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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): B14037F; Front Air Outlet Damper Control Servo Motor Actuator Stuck Off; 2023 - 2024 MY Prius Prime [03/2023 -]		

DTC	B14037F	Front Air Outlet Damper Control Servo Motor Actuator Stuck Off
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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	MIL	MEMORY	DTC OUTPUT FROM	PRIORITY	NOTE
B14037F	Front Air Outlet Damper Control Servo Motor Actuator Stuck Off	Diagnosis Condition: No. 1 air conditioning radiator damper servo sub-assembly operating Malfunction: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> No. 1 air conditioning radiator damper servo sub-assembly Air conditioning harness assembly Air conditioning radiator assembly 	Does not come on	Memorized	Air Conditioner	A	-

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	MEMORY	DTC OUTPUT FROM	PRIORITY	NOTE
		damper position sensor value is abnormal. Detection Time: Continuously for 30 seconds or more						

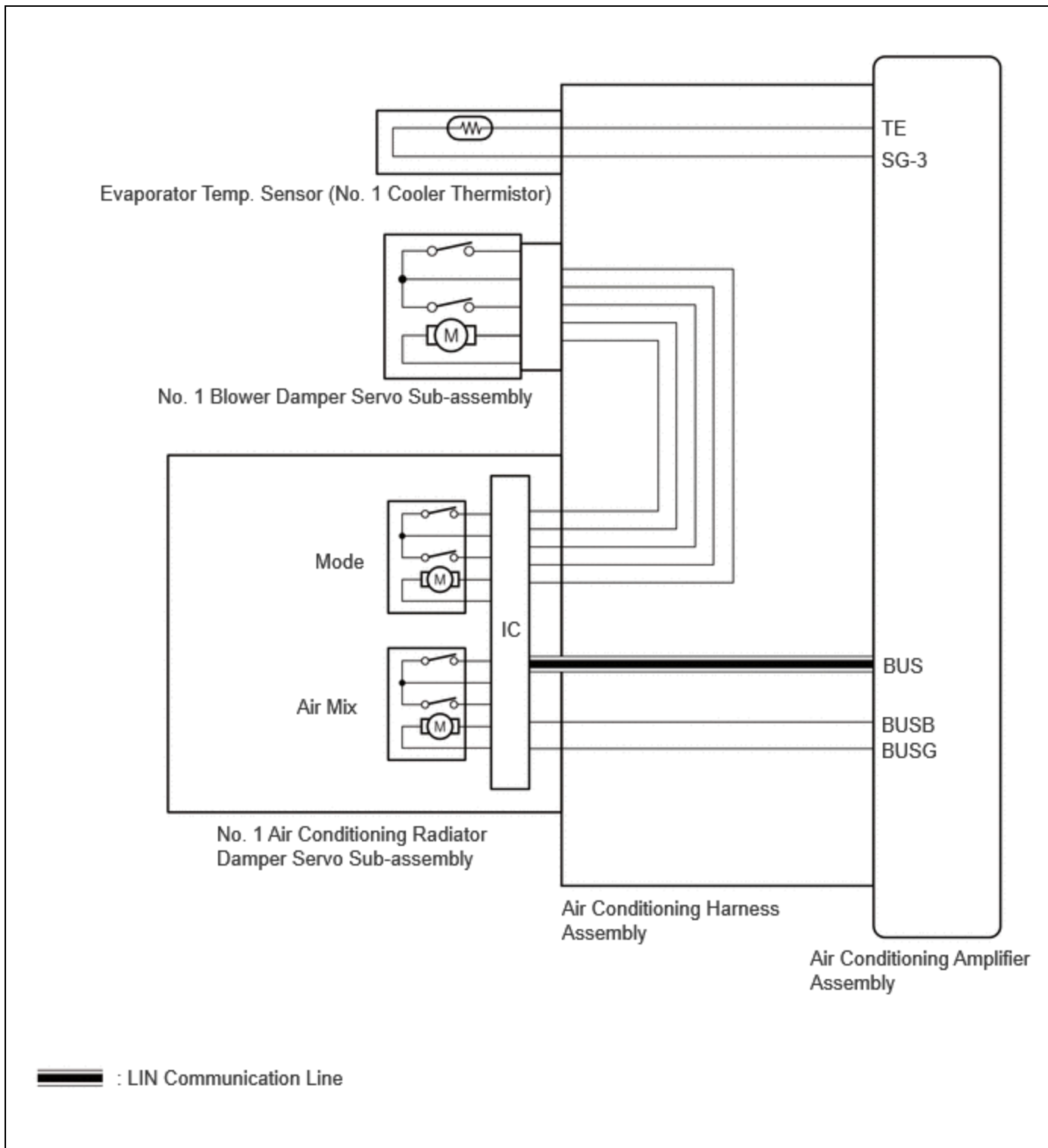
DTC Detection Condition Combination Table

		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

1.	CHECK FOR DTC
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(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**

A



2.	CHECK NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY (INSTALLATION CONDITION)
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(a) Check that the No. 1 air conditioning radiator damper servo sub-assembly is installed correctly.

HINT:

Click here 

OK:

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

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

OK



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



4.	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
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"> • FACE: 256 (pulse) • B/L: 267 (pulse) • FOOT-0: 288 (pulse) • FOOT: 297 (pulse) • FOOT-D: 305 (pulse) • F/D: 320 (pulse) • D/F: 339 (pulse) • DEF: 348 (pulse) 	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.

NG **GO TO STEP 8**

OK

5.	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
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"> • FACE: 256 (pulse) • B/L: 267 (pulse) • FOOT-0: 288 (pulse) • FOOT: 297 (pulse) 	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"> • FOOT-D: 305 (pulse) • F/D: 320 (pulse) • D/F: 339 (pulse) • DEF: 348 (pulse) 	
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"> • FACE: 256 (pulse) • B/L: 267 (pulse) • FOOT-0: 288 (pulse) • FOOT: 297 (pulse) • FOOT-D: 305 (pulse) • F/D: 320 (pulse) • D/F: 339 (pulse) • DEF: 348 (pulse) 	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**6. REPLACE NO. 1 AIR CONDITIONING RADIATOR DAMPER SERVO SUB-ASSEMBLY****HINT:**Click here [INFO](#)**NEXT****7. PERFORM ACTIVE TEST USING GTS**

(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"> • FACE: 256 (pulse) • B/L: 267 (pulse) • FOOT-0: 288 (pulse) • FOOT: 297 (pulse) • FOOT-D: 305 (pulse) • F/D: 320 (pulse) 	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"> D/F: 339 (pulse) DEF: 348 (pulse) 	

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

8.	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
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"> MAX COLD: 257 (pulse) MAX HOT: 165 	No. 1 air conditioning radiator damper servo sub-assembly (air mix) circuit malfunction

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	INSPECTION ITEM
			(pulse)	

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



9.	CHECK AIR CONDITIONING RADIATOR ASSEMBLY (DAMPER)
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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**

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

