DODGE RWD
TRANSMISSION RANGE SENSOR

DESCRIPTION
The manufacturer describes the 6 cavity 5 Pin Transmission Range Sensor (TRS) as follows:

The TRS (Figure 1) has 3 primary functions:

1. To provide a PARK/NEUTRAL start signal to the engine controller and the starter relay.
2. Turn the Back-up lamps on when the transmission is in REVERSE and the engine (ignition) is on.
3. Provide a transmission range signal to the instrument cluster.

The sensor is mounted in the transmission housing near the valve body, just above the pan rail. It's in the same position as the Park/Neutral switch on other transmissions. The TRS contacts a cammed surface on the manual valve lever (Figure 2). The cammed surface translates the rotational motion of the manual lever into the linear motion of the sensor. The cammed surface on the manual lever is comprised of two parts controlling the TRS signal: The insulator portion contacts the switch poppet when the manual lever is not in PARK or NEUTRAL. The manual lever itself contacts the poppet when the lever is in PARK or NEUTRAL; providing a ground for the signal from the starter relay and the JTEC engine controller.

OPERATION
As the switch moves through its linear motion contacts slide across a circuit board which changes the resistance between the range sensing pins of the switch (Figures 3 & 4). A power supply on the instrument cluster provides a regulated voltage signal to the switch. The return signal is decoded by the cluster, which then controls the PRNDL display to correspond with the correct transmission range. A bus message of transmission range is also sent by the cluster. In REVERSE range a second contact set closes the circuit providing power to the reverse lamps.

For diagnostic purposes, codes P0705 and P0706 are assigned to this sensor. It has been known that fluid leaks through the sensor and may causes TCC cycling and/or Overdrive cycling. If fluid has seeped into the external harness connector, the sensor will need to be replaced. Otherwise, this sensor can be bench tested as seen in Figure 3. Simply attach an ohm meter to terminals 2 and 5 and carefully depress the plunger to obtain the different gear select positions. The values provided in figure 3 were taken from a known good sensor.

TECHNICAL SERVICE INFORMATION

TRS Part Number.....1-56045489AC
TRS Connector Repair Kit..... 05019940AA

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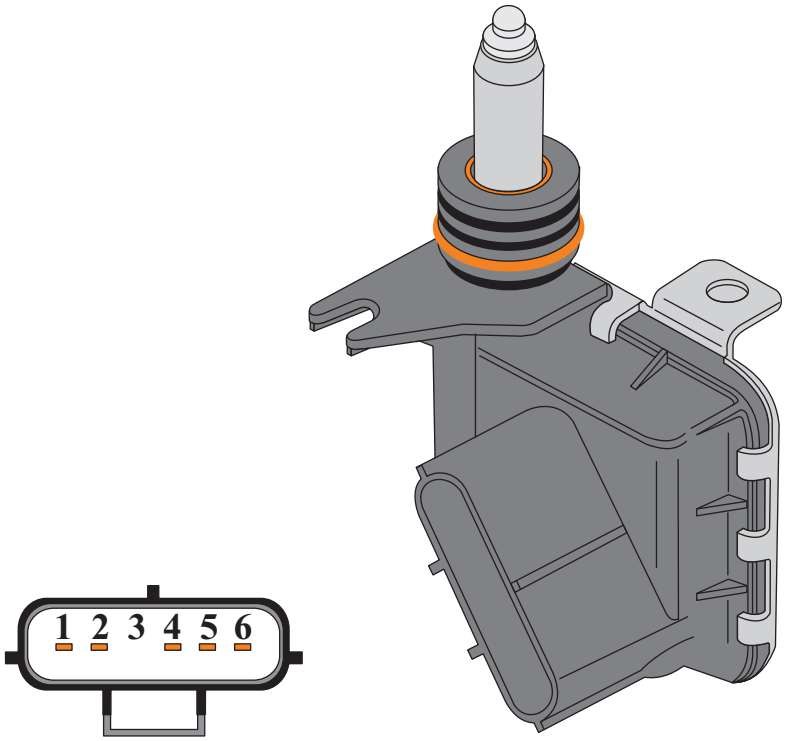
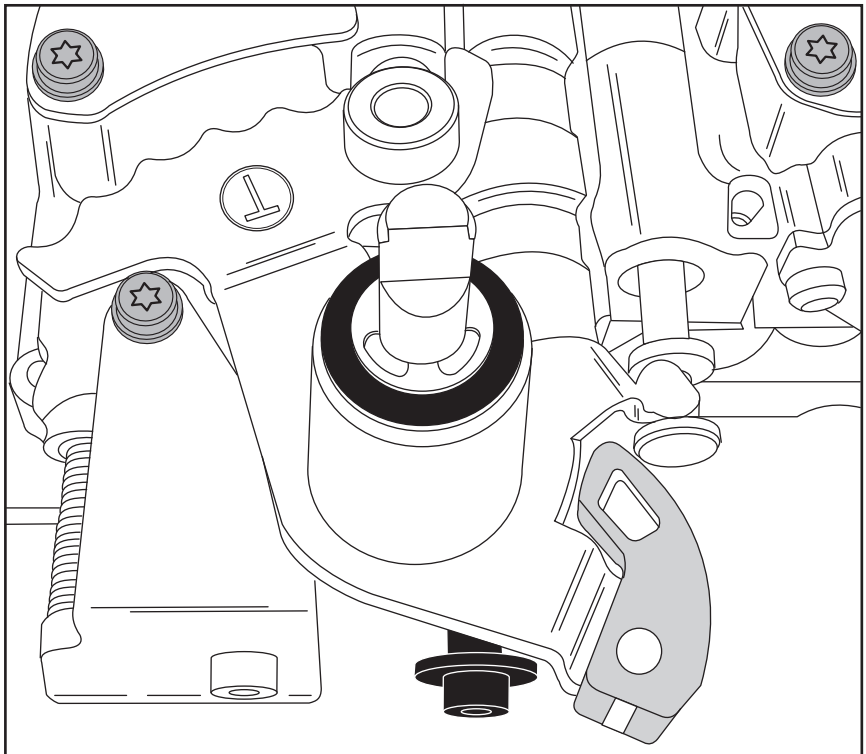


Cavity	Circuit	Function
1	L10 18WT/GY	Fused Ignition Switch Output (Run)
2	T117 20DG/YL	Trans Range Sensor Electronic Cluster and Volt Supply
3	Not used	—
4	L1 18WT/LG	Backup Lamp Feed
5	T917 20YL/TN	Trans Range Sensor Electronic Cluster MJX
6	T41 18YL/DB	Park Neutral Position Switch Sense (T41)

Figure 1



Red Plastic Detent Cam

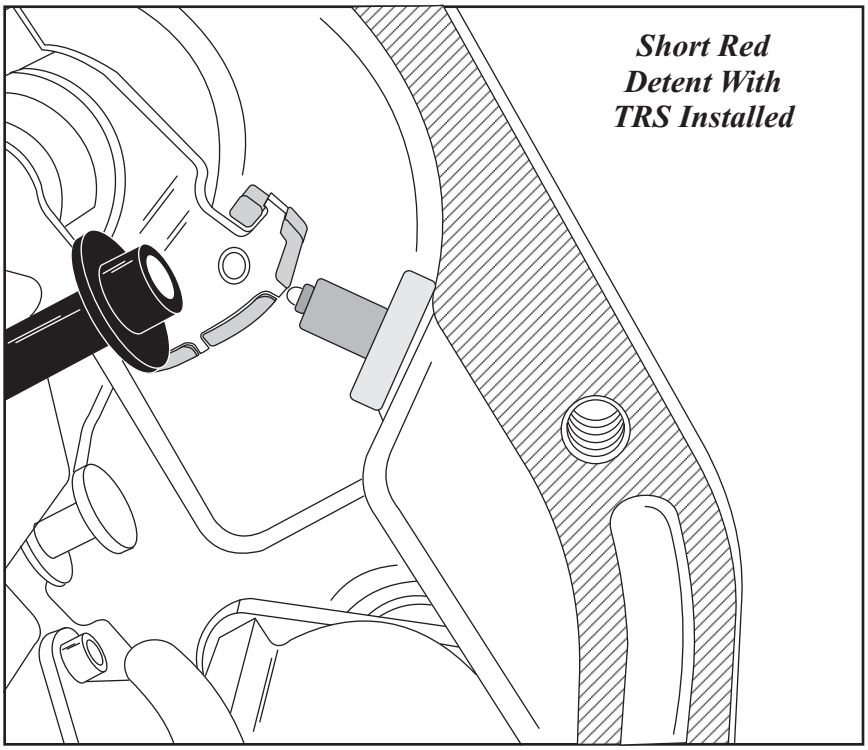


Figure 2

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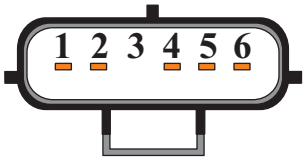

Resistance check across terminals 2 & 5

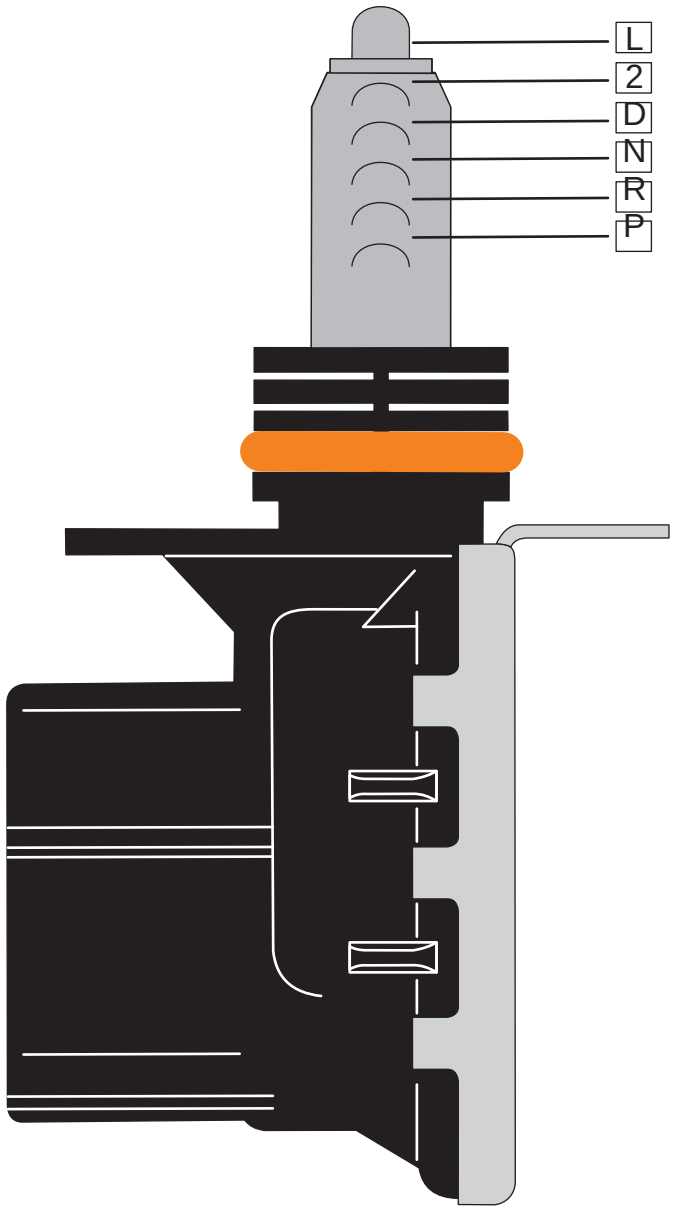

Figure 3

DODGE RWD
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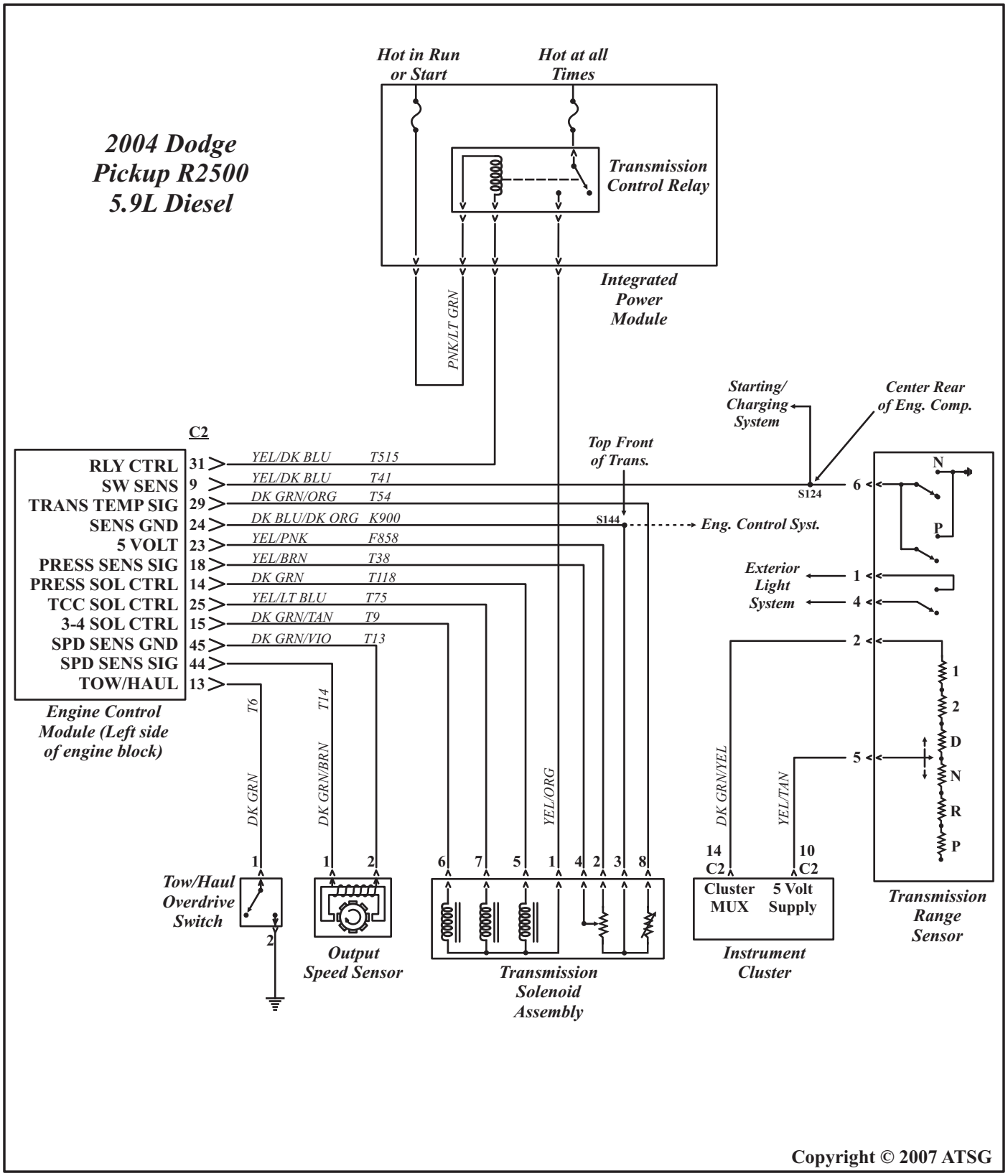

Figure 4