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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: C124000; Yaw Rate Sensor / Multi-axis Acceleration Sensor Module "A"; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**C124000**	**Yaw Rate Sensor / Multi-axis Acceleration Sensor Module "A"**

DESCRIPTION

The airbag ECU assembly has a built-in yaw rate and acceleration sensor.

If the identification ID of the yaw rate and acceleration sensor (airbag ECU assembly) is different to that stored in the No. 2 skid control ECU (brake actuator assembly), this DTC is stored.

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
C124000	Yaw Rate Sensor / Multi-axis Acceleration Sensor Module "A"	The yaw rate and acceleration sensor (airbag ECU assembly) identification information stored in the No. 2 skid control ECU (brake actuator assembly) is not consistent with the yaw rate and acceleration sensor (airbag ECU assembly) identification information sent via CAN communication continuously for 1 second or more.	• Incorrect yaw rate and acceleration sensor (airbag ECU assembly) installed • No. 2 skid control ECU (brake actuator assembly)	Comes on	Brake/EPB	A	• SAE Code: C1240 • Output ECU: No. 2 skid control ECU (brake actuator assembly)

MONITOR DESCRIPTION

When the yaw rate and acceleration sensor (airbag ECU assembly) type identification information stored by the No. 2 skid control ECU (brake actuator assembly) does not match that sent via CAN communication for a certain amount of

time, the No. 2 skid control ECU (brake actuator assembly) judges that the identification signal is abnormal, the MIL is illuminated and a DTC is stored.

MONITOR STRATEGY

Related DTCs	C1240: Yaw rate and acceleration sensor incorrect
Required Sensors/Components(Main)	Yaw rate and acceleration sensor (airbag ECU assembly) No. 2 skid control ECU (brake actuator assembly)
Required Sensors/Components(Related)	No. 2 skid control ECU (brake actuator assembly)
Frequency of Operation	Continuous
Duration	1 second
MIL Operation	Immediately
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

Monitor runs whenever the following DTCs are not stored	U0125: Lost communication with multi-axis acceleration sensor module
Both of the following conditions are met	A and B
A. Following condition is met	More than 0.012 seconds
IGR voltage	3.5 V or higher
B. Communication status with yaw rate and acceleration sensor (airbag ECU assembly)	Valid

TYPICAL MALFUNCTION THRESHOLDS

YG_ID (CAN Data)	Not correct

COMPONENT OPERATING RANGE

All of the following conditions are met	A, B and C
A. Following condition is met	More than 0.012 seconds
IGR voltage	3.5 V or higher
B. Communication status with yaw rate and acceleration sensor (airbag ECU assembly)	Valid
C. YG_ID (CAN Data)	Correct

CONFIRMATION DRIVING PATTERN

NOTICE:

When performing the normal judgment procedure, make sure that the driver door is closed and is not opened at any time during the procedure.

HINT:

- After repair has been completed, clear the DTC and then check that the vehicle has returned to normal by performing the following All Readiness check procedure.
- When clearing the permanent DTCs, refer to the "CLEAR PERMANENT DTC" procedure.

1. Connect the GTS to the DLC3.
2. Turn the ignition switch to ON and turn the GTS on.
3. Clear the DTCs (even if no DTCs are stored, perform the clear DTC procedure).
4. Turn the ignition switch off.
5. Turn the ignition switch to ON (READY) and turn the GTS on.
6. Wait for 1 second or more. [*]

HINT:

[*]: Normal judgment procedure.

The normal judgment procedure is used to complete DTC judgment and also used when clearing permanent DTCs.

7. Enter the following menus: Chassis / Brake/EPB* / Utility / All Readiness.

*: Electric Parking Brake System

8. Check the DTC judgment result.

HINT:

- If the judgment result shows NORMAL, the system is normal.
- If the judgment result shows ABNORMAL, the system has a malfunction.
- If the judgment result shows INCOMPLETE, perform driving pattern again.

PROCEDURE

1.	**CHECK PART NUMBER (AIRBAG ECU ASSEMBLY)**

(a) Check that the part number of the installed yaw rate and acceleration sensor (airbag ECU assembly) is correct.

OK:

Yaw rate and acceleration sensor (airbag ECU assembly) installed in the vehicle has the correct part number.

NG ▶ **REPLACE AIRBAG ECU ASSEMBLY** INFO

OK ▼

2.	**CLEAR DTC**

Pre-procedure1

(a) None

Procedure1

(b) Clear the DTCs.

Chassis > Brake/EPB > Clear DTCs

Post-procedure1

(c) Turn the ignition switch off.

NEXT

3.	**RECONFIRM DTC**

Pre-procedure1

(a) Based on the Freeze Frame Data and interview with the customer, attempt to reproduce the conditions when the malfunction occurred.

Procedure1

(b) Check if the same DTC is output.

Chassis > Brake/EPB > Trouble Codes

RESULT	PROCEED TO
C124000 is not output	A
C124000 is output	B

Post-procedure1

(c) None

A **USE SIMULATION METHOD TO CHECK**

B **REPLACE BRAKE ACTUATOR ASSEMBLY** INFO