PRODEMAND

2004 Ford Explorer 4.6L Eng

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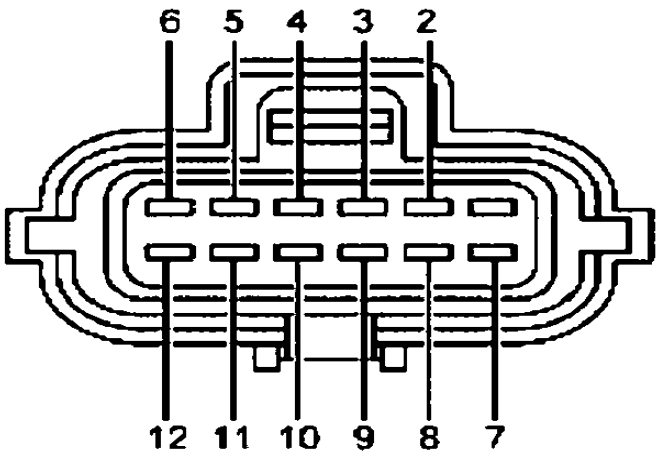
Print Date: 11/13/2016

DIGITAL TRANSMISSION RANGE SENSOR

Digital Transmission Range (TR) Sensor [Connector Reference]

Fig 24: Identifying Digital Transmission Range Sensor Connector



Pin Number	Circuit Description
2	Signal return
3	Digital transmission range (TR) sensor TR3A
4	Digital transmission range (TR) sensor TR1
5	Digital transmission range (TR) sensor TR2
6	Digital transmission range (TR) sensor TR4
7	Ground
8	Neutral switch sense input
9	Fused power feed
10	Starter solenoid control power
11	Reverse backup lamps
12	Start (overload protected) to starter relay

G03181915

Courtesy of FORD MOTOR CO.

Digital Transmission Range (TR) Sensor Diagnosis Chart

DIGITAL TRANSMISSION RANGE (TR) SENSOR DIAGNOSIS CHART

Selector Position	PID: TR	PID: TR_D				PID: TR_V (volts)
		TR4	TR3A	TR2	TR1	TR3A (PCM pin 64 to sigrtn)
PARK	P/N	0	0	0	0	0.0 Volts
REVERSE	REV	1	1	0	0	1.3 - 1.8 Volts
NEUTRAL	NTRL	0	1	1	0	1.3 - 1.8 Volts
OVERDRIVE	O/D[a]	1	1	1	1	1.3 - 1.8 Volts
Manual 3	Man 3	1	0	1	0	0.0 Volts
Manual 2	Man 2	1	0	0	1	0.0 Volts
Manual 1	Man 1	0	0	1	1	0.0 Volts

A. TR_V is the voltage at the PCM pin 64 (TR3A Circuit) to signal return.

B. "In Between" reading could be caused by a shift cable or digital TR sensor misaligned or a digital TR sensor circuit failure of TR1, TR2, TR3A, or TR4.

C. TR_D: 1= Open digital TR switch, 0= Closed digital TR switch.

D. EEC-V Control System Breakout Box Readings: Taken from PCM signal pins for TR1, TR2, TR3A, TR4 to signal return.

A. Voltages for TR1, TR2, TR4:

B. 0 = 0.0 volts.

C. 1 = 9.0 - 14.0 volts.

D. Voltage for TR3A:

E. 0 = 0.0 volts.

F. 1 = 1.3 - 1.8 volts.

Wiggle Test Information for Open/Shorts

A. TR4, TR3A, TR2, and TR1 are all closed in PARK. PARK is a good position to check for intermittent open circuits (with scan tool monitoring TR_D).

B. TR4, TR3A, TR2, and TR1 are all open in OVERDRIVE, so OVERDRIVE is a good position to check for shorts to ground. To determine the shorted components while observing TR_D, unplug the TR and see if the short goes away. If the short is still present unplug the transmission harness and see if the short goes away. If the short is still present, then the short is in the PCM or vehicle harness. Remove the suspect circuit(s) wire terminal from the PCM connector. If the short is still present, then the PCM has an internal failure, otherwise the failure is in the vehicle harness.