

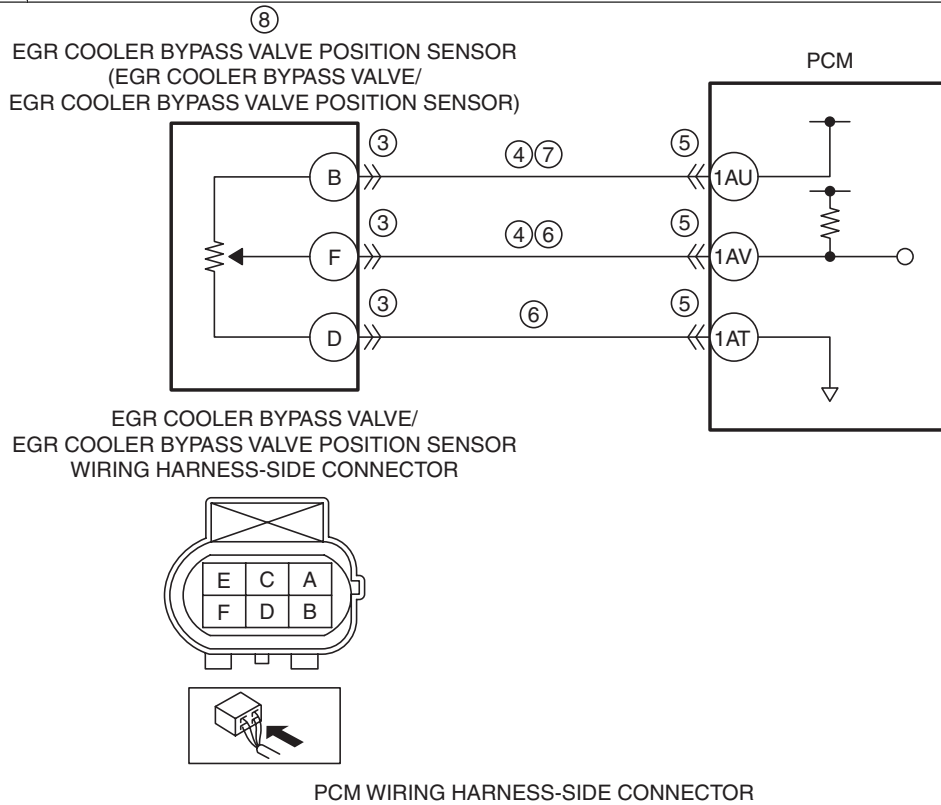
DTC P2494:00 [SKYACTIV-D 2.2]

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DTC P2494:00	EGR cooler bypass valve position sensor circuit low input
DETECTION CONDITION	<ul style="list-style-type: none">• If the input voltage at the PCM terminal 1AV is less than 0.2 V for 1 s, the PCM determines that the EGR cooler bypass valve position sensor circuit has a malfunction. MONITORING CONDITIONS <ul style="list-style-type: none">— Battery voltage: 8—20 V Diagnostic support note <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">• 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	<ul style="list-style-type: none">• EGR cooler bypass valve/EGR cooler bypass valve position sensor connector or terminals malfunction• Short to ground in wiring harness between the following terminals:<ul style="list-style-type: none">— EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal B—PCM terminal 1AU— EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal F—PCM terminal 1AV• PCM connector or terminals malfunction• EGR cooler bypass valve position sensor signal circuit and ground circuit are shorted to each other• Open circuit in wiring harness between EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal B and PCM terminal 1AU• EGR cooler bypass valve position sensor malfunction• PCM malfunction

**DTC
P2494:00**

EGR cooler bypass valve position sensor circuit low input



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 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 <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. <ul style="list-style-type: none">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 <ul style="list-style-type: none">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 9.
		No Go to the next step.

STEP	INSPECTION		ACTION
4	INSPECT EGR COOLER BYPASS VALVE POSITION SENSOR CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal B — EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal F • 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 EGR COOLER BYPASS VALVE POSITION SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER <ul style="list-style-type: none"> • Verify that the EGR cooler bypass valve/EGR cooler bypass valve position sensor and PCM connectors are disconnected. • Inspect for continuity between EGR cooler bypass valve/EGR cooler bypass valve position sensor terminals F 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 EGR COOLER BYPASS VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT <ul style="list-style-type: none"> • Verify that the EGR cooler bypass valve/EGR cooler bypass valve position sensor and PCM connectors are disconnected. • Inspect for continuity between EGR cooler bypass valve/EGR cooler bypass valve position sensor terminal B (wiring harness-side) and PCM terminal 1AU (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 EGR COOLER BYPASS VALVE POSITION SENSOR <ul style="list-style-type: none"> • Reconnect all disconnected connectors. • Inspect the EGR cooler bypass valve position sensor. (See EGR COOLER BYPASS VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction? 	Yes	Replace the EGR cooler bypass valve position sensor, then go to the next step. (See EGR COOLER BYPASS VALVE POSITION SENSOR 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 <ul style="list-style-type: none"> 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.