DI3P6−01

| DTC	P0335/12, 13	Crankshaft Position Sensor Circuit Malfunction

CIRCUIT DESCRIPTION

The crankshaft position sensor, which detects the engine speed and crankshaft angle signal (NE signal), has been installed on the oil pump body.

The NE signal plate has 34 teeth. The NE signal sensor generates 34 signals of every engine revolution. The engine ECU detects the standard crankshaft angle based on the G2 signals, and the actual crankshaft angle and the engine speed by the NE signals.

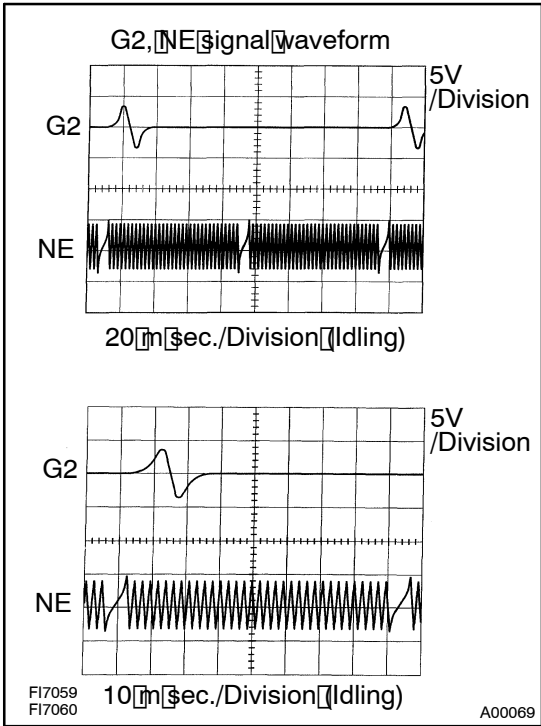| DTC No.	DTC Detecting Condition	Trouble Area
P0335/12, 13	No crankshaft position sensor signal to engine ECU during cranking	• Open or short in crankshaft position sensor circuit • Crankshaft position sensor • Starter • Engine ECU
	No crankshaft position sensor signal to engine ECU with engine speed 600 rpm or more	

WIRING DIAGRAM

A05945
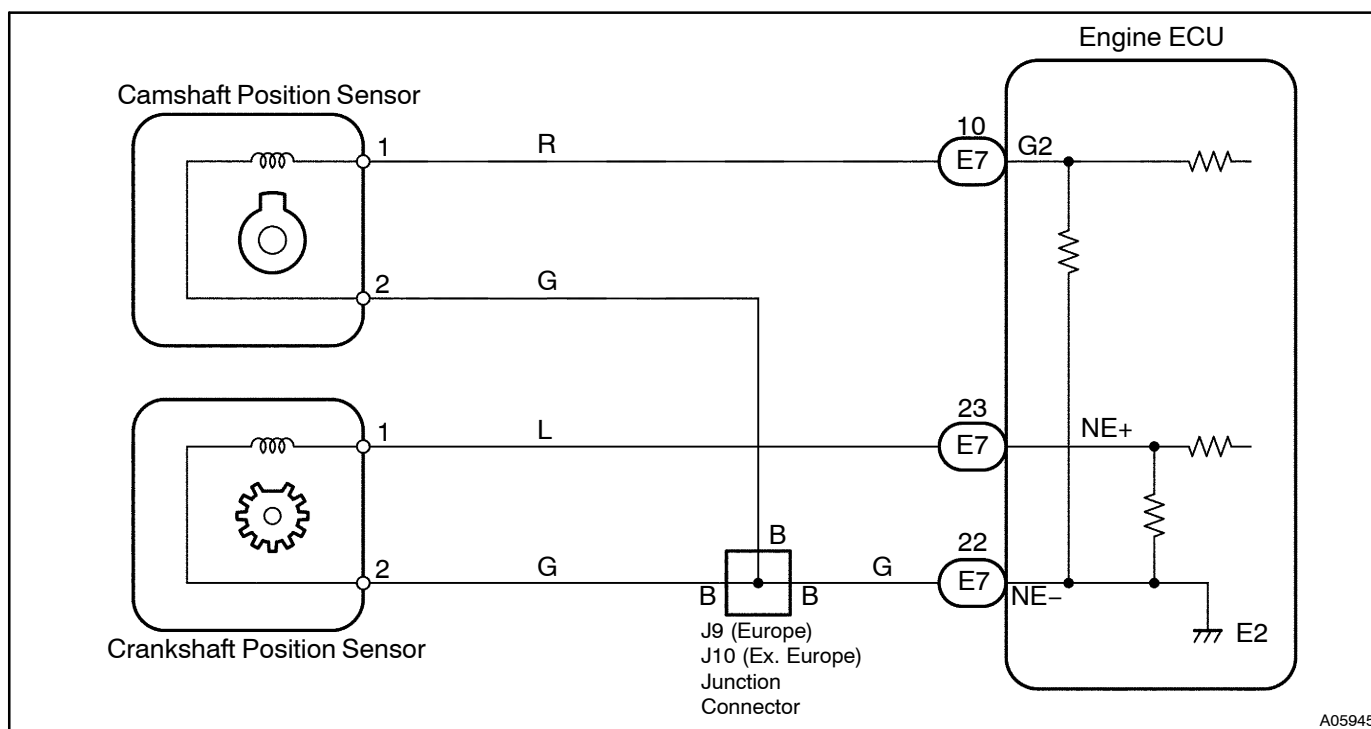
INSPECTION PROCEDURE

HINT:
- Perform troubleshooting of DTC P0335/12, 13 first. If no trouble is found, troubleshoot the following mechanical systems.
- Read freeze frame data using hand–held tester. Because freeze frame records the engine conditions when the malfunction is detected, when troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine warmed up or not, the air–fuel ratio lean or rich, etc. at the time of the malfunction.

1	Check resistance of crankshaft position sensor (See page IG–1).

G2, NE signal waveform

G2

5V /Division

NE

20 m sec./Division (Idling)

G2

5V /Division

NE

FI7059
FI7060   10 m sec./Division (Idling)   A00069

Reference: INSPECTION USING OSCILLOSCOPE
During cranking or idling, check between terminals G2 and NE–, NE and NE– of the engine ECU connector.
HINT:
The correct waveforms are as shown.

NG ▷ **Replace crankshaft position sensor.**

OK ▽

2	Check for open and short in harness and connector between engine ECU and crankshaft position sensor (See page IN–19).

NG ▷ **Repair or replace harness or connector.**

OK ▽

3	Inspect sensor installation and teeth of signal plate.

NG ⟩ | Tighten sensor. Replace signal plate. |

OK

| Check and replace engine ECU (See page IN−19). |