DTC P245A:00 [SKYACTIV-D 2.2]

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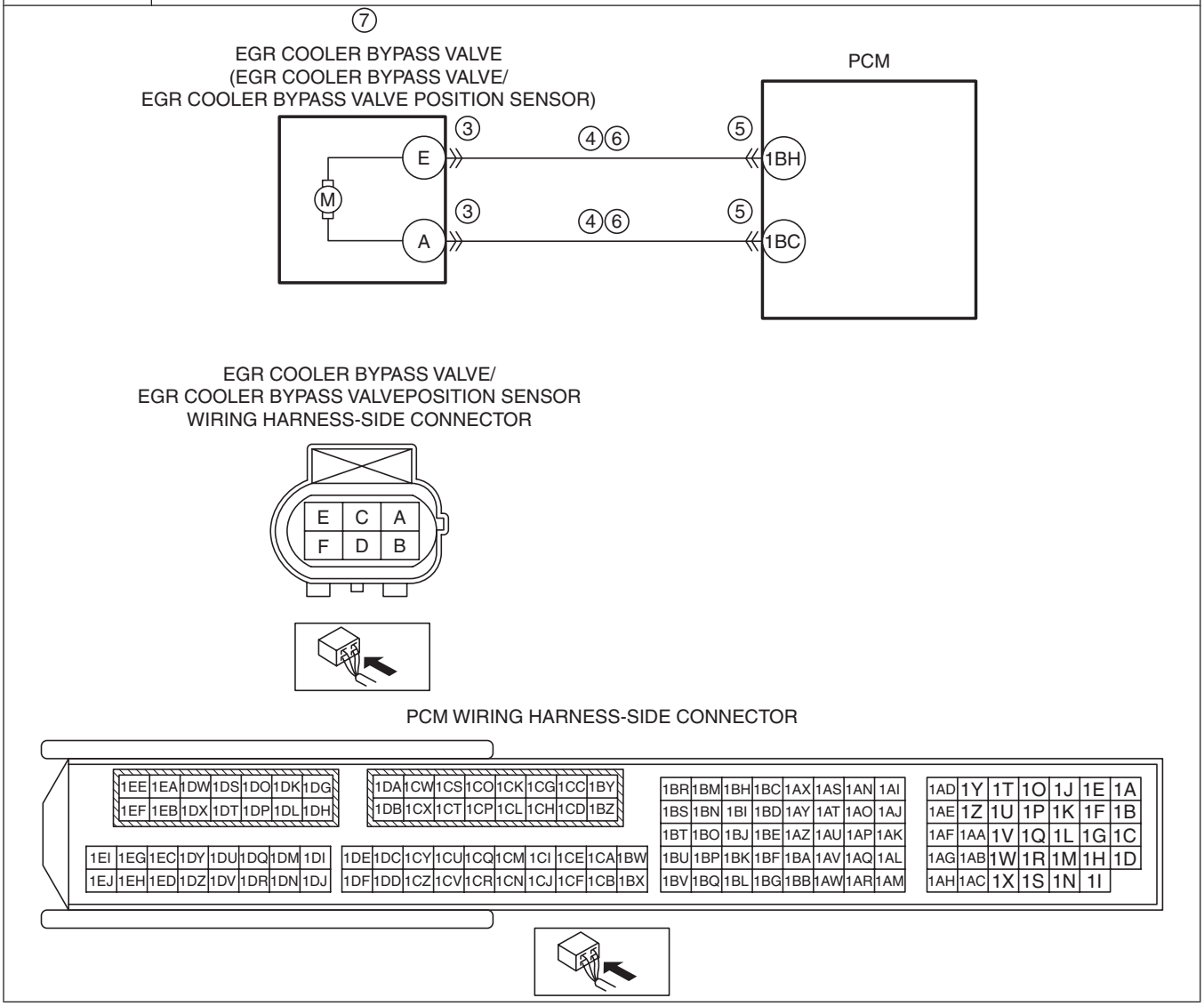
DTC P245A:00	EGR cooler bypass valve control: Drive circuit malfunction
DETECTION CONDITION	• The EGR cooler bypass valve drive current exceeds the specification for a continuous 3 s when the following condition is met: **MONITORING CONDITIONS** — Drive circuit temperature: 175 °C {347 °F} or more **Diagnostic 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	• Inhibits the two-stage turbo control. • Inhibits the EGR control. • Inhibits engine-stop by operating the i-stop function. • PCM restricts engine-transaxle integration control.
POSSIBLE CAUSE	• EGR cooler bypass valve/EGR cooler bypass valve position sensor connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal E—PCM terminal 1BH — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal A—PCM terminal 1BC • PCM connector or terminals malfunction • Short to power supply in wiring harness between the following terminals: — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal E—PCM terminal 1BH — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal A—PCM terminal 1BC • EGR cooler bypass valve malfunction • PCM malfunction

DTC P245A: 00	EGR cooler bypass valve control: Drive circuit 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.
3	**INSPECT EGR COOLER BYPASS VALVE/EGR COOLER BYPASS VALVE POSITION SENSOR CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the EGR cooler bypass valve/EGR cooler bypass 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 8.
		No	Go to the next step.

STEP	INSPECTION		ACTION
4	**INSPECT EGR COOLER BYPASS VALVE CIRCUIT FOR SHORT TO GROUND** • Verify that the EGR cooler bypass valve/EGR cooler bypass valve position sensor connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal E — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal A • 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 8.
		No	Go to the next step.
5	**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 8.
		No	Go to the next step.
6	**INSPECT EGR COOLER BYPASS VALVE CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the EGR cooler bypass valve/EGR cooler bypass valve position sensor and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the following terminals (wiring harness-side): — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal E — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal A • 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 8.
7	**INSPECT EGR COOLER BYPASS VALVE** • Inspect the EGR cooler bypass valve. (See EGR COOLER BYPASS VALVE INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction**?**	Yes	Replace the EGR cooler bypass valve, then go to the next step. (See EGR COOLER BYPASS VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
8	**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.
9	**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.