

<b>Last Modified:</b> 12-04-2024	6.11:8.1.0	<b>Doc ID:</b> RM10000000290ZG
<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): B14037F; Front Air Outlet Damper Control Servo Motor Actuator Stuck Off; 2023 - 2024 MY Prius [12/2022 - ]		

<b>DTC</b>	<b>B14037F</b>	<b>Front Air Outlet Damper Control Servo Motor Actuator Stuck Off</b>
------------	----------------	---

## DESCRIPTION

The No. 1 air conditioning radiator damper servo sub-assembly sends pulse signals to inform the air conditioning amplifier assembly of the damper position.

The air conditioning amplifier assembly activates the motor (normal or reverse) based on these signals to move the air outlet damper to the appropriate position, which controls the air outlet switching.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MEMORY	DTC OUTPUT FROM	PRIORITY
B14037F	Front Air Outlet Damper Control Servo Motor Actuator Stuck Off	<p>Diagnosis Condition:</p> <p>No. 1 air conditioning radiator damper servo sub-assembly operating</p> <p>Malfunction:</p> <ul style="list-style-type: none"> <li>• Damper servo operation request signals are output but the damper position sensor value does not change.</li> <li>• Damper servo operation request signals are output but the damper position sensor value is abnormal.</li> </ul> <p>Detection Time:</p> <p>Continuously for 30 seconds or more</p>	<ul style="list-style-type: none"> <li>• No. 1 air conditioning radiator damper servo sub-assembly</li> <li>• Air conditioning harness assembly</li> <li>• Air conditioning radiator assembly</li> </ul>	Memorized	Air Conditioner	A

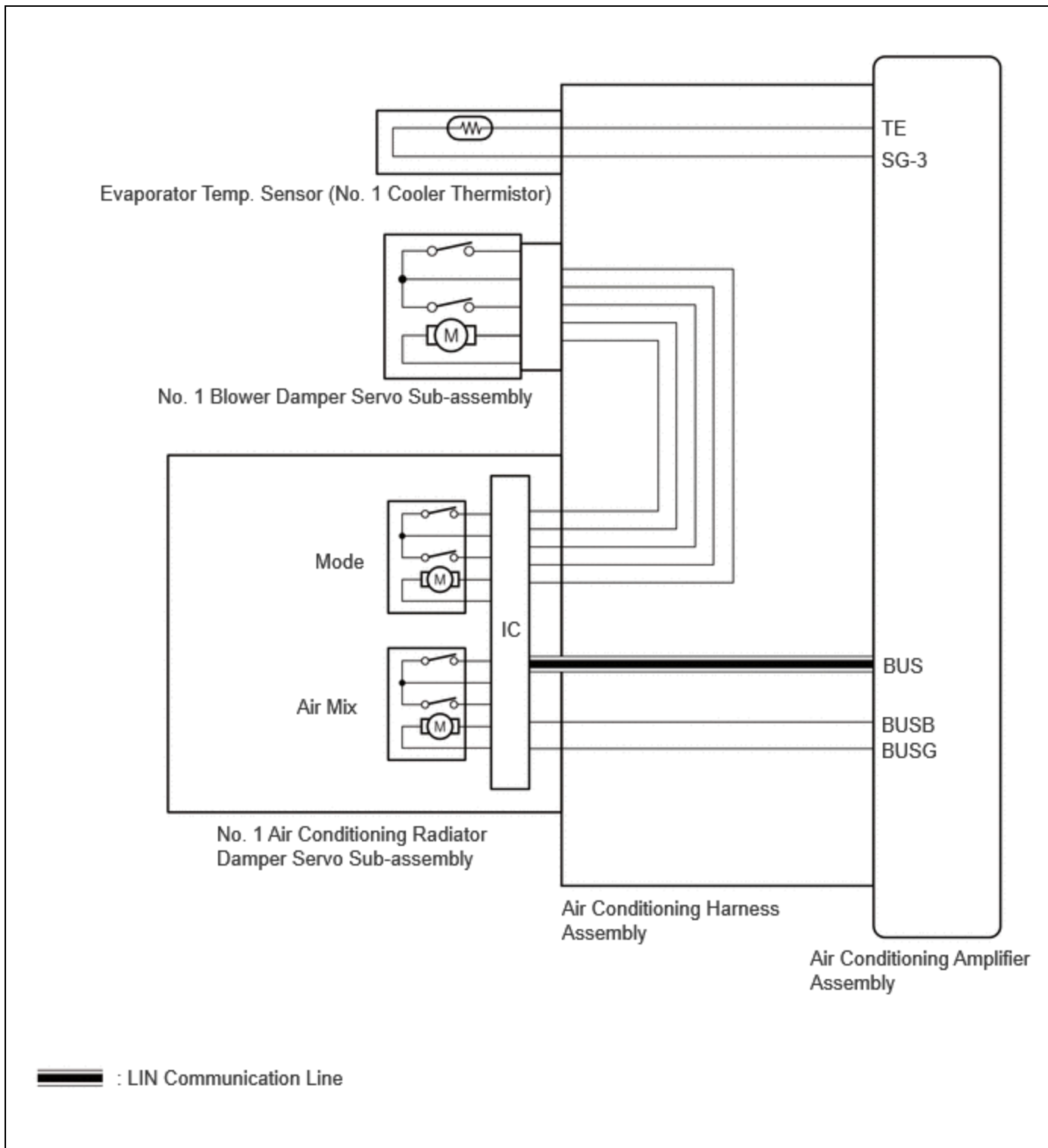
### DTC Detection Condition Combination Table

		VEHICLE CONDITION	
		PATTERN 1	PATTERN 2
Diagnosis Condition	No. 1 air conditioning radiator damper servo sub-assembly operating	○	○
Malfunction	Damper servo operation request signals are output but the damper position sensor value does not change.	○	-
	Damper servo operation request signals are output but the damper position sensor value is abnormal.	-	○
Detection Time		Continuously for 30 seconds or more	Continuously for 30 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**



## CAUTION / NOTICE / HINT

### NOTICE:

- This DTC is also output for the damper link, damper lock, etc. Before performing inspection, perform servomotor initialization and check that there are no mechanical malfunctions.

[Click here](#) INFO

- This DTC is also output when servomotor initialization has failed. When servomotor initialization has failed, repair any malfunctions and perform servomotor initialization again.

[Click here](#) INFO

## PROCEDURE

<b>1.</b>	<b>CHECK FOR DTC</b>
-----------	----------------------

(a) Check for DTCs.

**Body Electrical > Air Conditioner > Trouble Codes**

RESULT	PROCEED TO
B14037F is output	A
DTCs in conjunction with No. 1 air conditioning radiator damper servo sub-assembly are output at same time	B

**B** ▶ **REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY**

Click here [INFO](#)

**A**



<b>2.</b>	<b>CHECK NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (INSTALLATION CONDITION)</b>
-----------	---

(a) Check that the No. 1 air conditioning radiator damper servo sub-assembly is installed correctly.

**HINT:**

Click here [INFO](#)

OK:

No. 1 air conditioning radiator damper servo sub-assembly is installed correctly.

**NG** ▶ **REINSTALL NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY**

Click here [INFO](#)

**OK**



<b>3.</b>	<b>CHECK NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (MOTOR, LINK, DAMPER)</b>
-----------	--

(a) Check for a wire harness caught between the links of the motors and dampers.

OK:

No wire harnesses are caught between the links of the motors and dampers.

**NG** **REMOVE PINCHED WIRE HARNESS**

**OK**



<b>4.</b>	<b>PERFORM ACTIVE TEST USING GTS</b>
-----------	--------------------------------------

(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
Front Air Outlet Damper Control Servo Motor	This test activates the front air outlet damper control servo motor.  (No. 1 air conditioning radiator damper servo sub-assembly (mode))	128: Min  384: Max	Operate with the ignition switch ON.

**Body Electrical > Air Conditioner > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
Front Air Outlet Damper Control Servo Motor Actual Pulse	No. 1 air conditioning radiator damper servo sub-assembly (mode) actual pulse	128 to 384	<ul style="list-style-type: none"> <li>• FACE: 256 (pulse)</li> <li>• B/L: 267 (pulse)</li> <li>• FOOT-0: 288 (pulse)</li> <li>• FOOT: 297 (pulse)</li> <li>• FOOT-D: 305 (pulse)</li> <li>• F/D: 320 (pulse)</li> </ul>	No. 1 air conditioning radiator damper servo sub-assembly (front mode) circuit malfunction

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
			<ul style="list-style-type: none"> <li>D/F: 339 (pulse)</li> <li>DEF: 348 (pulse)</li> </ul>	

**Body Electrical > Air Conditioner > Active Test**

ACTIVE TEST DISPLAY
Front Air Outlet Damper Control Servo Motor

DATA LIST DISPLAY
Front Air Outlet Damper Control Servo Motor Actual Pulse

OK:

The value of the Data List changes in accordance with the operation of the Active Test.

**NG**  **GO TO STEP 8**

**OK**



<b>5.</b>	<b>PERFORM ACTIVE TEST USING GTS</b>
-----------	--------------------------------------

(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
Front Air Outlet Damper Control Servo Motor	This test activates the front air outlet damper control servo motor.  (No. 1 air conditioning radiator damper servo sub-assembly (mode))	128: Min  384: Max	Operate with the ignition switch ON.

**Body Electrical > Air Conditioner > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
Front Air Outlet Damper Control Servo Motor Target Pulse	No. 1 air conditioning radiator damper servo sub-assembly (mode) target pulse	128 to 384	<ul style="list-style-type: none"> <li>• FACE: 256 (pulse)</li> <li>• B/L: 267 (pulse)</li> <li>• FOOT-0: 288 (pulse)</li> <li>• FOOT: 297 (pulse)</li> <li>• FOOT-D: 305 (pulse)</li> <li>• F/D: 320 (pulse)</li> <li>• D/F: 339 (pulse)</li> <li>• DEF: 348 (pulse)</li> </ul>	No. 1 air conditioning radiator damper servo sub-assembly (front mode) circuit malfunction
Front Air Outlet Damper Control Servo Motor Actual Pulse	No. 1 air conditioning radiator damper servo sub-assembly (mode) actual pulse	128 to 384	<ul style="list-style-type: none"> <li>• FACE: 256 (pulse)</li> <li>• B/L: 267 (pulse)</li> <li>• FOOT-0: 288 (pulse)</li> <li>• FOOT: 297 (pulse)</li> <li>• FOOT-D: 305 (pulse)</li> <li>• F/D: 320 (pulse)</li> <li>• D/F: 339 (pulse)</li> <li>• DEF: 348 (pulse)</li> </ul>	No. 1 air conditioning radiator damper servo sub-assembly (front mode) circuit malfunction

**Body Electrical > Air Conditioner > Active Test**

ACTIVE TEST DISPLAY
Front Air Outlet Damper Control Servo Motor

DATA LIST DISPLAY
Front Air Outlet Damper Control Servo Motor Target Pulse
Front Air Outlet Damper Control Servo Motor Actual Pulse

OK:

The target pulse value of the Data List matches the actual pulse.

**OK** ► **USE SIMULATION METHOD TO CHECK**

**NG**



<b>6.</b>	<b>REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY</b>
-----------	--

**HINT:**

Click here [INFO](#)

**NEXT**



<b>7.</b>	<b>PERFORM ACTIVE TEST USING GTS</b>
-----------	--------------------------------------

(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
Front Air Outlet Damper Control Servo Motor	This test activates the front air outlet damper control servo motor. (No. 1 air conditioning radiator damper servo sub-assembly (mode))	128: Min 384: Max	Operate with the ignition switch ON.

**Body Electrical > Air Conditioner > Data List**



TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
Front Air Outlet Damper Control Servo Motor Actual Pulse	No. 1 air conditioning radiator damper servo sub-assembly (mode) actual pulse	128 to 384	<ul style="list-style-type: none"> <li>FACE: 256 (pulse)</li> <li>B/L: 267 (pulse)</li> <li>FOOT-0: 288 (pulse)</li> <li>FOOT: 297 (pulse)</li> <li>FOOT-D: 305 (pulse)</li> <li>F/D: 320 (pulse)</li> <li>D/F: 339 (pulse)</li> <li>DEF: 348 (pulse)</li> </ul>	No. 1 air conditioning radiator damper servo sub-assembly (front mode) circuit malfunction

**Body Electrical > Air Conditioner > Active Test**

ACTIVE TEST DISPLAY
Front Air Outlet Damper Control Servo Motor

DATA LIST DISPLAY
Front Air Outlet Damper Control Servo Motor Actual Pulse

OK:

The value of the Data List changes in accordance with the operation of the Active Test.

**OK**  **END**

**NG**  **REPLACE AIR CONDITIONING HARNESS ASSEMBLY**

Click here [INFO](#)

<b>8.</b>	<b>PERFORM ACTIVE TEST USING GTS</b>
-----------	--------------------------------------

(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
Front Air Mix Damper Control Servo Motor	This test activates the front air mix damper control servo motor.  (No. 1 air conditioning radiator damper servo sub-assembly (air mix))	128: Min  384: Max	Operate with the ignition switch ON.

**Body Electrical > Air Conditioner > Data List**

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
Front Air Mix Damper Control Servo Motor Actual Pulse	No. 1 air conditioning radiator damper servo sub-assembly (air mix) actual pulse	128 to 384	<ul style="list-style-type: none"> <li>MAX COLD: 257 (pulse)</li> <li>MAX HOT: 165 (pulse)</li> </ul>	No. 1 air conditioning radiator damper servo sub-assembly (air mix) circuit malfunction

**Body Electrical > Air Conditioner > Active Test**

ACTIVE TEST DISPLAY
Front Air Mix Damper Control Servo Motor

DATA LIST DISPLAY
Front Air Mix Damper Control Servo Motor Actual Pulse

OK:

The value of the Data List changes in accordance with the operation of the Active Test.

**OK**  **GO TO STEP 6**

**NG**



<b>9.</b>	<b>CHECK AIR CONDITIONING RADIATOR ASSEMBLY (DAMPER)</b>
-----------	--

Pre-procedure1

(a) Remove the No. 1 air conditioning radiator damper servo sub-assembly.

**HINT:**

[Click here](#) 

Procedure1

(b) Operate the dampers by hand.

OK:

The dampers are easily operated by hand.

Post-procedure1

(c) None

**OK** ▶ **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

Click here [INFO](#)

**NG** ▶ **REPAIR OR REPLACE AIR CONDITIONING RADIATOR ASSEMBLY**

Click here [INFO](#)

