

DTC	P0711	TRANSMISSION FLUID TEMPERATURE SENSOR "A" PERFORMANCE
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CIRCUIT 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	(A) Both (a) and (b) are detected: (2-trip detection logic) (a) Intake air and engine coolant temps. are more than -10°C (14°F) at engine start (b) After normal driving for over 20 min. and 9 km (6 mile) or more, ATF temp. is less than 20°C (68°F) (B) After 17 min. of engine start, the ATF temp. is 110°C (230°F) or more (2-trip detection logic).	<ul style="list-style-type: none"> • Open or short in ATF temperature sensor circuit • Transmission wire (ATF temperature sensor) • ECM

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 open or short in the ATF temperature 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, and turns on the MIL.

When the ATF temperature is 110°C (230°F) or more after 17 minutes of engine cold start, the ECM also determines this as a fault, turns on the MIL, and stores the DTC.

MONITOR STRATEGY

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

TYPICAL ENABLING CONDITIONS

All:

The monitor will run whenever this DTC is not present	See page 05-1253
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 sensor circuit	Not circuit malfunction
Electronic throttle system	Not circuit malfunction

Condition (A)

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

Condition (B)

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

TYPICAL MALFUNCTION THRESHOLDS

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

Condition (A)

TFT (Transmission fluid temperature)	Less than 20°C (68°F)
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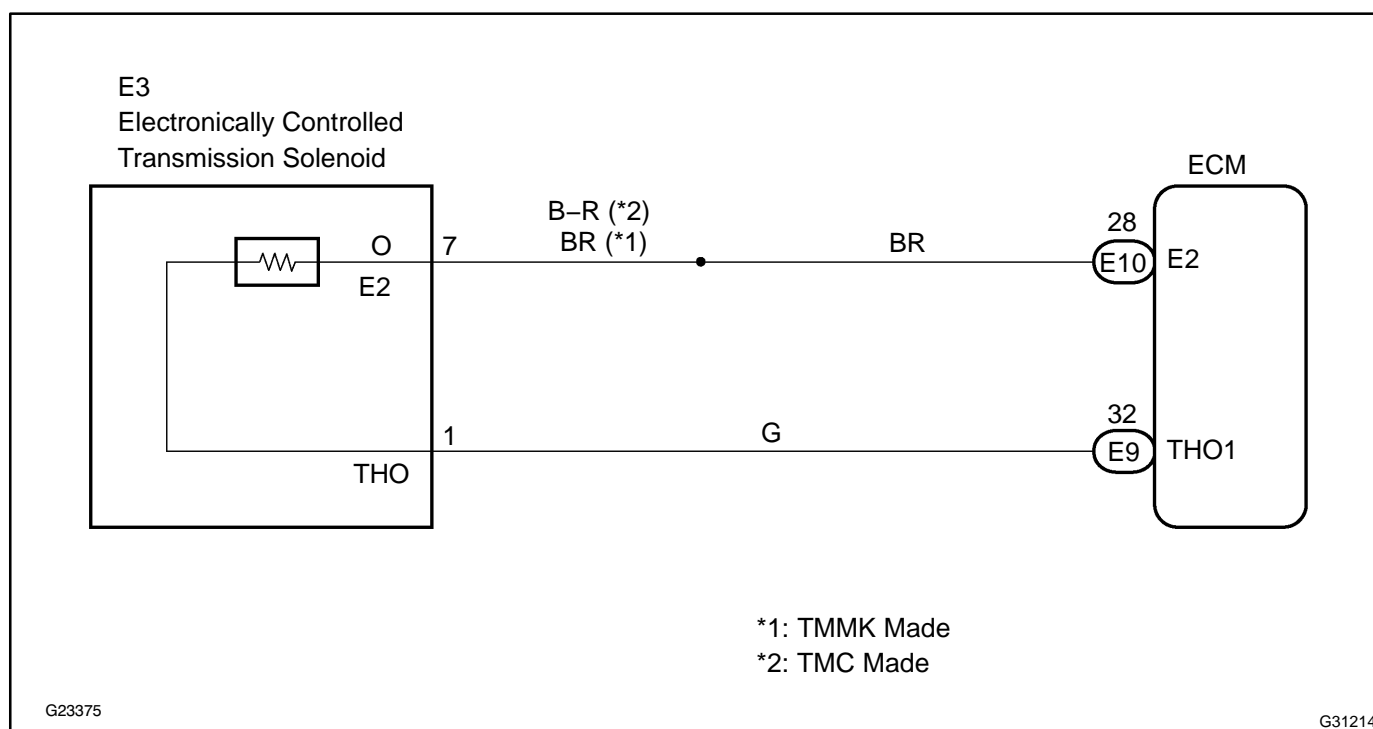
Condition (B)

TFT (Transmission fluid temperature)	110°C (230°F) or more
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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



INSPECTION PROCEDURE

HINT:

According to the DATA LIST displayed by the OBD II scan tool or hand-held 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.

- (a) Warm up the engine.
- (b) Turn the ignition switch off.
- (c) Connect the OBD II scan tool or hand-held tester to the DLC3.
- (d) Turn the ignition switch to the ON position.
- (e) Push the "ON" button of the OBD II scan tool or the hand-held tester.
- (f) When you use hand-held tester:
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 hand-held tester output is 150°C (302°F), there is a short circuit.

Measure the resistance between 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)
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- (a) Connect the OBD II scan tool or the hand-held tester to the DLC3.
- (b) Turn the ignition switch to the ON position and turn the OBD II scan tool or the hand-held tester main switch ON.
- (c) When you use hand-held tester:
Select the item "DIAGNOSIS/ENHANCED OBD II/DTC INFO/CURRENT CODES".
- (d) Read the DTCs using the OBD II scan tool or the hand-held 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 the troubleshooting for those DTCs first.

B

**GO TO RELEVANT DTC CHART
(SEE PAGE 05-1280)**

A

2 CHECK TRANSAXLE FLUID LEVEL (SEE PAGE [40-2](#))

NG

ADD FLUID

OK

REPLACE TRANSMISSION WIRE (SEE PAGE [40-31](#))