

Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM10000002BEMK
Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]
Title: HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for PHEV Model): P053511; Evaporator Temperature Sensor Circuit Short to Ground; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	P053511	Evaporator Temperature Sensor Circuit Short to Ground
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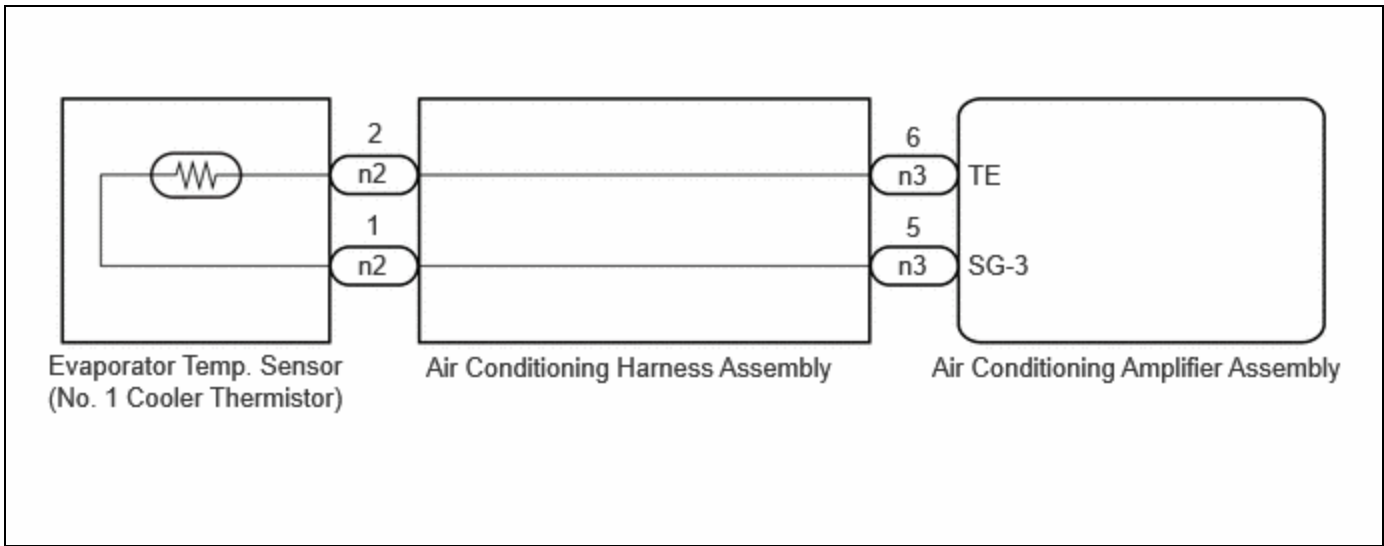
DESCRIPTION

The evaporator temp. sensor (No. 1 cooler thermistor) is installed to the evaporator in the air conditioner unit to detect the temperature of the cooled air that has passed through the evaporator, which is used to control the air conditioning system. It sends signals to the air conditioning amplifier assembly. The resistance of the evaporator temp. sensor (No. 1 cooler thermistor) changes in accordance with the temperature of the cooled air that has passed through the evaporator. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.

The air conditioning amplifier assembly applies voltage to the evaporator temp. sensor (No. 1 cooler thermistor) and reads voltage changes as the resistance of the evaporator temp. sensor (No. 1 cooler thermistor) changes. This sensor is used for frost prevention.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	MEMORY	DTC OUTPUT FROM	PRIORITY	NOTE
P053511	Evaporator Temperature Sensor Circuit Short to Ground	Diagnosis Condition: Ignition switch ON Malfunction: Short (GND) in evaporator temperature sensor circuit Detection Time: Continuously for 4 seconds or more	<ul style="list-style-type: none"> Evaporator temp. sensor (No. 1 cooler thermistor) Air conditioning harness assembly Air conditioning amplifier assembly 	Does not come on	Memorized	Air Conditioner	A	-

WIRING DIAGRAM



PROCEDURE

1.	CLEAR DTC
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(a) Clear the DTCs.

Body Electrical > Air Conditioner > Clear DTCs

NEXT

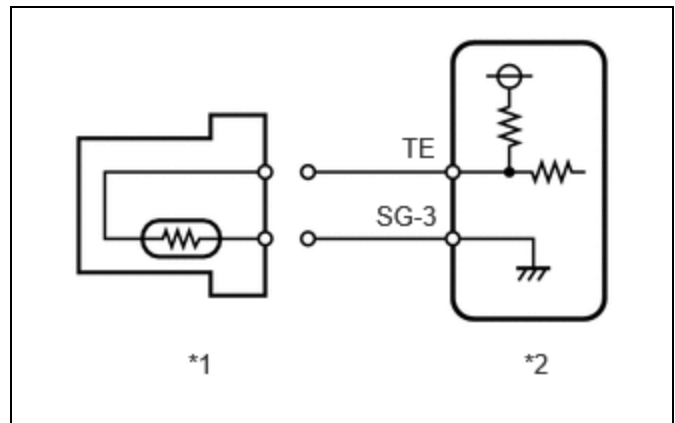


2.	CHECK FOR DTC
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Pre-procedure1

(a) Turn the ignition switch off.

(b) Disconnect the evaporator temp. sensor (No. 1 cooler thermistor) connector.



*1	Evaporator Temp. Sensor (No. 1 Cooler Thermistor)
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*2	Air Conditioning Amplifier Assembly
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(c) Turn the ignition switch to ON and wait for 4 seconds or more.

Procedure1

(d) Check for DTCs.

Body Electrical > Air Conditioner > Trouble Codes

RESULT	PROCEED TO
P053515 is output	A
P053511 is output	B

Post-procedure1

(e) None

A ▶ **REPLACE EVAPORATOR TEMP. SENSOR (NO. 1 COOLER THERMISTOR)**

B
▼

3.	INSPECT AIR CONDITIONING HARNESS ASSEMBLY (EVAPORATOR TEMP. SENSOR (NO. 1 COOLER THERMISTOR) - AIR CONDITIONING AMPLIFIER ASSEMBLY)
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Pre-procedure1

(a) Remove the air conditioning harness assembly.

HINT:

[Click here](#) **INFO**

Procedure1

(b) Measure the resistance according to the value(s) in the table below.



*a	Front view of air conditioning harness assembly connector (to Air Conditioning Amplifier Assembly)	*b	Front view of air conditioning harness assembly connector (to Evaporator Temp. Sensor (No. 1 Cooler Thermistor))
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Standard Resistance:



[Click Location & Routing\(n2,n3\).](#)

[Click Connector\(n2\).](#)

[Click Connector\(n3\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
n2-2 or n3-6 (TE) - Other terminals and body ground	Always	10 kΩ or higher	kΩ
n2-1 or n3-5 (SG-3) - Other terminals and body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(c) None

OK ► **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

NG ► **REPLACE AIR CONDITIONING HARNESS ASSEMBLY**

