DI1IK–07

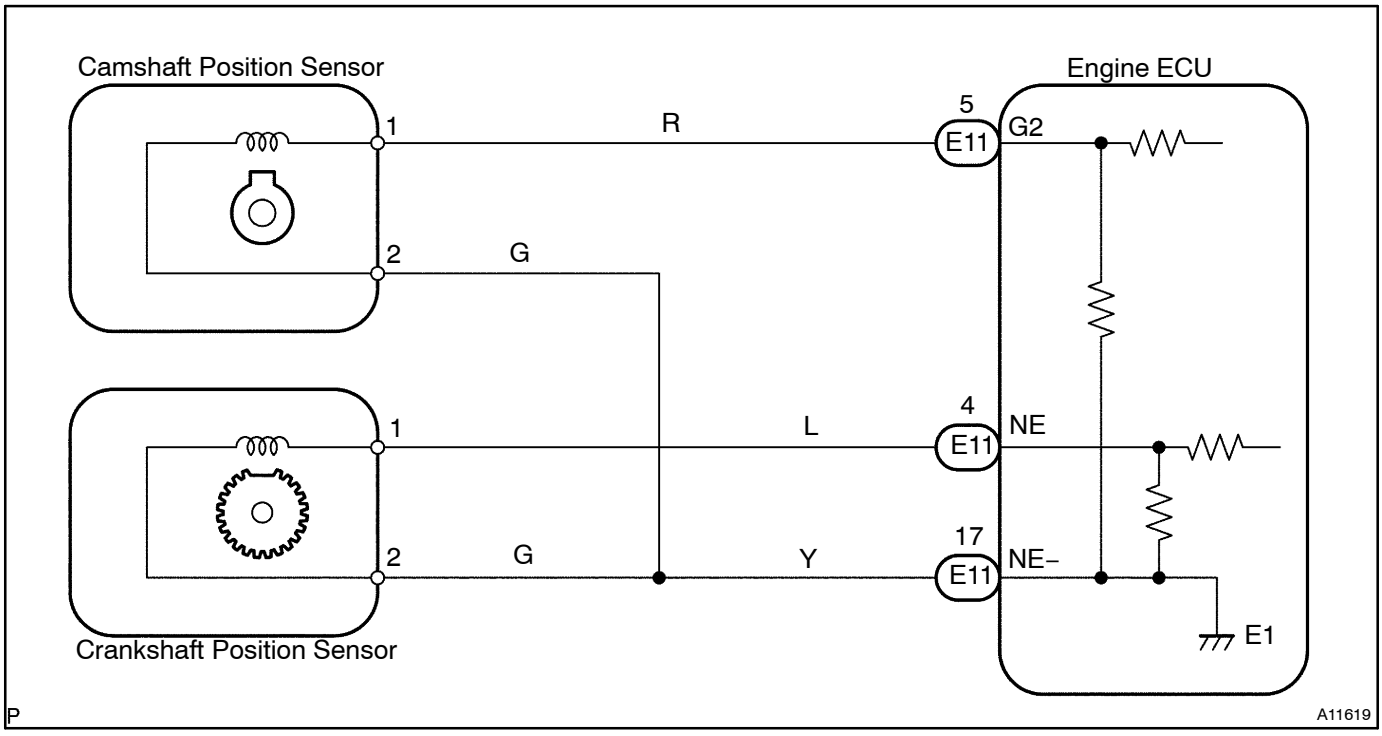
DTC	P0335/12, 13	Crankshaft Position Sensor Circuit Malfunction (NE Signal)

CIRCUIT DESCRIPTION

Crankshaft position sensor (NE signal) consists of a magnet, iron core and pickup coil.
The NE signal plate has 34 teeth and is mounted on the crankshaft. The NE signal sensor generates 34 signals at every engine revolution.
The engine ECU detects the standard crankshaft angle based on the G signal, and the actual crankshaft angle the engine speed by the NE signal.

DTC No.	DTC Detection 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 • Signal plate • Engine ECU
	No crankshaft position sensor signal to engine ECU with engine speed 600 rpm or more	

WIRING DIAGRAM

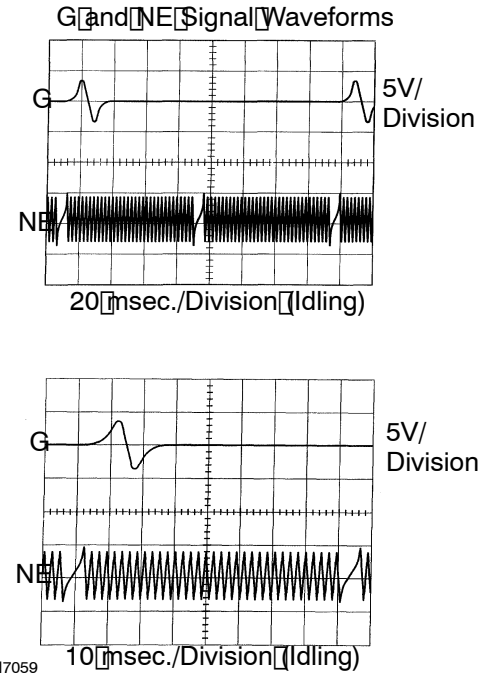


INSPECTION PROCEDURE

HINT:

- 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 was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.
- Perform troubleshooting of DTC P0335/12,13 first. If no trouble is found, troubleshoot the following mechanical systems.

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



Reference: INSPECTION USING OSCILLOSCOPE
During cranking or idling, check the waveforms between terminals G2 and NE–, and 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 the sensor. Replace signal plate.

OK

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