

DTC P004D:00	Wastegate solenoid valve control circuit high input
DETECTION CONDITION	<ul style="list-style-type: none"> If the PCM detects that the wastegate solenoid valve current at the PCM terminal 1CL is 3.5 A or more for 1 s with the following condition met, the PCM determines that the wastegate solenoid valve circuit voltage is high. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> Battery voltage: 7.2—16 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"> Inhibits engine-stop by operating the i-stop function. PCM restricts engine-transaxle integration control.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Wastegate solenoid valve connector or terminals malfunction PCM connector or terminals malfunction Short to power supply in wiring harness between wastegate solenoid valve terminal B and PCM terminal 1CL Wastegate solenoid valve malfunction PCM malfunction
<p>MAIN RELAY TERMINAL C</p> <p>ENGINE2 15 A</p> <p>WASTEGATE SOLENOID VALVE</p> <p>PCM</p> <p>WASTEGATE SOLENOID VALVE 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 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.

STEP	INSPECTION		ACTION
3	INSPECT WASTEGATE SOLENOID VALVE CONNECTOR CONDITION <ul style="list-style-type: none"> Switch the ignition off. Disconnect the wastegate solenoid valve 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 7.
		No	Go to the next step.
4	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 7.
		No	Go to the next step.
5	INSPECT WASTEGATE SOLENOID VALVE CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> Verify that the wastegate solenoid valve and PCM connectors are disconnected. Switch the ignition ON (engine off). Measure the voltage at the wastegate solenoid valve terminal B (wiring harness-side). 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 7.
6	INSPECT WASTEGATE SOLENOID VALVE <ul style="list-style-type: none"> Inspect the wastegate solenoid valve. (See WASTEGATE SOLENOID VALVE INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Replace the wastegate solenoid valve, then go to the next step. (See WASTEGATE SOLENOID VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
7	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.
8	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.