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|---|---|---|
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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: C055895; Right Rear Wheel Speed Sensor Incorrect Component Installed; 2023 - 2024 MY Prius Prius Prime [12/2022 - ] | | |

| | | |
|---|---|---|
| **DTC** | **C055895** | **Right Rear Wheel Speed Sensor Incorrect Component Installed** |

# DESCRIPTION

| DTC NO. | DETECTION ITEM | DTC DETECTION CONDITION | TROUBLE AREA | MIL | DTC OUTPUT FROM | PRIORITY | NOTE |
|---|---|---|---|---|---|---|---|
| C055895 | Right Rear Wheel Speed Sensor Incorrect Component Installed | The rear speed sensor RH is installed incorrectly. | • Rear speed sensor RH*1<br>• Rear speed sensor RH (rear axle hub and bearing assembly RH)*2 | Comes on | Brake/EPB | A | • SAE Code: C0558<br>• Output ECU: No. 2 skid control ECU (brake actuator assembly) |

*1: for AWD
*2: for 2WD

# MONITOR DESCRIPTION

The No. 2 skid control ECU (brake actuator assembly) monitors the output current of each speed sensor.

If the output current of the speed sensor is a certain value or more when the power supply voltage of the No. 2 skid control ECU (brake actuator assembly) is normal, the supply voltage of the speed sensor is a certain value or more, and the speed sensor outputs the vehicle speed pulse, the No. 2 skid control ECU (brake actuator assembly) judges that the speed sensor is installed incorrectly, and illuminates the MIL and stores a DTC.

# MONITOR STRATEGY

| | |
|---|---|
| Related DTCs | C0558: Wheel speed sensor (RR) range/performance |
| Required Sensors/Components(Main) | Speed sensor |
| Required Sensors/Components(Related) | Speed sensor<br>No. 2 skid control ECU (brake actuator assembly) |
| Frequency of Operation | Continuous |
| Duration | 5 times |
| MIL Operation | Immediately |
| Sequence of Operation | None |

## TYPICAL ENABLING CONDITIONS

| | |
|---|---|
| Monitor runs whenever the following DTCs are not stored | C0501 (Case 4): Wheel speed sensor (FL) range/performance (pulse output high)<br>C0502: Wheel speed sensor (FL) voltage circuit open<br>C0503: Wheel speed sensor (FL) voltage circuit high<br>C0507 (Case 4): Wheel speed sensor (FR) range/performance (pulse output high)<br>C0508: Wheel speed sensor (FR) voltage circuit open<br>C0509: Wheel speed sensor (FR) voltage circuit high<br>C050D (Case 4): Wheel speed sensor (RL) range/performance (pulse output high)<br>C050E: Wheel speed sensor (RL) voltage circuit open<br>C050F: Wheel speed sensor (RL) voltage circuit high<br>C0513 (Case 4): Wheel speed sensor (RR) range/performance (pulse output high)<br>C0514: Wheel speed sensor (RR) voltage circuit open<br>C0515: Wheel speed sensor (RR) voltage circuit high<br>C137D: Brake system voltage circuit high<br>C14E1 (Case 1): Wheel speed sensor (FL) voltage circuit low<br>C14E1 (Case 2): Wheel speed sensor (FL) voltage circuit low (continuation)<br>C14E4 (Case 1): Wheel speed sensor (FR) voltage circuit low<br>C14E4 (Case 2): Wheel speed sensor (FR) voltage circuit low (continuation)<br>C14E7 (Case 1): Wheel speed sensor (RL) voltage circuit low<br>C14E7 (Case 2): Wheel speed sensor (RL) voltage circuit low (continuation)<br>C14EA (Case 1): Wheel speed sensor (RR) voltage circuit low<br>C14EA (Case 2): Wheel speed sensor (RR) voltage circuit low (continuation) |
| All of the following conditions are met | A, B, C, D, E, F and G |
| A. Wheel speed sensor open circuit signal (IC Data) | Off |
| B. Wheel speed sensor power supply voltage low signal (IC Data) | Off |
| C. Following condition is met | More than 0.22 seconds |
| +BS voltage | 9.5 V or higher |
| D. Following condition is met | More than 0.22 seconds |
| +BS voltage | 17.4 V or less |
| E. Wheel speed sensor pulse | Exist |
| F. IGR voltage | Higher than 10 V |
| G. IGP voltage | Higher than 10 V |

## TYPICAL MALFUNCTION THRESHOLDS

| | |
|---|---|
| Wheel speed sensor overcurrent state (IC Data) | On |

## COMPONENT OPERATING RANGE

| | |
|---|---|
| All of the following conditions are met | A, B, C, D, E, F, G, H and I |
| A. Wheel speed sensor open circuit signal (IC Data) | Off |
| B. Wheel speed sensor power supply voltage low signal (IC Data) | Off |
| C. Following condition is met | More than 0.22 seconds |
| +BS voltage | 9.5 V or higher |
| D. Following condition is met | More than 0.22 seconds |
| +BS voltage | 17.4 V or less |
| E. Wheel speed sensor pulse | Exist |
| F. Wheel speed sensor fail (C0502, C0503, C0508, C0509, C050E, C050F, C0514, C0515, C14E1, C14E4, C14E7, C14EA) | Not detected |
| G. Wheel speed sensor range/performance (pulse output high) fail (C0501, C0507, C050D, C0513) | Not detected |
| H. Speed sensor output value | 10 km/h (6.21 mph) or more |
| I. Wheel speed sensor overcurrent state (IC Data) | Off |

## 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. Repeat the following step 5 times. [*]
    - Drive the vehicle at a speed of 10 km/h (6 mph) 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 VEHICLE** |

| RESULT | PROCEED TO |
|---|---|
| for 2WD | A |
| for AWD | B |

**B** ▶ **GO TO STEP 5**

**A** ▼

| | |
|---|---|
| **2.** | **CHECK PART NUMBER (REAR AXLE HUB AND BEARING ASSEMBLY RH)** |

(a) Check that the rear speed sensor RH (rear axle hub and bearing assembly RH) is installed.

OK:

Proper rear speed sensor RH (rear axle hub and bearing assembly RH) is installed.

**NOTICE:**

If it is necessary to remove components in order to check the rear speed sensor RH (rear axle hub and bearing assembly RH), follow the relevant installation and removal procedures and precautions for those components.

**HINT:**

The rear speed sensor RH and rear speed sensor rotor RH are incorporated into the rear axle hub and bearing assembly RH.

If the rear speed sensor RH and rear speed sensor rotor RH need to be replaced, replace the rear axle hub and bearing assembly RH.

**NG** ▶ **REPLACE REAR AXLE HUB AND BEARING ASSEMBLY RH** INFO

**OK** ▼

| | |
|---|---|
| **3.** | **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**

| | |
|---|---|
| **4.** | **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**

**HINT:**

The rear speed sensor RH and rear speed sensor rotor RH are incorporated into the rear axle hub and bearing assembly RH.

If the rear speed sensor RH and rear speed sensor rotor RH need to be replaced, replace the rear axle hub and bearing assembly RH.

| RESULT | PROCEED TO |
|---|---|
| C055895 is not output | A |
| C055895 is output | B |

Post-procedure1

(c) None

**A** **USE SIMULATION METHOD TO CHECK**

**B** ▶ **REPLACE REAR AXLE HUB AND BEARING ASSEMBLY RH**

INFO

| | |
|---|---|
| **5.** | **CHECK PART NUMBER (REAR SPEED SENSOR RH)** |

(a) Check that the rear speed sensor RH is installed.

OK:

Proper rear speed sensor RH is installed.

**NOTICE:**

If it is necessary to remove components in order to check the rear speed sensor RH, follow the relevant installation and removal procedures and precautions for those components.

**NG** ▶ **REPLACE REAR SPEED SENSOR RH**

**OK**

▼

| | |
|---|---|
| **6.** | **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**

▼

| | |
|---|---|
| **7.** | **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 |
|---|---|
| C055895 is not output | A |
| C055895 is output | B |

Post-procedure1

(c) None

**A** ▶ **USE SIMULATION METHOD TO CHECK**

**B** ▶ **REPLACE REAR SPEED SENSOR RH**