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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: C14E614,C14E914; Left Rear Wheel Speed Sensor Supply Voltage Circuit Short to Ground or Open; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

DTC	**C14E614**	**Left Rear Wheel Speed Sensor Supply Voltage Circuit Short to Ground or Open**

DTC	**C14E914**	**Right Rear Wheel Speed Sensor Supply Voltage Circuit Short to Ground or Open**

DESCRIPTION

Refer to DTC C050C12.

Click here INFO

DTC NO.	DETECTION ITEM	DTC DETECTION CONDITION	TROUBLE AREA	MIL	DTC OUTPUT FROM	PRIORITY	NOTE
C14E614	Left Rear Wheel Speed Sensor Supply Voltage Circuit Short to Ground or Open	With the +BS terminal voltage 9.5 to 17.4 V, the sensor power supply voltage decreases for 0.5 seconds or more.	No. 2 skid control ECU (brake actuator assembly)	Comes on	Brake/EPB	A	• SAE Code: C14E7 • Output ECU: No. 2 skid control ECU (brake actuator assembly)
C14E914	Right Rear Wheel Speed Sensor Supply Voltage Circuit Short to Ground or Open	With the +BS terminal voltage 9.5 to 17.4 V, the sensor power supply voltage decreases for 0.5 seconds or more.	No. 2 skid control ECU (brake actuator assembly)	Comes on	Brake/EPB	A	• SAE Code: C14EA • Output ECU: No. 2 skid control ECU (brake actuator assembly)

MONITOR DESCRIPTION

The No. 2 skid control ECU (brake actuator assembly) monitors the power supply voltage of the speed sensors. If the power supply voltage is outside the normal range, the MIL is illuminated and a DTC is stored.

MONITOR STRATEGY

Related DTCs	C14E7 (Case 1): Wheel speed sensor (RL) voltage circuit low C14E7 (Case 2): Wheel speed sensor (RL) voltage circuit low (continuation)

	C14EA (Case 1): Wheel speed sensor (RR) voltage circuit low C14EA (Case 2): Wheel speed sensor (RR) voltage circuit low (continuation)
Required Sensors/Components(Main)	Speed sensor
Required Sensors/Components(Related)	No. 2 skid control ECU (brake actuator assembly) Speed sensor
Frequency of Operation	Continuous
Duration	0.528 seconds: C14E7 (Case 1) and C14EA (Case 1) 60 seconds: C14E7 (Case 2) and C14EA (Case 2)
MIL Operation	Immediately
Sequence of Operation	None

TYPICAL ENABLING CONDITIONS

C14E7 (Case 1) and C14EA (Case 1)

Monitor runs whenever the following DTCs are not stored	C0501 (Case 4): Wheel speed sensor (FL) range/performance (pulse output high) C0502: Wheel speed sensor (FL) voltage circuit open C0503: Wheel speed sensor (FL) voltage circuit high C0507 (Case 4): Wheel speed sensor (FR) range/performance (pulse output high) C0508: Wheel speed sensor (FR) voltage circuit open C0509: Wheel speed sensor (FR) voltage circuit high C050D (Case 4): Wheel speed sensor (RL) range/performance (pulse output high) C050E: Wheel speed sensor (RL) voltage circuit open C050F: Wheel speed sensor (RL) voltage circuit high C0513 (Case 4): Wheel speed sensor (RR) range/performance (pulse output high) C0514: Wheel speed sensor (RR) voltage circuit open C0515: Wheel speed sensor (RR) voltage circuit high C137D: Brake system voltage circuit high C14E1 (Case 1): Wheel speed sensor (FL) voltage circuit low C14E1 (Case 2): Wheel speed sensor (FL) voltage circuit low (continuation) C14E4 (Case 1): Wheel speed sensor (FR) voltage circuit low C14E4 (Case 2): Wheel speed sensor (FR) voltage circuit low (continuation) C14E7 (Case 2): Wheel speed sensor (RL) voltage circuit low (continuation) 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. Following condition is met	More than 0.012 seconds
IGR voltage	3.5 V or higher
B. Following condition is met	More than 0.22 seconds

+BS voltage	17.4 V or less
C. Following condition is met	More than 0.22 seconds
+BS voltage	9.5 V or higher
D. Command to wheel speed sensor power supply	On
E. Wheel speed sensor overcurrent signal (IC Data)	Off
F. IGR voltage	Higher than 10 V
G. IGP voltage	Higher than 10 V

C14E7 (Case 2) and C14EA (Case 2)

Monitor runs whenever the following DTCs are not stored	C0501 (Case 4): Wheel speed sensor (FL) range/performance (pulse output high) C0502: Wheel speed sensor (FL) voltage circuit open C0503: Wheel speed sensor (FL) voltage circuit high C0507 (Case 4): Wheel speed sensor (FR) range/performance (pulse output high) C0508: Wheel speed sensor (FR) voltage circuit open C0509: Wheel speed sensor (FR) voltage circuit high C050D (Case 4): Wheel speed sensor (RL) range/performance (pulse output high) C050E: Wheel speed sensor (RL) voltage circuit open C050F: Wheel speed sensor (RL) voltage circuit high C0514: Wheel speed sensor (RR) voltage circuit open C0515: Wheel speed sensor (RR) voltage circuit high C137D: Brake system voltage circuit high
All of the following conditions are met	A, B, C, D, E and F
A. Following condition is met	More than 0.22 seconds
+BS voltage	17.4 V or less
B. Following condition is met	More than 0.22 seconds
+BS voltage	9.5 V or higher
C. Command to wheel speed sensor power supply	On
D. Wheel speed sensor overcurrent signal (IC Data)	Off
E. IGR voltage	Higher than 10 V
F. IGP voltage	Higher than 10 V

TYPICAL MALFUNCTION THRESHOLDS

All

Wheel speed sensor power supply voltage low signal (IC Data)	On

COMPONENT OPERATING RANGE

C14E7 (Case 1) and C14EA (Case 1)

Wheel speed sensor power supply voltage low signal (IC Data)	Off

C14E7 (Case 2) and C14EA (Case 2)

Following condition is met	More than 0.204 seconds
Wheel speed sensor power supply voltage low signal (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. Drive the vehicle straight at a speed of 15 km/h (9 mph) or more for 60 seconds 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.	**REPLACE BRAKE ACTUATOR ASSEMBLY**

HINT:

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NEXT END