

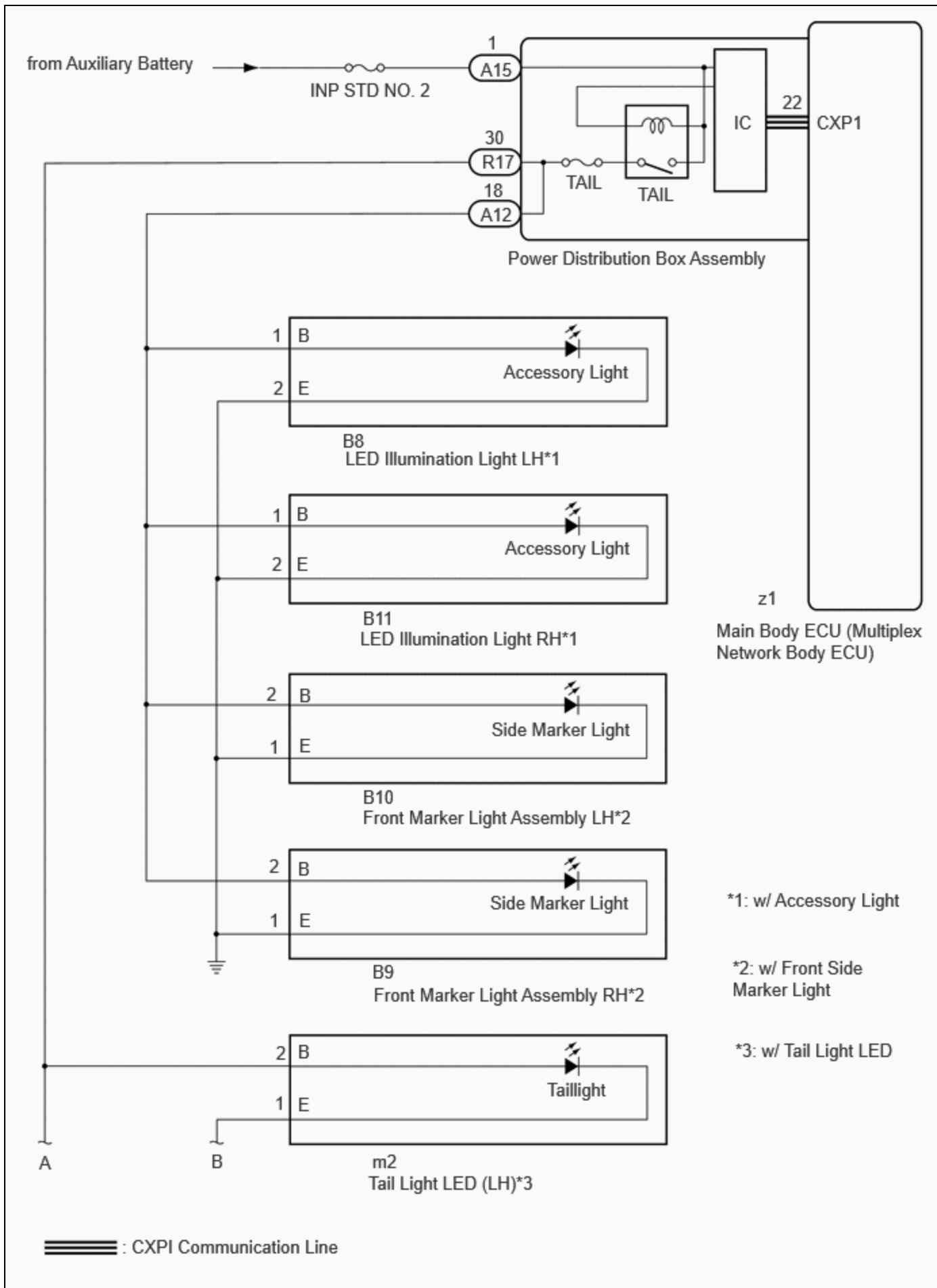
| | | |
|---|---------------------------|--------------------------------------|
| Last Modified: 12-04-2024 | 6.11:8.1.0 | Doc ID: RM100000002A15F |
| Model Year Start: 2023 | Model: Prius Prime | Prod Date Range: [12/2022 -] |
| Title: LIGHTING (EXT): LIGHTING SYSTEM: Taillight Relay Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -] | | |

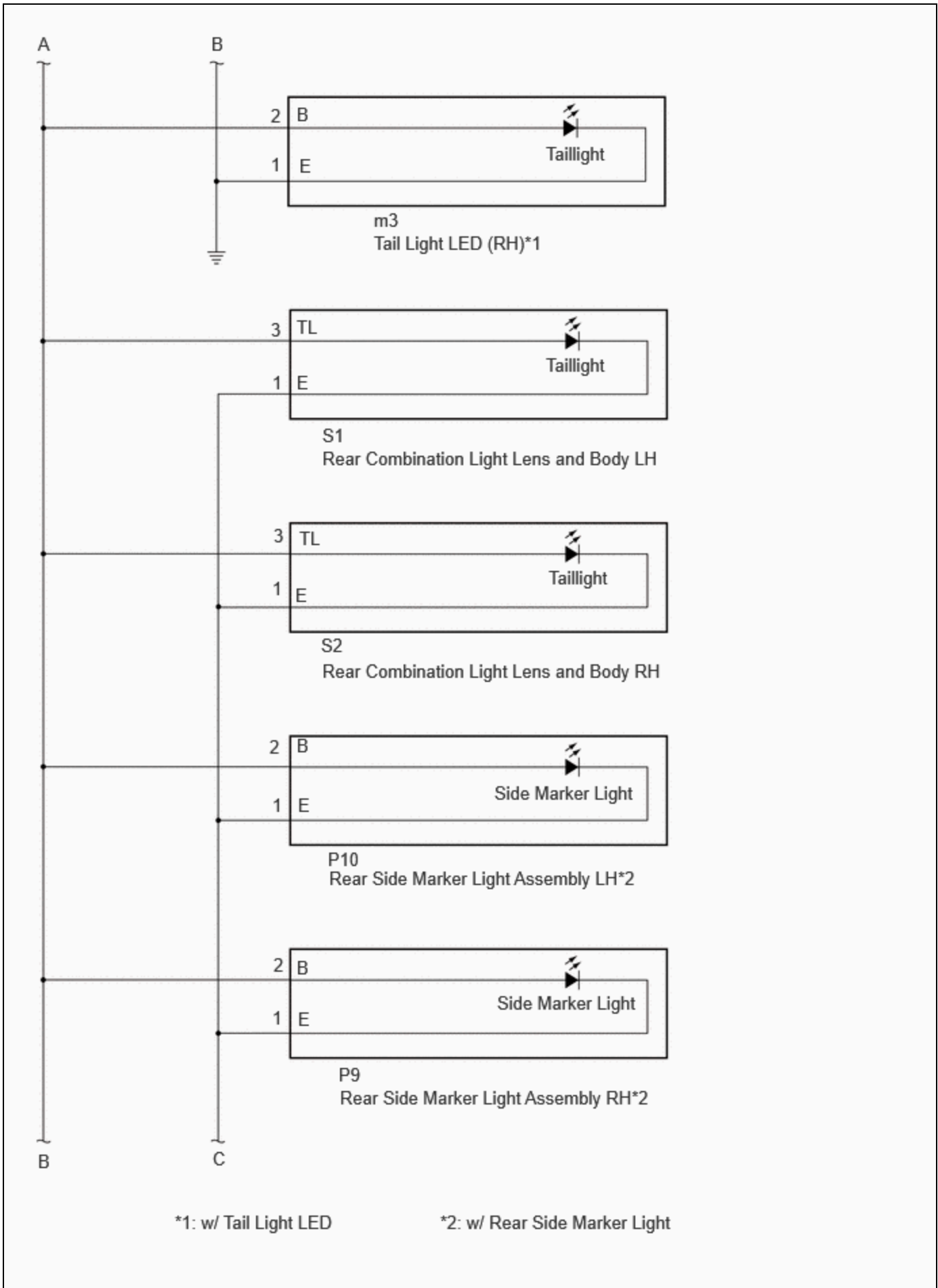
Taillight Relay Circuit

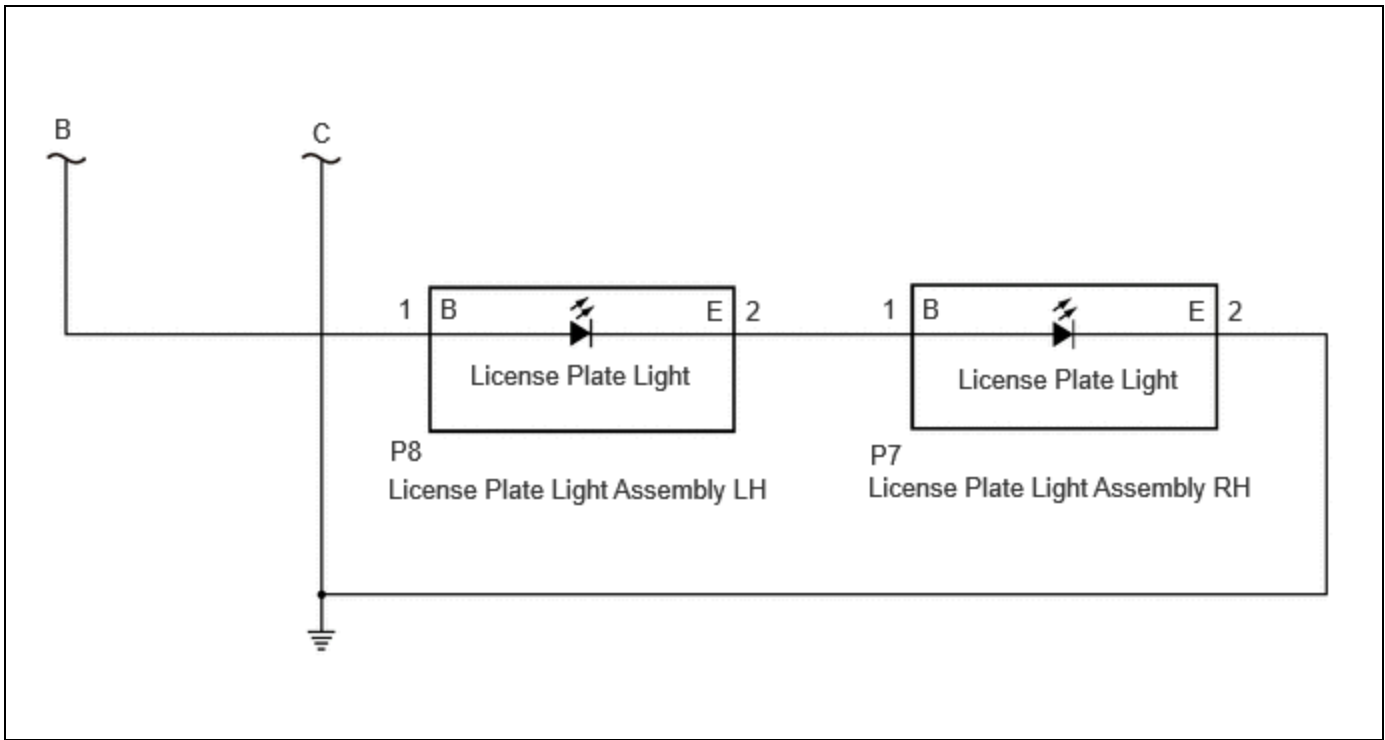
DESCRIPTION

The main body ECU (multiplex network body ECU) controls the operation of the TAIL relay.

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](#)

- First perform the communication function inspections in How to Proceed with Troubleshooting to confirm that there are no CXPI communication malfunctions before troubleshooting this symptom.

Click here [INFO](#)

PROCEDURE

| | |
|-----------|--------------------------------------|
| 1. | PERFORM ACTIVE TEST USING GTS |
|-----------|--------------------------------------|

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

Body Electrical > Main Body > Active Test

| TESTER DISPLAY | MEASUREMENT ITEM | CONTROL RANGE | DIAGNOSTIC NOTE |
|-----------------------------|---------------------------|---------------|-----------------|
| Taillight / Clearance Light | Taillights/parking lights | OFF or ON | - |

Body Electrical > Main Body > Active Test

| |
|-----------------------------|
| TESTER DISPLAY |
| Taillight / Clearance Light |

OK:
taillights illuminate.

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

Click here [INFO](#)

NG
▼

| | |
|-----------|---|
| 2. | CHECK HARNESS AND CONNECTOR (POWER SOURCE - POWER DISTRIBUTION BOX ASSEMBLY) |
|-----------|---|

- (a) Disconnect the A15 power distribution box assembly connector.
- (b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(A15\)](#)
[Click Connector\(A15\)](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---------------------|---------------------|---------------------|
| A15-1 - Body ground | Ignition switch off | 11 to 14 V |

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

OK
▼

| | |
|-----------|--|
| 3. | CHECK HARNESS AND CONNECTOR (TAILLIGHT CIRCUIT) |
|-----------|--|

- (a) Disconnect the B8 LED illumination light LH connector. (w/ Accessory Light)
- (b) Disconnect the B11 LED illumination light RH connector. (w/ Accessory Light)
- (c) Disconnect the B10 front marker light assembly LH connector. (w/ Front Side Marker Light)
- (d) Disconnect the B9 front marker light assembly RH connector. (w/ Front Side Marker Light)
- (e) Disconnect the m2 tail light LED (LH) connector. (w/ Tail Light LED)
- (f) Disconnect the m3 tail light LED (RH) connector. (w/ Tail Light LED)
- (g) Disconnect the S1 rear combination light lens and body LH connector.

- (h) Disconnect the S2 rear combination light lens and body RH connector.
- (i) Disconnect the P10 rear side marker light assembly LH connector. (w/ Rear Side Marker Light)
- (j) Disconnect the P9 rear side marker light assembly RH connector. (w/ Rear Side Marker Light)
- (k) Disconnect the P8 license plate light assembly LH connector.
- (l) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(S1,R17,B8,B10,A12\)](#)

[Click Connector\(S1\)](#)

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

[Click Connector\(B8\)](#)

[Click Connector\(B10\)](#)

[Click Connector\(A12\)](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|---|-----------|-------------------------|
| S1-3 (TL) - R17-30 | Always | Below 1 Ω |
| B8-1 (B)*1 or B10-2 (B)*2 - A12-18*1, *2 | Always | Below 1 Ω |
| S1-3 (TL) or R17-30 - Body ground | Always | 10 k Ω or higher |
| B8-1 (B)*1, B10-2 (B)*2 or A12-18 - Body ground*1, *2 | Always | 10 k Ω or higher |

*1: w/ Accessory Light

*2: w/ Rear Side Marker Light

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



4. CHECK POWER DISTRIBUTION BOX ASSEMBLY

- (a) Connect the A15 power distribution box assembly connector.
- (b) Connect the R17 power distribution box assembly connector.
- (c) Connect the A12 power distribution box assembly connector.*1,*2

*1: w/ Accessory Light

*2: w/ Front Side Marker Light

- (d) Turn the light control switch to the tail position.
- (e) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(R17\)](#)

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

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|----------------------|---------------------|---------------------|
| R17-30 - Body ground | Ignition switch off | 11 to 14 V |

| RESULT | PROCEED TO |
|----------------------------------|------------|
| OK (w/ Front Side Marker Light) | A |
| OK (w/o Front Side Marker Light) | B |
| NG | C |

B [GO TO STEP 9](#)

C [REPLACE POWER DISTRIBUTION BOX ASSEMBLY](#)

Click here



| | |
|-----------|---|
| 5. | CHECK FRONT MARKER LIGHT ASSEMBLY LH |
|-----------|---|

- (a) Connect the B10 front marker light assembly LH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(S1\)](#)

[Click Connector\(S1\)](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|-------------------------|---------------------|---------------------|
| S1-3 (TL) - Body ground | Ignition switch off | 11 to 14 V |

NG [REPLACE FRONT MARKER LIGHT ASSEMBLY LH](#)



| | |
|-----------|---|
| 6. | CHECK FRONT MARKER LIGHT ASSEMBLY RH |
|-----------|---|

- (a) Connect the B9 front marker light assembly RH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(S1\).](#)

[Click Connector\(S1\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|-------------------------|---------------------|---------------------|
| S1-3 (TL) - Body ground | Ignition switch off | 11 to 14 V |

| RESULT | PROCEED TO |
|--------------------------|------------|
| OK (w/ Accessory Light) | A |
| OK (w/o Accessory Light) | B |
| NG | C |

B ► **GO TO STEP 9**

C ► **REPLACE FRONT MARKER LIGHT ASSEMBLY RH**



| | |
|-----------|--|
| 7. | CHECK LED ILLUMINATION LIGHT LH |
|-----------|--|

- (a) Connect the B8 LED illumination light LH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(S1\)](#)

[Click Connector\(S1\)](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|-------------------------|---------------------|---------------------|
| S1-3 (TL) - Body ground | Ignition switch off | 11 to 14 V |

NG ► REPLACE LED ILLUMINATION LIGHT LH

OK



| | |
|-----------|--|
| 8. | CHECK LED ILLUMINATION LIGHT RH |
|-----------|--|

- (a) Connect the B11 LED illumination light RH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(S1\)](#)

[Click Connector\(S1\)](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|-------------------------|---------------------|---------------------|
| S1-3 (TL) - Body ground | Ignition switch off | 11 to 14 V |

OK ► GO TO STEP 9

NG ► REPLACE LED ILLUMINATION LIGHT RH

| | |
|-----------|--|
| 9. | CHECK REAR COMBINATION LIGHT LENS AND BODY LH |
|-----------|--|

- (a) Connect the S1 rear combination light lens and body LH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

NG ▶ **REPLACE REAR COMBINATION LIGHT LENS AND BODY LH**

OK



| | |
|------------|--|
| 10. | CHECK REAR COMBINATION LIGHT LENS AND BODY RH |
|------------|--|

- (a) Connect the S2 rear combination light lens and body RH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

| RESULT | PROCEED TO |
|---------------------------------|------------|
| OK (w/ Rear Side Marker Light) | A |
| OK (w/o Rear Side Marker Light) | B |
| NG | C |

B ▶ **REPLACE LICENSE PLATE LIGHT ASSEMBLY**

C ▶ **REPLACE REAR COMBINATION LIGHT LENS AND BODY RH**



11. CHECK REAR SIDE MARKER LIGHT ASSEMBLY LH

- (a) Connect the P10 rear side marker light assembly LH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

NG **REPLACE REAR SIDE MARKER LIGHT ASSEMBLY LH**



12. CHECK REAR SIDE MARKER LIGHT ASSEMBLY RH

- (a) Connect the P9 rear side marker light assembly RH connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

| RESULT | PROCEED TO |
|-------------------------|------------|
| OK (w/ Tail Light LED) | A |
| OK (w/o Tail Light LED) | B |
| NG | C |

B ► REPLACE LICENSE PLATE LIGHT ASSEMBLY

C ► REPLACE REAR SIDE MARKER LIGHT ASSEMBLY RH

A



| | |
|------------|----------------------------------|
| 13. | CHECK TAIL LIGHT LED (LH) |
|------------|----------------------------------|

- (a) Connect the m2 tail light LED (LH) connector.
- (b) Turn the light control switch to the tail position.
- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

NG ► REPLACE TAIL LIGHT LED (LH)

OK



| | |
|------------|----------------------------------|
| 14. | CHECK TAIL LIGHT LED (RH) |
|------------|----------------------------------|

- (a) Connect the m3 tail light LED (RH) connector.
- (b) Turn the light control switch to the tail position.

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

Standard Voltage:



[Click Location & Routing\(P8\).](#)

[Click Connector\(P8\).](#)

| TESTER CONNECTION | CONDITION | SPECIFIED CONDITION |
|------------------------|---------------------|---------------------|
| P8-1 (B) - Body ground | Ignition switch off | 11 to 14 V |

OK ► **REPLACE LICENSE PLATE LIGHT ASSEMBLY**

NG ► **REPLACE TAIL LIGHT LED (RH)**

