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LIGHTING SYSTEM

PRECAUTION

1. **PRECAUTION FOR HEADLIGHT BULB REPLACEMENT (HALOGEN BULB)**
   a. Halogen bulbs have pressurized gas inside and require special handling. They can shatter if scratched or dropped. Hold the bulb only by its plastic or metal case. Do not touch the glass part of a bulb with bare hands.

PARTS LOCATION

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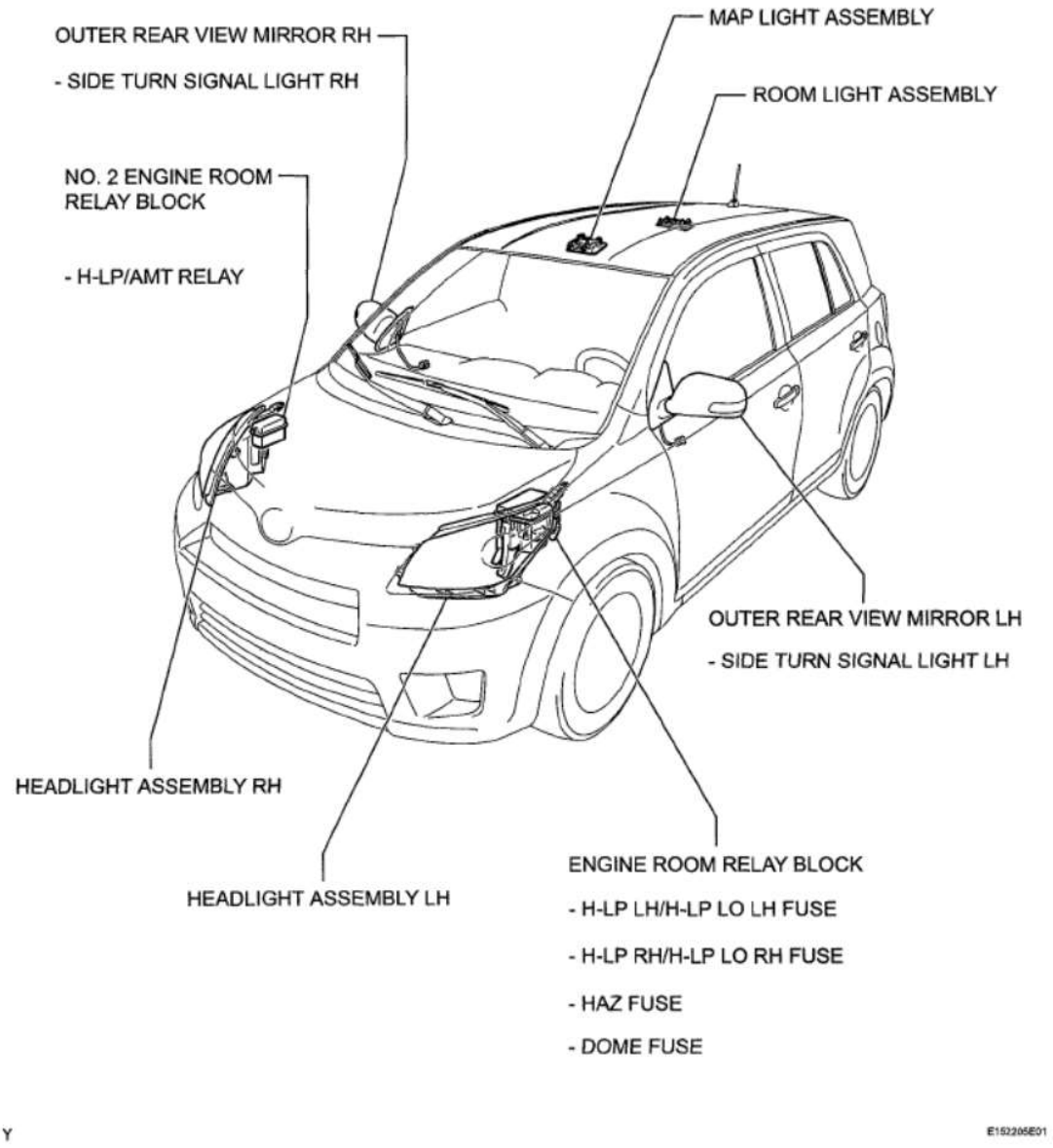


Fig. 1: Identifying Lighting System Components Location (1 Of 3)
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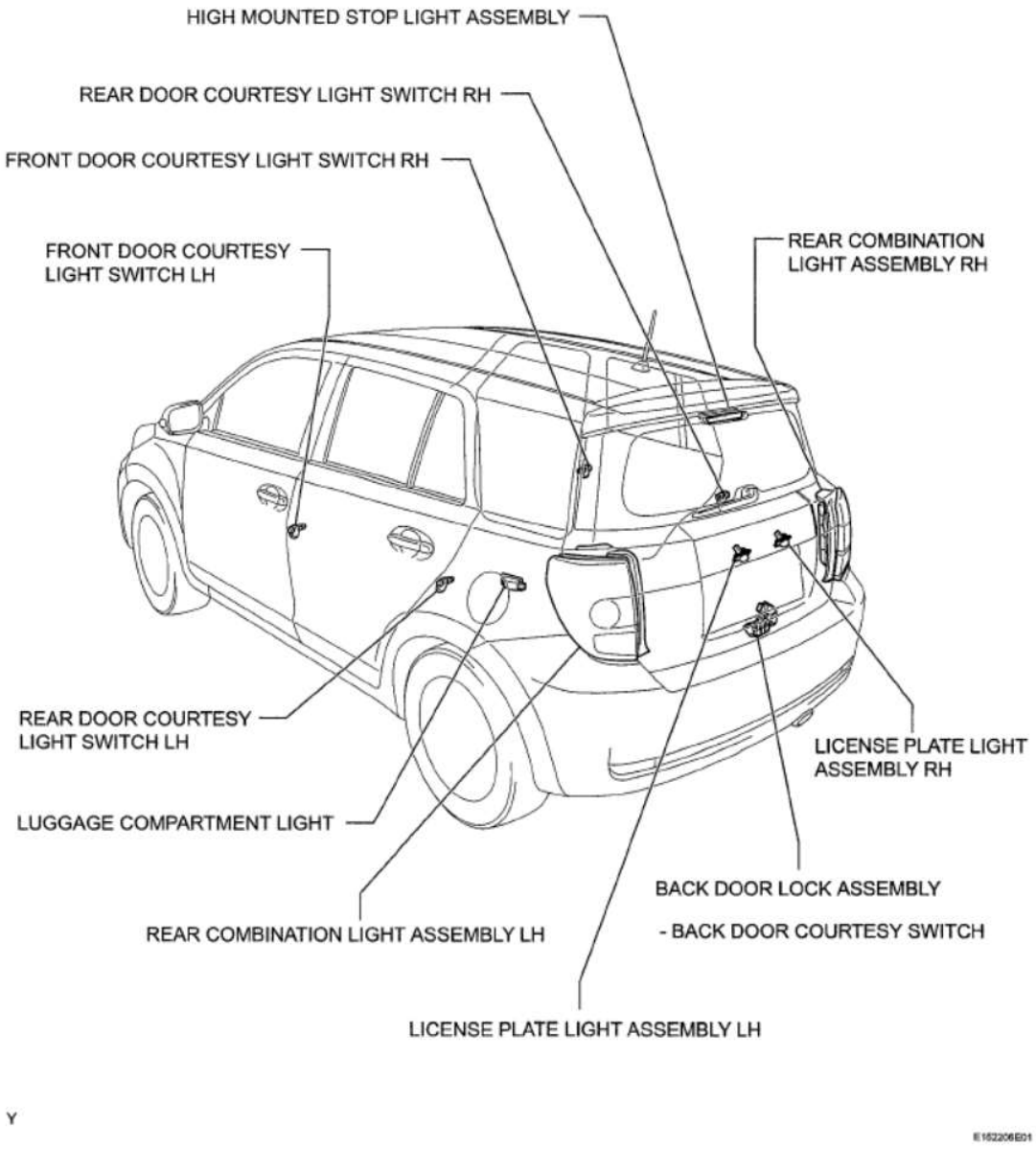


Fig. 2: Identifying Lighting System Components Location (2 Of 3)
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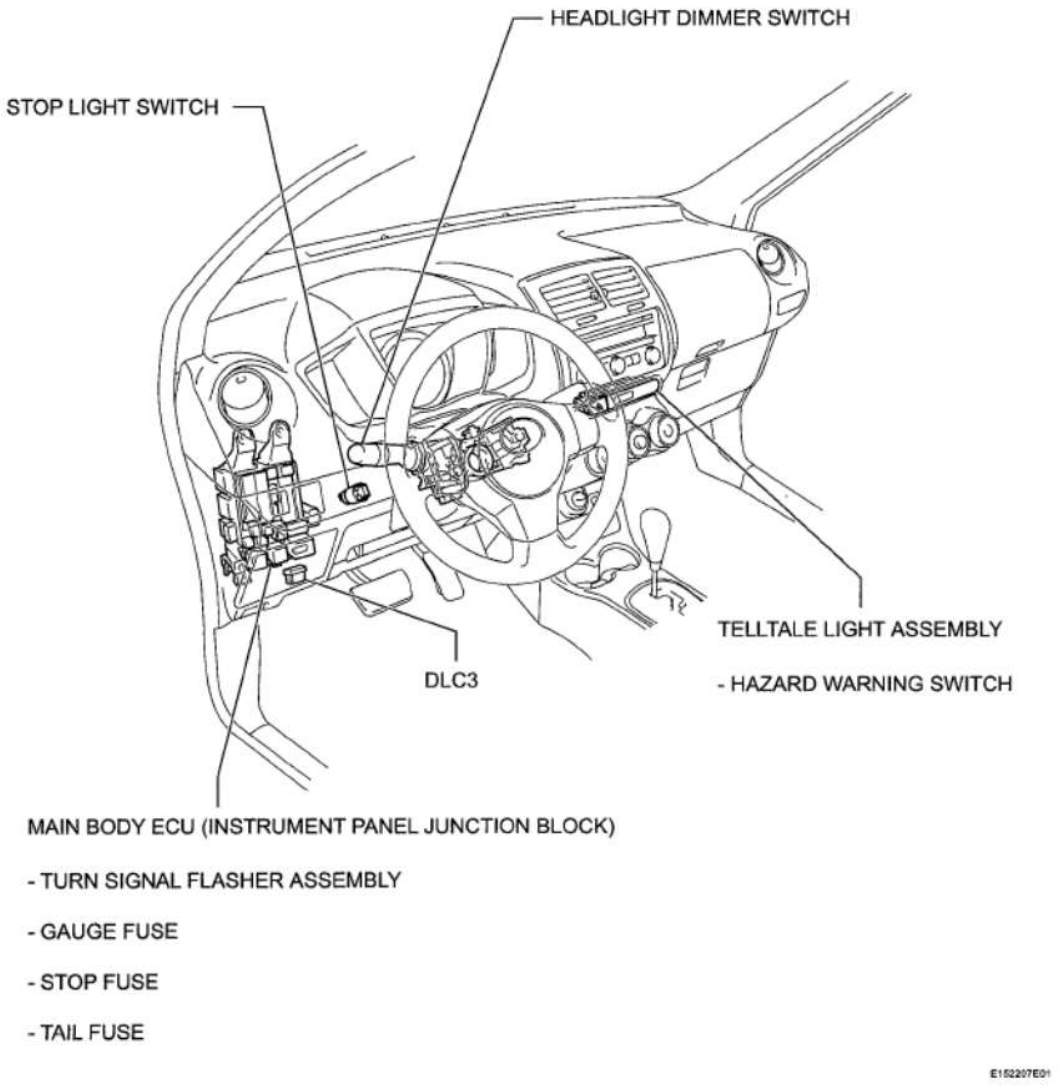


Fig. 3: Identifying Lighting System Components Location (3 Of 3)
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SYSTEM DIAGRAM

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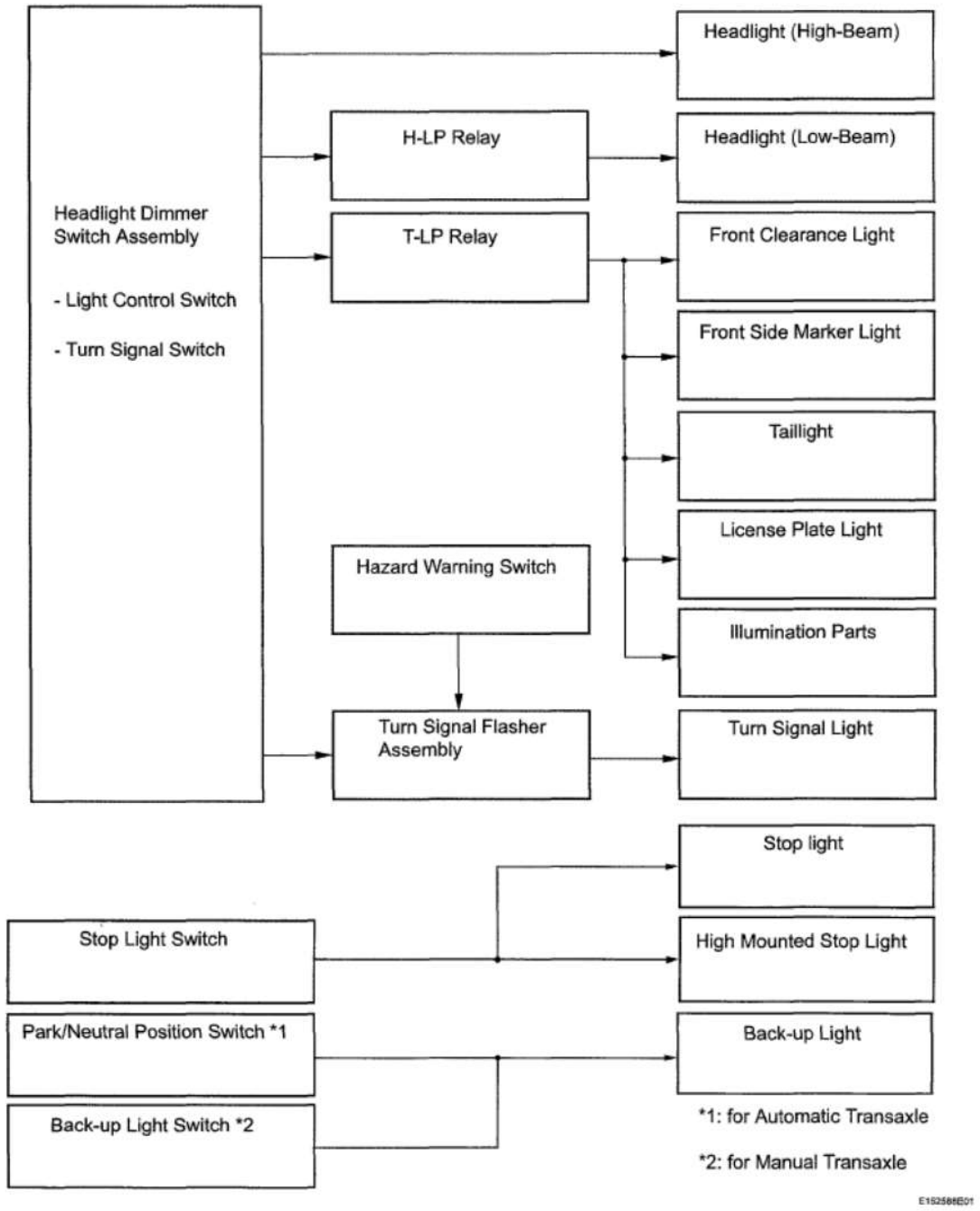


Fig. 4: Lighting System Diagram (1 Of 2)
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Illumination Control System (Illuminated Entry System):

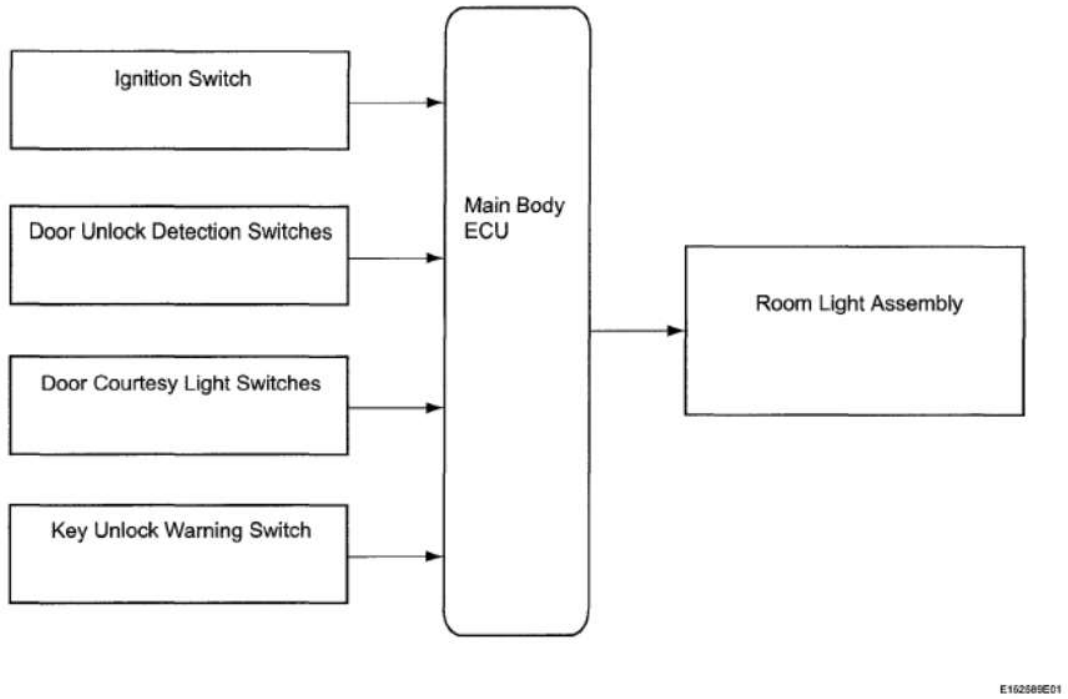


Fig. 5: Lighting System Diagram (2 Of 2)
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SYSTEM DESCRIPTION

1. **ILLUMINATION CONTROL SYSTEM (Illuminated entry system):**
   - The illuminated entry system provides convenience when getting in or out of the vehicle at night. This system controls the room light.
   - This function is controlled by the main body ECU. The operation and condition of this control are described below.

OPERATION CONDITION CHART

Operation	Condition
Fade in	When any of the following conditions is met, the room light fades in • Any door is opened. • Any door is unlocked when the ignition switch is OFF and all doors are closed • Ignition switch is turned from ON to OFF

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	when all doors are closed
Fade out immediately	When either of the following conditions is met, the room light fades out • Ignition switch is turned from OFF to ON when all doors are closed • All doors are locked when the ignition switch is OFF
Illuminate for approximately 15 seconds, and then fade out	All doors are closed when the ignition switch is off
Fade out (Battery saving control)	When all of the following conditions have been met, the main body ECU turns off the lights. • A key is not inserted in the ignition key cylinder • There is no change in the condition of the doors for 20 minutes When any of the following conditions is met, the count of the battery save times will be cleared • A key is inserted in the ignition key cylinder. • Any of the doors is opened

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the lighting system.
- *: Use a Techstream

1. **VEHICLE BROUGHT TO WORKSHOP**
2. **INSPECT BATTERY VOLTAGE**

   Standard voltage:

   11 to 14 V

   If the voltage is below 11V, recharge or replace the battery before proceeding.

3. REFER TO **PROBLEM SYMPTOMS TABLE**

   RESULT REFERENCE

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Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B: Go to step 5

A: Go to next step

4. **OVERALL ANALYSIS AND TROUBLESHOOTING**
   a. Data List/Active Test (See **DATA LIST / ACTIVE TEST**).
   b. Terminals of ECU (See **TERMINALS OF ECU**).
5. **ADJUST, REPAIR OR REPLACE**

   NEXT: Go to next step

6. **CONFIRMATION TEST**

   NEXT : END

CUSTOMIZE PARAMETERS

1. **CUSTOMIZING FUNCTION WITH TECHSTREAM**

   HINT:

   The following items can be customized.

NOTE:

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **Be sure to make a note of the current settings before customizing.**
- **When troubleshooting a function, first make sure that the function is set to the default setting.**

   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Enter the following menus: Customize Setting /
   e. Select the setting by referring to the table below.

Main Body (Main Body ECU)

CUSTOMIZE PARAMETERS - MAIN BODY (MAIN BODY ECU)

Display	Default	Contents	Setting

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Lighting Time	15 seconds	Changes illumination duration after door closure (It will quickly fade out when turning the ignition switch ON)	7 5/ 15/ 30 (seconds)
I/L ON / ACC OFF	ON	Illuminates light when ignition switch turned to ACC (Room light illuminated when interior light switch set to DOOR)	ON / OFF
I/L ON / Unlock	ON	Function to light up room light when unlocking with door key cylinder (Room light illuminated when interior light switch set to DOOR)	ON / OFF

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the causes of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

HEADLIGHT SYSTEM

PROBLEM SYMPTOMS - HEADLIGHT SYSTEM

Symptom	Suspected Area	See
Neither headlight comes on	Headlight dimmer switch	**HEADLIGHT RELAY CIRCUIT**
	H-LP/AMT relay	**HEADLIGHT RELAY CIRCUIT**
	Harness or connector	**HEADLIGHT RELAY CIRCUIT**
Only one headlight comes on	Bulb	**HEADLIGHT ASSEMBLY**
	H-LP LH/H-LP LO LH or H-LP RH/H-LP LO RH fuse	**HEADLIGHT RELAY CIRCUIT**
	Harness or connector	**HEADLIGHT RELAY CIRCUIT**
LO-beam lights do not come on	Bulb	**HEADLIGHT ASSEMBLY**
	Headlight dimmer switch	**HEADLIGHT RELAY CIRCUIT**
	H-LP/AMT relay	**HEADLIGHT RELAY CIRCUIT**
	Harness or connector	**HEADLIGHT RELAY CIRCUIT**
	Bulb	**HEADLIGHT ASSEMBLY**

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Hl-beam lights do not come on	Headlight dimmer switch	**HEADLIGHT RELAY CIRCUIT**
	Harness or connector	**HEADLIGHT RELAY CIRCUIT**
Flash does not come on. (Headlights and Hi-beam normal)	Headlight dimmer switch	**HEADLIGHT RELAY CIRCUIT**
	Harness or connector	**HEADLIGHT RELAY CIRCUIT**

TAILLIGHT SYSTEM

PROBLEM SYMPTOMS - TAILLIGHT SYSTEM

Symptom	Suspected Area	See
Taillights and headlights do not come on	Main body ECU	-
	Headlight dimmer switch	**TAILLIGHT CIRCUIT**
No taillights come on. (Headlights normal)	TAIL fuse	**TAILLIGHT CIRCUIT**
	Headlight dimmer switch	**TERMINALS OF ECU**
	Harness or connector	**TAILLIGHT CIRCUIT**
	Main body ECU	-
Front clearance lights do not come on	Bulb	**HEADLIGHT ASSEMBLY**
	Harness or connector	**TAILLIGHT CIRCUIT**
	No. 2 light wire	**HEADLIGHT ASSEMBLY**
	Main body ECU	-
Front side marker lights do not come on	Bulb	**HEADLIGHT ASSEMBLY**
	Harness or connector	**TAILLIGHT CIRCUIT**
	No 2 light wire	**HEADLIGHT ASSEMBLY**
	Main body ECU	-
Rear taillights do not come on	Bulb	**REAR COMBINATION LIGHT ASSEMBLY**
	Harness or connector	**TAILLIGHT CIRCUIT**
	Rear combination light assembly	**REAR COMBINATION LIGHT ASSEMBLY**
	Main body ECU	-
License plate lights do not come on	Bulb	**LICENSE PLATE LIGHT ASSEMBLY**
	Harness or connector	**TAILLIGHT CIRCUIT**
	License plate light assembly	**LICENSE PLATE LIGHT ASSEMBLY**
	Main body ECU	-

BACK-UP LIGHT SYSTEM

PROBLEM SYMPTOMS - BACK-UP LIGHT SYSTEM

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Symptom	Suspected Area	See
No back-up lights come on	GAUGE fuse	BACK-UP LIGHT CIRCUIT
	Park/neutral position switch (for automatic transaxle models)	BACK-UP LIGHT CIRCUIT
	Back-up light switch (for manual transaxle models)	BACK-UP LIGHT CIRCUIT
	Harness or connector	BACK-UP LIGHT CIRCUIT
Only one back-up light does not came on	Bulb	REAR COMBINATION LIGHT ASSEMBLY
	Harness or connector	BACK-UP LIGHT CIRCUIT

STOP LIGHT SYSTEM

PROBLEM SYMPTOMS - STOP LIGHT SYSTEM

Symptom	Suspected Area	See
No stop lights come on	STOP fuse	STOP LIGHT CIRCUIT
	Stop light switch	STOP LIGHT CIRCUIT
	Harness or connector	STOP LIGHT CIRCUIT
Only one stop light does not come on	Bulb	REAR COMBINATION LIGHT ASSEMBLY
	Rear combination light assembly	REAR COMBINATION LIGHT ASSEMBLY
	Harness or connector	STOP LIGHT CIRCUIT
High mounted stop light does not come on	High mounted stop light assembly	HIGH MOUNTED STOP LIGHT ASSEMBLY
	Harness or connector	STOP LIGHT CIRCUIT

TURN SIGNAL LIGHT SYSTEM

PROBLEM SYMPTOMS - TURN SIGNAL LIGHT SYSTEM

Symptom	Suspected Area	See
No turn signal lights come on	Turn signal flasher assembly	TURN SIGNAL FLASHER ASSEMBLY
	GAUGE, HAZ fuse	TURN SIGNAL LIGHT CIRCUIT
	Headlight dimmer switch	TURN SIGNAL LIGHT CIRCUIT
	Harness or connector	TURN SIGNAL LIGHT CIRCUIT
	Main body ECU	TURN SIGNAL LIGHT CIRCUIT
Front turn signal light (LH or RH) does not flash	Bulb	HEADLIGHT ASSEMBLY
	Harness or connector	TURN SIGNAL LIGHT CIRCUIT
	Main body ECU	TURN SIGNAL LIGHT CIRCUIT
	Turn signal flasher assembly	TURN SIGNAL FLASHER ASSEMBLY
	Side turn signal light	SIDE TURN SIGNAL LIGHT

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Side turn signal light (LH or RH) does not flash.	assembly	**ASSEMBLY**
	Outer rear view mirror assembly	**TURN SIGNAL LIGHT CIRCUIT**
	Harness or connector	**TURN SIGNAL LIGHT CIRCUIT**
	Main body ECU	**TURN SIGNAL LIGHT CIRCUIT**
	Turn signal flasher assembly	**TURN SIGNAL FLASHER ASSEMBLY**
Rear turn signal light (LH or RH) does not come on	Bulb	**REAR COMBINATION LIGHT ASSEMBLY**
	Rear combination light assembly	**REAR COMBINATION LIGHT ASSEMBLY**
	Harness or connector	**TURN SIGNAL LIGHT CIRCUIT**
	Main body ECU	**TURN SIGNAL LIGHT CIRCUIT**
	Turn signal flasher assembly	**TURN SIGNAL FLASHER ASSEMBLY**

HAZARD WARNING LIGHT SYSTEM

PROBLEM SYMPTOMS - HAZARD WARNING LIGHT SYSTEM

Symptom	Suspected Area	See
Hazard warning lights do not come on (Turn signal lights normal)	HAZ fuse	**HAZARD WARNING SWITCH CIRCUIT**
	Hazard warning signal switch	**HAZARD WARNING SWITCH CIRCUIT**
	Harness or connector	**HAZARD WARNING SWITCH CIRCUIT**
	Main body ECU	**HAZARD WARNING SWITCH CIRCUIT**
	Turn signal flasher assembly	**TURN SIGNAL FLASHER ASSEMBLY**

MAP LIGHT SYSTEM

PROBLEM SYMPTOMS - MAP LIGHT SYSTEM

Symptom	Suspected Area	See
Map light does not come on	DOME fuse	-
	Bulb	**PERSONAL LIGHT ASSEMBLY**
	Map light assembly	**PERSONAL LIGHT ASSEMBLY**
	Harness or connector	-

ROOM LIGHT SYSTEM

PROBLEM SYMPTOMS - ROOM LIGHT SYSTEM

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Symptom	Suspected Area	See
Room light assembly does not come on	DOME fuse	-
	Bulb	ROOM LIGHT ASSEMBLY (FOR CENTER)
	Room light assembly	ROOM LIGHT ASSEMBLY (FOR CENTER)
	Harness or connector	ILLUMINATION CIRCUIT

ILLUMINATED ENTRY SYSTEM

PROBLEM SYMPTOMS - ILLUMINATED ENTRY SYSTEM

Symptom	Suspected Area	See
Illuminated entry system does not operate normally	DOME fuse	-
	Illumination circuit	ILLUMINATION CIRCUIT
	Door courtesy switch circuit	DOOR COURTESY SWITCH CIRCUIT
	Door lock position circuit	DOOR LOCK POSITION CIRCUIT
	Key unlock warning switch	INSPECTION
	Main body ECU	-

TERMINALS OF ECU

1. **CHECK MAIN BODY ECU**

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Rear view of Main Body ECU:

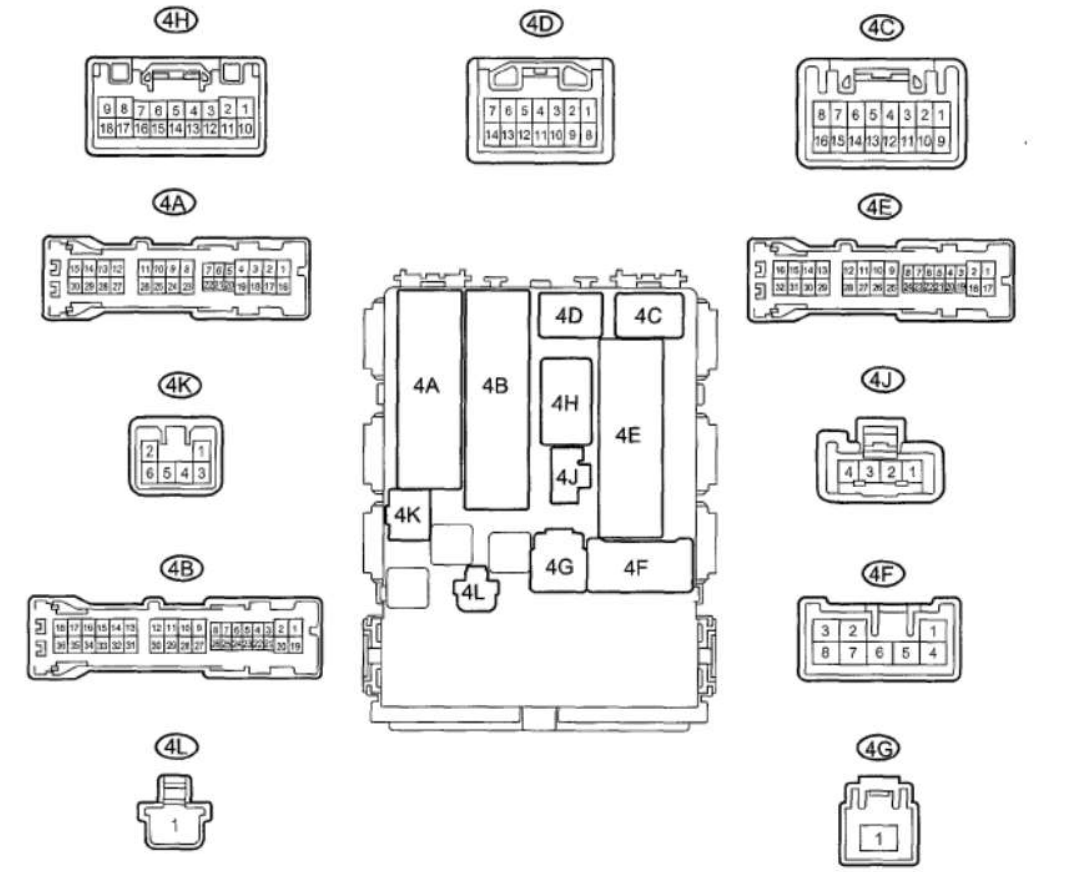


Fig. 6: Identifying Terminals Of ECU Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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Front view of Main Body ECU:

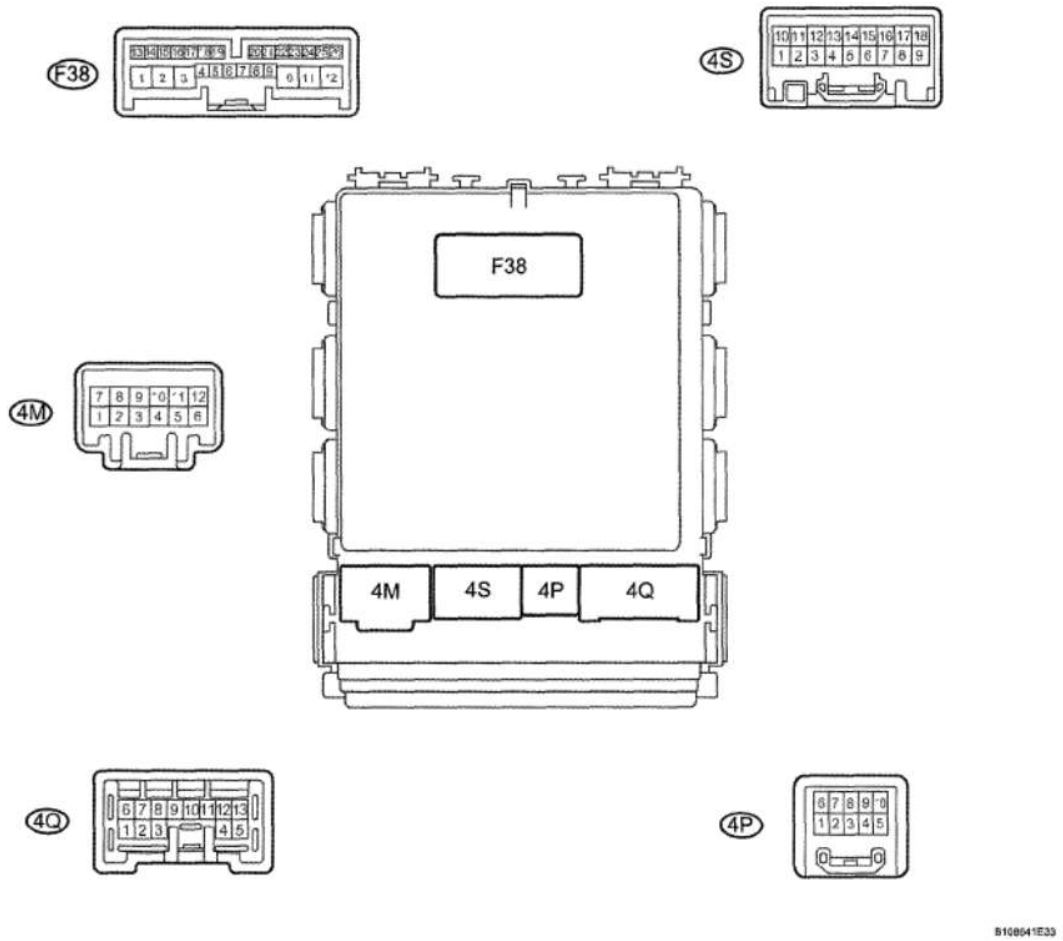


Fig. 7: Identifying Terminals Of ECU Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Disconnect the 4B, 4D and 4E main body ECU (vehicle rear side) connectors.
b. Measure the resistance and voltages of the wire harness side connectors.

Standard:

CONNECTOR TERMINAL REFERENCE

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4B-30 (BECU) - 4E-17 (GND1)	L - W-B	Battery (Power supply)	Always	11 to 14 V
4D-7 (KSW) - Body ground	Y - Body ground	Key unlock warning switch signal	No key is in ignition key cylinder	10 kohms or higher
4D-7 (KSW) - Body	Y - Body	Key unlock warning	Key is in ignition key	Below 1 ohms

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ground	ground	switch signal	cylinder	
4E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms

If the result is not as specified, there may be a malfunction in the wire harness.

c. Reconnect the main body ECU (vehicle rear side) connectors.
d. Measure the voltages of the wire harness side connectors.

Standard voltage:

STANDARD VOLTAGE SPECIFICATIONS

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
4A-21 (DCTY) - Body ground	R - Body ground	Driver door courtesy light switch input	Driver door closed	11 to 14 V
4A-21 (DCTY) - Body ground	R - Body ground	Driver door courtesy light switch input	Driver door open	0 V
4A-24 (PCTY) - Body ground	L - Body ground	Front passenger door courtesy light switch input	Passenger door closed	11 to 14 V
4A-24 (PCTY) - Body ground	L - Body ground	Front passenger door courtesy light switch input	Passenger door open	0 V
4A-20 (RRTY) - Body ground	L - Body ground	Rear RH door courtesy light switch input	Rear RH door closed	11 to 14 V
4A-20 (RRTY) - Body ground	L - Body ground	Rear RH door courtesy light switch input	Rear RH door open	0 V
4A-5 (RRTY) - Body ground	G - Body ground	Rear LH door courtesy light switch input	Rear LH door closed	11 to 14 V
4A-5 (RRTY) - Body ground	G - Body ground	Rear LH door courtesy light switch input	Rear LH door open	0 V
4A-7 (BCTY) - Body ground	SB- Body ground	Back door courtesy switch input	Back door closed	11 to 14 V
4A-7 (BCTY) - Body ground	SB- Body ground	Back door courtesy switch input	Back door open	0 V

If the result is not as specified, there may be a malfunction on the wire harness side.

DATA LIST / ACTIVE TEST

1. **READ DATA LIST**

HINT:

Using a Techstream to read the Data List allows the values or states of switches, sensor, actuators and

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other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may by discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

NOTE: In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

a. Warm up the engine.
b. Turn the ignition switch to OFF.
c. Connect a Techstream to the DLC3.
d. Turn the ignition switch to ON.
e. Turn the tester on
f. Enter the following menus: Body Electrical / Main Body / Data List /
g. According to the display on tester, read the "Data List".

Main Body (Main Body ECU)

DATA LIST - MAIN BODY (MAIN BODY ECU)

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door Courtesy SW	Driver door courtesy light switch signal / ON or OFF	ON: Driver door open OFF: Driver door closed	-
P Door Courtesy SW	Front passenger door courtesy light switch signal / ON or OFF	ON: Front passenger door open OFF: Front passenger door closed	-
RR Door Courtesy SW	Rear door RH courtesy light switch signal / ON or OFF	ON: Rear door RH open OFF: Rear door RH closed	-
RL Door Courtesy SW	Rear door RL courtesy light switch signal / ON or OFF	ON: Rear door RL open OFF: Rear door RL closed	-
Back Door Courtesy SW	Back door courtesy switch signal / ON or OFF	ON: Back door open OFF: Back door closed	-
D-Door lock Pos SW	Driver side door unlock detection switch signal / ON or OFF	ON: Driver side door unlocked OFF: Driver side door locked	-
P-Door Lock Pos SW	Front passenger side door unlock detection switch signal / ON or OFF	ON: Front passenger side door unlocked OFF: Front passenger side door locked	-
		ON: Key is in ignition	

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Key Unlock Warning SW	Unlock warning switch signal / ON or OFF	key cylinder OFF: No key is in ignition key cylinder	-

2. **PERFORM ACTIVE TEST**

HINT:

Using a Techstream to Perform the Active Tests allows relays, VSVs and actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

a. Connect a Techstream to the DLC3.
b. Turn the ignition switch to ON.
c. Turn the tester on.
d. Enter the following menus: Body Electrical / Main Body / Active Test/
e. According to the display on the tester, perform the "Active Test".

Main Body (Main Body ECU)

ACTIVE TEST - MAIN BODY (MAIN BODY ECU)

Tester Display	Test Part	Control Range	Normal Condition
Illuminated Entry System	Room light assembly (room light assembly switch in DOOR position, and all doors closed)	ON / OFF	-
Hazard	Turn Signal Flasher Assembly	ON / OFF	-
Taillight Relay	Taillight Relay	ON / OFF	-
Headlight Relay	Headlight Relay	ON / OFF	-

HEADLIGHT RELAY CIRCUIT

DESCRIPTION

The headlights are illuminated when the light control switch, located on the headlight dimmer switch, is turned to the HEAD position.

WIRING DIAGRAM

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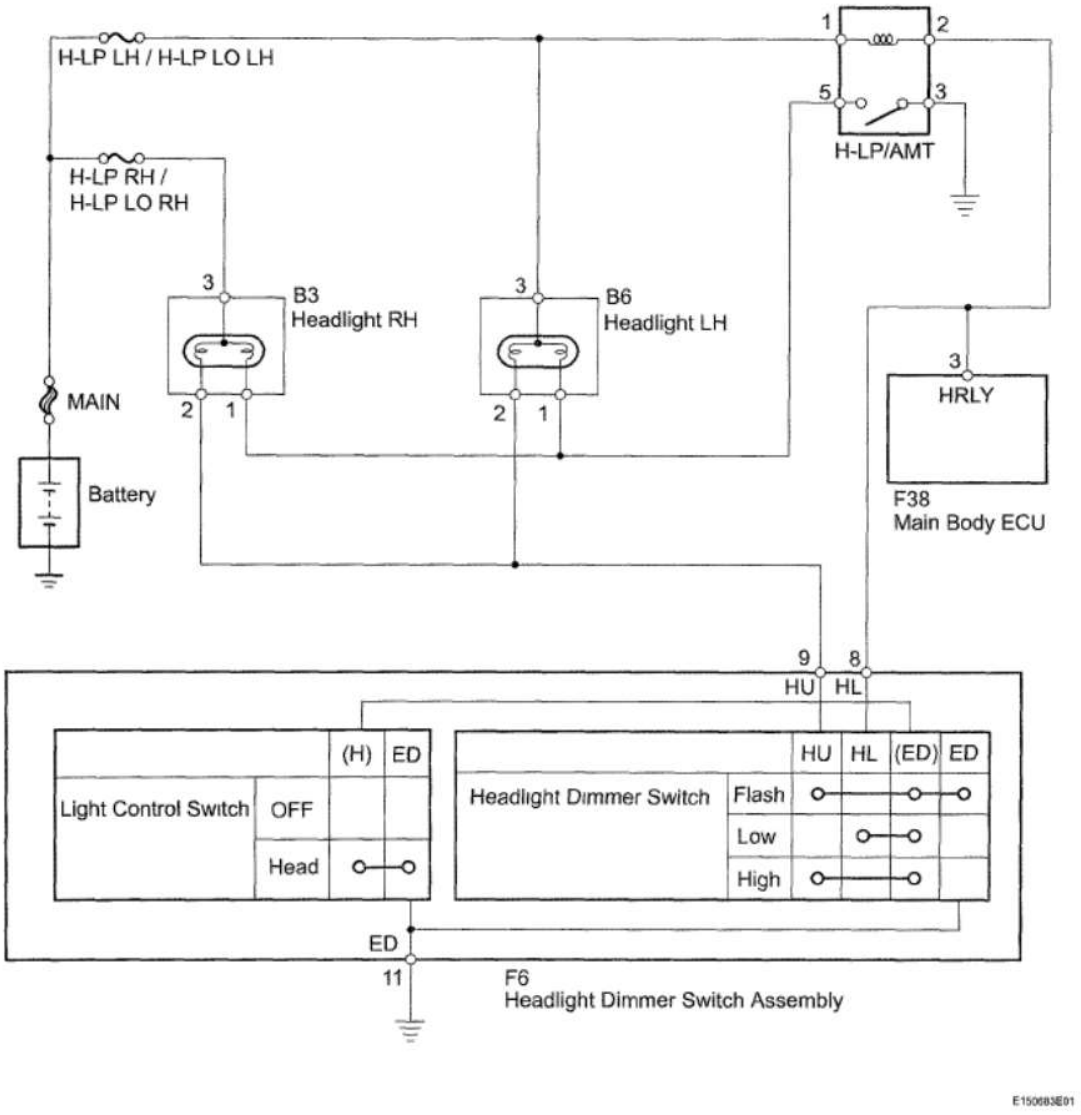


Fig. 8: Headlight Relay - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK VEHICLE CONDITION**
   a. Check whether the headlights come on.

Result

RESULT REFERENCE

Result	Proceed to
Headlights do not come on	A
High-beam headlights do not come on	B

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B: Go to step 12

A: Go to next step

2. **PERFORM ACTIVE TEST USING TECHSTREAM (HEADLIGHT RELAY)**
   a. Connect the Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Active Test / Headlight Relay.
   e. Check the headlight (Low-beam) while operating the headlight relay using the tester.

   Main Body (Main Body ECU)

   ACTIVE TEST - MAIN BODY (MAIN BODY ECU)

Tester Display	Test Part	Control Range	Normal Condition
Headlight Relay	Headlight Relay	ON / OFF	-

   OK:

   The headlight (Low-beam) comes on when operating it through the Techstream.

NG: Go to step 5

OK: Go to next step

3. **INSPECT HEADLIGHT DIMMER SWITCH**
   a. Remove the headlight dimmer switch assembly (See **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
8 (HL) - 11 (ED)	Light control switch OFF	10 kohms or higher
8 (HL) - 11 (ED)	Light control switch head position	Below 1 ohms

   c. Reinstall the headlight dimmer switch assembly.

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Component without harness connected:
(Headlight Dimmer Switch)

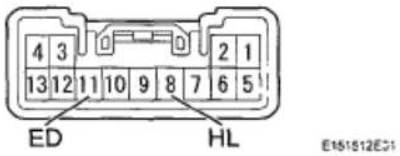


Fig. 9: Identifying Headlight Dimmer Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE HEADLIGHT DIMMER SWITCH (See **REMOVAL**)

OK: Go to next step

4. **CHECK HARNESS AND CONNECTOR (H-LP/AMT RELAY - HEADLIGHT DIMMER SWITCH)**
   a. Disconnect the F6 headlight dimmer switch connector.
   b. Measure the voltage according to the value(s) in the table below.

   Standard voltage

   STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
F6-8 (HL) - Body ground	Always	11 to 14 V

   c. Reconnect the headlight dimmer switch connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Headlight Dimmer switch)

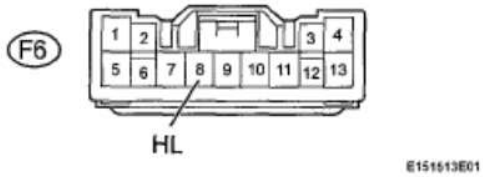


Fig. 10: Identifying F6 Headlight Dimmer Switch Connector
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OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (HEADLIGHT DIMMER SWITCH - BODY GROUND)

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5. **INSPECT FUSES (H-LP LH/H-LP LO LH, H-LP RH/H-LP LO RH)**
   a. Remove the H-LP LH/H-LP LO LH and H-LP RH/H-LP LO RH fuses from the engine room relay block.
   b. Measure the resistance according to the value(s) in the table below.

      Standard resistance

      STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
H-LP LH/H-LP LO LH fuse	Always	Below 1 ohms
H-LP RH/H-LP LO RH fuse	Always	Below 1 ohms

   c. Reinstall the H-LP LH/H-LP LH LO and H-LP RH/H-LP RH LO fuses.

NG: REPLACE FUSE (See **PARTS LOCATION**)

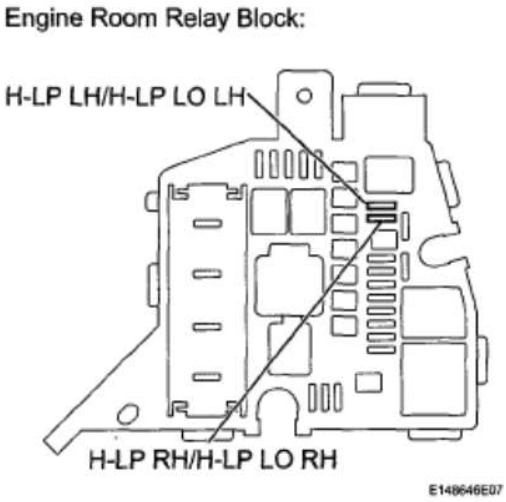


Fig. 11: Identifying Engine Room Relay Block
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

6. **REPLACE BULB**
   a. Temporarily replace the headlight bulb with a new or normally functioning one (See **REMOVAL**).

NEXT: Go to next step

7. **CHECK HEADLIGHT BULB**
   a. Check that the headlight (low-beam) come on.

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OK:

Headlight (low-beam) come on.

NG: Go to step 8

OK : END (REPLACE BULB) (See **REMOVAL**)

8. **CHECK HARNESS AND CONNECTOR (BATTERY - HEADLIGHT)**
   a. Disconnect the B3 and B6 headlight connectors.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
B3-3 - Body ground	Always	11 to 14 V
B6-3 - Body ground	Always	11 to 14 V

   c. Reconnect the headlight connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Headlight Bulb)

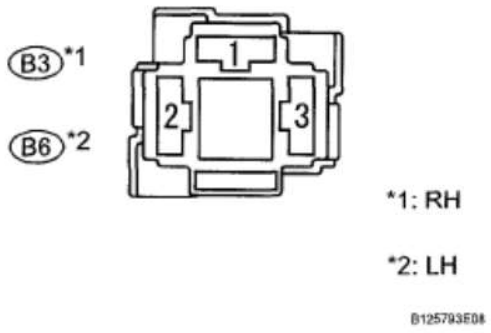


Fig. 12: Identifying B3 And B6 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

9. **INSPECT RELAY (H-LP/AMT)**
   a. Remove the H-LP/AMT relay from the engine room relay block.

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

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
3 - 5	Voltage is not applied between terminals 1 and 2	10 kohms or higher
3 - 5	Apply the battery voltage between terminals 1 and 2	Below 1 ohms

c. Reinstall the H-LP/AMT relay.

NG: REPLACE RELAY (See **PARTS LOCATION**)

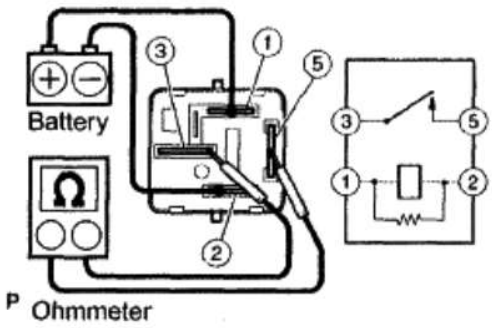


Fig. 13: Inspecting Relay (H-LP/AMT)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

10. **CHECK HARNESS AND CONNECTOR (H-LP/AMT RELAY - HEADLIGHT, H-LP LH/H-LP LH LO FUSE)**
    a. Remove the H-LP/AMT relay from the No. 2 engine room relay block.
    b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
H-LP/AMT relay terminal 1 - Body ground	Always	11 to 14 V
H-LP/AMT relay terminal 5 - Body ground	Always	11 to 14 V

c. Reinstall the H-LP/AMT relay.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Component without relay installed:
(No. 2 Engine Room Relay Block)

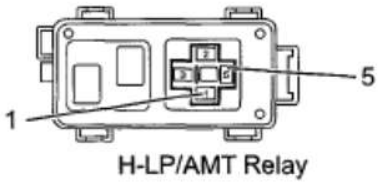


Fig. 14: Identifying H-LP/AMT Relay From No. 2 Engine Room Relay Block
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

11. **CHECK HARNESS AND CONNECTOR (H-LP/AMT RELAY - BODY GROUND)**
    a. Remove the H-LP/AMT relay from the No. 2 engine room relay block.
    b. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
H-LP/AMT relay terminal 3 - Body ground	Always	Below 1 ohms

    c. Reinstall the H-LP/AMT relay.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Component without relay installed:
(No. 2 Engine Room Relay Block)

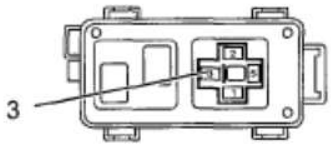


Fig. 15: Identifying H-LP/AMT Relay From No. 2 Engine Room Relay Block
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (H-LP/AMT RELAY - HEADLIGHT DIMMER SWITCH)

12. **REPLACE BULB**
    a. Temporarily replace the headlight bulb with a new or normally functioning one (See **REMOVAL**).
13. **CHECK HEADLIGHT BULB**
    a. Check that the headlight (high-beam) come on.

    OK:

    Headlight (high-beam) come on.

NG: Go to step 14

OK : END (REPLACE BULB) (See **REMOVAL**)

14. **INSPECT HEADLIGHT DIMMER SWITCH**
    a. Remove the headlight dimmer switch assembly (See **REMOVAL**).
    b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
9 (HU) - 11 (ED)	Headlight dimmer switch flash	Below 1 ohms
9 (HU) - 11 (ED)	Headlight dimmer switch high	Below 1 ohms

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Component without harness connected:
(Headlight Dimmer Switch)

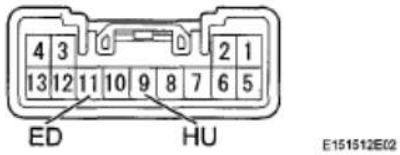


Fig. 16: Identifying Headlight Dimmer Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reinstall the headlight dimmer switch assembly.

NG: REPLACE HEADLIGHT DIMMER SWITCH (See **REMOVAL**)

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (HEADLIGHT - HEADLIGHT DIMMER SWITCH)

TURN SIGNAL LIGHT CIRCUIT

DESCRIPTION

The turn signal flasher assembly in the main body ECU turns on when it receives signals from the headlight dimmer switch integrated with the turn signal switch, causing the turn signal lights to flash.

WIRING DIAGRAM

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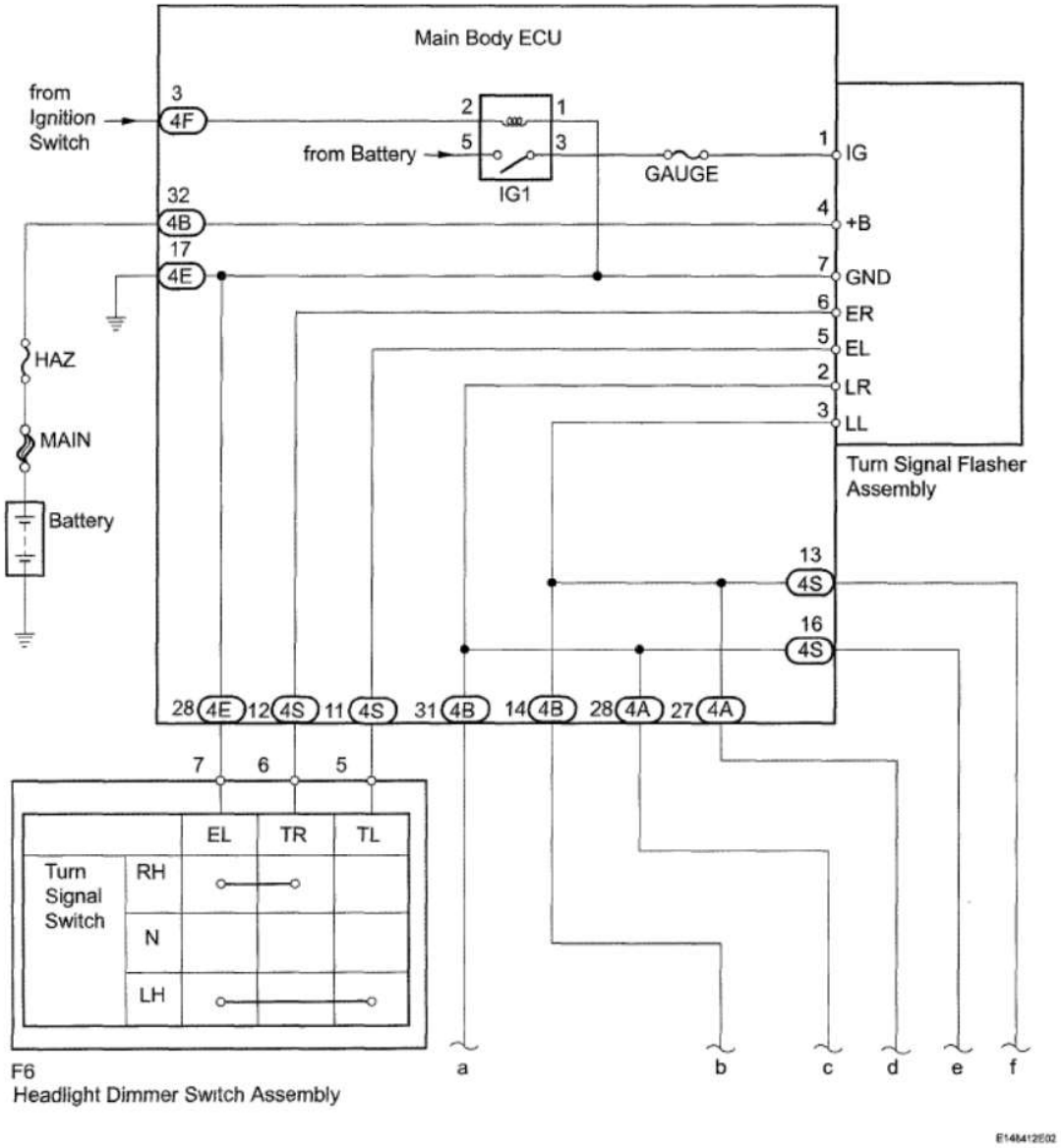


Fig. 17: Turn Signal Light - Wiring Diagram (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ACCESSORIES AND EQUIPMENT Lighting - xD

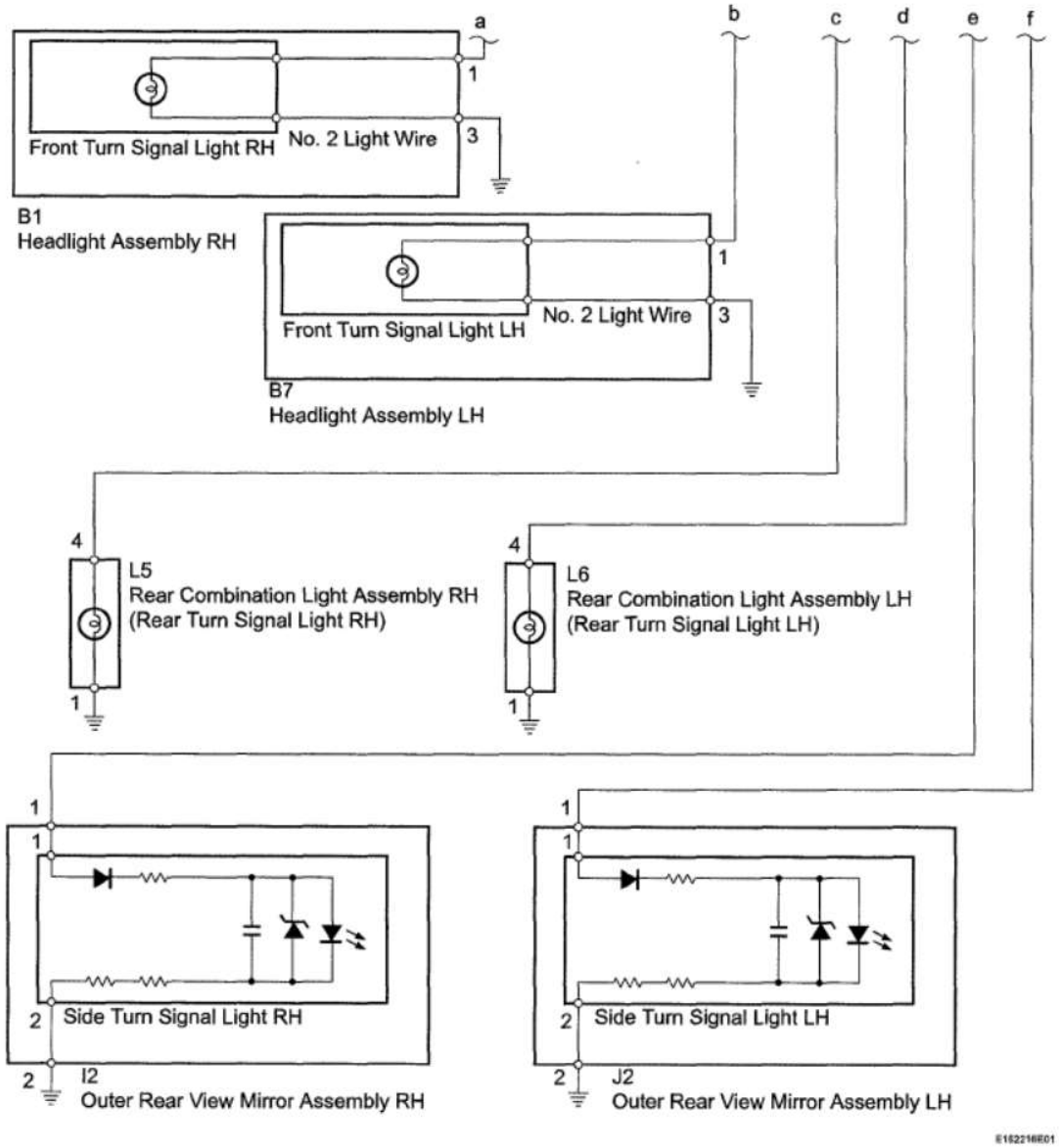


Fig. 18: Turn Signal Light - Wiring Diagram (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK OPERATION OF TURN SIGNAL LIGHT**
   a. When the turn signal light switch is operated, check that the appropriate turn signal light flashes.

Result

RESULT REFERENCE

Result	Proceed to

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No lights flash	A
Front turn signal light (LH or RH) does not flash	B
Side turn signal light (LH or RH) does not flash	C
Rear turn signal light (LH or RH) does not flash	D

B: Go to step 8

C: Go to step 14

D: Go to step 19

A: Go to next step

2. **INSPECT FUSES (GAUGE, HAZ)**
   a. Remove the GAUGE fuse from the main body ECU.
   b. Remove the HAZ fuse from the engine room relay block.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

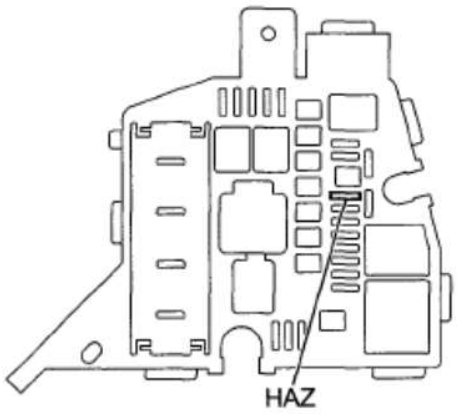
Tester Connection	Condition	Specified Condition
GAUGE fuse	Always	Below 1 ohms
HAZ fuse	Always	Below 1 ohms

   d. Reinstall the GAUGE and HAZ fuses.

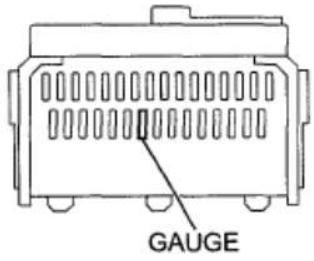
NG: REPLACE FUSE (See **PARTS LOCATION**)

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Engine Room Relay Block:



Main Body ECU:



E148648E03

Fig. 19: Identifying GAUGE And HAZ Fuses
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

3. **INSPECT HEADLIGHT DIMMER SWITCH**
   a. Remove the headlight dimmer switch (See **REMOVAL**).
   b. Inspect the turn signal light switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
6 (TR) - 7 (EL)	Right	Below 1 ohms
6 (TR) - 7 (EL)	Neutral	10 kohms or higher
5 (TL) - 7 (EL)	Left	Below 1 ohms
5 (TL) - 7 (EL)	Neutral	10 kohms or higher

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Component without harness connected:
(Headlight Dimmer Switch)

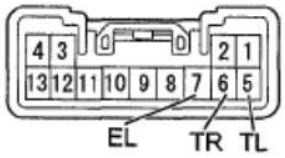


Fig. 20: Identifying Headlight Dimmer Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reinstall the headlight dimmer switch.

NG: REPLACE HEADLIGHT DIMMER SWITCH (See **REMOVAL**)

OK: Go to next step

4. **CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU)**
   a. Disconnect the F6 headlight dimmer switch connector.
   b. Disconnect the 4E and 4S main body ECU connectors.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
F6-5 (TL) - 4S-11	Always	Below 1 ohms
F6-6 (TR) - 4S-12	Always	Below 1 ohms
F6-7 (EL) - 4E-28	Always	Below 1 ohms
F6-5 (TL) or 4S-11 - Body ground	Always	10 kohms or higher
F6-6 (TR) or 4S-12 - Body ground	Always	10 kohms or higher
F6-7 (EL) or 4E-28 - Body ground	Always	10 kohms or higher

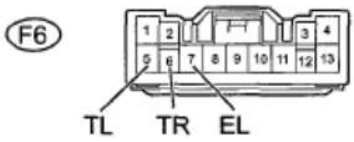
   d. Reconnect the headlight dimmer switch connector.
   e. Reconnect the main body ECU connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

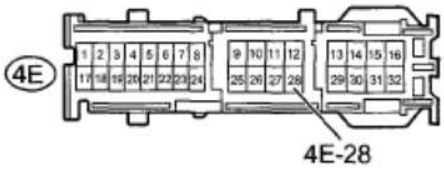
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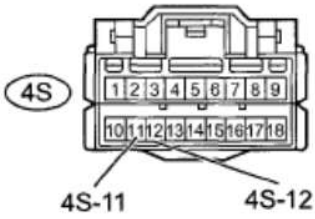
Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Main Body ECU)



E149747E02

Fig. 21: Identifying 4E And 4S Main Body ECU And F6 Headlight Dimmer Switch Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

5. **CHECK HARNESS AND CONNECTOR (HAZ FUSE - MAIN BODY ECU)**
   a. Disconnect the 4B main body ECU connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-32 - Body ground	Always	11 to 14 V

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c. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)

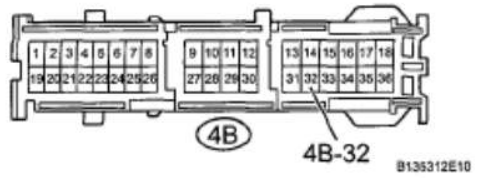


Fig. 22: Identifying 4B Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

6. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BODY GROUND)**
   a. Disconnect the 4E main body ECU connector.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4E-17 - Body ground	Always	Below 1 ohms

c. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)

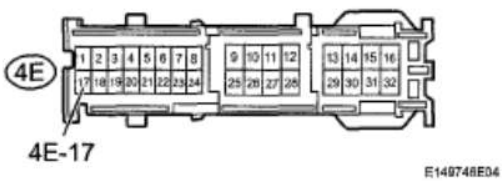


Fig. 23: Identifying 4E Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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OK: Go to next step

7. **INSPECT MAIN BODY ECU**

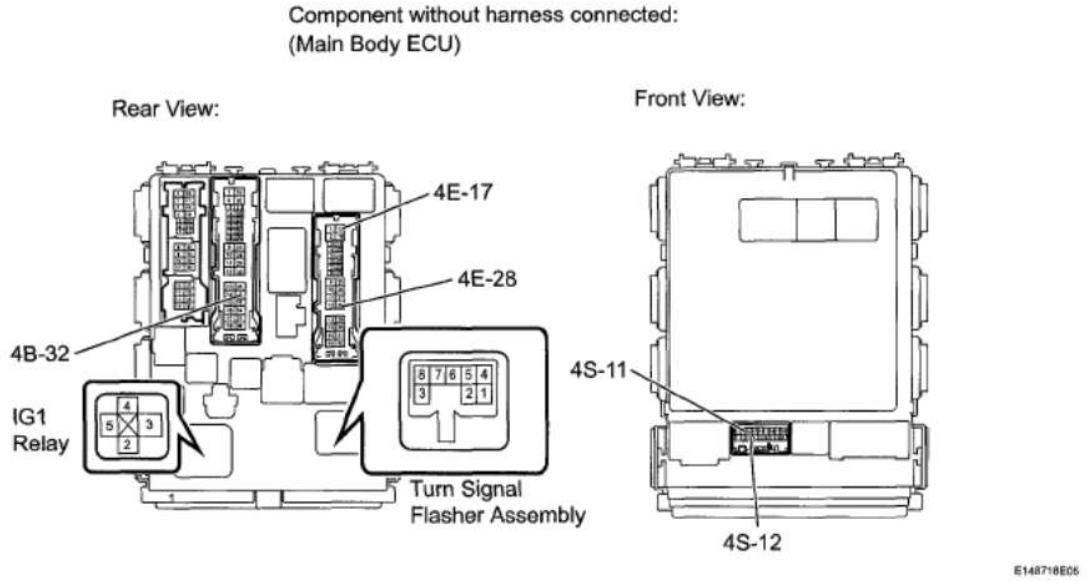


Fig. 24: Identifying Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Remove the main body ECU.
b. Remove the turn signal flasher assembly from the main body ECU.
c. Remove the IG1 relay from the main body ECU.
d. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-32 - Turn signal flasher assembly terminal 4 (+B),	Always	Below 1 ohms
4E-17 - 4E-28 - Turn signal flasher assembly terminal 7 (GND)	Always	Below 1 ohms
4S-11 - Turn signal flasher assembly terminal 5 (EL)	Always	Below 1 ohms
4S-12 - Turn signal flasher assembly terminal 6 (ER)	Always	Below 1 ohms
IG1 relay terminal 3- Turn signal flasher assembly terminal 1 (IG)	Always	Below 1 ohms

e. Reinstall the IG1 relay.
f. Reinstall the turn signal flasher assembly.
g. Reinstall the main body ECU.

NG: REPLACE MAIN BODY ECU

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OK : REPLACE TURN SIGNAL FLASHER ASSEMBLY (See **PARTS LOCATION**)

8. **REPLACE BULB (FRONT TURN SIGNAL BULB)**
   a. Temporarily replace the front turn signal light bulb with a new or normally functioning one (See **DISASSEMBLY**).
9. **CHECK FRONT TURN SIGNAL LIGHT BULB**
   a. Check that the front turn signal light comes on.

   OK:

   Front turn signal light comes on.

NG: Go to step 10

OK : END (REPLACE BULB) (See **DISASSEMBLY**)

10. **INSPECT HEADLIGHT ASSEMBLY (SYSTEM VOLTAGE)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Measure the voltage according to the value (s) in the table below.

Front view of wire harness connector:
(to Headlight Assembly)



Fig. 25: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
B1-1 - Body ground	Turn signal (right turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)
B7-1 - Body ground	Turn signal (left turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)

    c. Reconnect the headlight connectors.

NG: Go to step 12

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OK: Go to next step

11. **CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - BODY GROUND)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
B1-3 - Body ground	Always	Below 1 ohms
B7-3 - Body ground	Always	Below 1 ohms

    c. Reconnect the headlight assembly connectors.

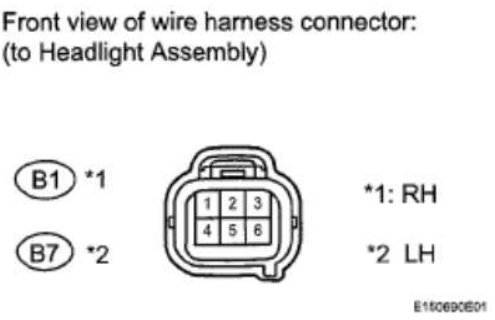


Fig. 26: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPAIR OR REPLACE No. 2 LIGHT WIRE (See **DISASSEMBLY**)

12. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - HEADLIGHT ASSEMBLY)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Disconnect the 4B main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
B1-1 - 4B-31	Always	Below 1 ohms
B7-1 - 4B-14	Always	Below 1 ohms
B1-1 or 4B-31 -Body ground	Always	10 kohms or higher

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B7-1 or 4B-14-Body ground	Always	10 kohms or higher

d. Reconnect the main body ECU connector.
e. Reconnect the headlight assembly connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connected:
(to Headlight Assembly)



Front view of wire harness connected:
(to Main Body ECU)

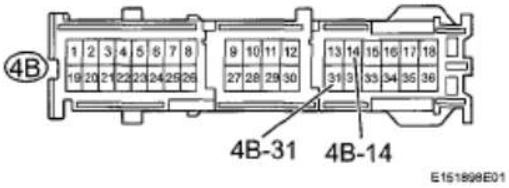


Fig. 27: Identifying B1, B7 Headlight Assembly Connectors And 4B Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

13. **INSPECT MAIN BODY ECU**
    a. Remove the main body ECU.
    b. Remove the turn signal flasher assembly from the main body ECU.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-14 - Turn signal flasher assembly terminal 3 (LL)	Always	Below 1 ohms
4B-31 - Turn signal flasher assembly terminal 2 (LR)	Always	Below 1 ohms

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d. Reinstall the turn signal flasher assembly.
e. Reinstall the main body ECU.

NG: REPLACE MAIN BODY ECU

Component without harness connected:
(Main Body ECU)

Rear View:

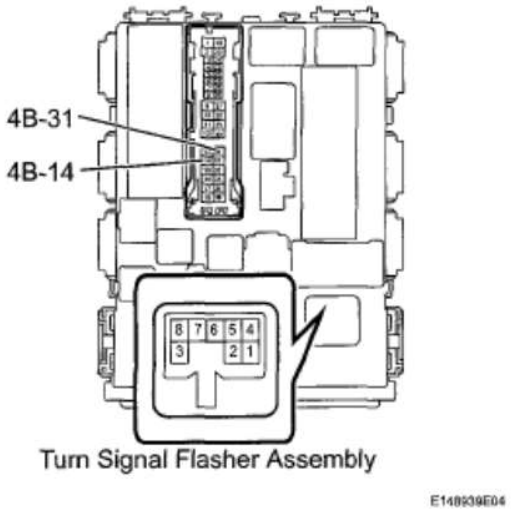


Fig. 28: Identifying Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE TURN SIGNAL FLASHER ASSEMBLY (See **PARTS LOCATION**)

14. **INSPECT SIDE TURN SIGNAL LIGHT ASSEMBLY**
    a. Remove the side turn signal light assembly from the outer rear view mirror assembly (See **REMOVAL**).
    b. Apply battery voltage to the terminals and check that the side turn signal light comes on.

    OK

    BATTERY VOLTAGE SPECIFIED CONDITION

Measurement Condition	Specified Condition
Positive battery - Terminal 1 Negative battery - Terminal 2	Side turn signal light comes on

    c. Reinstall the side turn signal light assembly.

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Component without harness connected:
(Side Turn Signal Light)



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Fig. 29: Identifying Turn Signal Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE SIDE TURN SIGNAL LIGHT ASSEMBLY (See **REMOVAL**)

OK: Go to next step

15. **INSPECT OUTER REAR VIEW MIRROR ASSEMBLY (SYSTEM VOLTAGE)**
    a. Disconnect the I2 and J2 outer rear view mirror assembly connectors.
    b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
I2-1 - Body ground	Turn signal (right turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)
J2-1 - Body ground	Turn signal (left turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)

    c. Reconnect the outer rear view mirror assembly connectors.

NG: Go to step 17

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Front view of wire harness connector:
(to Outer Rear View Mirror)

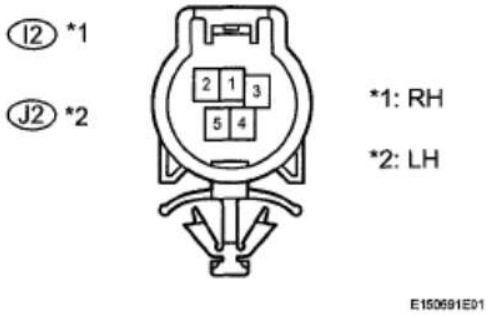


Fig. 30: Identifying I2 And J2 Outer Rear View Mirror Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

16. **CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR ASSEMBLY - BODY GROUND)**
    a. Disconnect the I2 and J2 outer rear view mirror assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
I2-2 - Body ground	Always	Below 1 ohms
J2-2 - Body ground	Always	Below 1 ohms

    c. Reconnect the outer rear view mirror assembly connectors.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Outer Rear View Mirror)

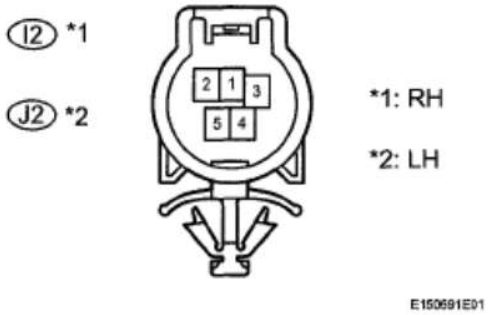


Fig. 31: Identifying I2 And J2 Outer Rear View Mirror Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE OUTER REAR VIEW MIRROR ASSEMBLY (See **REMOVAL**)

17. **CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR ASSEMBLY - MAIN BODY ECU)**
    a. Disconnect the I2 and J2 outer rear view mirror assembly connectors.
    b. Disconnect the 4S main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

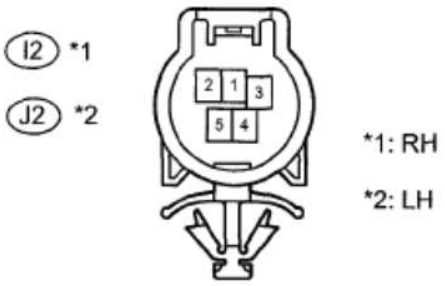
Tester Connection	Condition	Specified Condition
I2-1 - 4S-16	Always	Below 1 ohms
J2-1 - 4S-13	Always	Below 1 ohms
l2-1 or 4S-16-Body ground	Always	10 kohms or higher
J2-1 or 4S-13-Body ground	Always	10 kohms or higher

    d. Reconnect the outer rear view mirror assembly connectors.
    e. Reconnect the main body ECU connector.

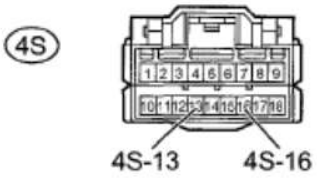
NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Outer Rear View Mirror)



Front view of wire harness connector:
(to Main Body ECU)



E151494E01

Fig. 32: Identifying I2, J2 Outer Rear View Mirror And 4S Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

18. **INSPECT MAIN BODY ECU**

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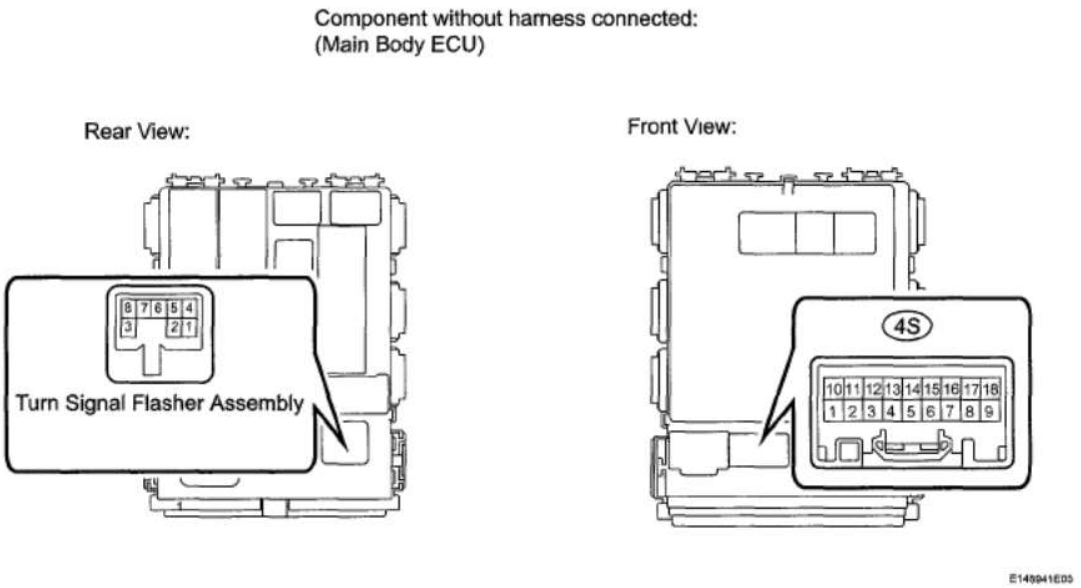


Fig. 33: Identifying Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Remove the main body ECU.
b. Remove the turn signal flasher assembly from the main body ECU.
c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4S-13 - Turn signal flasher assembly terminal 3 (LL)	Always	Below 1 ohms
4S-16 - Turn signal flasher assembly terminal 2 (LR)	Always	Below 1 ohms

d. Reinstall the turn signal flasher assembly.
e. Reinstall the main body ECU.

NG: REPLACE MAIN BODY ECU

OK : REPLACE TURN SIGNAL FLASHER ASSEMBLY (See **PARTS LOCATION**)

19. **REPLACE BULB (REAR TURN SIGNAL LIGHT BULB)**
    a. Temporarily replace the rear turn signal light bulb with a new or normally functioning one (See **REASSEMBLY**).
20. **CHECK REAR TURN SIGNAL LIGHT BULB**
    a. Check that the rear turn signal light comes on.

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OK:

Rear turn signal light comes on.

NG: Go to step 21

OK : END (REPLACE BULB) (See **REASSEMBLY**)

21. **INSPECT REAR COMBINATION LIGHT ASSEMBLY (SYSTEM VOLTAGE)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
L5-4 - Body ground	Turn signal (right turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)
L6-4 - Body ground	Turn signal (left turn) OFF --> ON	Below 1 V --> 11 to 14 V (60 to 120 times per minute)

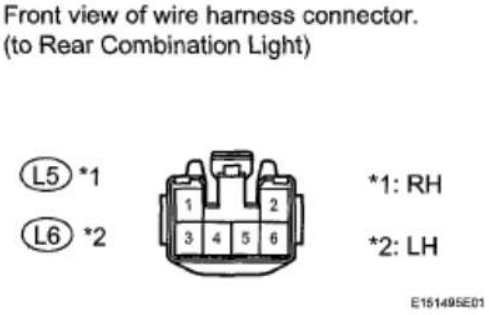


Fig. 34: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

    c. Reconnect the rear combination light assembly connectors.

NG: Go to step 23

OK: Go to next step

22. **CHECK HARNESS AND CONNECTOR (REAR TURN SIGNAL LIGHT - BODY GROUND)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

Standard resistance

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STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
L5-1 - Body ground	Always	Below 1 ohms
L6-1 - Body ground	Always	Below 1 ohms

c. Reconnect the rear combination light assembly connectors.

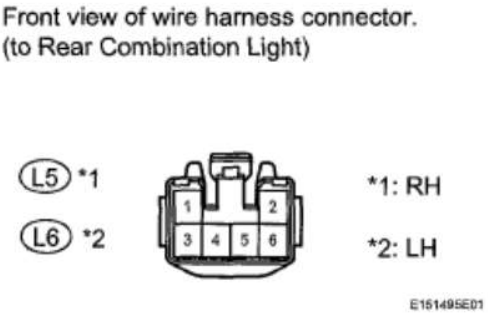


Fig. 35: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE REAR COMBINATION LIGHT ASSEMBLY (See **REMOVAL**)

23. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR TURN SIGNAL LIGHT BULB)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Disconnect the 4A main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

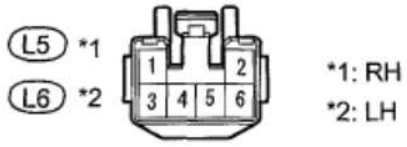
Tester Connection	Condition	Specified Condition
L5-4 - 4A-28	Always	Below 1 ohms
L6-4 - 4A-27	Always	Below 1 ohms
L5-4 or 4A-28 - Body ground	Always	10 kohms or higher
L6-4 or 4A-27-Body ground	Always	10 kohms or higher

    d. Reconnect the rear combination light assembly connectors.
    e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Rear Combination Light)



Front view of wire harness connector:
(to Main Body ECU)

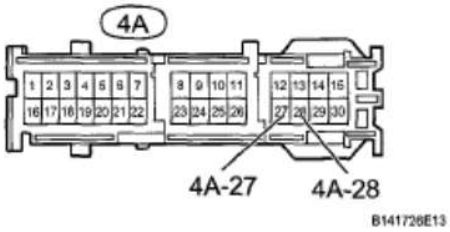


Fig. 36: Identifying L5, L6 Rear Combination Light And 4A Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

24. **INSPECT MAIN BODY ECU**
    a. Remove the main body ECU.
    b. Remove the turn signal flasher assembly from the main body ECU.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4A-27 - Turn signal flasher assembly terminal 3 (LL)	Always	Below 1 ohms
4A-28 - Turn signal flasher assembly terminal 2 (LR)	Always	Below 1 ohms

    d. Reinstall the turn signal flasher assembly.
    e. Reinstall the main body ECU.

NG: REPLACE MAIN BODY ECU

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Component without harness connected:
(Main Body ECU)

Rear View:

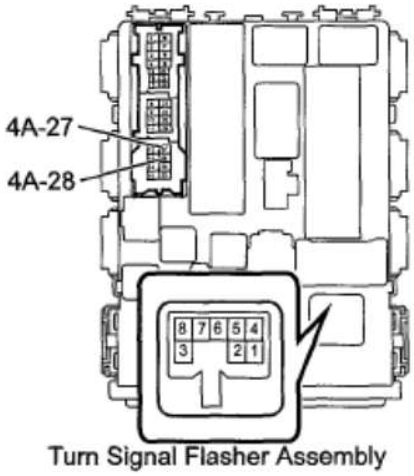


Fig. 37: Identifying Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE TURN SIGNAL FLASHER ASSEMBLY (See **PARTS LOCATION**)

HAZARD WARNING SWITCH CIRCUIT

DESCRIPTION

When the hazard warning signal switch is turned on, the turn signal flasher assembly in the main body ECU turns on to flash the hazard warning signal lights.

WIRING DIAGRAM

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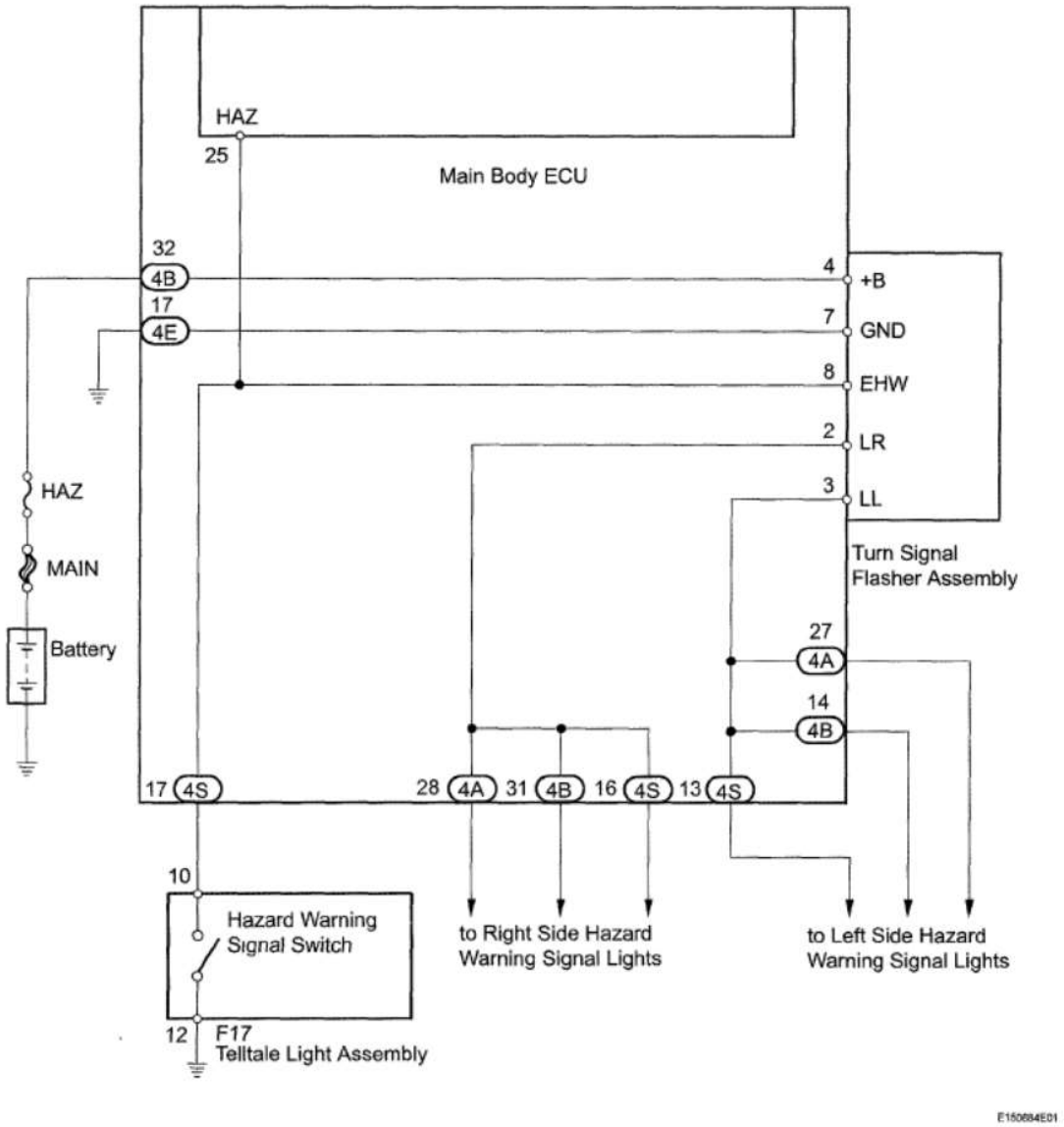


Fig. 38: Hazard Warning Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **PERFORM ACTIVE TEST USING TECHSTREAM (HAZARD)**
   a. Connect the Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Active Test / Hazard.
   e. Check the hazard warning signal light while operating the hazard function using the tester.

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Main Body (Main Body ECU)

ACTIVE TEST - MAIN BODY (MAIN BODY ECU)

Tester Display	Test Part	Control Range	Normal Condition
Hazard	Turn Signal Flasher Assembly	ON / OFF	-

OK:

The hazard warning signal light is flash when operating it through the Techstream.

NG: Go to step 4

OK: Go to next step

2. **INSPECT TELLTALE LIGHT ASSEMBLY (HAZARD WARNING SIGNAL SWITCH)**
   a. Remove the telltale light assembly (See **REMOVAL**).
   b. Inspect hazard warning signal switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
10 - 12	OFF	10 kohms or higher
10 - 12	ON	Below 1 ohms

   c. Reinstall the telltale light assembly.

Component without harness connected
(Telltale Light Assembly)



Fig. 39: Identifying Telltale Light Assembly Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE TELLTALE LIGHT ASSEMBLY (See **REMOVAL**)

OK: Go to next step

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3. **CHECK HARNESS AND CONNECTOR (HAZARD WARNING SIGNAL SWITCH - MAIN BODY ECU, BODY GROUND)**
   a. Disconnect the F17 telltale light assembly connector.
   b. Disconnect the 4S main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

   Standard resistance

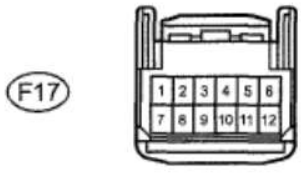
   STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
F17-10 - 4S-17	Always	Below 1 ohms
F17-10 or 4S-17-Body ground	Always	10 kohms or higher
F17-12 - Body ground	Always	Below 1 ohms

   d. Reconnect the telltale light assembly connector.
   e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Telltale light Assembly)



Front view of wire harness connector:
(to Main Body ECU)

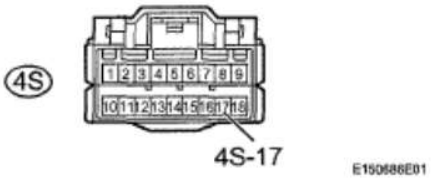


Fig. 40: Identifying F17 Telltale Light And 4S Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

4. **INSPECT FUSE (HAZ)**

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a. Remove the HAZ fuse from the engine room relay block.
b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
HAZ fuse	Always	Below 1 ohms

c. Reinstall the HAZ fuse.

NG: REPLACE FUSE (See **PARTS LOCATION**)

Engine Room Relay Block:

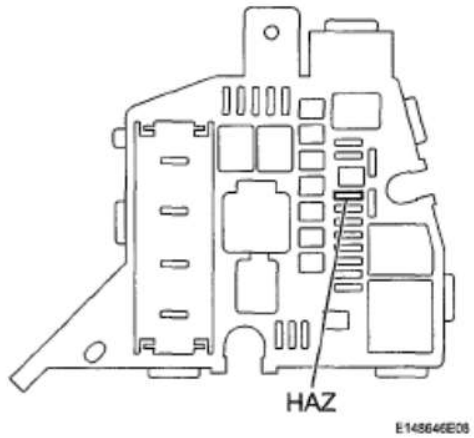


Fig. 41: Identifying HAZ Fuse From Engine Room Relay Block
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

5. **CHECK HARNESS AND CONNECTOR (HAZ FUSE - MAIN BODY ECU)**
   a. Disconnect the 4B main body ECU connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-32 - Body ground	Always	11 to 14 V

c. Reconnect the main body ECU connector.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)

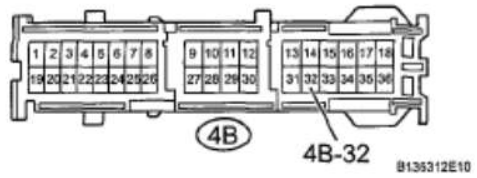


Fig. 42: Identifying 4B Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

6. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BODY GROUND)**
   a. Disconnect the 4E main body ECU connector.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4E-17 - Body ground	Always	Below 1 ohms

   c. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)

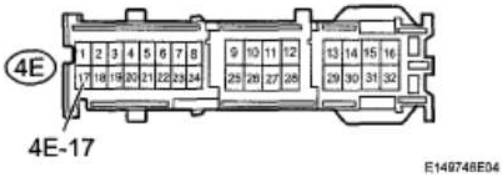


Fig. 43: Identifying 4E Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

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7. **INSPECT MAIN BODY ECU**
   a. Remove the main body ECU.

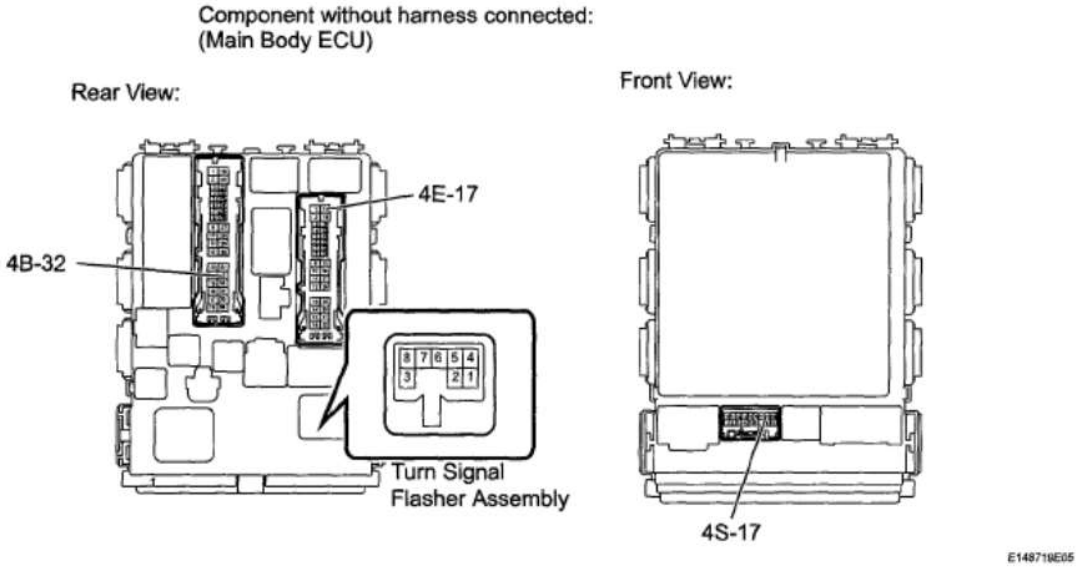


Fig. 44: Identifying Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Remove the turn signal flasher assembly from the main body ECU.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-32 - Turn signal flasher assembly terminal 4 (+B)	Always	Below 1 ohms
4E-17 - Turn signal flasher assembly terminal 7 (GND)	Always	Below 1 ohms
4S-17 - Turn signal flasher assembly terminal 8 (EHW)	Always	Below 1 ohms

   d. Reinstall the turn signal flasher assembly.
   e. Reinstall the main body ECU.

NG: REPLACE MAIN BODY ECU

OK : REPLACE TURN SIGNAL FLASHER ASSEMBLY (See **REMOVAL**)

TAILLIGHT CIRCUIT

DESCRIPTION

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When the light control switch, located on the headlight dimmer switch, is turned to the TAIL position, the front clearance lights, front side marker lights, rear taillights and license plate light come on.

WIRING DIAGRAM

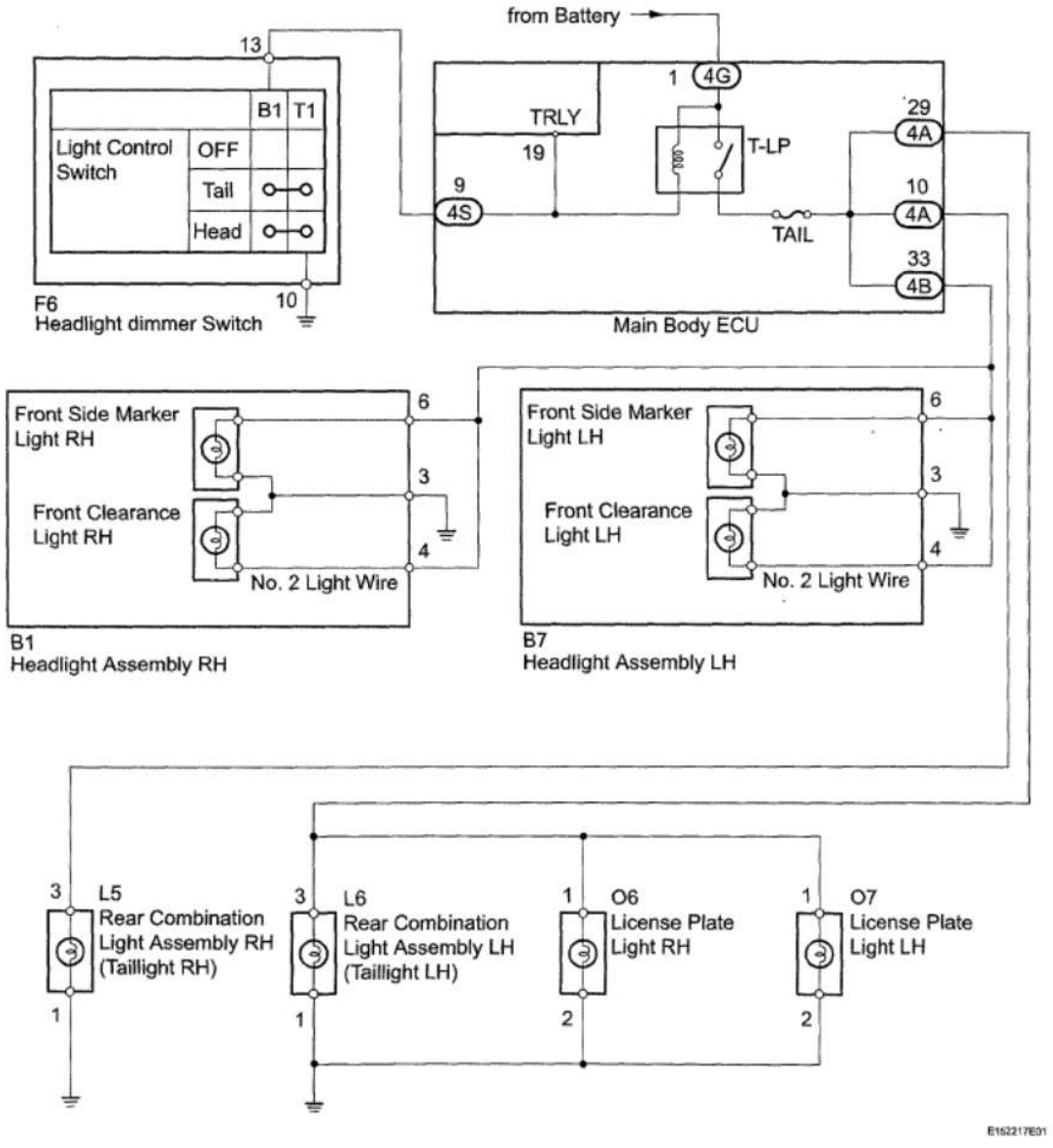


Fig. 45: Headlight Dimmer Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK WHETHER LIGHTS ILLUMINATE**
   a. Check whether the following lights come on: Front clearance lights, front side marker lights, rear taillights and license plate light.

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Result

RESULT REFERENCE

Result	Proceed To
No lights come on	A
Front clearance lights do not come on	B
Front side marker lights do not come on	C
Rear taillights do not come on	D
License plate lights do not come on	E

B: Go to step 7

C: Go to step 12

D: Go to step 17

E: Go to step 22

A: Go to next step

2. **PERFORM ACTIVE TEST USING TECHSTREAM (TAILLIGHT RELAY)**
   a. Connect the Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Enter the following menus: Body Electrical / Main Body / Active Test / Taillight Relay.
   e. Check the taillights while operating the taillight relay using the tester.

Main Body (Main Body ECU)

ACTIVE TEST - MAIN BODY (MAIN BODY ECU)

Tester Display	Test Part	Control Range	Normal Condition
Taillight Relay	Taillight Relay	ON / OFF	-

OK:

The taillights come on when operated through the Techstream.

NG: Go to step 5

OK: Go to next step

3. **INSPECT HEADLIGHT DIMMER SWITCH (LIGHT CONTROL SWITCH)**
   a. Remove the headlight dimmer switch assembly (See **REMOVAL**).

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b. Inspect the light control switch.
   1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
13 (B1) - 10 (T1)	OFF	10 kohms or higher
13 (B1) - 10 (T1)	TAIL	Below 1 ohms
13 (B1) - 10 (T1)	HEAD	Below 1 ohms

Component without harness connected:
(Headlight Dimmer Switch)

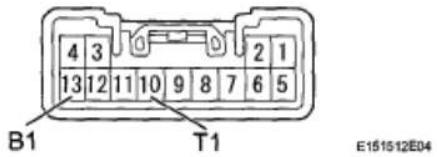


Fig. 46: Identifying Headlight Dimmer Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reinstall the headlight dimmer switch.

NG: REPLACE HEADLIGHT DIMMER SWITCH (See **REMOVAL**)

OK: Go to next step

4. **CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU, BODY GROUND)**
   a. Disconnect the F6 headlight dimmer switch connector.
   b. Disconnect the 4S main body ECU connector.
   c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
F6-13 (B1) - 4S-9	Always	Below 1 ohms
F6-10 (T1) - Body ground	Always	Below 1 ohms

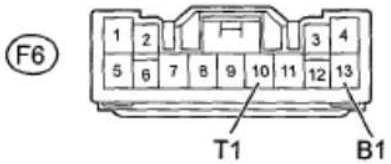
   d. Reconnect the main body ECU connector.

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e. Reconnect the headlight dimmer switch connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)

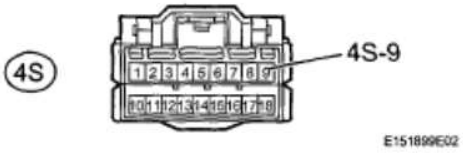


Fig. 47: Identifying F6 Headlight Dimmer Switch And 4S Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

5. **INSPECT FUSE (TAIL)**
   a. Remove the TAIL fuse from the main body ECU.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
TAIL fuse	Always	Below 1 ohms

   c. Reinstall the TAIL fuse.

NG: REPLACE FUSE (See **PARTS LOCATION**)

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Main Body ECU:

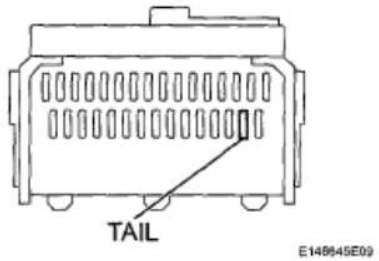


Fig. 48: Identifying TAIL Fuse From Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

6. **CHECK HARNESS AND CONNECTOR (BATTERY - MAIN BODY ECU)**
   a. Disconnect the 4G main body ECU connector.
   b. Measure the voltage according to the value(s) in the table below.

   Standard voltage

   STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4G-1 - Body ground	Always	11 to 14 V

   c. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Main Body ECU)



Fig. 49: Identifying 4G Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

7. **REPLACE BULB (FRONT CLEARANCE LIGHT BULB)**
   a. Temporarily replace the front clearance light bulb with a new or normally functioning one (See

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DISASSEMBLY).

NEXT: Go to next step

8. **CHECK FRONT CLEARANCE LIGHT BULB**
   a. Check that the front clearance light comes on.

      OK:

      Front clearance light conies on.

   NG: Go to step 9

   OK : END (REPLACE BULB) (See **DISASSEMBLY**)

9. **INSPECT HEADLIGHT ASSEMBLY (SYSTEM VOLTAGE)**
   a. Disconnect the B1 and B7 headlight assembly connectors.
   b. Measure the voltage according to the value(s) in the table below.

      Standard voltage

      STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
B1-4 - Body ground	Light control switch Tail or Head	11 to 14 V
B7-4 - Body ground	Light control switch Tail or Head	11 to 14 V

Front view of wire harness connector:
(to Headlight Assembly)



Fig. 50: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Reconnect the headlight assembly connectors.

NG: Go to step 11

OK: Go to next step

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10. **CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - BODY GROUND)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
B1-3 - Body ground	Always	Below 1 ohms
B7-3 - Body ground	Always	Below 1 ohms

    c. Reconnect the headlight assembly connectors.

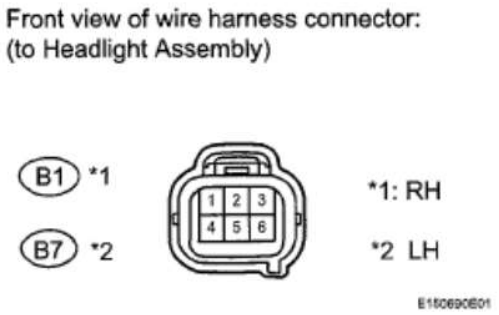


Fig. 51: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPAIR OR REPLACE NO. 2 LIGHT WIRE (See **DISASSEMBLY**)

11. **CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - MAIN BODY ECU)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Disconnect the 4B main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-33 - B1-4	Always	Below 1 ohms
4B-33 - B7-4	Always	Below 1 ohms
4B-33 or B1-4 - Body ground	Always	10 kohms or higher
4B-33 or B7-4 - Body ground	Always	10 kohms or higher

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d. Reconnect the headlight assembly connectors.
e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connected:
(to Headlight Assembly)



Front view of wire harness connected:
(to Main Body ECU)

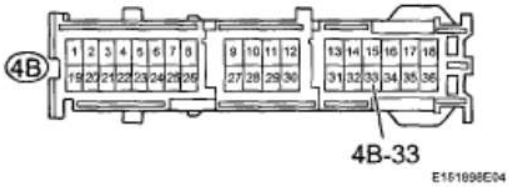


Fig. 52: Identifying B1, B7 Headlight And 4B Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

12. **REPLACE BULB (FRONT SIDE MARKER LIGHT)**
    a. Temporarily replace the front side marker light bulb with a new or normally functioning one (See **DISASSEMBLY**).
13. **CHECK FRONT SIDE MARKER LIGHT BULB**
    a. Check that the front side marker light comes on.

    OK:

    Front side marker light comes on.

NG: Go to step 14

OK : END (REPLACE BULB) (See **DISASSEMBLY**)

14. **INSPECT HEADLIGHT ASSEMBLY (SYSTEM VOLTAGE)**

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a. Disconnect the B1 and B7 headlight assembly connectors.
b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
B1-6 - Body ground	Light control switch Tail or Head	11 to 14 V
B7-6 - Body ground	Light control switch Tail or Head	11 to 14 V

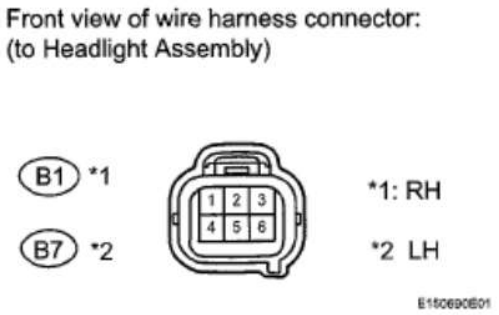


Fig. 53: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reconnect the headlight assembly connectors.

NG: Go to step 16

OK: Go to next step

15. **CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - BODY GROUND)**
a. Disconnect the B1 and B7 headlight assembly connectors.
b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
B1-3 - Body ground	Always	Below 1 ohms
B7-3 - Body ground	Always	Below 1 ohms

c. Reconnect the headlight assembly connectors.

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Front view of wire harness connector:
(to Headlight Assembly)



Fig. 54: Identifying B1 And B7 Headlight Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPAIR OR REPLACE NO. 2 LIGHT WIRE (See **DISASSEMBLY**)

16. **CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - MAIN BODY ECU)**
    a. Disconnect the B1 and B7 headlight assembly connectors.
    b. Disconnect the 4B main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4B-33 - B1-6	Always	Below 1 ohms
4B-33 - B7-6	Always	Below 1 ohms
4B-33 or B1-6-Body ground	Always	10 kohms or higher
4B-33 or B7-6 - Body ground	Always	10 kohms or higher

    d. Reconnect the headlight assembly connectors.
    e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connected:
(to Headlight Assembly)



Front view of wire harness connected:
(to Main Body ECU)

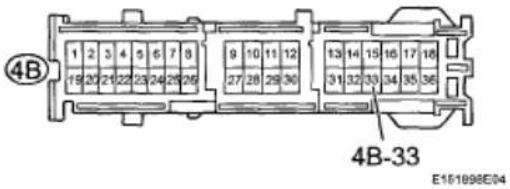


Fig. 55: Identifying B1, B7 Headlight And 4B Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

17. **REPLACE BULB (TAILLIGHT BULB)**
    a. Temporarily replace the taillight bulb with a new or normally functioning one (See **DISASSEMBLY**).
18. **CHECK TAILLIGHT BULB**
    a. Check that the taillight comes on.

    OK:

    Taillight comes on.

    NG: Go to step 19

    OK : END (REPLACE BULB) (See **DISASSEMBLY**)

19. **INSPECT REAR COMBINATION LIGHT ASSEMBLY (SYSTEM VOLTAGE)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Measure the voltage according to the value(s) in the table below.

    Standard voltage

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STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
L5-3 - Body ground	Light control switch Tail or Head	11 to 14 V
L6-3 - Body ground	Light control switch Tail or Head	11 to 14 V

c. Reconnect the rear combination light connectors.

NG: Go to step 21

OK: Go to next step

20. **CHECK HARNESS AND CONNECTOR (REAR COMBINATION LIGHT ASSEMBLY - BODY GROUND)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
L5-1 - Body ground	Always	Below 1 ohms
L6-1 - Body ground	Always	Below 1 ohms

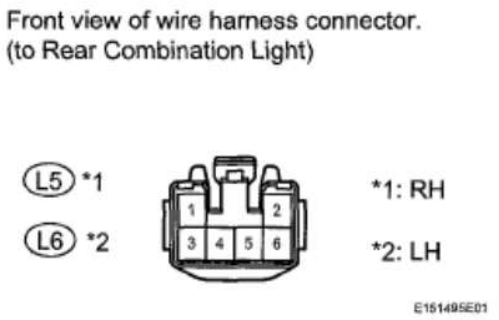


Fig. 56: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reconnect the rear combination light connectors.

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Front view of wire harness connector.
(to Rear Combination Light)



Fig. 57: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE REAR COMBINATION LIGHT ASSEMBLY (See **REMOVAL**)

21. **CHECK HARNESS AND CONNECTOR (REAR COMBINATION LIGHT - MAIN BODY ECU)**
    a. Disconnect the L5 and L6 rear combination light assembly connectors.
    b. Disconnect the 4A main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4A-10 - LS-3	Always	Below 1 ohms
4A-29 - L6-3	Always	Below 1 ohms
4A-10 or L5-3-Body ground	Always	10 kohms or higher
4A-29 or L6-3 - Body ground	Always	10 kohms or higher

    d. Reconnect the rear combination light assembly connectors.
    e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Rear Combination Light)



Front view of wire harness connector:
(to Main Body ECU)

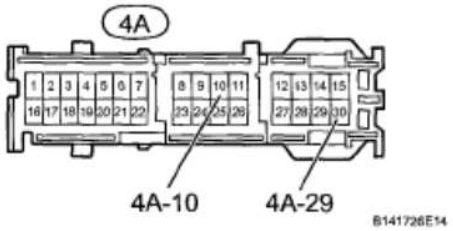


Fig. 58: Identifying L5, L6 Rear Combination Light And 4A Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

22. **REPLACE BULB (LICENSE PLATE LIGHT BULB)**
    a. Temporarily replace the license plate light bulb with a new or normally functioning one (See **REMOVAL**).
23. **CHECK LICENSE PLATE LIGHT BULB**
    a. Check that the license plate light comes on.

    OK:

    License plate light comes on.

NG: Go to step 24

OK : END (REPLACE BULB) (See **REMOVAL**)

24. **INSPECT LICENSE PLATE LIGHT ASSEMBLY (SYSTEM VOLTAGE)**
    a. Disconnect the 06 and 07 license plate light assembly connectors.
    b. Measure the voltage according to the value(s) in the table below.

    Standard voltage

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STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
O6-1 - Body ground	Light control switch Tail or Head	11 to 14 V
O7-1 - Body ground	Light control switch Tail or Head	11 to 14 V

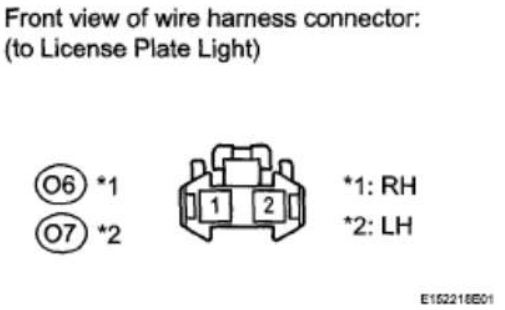


Fig. 59: Identifying 06 And 07 License Plate Light Assembly Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reconnect the license plate light connectors.

NG: Go to step 26

OK: Go to next step

25. **CHECK HARNESS AND CONNECTOR (LICENSE PLATE LIGHT - BODY GROUND)**
    a. Disconnect the 06 and 07 license plate light assembly connectors.
    b. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
O6-2 - Body ground	Always	Below 1 ohms
O7-2 - Body ground	Always	Below 1 ohms

    c. Reconnect the license plate light connectors.

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2008 Scion xD
2008 ACCESSORIES AND EQUIPMENT Lighting - xD

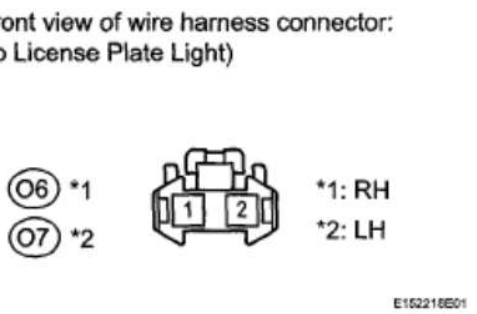


Fig. 60: Identifying 06 And 07 License Plate Light Assembly Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE LICENSE PLATE LIGHT ASSEMBLY (See **REMOVAL**)

26. **CHECK HARNESS AND CONNECTOR (LICENSE PLATE LIGHT - MAIN BODY ECU, BODY GROUND)**
    a. Disconnect the 06 and 07 license plate light assembly connectors.
    b. Disconnect the 4A main body ECU connector.
    c. Measure the resistance according to the value(s) in the table below.

    Standard resistance

    STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
4A-29 - 06-1	Always	Below 1 ohms
4A-29 - 07-1	Always	Below 1 ohms
4A-29 or 06-1 - Body ground	Always	10 kohms or higher
4A-29 or 07-1 - Body ground	Always	10 kohms or higher

    d. Reconnect the license plate light assembly connector.
    e. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to License Plate Light)



Front view of wire harness connector:
(to Main Body ECU)

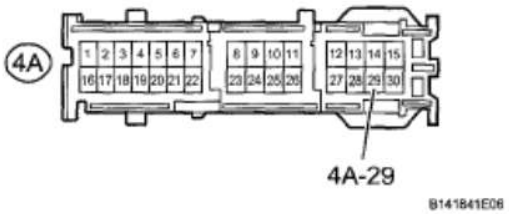


Fig. 61: Identifying 06, 07 License Plate Light And 4A Main Body ECU Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPLACE MAIN BODY ECU

STOP LIGHT CIRCUIT

DESCRIPTION

When the stop light switch is turned on, the current flows to the stop lights to illuminate then.

WIRING DIAGRAM

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2008 Scion xD

2008 ACCESSORIES AND EQUIPMENT Lighting - xD

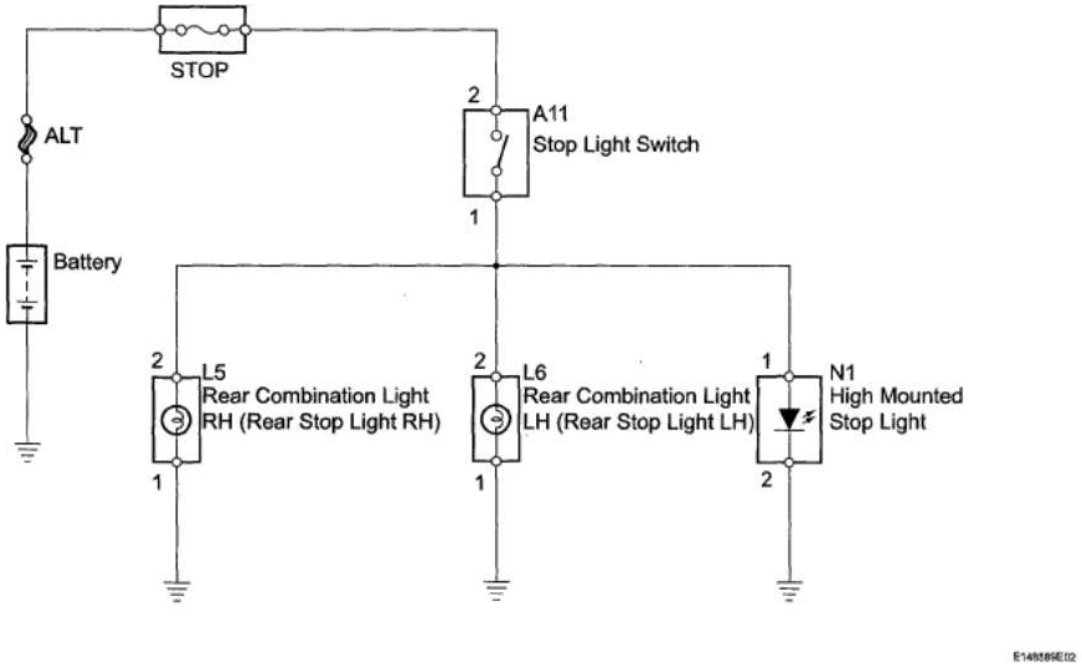


Fig. 62: Stop Light Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **CHECK VEHICLE CONDITION**
   a. Check whether the lights come on.

   Result

   RESULT REFERENCE

Result	Proceed to
No stop lights come on	A
Rear stop lights do not come on	B
High mounted stop light does not come on	C

B: Go to step 5

C: Go to step 9

A: Go to next step

2. **INSPECT FUSE (STOP)**
   a. Remove the STOP fuse from the main body ECU.
   b. Measure the resistance according to the value(s) in the table below.

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Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
STOP fuse	Always	Below 1 ohms

c. Reinstall the STOP fuse.

NG: REPLACE FUSE (See **PARTS LOCATION**)

Main Body ECU:

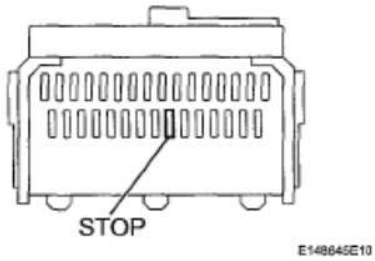


Fig. 63: Identifying STOP Fuse
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

3. **CHECK HARNESS AND CONNECTOR (STOP FUSE - STOP LIGHT SWITCH)**
   a. Disconnect the A11 stop light switch connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
A11-2 - Body Ground	Always	11 to 14 V

c. Reconnect the stop light switch connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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Front view of wire harness connector:
(to Stop Light Switch)

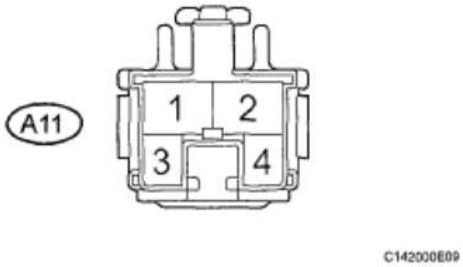


Fig. 64: Identifying A11 Stop Light Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

4. **INSPECT STOP LIGHT SWITCH**
   a. Remove the stop light switch (See **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - 2	Switch pin released	Below 1 ohms
1 - 2	Switch pin pushed in	10 kohms or higher

   c. Reinstall the stop light switch.

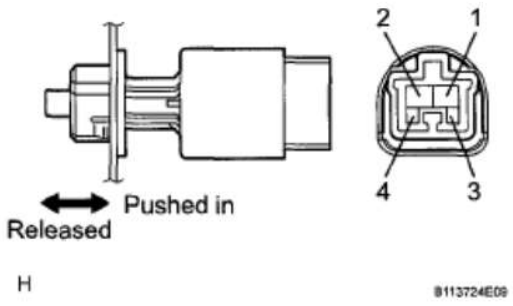


Fig. 65: Inspecting Stop Light Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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NG: REPLACE STOP LIGHT SWITCH (See **REMOVAL**)

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (STOP LIGHT SWITCH - STOP LIGHT)

5. **REPLACE BULB (REAR STOP LIGHT BULB)**
   a. Temporarily replace the rear stop light bulb with a new or normally functioning one (See **DISASSEMBLY**).
6. **CHECK REAR COMBINATION LIGHT BULB**
   a. Check that the rear stop light comes on.

   OK:

   Rear stop light comes on.

NG: Go to step 7

OK : END (REPLACE BULB) (See **DISASSEMBLY**)

7. **INSPECT REAR COMBINATION LIGHT ASSEMBLY (SYSTEM VOLTAGE)**
   a. Disconnect the L5 and L6 rear combination light assembly connectors.
   b. Measure the voltage according to the value(s) in the table below.

   Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
L5-2 - Body ground	Stop light switch OFF --> ON	Below 1 V --> 11 to 14 V
L6-2 - Body ground	Stop light switch OFF --> ON	Below 1 V --> 11 to 14 V

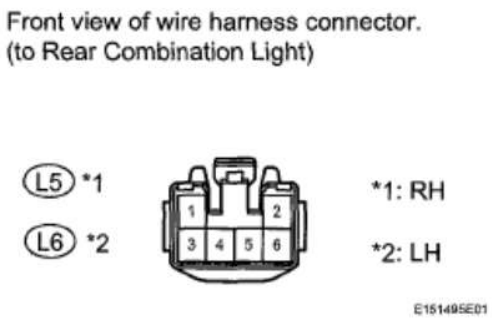


Fig. 66: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Reconnect the rear combination light assembly connectors.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR (STOP LIGHT SWITCH - REAR COMBINATION LIGHT)

OK: Go to next step

8. **CHECK HARNESS AND CONNECTOR (REAR COMBINATION LIGHT - BODY GROUND)**
   a. Disconnect the L5 and L6 rear combination light assembly connectors.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
L5-1 - Body ground	Always	Below 1 ohms
L6-1 - Body ground	Always	Below 1 ohms

   c. Reconnect the rear combination light assembly connectors.

Front view of wire harness connector.
(to Rear Combination Light)



Fig. 67: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE REAR COMBINATION LIGHT ASSEMBLY (See **REMOVAL**)

9. **INSPECT HIGH MOUNTED STOP LIGHT**
   a. Remove the high mounted stop light assembly (See **REMOVAL**).
   b. Apply battery voltage to the terminals and check that the rear stop light and high mounted stop light come on.

OK

BATTERY VOLTAGE SPECIFIED CONDITION

Measurement Condition	Specified Condition
Positive battery - Terminal 1	

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Negative battery - Terminal 2	High mounted stop light comes on

c. Reinstall the high mounted stop light assembly.

Component without harness connected:
(High Mounted Stop Light)



E152220E01

Fig. 68: Identifying High Mounted Stop Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE HIGH MOUNTED STOP LIGHT ASSEMBLY (See **REMOVAL**)

OK: Go to next step

10. **CHECK HARNESS AND CONNECTOR (HIGH MOUNTED STOP LIGHT - BODY GROUND)**
    a. Disconnect the N1 high mounted stop light assembly connector.
    b. Measure the resistance according to the value(s) in the table below.

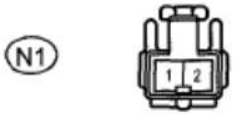
Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
N1-2- Body ground	Always	Below 1 ohms

c. Reconnect the high mounted stop light assembly connector.

Front view of wire harness connector:
(to High Mounted Stop Light)



E152219E01

Fig. 69: Identifying N1 High Mounted Stop Light Assembly Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (STOP LIGHT SWITCH - HIGH MOUNTED STOP LIGHT)

BACK-UP LIGHT CIRCUIT

DESCRIPTION

For Automatic transaxle models: The park/neutral position switch turns on when the shift lever is moved into the R position, causing the back-up lights to come on.

For Manual transaxle models: The back-up light switch turns on when the shift lever is moved into the R position, causing the back-up lights to come on.

WIRING DIAGRAM

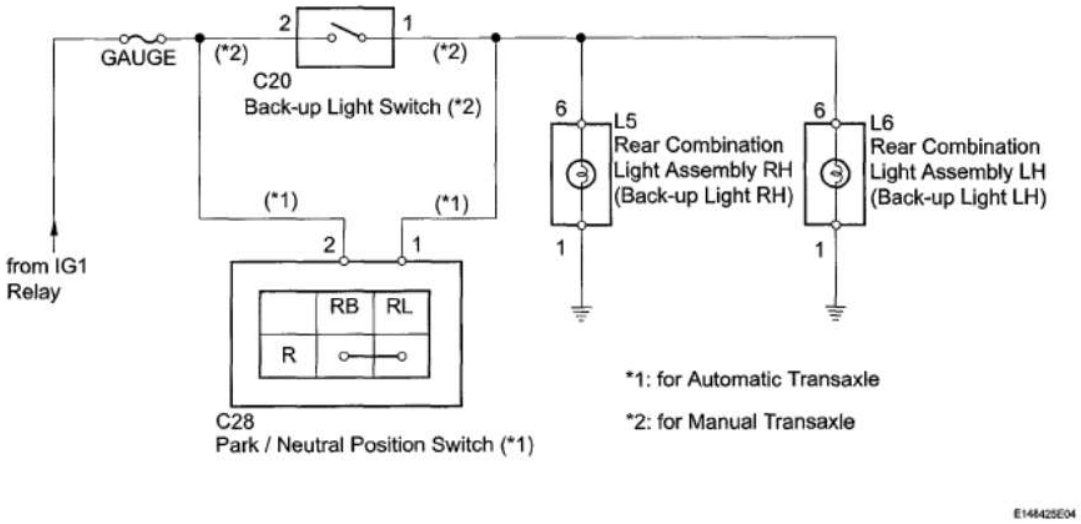


Fig. 70: Back-Up Light - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **INSPECT FUSE (GAUGE)**
   a. Remove the GAUGE fuse from the main body ECU.
   b. Measure the resistance according to the value(s) in the table below

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
GAUGE fuse	Always	Below 1 ohms

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c. Reinstall the GAUGE fuse.

NG: REPLACE FUSE (See **PARTS LOCATION**)

Main Body ECU:

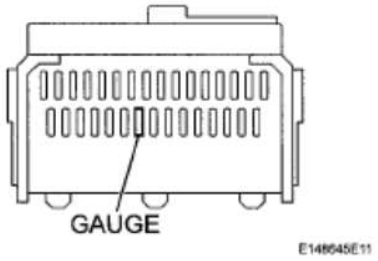


Fig. 71: Identifying GAUGE Fuse
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

2. **REPLACE BULB (BACK-UP LIGHT BULB)**
   a. Temporarily replace the back-up light bulb with a new or normally functioning one (See **REASSEMBLY**).
3. **CHECK BACK UP LIGHT BULB**
   a. Check that the back-up light comes on.

   OK:

   Back-up light comes on.

   NG: Go to step 4

   OK : END (REPLACE BULB) (See **REASSEMBLY**)

4. **INSPECT REAR COMBINATION LIGHT ASSEMBLY (SYSTEM VOLTAGE)**
   a. Disconnect the L5 and L6 rear combination light assembly connectors.
   b. Measure the voltage according to the value(s) in the table below.

   Standard voltage

   STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
L5-6 - Body ground	R position	11 to 14 V
L6-6 - Body ground	R position	11 to 14 V

   c. Reconnect the rear combination light connectors.

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Front view of wire harness connector.
(to Rear Combination Light)



Fig. 72: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Result

RESULT REFERENCE

Result	Proceed to
OK	A
NG (Automatic transaxle models)	B
NG (Manual transaxle models)	C

B: Go to step 6

C: Go to step 8

A: Go to next step

5. **CHECK HARNESS AND CONNECTOR (REAR COMBINATION LIGHT - BODY GROUND)**
   a. Disconnect the L5 and L6 rear combination light assembly connectors.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
L5-1 - Body ground	Always	Below 1 ohms
L6-1 - Body ground	Always	Below 1 ohms

   c. Reconnect the rear combination light connectors.

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Front view of wire harness connector.
(to Rear Combination Light)



Fig. 73: Identifying L5 And L6 Rear Combination Light Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE REAR COMBINATION LIGHT ASSEMBLY (See **REMOVAL**)

6. **INSPECT PARK/NEUTRAL POSITION SWITCH**
   a. Disconnect the C28 park/neutral position switch connector.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
2 (RB) -1 (RL)	R	Below 1 ohms
2 (RB) -1 (RL)	Except R	10 kohms or higher

   c. Reconnect the park/neutral position switch connector.

NG: REPLACE PARK/NEUTRAL POSITION SWITCH (See **REMOVAL**)

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Component without harness connected:
(Park / Neutral Position switch)

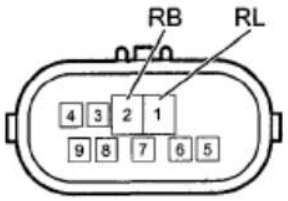


Fig. 74: Identifying Park/Neutral Position Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

7. **CHECK HARNESS AND CONNECTOR (GAUGE FUSE - PARK/NEUTRAL POSITION SWITCH)**
   a. Disconnect the C28 park/neutral position switch connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
C28-2 (RB) - Body ground	Ignition switch ON	11 to 14 V

   c. Disconnect the park/neutral position switch connector.

Front view of wire harness connector:
(to Park/Neutral Position Switch)



Fig. 75: Identifying C28 Park/Neutral Position Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (PARK/NEUTRAL POSITION SWITCH - REAR COMBINATION LIGHT)

8. **INSPECT BACK-UP LIGHT SWITCH**
   a. Disconnect the C20 back-up light switch connector.
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - 2	R	Below 1 ohms
1 - 2	Except R	10 kohms or higher

   c. Reconnect the back-up light switch connector.

Component without harness connected:
(Back-up Light Switch)



Y B133141E04

Fig. 76: Identifying Back-Up Light Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NG: REPLACE BACK-UP LIGHT SWITCH (See **DISASSEMBLY**)

OK: Go to next step

9. **CHECK HARNESS AND CONNECTOR (GAUGE FUSE - BACK-UP LIGHT SWITCH)**
   a. Disconnect the C20 back-up light switch connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

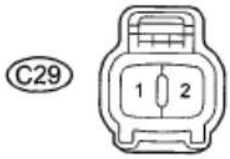
Tester Connection	Switch Condition	Specified Condition
C20-2 - Body ground	Ignition switch ON	11 to 14 V

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c. Reconnect the back-up light switch connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

Front view of wire harness connector:
(to Back-up Light Switch)



Y B133142E02

Fig. 77: Identifying C29 Back-Up Light Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK : REPAIR OR REPLACE HARNESS OR CONNECTOR (BACK-UP LIGHT SWITCH - REAR COMBINATION LIGHT)

DOOR COURTESY SWITCH CIRCUIT

DESCRIPTION

The main body ECU detects the condition of the door courtesy light switches.

HINT:

- The main body ECU receives door courtesy light switch signals to control the illuminated entry system.
- When performing troubleshooting, inspect the switch that is related to the malfunction only. For example, if the illuminated entry system does not operate when opening the front passenger side door with the ignition switch off, inspect the front passenger side door courtesy light switch circuit only.

WIRING DIAGRAM

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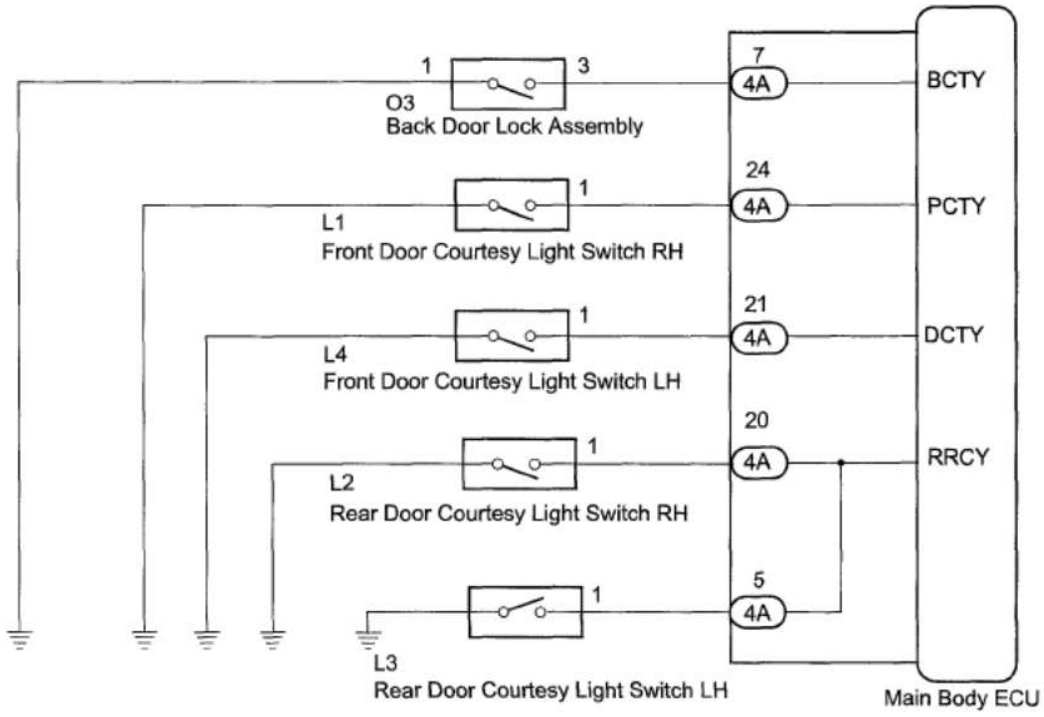


Fig. 78: Door Courtesy Light Switch - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM**
   a. Connect an Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Select the following menus: Body Electrical / Main Body / Data List /
   e. According to the display on the tester, read the "Data List".

Main Body (Main Body ECU)

DATA LIST - MAIN BODY (MAIN BODY ECU)

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door Courtesy SW	Driver side door courtesy light switch signal / ON or OFF	ON Driver side door is open OFF Driver side door is closed	-

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P Door Courtesy SW	Front passenger side door courtesy light switch signal / ON or OFF	ON Front passenger side door is open OFF Front passenger side door is closed	-
RR Door Courtesy SW	Rear door courtesy light switch RH signal / ON or OFF	ON Rear door RH is open OFF Rear door RH is closed	-
RL Door Courtesy SW	Rear door courtesy light switch LH signal / ON or OFF	ON Rear door LH is open OFF Rear door LH is closed	-
Back Door Courtesy SW	Luggage compartment door courtesy switch signal / ON or OFF	ON Luggage compartment door is open OFF Luggage compartment door is closed	-

OK:

Normal conditions listed above are displayed.

NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT DOOR COURTESY LIGHT SWITCH ASSEMBLY**
   a. Inspect the front door courtesy light switch (See **INSPECTION**), rear door courtesy light switch (See **INSPECTION**), back door courtesy switch (See **INSPECTION**).

OK:

Door courtesy light switches are normal.

Result

RESULT REFERENCE

Result	Proceed to
OK	A
NG (Front door courtesy light switch)	B
NG (Rear door courtesy light switch)	C
NG (Back door courtesy switch)	D

B : REPLACE FRONT DOOR COURTESY LIGHT SWITCH (See **REMOVAL**)

C : REPLACE REAR DOOR COURTESY LIGHT SWITCH (See **REMOVAL**)

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D : REPLACE BACK DOOR LOCK ASSEMBLY (See **INSPECTION**)

A: Go to next step

3. **CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - DOOR COURTESY LIGHT SWITCH)**
   a. Disconnect the 4A main body ECU connector.
   b. Disconnect each door courtesy light switch connector.
   c. Disconnect the O3 back door lock assembly connector.
   d. Measure the resistance according to the value(s) in the table below.

Standard resistance:

Front RH side

STANDARD RESISTANCE SPECIFICATIONS - RH SIDE

Tester Connection	Condition	Specified Condition
4A-24 (PCTY) - L1-1	Always	Below 1 ohms
L1-1 - Body ground	Always	10 kohms or higher

Front LH side

STANDARD RESISTANCE SPECIFICATIONS - LH SIDE

Tester Connection	Condition	Specified Condition
4A-21 (DCTY) - L4-1	Always	Below 1 ohms
L4-1 - Body ground	Always	10 kohms or higher

Rear RH side

STANDARD RESISTANCE SPECIFICATIONS - RH SIDE

Tester Connection	Condition	Specified Condition
4A-20 (RRCY) - L2-1	Always	Below 1 ohms
L2-1 - Body ground	Always	10 kohms or higher

Rear LH side

STANDARD RESISTANCE SPECIFICATIONS - LH SIDE

Tester Connection	Condition	Specified Condition
4A-5 (RRCY) - L3-1	Always	Below 1 ohms
L3-1 - Body ground	Always	10 kohms or higher

Back door

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STANDARD RESISTANCE SPECIFICATIONS - BACK DOOR

Tester Connection	Condition	Specified Condition
4A-7 (BCTY) - O3-3	Always	Below 1 ohms
O3-3 - Body ground	Always	10 kohms or higher
O3-1 - Body ground	Always	Below 1 ohms

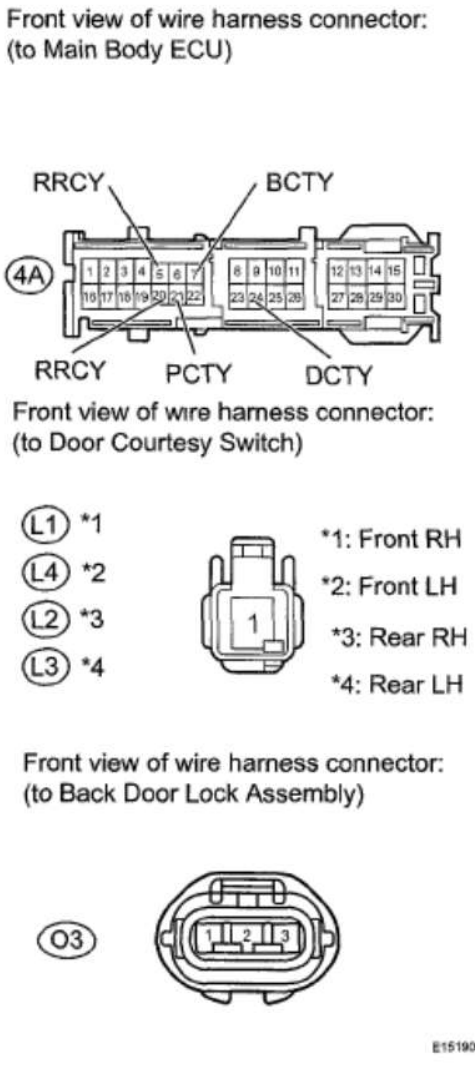


Fig. 79: Identifying 4A Main Body ECU And O3 Back Door Lock Assembly Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Reconnect the main body ECU connector.
f. Reconnect each door courtesy light switch connector.
g. Reconnect the luggage compartment door lock assembly connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

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OK : REPLACE MAIN BODY ECU

DOOR LOCK POSITION CIRCUIT

DESCRIPTION

The main body ECU receives door unlock detection switch signals to control the illuminated entry system.

WIRING DIAGRAM

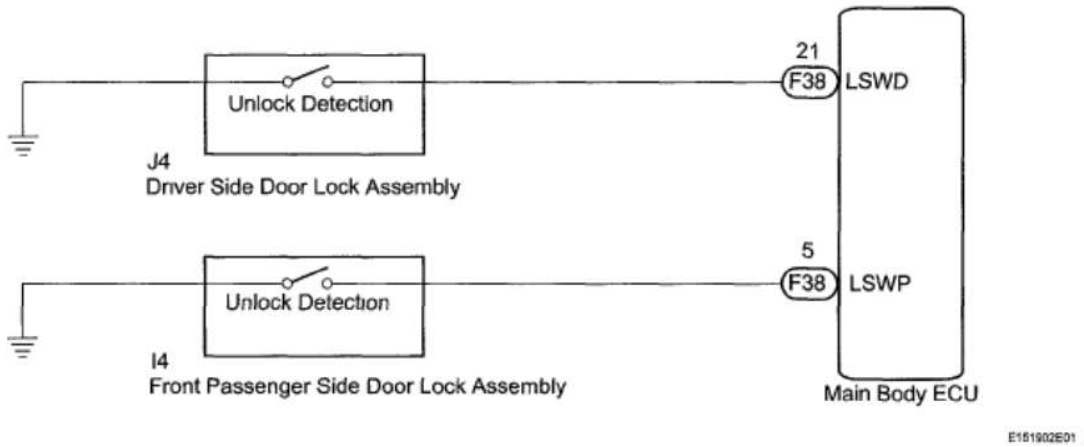


Fig. 80: Door Lock Position - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

1. **READ VALUE USING TECHSTREAM (DOOR LOCK POS SW)**
   a. Connect a Techstream to the DLC3.
   b. Turn the ignition switch to ON.
   c. Turn the tester on.
   d. Select the following menus: Body Electrical / Main Body / Data List /
   e. According to the display on tester, read the "Data List".

   Main Body (Main Body ECU)

   DATA LIST - MAIN BODY (MAIN BODY ECU)

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D-Door Lock Pos SW	Driver side door lock position switch signal / ON or OFF	ON Driver side door unlocked OFF Driver side door locked	-
		ON Front passenger side	

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P-Door Lock Pos SW	Front passenger side door lock position switch signal / ON or OFF	door unlocked OFF Front passenger side locked	-

OK:

Normal conditions listed above are displayed.

NG: GO TO POWER DOOR LOCK CONTROL SYSTEM (See **PROBLEM SYMPTOMS TABLE**)

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

ILLUMINATION CIRCUIT

DESCRIPTION

The main body ECU receives information regarding the door courtesy switch and door lock position switch, and turns on the room light assembly.

WIRING DIAGRAM

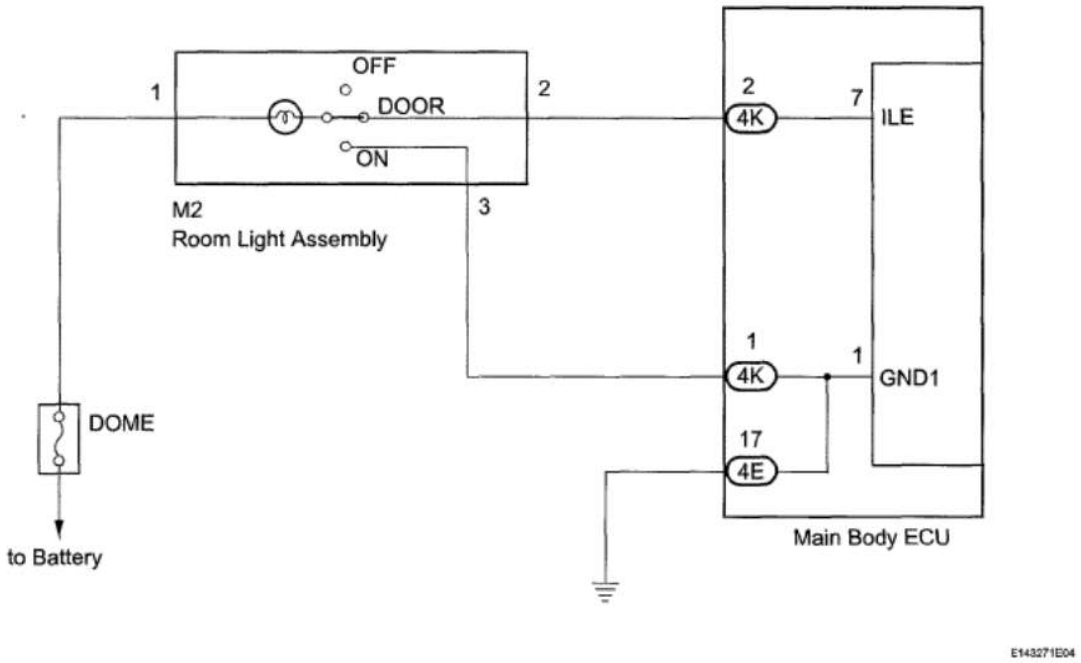


Fig. 81: Room Light - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

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1. **PERFORM ACTIVE TEST USING TECHSTREAM (ILLUMINATED ENTRY SYSTEM)**
   a. Connect the Techstream to the DLC3.
   b. Turn the ignition switch ON.
   c. Turn the tester switch on.
   d. Turn the room light switch to the DOOR position.
   e. All doors closed (Courtesy light switches OFF).
   f. Select the following menus: Body Electrical / Main Body / Active Test / Illuminated Entry System.
   g. Check the room light while operating the main body ECU using the tester.

   Main Body (Main Body ECU)

   ACTIVE LIST - MAIN BODY (MAIN BODY ECU)

Tester Display	Test Part	Control Range	Normal Condition
Illuminated Entry System	Room light assembly	ON/OFF	-

   OK:

   The illuminated entry system operates normally when operating it through the Techstream.

NG: Go to step 2

OK : PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (See **PROBLEM SYMPTOMS TABLE**)

2. **INSPECT FUSE (DOME)**
   a. Remove the DOME fuse from the engine room relay block.
   b. Measure the resistance according to the value(s) in the table below.

   Standard resistance

   STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
DOME fuse	Always	Below 1 ohms

   c. Reinstall the DOME fuse.

NG: REPLACE FUSE (See **PARTS LOCATION**)

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Engine Room Relay Block:

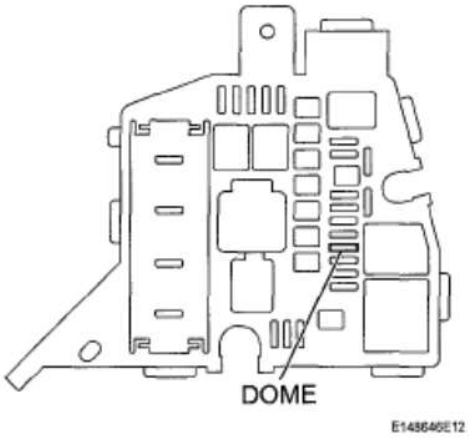


Fig. 82: Identifying DOME Fuse
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK: Go to next step

3. **INSPECT ROOM LIGHT ASSEMBLY**
   a. Remove the room light assembly (See **REMOVAL**).
   b. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
A - 2 A - 3	OFF	10 kohms or higher
A - 2	DOOR	Below 1 ohms
A - 3	ON	Below 1 ohms

   c. Apply battery voltage to the terminal and check that the room light illuminates.

OK

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
Positive battery - 1 Negative battery - 2	DOOR	Room light illuminates
Positive battery - 1 Negative battery - 3	ON	Room light illuminates

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Component without harness connected:
(Room Light Switch Base)

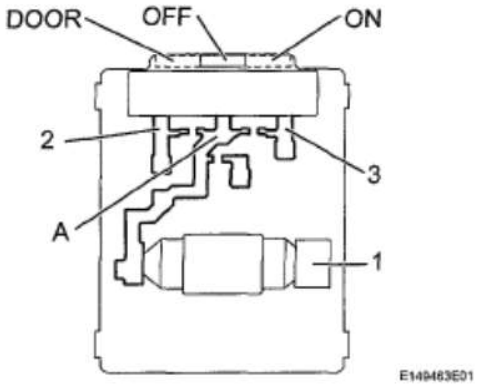


Fig. 83: Identifying Room Light Switch Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Reinstall the room light assembly.

NG: REPLACE ROOM LIGHT ASSEMBLY (See **REMOVAL**)

OK: Go to next step

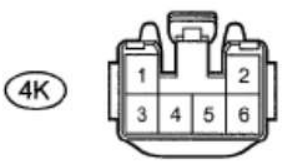
4. **CHECK HARNESS AND CONNECTOR (BATTERY - ROOM LIGHT ASSEMBLY AND MAIN BODY ECU)**
   a. Disconnect the 4K main body ECU connector.
   b. Measure the voltage according to the value(s) in the table below.

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
4K-2 (ILE) - Body ground	Room light switch in DOOR position	11 to 14 V
4K-1 (GND1)-Body ground	Room light switch in ON position	11 to 14 V

Front view of wire harness connector:
(to Main Body ECU)



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Fig. 84: Identifying 4K Main Body ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Reconnect the main body ECU connector.

NG: REPAIR OR REPLACE HARNESS OR CONNECTOR

OK : REPLACE MAIN BODY ECU

HEADLIGHT ASSEMBLY

COMPONENTS

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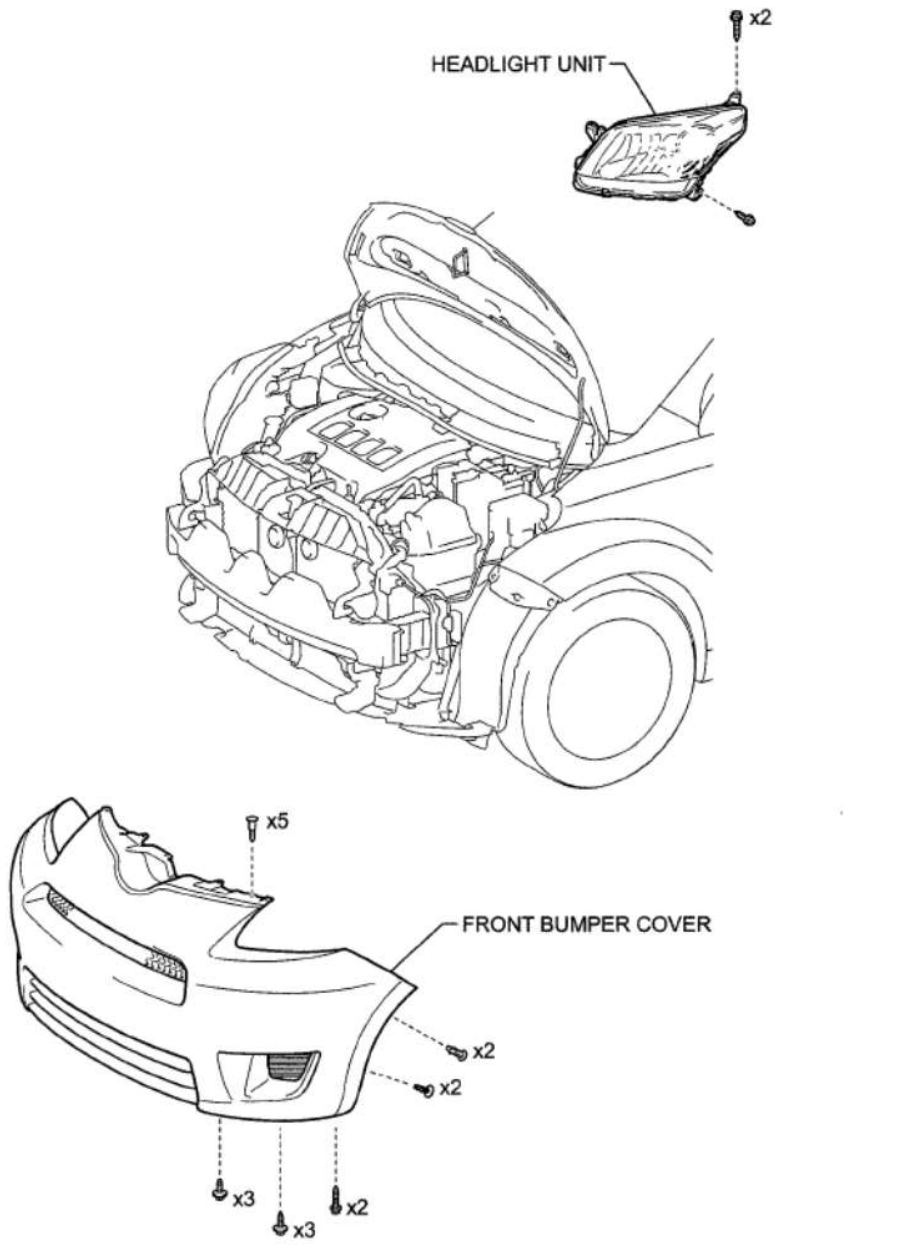
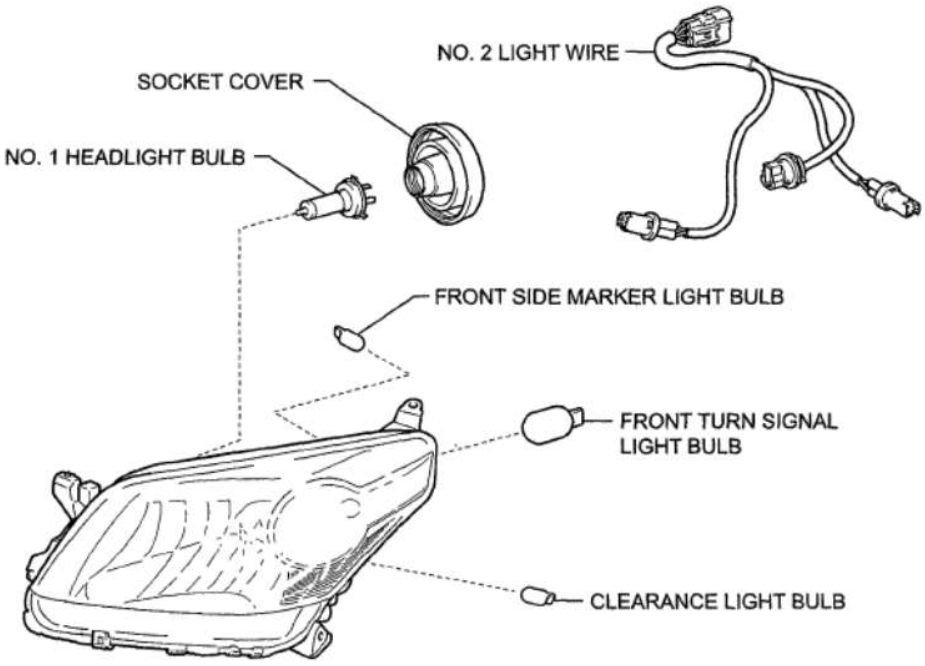


Fig. 85: Identifying Headlight Assembly Components (1 Of 2)
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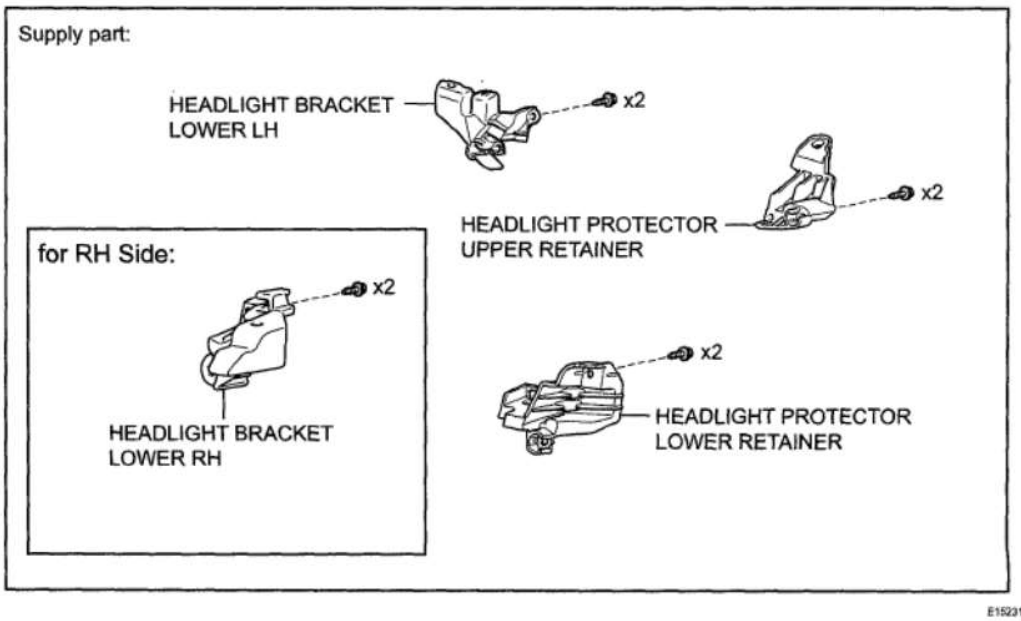


Fig. 86: Identifying Headlight Assembly Components (2 Of 2)
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REMOVAL

HINT:

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- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.

1. **REMOVE FRONT BUMPER COVER** (See **REMOVAL**)
2. **REMOVE HEADLIGHT UNIT**
   a. Remove the 3 screws.

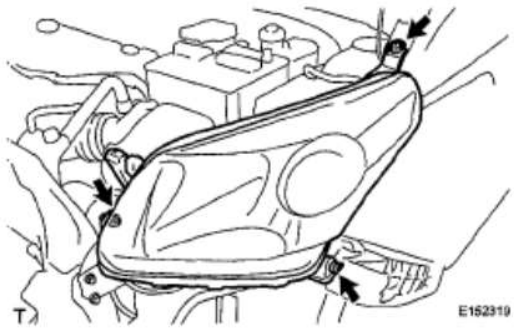


Fig. 87: Identifying Headlight Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Disconnect the connectors, then remove the headlight.

DISASSEMBLY

1. **REMOVE NO. 1 HEADLIGHT BULB**
   a. Remove the socket cover.

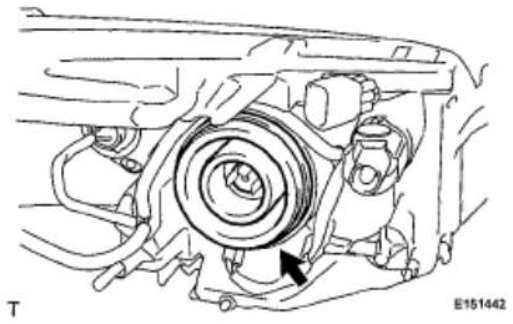


Fig. 88: Locating Socket Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Push the set spring, and pull it in the directions indicated by the arrow in the illustration, to disengage it.

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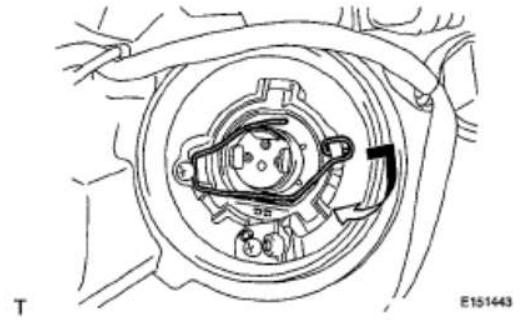


Fig. 89: Identifying Socket Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Remove the No. 1 headlight bulb.

NOTE: Do not touch the bulb glass with your fingers.

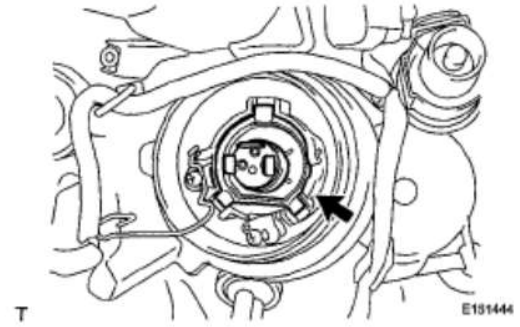


Fig. 90: Locating No. 1 Headlight Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **REMOVE FRONT SIDE MARKER LIGHT BULB**

a. Turn the front side marker light bulb socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

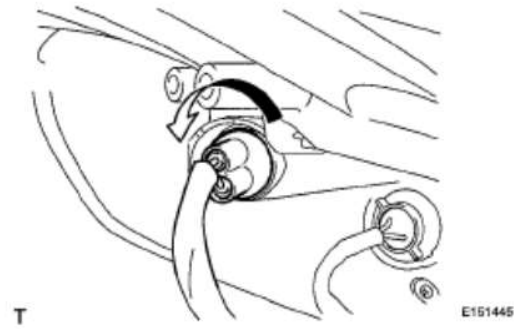


Fig. 91: Turning Front Side Marker Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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b. Remove the front side marker light bulb from the light socket.

3. **REMOVE FRONT TURN SIGNAL LIGHT BULB**

a. Turn the front turn signal light socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

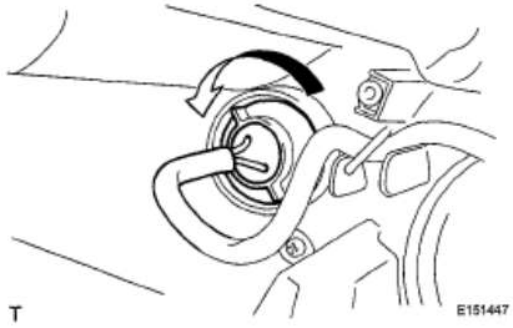


Fig. 92: Turning Front Turn Signal Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the front turn signal light bulb from the light socket.

4. **REMOVE CLEARANCE LIGHT BULB**

a. Turn the clearance light bulb socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

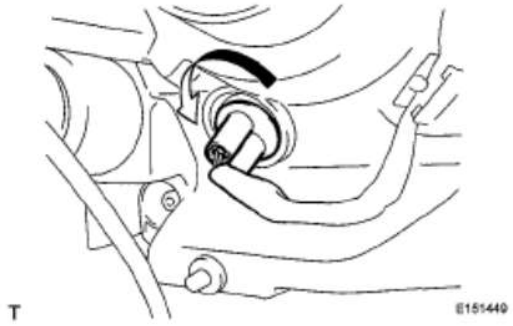


Fig. 93: Turning Clearance Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the clearance light bulb from the light socket.

5. **REMOVE NO. 2 LIGHT WIRE**

a. Disengage the 2 clamps and remove the No. 2 light wire.

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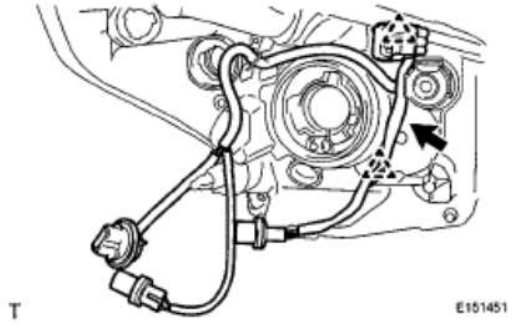


Fig. 94: Locating Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

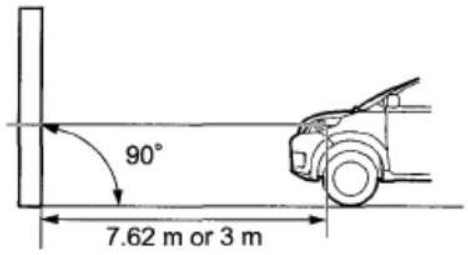
ADJUSTMENT

1. **PREPARE VEHICLE FOR HEADLIGHT AIMING ADJUSTMENT**
   a. Prepare the vehicle:
      - Ensure that there is no damage or deformation of the body around the headlights.
      - Fill the fuel tank.
      - Fill the oil to the specified level.
      - Fill the coolant to the specified level.
      - Inflate the tires to the appropriate pressure.
      - Place the spare tire, tools and jack in their original positions.
      - Unload the trunk.
      - Sit a person of average weight (68 kg, 150 lb) in the driver seat.
2. **PREPARE FOR HEADLIGHT AIMING (for Using a Tester)**
   a. Prepare the vehicle for headlight aim check.
   b. Adjust in accordance with the headlight tester instructions.
3. **PREPARE FOR HEADLIGHT AIMING (for Using a Screen)**
   a. Prepare the vehicle in accordance with the following conditions:
      - Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the headlights can be observed and above which it cannot.
      - Place the vehicle at a 90° angle to the wall.
      - Keep a 7.62 m (25 ft) distance between the center of the headlight bulb and the wall.
      - Place the vehicle on a level surface.
      - Bounce the vehicle up and down to settle the suspension.

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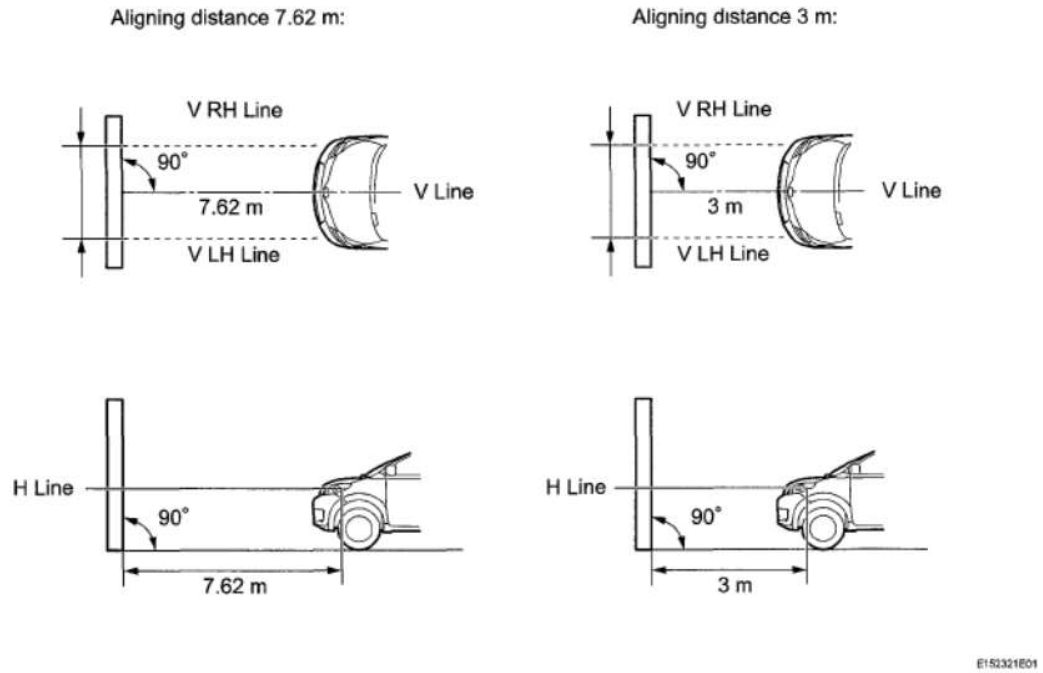


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Fig. 95: Identifying Distance Between Center Of Headlight Bulb And Wall
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: A distance of 7.62 m (25 ft) between the vehicle (the center of the headlight bulb) and the wall is necessary for proper aim adjustment. If unable to secure a distance of 7.62 m (25 ft), set a distance of exactly 3 m (9.84 ft) to check and adjust the headlight aim. (Since the target zone changes depending on the distance, follow the instructions shown in the illustration.)

b. Prepare a piece of thick white paper (approximately 2 m (6.6 ft.) high x 4 m (13.1 ft.) wide) to use as a screen.
c. Draw a vertical line down the center of the screen (V line).
d. Set the screen, as shown in the illustration.



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Fig. 96: Aligning V Line On Screen With Center Of Vehicle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- Stand the screen perpendicular to the ground.
- Align the V line on the screen with the center of the vehicle.

e. Draw base lines (H line, V LH and V RH lines) on the screen, as shown in the illustration.

HINT:

- The base lines differ for "low-beam inspection" and "high-beam inspection".
- Mark the headlight bulb center marks on the screen. If the center mark cannot be observed on the headlight, use the center of the headlight bulb.

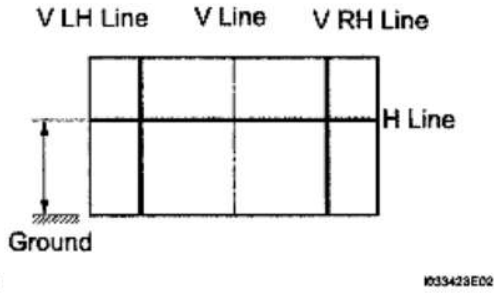


Fig. 97: Identifying Base Lines (H Line, V LH And V RH Lines) On Screen
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. H Line (Headlight height):

   Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the headlight bulb center marks of the low-beam headlights.

2. V LH Line and V RH Line (Center mark positions of left-hand (LH) and right-hand (RH) headlights):

   Draw two vertical lines so that they intersect the H line at each center mark (aligned with the center of the low-beam headlight bulbs).

4. **INSPECT HEADLIGHT AIMING**

a. Cover the headlight on the opposite side or disconnect its connector, to prevent light from the headlight not being inspected from affecting the headlight aiming inspection.

NOTE: Do not keep the headlight covered for more than 3 minutes. The headlight lens is made of synthetic resin, and may easily melt or be damaged due to heat.

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b. Start the engine

NOTE: Engine rpm must be 1,500 or more.

c. Turn on the headlight and make sure that the cutoff line falls within the specified area, as shown in the illustration.

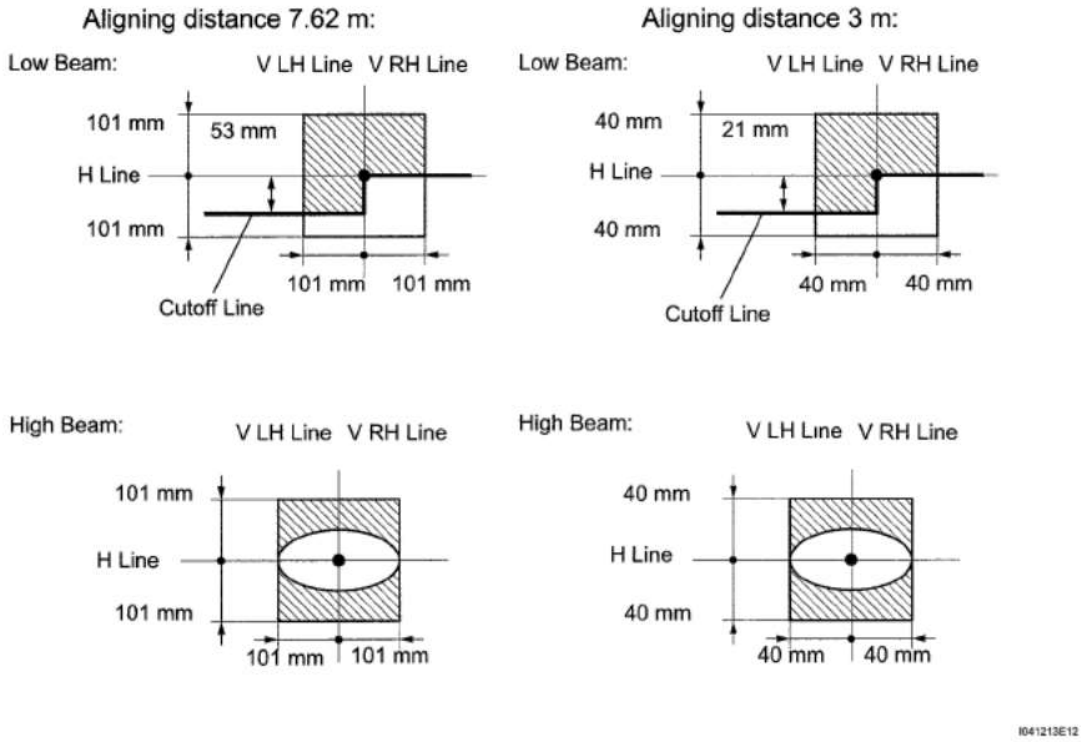


Fig. 98: Identifying Headlight Low-Beam Light And High-Beam Light Aiming
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- Since the low-beam light and the high-beam light are a unit, if the aim on one is correct, the other should also be correct. However, check both beams just to make sure.
- Alignment distance is 7.62 m (25 ft.):

  The cutoff line is 101 mm (3.97 in.) above and below the H line as well as to the left and right of the V line with low-beam (SAE J599).

- Alignment distance is 3 m (9.84 ft.):

  The cutoff line is 40 mm (1.57 in.) above and below the H line as well as to the left and right of the V line with low-beam (SAE J599).

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- Alignment distance is 7.62 m (25 ft.):

  The cutoff line is 101 mm (3.97 in.) above and below the H line as well as to the left and right of the V line with high-beam (SAE J599).

- Alignment distance is 3 m (9.84 ft.):

  The cutoff line is 40 mm (1.57 in.) above and below the H line as well as to the left and right of the V line with high-beam (SAE J599).

- Alignment distance is 7.62 m (25 ft.):

  The cutoff line is 53 mm (2.08 in.) below the H line with low-beam.

- Alignment distance is 3 m (9.84 ft.):

  The cutoff line is 21 mm (0.82 in.) below the H line with low-beam.

5. **ADJUST HEADLIGHT AIMING**

   a. Adjust the aiming vertically:

   Adjust the headlight aim to within the specified range by turning aiming screw A with a screwdriver.

   NOTE: The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

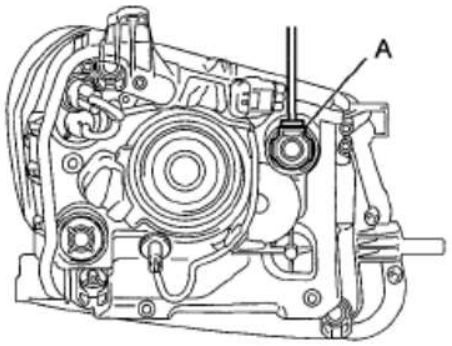


Fig. 99: Identifying Aiming Screw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Perform low-beam aim adjustment.

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HINT:

The headlight aim moves down when the aiming screw is turned clockwise, and moves up when the aiming screw is turned counterclockwise.

REASSEMBLY

1. **INSTALL NO. 2 LIGHT WIRE**
   a. Engage the 2 clamps and install the No. 2 light wire.

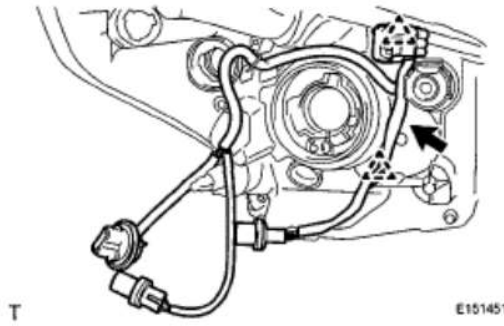


Fig. 100: Identifying Clamps On No. 2 Light Wire
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL CLEARANCE LIGHT BULB**
   a. Install the clearance light bulb into the light socket.
   b. Turn the clearance light bulb socket and bulb, in the direction indicated by the arrow in the illustration, to install them.

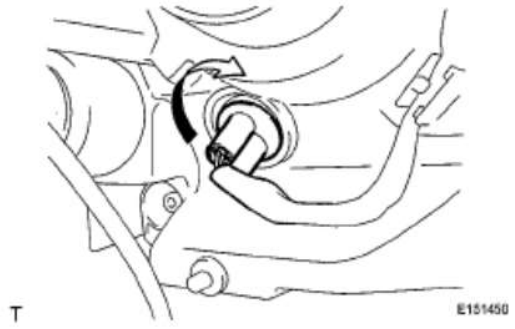


Fig. 101: Turning Clearance Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FRONT TURN SIGNAL LIGHT BULB**
   a. Install the front turn signal light bulb into the light socket.
   b. Turn the front turn signal light bulb socket and bulb, in the direction indicated by the arrow in the illustration, to install them.

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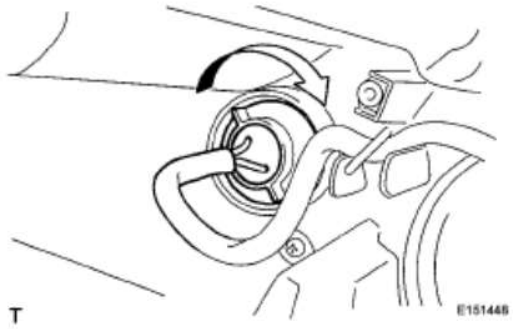


Fig. 102: Turning Front Turn Signal Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT SIDE MARKER LIGHT BULB**
   a. Install the front side marker light bulb into the light socket.
   b. Turn the front side marker light bulb socket and bulb, in the direction indicated by the arrow in the illustration, to install them.

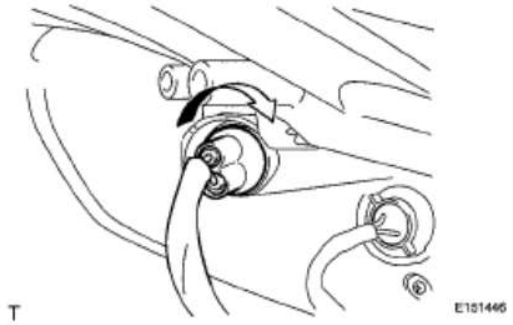


Fig. 103: Turning Front Side Marker Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL NO. 1 HEADLIGHT BULB**
   a. Install the No. 1 headlight bulb.

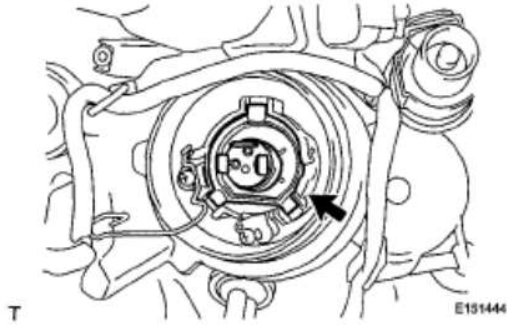


Fig. 104: Identifying No. 1 Headlight Bulb

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Lock the set spring by moving it in the directions indicated by the arrow in the illustration.

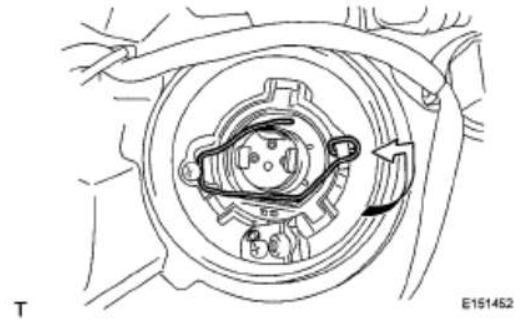


Fig. 105: Locking Set Spring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Install the socket cover.

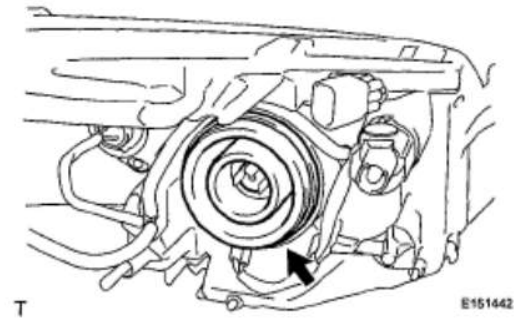


Fig. 106: Locating Socket Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL HEADLIGHT UNIT**
   a. Connect the connectors.
   b. Install the headlight with the 3 screws.

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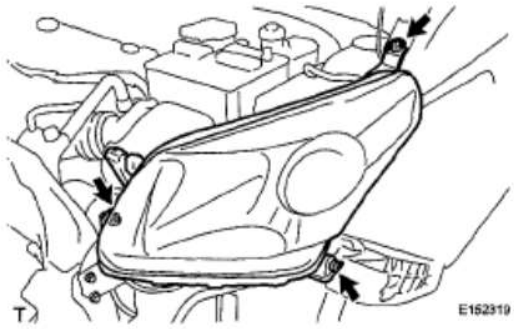


Fig. 107: Identifying Headlight Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT BUMPER COVER** (See **INSTALLATION**)
3. **PREPARE VEHICLE FOR HEADLIGHT AIMING ADJUSTMENT** (See **ADJUSTMENT**)
4. **PREPARE FOR HEADLIGHT AIMING (for Using a Tester)** (See **ADJUSTMENT**)
5. **PREPARE FOR HEADLIGHT AIMING (for Using a Screen)** (See **ADJUSTMENT**)
6. **INSPECT HEADLIGHT AIMING** (See **ADJUSTMENT**)
7. **ADJUST HEADLIGHT AIMING** (See **ADJUSTMENT**)

REPAIR

HINT:

- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.
- If only the installation area of the headlight is damaged, the repairs described below can be performed inexpensively by using brackets for the repair. This may only be done if the other areas of the headlight are not damaged.

1. **REMOVE FRONT BUMPER COVER** (See **REMOVAL**)
2. **REMOVE HEADLIGHT UNIT** (See **REMOVAL**)
3. **INSTALL HEADLIGHT PROTECTOR UPPER RETAINER**

HINT:

- If only the installation area of the headlight is damaged, use a repair bracket for a low-cost repair.
- Ensure that other areas of the headlight are not damaged.

a. Cut off the portion indicated by the hatched lines in the illustration and smooth the surface with sandpaper.

NOTE: After cutting off the shaded portion, place the headlight protector upper retainer against the bosses and gradually file away the shaded

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portion until installation is possible.

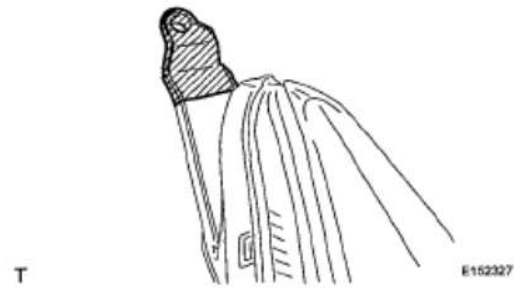


Fig. 108: Identifying Cutting Off Shaded Portion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the headlight protector upper retainer with the 2 screws.



Fig. 109: Identifying Headlight Protector Lower Retainer With Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL HEADLIGHT PROTECTOR LOWER RETAINER**

HINT:

- If only the installation area of the headlight is damaged, use a repair bracket for a low-cost repair.
- Ensure that other areas of the headlight are not damaged.

a. Cut off the portion indicated by the hatched lines in the illustration and smooth the surface with sandpaper.

NOTE: After cutting off the shaded portion, place the headlight protector lower retainer against the bosses and gradually file away the shaded portion until installation is possible.

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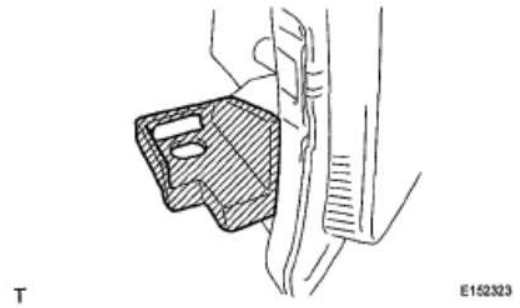


Fig. 110: Identifying Cutting Off Shaded Portion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the headlight protector lower retainer with the 2 screws.

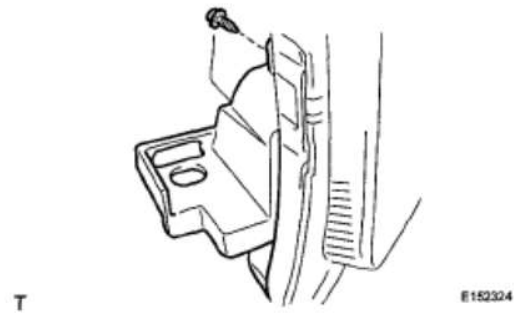


Fig. 111: Identifying Headlight Protector Lower Retainer With Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL HEADLIGHT BRACKET LOWER LH (for LH Side)**

HINT:

- If only the installation area of the headlight is damaged, use a repair bracket for a low-cost repair.
- Ensure that other areas of the headlight are not damaged.

a. Cut off the portion indicated by the hatched lines in the illustration and smooth the surface with sandpaper.

NOTE: After cutting off the shaded portion, place the headlight bracket lower against the bosses and gradually file away the shaded portion until installation is possible.

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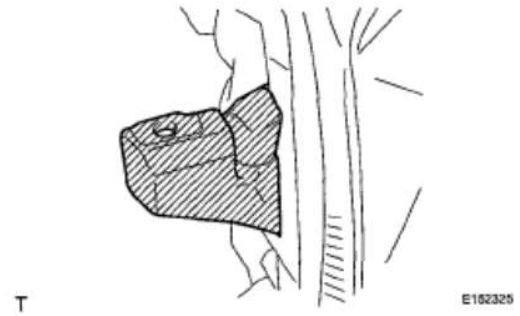


Fig. 112: Identifying Cutting Off Shaded Portion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the headlight bracket lower with the 2 screws.

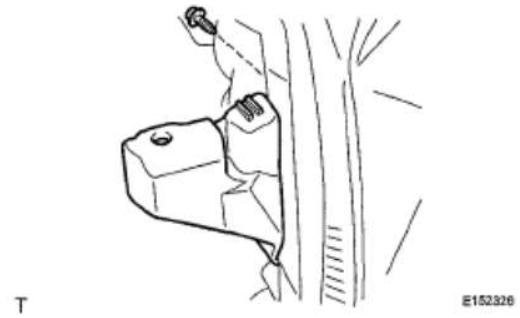


Fig. 113: Identifying Headlight Bracket Lower With Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **REMOVE HEADLIGHT BRACKET LOWER RH (for RH Side)**

HINT:

- If only the installation area of the headlight is damaged, use a repair bracket for a low-cost repair.
- Ensure that other areas of the headlight are not damaged.

a. Cut off the portion indicated by the hatched lines in the illustration and smooth the surface with sandpaper.

NOTE: After cutting off the shaded portion, place the headlight bracket lower against the bosses and gradually file away the shaded portion until installation is possible.

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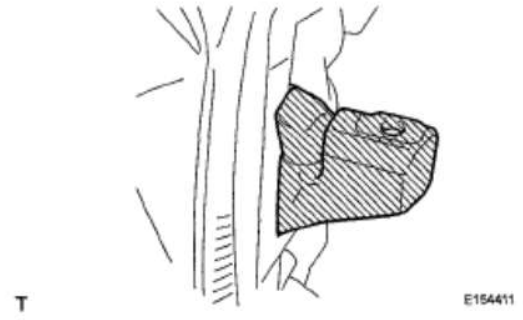


Fig. 114: Identifying Cutting Off Shaded Portion
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Install the headlight bracket lower with the 2 screws.



Fig. 115: Identifying Headlight Bracket Lower With Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

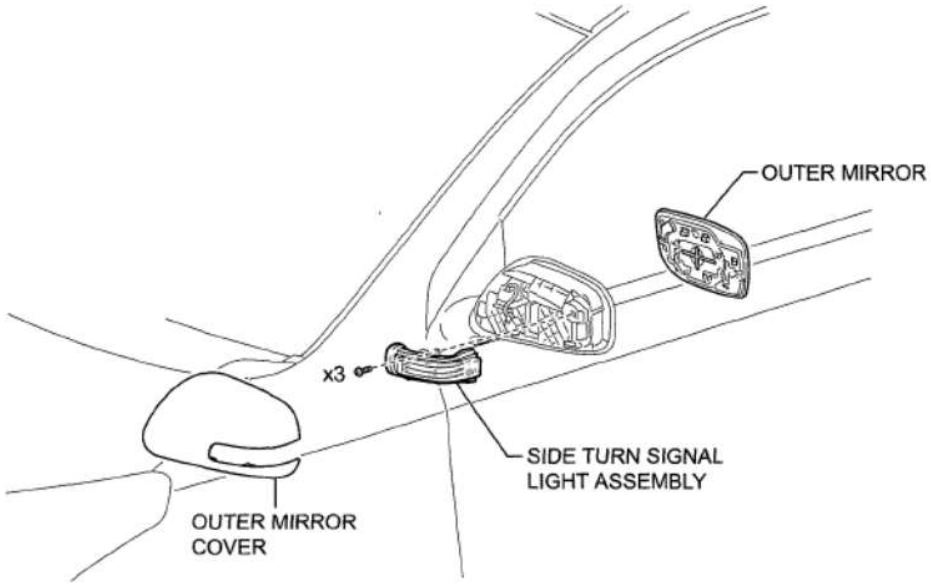
7. **INSTALL HEADLIGHT UNIT** (See **INSTALLATION**)
8. **INSTALL FRONT BUMPER COVER** (See **INSTALLATION**)
9. **PREPARE VEHICLE FOR HEADLIGHT AIMING ADJUSTMENT** (See **ADJUSTMENT**)
10. **PREPARE FOR HEADLIGHT AIMING (for Using a Tester)** (See **ADJUSTMENT**)
11. **PREPARE FOR HEADLIGHT AIMING (for Using a Screen)** (See **ADJUSTMENT**)
12. **INSPECT HEADLIGHT AIMING** (See **ADJUSTMENT**)
13. **ADJUST HEADLIGHT AIMING** (See **ADJUSTMENT**)

SIDE TURN SIGNAL LIGHT ASSEMBLY

COMPONENTS

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Fig. 116: Identifying Side Turn Signal Light Assembly Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.

1. **REMOVE OUTER MIRROR** (See **REMOVAL**)
2. **REMOVE OUTER MIRROR COVER** (See **REMOVAL**)
3. **REMOVE SIDE TURN SIGNAL LIGHT ASSEMBLY**
   a. Remove the 3 screws.

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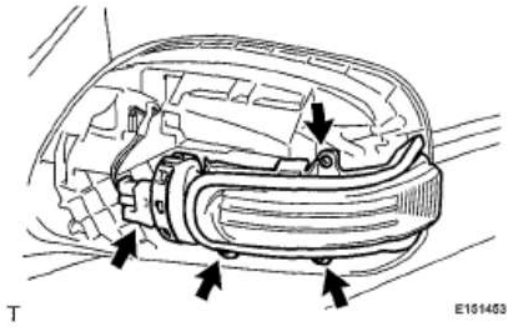


Fig. 117: Identifying Side Turn Signal Light Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Disconnect the connector and remove the side turn signal light.

INSPECTION

1. **INSPECT SIDE TURN SIGNAL LIGHT ASSEMBLY**
   a. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2.
   b. Check that the side turn signal light comes on.

   OK:

   The light comes on.

   If the result is not as specified, replace the side turn signal light.

Component without harness connected:
(Side Turn Signal Light Assembly)



Fig. 118: Identifying Side Turn Signal Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL SIDE TURN SIGNAL LIGHT ASSEMBLY**
   a. Connect the connector.
   b. Install the side turn signal light with the 3 screws.

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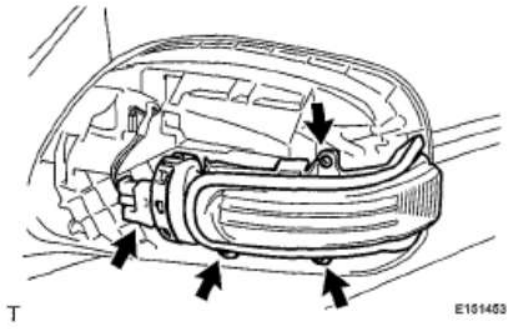


Fig. 119: Identifying Side Turn Signal Light With Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL OUTER MIRROR COVER** (See **INSTALLATION**)
3. **INSTALL OUTER MIRROR** (See **INSTALLATION**)

REAR COMBINATION LIGHT ASSEMBLY

COMPONENTS

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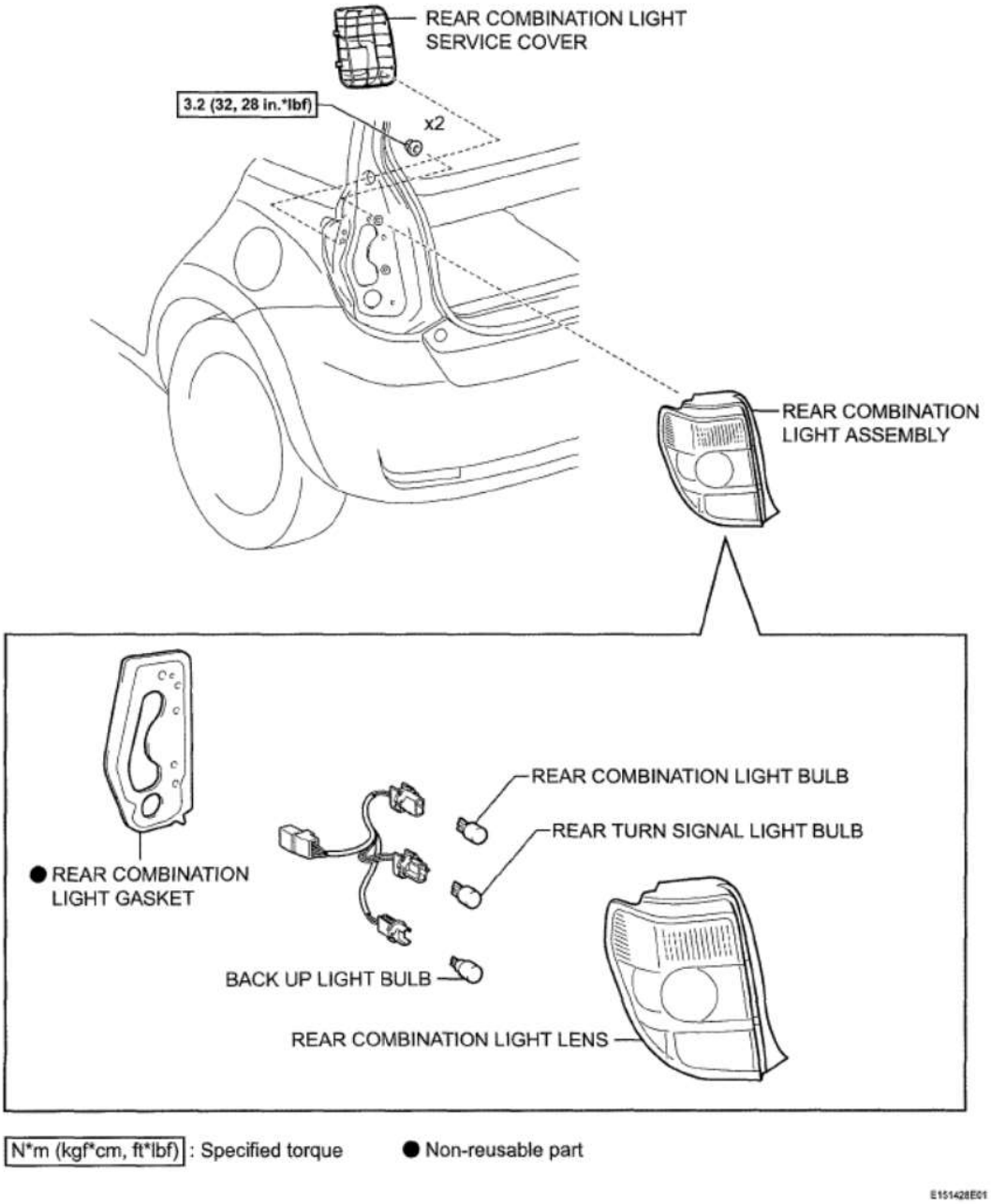


Fig. 120: Identifying Rear Combination Light Assembly Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ON-VEHICLE INSPECTION

1. **INSPECT REAR COMBINATION LIGHT ASSEMBLY LH**
   a. Disconnect the connector from the rear combination light assembly.
   b. Measure the voltage and resistance according to the value(s) in the table below.

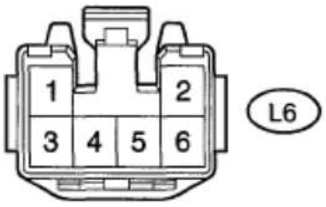
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Standard

VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
L6-6 - L6-2	Light control switch OFF	Below 1 ohms
	Light control switch in TAIL	11 to 14 V
L6-1 - L6-2	Brake pedal released	Below 1 ohms
	Brake pedal depressed	11 to 14 V
L6-5 - L6-2	Turn signal switch OFF	Below 1 ohms
	Ignition switch ON and Turn signal switch in LH	11 to 14 V (60 to 120 times per minute)
L6-3 - L6-2	Shift lever not in R	Below 1 ohms
	Shift lever in R	11 to 14 V

Front view of wire harness connector:
(to Rear Combination Light Assembly)



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Fig. 121: Identifying L6 Rear Combination Light Connector Terminal LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSPECT REAR COMBINATION LIGHT ASSEMBLY RH**
   a. Disconnect the connector from the rear combination light assembly.
   b. Measure the voltage and resistance according to the value(s) in the table below.

Standard

VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
L5-6 - L5-2	Light control switch OFF	Below 1 ohms
	Light control switch in TAIL	11 to 14 V

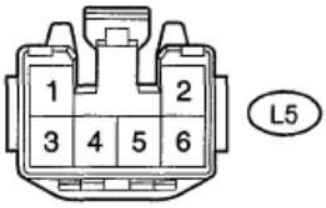
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L5-1 - L5-2	Brake pedal released	Below 1 ohms
	Brake pedal depressed	11 to 14 V
L5-5 - L5-2	Turn signal switch OFF	Below 1 ohms
	Ignition switch ON and turn signal switch in RH	11 to 14 V (60 to 120 times per minute)
L5-3 - L5-2	Shift lever not in R	Below 1 ohms
	Shift lever in R	11 to 14 V

Front view of wire harness connector:
(to Rear Combination Light Assembly)



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Fig. 122: Identifying L5 Rear Combination Light Connector Terminal RH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.

1. **REMOVE REAR COMBINATION LIGHT SERVICE COVER**
   a. Using a moulding remover, disengage the 4 claws and 3 guides and remove the rear combination light service cover.

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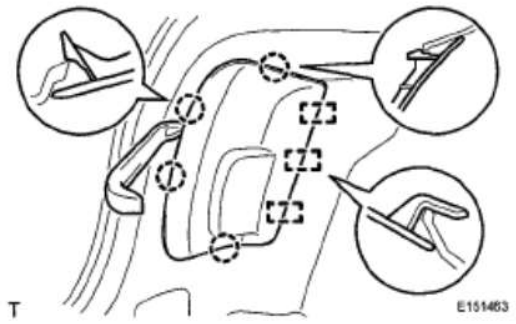


Fig. 123: Identifying Claws And Guides
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **REMOVE REAR COMBINATION LIGHT ASSEMBLY**
   a. Disconnect the connector.
   b. Remove the 2 nuts.

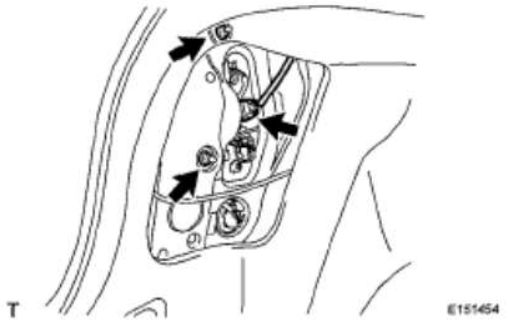


Fig. 124: Locating Rear Combination Light Connector With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. From the vehicle interior, pinch the clip by hand and remove it.

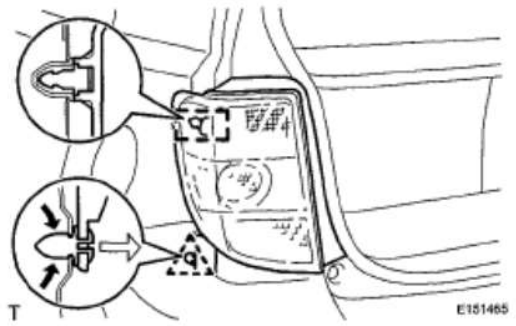


Fig. 125: Identifying Clip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   d. Disengage the pin and remove the rear combination light.

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DISASSEMBLY

1. **REMOVE REAR COMBINATION LIGHT GASKET**
   a. Remove the rear combination light gasket.

NOTE:

- **Detach the gasket if it adheres to the body.**
- **Do not reuse a removed gasket. Replace it with a new one to prevent water from entering.**

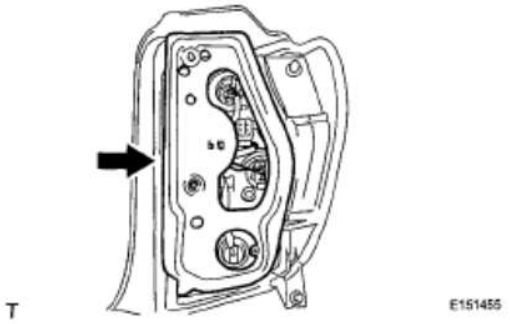


Fig. 126: Locating Rear Combination Light Gasket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **REMOVE REAR COMBINATION LIGHT BULB**
   a. Turn the rear combination light socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

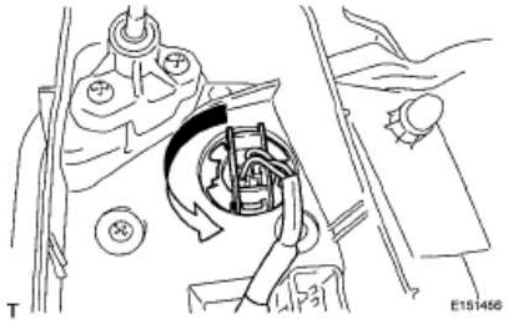


Fig. 127: Turning Rear Combination Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Remove the rear combination light bulb from the light socket.

3. **REMOVE REAR TURN SIGNAL LIGHT BULB**
   a. Turn the rear turn signal light socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

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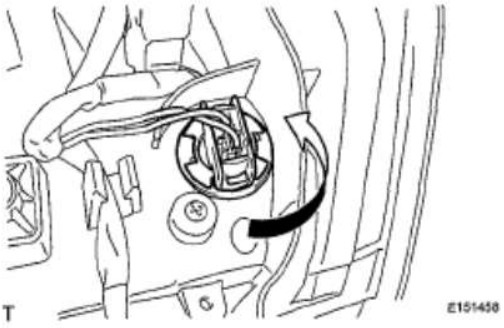


Fig. 128: Turning Rear Turn Signal Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the rear turn signal light bulb from the light socket.

4. **REMOVE BACK UP LIGHT BULB**
   a. Turn the back up light socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.

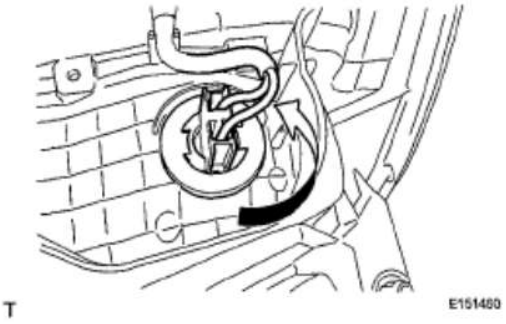


Fig. 129: Turning Back Up Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the back up light bulb from the light socket.

REASSEMBLY

1. **INSTALL BACK UP LIGHT BULB**
   a. Install the back up light bulb into the light socket.
   b. Turn the back up light socket and bulb, in the direction indicated by the arrow in the illustration, to install them.

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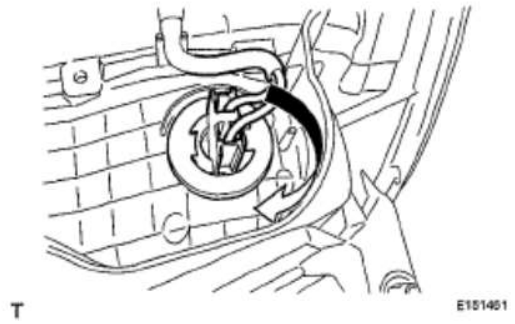


Fig. 130: Turning Back Up Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL REAR TURN SIGNAL LIGHT BULB**
   a. Install the rear turn signal light bulb into the light socket.
   b. Turn the rear turn signal light socket and bulb, in the direction indicated by the arrow in the illustration, to install them.

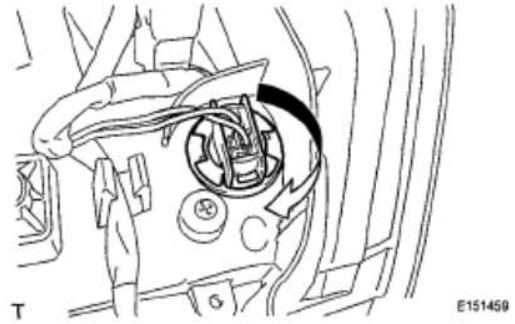
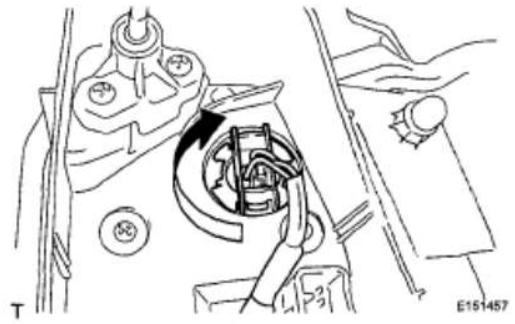


Fig. 131: Turning Rear Turn Signal Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL REAR COMBINATION LIGHT BULB**
   a. Install the rear combination light bulb into the light socket.
   b. Turn the rear combination light socket and bulb, in the direction indicated by the arrow in the illustration, to install them.



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Fig. 132: Turning Rear Combination Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL REAR COMBINATION LIGHT GASKET**
   a. Install a new rear combination light gasket.

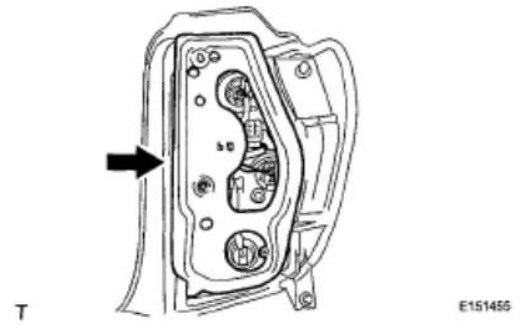


Fig. 133: Locating Rear Combination Light Gasket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL REAR COMBINATION LIGHT ASSEMBLY**
   a. Engage the clip, pin and install the rear combination light onto the vehicle.

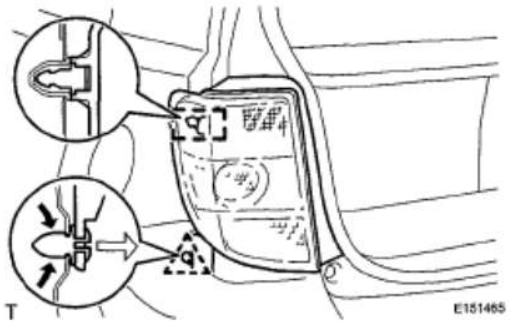


Fig. 134: Identifying Clip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Connect the connector.
   c. Install the 2 nuts.

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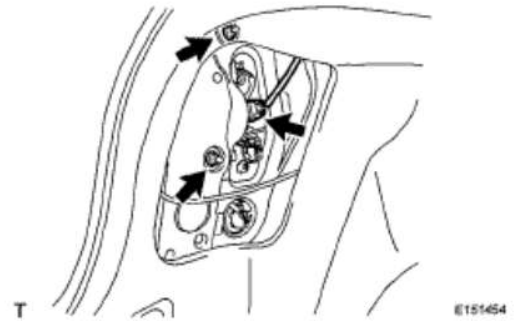


Fig. 135: Locating Rear Combination Light Connector With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Torque: 3.2 N*m (32 kgf*cm, 28 in.*lbf)

2. **INSTALL REAR COMBINATION LIGHT SERVICE COVER**
   a. Engage the 4 claws and 3 guides and install the rear combination light service cover.

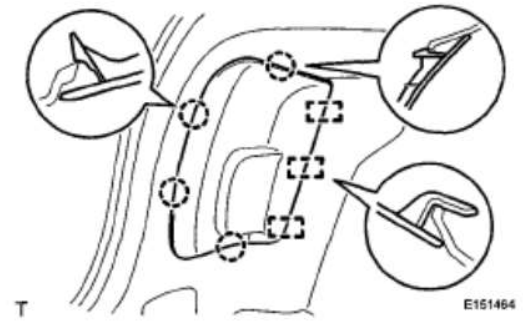


Fig. 136: Identifying Claws And Guides
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

LICENSE PLATE LIGHT ASSEMBLY

COMPONENTS

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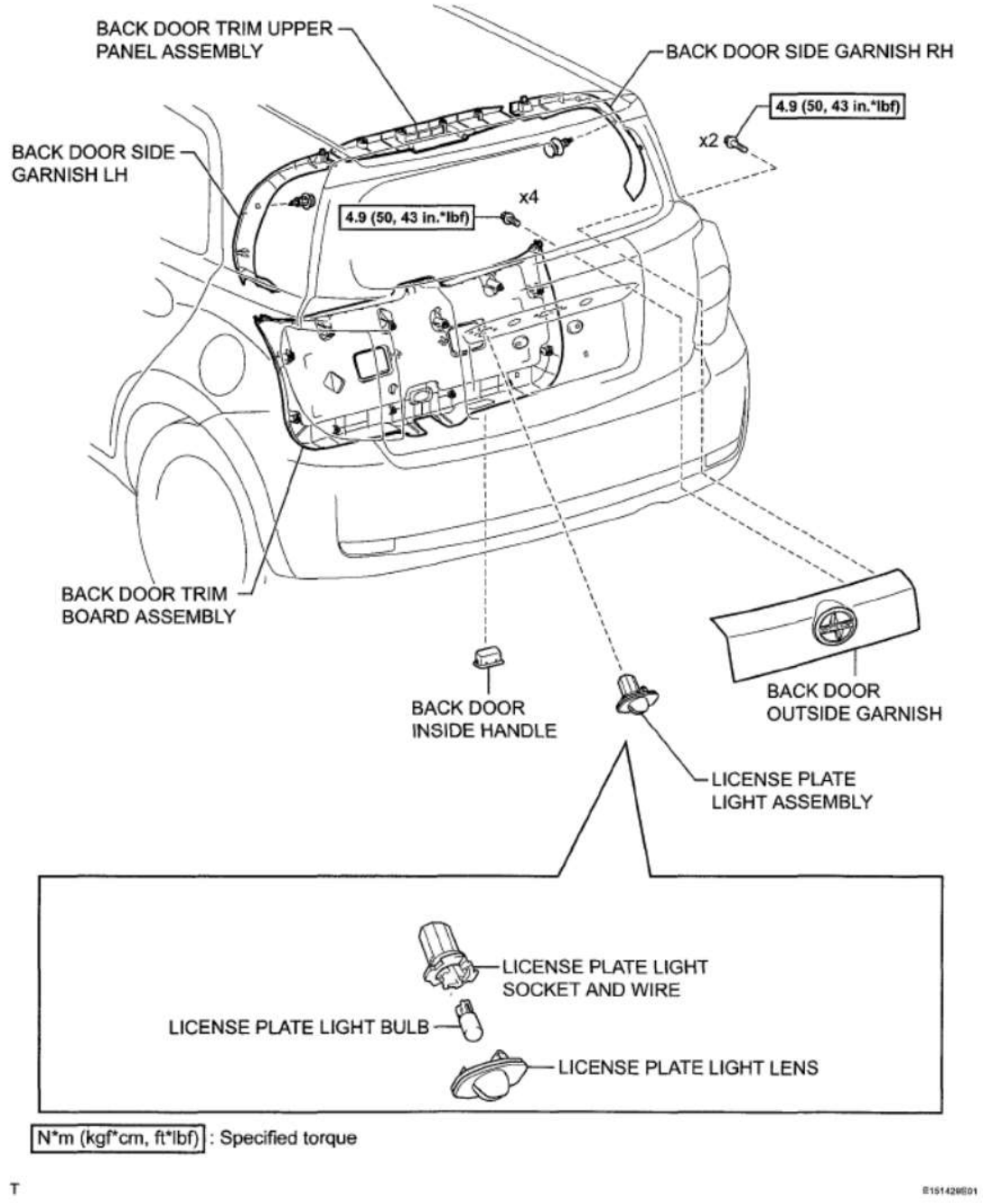


Fig. 137: Identifying License Plate Light Assembly Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **DISASSEMBLY**)
2. **REMOVE BACK DOOR SIDE GARNISH LH** (See **DISASSEMBLY**)
3. **REMOVE BACK DOOR SIDE GARNISH RH**

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HINT:

Use the same procedure as for the LH side.

4. **REMOVE BACK DOOR INSIDE HANDLE** (See **DISASSEMBLY**)
5. **REMOVE BACK DOOR TRIM BOARD ASSEMBLY** (See **DISASSEMBLY**)
6. **REMOVE BACK DOOR OUTSIDE GARNISH** (See **REMOVAL**)
7. **REMOVE LICENSE PLATE LIGHT ASSEMBLY**
   a. Disengage the 2 claws and separate the license plate light.

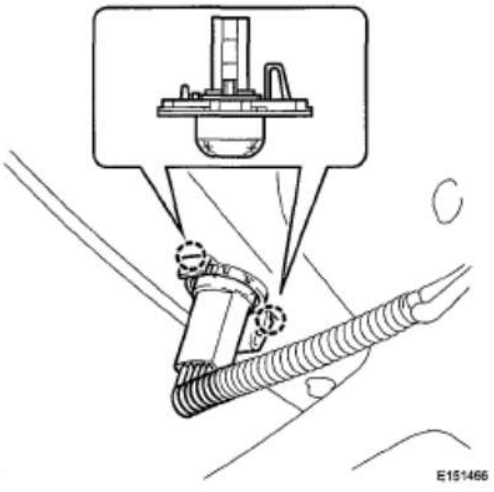


Fig. 138: Identifying Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Disconnect the connector and remove the license plate light.
8. **REMOVE LICENSE PLATE LIGHT BULB**
   a. Turn the license plate light socket and bulb, in the direction indicated by the arrow in the illustration, to remove them.



Fig. 139: Turning License Plate Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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b. Remove license plate light bulb from the light socket.

INSPECTION

1. **INSPECT LICENSE PLATE LIGHT ASSEMBLY**
   a. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2.

Component without harness connected:
(License Plate Light Assembly)



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Fig. 140: Identifying License Plate Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Check that the light comes on.

OK:

The light comes on.

If the result is not as specified, replace the bulb or light socket.

INSTALLATION

1. **INSTALL LICENSE PLATE LIGHT BULB**
   a. Install the license plate light bulb into the light socket.
   b. Turn the license plate light socket and bulb, in the direction indicated by the arrow in the illustration, to install them.



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Fig. 141: Turning License Plate Light Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2. **INSTALL LICENSE PLATE LIGHT ASSEMBLY**
   a. Connect the connector.
   b. Engage the 2 claws and install the license plate light, as shown in the illustration.

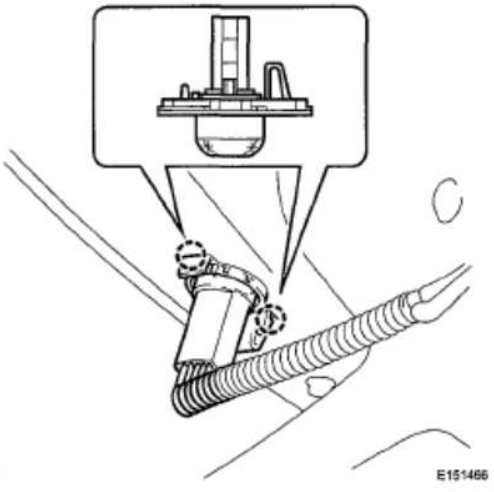


Fig. 142: Identifying Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL BACK DOOR OUTSIDE GARNISH** (See **INSTALLATION**)
4. **INSTALL BACK DOOR TRIM BOARD ASSEMBLY** (See **REASSEMBLY**)
5. **INSTALL BACK DOOR INSIDE HANDLE** (See **REASSEMBLY**)
6. **INSTALL BACK DOOR SIDE GARNISH LH** (See **REASSEMBLY**)
7. **INSTALL BACK DOOR SIDE GARNISH RH**

   HINT:

   Use the same procedure as for the LH side.

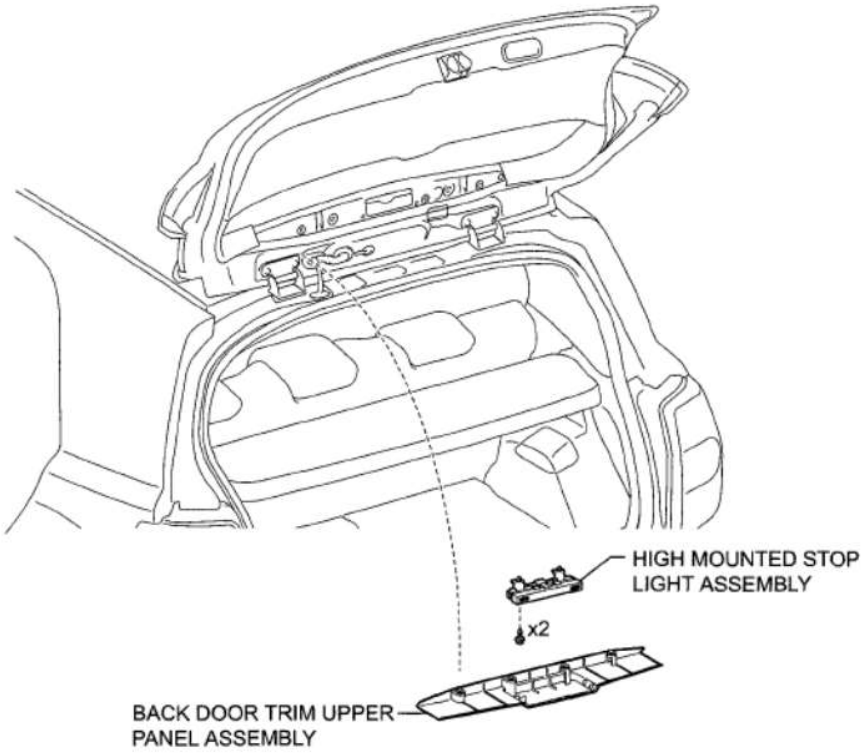
8. **INSTALL BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **REASSEMBLY**)

HIGH MOUNTED STOP LIGHT ASSEMBLY

COMPONENTS

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Fig. 143: Identifying High Mounted Stop Light Assembly Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **DISASSEMBLY**)
2. **REMOVE HIGH MOUNTED STOP LIGHT ASSEMBLY**
   a. Remove the 2 screws.
   b. Disconnect the connector and remove the high mounted stop light.

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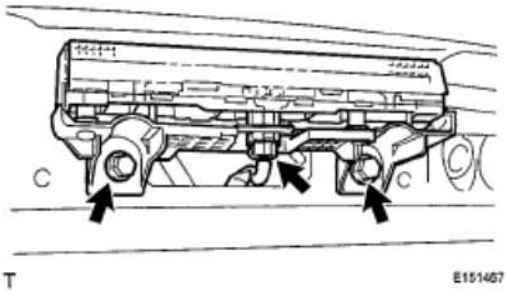


Fig. 144: Locating High Mounted Stop Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT HIGH MOUNTED STOP LIGHT ASSEMBLY**
   a. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2.

Component without harness connected:
(High Mounted Stop Light Assembly)

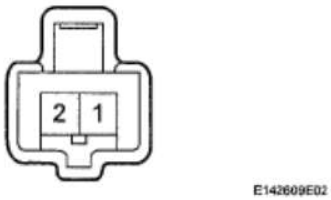


Fig. 145: Identifying High Mounted Stop Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Check that the light comes on.

   OK:

   The light comes on.

   If the result is not as specified, replace the high mounted stop light.

INSTALLATION

1. **INSTALL HIGH MOUNTED STOP LIGHT ASSEMBLY**
   a. Connect the connector.
   b. Install the high mounted stop light with the 2 screws.

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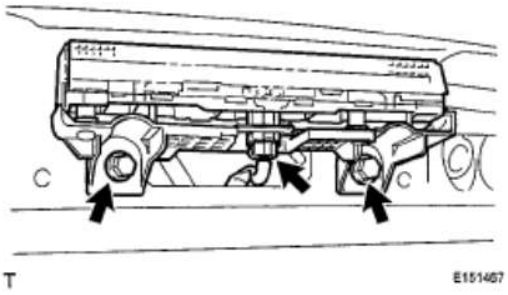


Fig. 146: Locating High Mounted Stop Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **REASSEMBLY**)

PERSONAL LIGHT ASSEMBLY

COMPONENTS

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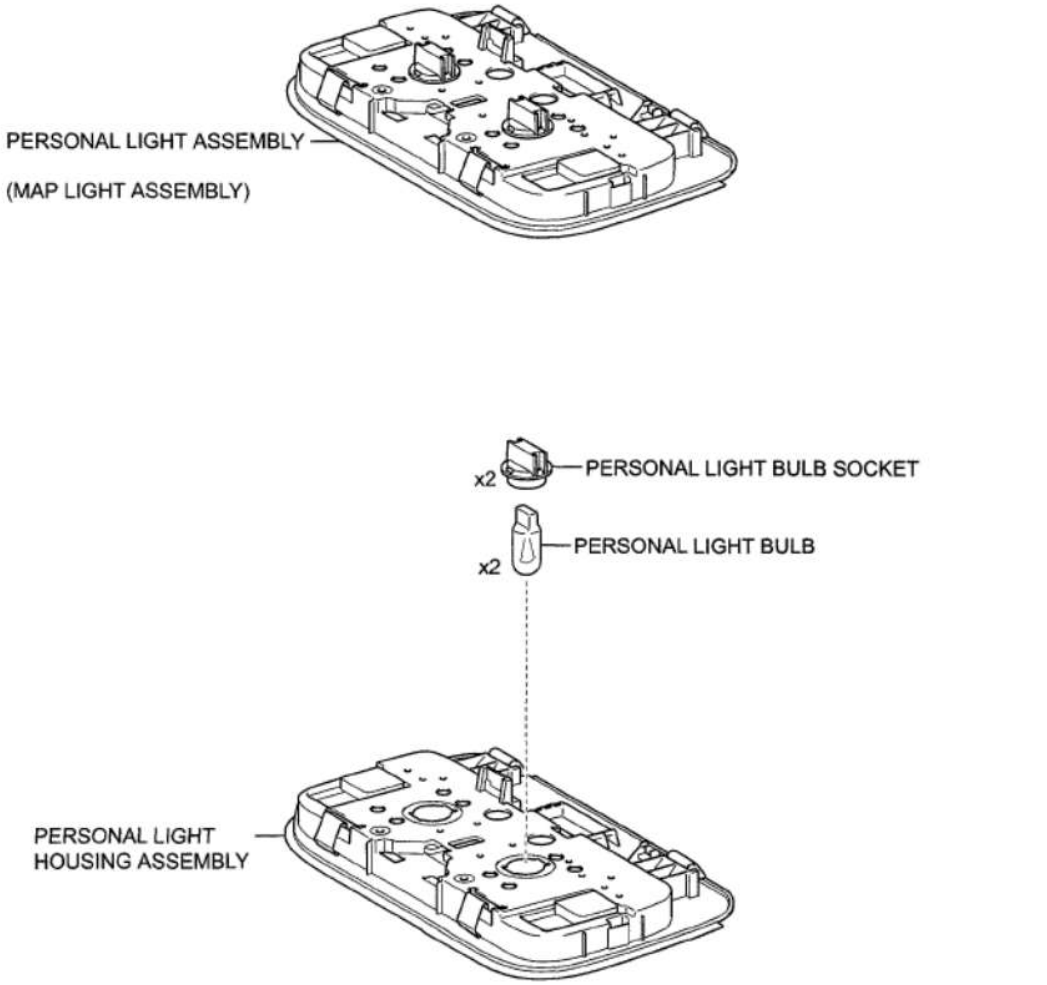


Fig. 147: Identifying Personal Light Assembly Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE PERSONAL LIGHT ASSEMBLY**
   a. Using a roof moulding remover, disengage the 4 claws.

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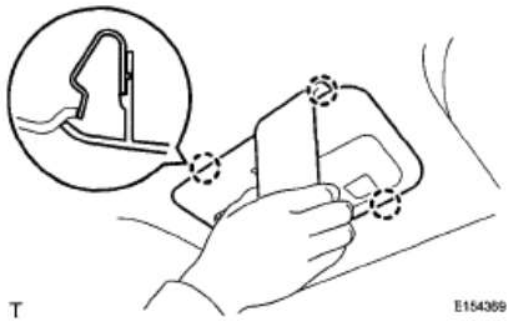


Fig. 148: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Disconnect the connector, and remove the personal light.

2. **REMOVE PERSONAL LIGHT BULB**

a. Turn the 2 personal light sockets and bulbs, in the direction indicated by the arrows in the illustration, to remove them.

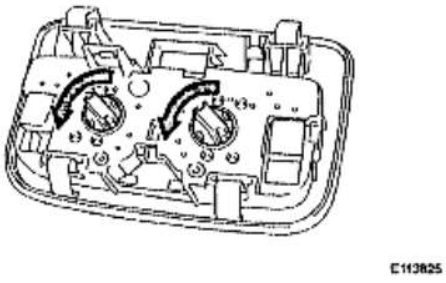


Fig. 149: Turning Personal Light Sockets And Bulbs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Remove the 2 personal light bulbs from the light socket.

INSPECTION

1. **INSPECT PERSONAL LIGHT ASSEMBLY**

a. Check the resistance.

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Component without harness connected:
(Personal light assembly)



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Fig. 150: Identifying Personal Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

   Standard resistance

   STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - 2	OFF	10 kohms or higher

   If the result is not as specified, replace the personal light.

b. Check the drivers light operation.
   1. Connect the positive (+) battery lead to terminal 1 and the negative (-) battery lead to terminal 2. then check that the light illuminates.
   2. Check that the light comes on when the drivers switch on.

      OK:

      The light comes on.

      If the result is not as specified, replace the bulb or personal light.

c. Check the passengers light operation.
   1. Connect the positive (+) battery lead to terminal 1 and negative (-) battery lead to terminal 2.
   2. Check that the light comes on when the passengers switch on.

      OK:

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The light comes on.

If the result is not as specified, replace the bulb or personal light.

INSTALLATION

1. **INSTALL PERSONAL LIGHT BULB**
   a. Install the personal light bulb into the light socket.
   b. Turn the personal light bulb socket and bulb, in the direction indicated by the arrows in the illustration.

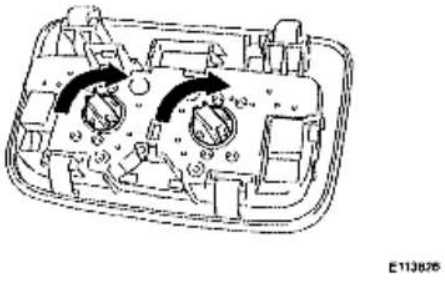


Fig. 151: Turning Personal Light Bulb Socket And Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL PERSONAL LIGHT ASSEMBLY**
   a. Connect the connector.
   b. Engage the 4 claws and install the personal light.

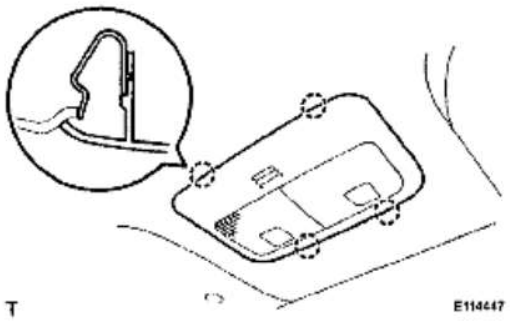


Fig. 152: Identifying Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ROOM LIGHT ASSEMBLY (FOR CENTER)

COMPONENTS

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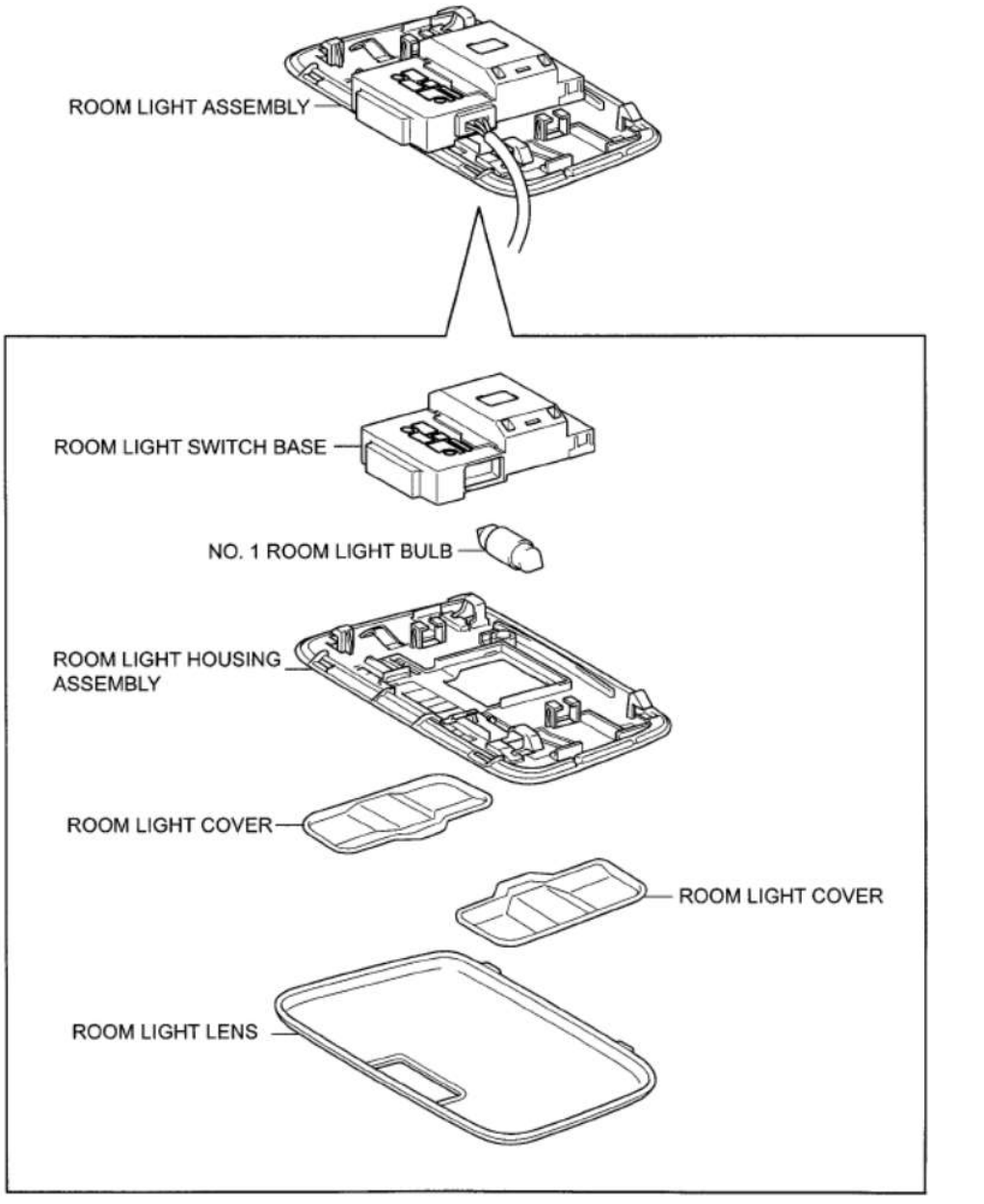


Fig. 153: Identifying Room Light Assembly Components (Center)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE ROOM LIGHT ASSEMBLY**
   a. Using a screwdriver with its tip wrapped in protective tape, disengage the 4 claws and remove the room light lens.

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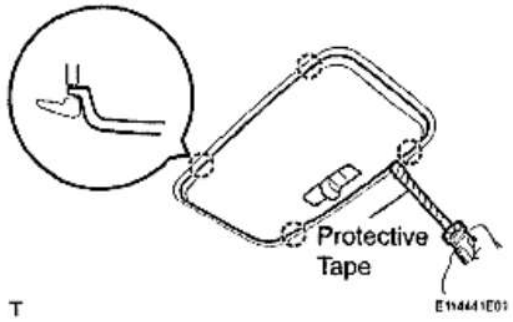


Fig. 154: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using a screwdriver with its tip wrapped in protective tape, disengage the 4 claws and remove the 2 covers.

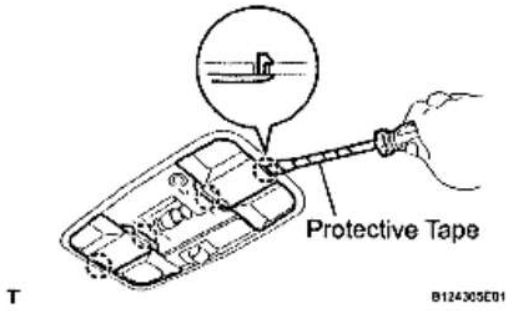


Fig. 155: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Using a screwdriver with its tip wrapped in protective tape, disengage the 4 claws.

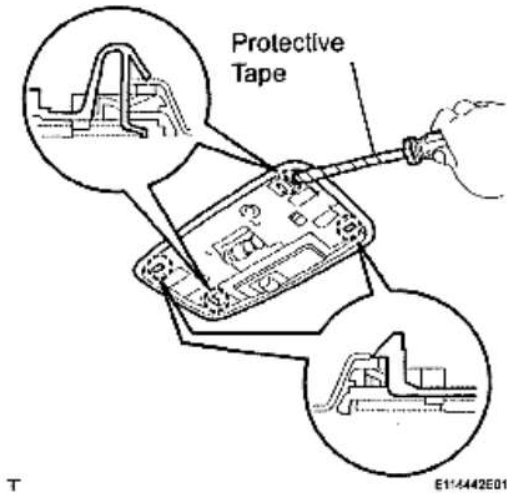


Fig. 156: Disengaging Claws

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

d. Disengage the roof wire from the room light claw.



Fig. 157: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Using a screwdriver with its tip wrapped in protective tape, disengage the 4 claws and remove the room light switch base.
f. Remove the No. 1 room light bulb.

INSPECTION

1. **INSPECT ROOM LIGHT ASSEMBLY**
   a. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
Terminal E - Body ground	Always	Below 1 ohms

If the result is not as specified, repair or replace the harness or connector.

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

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
Terminal B - Body ground	Always	11 to 14 V

If the result is not as specified, repair or replace the harness or connector.

c. Remove the wire harness from the room light assembly.

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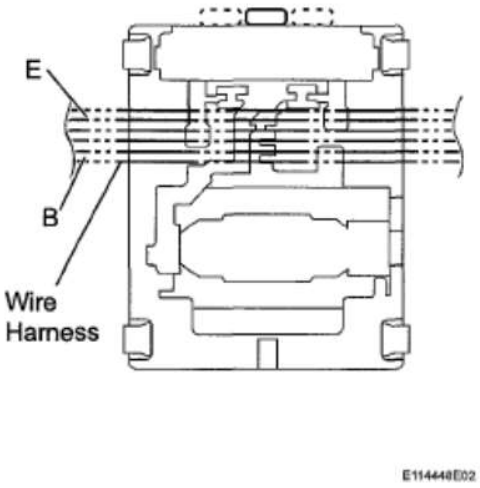


Fig. 158: Identifying Wire Harness
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

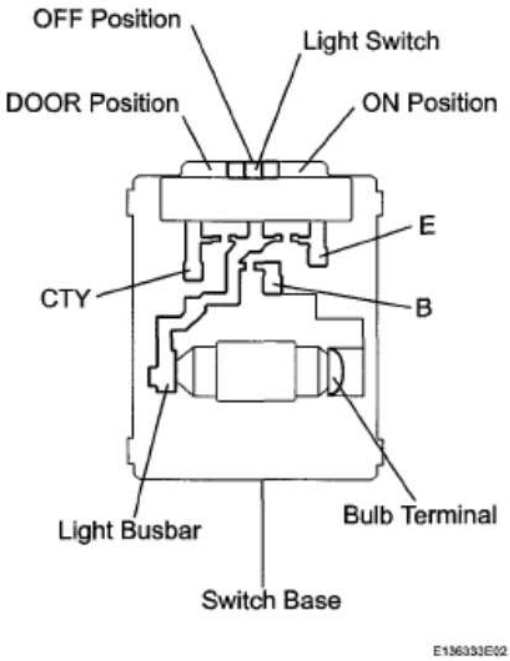


Fig. 159: Identifying Light Switch Operation Position
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition

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Terminal E - Light Busbar	Light switch OFF	10 kohms or higher
	Light switch ON	Below 1 ohms
Terminal CTY - Light	Busbar Light switch OFF	10 kohms or higher
	Light switch in DOOR	Below 1 ohms
Terminal B - Bulb Terminal	Always	Below 1 ohms

If the result is not as specified, replace the switch base.

e. Connect the (+) lead from the battery to terminal B and the (-) lead to the light busbar.

OK:

The light comes on.

If the result is not as specified, replace the bulb.

INSTALLATION

1. **INSTALL ROOM LIGHT ASSEMBLY**
   a. Install No. 1 room light bulb.
   b. Engage the 4 claws and install the room light switch base.

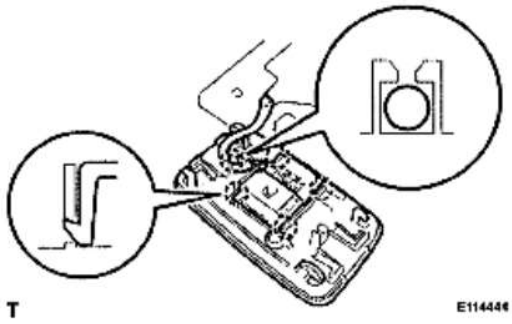


Fig. 160: Identifying Claws On Room Light Switch Base
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Install the roof wire into the room light claw.
   d. Engage the 4 claws and install the room light.

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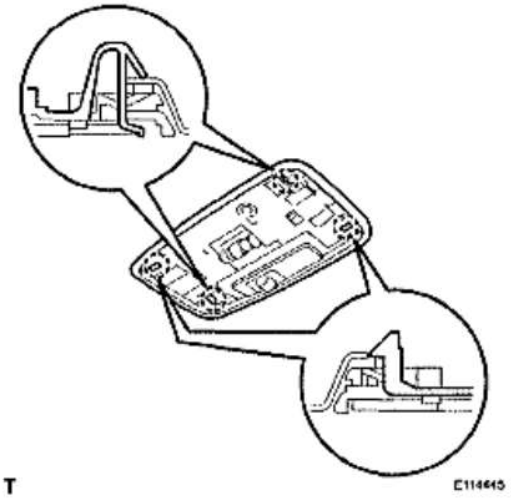


Fig. 161: Identifying Claws On Room Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

e. Engage the 4 claws and install the 2 covers.

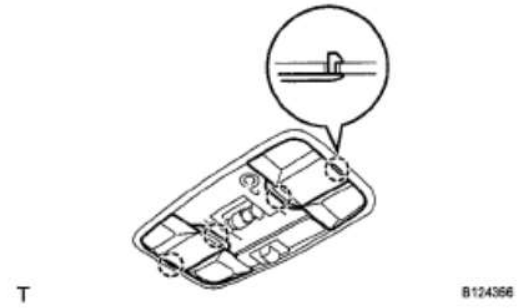


Fig. 162: Identifying Claws On Covers
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

f. Engage the 4 claws and install the room light lens.

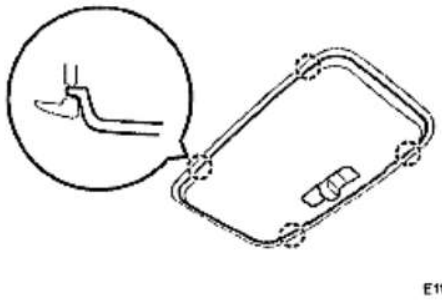


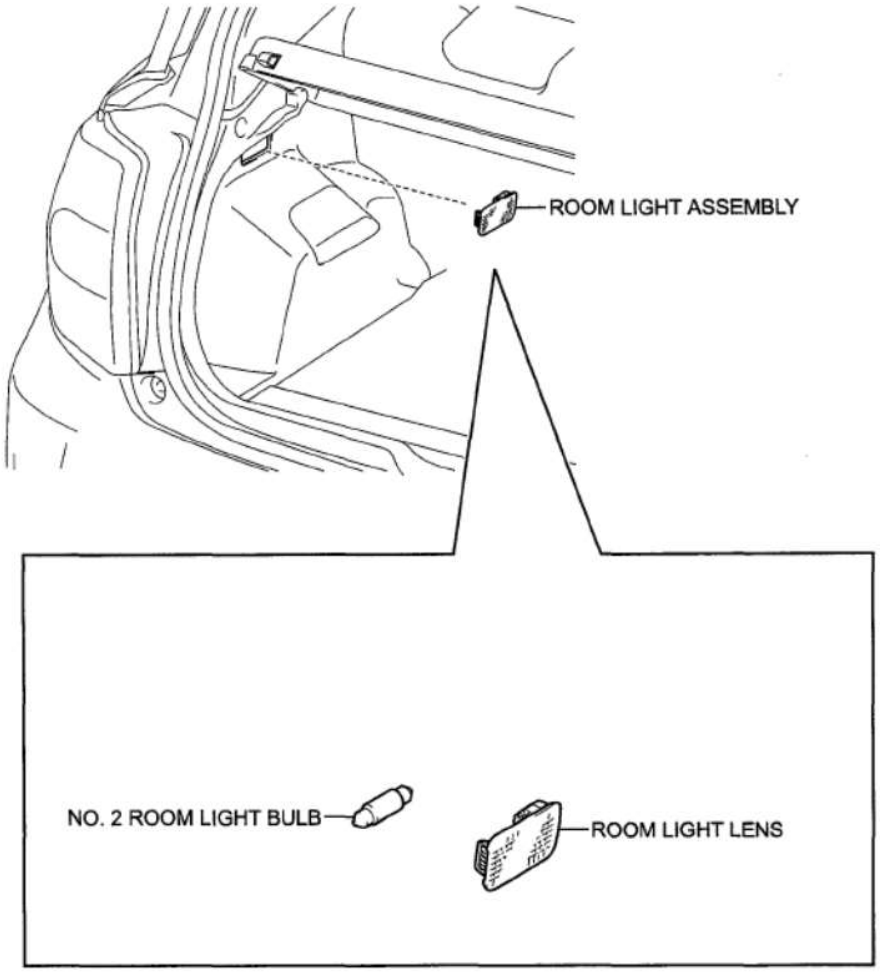
Fig. 163: Identifying Claws On Room Light Lens
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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ROOM LIGHT ASSEMBLY (FOR LUGGAGE COMPARTMENT)

COMPONENTS



T E151432E01

Fig. 164: Identifying Room Light Assembly (Luggage Compartment) Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE ROOM LIGHT ASSEMBLY**
   a. Using a moulding remover, disengage the 2 claws and remove the room light.

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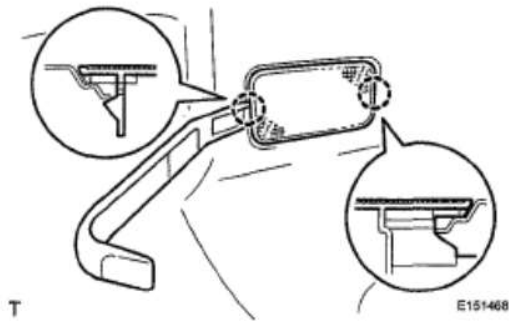


Fig. 165: Identifying Claws On Room Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Disconnect the connector.

2. **REMOVE NO. 2 ROOM LIGHT BULB**
   a. Remove No. 2 room light bulb.

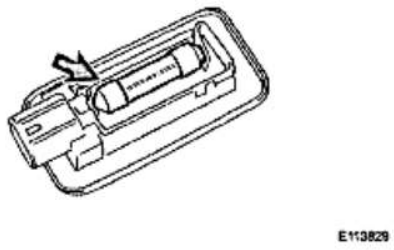


Fig. 166: Locating No. 2 Room Light Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT ROOM LIGHT ASSEMBLY**
   a. Check the light operation.
      1. Connect the positive (+) battery lead to terminal 2 and the negative (-) battery lead to terminal 1, then check that the light comes on.

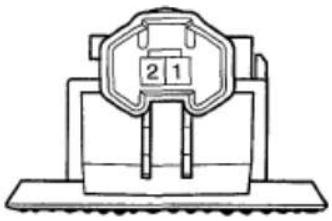
         OK:

         The light comes on.

         If the result is not as specified, replace the bulb.

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Components without harness connected:
(Room light assembly)

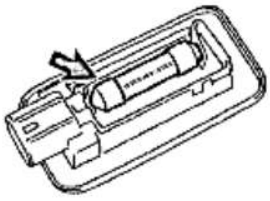


T E162330E01

Fig. 167: Identifying Room Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL NO. 2 ROOM LIGHT BULB**
   a. Install the No. 2 room light bulb.



Y E113829

Fig. 168: Locating No. 2 Room Light Bulb
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL ROOM LIGHT ASSEMBLY**
   a. Connect the connector.
   b. Engage the 2 claws and install the room light.

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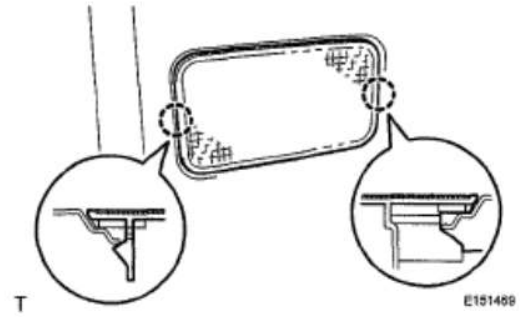


Fig. 169: Identifying Claws On Room Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HEADLIGHT DIMMER SWITCH

COMPONENTS

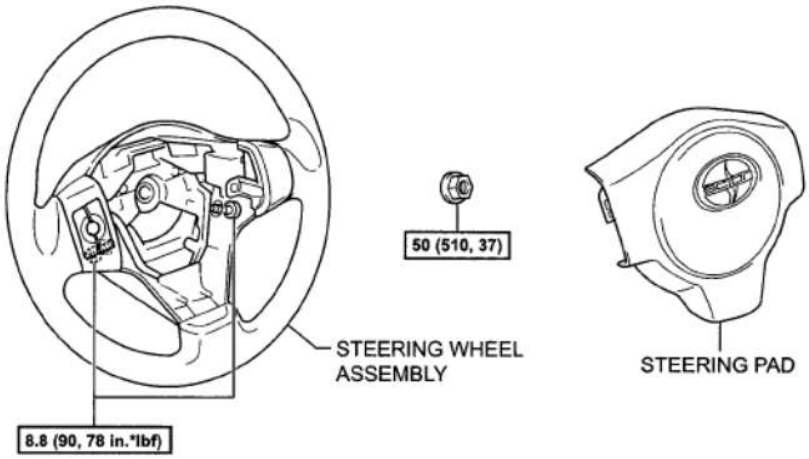
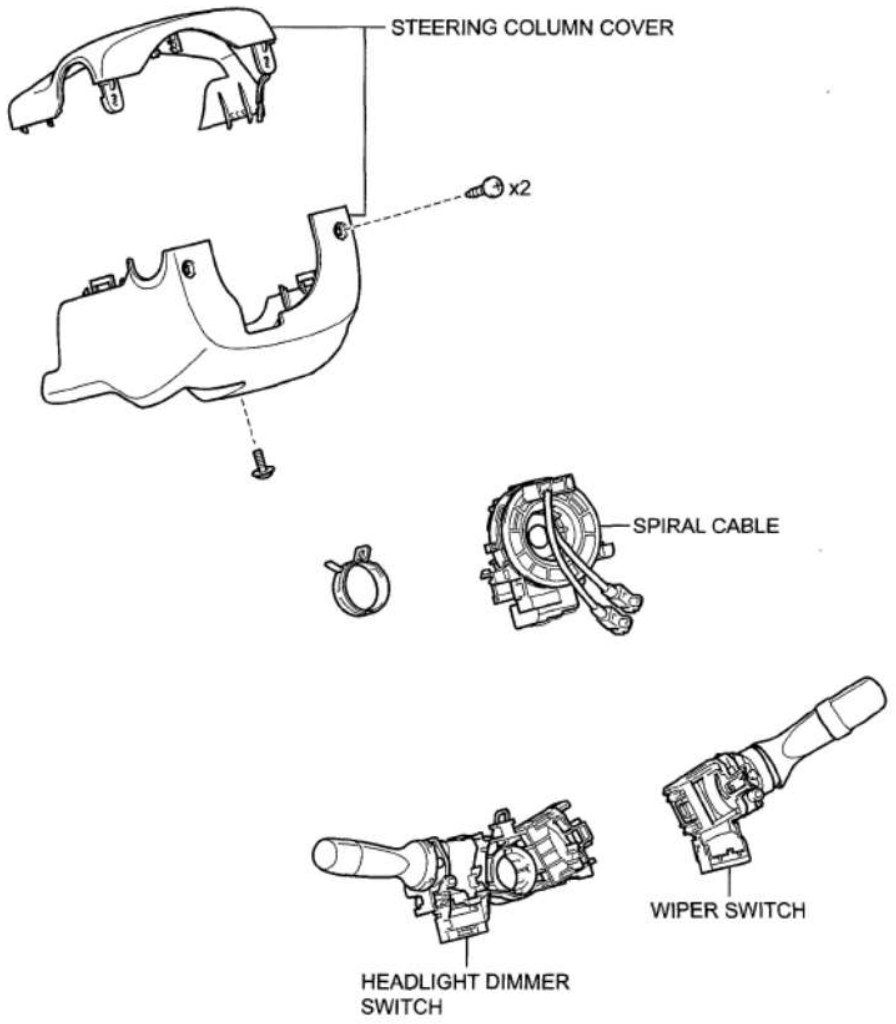


Fig. 170: Identifying Headlight Dimmer Switch Components With Torque Specifications (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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T E151433E01

Fig. 171: Identifying Headlight Dimmer Switch Components (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

CAUTION: Some of these service operations affect the SRS airbag system. Read the precautionary notices concerning the SRS airbag system before servicing (See PRECAUTION).

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

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CAUTION: Wait for at least 90 seconds after disconnecting the cable to prevent the airbag from working.

2. **POSITION FRONT WHEELS FACING STRAIGHT AHEAD**
3. **REMOVE STEERING PAD** (See **REMOVAL**)
4. **REMOVE STEERING WHEEL ASSEMBLY** (See **REMOVAL**)
5. **REMOVE STEERING COLUMN COVER** (See **REMOVAL**)
6. **REMOVE SPIRAL CABLE** (See **REMOVAL**)
7. **REMOVE WIPER SWITCH**
   a. Disconnect the 2 connectors.
   b. Using a screwdriver with its tip wrapped in protective tape, disengage the claw and remove the wiper switch.

NOTE: Do not press the claw too hard, as it may be damaged.

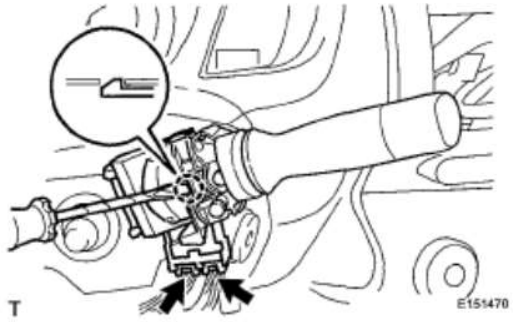


Fig. 172: Disengaging Claw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **REMOVE HEADLIGHT DIMMER SWITCH**
   a. Disconnect the connector.
   b. Remove the headlight dimmer switch, as shown in the illustration.

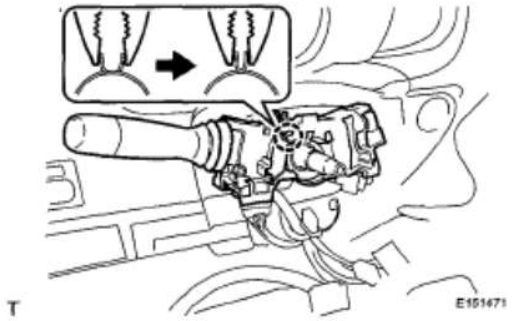


Fig. 173: Removing Headlight Dimmer Switch

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

c. Disengage the 2 claws and remove the headlight dimmer switch.

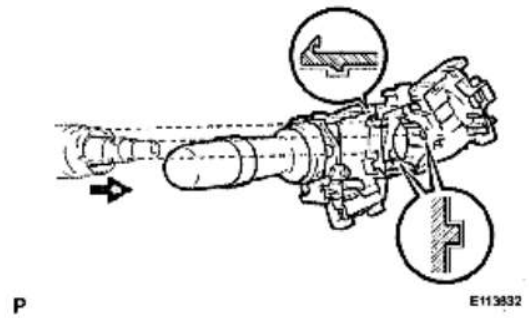


Fig. 174: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT HEADLIGHT DIMMER SWITCH**
   a. Check the resistance of the light control switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
10 (T1) - 13 (B1) 11 (ED) - 12 (RF)	OFF	10 kohms or higher
10 (T1) - 13 (B1)	TAIL	Below 1 ohms
10 (T1) - 13 (B1) 11 (ED) - 12 (RF)	HEAD	Below 1 ohms

If the result is not as specified, replace the headlight dimmer switch.

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Component without harness connected:
(Headlight dimmer switch)

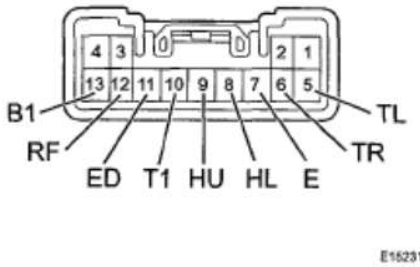


Fig. 175: Identifying Headlight Dimmer Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Check the resistance of the headlight dimmer switch.
   1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
9 (HU) - 11 (ED)	FLASH	Below 1 ohms
8 (HL) - 11 (ED)	LOW BEAM	Below 1 ohms
9 (HU) - 11 (ED)	HI BEAM	Below 1 ohms

If the result is not as specified, replace the headlight dimmer switch.

c. Check the resistance of the turn signal switch.
   1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
6 (TR) - 7 (E)	Right turn	Below 1 ohms
6 (TR) - 7 (E) 5 (TL) - 7 (E)	Neutral	10 kohms or higher
5 (TL) - 7 (E)	Left turn	Below 1 ohms

If the result is not as specified, replace the headlight dimmer switch.

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INSTALLATION

1. **INSTALL HEADLIGHT DIMMER SWITCH**
   a. Engage the 2 claws and install the headlight dimmer switch, as shown in the illustration.

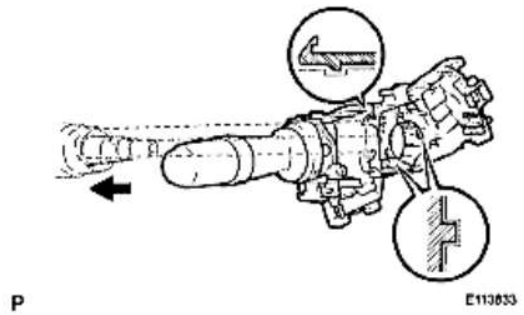


Fig. 176: Engaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Install the headlight dimmer switch with the clamp.

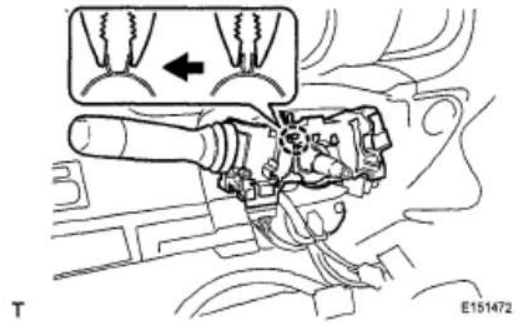


Fig. 177: Clamping Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   c. Connect the connector.
2. **INSTALL WIPER SWITCH**
   a. Engage the claw and install the windshield wiper switch.

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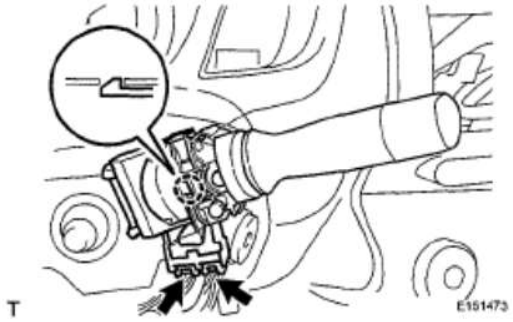


Fig. 178: Engaging Claw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Connect the 2 connectors.

3. **INSTALL SPIRAL CABLE** (See **INSTALLATION**)
4. **INSTALL STEERING COLUMN COVER** (See **INSTALLATION**)
5. **ADJUST SPIRAL CABLE** (See **INSTALLATION**)
6. **INSTALL STEERING WHEEL ASSEMBLY** (See **INSTALLATION**)
7. **INSTALL STEERING PAD** (See **INSTALLATION**)
8. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

   Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

9. **INSPECT SRS WARNING LIGHT**

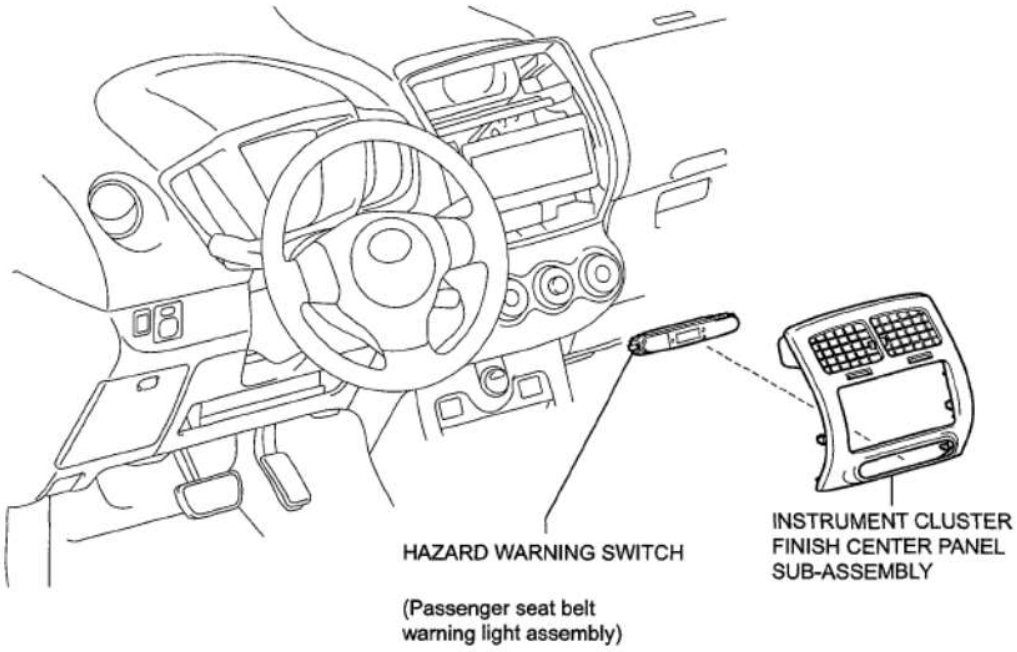
   (See **DIAGNOSIS SYSTEM**).

HAZARD WARNING SWITCH

COMPONENTS

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T E151434E01

Fig. 179: Identifying Hazard Warning Switch Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE INSTRUMENT CLUSTER FINISH CENTER PANEL SUB-ASSEMBLY** (See **REMOVAL**)
2. **REMOVE HAZARD WARNING SWITCH**
   a. Using a screwdriver with its tip wrapped in protective tape, disengage the 7 claws and remove the hazard warning switch.

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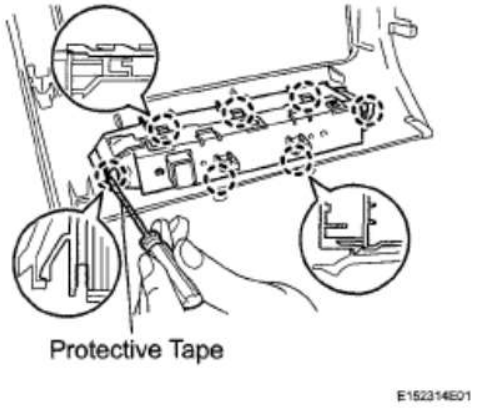


Fig. 180: Disengaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT HAZARD WARNING SWITCH**

Component without harness connected:
(Hazard Warning Switch)

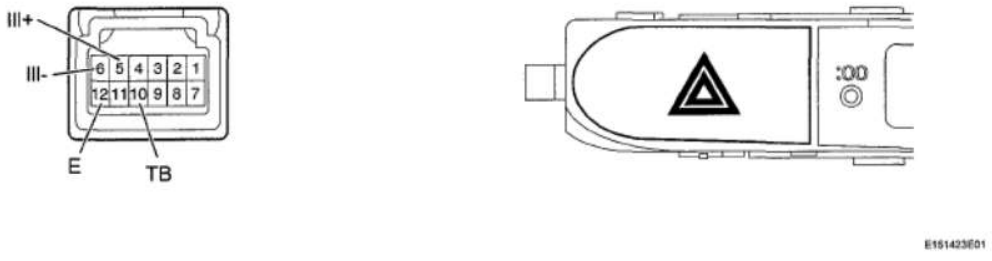


Fig. 181: Identifying Hazard Warning Switch Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Check the resistance.
   1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
10 (TB) - 12 (E)	OFF	10 kohms or higher
10 (TB) - 12 (E)	ON	Below 1 ohms

If the result is not as specified, replace the hazard warning switch.

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b. Check the illumination operation.

1. Connect the positive (+) battery lead to terminal 5 (III+) and the negative (-) battery lead to terminal 6 (III-), then check that the illumination illuminates.

OK:

Illumination illuminates.

If the illumination does not illuminate, replace the hazard warning switch.

INSTALLATION

1. **INSTALL HAZARD WARNING SWITCH**
   a. Engage the 7 claws and install the hazard warning signal switch.

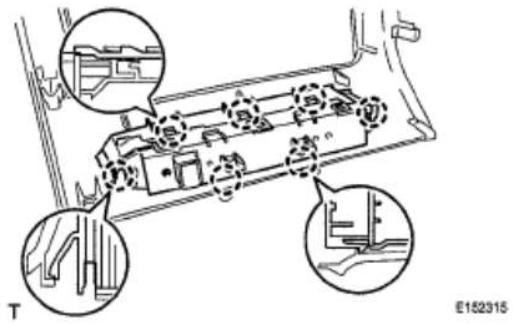


Fig. 182: Engaging Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

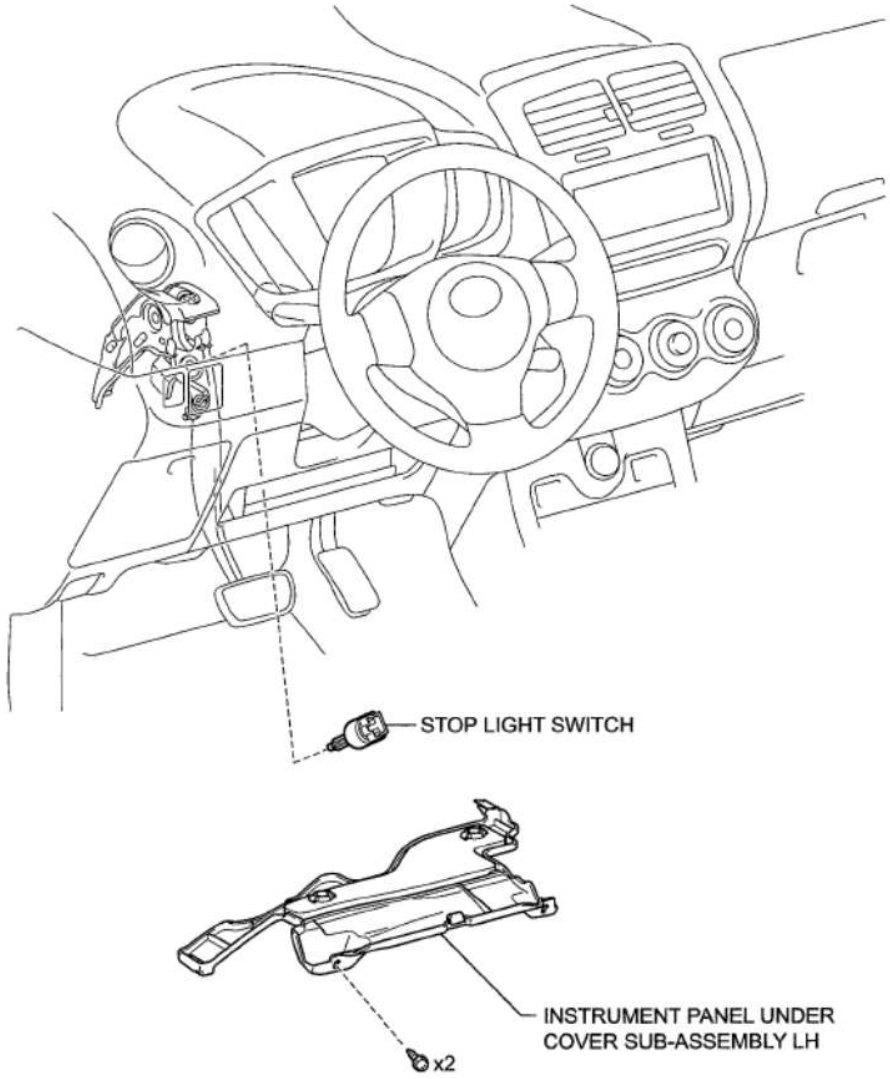
2. **INSTALL INSTRUMENT CLUSTER FINISH CENTER PANEL SUB-ASSEMBLY** (See **INSTALLATION**)

STOP LIGHT SWITCH

COMPONENTS

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T E151435E01

Fig. 183: Identifying Stop Light Switch Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY LH** (See **REMOVAL**)
2. **REMOVE STOP LIGHT SWITCH**
   a. Disconnect the connector.

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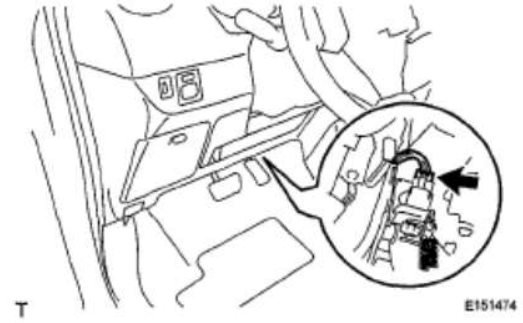


Fig. 184: Identifying Stop Light Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Turn the stop light switch counterclockwise and remove it.

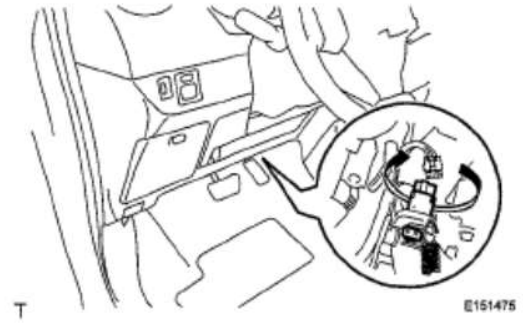


Fig. 185: Turning Stop Light Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT STOP LIGHT SWITCH**

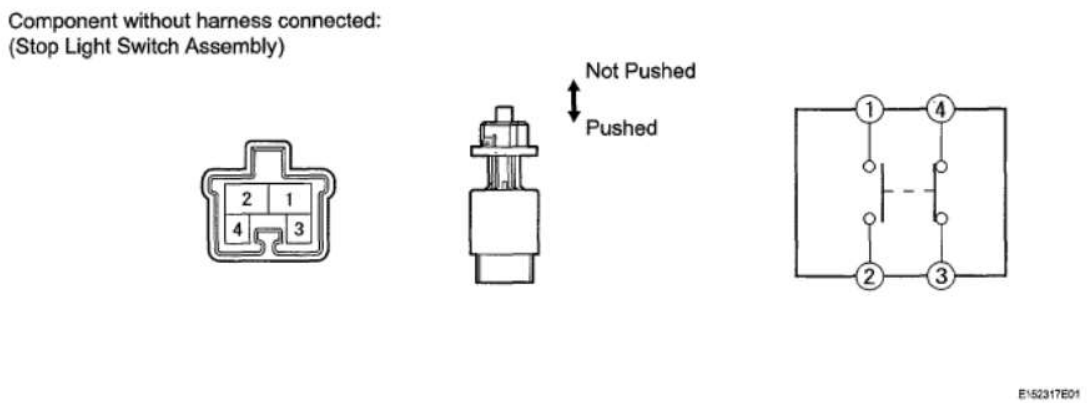


Fig. 186: Inspecting Stop Light Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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a. Check the resistance.

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

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - 2	Not pushed	Below 1 ohms
1 - 2	Pushed	10 kohms or higher
3 - 4	Not pushed	10 kohms or higher
3 - 4	Pushed	Below 1 ohms

If the result is not as specified, replace the stop light switch.

INSTALLATION

1. **INSTALL STOP LIGHT SWITCH**

a. Install the stop light switch into the adjuster until it slightly touches the brake pedal.

NOTE: Do not depress the brake pedal.

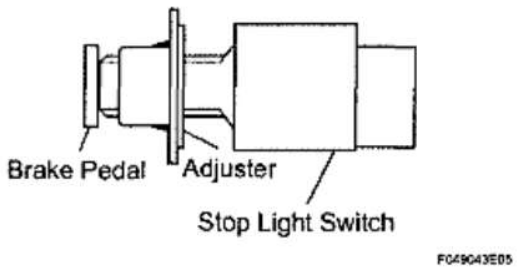


Fig. 187: Identifying Stop Light Switch Into Adjuster
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Make a quarter turn clockwise to install the stop light switch.

NOTE: Do not depress the brake pedal.

HINT:

The turning torque for installing the stop light switch is as below.

Torque: 1.5 N*m (15 kgf*cm, 13 in.*lbf) or less

b. Check the stop light switch clearance.

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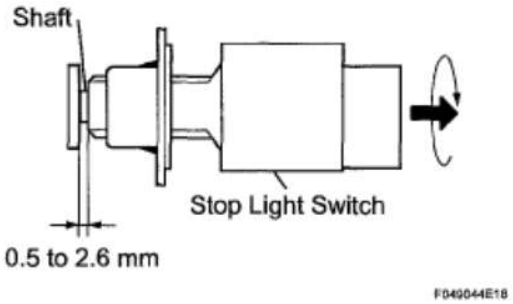


Fig. 188: Identifying Stop Light Switch Clearance
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Stop light switch clearance:

0.5 to 2.6 mm (0.020 to 0.102 in.)

c. Connect the stop light switch connector to the stop light switch.

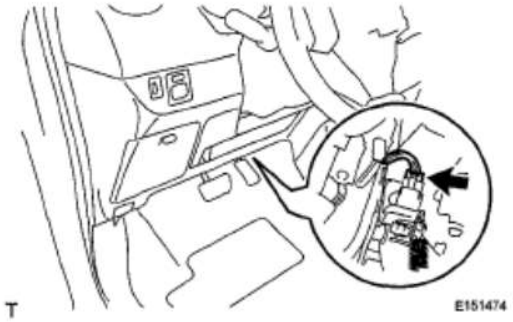


Fig. 189: Identifying Stop Light Switch Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY LH** (See **INSTALLATION**)

FRONT DOOR COURTESY SWITCH

COMPONENTS

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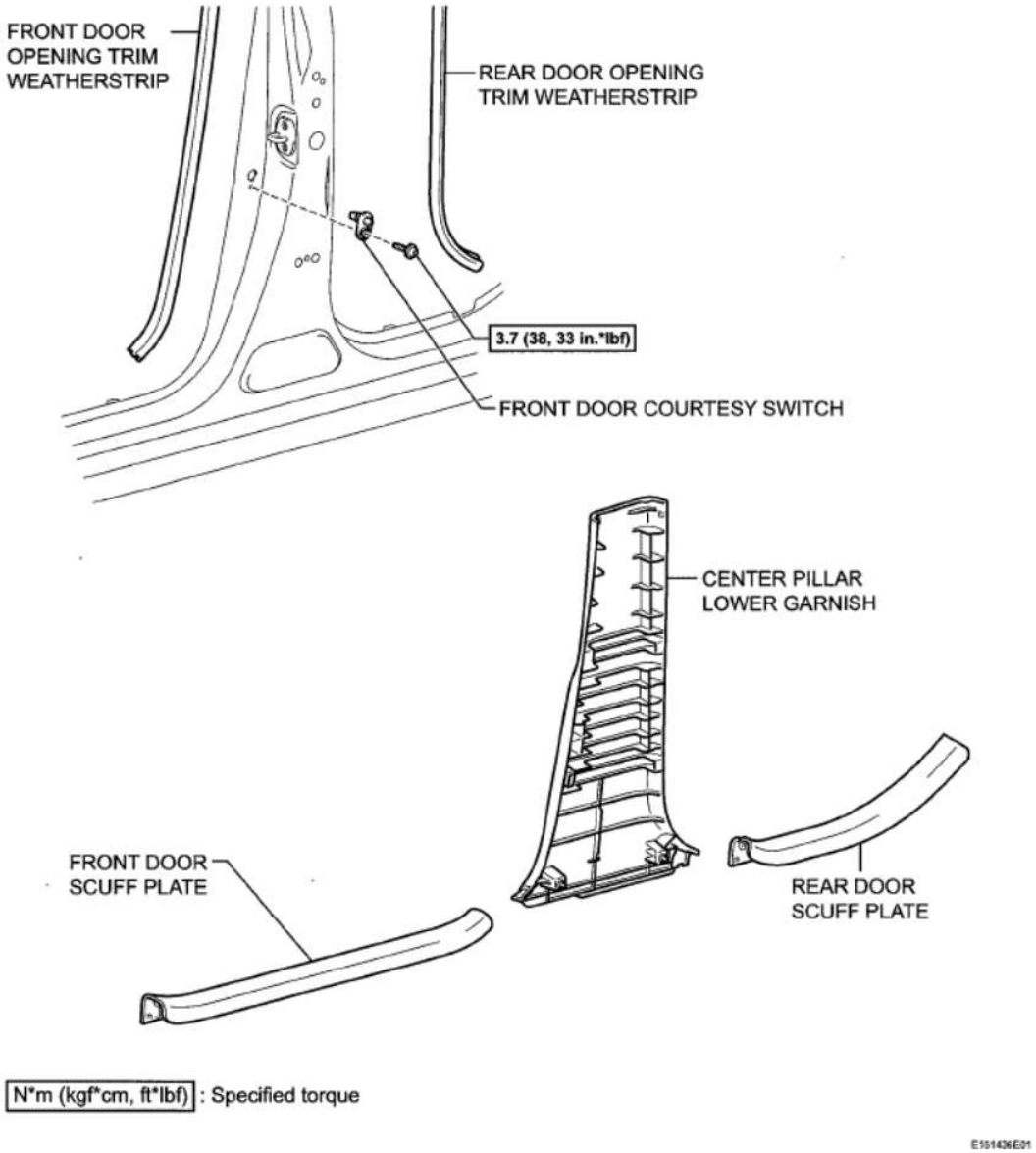


Fig. 190: Identifying Front Door Courtesy Switch Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.

1. **REMOVE FRONT DOOR SCUFF PLATE**

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HINT:

Use the same procedure as for the RH side (See **REMOVAL**).

2. **REMOVE REAR DOOR SCUFF PLATE**

HINT:

Use the same procedure as for the RH side (See **REMOVAL**).

3. **REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP**
   a. Remove the front door opening trim weatherstrip.

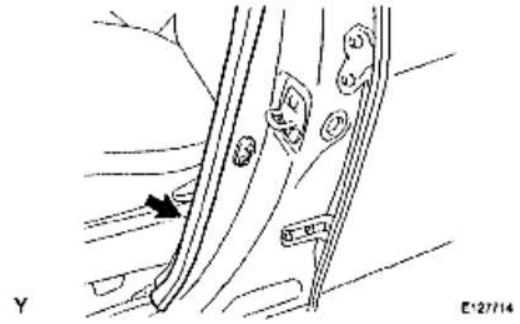


Fig. 191: Locating Front Door Opening Trim Weatherstrip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP**
   a. Remove the rear door opening trim weatherstrip.



Fig. 192: Locating Rear Door Opening Trim Weatherstrip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **REMOVE CENTER PILLAR LOWER GARNISH**

HINT:

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Use the same procedure as for the RH side (see **REMOVAL**).

6. **REMOVE FRONT DOOR COURTESY SWITCH**
   a. Using "TORX" socket wrench T30, remove the screw.



Fig. 193: Locating Screw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Disconnect the connector and remove the front door courtesy switch.

INSPECTION

1. **INSPECT FRONT DOOR COURTESY SWITCH**

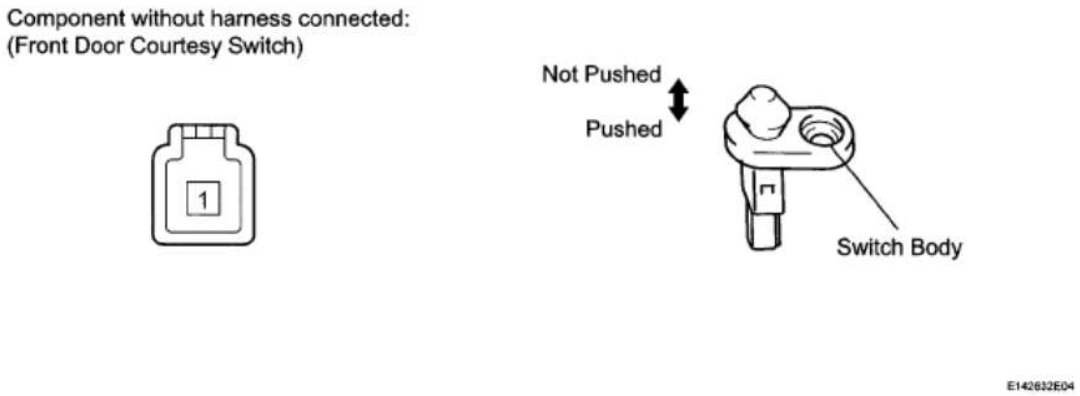


Fig. 194: Inspecting Front Door Courtesy Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   a. Check the resistance.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition

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1 - Switch body	ON (Not pushed)	Below 1 ohms
1 - Switch body	OFF (Pushed)	10 kohms or higher

If the result is not as specified, replace the front door courtesy switch.

INSTALLATION

1. **INSTALL FRONT DOOR COURTESY SWITCH**
   a. Connect the connector.
   b. Using "TORX" socket wrench T30, install the front door courtesy switch with the screw.

   Torque: 3.7 N*m (38 kgf*cm, 33 in.*lbf)

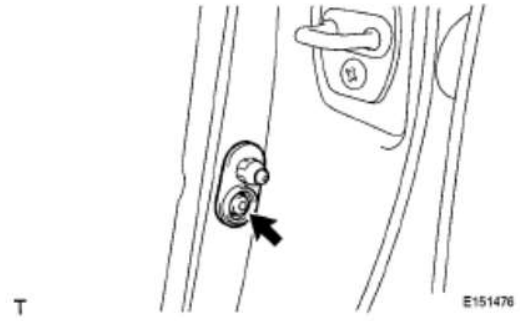


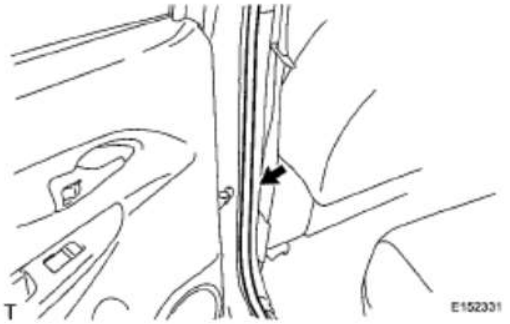
Fig. 195: Locating Front Door Courtesy Switch With Screw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL CENTER PILLAR LOWER GARNISH**

   HINT:

   Use the same procedure as for the RH side (see **INSTALLATION**).

3. **INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP**
   a. Install the rear door opening trim weatherstrip.



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Fig. 196: Locating Rear Door Opening Trim Weatherstrip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP**
   a. Install the front door opening trim weatherstrip.

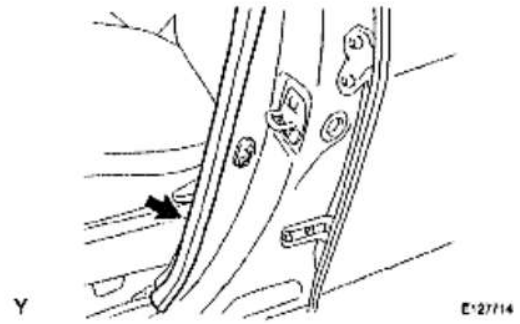


Fig. 197: Locating Front Door Opening Trim Weatherstrip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. **INSTALL REAR DOOR SCUFF PLATE**

   HINT:

   Use the same procedure as for the RH side (See **INSTALLATION**).

6. **INSTALL FRONT DOOR SCUFF PLATE**

   HINT:

   Use the same procedure as for the RH side (See **INSTALLATION**).

REAR DOOR COURTESY SWITCH

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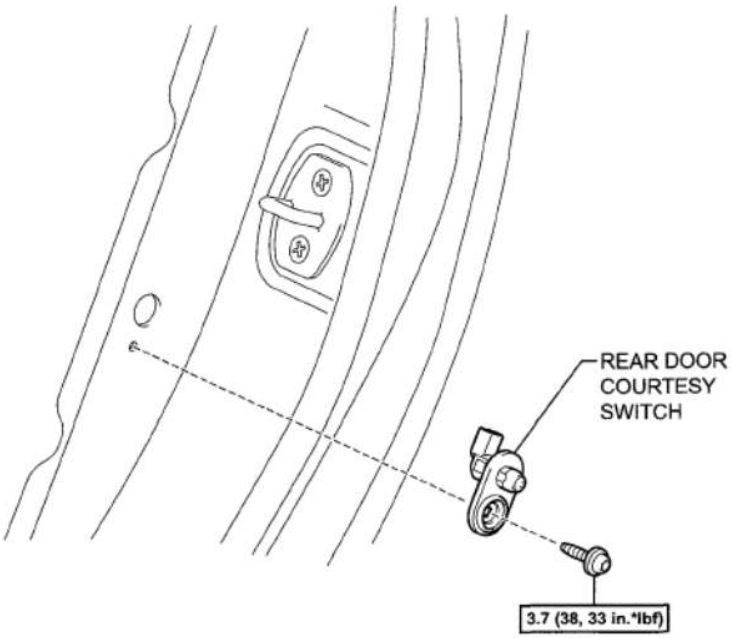


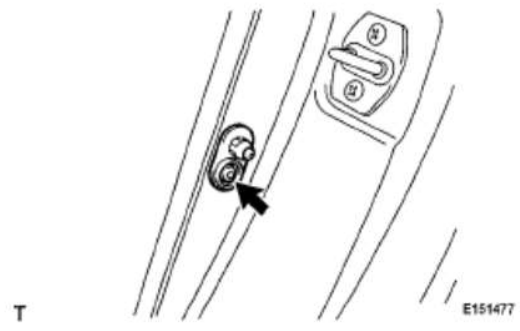
Fig. 198: Identifying Rear Door Courtesy Switch Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

HINT:

- Use the same procedure for both the RH and LH sides.
- The procedure described below is for the LH side.

1. **REMOVE REAR DOOR COURTESY SWITCH**
   a. Disconnect the connector.
   b. Using "TORX" socket wrench T30, remove the screw and the rear door courtesy switch.



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Fig. 199: Identifying Screw On Rear Door Courtesy Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **INSPECT REAR DOOR COURTESY SWITCH**

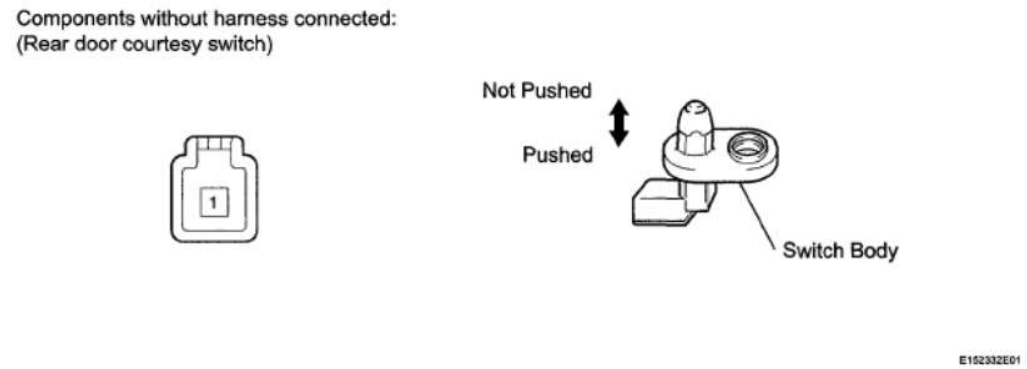


Fig. 200: Inspecting Rear Door Courtesy Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

a. Check the resistance.
   1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - Switch body	ON (Not pushed)	Below 1 ohms
1 - Switch body	OFF (Pushed)	10 kohms or higher

If the result is not as specified, replace the rear door courtesy switch.

INSTALLATION

1. **INSTALL REAR DOOR COURTESY SWITCH**
   a. Using "TORX" socket wrench T30, install the rear door courtesy switch with the screw.

Torque: 3.7 N*m (38 kgf*cm, 33 in.*lbf)

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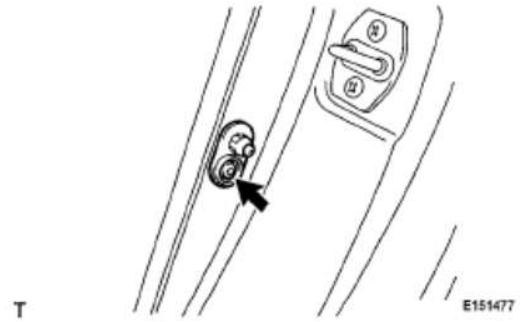


Fig. 201: Identifying Rear Door Courtesy Switch With Screw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

BACK DOOR COURTESY SWITCH

COMPONENTS

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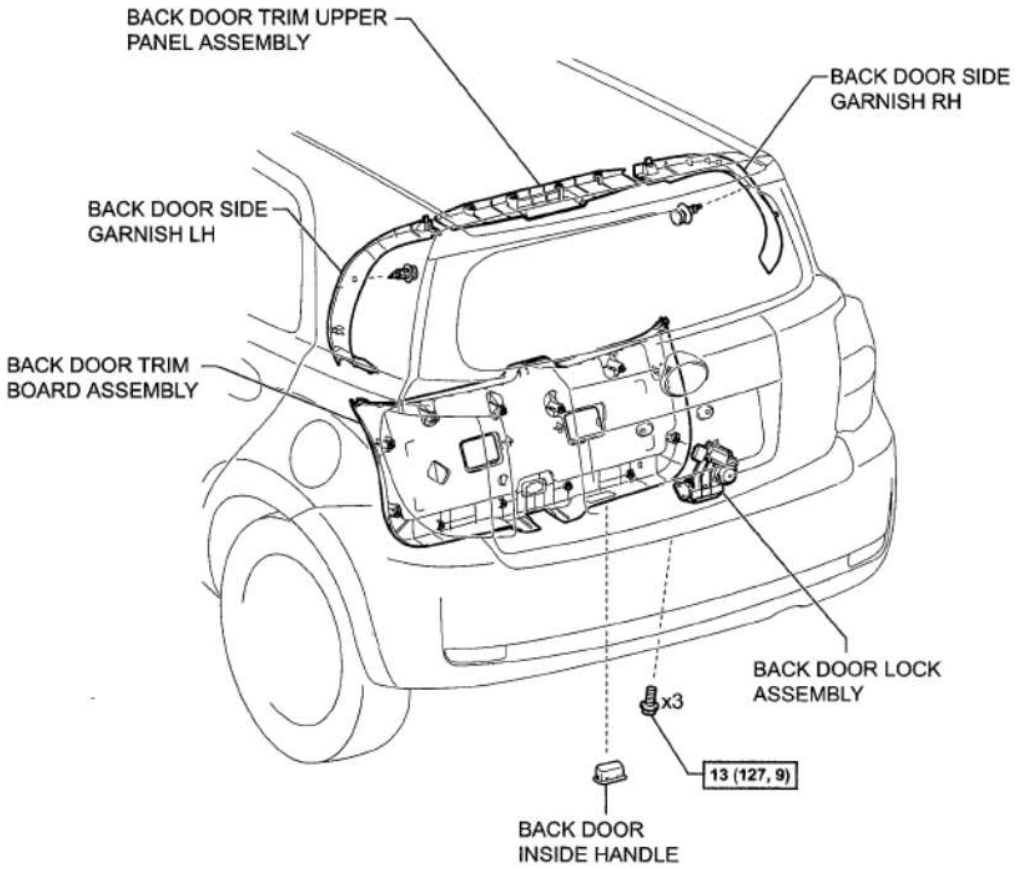


Fig. 202: Identifying Back Door Courtesy Switch Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **DISASSEMBLY**)
2. **REMOVE BACK DOOR SIDE GARNISH LH** (See **DISASSEMBLY**)
3. **REMOVE BACK DOOR SIDE GARNISH RH**

   HINT:

   Use the same procedure as for the LH side.

4. **REMOVE BACK DOOR INSIDE HANDLE** (See **DISASSEMBLY**)

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5. **REMOVE BACK DOOR TRIM BOARD ASSEMBLY** (See **DISASSEMBLY**)
6. **REMOVE BACK DOOR LOCK ASSEMBLY**
   a. Disconnect the connector.

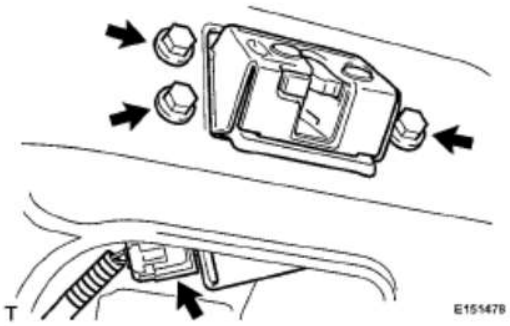


Fig. 203: Locating Back Door Lock With Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

   b. Remove the 3 bolts and the back door lock.

INSPECTION

1. **INSPECT BACK DOOR LOCK ASSEMBLY**
   a. Check the resistance of the back door courtesy switch.
      1. Measure the resistance according to the value(s) in the table below.

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Condition	Specified Condition
1 - 3	Unlocked	Below 1 ohms
1 - 3	Locked	10 kohms or higher

If the result is not as specified, replace the back door lock.

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Component without harness connected:
(Back door lock assembly)

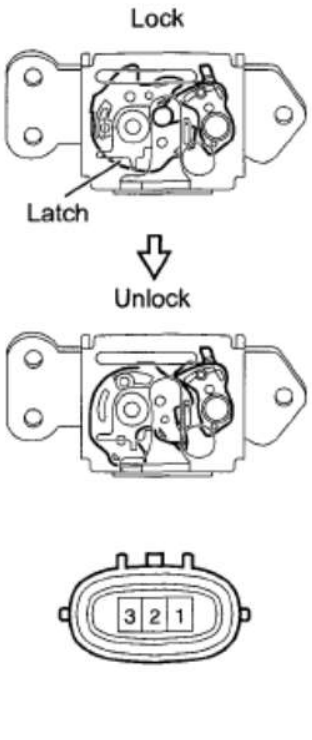


Fig. 204: Identifying Back Door Lock Position (Lock And Unlock)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL BACK DOOR LOCK ASSEMBLY**
   a. Install the back door lock with the 3 bolts.

      Torque: 13 N*m (127 kgf*cm, 9 ft.*lbf)

   b. Connect the connector.

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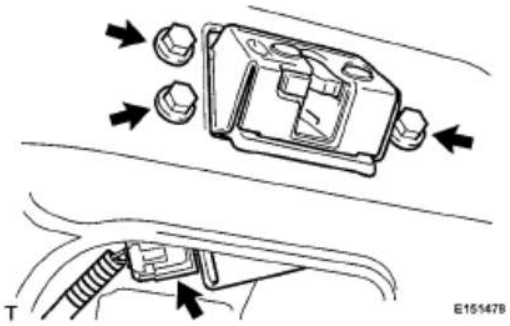


Fig. 205: Locating Back Door Lock With Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL BACK DOOR TRIM BOARD ASSEMBLY** (See **REASSEMBLY**)
3. **INSTALL BACK DOOR INSIDE HANDLE** (See **REASSEMBLY**)
4. **INSTALL BACK DOOR SIDE GARNISH LH** (See **REASSEMBLY**)
5. **INSTALL BACK DOOR SIDE GARNISH RH**

   HINT:

   Use the same procedure as for the LH side.

6. **INSTALL BACK DOOR TRIM UPPER PANEL ASSEMBLY** (See **REASSEMBLY**)

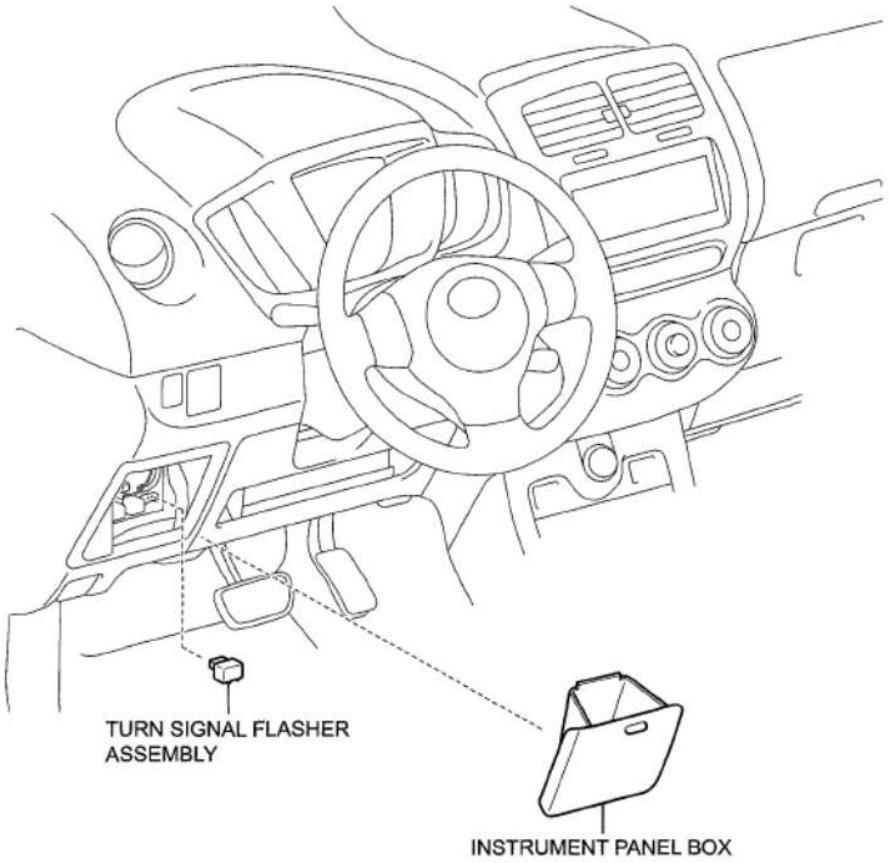
TURN SIGNAL FLASHER ASSEMBLY

COMPONENTS

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Fig. 206: Identifying Turn Signal Flasher Assembly Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ON-VEHICLE INSPECTION

1. **INSPECT TURN SIGNAL FLASHER CIRCUIT**
   a. Check the power source circuit and ground circuit.
      1. Remove the turn signal flasher relay from the main body ECU.

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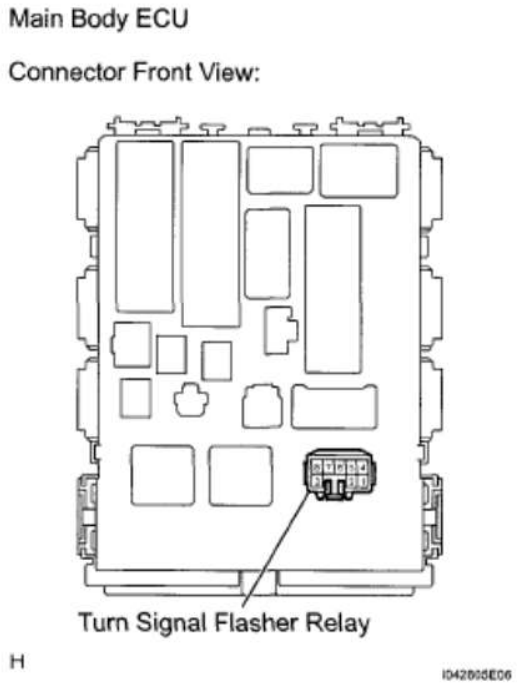


Fig. 207: Identifying Turn Signal Flasher Relay
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Ignition switch OFF	0 V
1 - Body ground	Ignition switch ON	11 to 14 V
4 - Body ground	Always	11 to 14 V

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

Standard resistance

STANDARD RESISTANCE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
7 - Body ground	Always	Below 1 ohms

b. Check the output operation signal.
   1. Install the turn signal flasher relay onto the main body ECU.

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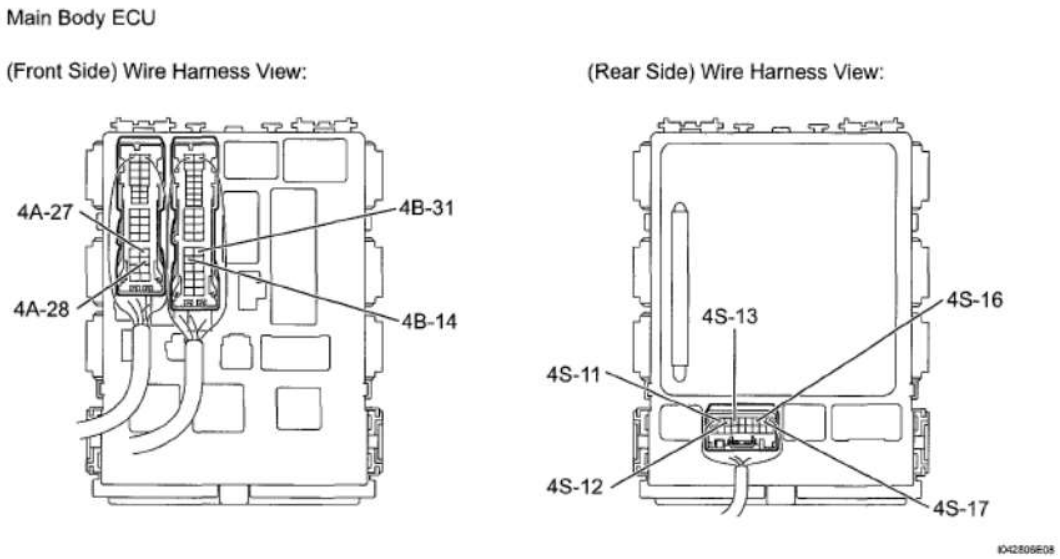


Fig. 208: Identifying Turn Signal Flasher Relay Onto Main Body ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

Standard voltage

STANDARD VOLTAGE SPECIFICATIONS

Tester Connection	Switch Condition	Specified Condition
4A-27 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4A-27 - Body ground	Turn signal switch (left turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4A-28 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4A-28 - Body ground	Turn signal switch (right turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4B-14 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4B-14 - Body ground	Turn signal switch (left turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4B-31 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4B-31 - Body ground	Turn signal switch (right turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4S-11 - Body ground	Turn signal switch (left turn) OFF --> ON	11 to 14 V --> 0 V
4S-12 - Body	Turn signal switch (right turn)	

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ground	OFF --> ON	11 to 14 V --> 0 V
4S-13 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4S-13 - Body ground	Turn signal switch (left turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4S-16 - Body ground	Hazard warning switch OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4S-16 - Body ground	Turn signal switch (right turn) OFF --> ON	0 V --> 11 to 14 V (60 to 120 times per minute)
4S-17 - Body ground	Hazard warning switch OFF --> ON	11 to 14 V --> 0 V

REMOVAL

1. **REMOVE INSTRUMENT PANEL BOX** (See **REMOVAL**)
2. **REMOVE TURN SIGNAL FLASHER ASSEMBLY**
   a. Remove the turn signal flasher.

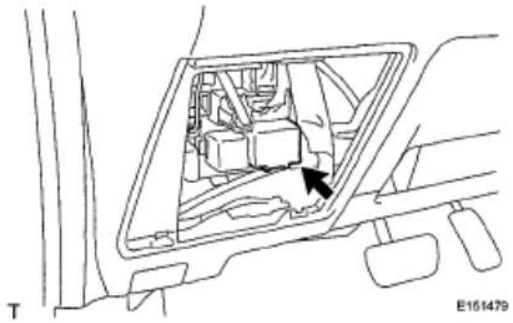


Fig. 209: Locating Turn Signal Flasher
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. **INSTALL TURN SIGNAL FLASHER ASSEMBLY**
   a. Install the turn signal flasher.

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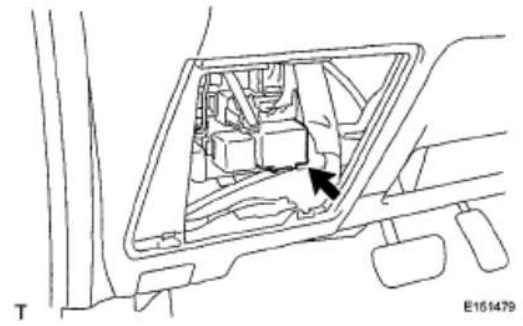


Fig. 210: Locating Turn Signal Flasher
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL INSTRUMENT PANEL BOX** (See **INSTALLATION**)

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