

Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM10000002BEM9
Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]
Title: HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for PHEV Model): B141A15; Room Temperature Sensor Circuit Short to Battery or Open; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	B141A15	Room Temperature Sensor Circuit Short to Battery or Open
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DESCRIPTION

The room temp. sensor (cooler thermistor) is installed in the instrument panel to detect the cabin temperature, which is used to control the air conditioning system. The resistance of the room temp. sensor (cooler thermistor) changes in accordance with the cabin temperature. As the temperature decreases, the resistance increases. As the temperature increases, the resistance decreases.

The air conditioning amplifier assembly applies voltage to the room temp. sensor (cooler thermistor) and reads voltage changes due to changes in the resistance of the room temp. sensor (cooler thermistor).

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	MEMORY	DTC OUTPUT FROM	PRIORITY	NOTE
B141A15	Room Temperature Sensor Circuit Short to Battery or Open	Diagnosis Condition: Ignition switch ON Malfunction: Open or short (+B) in room temperature sensor circuit Detection Time: Continuously for 4 seconds or more	<ul style="list-style-type: none"> Room temp. sensor (cooler thermistor) Harness or connector Air conditioning amplifier assembly 	Does not come on	Memorized	Air Conditioner	A	-

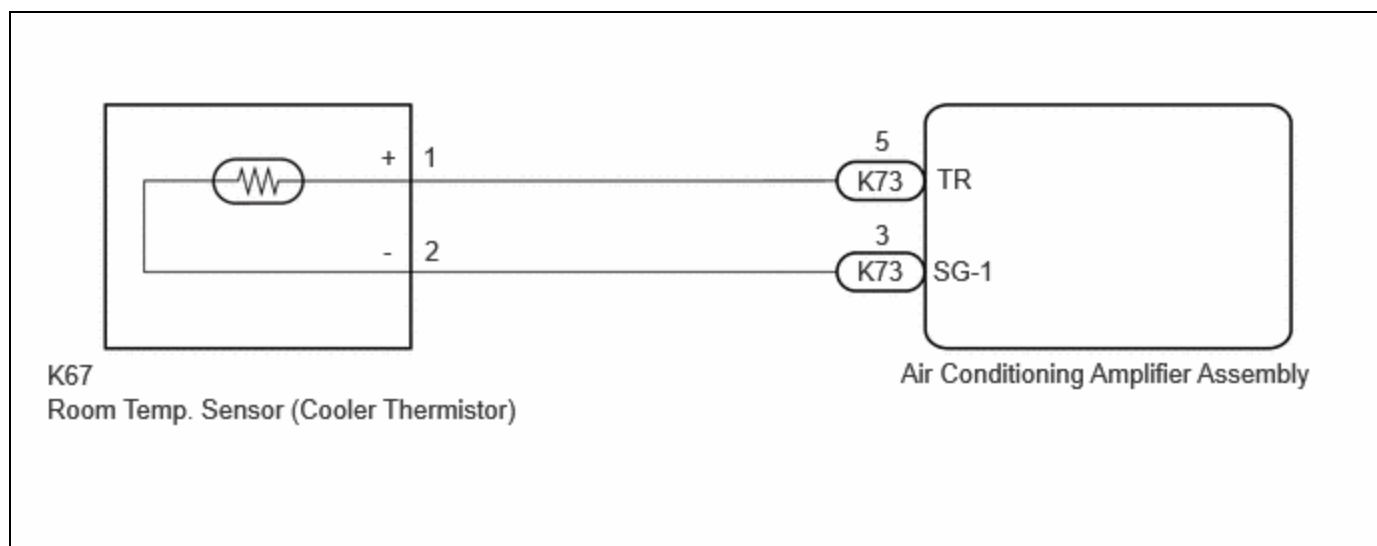
DTC Detection Condition Combination Table

		VEHICLE CONDITION	
		PATTERN 1	PATTERN 2
Diagnosis Condition	Ignition switch ON	○	○

		VEHICLE CONDITION	
		PATTERN 1	PATTERN 2
Malfunction	Open in room temperature sensor circuit	○	-
	Short (+B) in room temperature sensor circuit	-	○
Detection Time		Continuously for 4 seconds or more	Continuously for 4 seconds or more
Trip Count		1 trip	1 trip

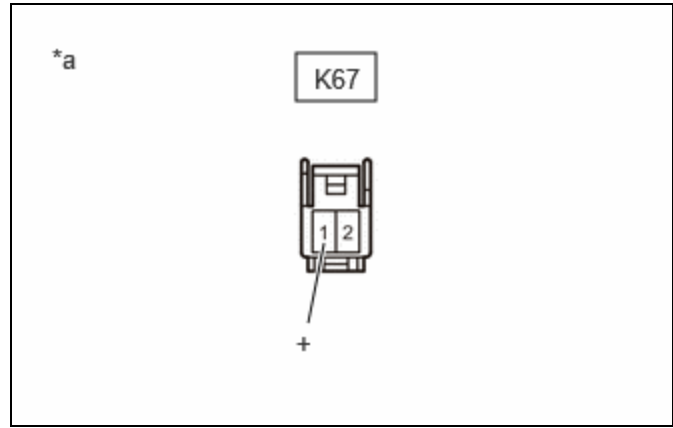
HINT:

If the conditions of either of these patterns are detected, a DTC will be stored.

WIRING DIAGRAM**PROCEDURE****1. CHECK ROOM TEMP. SENSOR (COOLER THERMISTOR) CIRCUIT**

Pre-procedure1

- (a) Disconnect the K67 room temp. sensor (cooler thermistor) connector.



*a Front view of wire harness connector (to Room Temp. Sensor (Cooler Thermistor))

Procedure1

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

Standard Voltage:



[Click Location & Routing\(K67\).](#)

[Click Connector\(K67\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K67-1 (+) - Body ground	Ignition switch ON	0 to 5.5 V	V

Post-procedure1

(c) None

NG **GO TO STEP 5**

OK



2.	CLEAR DTC
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(a) Clear the DTCs.

Body Electrical > Air Conditioner > Clear DTCs

NEXT

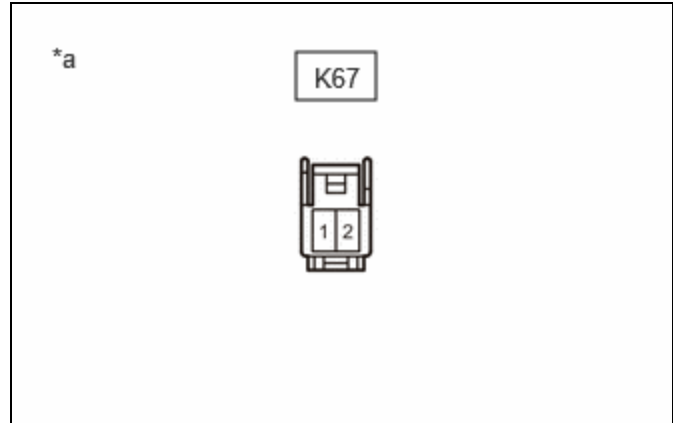


3.	CHECK FOR DTC
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Pre-procedure1

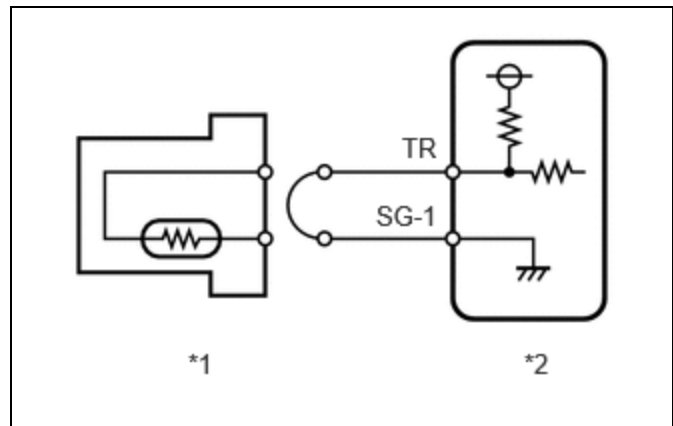
(a) Turn the ignition switch off.

(b) Disconnect the K67 room temp. sensor (cooler thermistor) connector.



*a	Front view of wire harness connector (to Room Temp. Sensor (Cooler Thermistor))
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(c) Connect terminals 1 and 2 of the room temp. sensor (cooler thermistor) connector on the wire harness side.



*1	Room Temp. Sensor (Cooler Thermistor)
*2	Air Conditioning Amplifier Assembly

(d) Turn the ignition switch to ON and wait for 4 seconds or more.

Procedure1

(e) Check for DTCs.

Body Electrical > Air Conditioner > Trouble Codes

RESULT	PROCEED TO
B141A11 is output	A
B141A15 is output	B

Post-procedure1

(f) None

A ► REPLACE ROOM TEMP. SENSOR (COOLER THERMISTOR)

B
▼

4.	CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY - ROOM TEMP. SENSOR (COOLER THERMISTOR))
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Pre-procedure1

- (a) Disconnect the K67 room temp. sensor (cooler thermistor) connector.
- (b) Disconnect the K73 air conditioning amplifier assembly connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(K67,K73\)](#)

[Click Connector\(K67\)](#)

[Click Connector\(K73\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K67-1 (+) - K73-5 (TR)	Always	Below 1 Ω	Ω
K67-2 (-) - K73-3 (SG-1)	Always	Below 1 Ω	Ω

Post-procedure1

(d) None

OK ► REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

5.	CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY - ROOM TEMP. SENSOR (COOLER THERMISTOR))
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Pre-procedure1

- (a) Disconnect the K67 room temp. sensor (cooler thermistor) connector.
- (b) Disconnect the K73 air conditioning amplifier assembly connector.

Procedure1

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

Standard Resistance:



[Click Location & Routing\(K67,K73\).](#)

[Click Connector\(K67\).](#)

[Click Connector\(K73\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K67-1 (+) or K73-5 (TR) - Other terminals and body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

- (d) None

OK ► **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

