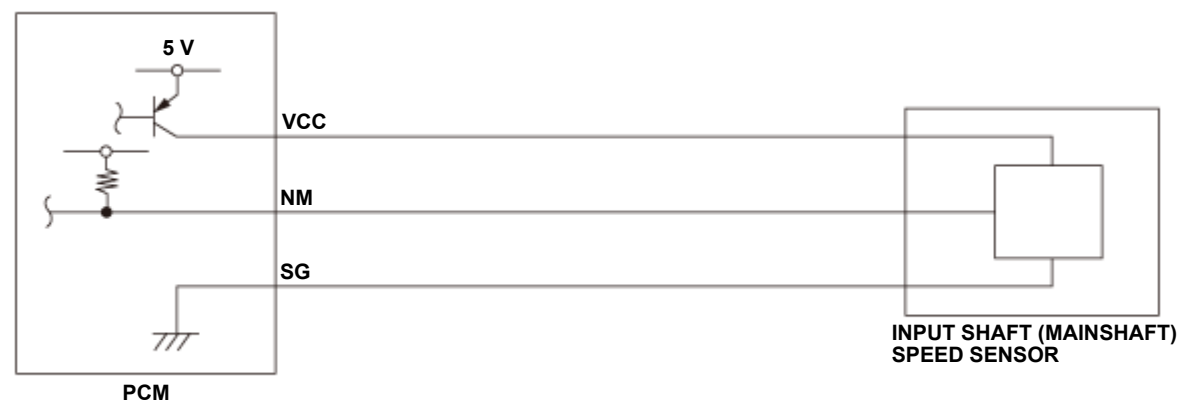


DTC Advanced Diagnostics: P0715

DTC P0715:Input Shaft (Mainshaft) Speed Sensor Circuit Malfunction

General Description



The powertrain control module (PCM) monitors the input (mainshaft) speed sensor for rationality faults. The mainshaft speed is calculated from the PWM signal received from the input (mainshaft) speed sensor. Based on the time period of the PWM signal received, which indicates the time period of each tooth of mainshaft, the mainshaft speed will be calculated. The mainshaft speed is continuously monitored against engine speed in order to detect rationality faults. If the absolute difference between the mainshaft speed and the engine speed is a specified value, the PCM detects a malfunction and stores a DTC.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	0.5 second or more
DTC Type	Two drive cycles, MIL off

Enable Conditions

Condition	Minimum	Maximum
Time the clutch pedal is not pressed	5 seconds	—
Vehicle speed [Vehicle Speed]	10 mph (15 km/h)	—
Other	Gear is engaged	

[]: HDS Parameter

Malfunction Threshold

The absolute difference between the mainshaft speed [M SHAFT SPD] and the engine speed [Engine Speed] is greater than 500 rpm.

Possible Cause

NOTE: The causes shown may not be a complete list of all potential problems, and it is possible that there may be other causes.

- Input (mainshaft) speed sensor NM line short to ground
- Input (mainshaft) speed sensor NM line open
- Input (mainshaft) speed sensor VCC line open
- Input (mainshaft) speed sensor SG line open
- Input (mainshaft) speed sensor connector disconnection
- Input (mainshaft) speed sensor failure
- PCM internal circuit failure

Confirmation Procedure

Operating Condition

1. Start the engine. Hold the engine speed [Engine Speed] at 3,000 rpm without load (in neutral) until the radiator fan comes on.
2. Drive the vehicle at speed over 10 mph (15 km/h) for a while.

- Drive the vehicle in this manner only if the traffic regulations and ambient conditions allow.

With the HDS

None.

Diagnosis Details

Conditions for setting the DTC

When a malfunction is detected during the first drive cycle, a Pending DTC is stored in the PCM memory. If the malfunction returns in the next (second) drive cycle, a Confirmed DTC and the freeze data are stored. The MIL does not come on.

Conditions for clearing the DTC

The Pending DTC, the Confirmed DTC, and the freeze data can be cleared with the scan tool Clear command.