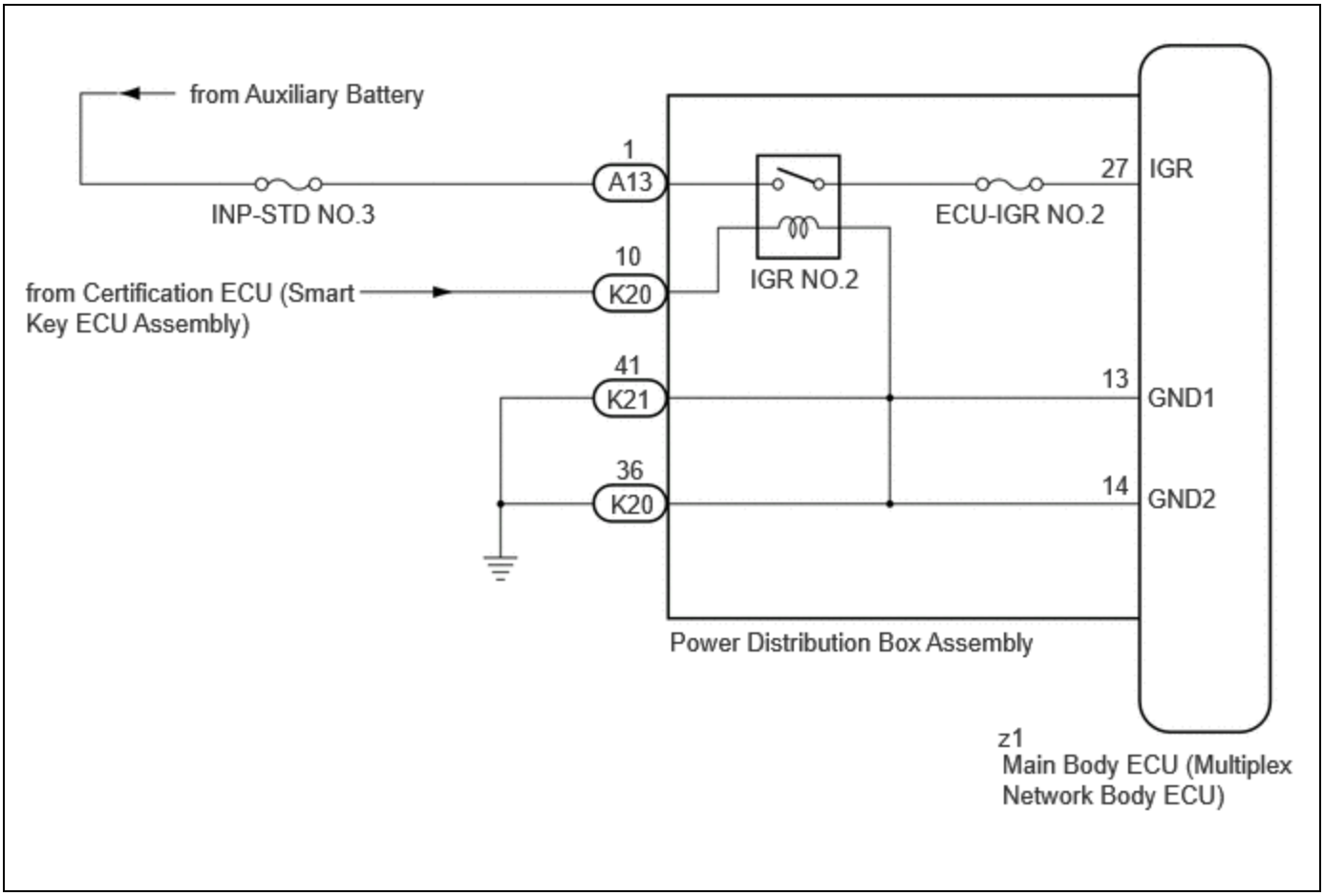
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029IMV
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: LIGHTING (INT): LIGHTING SYSTEM: IG Signal Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

IG Signal Circuit

DESCRIPTION

This circuit detects the ignition switch ON or off condition, and sends it to the main body ECU (multiplex network body ECU).

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following procedure.
- Before replacing the main body ECU (multiplex network body ECU), refer to Registration.

Click here INFO

PROCEDURE

1.	**READ VALUE USING GTS**

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

Body Electrical > Main Body > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
IGR Power	Ignition switch ON signal	OFF or ON	OFF: Ignition switch off ON: Ignition switch ON	-

OK:
Normal conditions listed above are displayed.

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE** INFO

NG
▼

2.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - POWER SOURCE AND BODY GROUND)**

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

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

Standard Voltage:

EWD INFO

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

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A13-1 - Body ground	Ignition switch off	11 to 14 V
K20-10 - Body ground	Ignition switch off	Below 1 V
K20-10 - Body ground	Ignition switch ON	11 to 14 V

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

Standard Resistance:

EWD INFO

Click Location & Routing(K21,K20)

Click Connector(K21)
Click Connector(K20)

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

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

OK ▼

3.	**INSPECT POWER DISTRIBUTION BOX ASSEMBLY**

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

Click here INFO

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

Standard Resistance:

EWD INFO

Click Location & Routing(K21,z1,K20,A13)
Click Connector(K21)
Click Connector(z1)
Click Connector(K20)
Click Connector(A13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-41 - z1-13 (GND1)	Always	Below 1 Ω
K20-36 - z1-14 (GND2)	Always	Below 1 Ω
A13-1 - z1-27 (IGR)	Auxiliary battery not connected to K20-10 - K20-36 or K21-41	10 kΩ or higher
A13-1 - z1-27 (IGR)	Auxiliary battery positive (+) → K20-10 Auxiliary battery negative (-) → K20-36 or K21-41	Below 1 Ω

OK ▶ **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)** INFO

NG ▶ **REPLACE POWER DISTRIBUTION BOX ASSEMBLY** INFO