DTC	P0711	Transmission Fluid Temperature Sensor "A" Performance

DESCRIPTION

Refer to DTC P0710 (See page AT-51).

DTC No.	DTC Detection Conditions	Trouble Areas
P0711	Either of the following Condition (A) or (B) is met: Condition (A): All of (a), (b) and (c) are detected (2-trip detection logic): (a) Intake air and engine coolant temperatures are more than -10°C (14°F) at engine start. (b) After normal driving for over 6 minutes and 5.6 miles (9 km) or more, ATF temperature is less than 20°C (68°F). (c) 22 minutes or more have elapsed after engine start. Condition (B): Both (a) and (b) are detected (2-trip detection logic) (a) Engine coolant temperature is less than 35°C (95°F) at engine start. (b) ATF temperature is 110°C (230°F) or more when engine coolant temperature reaches 60°C (140°F).	• Transmission wire (No. 1 ATF temperature sensor) • ECM

MONITOR DESCRIPTION

This DTC indicates that there is a problem with the output from the ATF (Automatic Transmission Fluid) temperature sensor and that the sensor itself is defective. The ATF temperature sensor converts the ATF temperature to an electrical resistance value. Based on the resistance, the ECM determines the ATF temperature and detects any open or short malfunctions in the ATF temperature circuit or a fault of the ATF temperature sensor.

After running the vehicle for a certain period, the ATF temperature should increase. If the ATF temperature is below 20°C (68°F) after running the vehicle for a certain period, the ECM interprets this as a fault, and turns on the MIL.

When the ATF temperature is 110°C (230°F) or more and engine coolant temperature reaches 60°C (140°F) after cold start, the ECM also determines this as a fault, turns on the MIL, and stores the DTC.

AT

MONITOR STRATEGY

Related DTCs	P0711: ATF temperature sensor/Rationality check
Required sensors/Components	ATF temperature sensor
Frequency of operation	Continuous
Duration	Condition (A): 3 seconds Condition (B): 10 seconds
MIL operation	2 driving cycles
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The following conditions are common to Condition (A) and (B).

The monitor will run whenever the following DTCs are not present.	None
ATF temperature sensor "A" circuit	No circuit malfunction
ECT (Engine Coolant Temperature) sensor circuit	No circuit malfunction
IAT (Intake Air Temperature) sensor circuit	No circuit malfunction

Condition (A)

Time after engine start	21 minutes and 40 seconds or more

Driving distance after engine start	5.6 miles (9 km) or more
Accumulated driving time	5 minutes and 30 seconds or more
ECT	-15°C (5°F) or more
IAT (12 seconds after engine start)	-10°C (14°F) or more
ECT (12 seconds after engine start)	-10°C (14°F) or more

Condition (B)

ECT (Current temperature)	60°C (140°F) or more
ECT (12 seconds after engine start)	Less than 35°C (95°F)
ATF temperature (12 seconds after engine start)	110°C (230°F) or more

TYPICAL MALFUNCTION THRESHOLDS
Either of the following conditions is met: Condition (A) or (B)
Condition (A)

ATF temperature	Less than 20°C (68°F) (Conditions vary with ATF temperature at engine start)

Condition (B)

ATF temperature	110°C (230°F) or more

WIRING DIAGRAM
Refer to DTC P0710 (See page).

INSPECTION PROCEDURE
HINT:
According to the DATA LIST displayed on the intelligent tester, you can read the values of components, such as the switches, sensors and actuators, without removing any parts. Reading the DATA LIST as a first step of troubleshooting is one method of shortening labor time.
NOTICE:
In the table below, the values listed under "Normal Condition" are for reference only. Do not depend solely on these reference values when judging whether a part is faulty or not.
1. Warm up the engine.
2. Turn the ignition switch off.
3. Connect the intelligent tester together with the CAN VIM (Controller Area Network Vehicle Interface Module) to the DLC3.
4. Turn the ignition switch to the ON position.
5. Push the "ON" button of the tester.
6. Select the items "DIAGNOSIS / ENHANCED OBD II / DATA LIST / A/T".
7. According to the display on the tester, read the "DATA LIST".

AT

Item	Measurement Item/ Range (display)	Normal Condition
AT OIL TEMP1	No. 1 ATF Temperature Sensor Value/ min.: -40°C (-40°F) max.: 215°C (419°F)	• After Stall Test: Approximately 80°C (176°F) • Equal to ambient temperature during cold soak

HINT:
When DTC P0712 is output and intelligent tester reading is 150°C (302°F) or more, there is a short circuit.
When DTC P0713 is output and intelligent tester reading is -40°C (-40°F), there is an open circuit.
Measure the resistance between terminal THO1 and the body ground.

Temperature Displayed	Malfunction
-40°C (-40°F)	Open circuit
150°C (302°F) or more	Short circuit

HINT:
If a circuit related to the ATF temperature sensor becomes open, P0713 is immediately set (in 0.5 seconds). When P0713 is set, P0711 cannot be detected.
It is not necessary to inspect the circuit when P0711 is set.

1	CHECK ANY OTHER DTCS OUTPUT (IN ADDITION TO DTC P0711)

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position and push the intelligent tester main switch ON.
(c) Select the items "DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES".
(d) Read the DTCs using the intelligent tester.

Result:

Display (DTC Output)	Proceed to
Only "P0711" is output	A
"P0711" and other DTCs	B

HINT:
If any codes besides "P0711" are output, perform troubleshooting for those DTCs first.

B ▷ **GO TO DTC CHART**

A

2	CHECK TRANSMISSION FLUID LEVEL

OK:
Automatic transmission fluid level is correct.

NG ▷ **ADD FLUID**

OK

REPLACE TRANSMISSION WIRE (ATF TEMPERATURE SENSOR)