This goes through the hole on the side of the divider.
4. Install the yellow low valve spring between the cover and the low valve.

ACCUMULATOR PISTON

5. Reuse the original spring.
6. Check the type of piston material used. Plastic tends to break, consider replacing with aluminum.

3RD - 2ND CONTROL VALVE

7. (**2nd type valve only**) Remove and discard the original spring. Install the plain spring furnished.

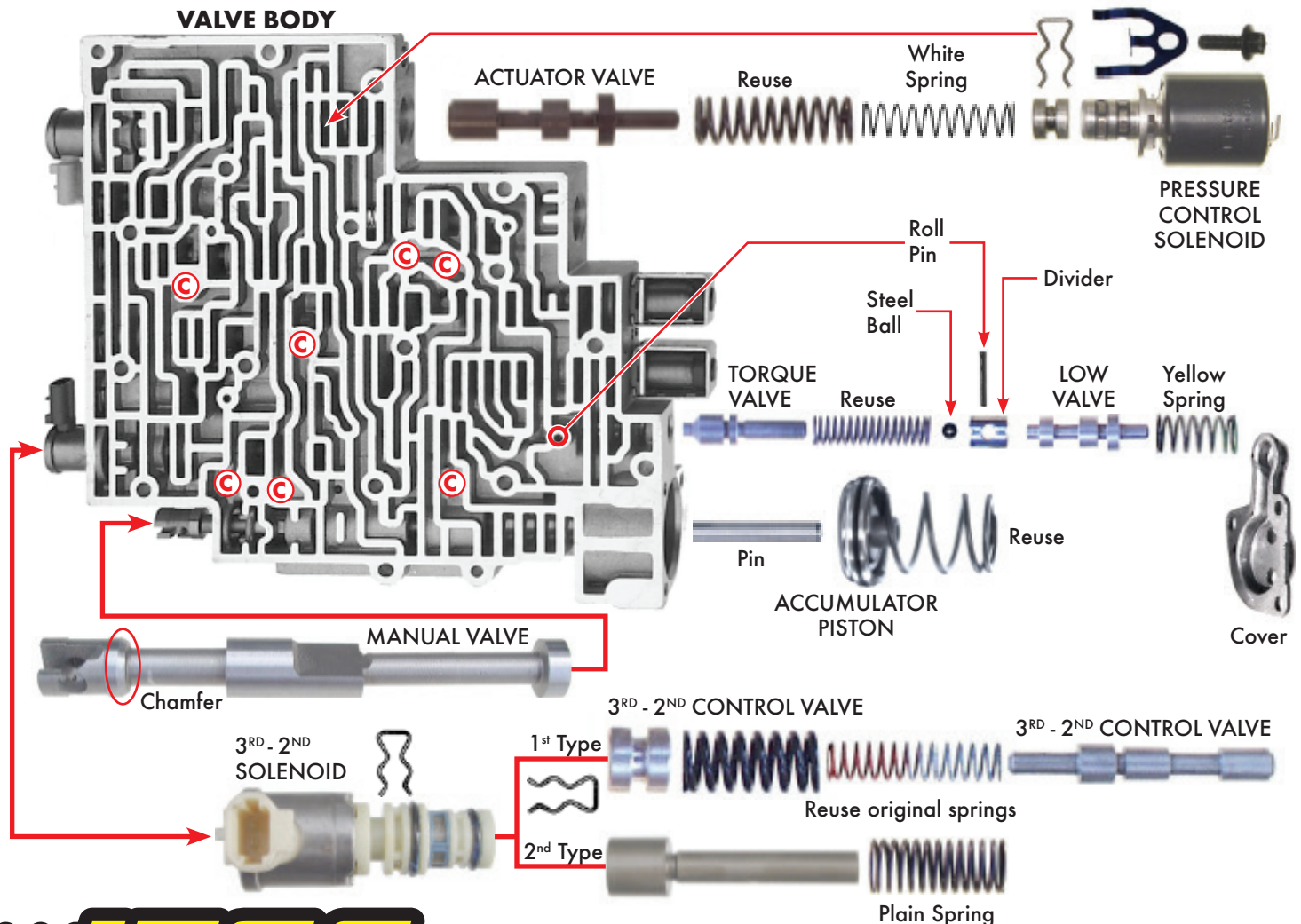
Types:

- 1st Type: 1993 - 1995
- 2nd Type: 1996 - 2008
- Skip this step on models with the 1st Type or transmissions that have no 3rd - 2nd Solenoid from 2009 & Up.

MANUAL VALVE

8. For a faster reverse release grind a chamfer on the manual valve.
 - $\frac{1}{16}$ - $\frac{3}{32}$ in. (0.063-0.096 in.)

KEY: (C) Checkball (8 Total, 7 in valve body, 1 in case)



Accumulator to ECM, 2nd Piston, & Accum Code

2ND PISTON

- Reference the piston code as shown on Pg. 2.
 - 554, 553, 159, 093, or 95-1

ACCUMULATOR BUSHING

- Find the accumulator bushing code located on its end.
- Match the 2nd piston and 1st-2nd accumulator bushing codes to the spring color.
- Install the spring selected from the chart on this page.
 - Hold side "A" of the valve body toward the ceiling when installing the accumulator bushing and spring.

VALVE BODY

- While the accumulator bushing is removed you may want to drill a hole through the valve body, at "X", with a $\frac{5}{32}$ in. drill bit and install the included pin. Once done this will allow you to swap accumulator springs and bushings by removing the pin from the bottom of the valve body.
 - Make sure that the accumulator spring is not crooked during installation. (See image below)

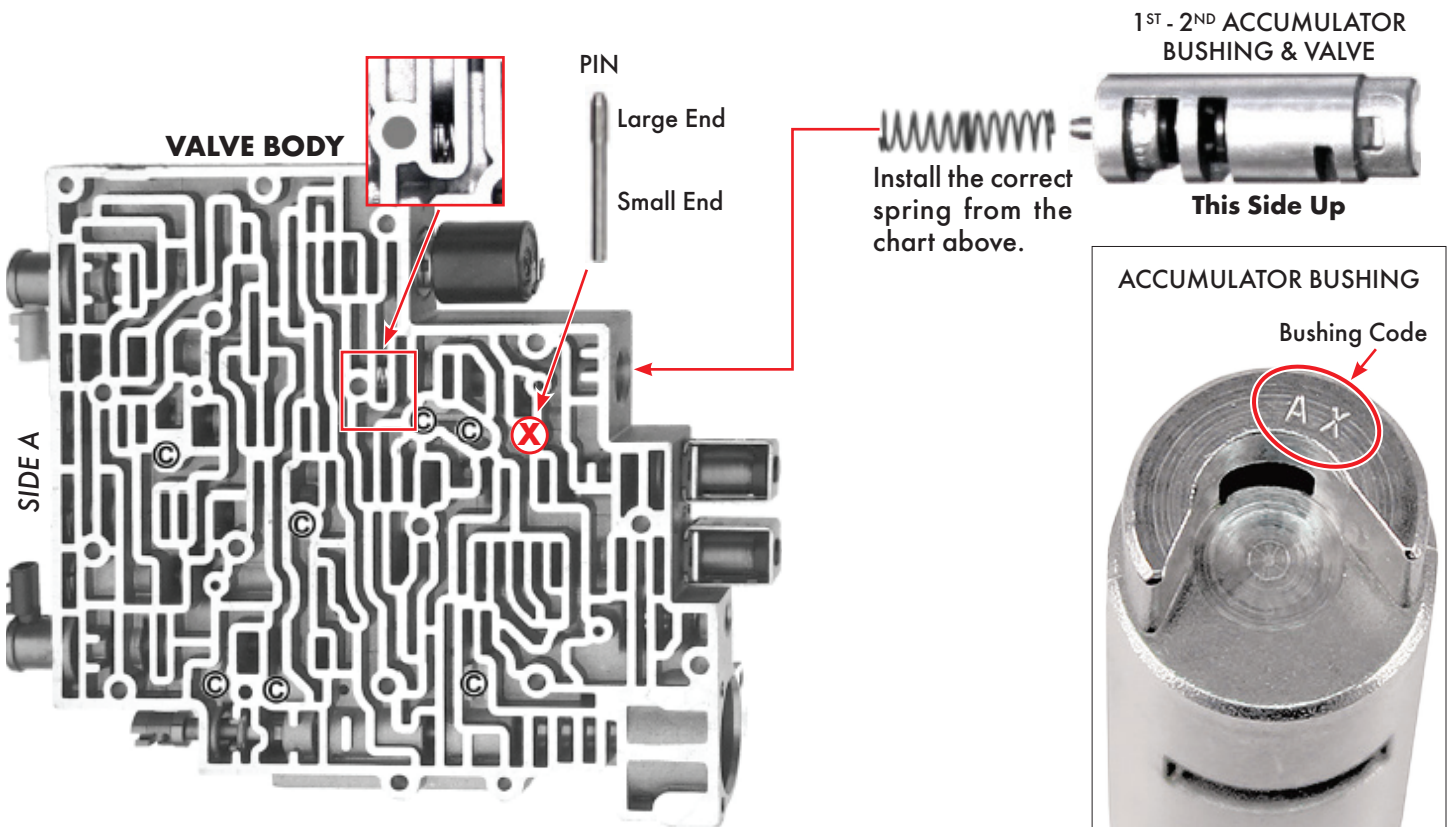
4, 5, & 6 CYLINDER ACCUMULATOR SPRINGS

Piston #	Bushing Code	Spring	Ounce
553/554	A, AX, B, BX	Red	88
553/554	YZ, C, CX	Orange	80
553/554	D, DX, R	Yellow	72
093/95-1	B, C, CX, YZ	Blue	56
093/95-1	D, DX, R	White	24

8 CYLINDER ACCUMULATOR SPRINGS

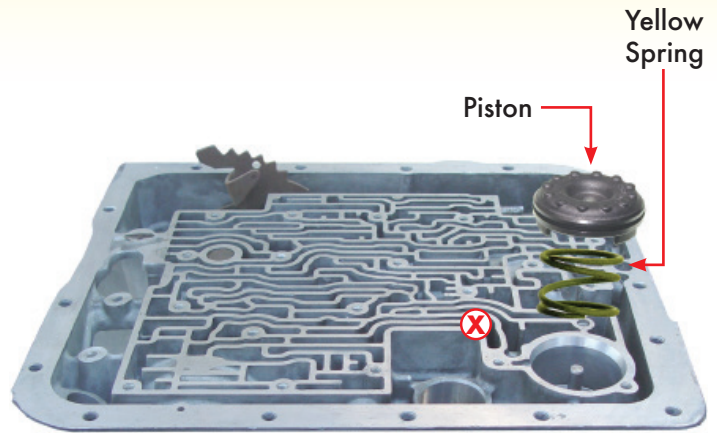
Piston #	Bushing Code	Spring	Ounce
553/159	A, AX, B, BX	Red	88
553/159	YZ, C, CX	Orange	80
553/159	D, DX, R	Yellow	72
093/95-1	D, DX, R	White	24
093/95-1	YZ, C, CX	Blue	56
093/95-1	A, AX, B, BX	Yellow	72

The 1st - 2nd shift with a new band will get noticeably firmer over the course of a few days. Always start with the spring from the chart above. If you have a long 1st - 2nd shift, and the transmission has a high mileage band, you can shorten the shift by using the next higher band.



4th Accumulator

1. Remove and discard the original spring.
2. Install the yellow spring into the case.
3. Install the 4th accumulator piston.
 - Assemble as shown on this page regardless of how it was originally installed.
4. Check band clearance. This is done through the opening in the case. Using a skinny screwdriver make sure the band wiggles on the drum from front to rear by $\frac{1}{8}$ to $\frac{3}{16}$ in.
5. Four different length bolts are used for assembly. Ensure that the bolts are installed correctly by length. See the diagram below for locations.
 - The wrong length bolt will lock the gear train.



KEY: X Case Checkball

