Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM100000002924K
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: DOOR / HATCH: FUEL LID OPENER SYSTEM: Fuel Lid Opener does not Operate; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

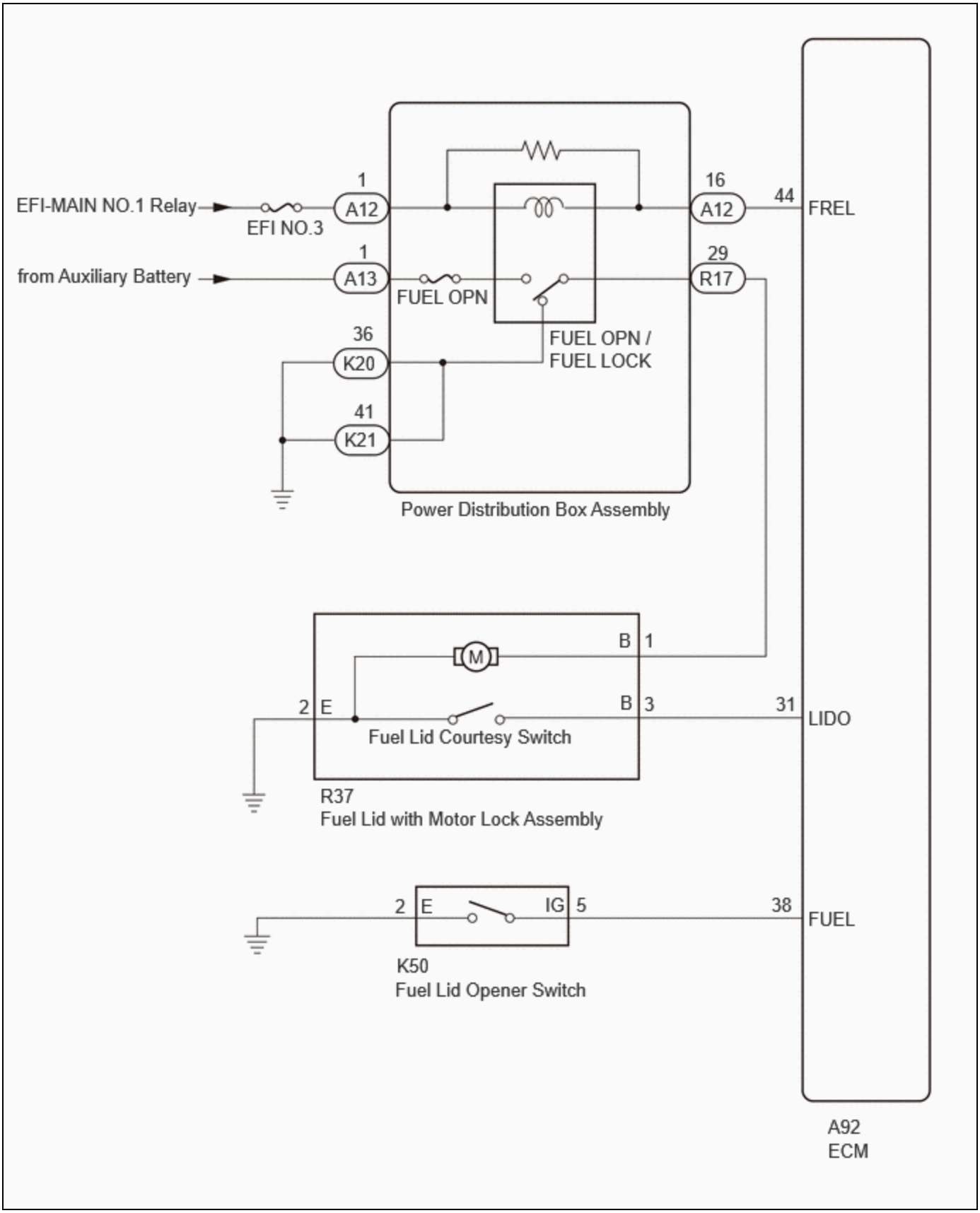
Fuel Lid Opener does not Operate

DESCRIPTION

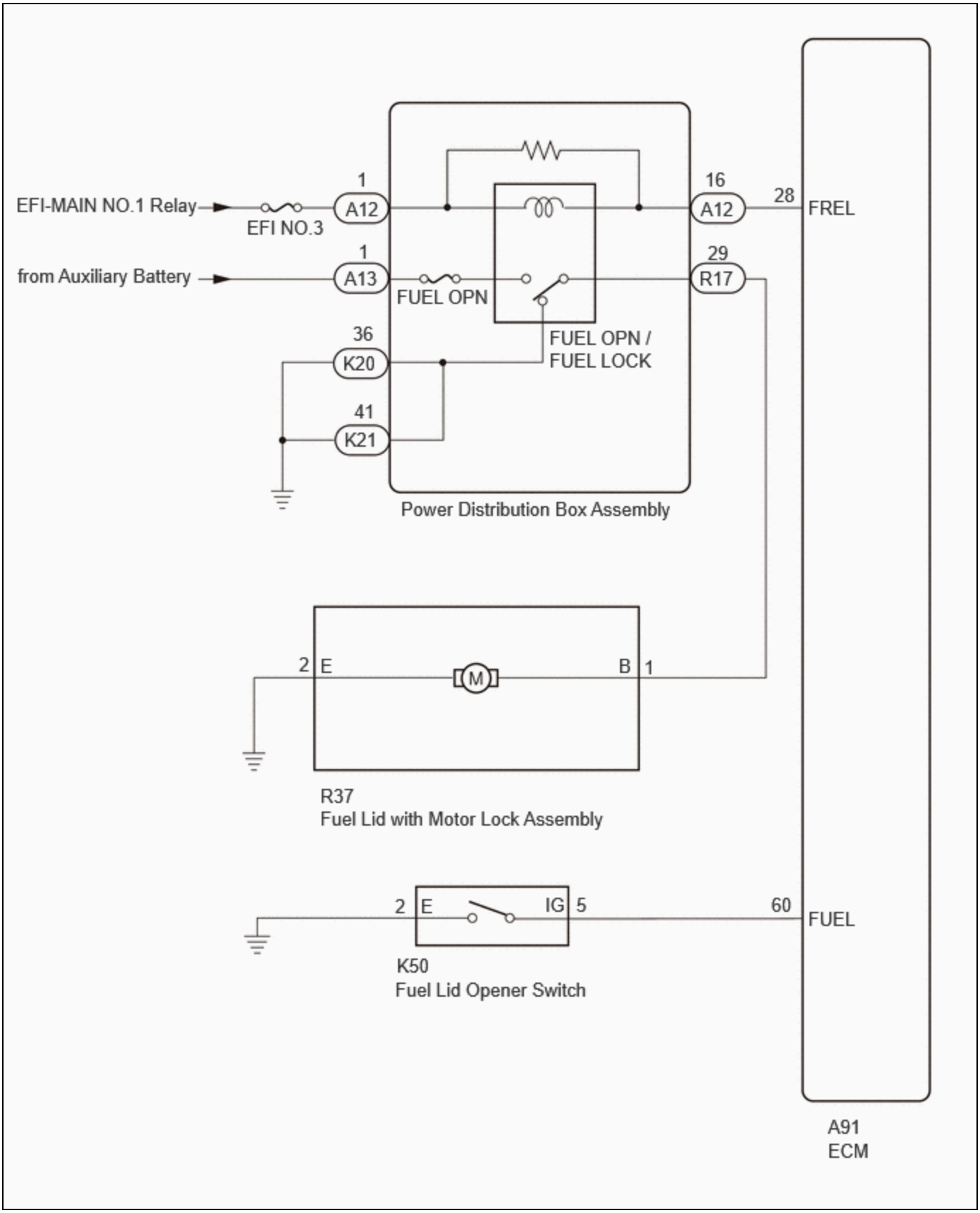
When the fuel lid opener switch is pushed, a fuel lid opener switch signal is sent to the ECM. The ECM turns on the FUEL OPN relay/FUEL LOCK relay and the fuel lid with motor lock assembly opens the fuel lid. When the fuel lid is open, a fuel lid courtesy switch signal is output from the fuel lid with motor lock assembly.

WIRING DIAGRAM

for M20A-FXS


EFI-MAIN NO.1 Relay
EFI NO.3
1
A12
16
A12
44
FREL
from Auxiliary Battery
1
A13
FUEL OPN
29
R17
36
K20
FUEL OPN /
FUEL LOCK
41
K21
Power Distribution Box Assembly
B 1
M
2 E
B 3
31
LIDO
Fuel Lid Courtesy Switch
R37
Fuel Lid with Motor Lock Assembly
2 E
IG 5
38
FUEL
K50
Fuel Lid Opener Switch
A92
ECM

for 2ZR-FXE



CAUTION / NOTICE / HINT

HINT:

- Inspect the fuses for circuits related to this system before performing the following procedure.

- If a malfunction occurs in the close tank valve assembly or vapor pressure sensor, the fuel lid opener does not operate due to ECM control.
- If the fuel lid opener operates after a short time, the close tank valve assembly or fuel tank vent hose may be clogged.

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 16**

A ▼

2.	**CHECK FOR DTC**

(a) Using the GTS, check that DTCs related to the close tank valve assembly or vapor pressure sensor are not output.

Powertrain > Engine > Trouble Codes

RESULT	PROCEED TO
DTCs related to the close tank valve assembly or vapor pressure sensor are not output	A
DTCs related to the close tank valve assembly or vapor pressure sensor are output	B

B ▶ **GO TO RELEVANT DIAGNOSTIC TROUBLE CODE PROCEDURE**

Click here INFO

A ▼

3.	**PERFORM ACTIVE TEST USING GTS**

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

Powertrain > Engine > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Activate the Fuel Filler Opener	Activate fuel lid with motor lock assembly	OFF or ON	-

Powertrain > Engine > Active Test

TESTER DISPLAY
Activate the Fuel Filler Opener

OK:
The fuel lid with motor lock assembly operates normally.

NG ▶ **GO TO STEP 11**

OK ▼

4.	**READ VALUE USING GTS (Fuel Lid SW)**

(a) Enter the following menus: Powertrain / Engine / Data List.

(b) Read the Data List according to the display on the GTS.

Powertrain > Engine > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Fuel Lid SW	Fuel lid opener switch status	Close or Open	Close: Fuel lid opener switch not pushed Open: Fuel lid opener switch pushed	-

Powertrain > Engine > Data List

TESTER DISPLAY
Fuel Lid SW

OK:

The GTS display changes correctly in response to the operation of the fuel lid opener switch.

NG ▶ **GO TO STEP 9**

OK ▼

5.	**READ VALUE USING GTS (FUEL LID SENSOR SW)**

(a) Read the Data List according to the display on the GTS.

Powertrain > Engine > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Fuel Lid Sensor SW	Fuel lid courtesy switch status	Close or Open	Close: Fuel lid closed Open: Fuel lid open	-

Powertrain > Engine > Data List

TESTER DISPLAY
Fuel Lid Sensor SW

OK:

The GTS display changes correctly in response to the operation of the fuel lid courtesy switch (fuel lid with motor lock assembly).

NG ▶ **GO TO STEP 7**

OK ▼

6.	**CHECK CLOSE TANK VALVE ASSEMBLY OR FUEL TANK VENT HOSE**

(a) Check the close tank valve assembly or fuel tank vent hose for clogging.

Click here INFO

OK:

The close tank valve assembly or fuel tank vent hose is not clogged.

OK ▶ **REPLACE ECM**

Click here INFO

NG ▶ **REMOVE THE CLOGGING**

7.	**INSPECT FUEL LID WITH MOTOR LOCK ASSEMBLY (FUEL LID COURTESY SWITCH)**

(a) Remove the fuel lid with motor lock assembly.

Click here INFO

(b) Inspect the fuel lid with motor lock assembly.

Click here INFO

NG ▶ **REPLACE FUEL LID LOCK WITH MOTOR ASSEMBLY**

Click here INFO

OK ▼

8.	**CHECK HARNESS AND CONNECTOR (FUEL LID WITH MOTOR LOCK ASSEMBLY - ECM)**

(a) Disconnect the A92 ECM connector.

(b) Disconnect the R37 fuel lid with motor lock assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R37,A92)
Click Connector(R37)
Click Connector(A92)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R37-3 (B) - A92-31 (LIDO)	Always	Below 1 Ω
R37-3 (B) or A92-31 (LIDO) - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE ECM**

Click here INFO

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

9.	**INSPECT FUEL LID OPENER SWITCH**

(a) Remove the fuel lid opener switch.

Click here INFO

(b) Inspect the fuel lid opener switch.

Click here INFO

NG ▶ **REPLACE FUEL LID OPENER SWITCH**

OK
▼

10.	**CHECK HARNESS AND CONNECTOR (FUEL LID OPENER SWITCH - ECM AND BODY GROUND)**

(a) Disconnect the A92 ECM connector.

(b) Disconnect the K50 fuel lid opener switch connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(K50,A92)
Click Connector(K50)
Click Connector(A92)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K50-5 (IG) - A92-38 (FUEL)	Always	Below 1 Ω
K50-5 (IG) or A92-38 (FUEL) - Body ground	Always	10 kΩ or higher
K50-2 (E) - Body ground	Always	Below 1 Ω

OK ▶ **REPLACE ECM**

Click here INFO

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

11.	**INSPECT FUEL LID WITH MOTOR LOCK ASSEMBLY (MOTOR OPERATION)**

(a) Remove the fuel lid with motor lock assembly.

Click here INFO

(b) Inspect the fuel lid with motor lock assembly.

Click here INFO

NG ▶ **REPLACE FUEL LID WITH MOTOR LOCK ASSEMBLY**

Click here INFO

OK ▼

12.	**CHECK HARNESS AND CONNECTOR (FUEL LID WITH MOTOR LOCK ASSEMBLY - POWER DISTRIBUTION BOX ASSEMBLY AND BODY GROUND)**

(a) Disconnect the R37 fuel lid with motor lock assembly connector.

(b) Disconnect the R17 power distribution box assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R37,R17)
Click Connector(R37)
Click Connector(R17)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R37-1 (B) - R17-29	Always	Below 1 Ω
R37-2 (E) - Body ground	Always	Below 1 Ω
R37-1 (B) or R17-29 - Body ground	Always	10 kΩ or higher

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

OK ▼

13.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - BATTERY)**

(a) Disconnect the A12, A13, K20 and K21 power distribution box assembly connectors.

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

Standard Voltage:

EWD INFO

Click Location & Routing(A13,A12)
Click Connector(A13)
Click Connector(A12)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
A13-1 - Body ground	Ignition switch off	11 to 14 V
A12-1 - Body ground	Ignition switch ON	11 to 14 V
	Ignition switch off	Below 1 V

Standard Resistance:

EWD INFO

Click Location & Routing(K20,K21)
Click Connector(K20)
Click Connector(K21)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
K20-36 - Body ground	Always	Below 1 Ω
K21-41 - Body ground	Always	Below 1 Ω

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

OK ▼

14.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - ECM)**

(a) Disconnect the A12 power distribution box assembly connector.

(b) Disconnect the A92 ECM connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(A12,A92)
Click Connector(A12)
Click Connector(A92)

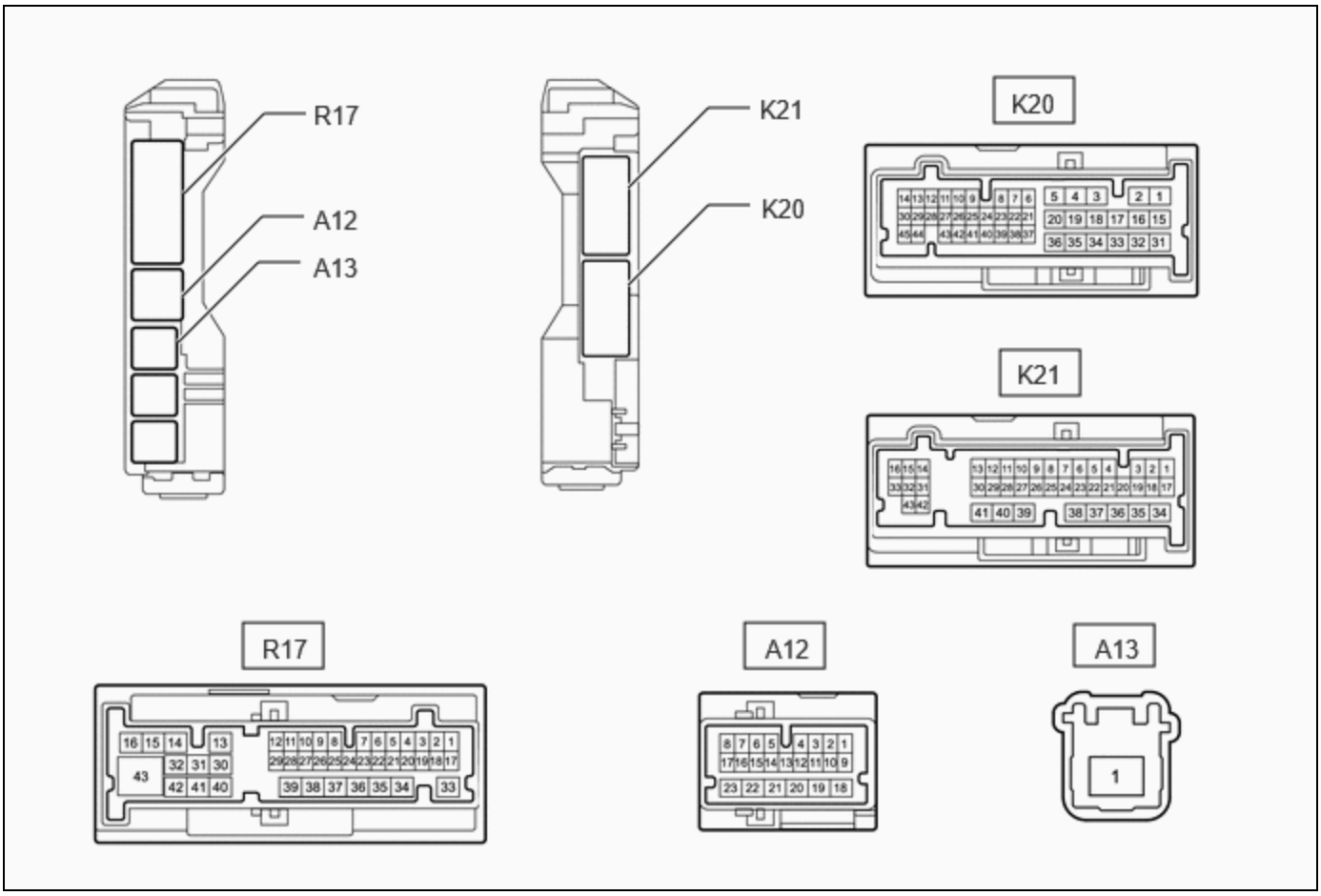
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A12-16 - A92-44 (FREL)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A12-16 or A92-44 (FREL) - Body ground	Always	10 kΩ or higher

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

OK ▼

15.	**INSPECT POWER DISTRIBUTION BOX ASSEMBLY (FUEL OPN RELAY/FUEL LOCK RELAY)**



(a) Remove the power distribution box assembly.

Click here INFO

(b) Remove the main body ECU (multiplex network body ECU) from the power distribution box assembly.

Click here INFO

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

Standard Resistance:

EWD INFO

Click Location & Routing(A13,R17,K20,K21)
Click Connector(A13)
Click Connector(R17)
Click Connector(K20)
Click Connector(K21)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A13-1 - R17-29	Voltage applied between terminals A12-1 and A12-16	Below 1 Ω
A13-1 - R17-29	Voltage not applied between terminals A12-1 and A12-16	10 kΩ or higher
K20-36 - R17-29	Voltage not applied between terminals A12-1 and A12-16	Below 1 Ω
K21-41 - R17-29		
K20-36 - R17-29	Voltage applied between terminals A12-1 and A12-16	10 kΩ or higher
K21-41 - R17-29		

OK ▶ **REPLACE ECM**

Click here INFO

NG ▶ **REPLACE POWER DISTRIBUTION BOX ASSEMBLY**

Click here INFO

16.	**READ VALUE USING GTS (Fuel Lid SW)**

(a) Enter the following menus: Powertrain / Engine / Data List.

(b) Read the Data List according to the display on the GTS.

Powertrain > Engine > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Fuel Lid SW	Fuel lid opener switch status	Close or Open	Close: Fuel lid opener switch not pushed Open: Fuel lid opener switch pushed	-

Powertrain > Engine > Data List

TESTER DISPLAY
Fuel Lid SW

OK:

The GTS display changes correctly in response to the operation of the fuel lid opener switch.

NG ▶ **GO TO STEP 22**

OK ▼

17.	**INSPECT FUEL LID WITH MOTOR LOCK ASSEMBLY (MOTOR OPERATION)**

(a) Remove the fuel lid with motor lock assembly.

Click here INFO

(b) Inspect the fuel lid with motor lock assembly.

Click here INFO

NG ▶ **REPLACE FUEL LID WITH MOTOR LOCK ASSEMBLY**

Click here INFO

OK ▼

18.	**CHECK HARNESS AND CONNECTOR (FUEL LID WITH MOTOR LOCK ASSEMBLY - POWER DISTRIBUTION BOX ASSEMBLY AND BODY GROUND)**

(a) Disconnect the R37 fuel lid with motor lock assembly connector.

(b) Disconnect the R17 power distribution box assembly connector.

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

Standard Resistance:

EWD INFO

Click Location & Routing(R37,R17)
Click Connector(R37)
Click Connector(R17)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R37-1 (B) - R17-29	Always	Below 1 Ω
R37-2 (E) - Body ground	Always	Below 1 Ω
R37-1 (B) or R17-29 - Body ground	Always	10 kΩ or higher

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

OK ▼

19.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - BATTERY)**

(a) Disconnect the A12, A13, K20 and K21 power distribution box assembly connectors.

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

Standard Voltage:

EWD INFO

Click Location & Routing(A13,A12)
Click Connector(A13)
Click Connector(A12)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
A13-1 - Body ground	Ignition switch off	11 to 14 V
A12-1 - Body ground	Ignition switch ON	11 to 14 V
	Ignition switch off	Below 1 V

Standard Resistance:

EWD INFO

Click Location & Routing(K20,K21)
Click Connector(K20)
Click Connector(K21)

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
K20-36 - Body ground	Always	Below 1 Ω
K21-41 - Body ground	Always	Below 1 Ω

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

OK ▼

20.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - ECM)**

(a) Disconnect the A12 power distribution box assembly connector.

(b) Disconnect the A91 ECM connector.

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

Standard Resistance:

EWD INFO

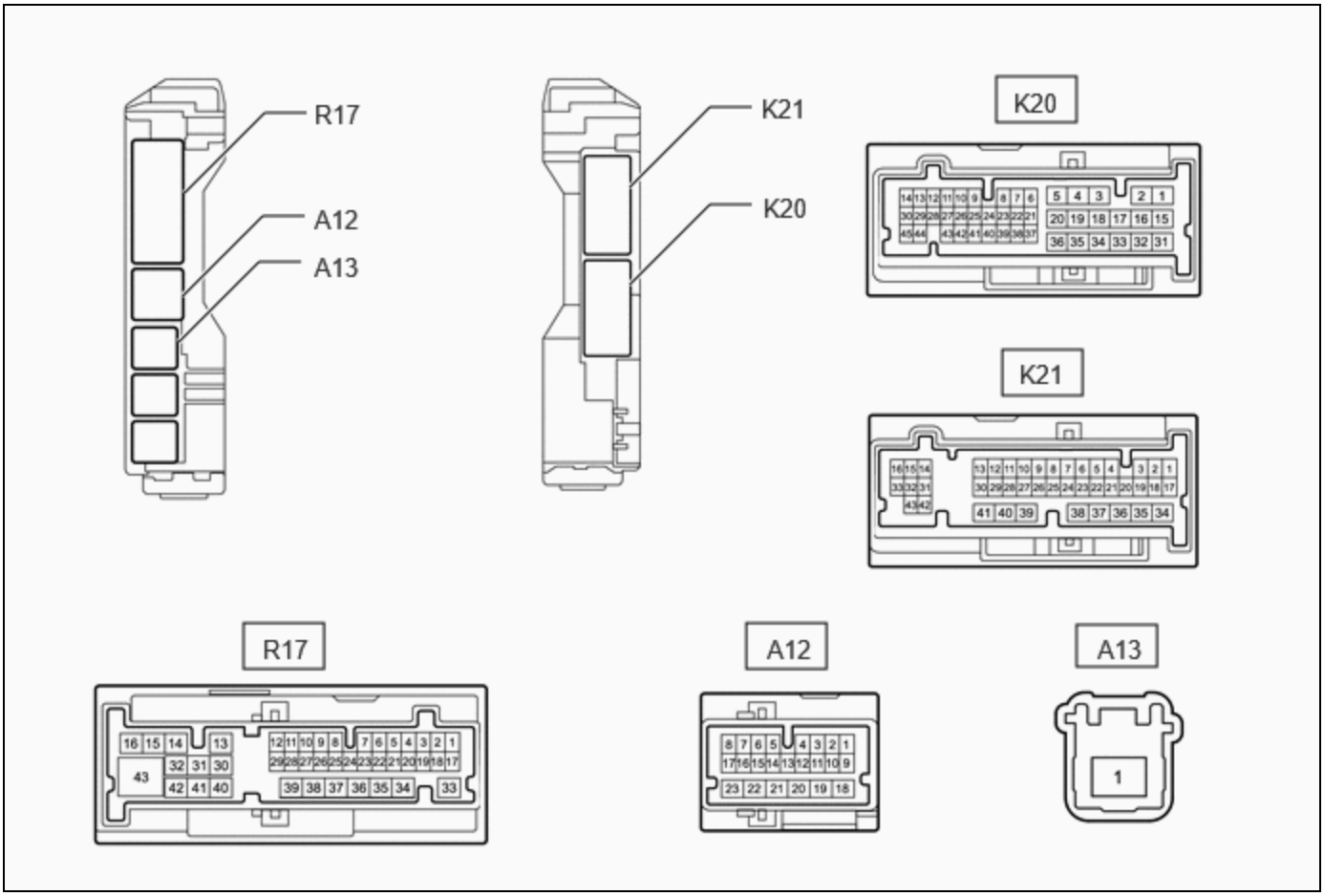
Click Location & Routing(A12,A91)
Click Connector(A12)
Click Connector(A91)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A12-16 - A91-28 (FREL)	Always	Below 1 Ω
A12-16 or A91-28 (FREL) - Body ground	Always	10 kΩ or higher

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

OK ▼

21.	**INSPECT POWER DISTRIBUTION BOX ASSEMBLY (FUEL OPN RELAY/FUEL LOCK RELAY)**



(a) Remove the power distribution box assembly.

Click here INFO

(b) Remove the main body ECU (multiplex network body ECU) from the power distribution box assembly.

Click here INFO

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

Standard Resistance:

EWD INFO

Click Location & Routing(A13,R17,K20,K21)
Click Connector(A13)
Click Connector(R17)
Click Connector(K20)
Click Connector(K21)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A13-1 - R17-29	Voltage applied between terminals A12-1 and A12-16	Below 1 Ω
A13-1 - R17-29	Voltage not applied between terminals A12-1 and A12-16	10 kΩ or higher
K20-36 - R17-29	Voltage not applied between terminals A12-1 and A12-16	Below 1 Ω
K21-41 - R17-29		
K20-36 - R17-29	Voltage applied between terminals A12-1 and A12-16	10 kΩ or higher
K21-41 - R17-29		

OK ▶ **REPLACE ECM**

NG ▶ **REPLACE POWER DISTRIBUTION BOX ASSEMBLY**

Click here INFO

22.	**INSPECT FUEL LID OPENER SWITCH**

(a) Remove the fuel lid opener switch.

Click here INFO

(b) Inspect the fuel lid opener switch.

Click here INFO

NG ▶ **REPLACE FUEL LID OPENER SWITCH**

OK
▼

23.	**CHECK HARNESS AND CONNECTOR (FUEL LID OPENER SWITCH - ECM AND BODY GROUND)**

(a) Disconnect the A91 ECM connector.

(b) Disconnect the K50 fuel lid opener switch connector.

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

Standard Resistance:

Click Location & Routing(K50,A91)
Click Connector(K50)
Click Connector(A91)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K50-5 (IG) - A91-60 (FUEL)	Always	Below 1 Ω
K50-5 (IG) or A91-60 (FUEL) - Body ground	Always	10 kΩ or higher
K50-2 (E) - Body ground	Always	Below 1 Ω

OK ▶ **REPLACE ECM**

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