DTC P0711 Transmission Fluid Temperature Sensor "A" Performance

for Preparation Click here

DESCRIPTION

The ATF (Automatic Transmission Fluid) temperature sensor converts the ATF temperature into a resistance value which is input into the ECM.
The ECM applies a voltage to the temperature sensor through ECM terminal THO1.
The sensor resistance changes with the ATF temperature.
One terminal of the sensor is grounded so that the sensor resistance and voltage decrease as the temperature becomes higher.
The ECM calculates the ATF temperature based on the voltage signal.

DTC Code	DTC Detection Condition	Trouble Area
P0711	Either condition is met: 1. Conditions (a), (b), (c), (d) and (e) are met (2-trip detection logic): (a) 10 minutes elapse after the engine is started. (b) The vehicle is driven 4.7 km (3.0 miles) or more after the engine is started. (c) IAT is 15°C (59°F) or higher. (d) ECT is 15°C (59°F) or higher. (e) ATF temperature is below 20°C (68°F). 2. Conditions (a) and (b) are met (2-trip detection logic): (a) Engine coolant temperature is below 35°C (95°F) after the engine is started. (b) ATF temperature is 110°C (230°F) or higher when the engine coolant temperature reaches 60°C (140°F) after 10 sec. or more.	Transmission wire (No. 1 ATF temperature sensor)

MONITOR DESCRIPTION

This DTC indicates that there is a problem with the output from the Automatic Transmission Fluid (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 and detects an open or short in the ATF temperature sensor circuit or a fault in 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, turns on the MIL and stores the DTC.
When the ATF temperature is 110°C (230°F) or higher and the engine coolant temperature takes 10 seconds or more to reach 60°C (140°F) after a cold start, the ECM also determines this to be a fault, turns on the MIL and stores the DTC.

INSPECTION PROCEDURE

DATA LIST

HINT:

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic 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.

a. Warm up the engine.

b. Turn the engine switch off.

c. Connect the intelligent tester to the DLC3.

d. Turn the engine switch on (IG).

e. Turn the intelligent tester on.

f. Enter the following menus: Powertrain / Engine and ECT / Data List.

g. According to the display on the tester, read the Data List.

Engine and ECT

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
A/T Oil Temperature 1	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 when engine cold	If the value is -40°C (-40°F) or 215°C (419°F), the No. 1 ATF temperature sensor circuit is open or shorted.

HINT:

When DTC P0712 is output and the intelligent tester output is 150°C (302°F) or higher, there is a short circuit.

When DTC P0713 is output and the intelligent tester output is -40°C (-40°F), there is an open circuit.

Check the temperature displayed on the tester in order to check if a malfunction exists.

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

If a circuit related to the ATF temperature sensor becomes open, P0713 is immediately stored (in 0.5 seconds). When P0713 is stored, P0711 cannot be stored.

It is not necessary to inspect the circuit when P0711 is stored.

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

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

d. Enter the following menus: Powertrain / Engine and ECT / DTC.

e. Read the DTCs using the tester.

Result

Result	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 CHART (Click here)**

A

2.CHECK TRANSMISSION FLUID LEVEL

a. Check the transmission fluid level (Click here).

OK:

Automatic transmission fluid level is correct.

NG → **ADD FLUID (Click here)**

OK

REPAIR OR REPLACE TRANSMISSION WIRE (Click here)