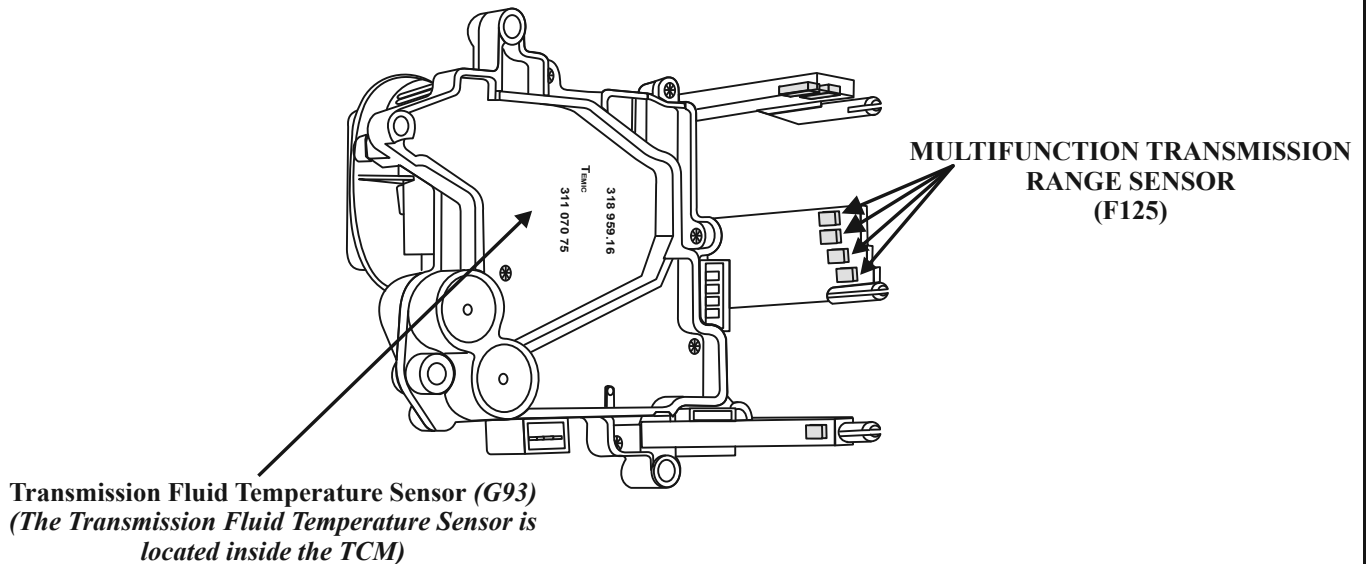


**THE TRANSMISSION CONTROL MODULE J217
 RANGE SENSOR/HALL EFFECT SENSORS &
 TRANSMISSION FLUID TEMPERATURE SENSOR**



The **Multifunction Transmission Range Sensor** has four Hall Effect Sensors which are controlled by a magnetic gate located in the rooster comb area of the selector shaft. The signals from the sensors are interpreted in the same way as the positions of mechanical switches either open or closed. With 4 sensors, 16 total open and closed combinations can be obtained. 6 combinations are used to inform the TCM of a Park, Reverse, Neutral and Drive manual valve selection as well as intermediate movement positions from Park to Reverse and a Reverse to Neutral to Drive movement. The other 10 possible combinations are reserved as being faulty.

The **Transmission Fluid Temperature Sensor** is integrated into the circuit board **inside** the TCM. It records the temperature of the TCM aluminum mounting frame which is in close proximity to the actual fluid temperature.

Transmission oil temperature influences clutch control and transmission input speed control and adaptation functions. If the fluid temperature sensor fails, engine temperature is used to calculate a substitute value. To protect the transmission, engine performance will be reduced gradually until the engine is at idle.

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Figure 6