DTC P0342:00 [SKYACTIV-D 2.2]

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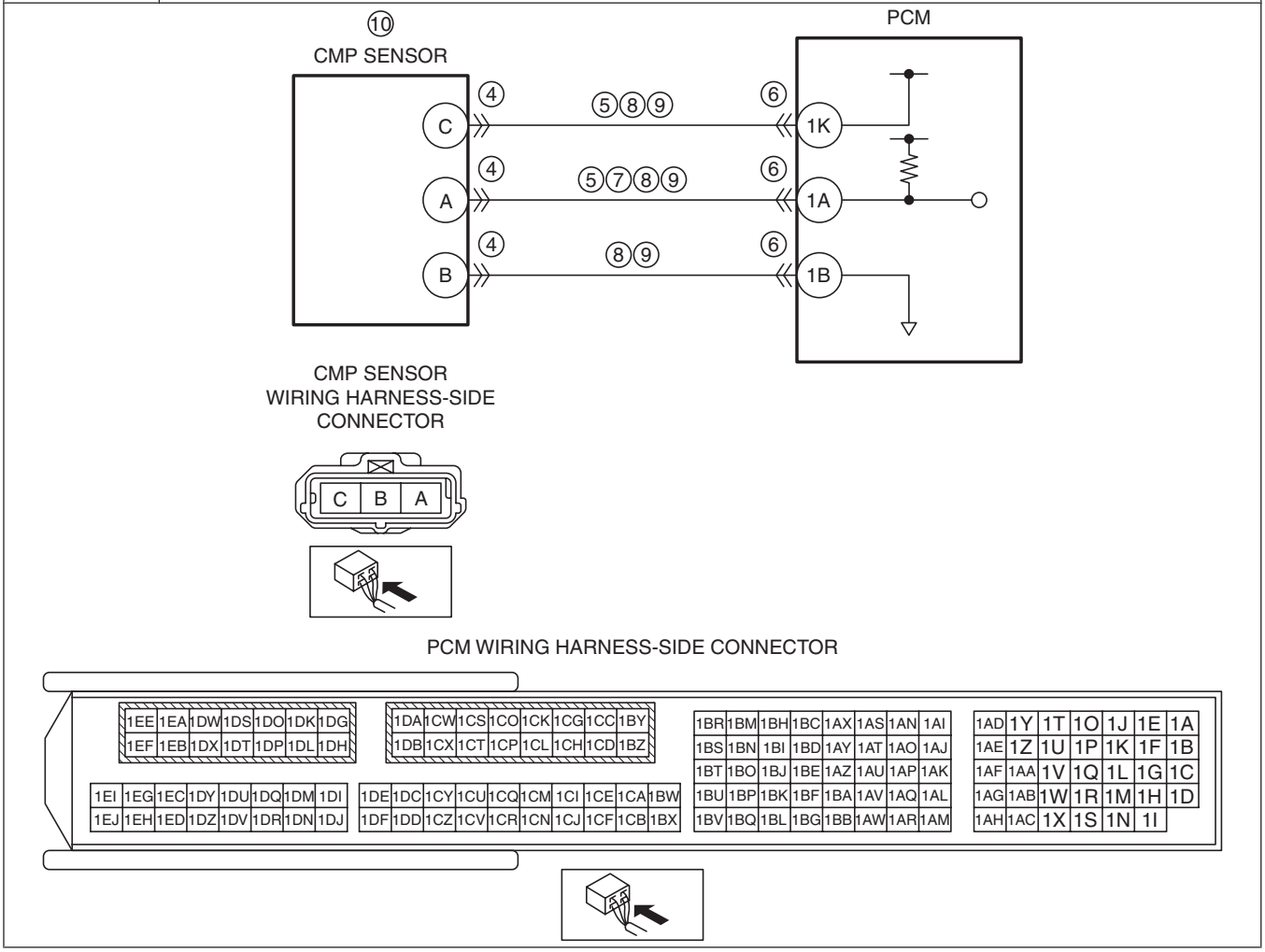
DTC P0342:00	CMP sensor circuit problem
DETECTION CONDITION	• There is no CMP sensor signal input while the crankshaft rotates **5 and a half times** when the following conditions are met: **MONITORING CONDITIONS** — Battery voltage: **8—20 V** **Diagnostic support note** • This is a continuous monitor (CCM). • The check engine light illuminates if the PCM detects the above malfunction condition during the first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Inhibits engine-stop by operating the i-stop function. • PCM restricts engine-transaxle integration control.
POSSIBLE CAUSE	• CMP sensor connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — CMP sensor terminal C—PCM terminal 1K — CMP sensor terminal A—PCM terminal 1A • PCM connector or terminals malfunction • Short to power supply in wiring harness between CMP sensor terminal A and PCM terminal 1A • CMP sensor circuits are shorted to each other • Open circuit in wiring harness between the following terminals: — CMP sensor terminal C—PCM terminal 1K — CMP sensor terminal A—PCM terminal 1A — CMP sensor terminal B—PCM terminal 1B • CMP sensor malfunction • Deviation between camshaft and CMP sensor detection area • Damage to the detection area of the CMP sensor • CKP sensor connector or terminals malfunction • Improper valve timing • Improper installation of timing chain • PCM malfunction

DTC P0342:00	CMP sensor circuit problem



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED** • Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	**VERIFY RELATED SERVICE INFORMATION AVAILABILITY** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	**VERIFY RELATED PENDING CODE AND/OR DTC** • Switch the ignition off, then ON (engine off). • Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Are any other PENDING CODEs and/or DTCs present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.
4	**INSPECT CMP SENSOR CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the CMP sensor connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector and/or terminals, then go to Step 13.
		No	Go to the next step.

STEP	INSPECTION		ACTION
5	**INSPECT CMP SENSOR CIRCUIT FOR SHORT TO GROUND** • Verify that the CMP sensor connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — CMP sensor terminal C — CMP sensor terminal A • Is there continuity?	Yes	If the short to ground circuit could be detected in the wiring harness: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected in the wiring harness: • Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to Step 13.
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR CONDITION** • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector and/or terminals, then go to Step 13.
		No	Go to the next step.
7	**INSPECT CMP SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the CMP sensor and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the CMP sensor terminal A (wiring harness-side). • Is the voltage **0 V**?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 13.
8	**INSPECT CMP SENSOR CIRCUITS FOR SHORT TO EACH OTHER** • Verify that the CMP sensor and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between CMP sensor terminals C, A and B (wiring harness-side). • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to each other, then go to Step 13.
		No	Go to the next step.
9	**INSPECT CMP SENSOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the CMP sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — CMP sensor terminal C—PCM terminal 1K — CMP sensor terminal A—PCM terminal 1A — CMP sensor terminal B—PCM terminal 1B • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 13.
10	**INSPECT CMP SENSOR** • Inspect the CMP sensor. (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the CMP sensor, then go to Step 13. (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/ INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
11	**INSPECT CKP SENSOR CONNECTOR CONDITION** • Disconnect the CKP sensor connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector and/or terminals, then go to Step 13.
		No	Go to the next step.
12	**INSPECT TIMING CHAIN INSTALLATION CONDITION** • Verify the condition of the timing chain assembly (valve timing, looseness, jumping). (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.Assemble the timing chain using the correct timing, then go to the next step. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
13	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Start the engine. • Perform the KOER self test. (See KOEO/KOER SELF TEST [SKYACTIV-D 2.2].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to the next step.
		No	Go to the next step.
14	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.