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<b>Model Year Start:</b> 2023	<b>Model:</b> Prius	<b>Prod Date Range:</b> [12/2022 - ]
<b>Title:</b> HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for HEV Model): B142200; A/C Inverter Load Malfunction; 2023 - 2024 MY Prius [12/2022 - ]		

<b>DTC</b>	<b>B142200</b>	<b>A/C Inverter Load Malfunction</b>
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## DESCRIPTION

The operation of the compressor with motor assembly is stopped and this DTC is stored if the rotation load is too large or too small while the compressor with motor assembly is operating.

### **HINT:**

Possible causes are refrigerant leaks, overcharged refrigerant, insufficient cooling due to a condenser fan circuit malfunction, or compressor lock.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MEMORY	DTC OUTPUT FROM	PRIORITY
B142200	A/C Inverter Load Malfunction	<p>Diagnosis Condition:</p> <p>There is a compressor operation request.</p> <p>Malfunction:</p> <p>The rotational load when the compressor is operating is too large or too small.</p> <p>Detection Time:</p> <p>-</p>	<ul style="list-style-type: none"> <li>Cooling fan system</li> <li>Refrigerant volume</li> <li>Compressor with motor assembly</li> </ul>	Memorized	Air Conditioner	A

### **DTC Detection Condition Combination Table**

		VEHICLE CONDITION	
		PATTERN 1	PATTERN 2
Diagnosis Condition	There is a compressor operation request.	○	○
Malfunction	The rotational load when the compressor is operating is too large.	○	-
	The rotational load when the compressor is operating is too small.	-	○
Detection Time		-	-
Trip Count		1 trip	1 trip

### **HINT:**

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

## CAUTION / NOTICE / HINT

### CAUTION:

- Before inspecting the high-voltage system, take safety precautions such as wearing insulated gloves and removing the service plug grip to prevent electrical shocks. After removing the service plug grip, put it in your pocket to prevent other technicians from accidentally reconnecting it while you are working on the high-voltage system.

Click here [INFO](#)

- Do not touch the high-voltage connectors or terminals for 10 minutes after the service plug grip is removed.

for 2ZR-FXE: Click here [INFO](#)

for M20A-FXS: Click here [INFO](#)

### NOTICE:

- After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) auxiliary battery terminal. Therefore, make sure to read the disconnecting the cable from the negative (-) auxiliary battery terminal notices before proceeding with work.

- Before disconnecting battery:

Click here [INFO](#)

- Automatic learning chart:

Click here [INFO](#)

- The hybrid control system and air conditioning system output DTCs separately. Perform troubleshooting for the hybrid control system first if DTCs for both systems are output simultaneously.

for 2ZR-FXE: Click here [INFO](#)

for M20A-FXS: Click here [INFO](#)

- The air conditioning system uses the CAN communication system. Inspect the communication functions by following How to Proceed with Troubleshooting. Troubleshoot the air conditioning system after confirming that the communication systems are functioning properly.

Click here [INFO](#)

## PROCEDURE

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

#### Powertrain > Engine > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	RESTRICT CONDITION
Control the Engine Cooling Fan	Control electric cooling fan motor	OFF/Low/High	Perform this test when vehicle is stopped.

#### Powertrain > Engine > Active Test

TESTER DISPLAY
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Control the Engine Cooling Fan
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OK:

Electric cooling fan operates smoothly.

**NG** ► **GO TO COOLING FAN SYSTEM**for M20A-FXS: Click here [INFO](#)for 2ZR-FXE: Click here [INFO](#)**OK****2. CHECK REFRIGERANT PRESSURE**

Pre-procedure1

(a) Install a manifold gauge set.

**HINT:**for HFC-134a(R134a): Click here [INFO](#)for HFO-1234yf(R1234yf): Click here [INFO](#)

(b) Prepare the vehicle according to the table below.

Measurement Condition:

ITEM	CONDITION
Doors	Fully open
A/C Switch	On
Recirculation/fresh Control Switch	Recirculation
Set Temperature	MAX COLD
Blower Speed	HI
Air Conditioning Air Inlet Temperature	25 to 35°C (77 to 95°F)

Procedure1

(c) Read the manifold gauge pressure.

Standard Pressure:

ITEM	SPECIFIED CONDITION	RESULT
High pressure side	1370 to 1570 kPa 14 to 16 kgf/cm <sup>2</sup>	kPa kgf/cm <sup>2</sup>

ITEM	SPECIFIED CONDITION	RESULT
	199 to 228 psi	psi
Low pressure side	150 to 250 kPa 1.5 to 2.5 kgf/cm <sup>2</sup> 22 to 36 psi	kPa kgf/cm <sup>2</sup> psi

Post-procedure1

(d) None

**OK** ► **REPLACE COMPRESSOR WITH MOTOR ASSEMBLY**

for 2ZR-FXE: Click here [INFO](#)

for M20A-FXS: Click here [INFO](#)

**NG** ► **CHARGE REFRIGERANT**

for HFC-134a(R134a): Click here [INFO](#)

for HFO-1234yf(R1234yf): Click here [INFO](#)

