

DTC P007C:00	Boost air temperature sensor circuit low input
DETECTION CONDITION	<ul style="list-style-type: none"> If the PCM detects that the boost air temperature sensor voltage at the PCM terminal 1CM is 0.10 V or less for 1 s with the following condition met, the PCM determines that the boost air temperature sensor circuit voltage is low. <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 two-stage turbo control. 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	<ul style="list-style-type: none"> Intake air temperature is too high Boost air temperature sensor connector or terminals malfunction Boost air temperature sensor malfunction Short to ground in wiring harness between boost air temperature sensor terminal A and PCM terminal 1CM PCM connector or terminals malfunction Boost air temperature sensor signal circuit and ground circuit are shorted to each other PCM malfunction
<p>BOOST AIR TEMPERATURE SENSOR</p> <p>BOOST AIR TEMPERATURE SENSOR WIRING HARNESS-SIDE CONNECTOR</p> <p>PCM WIRING HARNESS-SIDE CONNECTOR</p>	

Diagnostic Procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED <ul style="list-style-type: none"> Have the FREEZE FRAME DATA (Mode 2)/ snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (engine cooling system related) been recorded? 	Yes Go to the next step.
		No Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS 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. • If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	INSPECT BOOST AIR TEMPERATURE SENSOR CONNECTOR CONDITION <ul style="list-style-type: none"> Switch the ignition off. Disconnect the boost air temperature 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.
4	INSPECT BOOST AIR TEMPERATURE SENSOR <ul style="list-style-type: none"> Inspect the boost air temperature sensor. (See BOOST AIR TEMPERATURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes Replace the boost air temperature sensor, then go to Step 8. (See BOOST AIR TEMPERATURE SENSOR REMOVAL/ INSTALLATION [SKYACTIV-D 2.2].)
		No Go to the next step.
5	INSPECT BOOST AIR TEMPERATURE SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> Verify that the boost air temperature sensor connector is disconnected. Switch the ignition off. Inspect for continuity between boost air temperature sensor terminal A (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 8.
		No Go to the next step.
6	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 8.
		No Go to the next step.
7	INSPECT BOOST AIR TEMPERATURE SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER <ul style="list-style-type: none"> Verify that the boost air temperature sensor and PCM connectors are disconnected. Inspect for continuity between boost air temperature sensor terminals A and B (wiring harness-side). Is there continuity? 	Yes Repair or replace the wiring harness for a possible short to each other, then go to the next step.
		No Go to the next step.
8	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. • 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
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.