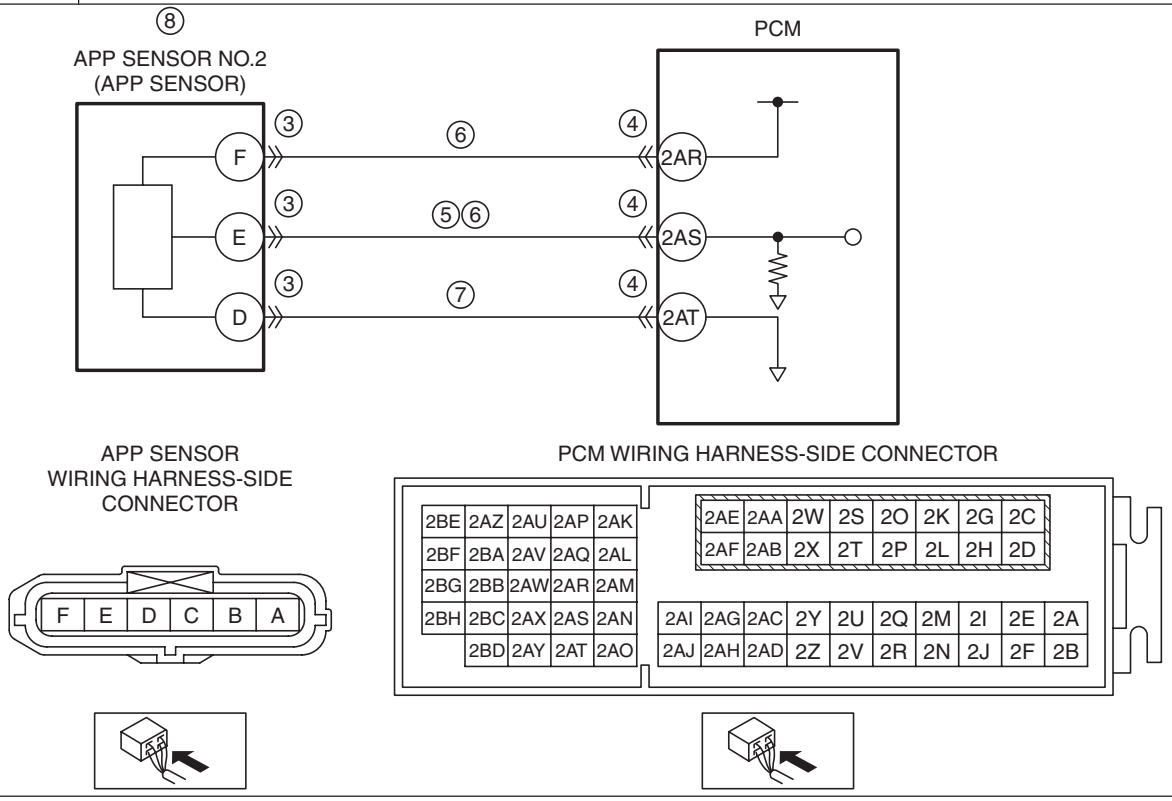
DTC P0223:00 [SKYACTIV-D 2.2]

id0102s4702900

DTC P0223:00	APP sensor No.2 circuit high input
DETECTION CONDITION	• The PCM monitors the input voltage from APP sensor No.2 when the engine is running. If the input voltage at the PCM terminal 2AS is **more than 4.7 V** for **0.5 s**, the PCM determines that the APP sensor No.2 circuit has a malfunction. **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.
POSSIBLE CAUSE	• APP sensor connector or terminals malfunction • PCM connector or terminals malfunction • Short to power supply in wiring harness between APP sensor terminal E and PCM terminal 2AS • APP sensor No.2 power supply circuit and signal circuit are shorted to each other • Open circuit in wiring harness between APP sensor terminal D and PCM terminal 2AT • APP sensor No.2 malfunction • PCM malfunction



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.

STEP	INSPECTION		ACTION
3	**INSPECT APP SENSOR CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the APP 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 9.
		No	Go to the next step.
4	**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 9.
		No	Go to the next step.
5	**INSPECT APP SENSOR NO.2 CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the APP sensor and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the APP sensor terminal E (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 9.
6	**INSPECT APP SENSOR NO.2 POWER SUPPLY CIRCUIT AND SIGNAL CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the APP sensor and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between APP sensor terminals F and E (wiring harness-side). • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to each other, then go to Step 9.
		No	Go to the next step.
7	**INSPECT APP SENSOR NO.2 GROUND CIRCUIT FOR OPEN CIRCUIT** • Verify that the APP sensor and PCM connectors are disconnected. • Inspect for continuity between APP sensor terminal D (wiring harness-side) and PCM terminal 2AT (wiring harness-side). • 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 9.
8	**INSPECT APP SENSOR NO.2** • Reconnect all disconnected connectors. • Inspect the APP sensor No.2. (See ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the accelerator pedal, then go to the next step. (See ACCELERATOR PEDAL REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
9	**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].) • Perform the KOEO or 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.
10	**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.