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2006 FORD Explorer Sport Trac OEM Service and Repair Workshop Manual

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0 to 20	32 to 68	2.3k-6.4k
21 to 40	69 to 104	1.1k-2.7k
41 to 70	105 to 158	0.4k-1.3k
71 to 90	159-194	236-445
91 to 110	195-230	140-247
111 to 130	231-266	87-145
131 to 150	267-302	55-90

Does the resistance match the specification on the temperature chart?

Yes	CONNECT all electrical connectors. CLEAR the DTC (diagnostic trouble code) . CARRY OUT the KOEO (key on, engine off) and KOER (key on, engine running) self-tests. If the DTC (diagnostic trouble code) returns,  Guided Routine available in the on-line Workshop Manual. After programming the new PCM (powertrain control module) , CARRY OUT the transmission strategy download. REFER to: Transmission Strategy Download (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures). If the DTC (diagnostic trouble code) does not return, the fault is no longer present and might have been caused by a terminal fitment issue.

No	There is a terminal fitment issue. REPAIR any loose, damaged or bent terminals.

PINPOINT TEST C : TRANSMISSION RANGE SENSOR

	Performance: No Sub Type Information	
PCM (powertrain control module) P2801:00	Transmission Range Sensor 'B' Circuit Range/Performance: No Sub Type Information	This DTC (diagnostic trouble code) indicates the frequency of TR (transmission range) sensor B is out of range (expected to be 125 Hz +/- 50 Hz). This could be caused by an open or a short in the TR (transmission range) sensor power or ground circuits.
PCM (powertrain control module) P2802:00	Transmission Range Sensor 'B' Circuit Low: No Sub Type Information	This DTC (diagnostic trouble code) indicates the duty cycle of TR (transmission range) sensor B is out of range low (less than 7%). This could be caused by an open circuit or a short to ground in the TR (transmission range) sensor B circuit.
PCM (powertrain control module) P2803:00	Transmission Range Sensor 'B' Circuit High: No Sub Type Information	This DTC (diagnostic trouble code) indicates the duty cycle of TR (transmission range) sensor B is out of range high (greater than 93%). This could be caused by a short to power in the TR (transmission range) sensor B circuit.
PCM (powertrain control module) P2804:00	Transmission Range Sensor 'B' Circuit Intermittent: No Sub Type Information	This DTC (diagnostic trouble code) illuminates the wrench light in conjunction with P2801, P2802 and/or P2803. Resolve the more specific DTC (diagnostic trouble code) first.
PCM (powertrain control module) P2805:00	Transmission Range Sensor 'A'/ 'B' Correlation: No Sub Type Information	This DTC (diagnostic trouble code) indicates both TR (transmission range) sensors are within range, but the sum of their duty cycles is out of range (total duty cycle should be 96% to 104%).

Possible Sources

- Connectors damaged or pushed-out terminals, corrosion, loose wires and missing or damaged seals
- Circuit open or shorted
- Transmission internal wiring harness
- TR (transmission range) sensor
- PCM (powertrain control module)

C1 CHECK THE TR (TRANSMISSION RANGE) SENSOR VREF CIRCUIT FOR VOLTAGE

Are the voltages approximately 5 volts?

Yes	GO to C6

No	GO to C3

C3 CHECK THE TR (TRANSMISSION RANGE) SENSOR VREF AND SIGNAL CIRCUITS FOR AN OPEN

- Ignition OFF.
- Disconnect PCM (powertrain control module) C175T .
- Inspect the connector for damaged or pushed out terminals, corrosion, loose wires and missing or damaged seals.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C168A-5	Ω	C175T-86
C168A-6	Ω	C175T-85
C168A-8	Ω	C175T-50

Are the resistances less than 3 ohms?

Yes	GO to C4

No	REPAIR the open circuit.

C168A-6	V	Ground
C168A-8	V	Ground

Is any voltage present?

Yes	REPAIR the short to power.

No	  Guided Routine available in the on-line Workshop Manual. After programming the new PCM (powertrain control module), CARRY OUT the transmission strategy download. REFER to: Transmission Strategy Download (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).

C6 CHECK THE TR (TRANSMISSION RANGE) SENSOR GROUND CIRCUIT

- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C168A-8	V	C168A-20

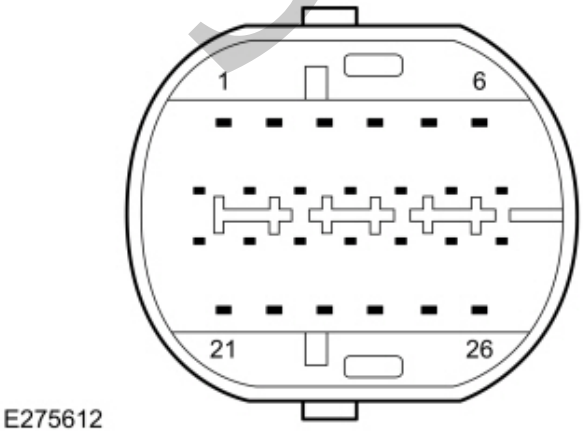
Is the voltage approximately 9 volts?

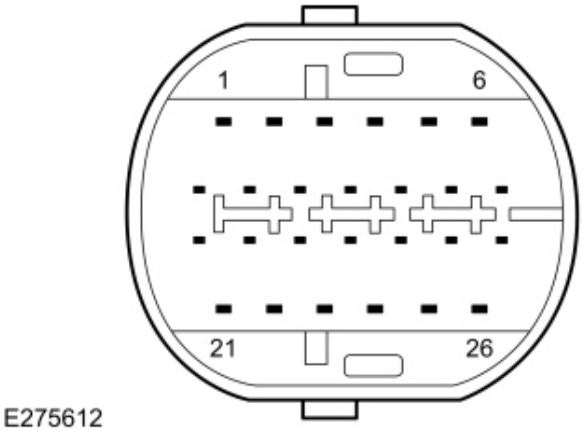
Yes	GO to C9

No	 Guided Routine available in the on-line Workshop Manual. After programming the new PCM (powertrain control module), CARRY OUT the transmission strategy download. REFER to: Transmission Strategy Download (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, General Procedures).

C9 CHECK THE TRANSMISSION INTERNAL WIRING HARNESS TR (TRANSMISSION RANGE) SENSOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Drain the transmission fluid and remove the transmission fluid pan.
  REFER to: Transmission Fluid Pan, Gasket and Filter(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).
- Disconnect TR (transmission range) sensor C167 .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E275612	Ω	C167-2

 Transmission component side, pin 20	Ω	C167-1

Are the resistances less than 3 ohms?

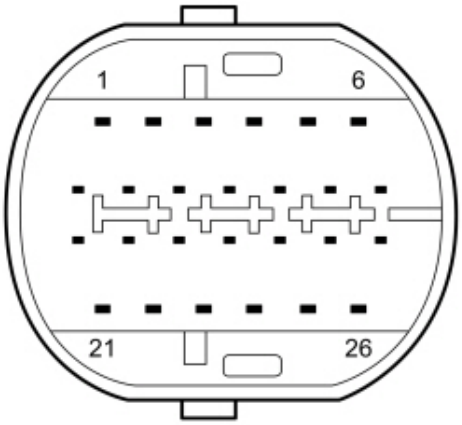
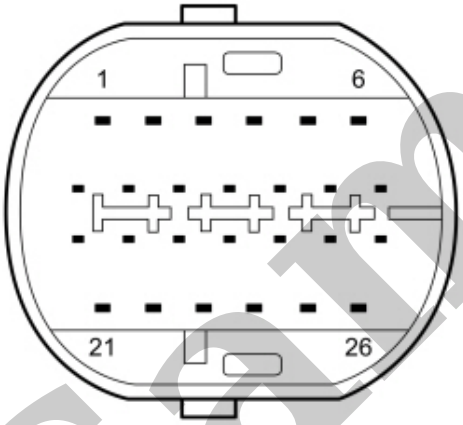
Yes	GO to C10

No	INSTALL a new transmission case harness. REFER to: Transmission Internal Wiring Harness (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).

C10 CHECK THE TRANSMISSION INTERNAL WIRING HARNESS TR (TRANSMISSION RANGE) SENSOR CIRCUITS FOR A SHORT TO GROUND

- Measure:

Positive Lead	Measurement / Action	Negative Lead

 E275612 Transmission component side, pin 8	Ω	Ground
 E275612 Transmission component side, pin 20	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to C11

No	INSTALL a new transmission case harness. REFER to: Transmission Internal Wiring Harness (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).

Yes	GO to C13

No	There is a terminal fitment issue. REPAIR any loose, damaged or bent terminals.

C13 CHECK THE TR (TRANSMISSION RANGE) SENSOR GROUND CIRCUIT THROUGH THE BULKHEAD CONNECTOR

- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C167-4	V	C167-1

Is the voltage approximately 9 volts?

Yes	INSTALL a new TR (transmission range) sensor. REFER to: Transmission Range (TR) Sensor (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Removal and Installation).

No	There is a terminal fitment issue. REPAIR any loose, damaged or bent terminals.

PINPOINT TEST D : TSS, OSS, ISSA, ISSB SENSORS (ELECTRICAL)

Refer to Wiring Diagrams Cell 30for schematic and connector information.

Normal Operation and Fault Conditions TSS Sensor The TSS (turbine shaft speed) sensor is a Hall-effect type sensor that provides a signal to the PCM (powertrain control module) that changes in frequency as the rotating speed of the planetary carrier No. 2 varies. The PCM (powertrain control module) compares the TSS (turbine shaft speed) sensor signal with the engine speed information to determine the amount of slip occurring in the torque converter. The PCM (powertrain control module) also compares the TSS (turbine shaft speed) sensor signal with the OSS (output shaft speed) sensor signal to determine the gear ratio

PCM (powertrain control module) P0723:00	Output Shaft Speed Sensor Circuit Intermittent: No Sub Type Information	This DTC (diagnostic trouble code) indicates an OSS (output shaft speed) sensor fault, but the fault did not last long enough to set a more specific DTC (diagnostic trouble code) .
PCM (powertrain control module) P077D:00	Output Shaft Speed Sensor Circuit High: No Sub Type Information	This DTC (diagnostic trouble code) indicates a short to power in the OSS (output shaft speed) sensor circuit.
PCM (powertrain control module) P0791:00	Intermediate Shaft Speed Sensor 'A' Circuit: No Sub Type Information	This DTC (diagnostic trouble code) indicates an open circuit or a short to ground in the intermediate shaft speed A (ISSA) sensor circuit.
PCM (powertrain control module) P0793:00	Intermediate Shaft Speed Sensor 'A' Circuit No Signal: No Sub Type Information	This DTC (diagnostic trouble code) illuminates the wrench light in conjunction with P0791, P07C5, and/or P07C6. Resolve the more specific DTC (diagnostic trouble code) first.
PCM (powertrain control module) P0794:00	Intermediate Shaft Speed Sensor 'A' Circuit Intermittent: No Sub Type Information	This DTC (diagnostic trouble code) indicates an intermediate shaft speed A (ISSA) sensor fault, but the fault did not last long enough to set a more specific DTC (diagnostic trouble code) .
PCM (powertrain control module) P07BF:00	Input/Turbine Shaft Speed Sensor 'A' Circuit Low: No Sub Type Information	This DTC (diagnostic trouble code) indicates a short to ground in the TSS (turbine shaft speed) sensor circuit.
PCM (powertrain control module) P07C0:00	Input/Turbine Shaft Speed Sensor 'A' Circuit High: No Sub Type Information	This DTC (diagnostic trouble code) indicates a short to power in the TSS (turbine shaft speed) sensor circuit.
PCM (powertrain control module) P07C5:00	Intermediate Shaft Speed Sensor 'A' Circuit Low: No Sub Type Information	This DTC (diagnostic trouble code) indicates a short to ground in the intermediate shaft speed A (ISSA) sensor circuit.
PCM (powertrain control module) P07C6:00	Intermediate Shaft Speed Sensor 'A' Circuit High: No Sub Type Information	This DTC (diagnostic trouble code) indicates a short to power in the intermediate shaft speed A (ISSA) sensor circuit.
PCM (powertrain control module)	Intermediate Shaft Speed Sensor 'B' Circuit Low: No Sub	This DTC (diagnostic trouble code) indicates a short to ground in the intermediate shaft speed B (ISSB)