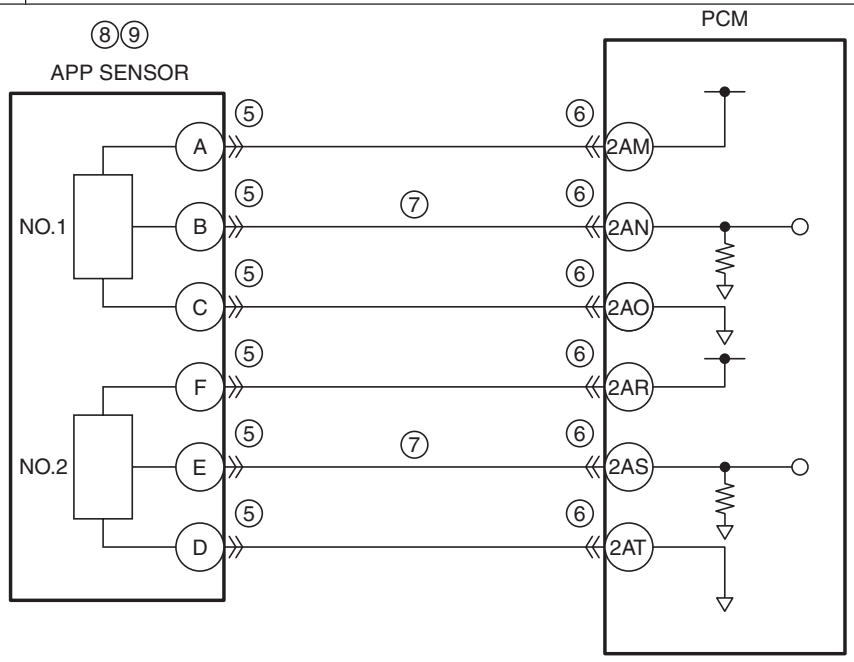
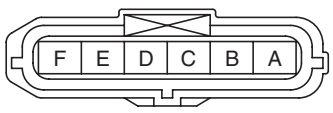
DTC P0121:00 [SKYACTIV-D 2.2]

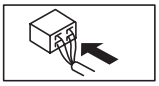
id0102s4146900

DTC P0121:00	APP sensor No.1/No.2 correlation problem
DETECTION CONDITION	• With the following conditions met, the output voltage of APP sensors No.1 and No.2 is compared, and the difference in the voltage is **0.5 V or more** for a continuous **5 s**: **MONITORING CONDITIONS** — Battery voltage: **above 8 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. • Regulates the upper limit of the APP sensor output. • Inhibits the EGR control. • Inhibits the diesel particulate filter regeneration control. • The fast idle up correction for the idle speed control is inhibited. • Inhibits engine-stop by operating the i-stop function.
POSSIBLE CAUSE	• APP sensor connector or terminals malfunction • PCM connector or terminals malfunction • APP sensor No.1 signal circuit and APP sensor No.2 signal circuit are shorted to each other • APP sensor No.1 malfunction • APP sensor No.2 malfunction • PCM malfunction

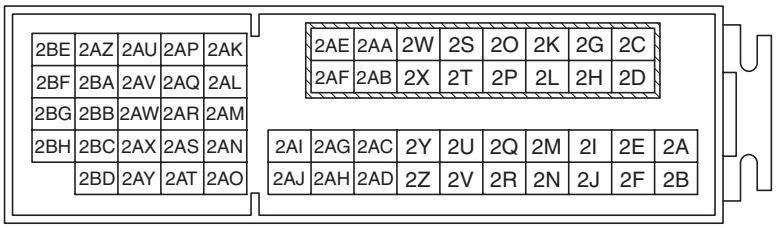


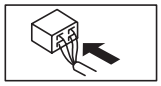
APP SENSOR WIRING HARNESS-SIDE CONNECTOR





PCM WIRING HARNESS-SIDE CONNECTOR





Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**IDENTIFY TRIGGER DTC FOR FREEZE FRAME DATA (MODE 2)** • Perform the Freeze Frame PID Data Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Is the DTC P0121:00 on FREEZE FRAME DATA (Mode 2)?	Yes	Go to the next step.
		No	Go to the troubleshooting procedure for DTC on FREEZE FRAME DATA (Mode 2). (See DTC TABLE [SKYACTIV-D 2.2].)
2	**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.
3	**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.
4	**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].) • Is the PENDING CODE/DTC P0122:00, P0123:00, P0222:00 or P0223:00 also present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC P0122:00 [SKYACTIV-D 2.2].) (See DTC P0123:00 [SKYACTIV-D 2.2].) (See DTC P0222:00 [SKYACTIV-D 2.2].) (See DTC P0223:00 [SKYACTIV-D 2.2].)
		No	Go to the next step.
5	**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 10.
		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 10.
		No	Go to the next step.
7	**INSPECT APP SENSOR NO.1 SIGNAL CIRCUIT AND APP SENSOR NO.2 SIGNAL CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the APP sensor and PCM connectors are disconnected. • Inspect for continuity between APP sensor terminals B 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 10.
		No	Go to the next step.
8	**INSPECT APP SENSOR NO.1** • Reconnect all disconnected connectors. • Inspect the APP sensor No.1. (See ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the accelerator pedal, then go to Step 10. (See ACCELERATOR PEDAL REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
9	**INSPECT APP SENSOR NO.2** • 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.

STEP	INSPECTION		ACTION
10	**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 DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC 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.
11	**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.