

DTC P2002:00	Diesel particulate filter function decreased
DETECTION CONDITION	<ul style="list-style-type: none"> When the following conditions are met, a difference in the pressure before and after passing the diesel particulate filter of less than the specified value is detected: <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> — Drive at a constant speed for 2 s or more under the following conditions: <ul style="list-style-type: none"> • Engine speed: 1,700—3,500 rpm • Amount of change in engine speed: 40 rpm or less for 1 s • Amount of exhaust gas: 1.1 m³/min or more • Amount of change in exhaust gas: 1.8 m³/min or more for 1 s • Barometric pressure: 70—105 kPa {0.72—1.07 kgf/cm², 11.0—15.2 psi} • Engine coolant temperature after engine start: 40—110 °C {104—230 °F} • Intake air temperature: -10 °C {14 °F} or more • Amount of change in pressure applied to diesel particulate filter: 0.62 kPa {0.0063 kgf/cm², 0.090 psi} or less for 1 s • Estimated PM accumulation is 2.25 g/l {0.14 lb/ft³} or more • Diesel particulate filter regeneration control is not performed <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 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	<ul style="list-style-type: none"> Inhibits engine-stop by operating the i-stop function.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Erratic signal to PCM <ul style="list-style-type: none"> — Exhaust gas pressure sensor No.1 signal malfunction — Input signal part connector or terminals malfunction — Input signal part related circuit malfunction Exhaust gas leakage from exhaust system Pipe between exhaust gas pressure sensor No.2 and catalytic converter restriction and/or damaged or improper routing Exhaust gas pressure sensor No.2 malfunction Exhaust gas temperature sensor No.1 malfunction Exhaust gas temperature sensor No.2 malfunction Exhaust gas temperature sensor No.3 malfunction Catalytic converter or diesel particulate filter malfunction (deformation, damage) PCM malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic Procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED	Yes
	• Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?	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	Yes
	• Verify related Service Information availability. • Is any related Service Information available?	No Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step. Go to the next step.

STEP	INSPECTION		ACTION
3	VERIFY RELATED PENDING CODE AND/OR DTC <ul style="list-style-type: none"> 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	VERIFY CURRENT INPUT SIGNAL STATUS <ul style="list-style-type: none"> Start the engine. Access the following PID using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) <ul style="list-style-type: none"> EXHPRES1 Is the PID value within specification? (See PCM INSPECTION [SKYACTIV-D 2.2].) 	Yes	Inspect the suspected sensor and related wiring harness. <ul style="list-style-type: none"> If there is any malfunction: <ul style="list-style-type: none"> Repair or replace the malfunctioning part according to the inspection results, then go to Step 11. If there is no malfunction: <ul style="list-style-type: none"> Go to the next step.
		No	Go to the next step.
5	INSPECT EXHAUST SYSTEM FOR LEAKAGE <ul style="list-style-type: none"> Visually inspect for exhaust gas leakage from the exhaust system. Is there any malfunction? 	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
		No	Go to the next step.
6	INSPECT EXHAUST GAS PRESSURE SENSOR NO.2 RELATED PIPE <ul style="list-style-type: none"> Visually inspect the exhaust gas pressure sensor No.2 related pipe for restriction, damaged and improper routing. (See EXHAUST GAS PRESSURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
		No	Go to the next step.
7	INSPECT EXHAUST GAS PRESSURE SENSOR NO.2 <ul style="list-style-type: none"> Inspect the exhaust gas pressure sensor No.2. (See EXHAUST GAS PRESSURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Replace the exhaust gas pressure sensor No.2, then go to Step 11. (See EXHAUST GAS PRESSURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
8	INSPECT EXHAUST GAS TEMPERATURE SENSOR NO.1 <ul style="list-style-type: none"> Inspect the exhaust gas temperature sensor No. 1. (See EXHAUST GAS TEMPERATURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Replace the exhaust gas temperature sensor No.1, then go to Step 11. (See EXHAUST GAS TEMPERATURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
9	INSPECT EXHAUST GAS TEMPERATURE SENSOR NO.2 <ul style="list-style-type: none"> Inspect the exhaust gas temperature sensor No. 2. (See EXHAUST GAS TEMPERATURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Replace the exhaust gas temperature sensor No.2, then go to Step 11. (See EXHAUST GAS TEMPERATURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
10	INSPECT EXHAUST GAS TEMPERATURE SENSOR NO.3 <ul style="list-style-type: none"> Inspect the exhaust gas temperature sensor No. 3. (See EXHAUST GAS TEMPERATURE SENSOR INSPECTION [SKYACTIV-D 2.2].) Is there any malfunction? 	Yes	Replace the exhaust gas temperature sensor No.3, then go to the next step. (See EXHAUST GAS TEMPERATURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Catalytic converter or diesel particulate filter can be considered the cause. <ul style="list-style-type: none"> Replace the catalytic converter, then go to the next step. (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

STEP	INSPECTION		ACTION
11	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 Drive Mode Type A. (See OBD DRIVE MODE [SKYACTIV-D 2.2].) • Perform the Pending Trouble Code Access. (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.
12	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.