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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: Zero Point Calibration of Yaw Rate Sensor Undone (X204C); 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

Zero Point Calibration of Yaw Rate Sensor Undone (X204C)

DESCRIPTION

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

CODE	TESTER DISPLAY	MEASUREMENT ITEM	TROUBLE AREA	OUTPUT ECU
X204C	Zero Point Calibration of Yaw Rate Sensor Undone	History of incomplete yaw rate sensor zero point calibration	<ul style="list-style-type: none"> • Sensor installation • Yaw rate sensor (airbag ECU assembly) 	No. 2 skid control ECU (brake actuator assembly)

PROCEDURE

1. CHECK DTC (HEALTH CHECK)

(a) Perform the Health Check using the GTS.

RESULT	PROCEED TO
DTCs are not output.	A
DTCs are output.	B

B  **GO TO DIAGNOSTIC TROUBLE CODE CHART**

A



2. CLEAR ZERO POINT VALUE FOR YAW RATE AND ACCELERATION SENSOR

(a) Clear the zero point value for the yaw rate and acceleration sensor.

Click here 

Chassis > Brake/EPB > Utility

TESTER DISPLAY
Reset Memory

NEXT**3. PERFORM ZERO POINT CALIBRATION OF YAW RATE AND ACCELERATION SENSOR**

(a) Perform zero point calibration of the yaw rate and acceleration sensor.

Click here [INFO](#)

Chassis > Brake/EPB > Utility

TESTER DISPLAY
Calibration

NEXT**4. CLEAR VEHICLE CONTROL HISTORY (RoB)**

(a) Using the GTS, clear the Vehicle Control History (RoB).

Chassis > Brake/EPB > Utility

TESTER DISPLAY
Vehicle Control History (RoB)

NEXT**5. CHECK VEHICLE CONTROL HISTORY (RoB)**

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

(b) Using the GTS, check for Vehicle Control History (RoB).

Chassis > Brake/EPB > Utility

TESTER DISPLAY

Vehicle Control History (RoB)

RESULT	PROCEED TO
X204C is not output.	A
X204C is output.	B

A  **END****B****6. CHECK AIRBAG ECU ASSEMBLY INSTALLATION**

- (a) Turn the ignition switch off.
- (b) Check that the yaw rate and acceleration sensor (airbag ECU assembly) has been installed properly.

Click here 

OK:

The yaw rate and acceleration sensor (airbag ECU assembly) is tightened to the specified torque.

The yaw rate and acceleration sensor (airbag ECU assembly) is not installed in a tilted position.

NG  **INSTALL AIRBAG ECU ASSEMBLY CORRECTLY****OK****7. READ VALUE USING GTS (YAW RATE AND ACCELERATION SENSOR)**

- (a) Check the yaw rate and acceleration sensor output value displayed on the GTS.

Chassis > Brake/EPB > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Lateral G	Lateral G	Min.: -25.105 m/s ² Max.: 24.908 m/s ²	Turning right: -25.105 to 0.000 m/s ² Turning left: 0.000 to 24.908 m/s ²	During turning: Changes in proportion with lateral acceleration
Forward and Rearward G	Forward and rearward G	Min.: -25.105 m/s ² Max.: 24.908 m/s ²	During deceleration: -25.105 to 0.000 m/s ² During acceleration: 0.000 to 24.908 m/s ²	During acceleration/deceleration: Changes in proportion with acceleration
Yaw Rate Sensor Value	Yaw rate sensor value	Min.: -128°/s Max.: 127°/s	Vehicle stopped: 0°/s Turning right: -128 to 0°/s Turning left: 0 to 127°/s	-

Chassis > Brake/EPB > Data List

TESTER DISPLAY
Lateral G
Forward and Rearward G
Yaw Rate Sensor Value

OK:

The yaw rate and acceleration sensor output value is normal.

OK ▶ REPLACE BRAKE ACTUATOR ASSEMBLY [INFO](#)

NG ▶ REPLACE AIRBAG ECU ASSEMBLY [INFO](#)

