



# Technical Service Information

## FORD 4R70E/4R75E DTC P0715/P0717 OR ERRATIC SHIFTS

**COMPLAINT:** 2004 and up Ford vehicles, equipped with the 4R70E/4R75E transmissions may exhibit erratic shifts or a Diagnostic Trouble Code P0715 or P0717, insufficient input from the Turbine Shaft Speed Sensor or intermittent TSS signal, after overhaul.

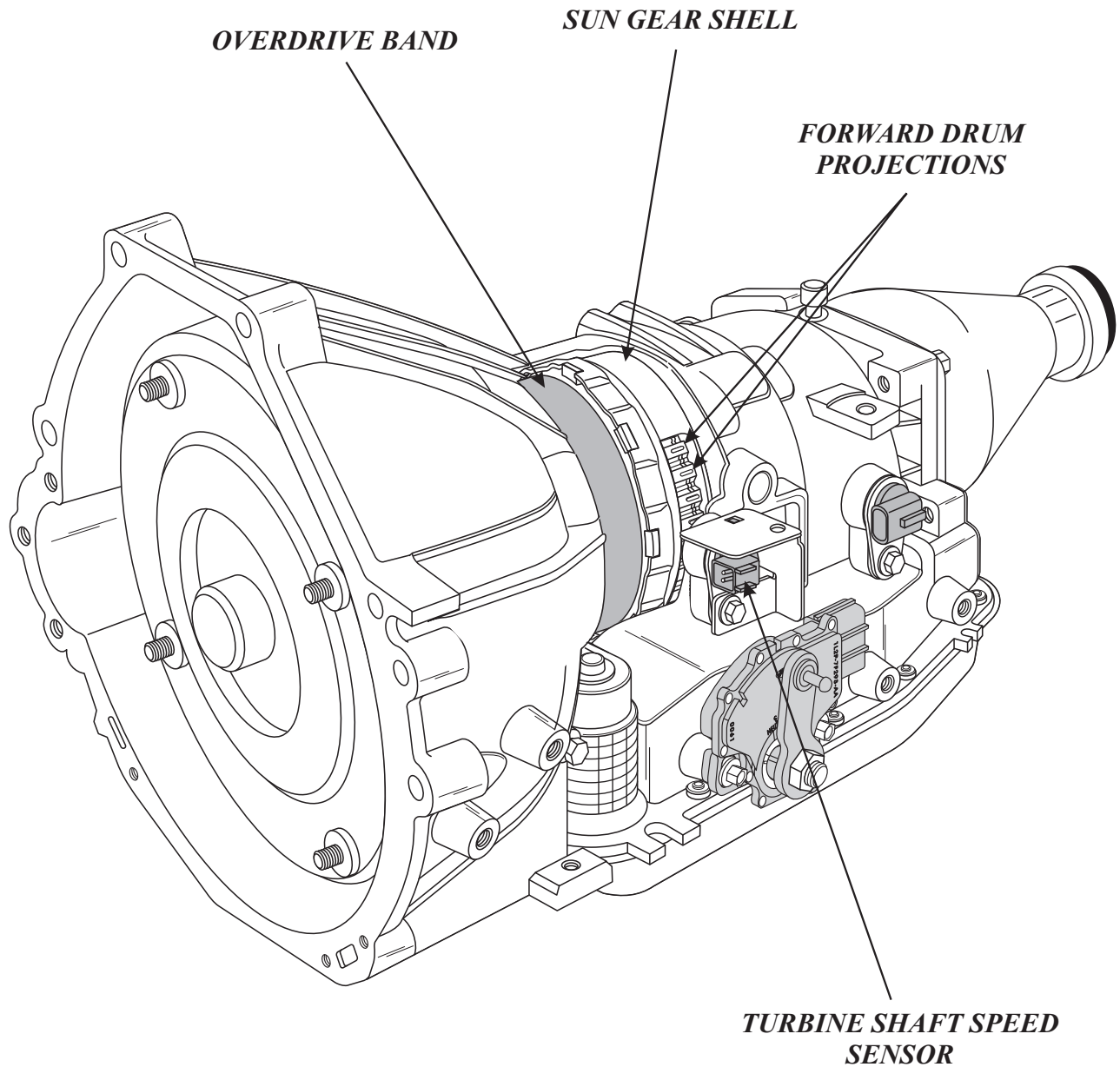
**CAUSE:** The cause may be, that the Forward Clutch Drum, as shown in Figure 2, or Sun gear Shell, as shown in Figure 3, were replaced with the previous design parts causing the Turbine Speed Sensor to return a false reading to the Powertrain Control Module. In the start of production for 2004 the Sun gear shell was made of a non-magnetic material to allow the new Turbine Shaft Speed Sensor to read the Forward Clutch Drum, calculating Turbine shaft speed for the PCM. At the same time the Forward Clutch Drum received a new stamping process, to provide 34 projections for the sensor to read from. See Figure 1 for a cross-sectional view.

**CORRECTION:** Install the correct Forward Clutch Drum or Sun gear shell into the transmission and or replace the Turbine Shaft Speed Sensor as shown in Figure 4.

### SERVICE INFORMATION:

|                                 |               |
|---------------------------------|---------------|
| FORWARD CLUTCH DRUM.....        | 3L3Z-7F207-AA |
| SUN GEAR SHELL.....             | 5L3Z-7A019-AB |
| TURBINE SHAFT SPEED SENSOR..... | 3L3Z-7H103-AA |

## TRANSMISSION CASE CROSS-SECTION

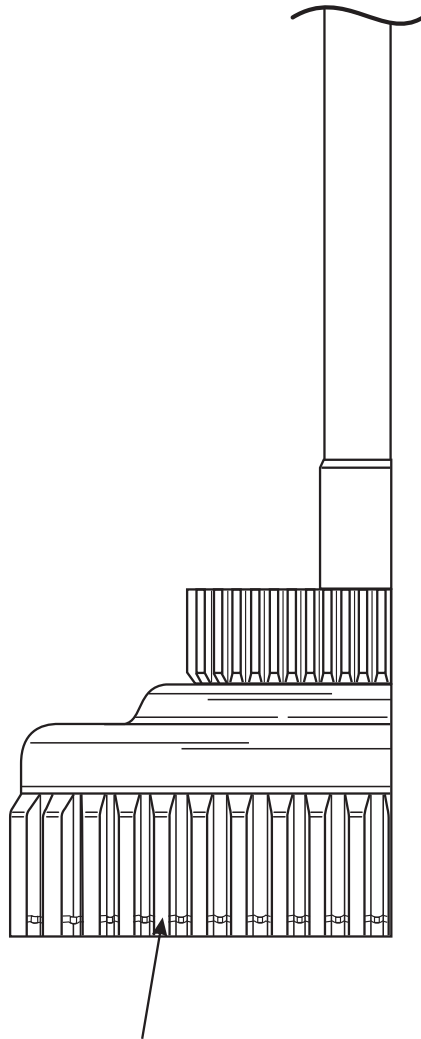


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Figure 1

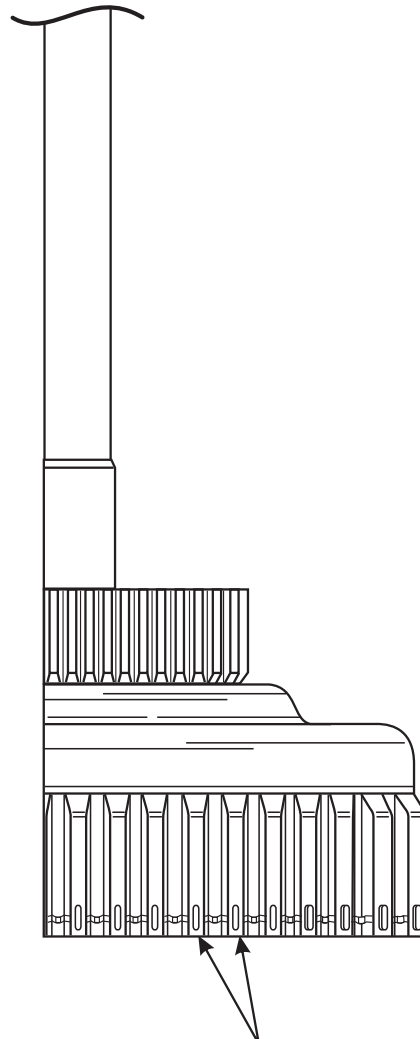
## FORWARD CLUTCH DRUM

### *PREVIOUS DESIGN*



***NO PROJECTIONS***

### *NEW DESIGN*



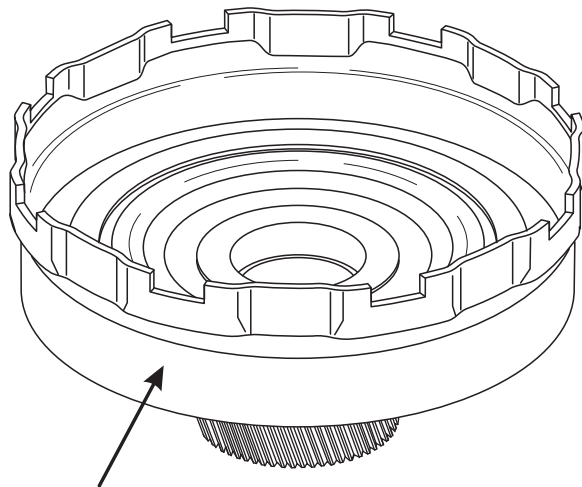
***34 STAMPED PROJECTIONS  
ON THE OUTSIDE OF THE DRUM  
THAT THE ADDED TURBINE SENSOR  
READS FROM***

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Figure 2

## SUN GEAR SHELL

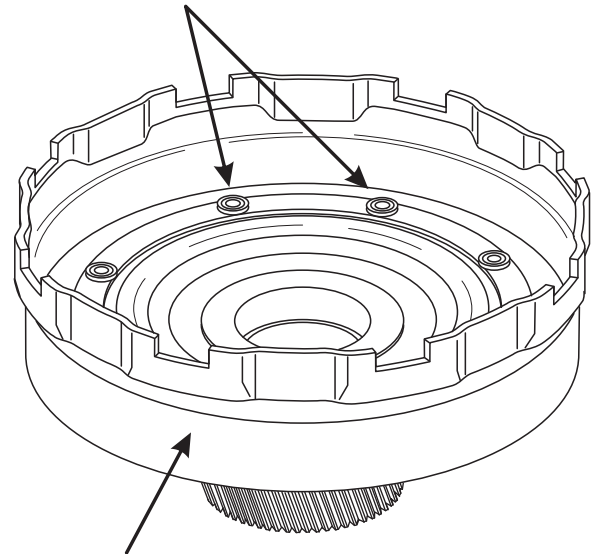
### *PREVIOUS DESIGN*



*MAGNETIC SHELL*

### *NEW DESIGN 4L3Z-7A019-BA*

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



*NON-MAGNETIC SHELL*

*NOTE: The New Sun Shell is made from  
a non-magnetic material so the Turbine sensor  
can read the Forward drum.*

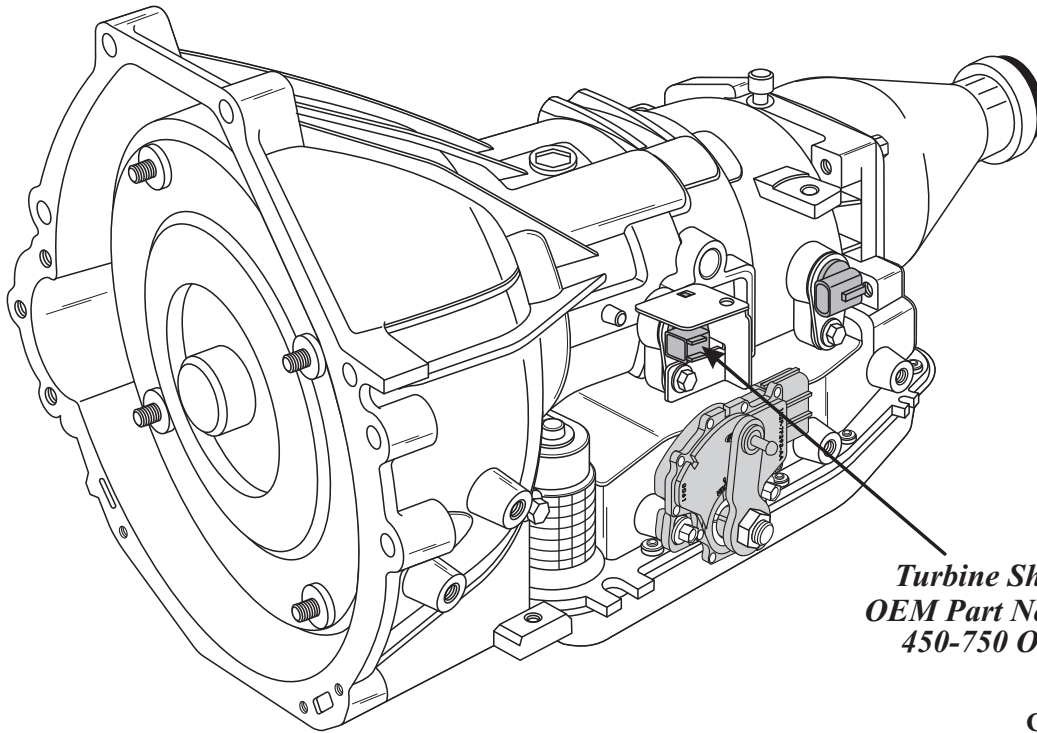
*2005 models use the same type of Sun Shell  
and there are no rivets for identification.*

*Ford Part number 5L3Z-7A019-AB*

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Figure 3

## TURBINE SHAFT SPEED SENSOR



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

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Figure 4