

FORD 4R100 SETTING DTC P0715-P0717

COMPLAINT: Ford Motor Company vehicles equipped with the 4R100 transmission may come into the shop exhibiting a fourth gear takeoff, and when scanned, DTC P0715 (Insufficient Input from TSS), and DTC P0717 (TSS Signal Intermittent). It will also be noticed that when monitoring scanner data, that Shift Solenoid 1 is on, and Shift Solenoid 2 is off. This indicates that First Gear is being commanded. Replacing the TSS, wiring, and the PCM have not solved the problem.

CAUSE: The cause in this case is a sticking solenoid regulator valve in the main control body. When the solenoid regulator valve sticks wide open, fluid pressure that goes to the solenoid pack is cut off. With the shift selector in "D" and no pressure to the shift solenoids, results in a fourth gear start. The reason that the TSS codes appear is that when the transmission is taking off in fourth, the overdrive clutches are applied which prevents the coast clutch drum from spinning. In order for the TSS to return a reading to the PCM, the coast clutch drum has to be spinning. The TSS reads off the lugs on the outside of the coast clutch drum. (See Figure 1) In first, second, and third gears, The overdrive clutches are not applied, which allows the coast clutch drum to spin freely. This means that in first, second, or third gears, the PCM expects to see a signal from the TSS. With the transmission taking off in fourth, the PCM does not see a signal from the TSS and will set the DTC's. The location of the TSS (Turbine Shaft Speed Sensor) is shown in(Figure 2).

CORRECTION: Locate and free up the solenoid regulator valve. (See Figures 3 and 4) If the solenoid regulator valve cannot be properly freed up, replace the Valve Body.

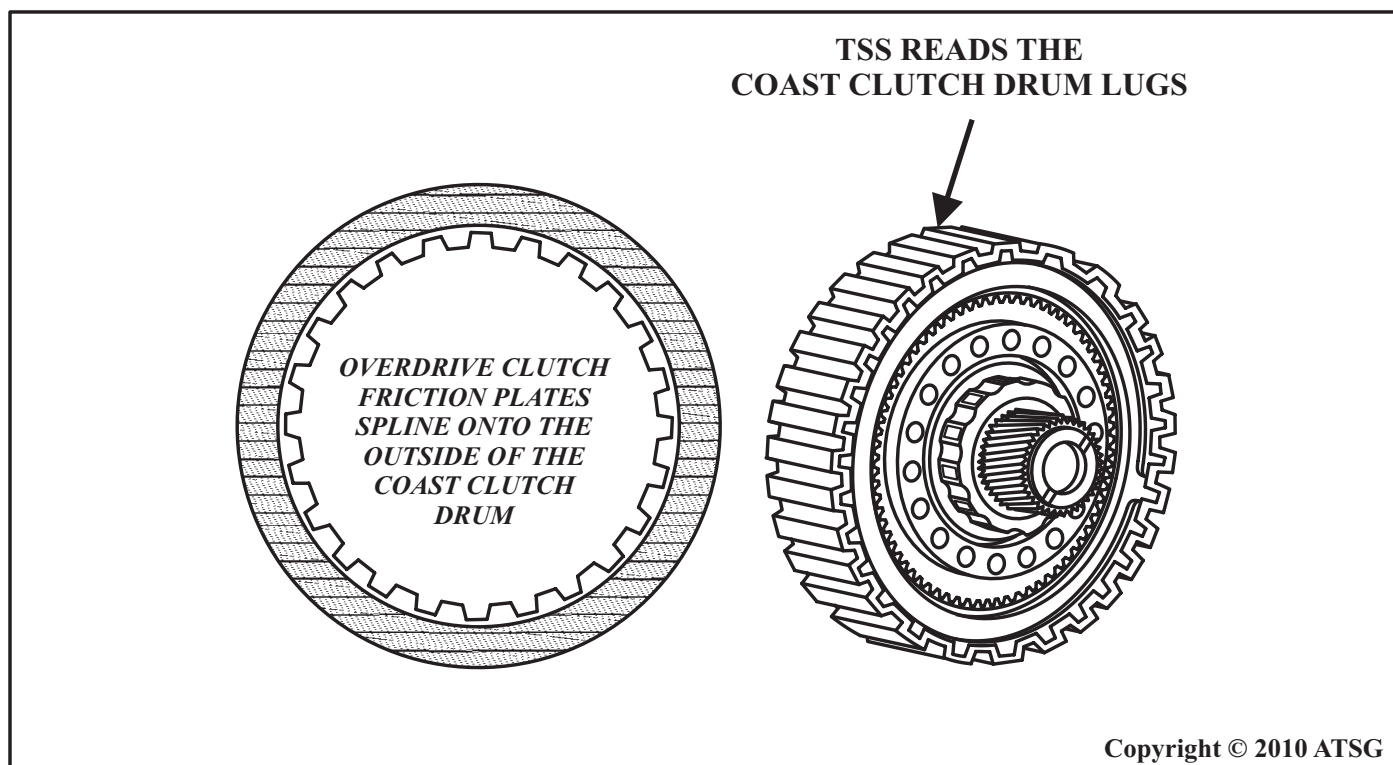
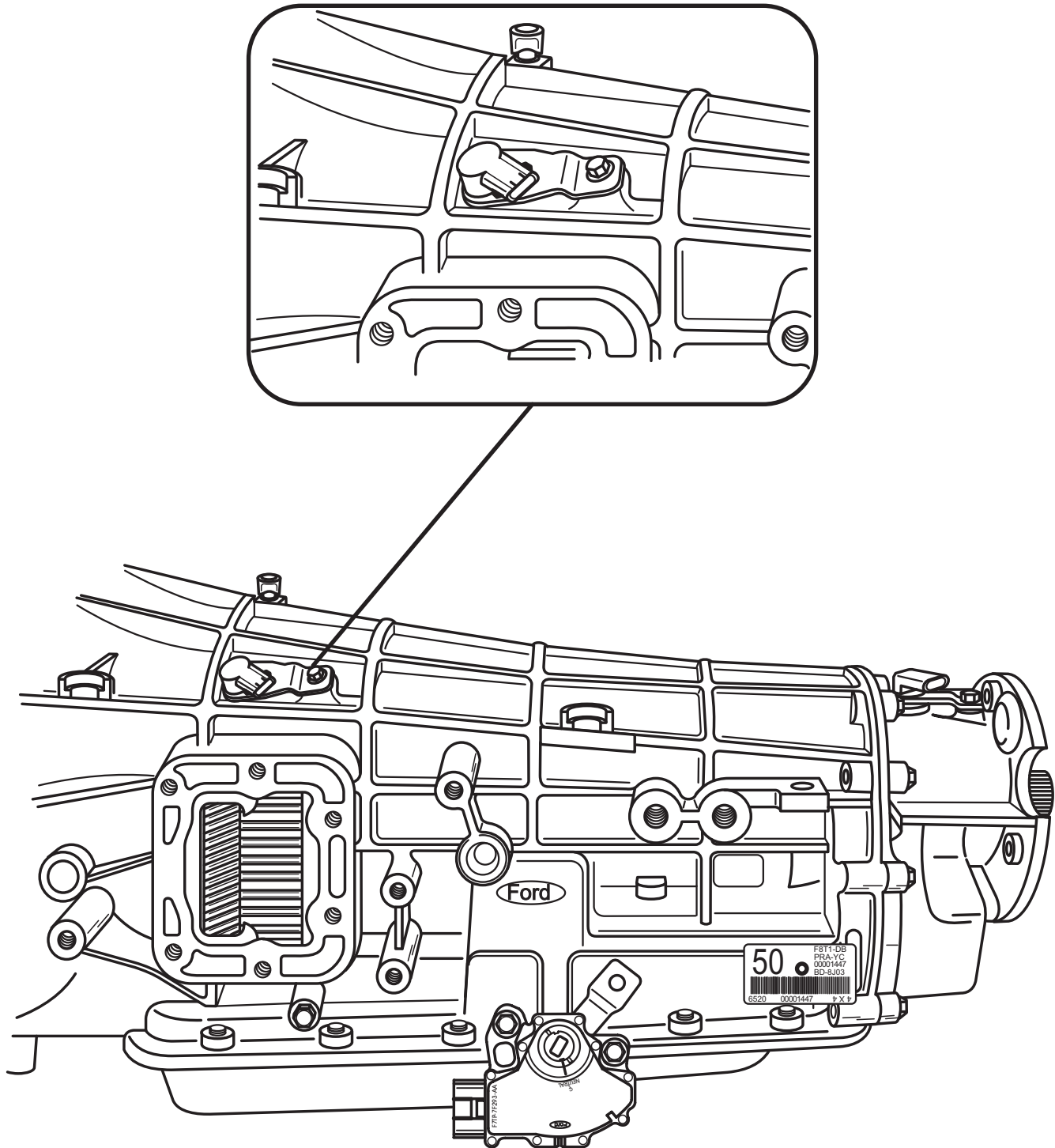


Figure 1

Turbine Shaft Speed Sensor

*PTO Models Only = 496-1244 Ohms Resistance
Part Number F81Z-7M101-BA*

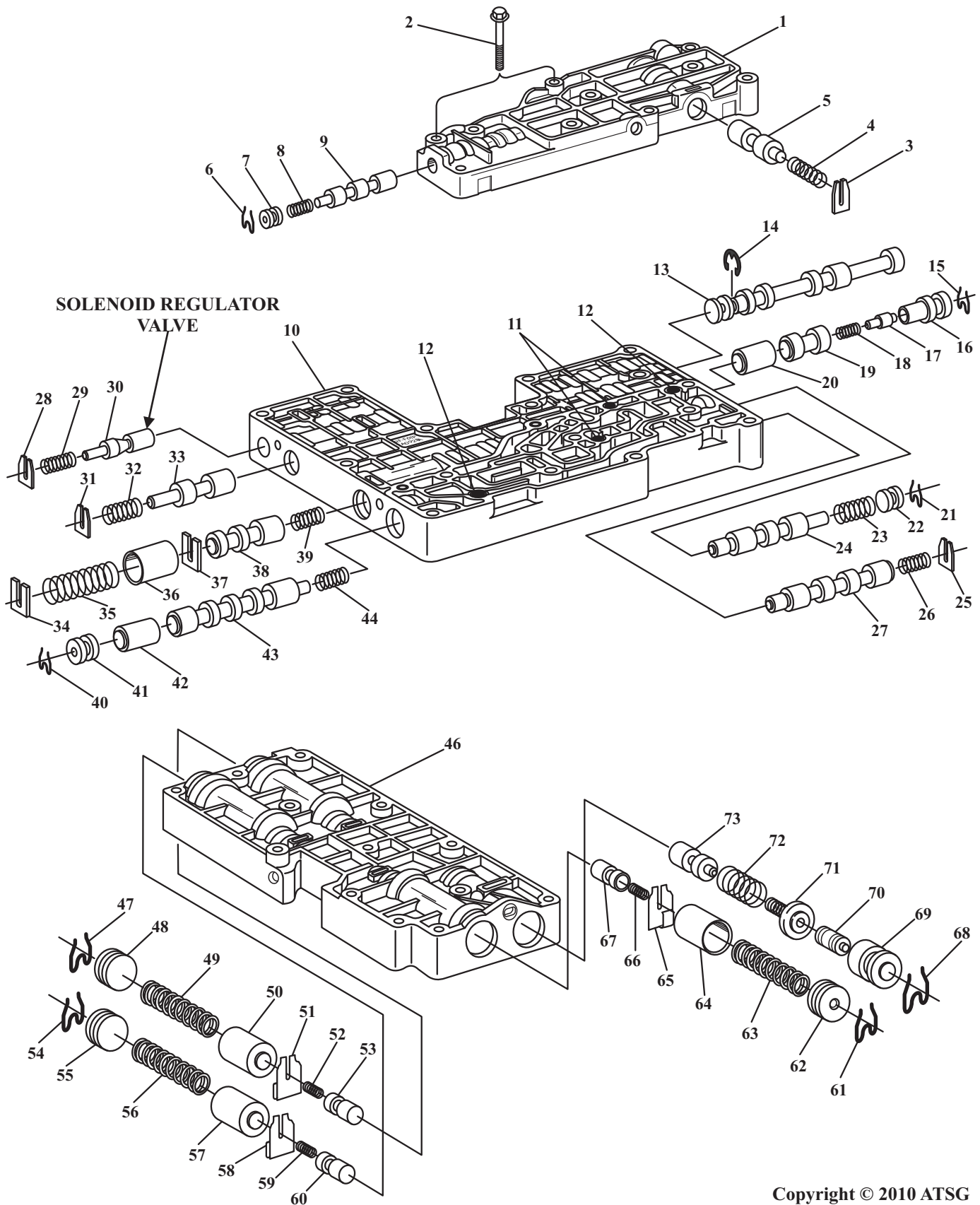
*Non PTO Models Only = 781-1979 Ohms Resistance
Part Number F81Z-7M101-AA*



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Figure 2

FORD 4R100 MAIN, LOWER, AND ACCUMULATOR VALVE BODIES EXPLODED VIEW



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Figure 3



Technical Service Information

FORD 4R100 MAIN, LOWER, AND ACCUMULATOR VALVE BODY LEGEND

| <i>Item</i> | <i>Description</i> | <i>Item</i> | <i>Description</i> |
|-------------|---|-------------|---|
| 1 | Lower Valve Body | 47 | Spring Clip Bore Plug Retainer |
| 2 | Hex Head Bolt, M1 X 36 (2 Required) | 48 | Direct Clutch Accumulator Regulator Plunger Bore Plug |
| 3 | Retaining Plate | 49 | Direct Clutch Accumulator Regulator Plunger Spring |
| 4 | Manual 1-2 Transition Valve Spring | 50 | Direct Clutch Accumulator Regulator Plunger |
| 5 | Manual 1-2 Transition Valve | 51 | Direct Clutch Accumulator Regulator Valve Retainer |
| 6 | Spring Clip Bore Plug Retainer | 52 | Direct Clutch Accumulator Regulator Valve Spring |
| 7 | Engagement Valve Bore Plug | 53 | Direct Clutch Accumulator Regulator Valve |
| 8 | Engagement Valve Spring | 54 | Spring Clip Bore Plug Retainer |
| 9 | Engagement Valve | 55 | O.D. Clutch Accumulator Regulator Plunger Bore Plug |
| 10 | Main Valve Body | 56 | O.D. Clutch Accumulator Regulator Plunger Spring |
| 11 | Checkball 1/4", 2 Required (7E195) | 57 | O.D. Clutch Accumulator Regulator Plunger |
| 12 | Checkball 5/16", 2 Required (7E195) | 58 | O.D. Clutch Accumulator Regulator Valve Retainer |
| 13 | Manual Control Valve | 59 | O.D. Clutch Accumulator Regulator Valve Spring |
| 14 | Manual Valve "E" Clip | 60 | O.D. Clutch Accumulator Regulator Valve |
| 15 | Spring Clip Bore Plug Retainer | 61 | Spring Clip Bore Plug Retainer |
| 16 | Low Reverse Modulator Valve Sleeve | 62 | Int. Clutch Accumulator Regulator Plunger Bore Plug |
| 17 | Low Reverse Modulator Valve Plunger | 63 | Int. Clutch Accumulator Regulator Plunger Spring |
| 18 | Low Servo Modulator Valve Spring | 64 | Int. Clutch Accumulator Regulator Plunger |
| 19 | Low Servo Modulator Valve | 65 | Int. Clutch Accumulator Regulator Valve Retainer |
| 20 | Low Reverse Modulator Valve | 66 | Int. Clutch Accumulator Regulator Valve Spring |
| 21 | Spring Clip Bore Plug Retainer | 67 | Int. Clutch Accumulator Regulator Valve |
| 22 | 3-4 Shift Valve Bore Plug | 68 | Spring Clip Bore Plug Retainer |
| 23 | 3-4 Shift Valve Spring | 69 | Line Pressure Modulator Plunger Sleeve |
| 24 | 3-4 Shift Valve | 70 | Line Pressure Modulator Plunger |
| 25 | Retaining Plate | 71 | Line Pressure Modulator Spring And Retainer Assembly |
| 26 | 2-3 Shift Valve Spring | 72 | Line Pressure Modulator Valve Spring |
| 27 | 2-3 Shift Valve | 73 | Line Pressure Modulator Valve |
| 28 | Retaining Plate | | |
| 29 | Solenoid Regulator Valve Spring | | |
| 30 | Solenoid Regulator Valve | | |
| 31 | Retaining Plate | | |
| 32 | Coast Clutch Shift Valve Spring | | |
| 33 | Coast Clutch Shift Valve | | |
| 34 | Retaining Plate | | |
| 35 | 4-3-2 Shift Timing Control Valve Plunger Spring | | |
| 36 | 4-3-2 Shift Timing Control Valve Plunger | | |
| 37 | Retaining Plate | | |
| 38 | 4-3-2 Shift Timing Valve | | |
| 39 | 4-3-2 Shift Timing Valve Spring | | |
| 40 | Spring Clip Bore Plug Retainer | | |
| 41 | 1-2 Shift Valve Bore Plug | | |
| 42 | 1-2 Shift Valve | | |
| 43 | Drive 2 Valve | | |
| 44 | 1-2 Shift Valve Spring | | |
| 46 | Accumulator Valve Body (7G422 Model Sensitive) | | |
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Figure 4