

<b>DTC</b>	<b>P1340</b>	<b>CAMSHAFT POSITION SENSOR "A" (BANK 1 SENSOR 2)</b>
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<b>DTC</b>	<b>P1341</b>	<b>CAMSHAFT POSITION SENSOR "A" (BANK 1 SENSOR 2)</b>
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**HINT:**

- DTC P1340 indicates a malfunction related to the Camshaft Position (CMP) sensor (+) circuit.
- DTC P1341 indicates a malfunction related to the CMP sensor (-) circuit.

**CIRCUIT DESCRIPTION**

The CMP sensor, like the Crankshaft Position (CKP) sensor, consists of a coil, a magnet and an iron core wrapped in copper wire. The camshaft has a tooth and the CMP sensor is installed so that it can detect the tooth passing by. When the camshaft rotates and the tooth passes by the CMP sensor, the magnet on the CMP sensor creates a magnetic field and voltage is generated in the copper wire. When the camshaft makes one full rotation, voltage will be generated in the CMP sensor once. The CKP sensor is roughly the same. When the crankshaft makes one rotation, its 34 teeth pass by the CKP sensor and voltage is generated 34 times. The camshaft rotates at half the speed of the crankshaft. Therefore, the CMP sensor generates voltage once in the time the crankshaft makes 2 rotations.

The ECM detects generation of these voltages to indicate the cylinder.

DTC No.	DTC Detection Condition	Trouble Area
P1340	No CMP sensor signal to ECM during cranking (2 trip detection logic)	<ul style="list-style-type: none"> <li>• Open or short in CMP sensor circuit</li> <li>• CMP sensor</li> <li>• Camshaft timing gear</li> <li>• ECM</li> </ul>
P1340	No CMP sensor signal to ECM in appropriate timing with 600 rpm or more (misalignment of crankshaft/camshaft) (1 trip detection logic)	<ul style="list-style-type: none"> <li>• Open or short in CMP sensor circuit</li> <li>• CMP sensor</li> <li>• Camshaft timing gear</li> <li>• ECM</li> </ul>
P1341	While crankshaft rotates twice, CMP sensor signal is input to ECM 12 times or more (1 trip detection logic)	<ul style="list-style-type: none"> <li>• Open or short in CMP sensor circuit</li> <li>• CMP sensor</li> <li>• Camshaft timing gear</li> <li>• ECM</li> </ul>