



4L80E-HD2 Reprogramming Kit™

HD or Full Race Automatic

Shifts automatically in "OD" and "D" positions.

Manually holds 1st, 2nd or 3rd to any RPM you desire.

**GEAR COMMAND Manual backshift to 3rd, 2nd or 1st at any RPM.

Choose the firmness you want: From just brisk to full race.

Installs with trans in vehicle or on the bench.

This is an HD and Hi-Perf product for professional installation. It is not a "do-it-yourself" product. It's for the experienced, full time, professional transmission mechanic who is already Familiar with 4L80E transmission.

New boost valve & relief valve: Prevents high pressure parts breakage.

Dual feed direct clutch: Triples 3rd gear holding power.

"This is the trans that Sport and heavy duty trucks, and high horsepower streeters and racers have been wishing for. Something you can beat the snot out of without giving it or you a runny nose.

It will soon be the trans of choice for vehicles that have weight and horsepower.

It just gets comfortable at about 900 HP and will handle a lot more with just a few special parts. Hang onto your hat."

"We have a Stick Shift version too."

"Available Mar 96 [or sooner] an internal brake version which will put you hunting lots more rubber."

Burnouts:

In water or bleach box: Break it loose in 1st/2nd, then upshift to 3rd.

THESE ARE THE TRANSMISSION RATIOS:

"1st" 2.48 "2nd" 1.48 "3rd" 1.00 "4th" .75

To find top gear ratio, multiply the axle ratio x .75 [Example 3.73 x .75 = 2.79]

Other ratios: Multiply axle ratio x trans ratio. [Example 3.73 x 2.48 = 9.25]



Mr Shift®

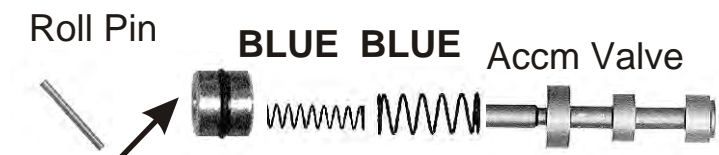
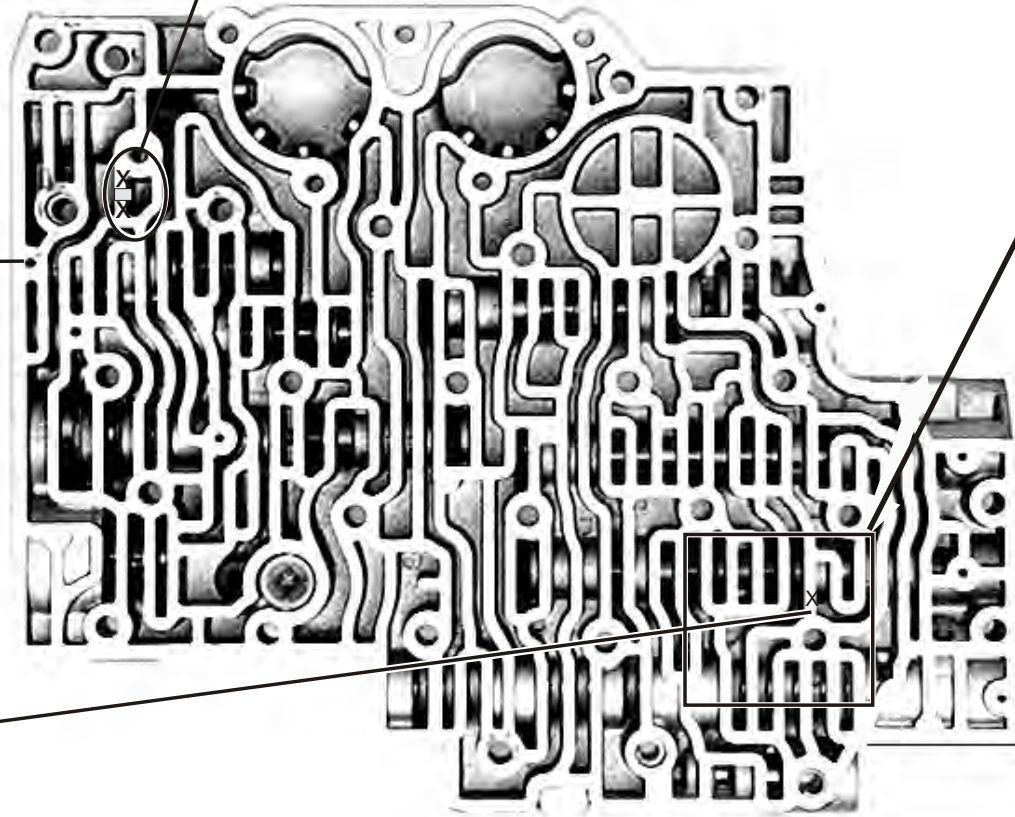
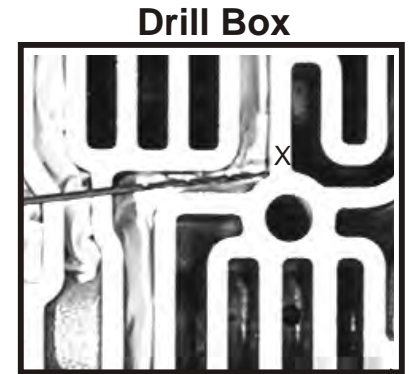
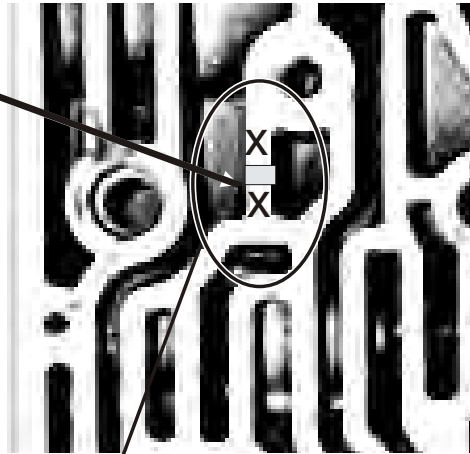
Gil Younger

Listen: Gear Command is for race cars only, NEVER install in work truck.
 After you finish page 5 then you can open and read the Gear Command pack.



Step 1 Between the "X's" drill thru the partition, left to right with 3/16" drill.
 FIRST: Center punch and drill with .120 drill. Then enlarge with 3/16" drill.

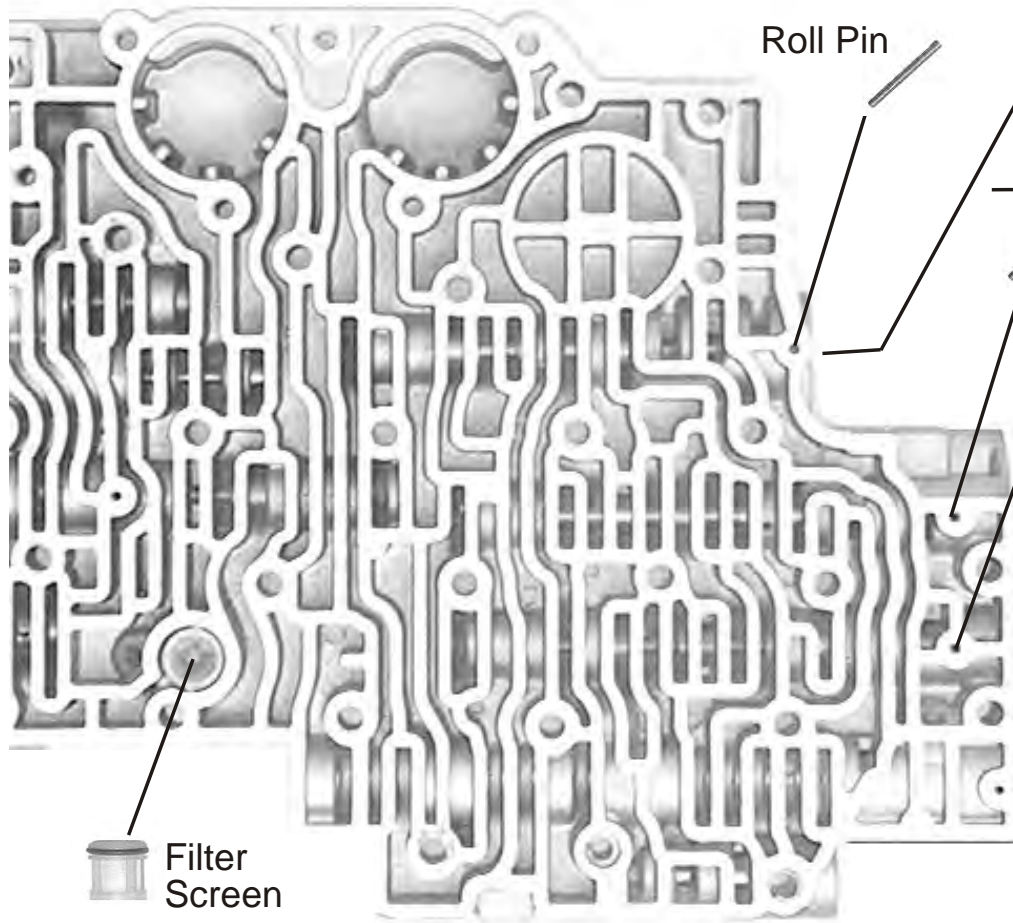
Drill identification (Actual size)



Step 2 Discard original springs and plug. Install new TransGo BLUE outer and BLUE inner springs and new TransGo plug with o'ring.

Step 3 About 1/8" under X on left hand side of partition make a small dink with an ice pick. Then drill thru the partition, left to right, with .055 drill, on the angle shown in "Drill Box". Then insert the .045 cotter pin thru the hole and spread the ends.

Valve Body



Step 1

Remove bushing and discard ball. Reinstall bushing. Push end plug in as far as it will go. Then install roll pin.

1st Type



End Plug: Install solid end outward. Roll pin installs after plug Not thru it.

3rd/Rev Bushing

Discard ball

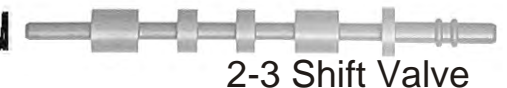
2nd Type



Roll Pins

Step 3 listen up:

To do the drilling on page 4, remove solenoids A & B, 1-2 & 2-3 shift valves and springs. Carefully set them aside. When page 4 drilling is finished re-install these parts.



Before re-installing the above parts, finish drilling on page 4.

Step 2

Install new tapered plug with O'ring, then filter without O'ring, then ORANGE spring and new end plug. Install roll pin thru hole in the end plug.



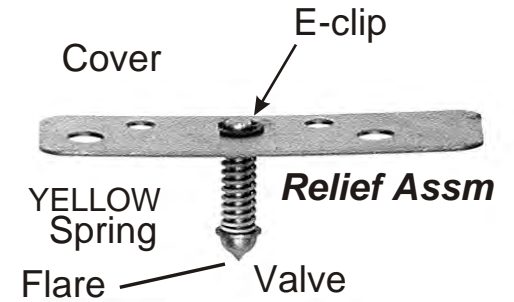
Filter Screen



"The weakest link in this trans is the direct clutch. This kit increases direct clutch capacity 300%".

Step 4 Install relief assembly cover with two valve body bolts and the nuts furnished—finger tight. Down thru the Mid hole, drill thru the valve body with 3/16" drill.

Step 5 Install spring on long stem end of valve. Push stem end of valve up thru cover while a buddy installs "E" clip. Install the assembly temporarily with two bolts and tap the E-clip end lightly 2-3 times with light hammer to seat flare into the hole. Install relief assm when everthing else is done and you are installing the valve body.

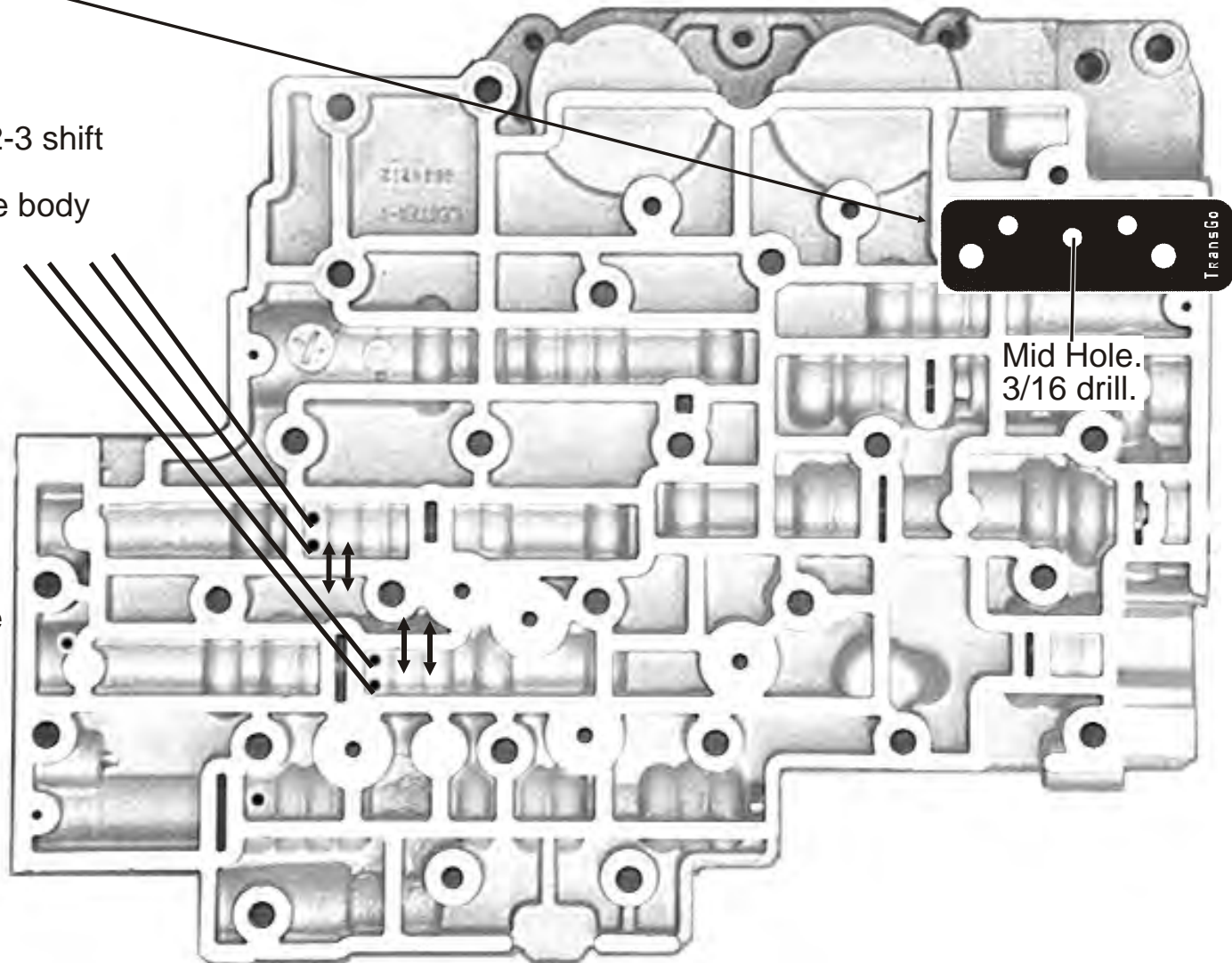


Step 1 Remove the 1-2 & 2-3 shift valves as shown on page 3. Drill Four .120 holes into valve body bore at the black dots shown.

Step 2 Drill four .120 holes through partitions at the double headed arrows. ↓

Count the holes you drilled there must be eight

Step 3 Clean out the drilling chips and install the shift valves and solenoids as shown on page 3.



Separator Plate

Step 1 Drill hole "D" 3/16". Drill hole #14 and #2 to .120. If the plate does not have hole 14, use gasket as guide and drill it with .120 drill.

Step 2 By hand use a 5/16 or larger drill and make chamfer on holes 2 and 3 on both sides of the plate. On hole 3 make a chamfer at the top, bottom and middle of the slot on both sides of plate.

Step 3 Place plate on a cement floor. Insert plug into hole #2. Hold the plate down against the floor and hit the plug 2 or 3 times gently with 8oz hammer.

Step 4 Insert plug 3 into slot. Care must be used when expanding this plug to keep from distorting plate into the next hole. Hit plug **lightly** in the middle. Then **lightly** at the top and bottom. Repeat: Middle, top and bottom **lightly** 3 more times.

Step 5 Now file both plugs flush on both sides of the plate. Tang end of big file usually works the best.

Gear Command: Parts are in bag with 2 triangle plates, some small parts, and a two page instruction.

Gear Command: Is High Perf, Race **ONLY** Feature.
NEVER install Gear Command in a working truck.

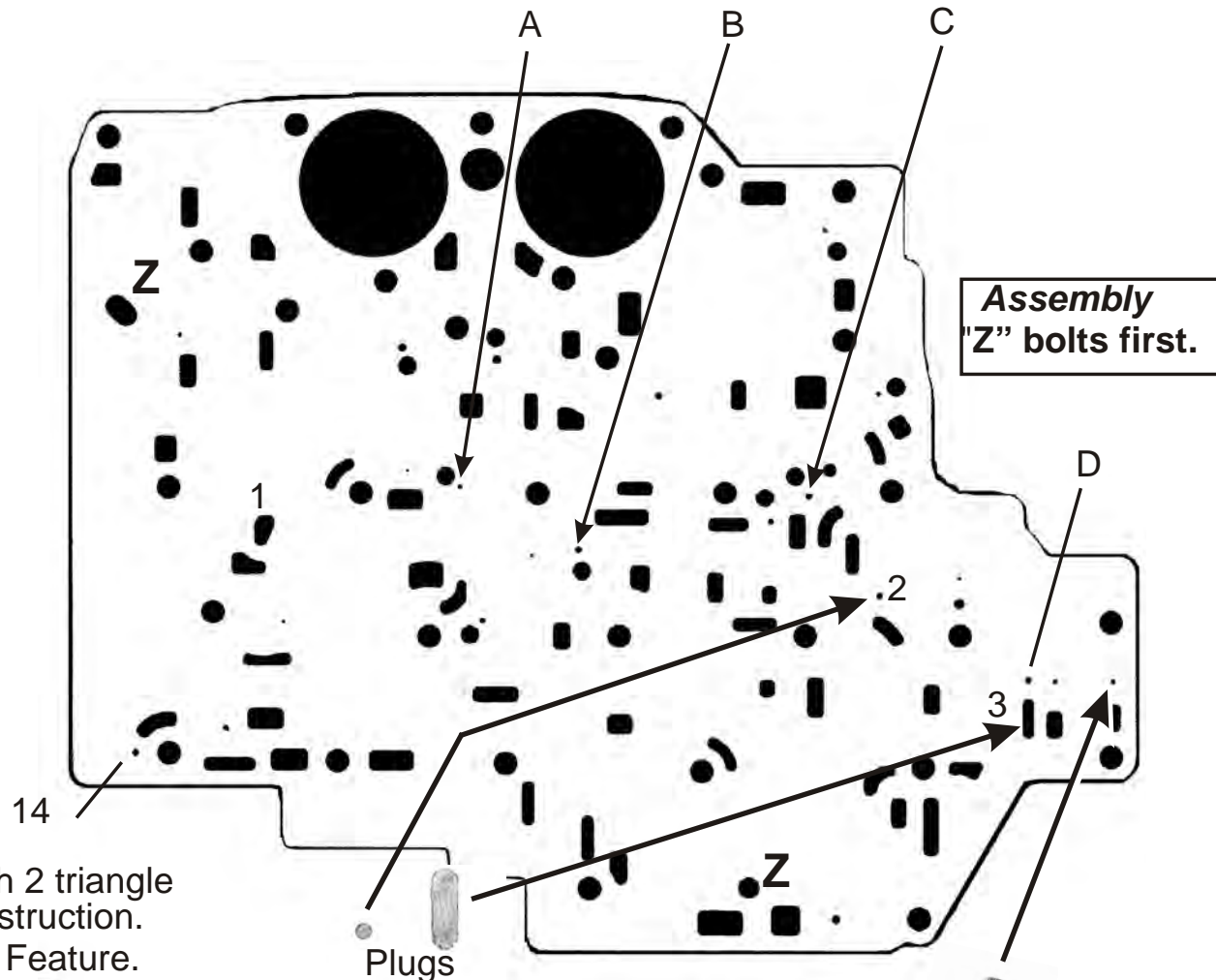
To install Gear Command: Finish page 5. Then install the Gear Command parts as shown on 2 page instructions. Then continue, pages 6 thru 8.

Step 6 Selecting Shift Firmness

Holes ABC are for shift feel selection:

Average = .086 Softer = .076 Firm = .096

For off-road use and with small diameter high stall converter make holes ABC .120



Step 7

Enlarge this hole with 1/16" drill. Insert rivet into hole. Place plate on steel bench and hit small end of rivet twice with small hammer to expand it.

Page 5

Accumulator Housing & Valve Body Assembly

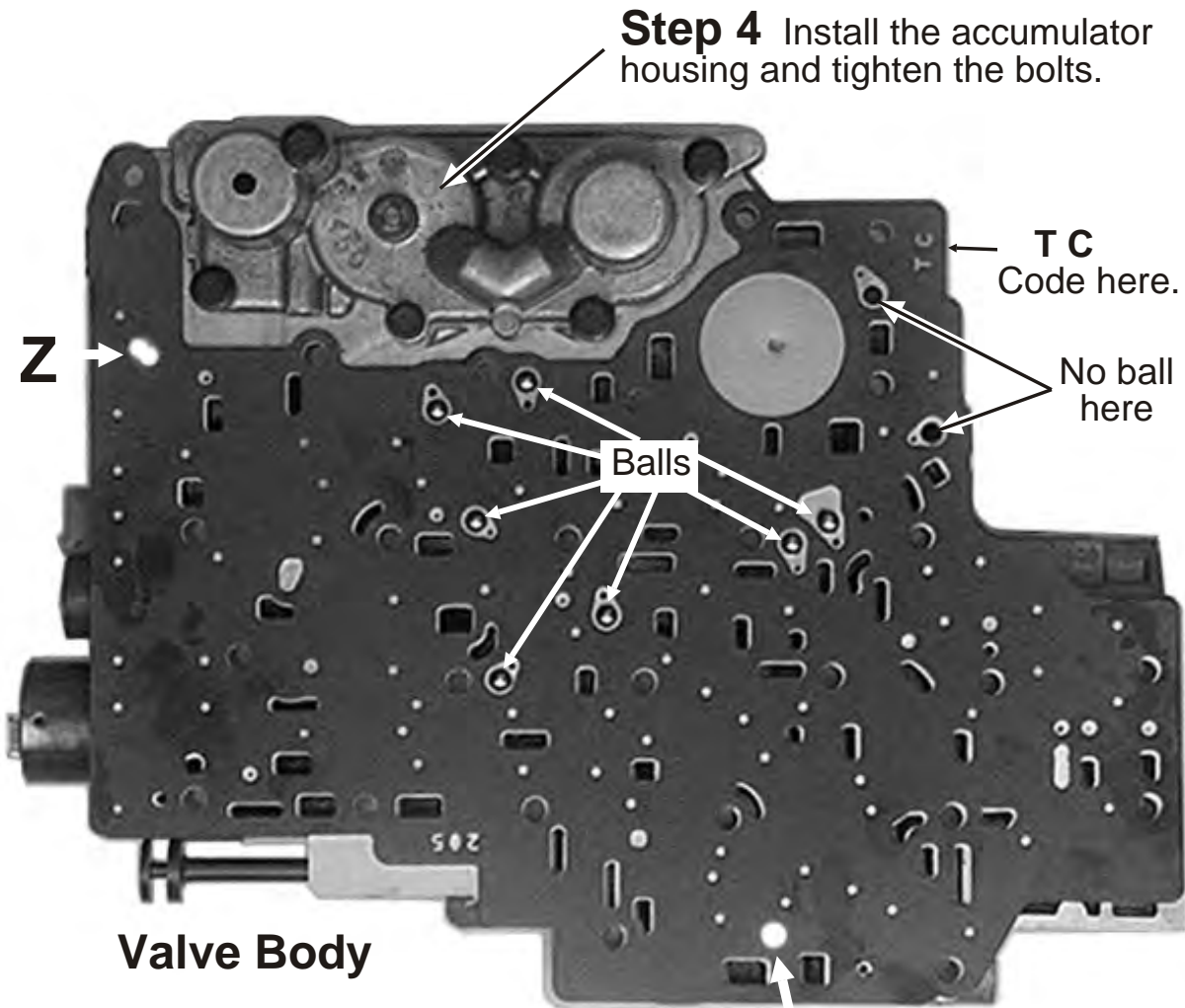
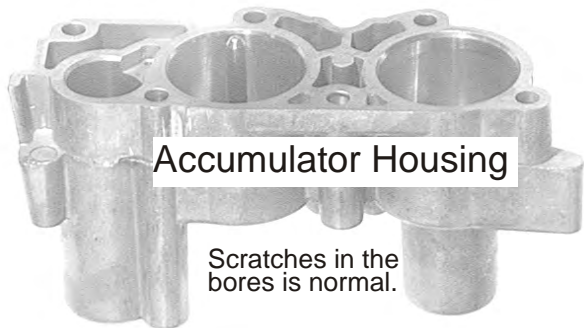
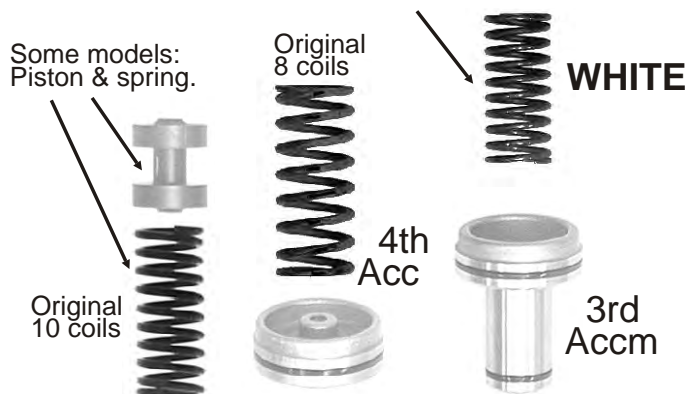
If you are installing Gear command, do Gear Command Steps 1, 2, 3 & 4 Before doing this page.

Step 3 Install the full size gasket and the separator plate onto the valve body. Align the plate and gasket by inserting bolts in holes "Z".

Step 2 Install gasket onto accumulator housing.



Step 1 Discard 3rd accm spring. Install new WHITE spring.



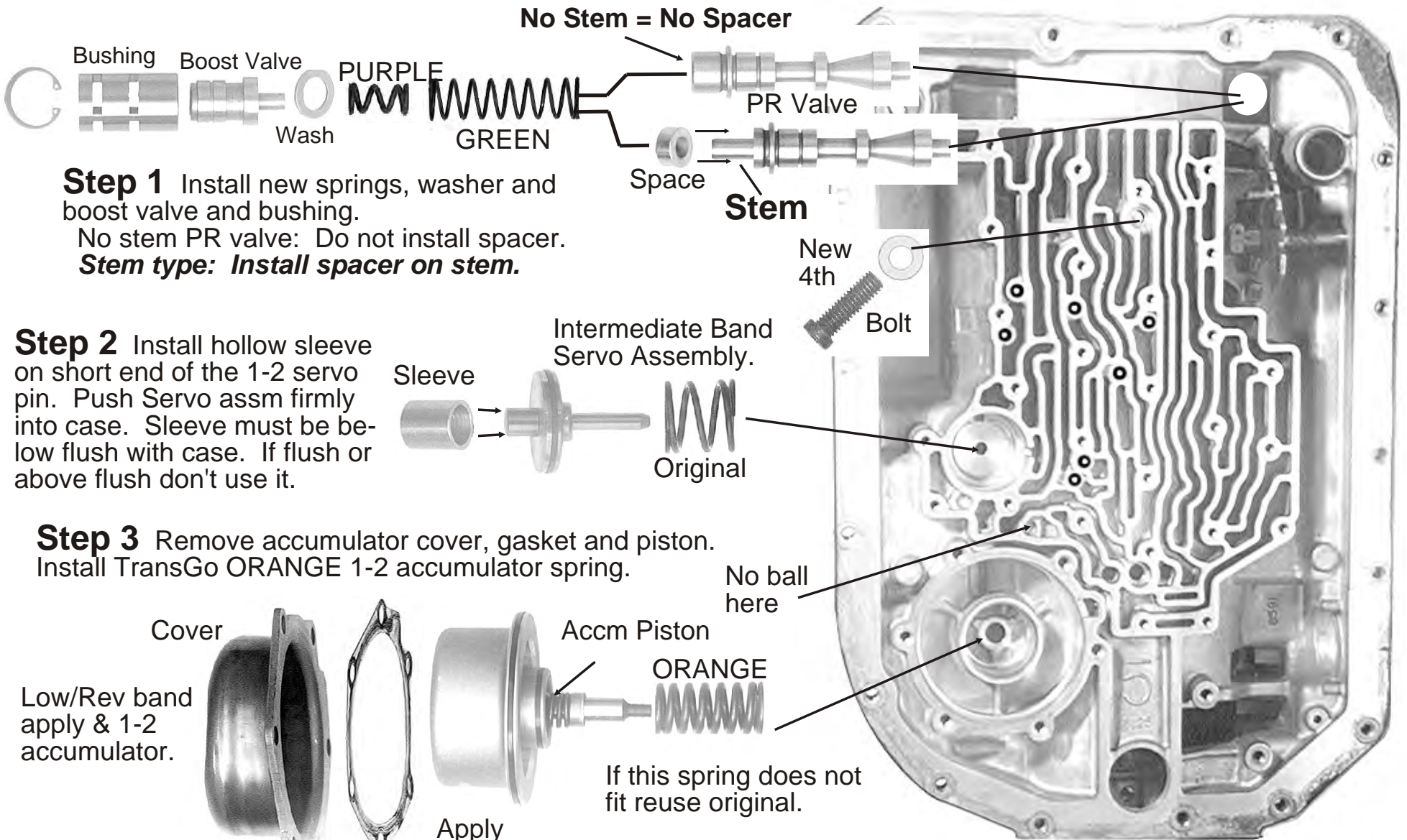
Step 4 Install the accumulator housing and tighten the bolts.

Valve Body

Step 5 Pull out the "Z" bolts. Put a small amount of oil on the plate and place the gasket marked T C on the plate and align it carefully at the "Z" holes.

Step 6 Smear a small amount of Vaseline on the holes for the checkballs and place seven 1/4" balls on the holes.

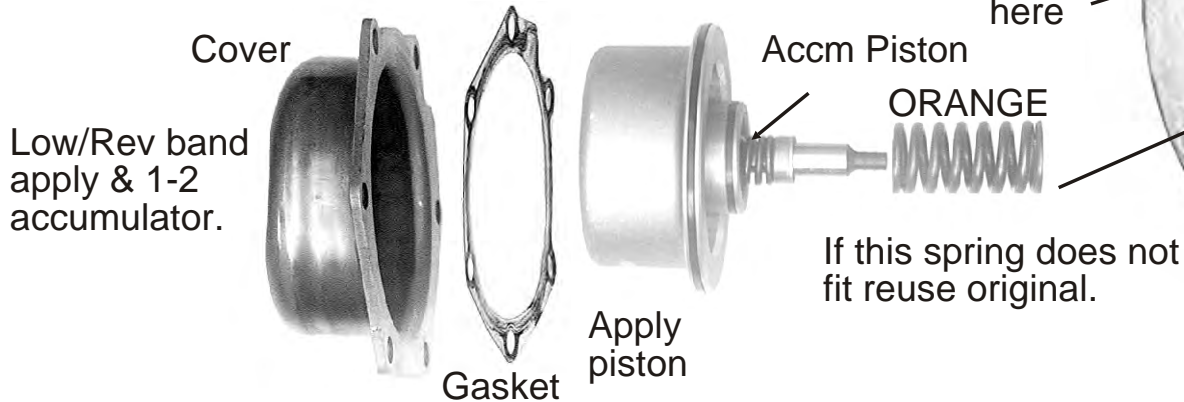
- Checkballs: If trans is on the bench. Install seven 1/4" checkballs shown.



Step 1 Install new springs, washer and boost valve and bushing.
 No stem PR valve: Do not install spacer.
Stem type: Install spacer on stem.

Step 2 Install hollow sleeve on short end of the 1-2 servo pin. Push Servo assm firmly into case. Sleeve must be below flush with case. If flush or above flush don't use it.

Step 3 Remove accumulator cover, gasket and piston. Install TransGo ORANGE 1-2 accumulator spring.



Step 2 Install hollow sleeve on short end of

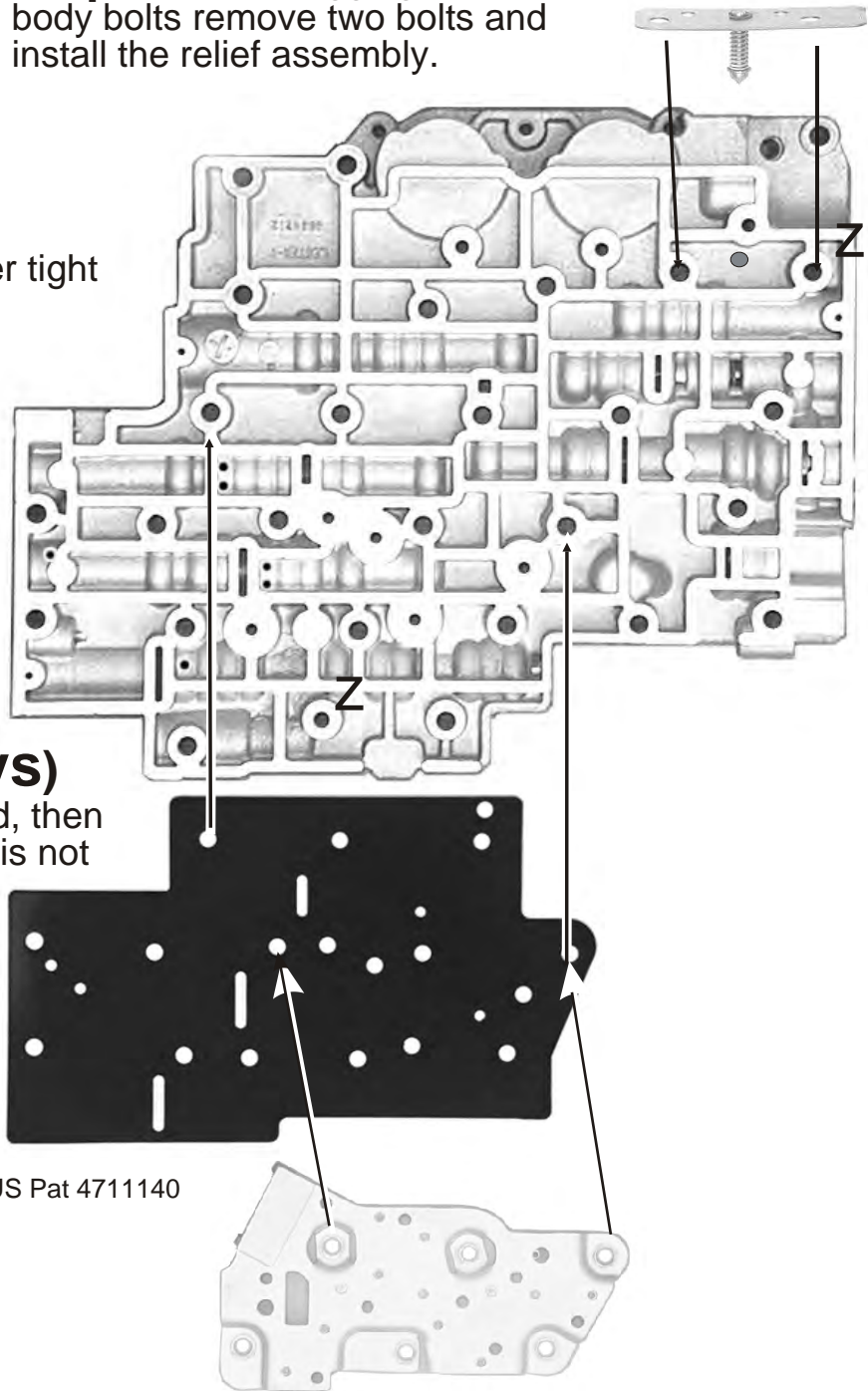
Plate Installation

Relief Assembly

Step 3 After snugging all valve body bolts remove two bolts and install the relief assembly.

Step 1
Install "Z" bolts finger tight

Step 2 (Must Always)
Install the large plate provided, then manifold switch. Even if gear is not installed.

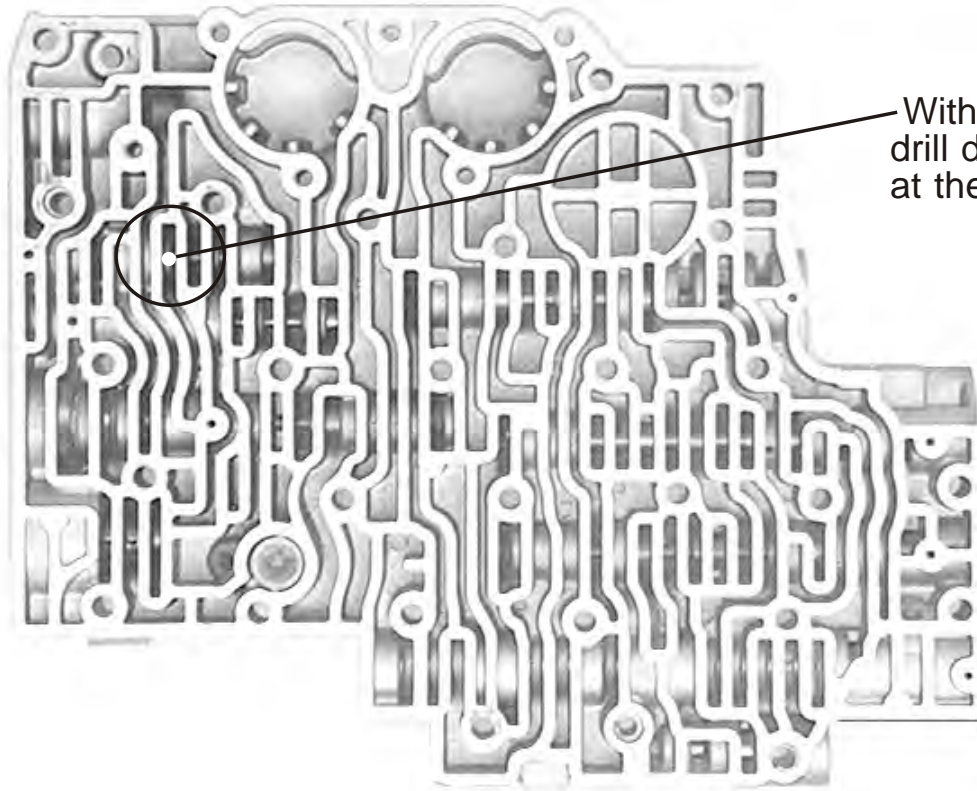


Manifold Pressure Switch:
Be sure it has 5 O'rings on
the underside.

** Gear Command Kit

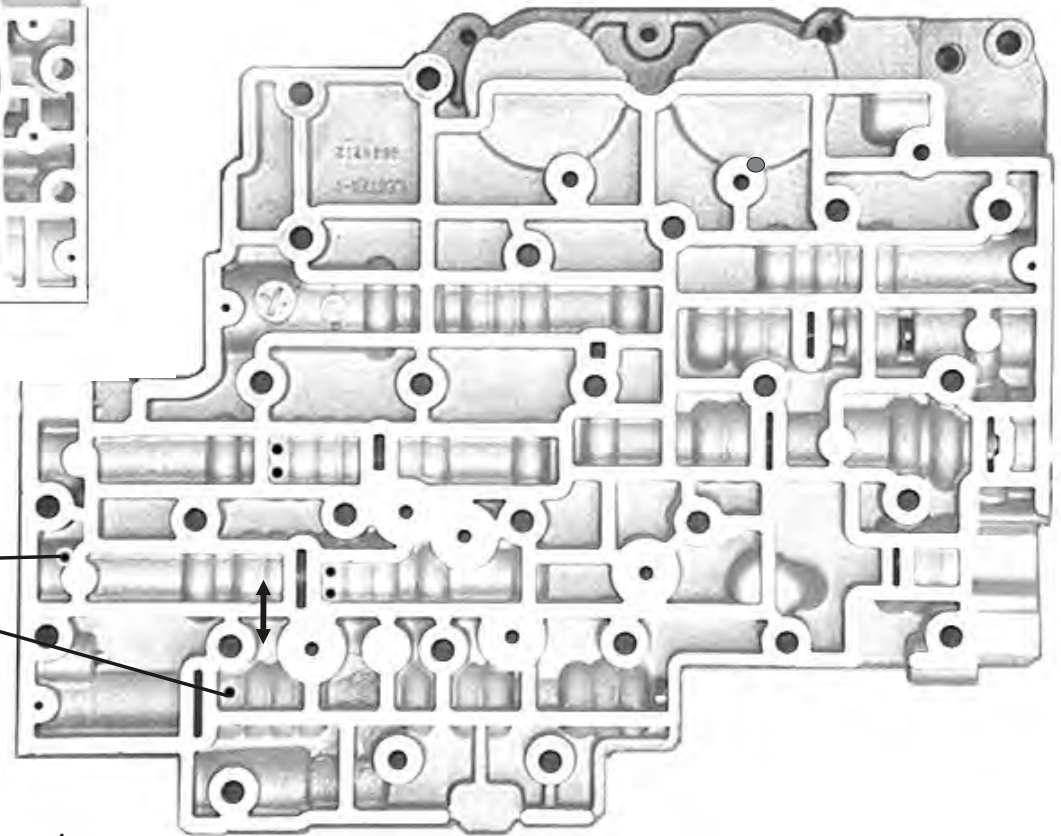
Gear Command allows a shift lever backshift to low at any speed.
NEVER install Gear Command in a working truck.
Only install Gear Command in hot rods, off-road and light personal sport trucks.

**Finish page 5 before starting
Gear Command installation.**



Step 1

With the accm valve removed
drill down thru the valve body,
at the white dot, with .086 drill.



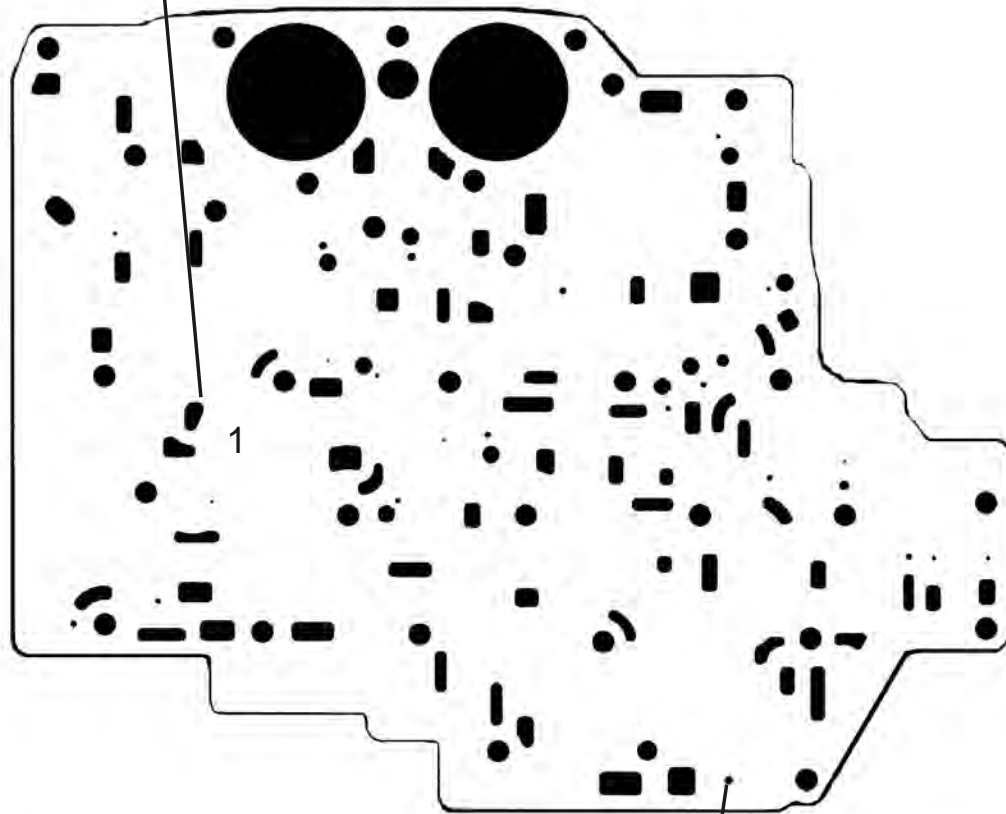
Step 2 Remove solenoids and the
shift valves as shown on page 3 step 3.

Drill two .120 holes thru VB
at the black dots shown.

Drill one .120 hole sideways
thru the partition under the arrow. ↑↓

Clean all drilling chips then re-install
the shift valves and solenoids.

Step 3 Insert plug into hole #1 with plate on cement floor. Expand plug with light hammer and file both sides flush.

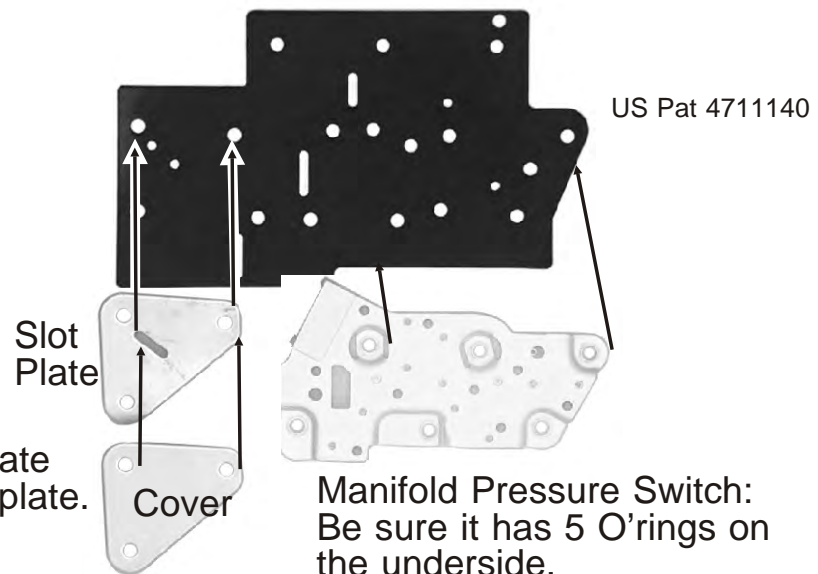


Step 4 Insert 1/16" cotter pin thru this hole spread ends and cut them off short. Go to page 6 and assemble the Valve body.



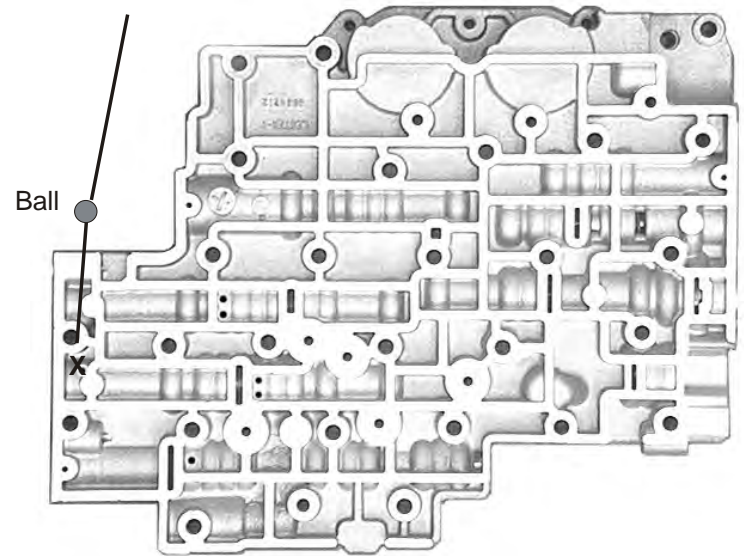
Thanks for listening.

Step 6 Install the slot plate and then install the cover plate.



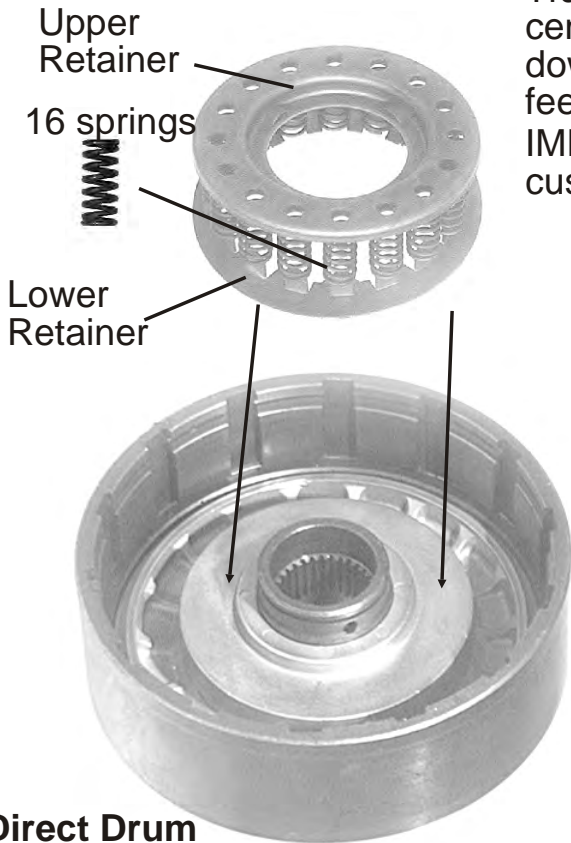
Do steps 5 and 6 while doing page 8 in the regular instructions.

Step 5 Install 7/32" ball at "X" with Vaseline to hold it in place.



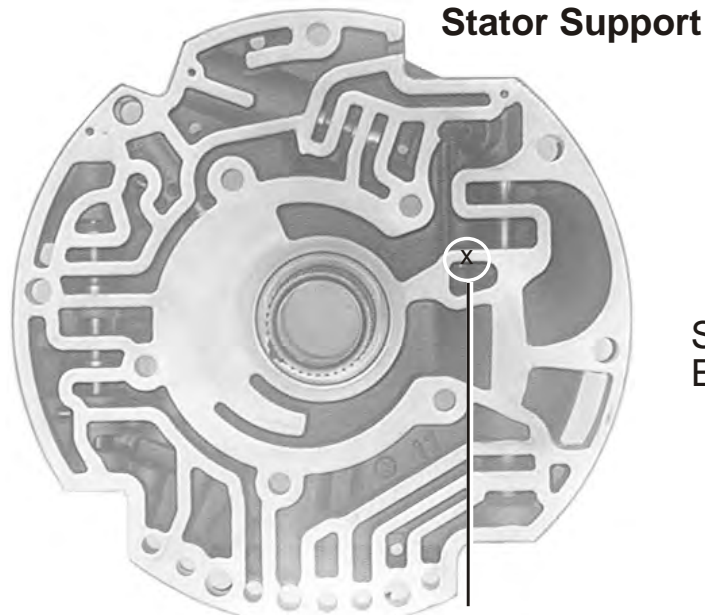
Internal Upgrades—If Trans is Apart.

Step 1 Carefully pry the lower retainer out of the springs. Then with side cutters grab each spring up close to upper retainer and twist and pull at the same time to remove the springs. Install the springs furnished into the old retainers.



TransGo high rate springs prevent accidental centrifugal apply at high RPM and furnish cleaner downshifts. "You gonna go bananas when you feel high throttle 2-3 shift."

IMPORTANT: Always install a waved or angled cushion plate in the direct clutch on all models

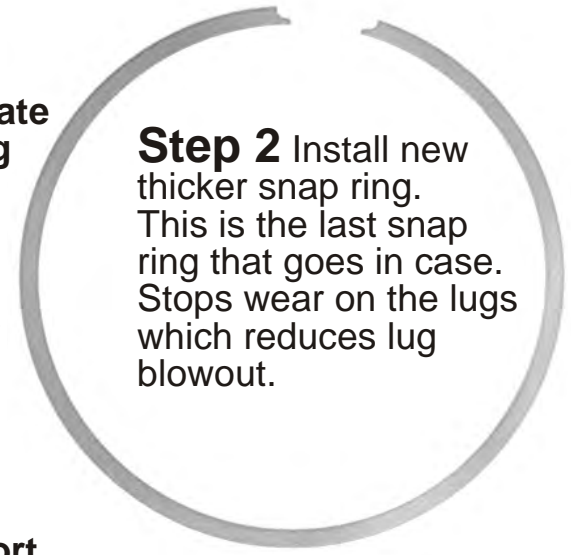


Step 3 Under "X" in direction shown, drill an .045 to .055 hole thru partition.

Interchange Data:

400 direct piston along with 400 spring retainer, fits this drum OK.
 400 drum, complete with sprag/roller and outer race fits this trans.
 A 400 center support fits more lugs and will save a worn 4L80 case.
 Support must be installed with 400 hollow bolt.

Intermediate Snap Ring



Step 2 Install new thicker snap ring. This is the last snap ring that goes in case. Stops wear on the lugs which reduces lug blowout.

Step 4 Prevent seal blow out Enlarge this pump hole to 9/32".

