

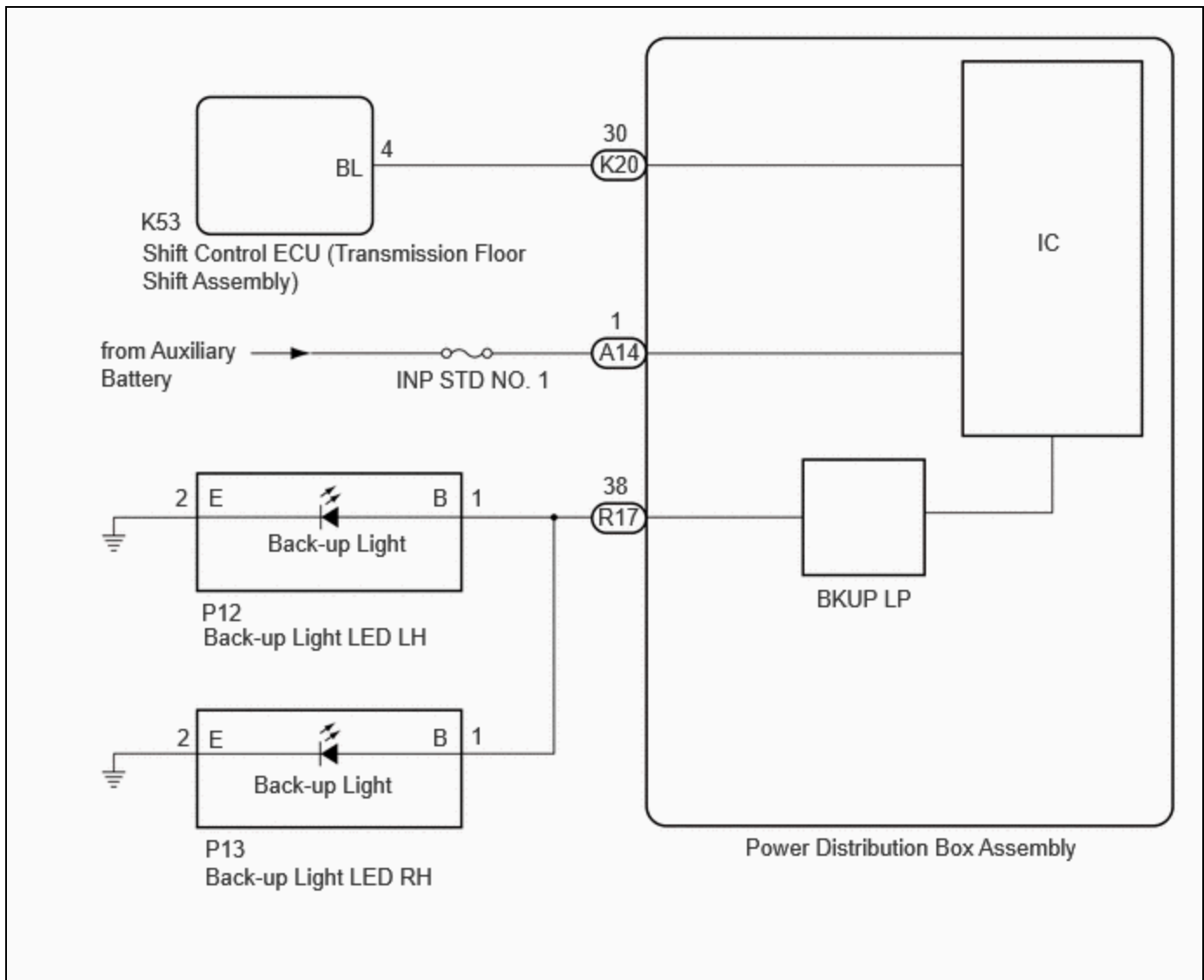
Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM100000002A15D
Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: LIGHTING (EXT): LIGHTING SYSTEM: Back-up Light Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

Back-up Light Circuit

DESCRIPTION

Shift control ECU(transmission floor shift assembly) controls the back-up lights.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

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

PROCEDURE

1.	READ VALUE USING GTS
-----------	-----------------------------

- (a) Turn the ignition switch to ON.
- (b) Move the shift lever to R.
- (c) Read the Data List according to the display on the GTS.

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY	MEASUREMENT ITEM	NORMAL CONDITION	REFERENCE VALUE	DIAGNOSTIC NOTE
Back-up Light Fuse Shut Off Status	Back-up light fuse shut off status	OFF or ON	OFF: Fuse has no shut off history ON: Fuse has shut off history	-

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY
Back-up Light Fuse Shut Off Status

OK:
The Data List value displays "OFF".

NG **GO TO STEP 7**

OK

2.	READ VALUE USING GTS
-----------	-----------------------------

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

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY	MEASUREMENT ITEM	NORMAL CONDITION	REFERENCE VALUE	DIAGNOSTIC NOTE
Back-up Light Input Signal	Back-up light input	OFF or ON	OFF: Shift lever in any position other than R ON: Shift lever in R	-

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY
Back-up Light Input Signal

OK:
Display changes according to shift lever operation.

NG  **GO TO STEP 5**

OK


3.	CHECK HARNESS AND CONNECTOR (POWER SOURCE - POWER DISTRIBUTION BOX ASSEMBLY)
-----------	---

- (a) Disconnect the A14 power distribution box assembly connector.
- (b) Measure the voltage according to the value(s) in the table below.
Standard Voltage:



[Click Location & Routing\(A14\)](#)
[Click Connector\(A14\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A14-1 - Body ground	Ignition switch off	11 to 14 V

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK


4.	CHECK HARNESS AND CONNECTOR (BACK-UP LIGHT LED - POWER DISTRIBUTION BOX ASSEMBLY)
-----------	--

- (a) Disconnect the P12 back-up light LED LH connector.
- (b) Disconnect the P13 back-up light LED RH connector.
- (c) Disconnect the R17 power distribution box assembly connector.
- (d) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(P12,R17,P13\)](#)

[Click Connector\(P12\)](#)

[Click Connector\(R17\)](#)

[Click Connector\(P13\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
P12-1(B) - R17-38	Always	Below 1 Ω
P13-1(B) - R17-38	Always	Below 1 Ω

OK **REPLACE POWER DISTRIBUTION BOX ASSEMBLY**

[INFO](#)

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

5.	CHECK HARNESS AND CONNECTOR (SHIFT CONTROL ECU (TRANSMISSION FLOOR SHIFT ASSEMBLY) - POWER DISTRIBUTION BOX ASSEMBLY)
-----------	--

(a) Disconnect the K53 shift control ECU (transmission floor shift assembly) connector.

(b) Disconnect the K20 power distribution box assembly connector.

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

Standard Resistance:



[Click Location & Routing\(K53,K20\)](#)

[Click Connector\(K53\)](#)

[Click Connector\(K20\)](#)

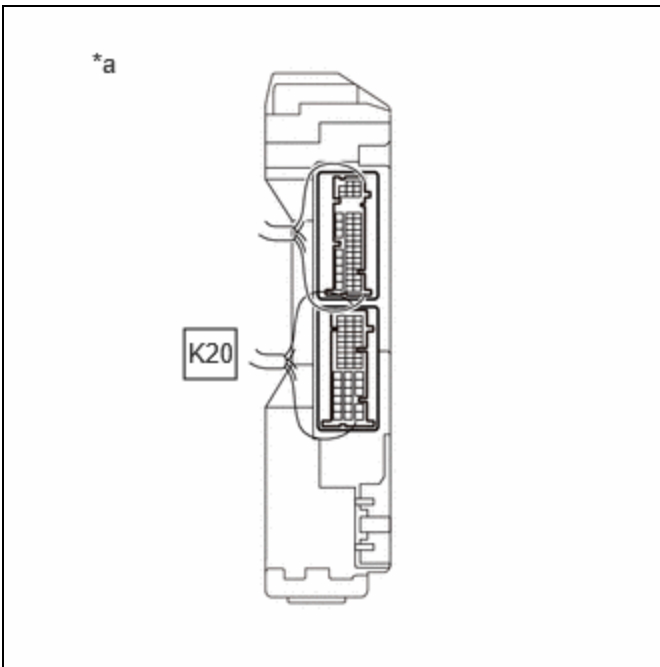
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K53-4(BL) - K20-30	Always	Below 1 Ω
K53-4 (BL) or K20-30 - Body ground	Always	10 k Ω or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



6.	CHECK SHIFT CONTROL ECU (TRANSMISSION FLOOR SHIFT ASSEMBLY) (OUTPUT VOLTAGE)
-----------	---



*a	Component with harness connected (Power Distribution Box Assembly)
----	---

- (a) Connect the K53 shift control ECU (transmission floor shift assembly) connector.
- (b) Connect the K20 power distribution box assembly connector.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(K20\).](#)

[Click Connector\(K20\).](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K20-30 - Body ground	Ignition switch ON, reverse (R) not selected	Below 1 V
K20-30 - Body ground	Ignition switch ON, reverse (R) selected	11 to 14 V

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

NG ▶ **REPLACE SHIFT CONTROL ECU (TRANSMISSION FLOOR SHIFT ASSEMBLY)**

7.	CHECK BACK-UP LIGHT LED LH
-----------	-----------------------------------

- (a) Disconnect the P12 back-up light LED LH connector.
- (b) Turn the ignition switch to ON.

- (c) Move the shift lever to R.
- (d) Read the Data List according to the display on the GTS.

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY	MEASUREMENT ITEM	NORMAL CONDITION	REFERENCE VALUE	DIAGNOSTIC NOTE
Back-up Light Fuse Shut Off Status	Back-up light fuse shut off status	OFF or ON	OFF: Fuse has no shut off history ON: Fuse has shut off history	-

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY
Back-up Light Fuse Shut Off Status

OK:
The Data List value displays "OFF".

OK  **REPLACE BACK-UP LIGHT LED LH**

NG


8.	CHECK BACK-UP LIGHT LED RH
-----------	-----------------------------------

- (a) Disconnect the P13 back-up light LED RH connector.
- (b) Turn the ignition switch to ON.
- (c) Move the shift lever to R.
- (d) Read the Data List according to the display on the GTS.

Body Electrical > Power Distribution Box > Data List

TESTER DISPLAY	MEASUREMENT ITEM	NORMAL CONDITION	REFERENCE VALUE	DIAGNOSTIC NOTE
Back-up Light Fuse Shut Off Status	Back-up light fuse shut off status	OFF or ON	OFF: Fuse has no shut off history ON: Fuse has shut off history	-

Body Electrical > Power Distribution Box > Data List



OK:

The Data List value displays "OFF".

OK ► REPLACE BACK-UP LIGHT LED RH

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

