DTC P2118:00 [SKYACTIV-D 2.2]

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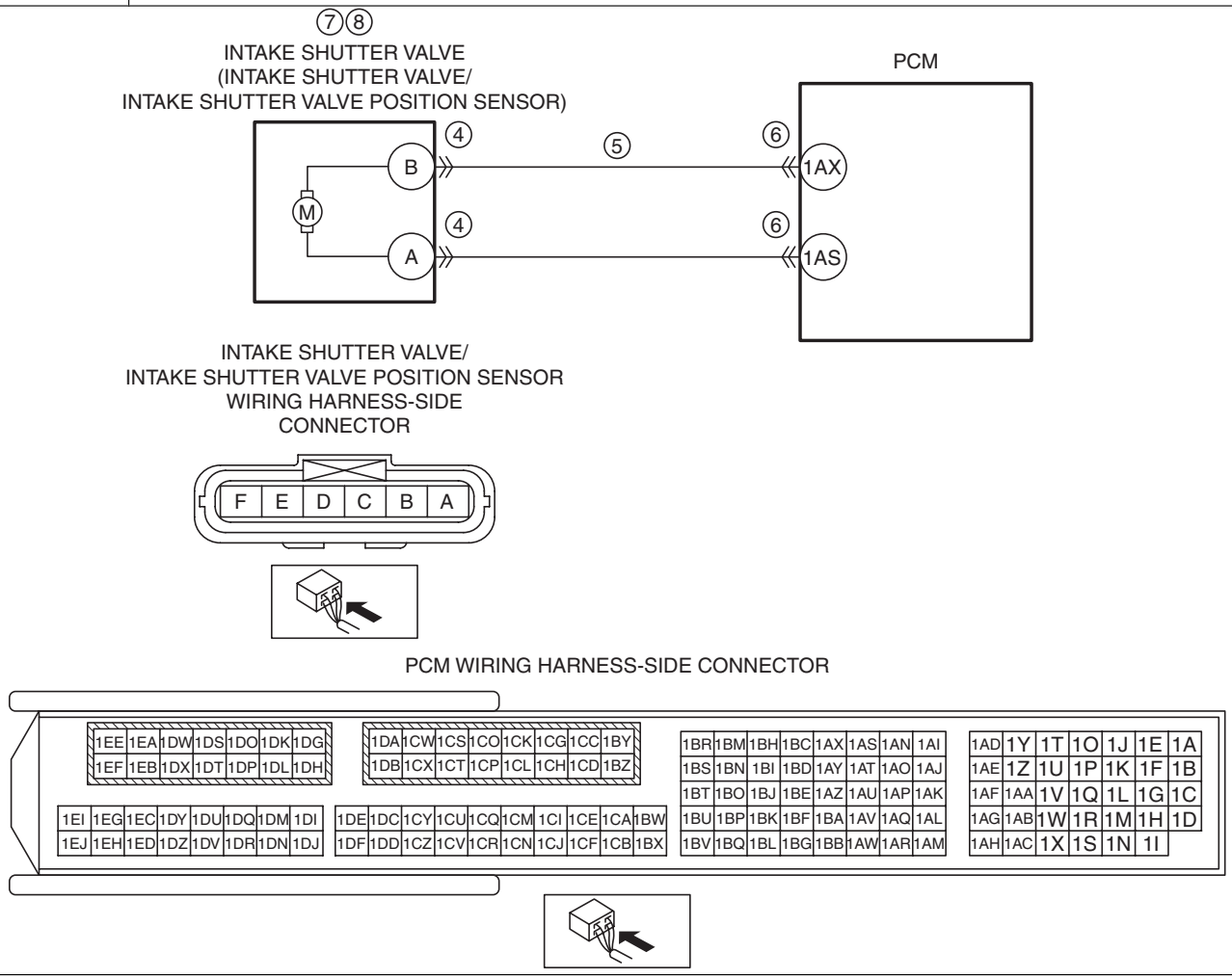
DTC P2118:00	Intake shutter valve control duty signal error
DETECTION CONDITION	• The intake air shutter valve control duty value is **90 %** for a continuous **2 s**. **Diagnostic support note** • This is a continuous monitor (CCM). • The check engine light illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. • PENDING CODE is available 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	• 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	• Intake shutter valve/intake shutter valve position sensor connector or terminals malfunction • Short to ground in wiring harness between intake shutter valve/intake shutter valve position sensor terminal B and PCM terminal 1AX • PCM connector or terminals malfunction • Intake shutter valve malfunction • Intake shutter valve position sensor 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.

STEP	INSPECTION		ACTION
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	**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].) • Are any other PENDING CODEs and/or DTCs present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.
4	**INSPECT INTAKE SHUTTER VALVE/INTAKE SHUTTER VALVE POSITION SENSOR CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the intake shutter valve/intake shutter valve position 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.
5	**INSPECT INTAKE SHUTTER VALVE CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the intake shutter valve/intake shutter valve position sensor connector is disconnected. • Inspect for continuity between intake shutter valve/intake shutter valve position sensor terminal B (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-D 2.2].) Go to Step 9.
		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 9.
		No	Go to the next step.
7	**INSPECT INTAKE SHUTTER VALVE** • Inspect the intake shutter valve. (See INTAKE SHUTTER VALVE INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the intake shutter valve, then go to Step 9. (See INTAKE SHUTTER VALVE REMOVAL/ INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
8	**INSPECT INTAKE SHUTTER VALVE POSITION SENSOR** • Reconnect all disconnected connectors. • Inspect the intake shutter valve position sensor. (See INTAKE SHUTTER VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the intake shutter valve, then go to the next step. (See INTAKE SHUTTER VALVE 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 Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Is the PENDING CODE for this 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.

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.