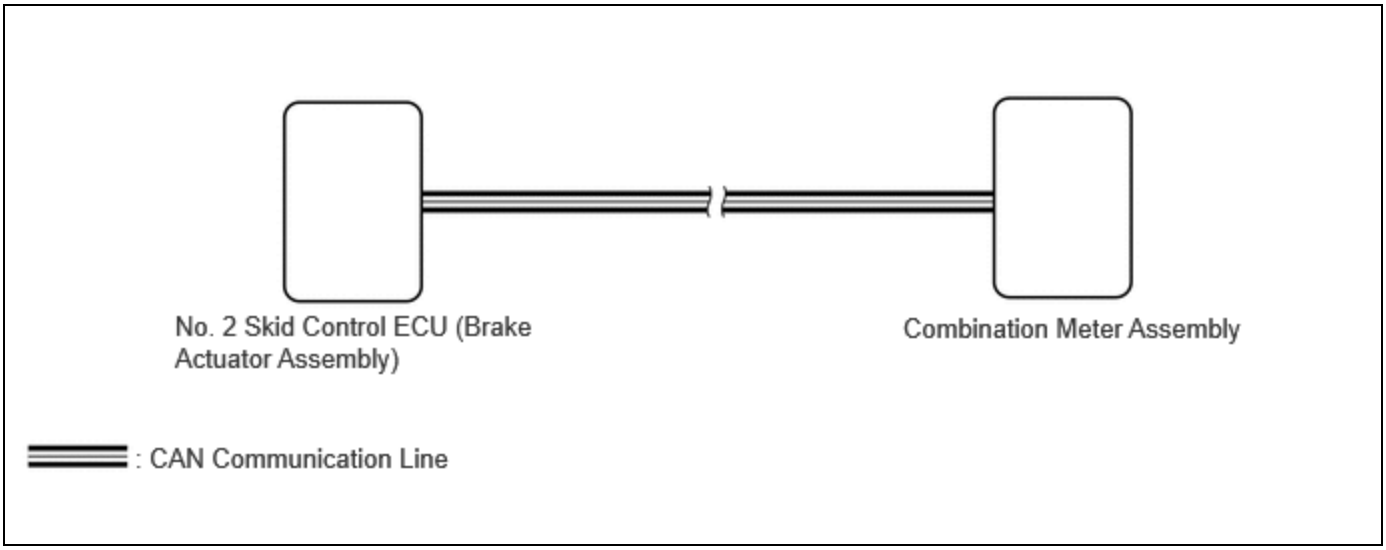
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002BJES
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: METER / GAUGE / DISPLAY: METER / GAUGE SYSTEM: Speedometer Malfunction; 2023 - 2024 MY Prius Prius Prime [03/2023 -]		

Speedometer Malfunction

DESCRIPTION

The combination meter assembly receives vehicle speed signals from the No. 2 skid control ECU (brake actuator assembly) via CAN communication. The speed sensor detects the wheel speed and sends the appropriate signals to the No. 2 skid control ECU (brake actuator assembly). The No. 2 skid control ECU (brake actuator assembly) supplies power to the vehicle speed sensor. The No. 2 skid control ECU (brake actuator assembly) detects vehicle speed signals based on pulses of the voltage.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

- When replacing the combination meter assembly, always replace it with a new one. If a combination meter assembly which was installed to another vehicle is used, the information stored in it will not match the information from the vehicle and a DTC may be stored.
- When replacing any of the following ECUs, update the ECU security key.

  Click here INFO

  - Combination meter assembly
  - No. 2 Skid control ECU (brake actuator assembly)

PROCEDURE

1.	**CHECK TIRES**

(a) Check the tire size, tire wear and tire pressures are normal.

Click here INFO

HINT:

Factors that affect the indicated vehicle speed include the tire size, tire wear and tire pressures.

NG ▶ **REPLACE TIRE OR ADJUST TIRE PRESSURERE**

OK ▼

2.	**CHECK CAN COMMUNICATION SYSTEM**

(a) Check if CAN communication DTCs are output.

for HEV Model: Click here INFO

for PHEV Model: Click here INFO

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

B ▶ **GO TO CAN COMMUNICATION SYSTEM**

for HEV Model: Click here INFO

for PHEV Model: Click here INFO

A ▼

3.	**CHECK FOR DTC (ELECTRONICALLY CONTROLLED BRAKE SYSTEM)**

(a) Check if electronically controlled brake system DTCs are output.

Chassis > Brake/EPB > Trouble Codes
Chassis > Brake Booster > Trouble Codes

RESULT	PROCEED TO
DTCs are not output	A

RESULT	PROCEED TO
DTCs are output	B

B ▶ **GO TO ELECTRONICALLY CONTROLLED BRAKE SYSTEM**

Click here INFO

A

4.	**CONFIRM MODEL**

(a) Choose the model to be inspected.

RESULT	PROCEED TO
for Speedometer Unit km/h Type	A
for Speedometer Unit MPH Type	B

B ▶ **GO TO STEP 6**

A

5.	**PERFORM ACTIVE TEST USING GTS**

(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Speed Signal Input (0)	Vehicle speed test signal input	ON	When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test.

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Speed Signal Input (40)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (80)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (120)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (160)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (200)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (240)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (280)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test.

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
			• When the value of the Active Test is more than or equal to the speedometer upper limit, the indicated speed stops at the upper limit.

*: For the tolerance of speedometer, refer to Operation Check.

Click here INFO

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (0)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (40)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (80)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (120)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (160)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (200)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (240)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (280)

RESULT	PROCEED TO
Active Test can be performed correctly	A
Active Test cannot be performed correctly	B

A ▶ **REPLACE NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY)**

B ▶ **REPLACE COMBINATION METER ASSEMBLY**

6.	**PERFORM ACTIVE TEST USING GTS**

(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Speed Signal Input (0)	Vehicle speed test signal input	ON	When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test.
Speed Signal Input (40)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (80)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test.

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
			• The value displayed on the speedometer may deviate.*
Speed Signal Input (120)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.*
Speed Signal Input (160)	Vehicle speed test signal input	ON	• When this Active Test is performed, an actual vehicle speed signal is sent via CAN communication to the combination meter assembly to operate the speedometer. The seat belt warning buzzer, etc. may operate when performing this Active Test. • The value displayed on the speedometer may deviate.

*: For the tolerance of speedometer, refer to Operation Check.

Click here INFO

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (0)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (40)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (80)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (120)

Body Electrical > Combination Meter > Active Test

TESTER DISPLAY
Speed Signal Input (160)

RESULT	PROCEED TO
Active Test can be performed correctly	A
Active Test cannot be performed correctly	B

A ▶ **REPLACE NO. 2 SKID CONTROL ECU (BRAKE ACTUATOR ASSEMBLY)**

B ▶ **REPLACE COMBINATION METER ASSEMBLY**