DTC P0337:00 [SKYACTIV-D 2.2]

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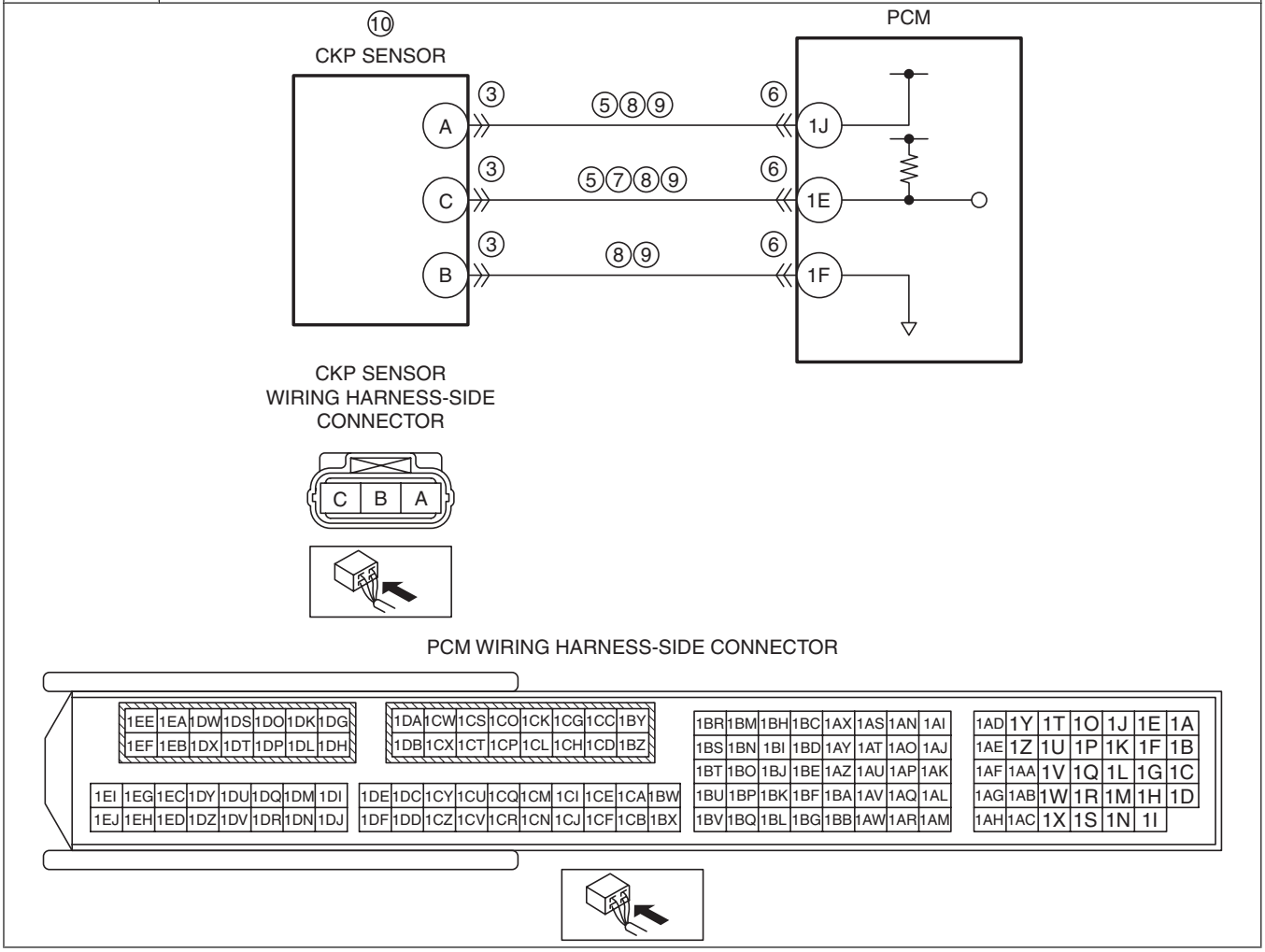
DTC P0337:00	CKP sensor circuit problem
DETECTION CONDITION	• There is no CKP sensor signal input while the crankshaft rotates **12 times**. **MONITORING CONDITIONS** — Battery voltage: **8—20 V** **Diagnostic support note** • This is a continuous monitor (CCM). • The check engine light illuminates if 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	• PCM restricts engine torque. • Inhibits the EGR control. • Inhibits the diesel particulate filter regeneration control. • Inhibits engine-stop by operating the i-stop function. • PCM restricts engine-transaxle integration control.
POSSIBLE CAUSE	• CKP sensor connector or terminals malfunction • Improper installation of CKP sensor • Short to ground in wiring harness between the following terminals: — CKP sensor terminal A—PCM terminal 1J — CKP sensor terminal C—PCM terminal 1E • PCM connector or terminals malfunction • Short to power supply in wiring harness between CKP sensor terminal C and PCM terminal 1E • CKP sensor circuits are shorted to each other • Open circuit in wiring harness between the following terminals: — CKP sensor terminal A—PCM terminal 1J — CKP sensor terminal C—PCM terminal 1E — CKP sensor terminal B—PCM terminal 1F • CKP sensor pulse wheel malfunction • CKP sensor detection area is dirty • CKP sensor malfunction • PCM malfunction

DTC P0337:00	CKP 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	**INSPECT CKP SENSOR CONNECTOR CONDITION** • Switch the ignition off. • 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 11.
		No	Go to the next step.
4	**INSPECT CKP SENSOR INSTALLATION CONDITION** • Inspect for CKP sensor looseness. • Is the CKP sensor loosen?	Yes	Install the CKP sensor properly, then go to Step 11. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
5	**INSPECT CKP SENSOR CIRCUIT FOR SHORT TO GROUND** • Verify that the CKP sensor connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — CKP sensor terminal A — CKP sensor terminal C • 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 11.
		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 11.
		No	Go to the next step.
7	**INSPECT CKP SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the CKP sensor and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the CKP sensor terminal C (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 11.
8	**INSPECT CKP SENSOR CIRCUITS FOR SHORT TO EACH OTHER** • Verify that the CKP sensor and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between CKP sensor terminals A, C 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 11.
		No	Go to the next step.
9	**INSPECT CKP SENSOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the CKP sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — CKP sensor terminal A—PCM terminal 1J — CKP sensor terminal C—PCM terminal 1E — CKP sensor terminal B—PCM terminal 1F • 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 11.
10	**INSPECT CKP SENSOR** • Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the CKP sensor, then go to the next step. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Damage to the CKP sensor pulse wheel can be considered the cause. • Overhaul the engine, inspect the CKP sensor pulse wheel. — If there is any malfunction: • Replace the CKP sensor pulse wheel, then go to the next step. — If there is no malfunction: • Go to the next step.

STEP	INSPECTION		ACTION
11	**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.
12	**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.