

DTC	P0335/12, 13	Crankshaft Position Sensor Circuit Malfunction
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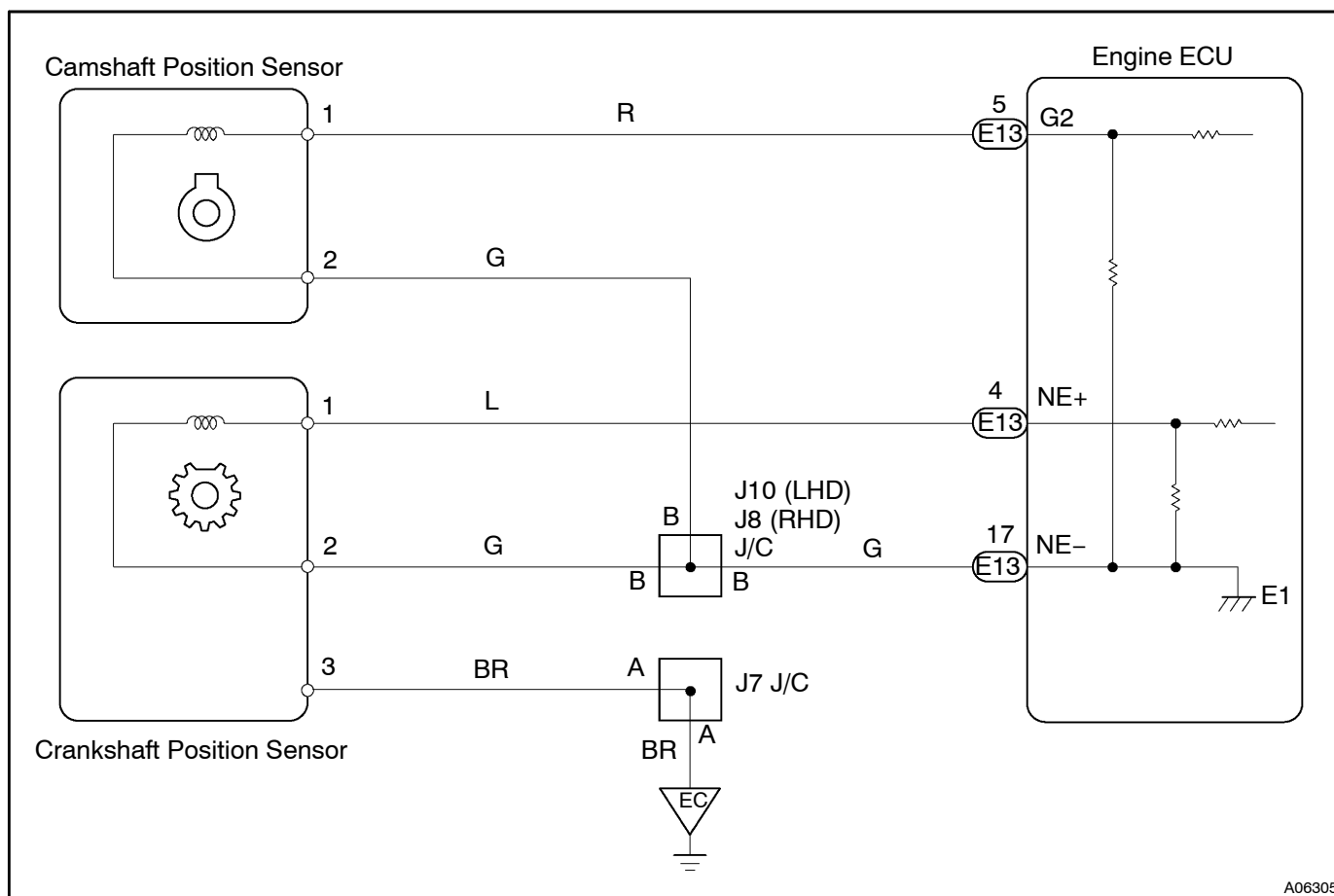
CIRCUIT DESCRIPTION

Crankshaft position sensor (NE signal) consist of a signal plate and pick up coil.

The NE signal plate has 34 teeth and is mounted on the crankshaft. 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 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



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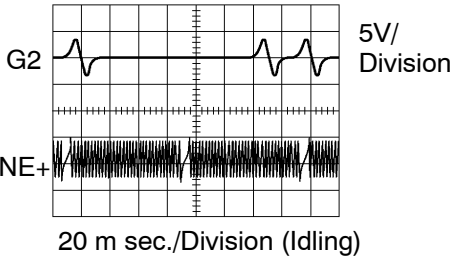
INSPECTION PROCEDURE

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 warmed up or not, the air-fuel ratio 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).
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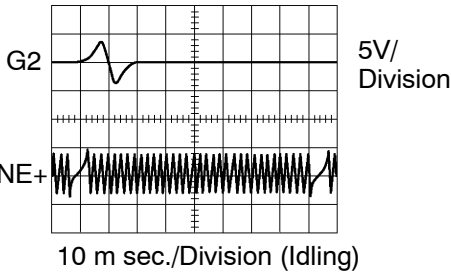
G2, NE+ signal waveforms



Reference: INSPECTION USING OSCILLOSCOPE

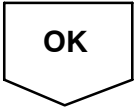
During cranking or idling, check between terminals G2 and NE-, NE+ and NE- of engine ECU.

HINT:
The correct waveforms are as shown.



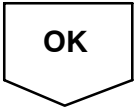
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NG	Replace crankshaft position sensor.
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2	Check for open and short in harness and connector between engine ECU and crankshaft position sensor (See page IN-19).
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NG	Repair or replace harness or connector.
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3	Inspect sensor installation and teeth of crankshaft timing pulley.
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NG	Tighten the sensor. Replace crankshaft timing pulley.
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OK

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