

This is not a “do it yourself” kit.
It’s for the experienced, professional Trans mechanic only.

SK[®] 4L60E Series **L** Fits: 1993-2012

Updated for Models with
Cylinder Deactivation!

Corrects/Reduces/Prevents

**Check Light Blinking---P1870/PO894 Code---Brutal 1-2 shift
Converter Slip/Shudder---Burnup---Erratic Pump Slide
bounce that Wears out pump and valve bores.
Bump-Bump 1-2 or 2-3 shift.**

What is a good Shift?

More than everything else, your customer will judge your work quality by the feel of the shift, and no trouble light or codes.

The main judgment is how long a shift takes from start to finish.
If it’s too short it yanks the engine down and thumps the vehicle.

Most shift complaints are bumps and bangs--excess FIRMNESS.
Most often drivers don’t notice a soft shift until it is hardly even there.

The wide ratio 1-2 shift, in this trans, should have a noticable “giveaway” feeling during the 1-2 shift to prevent chugging or lugging.

Say outloud, “SHIFT RIGHT NOW” as the shortest a shift should be,
and “SHIFT RIGHT NOW PLEASE” for as long as it should be.

NEW BAND: Will have soft shifts for a few days while the surface of the lining is leveling to fit the drum. **Use the springs we recommend.**

We did a lot of work and had a lot of fun developing this kit.

We hope you and your customer will enjoy it. Gil



Mr. Shift

Since 1959.



1-2 Accumulators

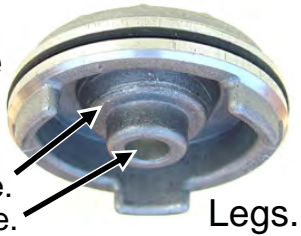
Install pistons as shown, even if it wasn't that way before. It's OK!

Replacement
TransGo®
2nd Type
Alum Piston
p/n 4L60E-2ACM

Replacement
TransGo®
3rd Type
Alum Piston
p/n 4L65-2ACM

1st Type
(Same as 700R4)

Ledge here.
.309 hole.



Legs.

ORANGE

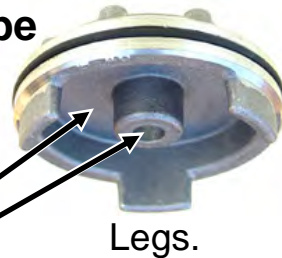


WHITE

WHITE

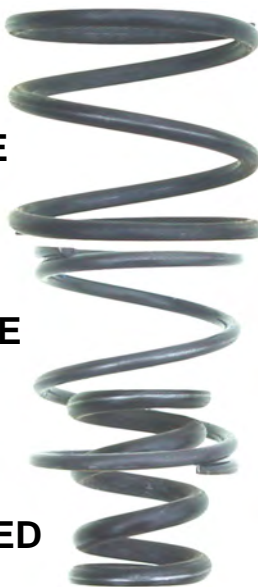
2nd Type

Flat here.
.236 hole.



Legs.

ORANGE



WHITE

RED

Plastic pistons break!

Don't use them!

At the very least, always keep a **2nd type Aluminum Piston** on hand.

A 2nd type piston works with either a **2nd or 3rd type housing** using our **2nd type springs!**

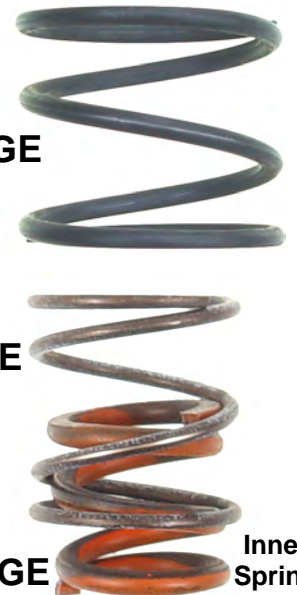
Do Not use a 3rd type piston in a second type housing. It Breaks Springs!

3rd Type



No Legs.

ORANGE



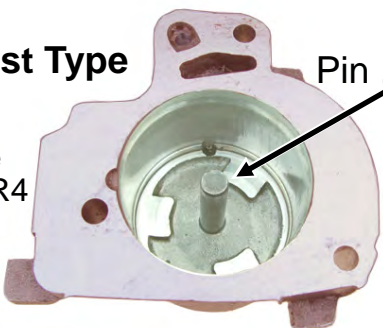
WHITE

ORANGE

Inner Spring

1st Type

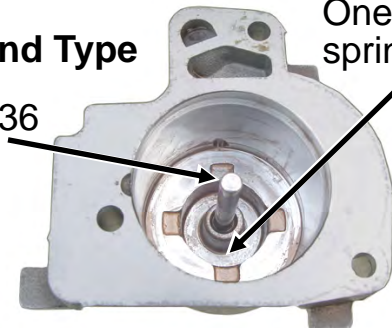
Same as 700R4



Pin .309

2nd Type

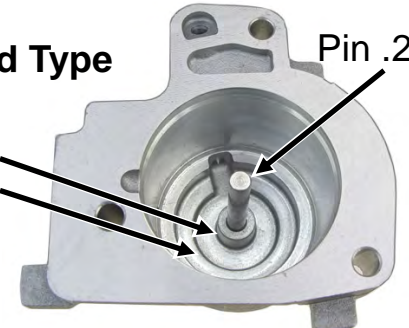
Pin .236



One .485 deep spring pocket.

3rd Type

Inner and outer spring pockets.

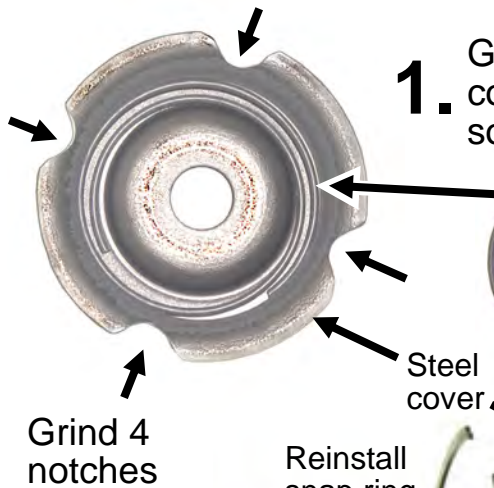


Pin .236

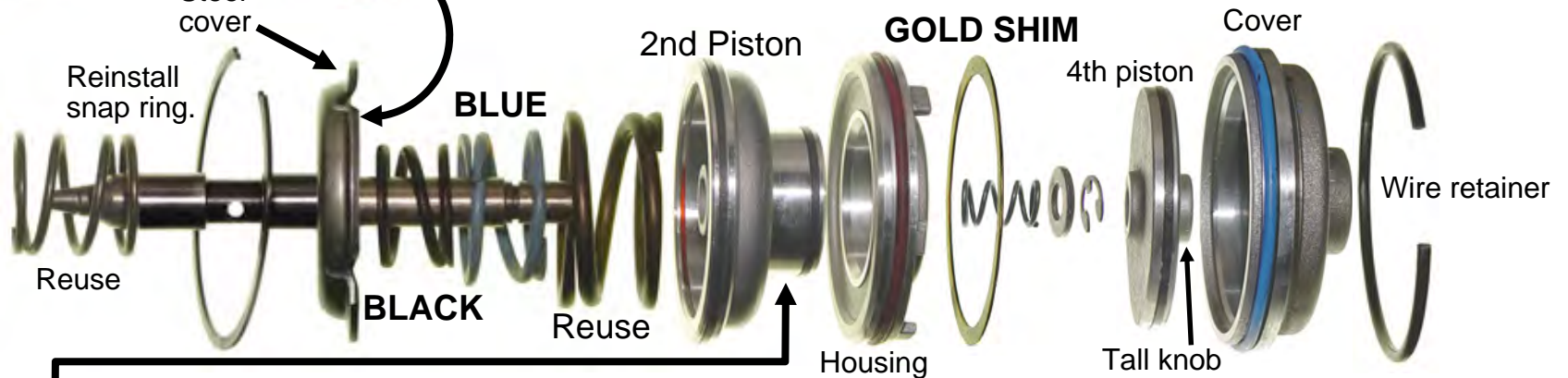
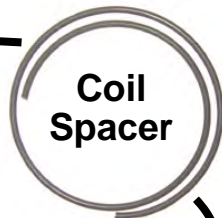
2nd Piston Upgrades

These upgrades prevent 1-2-1-2-1-2-1-2-1 shuttle shift and **FIXES** 1-2 bump or bang at 20 to 24 mph. Makes tight short 2-3 shift and 3-2 kick downs. You will love it and your customer will know you **Fixed it**.

1. Grind 4 oil exit notches on the steel cover about like this. It gets real hot so have a dish of water handy.

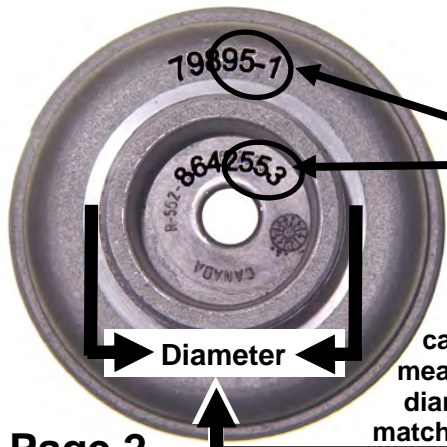


2. Stick **Coil Spacer** into the recess of steel cover with some assembly Jel.



3. Install **BLUE** and **BLACK** cushion springs inside the original cushion spring and reassemble. Install the **GOLD SHIM** between housing and cover. Make sure the band moves freely on drum from front to rear. (see **Page 7**.) If band is too tight remove shim, don't shorten pin.

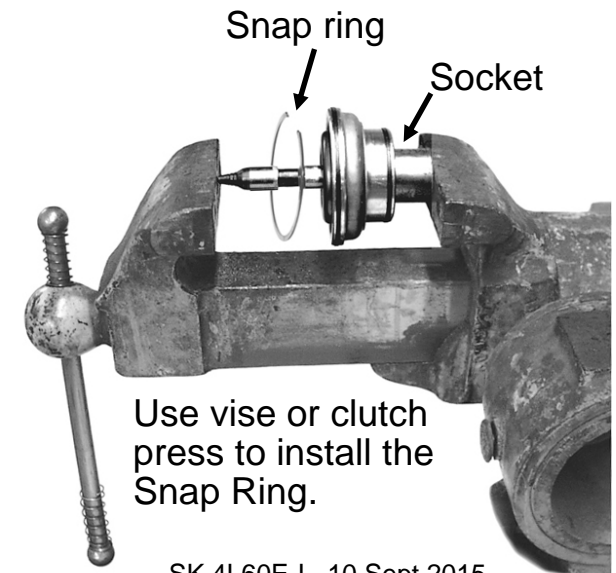
2nd Piston



You can also measure the diameter to match numbers.

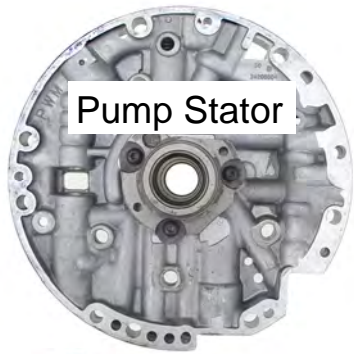
4. Identify 2nd Piston by Number: Circle the number that matches the last three numbers on the 2nd piston. Circle again on **Page 6 Step 1**.

Vette Types	8, 6 or 5 Cyl	Light Duty
093 or 95-1	159 553	554
↓	↓	↓
1-3/4" 1-3/4"	2-1/16" 2-1/4"	2-1/2"



Use vise or clutch press to install the Snap Ring.

Page 2

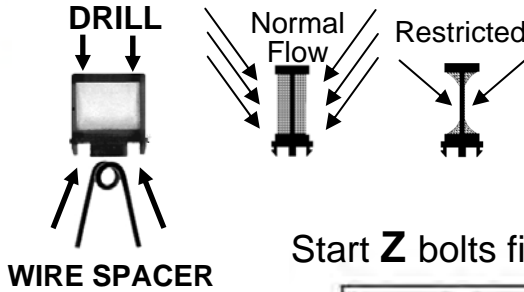


Pump Stator

2. EPC Screen Fix

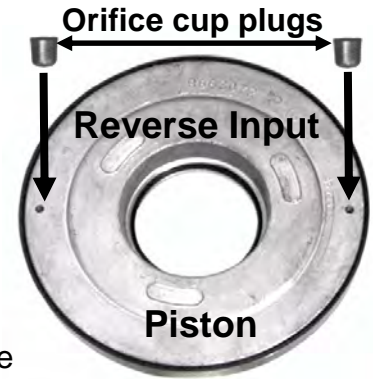
Large screen in VB plate. Sides of screen suck together causing low line pressure at high throttle. Burns up clutches and band. **Wire Spacer** keeps the screen sides apart.

Additional safety: Drill four .040 to .047 or two 1/16" holes thru top of screen.



3. If Trans is Apart

With .055 to .120 drill, drill thru the existing bleed holes in the Reverse Input Piston. Install **orifice cup plugs** furnished into holes.



4. Separator Plate: Correcting hole sizes takes a few minutes, but the trans will tell it's grand kids, you cared.



Pressure Regulator

1. Pressure Regulator

Install the **ORANGE** bumper and the **ORANGE** pressure regulator springs.

ORANGE

© Checkballs

7 on plate, 1 in case.

Boost Bushing

Do not enlarge the feed holes.

5/32"

.093

Start Z bolts first

Drill this 1-2 shift hole as follows:
We prefer .063 for Short but Smooth
(Optional **FIRM** .070)

4th
.086 to .093

If plate has this hole
drill .093

Drill .093

Hole worn little? Use 1/4" (.250) ball.
If worn more use 17/64" (.265) ball.
Plate worn bad? **Replace** it.

93-94	use 46-plt-94
95	use 46-plt-95
96-07*	use 46-plt-96
05 Vette	use 46-plt-05
2007-08	use 46-plt-07
2009	use 46-plt-09

*without bonded gaskets, except 05 Vette.

Selection: 2-3 Shift Quality:

With 2nd Piston 553 or 554
Make .070 to .076
With 2nd Piston 093 or 95-1
Drill .093

2 holes in oval, takes a check ball.
1 hole in oval, delete this ball.

This ball goes into the case.

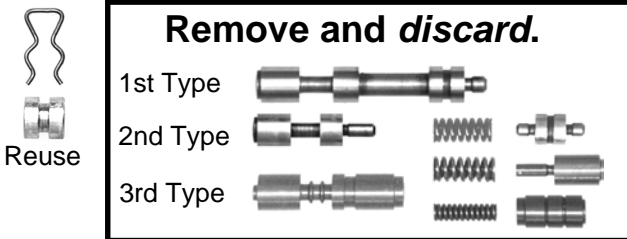
TransGo®
46-PLT-96

NEW UPDATE: The **New Upgraded Isolator & Converter Regulator Valve** works great even in a very worn valve body. This upgrade let's you use a torque converter with any style lockup plate. **HOWEVER, IF** your working on a vehicle **WITH Cylinder Deactivation** (shuts off cylinders at cruise) 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 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.

**Cylinder Deactivation Info:
Year & Models using Cylinder Deactivation**

2005-07	Buick Rainier 5.3L
2007-09	Avalanche 5.3L
2008-09	Avalanche 6.0L
2005-09	Trailblazer, Envoy Denali 5.3L
2007-10	Silverado, Sierra, Suburban, Yukon, Tahoe, 1500 5.3L
2007-08	Silverado, Sierra, Suburban, Yukon, Tahoe, 1500 6.0L

1. Remove and discard the converter reg valve, spring and isolator valve. Save the end plug and clip.



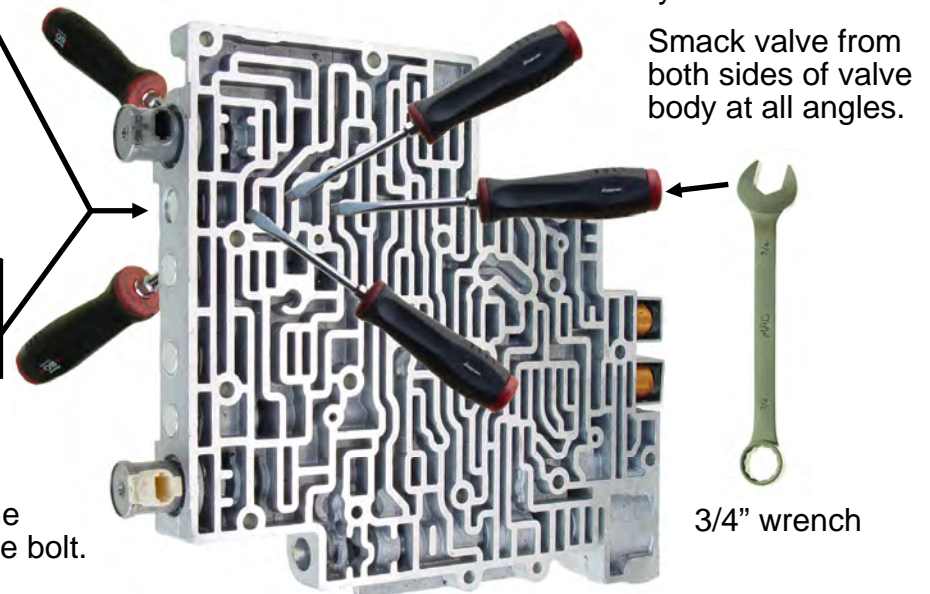
New ISO-CONV valve replaces **all** of the original equipment type .441 dia. Isolator and Converter valves. Measure the valve dia. you are removing.



GM & SRTA Rebuilt VB's w/OVERSIZE valves



SRTA & GM rebuilds can have **OVERSIZE** valves & still wear the VB. For 3 upgraded oversize valves order **TransGo 4L6-ISO-3**. **Now Includes** instructions for models with cylinder deactivation.



2. Insert 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.

For Normal Use:

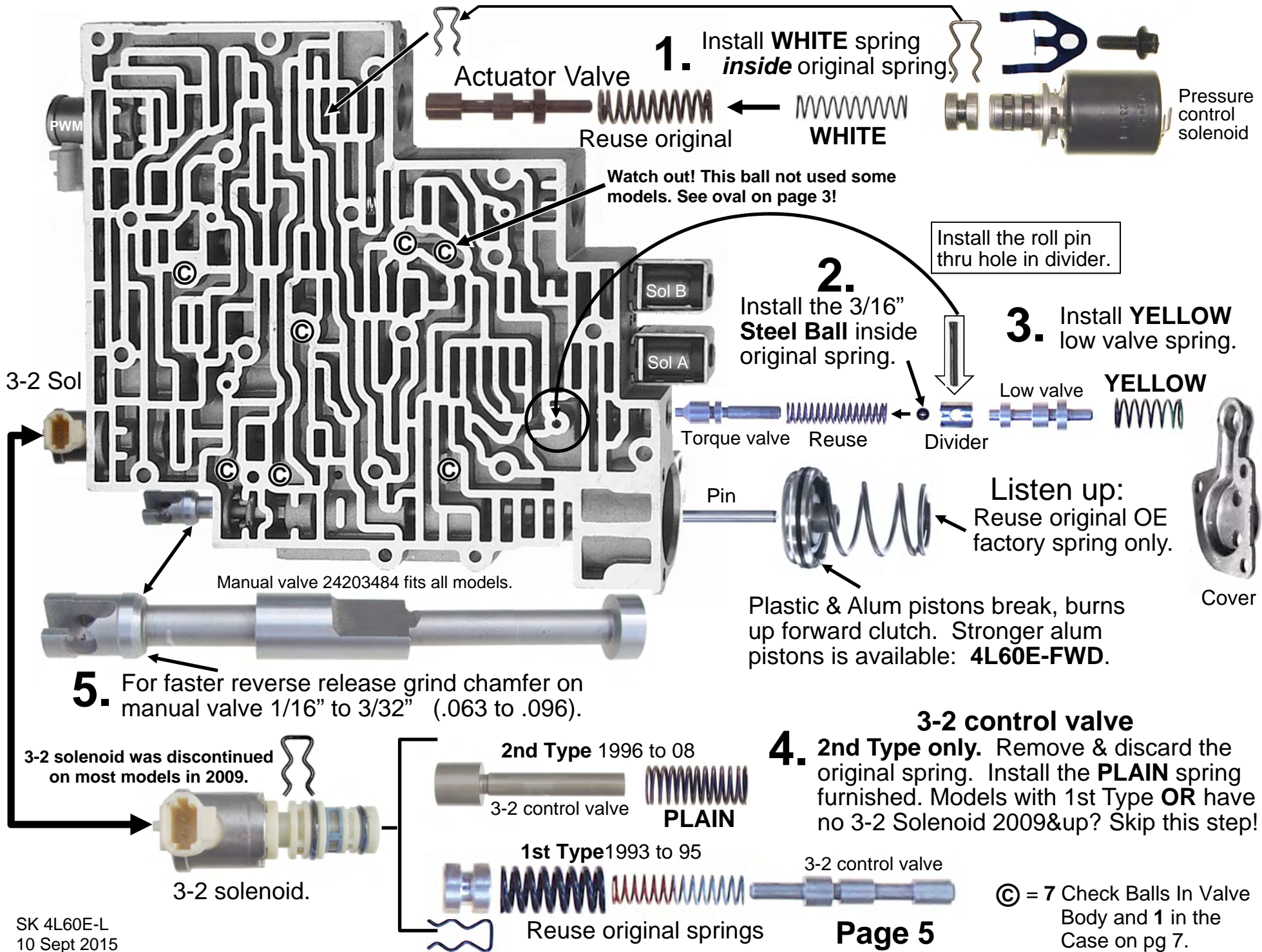
Install **BLUE** spring & **ISO-CONV Valve**.

Models with Cylinder Deactivation:

Install **Spacer** (Recessed end outward), & **ISO-CONV Valve**. Do not use Blue Spring! Yes, the valve & spacer will slide back and forth.

Valve Sticky?
Do this: →

Insert new valve into bore. Place screw driver with tip against valve between the lands. Whack screw driver **smartly** with 3/4" wrench from all angles and from the back side. Then repeat step 2.



Matching accumulator to ECM,
2nd piston size & accum code.

1. Circle piston code from **Page 2**.
554 553 159 093 95-1

2. Find accum
bushing code.

LISTEN: Hold side **A**
towards ceiling when
installing accumulator
bushing and spring.



Make sure that
accum spring is
not **crooked**.

Special Pin

← Large

← Small

4. Install **Spring**
selected from
chart below.



1-2 accum bushing & valve

3. Match 2nd piston & 1-2 accum
bushing code to **Spring** color.

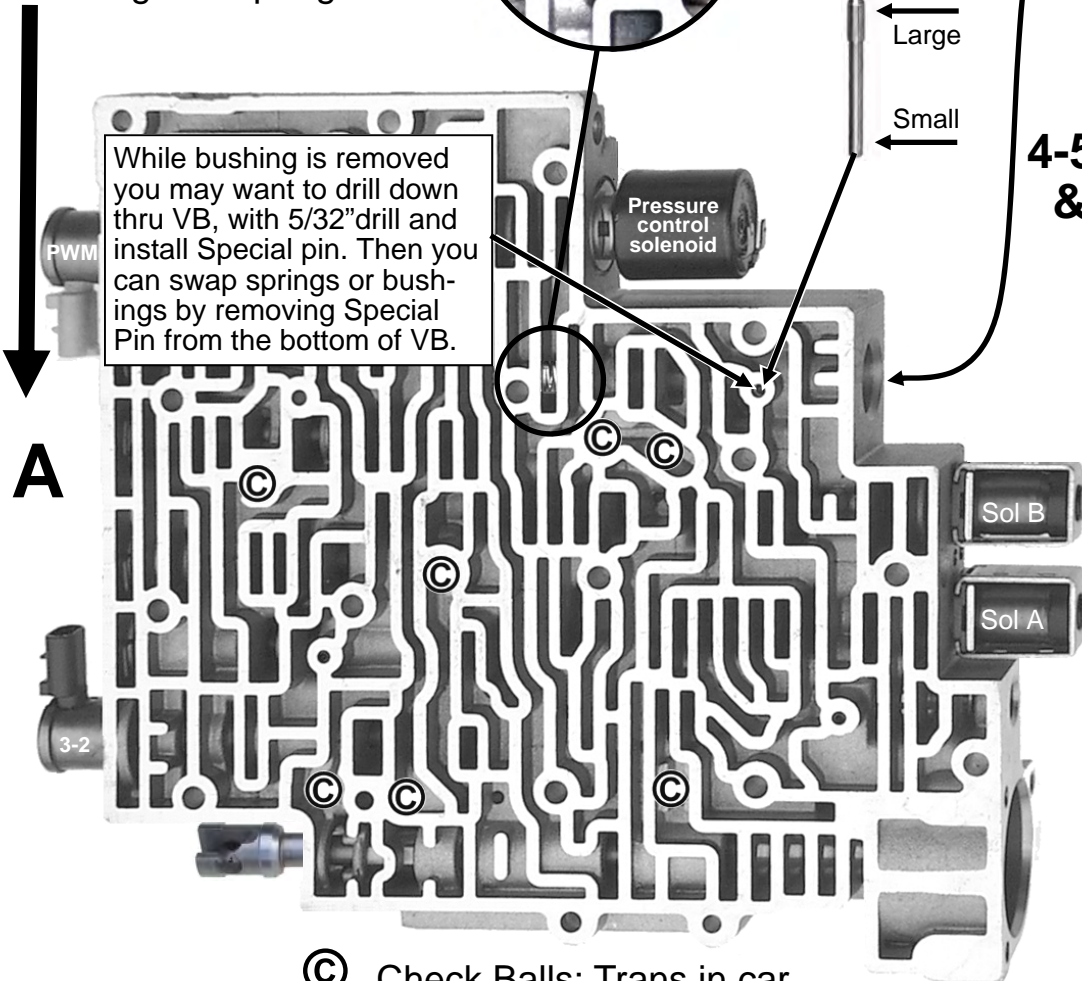
Piston #	Bushing Code	Spring	OZ
553 or 554	A,AX,B,BX	RED	88
553 or 554	YZ,C,CX	ORANGE	80
553 or 554	D,DX,R	YELLOW	72
093 or 95-1	B,C,CX,YZ	BLUE	56
093 or 95-1	D,DX,R	WHITE	24

4-5 Cyl
& V6

V8

Piston #	Bushing Code	Spring	OZ
553 or 159	A,AX,B,BX	RED	88
553 or 159	YZ,C,CX	ORANGE	80
553 or 159	D,DX,R	YELLOW	72
093 or 95-1	D,DX,R	WHITE	24
093 or 95-1	YZ,C,CX	BLUE	56
093 or 95-1	A,AX,B,BX	YELLOW	72

While bushing is removed
you may want to drill down
thru VB, with 5/32" drill and
install Special pin. Then you
can swap springs or bush-
ings by removing Special
Pin from the bottom of VB.



© Check Balls: Trans in car.
7 In Valve Body. 1 in the Case

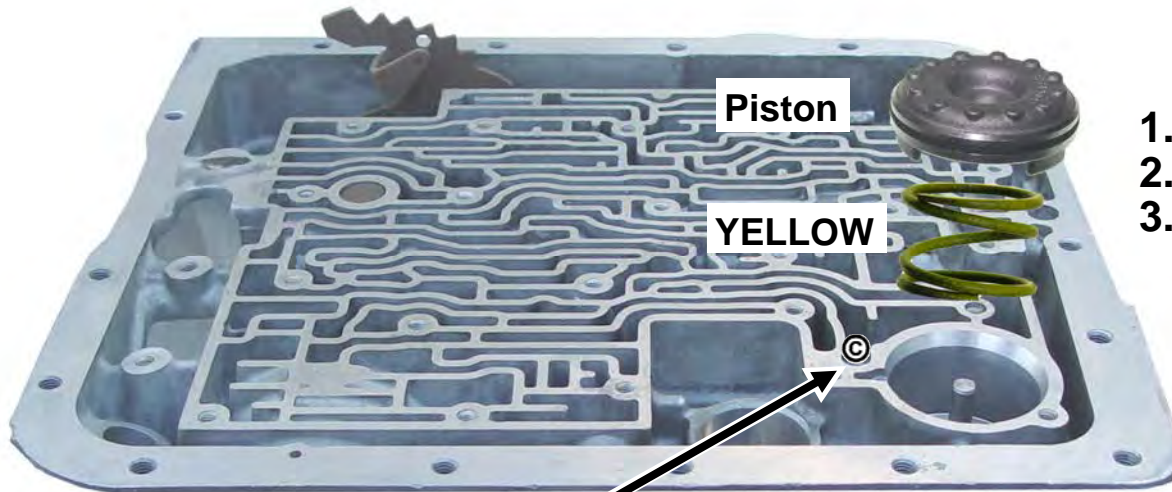
Page 6

LISTEN UP: 1-2 Shift with NEW BAND
Will get noticeably firmer in a few days.
Trust me, install spring shown in the chart.

Listen Again: If a Road test has long 1-2
shift and you **know** the trans has a **high**
mileage band, you can shorten the shift by
installing spring with **next** higher number.
BUT, **always** start with spring shown.

Thanks for Listening, Gil

Want **HARD SHIFTS?** Get Kit **4L60E-HD2**.



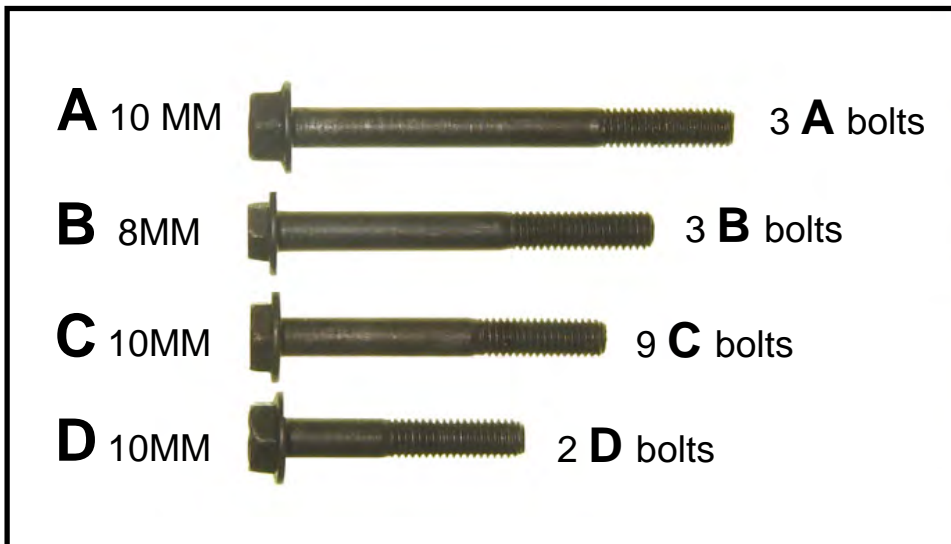
4th Accumulator

1. Remove and discard original spring.
2. Install **YELLOW** spring into case
3. Install 4th accumulator piston **as shown**, even if it wasn't that way originally!!
It's OK! Really!

Case

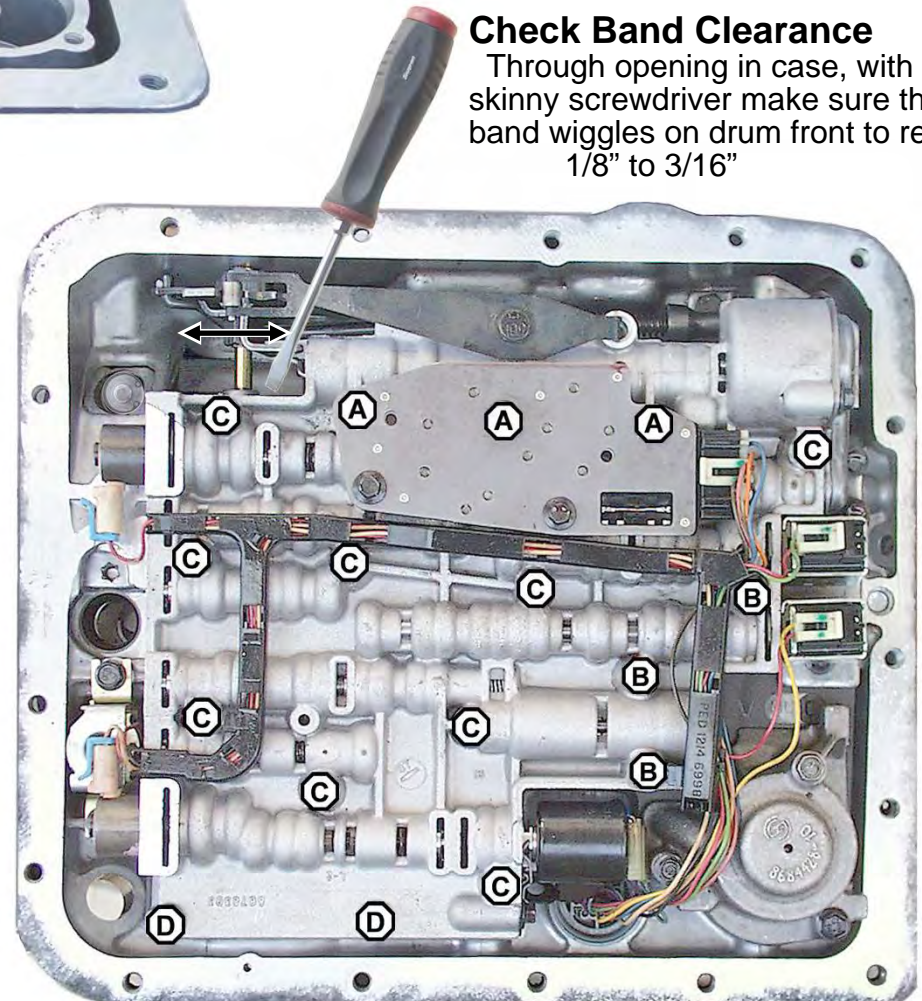
Ⓒ Checkball goes in the case here.

WARNING: Wrong bolt locks gear train. Install bolts like this:



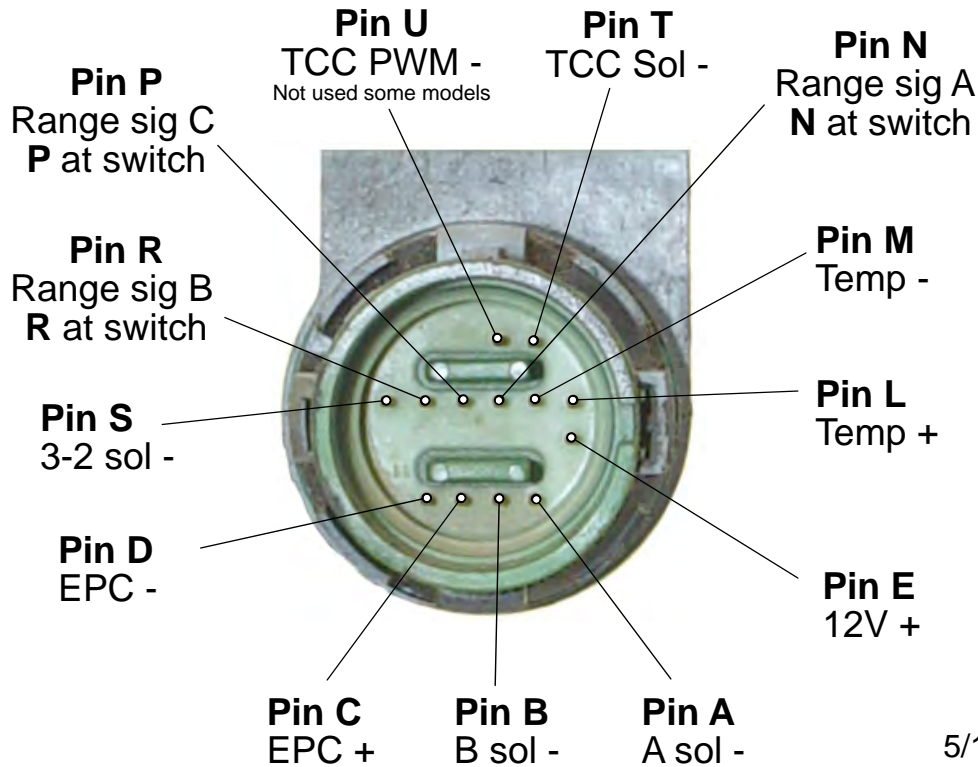
Check Band Clearance

Through opening in case, with a skinny screwdriver make sure the band wiggles on drum front to rear.
1/8" to 3/16"

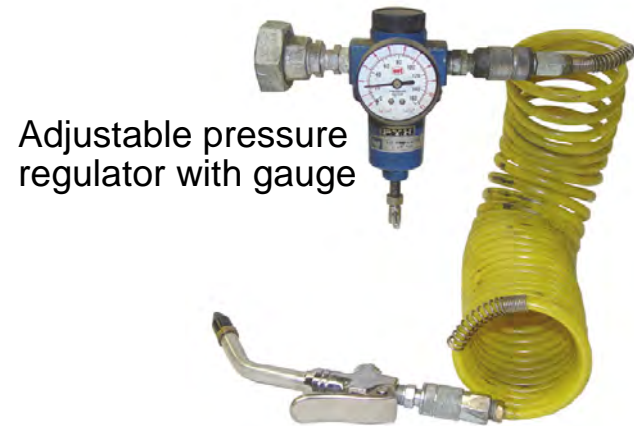


Additional Information from the TransGo Tech Department.

Connector at the case



Making a hole *SMALLER*
Place separator plate flat on a sprag race.
Set a steel checkball in hole, whack the ball
couple of times smartly with small hammer.
Now re-drill hole to the desired size.



Shift Solenoid apply sequence

Gear	Sol A	Sol B
1st	ON	ON
2nd	OFF	ON
3rd	OFF	OFF
4th	ON	OFF

Testing lockup**
Drop the pan, pull TCC sol.
Put a 5/16" or 3/8" ball into
snout . Reinstall solenoid,
pan and the fluid. Start the
engine & put trans in gear.
Engine should chug or die.
If it doesn't -- **Pull the trans.**

**Must have ISO-Conv valve
from Shift Kit® installed first.



A tip on air checking.
Buy an air pressure regulator, they're cheap.
Available at an automotive paint supply or
from the tool truck. Adjust the air pressure
around 30 to 40 psi. If the clutches or band
don't apply at 40 psi -- **Something's wrong.**

3-4 Clutch Durability



Load Release Springs

All 4L60E's need these springs.

These springs must be used with the original thickness bottom and top pressure plate and snap ring! See right. →

These springs prevent clutch drag during high throttle in 1st, 2nd and during a 3-2 kickdown by opposing the centrifugal residual oil apply force at higher revs.

At lighter throttle these springs help reduce overlap during the 2-3 upshift and make a cleaner 3-2 downshift. These springs prevent accidental clutch apply because of minor cross leaks at the input rings, support or valve body.

Adding Additional 3-4 Clutches

Additional 3-4 frictions can be installed by using thinner steel & friction plates and reusing original pressure plates, snap ring and 3-4 return springs.

For hot rods, that rev above 5500 rpm

Use the **4L60E-HD2** Reprogramming Kit™ which contains special high rate forward and 3-4 clutch return springs to prevent centrifugal apply that burns up the 3-4 clutches.



“Thanks for listening”

Gil

Mr. Shift

3-4 Clutch Clearance

This Trans likes .015 to .030 in.

When re-using original Load Release Springs, it is NOT advisable to replace normal thickness pressure plates with thin pressure plates to add additional clutches to the 3-4 clutch pack.

Installed, the load release springs provide spring force **between** the 2 pressure plates (spreading them apart) to provide additional release tension to the 3-4 clutch piston.

