

NO.22 COOLING SYSTEM CONCERNS-OVERHEATING [SKYACTIV-D 2.2]

id0103g1898900

22	COOLING SYSTEM CONCERNS-OVERHEATING
DESCRIPTION	<ul style="list-style-type: none"> The engine coolant temperature is abnormally high.
POSSIBLE CAUSE	<ul style="list-style-type: none"> PCM DTC is stored. Erratic signal to PCM <ul style="list-style-type: none"> ECT sensor or related circuit malfunction A/C relay malfunction Fan control module No.1 malfunction Fan control module No.2 malfunction Cooling system malfunction <ul style="list-style-type: none"> Cooling fan motor malfunction Thermostat malfunction Engine coolant passage (including radiator) malfunction (clogging, leakage)

Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	VERIFY PCM DTC <ul style="list-style-type: none"> Retrieve PCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.
2	VERIFY CURRENT INPUT SIGNAL STATUS <p>Caution</p> <ul style="list-style-type: none"> While performing this step, always operate the vehicle in a safe and lawful manner. When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. <ul style="list-style-type: none"> Access the following PID using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) <ul style="list-style-type: none"> ECT Does the PID indicate the correct value under the malfunction condition? (See PCM INSPECTION [SKYACTIV-D 2.2].) 	Yes	Inspect the related sensor and circuit. <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.
3	INSPECT A/C RELAY <ul style="list-style-type: none"> Switch the ignition off. Remove the A/C relay. Inspect the A/C relay. (See RELAY INSPECTION.) Is the A/C relay normal? 	Yes	Go to the next step.
		No	Replace the A/C relay, then go to Step 11.
4	INSPECT FAN CONTROL MODULE NO.1 <ul style="list-style-type: none"> Inspect the fan control module No.1. (See FAN CONTROL MODULE INSPECTION [SKYACTIV-D 2.2].) Is the fan control module No.1 normal? 	Yes	Go to the next step.
		No	Replace the fan control module No.1, then go to Step 11. (See COOLING FAN MOTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
5	INSPECT FAN CONTROL MODULE NO.2 <ul style="list-style-type: none"> Inspect the fan control module No.2. (See FAN CONTROL MODULE INSPECTION [SKYACTIV-D 2.2].) Is the fan control module No.2 normal? 	Yes	Go to the next step.
		No	Replace the fan control module No.2, then go to Step 11. (See COOLING FAN MOTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

STEP	INSPECTION	RESULTS	ACTION
6	INSPECT COOLING FAN MOTOR NO.1 <ul style="list-style-type: none"> Inspect the cooling fan motor No.1. (See COOLING FAN MOTOR INSPECTION [SKYACTIV-D 2.2].) Is the cooling fan motor No.1 normal? 	Yes	Go to the next step.
		No	Replace the cooling fan motor No.1, then go to Step 11. (See COOLING FAN MOTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
7	INSPECT COOLING FAN MOTOR NO.2 <ul style="list-style-type: none"> Inspect the cooling fan motor No.2. (See COOLING FAN MOTOR INSPECTION [SKYACTIV-D 2.2].) Is the cooling fan motor No.2 normal? 	Yes	Go to the next step.
		No	Replace the cooling fan motor No.2, then go to Step 11. (See COOLING FAN MOTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
8	DETERMINE IF MALFUNCTION CAUSE IS THERMOSTAT OR OTHER <ul style="list-style-type: none"> Verify the radiator hose tension. <p>Warning</p> <ul style="list-style-type: none"> To prevent burns, use a cloth with your hand to verify the tension of the radiator hose. <ul style="list-style-type: none"> After the engine warms up, does the engine coolant circulate to the radiator hose? 	Yes	Go to Step 10.
		No	Go to the next step.
9	INSPECT THERMOSTAT <ul style="list-style-type: none"> Inspect the thermostat. (See THERMOSTAT INSPECTION [SKYACTIV-D 2.2].) Is the thermostat normal? 	Yes	Go to the next step.
		No	Replace the thermostat, then go to Step 11. (See THERMOSTAT REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
10	INSPECT SEALING OF ENGINE <ul style="list-style-type: none"> Verify that there is no engine coolant leakage. (See ENGINE COOLANT LEAKAGE INSPECTION [SKYACTIV-D 2.2].) Is the sealing of engine normal? 	Yes	Inspect for clogging in the engine coolant passage. <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 the next step. If there is no malfunction: <ul style="list-style-type: none"> Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results, then go to the next step.
11	Verify the test results. <ul style="list-style-type: none"> If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-D 2.2].) If a malfunction remains, inspect the related Service Information and perform the repair or diagnosis. <ul style="list-style-type: none"> If the vehicle is repaired, troubleshooting is completed. If the vehicle is not repaired or additional diagnostic information is not available, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) 		