

DTC P0222:00 [SKYACTIV-D 2.2]

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DTC P0222:00	APP sensor No.2 circuit low input
DETECTION CONDITION	<ul style="list-style-type: none"> 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 less than 0.20 V for 0.5 s, the PCM determines that the APP sensor No.2 circuit has a malfunction. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> Battery voltage: 8—20 V <p>Diagnostic support note</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> APP sensor connector or terminals malfunction Short to ground in wiring harness between the following terminals: <ul style="list-style-type: none"> APP sensor terminal F—PCM terminal 2AR APP sensor terminal E—PCM terminal 2AS PCM connector or terminals malfunction APP sensor No.2 signal circuit and ground circuit are shorted to each other Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> APP sensor terminal F—PCM terminal 2AR APP sensor terminal E—PCM terminal 2AS APP sensor No.2 malfunction PCM malfunction
<div> <div> <p>⑧</p> <p>APP SENSOR NO.2 (APP SENSOR)</p> </div> <div> <p>PCM</p> </div> <div> <p>APP SENSOR WIRING HARNESS-SIDE CONNECTOR</p> </div> <div> <p>PCM WIRING HARNESS-SIDE CONNECTOR</p> </div> </div>	

Diagnostic Procedure

STEP	INSPECTION		ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED <ul style="list-style-type: none"> Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded? 	Yes No	Go to the next step. Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.

STEP	INSPECTION		ACTION
2	VERIFY RELATED SERVICE INFORMATION AVAILABILITY <ul style="list-style-type: none"> • Verify related Service Information availability. • Is any related Service Information available? 	Yes	Perform repair or diagnosis according to the available Service Information.
		No	Go to the next step.
3	INSPECT APP SENSOR CONNECTOR CONDITION <ul style="list-style-type: none"> • 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 APP SENSOR NO.2 CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> • Verify that the APP sensor connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> — APP sensor terminal F — APP sensor terminal E • Is there continuity? 	Yes	If the short to ground circuit could be detected in the wiring harness: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to Step 9.
		No	Go to the next step.
5	INSPECT PCM CONNECTOR CONDITION <ul style="list-style-type: none"> • 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.
6	INSPECT APP SENSOR NO.2 SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER <ul style="list-style-type: none"> • Verify that the APP sensor and PCM connectors are disconnected. • Inspect for continuity between APP sensor terminals E and D (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 CIRCUIT FOR OPEN CIRCUIT <ul style="list-style-type: none"> • Verify that the APP sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> — APP sensor terminal F—PCM terminal 2AR — APP sensor terminal E—PCM terminal 2AS • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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.

STEP	INSPECTION		ACTION
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.