DI6AX–03

DTC	P0335/12, 13	Crankshaft Position Sensor Circuit Malfunction

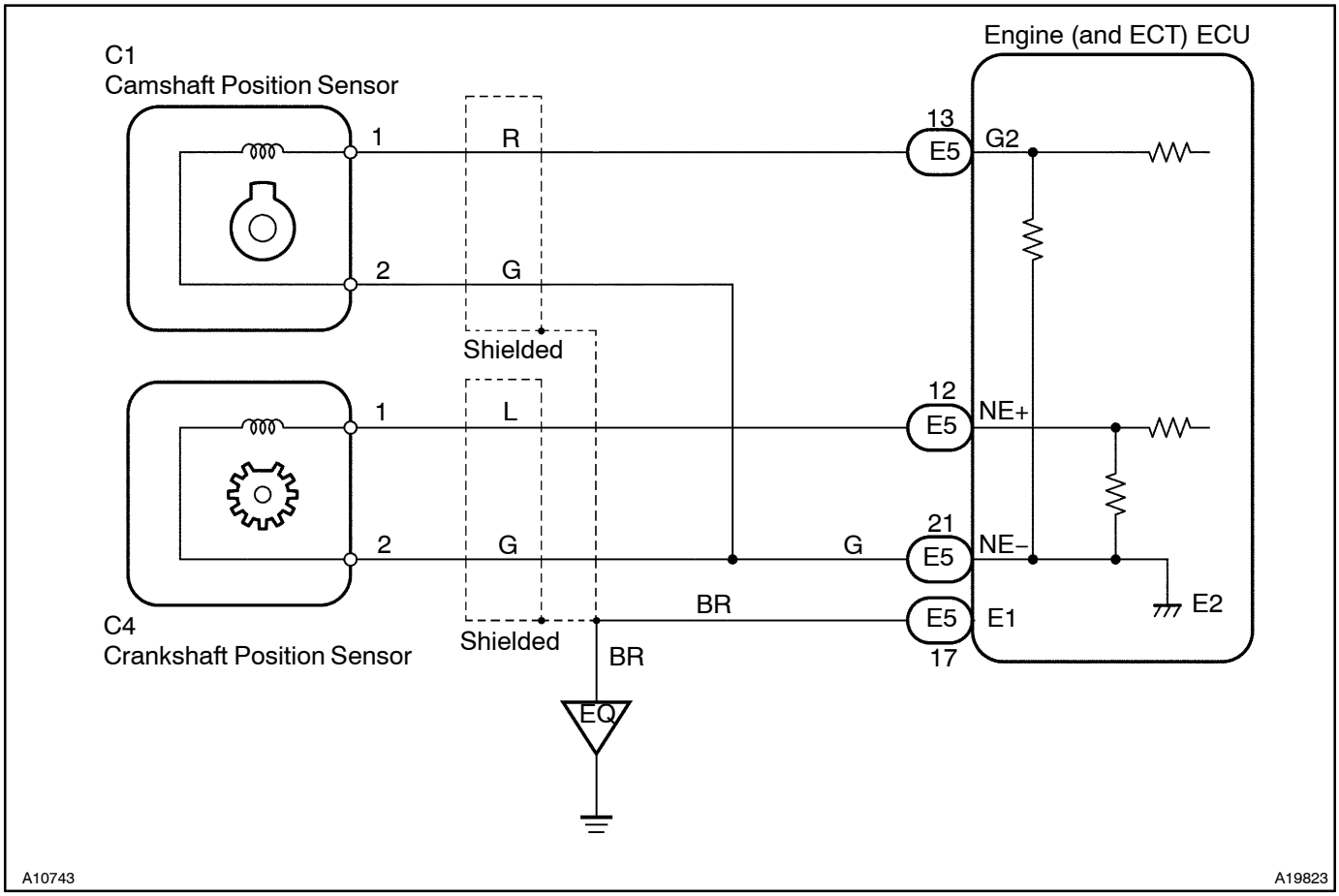
CIRCUIT DESCRIPTION

The crankshaft position sensor, which detects the engine speed and the 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 (and ECT) 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 (and ECT) ECU during cranking	• Open or short in crankshaft position sensor circuit • Crankshaft position sensor • Signal plate • Engine (and ECT) ECU
	No crankshaft position sensor signal to engine (and ECT) ECU with engine speed 600 rpm or more	

WIRING DIAGRAM

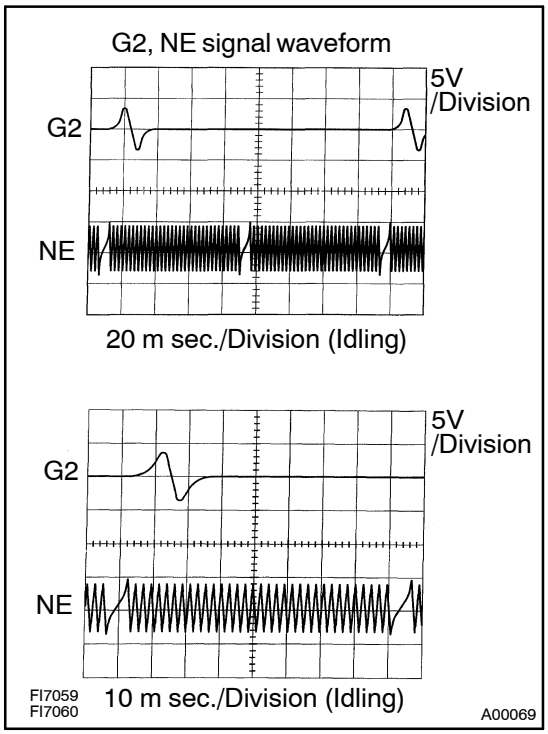


INSPECTION PROCEDURE

HINT:

- Perform troubleshooting of DTC P0335/12, 13 first. If no trouble is found, troubleshoot the following mechanical systems.
- Read the freeze frame data on the hand–held tester, which is recorded when a malfunction is detected on the engine. When troubleshooting, it is useful to determine 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 Pub. No. RM519E, page IG–3).**



Reference: INSPECTION USING OSCILLOSCOPE

During cranking or idling, check the waveform between terminals G2 and NE–, NE and NE– of the engine (and ECT) ECU connector.

HINT:

The correct waveforms are as shown in the illustration.

NG → **Replace crankshaft position sensor.**

OK

2	**Check for open and short in harness and connector between engine (and ECT) ECU and crankshaft position sensor (See page IN–20).**

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 (and ECT) ECU (See page IN–20).