P0700: INTERNAL TCM

Circuit Description

The TCM is reporting internal errors.

Diagnostic Procedure

1. Turn ignition switch to LOCK position. Remove transmission control relay. Measure resistance between ground and relay ground circuit (Black/Yellow wire) in relay connector. If resistance is greater than 5 ohms, repair open circuit. If resistance is not greater than 5 ohms, go to next step.

2. The TCM has an internal problem and must be replaced.

P0715: INPUT SPEED SENSOR ERROR

Circuit Description

DTC P0715 will set if an excessive change in input RPM has been detected in any gear.

Possible Causes

- Intermittent wiring and connector problems.
- Faulty input speed sensor.
- Input speed sensor circuits shorted to ground, shorted to voltage, or open.
- Faulty TCM.

Diagnostic Procedure

1. Place gear selector in "P" position and start engine. Using scan tool, monitor input speed sensor value. If value is less than 400 RPM, go to next step. If value is not less than 400 RPM, go to step 9.

2. Turn ignition switch to LOCK position. Install Transmission Simulator (8333). Turn ignition on. Using transmission simulator, turn rotary knob to middle (1000/3000) position. Turn INPUT/OUTPUT switch on. Using scan tool, monitor input and output speed sensor values. If input speed sensor value is 2950-3050 RPM and output speed sensor value is 950-1050 RPM, replace input speed sensor. If speed sensor values are not as specified, go to next step.

3. Turn ignition switch to LOCK position. Disconnect TCM harness connector. Remove transmission control relay. Using fused jumper wire, jumper fused B+ circuit (Red/White wire) and transmission relay output circuit (Red wire) together at relay connector. Turn ignition on. Measure voltage between ground and input speed sensor signal circuit (Red/Black wire) at TCM harness connector. If voltage is greater than 3 volts, repair circuit for short to voltage. If voltage is not greater than 3 volts, remove jumper wire, install relay and go to next step.

4. Turn ignition switch to LOCK position. Disconnect input speed sensor harness connector. Measure resistance of input speed sensor signal circuit (Red/Black wire) between TCM and input speed sensor. If resistance is greater than 5 ohms, repair open circuit. If resistance is not greater than 5 ohms, go to next step.

5. Measure resistance of input speed sensor ground circuit (Dark Blue/Black wire) between TCM and input...
speed sensor. If resistance is greater than 5 ohms, repair open circuit. If resistance is not greater than 5 ohms, go to next step.

6. Measure resistance between ground and input speed sensor signal circuit (Red/Black wire). If resistance is less than 5 ohms, repair circuit for short to ground. If resistance is not less than 5 ohms, reconnect input speed sensor harness connector and go to next step.

7. Remove transmission control relay. Using fused jumper wire, jumper fused B+ circuit (Red/White wire) and transmission control relay output circuit (Red wire) together at transmission control relay connector. Turn ignition on. Measure voltage between ground and input speed sensor ground circuit (Dark Blue/Black wire) at TCM harness connector. If voltage is greater than 3 volts, repair circuit for short to voltage. If voltage is not greater than 3 volts, go to next step.

8. If no other potential causes for DTC P0715 remain, TCM is assumed to be faulty. Repair or replace as necessary.

9. Conditions necessary to set DTC are not present at this time. Using appropriate wiring diagram as a guide, inspect wiring and connectors associated with circuits in question. See WIRING DIAGRAMS. Wiggle wires while checking for shorted and open circuits. Repair as necessary. If circuits are okay, testing is complete.

DTC P0731: GEAR RATIO ERROR IN 1ST

Circuit Description

DTC P0731 will set if ratio of input RPM to output RPM does not match current gear ratio.

Possible Causes

- Defective transmission.
- Other transmission-related DTCs are present.

Diagnostic Procedure

1. Using scan tool, check for other transmission-related DTCs. If DTCs P1791, P0715, P0720, P1794, P1720, P1721, P1722 or P1724 are also present, diagnose these DTCs first in the order listed. If no other transmission-related DTCs are present, go to next step.

2. Using scan tool, perform 1ST GEAR CLUTCH test. If test passes (input speed remains at zero), testing is complete. If test does not pass, go to next step.

3. Repair transmission as necessary. See CHRYSLER 45RFE OVERHAUL article. If line pressure DTCs were present along with DTC P0731, ensure to inspect oil pump and pressure control solenoid. If DTC P1732 and/or P1726 were present in addition to DTC P0731, replace solenoid pack in addition to necessary internal parts.

DTC P0732: GEAR RATIO ERROR IN 2ND

Circuit Description

DTC P0732 will set if ratio of input RPM to output RPM does not match current gear ratio.
Possible Causes

- Defective transmission.
- Other transmission-related DTCs are present.
- Pressure switch related DTCs are present.

Diagnostic Procedure

1. Using scan tool, check for other transmission-related DTCs. If DTCs P1791, P0715, P0720, P1794, P1720, P1721, P1722 or P1724 are also present, diagnose these DTCs first in the order listed. If no other transmission-related DTCs are present, go to next step.

2. Using scan tool, perform 2ND GEAR CLUTCH test. If test passes (input speed remains at zero), testing is complete. If test does not pass, go to next step.

   **NOTE:** Consult manufacturer’s warranty documentation (if applicable) prior to performing repairs. Replace transmission or solenoid/TRS assembly as required by current warranty policy.

3. Using scan tool, check for other transmission-related DTCs. If DTC P1728 and/or P1734 are also present, solenoid/TRS assembly is assumed to be faulty. Repair or replace as necessary. If no other transmission-related DTCs are present, go to next step.

4. Repair transmission as necessary. See CHRYSLER 45RFE OVERHAUL article. If line pressure DTCs were present along with DTC P0732, ensure to inspect oil pump and pressure control solenoid. If DTC P1734 and/or P1728 were present in addition to DTC P0732, replace solenoid pack in addition to necessary internal parts.

DTC P0734: GEAR RATIO ERROR IN 4TH

Circuit Description

DTC P0734 will set if ratio of input RPM to output RPM does not match current gear ratio.

Possible Causes

- Defective transmission.
- Other transmission-related DTCs are present.
- Pressure switch related DTCs are present.

Diagnostic Procedure

1. Using scan tool, check for other transmission-related DTCs. If DTCs P1791, P0715, P0720, P1794, P1720, P1721, P1722 or P1724 are also present, diagnose these DTCs first in the order listed. If no other transmission-related DTCs are present, go to next step.

2. Using scan tool, perform 4TH GEAR CLUTCH test. If test passes (input speed remains at zero), testing is complete. If test does not pass, go to next step.
NOTE: Consult manufacturer's warranty documentation (if applicable) prior to performing repairs. Replace transmission or solenoid/TRS assembly as required by current warranty policy.

3. Using scan tool, check for other transmission-related DTCs. If DTC P1727 and/or P1733 are also present, solenoid/TRS assembly is assumed to be faulty. Repair or replace as necessary. If no other transmission-related DTCs are present, go to next step.

4. Repair transmission as necessary. See CHRYSLER 45RFE OVERHAUL article. If line pressure DTCs were present along with DTC P0734, ensure to inspect oil pump and pressure control solenoid. If DTC P1733 and/or P1727 were present in addition to DTC P0734, replace solenoid pack in addition to necessary internal parts.