



# Technical Service Information

## **FORD 4R70E/4R75E NEW TURBINE SHAFT SPEED SENSOR**

**CHANGE:** Beginning at the start of production for 2004, Ford Motor Company introduced a new rear drive transmission with the designation 4R70E or 4R75E, as shown in Figure 1. This unit is another version of the current 4R70W unit. There has been a Turbine Shaft Speed (TSS) sensor added in the center of the case, as shown in Figure 1, and aligned with a new sun gear shell, as shown in Figure 2. Another change is the rear ring gear with extended parking lugs that now trigger the output speed sensor, as shown in Figure 3. These new units are found only in F150 and E150 series vehicles for 2004. The 4.6L engine will be equipped with the 4R70E and the 5.4L engine will be equipped with the 4R75E, difference being, hardened planetary carrier in the 4R75E.

**REASON:** Improved forced downshifts.

### **PARTS AFFECTED:**

- (1) **TURBINE SHAFT SPEED SENSOR** - Has been added to the center of the case on the left hand side of the transmission, as shown in Figure 1.
- (2) **TRANSMISSION MAIN CASE** - Modified to accommodate the added turbine shaft speed sensor, as shown in Figure 1.
- (3) **SUN GEAR AND SHELL ASSEMBLY** - The new Sun Shell Assembly is easily identified by the new rivets that retain the sun shell to the sun gear, as shown in Figure 2. The new sun shell is manufactured from a different material than the previous shell. The new sun shell material is less magnetic than the previous sun shell.
- (4) **REAR INTERNAL RING GEAR** - Now is manufactured with extended parking lugs on the ring gear to trigger the output speed sensor, instead of the previous design with holes in the ring gear, which would also require a strategy change in the PCM. Refer to Figure 3.

### **INTERCHANGEABILITY:**

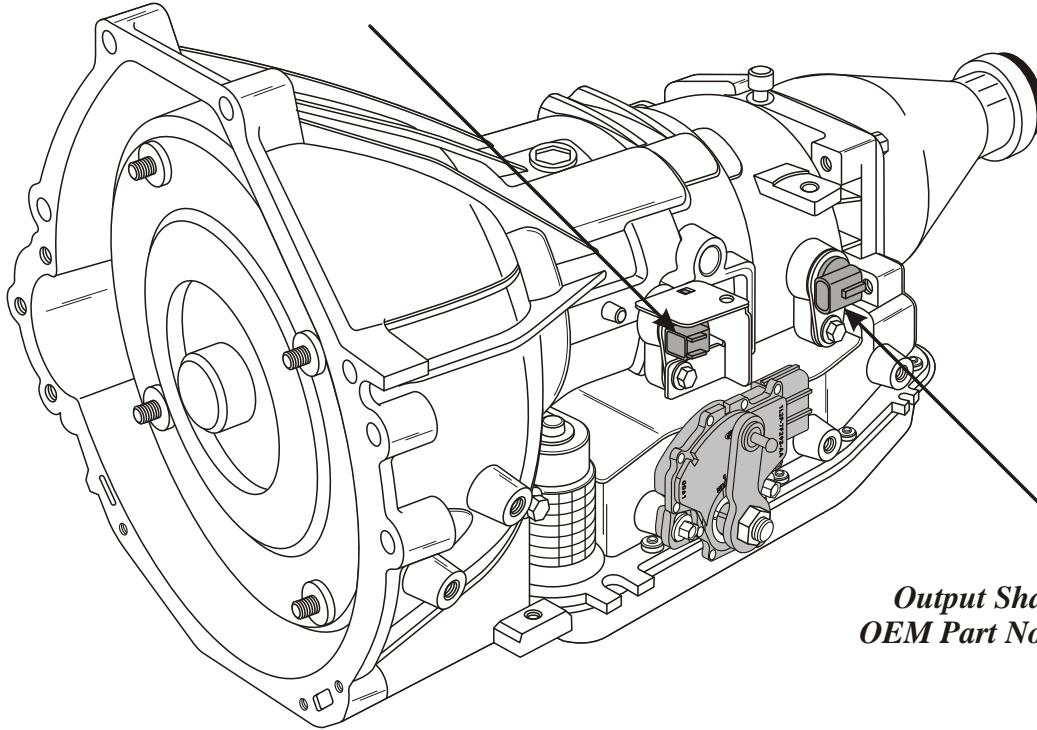
None of the parts listed above will interchange with the previous design 4R70W parts.

### **SERVICE INFORMATION:**

Turbine Shaft Speed Sensor (Not Yet Available) .....	3L3Z-7M101-AA
Output Speed Sensor, 1994-2000 (Rectangular Connector) .....	F4AZ-7H103-AA
Output Speed Sensor, 2001-2003 (Square Connector) .....	1L3Z-7H103-AB
Output Speed Sensor, 2004 Models (.100" Shorter) .....	3L3Z-7H103-AA

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

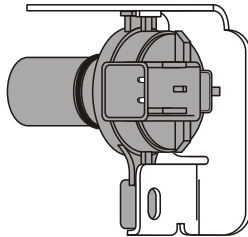


***Output Shaft Speed Sensor  
OEM Part No. 3L3Z-7H103-AA***

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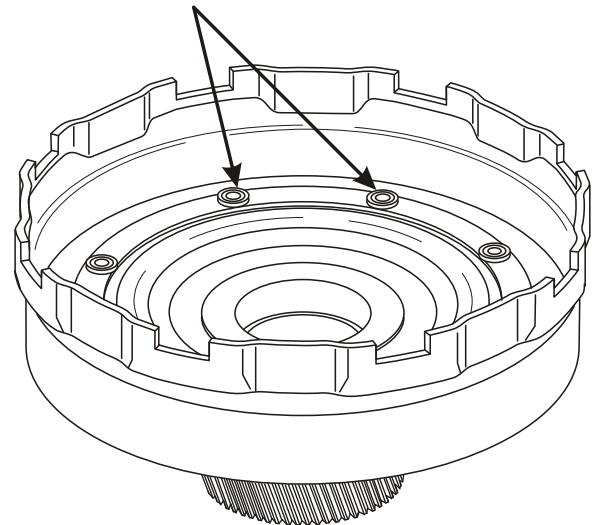
Figure 1

***New Turbine Shaft  
Speed Sensor  
OEM Part No. 3L3Z-7M101-AA***



***450-750 Ohms Resistance***

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



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Figure 2

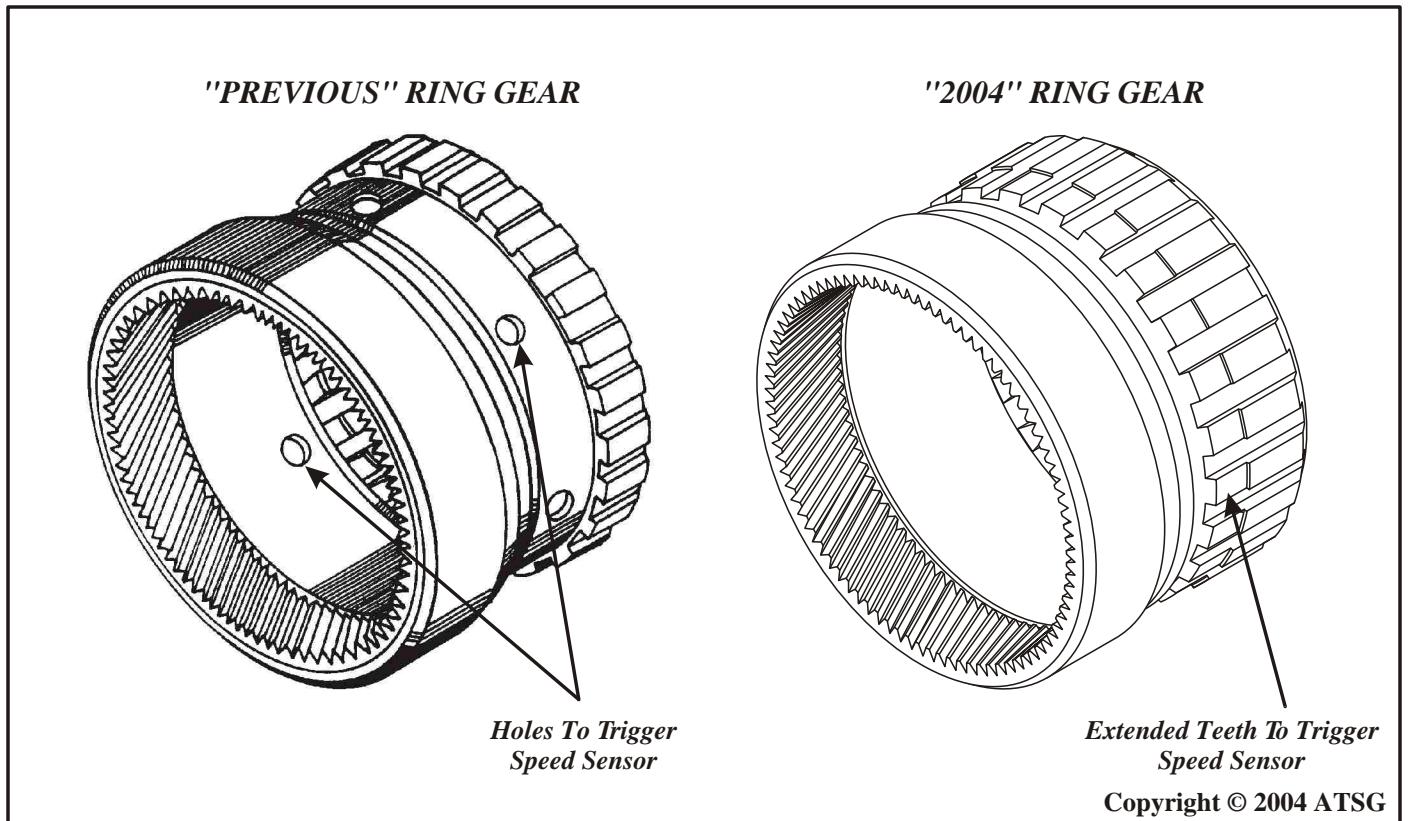


Figure 3