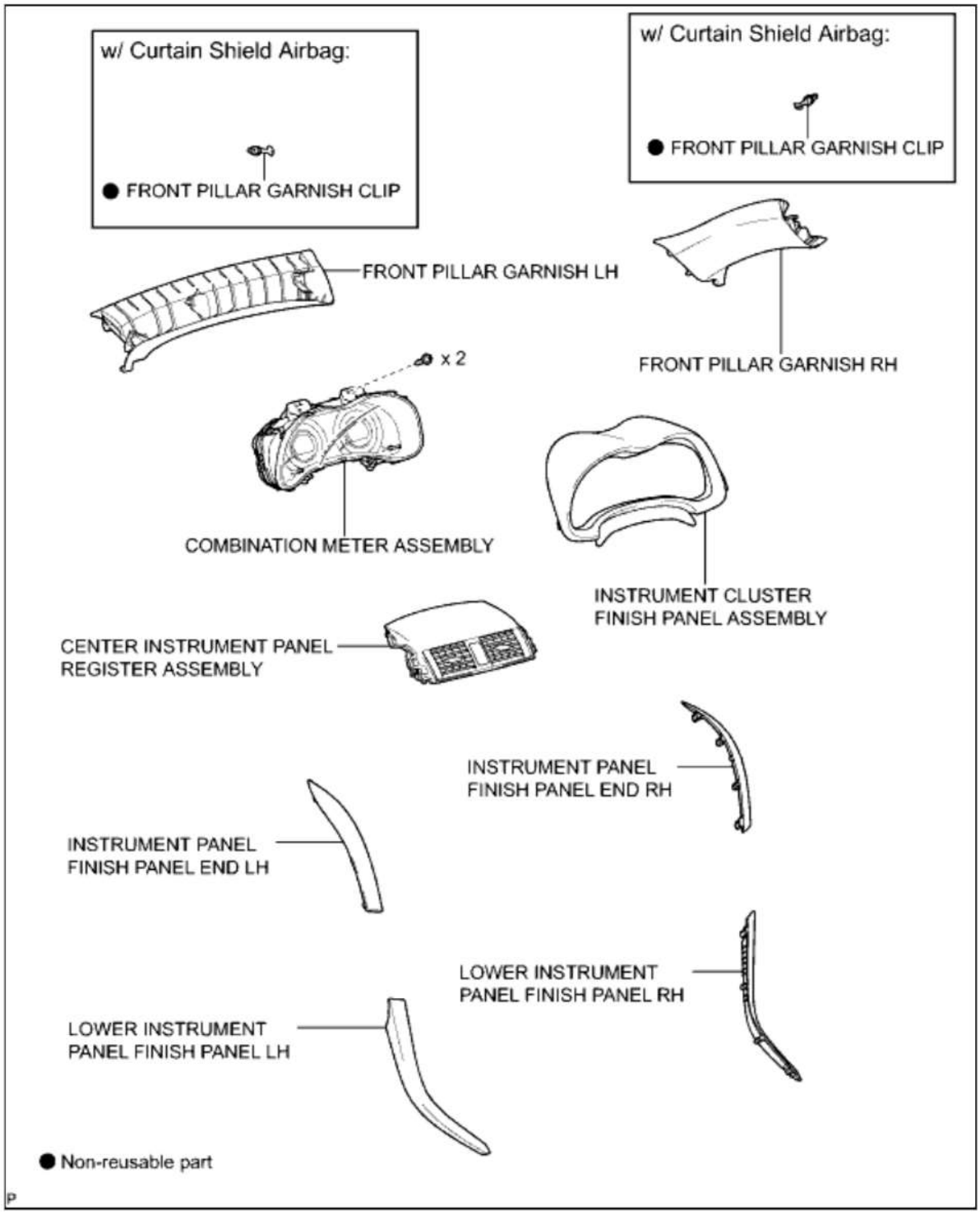
Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VR800DX
Title: LIGHTING (EXT): AUTOMATIC LIGHT CONTROL SENSOR: COMPONENTS (2010 Corolla)		

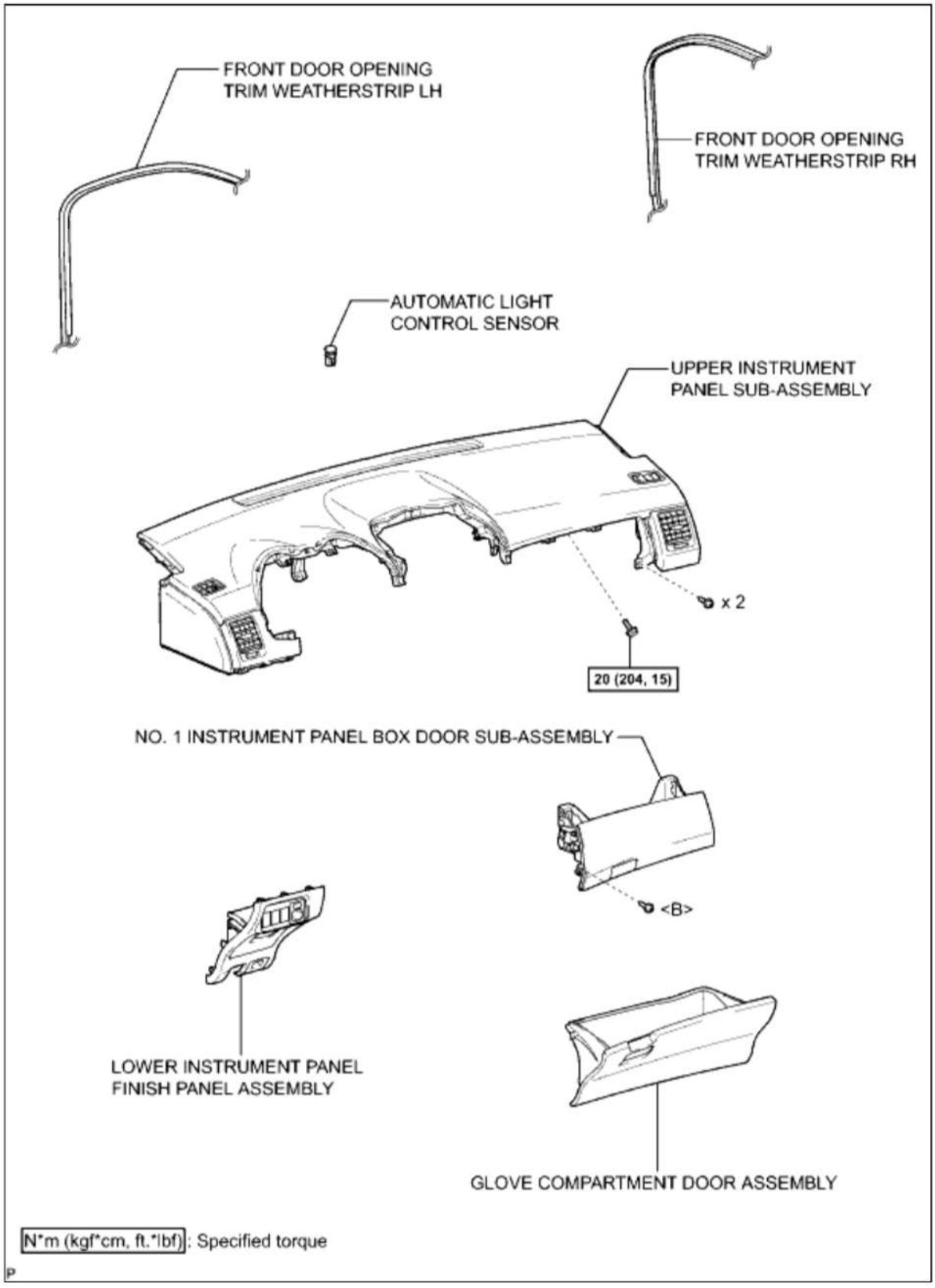
COMPONENTS

ILLUSTRATION



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ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VR900HX
Title: LIGHTING (EXT): AUTOMATIC LIGHT CONTROL SENSOR: REMOVAL (2010 Corolla)		

REMOVAL

1. PRECAUTION

INFO

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system INFO **.**

3. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH INFO

4. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL RH INFO

5. REMOVE INSTRUMENT PANEL FINISH PANEL END LH INFO

6. REMOVE INSTRUMENT PANEL FINISH PANEL END RH INFO

7. REMOVE CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO

8. REMOVE INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY INFO

9. REMOVE COMBINATION METER ASSEMBLY INFO

10. REMOVE FRONT PILLAR GARNISH LH (w/o Curtain Shield Airbag) INFO

11. REMOVE FRONT PILLAR GARNISH LH (w/ Curtain Shield Airbag) INFO

12. REMOVE FRONT PILLAR GARNISH RH (w/o Curtain Shield Airbag) INFO

13. REMOVE FRONT PILLAR GARNISH RH (w/ Curtain Shield Airbag) INFO

14. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY INFO

15. DISCONNECT FRONT DOOR OPENING TRIM WEATHERSTRIP LH INFO

16. REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY INFO

17. REMOVE NO. 1 INSTRUMENT PANEL BOX DOOR SUB-ASSEMBLY INFO

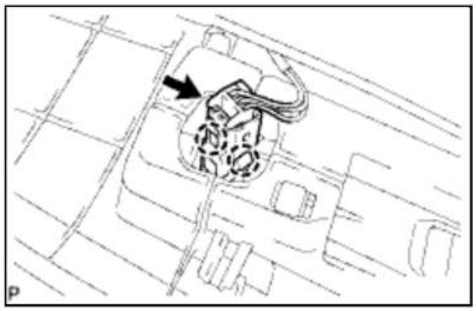
18. DISCONNECT FRONT DOOR OPENING TRIM WEATHERSTRIP RH INFO

19. DISCONNECT INSTRUMENT PANEL WIRE ASSEMBLY INFO

20. REMOVE UPPER INSTRUMENT PANEL SUB-ASSEMBLY INFO

21. REMOVE AUTOMATIC LIGHT CONTROL SENSOR

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(a) Disconnect the connector.

(b) Disengage the 2 claws and remove the automatic light control sensor.

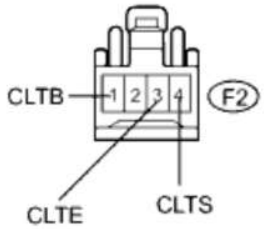
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000017MH01OX
Title: LIGHTING (EXT): AUTOMATIC LIGHT CONTROL SENSOR: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT AUTOMATIC LIGHT CONTROL SENSOR

Front view of wire harness connector:
(to Automatic Light Control Sensor)



(a) Disconnect the automatic light control sensor connector.

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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
F2-1 (CLTB) - F2-3 (CLTE)	Ignition switch off	Below 1 V
	Ignition switch ON	11 to 14 V

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

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

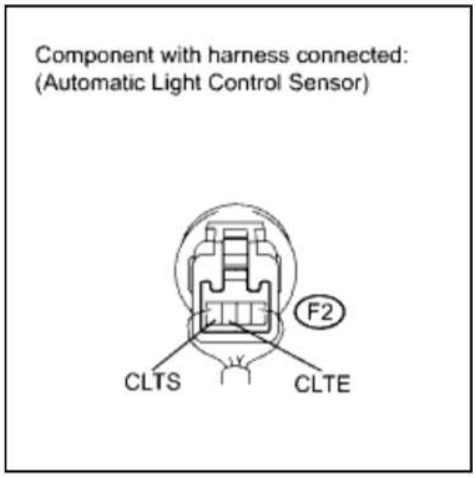
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
F2-3 (CLTE) - Body ground	Always	Below 1 Ω

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

(d) Reconnect the automatic light control sensor connector.

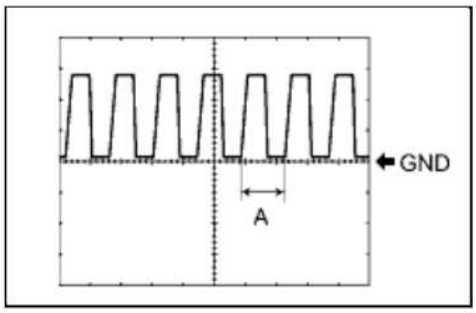
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(e) Connect an oscilloscope to the automatic light control sensor connector.

(f) Check the waveform.

OK:



TESTER CONNECTION	TOOL SETTING	SWITCH CONDITION	SPECIFIED CONDITION
F2-3 (CLTE) - F2-4 (CLTS)	2 V/DIV., 5 ms./DIV	Ignition switch ON, light control switch off	Correct waveform is as shown

If the result is not as specified, replace the automatic light control sensor.

HINT:

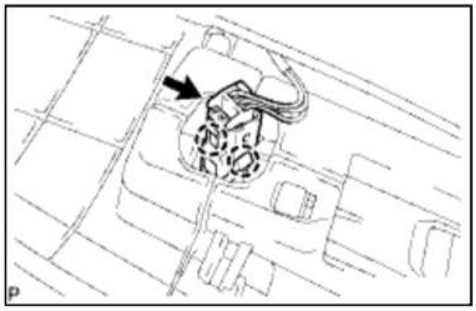
If the ambient light becomes brighter, width A becomes narrower.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VR700HX
Title: LIGHTING (EXT): AUTOMATIC LIGHT CONTROL SENSOR: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL AUTOMATIC LIGHT CONTROL SENSOR



(a) Engage the 2 claws and install the automatic light control sensor.

(b) Connect the connector.

2. INSTALL UPPER INSTRUMENT PANEL SUB-ASSEMBLY INFO

3. CONNECT INSTRUMENT PANEL WIRE ASSEMBLY INFO

4. CONNECT FRONT DOOR OPENING TRIM WEATHERSTRIP LH INFO

5. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY INFO

6. CONNECT FRONT DOOR OPENING TRIM WEATHERSTRIP RH INFO

7. INSTALL NO. 1 INSTRUMENT PANEL BOX DOOR SUB-ASSEMBLY INFO

8. INSTALL GLOVE COMPARTMENT DOOR ASSEMBLY INFO

9. INSTALL FRONT PILLAR GARNISH LH (w/o Curtain Shield Airbag) INFO

10. INSTALL FRONT PILLAR GARNISH LH (w/ Curtain Shield Airbag) INFO

11. INSTALL FRONT PILLAR GARNISH RH (w/o Curtain Shield Airbag) INFO

12. INSTALL FRONT PILLAR GARNISH RH (w/ Curtain Shield Airbag) INFO

13. INSTALL COMBINATION METER ASSEMBLY INFO

14. INSTALL INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY INFO

15. INSTALL CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO

16. INSTALL INSTRUMENT PANEL FINISH PANEL END LH INFO

17. INSTALL INSTRUMENT PANEL FINISH PANEL END RH INFO

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18. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH INFO

19. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL RH INFO

20. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

21. INSPECT SRS WARNING LIGHT

INFO

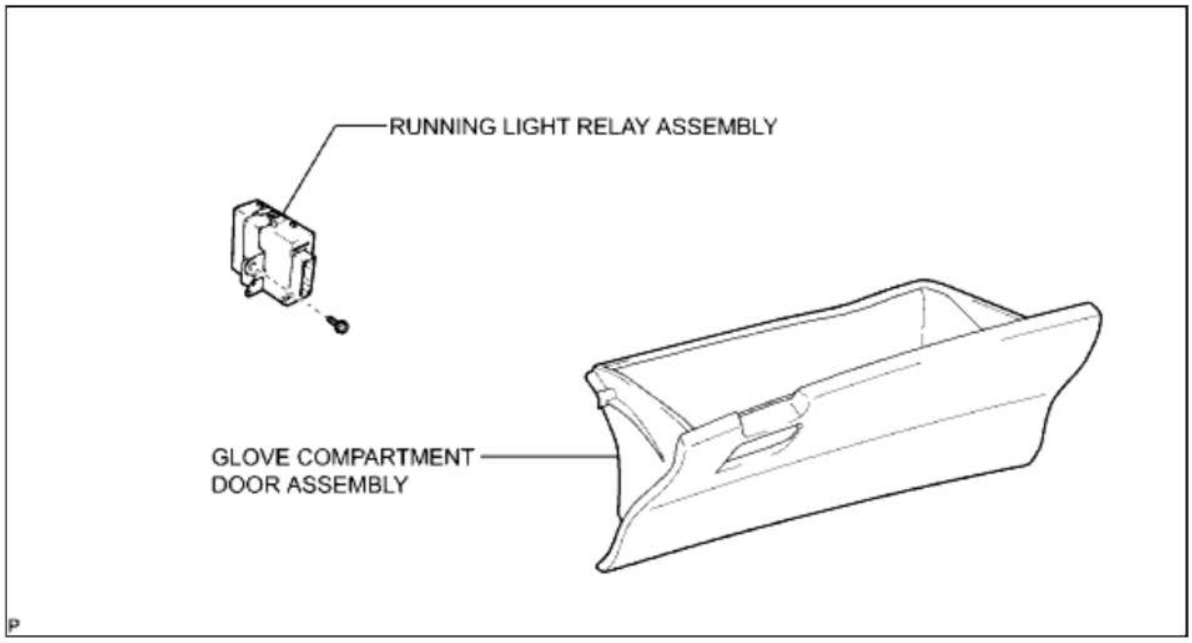


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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYK001X
Title: LIGHTING (EXT): DAYTIME RUNNING LIGHT RELAY: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



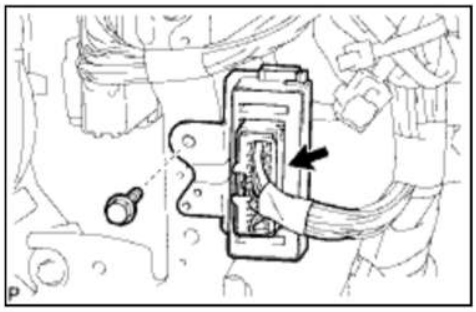
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYL001X
Title: LIGHTING (EXT): DAYTIME RUNNING LIGHT RELAY: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY INFO

2. REMOVE RUNNING LIGHT RELAY ASSEMBLY



(a) Disconnect the connector.

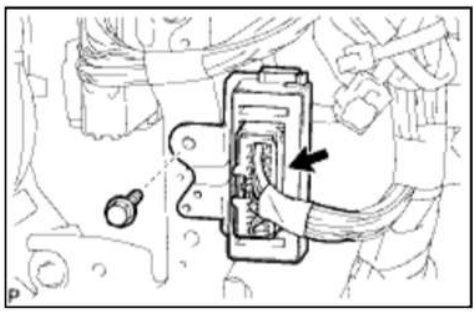
(b) Remove the bolt and the running light relay assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYJ001X
Title: LIGHTING (EXT): DAYTIME RUNNING LIGHT RELAY: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL RUNNING LIGHT RELAY ASSEMBLY



(a) Install the running light relay assembly with the bolt.

(b) Connect the connector.

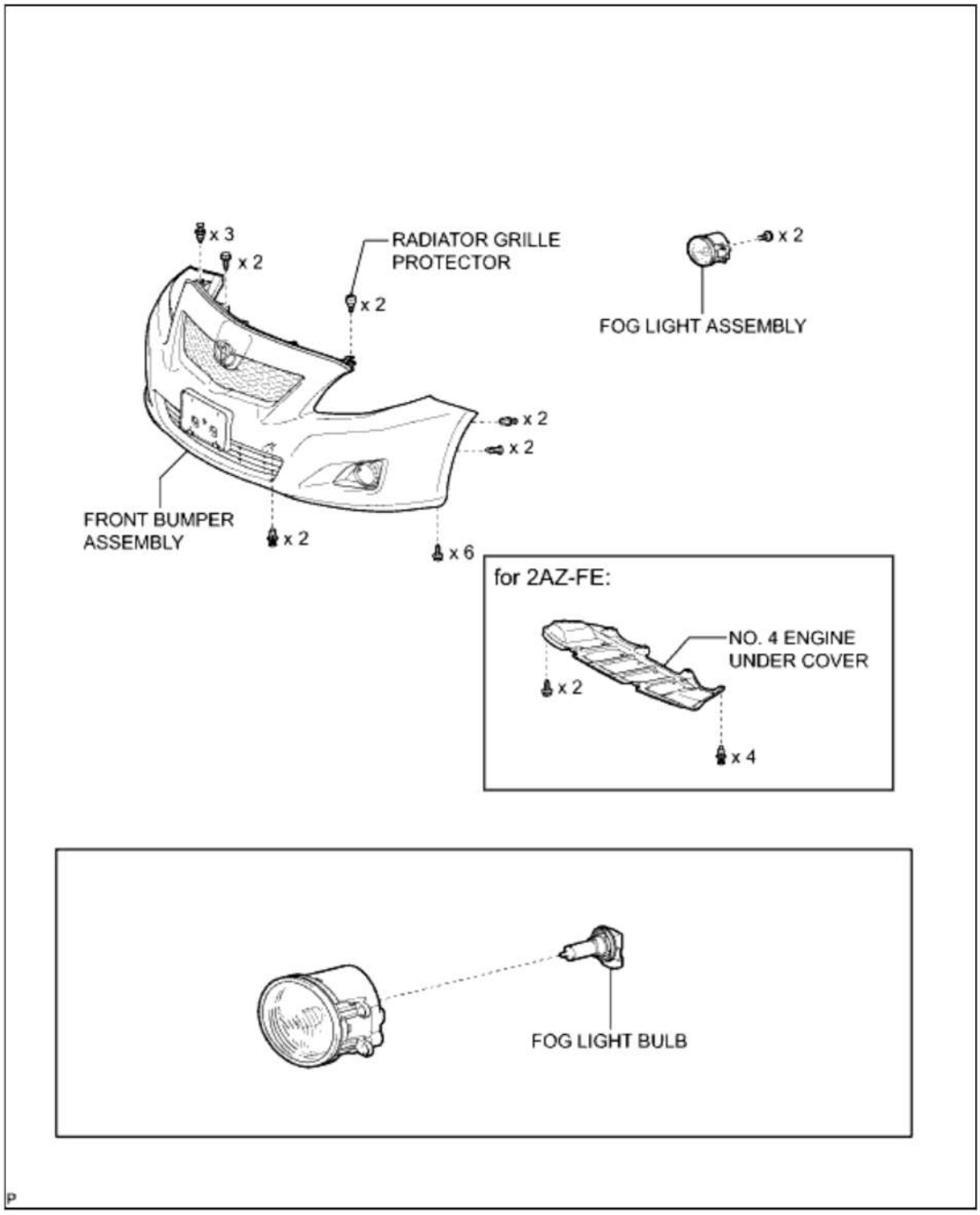
2. INSTALL GLOVE COMPARTMENT DOOR ASSEMBLY INFO

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNL00AX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002LH600EX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: REMOVAL (2010 Corolla)		

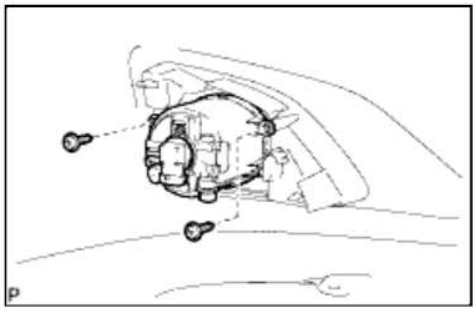
REMOVAL

1. REMOVE RADIATOR GRILLE PROTECTOR INFO

2. REMOVE NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

3. REMOVE FRONT BUMPER ASSEMBLY INFO

4. REMOVE FOG LIGHT ASSEMBLY



(a) Remove the 2 screws and the fog light assembly.

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Last Modified: 3-10-2010	6.4 N	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000ZC600AX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: ADJUSTMENT (2010 Corolla)		

ADJUSTMENT

HINT:

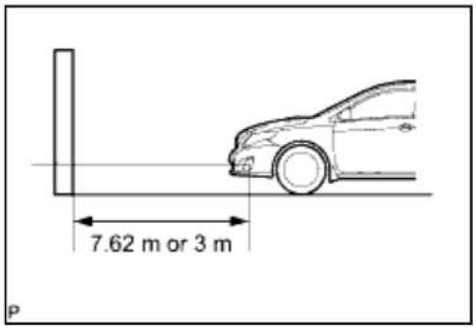
It is possible that a bulb is incorrectly installed, affecting fog light aim. Bulb installation should be checked prior to performing the adjustment procedure.

1. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT

(a) Prepare the vehicle:

- Ensure that there is no damage or deformation to the body around the fog lights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are in their original positions.
- Sit a person of average weight (68 kg, 150 lb) in the driver's seat.
- Vehicles with height adjustable suspension should set the vehicle height to the lowest setting prior to adjusting the fog light aim.

2. PREPARATION FOR FOG LIGHT AIMING



(a) Prepare the vehicle:

- 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 fog lights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 7.62 m (25 ft.) distance between the vehicle (fog light bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down several times to settle the suspension.

NOTICE:

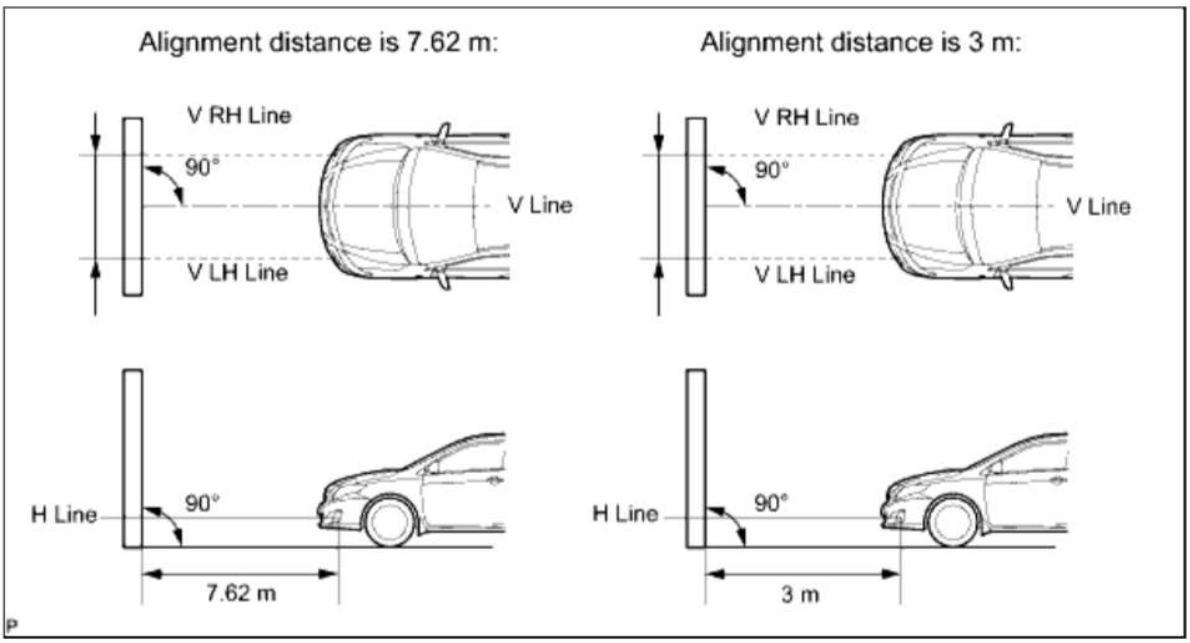
A distance of 7.62 m (25 ft.) between the vehicle (fog light bulb center) and the wall is necessary for proper aim adjustment. If sufficient space is not available, secure a distance of exactly 3 m (9.84 ft.) to allow for checking and adjustment of fog light aim. (The size of the target zone will change with the distance, so follow the instructions in the illustration.)

(b) Prepare a piece of thick white paper (approximately 2 m (6.6 ft.) (height) x 4 m (13.1 ft.) (width)) to use as a screen.

(c) Draw a vertical line down the center of the screen (V line).

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(d) Set the screen as shown in the illustration.



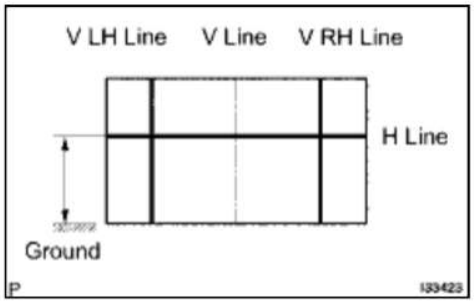
HINT:

- 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, V LH, and V RH lines) on the screen as shown in the illustration.

HINT:

Mark the fog light bulb center marks on the screen. If the center mark cannot be observed on the fog light, use the center of the fog light bulb or the manufacturer's name marked on the fog light as the center mark.



(1) H Line (Fog light 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 fog light bulb center marks of the fog lights.

(2) V LH Line, V RH Line (Center mark position of left-hand (LH) and right-hand (RH) fog lights):

Draw two vertical lines so that they intersect the H line at each center mark aligned with the center of the fog light bulbs.

3. INSPECT FOG LIGHT AIMING

(a) Cover the fog light or disconnect the connector of the fog light on the opposite side to prevent light from the fog light that is not being inspected from affecting the fog light aiming inspection.

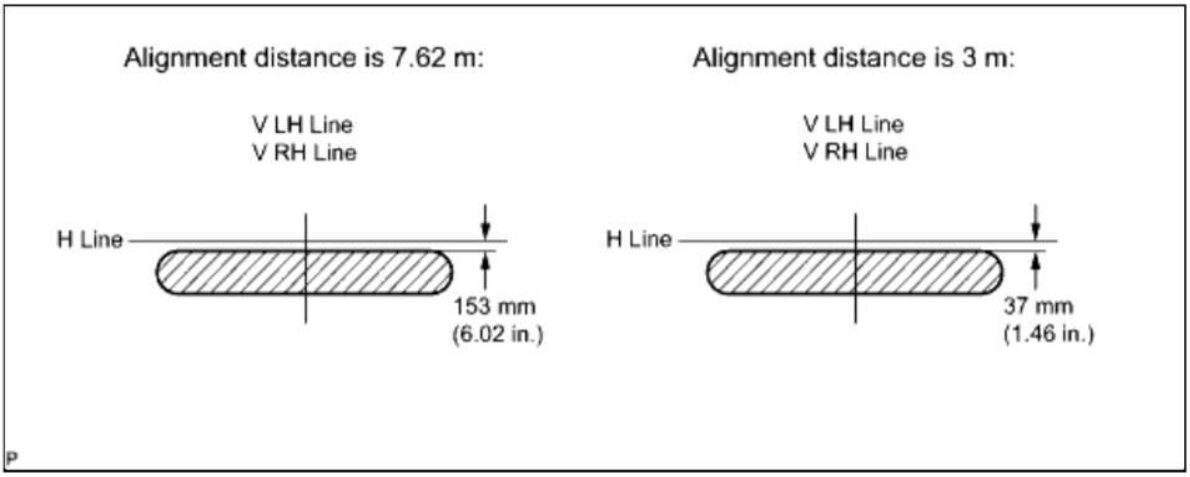
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NOTICE:

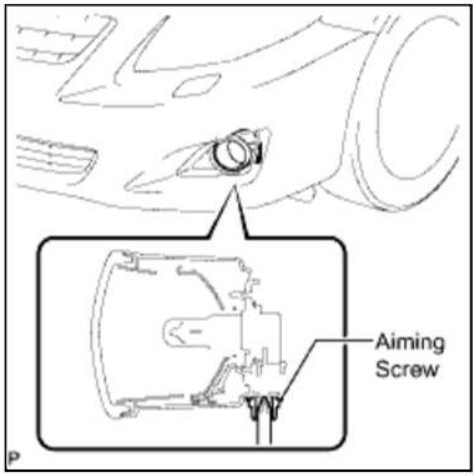
Do not keep the fog light covered for more than 3 minutes. The fog light lens may melt or be damaged due to excessive heat.

(b) Start the engine.

(c) Turn on the fog light and check if the cutoff line falls within the specified area in the following illustration.



4. ADJUST FOG LIGHT AIMING



(a) Adjust the aim vertically:

Adjust the aim of each fog light to the specified range by turning each aiming screw with a screwdriver.

NOTICE:

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.

HINT:

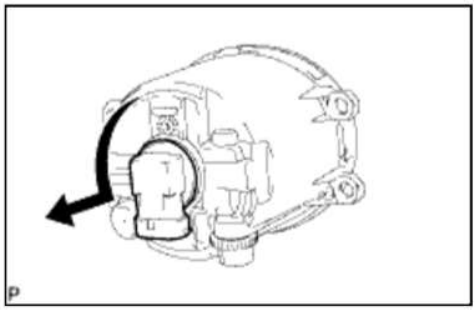
If it is not possible to correctly adjust fog light aim, check bulb, fog light unit, and fog light unit reflector installation.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002LH700EX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: DISASSEMBLY (2010 Corolla)		

DISASSEMBLY

1. REMOVE FOG LIGHT BULB



(a) Remove the fog light bulb as shown in the illustration.

NOTICE:

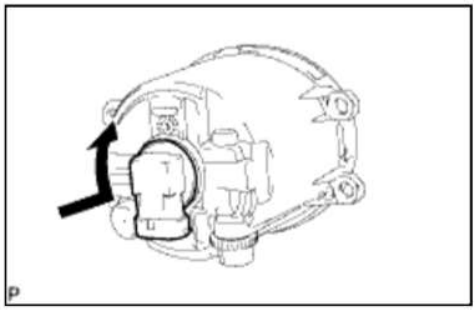
Do not touch the bulb glass.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002LH800EX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: REASSEMBLY (2010 Corolla)		

REASSEMBLY

1. INSTALL FOG LIGHT BULB



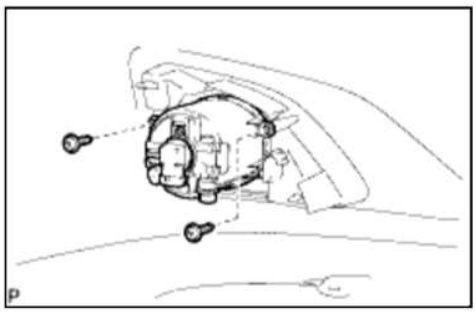
(a) Install the fog light bulb as shown in the illustration.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002LH400EX
Title: LIGHTING (EXT): FOG LIGHT ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL FOG LIGHT ASSEMBLY



(a) Install the fog light assembly with the 2 screws.

2. INSTALL FRONT BUMPER ASSEMBLY INFO

3. INSTALL NO. 4 ENGINE UNDER COVER INFO

4. INSTALL RADIATOR GRILLE PROTECTOR INFO

5. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT INFO

6. PREPARATION FOR FOG LIGHT AIMING INFO

7. FOG LIGHT AIMING INSPECTION INFO

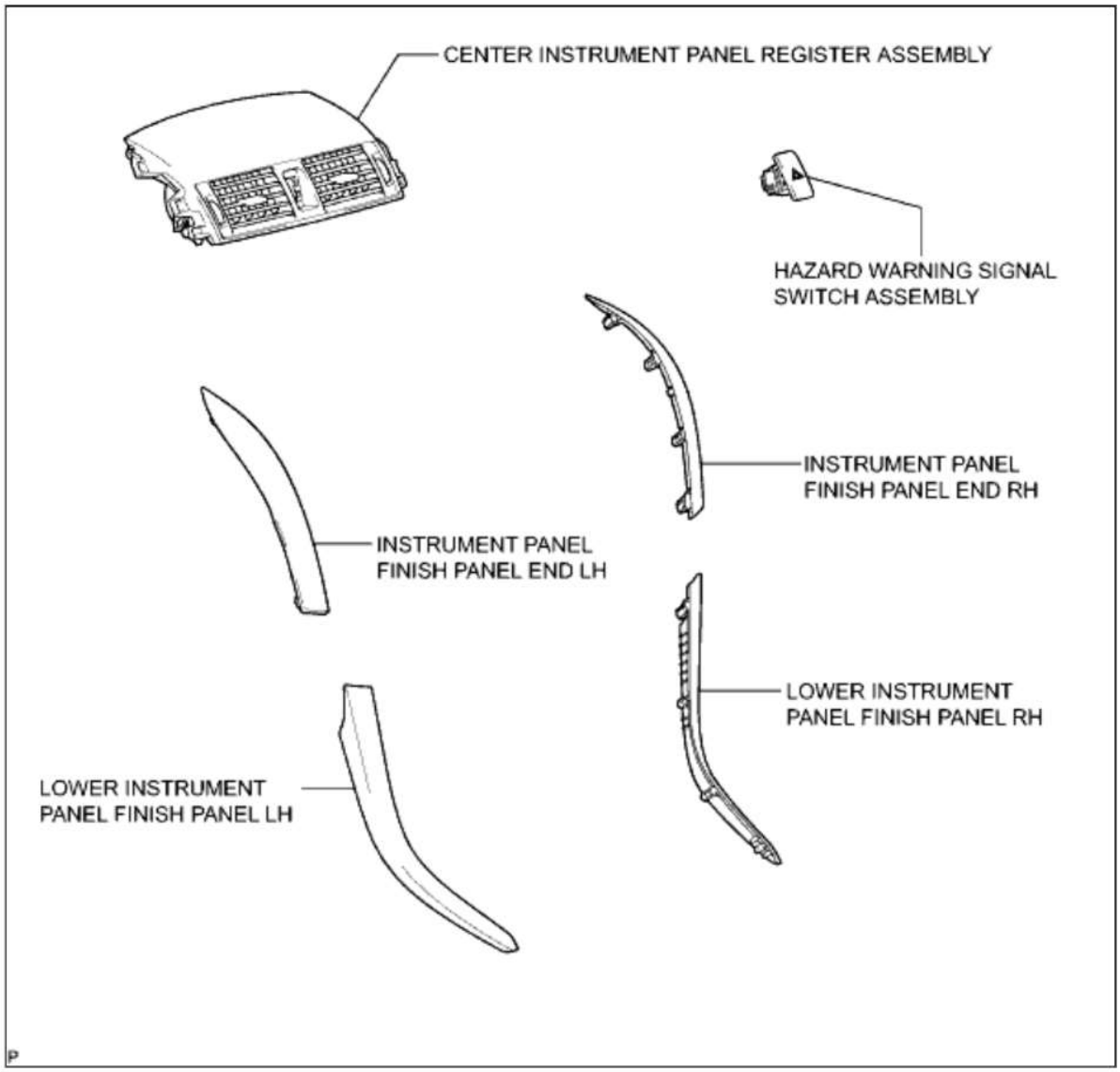
8. FOG LIGHT AIMING ADJUSTMENT INFO

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQI00KX
Title: LIGHTING (EXT): HAZARD WARNING SWITCH: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

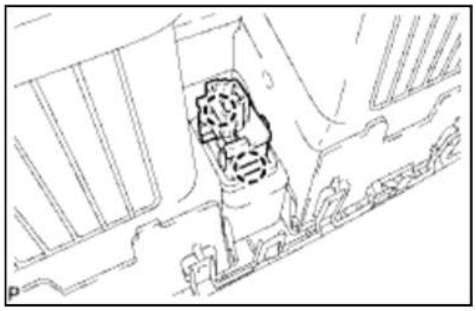


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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQJ00FX
Title: LIGHTING (EXT): HAZARD WARNING SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH INFO
2. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL RH INFO
3. REMOVE INSTRUMENT PANEL FINISH PANEL END LH INFO
4. REMOVE INSTRUMENT PANEL FINISH PANEL END RH INFO
5. REMOVE CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO
6. REMOVE HAZARD WARNING SIGNAL SWITCH ASSEMBLY



(a) Disengage the 2 claws and remove the hazard warning signal switch assembly.

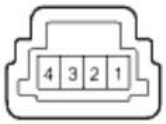
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000197T01NX
Title: LIGHTING (EXT): HAZARD WARNING SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT HAZARD WARNING SIGNAL SWITCH ASSEMBLY

Component without harness connected:
(Hazard Warning Signal Switch Assembly)



H

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - 4	ON	Below 1 Ω
	OFF	10 kΩ or higher

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

(b) Connect a positive (+) lead from the battery to terminal 3 and a negative (-) lead to terminal 2.

(c) Check that the illumination of the switch comes on.

OK:
The illumination comes on.

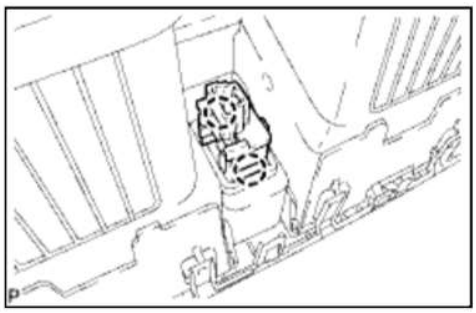
If the result is not as specified, replace the switch.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQH00FX
Title: LIGHTING (EXT): HAZARD WARNING SWITCH: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL HAZARD WARNING SIGNAL SWITCH ASSEMBLY



(a) Engage the 2 claws and install the hazard warning signal switch assembly.

NOTICE:

Do not use any dropped switches.

2. INSTALL CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO

3. INSTALL INSTRUMENT PANEL FINISH PANEL END LH INFO

4. INSTALL INSTRUMENT PANEL FINISH PANEL END RH INFO

5. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH INFO

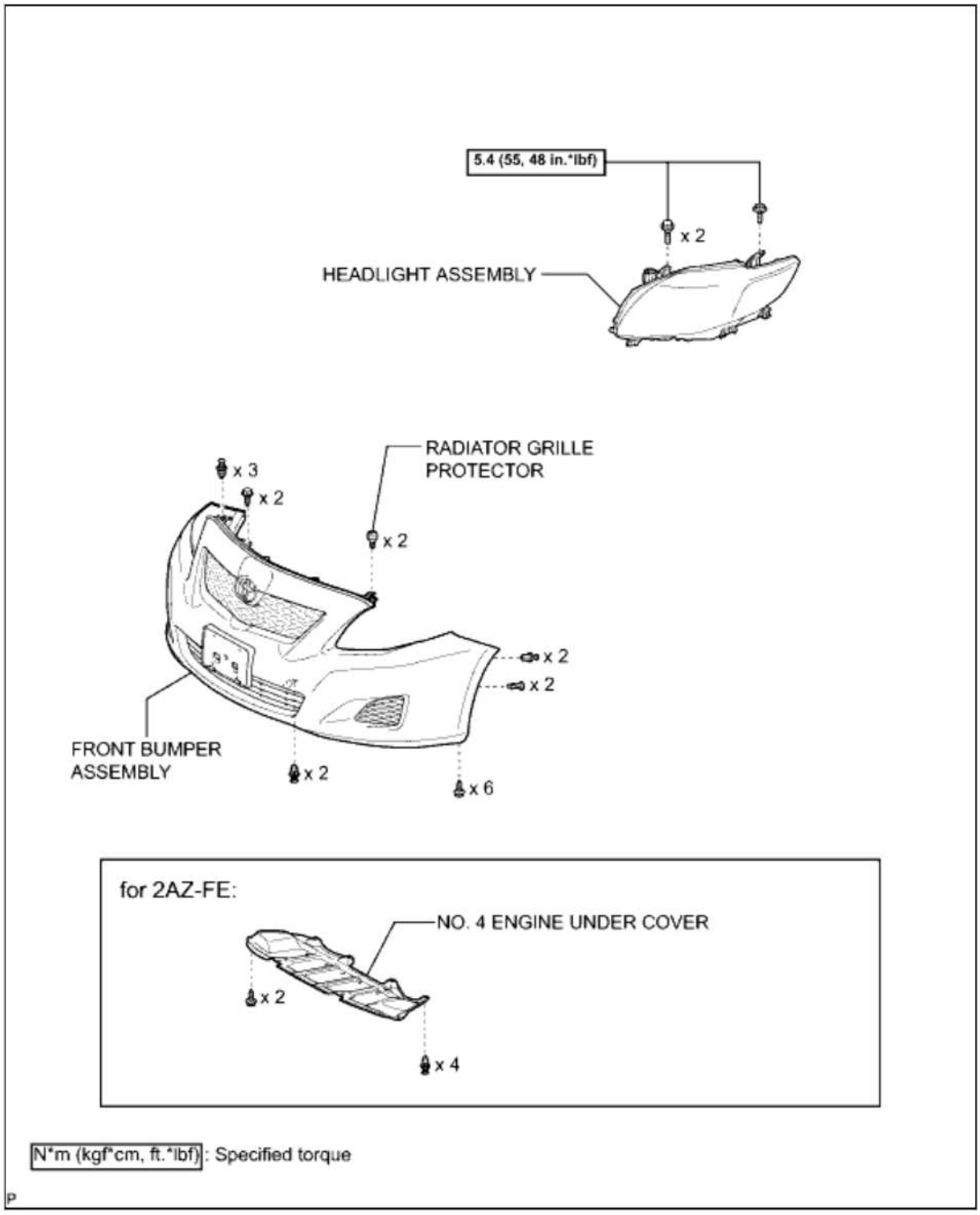
6. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL RH INFO

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYE001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: COMPONENTS (2010 Corolla)		

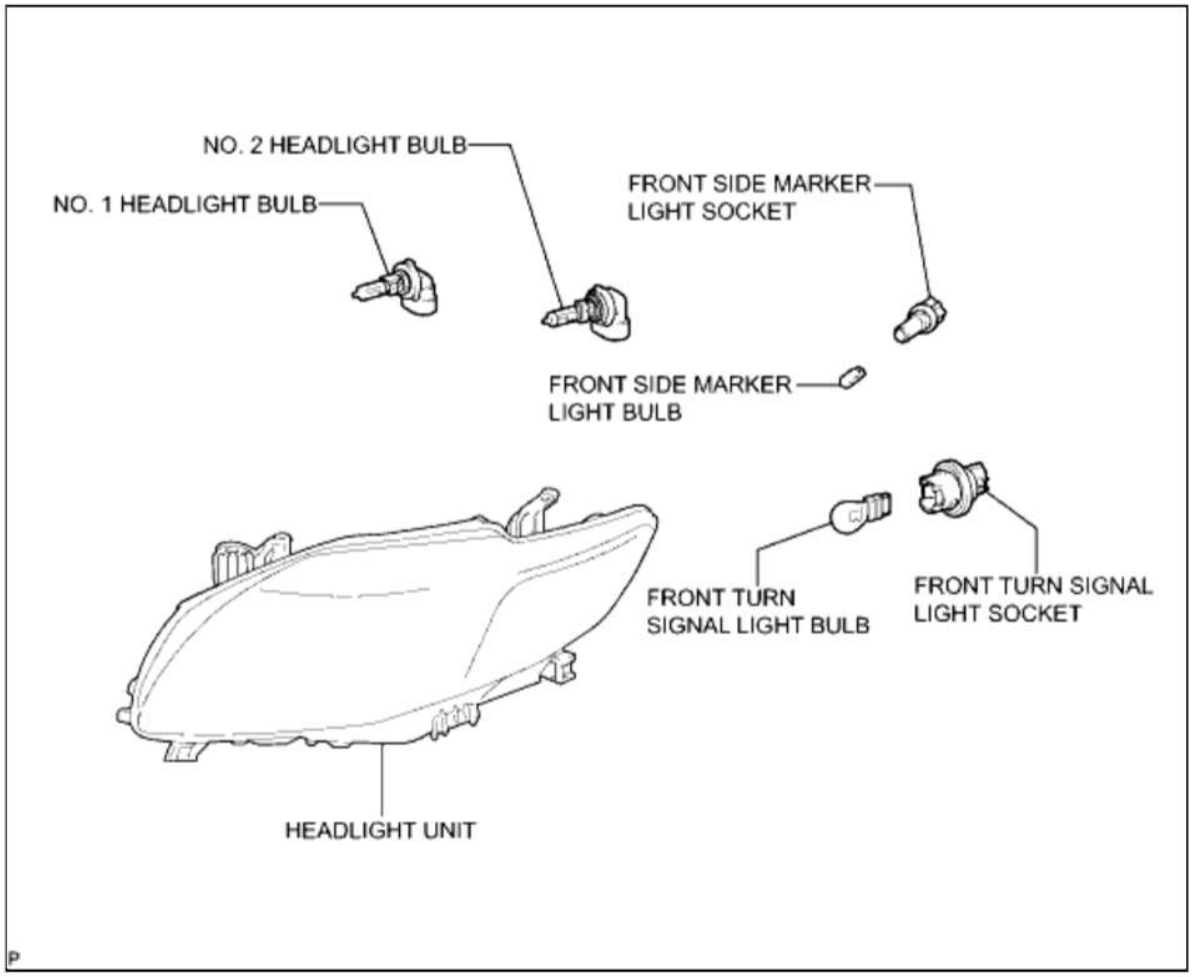
COMPONENTS

ILLUSTRATION



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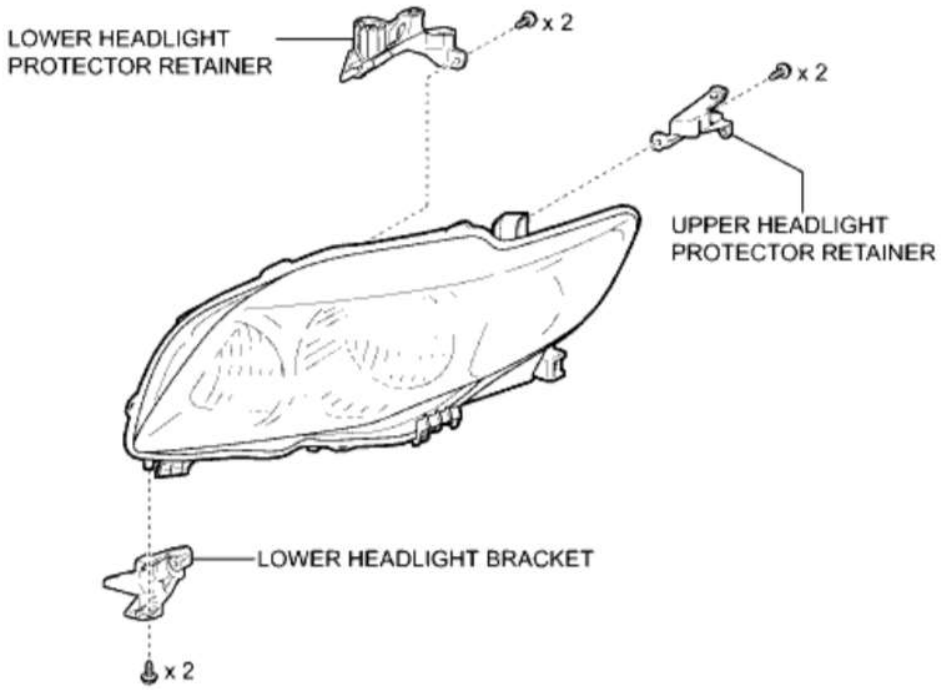
ILLUSTRATION



ILLUSTRATION

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Bracket for Repair:



P

TOYOTA

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYF001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: REMOVAL (2010 Corolla)		

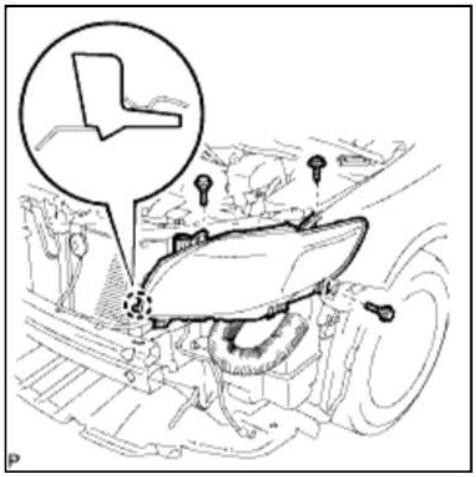
REMOVAL

1. REMOVE RADIATOR GRILLE PROTECTOR INFO

2. REMOVE NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

3. REMOVE FRONT BUMPER ASSEMBLY INFO

4. REMOVE HEADLIGHT ASSEMBLY



(a) Remove the 2 bolts and screw.

(b) Disengage the claw.

(c) Disconnect the connectors and remove the headlight assembly.

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Last Modified: 3-10-2010	6.4 N	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000ZC200BX
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: ADJUSTMENT (2010 Corolla)		

ADJUSTMENT

HINT:

It is possible that a bulb is incorrectly installed, affecting headlight aim. Bulb installation should be considered prior to performing the adjustment procedure.

1. VEHICLE PREPARATION FOR HEADLIGHT AIMING ADJUSTMENT

(a) Prepare the vehicle:

- Ensure that there is no damage or deformation to the body around the headlights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are in their original positions.
- Sit a person of average weight (68 kg, 150 lb) in the driver's seat.
- Vehicles with height adjustable suspension should set the vehicle height to the lowest setting prior to adjusting the headlight aim.

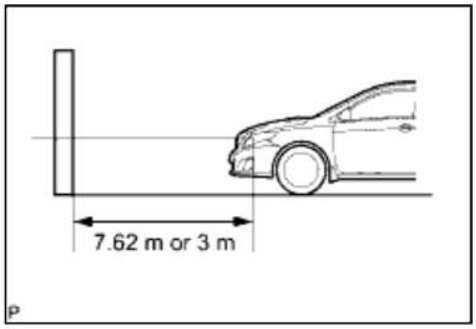
2. PREPARATION FOR HEADLIGHT AIMING (Using a headlight aim test machine)

(a) Adjust the headlight aim in accordance with the headlight aim test machine instructions.

3. PREPARATION FOR HEADLIGHT AIMING (Using a Screen)

(a) Prepare the vehicle:

- 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.
- Create a 7.62 m (25 ft.) distance between the vehicle (headlight bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down several times to settle the suspension.



NOTICE:

A distance of 7.62 m (25 ft.) between the vehicle (headlight bulb center) and the wall is necessary for proper aim adjustment. If sufficient space is not available, secure a distance of exactly 3 m (9.84 ft.) to allow for checking and adjustment of headlight aim. (The size of the target zone will change with the distance, so follow the instructions in the illustration.)

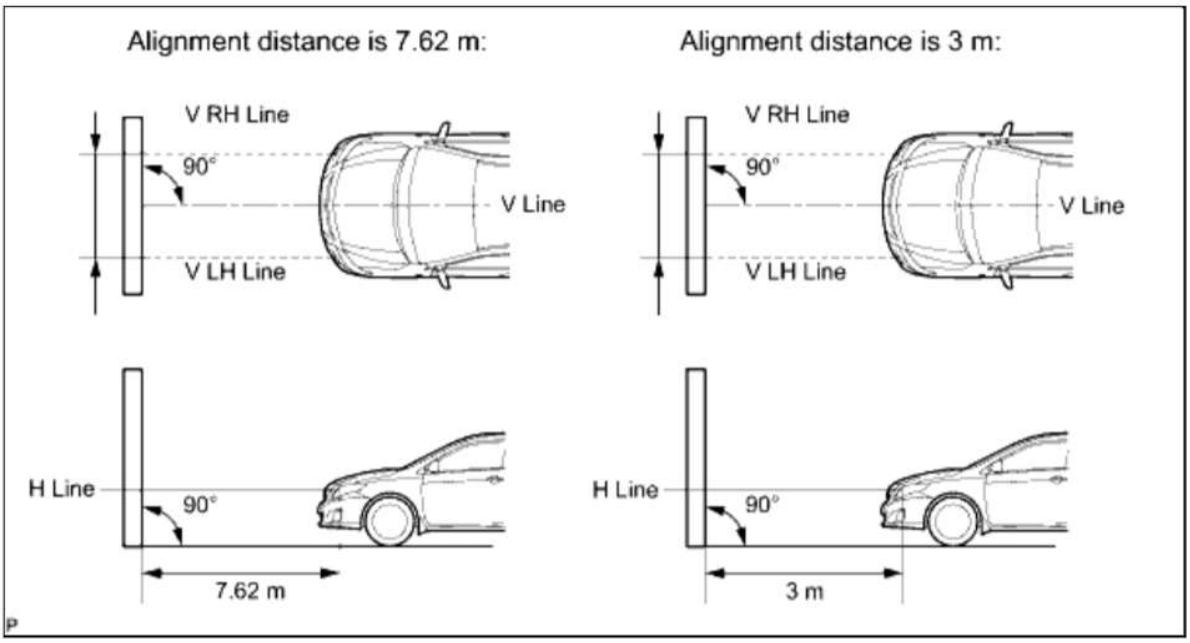
(b) Prepare a piece of thick white paper (approximately 2 m (6.6 ft.) (height) x 4 m (13.1 ft.) (width))

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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.



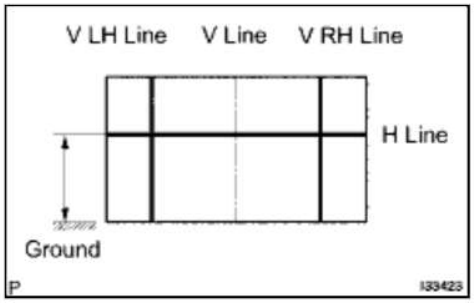
HINT:

- 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, 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 or the manufacturer's name marked on the headlight as the center mark.



(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, V RH Line (Center mark position 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).

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4. INSPECT HEADLIGHT AIMING

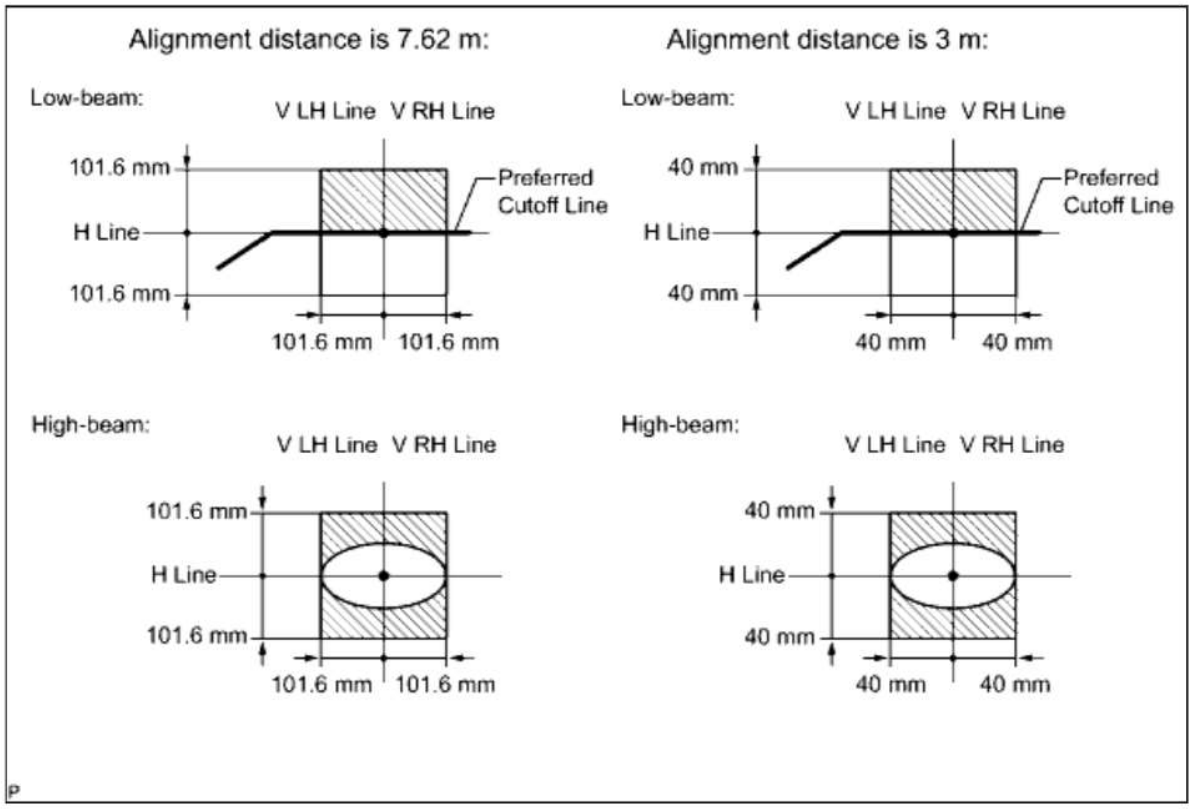
(a) Cover the headlight or disconnect the connector of the headlight on the opposite side to prevent light from the headlight that is not being inspected from affecting the headlight aiming inspection.

NOTICE:

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

(b) Start the engine.

(c) Turn on the headlight and check if the cutoff line matches the preferred cutoff line in the following illustration.



HINT:

- Since the low-beam light and the high-beam light are a unit, if the aim on the low-beam is correct, the high-beam should also be correct. However, check both beams to confirm.
- If the alignment distance is 7.62 m (25 ft.):

  The low-beam cutoff line should be within 101.6 mm (4.00 in.) above or below the H line as well as 101.6 mm (4.00 in.) left or right of the V line (SAE J599).
- If the alignment distance is 3 m (9.84 ft.):

  The low-beam cutoff line should be within 40 mm (1.57 in.) above or below the H line as well as 40 mm (1.57 in.) left or right of the V line (SAE J599).
- If the alignment distance is 7.62 m (25 ft.):

  The high-beam center of intensity should be within 101.6 mm (4.00 in.) above or below the H line as well as 101.6 mm (4.00 in.) left or right of the V line (SAE J599).
- If the alignment distance is 3 m (9.84 ft.):

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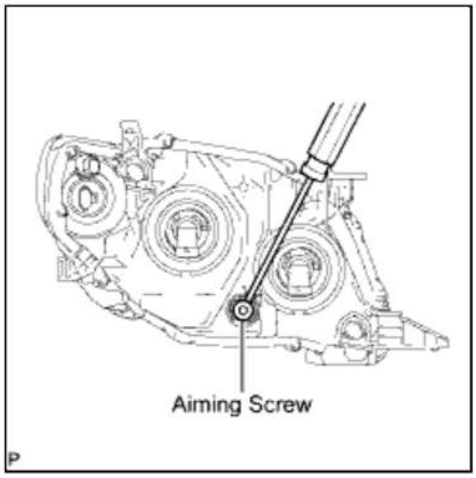
The high-beam center of intensity should be within 40 mm (1.57 in.) above or below the H line as well as 40 mm (1.57 in.) left or right of the V line (SAE J599).

- The low-beam cutoff line should follow the preferred cutoff line target on the H line.

5. ADJUST HEADLIGHT AIMING

(a) Adjust the aim vertically:

Adjust the aim of each headlight to the specified range by turning each aiming screw with a screwdriver.



NOTICE:

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.

HINT:

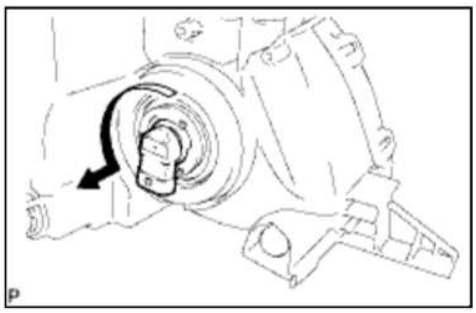
- The low-beam light and the high-beam light are a unit. Adjusting the aim on the low-beam to the correct position should also result in the high-beam adjustment being correct.
- If it is not possible to correctly adjust headlight aim, check bulb, headlight unit, and headlight unit reflector installation.
- The headlight aim moves up when turning the aiming screw clockwise, and moves down when turning the aiming screw counterclockwise.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYG001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: DISASSEMBLY (2010 Corolla)		

DISASSEMBLY

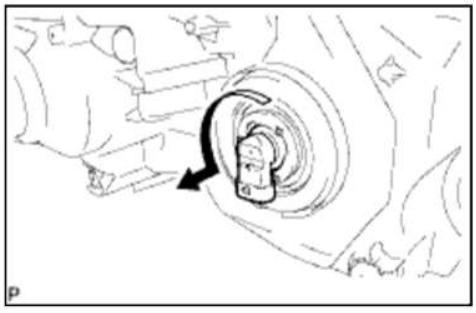
1. REMOVE NO. 1 HEADLIGHT BULB



(a) Remove the No. 1 headlight bulb as shown in the illustration.

NOTICE:
Do not touch the bulb glass.

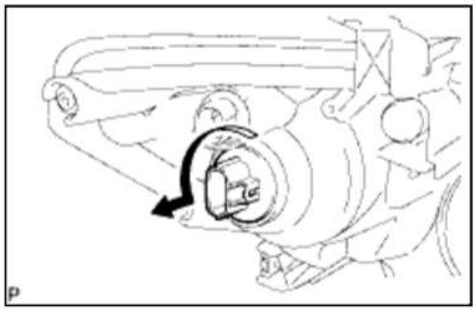
2. REMOVE NO. 2 HEADLIGHT BULB



(a) Remove the No. 2 headlight bulb as shown in the illustration.

NOTICE:
Do not touch the bulb glass.

3. REMOVE FRONT TURN SIGNAL LIGHT BULB

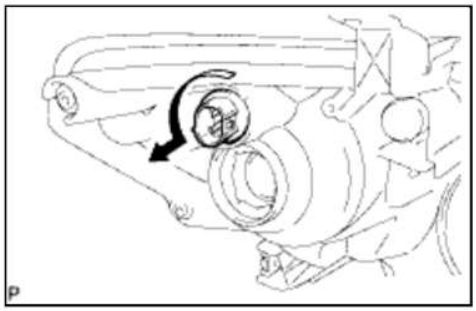


(a) Turn the front turn signal light bulb and the front turn signal light socket in the direction indicated by the arrow and remove them as a unit.

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

4. REMOVE FRONT SIDE MARKER LIGHT BULB

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(a) Turn the front side marker light bulb and the front side marker light socket in the direction indicated by the arrow and remove them as a unit.

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

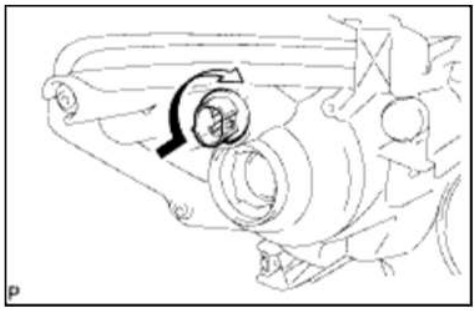
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYH001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: REASSEMBLY (2010 Corolla)		

REASSEMBLY

1. INSTALL FRONT SIDE MARKER LIGHT BULB

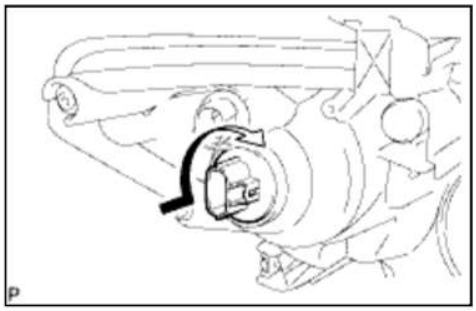
(a) Install the front side marker light bulb to the front side marker light socket.



(b) Turn the front side marker light bulb and front side marker light socket in the direction indicated by the arrow and install them as a unit.

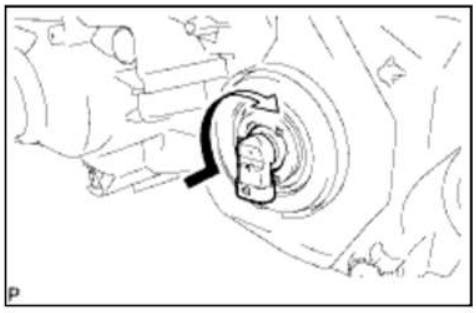
2. INSTALL FRONT TURN SIGNAL LIGHT BULB

(a) Install the front turn signal light bulb to the front turn signal light socket.



(b) Turn the front turn signal light bulb and front turn signal light socket in the direction indicated by the arrow and install them as a unit.

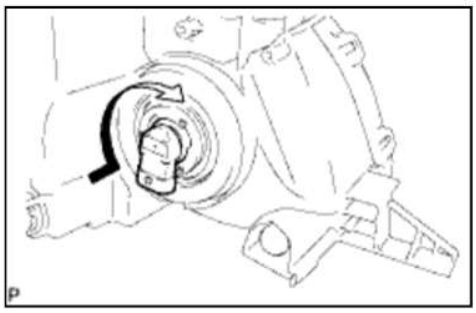
3. INSTALL NO. 2 HEADLIGHT BULB



(a) Install the No. 2 headlight bulb as shown in the illustration.

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4. INSTALL NO. 1 HEADLIGHT BULB



(a) Install the No. 1 headlight bulb as shown in the illustration.

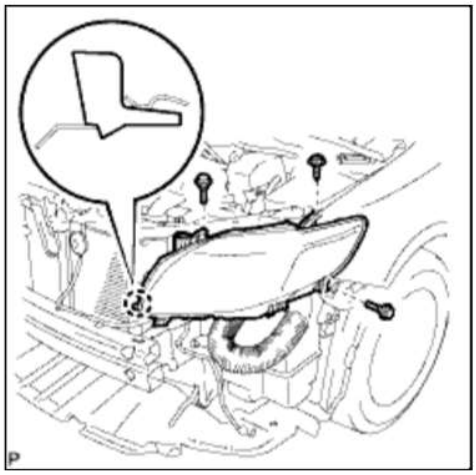
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYD001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL HEADLIGHT ASSEMBLY

(a) Connect the connectors.



(b) Engage the claw.

(c) Install the headlight assembly with the 2 bolts and screw.

Torque: 5.4 N·m (55 kgf·cm, 48in·lbf)

2. INSTALL FRONT BUMPER ASSEMBLY INFO

3. INSTALL NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

4. INSTALL RADIATOR GRILLE PROTECTOR INFO

5. VEHICLE PREPARATION FOR HEADLIGHT AIMING ADJUSTMENT INFO

6. PREPARATION FOR HEADLIGHT AIMING (Using a headlight aim test machine) INFO

7. PREPARATION FOR HEADLIGHT AIMING (Using a Screen) INFO

8. INSPECT HEADLIGHT AIMING INFO

9. ADJUST HEADLIGHT AIMING INFO

10. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT (w/ Fog Light) INFO

11. PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) INFO

12. INSPECT FOG LIGHT AIMING (w/ Fog Light) INFO

13. ADJUST FOG LIGHT AIMING (w/ Fog Light) INFO

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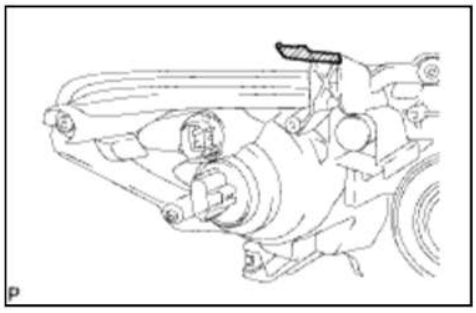
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003FYI001X
Title: LIGHTING (EXT): HEADLIGHT ASSEMBLY: REPAIR (2010 Corolla)		

REPAIR

HINT:

- If the installation area of the headlight assembly is damaged, use the supply bracket for low-cost repair.
- Ensure that the headlight assembly is not damaged.

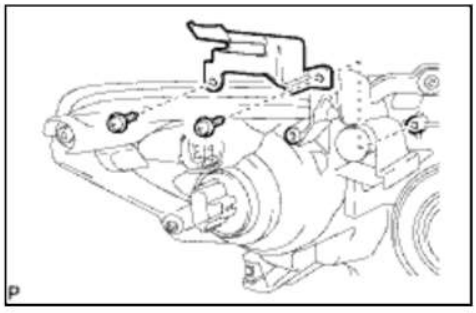
1. INSTALL UPPER HEADLIGHT PROTECTOR RETAINER



(a) Cut off the part shaded in the illustration and smooth with sandpaper.

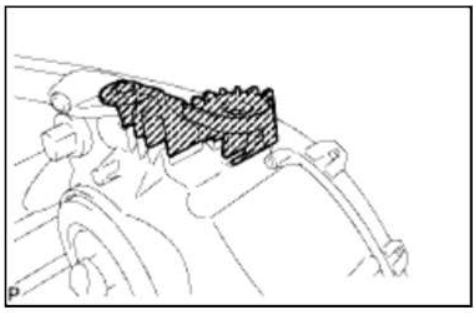
NOTICE:

After cutting off the part, place the upper headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply bracket.



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

2. INSTALL LOWER HEADLIGHT PROTECTOR RETAINER

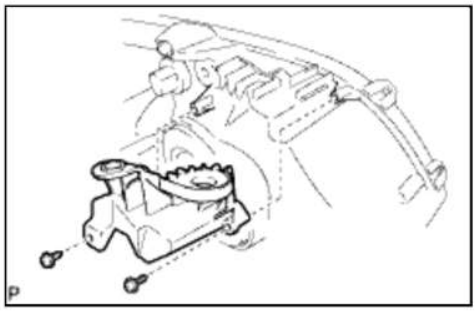


(a) Cut off the part shaded in the illustration and smooth with sandpaper.

NOTICE:

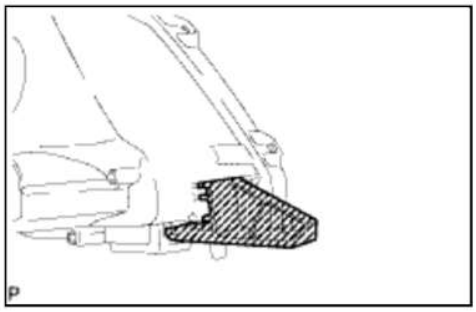
After cutting off the part, place the lower headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply bracket.

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

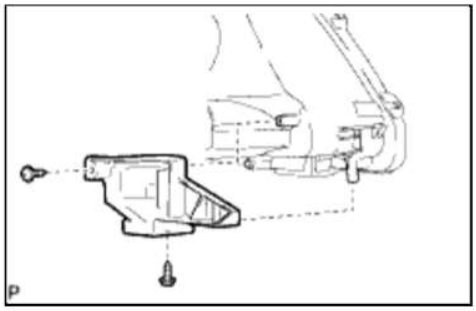
3. INSTALL LOWER HEADLIGHT BRACKET



(a) Cut off the part shaded in the illustration and smooth with sandpaper.

NOTICE:

After cutting off the part, place the lower headlight bracket against the bosses and gradually file away the old bracket if it interferes with the installation of the supply bracket.



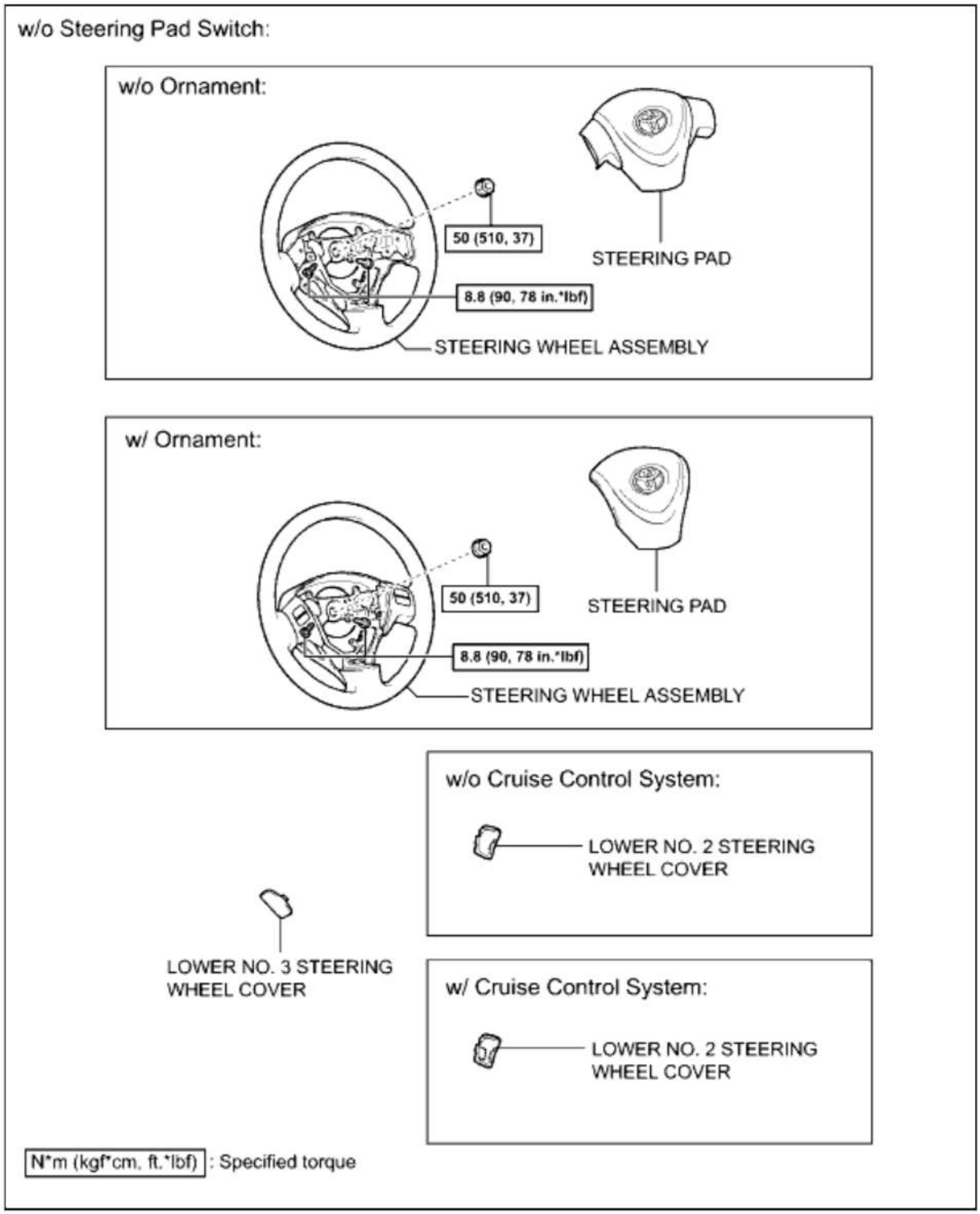
(b) Install the lower headlight bracket with the 2 screws.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQI00JX
Title: LIGHTING (EXT): HEADLIGHT DIMMER SWITCH: COMPONENTS (2010 Corolla)		

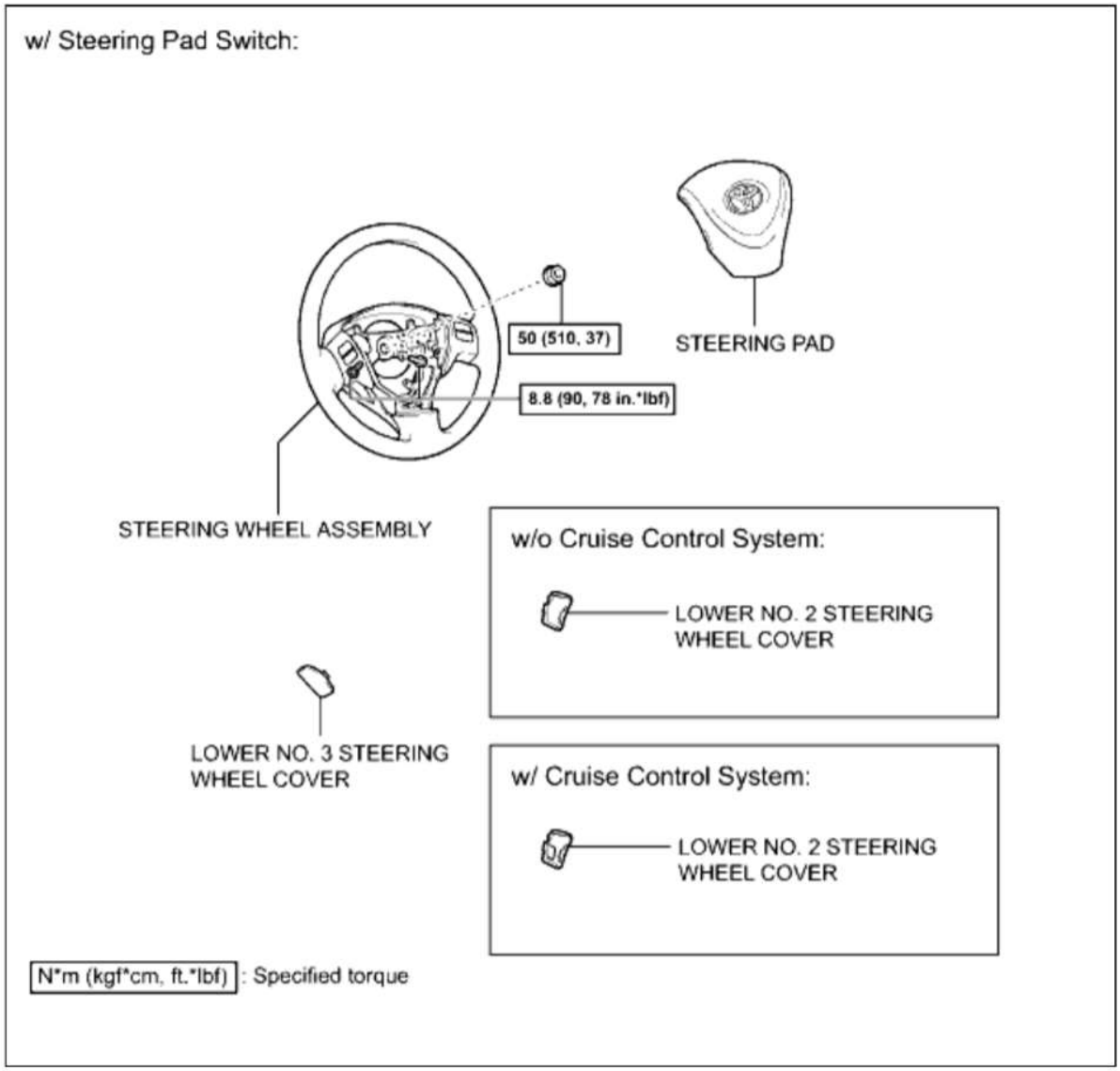
COMPONENTS

ILLUSTRATION



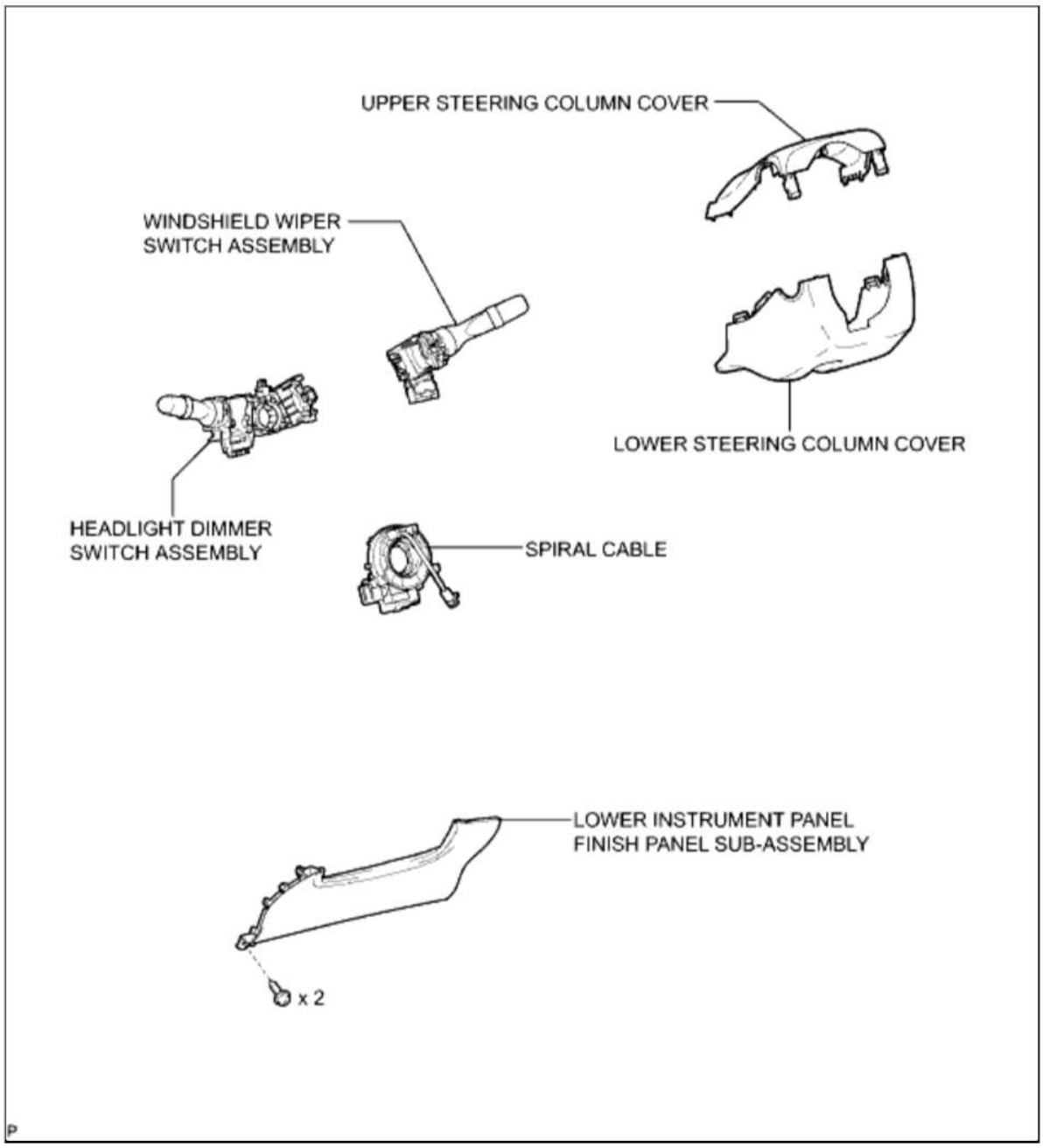
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ILLUSTRATION



ILLUSTRATION

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002HKM00SX
Title: LIGHTING (EXT): HEADLIGHT DIMMER SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

1. ALIGN FRONT WHEELS FACING STRAIGHT AHEAD

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system INFO .

3. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

4. REMOVE LOWER NO. 3 STEERING WHEEL COVER INFO

5. REMOVE LOWER NO. 2 STEERING WHEEL COVER INFO

6. REMOVE STEERING PAD INFO

7. REMOVE STEERING WHEEL ASSEMBLY INFO

8. REMOVE LOWER STEERING COLUMN COVER INFO

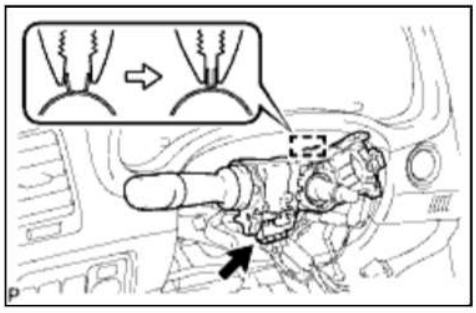
9. REMOVE UPPER STEERING COLUMN COVER INFO

10. REMOVE SPIRAL CABLE (w/o VSC) INFO

11. REMOVE SPIRAL CABLE WITH STEERING ANGLE SENSOR (w/ VSC) INFO

12. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY INFO

13. REMOVE HEADLIGHT DIMMER SWITCH ASSEMBLY

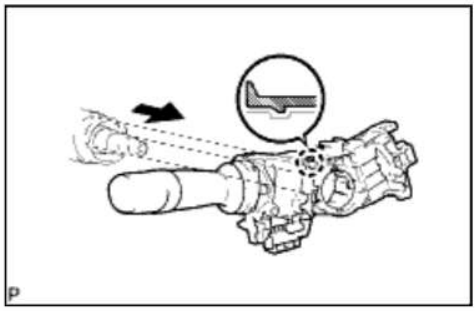


(a) Disconnect the connector.

(b) Disengage the clamp as shown in the illustration.

(c) Disengage the claw and remove the headlight dimmer switch assembly as shown in the illustration.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000014E301IX
Title: LIGHTING (EXT): HEADLIGHT DIMMER SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT HEADLIGHT DIMMER SWITCH ASSEMBLY

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

Standard Resistance:

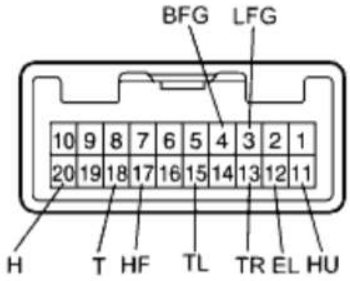
Light Control Switch

Dimmer Switch

Turn Signal Switch

Front Fog Light Switch

Component without harness connected:
(Headlight Dimmer Switch Assembly)



TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
12 (EL) - 18 (T)	OFF	10 kΩ or higher
12 (EL) - 20 (H)		
12 (EL) - 18 (T)	TAIL	Below 1 Ω
12 (EL) - 18 (T)	HEAD	Below 1 Ω
12 (EL) - 20 (H)		

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
12 (EL) - 17 (HF)	HIGH FLASH	Below 1 Ω
12 (EL) - 11 (HU)		
12 (EL) - 11 (HU)	HIGH	Below 1 Ω

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
12 (EL) - 13 (TR)	OFF	10 kΩ or higher
12 (EL) - 15 (TL)		
12 (EL) - 13 (TR)	RH	Below 1 Ω
12 (EL) - 15 (TL)	LH	Below 1 Ω

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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
3 (LFG) - 4 (BFG)	OFF	10 kΩ or higher
3 (LFG) - 4 (BFG)	ON	Below 1 Ω

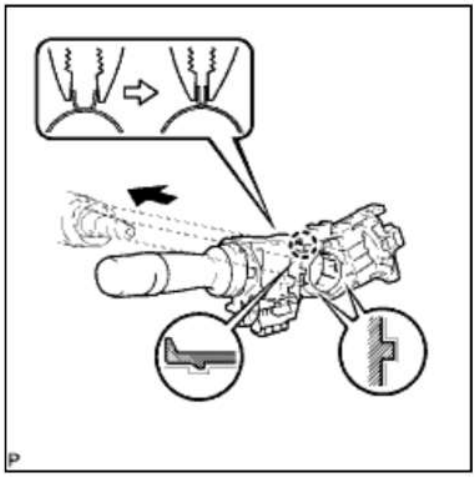
If the result is not as specified, replace the switch assembly.

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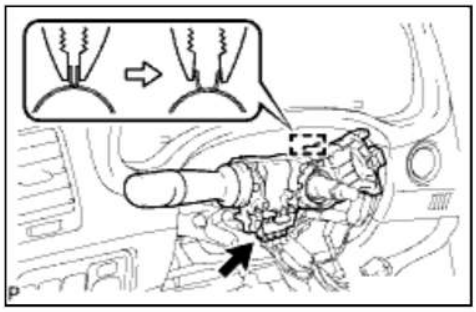
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002HKK00SX
Title: LIGHTING (EXT): HEADLIGHT DIMMER SWITCH: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL HEADLIGHT DIMMER SWITCH ASSEMBLY



(a) Engage the claw while loosening the clamp as shown in the illustration.



(b) Install the headlight dimmer switch assembly with the clamp.

(c) Connect the connector.

2. INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY INFO

3. INSTALL SPIRAL CABLE (w/o VSC) INFO

4. INSTALL SPIRAL CABLE WITH STEERING ANGLE SENSOR (w/ VSC) INFO

5. INSTALL UPPER STEERING COLUMN COVER INFO

6. INSTALL LOWER STEERING COLUMN COVER INFO

7. ADJUST SPIRAL CABLE INFO

8. INSTALL STEERING WHEEL ASSEMBLY INFO

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9. INSPECT STEERING WHEEL CENTER POINT

10. INSTALL STEERING PAD INFO

11. INSTALL LOWER NO. 3 STEERING WHEEL COVER INFO

12. INSTALL LOWER NO. 2 STEERING WHEEL COVER INFO

13. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

15. INSPECT STEERING PAD INFO

16. INSPECT SRS WARNING LIGHT

INFO

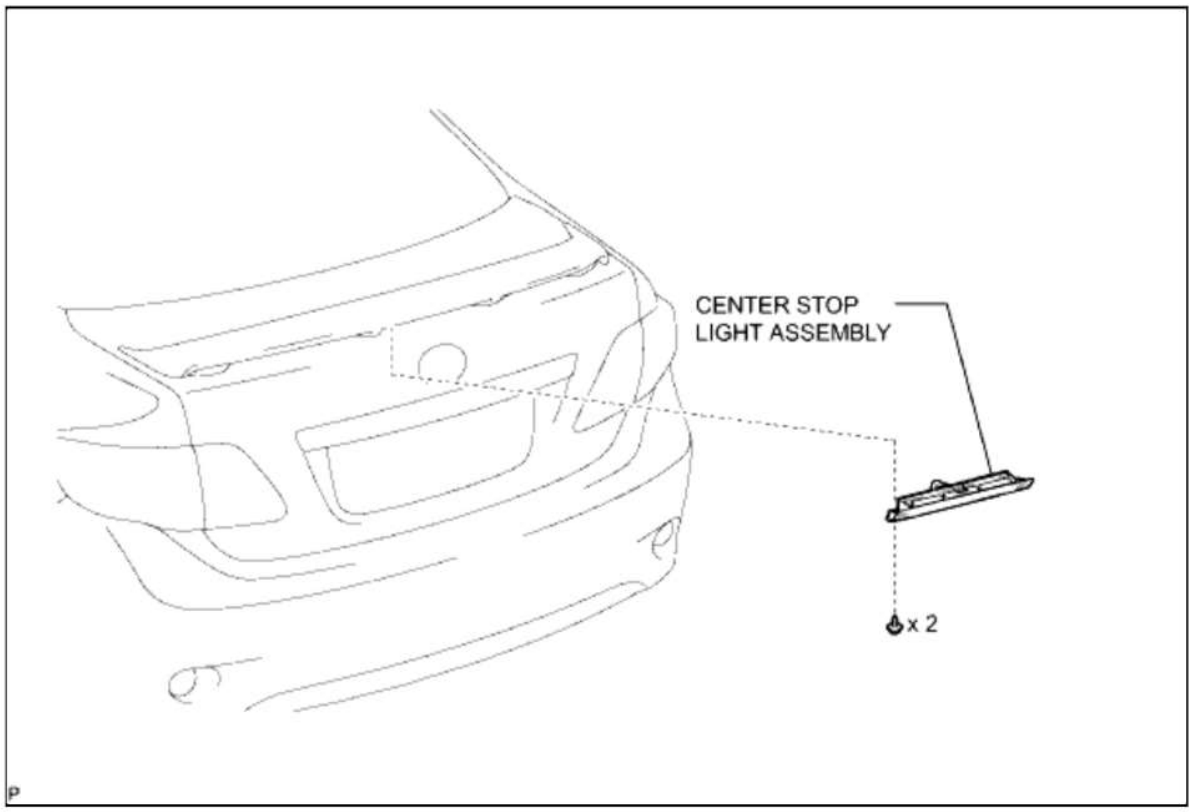


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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000032TN007X
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/ Rear Spoiler): COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

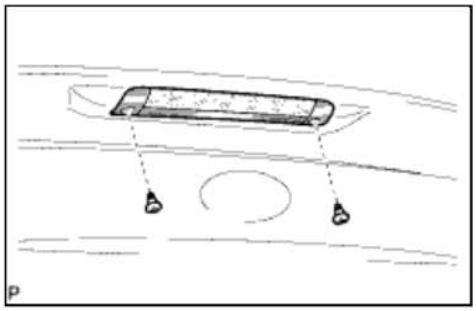


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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000032TO007X
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/ Rear Spoiler): REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE CENTER STOP LIGHT ASSEMBLY



(a) Remove the 2 screws and disconnect the center stop light assembly.

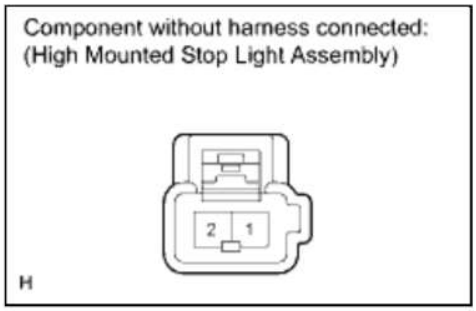
(b) Disconnect the connector and remove the center stop light assembly.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000032U4008X
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/ Rear Spoiler): INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT HIGH MOUNTED STOP LIGHT ASSEMBLY



(a) Connect a positive (+) lead from the battery to terminal 2 and a negative (-) lead to terminal 1.

(b) Check that the high mounted stop light comes on.

OK:

The light comes on.

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

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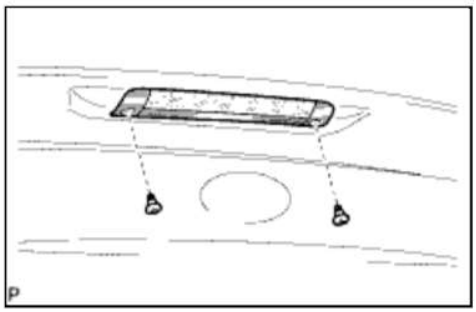
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000032TM007X
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/ Rear Spoiler): INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL CENTER STOP LIGHT ASSEMBLY

(a) Connect the connector.

(b) Connect the center stop light assembly to the rear spoiler assembly.



(c) Install the center stop light assembly with the 2 screws.

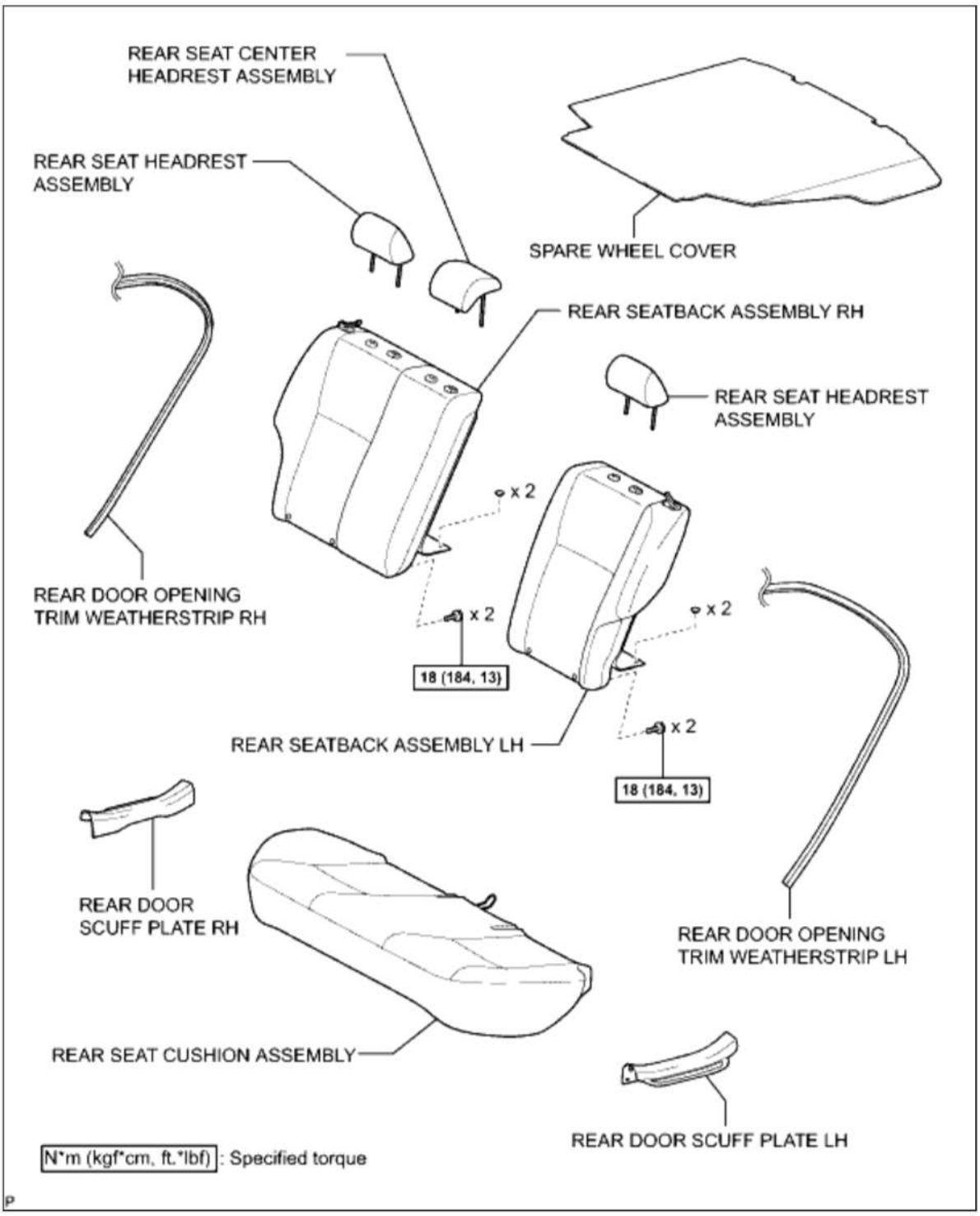
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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VOB00BX
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/o Rear Spoiler): COMPONENTS (2010 Corolla)		

COMPONENTS

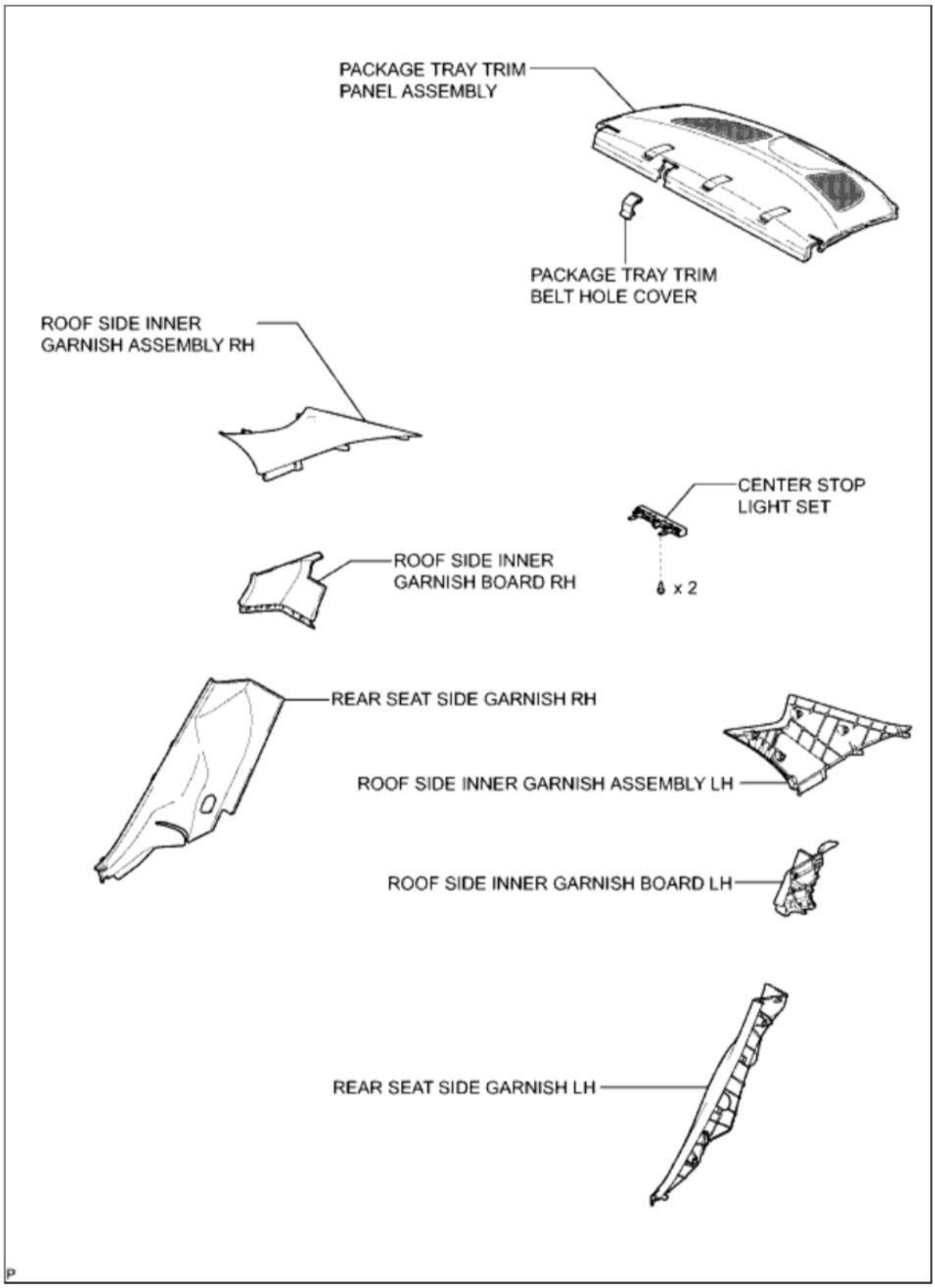
ILLUSTRATION

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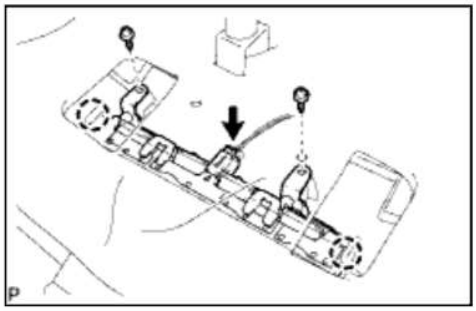
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VOC00EX
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/o Rear Spoiler): REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE SPARE WHEEL COVER INFO
2. REMOVE REAR SEAT HEADREST ASSEMBLY
3. REMOVE REAR SEAT CENTER HEADREST ASSEMBLY
4. REMOVE REAR SEAT CUSHION ASSEMBLY INFO
5. REMOVE REAR SEATBACK ASSEMBLY LH INFO
6. REMOVE REAR SEATBACK ASSEMBLY RH INFO
7. REMOVE REAR DOOR SCUFF PLATE LH INFO
8. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP LH INFO
9. REMOVE REAR SEAT SIDE GARNISH LH INFO
10. REMOVE ROOF SIDE INNER GARNISH BOARD LH INFO
11. REMOVE ROOF SIDE INNER GARNISH ASSEMBLY LH INFO
12. REMOVE REAR DOOR SCUFF PLATE RH INFO
13. REMOVE REAR DOOR OPENING TRIM WEATHERSTRIP RH INFO
14. REMOVE REAR SEAT SIDE GARNISH RH INFO
15. REMOVE ROOF SIDE INNER GARNISH BOARD RH INFO
16. REMOVE ROOF SIDE INNER GARNISH ASSEMBLY RH INFO
17. REMOVE PACKAGE TRAY TRIM BELT HOLE COVER INFO
18. REMOVE PACKAGE TRAY TRIM PANEL ASSEMBLY INFO
19. REMOVE CENTER STOP LIGHT SET

(a) Remove the 2 screws.

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(b) Disconnect the connector.

(c) Disengage the 2 claws and remove the center stop light set.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001UX7013X
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/o Rear Spoiler): INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT HIGH MOUNTED STOP LIGHT ASSEMBLY

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



(a) Connect a positive (+) lead from the battery to terminal 1 and a negative (-) lead to terminal 2.

(b) Check that the high mounted stop light comes on.

OK:

The light comes on.

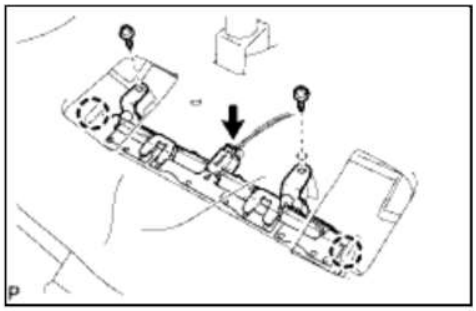
If the result is not as specified, replace the light assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VOA00EX
Title: LIGHTING (EXT): HIGH MOUNTED STOP LIGHT ASSEMBLY (w/o Rear Spoiler): INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL CENTER STOP LIGHT SET



(a) Engage the 2 claws and install the center stop light set with the 2 screws.

(b) Connect the connector.

2. INSTALL PACKAGE TRAY TRIM PANEL ASSEMBLY INFO

3. INSTALL PACKAGE TRAY TRIM BELT HOLE COVER INFO

4. INSTALL ROOF SIDE INNER GARNISH ASSEMBLY LH INFO

5. INSTALL ROOF SIDE INNER GARNISH BOARD LH INFO

6. INSTALL REAR SEAT SIDE GARNISH LH INFO

7. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP LH INFO

8. INSTALL REAR DOOR SCUFF PLATE LH INFO

9. INSTALL ROOF SIDE INNER GARNISH ASSEMBLY RH INFO

10. INSTALL ROOF SIDE INNER GARNISH BOARD RH INFO

11. INSTALL REAR SEAT SIDE GARNISH RH INFO

12. INSTALL REAR DOOR OPENING TRIM WEATHERSTRIP RH INFO

13. INSTALL REAR DOOR SCUFF PLATE RH INFO

14. INSTALL REAR SEATBACK ASSEMBLY LH INFO

15. INSTALL REAR SEATBACK ASSEMBLY RH INFO

16. INSTALL REAR SEAT CUSHION ASSEMBLY INFO

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17. INSTALL REAR SEAT CENTER HEADREST ASSEMBLY

18. INSTALL REAR SEAT HEADREST ASSEMBLY

19. INSTALL SPARE WHEEL COVER INFO

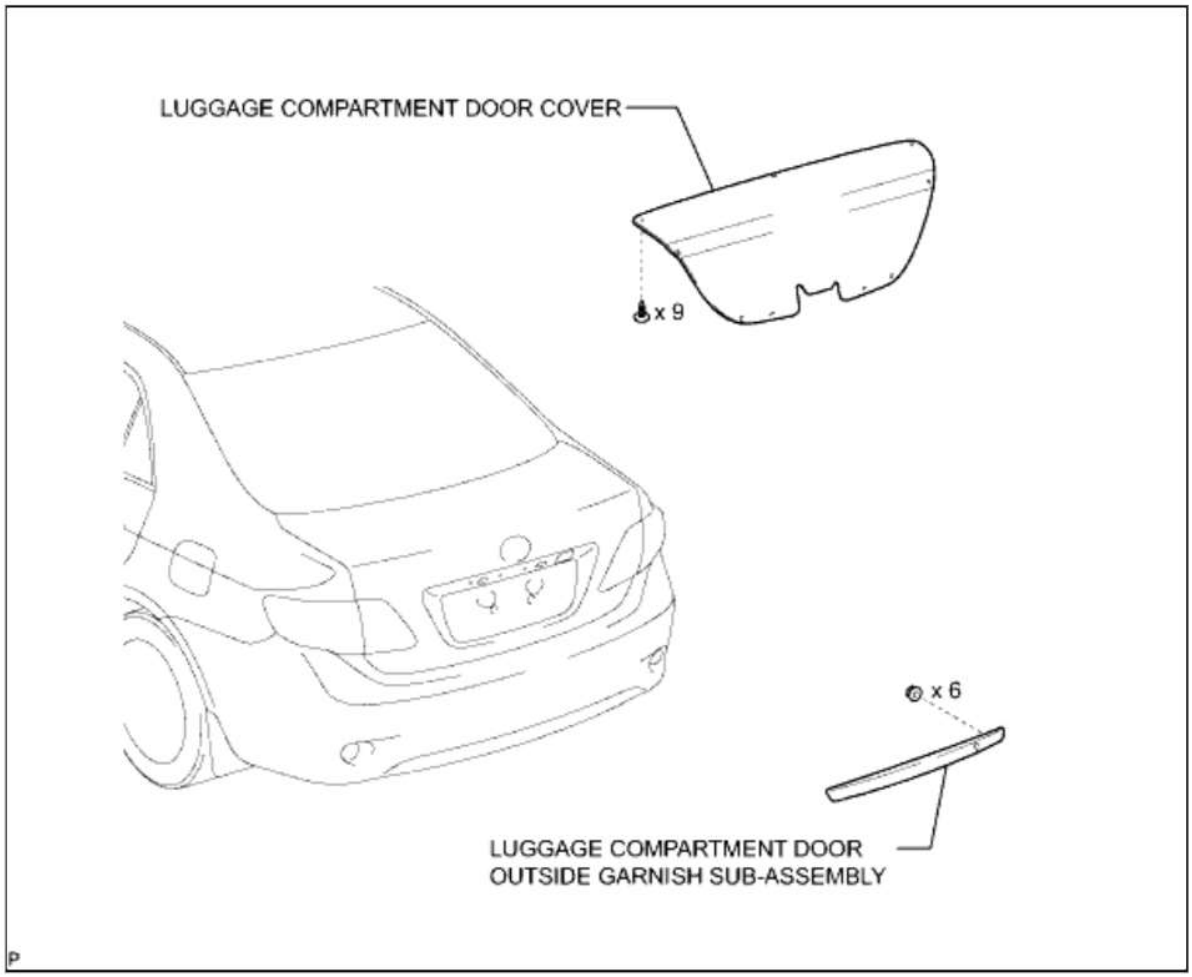


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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VO100BX
Title: LIGHTING (EXT): LICENSE PLATE LIGHT ASSEMBLY: COMPONENTS (2010 Corolla)		

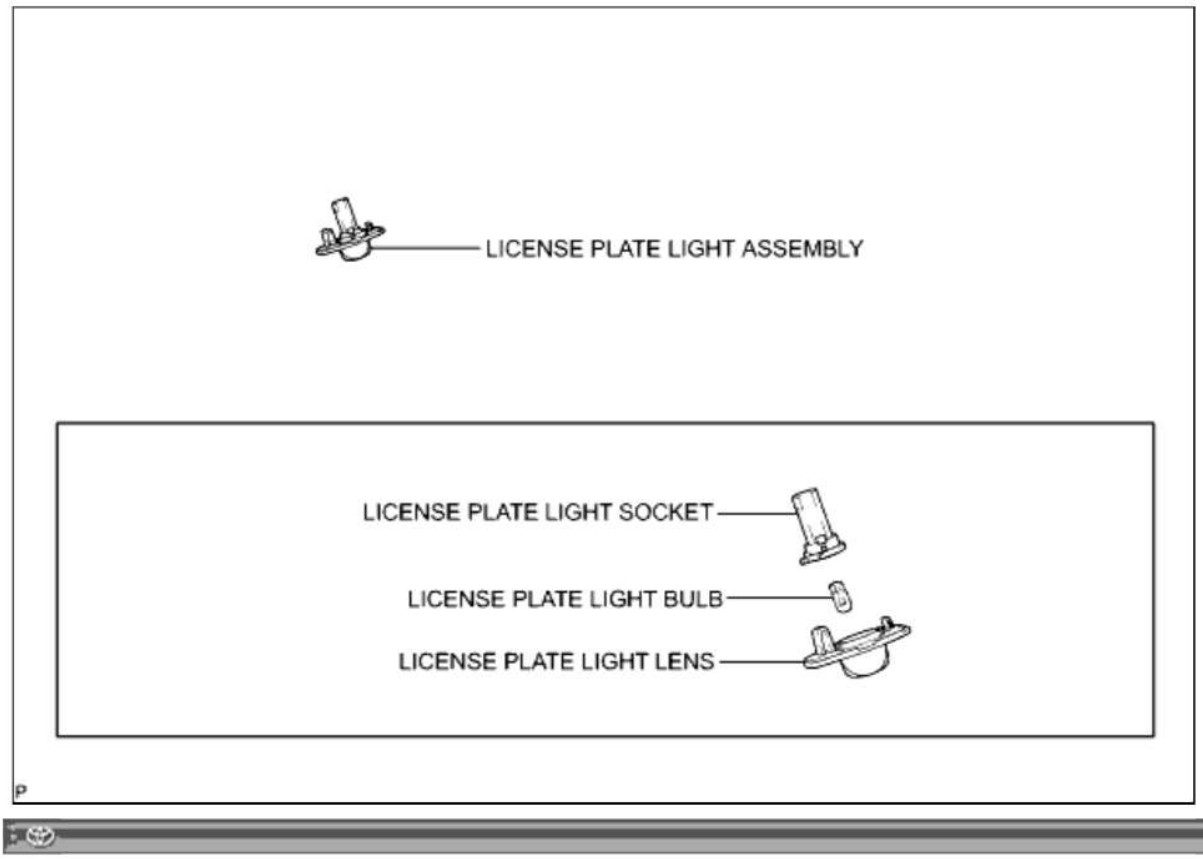
COMPONENTS

ILLUSTRATION



ILLUSTRATION

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VO200CX
Title: LIGHTING (EXT): LICENSE PLATE LIGHT ASSEMBLY: REMOVAL (2010 Corolla)		

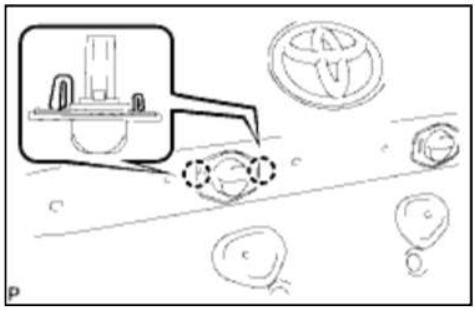
REMOVAL

1. REMOVE LUGGAGE COMPARTMENT DOOR COVER INFO

2. REMOVE LUGGAGE COMPARTMENT DOOR OUTSIDE GARNISH SUB-ASSEMBLY INFO

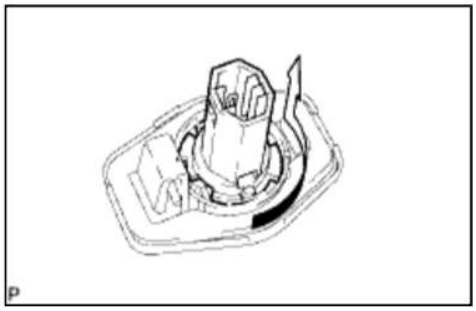
3. REMOVE LICENSE PLATE LIGHT ASSEMBLY

(a) Disconnect the connector.



(b) Disengage the 2 claws and remove the license plate light assembly.

4. REMOVE LICENSE PLATE LIGHT BULB



(a) Turn the license plate light bulb and the license plate light socket in the direction indicated by the arrow and remove them as a unit.

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

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002XVR00JX
Title: LIGHTING (EXT): LICENSE PLATE LIGHT ASSEMBLY: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT LICENSE PLATE LIGHT ASSEMBLY

Component without harness connected:
(License Plate Light Assembly)



(a) Connect a positive (+) lead from the battery to terminal 2 and a negative (-) lead to terminal 1.

(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.

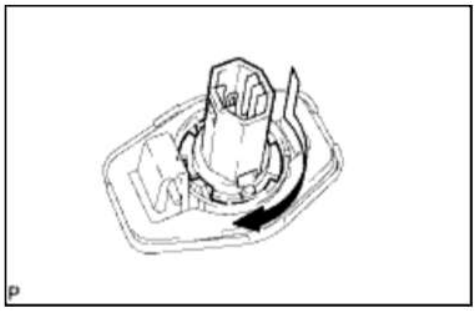
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VO000CX
Title: LIGHTING (EXT): LICENSE PLATE LIGHT ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

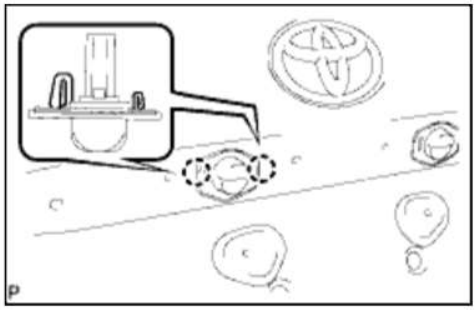
1. INSTALL LICENSE PLATE LIGHT BULB

(a) Install the license plate light blub to the license plate light socket.



(b) Turn the license plate light blub and the license plate light socket in the direction indicated by the arrow and install them as a unit.

2. INSTALL LICENSE PLATE LIGHT ASSEMBLY



(a) Engage the 2 claws to install the license plate light assembly.

(b) Connect the connector.

3. INSTALL LUGGAGE COMPARTMENT DOOR OUTSIDE GARNISH SUB-ASSEMBLY INFO

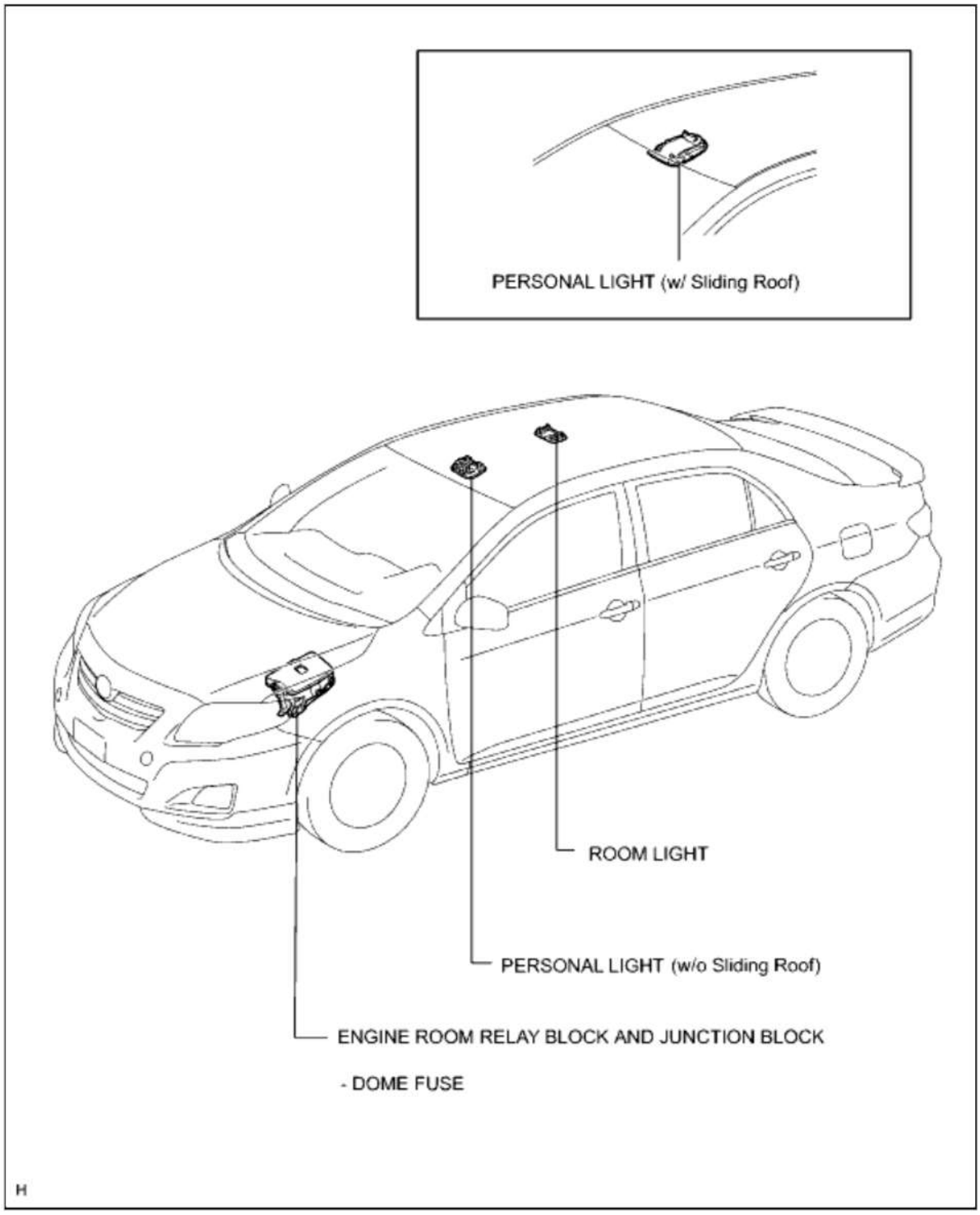
4. INSTALL LUGGAGE COMPARTMENT DOOR COVER INFO

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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CDX00PX
Title: LIGHTING (INT): LIGHTING SYSTEM: PARTS LOCATION (2010 Corolla)		

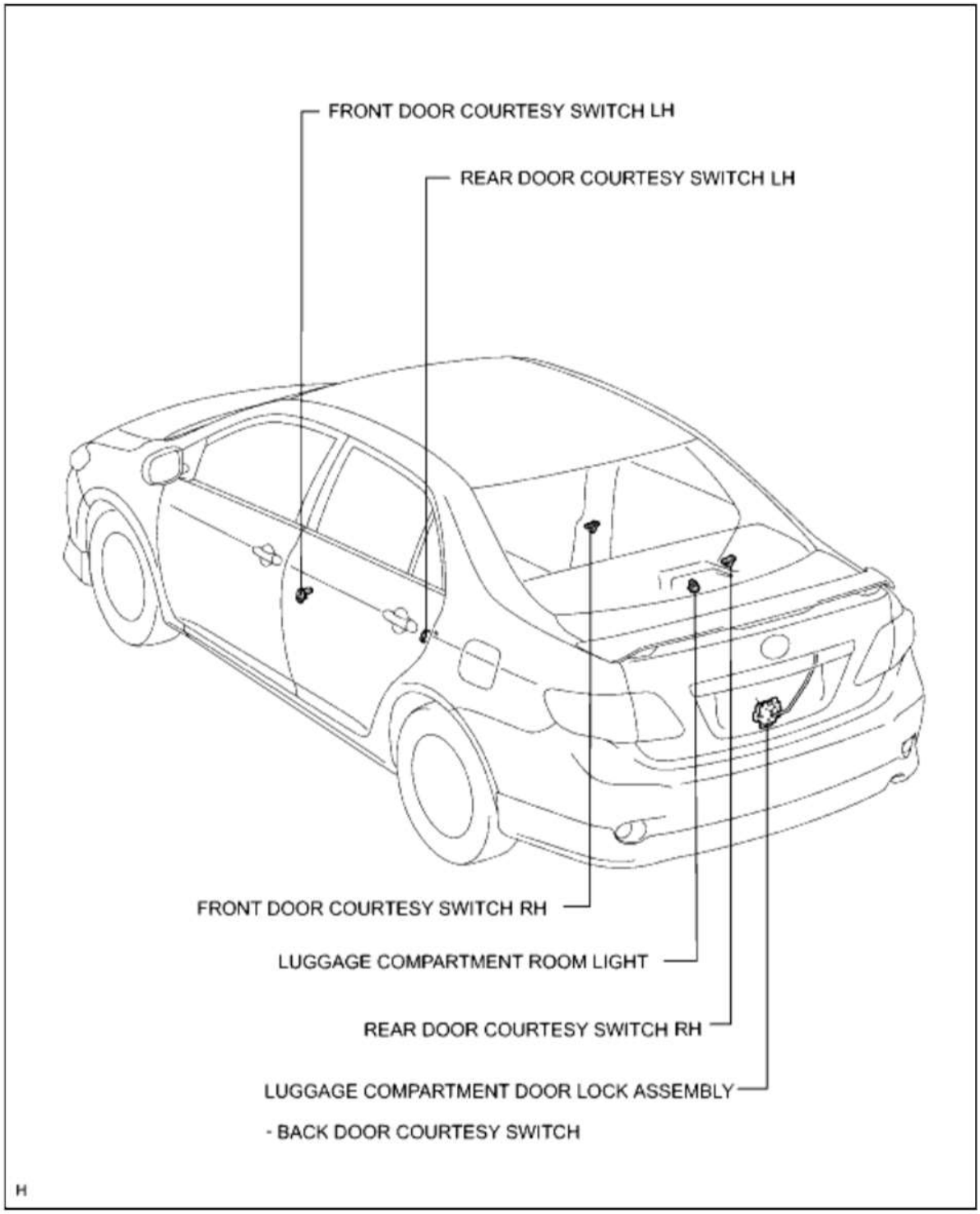
PARTS LOCATION

ILLUSTRATION



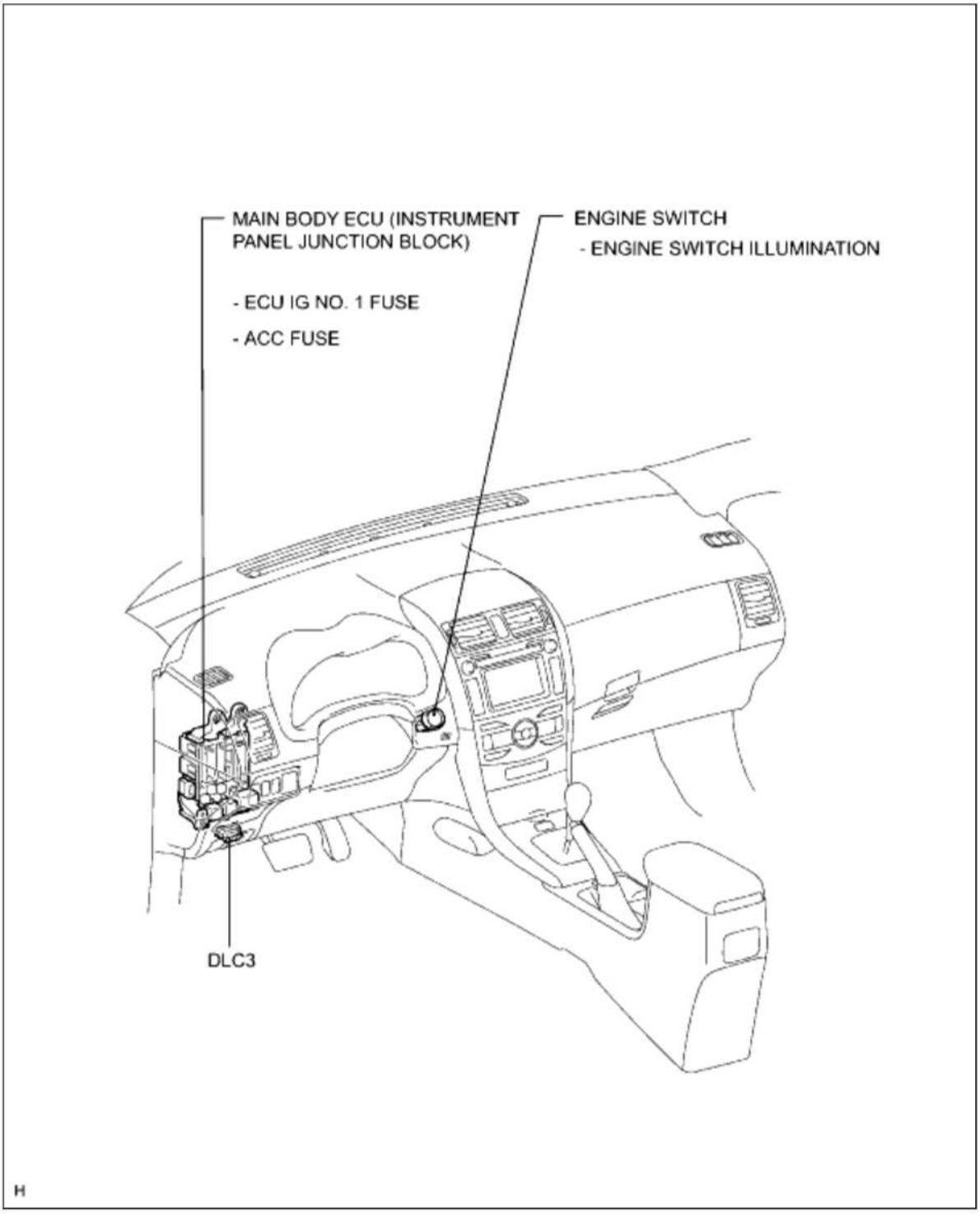
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ILLUSTRATION



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Last Modified: 3-10-2010	6.4 L	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000012A4017X
Title: LIGHTING (INT): LIGHTING SYSTEM: PRECAUTION (2010 Corolla)		

PRECAUTION

1. EXPRESSIONS OF IGNITION SWITCH

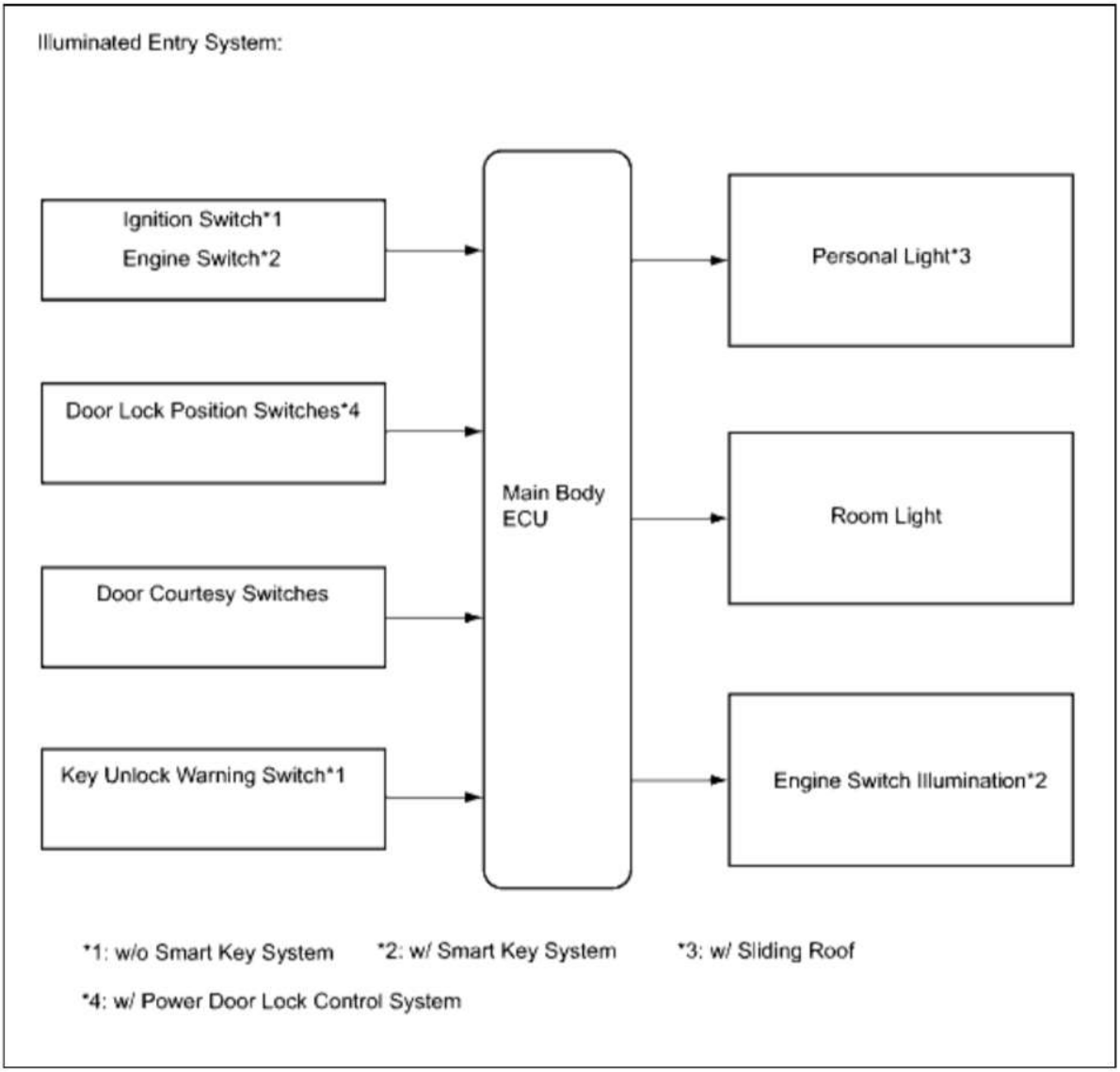
(a) The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

SWITCH TYPE		IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Expression	Ignition switch off	LOCK	Off
	Ignition switch ON	ON	On (IG)
	Ignition switch ACC	ACC	On (ACC)
	Engine start	START	Start

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CDZ00VX
Title: LIGHTING (INT): LIGHTING SYSTEM: SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CDY012X
Title: LIGHTING (INT): LIGHTING SYSTEM: SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

1. ILLUMINATED ENTRY SYSTEM

- The illuminated entry system provides convenience when getting in or out of the vehicle at night.
- This function is controlled by the main body ECU. The operation and condition of this control are described below.

OPERATION	CONDITION
Fade in	When any of the following conditions is met, the personal light*1, room light and engine switch illumination*2 fade in. o A key enters any actuation area around the doors when the ignition switch is off and all doors are closed*2. o Any door is opened. o Any door is unlocked when the ignition switch is off and all doors are closed*4. o Ignition switch is turned from ACC to off when all doors are closed.
Fade out immediately	When either of the following conditions is met, the personal light*1, room light and engine switch illumination*2 fade out. o Ignition switch is turned from off to ACC or ON when all doors are closed. o All doors are locked when the ignition switch is off*4.
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 are met, the main body ECU turns off the lights. o A key is not inserted in the ignition key cylinder*3. o A key is not in the actuation area*2. o 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. o A key is inserted in the ignition key cylinder*3. o A key is in the actuation area*2.

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OPERATION	CONDITION
	o Any of the doors is opened.

HINT:

- *1: w/ Sliding Roof
- *2: w/ Smart Key System
- *3: w/o Smart Key System
- *4: w/ Power Door Lock Control System

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000PKJ031X
Title: LIGHTING (INT): LIGHTING SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the lighting system.
- *: Use the Techstream.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**CUSTOMER PROBLEM ANALYSIS AND SYMPTOM CHECK**

NEXT

3.	**INSPECT BATTERY VOLTAGE**

Standard voltage:
11 to 14 V

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

NEXT

4.	**INSPECT CAN COMMUNICATION SYSTEM***

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(a) Use the Techstream to check if the CAN communication system is functioning normally.

Result:

RESULT	PROCEED TO
CAN Communication System DTC is not output	A
CAN Communication System DTC is output	B

B ▶ Go to CAN communication system

A

5.	PROBLEM SYMPTOMS TABLE

Result:

RESULT	PROCEED TO
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ▶ Go to step 7

A

6.	OVERALL ANALYSIS AND TROUBLESHOOTING*

(a) Data List/Active Test INFO

(b) Terminals of ECU INFO

NEXT

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7.	ADJUST, REPAIR OR REPLACE

NEXT

8.	CONFIRMATION TEST

NEXT END

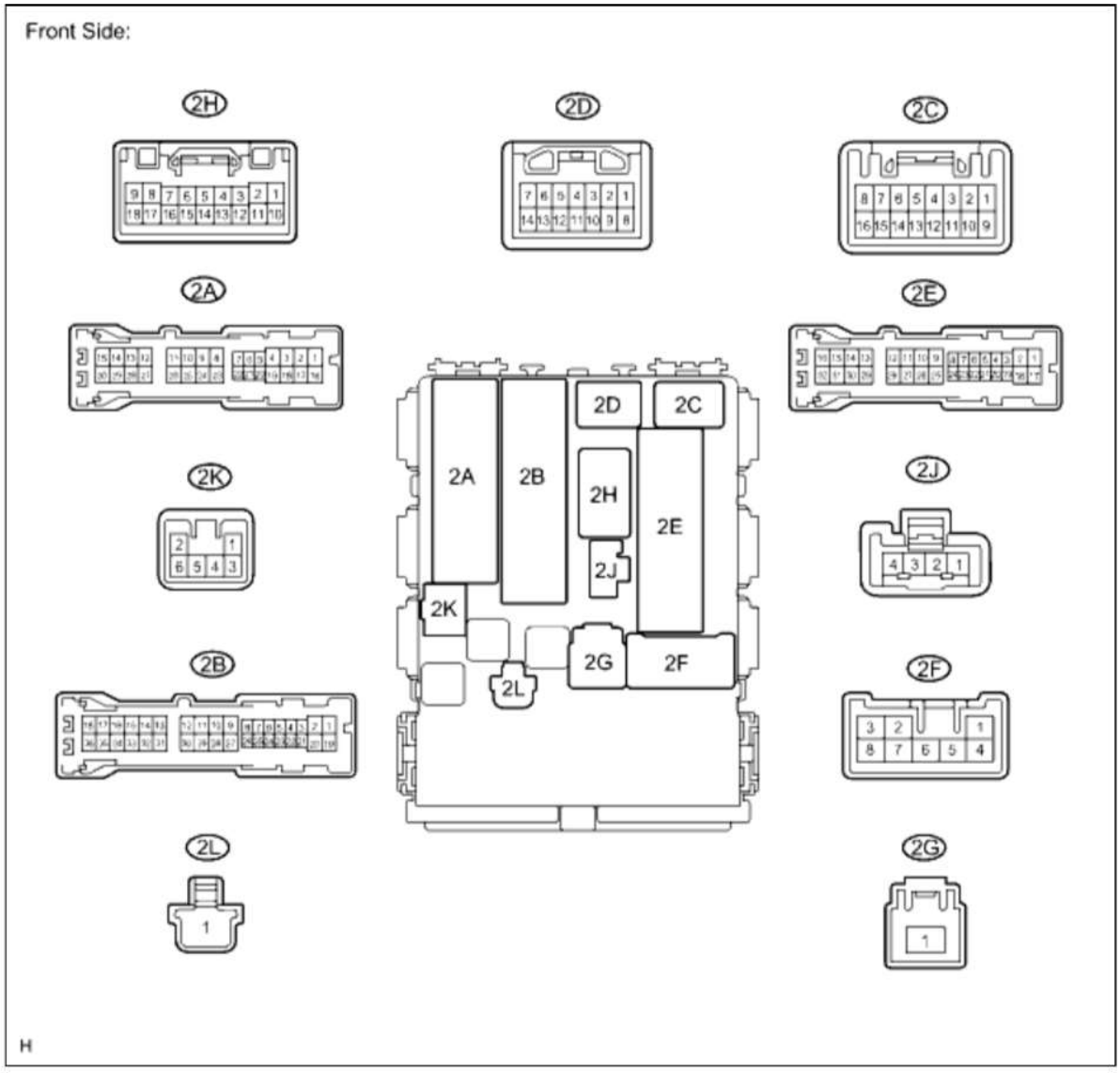
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CE100XX
Title: LIGHTING (INT): LIGHTING SYSTEM: TERMINALS OF ECU (2010 Corolla)		

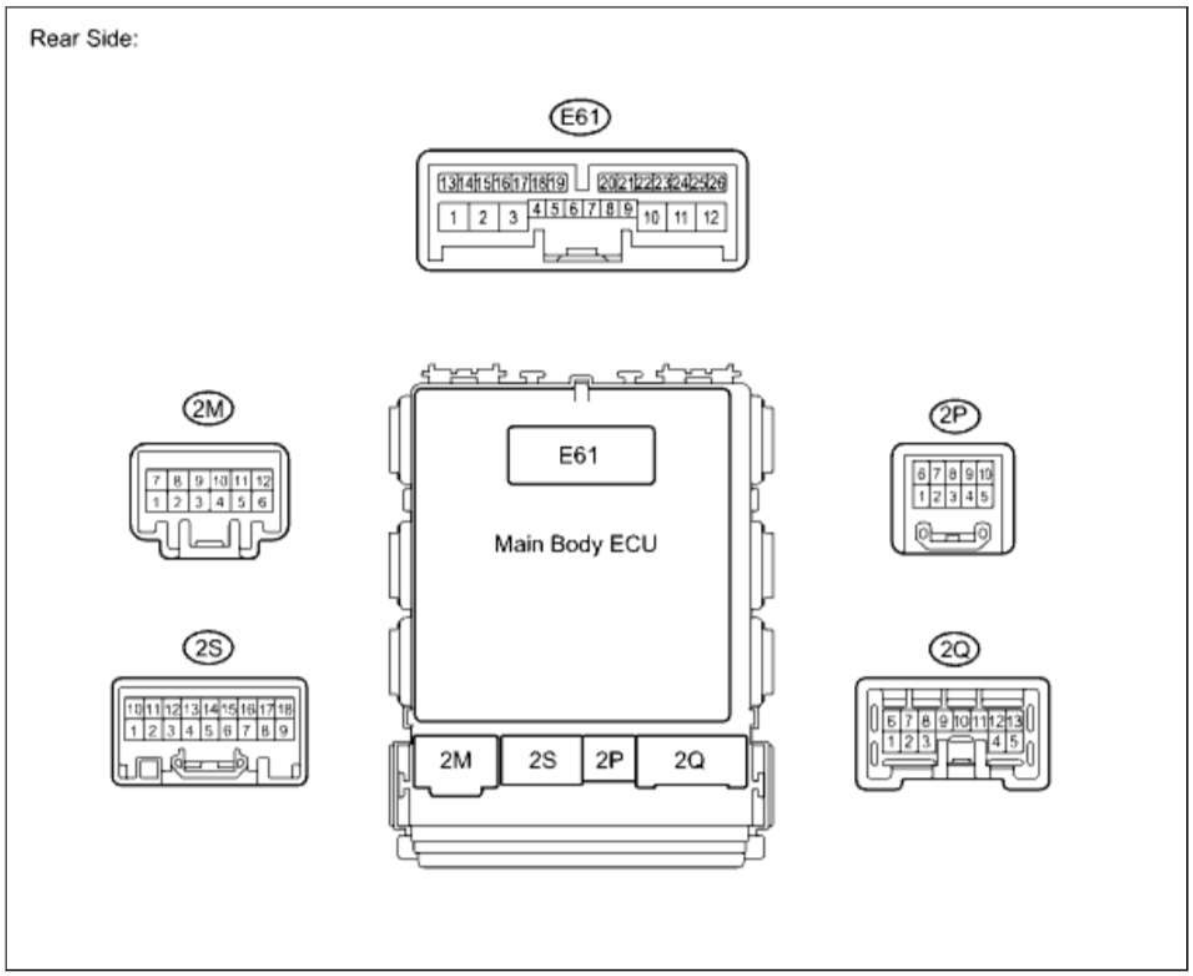
TERMINALS OF ECU

1. CHECK MAIN BODY ECU (w/o Smart Key System)

(a) Disconnect the 2B, 2E, 2F, and 2G instrument junction block connectors.



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(b) Measure the voltage and resistance between the wire harness side connectors and body ground.

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2B-30 (BECU) - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V
2F-5 (ACC) - Body ground	W*1 - Body ground L*2 - Body ground	ACC power supply	Always	11 to 14 V
2G-1 - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V

Standard Resistance:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

HINT:

- *1: for TMC Made
- *2: except TMC Made

(c) Reconnect the 2B, 2E, 2F and 2G instrument panel junction block connectors.

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

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-7 (LGCY) - Body ground	LG - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door open	Below 1 V
			Luggage compartment door closed	11 to 14 V
2A-21 (DCTY) - Body ground	W*1 - Body ground V*2 - Body ground	Driver side door courtesy switch input	Driver side door open	Below 1 V
			Driver side door closed	Pulse generation
2C-6 (DCTY) - Body ground	W*1 - Body ground R*2 - Body ground	Driver side door courtesy switch input	Driver side door open	Below 1 V
			Driver side door closed	Pulse generation
2E-19 (RCTY) - Body ground	LG*1 - Body ground Y*2 - Body ground	Rear door courtesy switch RH input	Rear door RH open	Below 1 V
			Rear door RH closed	Pulse generation
2E-20 (PCTY) - Body ground	BR*1 - Body ground BE*2 - Body ground	Front passenger side door courtesy switch input	Front passenger side door open	Below 1 V
			Front passenger side door closed	Pulse generation
2K-2 (ILE) - Body ground	W*1 - Body ground GR*2 - Body ground	Interior light drive output	Interior light switch in DOOR position and interior light ON	Below 1 V
			Interior light switch in DOOR position and interior light OFF	11 to 14 V
E61-5 (LSWP) - Body ground	B*1 - Body ground	Front passenger side door lock position switch	Front passenger door unlocked	Below 1 V

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
	R*2 - Body ground	input	Front passenger door locked	Pulse generation
E61-13 (LCTY) - Body ground	SB*1 - Body ground B*2 - Body ground	Rear door courtesy switch LH input	Rear door LH open	Below 1 V
			Rear door LH closed	Pulse generation
E61-21 (LSWD) - Body ground	Y - Body ground	Driver side door lock position switch input	Driver side door unlocked	Below 1 V
			Driver side door locked	Pulse generation
E61-24 (LSR) - Body ground	Y*1 - Body ground G*2 - Body ground	Rear door lock position switch input	Rear door LH or RH unlocked	Below 1 V
			Rear door LH and RH locked	Pulse generation

If the result is not as specified, the main body ECU (Instrument panel junction block) may have a malfunction.

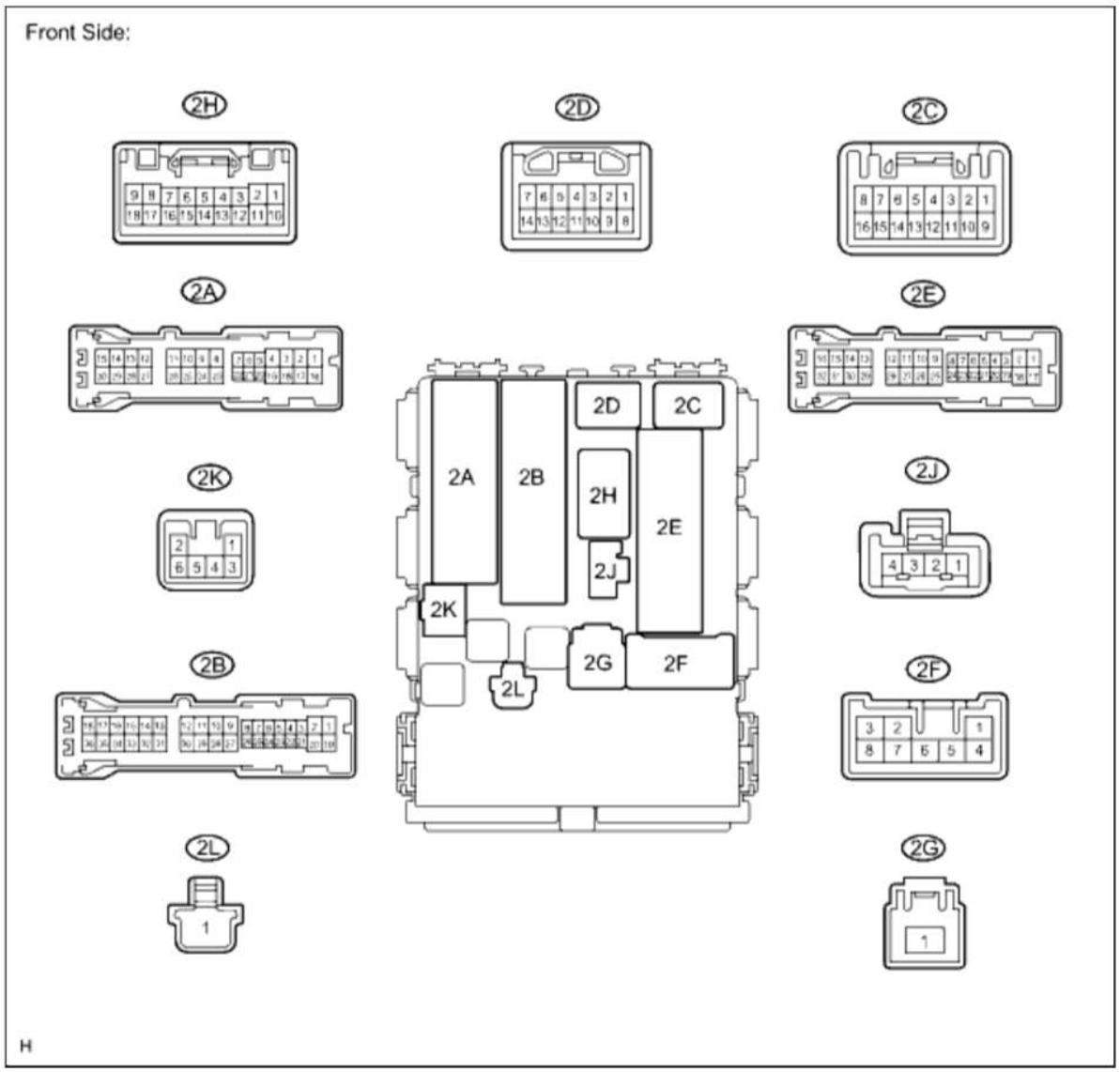
HINT:

- *1: for TMC Made
- *2: except TMC Made

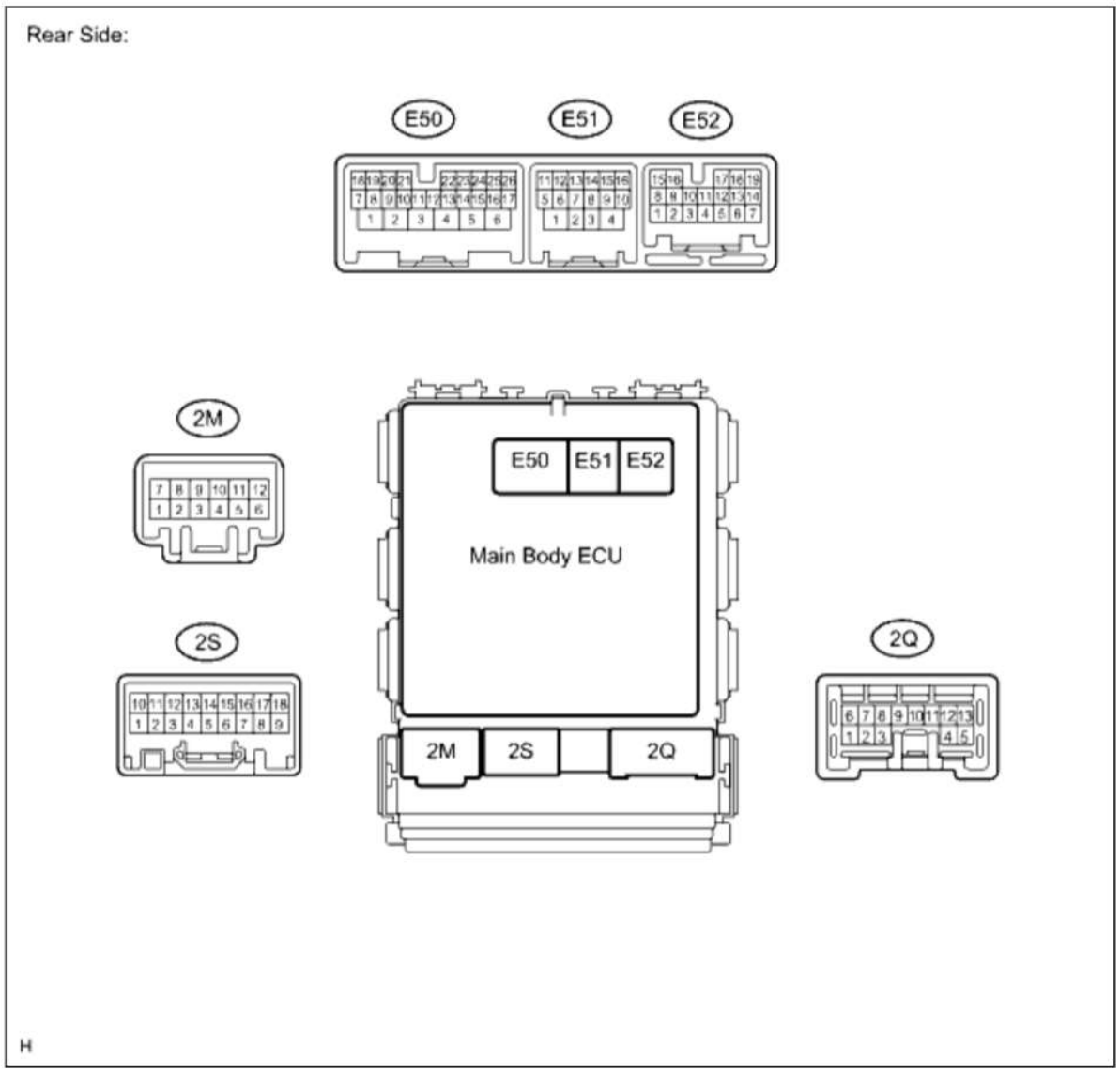
2. CHECK MAIN BODY ECU (w/ Smart Key System)

(a) Disconnect the 2B, 2E, 2F, and 2G instrument junction block connectors.

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(b) Measure the voltage and resistance between the wire harness side connectors and body ground.

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2B-30 (BECU)*3 - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V
2F-5 (ACC) - Body ground	W*1 - Body ground L*2 - Body ground	ACC power supply	Always	11 to 14 V
2G-1 - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V

Standard Resistance:

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2E-17 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the 2B, 2E, 2F, 2G and E51 instrument panel junction block connectors.

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

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
2A-7 (LGCY) - Body ground	LG - Body ground	Luggage compartment door courtesy switch input	Luggage compartment door open	Below 1 V
			Luggage compartment door closed	Pulse generation
2A-21 (DCTY) - Body ground	W*1 - Body ground V*2 - Body ground	Driver side door courtesy switch input	Driver side door open	Below 1 V
			Driver side door closed	Pulse generation
2E-19 (RCTY) - Body ground	LG*1 - Body ground Y*2 - Body ground	Rear door courtesy switch RH input	Rear door RH open	Below 1 V
			Rear door RH closed	Pulse generation
2E-20 (PCTY) - Body ground	BR*1 - Body ground BE*2 - Body ground	Front passenger side door courtesy switch input	Passenger side door open	Below 1 V
			Passenger side door closed	Pulse generation
2K-2 (ILE) - Body ground	W*1 - Body ground GR*2 - Body ground	Interior light driver output	Interior light switch in DOOR position and interior light ON	Below 1 V
			Interior light switch in DOOR position and interior light OFF	11 to 14 V
E50-8 (LCTY) - Body ground	SB*1 - Body ground B*2 - Body ground	Rear left door courtesy switch input	Rear door LH open	Below 1 V
			Rear door RH closed	Pulse generation

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E50-10 (LSWP) - Body ground	B*1 - Body ground R*2 - Body ground	Front passenger side door lock position switch input	Front passenger door unlocked	Below 1 V
			Front passenger door locked	Pulse generation
E50-25 (LSWD) - Body ground	Y - Body ground	Driver side door lock position switch input	Driver side door locked	Pulse generation
			Driver side door unlocked	Below 1 V
E52-10 (LSR) - Body ground	Y*1 - Body ground G*2 - Body ground	Rear door lock position switch input	Rear door LH or RH unlocked	Below 1 V
			Rear door LH and RH locked	Pulse generation

If the result is not as specified, the main body ECU (Instrument panel junction block assembly) may have a malfunction.

HINT:

- *1: for TMC Made
- *2: except TMC Made
- *3: w/o Smart Key System

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003HLW002X
Title: LIGHTING (INT): LIGHTING SYSTEM: OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. INSPECT ILLUMINATED ENTRY SYSTEM OPERATION

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The illuminated entry system illuminates the lights below.

- Personal light*1
- Room light
- Engine switch illumination*2

(a) The operation and condition of this control are described below.

OPERATION	CONDITION
Fade in	When any of the following conditions is met, the personal light*1, room light and engine switch illumination*2 fade in. • A key enters any actuation area around the doors when the ignition switch is off and all doors are closed*2. • Any door is opened. • Any door is unlocked when the ignition switch is off and all doors are closed*4. • Ignition switch is turned from ACC to off when all doors are closed.
Fade out immediately	When either of the following conditions is met, the personal light*1, room light and engine switch illumination*2 fade out. • Ignition switch is turned from off to ACC or ON when all doors are closed. • All doors are locked when the ignition switch is off*4.
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 are met, the main body ECU turns off the lights. • A key is not inserted in the ignition key cylinder*3. • A key is not in the actuation area*2. • 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.

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OPERATION	CONDITION
	• A key is inserted in the ignition key cylinder*3. • A key is in the actuation area*2. • Any of the doors is opened.

HINT:

- *1: w/ Sliding Roof
- *2: w/ Smart Key System
- *3: w/o Smart Key System
- *4: w/ Power Door Lock Control System

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000TMF02SX
Title: LIGHTING (INT): LIGHTING SYSTEM: CUSTOMIZE PARAMETERS (2010 Corolla)		

CUSTOMIZE PARAMETERS

HINT:

The following items can be customized.

NOTICE:

- Before attempting to customize vehicle settings, confirm whether it is possible to make the change that the customer has requested.
- Be sure to record the current value before customizing.
- Before troubleshooting the lighting system, pay attention because there is a possibility that a function has been disabled by customizing. If the wireless operation does not function, check that the wireless operation has not been disabled by customizing, then perform troubleshooting.

Illuminated Entry

DISPLAY	DEFAULT	CONTENTS	SETTING
Lighting Time	15 s	Changes the lighting time of the personal light*1, room light and engine switch illumination*2 after closing all of the doors. (It will quickly fade out in case of turning the ignition switch to ON)	7.5 s / 15 s / 30 s
I/L when ACC OFF	ON	Lights up the personal light*1, room light and engine switch illumination*2 when the ignition switch is turned from ACC or ON to off.	ON / OFF
I/L ON W/Door Key Unlock*3	ON	Lights up the personal light*1, room light and engine switch illumination when the doors are unlocked using mechanical key or door control transmitter.	ON / OFF

HINT:

- *1: w/ Sliding Roof
- *2: w/ Smart Key System
- *2: w/ Power Door Lock Control System

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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CE201BX
Title: LIGHTING (INT): LIGHTING SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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.

Illuminated Entry System

SYMPTOM	SUSPECTED AREA	SEE PAGE
Only personal light*1 does not illuminate.	Bulb	-
	Map light assembly	INFO
	Harness or connector	-
Only room light does not illuminate.	Bulb	-
	No. 1 room light assembly	INFO
	Harness or connector	-
Interior lights (personal light*1 and room light) controlled by illuminated entry system does not operate normally.	Door courtesy switch circuit	INFO
	Door lock position switch circuit	INFO
	IG signal circuit	INFO
	ACC signal circuit	INFO
	Interior light circuit	INFO
	Main body ECU (Instrument panel junction block)	-
Engine switch illumination*2 controlled by illuminated entry system does not operate normally. (Interior lights operate normally)	Engine switch illumination circuit	INFO
	Main body ECU (Instrument panel junction block)	-
Battery saving function does not operate.	Door courtesy switch circuit	INFO
	IG signal circuit	INFO
	Main body ECU (Instrument panel junction block)	-

Personal Light

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Personal light does not illuminate.	Bulb	-
	Map light assembly	INFO
	Harness or connector	-

Luggage Compartment Room Light

SYMPTOM	SUSPECTED AREA	SEE PAGE
Luggage compartment room light does not illuminate.	Bulb	-
	Luggage compartment light assembly	INFO
	Harness or connector	-

HINT:

- *1: w/ Sliding Roof
- *2: w/ Smart Key System



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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000PKV027X
Title: LIGHTING (INT): LIGHTING SYSTEM: DATA LIST / ACTIVE TEST (2010 Corolla)		

DATA LIST / ACTIVE TEST

1. READ DATA LIST

HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

CAUTION:

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) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the Data List according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ACC SW	Ignition switch ACC signal/ON or OFF	ON: Ignition switch ACC OFF: Ignition switch off	-
IG SW	Ignition switch IG signal/ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-
D Door Courtesy SW	Driver side door courtesy switch signal/ON or OFF	ON: Driver side door open OFF: Driver side door closed	-
P Door Courtesy SW	Front passenger side door courtesy switch signal/ON or OFF	ON: Front passenger side door open OFF: Front passenger side door closed	-
RR Door Courtesy SW	Rear door courtesy switch RH signal/ON or OFF	ON: Rear door RH open OFF: Rear door RH closed	-
RL Door Courtesy SW	Rear door courtesy switch LH signal/ON or OFF	ON: Rear door LH open OFF: Rear door LH closed	-

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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	-
P-Door Lock Pos SW	Front passenger side door lock position switch signal/ON or OFF	ON: Front passenger side door unlocked OFF: Front passenger side door locked	-
RR-Door Lock Pos SW	Rear door lock position switch RH signal/ON or OFF	ON: Rear door LH or RH unlocked OFF: Rear door LH and RH locked	-
RL-Door Lock Pos SW	Rear door lock position switch LH signal/ON or OFF	ON: Rear door LH or RH unlocked OFF: Rear door LH and RH locked	-
Luggage Courtesy SW	Luggage compartment door courtesy switch signal/ON or OFF	ON: Luggage compartment door open OFF: Luggage compartment door closed	-

2. PERFORM ACTIVE TEST

HINT:

Using the Techstream to perform Active Tests allows relays, VSVs, 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 trouble shooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Active Test.

(e) Perform the Active Test according to the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Illuminated Entry System	Personal light*1, room light and engine switch illumination*2 (Personal switch OFF, interior light switch in DOOR position, and all doors closed.)	ON/OFF	-

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TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Indicator for Lighting*2	Engine switch illumination (All doors are closed)	ON/OFF	-

HINT:

- *1: w/ Sliding Roof
- *2: w/ Smart Key System



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000PKS027X
Title: LIGHTING (INT): LIGHTING SYSTEM: DIAGNOSIS SYSTEM (2010 Corolla)		

DIAGNOSIS SYSTEM

1. DESCRIPTION

(a) Lighting system data can be read from the Data Link Connector 3 (DLC3) of the vehicle. When the system seems to be malfunctioning, use the Techstream to check for malfunctions and perform repairs.

2. CHECK DLC3

(a) Check the DLC3 INFO .

3. INSPECT BATTERY VOLTAGE

Standard voltage:
11 to 14 V

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



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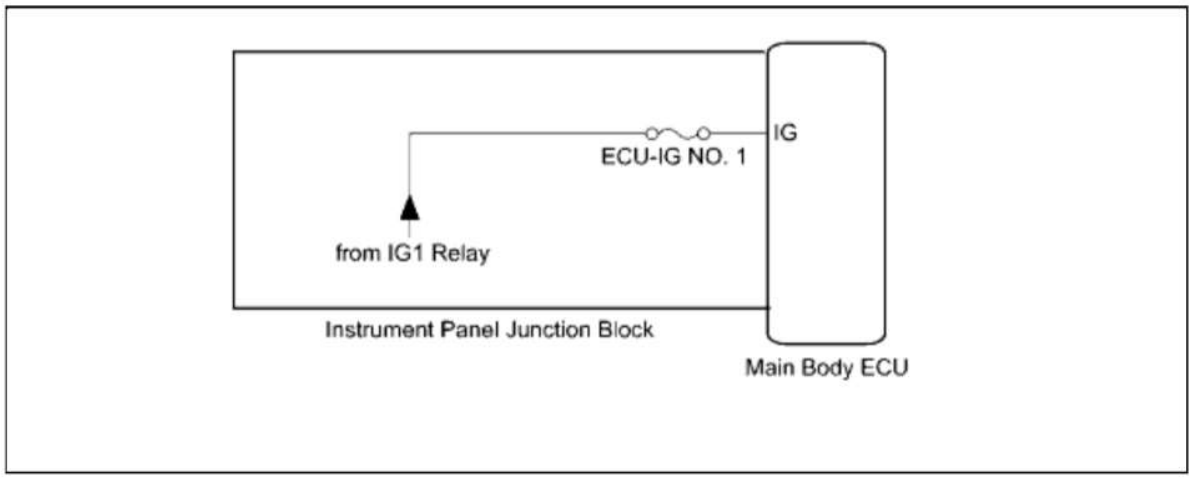
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011SQ01OX
Title: LIGHTING (INT): LIGHTING SYSTEM: IG Signal Circuit (2010 Corolla)		

IG Signal Circuit

DESCRIPTION

The main body ECU receives the IG signal to control the illuminated entry system.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**READ VALUE USING TECHSTREAM**

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the display on the Techstream.

Main Body (Main Body ECU)

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
IG SW	Ignition switch IG signal/ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-

OK:
Normal conditions listed above are displayed.

NG ▶ **INSPECT FUSE (ECU-IG NO. 1)**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT FUSE (ECU-IG NO. 1)**

(a) Remove the ECU-IG No. 1 fuse from the instrument panel junction block.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
ECU-IG No. 1 fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

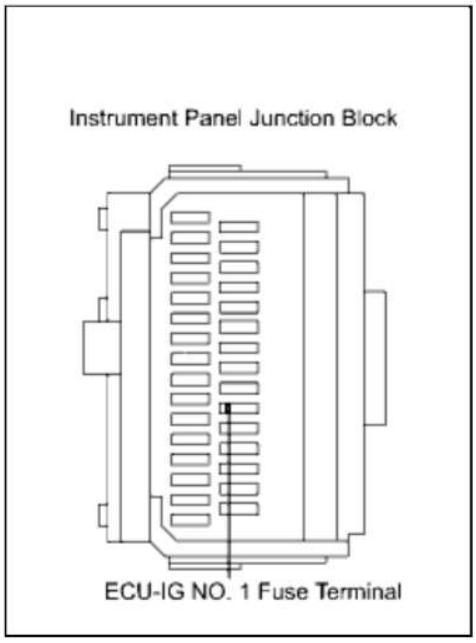
3.	**CHECK HARNESS AND CONNECTOR (IG POWER SOURCE CIRCUIT)**

(a) Measure the voltage between the loading slot of the fuse and body ground.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION

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ECU-IG No. 1 fuse terminal - Body ground	Ignition switch off	Below 1 V
	Ignition switch ON	11 to 14 V

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

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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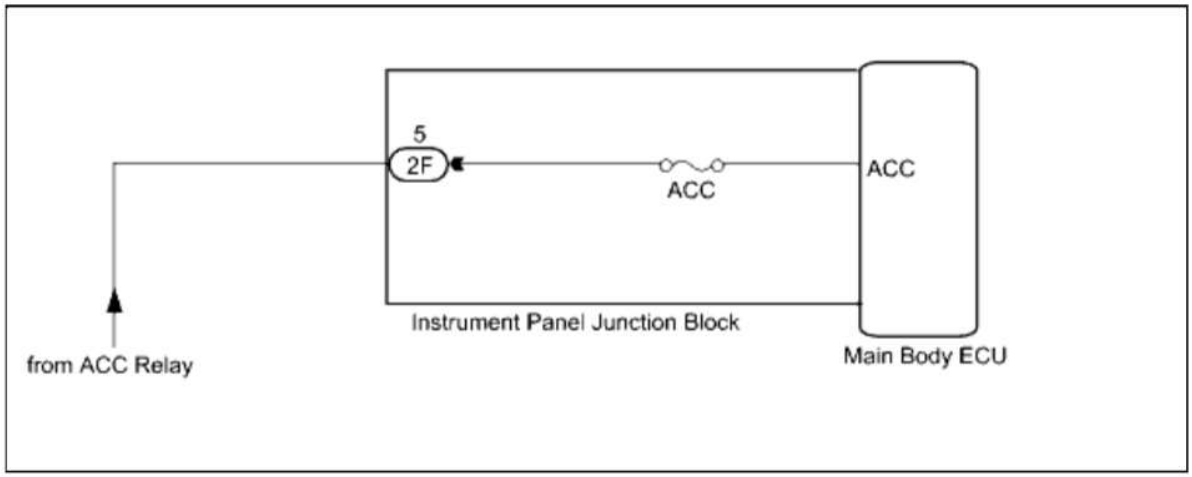
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000W5T01WX
Title: LIGHTING (INT): LIGHTING SYSTEM: ACC Signal Circuit (2010 Corolla)		

ACC Signal Circuit

DESCRIPTION

The main body ECU receives the ACC signal to control the illuminated entry system.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**READ VALUE USING TECHSTREAM**

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the display on the Techstream.

Main Body (Main Body ECU)

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TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ACC SW	Ignition switch ACC signal/ON or OFF	ON: Ignition switch ACC OFF: Ignition switch off	-

OK:
Normal conditions listed above are displayed.

NG ▶ **INSPECT FUSE (ACC)**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT FUSE (ACC)**

(a) Remove the ACC fuse from the instrument panel junction block.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
ACC fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK
▼

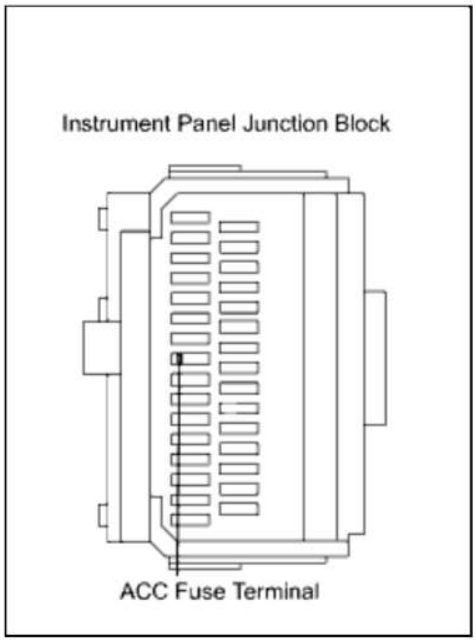
3.	**CHECK HARNESS AND CONNECTOR (ACC POWER SOURCE CIRCUIT)**

(a) Measure the voltage between the loading slot of the fuse and body ground.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
ACC fuse terminal -	Ignition switch	Below 1 V

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Body ground	off	
	Ignition switch ACC	11 to 14 V

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

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011T301YX
Title: LIGHTING (INT): LIGHTING SYSTEM: Door Courtesy Switch Circuit (2010 Corolla)		

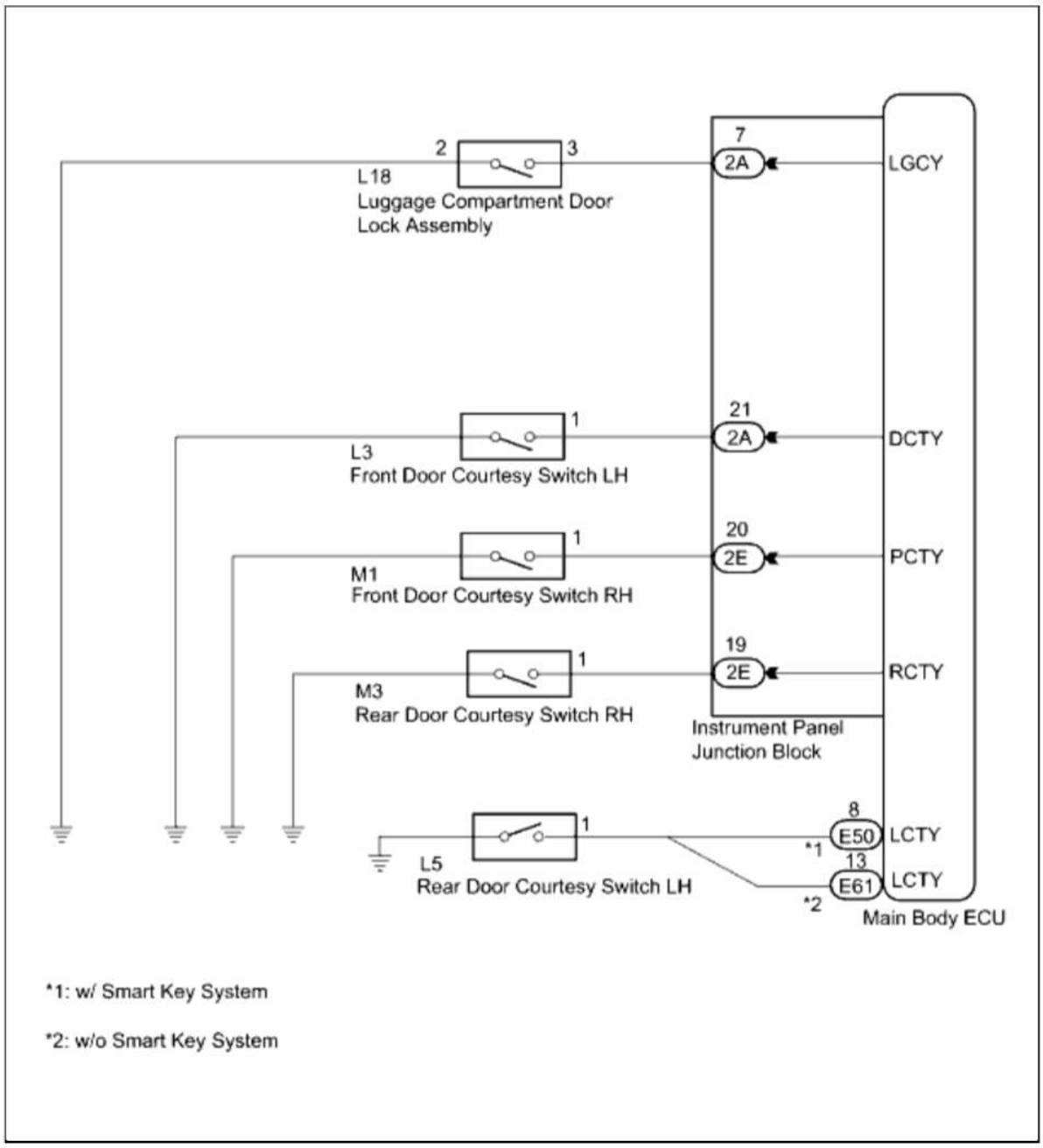
Door Courtesy Switch Circuit

DESCRIPTION

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

WIRING DIAGRAM

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INSPECTION PROCEDURE

PROCEDURE

1.	**READ VALUE USING TECHSTREAM**

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

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(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the display on the Techstream.

Main Body (Main Body ECU)

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
D Door Courtesy SW	Driver side door courtesy switch signal/ON or OFF	ON: Driver side door is open OFF: Driver side door is closed	-
P Door Courtesy SW	Front passenger side door courtesy 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 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 switch LH signal/ON or OFF	ON: Rear door LH is open OFF: Rear door LH is closed	-
Luggage 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 ▶ **INSPECT DOOR COURTESY SWITCH**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT DOOR COURTESY SWITCH**

(a) Inspect the front door courtesy switch INFO, rear door courtesy switch INFO, or luggage compartment door courtesy switch INFO.

OK:
Door courtesy switches are normal.

NG ▶ **REPLACE DOOR COURTESY SWITCH**

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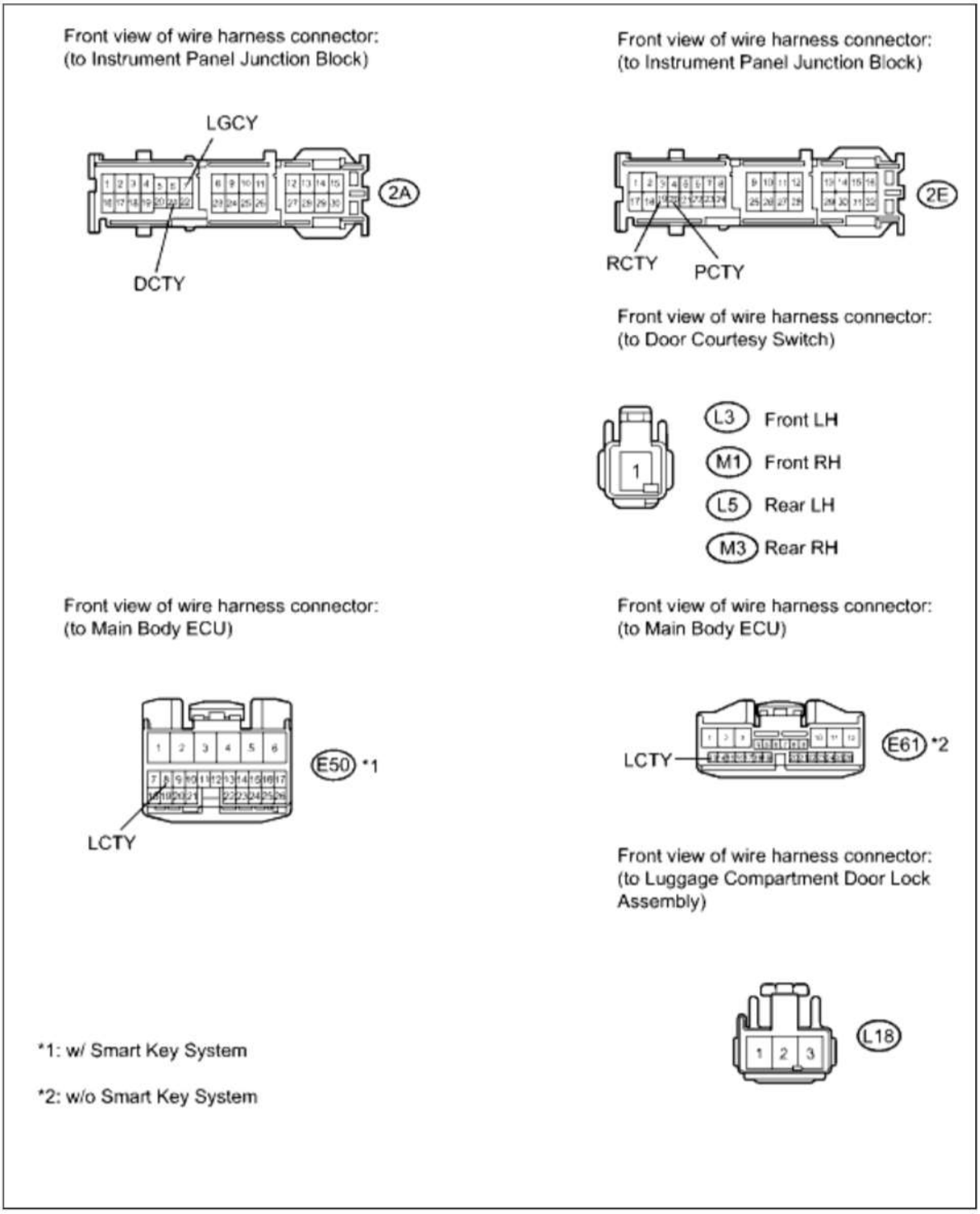
OK

▼

3.	**CHECK HARNESS AND CONNECTOR (INSTRUMENT PANEL JUNCTION BLOCK - SWITCH)**

(a) Disconnect the E50*1 or E61*2 main body ECU connector.

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(b) Disconnect the 2A and 2E instrument panel junction block connectors.

(c) Disconnect the L18 door lock assembly connector.

(d) Disconnect each door courtesy switch connector.

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

Standard Resistance:

Front LH

Front RH

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Rear LH
Rear RH
Luggage Compartment Door

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2A-21 (DCTY) - L3-1	Always	Below 1 Ω
L3-1 - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2E-20 (PCTY) - M1-1	Always	Below 1 Ω
M1-1 - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E50-8 (LCTY)*1 - L5-1 E61-13 (LCTY)*2 - L5-1	Always	Below 1 Ω
L5-1 - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2E-19 (RCTY) - M3-1	Always	Below 1 Ω
M3-1 - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2A-7 (LGCY) - L18-3	Always	Below 1 Ω
L18-3 - Body ground	Always	10 kΩ or higher
L18-2 - Body ground	Always	Below 1 Ω

HINT:

- *1: w/ Smart Key System
- *2: w/o Smart Key System

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

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011T8022X
Title: LIGHTING (INT): LIGHTING SYSTEM: Door LOCK Position Circuit (2010 Corolla)		

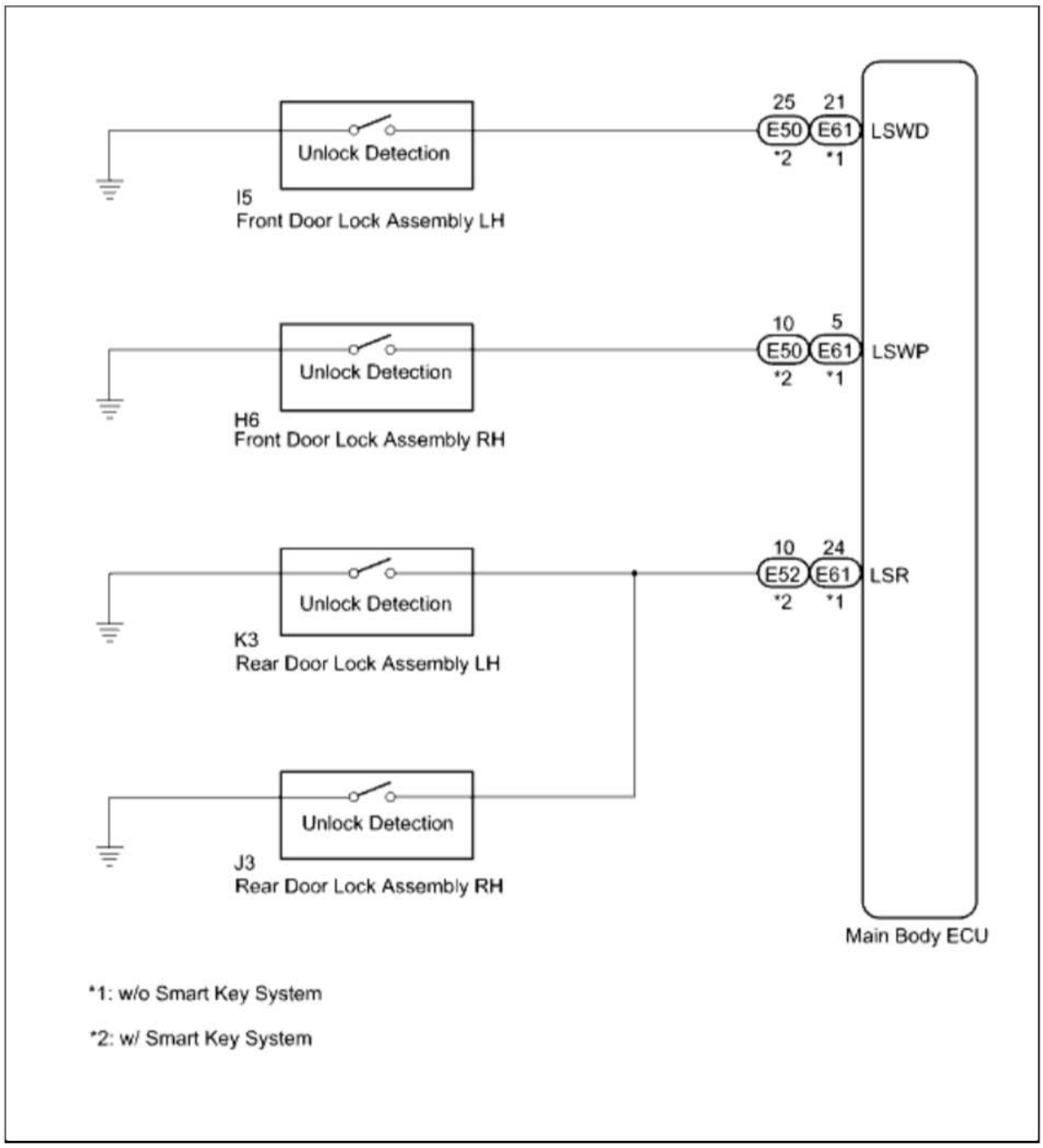
Door LOCK Position Circuit

DESCRIPTION

The main body ECU receives door lock position switch signals to control the illuminated entry system.

WIRING DIAGRAM

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INSPECTION PROCEDURE

PROCEDURE

1.	**READ VALUE USING TECHSTREAM**

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

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(d) Enter the following menus: Body Electrical / Main Body / Data List.

(e) Read the display on the Techstream.

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	-
P-Door Lock Pos SW	Front passenger side door lock position switch signal/ON or OFF	ON: Front passenger side door unlocked OFF: Front passenger side locked	-
RL-Door Lock Pos SW	Rear door lock position switch LH signal/ON or OFF	ON: Rear door LH or RH unlocked OFF: Rear door LH and RH locked	-
RR-Door Lock Pos SW	Rear door lock position switch RH signal/ON or OFF	ON: Rear door LH or RH unlocked OFF: Rear door LH and RH locked	-

OK:
Normal conditions listed above are displayed.

NG ▶ **GO TO POWER DOOR LOCK CONTROL SYSTEM**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001T9V01ZX
Title: LIGHTING (INT): LIGHTING SYSTEM: Interior Light Circuit (2010 Corolla)		

Interior Light Circuit

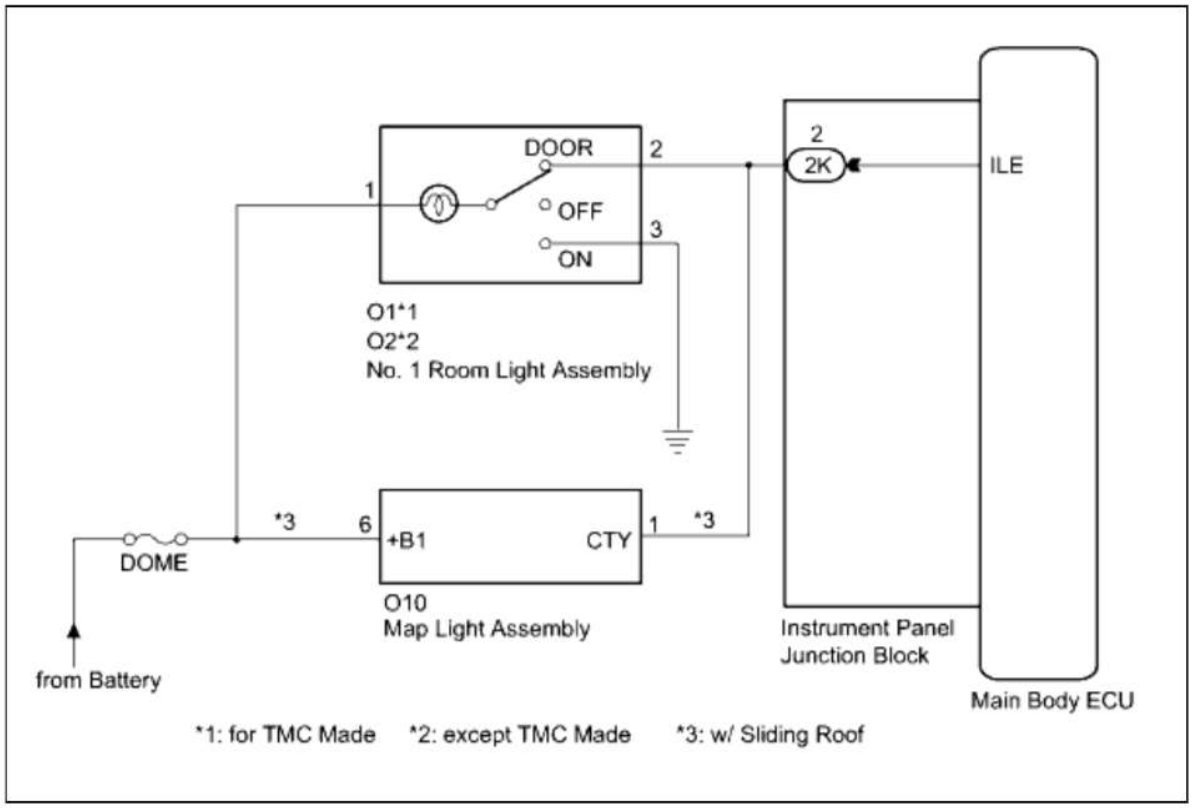
DESCRIPTION

The main body ECU controls the personal light*1 and room light according to the door courtesy switch, door lock position switch, and ignition switch conditions.

HINT:

***1: w/ Sliding Roof**

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	PERFORM ACTIVE TEST USING TECHSTREAM

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Active Test.

(e) Check the operation.

Main Body (Main Body ECU)

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Illuminated Entry System	Personal light*1 and room light (Personal switch OFF, Interior light switch is in DOOR position and all doors are closed)	ON/OFF	-

HINT:

***1: w/ Sliding Roof**

OK:
Each light fades in.

NG ▶ **INSPECT FUSE (DOME)**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN 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:

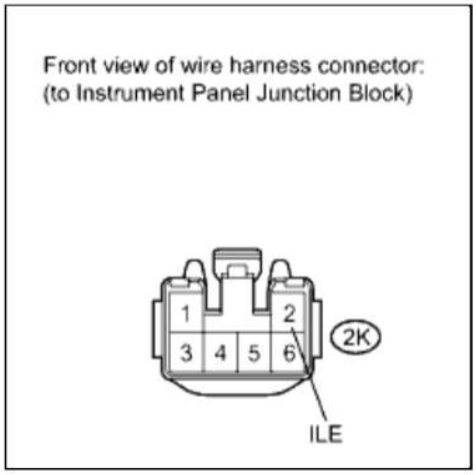
TESTER DISPLAY	CONDITION	SPECIFIED CONDITION
DOME fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

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OK

3.	**CHECK HARNESS AND CONNECTOR (BATTERY - INSTRUMENT PANEL JUNCTION BLOCK)**



(a) Disconnect the 2K instrument panel junction block assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2K-2 (ILE) - Body ground	Always	11 to 14 V

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

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002HUR019X
Title: LIGHTING (INT): LIGHTING SYSTEM: Engine Switch Illumination Circuit (2010 Corolla)		

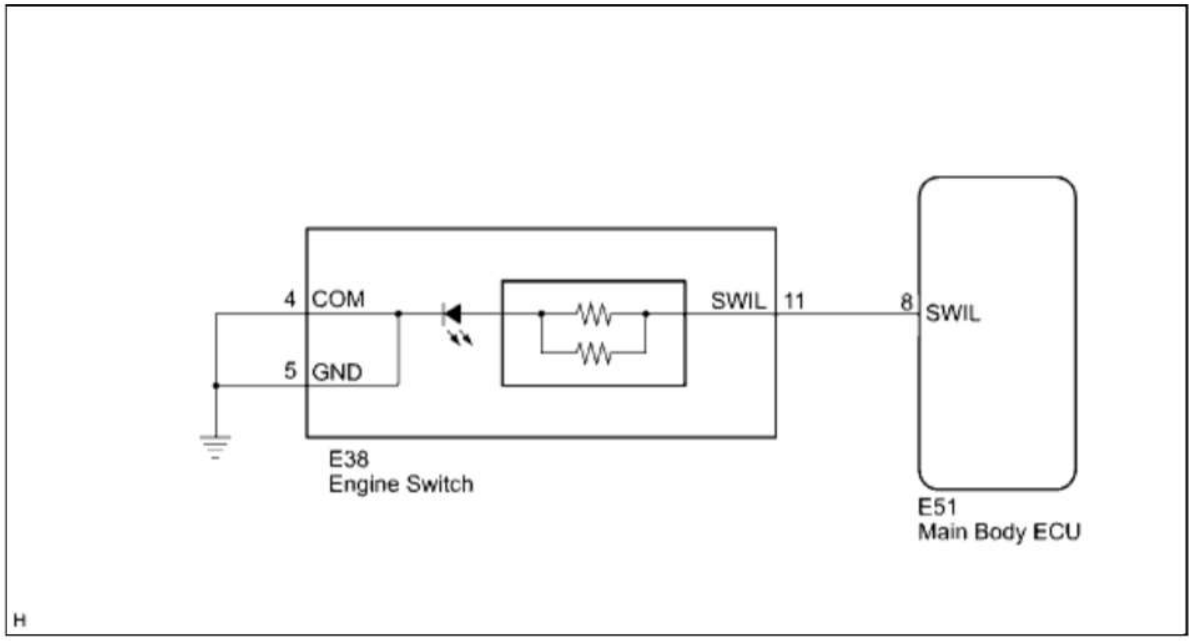
Engine Switch Illumination Circuit

DESCRIPTION

When either of the following conditions is met, the engine switch illumination comes on.

- Light control switch is in TAIL position.
- Interior light is turned on by the illuminated entry system.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**PERFORM ACTIVE TEST USING TECHSTREAM**

(a) Connect the Techstream to the DLC3.

(b) Turn the ignition switch to ON.

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(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Main Body / Active Test.

(e) Check the operation.

Main Body (Main Body ECU)

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Indicator for Lighting	Engine switch illumination (All doors are closed)	ON/OFF	-

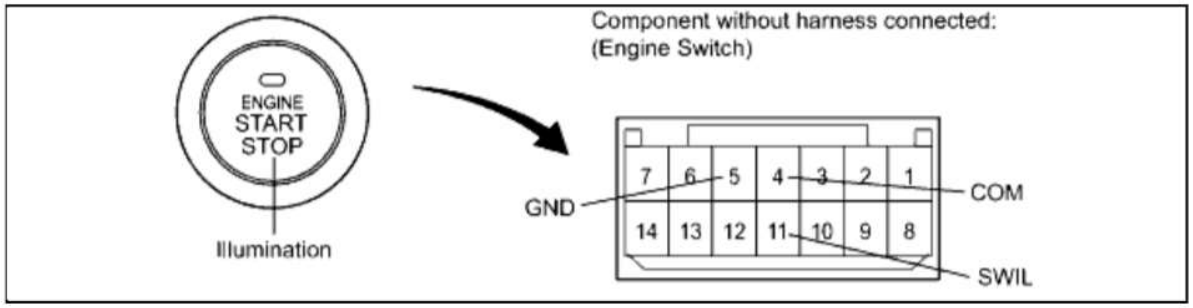
OK:
Engine switch illumination comes on.

NG ▶ **INSPECT ENGINE SWITCH**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT ENGINE SWITCH**

(a) Remove the engine switch.



(b) Connect a (+) lead from the battery to terminal 11 and a (-) lead to terminal 4 or 5.

(c) Check that the illumination comes on.

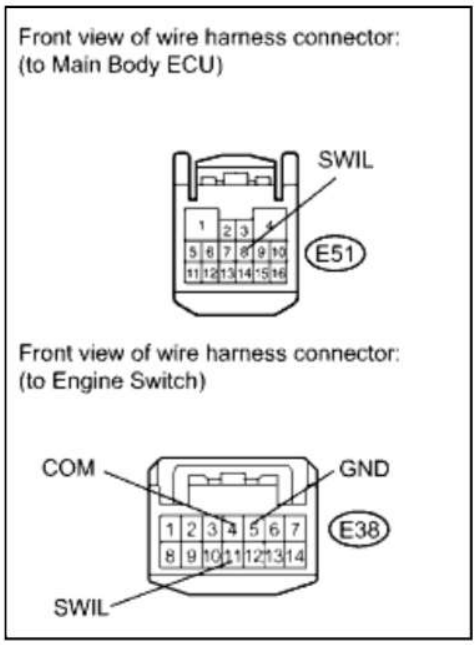
OK:
Engine switch illumination comes on.

NG ▶ **REPLACE ENGINE SWITCH**

OK ▼

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3.	**CHECK HARNESS OR CONNECTOR (ENGINE SWITCH - MAIN BODY ECU AND BODY GROUND)**



(a) Disconnect the E51 main body ECU connector.

(b) Disconnect the E38 engine switch connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E38-11 (SWIL) - E51-8 (SWIL)	Always	Below 1 Ω
E38-4 (COM) or E38-5 (GND) - Body ground	Always	Below 1 Ω
E51-8 (SWIL) - Body ground	Always	10 kΩ or higher

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

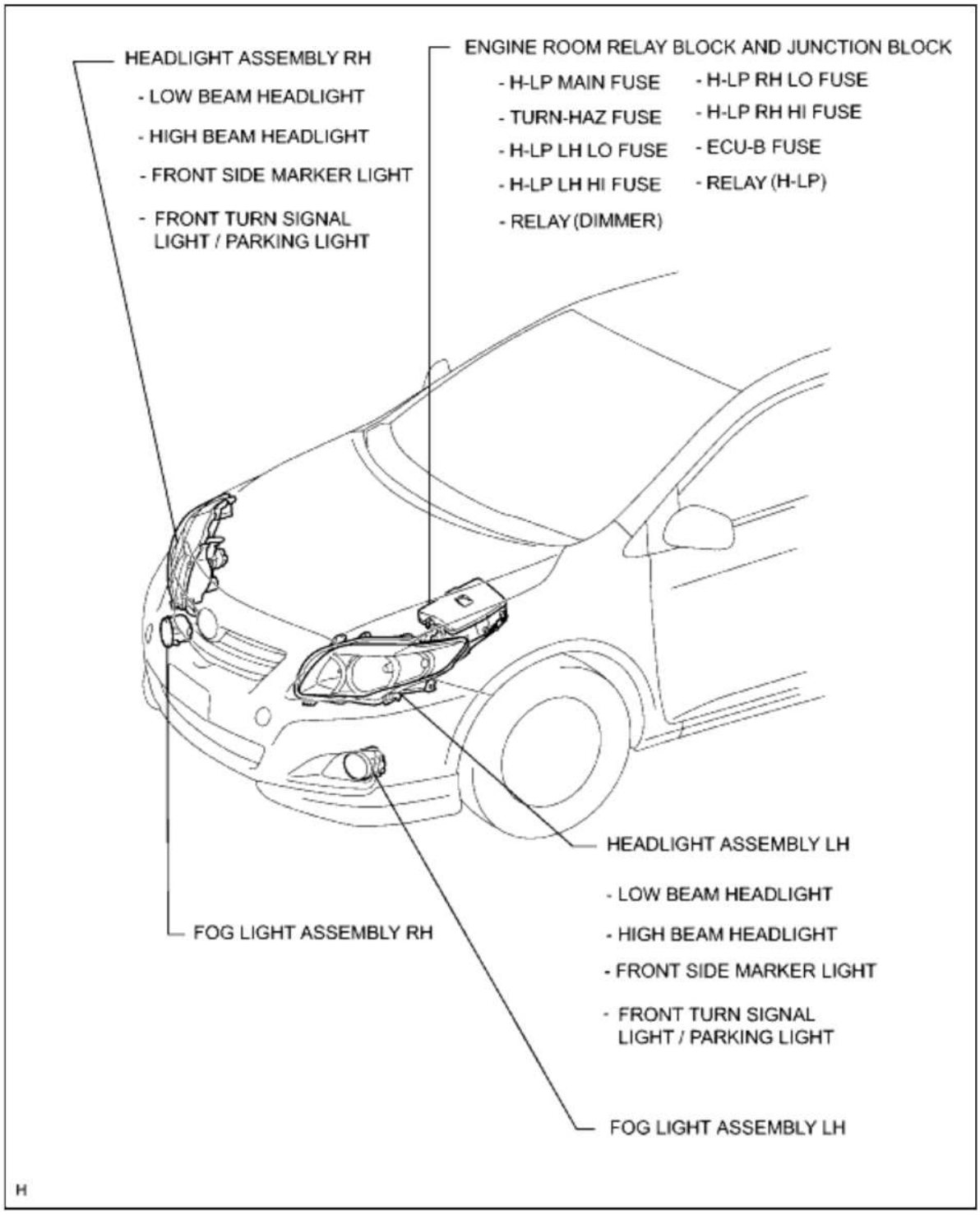
OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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Last Modified: 3-10-2010	6.4 R	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000232R009X
Title: LIGHTING (EXT): LIGHTING SYSTEM: PARTS LOCATION (2010 Corolla)		

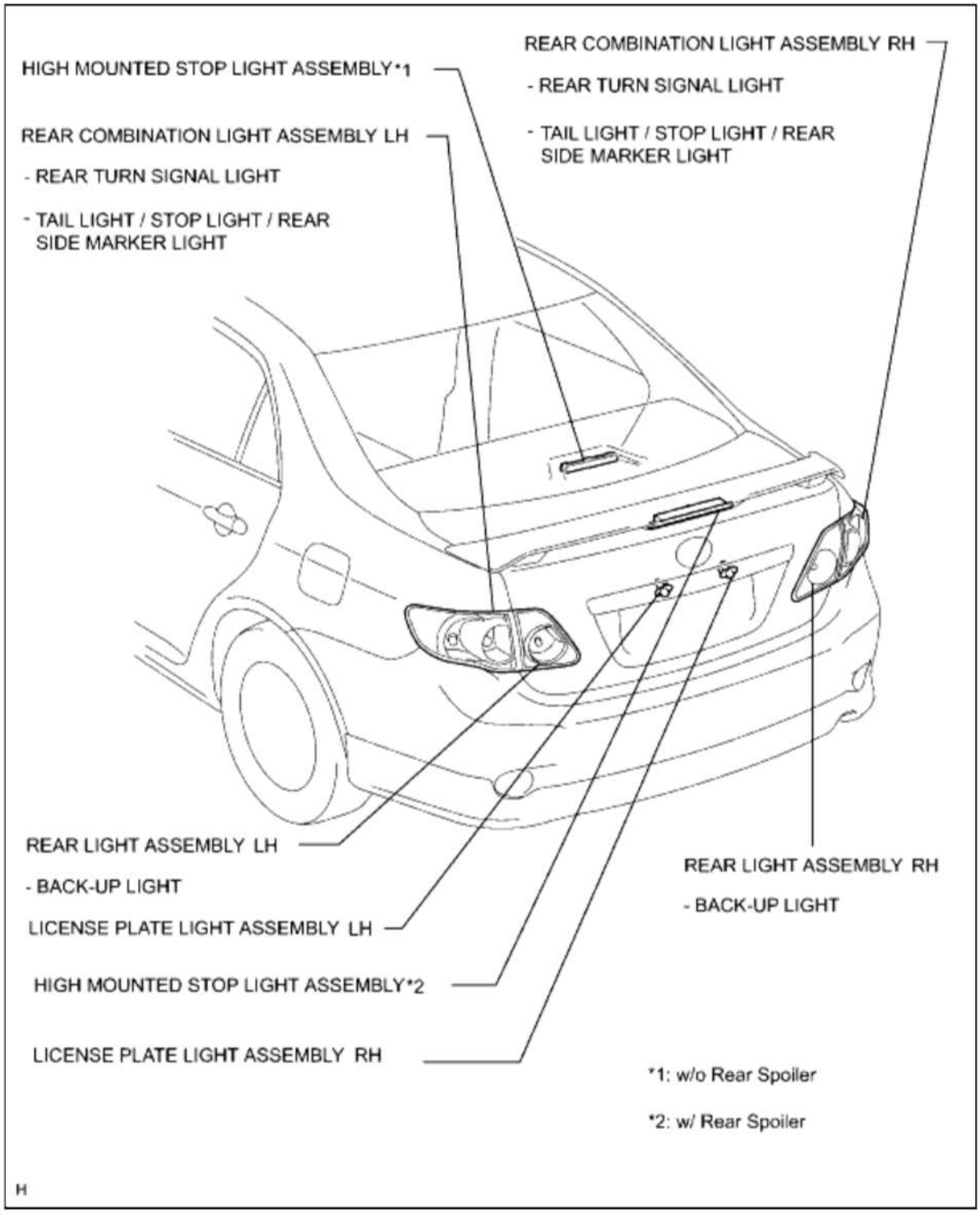
PARTS LOCATION

ILLUSTRATION



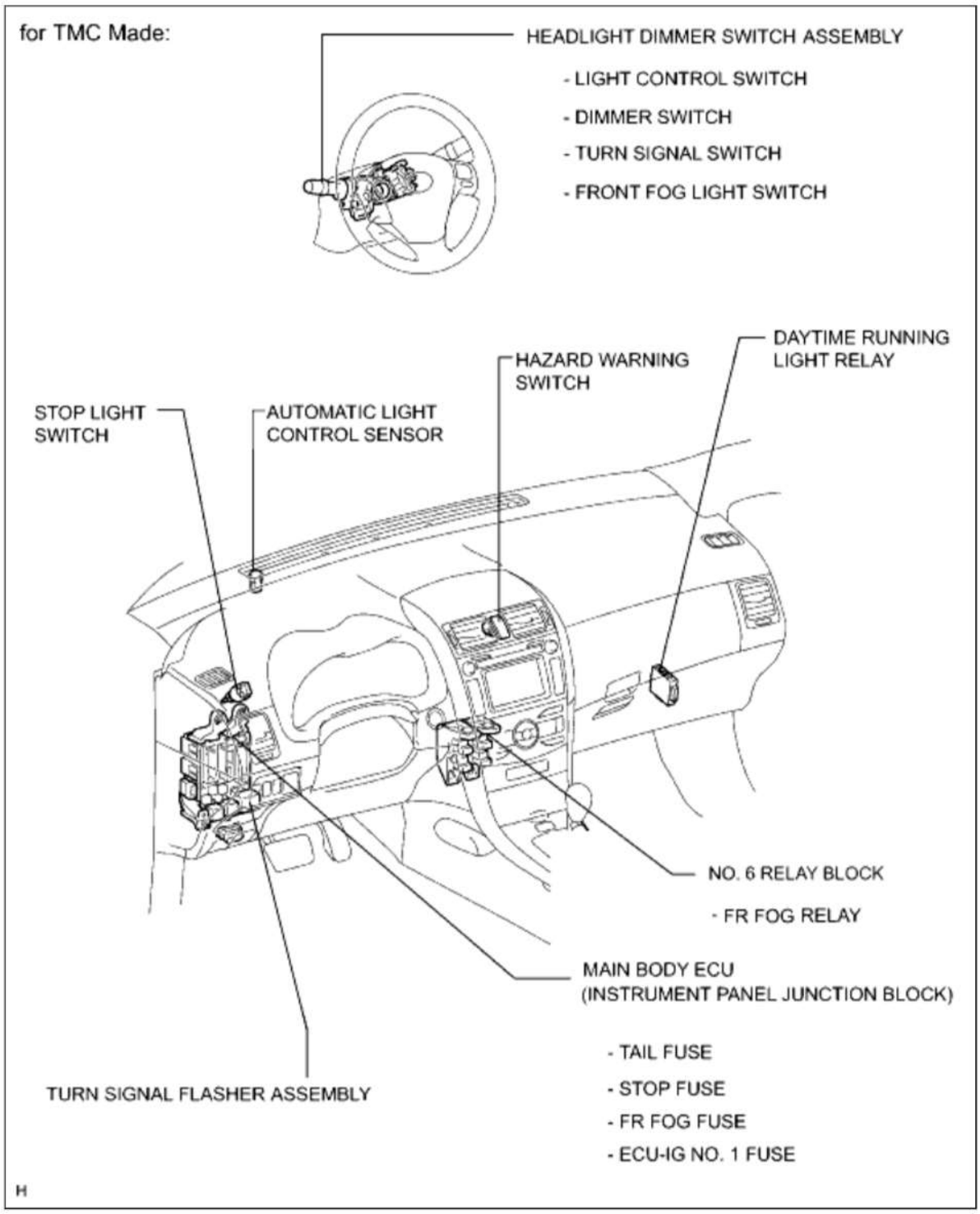
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ILLUSTRATION



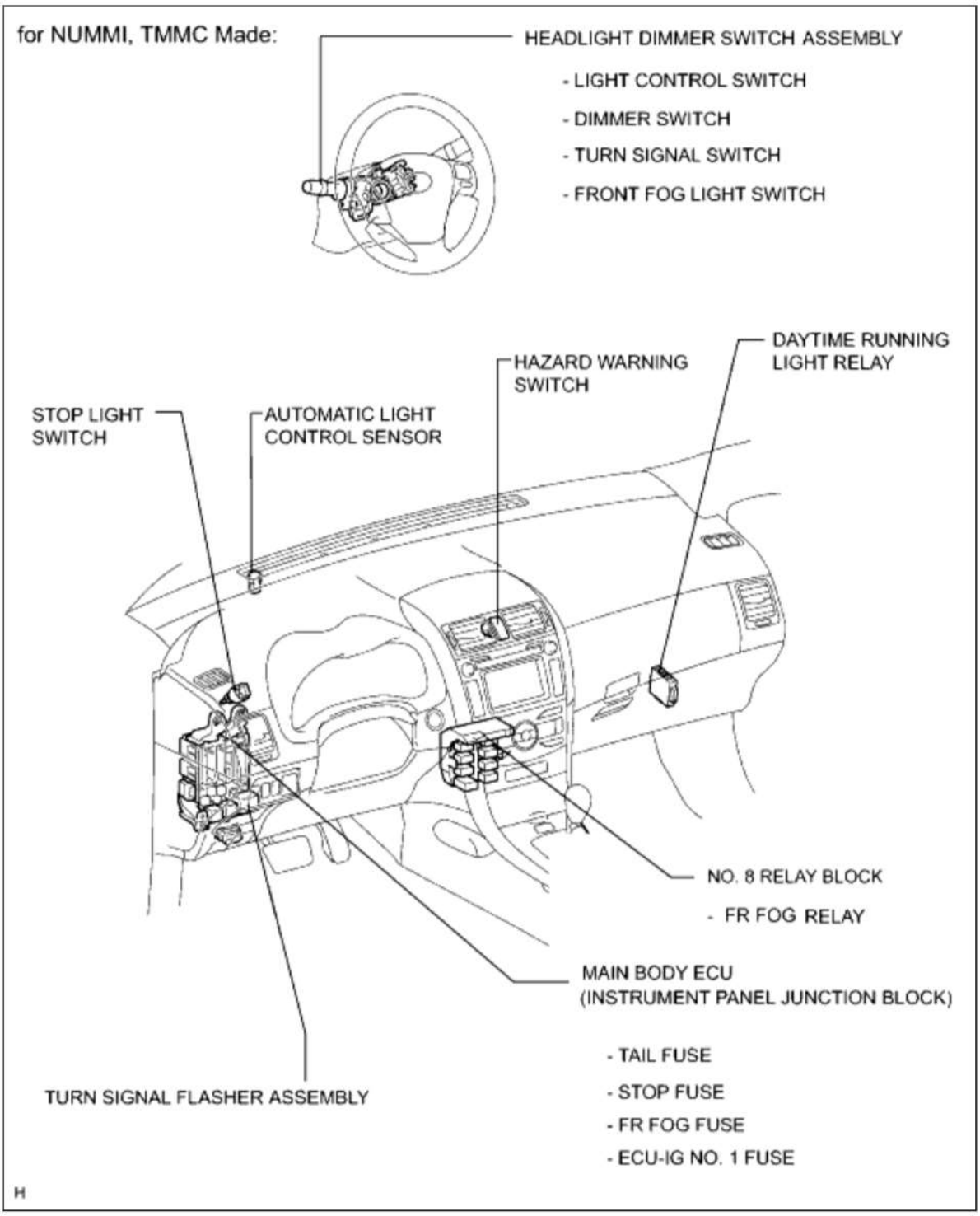
ILLUSTRATION

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ILLUSTRATION

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Last Modified: 3-10-2010	6.4 L	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000YRX00CX
Title: LIGHTING (EXT): LIGHTING SYSTEM: PRECAUTION (2010 Corolla)		

PRECAUTION

1. PRECAUTION FOR HEADLIGHT BULB REPLACEMENT

(a) If even a thin film of oil is left on the surface of a halogen light, its service life will be shortened because the light will operate at a higher temperature.

(b) Handle each halogen light with care. Dropping, hitting or damaging the bulb in any way may result in it exploding and shattering because of the high internal pressure.

(c) Always prepare a new bulb for immediate replacement. While replacing the bulb, the lens may attract dust and moisture if removed from the vehicle for too long.

(d) Always use a bulb of the same wattage for replacement.

(e) Securely reinstall the socket after bulb replacement. The lens may become cloudy or the light cavity may fill with water through gaps around the socket if it is not installed correctly.

2. EXPRESSIONS OF IGNITION SWITCH

(a) The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

SWITCH TYPE		IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Expression	Ignition switch off	LOCK	Off
	Ignition switch ON	ON	On (IG)
	Ignition switch ACC	ACC	On (ACC)
	Engine start	START	Start

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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CDY013X
Title: LIGHTING (EXT): LIGHTING SYSTEM: SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

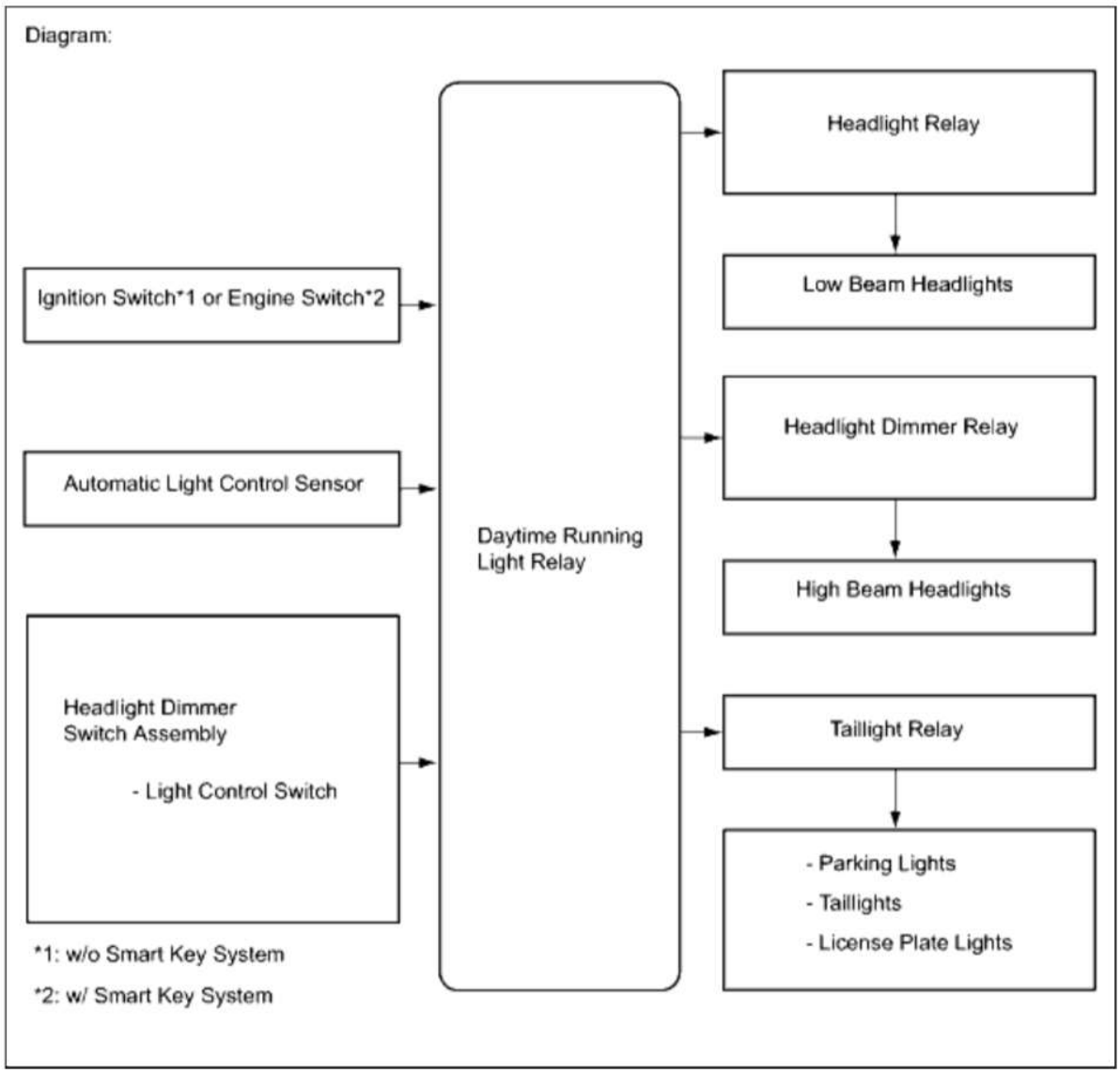
1. EXTERIOR LIGHT CONTROL SYSTEM

The exterior light control system has the following functions:

- Automatic Light Control
- Manual Light Control
- High Beam Control
- Passing Light Control
- Front Fog Light Control
- Daytime Running Light Control
- Low beam headlight Indicator Light Control
- High beam headlight Indicator Light Control

(a) Automatic Light Control

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(1) General

The automatic light control sensor detects ambient light, converts it into an electrical signal, and sends the signal to the daytime running light relay. The daytime running light relay automatically turns the headlights and taillights on or off according to the signal. During the day, only the daytime running lights are turned on. At night, taillights (parking lights, taillights and license plate lights) and low beam headlights are turned on.

(2) Fail-Safe

If the daytime running light relay does not receive a signal due to a light control sensor malfunction or open circuit, either of the following conditions will occur.

- If the taillights (parking lights, taillights and license plate lights) and the low beam headlights are on, they will remain on.
- If the taillights (parking lights, taillights and license plate lights) and the low beam headlights are not on, they will remain off.

(b) Manual Light Control

- Manual light control illuminates the low beam headlights and taillights (parking lights, taillights and license plate lights) by manual operation of the light control switch.
- When the light control switch is turned to the TAIL position, the daytime running light

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relay assembly turns the taillights on. When the light control switch is turned to the HEAD position, the daytime running light relay turns the low beam headlights and taillights on.

(c) High Beam Control

- High beam control illuminates farther ahead than normal.
- When both of the following conditions are met, the high beam headlights come on:
  - Low beam headlights are turned on by the automatic light control or manual light control.
  - Dimmer switch is in HIGH position.

(d) Passing Light Control

- Passing light control illuminates the high beam headlights in order to allow an oncoming vehicle to become aware of the vehicle's presence while driving with poor visibility.
- When the dimmer switch is turned to the HIGH FLASH position, the high beam headlights come on.

(e) Front Fog Light Control

- When both of the following conditions are met, the front fog lights come on:
  - The low beam headlights are turned on using either automatic light control or manual operation, and the high beam headlights are off.
  - Front fog light switch is on.

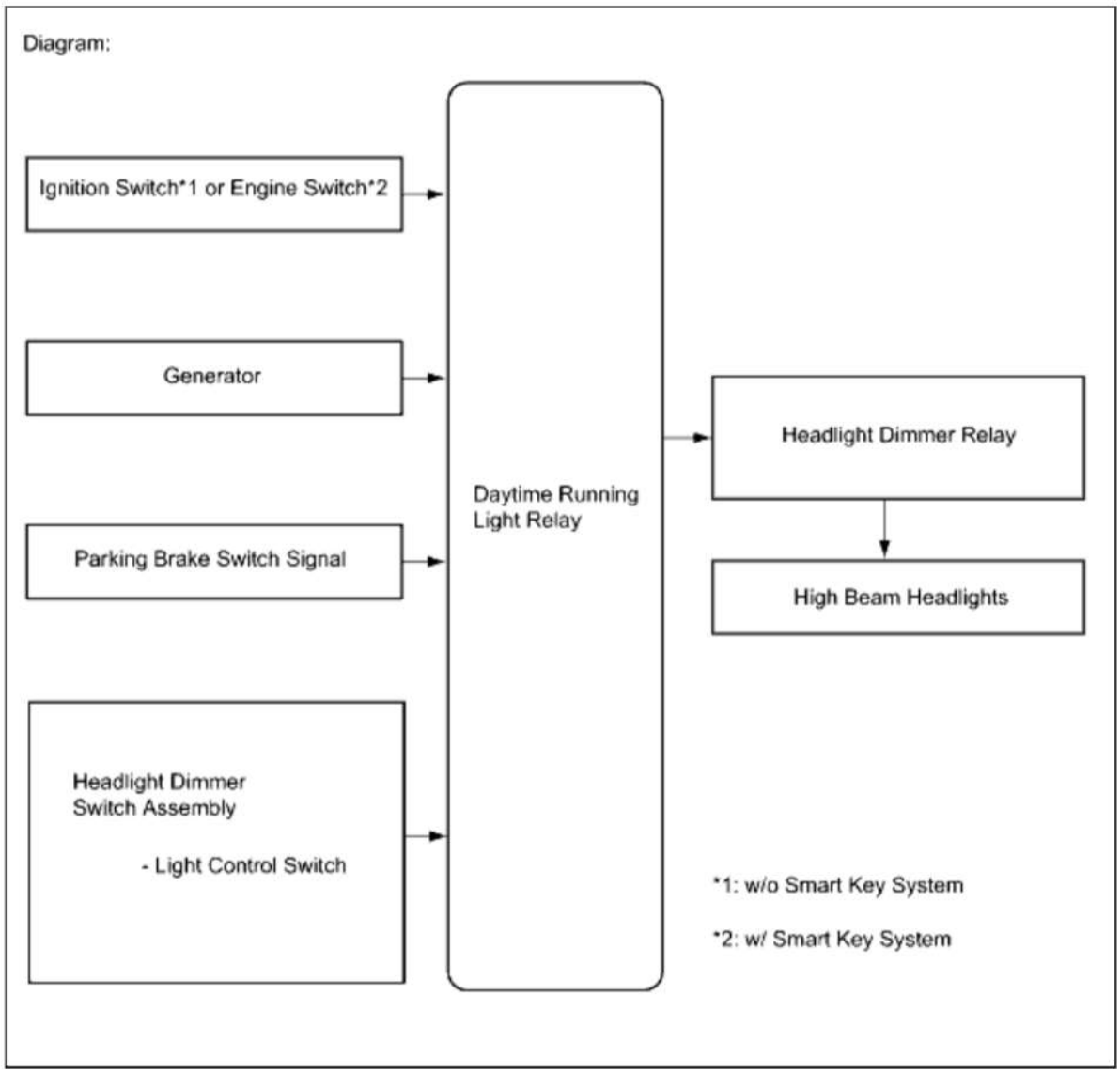
  HINT:

  The fog lights will turn on as long as the high beam headlights are off, even when the headlights are turned on via automatic light control.

- When either of the following conditions is met, the front fog lights turn off:
  - Front fog light switch is off.
  - Low beam headlight switch is off or high beam headlight switch is on.

(f) Daytime Running Light Control

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- The daytime running light control is designed to automatically turn on the high beam headlights during the day to make the vehicle more visible to other drivers and pedestrians. Daytime running light control is operated by the daytime running light relay.

  HINT:

  The daytime running light relay dims the high beam headlights when operating them as daytime running lights.

- The daytime running light control will begin operating when all of the following conditions are met:
  - Ignition switch is ON.
  - Engine is running.
  - Parking brake switch is off.
  - Light control switch is in OFF or TAIL.
- The daytime running light control will be cancelled if the light control switch is manually switched to the HEAD position during daytime running light control operation.

(g) Low beam headlight Indicator Light Control (for USA only)

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- The low beam headlight indicator light is controlled by the daytime running light relay.
- The daytime running light relay will send a signal to the combination meter to illuminate the indicator when both of the following conditions are met:
    - Ignition switch is ON.
    - Low beam headlights are on.
- When either of the following conditions is met, the low beam headlight indicator turns off:
    - Ignition switch is off
    - Low beam headlights are off.

(h) High beam headlight Indicator Light Control

- The high beam headlight indicator light is controlled by the daytime running light relay.
- The daytime running light relay will send a signal to the combination meter to illuminate the indicator when both of the following conditions are met:
    - Ignition switch is ON.
    - High beam headlights are on.

HINT:

When the daytime running lights are operating, the high beam headlight indicator does not illuminate.

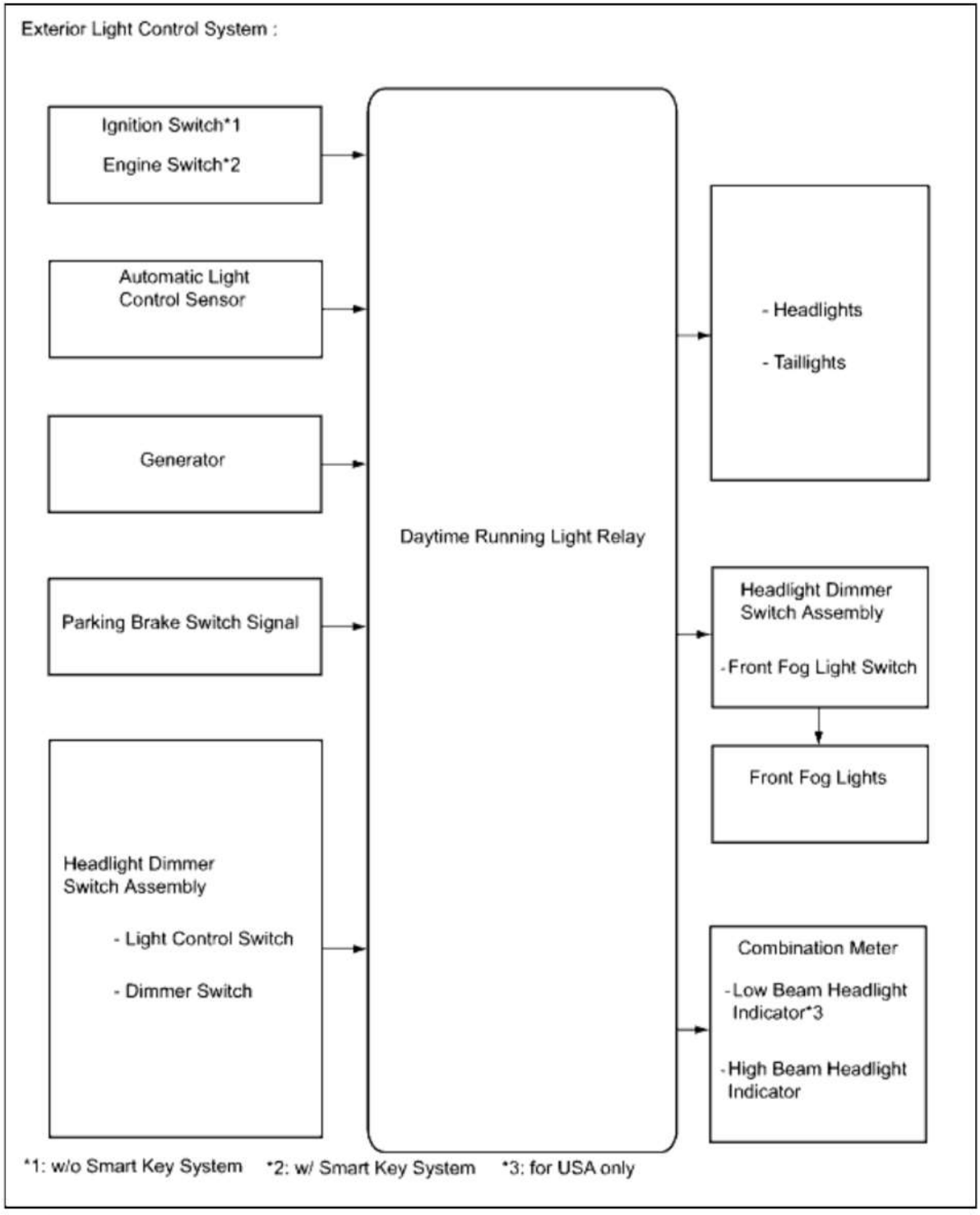
- When either of the following conditions is met, the high beam headlight indicator turns off:
    - Ignition switch is off.
    - High beam headlights are off.



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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CDZ00WX
Title: LIGHTING (EXT): LIGHTING SYSTEM: SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000PKJ032X
Title: LIGHTING (EXT): LIGHTING SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Corolla)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the lighting system.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**CUSTOMER PROBLEM ANALYSIS AND SYMPTOM CHECK**

NEXT

3.	**INSPECT BATTERY VOLTAGE**

Standard Voltage:
11 to 14 V

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

NEXT

4.	**PROBLEM SYMPTOMS TABLE**

Result:

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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 6**

A

▼

5.	**OVERALL ANALYSIS AND TROUBLESHOOTING***

(a) Terminals of ECU INFO

NEXT

▼

6.	**ADJUST, REPAIR OR REPLACE**

NEXT

▼

7.	**CONFIRMATION TEST**

NEXT ▶ **END**

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Last Modified: 3-10-2010	6.4 T	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CE201CX
Title: LIGHTING (EXT): LIGHTING SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Corolla)		

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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

SYMPTOM	SUSPECTED AREA	SEE PAGE
One LO-beam headlight does not illuminate.	H-LP LH LO fuse or H-LP RH LO fuse	-
	Bulb	-
	Harness or connector	-
Both left and right LO-beam headlights do not illuminate.	H-LP MAIN fuse	-
	Light control switch circuit	INFO
	Headlight relay circuit	INFO
	Daytime running light relay	INFO
One HI-beam headlight does not illuminate.	H-LP LH HI fuse or H-LP RH HI fuse	-
	Bulb	-
	Harness or connector	-
Both left and right HI-beam headlights do not illuminate.	Light control switch circuit	INFO
	Headlight (HI-BEAM) circuit	INFO
	Daytime running light relay	-
"High Flash" headlight does not illuminate (Passing function).	Light control switch circuit	INFO
	Daytime running light relay	INFO

Taillight

SYMPTOM	SUSPECTED AREA	SEE PAGE
One front parking light does not	Bulb	-

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SYMPTOM	SUSPECTED AREA	SEE PAGE
illuminate.	Harness or connector	-
One rear taillight does not illuminate.	Bulb	-
	Harness or connector	-
One license plate light does not illuminate.	Bulb	-
	Harness or connector	-
All lights do not illuminate.	TAIL fuse	-
	Light control switch circuit	INFO
	Taillight relay circuit	INFO
	Daytime running light relay	INFO
	Main body ECU (Instrument panel junction block)	-

Daytime Running Light Control

SYMPTOM	SUSPECTED AREA	SEE PAGE
Daytime running light control does not operate (Headlight and taillight are normal).	Light control switch circuit	INFO
	Parking brake switch circuit	INFO
	Generator signal circuit	INFO
	Power source circuit	INFO
	Headlight (HI-BEAM) circuit	INFO
	Daytime running light relay	INFO

Stop Light

SYMPTOM	SUSPECTED AREA	SEE PAGE
One stop light does not illuminate.	Bulb	-
	Harness or connector	-
High-mounted stop light does not illuminate.	High-mounted stop light assembly (w/ Rear Spoiler)	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
	High-mounted stop light assembly (w/o Rear Spoiler)	INFO
	Harness or connector	-
All lights do not operate.	STOP fuse	-
	Stop light switch	INFO
	Harness or connector	-

Front Fog Light

SYMPTOM	SUSPECTED AREA	SEE PAGE
One fog light does not illuminate.	Bulb	-
	Harness or connector	-
Both left and right fog lights do not illuminate (Headlight is normal).	FR FOG fuse	-
	Front fog light circuit	INFO
	Daytime running light relay	INFO

Turn Signal and Hazard Warning Light

SYMPTOM	SUSPECTED AREA	SEE PAGE
Hazard warning lights do not operate (Turn signal lights are normal).	TRN-HAZ fuse	-
	Hazard warning switch	INFO
	Turn signal flasher assembly	INFO
	Harness or connector	-
Turn signal lights do not operate (Hazard warning lights are normal).	ECU-IG2 fuse	-
	Headlight dimmer switch assembly	INFO
	Turn signal flasher assembly	INFO
	Harness or connector	-
Hazard warning lights and turn signal lights do not operate.	TRN-HAZ fuse and ECU-IG2 fuse	-
	Turn signal flasher assembly	INFO
	Harness or connector	-

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Turn signal lights do not operate in one direction.	Headlight dimmer switch assembly	INFO
	Turn signal flasher assembly	INFO
	Harness or connector	-
Only one bulb does not operate.	Bulb	-
	Harness or connector	-

Back-up Light

SYMPTOM	SUSPECTED AREA	SEE PAGE
One back-up light does not illuminate.	Bulb	-
	Harness or connector	-
Both left and right back-up lights do not illuminate.	Bulb	-
	Park/Neutral position switch (for U341E automatic transaxle)	INFO
	Park/Neutral position switch (for U250E automatic transaxle)	INFO
	Back-up light switch (for C59)	INFO
	Back-up light switch (for E351)	INFO
	Harness or connector	-

Headlight Indicator

SYMPTOM	SUSPECTED AREA	SEE PAGE
Low beam headlight indicator does not come on.	Indicator circuit	INFO
	Daytime running light relay	INFO
High beam headlight indicator does not come on.	Indicator circuit	INFO
	Daytime running light relay	INFO

Automatic Light Control

SYMPTOM	SUSPECTED AREA	SEE PAGE
Automatic light control does not operate normally (Manual Light control operates normally).	Automatic light control sensor circuit	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
	Power source circuit	INFO
	Daytime running light relay	INFO



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Last Modified: 3-10-2010	6.4 D	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003HJ3002X
Title: LIGHTING (EXT): LIGHTING SYSTEM: OPERATION CHECK (2010 Corolla)		

OPERATION CHECK

1. DAYTIME RUNNING LIGHT OPERATION CHECK

(a) Turn the light control switch off.

(b) Start the engine.

(c) Release the parking brake.

(d) Check that the daytime running lights (dimmed high beam headlights) come on.

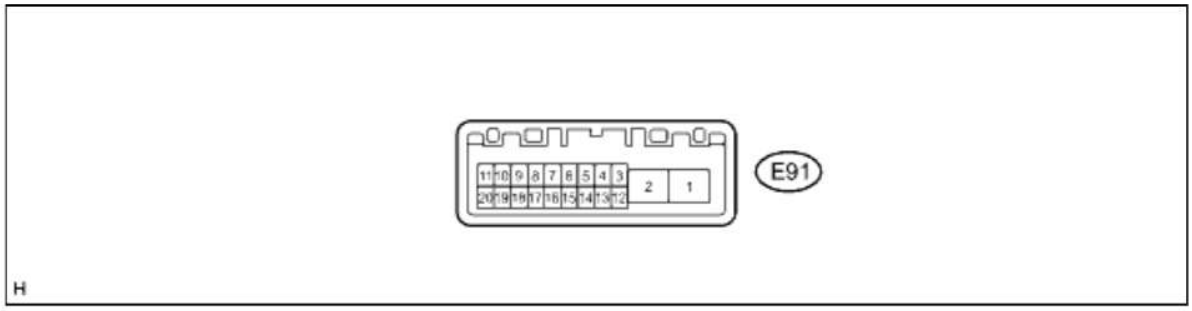
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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CE100YX
Title: LIGHTING (EXT): LIGHTING SYSTEM: TERMINALS OF ECU (2010 Corolla)		

TERMINALS OF ECU

1. CHECK DAYTIME RUNNING LIGHT RELAY

(a) Disconnect the E91 relay connector.



(b) Measure the voltage between the specified terminals of the wire harness side connectors and body ground.

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E91-12 (IG) - Body ground	L - Body ground	IG power supply	Ignition switch off	Below 1 V
			Ignition switch ON	11 to 14 V
E91-3 (+B) - Body ground	R - Body ground	Battery power supply	Always	11 to 14 V

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

(c) Measure the resistance between the specified terminals of the wire harness side connectors and body ground.

Standard Resistance:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E91-2 (E) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

(d) Reconnect the E91 relay connector.

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

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Standard Resistance:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E91-11 (PKB) - Body ground	O*1 - Body ground BE*2 - Body ground	Parking brake switch signal	Parking brake switch OFF	10 kΩ or higher
			Parking brake switch ON	Below 1 Ω
E91-18 (CSE) - Body ground	G - Body ground	Ground	Always	Below 1 Ω

If the result is not as specified, the ECU may have a malfunction.

HINT:

- *1: for TMC Made
- *2: except TMC Made

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

Standard Voltage:

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E91-1 (DRL) - Body ground	R*1 - Body ground BR*2 - Body ground	Daytime running light drive output	Daytime running lights OFF	Below 1 V
			Daytime running lights ON	Pulse generation (See waveform 1)
E91-4 (FOG) - Body ground	W - Body ground	Front fog relay drive output	Front fog light switch ON and light control switch OFF	11 to 14 V
			Front fog light switch ON and light control switch in HEAD	Below 1 V
E91-5 (IND) - Body ground	GR - Body ground	Low beam headlight indicator drive output	Low beam headlight indicator ON	Below 1 V
			Low beam headlight indicator OFF	11 to 14 V
E91-6 (H-LP) - Body ground	B*1 - Body ground V*2 - Body ground	Low beam headlight relay drive output	Low beam headlights ON	Below 1 V
			Low beam headlights OFF	11 to 14 V
E91-7 (H) - Body ground	G - Body ground	Light control switch HEAD signal input	Light control switch in HEAD	Below 1 V

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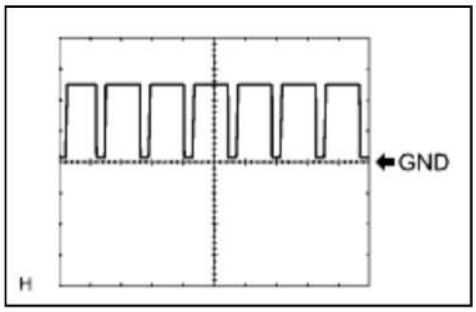
TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
			Light control switch not in HEAD	11 to 14 V
E91-8 (CHG-) - Body ground	Y - Body ground	Engine revolution signal input	Engine running	11 to 16 V
			Engine stopped	Below 1 V
E91-10 (HF) - Body ground	B - Body ground	Dimmer switch HIGH FLASH signal input	Dimmer switch in HIGH FLASH position	Below 1 V
			Dimmer switch not in HIGH FLASH position	11 to 14 V
E91-13 (DIM) - Body ground	P - Body ground	High beam headlight relay drive output	High beam headlights ON or daytime running lights ON	Below 1 V
			High beam headlights and daytime running lights OFF	11 to 14 V
E91-14 (TAIL) - Body ground	W*1 - Body ground SB*2 - Body ground	Taillight relay drive output	Taillights ON	Below 1 V
			Taillights OFF	11 to 14 V
E91-15 (T) - Body ground	W*1 - Body ground BR*2 - Body ground	Light control switch TAIL signal input	Light control switch in TAIL or HEAD	Below 1 V
			Light control switch in neither TAIL nor HEAD	11 to 14 V
E91-16 (HI) - Body ground	LG - Body ground	Dimmer switch HIGH signal input	Dimmer switch in HIGH	Below 1 V
			Dimmer switch in LOW	11 to 14 V
E91-17 (H-ON) - Body ground	L - Body ground	High beam headlight indicator drive output	High beam headlight indicator ON	Below 1 V
			High beam headlight indicator OFF	Below 1 V
E91-19 (CSO) - Body ground	SB - Body ground	Automatic light control sensor signal input	Ignition switch off	Below 1 V
			Ignition switch ON	Pulse generation (See waveform 2)
E91-20 (CSB) - Body ground	GR - Body ground	Automatic light control sensor power supply output	Ignition switch off	Below 1 V
			Ignition switch ON	11 to 14 V

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If the result is not as specified, the ECU may have a malfunction.

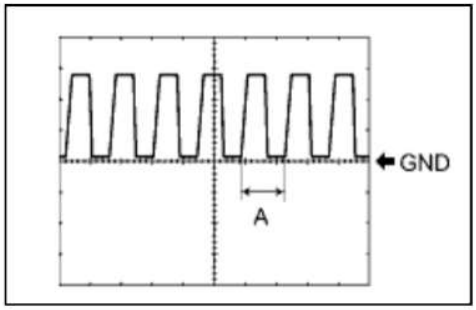
HINT:

- *1: for TMC Made
- *2: except TMC Made



(1) Waveform 1

ITEM	CONTENT
Tool setting	5 V/DIV., 20 ms./DIV.



(2) Waveform 2

ITEM	CONTENT
Tool setting	2 V/DIV., 5 ms./DIV.

HINT:

If the ambient light becomes brighter, width A becomes narrower.

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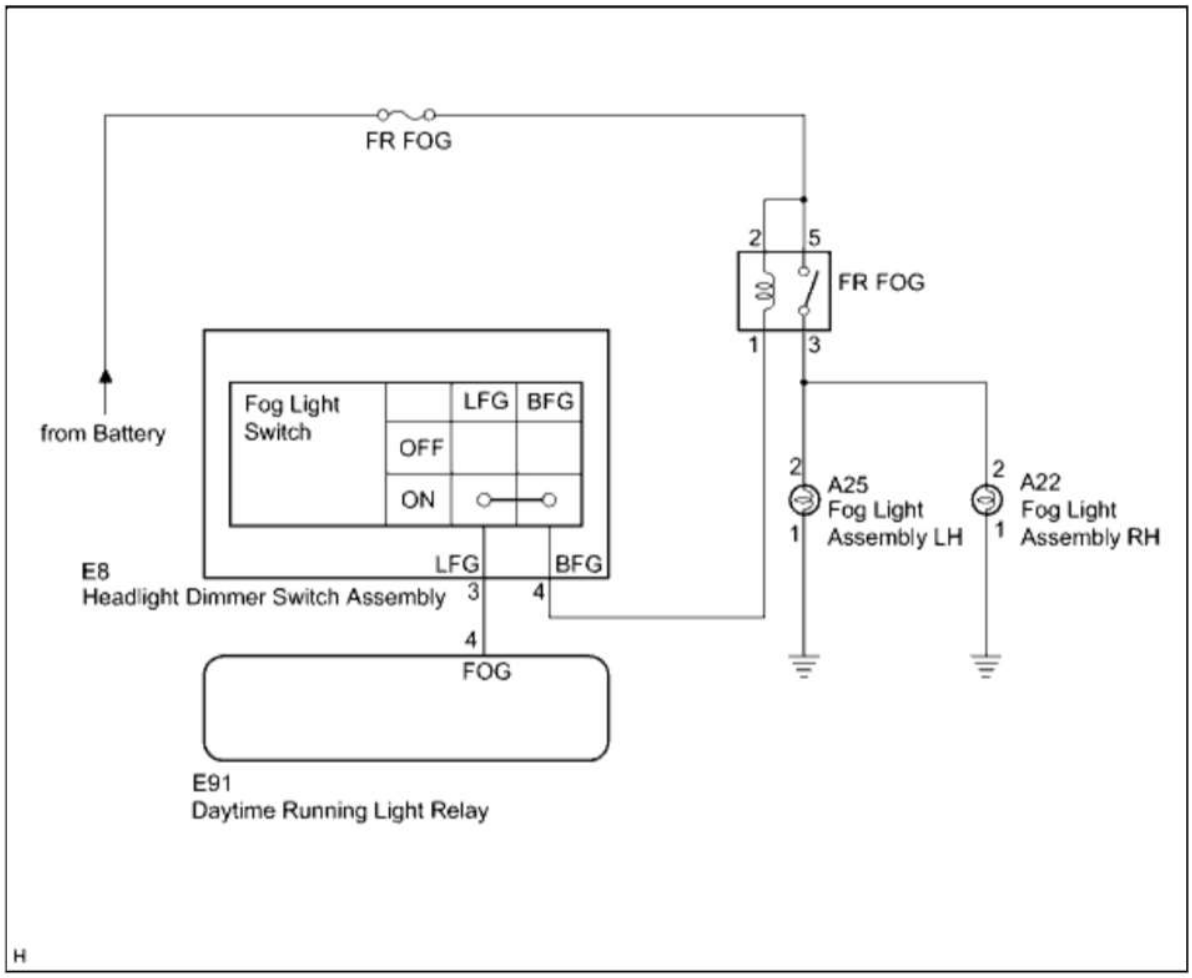
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001OIZ00QX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Front Fog Light Circuit (2010 Corolla)		

Front Fog Light Circuit

DESCRIPTION

- When both of the following conditions are met, the front fog lights come on:
  - The low beam headlights are turned on using either automatic light control or manual operation, and the high beam headlights are off.
  - Front fog light switch is on.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	INSPECT FUSE (FR FOG)

(a) Remove the FR FOG fuse from the instrument panel junction block.

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

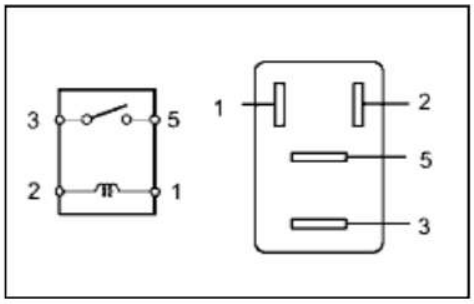
Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
FR FOG fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

2.	INSPECT FRONT FOG LIGHT RELAY



(a) Remove the front fog light relay.

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

Standard Resistance:

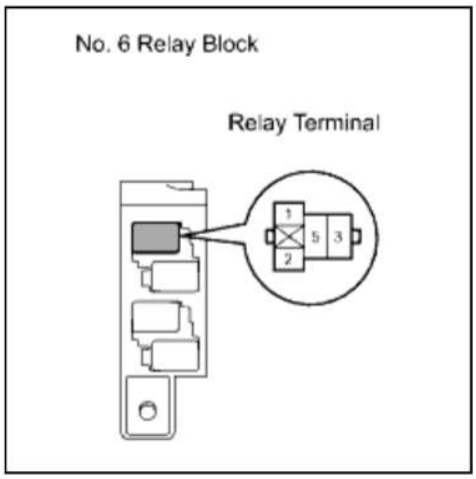
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

NG ▶ **REPLACE FRONT FOG LIGHT RELAY**

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OK

3.	CHECK HARNESS AND CONNECTOR (BATTERY - FRONT FOG LIGHT RELAY)



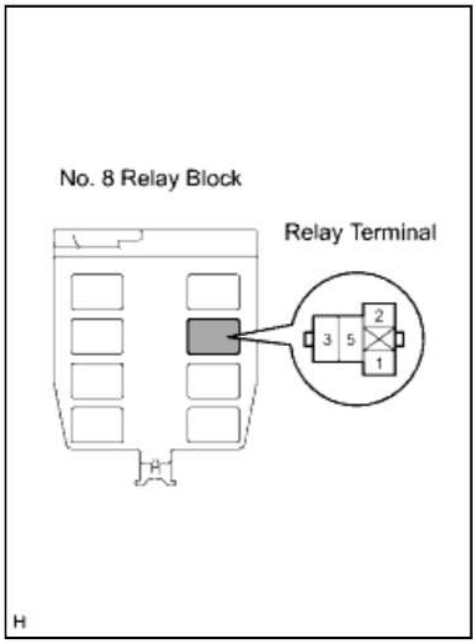
(a) for TMC Made

(1) Install the FR FOG fuse.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 - Body ground	Always	11 to 14 V
5 - Body ground	Always	11 to 14 V



(b) except TMC Made

(1) Install the FR FOG fuse.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 - Body ground	Always	11 to 14 V
5 - Body ground	Always	11 to 14 V

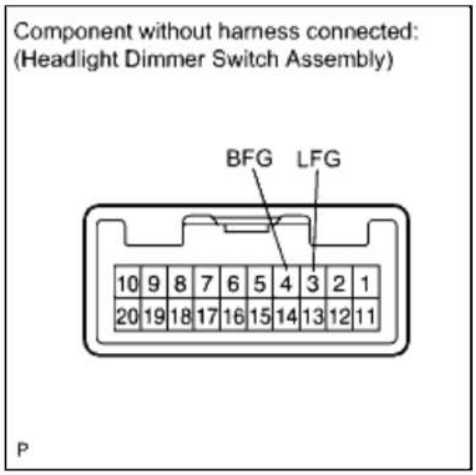
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

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▼

4.	INSPECT HEADLIGHT DIMMER SWITCH ASSEMBLY



(a) Remove the headlight dimmer switch assembly.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (LFG) - 4 (BFG)	Fog light switch off	10 kΩ or higher
3 (LFG) - 4 (BFG)	Fog light switch on	Below 1 Ω

(c) Reinstall the headlight dimmer switch assembly.

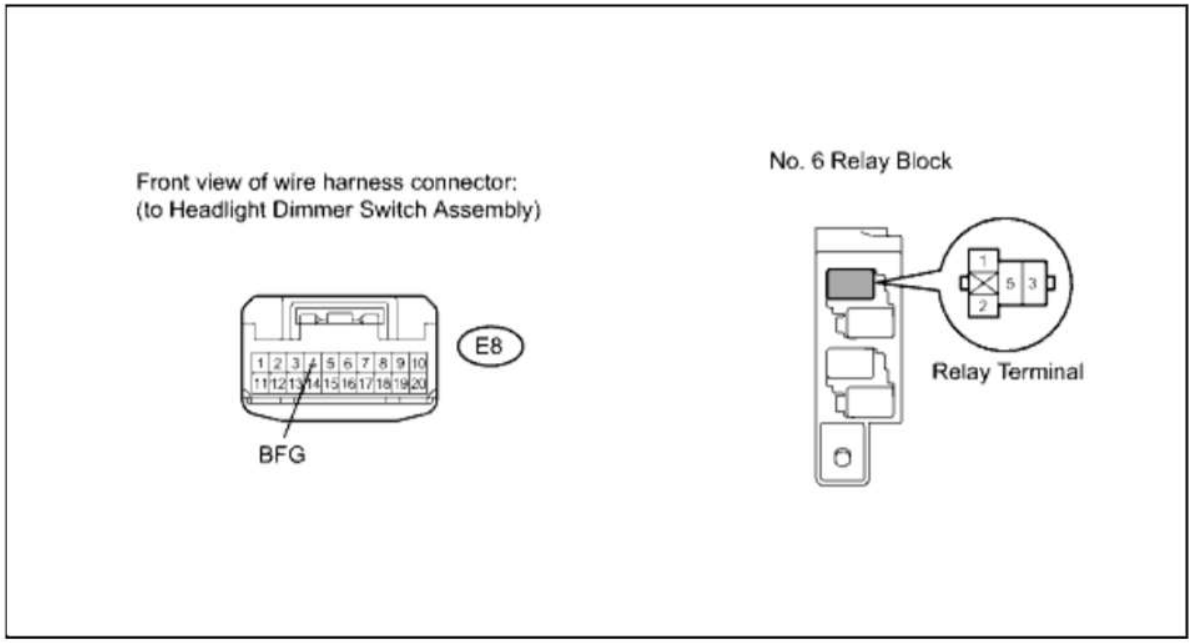
NG ▶ REPLACE HEADLIGHT DIMMER SWITCH ASSEMBLY

OK
▼

5.	CHECK HARNESS AND CONNECTOR (FRONT FOG LIGHT RELAY - HEADLIGHT DIMMER SWITCH ASSEMBLY)

(a) for TMC Made

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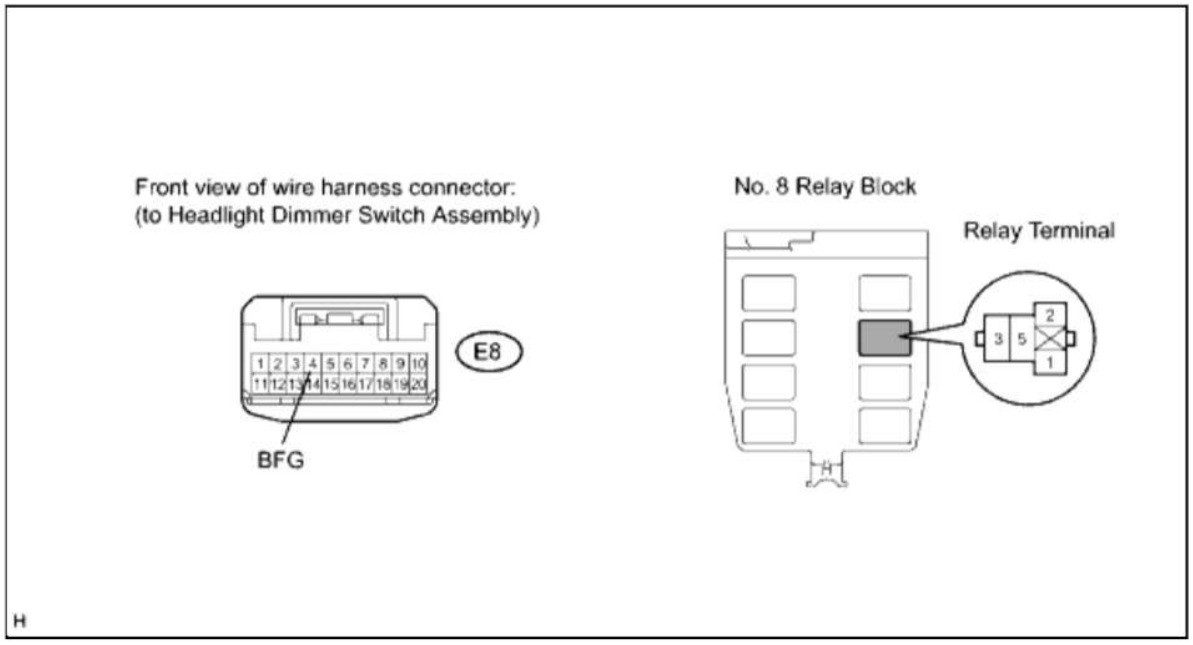
(1) Disconnect the E8 headlight dimmer switch assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Front fog light relay terminal 1 - E8-4 (BFG)	Always	Below 1 Ω
Front fog light relay terminal 1 - Body ground	Always	10 kΩ or higher

(b) except TMC Made



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(1) Disconnect the E8 headlight dimmer switch assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Front fog light relay terminal 1 - E8-4 (BFG)	Always	Below 1 Ω
Front fog light relay terminal 1 - Body ground	Always	10 kΩ or higher

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

OK ▼

6.	**CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH ASSEMBLY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E8-3 (LFG) - E91-4 (FOG)	Always	Below 1 Ω
E8-3 (LFG) - Body ground	Always	10 kΩ or higher

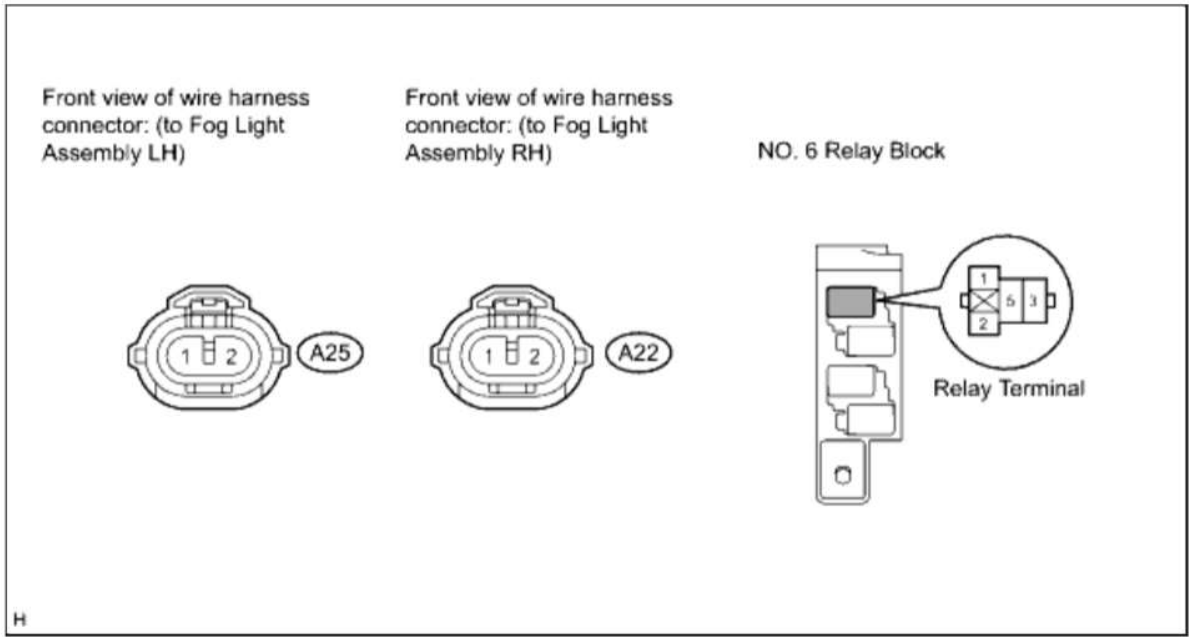
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

7.	**CHECK HARNESS AND CONNECTOR (FRONT FOG LIGHT RELAY - FOG LIGHT ASSEMBLY)**

(a) for TMC Made

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(1) Disconnect the A25 fog light assembly LH connector and the A22 fog light assembly RH connector.

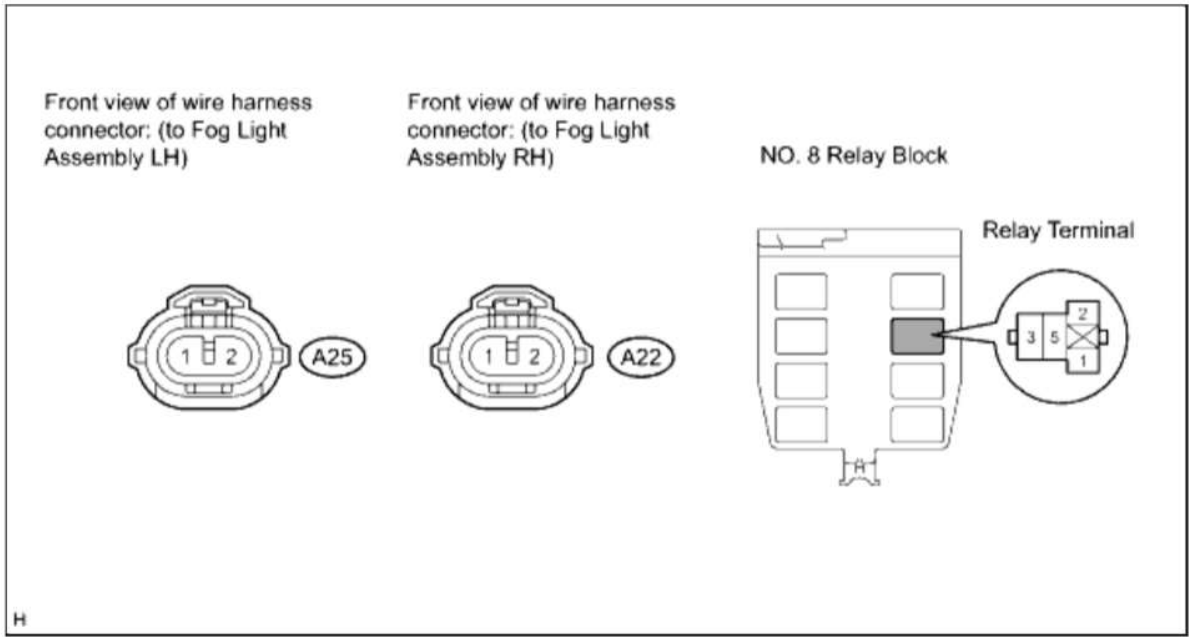
(2) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Front fog light relay terminal 3 - A25-2	Always	Below 1 Ω
Front fog light relay terminal 3 - Body ground	Always	10 kΩ or higher
Front fog light relay terminal 3 - A22-2	Always	Below 1 Ω
Front fog light relay terminal 3 - Body ground	Always	10 kΩ or higher

(b) except TMC Made

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(1) Disconnect the A25 fog light assembly LH connector and the A22 fog light assembly RH connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Front fog light relay terminal 3 - A25-2	Always	Below 1 Ω
Front fog light relay terminal 3 - Body ground	Always	10 kΩ or higher
Front fog light relay terminal 3 - A22-2	Always	Below 1 Ω
Front fog light relay terminal 3 - Body ground	Always	10 kΩ or higher

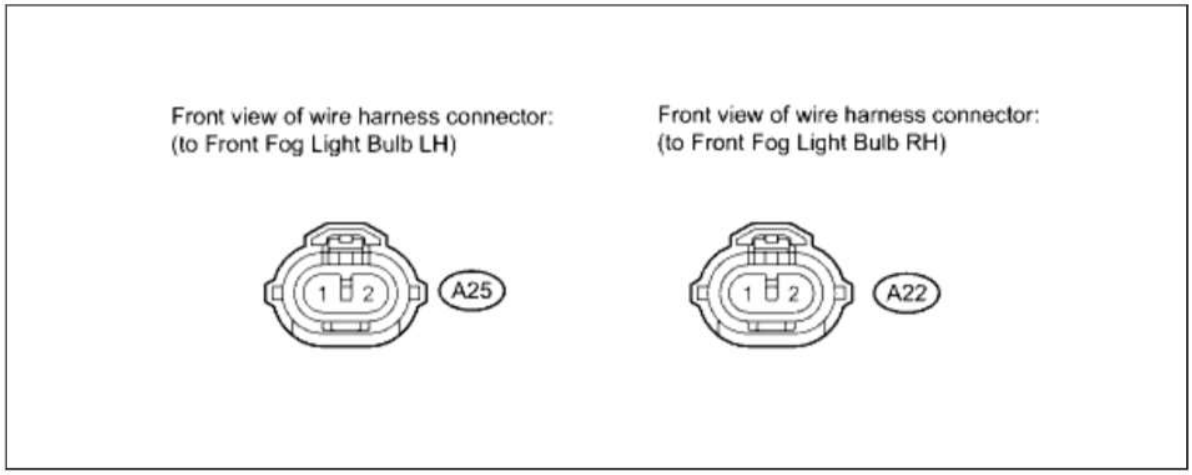
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

8.	**CHECK HARNESS AND CONNECTOR (FOG LIGHT ASSEMBLY - BODY GROUND)**

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

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Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A25-1 - Body ground	Always	Below 1 Ω
A22-1 - Body ground	Always	Below 1 Ω

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

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000ZBM01SX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Headlight Relay Circuit (2010 Corolla)		

Headlight Relay Circuit

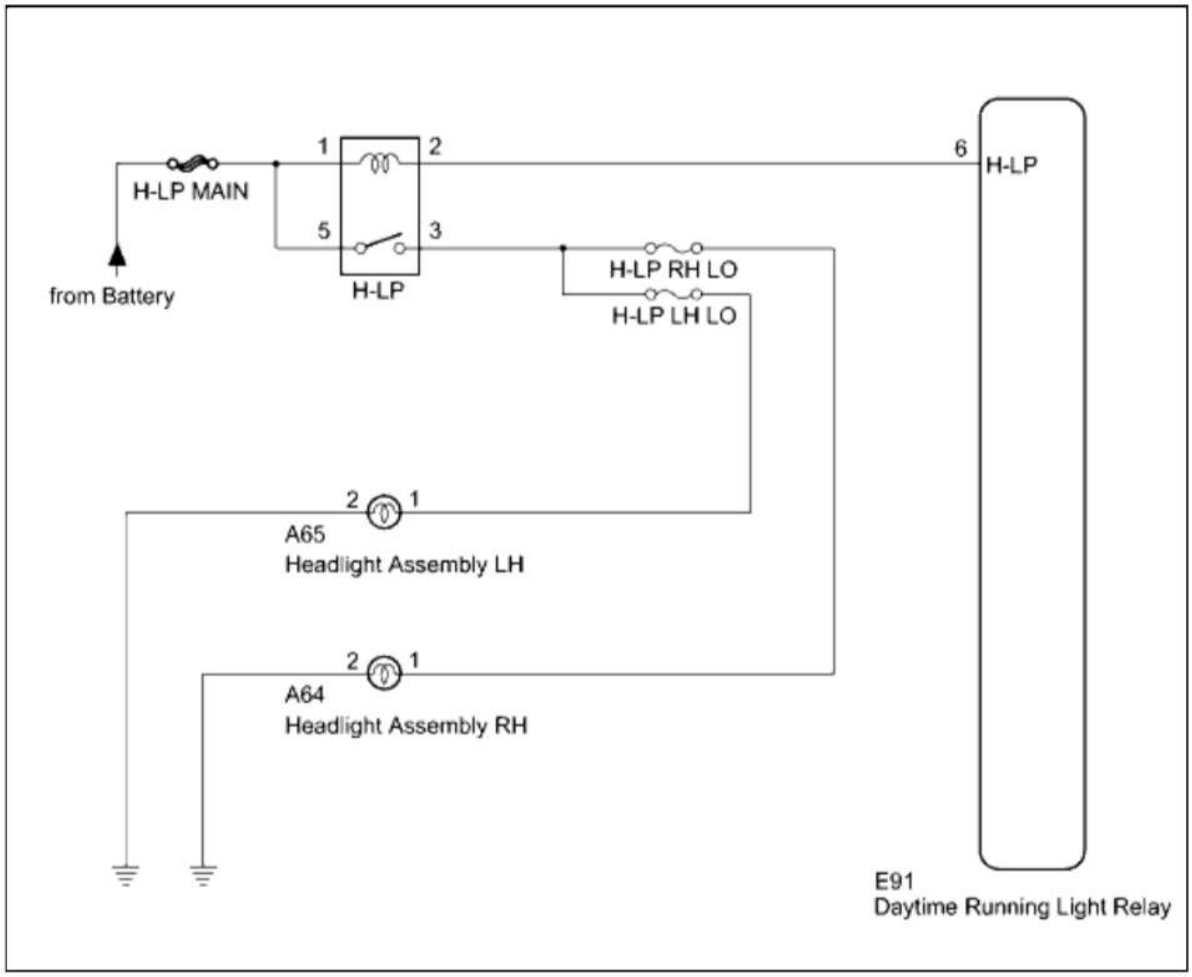
DESCRIPTION

- The daytime running light relay receives the light control switch HEAD signal and the ambient light level signal from the automatic light control sensor to control the headlight relay.

HINT:

- If only a low beam headlight bulb on one side does not illuminate, inspect the bulb, fuse, or wire harness related to the bulb.

WIRING DIAGRAM



INSPECTION PROCEDURE

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PROCEDURE

1.	**INSPECT FUSE (H-LP MAIN)**

(a) Remove the H-LP MAIN fuse from the engine room relay block.

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

Standard Resistance:

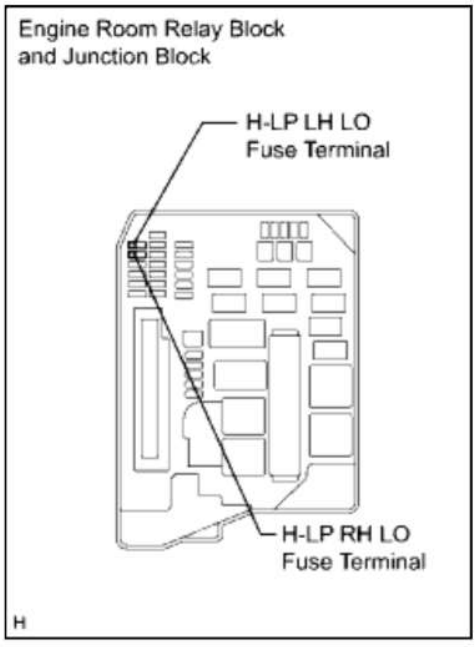
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H-LP MAIN fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

2.	**INSPECT ENGINE ROOM RELAY BLOCK**

(a) Install the H-LP MAIN fuse to the engine room relay block.



(b) Remove the H-LP LH LO fuse and H-LP RH LO fuse from the engine room relay block.

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(c) Measure the voltage between the loading slot of each fuse and body ground.

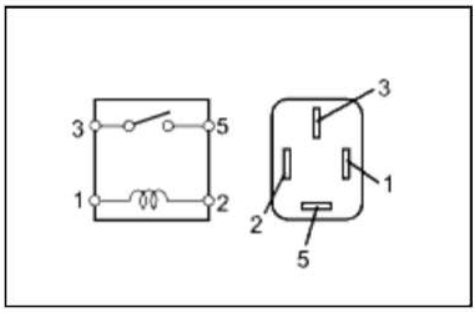
Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
H-LP LH LO fuse terminal - Body ground	Light control switch OFF → HEAD	Below 1 V → 11 to 14 V
H-LP RH LO fuse terminal - Body ground	Light control switch OFF → HEAD	Below 1 V → 11 to 14 V

NG ▶ **INSPECT HEADLIGHT RELAY (H-LP)**

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (FUSE - BODY GROUND)**

3.	**INSPECT HEADLIGHT RELAY (H-LP)**



(a) Remove the headlight relay from the engine room relay block.

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

Standard Resistance:

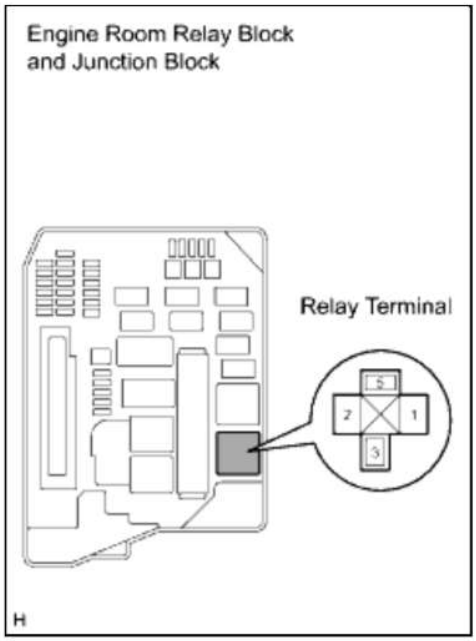
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

NG ▶ **REPLACE HEADLIGHT RELAY**

OK ▼

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4.	CHECK HARNESS AND CONNECTOR (BATTERY - HEADLIGHT RELAY)



(a) Measure the voltage on the relay block side according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight relay terminal 5 - Body ground	Always	11 to 14 V
Headlight relay terminal 1 - Body ground	Always	11 to 14 V

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

OK ▼

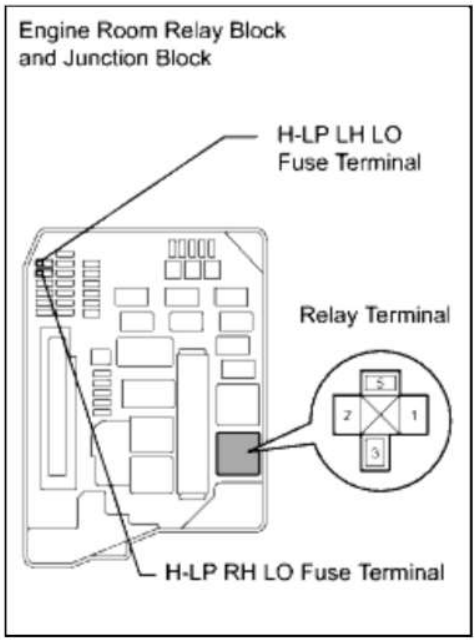
5.	CHECK HARNESS AND CONNECTOR (HEADLIGHT RELAY - FUSE)

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight relay terminal 3 - H-LP LH LO fuse terminal	Always	Below 1 Ω
Headlight relay terminal 3 - H-LP RH LO fuse terminal	Always	Below 1 Ω

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

OK ▼

6.	**CHECK HARNESS AND CONNECTOR (HEADLIGHT RELAY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight relay terminal 2 - E91-6 (H-LP)	Always	Below 1 Ω
E91-6 (H-LP) - Body ground	Always	10 kΩ or higher

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

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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Last Modified: 3-10-2010	6.4 U	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002CE000XX
Title: LIGHTING (EXT): LIGHTING SYSTEM: FAIL-SAFE CHART (2010 Corolla)		

FAIL-SAFE CHART

1. AUTOMATIC LIGHT CONTROL FUNCTION

(a) If the daytime running light relay does not receive a signal due to a automatic light control sensor malfunction or open circuit, either of the following conditions will occur.

CONDITION	SPECIFIED CONDITION
Taillights and low beam headlights are on.	• If the taillights and the low beam headlights are on, they will remain on.
Taillights and low beam headlights are off.	• If the taillights and the low beam headlights are not on, they will remain off.

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001A7L01MX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Headlight (HI-BEAM) Circuit (2010 Corolla)		

Headlight (HI-BEAM) Circuit

DESCRIPTION

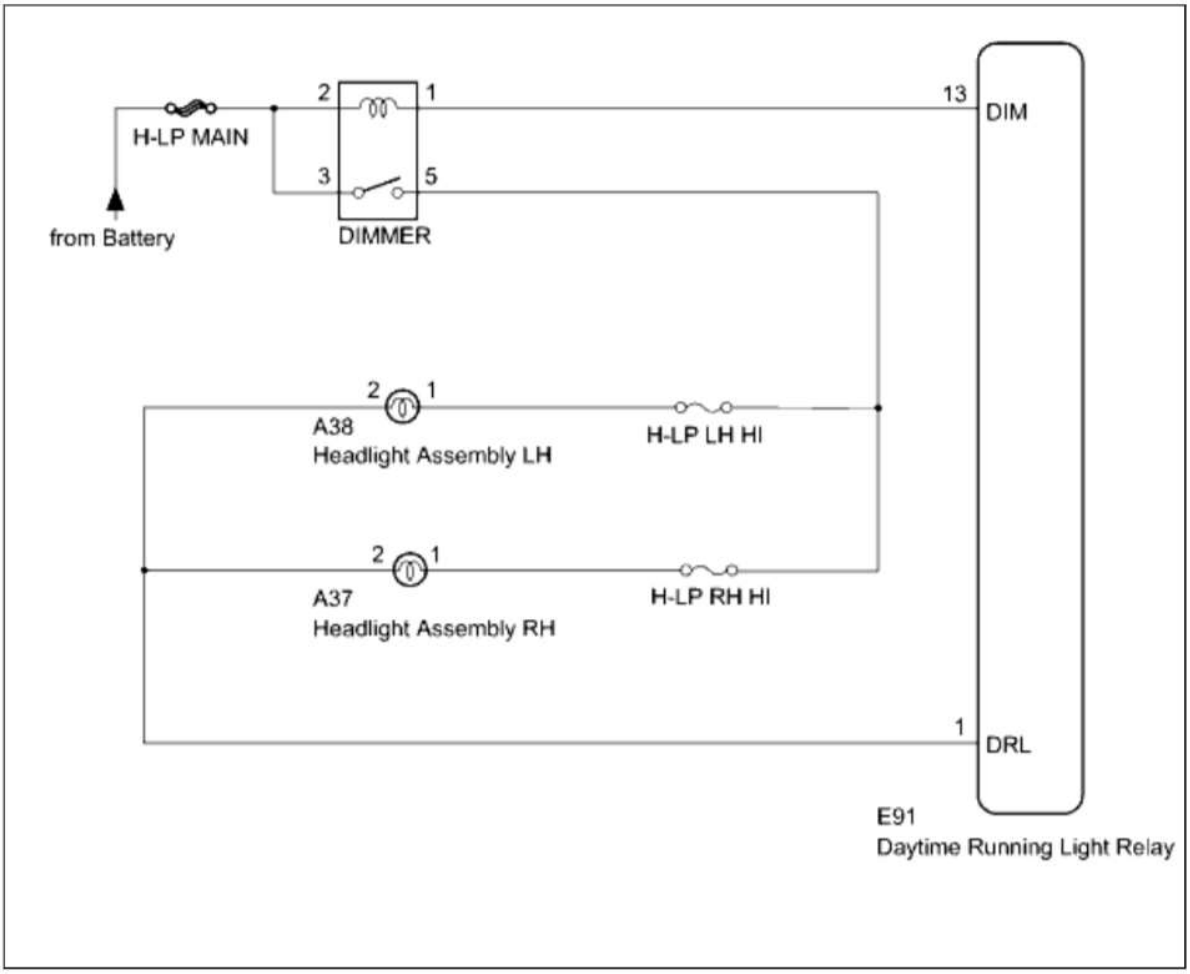
- When both of the following conditions are met, the high beam headlights will come on.
  - Low beam headlights are turned on by the automatic light control or manual light control.
  - Dimmer switch is in HIGH position.
- The daytime running light relay dims the high beam headlights when operating them as daytime running lights.
- When the dimmer switch is turned to the HIGH FLASH position, the high beam headlights will come on.

HINT:

- If only a high beam headlight on one side does not illuminate, inspect the fuse, bulb, or wire harness that is related to the bulb.
- Before performing troubleshooting of the high beam headlight control, check that the low beam headlight operates normally.

WIRING DIAGRAM

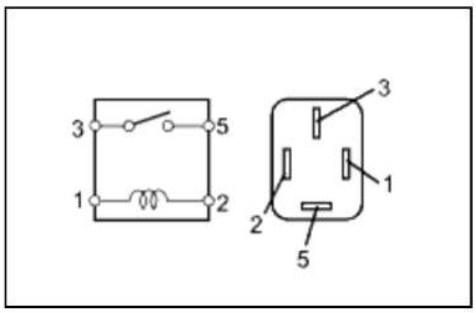
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INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT HEADLIGHT DIMMER RELAY (DIM)**



(a) Remove the headlight dimmer relay from the engine room relay block.

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

Standard Resistance:

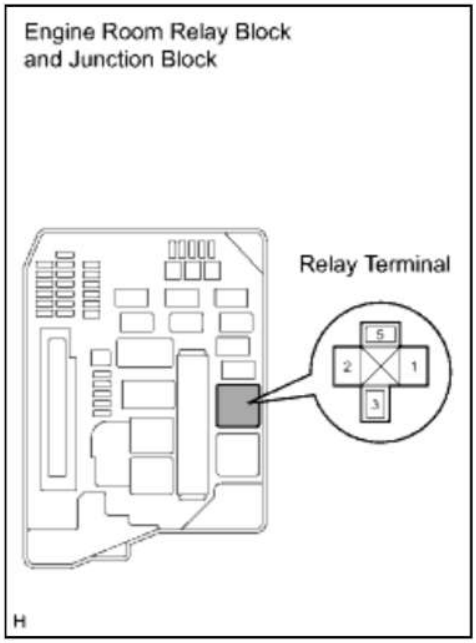
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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

NG ▶ **REPLACE HEADLIGHT DIMMER RELAY**

OK ▼

2.	**CHECK HARNESS AND CONNECTOR (BATTERY - HEADLIGHT DIMMER RELAY)**



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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight dimmer relay terminal 2 - Body ground	Always	11 to 14 V
Headlight dimmer relay terminal 3 - Body ground	Always	11 to 14 V

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

OK ▼

3.	**CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER RELAY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the F04 daytime running light relay connector.

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

Standard Resistance:

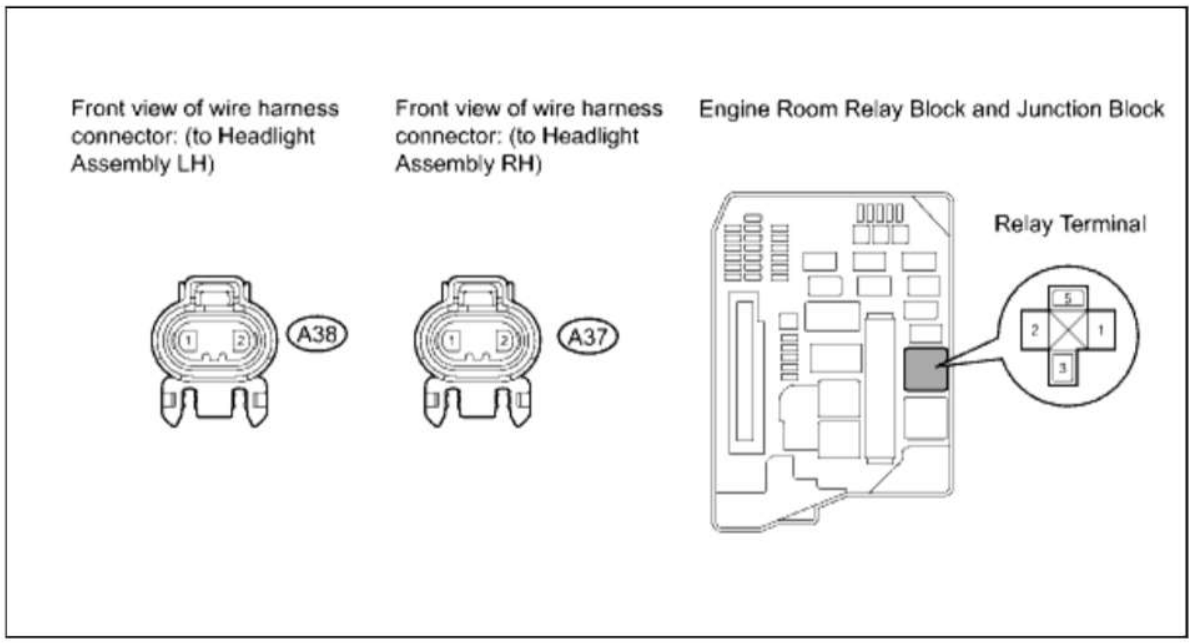
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight dimmer relay terminal 1 - E91-13 (DIM)	Always	Below 1 Ω
E91-13 (DIM) - Body ground	Always	10 kΩ or higher

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

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER RELAY - HEADLIGHT ASSEMBLY)**

(a) Disconnect the A38 headlight assembly LH and A37 headlight assembly RH connector.



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight dimmer relay terminal 5 - A38-1	Always	Below 1 Ω

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Headlight dimmer relay terminal 5 - Body ground	Always	10 kΩ or higher
Headlight dimmer relay terminal 5 - A37-1	Always	Below 1 Ω
Headlight dimmer relay terminal 5 - Body ground	Always	10 kΩ or higher

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

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (HEADLIGHT ASSEMBLY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
A38-2 - E91-1 (DRL)	Always	Below 1 Ω
A38-2 - Body ground	Always	10 kΩ or higher
A37-2 - E91-1 (DRL)	Always	Below 1 Ω
A37-2 - Body ground	Always	10 kΩ or higher

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

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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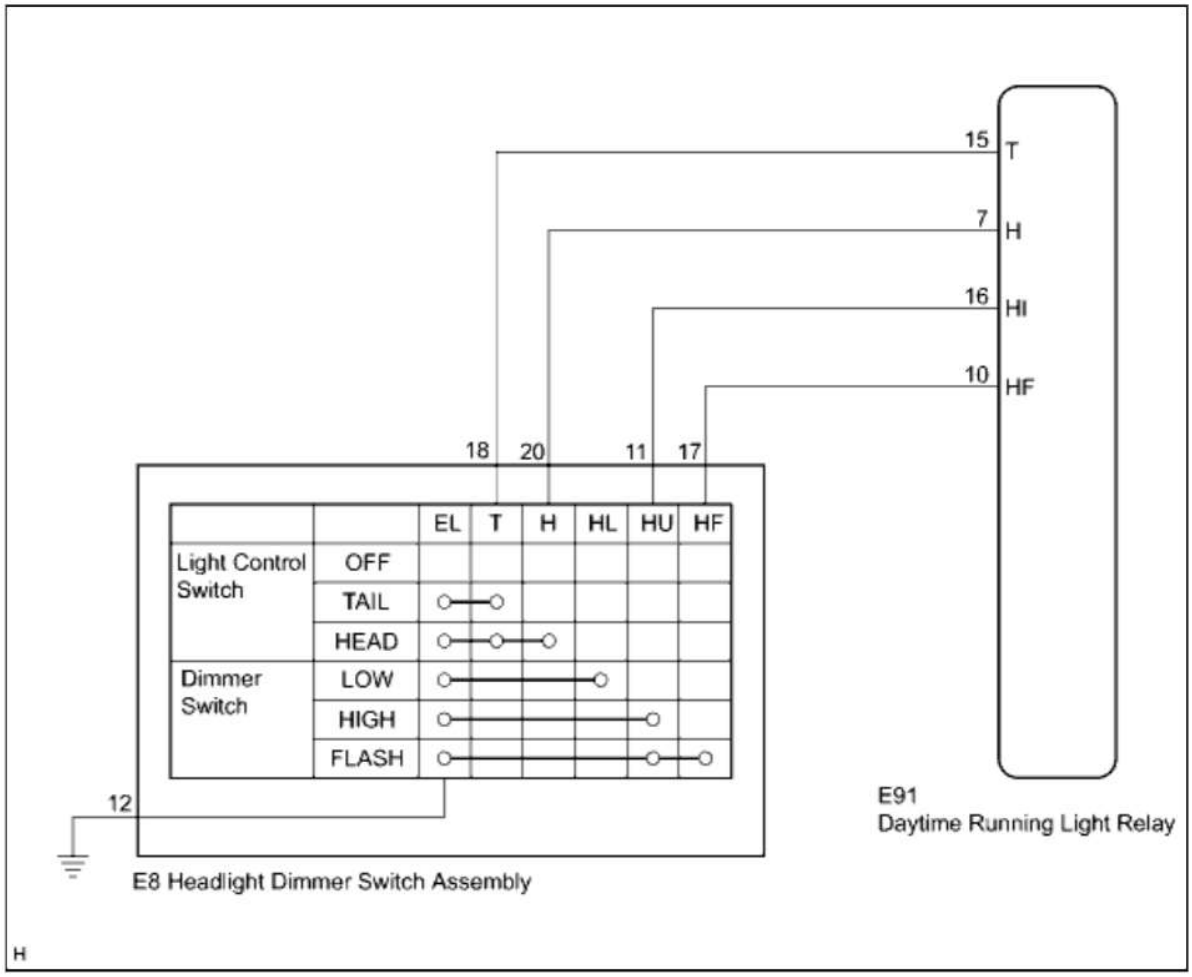
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011M301ZX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Light Control Switch Circuit (2010 Corolla)		

Light Control Switch Circuit

DESCRIPTION

- The daytime running light relay receives the following signals:
  - Light control switch TAIL or HEAD signal
  - Dimmer switch HIGH or HIGH FLASH (PASS) signal

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

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1.	INSPECT HEADLIGHT DIMMER SWITCH ASSEMBLY

(a) Inspect the headlight dimmer switch assembly INFO .

OK:
Headlight dimmer switch assembly is normal.

NG ▶ REPLACE HEADLIGHT DIMMER SWITCH ASSEMBLY

OK ▼

2.	CHECK HARNESS AND CONNECTOR (SWITCH - DAYTIME RUNNING LIGHT RELAY)

(a) Disconnect the E8 headlight dimmer switch assembly connector.

(b) Disconnect the E91 daytime running light relay connectors.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E8-11 (HU) - E91-16 (HI)	Always	Below 1 Ω
E8-17 (HF) - E91-10 (HF)	Always	Below 1 Ω
E8-18 (T) - E91-15 (T)	Always	Below 1 Ω
E8-20 (H) - E91-7 (H)	Always	Below 1 Ω
E8-11 (HU) - Body ground	Always	10 kΩ or higher
E8-17 (HF) - Body ground	Always	10 kΩ or higher
E8-18 (T) - Body ground	Always	10 kΩ or higher
E8-20 (H) - Body ground	Always	10 kΩ or higher
E8-12 (EL) - Body ground	Always	Below 1 Ω

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ▶ PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

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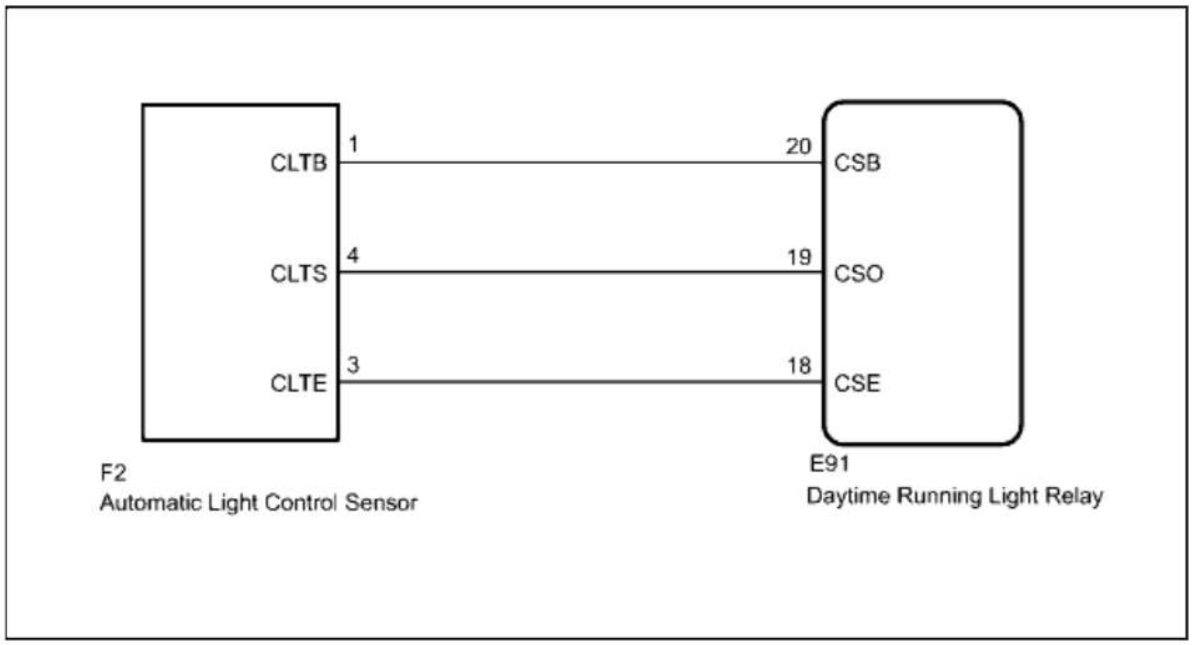
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011TB00DX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Automatic Light Control Sensor Circuit (2010 Corolla)		

Automatic Light Control Sensor Circuit

DESCRIPTION

The daytime running light relay receives a signal from the automatic light control sensor.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (DAYTIME RUNNING LIGHT RELAY - AUTOMATIC LIGHT CONTROL SENSOR)**

(a) Disconnect the F2 automatic light control sensor connector and E91 daytime running light relay connector.

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

Standard Resistance:

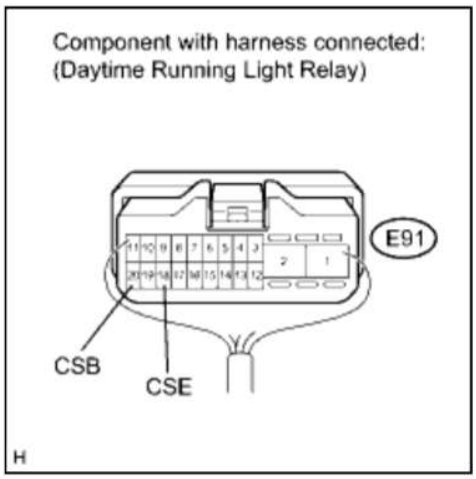
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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
F2-1 (CLTB) - E91-20 (CSB)	Always	Below 1 Ω
F2-3 (CLTE) - E91-18 (CSE)	Always	Below 1 Ω
F2-4 (CLTS) - E91-19 (CSO)	Always	Below 1 Ω
F2-1 (CLTB) - Body ground	Always	10 kΩ or higher
F2-3 (CLTE) - Body ground	Always	10 kΩ or higher
F2-4 (CLTS) - Body ground	Always	10 kΩ or higher

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

OK ▼

2.	**INSPECT DAYTIME RUNNING LIGHT RELAY**



(a) Reconnect the E91 daytime running light relay connector.

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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED VOLTAGE
E91-20 (CSB) - E91-18 (CSE)	Ignition switch off → ON	Below 1 V → 11 to 14 V

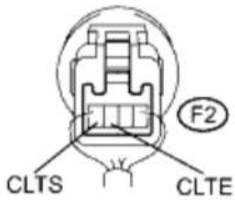
NG ▶ **REPLACE DAYTIME RUNNING LIGHT RELAY**

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OK

3.	INSPECT AUTOMATIC LIGHT CONTROL SENSOR

Component with harness connected:
(Automatic Light Control Sensor)

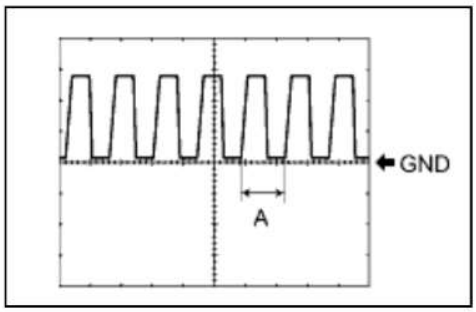


(a) Reconnect the F2 automatic light control sensor connector.

(b) Connect an oscilloscope to the automatic light control sensor connector.

(c) Check the waveform.

OK:



TESTER CONNECTION	TOOL SETTING	SWITCH CONDITION	SPECIFIED CONDITION
F2-3 (CLTE) - F2-4 (CLTS)	2 V/DIV., 5 ms./DIV.	Ignition switch ON, light control switch in off	Correct waveform is as shown

HINT:

If the ambient light becomes brighter, width A becomes narrower.

NG ▶ **REPLACE AUTOMATIC LIGHT CONTROL SENSOR**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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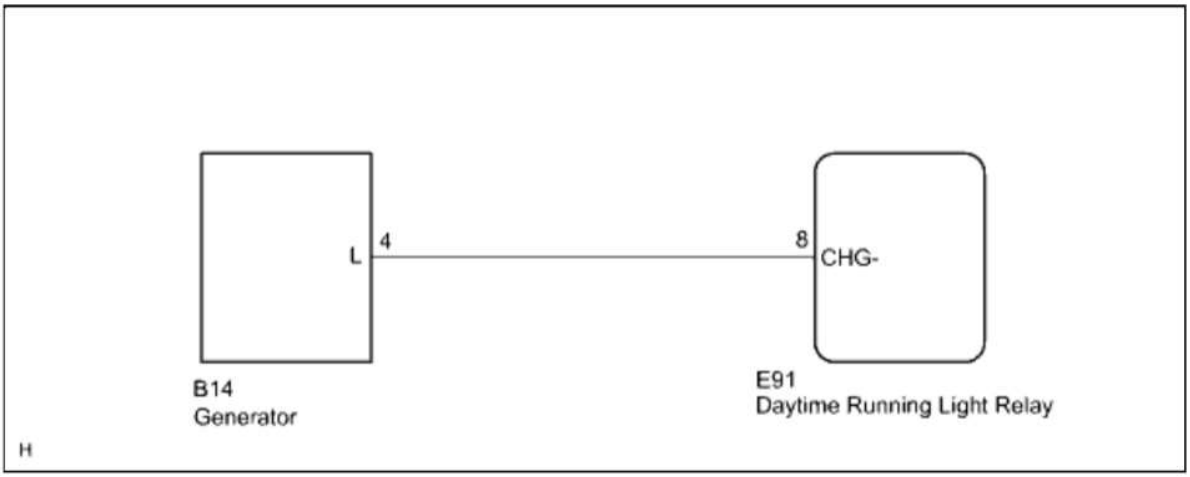
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000ZBR006X
Title: LIGHTING (EXT): LIGHTING SYSTEM: Generator Signal Circuit (2010 Corolla)		

Generator Signal Circuit

DESCRIPTION

The daytime running light relay receives an engine condition signal via the generator.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

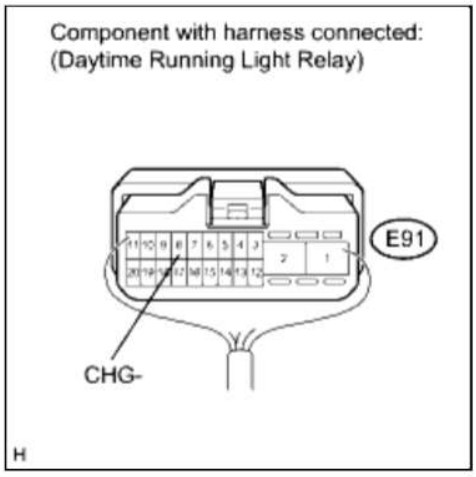
1.	**CHECK DAYTIME RUNNING LIGHT RELAY**

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-8 (CHG-) - Body ground	Engine running	11 to 14 V

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NG ▶ **INSPECT GENERATOR ASSEMBLY**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	INSPECT GENERATOR ASSEMBLY

(a) Inspect generator assembly INFO for 2ZR-FE, INFO for 2AZ-FE).

Result:

RESULT	PROCEED TO
OK	A
NG (for 2ZR-FE)	B
NG (for 2AZ-FE)	C

C ▶ **REPLACE GENERATOR ASSEMBLY**

B ▶ **REPLACE GENERATOR ASSEMBLY**

A ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (GENERATOR ASSEMBLY - DAYTIME RUNNING LIGHT RELAY)**

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Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001MEH01TX
Title: LIGHTING (EXT): LIGHTING SYSTEM: Taillight Relay Circuit (2010 Corolla)		

Taillight Relay Circuit

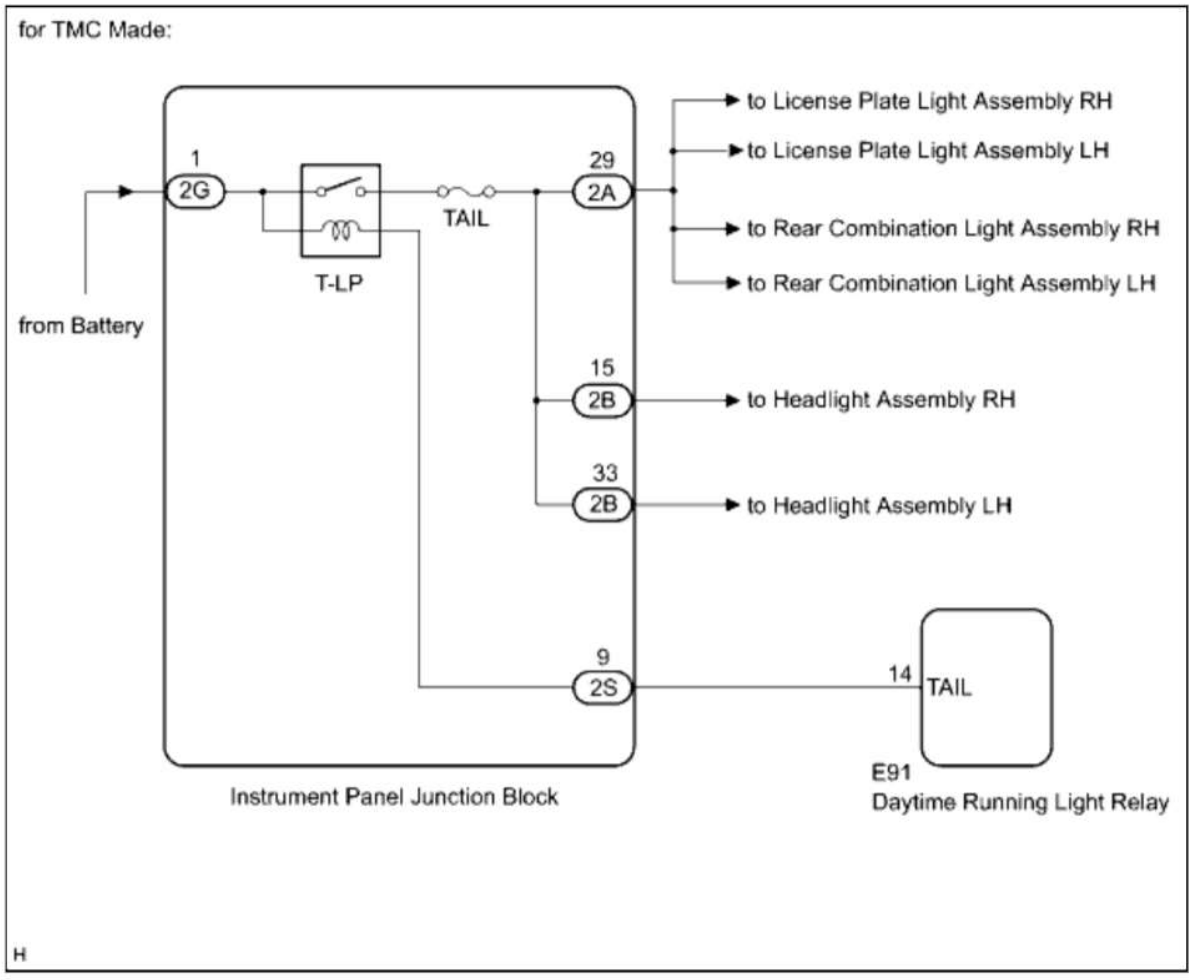
DESCRIPTION

- The daytime running light relay receives the light control switch TAIL signal to control the taillight relay.

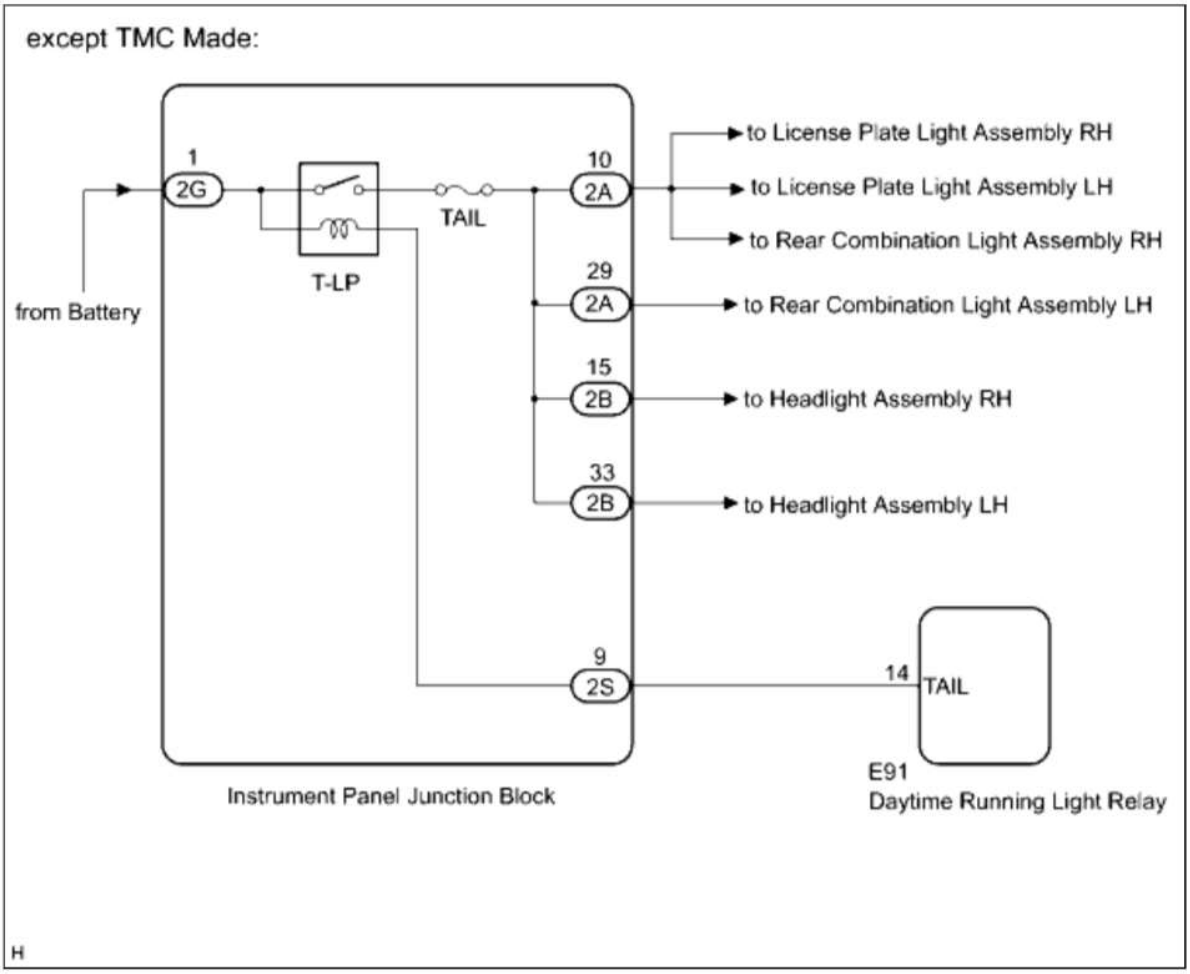
HINT:

- If only one taillight does not illuminate, check the bulb or wire harness related to the bulb.
- The taillight relay is installed in the instrument panel junction block, so unlike conventional relays, it can not be removed for inspection.

WIRING DIAGRAM



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INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT FUSE (TAIL)**

(a) Remove the TAIL fuse from the instrument panel junction block.

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

Standard Resistance:

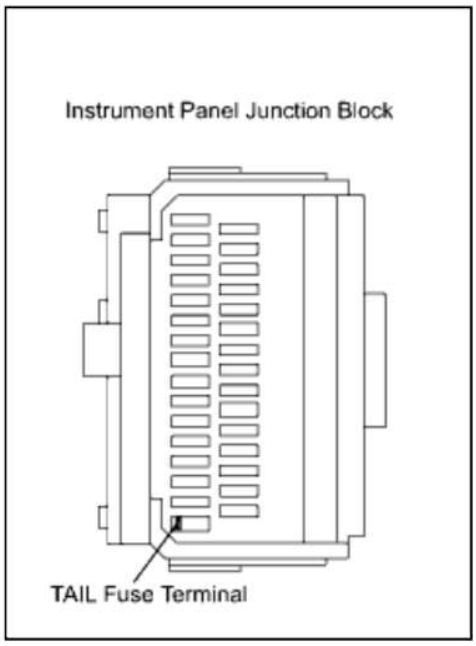
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
TAIL fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

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OK

2.	**INSPECT INSTRUMENT PANEL JUNCTION BLOCK**



(a) Measure the voltage between the loading slot of the TAIL fuse and body ground.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
TAIL fuse terminal - Body ground	Light control switch OFF → TAIL	Below 1 V → 11 to 14 V

NG ▶ **CHECK HARNESS AND CONNECTOR (BATTERY - DAYTIME RUNNING LIGHT CONTROL RELAY)**

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (FUSE - EACH BULB)**

3.	**CHECK HARNESS AND CONNECTOR (BATTERY - DAYTIME RUNNING LIGHT CONTROL RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Voltage:

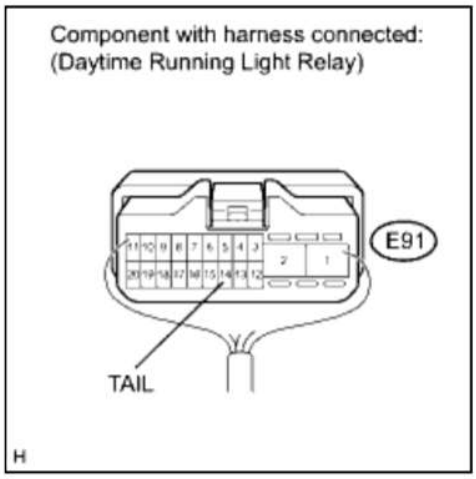
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-14 (TAIL) - Body ground	Always	11 to 14 V

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

OK ▼

4.	**INSPECT DAYTIME RUNNING LIGHT RELAY**



(a) Reconnect the E91 daytime running light relay connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-14 (TAIL) - Body ground	Light control switch OFF → TAIL	11 to 14 V → Below 1 V

NG ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE MAIN BODY ECU (INSTRUMENT PANEL JUNCTION BLOCK)**

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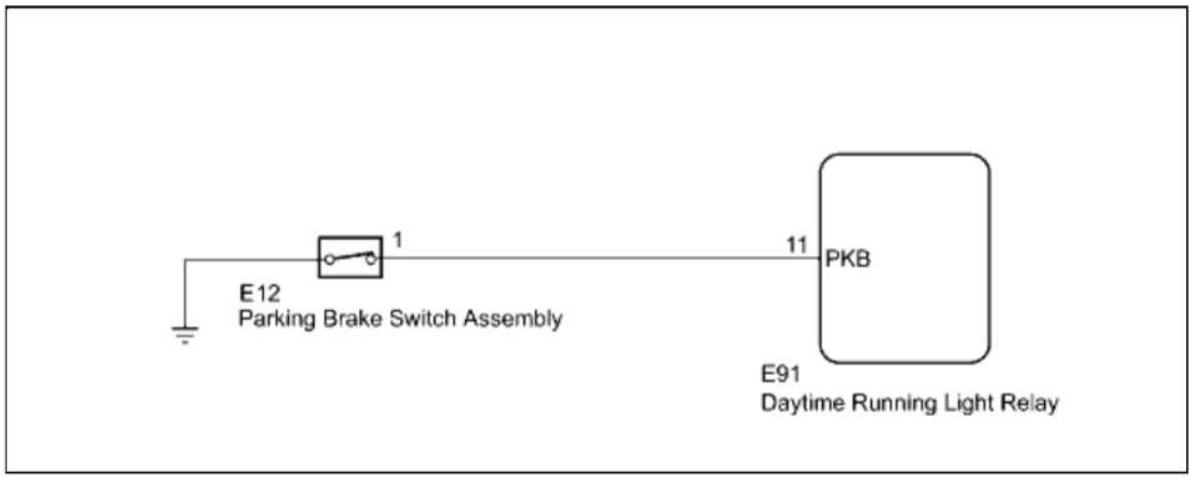
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000ZBT007X
Title: LIGHTING (EXT): LIGHTING SYSTEM: Parking Brake Switch Circuit (2010 Corolla)		

Parking Brake Switch Circuit

DESCRIPTION

The daytime running light relay receives the parking brake switch signal.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (DAYTIME RUNNING LIGHT RELAY - BODY GROUND)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Resistance:

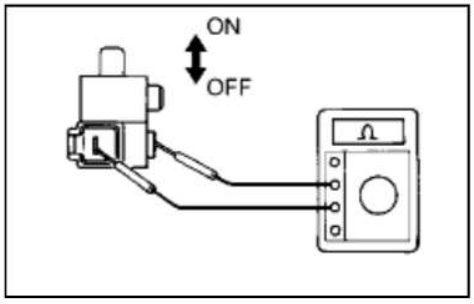
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-11 (PKB) - Body ground	Parking brake is released	10 kΩ or higher
E91-11 (PKB) - Body ground	Parking brake is applied	Below 1 Ω

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NG ▶ **INSPECT PARKING BRAKE SWITCH ASSEMBLY**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT PARKING BRAKE SWITCH ASSEMBLY**



(a) Remove the parking brake switch assembly.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED RESISTANCE
1 - Switch body	OFF (When shaft is pressed)	10 kΩ or higher
1 - Switch body	ON (When shaft is not pressed)	Below 1 Ω

NG ▶ **REPLACE PARKING BRAKE SWITCH ASSEMBLY**

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (PARKING BRAKE SWITCH CIRCUIT)**

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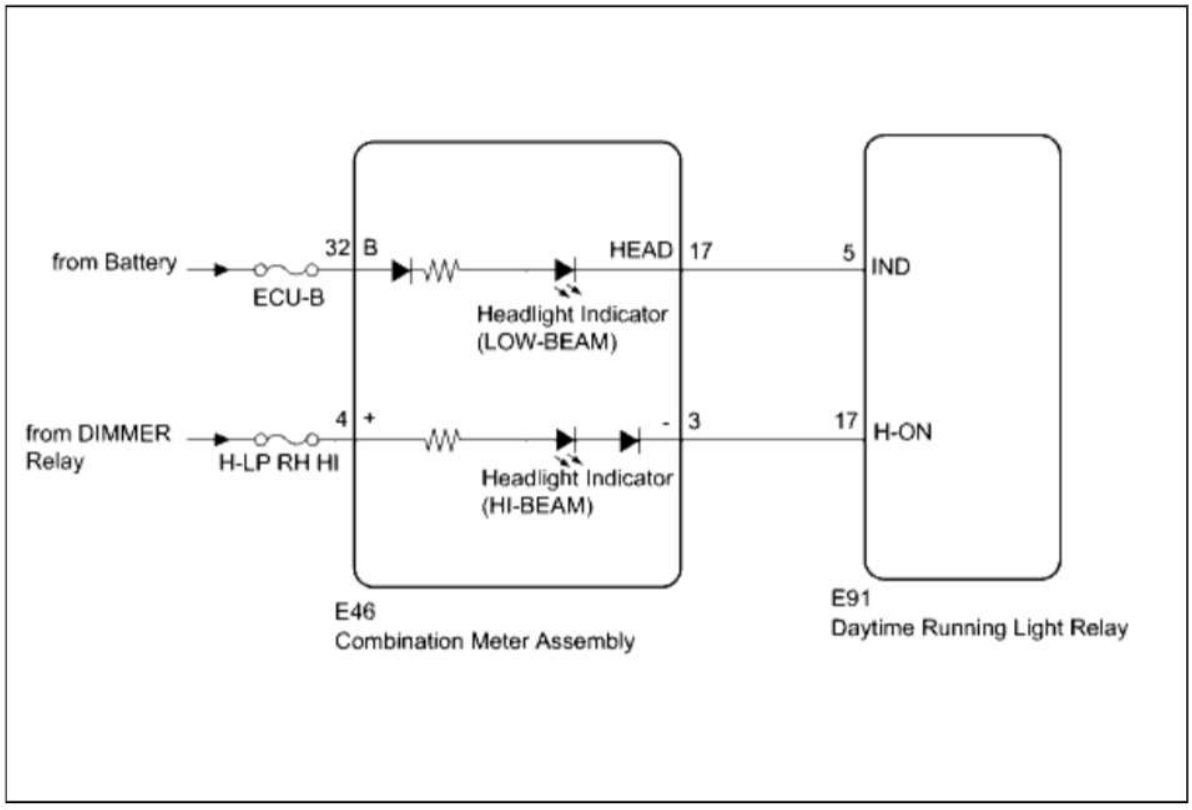
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000003G1Q003X
Title: LIGHTING (EXT): LIGHTING SYSTEM: Indicator Circuit (2010 Corolla)		

Indicator Circuit

DESCRIPTION

The daytime running light relay receives headlight dimmer switch assembly information to control low beam and high beam headlight indicators.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT FUSE**

(a) Remove the ECU-B fuse and H-LP RH HI fuse from the engine room relay block and

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junction block.

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

Standard Resistance:

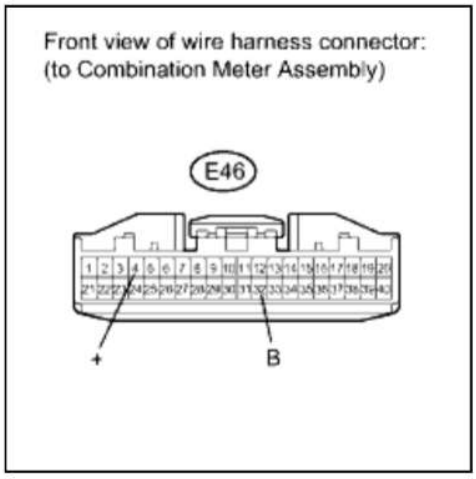
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H-LP RH HI	Always	Below 1 Ω
ECU-B fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

2.	CHECK HARNESS AND CONNECTOR (FUSE - COMBINATION METER ASSEMBLY)

(a) Install the ECU-B fuse and H-LP RH HI fuse to the engine room relay block and junction block.



(b) Disconnect the E46 combination meter assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E46-32 (B) - Body ground	Always	11 to 14 V
E46-4 (+) - Body ground	High beam headlight ON	11 to 14 V

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

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OK

3.	**CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E46-17 (HEAD) - E91-5 (IND)	Always	Below 1 Ω
E46-17 (HEAD) - Body ground	Always	10 kΩ or higher
E46-3 (-) - E91-17 (H-ON)	Always	Below 1 Ω
E46-3 (-) - Body ground	Always	10 kΩ or higher

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

OK

4.	**INSPECT COMBINATION METER ASSEMBLY**

(a) Reconnect the E46 combination meter assembly connector.

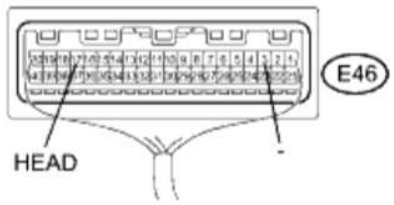
(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E46-17 (HEAD) - Body ground	Light control switch OFF	11 to 14 V

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Component with harness connected:
(Combination Meter Assembly)



E46-17 (HEAD) - Body ground	Light control switch in HEAD	Below 1 V
E46-3 (-) - Body ground	Dimmer switch OFF	11 to 14 V
E46-3 (-) - Body ground	Light control switch in HEAD and dimmer switch in HIGH	11 to 14 V

NG ▶ **REPLACE COMBINATION METER ASSEMBLY**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

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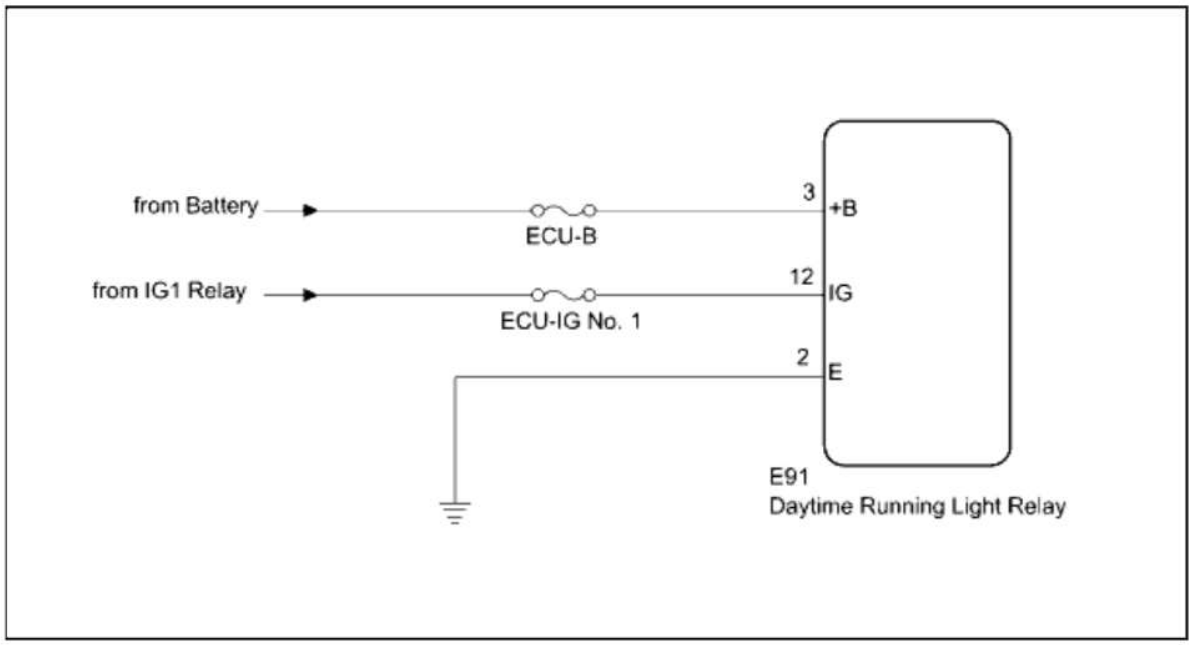
Last Modified: 3-10-2010	6.4 J	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000011TZ017X
Title: LIGHTING (EXT): LIGHTING SYSTEM: Power Source Circuit (2010 Corolla)		

Power Source Circuit

DESCRIPTION

This circuit detects the state of the ignition switch, and sends it to the daytime running light relay.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT FUSE (ECU-IG NO. 1, ECU-B)**

(a) Remove the ECU-IG No. 1 fuse from the instrument panel junction block assembly.

(b) Remove the ECU-B fuse from the engine room relay block and junction block.

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

Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
ECU-IG No. 1 fuse	Always	Below 1 Ω
ECU-B fuse	Always	Below 1 Ω

NG ▶ **REPLACE FUSE**

OK ▼

2.	**CHECK HARNESS AND CONNECTOR (BATTERY - DAYTIME RUNNING LIGHT RELAY)**

(a) Disconnect the E91 daytime running light relay connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-3 (+B) - Body ground	Always	11 to 14 V
E91-12 (IG) - Body ground	Ignition switch ON	11 to 14 V

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

OK ▼

3.	**CHECK HARNESS AND CONNECTOR (DAYTIME RUNNING LIGHT RELAY - BODY GROUND)**

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E91-2 (E) - Body ground	Always	Below 1 Ω

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

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OK ▶ PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

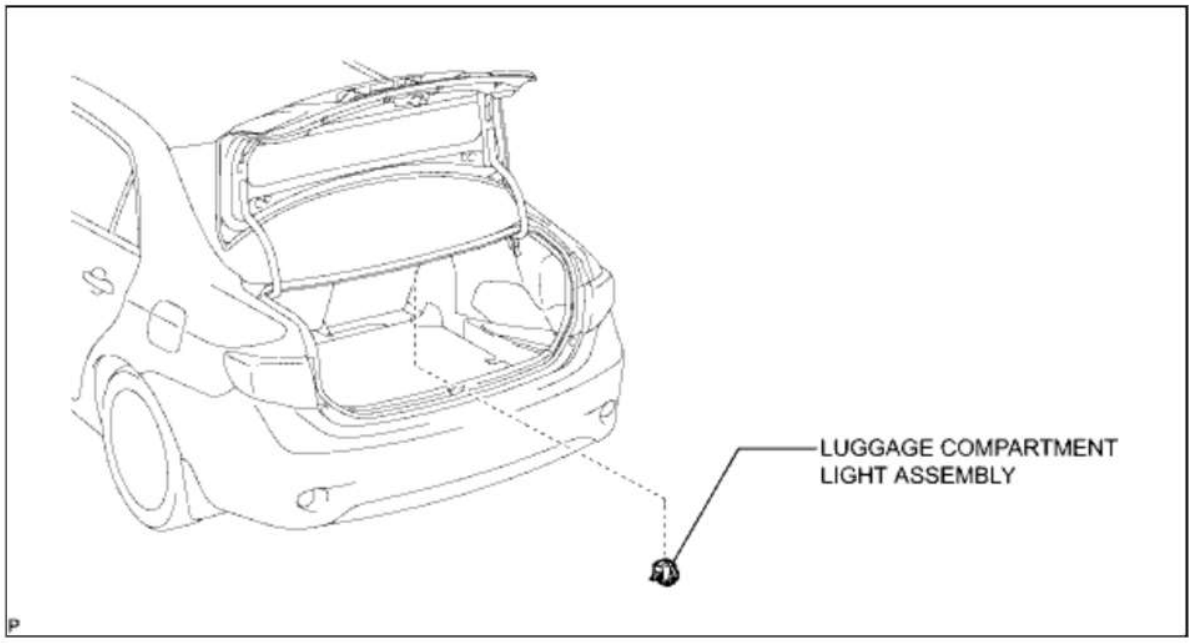


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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000000340T009X
Title: LIGHTING (INT): LUGGAGE COMPARTMENT ROOM LIGHT: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

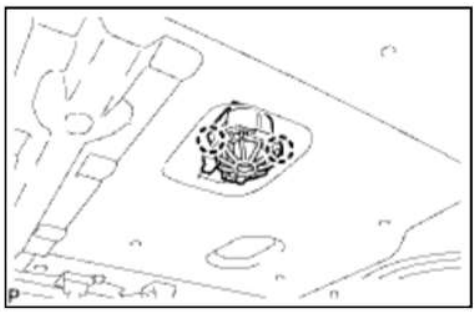


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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000340U009X
Title: LIGHTING (INT): LUGGAGE COMPARTMENT ROOM LIGHT: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE LUGGAGE COMPARTMENT LIGHT ASSEMBLY



(a) Disengage the 2 claws and disconnect the luggage compartment light assembly.

(b) Disconnect the connector and remove the luggage compartment light assembly.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001983024X
Title: LIGHTING (INT): LUGGAGE COMPARTMENT ROOM LIGHT: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT LUGGAGE COMPARTMENT LIGHT ASSEMBLY

Component without harness connected:
(Light Assembly)



(a) Connect a (+) lead from the battery to terminal 1 and a (-) lead to terminal 2.

(b) Check that the light comes on.

OK:

The light comes on.

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

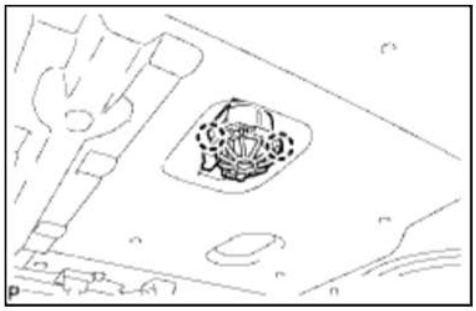
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000340S009X
Title: LIGHTING (INT): LUGGAGE COMPARTMENT ROOM LIGHT: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL LUGGAGE COMPARTMENT LIGHT ASSEMBLY

(a) Connect the connector.



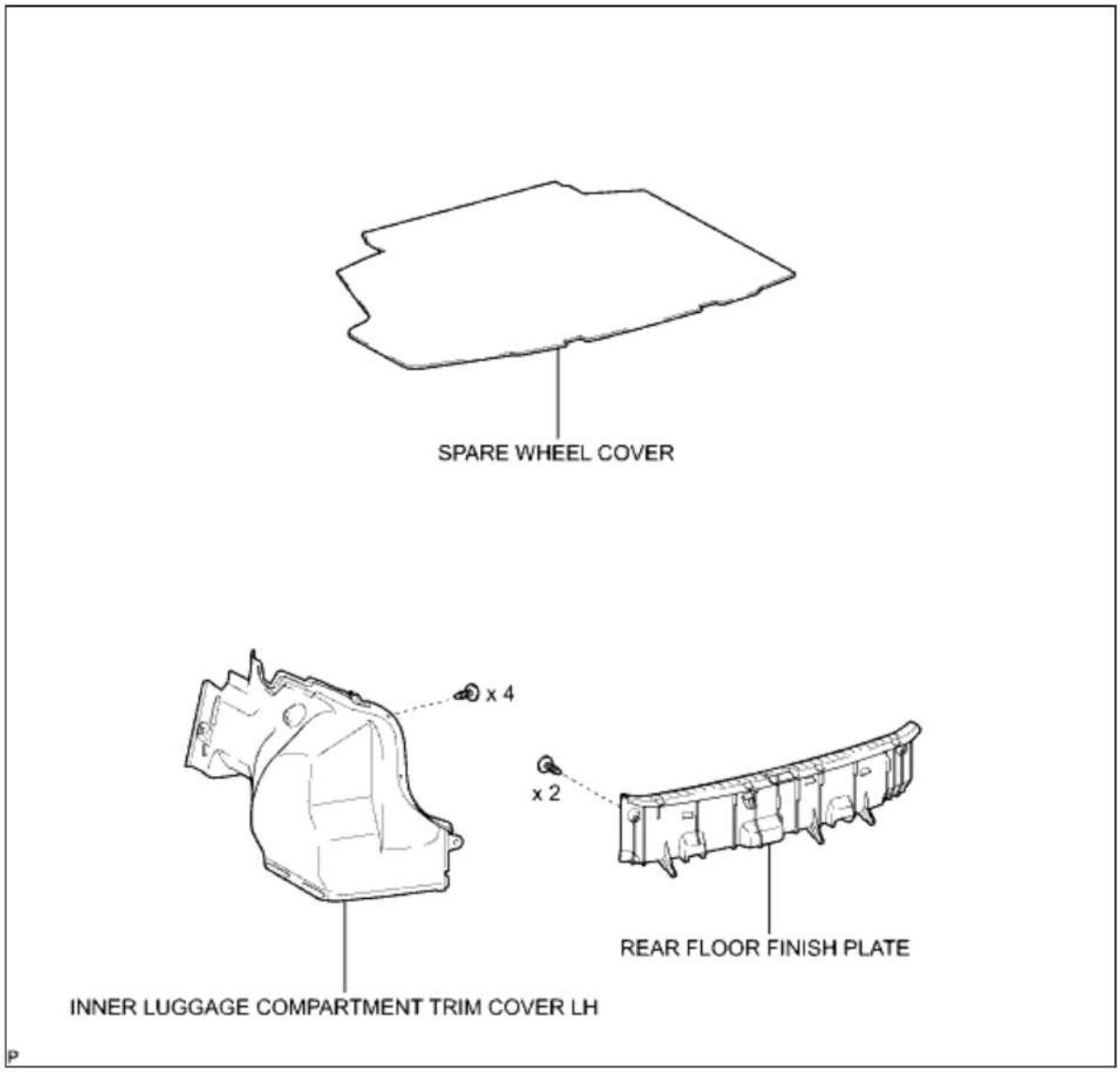
(b) Engage the 2 claws and install the luggage compartment light assembly.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNR00CX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: COMPONENTS (2010 Corolla)		

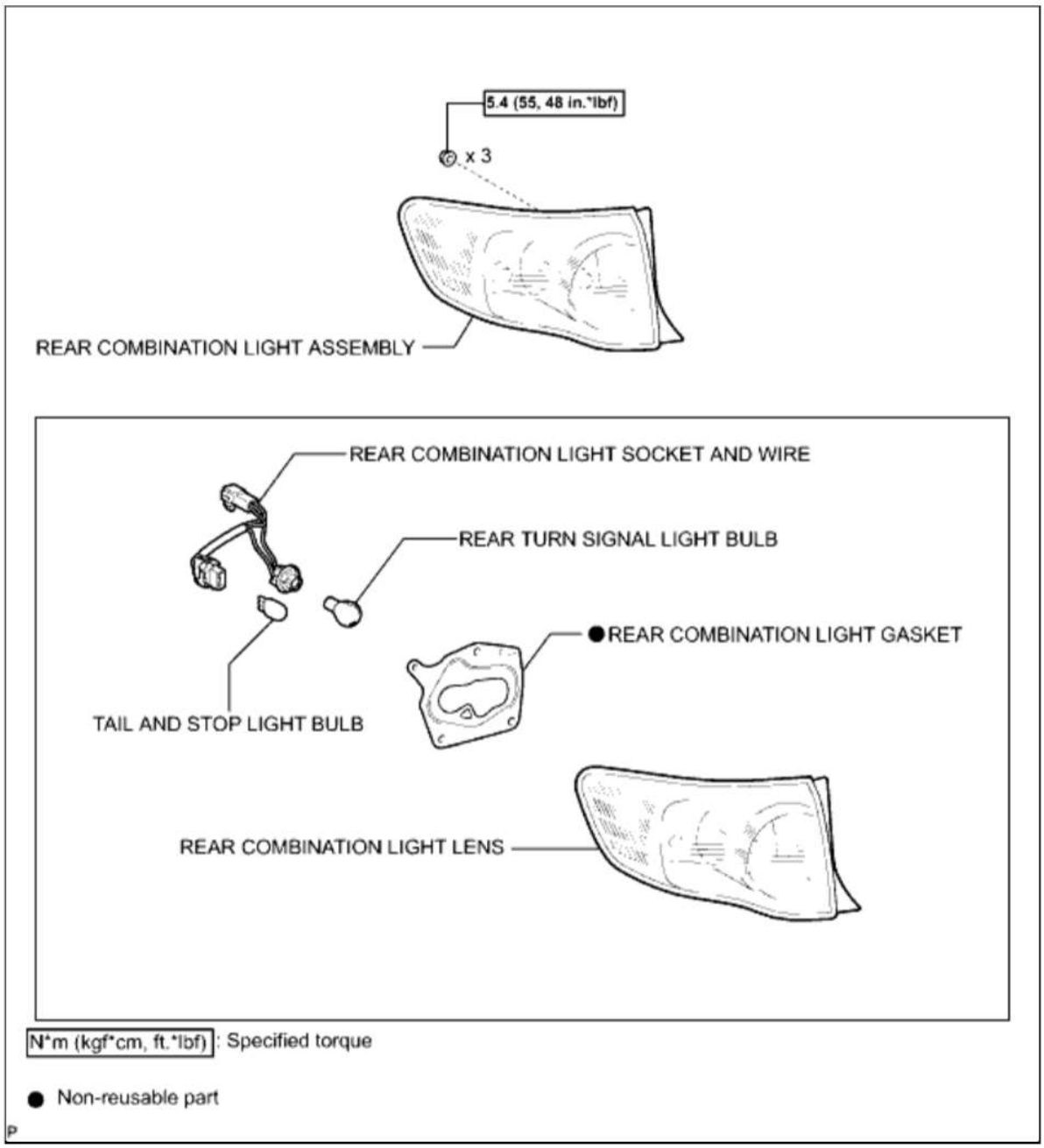
COMPONENTS

ILLUSTRATION



ILLUSTRATION

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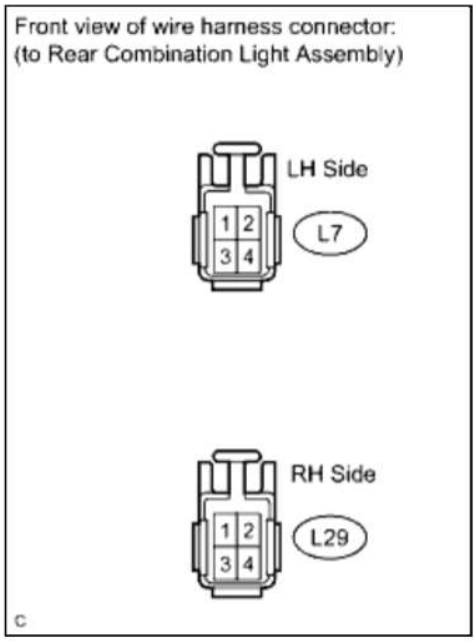


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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000202E01HX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: ON-VEHICLE INSPECTION (2010 Corolla)		

ON-VEHICLE INSPECTION

1. INSPECT REAR COMBINATION LIGHT ASSEMBLY



(a) Disconnect the connector from the rear combination light assembly.

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

Standard Voltage:

LH Side

RH Side

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L7-1 - L7-4	Light control switch OFF	Below 1 V
	Light control switch in TAIL	11 to 14 V
L7-2 - L7-4	Brake pedal released	Below 1 V
	Brake pedal depressed	11 to 14 V
L7-3 - L7-4	Turn signal switch OFF	Below 1 V
	Ignition switch ON and Turn signal switch in LH	11 to 14 V (60 to 120 times per minute)

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L29-1 - L29-4	Light control switch OFF	Below 1 V
	Light control switch in TAIL	11 to 14 V
L29-2 - L29-4	Brake pedal released	Below 1 V
	Brake pedal depressed	11 to 14 V
L29-3 - L29-4	Turn signal switch OFF	Below 1 V
	Ignition switch ON and Turn signal switch in RH	11 to 14 V (60 to 120 times per minute)

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

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNS00DX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: REMOVAL (2010 Corolla)		

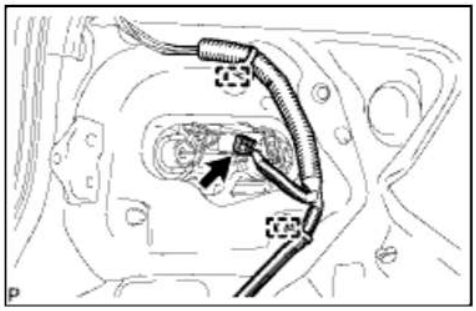
REMOVAL

1. REMOVE SPARE WHEEL COVER INFO

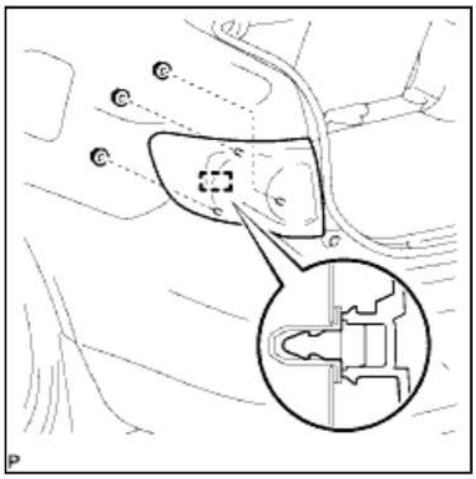
2. REMOVE REAR FLOOR FINISH PLATE INFO

3. REMOVE INNER LUGGAGE COMPARTMENT TRIM COVER LH INFO

4. REMOVE REAR COMBINATION LIGHT ASSEMBLY



(a) Disconnect the connector and disengage the 2 clamps.



(b) Remove the 3 nuts.

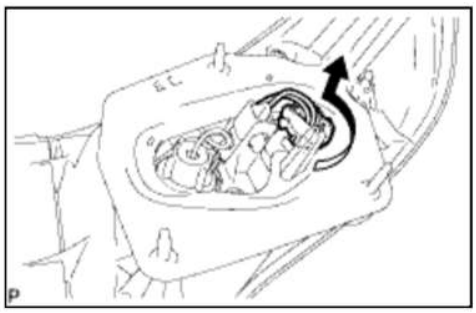
(c) Disengage the pin and remove the rear combination light assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNT00DX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: DISASSEMBLY (2010 Corolla)		

DISASSEMBLY

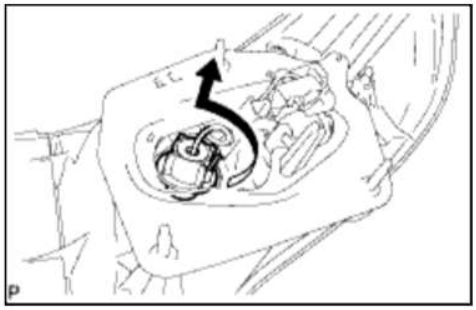
1. REMOVE TAIL AND STOP LIGHT BULB



(a) Turn the tail and stop light bulb and the rear combination light socket and wire in the direction indicated by the arrow and disconnect them as a unit.

(b) Remove the tail and stop light bulb from the rear combination light socket and wire.

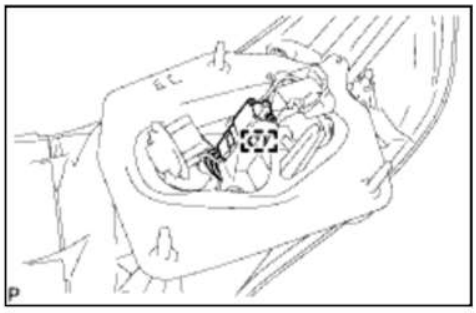
2. REMOVE REAR TURN SIGNAL LIGHT BULB



(a) Turn the rear turn signal light bulb and the rear combination light socket and wire in the direction indicated by the arrow and disconnect them as a unit.

(b) Remove the rear turn signal light bulb from the rear combination light socket and wire.

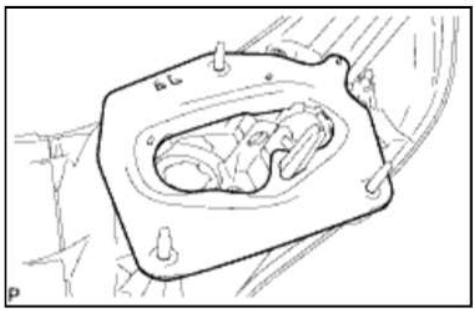
3. REMOVE REAR COMBINATION LIGHT SOCKET AND WIRE



(a) Disengage the clamp and remove the rear combination light socket and wire.

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4. REMOVE REAR COMBINATION LIGHT GASKET



(a) Remove the rear combination light gasket.

NOTICE:

- Be sure to remove all traces of the old gasket from the body.
- Do not reuse the removed gasket. Be sure to install a new rear combination light gasket to prevent water ingress.

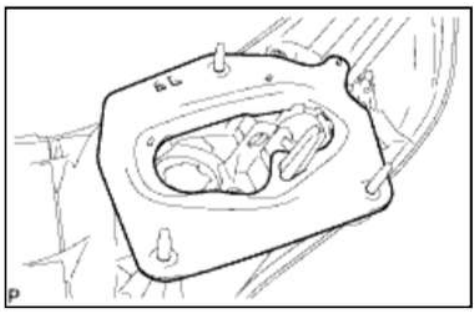
TOYOTA

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNU00DX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: REASSEMBLY (2010 Corolla)		

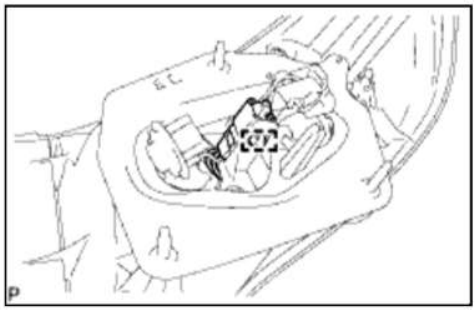
REASSEMBLY

1. INSTALL REAR COMBINATION LIGHT GASKET



(a) Install a new rear combination light gasket.

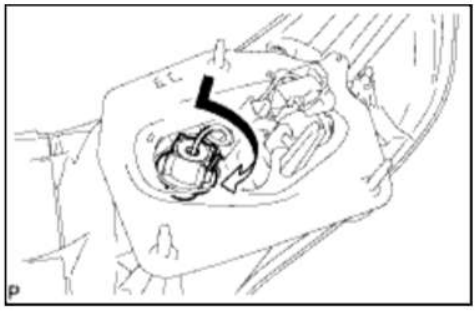
2. INSTALL REAR COMBINATION LIGHT SOCKET AND WIRE



(a) Connect the clamp and install the rear combination light socket and wire.

3. INSTALL REAR TURN SIGNAL LIGHT BULB

(a) Install the rear turn signal light bulb to the rear combination light socket and wire.

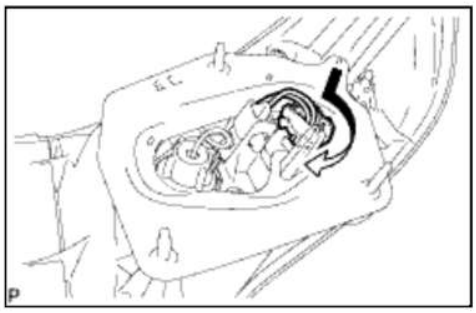


(b) Turn the rear turn signal light bulb and rear combination light socket and wire in the direction indicated by the arrow and install them as a unit.

4. INSTALL TAIL AND STOP LIGHT BULB

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(a) Install the tail and stop light bulb to the rear combination light socket and wire.



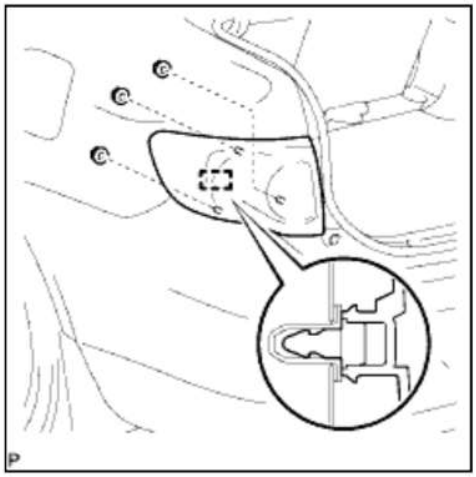
(b) Turn the tail and stop light bulb and rear combination light socket and wire in the direction indicated by the arrow and install them as a unit.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNQ00DX
Title: LIGHTING (EXT): REAR COMBINATION LIGHT ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

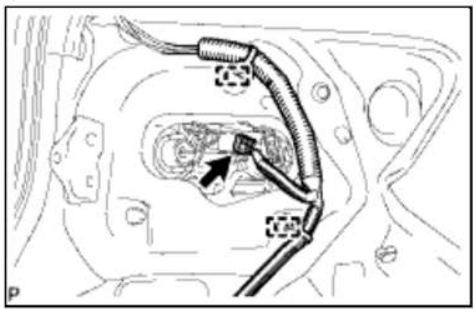
1. INSTALL REAR COMBINATION LIGHT ASSEMBLY



(a) Engage the pin.

(b) Install the rear combination light assembly with the 3 nuts.

Torque: 5.4 N·m (55 kgf·cm, 48in·lbf)



(c) Connect the connector and engage the 2 clamps.

2. INSTALL INNER LUGGAGE COMPARTMENT TRIM COVER LH INFO

3. INSTALL REAR FLOOR FINISH PLATE INFO

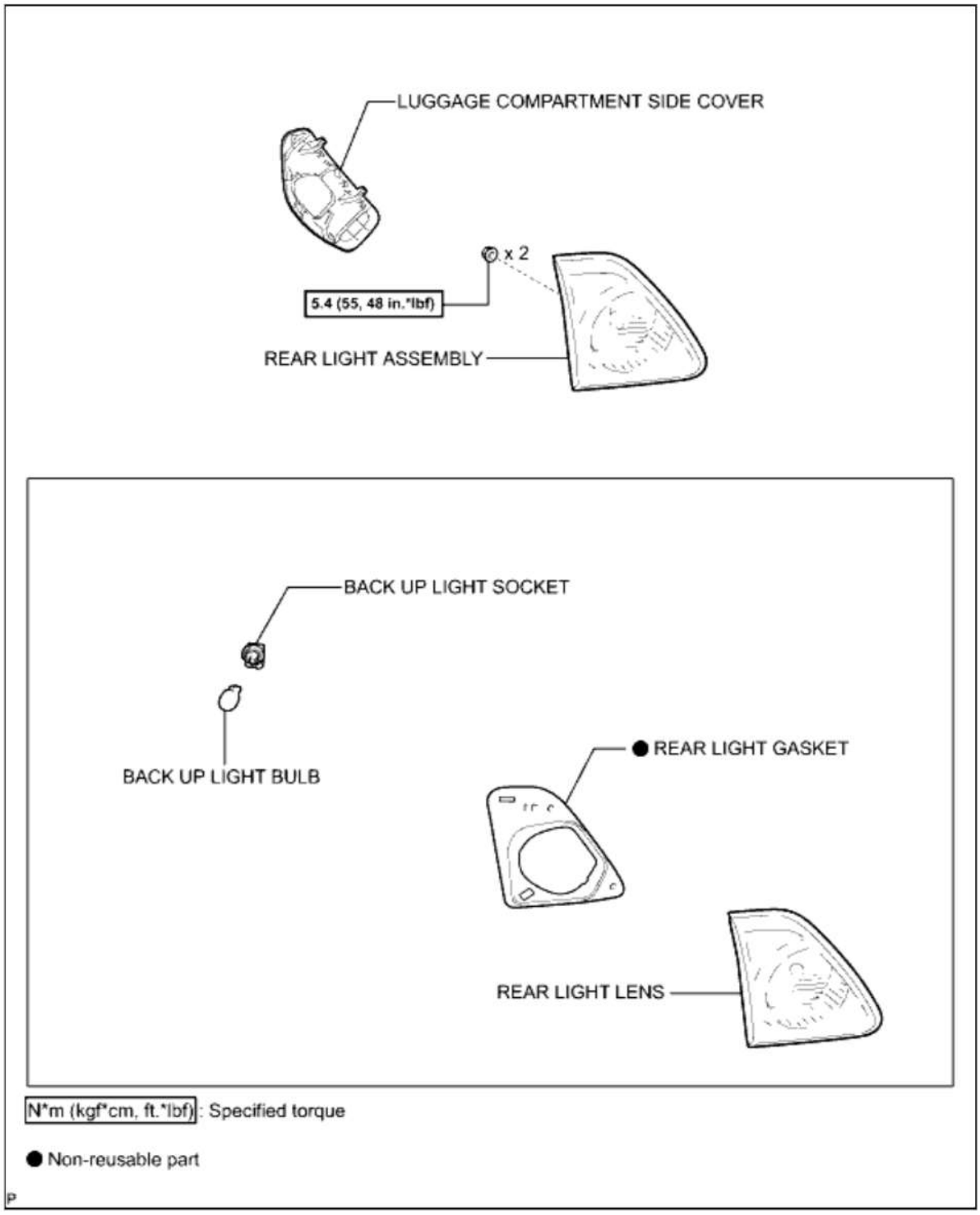
4. INSTALL SPARE WHEEL COVER INFO

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNR00DX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



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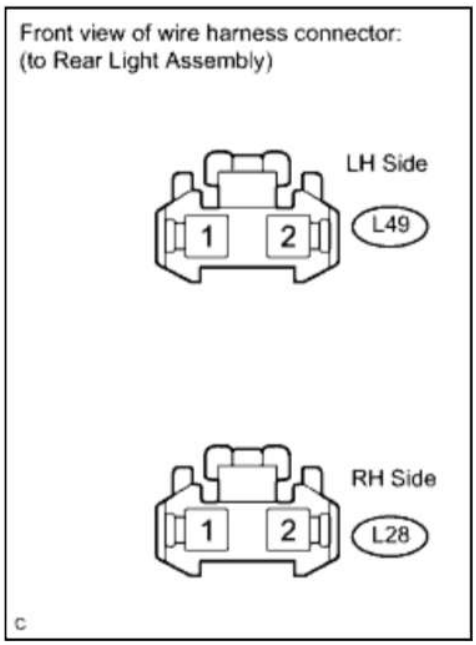


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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM00000202E01IX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: ON-VEHICLE INSPECTION (2010 Corolla)		

ON-VEHICLE INSPECTION

1. INSPECT REAR LIGHT ASSEMBLY



(a) Disconnect the connector from the rear light assembly.

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

Standard Voltage:

LH Side

RH Side

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L49-1 - L49-2	Shift lever not in R	Below 1 V
	Shift lever in R	11 to 14 V

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L28-1 - L28-2	Shift lever not in R	Below 1 V
	Shift lever in R	11 to 14 V

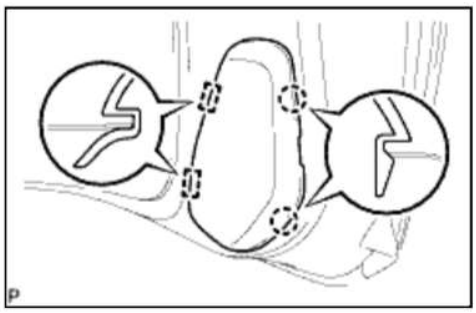
If the result is not as specified, there is a malfunction on the wire harness side.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNS00EX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: REMOVAL (2010 Corolla)		

REMOVAL

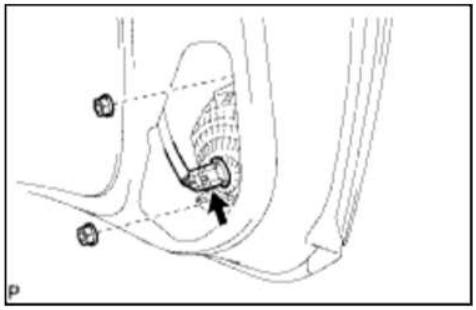
1. REMOVE LUGGAGE COMPARTMENT SIDE COVER



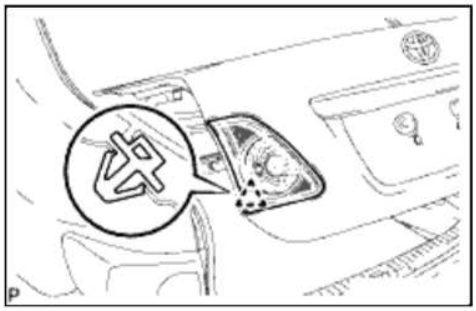
(a) Disengage the 2 claws.

(b) Disengage the 2 guides and remove the luggage compartment side cover.

2. REMOVE REAR LIGHT ASSEMBLY



(a) Disconnect the connector and remove the 2 nuts.



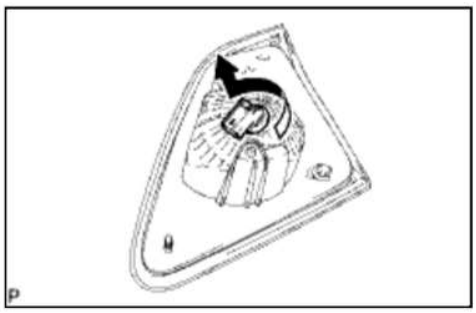
(b) Disengage the clip and remove the rear light assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNT00EX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: DISASSEMBLY (2010 Corolla)		

DISASSEMBLY

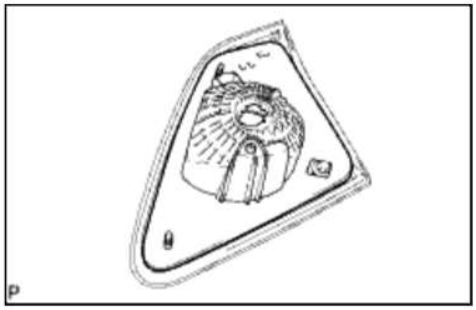
1. REMOVE BACK UP LIGHT BULB



(a) Turn the back up light bulb and the back up light socket in the direction indicated by the arrow and disconnect them as a unit.

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

2. REMOVE REAR LIGHT GASKET



(a) Remove the rear light gasket.

NOTICE:

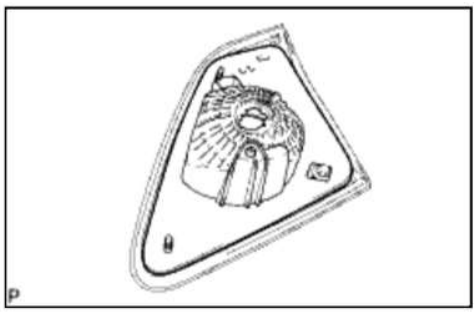
- Be sure to remove all traces of the old gasket from the body.
- Do not reuse the removed gasket. Be sure to install a new rear light gasket to prevent water ingress.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNU00EX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: REASSEMBLY (2010 Corolla)		

REASSEMBLY

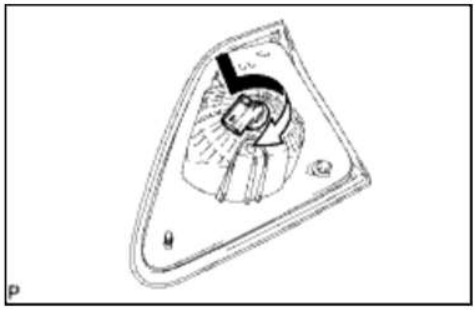
1. INSTALL REAR LIGHT GASKET



(a) Install a new rear light gasket.

2. INSTALL BACK UP LIGHT BULB

(a) Install the back up light bulb to the back up light socket.



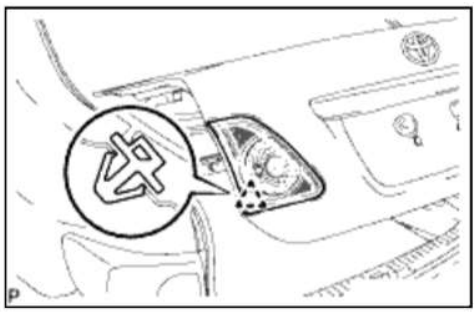
(b) Turn the back up light bulb and the back up light socket in the direction indicated by the arrow and install them as a unit.

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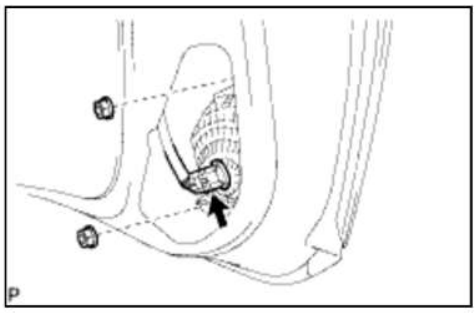
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VNQ00EX
Title: LIGHTING (EXT): REAR LIGHT ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL REAR LIGHT ASSEMBLY



(a) Engage the clip.

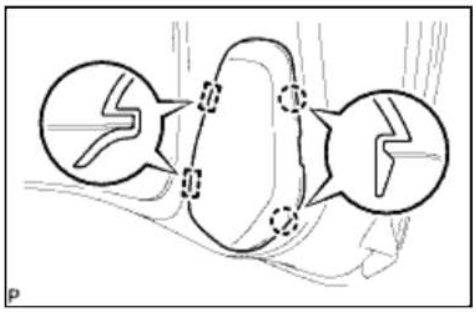


(b) Install the rear light assembly with the 2 nuts.

Torque: 5.4 N·m (55 kgf·cm, 48in·lbf)

(c) Connect the connector.

2. INSTALL LUGGAGE COMPARTMENT SIDE COVER



(a) Engage the 2 guides.

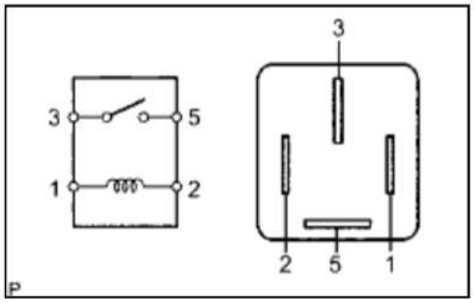
(b) Engage the 2 claws and install the luggage compartment side cover.

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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000001UPP01CX
Title: LIGHTING (EXT): RELAY: ON-VEHICLE INSPECTION (2010 Corolla)		

ON-VEHICLE INSPECTION

1. INSPECT HEADLIGHT RELAY (H-LP)



(a) Remove the headlight relay from the engine room relay block.

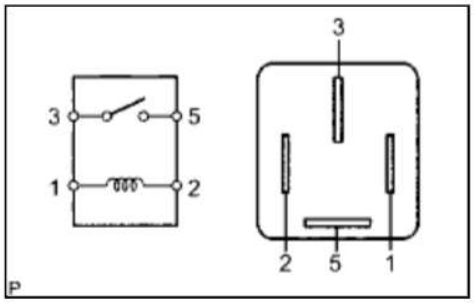
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

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

2. INSPECT HEADLIGHT DIMMER RELAY (DIMMER)



(a) Remove the headlight dimmer relay from the engine room relay block.

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

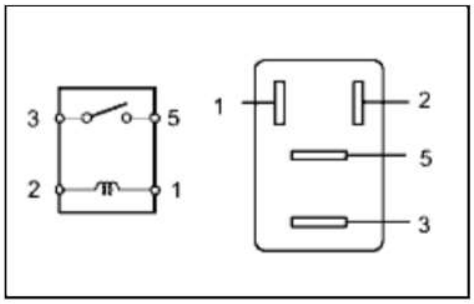
Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

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

3. INSPECT FOG LIGHT RELAY (FR FOG)



(a) Remove the front fog light relay from the relay block.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 - 5	Voltage is not applied between terminals 1 and 2	10 kΩ or higher
3 - 5	Voltage is applied between terminals 1 and 2	Below 1 Ω

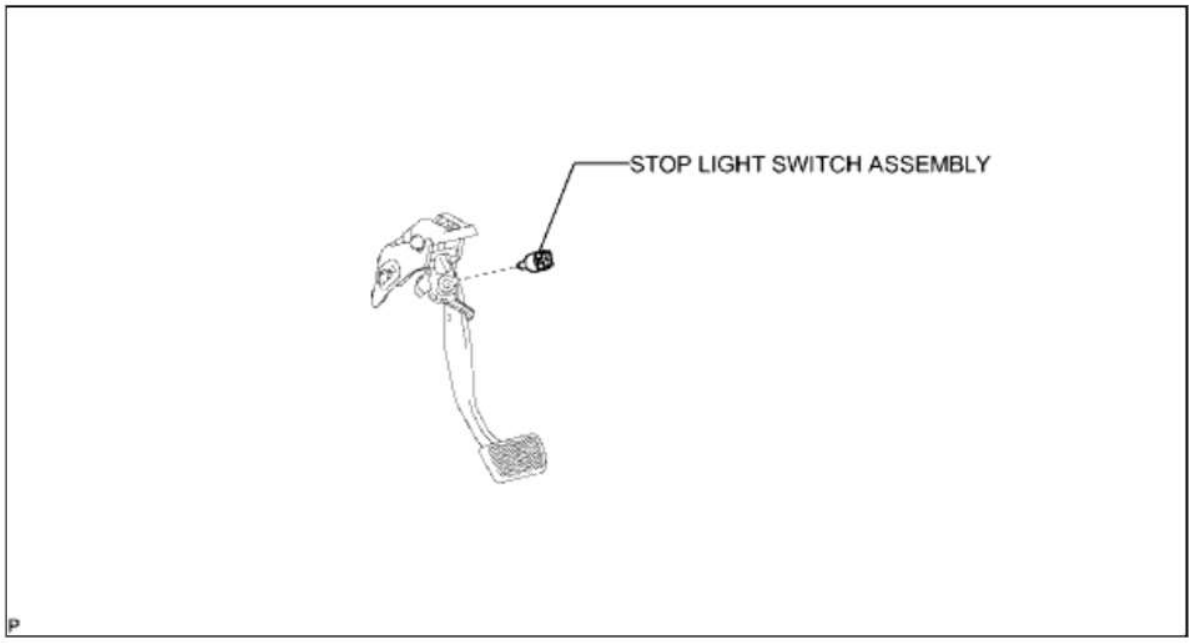
If the result is not as specified, replace the relay.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000033ZK009X
Title: LIGHTING (EXT): STOP LIGHT SWITCH: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

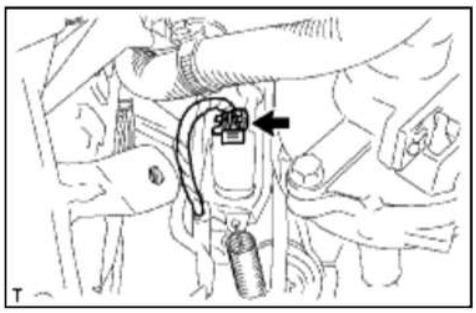


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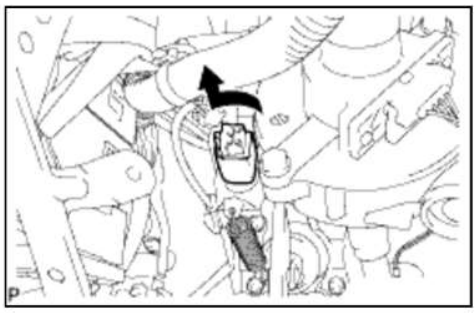
Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VPP00DX
Title: LIGHTING (EXT): STOP LIGHT SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE STOP LIGHT SWITCH ASSEMBLY



(a) Disconnect the connector.



(b) Turn the stop light switch assembly counterclockwise and remove the stop light switch assembly.

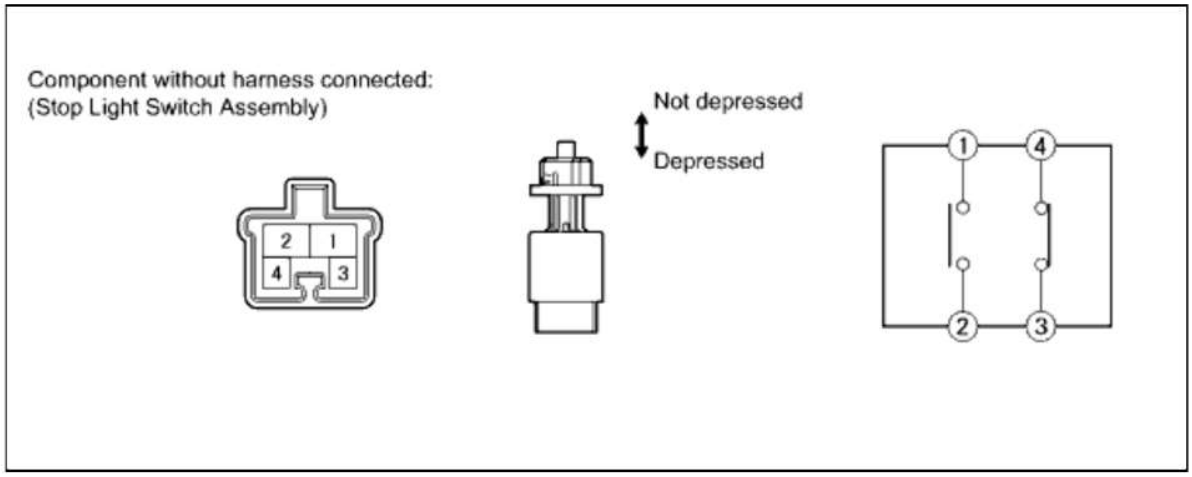
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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM0000014D901AX
Title: LIGHTING (EXT): STOP LIGHT SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT STOP LIGHT SWITCH ASSEMBLY

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



Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Depressed	10 kΩ or higher
	Not depressed	Below 1 Ω
3 - 4	Depressed	Below 1 Ω
	Not depressed	10 kΩ or higher

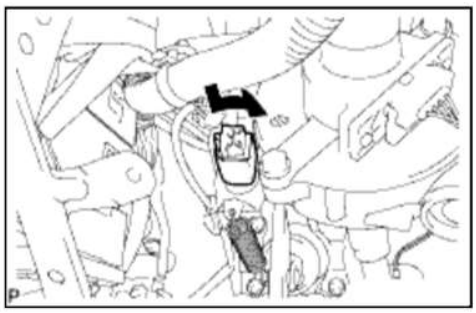
If the result is not as specified, replace the stop light switch assembly.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VPN00DX
Title: LIGHTING (EXT): STOP LIGHT SWITCH: INSTALLATION (2010 Corolla)		

INSTALLATION

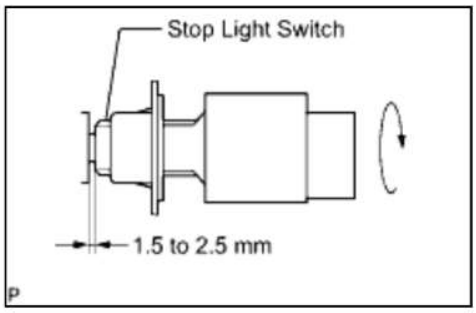
1. INSTALL STOP LIGHT SWITCH ASSEMBLY



(a) Insert the stop light switch assembly until the rod hits the cushion.

NOTICE:

When inserting the stop light switch assembly, support the pedal from behind so that the pedal is not pushed in.

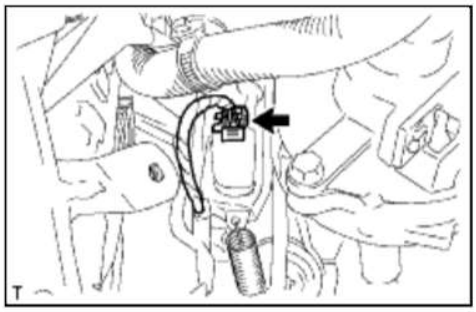


(b) Make a quarter turn clockwise to install the stop light switch assembly.

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

NOTICE:

When inserting the stop light switch assembly, support the pedal from behind so that the pedal is not pushed in.



(c) Connect the connector.

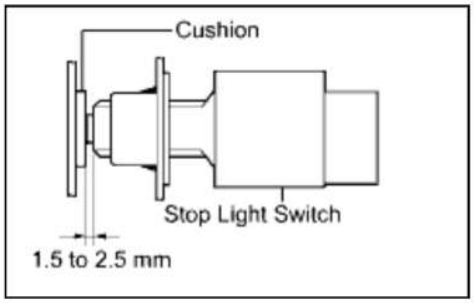
(d) Check the protrusion of the rod.

Protrusion of the rod:

1.5 to 2.5 mm (0.059 to 0.098 in.)

If the protrusion is not within the specified range, adjust it.

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NOTICE:

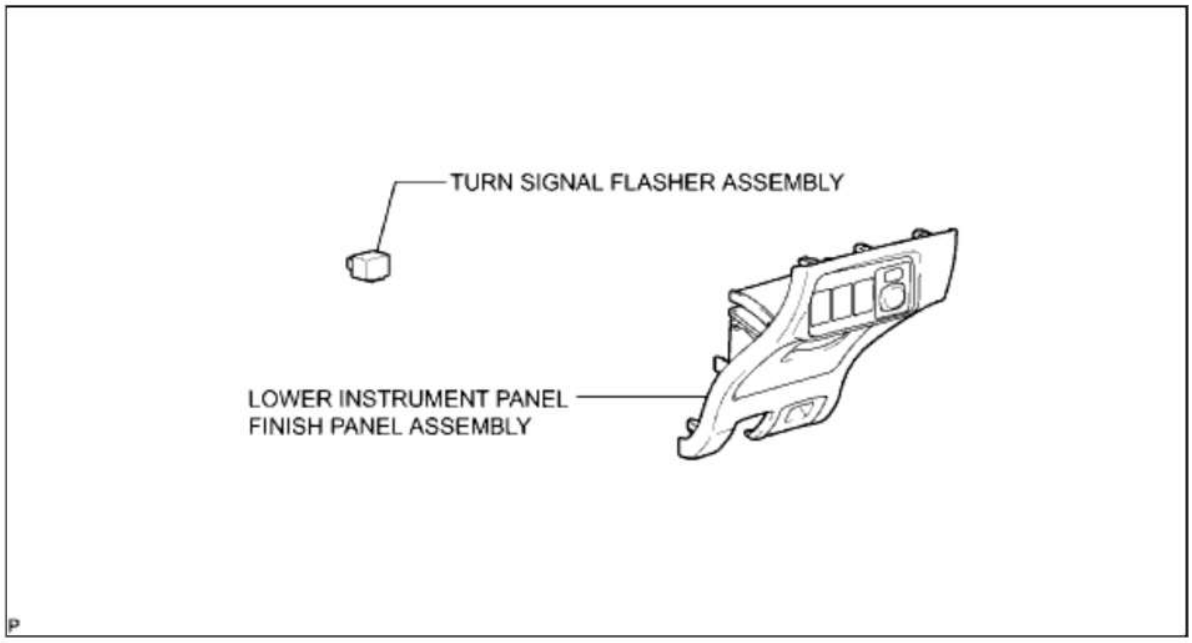
Do not depress the brake pedal.

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Last Modified: 3-10-2010	6.4 K	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQZ009X
Title: LIGHTING (EXT): TURN SIGNAL FLASHER ASSEMBLY: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

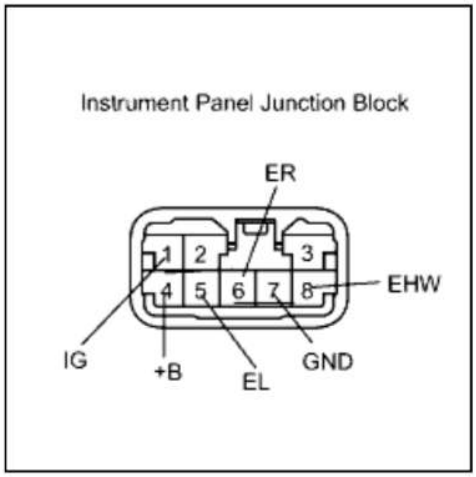


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Last Modified: 3-10-2010	6.4 G	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002WM400BX
Title: LIGHTING (EXT): TURN SIGNAL FLASHER ASSEMBLY: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT TURN SIGNAL FLASHER ASSEMBLY



(a) Remove the turn signal flasher assembly from the instrument panel junction block.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4 (+B) - Body ground	Always	11 to 14 V
1 (IG) - Body ground	Ignition switch off	Below 1 V
	Ignition switch ON	11 to 14 V

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

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
5 (EL) - Body ground	Turn signal switch OFF	10 kΩ or higher
	Turn signal switch in LH	Below 1 Ω
6 (ER) - Body ground	Turn signal switch OFF	10 kΩ or higher
	Turn signal switch in RH	Below 1 Ω
7 (GND) - Body ground	Always	Below 1 Ω
8 (EHW) - Body ground	Hazard warning switch OFF	10 kΩ or higher

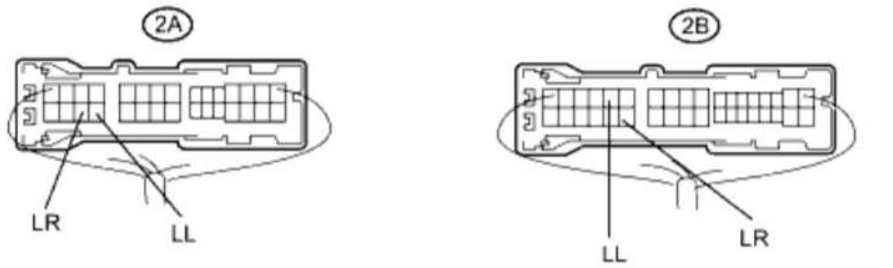
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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
	Hazard warning switch ON	Below 1 Ω

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

(d) Install the turn signal flasher assembly to the instrument panel junction block.

Component with harness connected:
(Instrument Panel Junction Block)



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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
2A-27 (LL) - Body ground	Turn signal switch OFF	Below 1 V
	Turn signal switch in LH	11 to 14 V (60 to 120 times per minute)
	Hazard warning switch OFF	Below 1 V
	Hazard warning switch ON	11 to 14 V (60 to 120 times per minute)
2A-28 (LR) - Body ground	Turn signal switch OFF	Below 1 V
	Turn signal switch in RH	11 to 14 V (60 to 120 times per minute)
	Hazard warning switch OFF	Below 1 V
	Hazard warning switch ON	11 to 14 V (60 to 120 times per minute)
2B-14 (LL) - Body ground	Turn signal switch OFF	Below 1 V
	Turn signal switch in LH	11 to 14 V (60 to 120 times per minute)
	Hazard warning switch OFF	Below 1 V
	Hazard warning switch ON	11 to 14 V (60 to 120 times per minute)
2B-31 (LR) - Body ground	Turn signal switch OFF	Below 1 V
	Turn signal switch in RH	11 to 14 V (60 to 120 times per minute)
	Hazard warning switch OFF	Below 1 V

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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
	Hazard warning switch ON	11 to 14 V (60 to 120 times per minute)

If the result is not as specified, replace the turn signal flasher assembly.

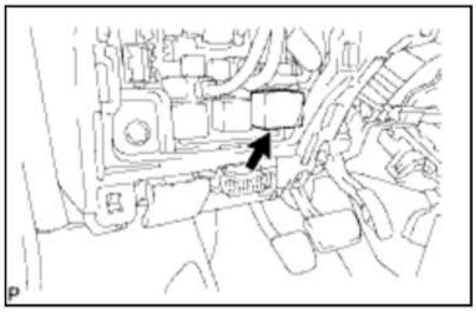
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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VR000CX
Title: LIGHTING (EXT): TURN SIGNAL FLASHER ASSEMBLY: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY INFO

2. REMOVE TURN SIGNAL FLASHER ASSEMBLY



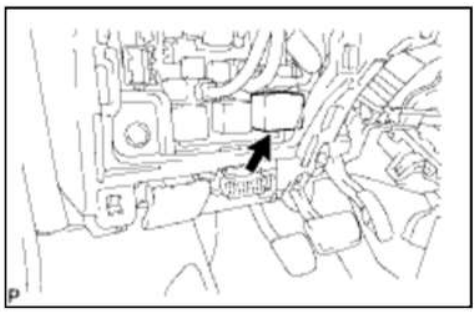
(a) Remove the turn signal flasher assembly from the junction block.

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Last Modified: 3-10-2010	6.4 A	**From:** 200901
Model Year: 2010	**Model:** Corolla	**Doc ID:** RM000002VQY00CX
Title: LIGHTING (EXT): TURN SIGNAL FLASHER ASSEMBLY: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL TURN SIGNAL FLASHER ASSEMBLY



(a) Install the turn signal flasher assembly to the junction block.

2. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY INFO

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