

<b>DTC</b>	<b>P0711</b>	<b>Transmission Fluid Temperature Sensor "A" Performance</b>
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## DESCRIPTION

The ATF (Automatic Transmission Fluid) temperature sensor converts the fluid temperature into a resistance value which is input into the ECM.

DTC No.	DTC Detection Condition	Trouble Area
P0711	Both (a) and (b) are detected: (2-trip detection logic) (a) After 12 sec. of engine start, temp. of atmosphere and that of engine coolant is more than -10°C (b) After normal driving for over 20 min. and 10 km, ATF temp. is less than 10°C	<ul style="list-style-type: none"> <li>• Open or short in ATF temperature sensor circuit</li> <li>• Transmission wire (ATF temperature sensor)</li> <li>• ECM</li> </ul>

## MONITOR DESCRIPTION

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 opens or shorts in the ATF temperature circuit.

After running the vehicle for a certain period, the ATF temperature should increase. When the ATF temperature is below 10°C, the ECM interprets this as a fault, turns on the MIL.

## MONITOR STRATEGY

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

## TYPICAL ENABLING CONDITIONS

The monitor will run whenever this DTC is not present.	None
Time after engine start	16 min. and 40 sec. or more
ECT (Engine coolant temperature)	-15°C (5°F) or more
TFT (transmission fluid temperature) sensor circuit	Not circuit malfunction
ECT sensor circuit	Not circuit malfunction
IAT (Intake air temperature) sensor circuit	Not circuit malfunction
Time After engine start	18 min. and 20 sec.
Driving distance after engine start	9 km (5.6 mile) or more
IAT (12 sec. after starting engine)	-10°C (14°F) or more
ECT (12 sec. after starting engine)	-10°C (14°F) or more

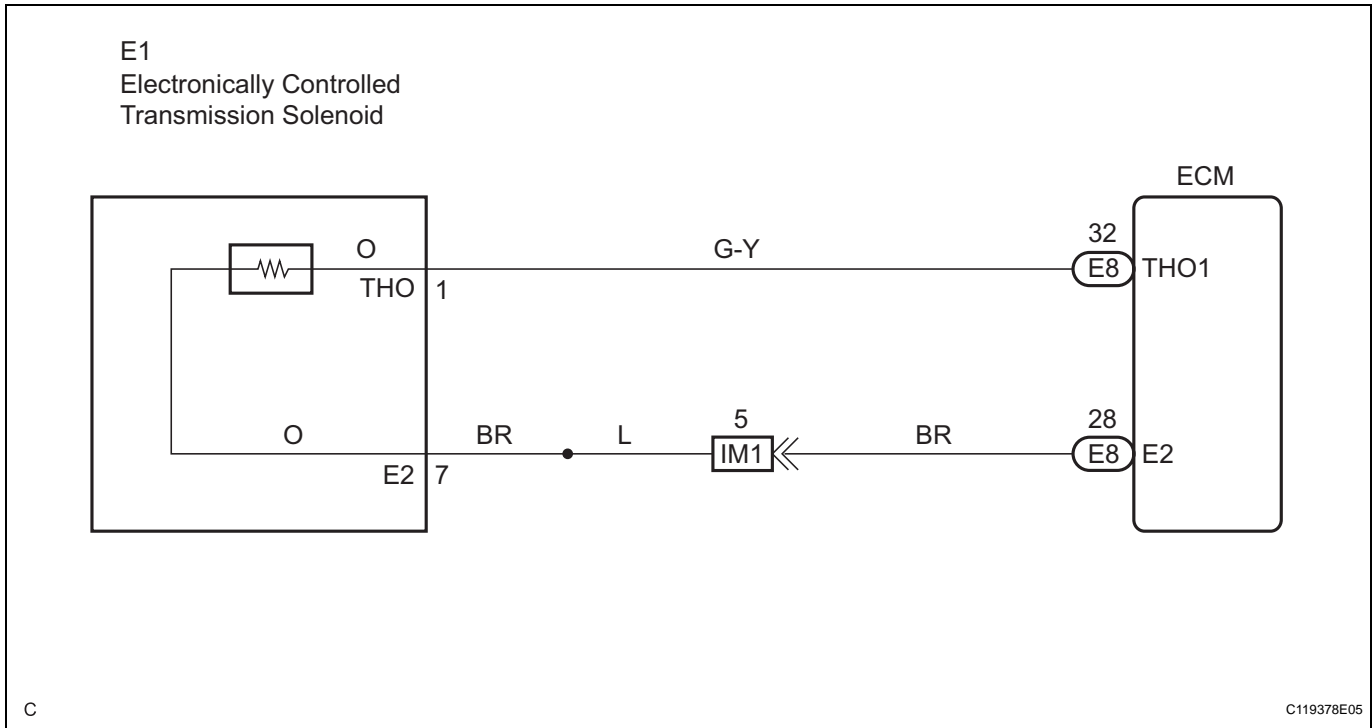
## TYPICAL MALFUNCTION THRESHOLDS

TFT (transmission fluid temperature)	Less than 10°C (50°F)
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## COMPONENT OPERATING RANGE

TFT (transmission fluid temperature)	Atmospheric temperature to approx. 130°C (266°F)
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**WIRING DIAGRAM**



**HINT:**

According to the DATA LIST displayed by the OBD II scan tool or intelligent tester, you can read the value of the switch, sensor, actuator and so on without parts removal. Reading the DATA LIST as the first step of troubleshooting is one method to shorten labor time.

**NOTICE:**

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

**1. READ DATA LIST**

- (a) Warm up the engine.
- (b) Turn the ignition switch off.
- (c) Connect the OBD II scan tool or intelligent tester to the DLC3.
- (d) Turn the ignition switch to the on position.
- (e) Turn on the tester.
- (f) Select the item "DIAGNOSIS / ENHANCED OBD II / DATA LIST".
- (g) According to the display on the tester, read the "DATA LIST".

Item	Measurement Item/ Range (display)	Normal Condition
AT FLUID TEMP	ATF Temp. Sensor Value/ min.: -40°C (-40°F) max.: 215°C (419°F)	Approx. 80°C (176°F) (After Stall Test)

**HINT:**

When DTC P0712 is output and OBD II scan tool or intelligent tester output is 150°C (302°F), there is a short circuit.

When DTC P0713 is output and OBD II scan tool or intelligent tester output is -40°C (-40°F), there is an open circuit.

Measure the resistance between terminal THO1 (THO) and 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 second).

When P0713 is set, P0711 cannot be detected.

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

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

- (a) Connect the OBD II scan tool or the intelligent tester to the DLC3.
- (b) Turn the ignition switch to the on position and push the OBD II scan tool or the intelligent tester main switch ON.
- (c) When you use intelligent tester:  
Select the item "DIAGNOSIS / ENHANCED OBD II / DTC INFO / CURRENT CODES".
- (d) Read the DTCs using the OBD II scan tool or the intelligent tester.

**Result**

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

**HINT:**

If any other 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)**