

# SK<sup>®</sup> AXODE/AX4S-Jr Shift Kit<sup>®</sup>

Fits: Taurus/Sable/Continental 1996 to 2003

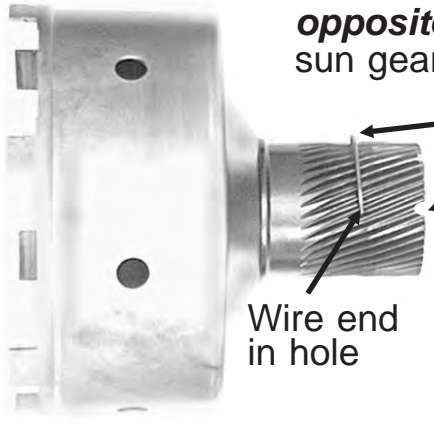


Fits: Windstar 1995 to 2002

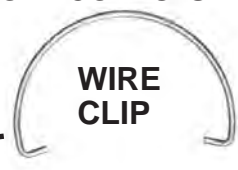
## Reduces/Corrects/Prevents

Planet burn up--Kickdown Runaway--No upshift  
2nd Clutch failure---Rough shifts---Long shifts  
Neutral on slow corners

### Sun Gear



**A** Grind *two* notches  $\frac{1}{32}$ " to  $\frac{1}{16}$ " deep *opposite* each other on the *end* of the sun gear. It's not fussy.

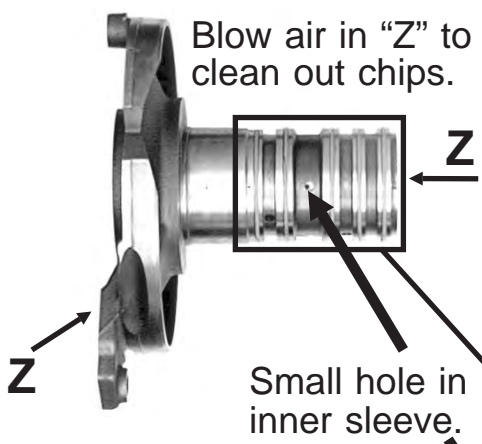


Grind notches

Wire end in hole

**B** Slide the **WIRE CLIP** over the end of the sun gear. Insert the ends into lube holes located in the middle of the gear teeth.

**Positive lube flow** now squirts out of the notches on end of sun gear directly onto the planetary gear teeth and the needle bearing.



Blow air in "Z" to clean out chips.

Z

Z

Small hole in inner sleeve.

### Sprocket Support

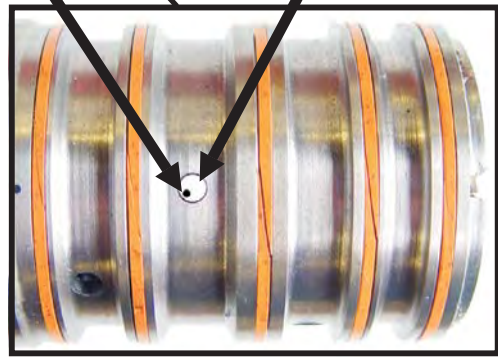
**C** Re-drill the small hole in the *inner sleeve*, use .187 to .196 drill. De-burr hole inside the support with a file.

**D** With a punch install bushing furnished into lube hole and *re-drill* hole in **BUSHING** .073 to .086.

BUSHING

### LISTEN UP:

Take care when drilling the small hole in inner sleeve. Do not disturb existing outer support hole. The **BUSHING** furnished must be able to press fit into the existing outer hole.



### Sprocket Shaft

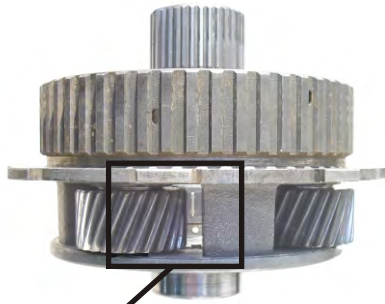
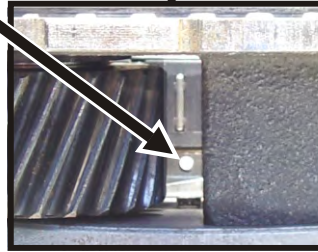
**E** Drill both sides  $\frac{1}{4}$ " to  $\frac{3}{8}$ ". De-burr inside with a file.



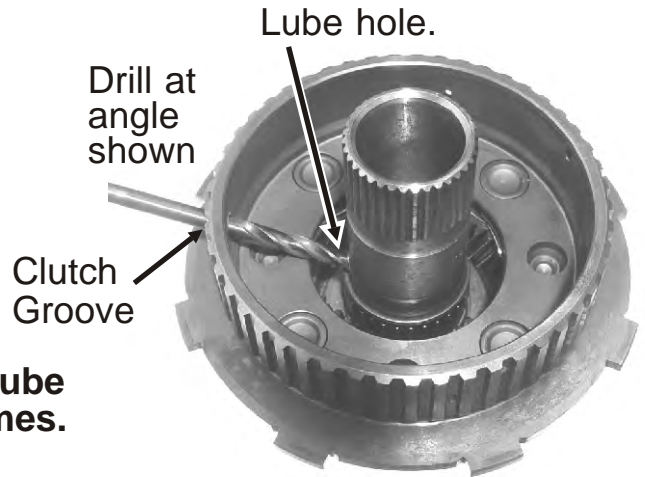
## Front Planetary

**A** Enlarge the two holes just below the needle bearing with the .110 drill furnished. Insert drill from the side between the pinion gear and housing.

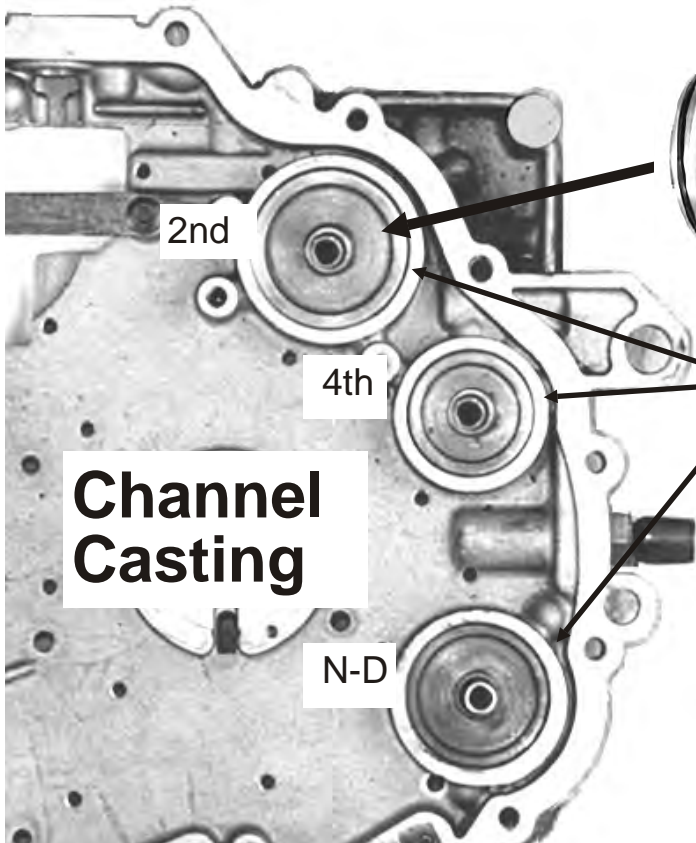
If you can't line up with the holes to drill them, it's **OK** to drill two new .110 holes.



**B** Find the lube hole just above the bearing. Drill a 1/4" hole through a clutch groove in line with the lube hole. Then enlarge the lube hole to 1/4".



**These upgrades increase lube to front planet about 10 times.**

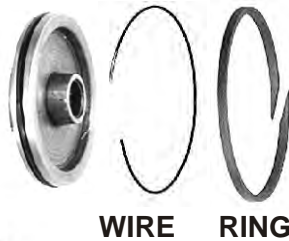


2nd

4th

N-D

## Channel Casting



WIRE RING

**C 2nd Accum Piston**  
Install **WIRE** then **RING**.  
pat 6,575,472

**Reuse original accum springs.**  
See spring ID page 6.

**D 1-2 Servo** (on side of trans)  
Install **WIRE SHIM** in cover.



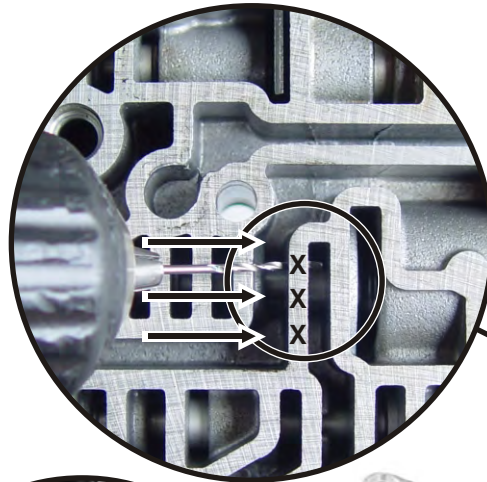
WIRE SHIM

**Avoid Gasket Blowout:** Glue the gasket to chain cover and to case with a good, quick drying **rubber or contact cement**. Tighten the cover bolts several times to compress gasket.

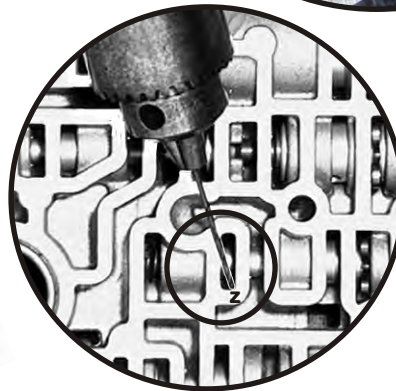


# Valve Body Upgrades

**A** Drill three .055 holes, in the direction of the arrows through partition under **X**'s.

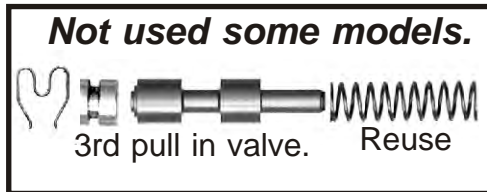


**B** Drill .055 hole through VB passage at angle shown, just under gasket surface at location **Z**. Install **Cotter pin** furnished through hole and spread out ends.

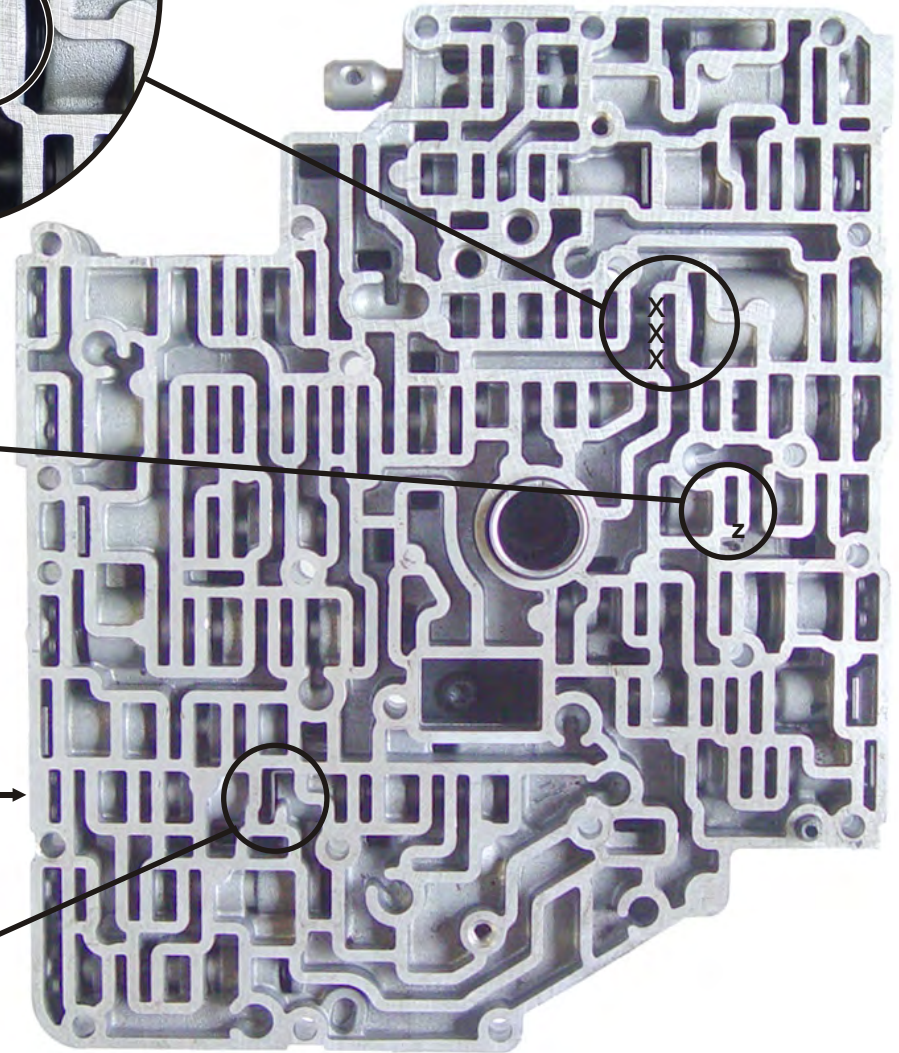


**Cotter pin**

**C** Install **ORANGE** spring on the 3-2 control valve.



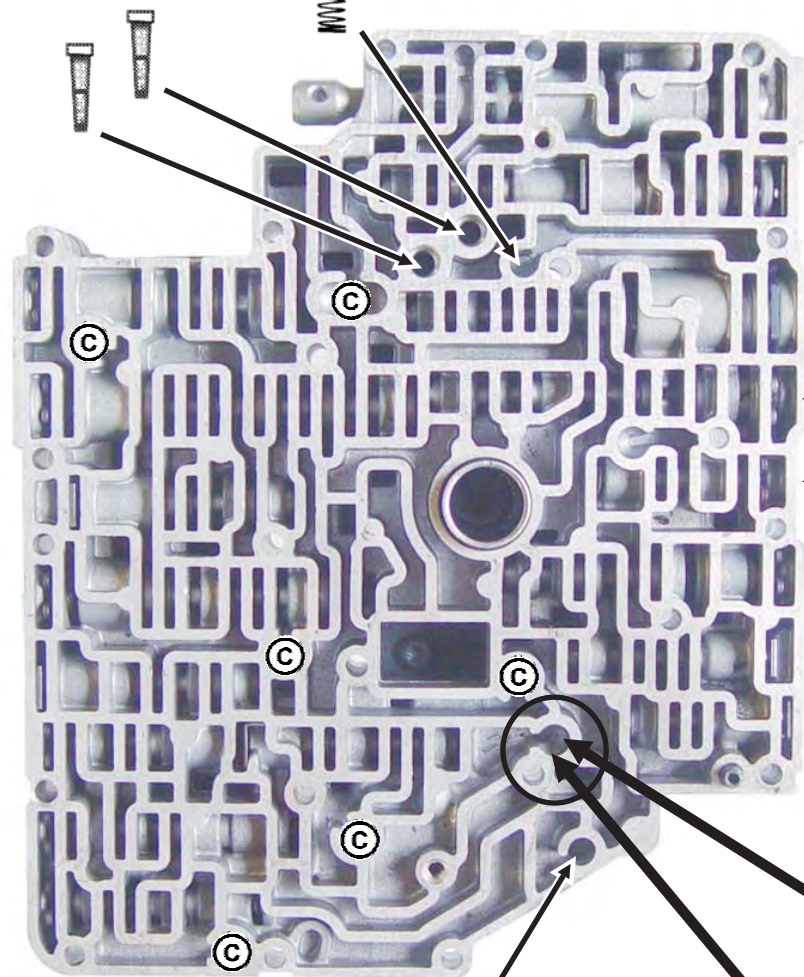
Retainer clip



**A** All Models



**C** 1st TYPE: Seven 5/16" Plastic balls.  
2nd TYPE: Six 5/16" Plastic balls & Relief Valve



**SPRING SEAT:**  
Flare towards springs



**B** Install new **BOOST VALVE & BUSHING**

Reuse original springs

**C** Install new **Lockup Valve, Bushing and Orange Spring.**

Bypass clutch control valve.

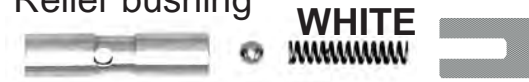


**D** Adjust 1-2 firmness with capacity spring:  
Recommend: **YELLOW**  
Firmer: Use **WHITE**



1-2 Capacity valve & spring

New Relief bushing



**WHITE**

**E** Discard original fail safe valve. Install new relief bushing with 1/4" ball and **WHITE** spring.

Stout Spring  
Relief Valve



**LISTEN UP:** Must *reinstall* original relief valve and spring here if VB had one.

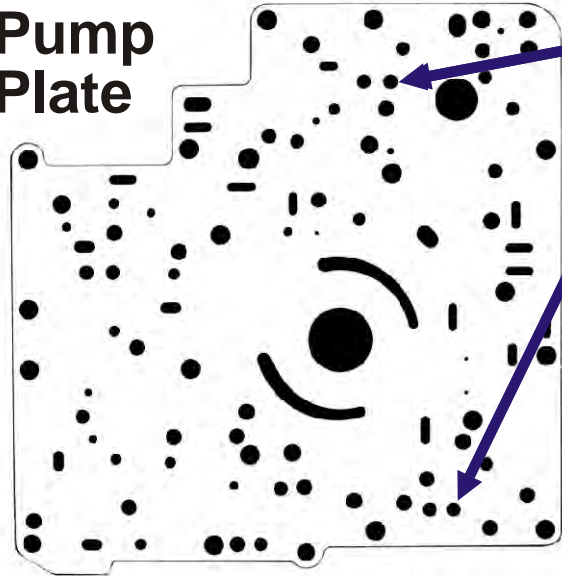
**C** If VB *does not* have relief valve, then install 5/16" plastic ball here, **even if VB did not have ball originally.**

**F** Install **DRAINBACK VALVE** if VB had one.





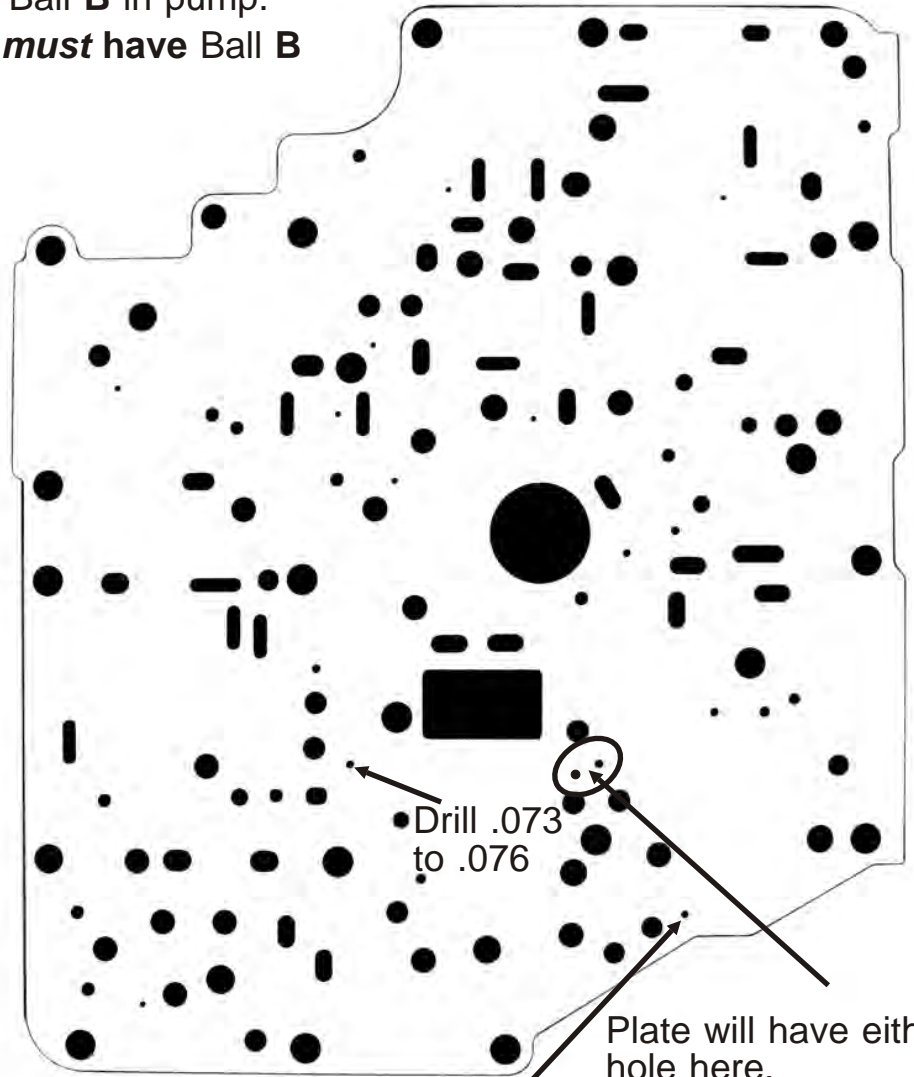
# Pump Plate



No hole here: **No Ball A** in pump.  
 Has hole: Pump **must have** Ball A

No hole here: **No Ball B** in pump.  
 Has hole: Pump **must have** Ball B

# Valve Body Plate



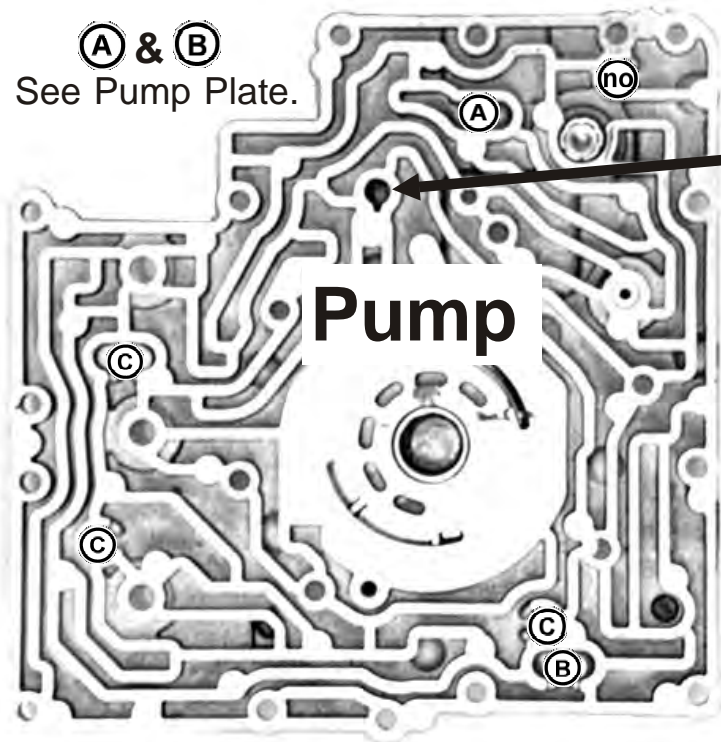
Drill .073 to .076

If plate has this hole. Re-drill it .040 to .055

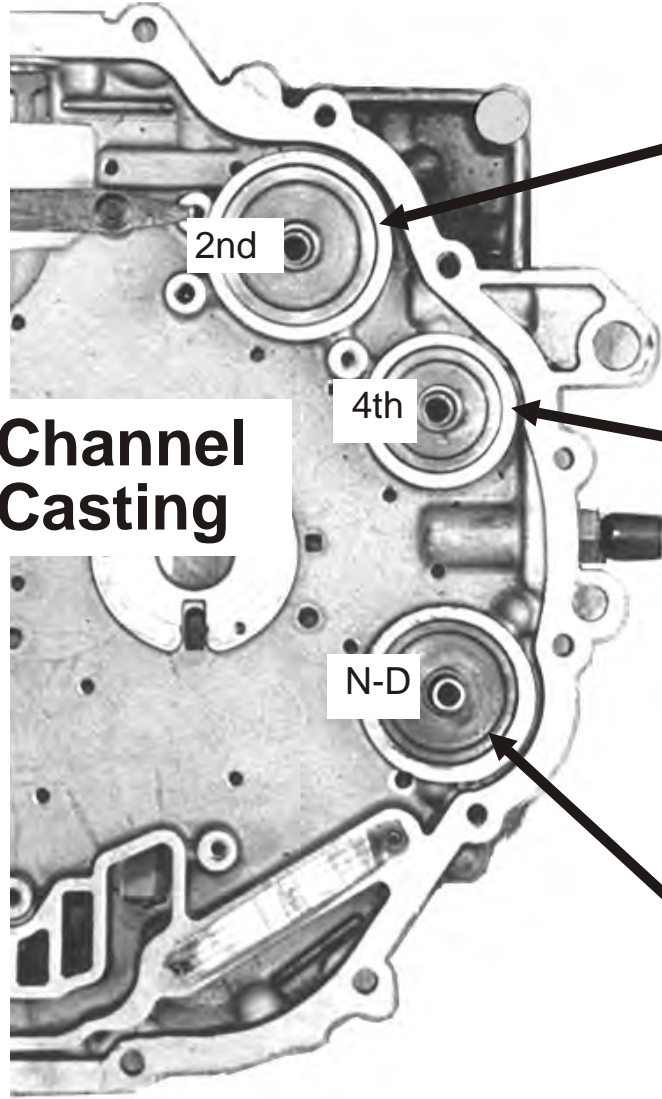
Plate will have either hole here. Re-drill .081 to .086. **Don't drill new hole.**

Checkballs (C) (no) Do not install.

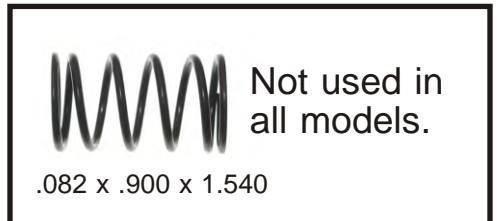
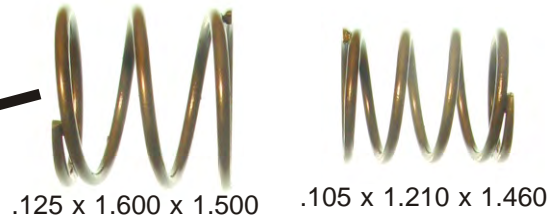
(A) & (B) See Pump Plate.



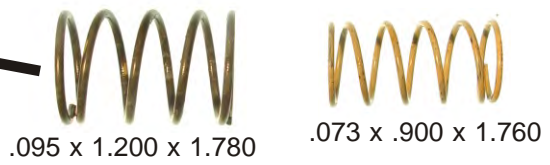
# Accumulator Spring Location & Identification



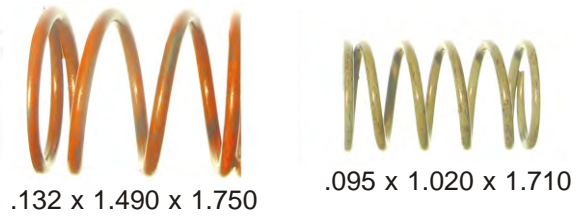
## 2nd Accumulator Springs



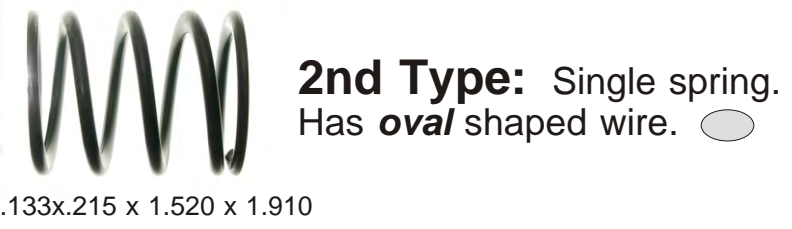
## 4th Accumulator Springs



## N-D Accumulator Springs



**1st Type:** Inner & Outer springs.



# READ THIS FIRST

## Creating Quality Shifts and Avoiding Rework

1996-01 Vehicles: Came with Hi-Energy (Green) 2nd and 3rd clutches. During light acceleration the ECM commands pressure of 140 to 160 psi. Using brown clutches in these applications will cause rough shift complaint.

Even if the 2nd & 3rd plates look OK, Don't reuse them. They become glazed, hard, and lose their ability to hold which creates a long soft apply. Always install new friction plates. Hi-Energy does not mean the plate has more friction capacity, it does mean the plate will handle higher temperature without burning.

### ALWAYS identify the year of vehicle

Due to exchange installations and mis-builds you may find many combinations coming in the door. 96up should be built with New Hi-Energy (Green) 2nd & 3rd clutch plates to match the ECM commands of pressure spike during shifts.

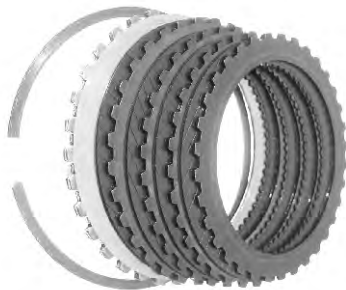
### 2nd Clutch wave plate

All 3.0L: Had 4 frictions and wave plate.

3.8L Before 1998½: Had 5 frictions and **a** wave.

3.8L After 1998½: Had 5 frictions and **no** wave.

(Green) Hi-Energy 3rd plates with Kolene steels.



(Green) Hi-Energy 2nd plates with Kolene steels.



LISTEN UP: This trans can have shudders, clangs or bumps by using the wrong fluid:

**Use Mercon V**



### Identify Piston

Dual 2nd clutch piston with heavy return springs shown Quick ID:

**Can't see return springs = dual piston.**

**Can see return springs = single piston.**



"Thanks for Listening"

The drum shown above with dual 2nd clutch pistons and heavy return springs was only used in 93-94 SHO Taurus, 96-99 Windstars with 3.8L engines. This drum also requires taller 2nd clutch hub. Using this setup or any part of this setup in another application can create complaints and failures.