



# Technical Service Information

## FORD 4R70E/4R75E CHANGES FOR 2004

**CHANGE:** Beginning at the start of production for 2004, Ford Motor Company introduced a new rear drive transmission with the designation 4R70E or 4R75E, which is based on the 4R70W. This transmission now has a redesigned Pump and Stator assembly, Intermediate Clutch assembly, Forward Drum, Sun Gear Shell, Center Support, Anti-Rattle Clip, an added Turbine Speed Sensor, a redesigned transmission case, a shorter Output Speed Sensor and a redesigned Ring gear.

**REASON:** Improved up-shift and downshift timing and better gear calculation and for ease of assembly.

### PARTS AFFECTED:

- (1) INTERMEDIATE CLUTCH PISTON AND PUMP BODY - The Intermediate Clutch Piston was changed from the previous design Aluminum piston with individual lip seals, as shown in Figure 1, to a stamped steel bonded rubber piston as shown in Figure 2. Along with this change, the Pump Body was redesigned to accommodate the new larger piston and the elimination of the Spring Retainer. A new return spring and retainer was added into the case as shown in Figures 3 and 4.
- (2) PUMP STATOR - The Pump Stator Forward Clutch sealing ring groove depth changed to accommodate a new Plastic Butt Cut Sealing Ring as shown in Figure 5.
- (3) FORWARD DRUM - The Forward Drum had a stamping change to provide projections for the added Turbine Shaft Speed Sensor, as shown in Figure 6.
- (4) SUN SHELL - The Sun shell can be easily identified by the new rivets that retain the shell to the Sun Gear as shown in Figure 7. The new shell is manufactured from a non-ferrous metal which will not attract a magnet, so the added turbine sensor can read the Forward Clutch Drum. **NOTE: 2005 models do not have the rivets for identification and will retrofit to 2004 models.**
- (5) CENTER SUPPORT - The new design Center Support has a notch cut out of it to accommodate the added Turbine Sensor, as shown in Figure 8. A new design Anti-rattle Clip was also added for ease of assembly, which was changed in the 2002 model year.
- (6) TRANSMISSION MAIN CASE - The case was changed to accommodate the added turbine sensor as shown in Figure 9.
- (7) REAR INTERNAL RING GEAR - Now manufactured with extended parking lugs on the ring gear to trigger the New **Shorter** Output Speed Sensor, instead of the previous design holes in the center of the ring gear as shown in Figure 10.

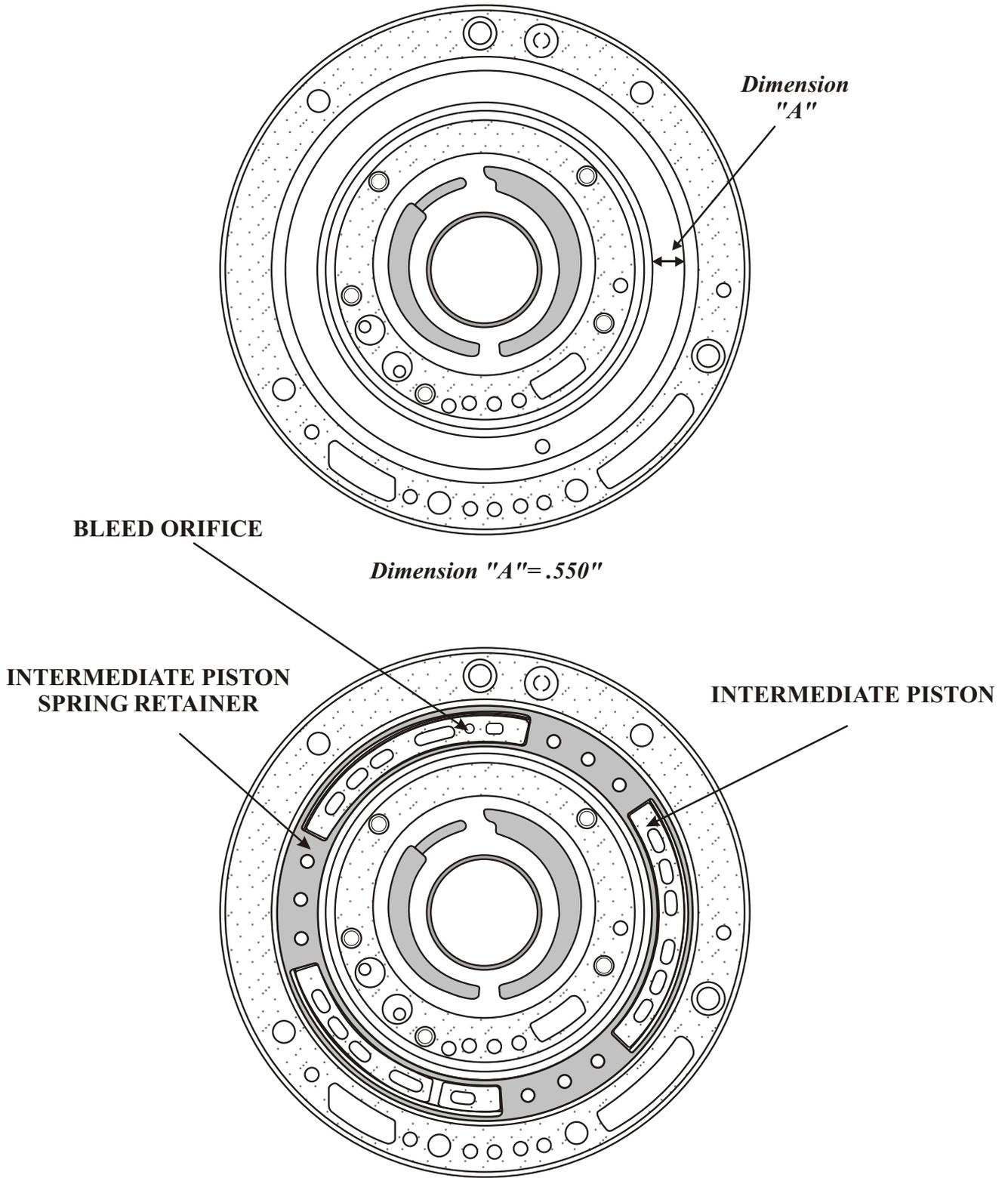
### INTERCHANGEABILITY:

None of the parts listed above will interchange with the previous design 4R70W parts.

### SERVICE INFORMATION:

INTERMEDIATE CLUTCH BONDED PISTON.....	3L3Z-7E005-AA
FORWARD CLUTCH PLASTIC SEALING RINGS (2).....	3L3Z-7D019-AA
FORWARD CLUTCH DRUM.....	3L3Z-7F207-AA
SUN GEAR SHELL.....	5L3Z-7A019-AB
TURBINE SHAFT SPEED SENSOR.....	3L3Z-7M101-AA
OUTPUT SHAFT SPEED SENSOR.....	3L3Z-7H103-AA

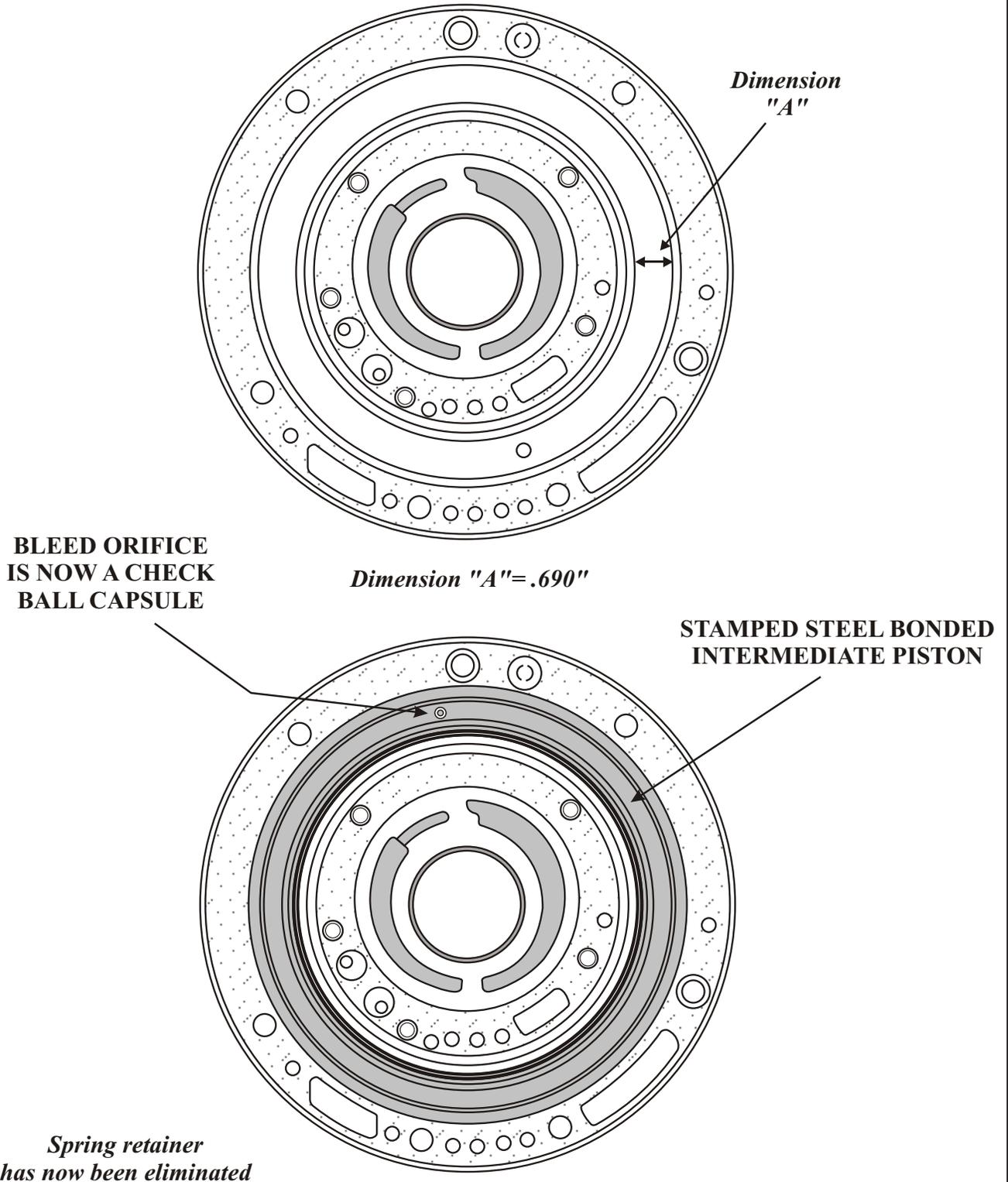
**PREVIOUS DESIGN PUMP AND INTERMEDIATE CLUTCH PISTON ASSEMBLY**



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Figure 1

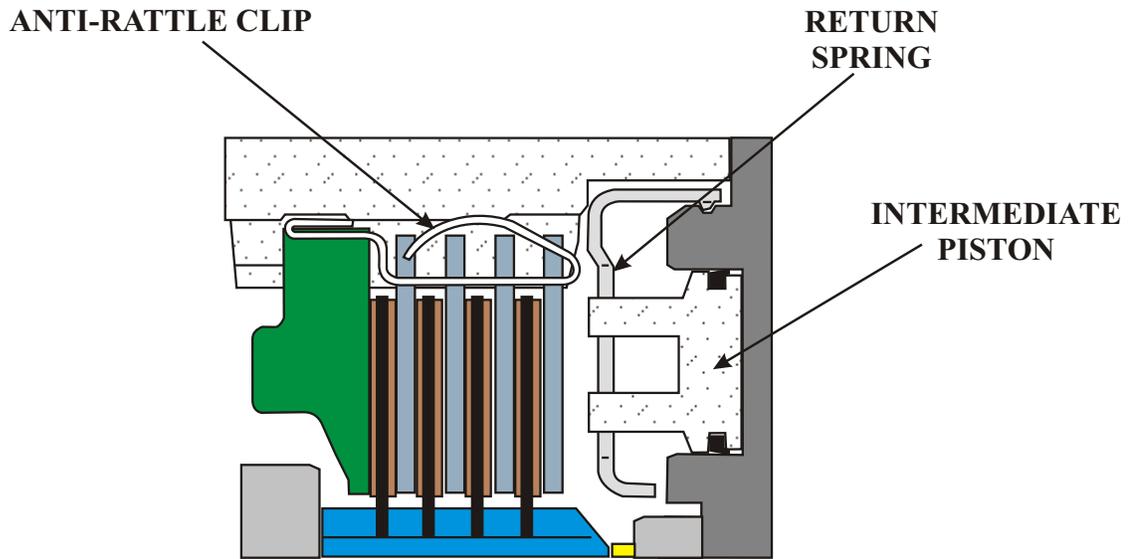
**NEW DESIGN PUMP AND INTERMEDIATE CLUTCH PISTON ASSEMBLY**



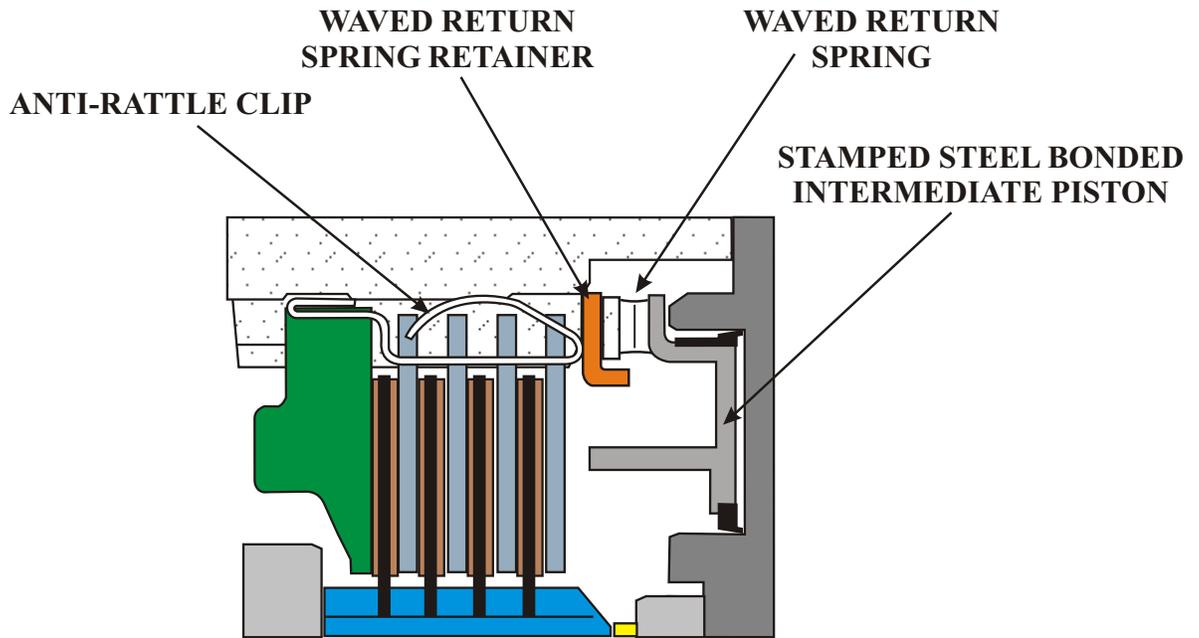
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Figure 2

**PREVIOUS DESIGN PUMP AND INTERMEDIATE CLUTCH PISTON CROSS-SECTION**



**NEW DESIGN PUMP AND INTERMEDIATE CLUTCH PISTON CROSS-SECTION**

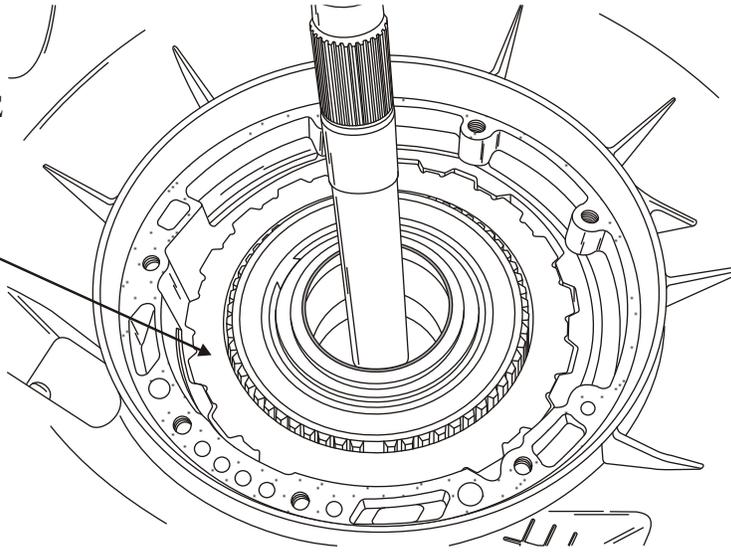


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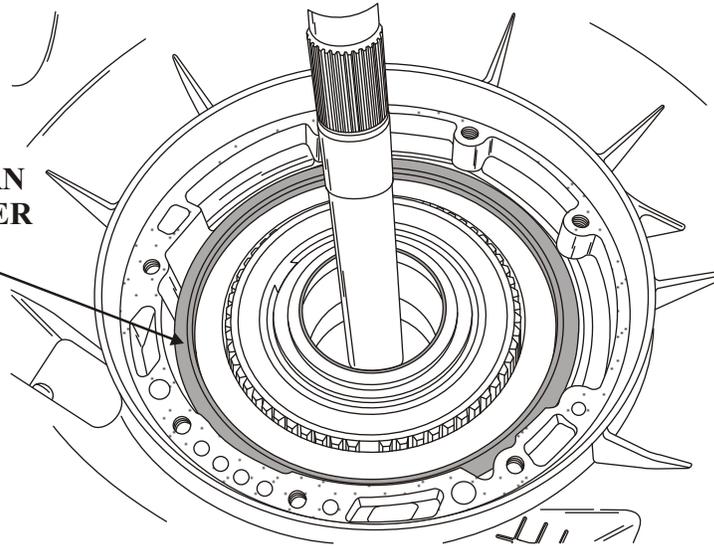
Figure 3

**INTERMEDIATE CLUTCH ASSEMBLY**

**INTERMEDIATE  
CLUTCH AND  
STEEL PLATES  
INSTALLED**



**INSTALL RETURN  
SPRING RETAINER**



**INSTALL RETURN  
SPRING**

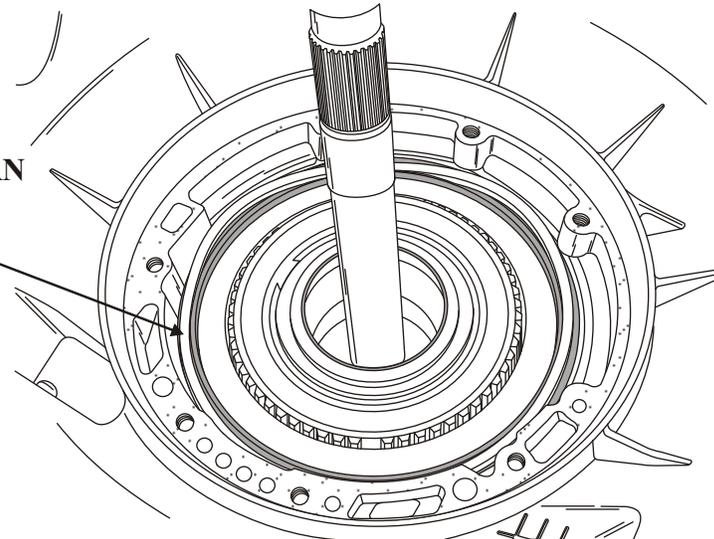
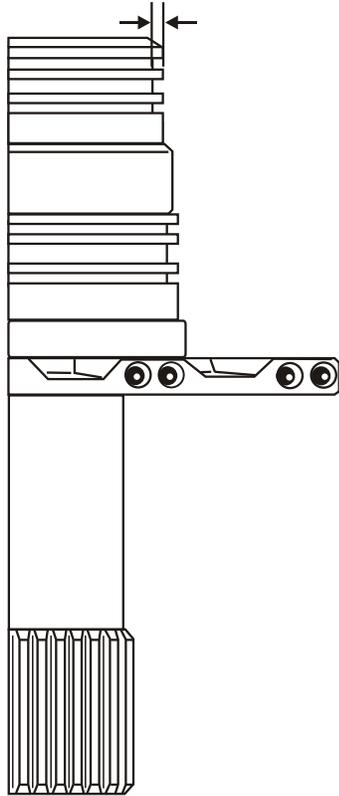


Figure 4

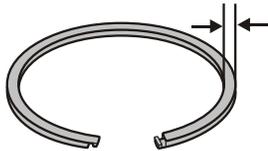
**PUMP STATOR**

***PREVIOUS DESIGN***

**RING GROOVE  
DEPTH .100"**



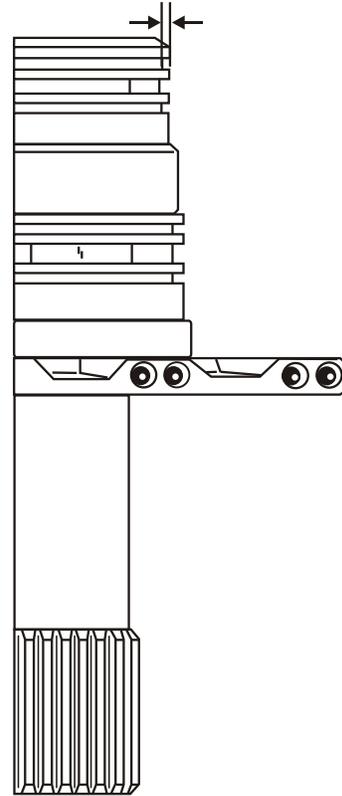
**SEALING RING  
WIDTH .110"**



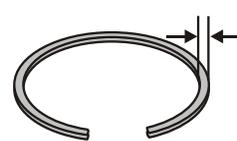
**LATCH TYPE STEEL  
SEALING RINGS**

***NEW DESIGN***

**RING GROOVE  
DEPTH .072"**



**SEALING RING  
WIDTH .083"**



**BUTT CUT PLASTIC  
SEALING RINGS**

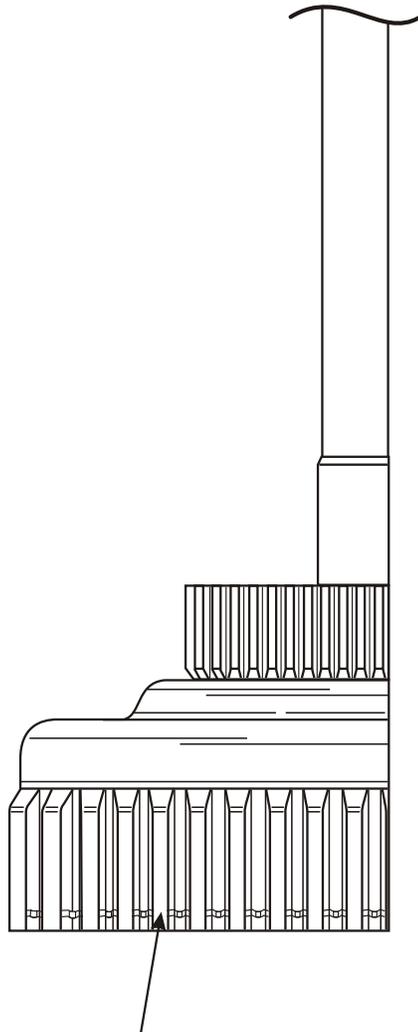
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Figure 5

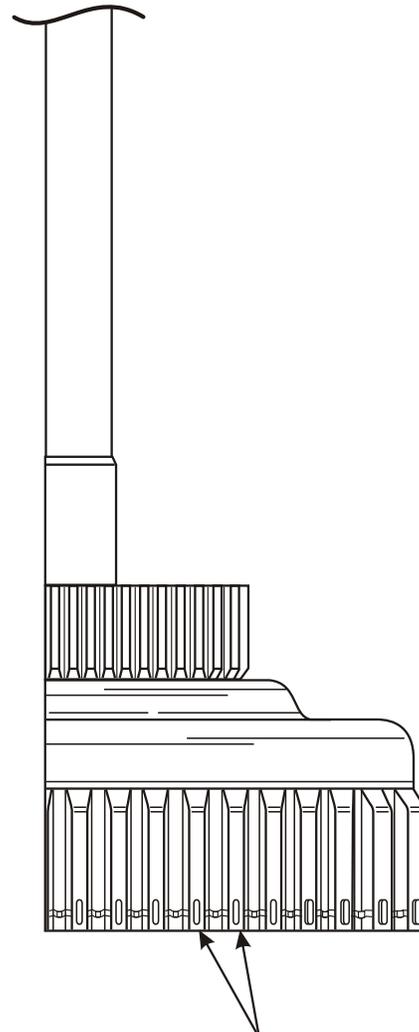
**FORWARD CLUTCH DRUM**

*PREVIOUS DESIGN*

*NEW DESIGN*



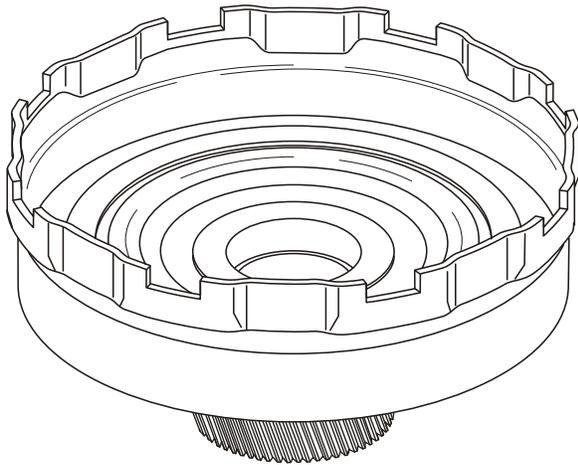
*NO PROJECTIONS*



*34 STAMPED PROJECTIONS  
ON THE OUTSIDE OF THE DRUM  
THAT THE ADDED TURBINE SENSOR  
READS FROM*

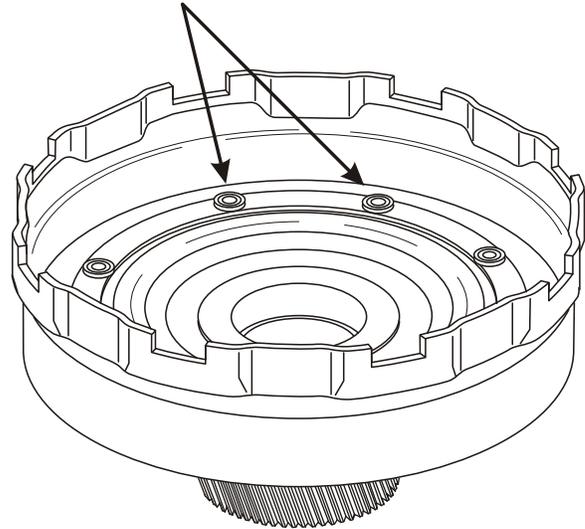
**SUN GEAR SHELL**

***PREVIOUS DESIGN***



***NEW DESIGN***

***New Sun Shell Is Now Riveted  
To The Sun Gear And Hub***

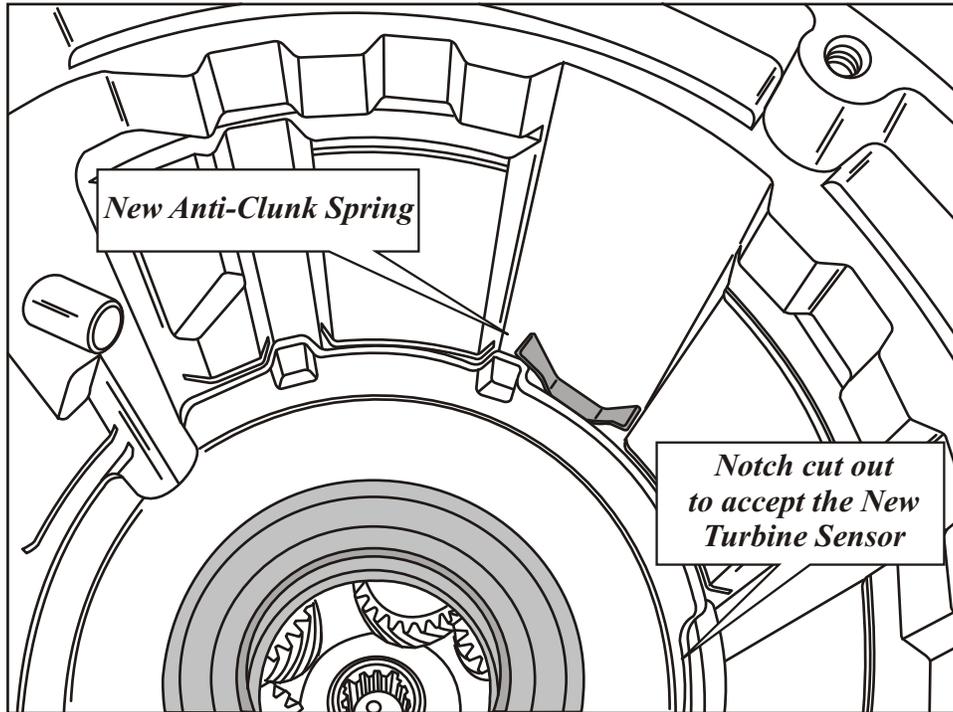


***NOTE: The New Sun Shell is made from  
a non-ferrous material so the Turbine sensor  
can read the Forward drum.  
In the 2005 model year the same type of Sun Shell  
is used and the rivets for identification are removed***

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Figure 7

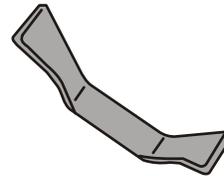
**CENTER SUPPORT**



**PREVIOUS DESIGN**  
*Anti-Clunk Spring*



**NEW DESIGN**  
*Anti-Clunk Spring*



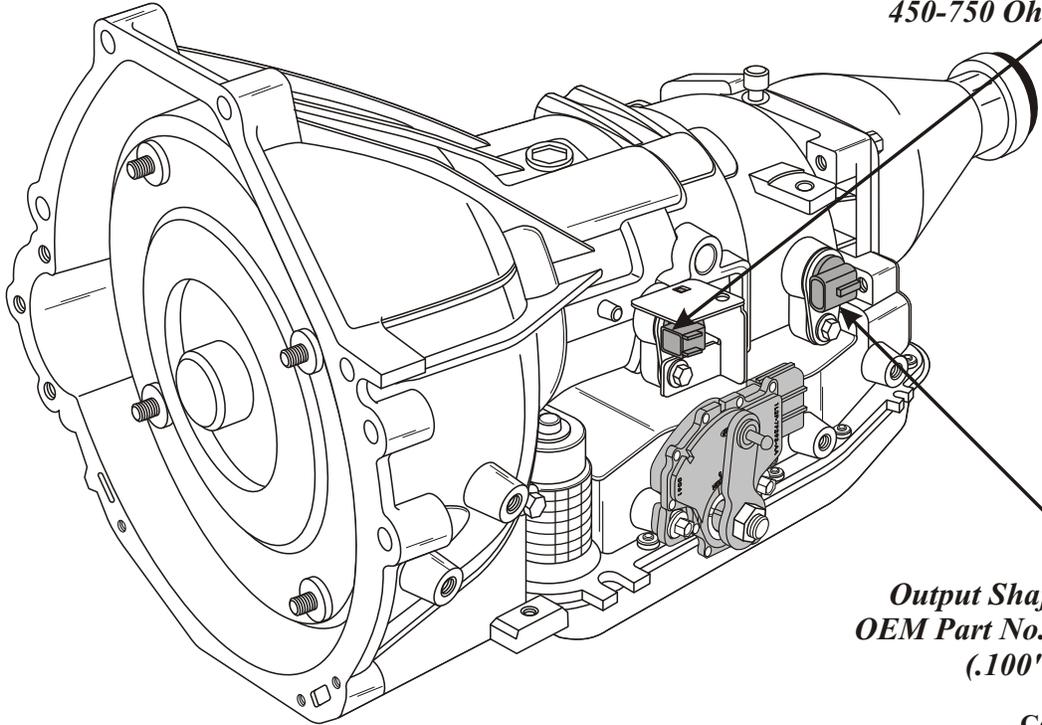
**NOTE:** *The anti-clunk spring was changed in the 2002 model year.  
Ford part number 2L3Z-7F277-AA*

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Figure 8

**TRANSMISSION CASE**

*"Added" Turbine Shaft Speed Sensor  
OEM Part No. 3L3Z-7M101-AA  
450-750 Ohms Resistance*



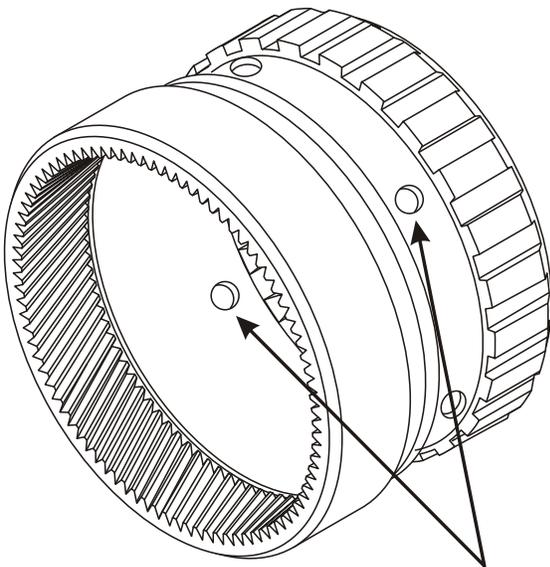
*Output Shaft Speed Sensor  
OEM Part No. 3L3Z-7H103-AA  
(.100" Shorter)*

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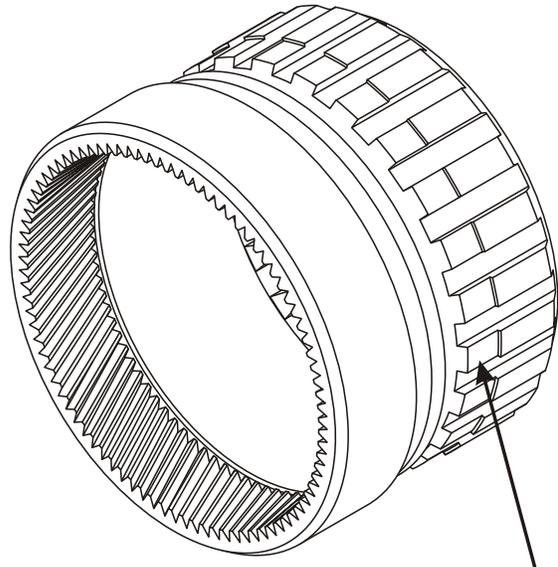
Figure 9

**"PREVIOUS DESIGN" RING GEAR**

**"NEW DESIGN" RING GEAR**



*Holes To Trigger  
Speed Sensor*



*Extended Teeth To Trigger  
Speed Sensor*

Figure 10