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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [03/2023 -]
Title: HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for PHEV Model): Blower Motor Circuit; 2023 - 2024 MY Prius Prime [03/2023 -]		

Blower Motor Circuit

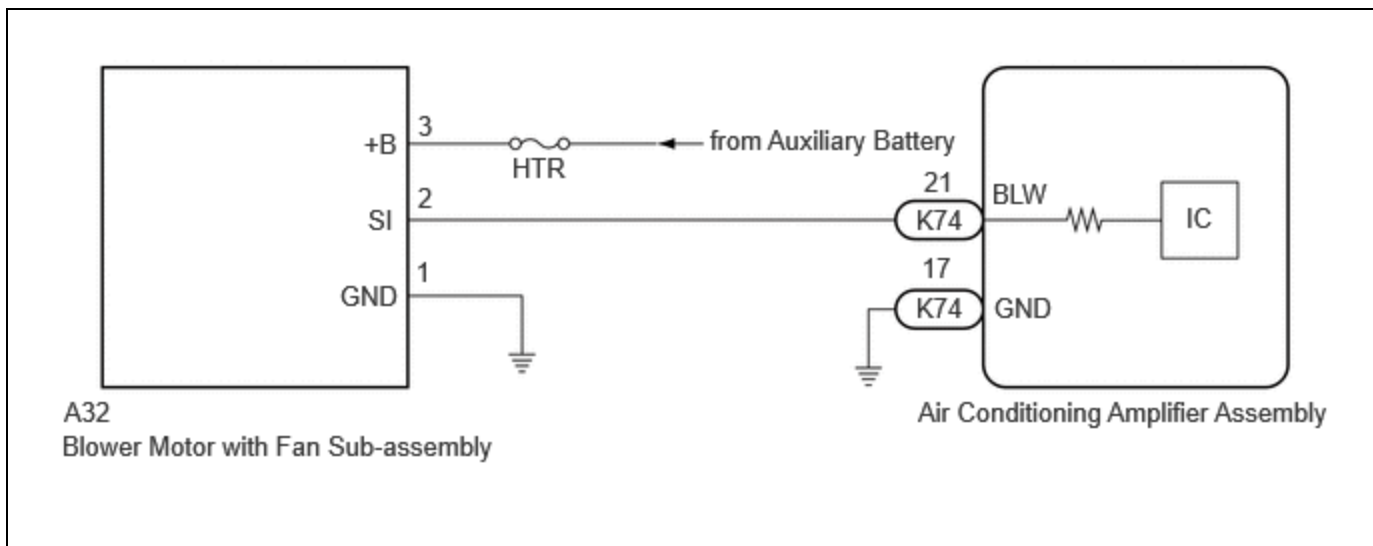
DESCRIPTION

The blower motor with fan sub-assembly is operated by signals from the air conditioning amplifier assembly.

If the airflow volume is low or the blower speed cannot be changed, the following factors may be the cause.

SYMPTOM	FACTOR
Airflow volume cannot be changed	<ul style="list-style-type: none"> • Air conditioning amplifier assembly malfunction • Blower motor with fan sub-assembly malfunction • Harness or connector

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

Inspect the fuses for circuits related to this system before performing the following procedure.

PROCEDURE

1.	PERFORM ACTIVE TEST USING GTS
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(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Air Conditioner > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Blower Level	This test activates the Blower Motor to adjust the air volume High/Low. (Blower motor with fan sub-assembly)	0: Air Volume Low 31: Air Volume High	Operate with ignition switch ON.

Body Electrical > Air Conditioner > Active Test

TESTER DISPLAY
Blower Level

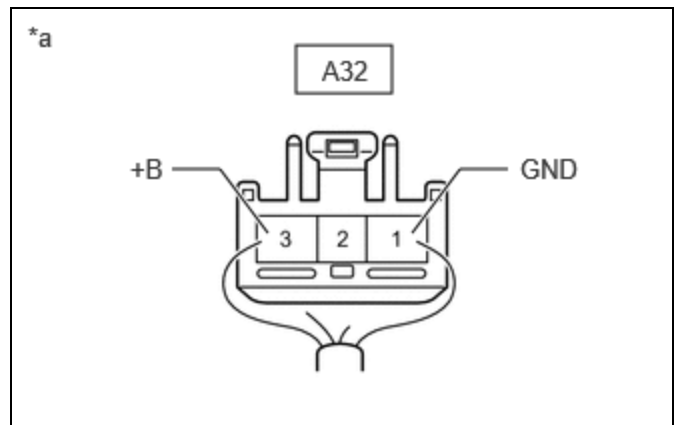
RESULT	PROCEED TO
Blower motor with fan sub-assembly does not operate	A
Blower motor with fan sub-assembly operates but does not change speed	B

B ► GO TO STEP 5

A ▼

2.	CHECK HARNESS AND CONNECTOR (BLOWER MOTOR WITH FAN SUB-ASSEMBLY - AUXILIARY BATTERY AND BODY GROUND)
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(a) Disconnect the A32 blower motor with fan sub-assembly connector.



*a	Rear view of wire harness connector (to Blower Motor with Fan Sub-assembly)
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(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(A32\)](#)

[Click Connector\(A32\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A32-1 (GND) - Body ground	Always	Below 1 Ω

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

Standard Voltage:



[Click Location & Routing\(A32\)](#)

[Click Connector\(A32\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A32-3 (+B) - Body ground	Ignition switch off	11 to 14 V

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY - BLOWER MOTOR WITH FAN SUB-ASSEMBLY)
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(a) Disconnect the K74 air conditioning amplifier assembly connector.

(b) Disconnect the A32 blower motor with fan sub-assembly connector.

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

Standard Resistance:



[Click Location & Routing\(K74,A32\)](#)

[Click Connector\(K74\)](#)

[Click Connector\(A32\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K74-21 (BLW) - A32-2 (SI)	Always	Below 1 Ω
K74-21 (BLW) or A32-2 (SI) - Other terminals and body ground	Always	10 k Ω or higher

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

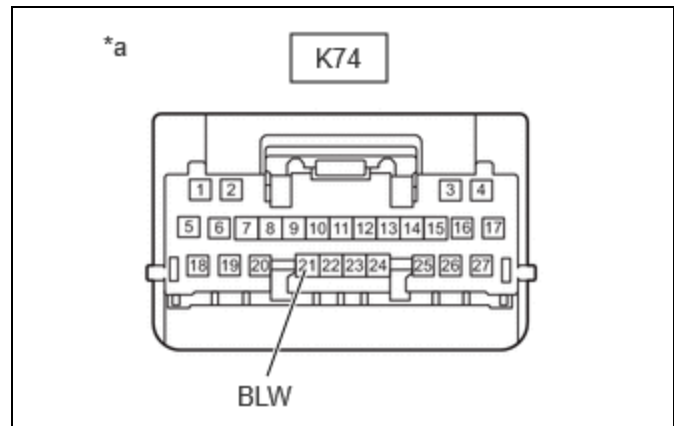
OK



4. CHECK BLOWER MOTOR WITH FAN SUB-ASSEMBLY

(a) Connect the A32 blower motor with fan sub-assembly connector.

(b) Disconnect the K74 air conditioning amplifier assembly connector.



*a Front view of wire harness connector (to Air Conditioning Amplifier Assembly)

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

Standard Voltage:



[Click Location & Routing\(K74\)](#)

[Click Connector\(K74\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K74-21 (BLW) - Body ground	Always	4.75 to 5.25 V

NG ▶ **REPLACE BLOWER MOTOR WITH FAN SUB-ASSEMBLY**

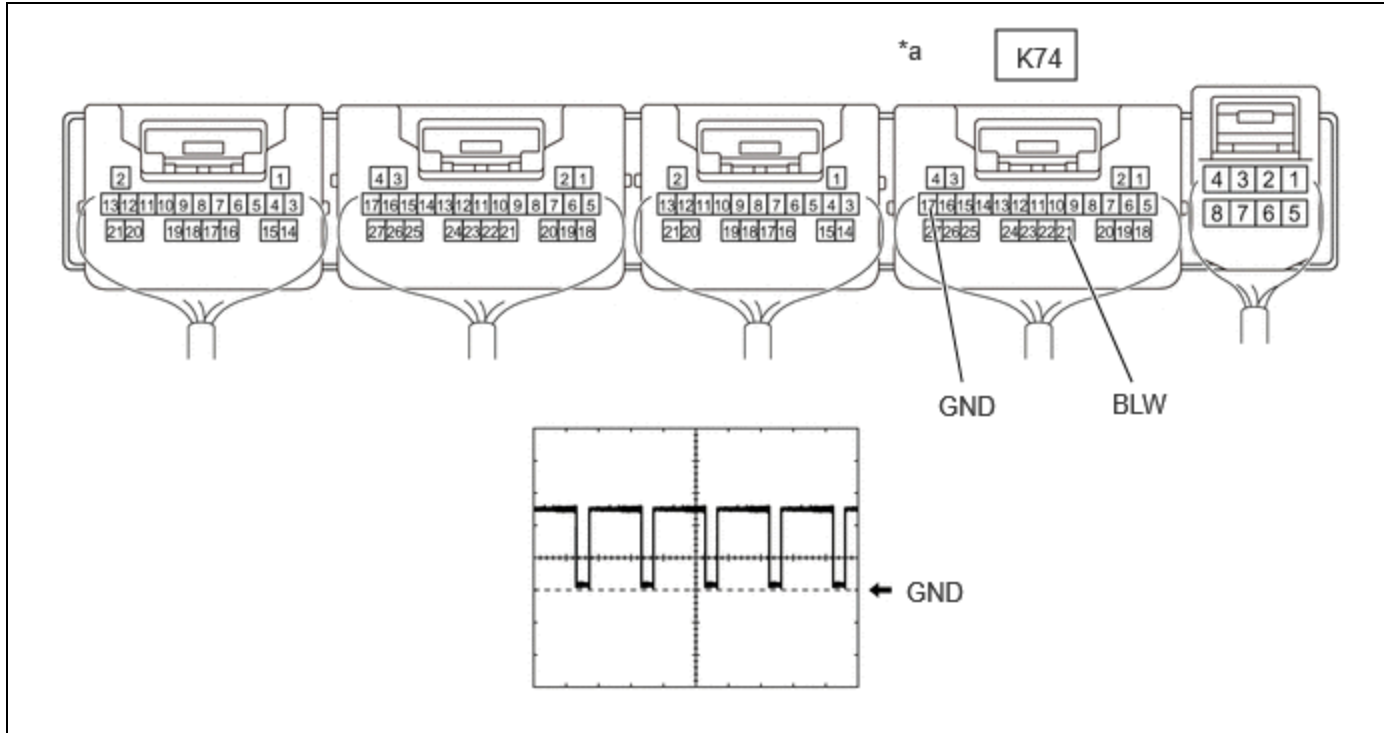
OK



5. CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

(a) Connect the K74 air conditioning amplifier assembly connector.

(b) Using an oscilloscope, check the waveform.



*a	Component with harness connected (Air Conditioning Amplifier Assembly)	-	-
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ITEM	CONTENT
Terminal No.	K74-21 (BLW) - K74-17 (GND)
Tool Setting	2 V/DIV., 1 ms./DIV.
Condition	<ul style="list-style-type: none"> • Ignition switch ON • Blower speed: LO

HINT:

The waveform varies with the blower speed.

OK:

Waveform is similar to that shown in the illustration.

OK ► REPLACE BLOWER MOTOR WITH FAN SUB-ASSEMBLY

NG ► REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

