DTC P0340:00 [SKYACTIV-G 2.0]

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DTC P0340:00	Intake CMP sensor circuit problem
DETECTION CONDITION	• Intake CMP sensor input signal pattern, received while crankshaft rotates **24 times**, is incorrect. **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. • The DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Set the electric variable valve timing control to the maximum cam retard mode.
POSSIBLE CAUSE	• Intake CMP sensor connector or terminals malfunction • Short to ground or open circuit in intake CMP sensor power supply circuit — Short to ground in wiring harness between ENGINE1 15 A fuse and intake CMP sensor terminal C — ENGINE1 15 A fuse malfunction — Open circuit in wiring harness between main relay terminal C and intake CMP sensor terminal C • Short to ground in wiring harness between intake CMP sensor terminal A and PCM terminal 1Y • PCM connector or terminals malfunction • Short to power supply in wiring harness between intake CMP sensor terminal A and PCM terminal 1Y • Intake CMP sensor signal circuit and ground circuit are shorted to each other • Open circuit in wiring harness between the following terminals: — Intake CMP sensor terminal A—PCM terminal 1Y — Intake CMP sensor terminal B—PCM terminal 1AC • Intake CMP sensor malfunction — Intake CMP sensor is dirty — Intake CMP sensor pulse wheel malfunction — Damage to the detection area of the intake CMP sensor • CKP sensor connector or terminals malfunction • Electric variable valve timing mechanism not installed correctly — Loose timing chain or improper valve timing — Loose intake camshaft sprocket lock bolt — Loose crankshaft pulley lock bolt • PCM malfunction

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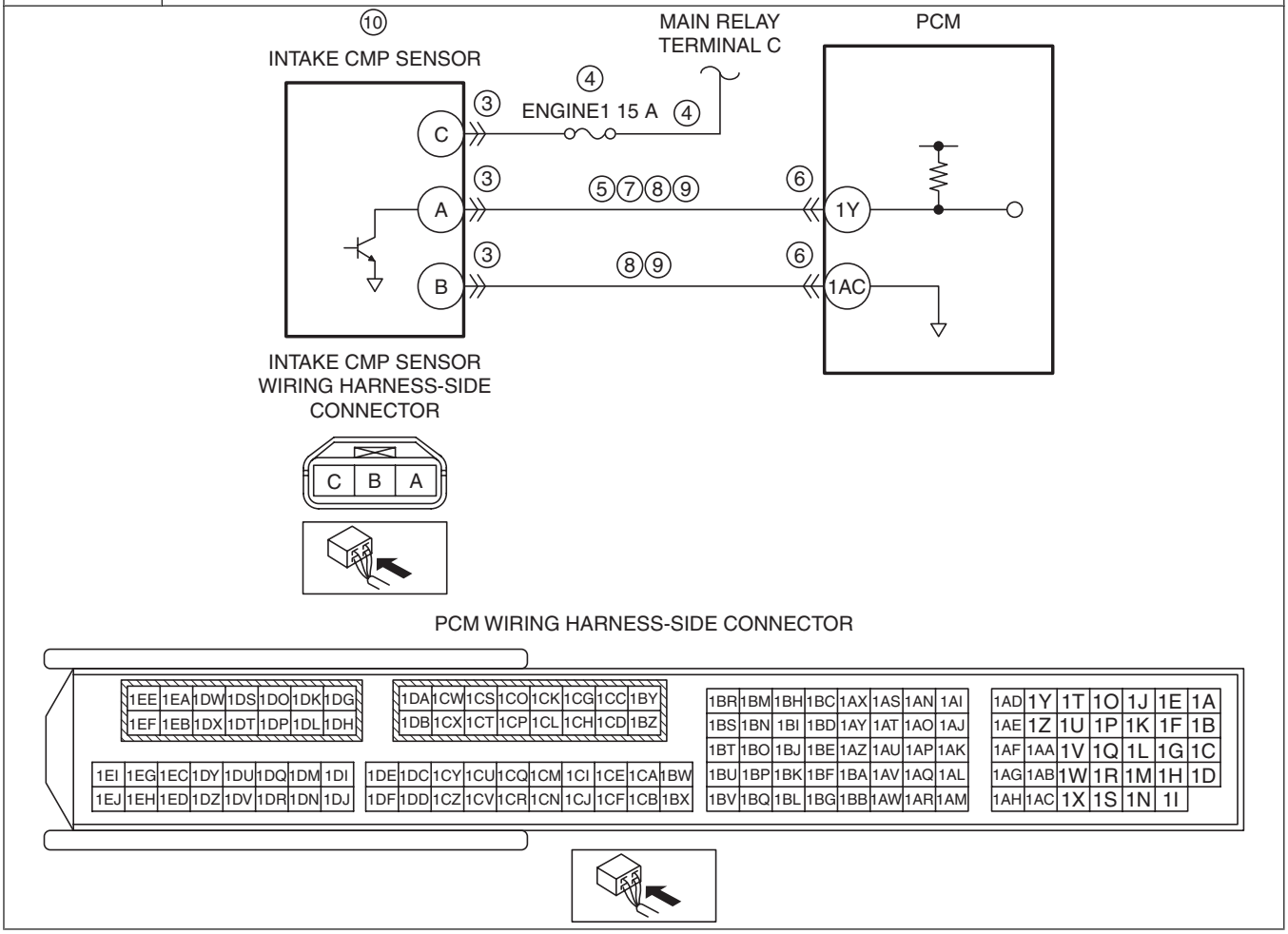

Diagnostic Procedure

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 INTAKE CMP SENSOR CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the intake 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
4	**INSPECT INTAKE CMP SENSOR POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Verify that the intake CMP sensor connector is disconnected. • Switch the ignition ON (engine off or on). • Measure the voltage at the intake CMP sensor terminal C (wiring harness-side). • Is the voltage **B+**?	Yes	Go to the next step.
		No	Inspect the ENGINE1 15 A fuse. • If the fuse is blown: — Repair or replace the wiring harness for a possible short to ground. — Replace the fuse. • If the fuse is deteriorated: — Replace the fuse. • If the fuse is normal: — Repair or replace the wiring harness for a possible open circuit. Go to Step 13.
5	**INSPECT INTAKE CMP SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND** • Verify that the intake CMP sensor connector is disconnected. • Switch the ignition to off. • Inspect for continuity between intake CMP sensor terminal A (wiring harness-side) and body ground. • 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-G 2.0].) 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 INTAKE CMP SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the intake CMP sensor and PCM connectors are disconnected. • Switch the ignition ON (engine off or on). • Measure the voltage at the intake 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 INTAKE CMP SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the intake CMP sensor and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between intake CMP sensor terminals 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 INTAKE CMP SENSOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the intake CMP sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Intake CMP sensor terminal A—PCM terminal 1Y — Intake CMP sensor terminal B—PCM terminal 1AC • 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 INTAKE CMP SENSOR** • Inspect the intake CMP sensor. (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Replace the intake CMP sensor, then go to Step 13. (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
11	**INSPECT CKP SENSOR CONNECTOR CONDITION** • Switch the ignition to 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 13.
		No	Go to the next step.
12	**VERIFY VALVE TIMING MECHANISM INSTALLATION** • Verify the valve timing mechanism installation for the following parts: — Timing chain — Intake camshaft sprocket lock bolt — Crankshaft pulley lock bolt • Is the valve timing mechanism installed correctly?	Yes	Go to the next step.
		No	Reinstall the following parts correctly, then go to the next step. • Timing chain • Intake camshaft sprocket • Crankshaft pulley
13	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Start the engine. • Perform the KOER self test. (See KOEO/KOER SELF TEST [SKYACTIV-G 2.0].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) 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-G 2.0].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No	DTC troubleshooting completed.