| DTC | P0340/12,13 | Camshaft Position Sensor Circuit Malfunction |
|---|---|---|

## CIRCUIT DESCRIPTION

Camshaft position sensor (G2 (G22R) signal) consists of a signal plate and pickup coil.
The G2 signal plate has 1 tooth, on its outer circumference and is mounted on the left bank camshafts.
When the camshafts rotate, the protrusion on the signal plate and the air gap on the pickup coil change, causing fluctuations in the magnetic field and generating an electromotive force in the pickup coil.
The NE signal plate has 34 teeth and is mounted on the crankshaft. The NE signal sensor generates 34 signals for every engine revolution. The engine ECU detects the standard crankshaft angle based on the G2 signal and the actual crankshaft angle and the engine speed by the NE signals.

| DTC No. | DTC Detecting Condition | Trouble Area |
|---|---|---|
| P0340/12, 13 | No camshaft position sensor signal to engine ECU during cranking.<br>(2 trip detection logic) | • Open or short in camshaft position sensor circuit<br>• Camshaft position sensor<br>• Engine ECU |
| | No camshaft position sensor signal to engine ECU with engine speed 600 rpm or more | |

## WIRING DIAGRAM

Refer to Crankshaft Position Sensor Circuit Malfunction on page DI–73 for the WIRING DIAGRAM.

## INSPECTION PROCEDURE

HINT:

- LH and RH bank engine ECU detect this DTC code respectively. The inspection procedures are same for both LH and RH bank engine ECU and described in this manual. Even though terminal name and part name on the side of RH bank are described in parenthesis, perform the inspection for only ECU that has detected DTC.
- 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 camshaft position sensor (See Pub. No. RM677E, Page IG–1). |
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**Reference: INSPECTION USING OSCILLOSCOPE**

Refer to Crankshaft Position Sensor Circuit Malfunction on page DI–73 for the Reference: INSPECTION USING OSCILLOSCOPE.

NG → Replace camshaft position sensor.

OK

| | |
|---|---|
| 2 | Check for open and short in harness and connector between engine ECU and camshaft position sensor (See page IN–20). |

NG → Repair or replace harness or connector.

OK

| | |
|---|---|
| 3 | Inspect sensor installation. |

NG → Tighten sensor.

OK

Check and replace engine ECU (See page IN–20).