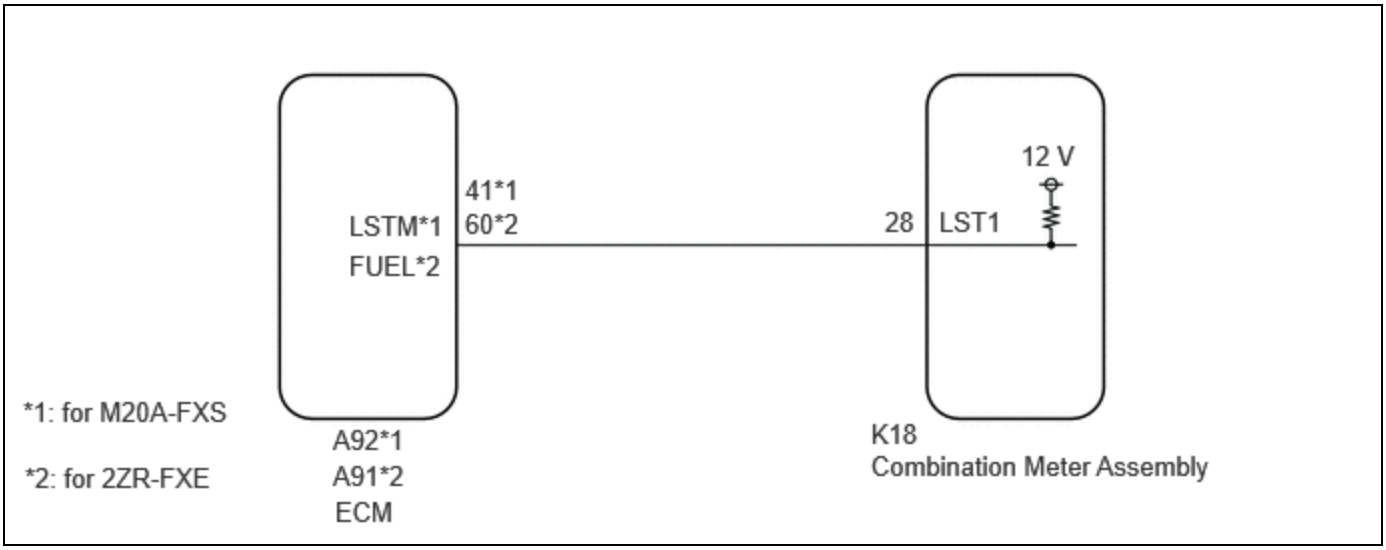
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029H13
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: METER / GAUGE / DISPLAY: METER / GAUGE SYSTEM: Fuel Lid Opener System Operation Message Display Malfunction; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

Fuel Lid Opener System Operation Message Display Malfunction

DESCRIPTION

The combination meter assembly and ECM are connected via direct line. The combination meter assembly displays fuel lid opener system operation messages according to the fuel lid signals received from the ECM.

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 of the following ECUs, update the ECU security key.

  Click here INFO

  - Combination meter assembly
  - ECM
- The following troubleshooting procedure is based on the assumption that the SFI system and fuel lid opener system are normal. Confirm that the SFI system and fuel lid opener system are not malfunctioning before performing the following procedure.

  SFI system (for 2ZR-FXE): Click here INFO

  SFI system (for M20A-FXS): Click here INFO

  Fuel lid opener system: Click here INFO

PROCEDURE

1.	**CONFIRM MODEL**

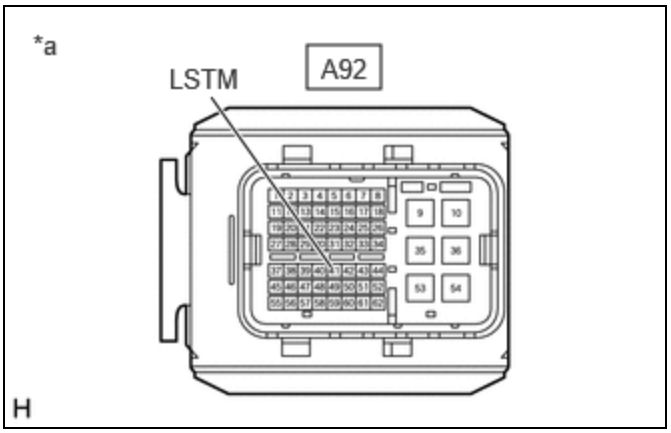
(a) Choose the model to be inspected.

RESULT	PROCEED TO
for M20A-FXS	A
for 2ZR-FXE	B

B ▶ **GO TO STEP 5**

A ▼

2.	**INSPECT COMBINATION METER ASSEMBLY (OUTPUT VOLTAGE)**



*a	Front view of wire harness connector (to ECM)

(a) Disconnect the A92 ECM connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

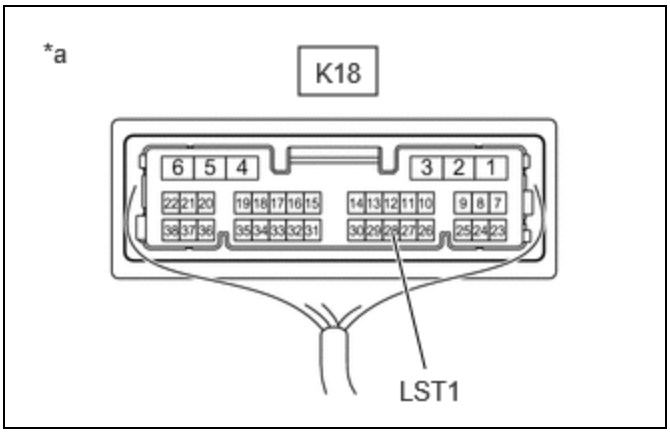
Click Location & Routing(A92)
Click Connector(A92)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A92-41 (LSTM) - Body ground	Ignition switch off	11 to 14 V

NG ▶ **GO TO STEP 4**

OK ▼

3.	**INSPECT COMBINATION METER ASSEMBLY (INPUT WAVEFORM)**



*a	Component with harness connected (Combination Meter Assembly)

(a) Connect the ECM connector.

(b) Operate the fuel lid opener switch.

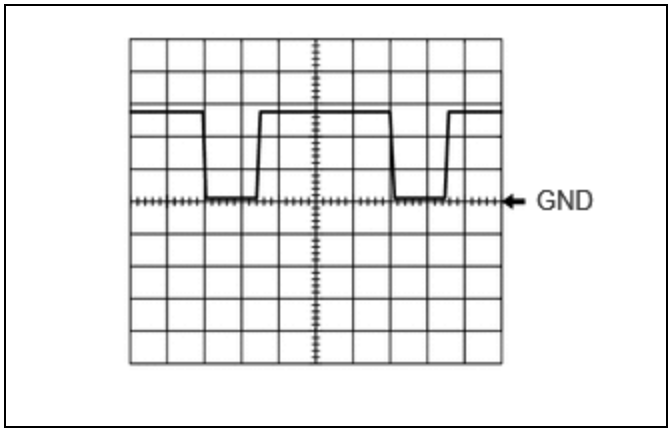
(c) Check the signal waveform according to the condition(s) in the table below.

NOTICE:

Perform the inspection from the back of the connector with the connector connected.

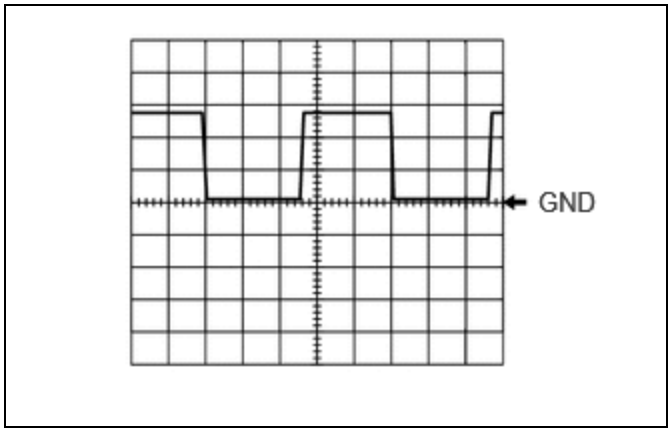
Waveform 1:

ITEM	CONDITION
Tester Connection	K18-28 (LST1) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Condition	The following message (interrupt display) being displayed on the multi-information display: "Ready to Refuel"



Waveform 2:

ITEM	CONDITION
Tester Connection	K18-28 (LST1) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Condition	The following message (interrupt display) being displayed on the multi-information display: "Close Fuel Lid"



HINT:

This waveform is output when the fuel lid opener switch is operated if the fuel lid is open and any of the following conditions are met:

- The vehicle has been driven for 1 km (0.6 mile) or more at a speed of 50 km/h (31 mph) or more.
- 30 minutes or more have elapsed since the fuel lid opener switch was operated.

RESULT	PROCEED TO
All of the waveforms are output normally	A
A waveform is not output normally	B

A ▶ REPLACE COMBINATION METER ASSEMBLY

B ▶ **REPLACE ECM**

Click here INFO

4.	CHECK HARNESS AND CONNECTOR (ECM - COMBINATION METER ASSEMBLY)

(a) Disconnect the K18 combination meter assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

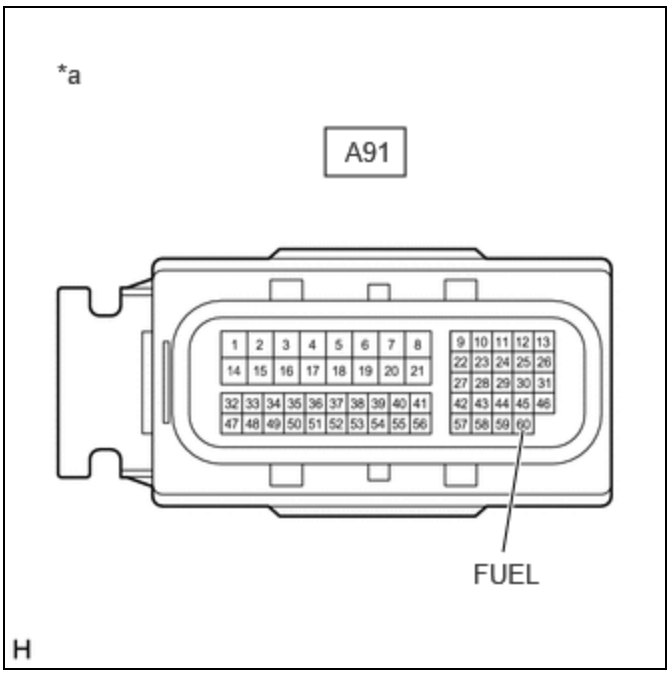
Click Location & Routing(A92,K18)
Click Connector(A92)
Click Connector(K18)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A92-41 (LSTM) - K18-28 (LST1)	Always	Below 1 Ω
A92-41 (LSTM) or K18-28 (LST1) - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE COMBINATION METER ASSEMBLY**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

5.	INSPECT COMBINATION METER ASSEMBLY (OUTPUT VOLTAGE)



*a	Front view of wire harness connector (to ECM)

(a) Disconnect the A91 ECM connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

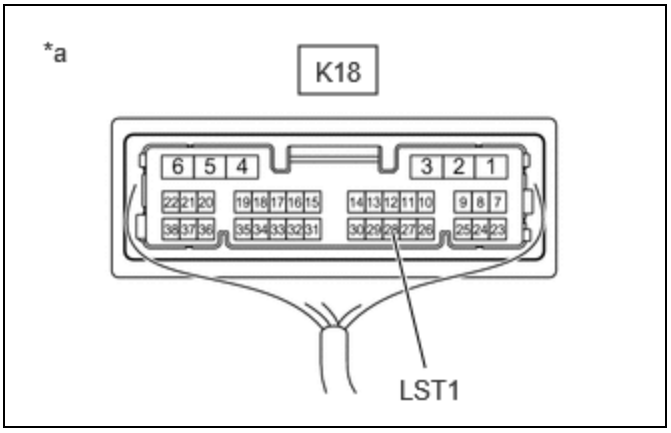
Click Location & Routing(A91)
Click Connector(A91)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A91-60 (FUEL) - Body ground	Ignition switch off	11 to 14 V

NG ▶ **GO TO STEP 7**

OK ▼

6.	**INSPECT COMBINATION METER ASSEMBLY (INPUT WAVEFORM)**



*a	Component with harness connected (Combination Meter Assembly)

(a) Connect the ECM connector.

(b) Operate the fuel lid opener switch.

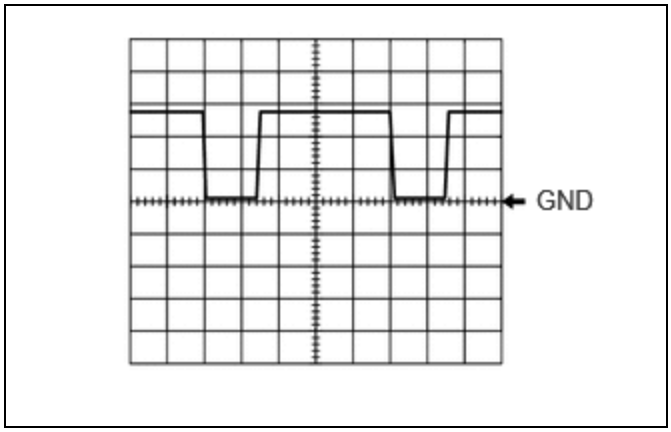
(c) Check the signal waveform according to the condition(s) in the table below.

NOTICE:

Perform the inspection from the back of the connector with the connector connected.

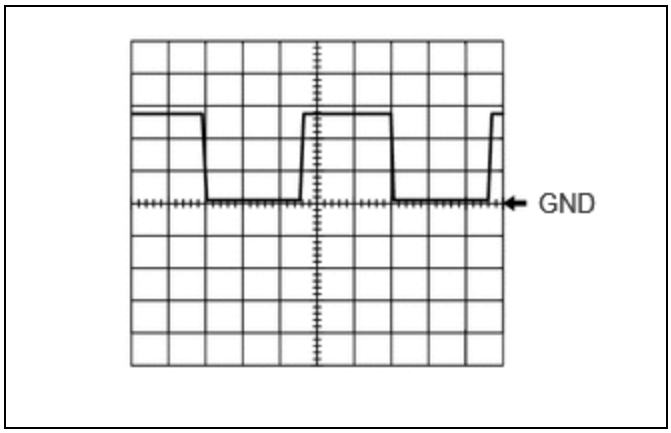
Waveform 1:

ITEM	CONDITION
Tester Connection	K18-28 (LST1) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Condition	The following message (interrupt display) being displayed on the multi-information display: "Ready to Refuel"



Waveform 2:

ITEM	CONDITION
Tester Connection	K18-28 (LST1) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Condition	The following message (interrupt display) being displayed on the multi-information display: "Close Fuel Lid"



HINT:

This waveform is output when the fuel lid opener switch is operated if the fuel lid is open and any of the following conditions are met:

- The vehicle has been driven for 1 km (0.6 mile) or more at a speed of 50 km/h (31 mph) or more.
- 30 minutes or more have elapsed since the fuel lid opener switch was operated.

RESULT	PROCEED TO
All of the waveforms are output normally	A
A waveform is not output normally	B

A ▶ **REPLACE COMBINATION METER ASSEMBLY**

B ▶ **REPLACE ECM**

7.	**CHECK HARNESS AND CONNECTOR (ECM - COMBINATION METER ASSEMBLY)**

(a) Disconnect the K18 combination meter assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(A91,K18)
Click Connector(A91)
Click Connector(K18)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A91-60 (FUEL) - K18-28 (LST1)	Always	Below 1 Ω
A91-60 (FUEL) or K18-28 (LST1) - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE COMBINATION METER ASSEMBLY**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**