

Electrical Troubleshooting

Troubleshooting Flowchart — Mainshaft Speed Sensor

- OBD II Scan Tool indicates Code P0715.
- Self-diagnosis **D4** indicator light indicates Code 15.

Possible Cause

- Disconnected mainshaft speed sensor connector
- Short or open in mainshaft speed sensor wire
- Faulty mainshaft speed sensor

NOTE: Code P0715 (15) on the PCM doesn't always mean there's an electrical problem in the mainshaft or countershaft speed sensor circuit; code P0715 (15) may also indicate a mechanical problem in the transmission.

Check the mainshaft and countershaft speed sensor installation.

Are the mainshaft and countershaft speed sensors installed properly?

NO

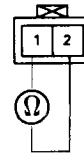
Reinstall and recheck.

YES

Measure Mainshaft Speed Sensor Resistance at the Sensor Connector:

1. Disconnect the 2P connector from the mainshaft speed sensor.
2. Measure the resistance of the mainshaft speed sensor.

MAINSHAFT SPEED SENSOR 2P CONNECTOR



Terminal side of male terminals

Is the resistance 400 - 600 Ω?

NO

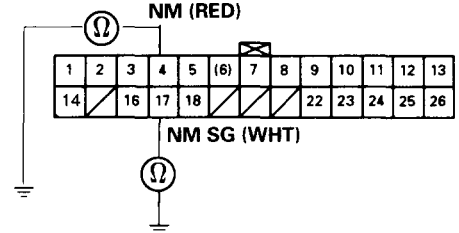
Replace the mainshaft speed sensor.

YES

Check Mainshaft Speed Sensor for a Short Circuit:

1. Disconnect the E (26P) connector from the PCM.
2. Check for continuity between body ground and E4 terminal and the E17 terminal individually.

PCM CONNECTOR E (26P)



Wire side of female terminals

Is there continuity?

YES

Repair short in the wires between the E4 and E17 terminals and the mainshaft speed sensor.

NO

To page 14-75



From page 14-74

Measure Mainshaft Speed Sensor Resistance:

1. Connect the mainshaft speed sensor 2P connector.
2. Measure the resistance between the E4 and E17 terminals.

Is the resistance 400 - 600 Ω ?

YES

Run the Electrical Troubleshooting Flowchart for code P0720 (code 9). Check for loose PCM connectors. If necessary, substitute a known-good PCM and recheck.

NO

Check NM Wire Continuity:

1. Disconnect the 2P connector from the mainshaft speed sensor.
2. Check for continuity between the E4 terminal and the No. 1 terminal of the mainshaft speed sensor connector.

Is there continuity?

NO

Repair open in the wire between the E4 terminal and the mainshaft speed sensor.

YES

Check NMSG Wire Continuity:

Check for continuity between the E17 terminal and the No. 2 terminal of the mainshaft speed sensor connector.

Is there continuity?

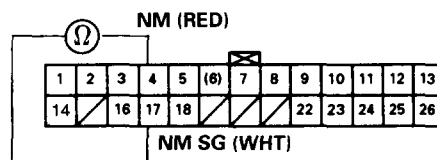
NO

Repair open in the wire between the E17 terminal and the mainshaft speed sensor.

YES

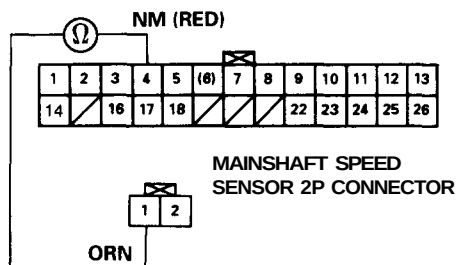
Check for loose PCM connectors. If necessary, substitute a known-good PCM and recheck.

PCM CONNECTOR E (26P)

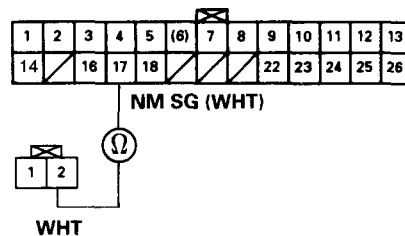


Wire side of female terminals

PCM CONNECTOR E (26P)



Wire side of female terminals



WHT