



TF-3 *Stick Shift*

This is not a "do it yourself" kit.
It is for the Experienced, Professional Trans Mechanic only.

REPROGRAMMING KIT™

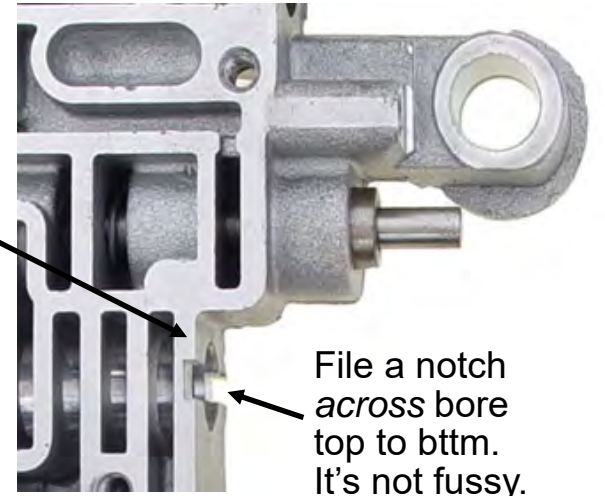
Full Manual Control Torqueflite 3 Speed

Fits 66up Alum Torqueflite EXCEPT Models With Lockup Converter *See page 6

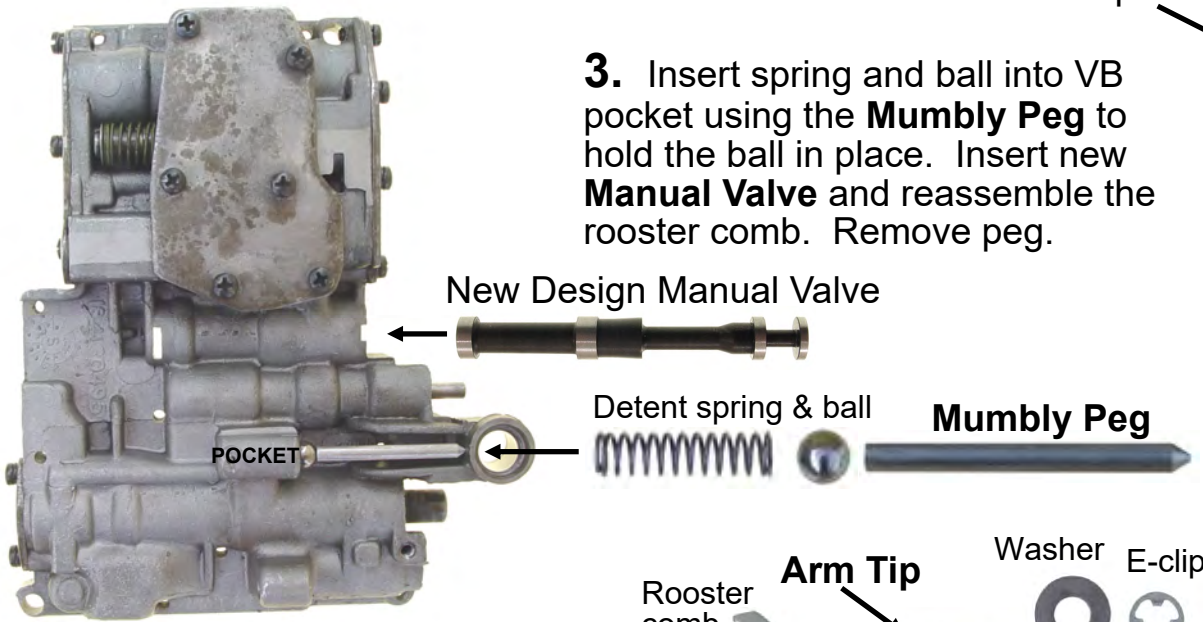
Does NOT fit 60-65 models with Rear Pump!

1. Remove E-clip & washer.
Remove rooster comb, being careful to catch ball & spring.
Discard original manual valve.

2. Turn the valve body over.
Using the edge of a large file, file a notch about *halfway* thru the thickness of this partition.

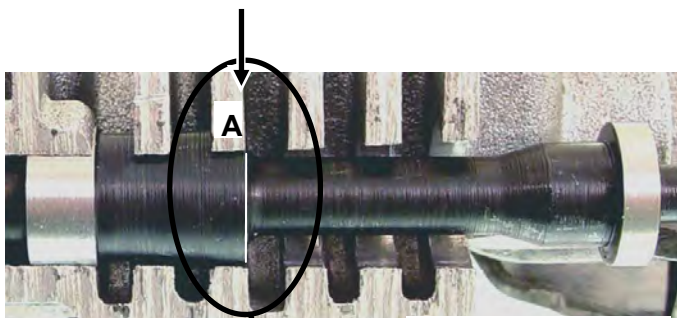


3. Insert spring and ball into VB pocket using the **Mumbly Peg** to hold the ball in place. Insert new **Manual Valve** and reassemble the rooster comb. Remove peg.



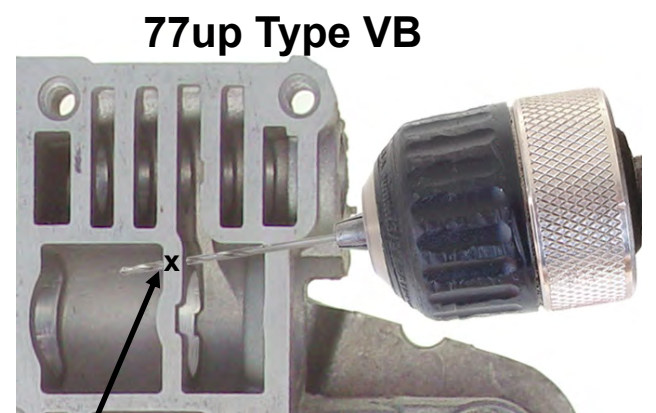
4. **Manual Valve position.**
With valve all the way inboard (Park position) the *right edge* of the tapered land must *be flush* with the right edge of partition "A". (.030" from flush either way is ok.)
Adjust: Bend **Arm Tip** with pliers.

Tapered Land flush with right edge of Partition "A"



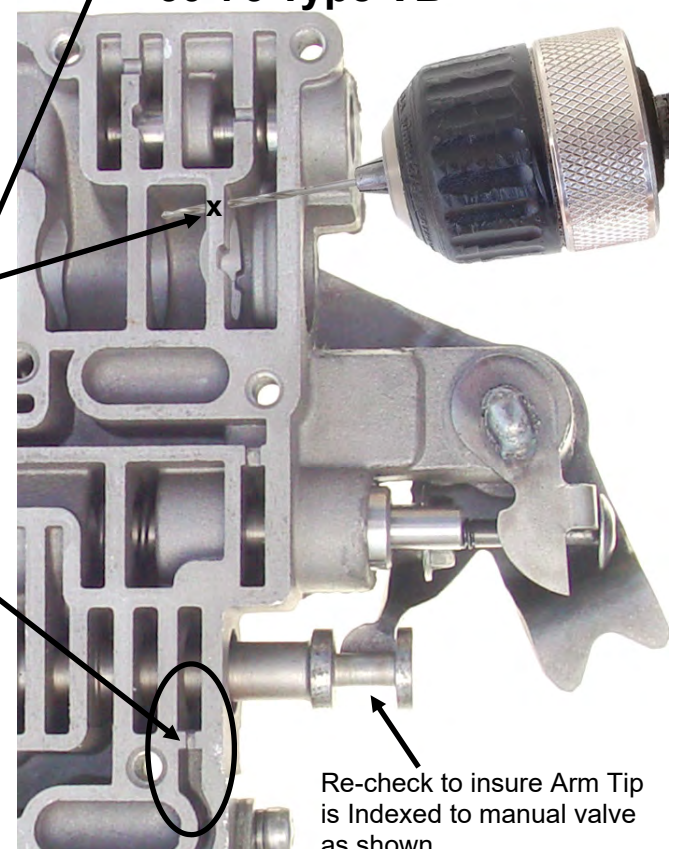
Cutaway View Partition "A"

5. At prox angle, using .046 drill furnished, drill a hole from right to left **thru** this partition under "X".



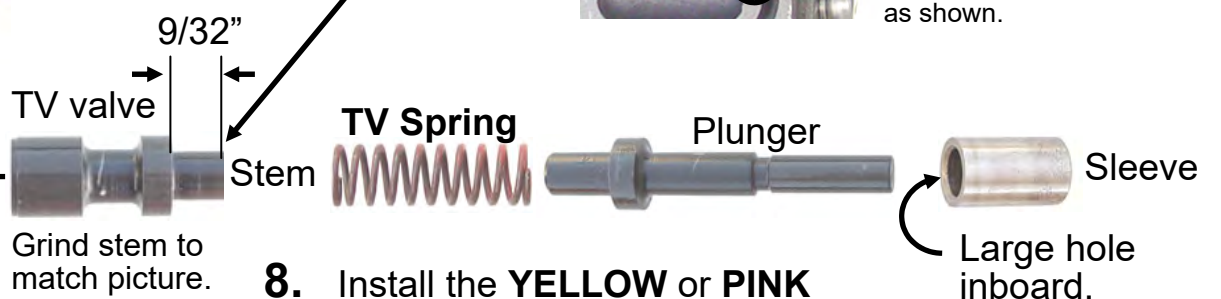
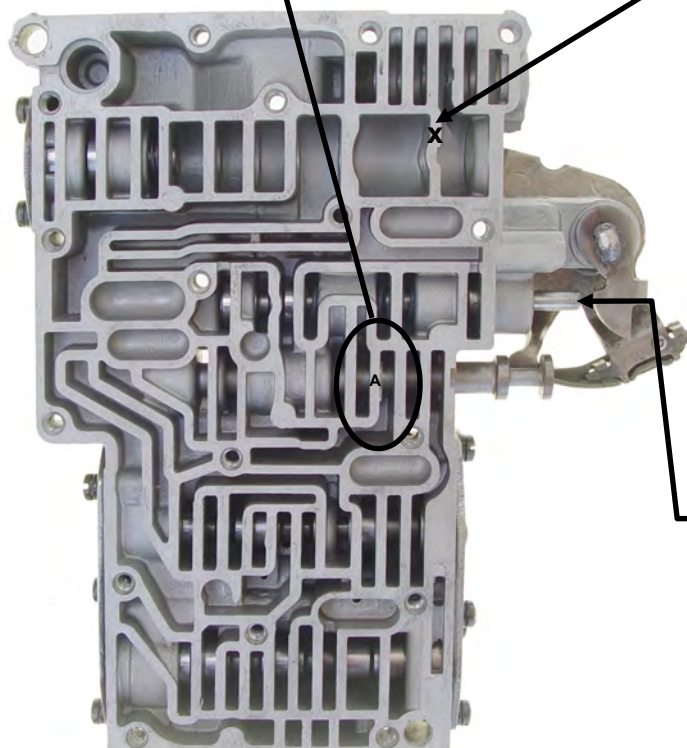
77up Type VB

6. If VB has barrier here drill .125 hole thru it.



Re-check to insure Arm Tip is Indexed to manual valve as shown.

7. Grind **stem end** of the TV valve using the picture as a guide, leaving a stem length of prox 9/32" (.281).



8. Install the **YELLOW** or **PINK** TV spring that is same diameter as original spring.

1. If VB **HAS** line bypass ball & spring, drill 3/16" hole into spring pocket thru VB casting under "X". De-burr hole inside. Install **WHITE** spring and .375 steel ball.

.375 (3/8") steel ball

WHITE

Spring pocket

X

Line Bypass ball & spring

LISTEN UP -- Bypass location RULE:
 NO Hole L in Plate, nothing goes here! Skip Step 1. Has Hole L? Install new white spring and .375 Ball. (See Plate Page 3)

Checkball Usage

- Ⓒ 1/4" (.250)
- Ⓜ 11/32" (.343) Some models use 5/16" (.312)
- ⓧ 1/4" (.250) some models
- ② Leave this ball out

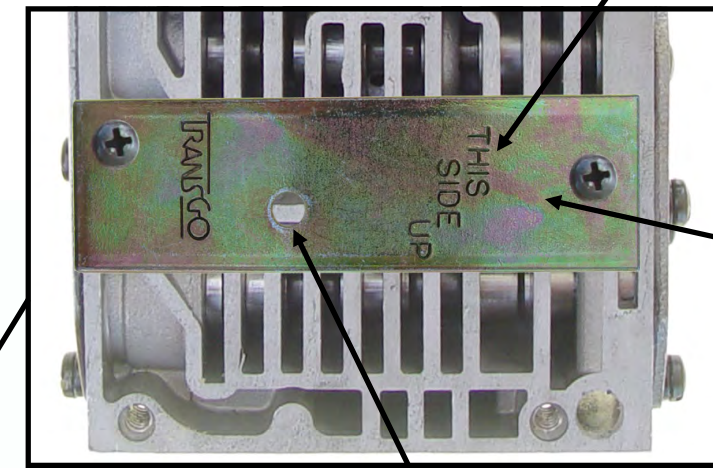
7/16" Match drill to picture.



Spacer

2. Using **Spacer** furnished adjust 3/16" drill to 7/16".

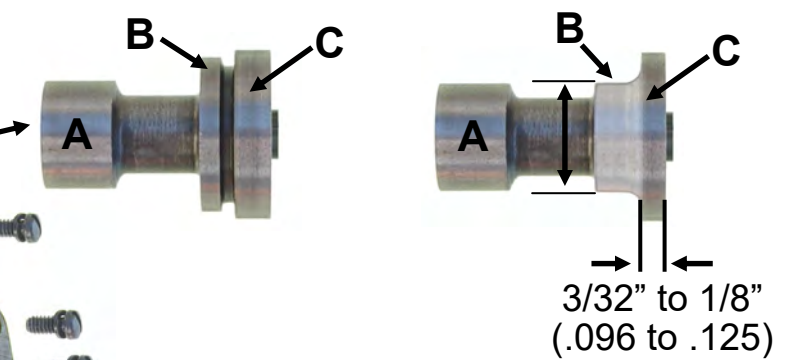
3. Install **Drill Plate** on VB *this side up*.



Drill Plate

4. Using **Spacer** as a stop, drill straight down into this hole with the 3/16" drill.

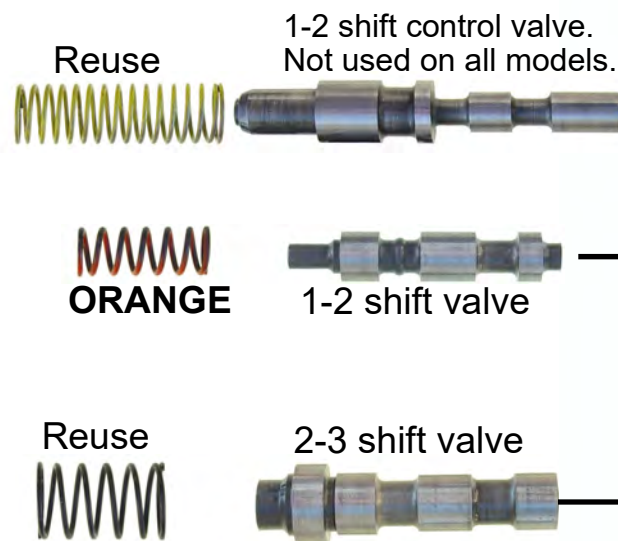
5. Grind 1-2 Governor Valve as shown below. It gets *hot* so have a dish of water handy. Grind land "B" to prox diameter of land "A". Grind land "C" 3/32" to 1/8" wide.



3-2 Downshift assembly not used on all models.

No need to take apart.

6. Remove original 1-2 shift valve spring. Install the **ORANGE** spring.



Reuse

ORANGE

Reuse

1-2 shift control valve. Not used on all models.

1-2 shift valve

2-3 shift valve

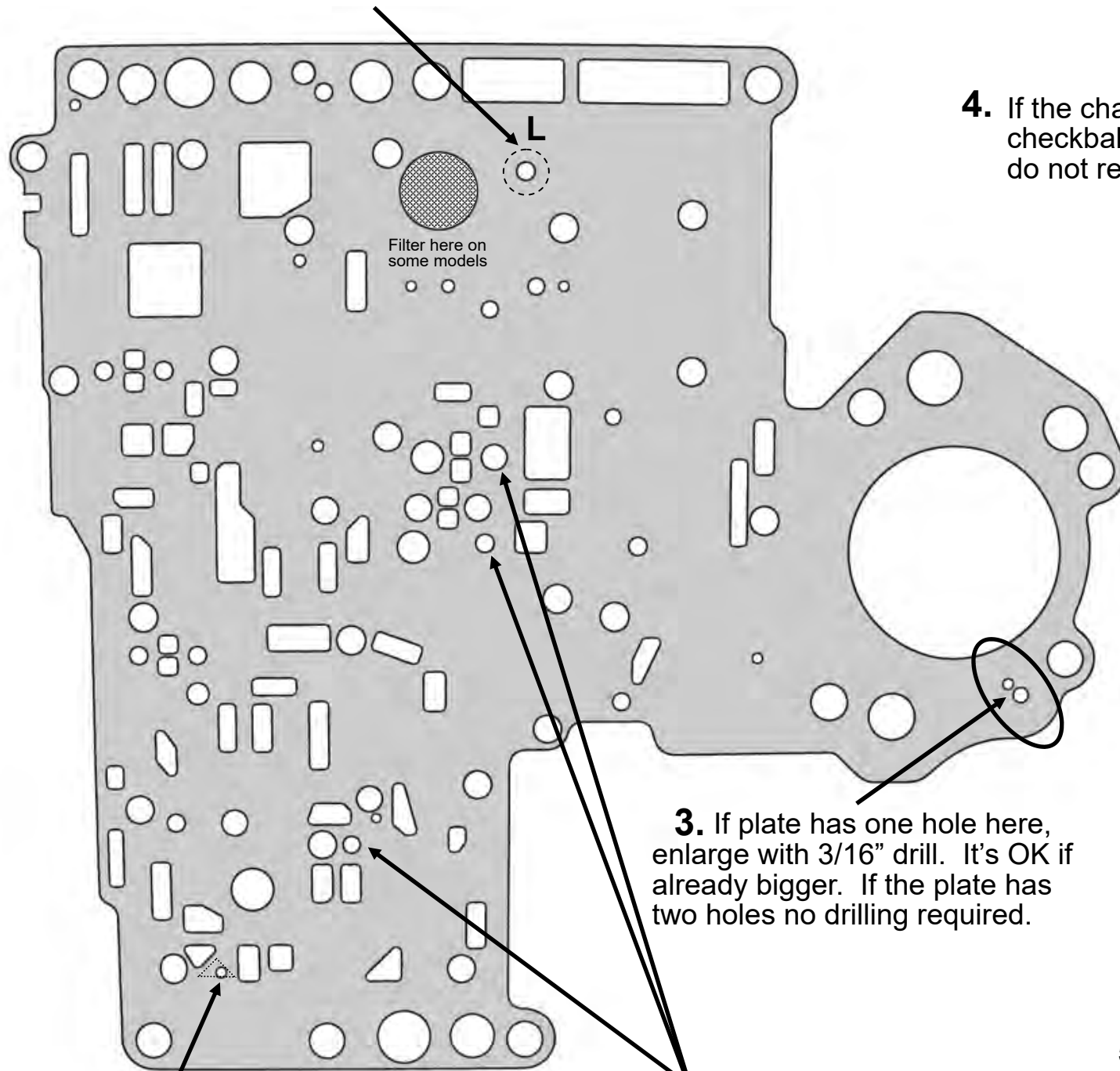
1-2 Gov valve

Shuttle spring & plug

2-3 Gov plug

Separator Plate

If plate has hole "L" valve body must have 3/8" steel ball and spring. See Page 2.



1. Enlarge this hole with 3/16" drill furnished. If the hole is triangle shaped no need to drill.

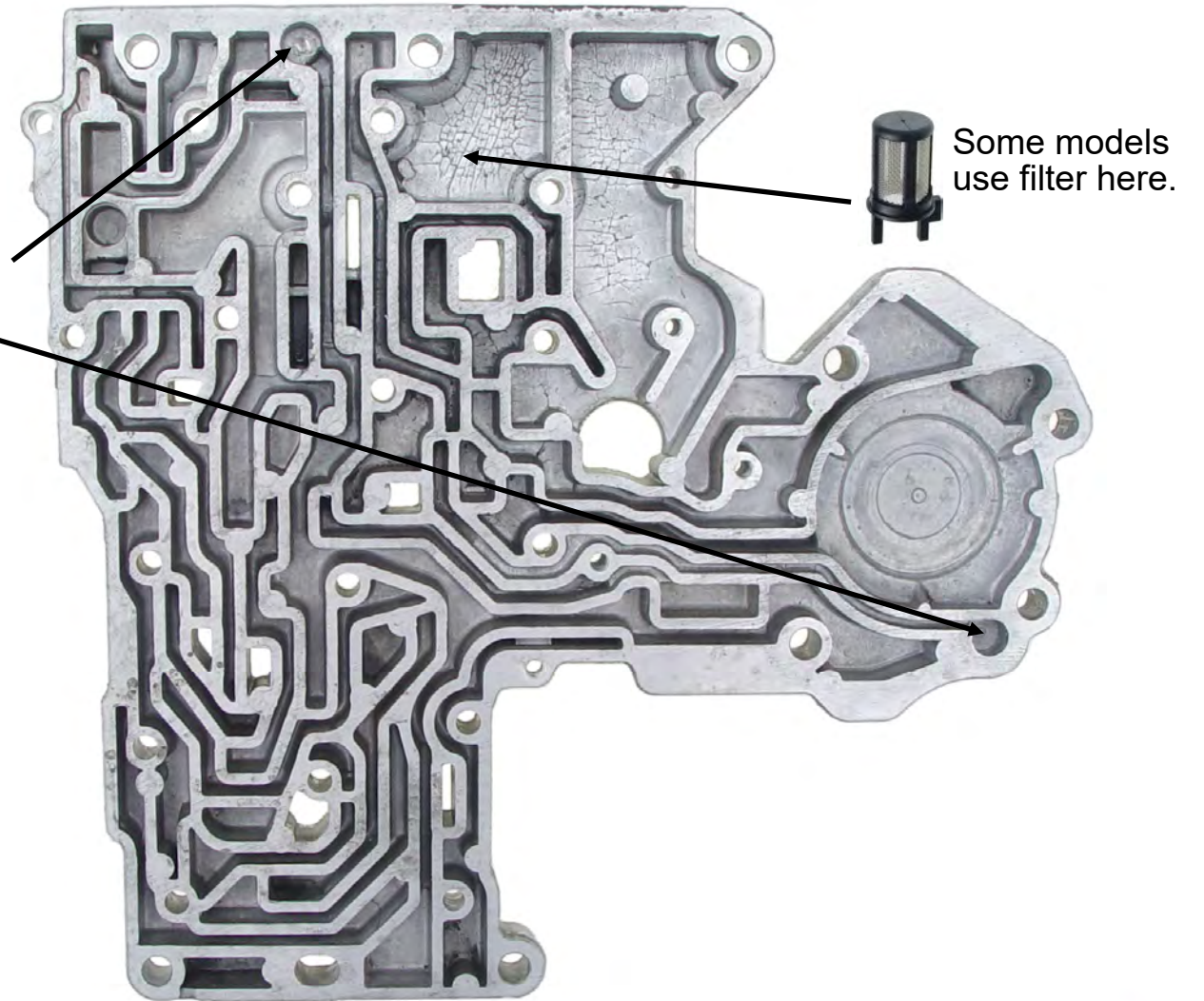
2. Enlarge these three holes with 3/16" drill. OK if already bigger.

3. If plate has one hole here, enlarge with 3/16" drill. It's OK if already bigger. If the plate has two holes no drilling required.

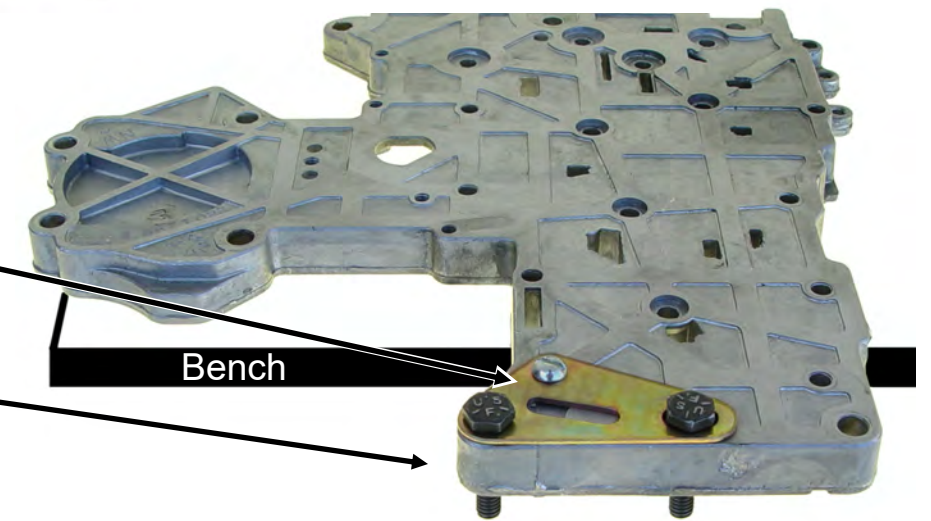
LISTEN UP: After drilling the holes from *this side of plate*, by **hand** turn 3/8" or larger drill to chamfer holes **SLIGHTLY** to remove burrs.

Channel Casting

4. If the channel casting has checkballs, either location, do not reinstall them.



Transfer Plate

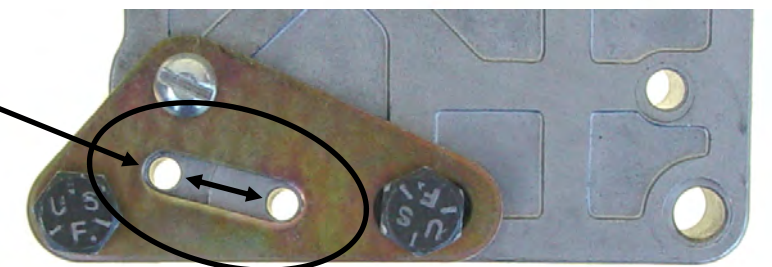


Bench

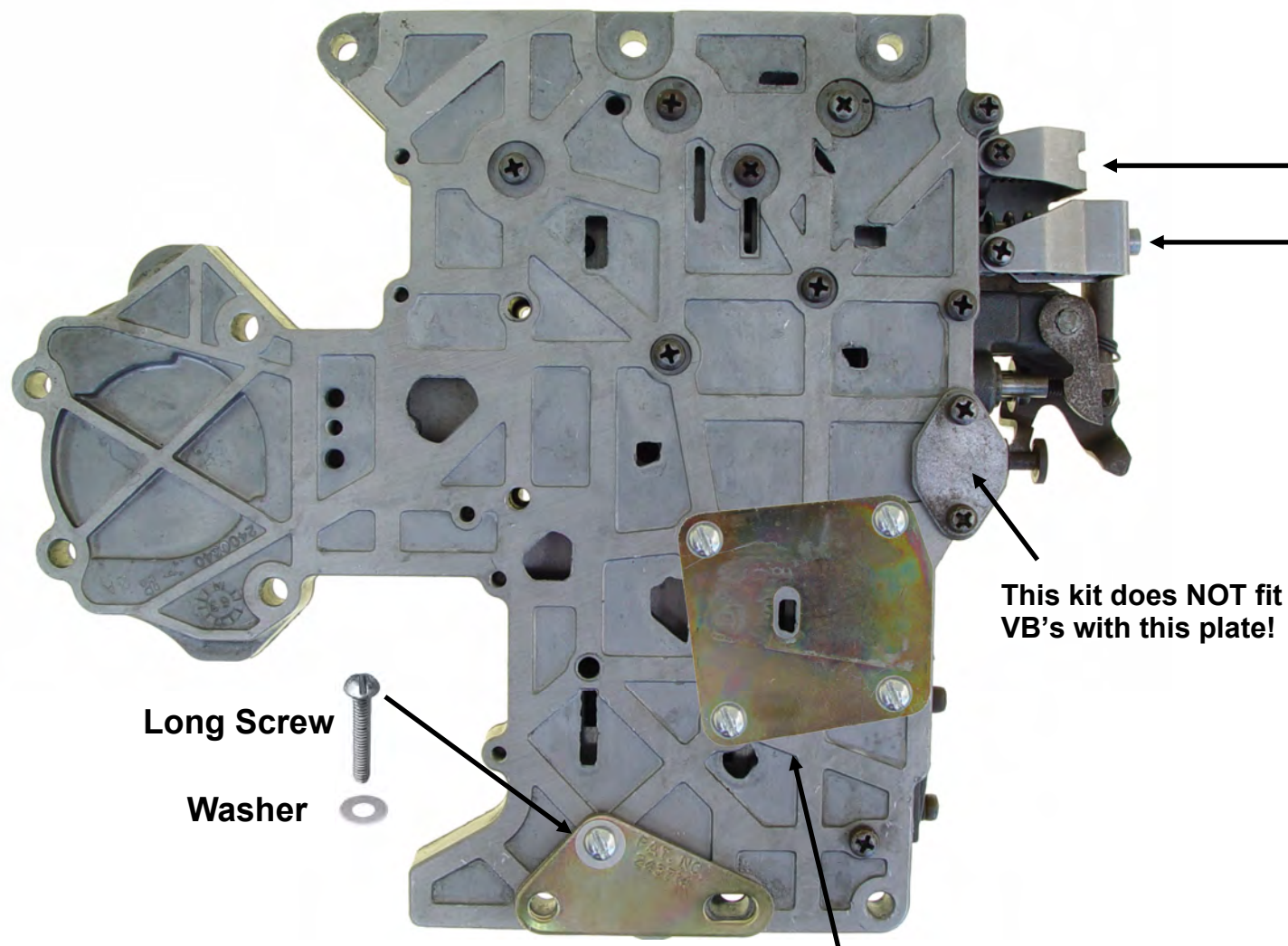
5. Place channel casting on bench with this end hanging over edge slightly. Place **Transfer Plate** on casting using two VB bolts and one screw thru the holes to locate it.

With 3/16" drill furnished, drill two holes straight down thru casting, One at each end of transfer slot.

Remove bolts and plate, debur holes.



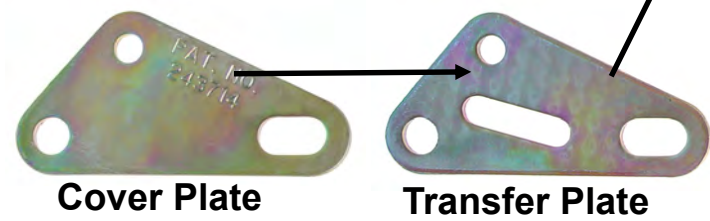
Fluid level checking: While the new manual valve provides oil to the converter in park, **DO** check fluid level in **Neutral** for accuracy as the converter is charged **MORE** in neutral.



This kit does NOT fit VB's with this plate!

Long Screw

Washer

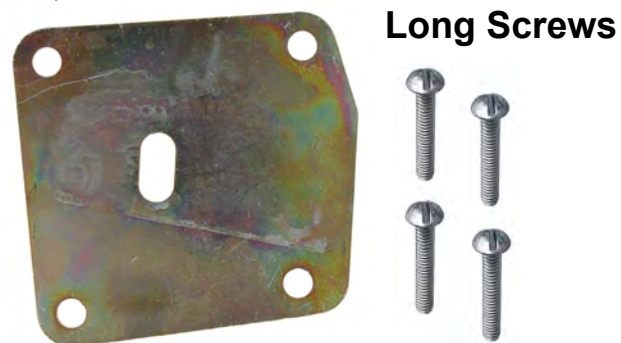


Cover Plate

Transfer Plate

5. Place **Transfer Plate** onto channel casting *first*. Then install **Cover Plate**, with **Long Screw** & **Washer** furnished.

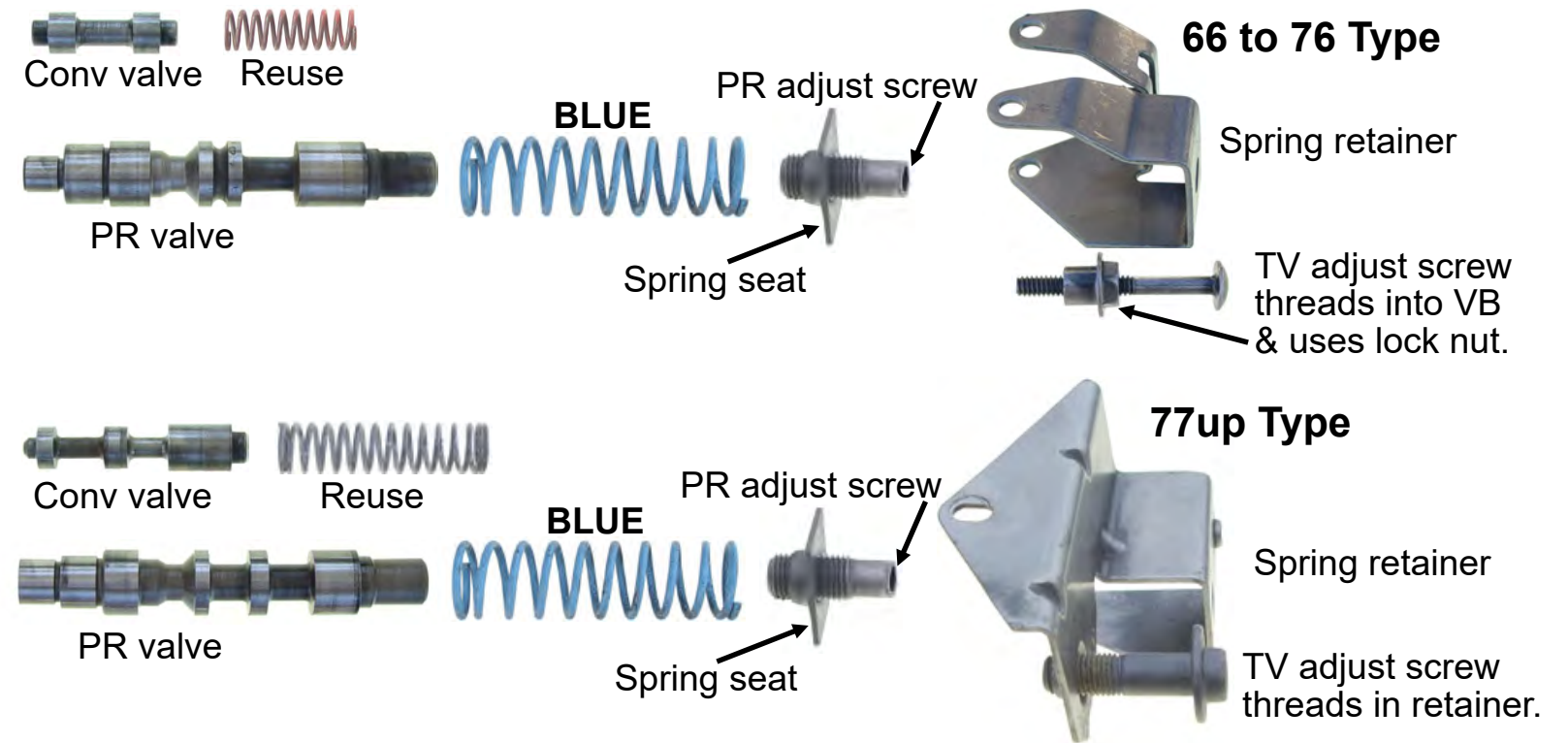
4. Install **Shift Command Plate** with four **Long Screws** furnished.



Shift Command Plate

Long Screws

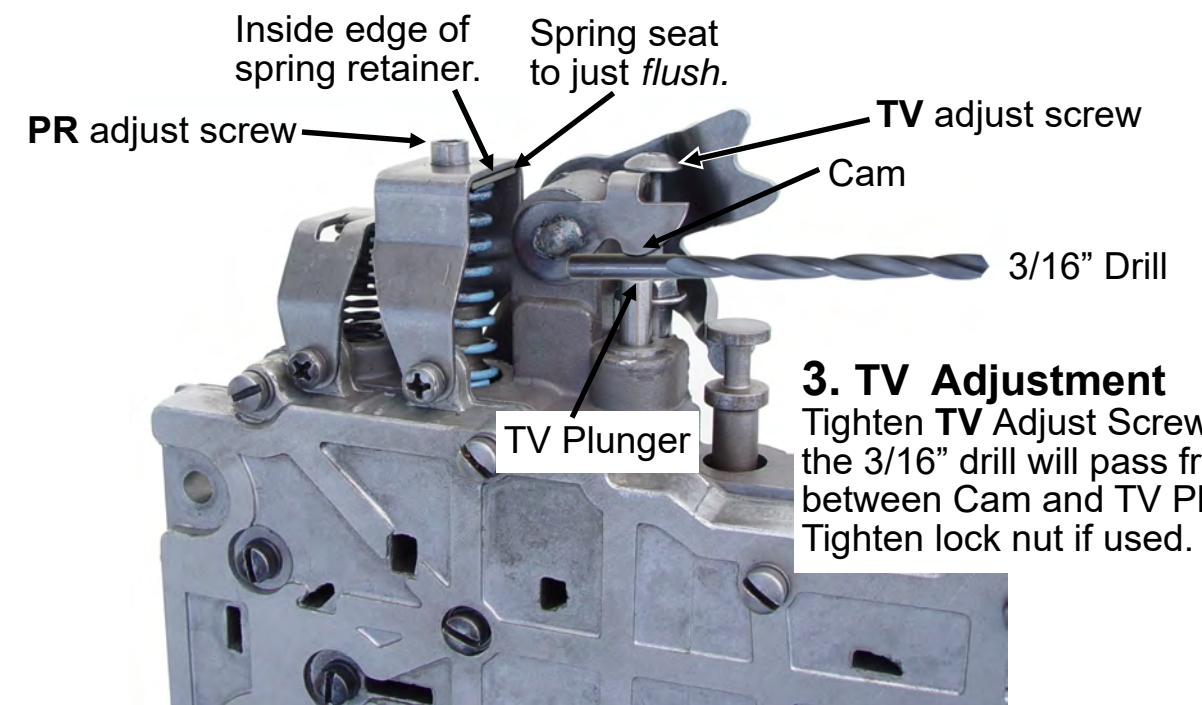
1. Install the Conv Valve with original spring. Install PR Valve with **BLUE** spring furnished.



2. LISTEN UP: PR Adjustment is Important!

With 3/16" allen wrench, turn **PR adjust screw** *clockwise* until spring seat is just *flush* against the inside edge of the spring retainer.

Street/Strip & Off Road Use: Leave flush
Trailered Competition Race Car ONLY : Adjust screw *counter-clockwise*, no more than four (4) turns from *flush*.



3. TV Adjustment

Tighten **TV Adjust Screw** until the 3/16" drill will pass freely between **Cam** and **TV Plunger**. Tighten lock nut if used.

Step 1. L/R Piston-- 904 & 727

904 Trans: Don't disassemble L/R piston. Reinstall L/R piston into case with **Short PLAIN** spring. If spring won't fit retainer or into piston reuse the original spring.

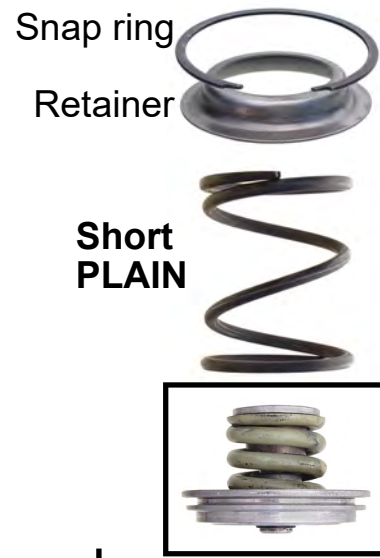
727 Type 1: Remove cushion spring, reassemble piston. Install the L/R piston into the case with the **Short PLAIN** spring. If spring won't fit retainer or into piston reuse the original spring.

727 Type 2: Install **Spacer**, reassemble the piston. Install L/R piston into case with **Long PLAIN** spring.

727 (Type 2) L/R Piston Binding/Cocking

Grind land inboard of lip seal groove about halfway to the piston shoulder. This prevents lip seal from being pinched and binding piston in the bore. **Don't worry, it's OK.** This tech's been around over forty years, been done thousands of times, and still works great today. Gil.

904 All Types



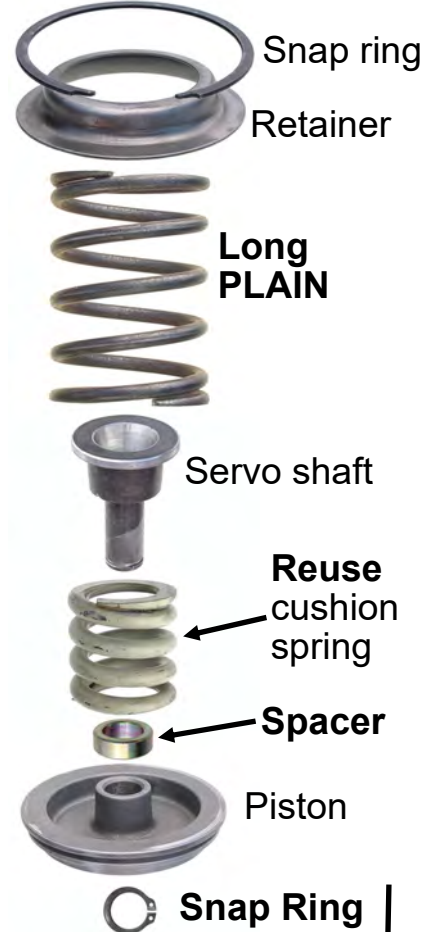
Don't take apart

727 Type 1



Remove cushion spring

727 Type 2



Snap Ring

Accum Piston & Spring(s)

Accum piston spring(s) might be on the top, bottom, both or none at all. Reinstall as it came apart.



Step 2. With 5/16" punch or bolt, install the **Solid Cup Plug (NO Hole)** into the case.

Solid Cup Plug

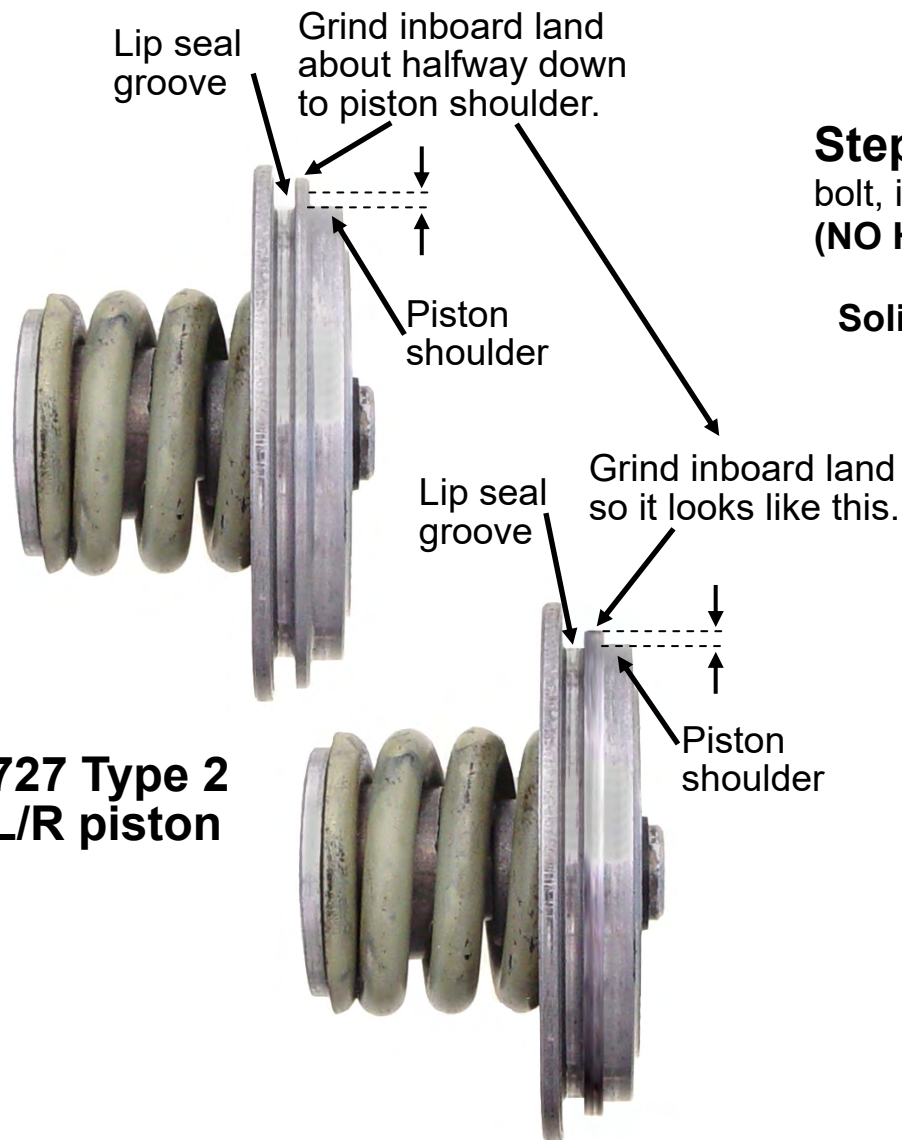
NO HOLE

Step 3. 727 models only!

With 5/16" punch or bolt, install the **Orifice Plug** into this hole in case.

Orifice Cup Plug

Has Hole



Adjust rear band

Tighten snug with short wrench.
Single wrap band: Back off 2 1/2 turns.
Double wrap band: Back off 3 1/2 turns
[Double wrap band has three sections across]
Tighten the locknut.

Front band adjustment:

Tighten snug with short wrench.
Back off 2 turns and tighten nut.
Adjustment on outside of case.



Mr Shift

Lock Up Transmission Issue

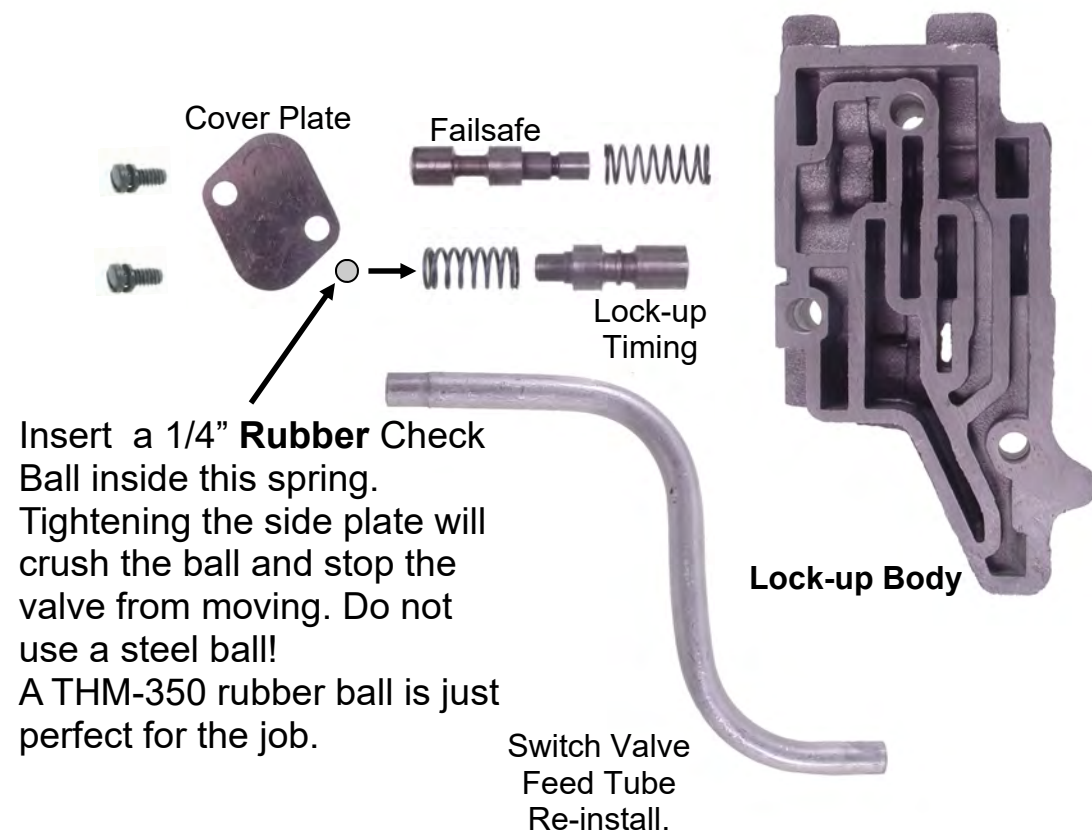
If you have to use a Lock-up Transmission and this product setup for Full Manual Control this is our only solution. **There will be no lockup function.** The problem is there is no easy way to control lock-up separately from the rest of the 3 gears you control with the shift selector. That's why officially we don't support this products use within a lockup transmission. Ok, now stop kicking your heels. Here's what you can do as an unofficial work-around.

Step 1)

DO NOT use a torque converter with a clutch in it. Order a "Test Torque" converter from your converter supply company. They will build you one without a clutch in it.

Step 2)

Disassemble your lock-up body and install a **rubber** 1/4" checkball inside the spring as shown below. When you tighten the side plate the ball will block the valve from shifting. Re-assemble the valve body. You're done! Please do not call us for any other advise concerning this product if you are trying to use a torque converter **with** a clutch. Thank you.



Converting Back For Automatic Shifts.

