DTC	P0711	Transmission Fluid Temperature Sensor "A" Performance

DESCRIPTION

Refer to DTC P0710 (see page AX-46).

DTC No.	DTC Detection Condition	Trouble Area
P0711	Case 1 (2 trip detection logic): First, ECM checks for following conditions: (a) 17 minutes or more after engine is started and after 9 km (5.6 miles) or more of driving, ECT is -15°C (5°F) or more (b) After starting engine and certain period of time has elapsed, ECT and IAT are -10°C (14°F) or more If conditions are met, ECM then checks if ATF temperature is less than 20°C (68°F). If so, ECM interprets this as fault and illuminates MIL. Case 2 (2 trip detection logic): First, ECM checks for following conditions: (a) ECT is 60°C (140°F) or more (b) After starting engine and certain period of time has elapsed, ECT is less than 35°C (95°F) If conditions are met, ECM then checks if ATF temperature is 100°C (212°F) or more. If so, ECM interprets this as fault and illuminates MIL.	• Open or short in No. 1 ATF temperature sensor circuit • No. 1 ATF temperature sensor • ECM

MONITOR DESCRIPTION

This DTC indicates that there is a problem with output from the ATF 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, detects open or short circuits of the ATF temperature circuit, and detects faults in the ATF temperature sensor.
Case 1 (2 trip detection logic):
First, the ECM checks for the following conditions:
(a) 17 minutes or more after the engine is started and after 9 km (5.6 miles) or more of driving, the ECT is -15°C (5°F) or more.
(b) After starting the engine and a certain period of time has elapsed, the ECT and IAT are -10°C (14°F) or more.
If the conditions are met, the ECM then checks if the ATF temperature is less than 20°C (68°F). If so, the ECM interprets this as a fault and illuminates the MIL.
Case 2 (2 trip detection logic):
First, the ECM checks for the following conditions:
(a) ECT is 60°C (140°F) or more.
(b) After starting the engine and a certain period of time has elapsed, the ECT is less than 35°C (95°F).
If the conditions are met, the ECM then checks if the ATF temperature is 100°C (212°F) or more. If so, the ECM interprets this as a fault and illuminates the MIL.

MONITOR STRATEGY

Related DTCs	P0711: ATF temperature sensor/Rationality check
Required sensors/Components	ATF temperature sensor
Frequency of operation	Continuous
Duration	Condition 1: 3 seconds Condition 2: 10 seconds
MIL operation	2 driving cycles

Sequence of operation	None

TYPICAL ENABLING CONDITIONS

All

The monitor will run whenever this DTC is not present	None P0110-P0113: IAT sensor P0115-P0118: ECT sensor P0710-P0713: Trans fluid temperature sensor

Condition 1

Time after engine start	17 minutes or more
ECT	-15°C (5°F) or more
Driving distance after engine start	9 km (5.6 miles) or more
IAT (12 sec. after engine start)	-10°C (14°F) or more
ECT (12 sec. after engine start)	-10°C (14°F) or more

Condition 2

ECT	60°C (140°F) or more
ECT (12 sec. after engine start)	Less than 35°C (95°F)

TYPICAL MALFUNCTION THRESHOLDS

Condition 1

ATF temperature	Less than 20°C (68°F)

Condition 2

ATF temperature	100°C (212°F) or more

COMPONENT OPERATING RANGE

ATF temperature	Atmospheric temperature - approximately 130°C (266°F)

WIRING DIAGRAM

Refer to DTC P0710 (see page AX-47).

INSPECTION PROCEDURE

HINT:

Using the intelligent tester's DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to save time.

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

1. Warm up the engine.
2. Turn the ignition switch OFF.
3. Connect the intelligent tester to the CAN VIM. Then connect the CAN VIM to the DLC3.
4. Turn the ignition switch ON and turn the tester ON.
5. Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DATA LIST.
6. Follow the instructions on the tester and read the DATA LIST.

Item	Measurement Item/ Range (Display)	Normal Condition	Diagnostic Note
A/T OIL TEMP1	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 while engine is cold	If value is -40°C (-40°F) or "150°C (302°F) or more", ATF temperature sensor circuit is open or short circuited

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

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

AX

HINT:
If a circuit related to the ATF temperature sensor becomes open, P0713 is set in approximately 0.5 seconds.
It is not necessary to inspect the circuit when P0711 is set.

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

(a) Connect the intelligent tester to the CAN VIM. Then connect the CAN VIM to the DLC3.
(b) Turn the ignition switch ON and turn the tester ON.
(c) Enter the following menus: DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES.
(d) Read the DTCs using the tester.

Result

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

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

B → **GO TO DTC OUTPUT**

A

2 CHECK TRANSAXLE FLUID LEVEL

OK:
Automatic transaxle fluid level is correct.

NG → **ADD FLUID**

OK

REPAIR OR REPLACE TRANSMISSION WIRE