Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002AQPB
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for PHEV Model): B3A6115; Indoor Condenser Refrigerant Temperature Sensor Circuit Short to Battery or Open; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	**B3A6115**	**Indoor Condenser Refrigerant Temperature Sensor Circuit Short to Battery or Open**

DESCRIPTION

The internal condenser temperature sensor is installed to the refrigerant piping after the internal condenser (condenser assembly), and detects the refrigerant temperature after it passes through the internal condenser (condenser assembly).

The resistance of the internal condenser temperature sensor changes in accordance with the refrigerant gas temperature. Resistance increases as the refrigerant gas temperature drops and decreases as the temperature rises.

The heat pump ECU assembly outputs a voltage to the internal condenser temperature sensor and reads voltage changes that result from the changes in the resistance of the internal condenser temperature sensor.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	MEMORY	DTC OUTPUT FROM	PRIORITY	NOTE
B3A6115	Indoor Condenser Refrigerant Temperature Sensor Circuit Short to Battery or Open	Diagnosis Condition: Ignition switch ON Malfunction Status: Open or short in internal condenser temperature sensor circuit Detection Time: Continuously for 4 seconds or more	• Internal condenser temperature sensor • Harness or connector • Air conditioning amplifier assembly • Heat pump ECU assembly	Does not come on	Memorized	Air Conditioner	A	-

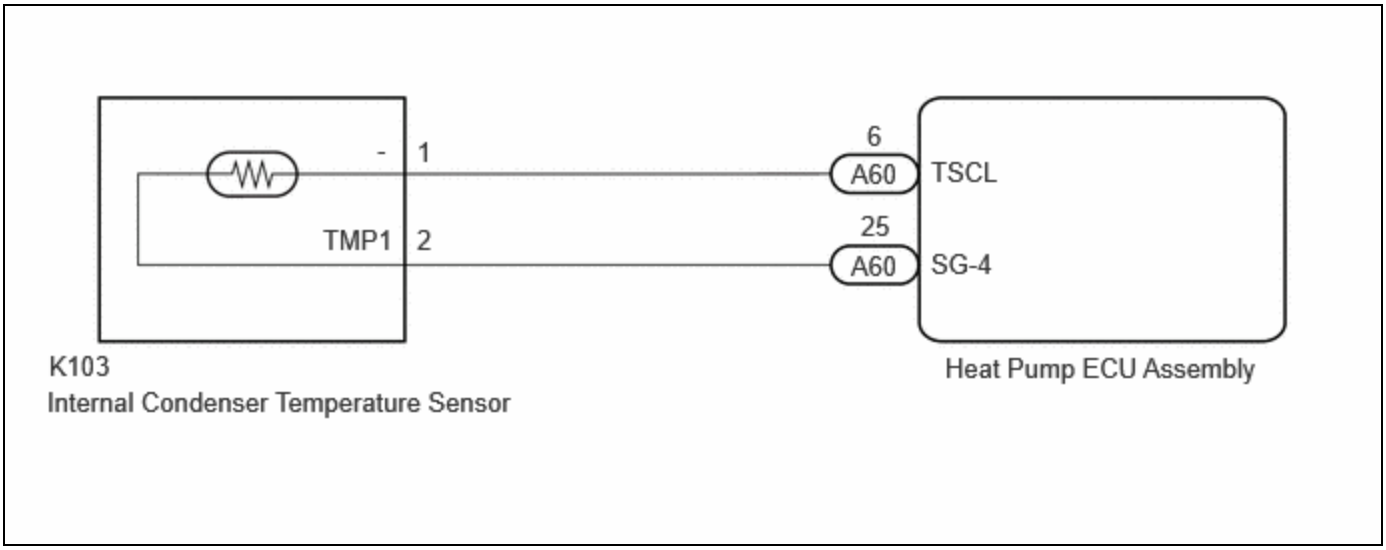
DTC Detection Condition Combination Table

		VEHICLE CONDITION	
		PATTERN 1	PATTERN 2
Diagnosis Condition	Ignition switch ON	○	○
Malfunction	Open in internal condenser temperature sensor circuit	○	-
	Short in internal condenser 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 INTERNAL CONDENSER TEMPERATURE SENSOR**

Pre-procedure1

(a) Disconnect the K103 internal condenser temperature sensor connector.

Procedure1

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

Standard Voltage:

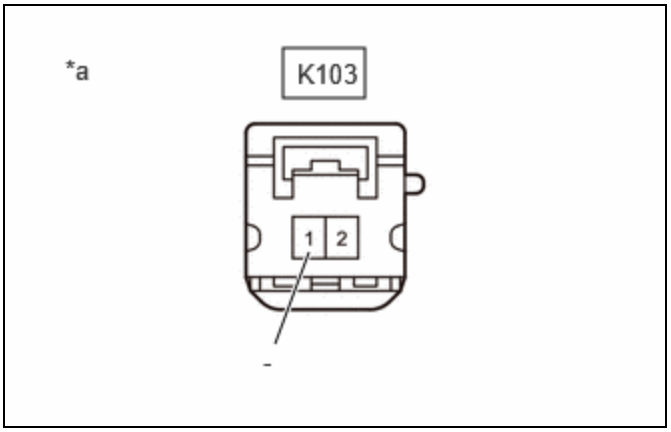
EWD INFO

[Click Location & Routing(K103)]
[Click Connector(K103)]

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K103-1 (-) - Body ground	Ignition switch ON	0 to 5.5 V	V

Result:

PROCEED TO
OK
NG



*a	Front view of wire harness connector (to Internal Condenser Temperature Sensor)

Post-procedure1

(c) None

NG ▶ **GO TO STEP 5**

OK ▼

2.	**CLEAR DTC**

(a) Clear the DTCs.

Body Electrical > Air Conditioner > Clear DTCs

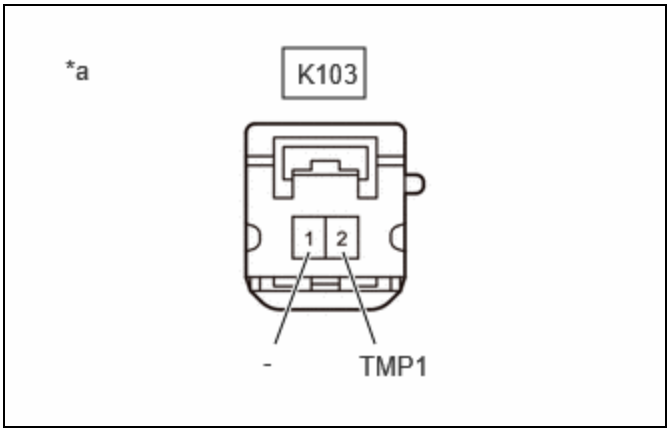
NEXT ▼

3.	**CHECK FOR DTC**

Pre-procedure1

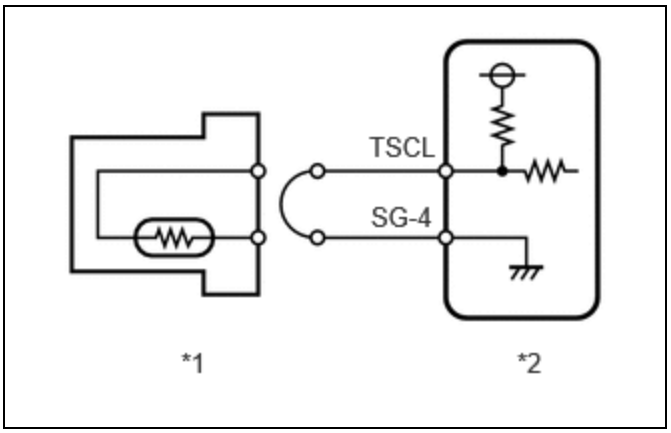
(a) Turn the ignition switch off.

(b) Disconnect the K103 internal condenser temperature sensor connector.



*a	Front view of wire harness connector (to Internal Condenser Temperature Sensor)

(c) Connect terminals 1 and 2 of the internal condenser temperature sensor connector on the wire harness side.



*1	Internal Condenser Temperature Sensor
*2	Heat Pump ECU 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
B3A6111 is output	A
B3A6115 is output	B

Post-procedure1

(f) None

A ▶ **REPLACE INTERNAL CONDENSER TEMPERATURE SENSOR**

B ▼

4.	**CHECK HARNESS AND CONNECTOR (INTERNAL CONDENSER TEMPERATURE SENSOR - HEAT PUMP ECU ASSEMBLY)**

Pre-procedure1

(a) Disconnect the K103 internal condenser temperature sensor connector.

(b) Disconnect the A60 heat pump ECU assembly connector.

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(K103,A60)
Click Connector(K103)
Click Connector(A60)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K103-1 (-) - A60-6 (TSCL)	Always	Below 1 Ω	Ω
K103-2 (TMP1) - A60-25 (SG-4)	Always	Below 1 Ω	Ω

Post-procedure1

(d) None

OK ▶ **REPLACE HEAT PUMP ECU ASSEMBLY**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

5.	**CHECK HARNESS AND CONNECTOR (INTERNAL CONDENSER TEMPERATURE SENSOR - HEAT PUMP ECU ASSEMBLY)**

Pre-procedure1

(a) Disconnect the K103 internal condenser temperature sensor connector.

(b) Disconnect the A60 heat pump ECU assembly connector.

Procedure1

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

Standard Resistance:

EWD INFO

Click Location & Routing(K103,A60)
Click Connector(K103)
Click Connector(A60)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION	RESULT
K103-1 (-) or A60-6 (TSCL) - Other terminals and body ground	Always	10 kΩ or higher	kΩ

Post-procedure1

(d) None

OK ▶ **REPLACE HEAT PUMP ECU ASSEMBLY**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**