

## Lighting - LS430

# LIGHTING SYSTEM

## PRECAUTION

### 1. PRECAUTION FOR HEADLAMP BULB REPLACEMENT

- a. When any defects such as deformation, crack, dent, chipping, etc. are identified on the HID headlamp (especially on the light control ECU), replace it with a new one.
- b. Even if operation seems to be normal, the fail-safe function may be defective.
- c. Be careful not to scratch or drop HID headlamp bulbs or halogen bulbs (for high beam headlamps and fog lights) as they have pressurized gas inside and can be easily broken.
- d. Touching the high voltage socket of the HID headlamp with the headlamp dimmer switch ON could generate momentary high voltage of 20,000 V and lead to a serious injury.
- e. Never connect a tester to the high voltage socket of the HID headlamp for measurement, as this may lead to a serious injury due to high voltage.
- f. To avoid electric shock, when servicing the HID headlamp, keep it away from water and rain, turn off the light control switch, and disconnect the battery terminal and the connector of the light control ECU in advance.
- g. When operating the HID headlamp, operate it after assembly is completed and never turn on the lights without a bulb installed.
- h. Do not turn on the HID headlamp using a power source other than the vehicle's.

## ON-VEHICLE INSPECTION

### 1. INSPECT REAR COMBINATION LAMP ASSY

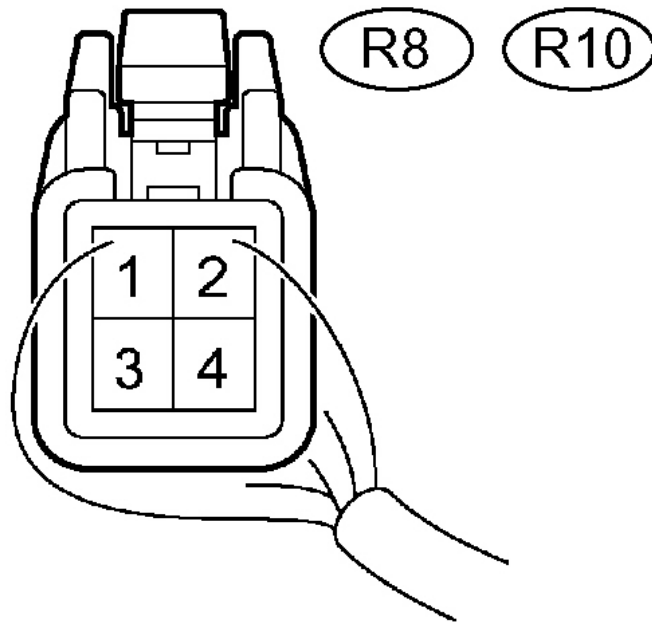
- a. Connect the (+) lead from the voltmeter to terminal 1 and the (-) lead from the voltmeter to terminal 4.
- b. Measure the voltage according to the value(s) in **REAR COMBINATION LAMP ASSY (VOLTAGE)**.

#### Standard:

#### REAR COMBINATION LAMP ASSY (VOLTAGE)

Tester connection	Condition	Specified condition
1 - 4	Brake pedal released	Below 1 V
1 - 4	Brake pedal depressed	10 to 14 V

## Connector Front View:



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**Fig. 1: Inspecting Rear Combination Lamp Assy (Voltage)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

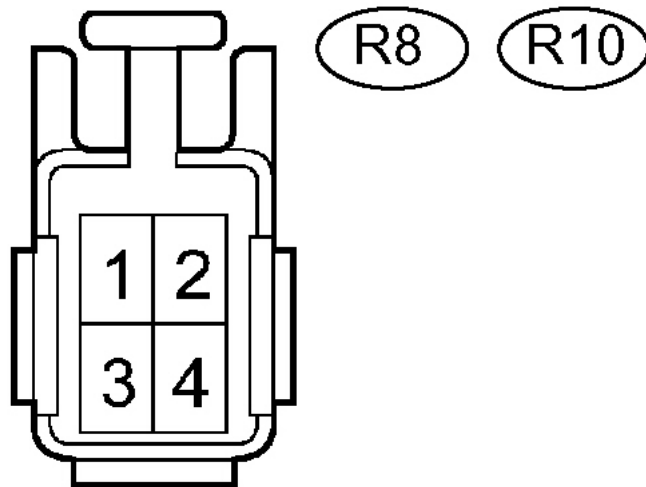
- c. Disconnect the rear combination lamp assy connector.
- d. Connect the (+) lead from the ohmmeter to terminal 1 and the (-) lead from the ohmmeter to terminal 4.
- e. Measure the resistance according to the value(s) in **REAR COMBINATION LAMP ASSY (RESISTANCE)**.

**Standard:**

### **REAR COMBINATION LAMP ASSY (RESISTANCE)**

Tester connection	Condition	Specified condition
1 - 4	Always	314 to 347 ohms

## Connector Front View:



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**Fig. 2: Inspecting Rear Combination Lamp Assy (Resistance)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

### 2. INSPECT REAR LAMP ASSY

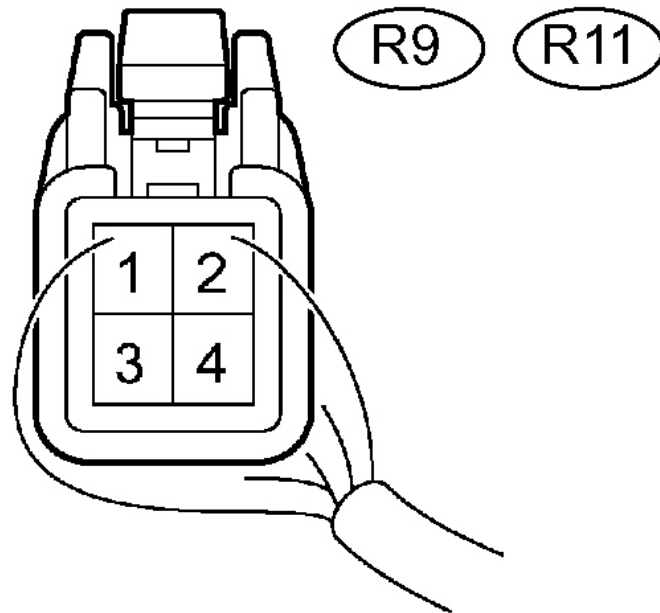
- Connect the (+) lead from the voltmeter to terminal 1 and the (-) lead from the voltmeter to terminal 4.
- Measure the voltage according to the value(s) in **REAR LAMP ASSY - VOLTAGE TABLE** .

**Standard:**

**REAR LAMP ASSY - VOLTAGE TABLE**

Tester connection	Condition	Specified condition
1 - 4	Brake pedal released	Below 1 V
1 - 4	Brake pedal depressed	10 to 14 V

## Connector Front View:



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### Fig. 3: Inspecting Rear Lamp Assy (Voltage)

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

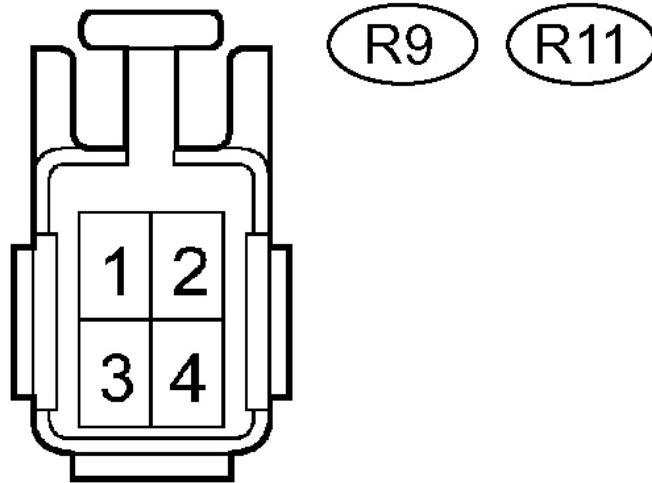
- c. Disconnect the rear combination lamp assy connector.
- d. Connect the (+) lead from the ohmmeter to terminal 1 and the (-) lead from the ohmmeter to terminal 4.
- e. Measure the resistance according to the value(s) in REAR COMBINATION LAMP ASSY - RESISTANCE TABLE .

**Standard:**

### REAR COMBINATION LAMP ASSY - RESISTANCE TABLE

Tester connection	Condition	Specified condition
1 -4	Always	314 to 347 ohms

## Connector Front View:



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**Fig. 4: Inspecting Rear Lamp Assy (Resistance)**  
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

### INSPECTION

#### 1. FRONT DOOR COURTESY LAMP SWITCH ASSY

- a. Measure the resistance according to the value(s) in **FRONT DOOR COURTESY LAMP SWITCH - RESISTANCE TABLE** .

#### **FRONT DOOR COURTESY LAMP SWITCH - RESISTANCE TABLE**

Switch operation	Specified condition
ON (When shaft is pressed)	10 kohms or higher
OFF (When shaft is not pressed)	Below 1 ohms

#### 2. REAR DOOR COURTESY LAMP SWITCH ASSY

- a. Measure the resistance according to the value(s) in **REAR DOOR COURTESY LAMP SWITCH - RESISTANCE TABLE** .

#### **REAR DOOR COURTESY LAMP SWITCH - RESISTANCE TABLE**

Switch operation	Specified condition

ON (When shaft is pressed)	10 kohms or higher
OFF (When shaft is not pressed)	Below 1 ohms

### 3. LUGGAGE DOOR CLOSER ASSY

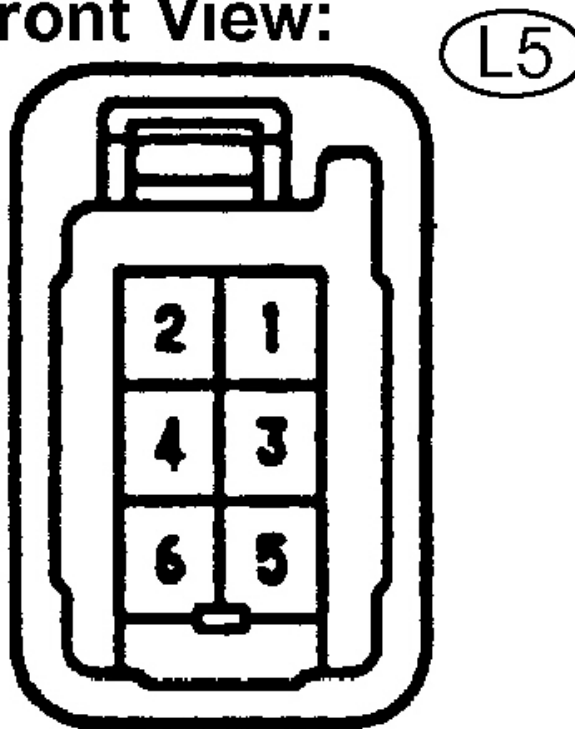
- a. Inspect luggage room door courtesy switch continuity.
  1. Measure the resistance according to the value(s) in **LUGGAGE DOOR CLOSER ASSY - RESISTANCE TABLE**.

**Standard:**

#### **LUGGAGE DOOR CLOSER ASSY - RESISTANCE TABLE**

Tester connection	Condition	Specified condition
3 - 4	Luggage room door is opened	Below 1 ohms
3 - 4	Luggage room door is closed	10 kohms or higher

## Connector Front View:



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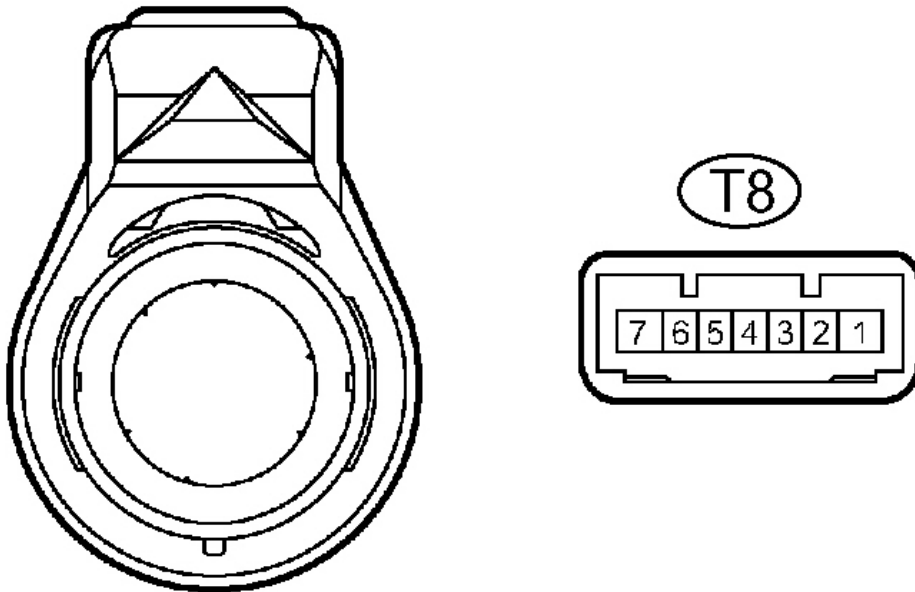
**Fig. 5: Inspecting Luggage Door Closer Assy**

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

#### 4. TRANSPONDER KEY AMPLIFIER

- a. Inspect key cylinder light operation.
  1. Connect the (+) lead from the battery to terminal 2 and the (-) lead to terminal 6, and check that the light comes on.

**OK: Comes on.**



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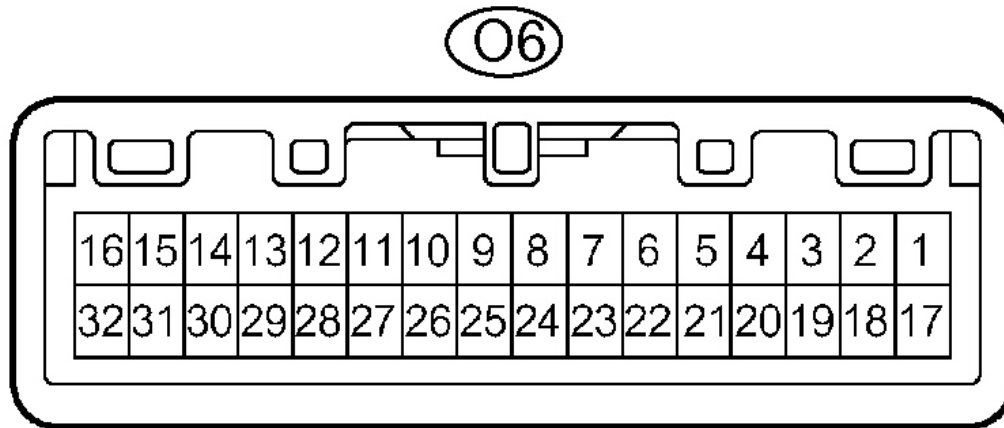
**Fig. 6: Inspecting Transponder Key Amplifier**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

#### 5. MAP LAMP ASSY

- a. Inspect map lamp assy in the overhead J/B.
  1. Connect the (+) lead from the battery to terminal 17 and the (-) lead to terminal 5, and check that the map lamp comes on when the map lamp switch is in the ON position.

**OK: Comes on.**

## Connector Front View:



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### Fig. 7: Inspecting Map Lamp Assy

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

#### 6. ROOM LAMP ASSY NO. 1

a. Inspect room lamp assy in the overhead J/B.

1. Connect the (+) lead from the battery to terminal 17 and the (-) lead to terminal 5, and check that the room lamp comes on when the room lamp switch is in the ON position.

**OK: Comes on.**

2. Connect the (+) lead from the battery to terminal 6 and the (-) lead to terminal 5, and check that the room lamp comes on when the room lamp switch is in the DOOR position.

**OK: Comes on.**

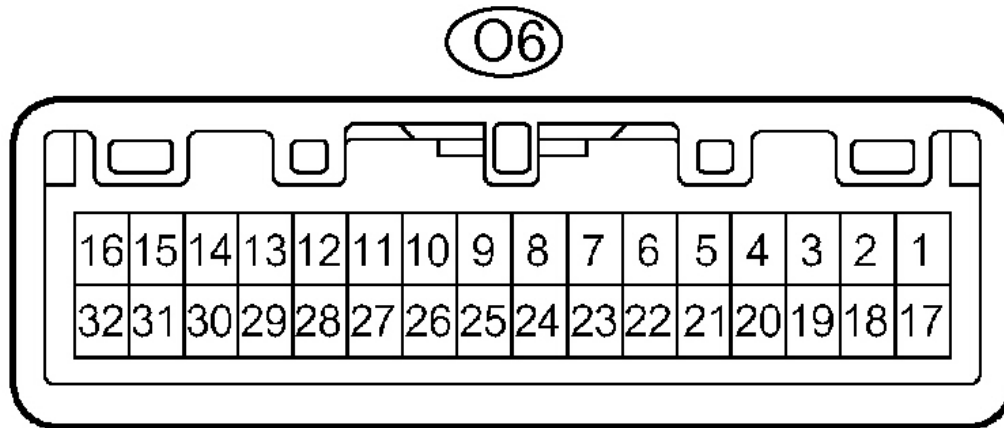
b. Inspect center console illumination in the overhead J/B.

1. Connect the (+) lead from the battery to terminal 13 and the (-) lead to terminal 4, and check that the center console illumination comes on.

**OK: Comes on.**



## Connector Front View:



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### Fig. 8: Inspecting Lamp Assy No. 1

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

#### 7. REAR ROOM LAMP ASSY LH

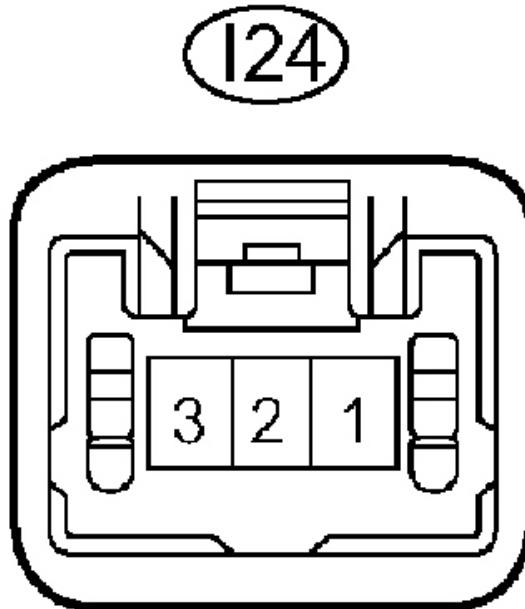
- a. Connect the (+) lead from the battery to terminal 3 and the (-) lead to terminal 2, and check that the rear room ramp comes on when the switch is in the ON position.

**OK: Comes on.**

- b. Connect the (+) lead from the battery to terminal 3 and the (-) lead to terminal 1, and check that the rear room ramp comes on when the switch is in the DOOR position.

**OK: Comes on.**

# Connector Front View:



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**Fig. 9: Identifying Room Lamp Assy LH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 8. REAR ROOM LAMP ASSY RH

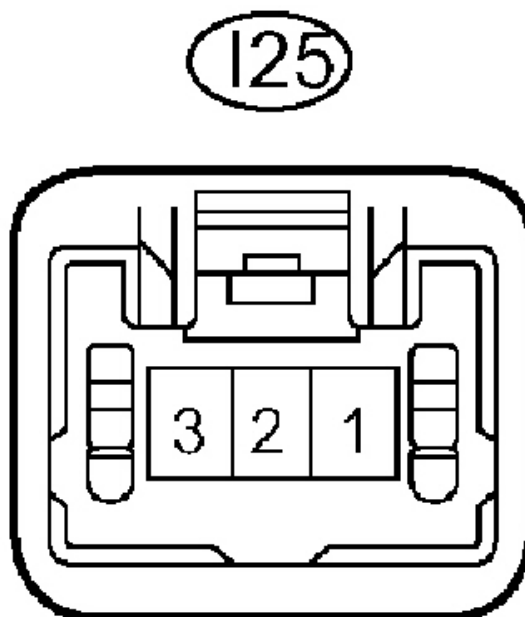
- a. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2, and check that the rear room ramp comes on when the switch is in the ON position.

**OK: Comes on.**

- b. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 3, and check that the rear room ramp comes on when the switch is in the DOOR position.

**OK: Comes on.**

## Connector Front View:



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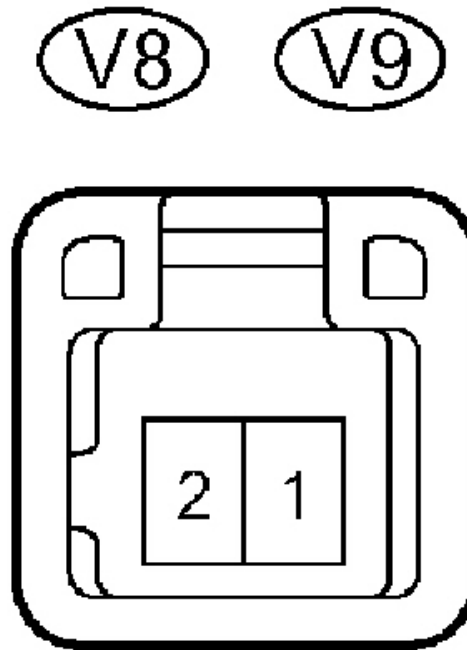
**Fig. 10: Identifying Rear Room Lamp Assy RH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

### 9. VISOR ASSY

- a. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2, and check that the vanity light comes on when the visor is opened.

**OK: Comes on.**

# Connector Front View:



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**Fig. 11: Identifying Visor Assy**

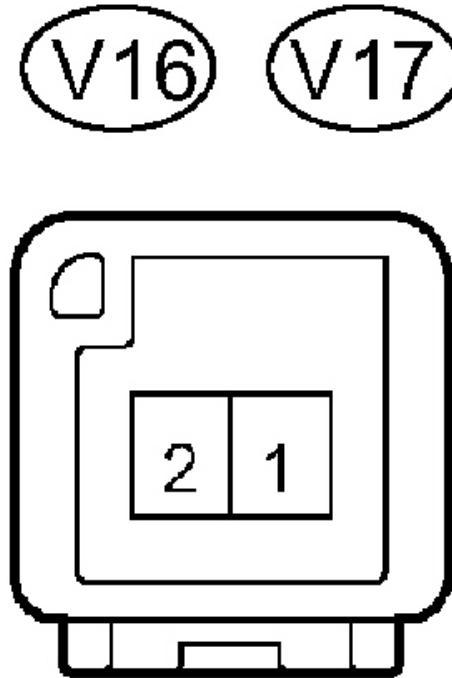
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 10. VANITY LAMP ASSY

- a. Connect the (+) lead from the battery to terminal 2 and the (-) lead to terminal 1, and check that the rear vanity light comes on when the cover is opened.

**OK: Comes on.**

# Connector Front View:



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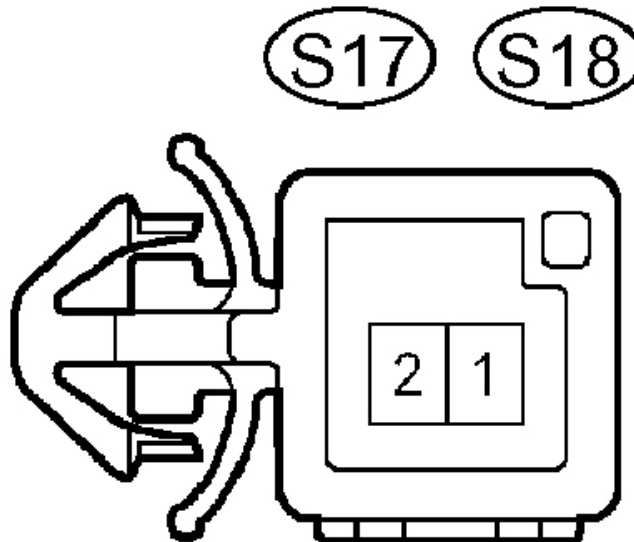
**Fig. 12: Identifying Vanity Lamp Assy**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 11. STEP OR SPOT LAMP BULB

- a. Inspect the front step lamp illumination.
  1. Connect the (+) lead from the battery to the terminal 1 and the (-) lead to terminal 2, then check that the illumination comes on.

**OK: Comes on.**

# Connector Front View:



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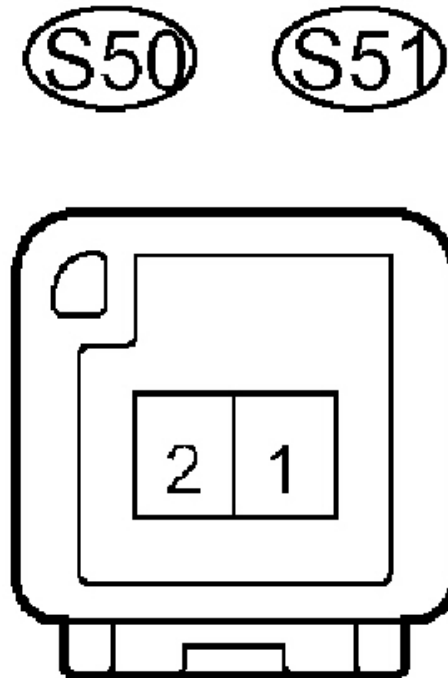
**Fig. 13: Inspecting Front Step Lamp Illumination**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 12. INTERIOR ILLUMINATION LAMP SUB-ASSY

- a. Inspect the rear step lamp illumination.
  1. Connect the (+) lead from the battery to terminal 2 and the (-) lead to terminal 1, then check that the illumination comes on.

**OK: Comes on.**

# Connector Front View:



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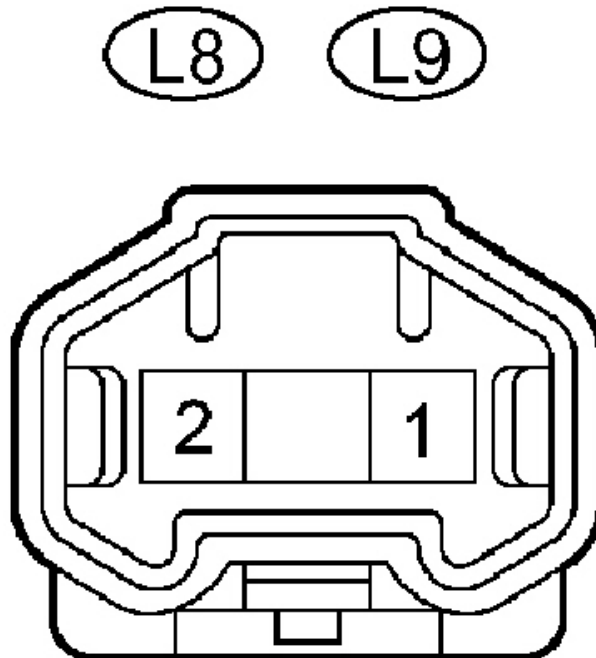
**Fig. 14: Inspecting Rear Step Lamp Illumination**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 13. LUGGAGE COMPARTMENT LAMP ASSY NO. 1

- a. Inspect the luggage room compartment lamp.
  1. Connect the (+) lead from the battery to terminal 2 and the (-) lead to terminal 1, then check that the luggage room compartment lamp comes on.

**OK: Comes on.**

# Connector Front View:



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**Fig. 15: Inspecting Luggage Room Compartment Lamp**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

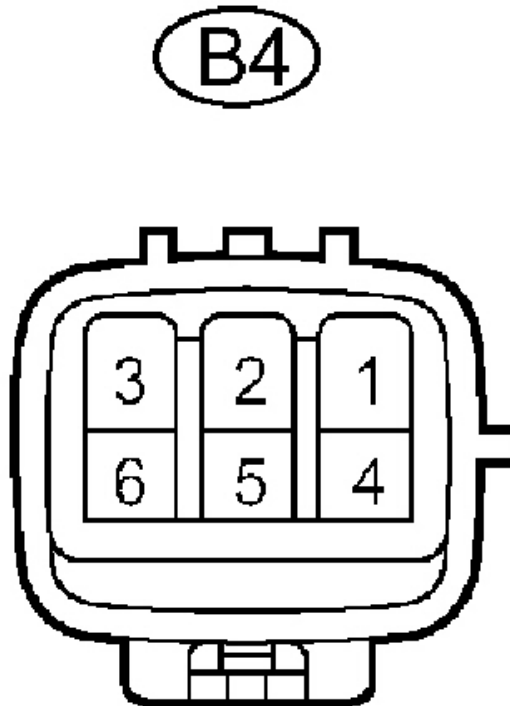
## 14. FRONT SEAT INNER BELT ASSY LH

- a. Inspect the front LH buckle illumination.
  1. Connect 3 dry cell batteries (1.5 V) in a series.
  2. Connect the (+) lead from the dry cell batteries to terminal 3 and the (-) lead to terminal 5, then check that the illumination comes on.

**OK: Comes on.**



# Connector Front View:



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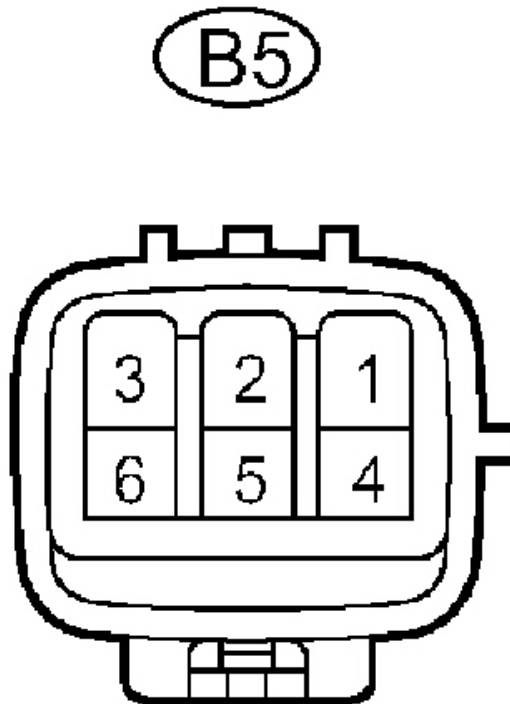
**Fig. 16: Inspecting Front LH Buckle Illumination**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 15. FRONT SEAT INNER BELT ASSY RH

- a. Inspect the front RH buckle illumination.
  1. Connect 3 dry cell batteries (1.5 V) in a series.
  2. Connect the (+) lead from the dry cell batteries to terminal 3 and the (-) lead to terminal 6, then check that the illumination comes on.

**OK: Comes on.**

# Connector Front View:



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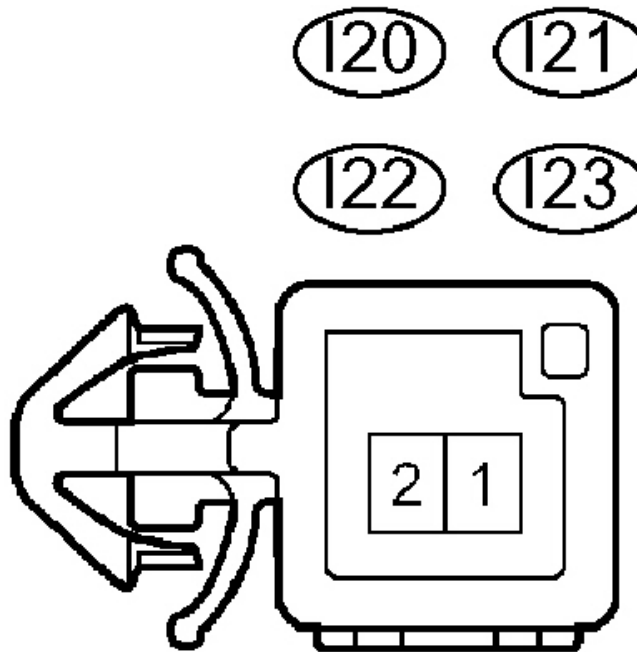
**Fig. 17: Inspecting Front RH Buckle Illumination**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 16. INTERIOR ILLUMINATION LAMP ASSY NO. 1

- a. Inspect the inside handle illumination.
  1. Connect the (+) lead from the battery to terminal 1 and the (-) lead to terminal 2, then check that the illumination comes on.

**OK: Comes on.**

# Connector Front View:



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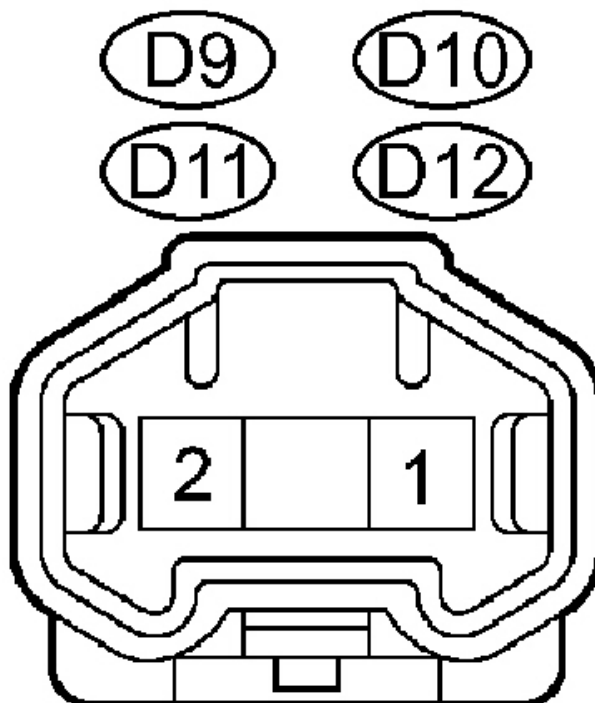
**Fig. 18: Inspecting Inside Handle Illumination**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## 17. COURTESY LAMP ASSY

- a. Inspect the courtesy lamp.
  1. Connect the (+) lead from the battery to terminal 2 and the (-) lead to terminal 1, then check that the courtesy lamp comes on.

**OK: Comes on.**

# Connector Front View:



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**Fig. 19: Inspecting Courtesy Lamp**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

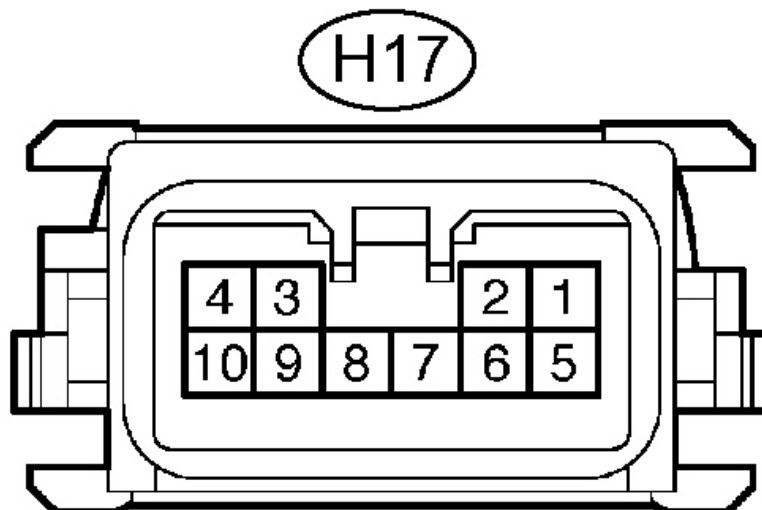
## 18. HAZARD WARNING SIGNAL SWITCH ASSY

1. Measure the resistance according to the value(s) in **HAZARD WARNING SIGNAL SWITCH - RESISTANCE TABLE**.

### HAZARD WARNING SIGNAL SWITCH - RESISTANCE TABLE

Tester connection	Condition	Specified condition
1 - 4	Hazard warning switch OFF	10 kohms or higher
1 - 4	Hazard warning switch ON	Below 1 ohms

# Connector Front View:



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**Fig. 20: Identifying Hazard Warning Signal Switch Assy**  
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

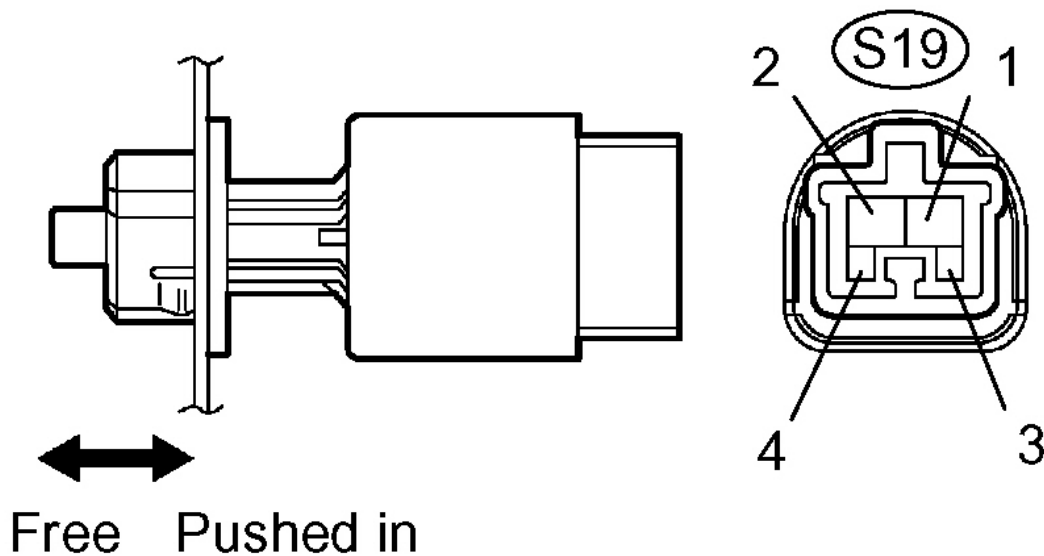
## 19. STOP LAMP SWITCH ASSY

- a. Inspect stop lamp switch assy.
1. Measure the resistance according to the value(s) in **STOP LAMP SWITCH - RESISTANCE TABLE**.

**Standard:**

### **STOP LAMP SWITCH - RESISTANCE TABLE**

Tester connection	Switch position	Specified condition
1 - 2	Switch pin free	10 kohms or higher
3 - 4	Switch pin free	Below 1 ohms
1 - 2	Switch pin pushed in	Below 1 ohms
3 - 4	Switch pin pushed in	10 kohms or higher



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**Fig. 21: Inspecting Stop Lamp Switch Assy**  
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

20. **HEADLAMP SWIVEL MAIN SWITCH**

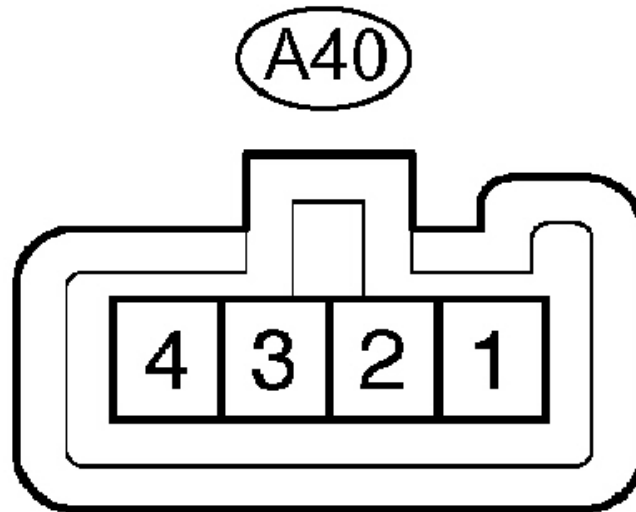
- a. Measure the resistance according to the value(s) in **HEADLAMP SWIVEL MAIN SWITCH - RESISTANCE TABLE** .

**Standard:**

**HEADLAMP SWIVEL MAIN SWITCH - RESISTANCE TABLE**

Tester connection	Condition	Specified condition
3 - 4	AFS OFF switch is pushed	Below 1 ohms
3 - 4	AFS OFF switch is not pushed	10 kohms or higher

# Connector Front View:



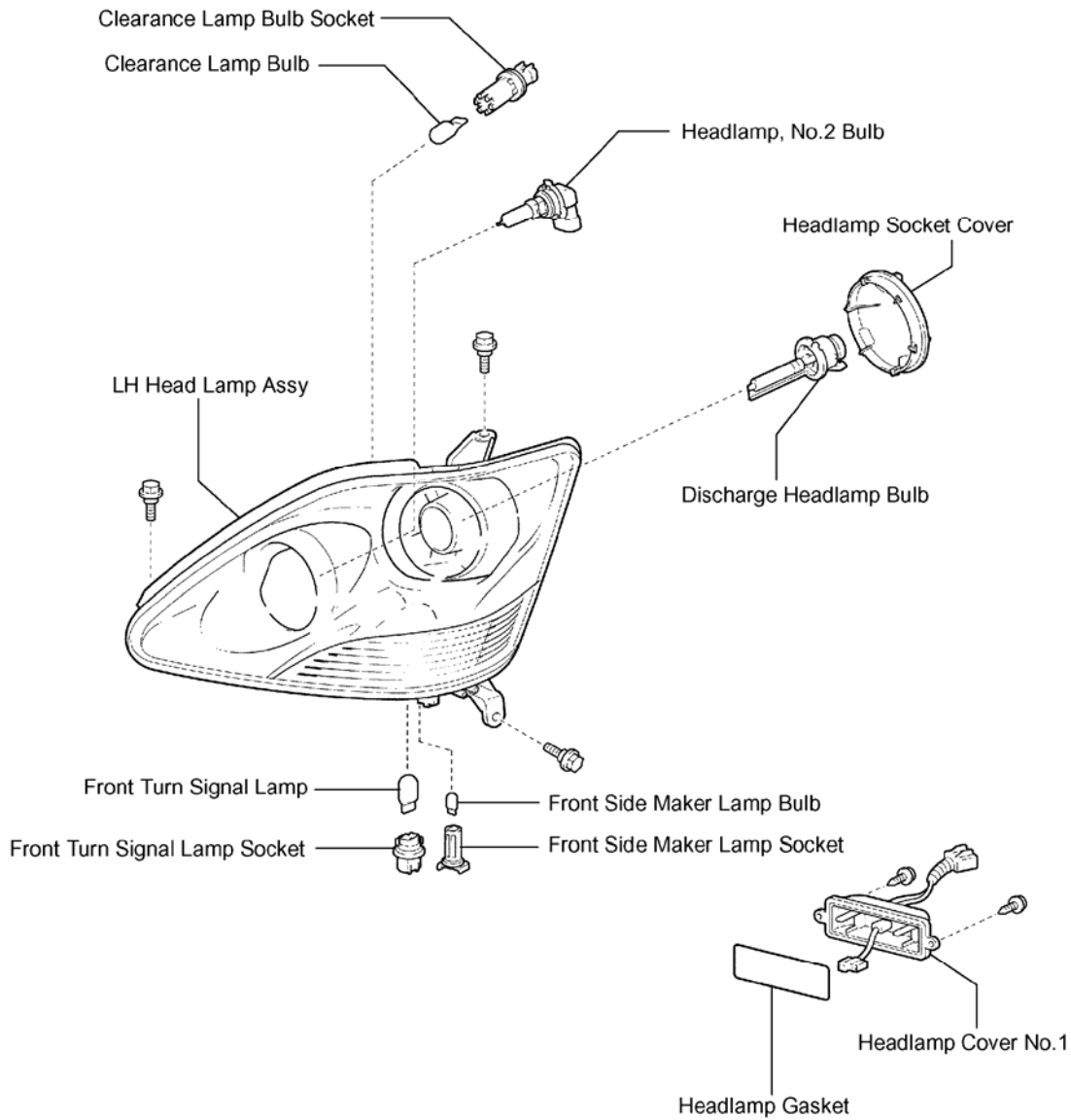
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Fig. 22: Identifying Headlamp Swivel Main Switch  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**HEADLAMP ASSY**

**COMPONENTS**



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**Fig. 23: Identifying Headlamp Assy Components And Replacements**  
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

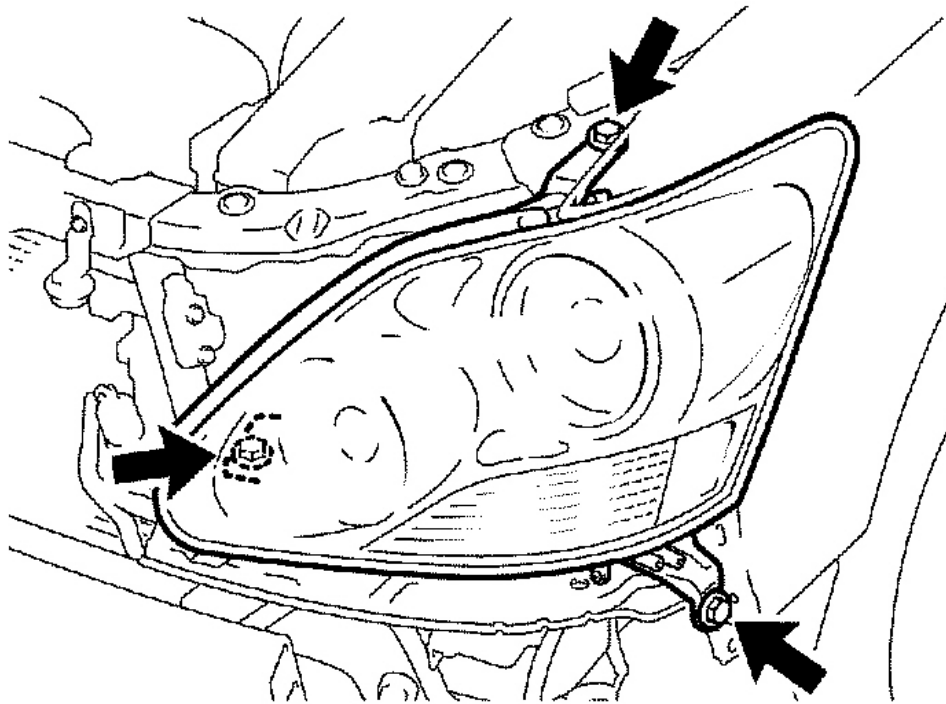
## OVERHAUL

### HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.
- Reassembly is in the reverse order of overhaul.



1. **REMOVE ENGINE UNDER COVER NO. 1** (See REPLACEMENT )
2. **REMOVE FRONT FENDER LINER LH** (See REPLACEMENT )
3. **REMOVE FRONT FENDER LINER RH** (See REPLACEMENT )
4. **REMOVE FRONT BUMPER COVER** (See step 5 on REPLACEMENT )
5. **REMOVE LH HEADLAMP ASSY**
  - a. Remove the 3 screws.
  - b. Pull out the LH headlamp assy forward.
  - c. Disconnect the connectors and remove the LH headlamp assy.

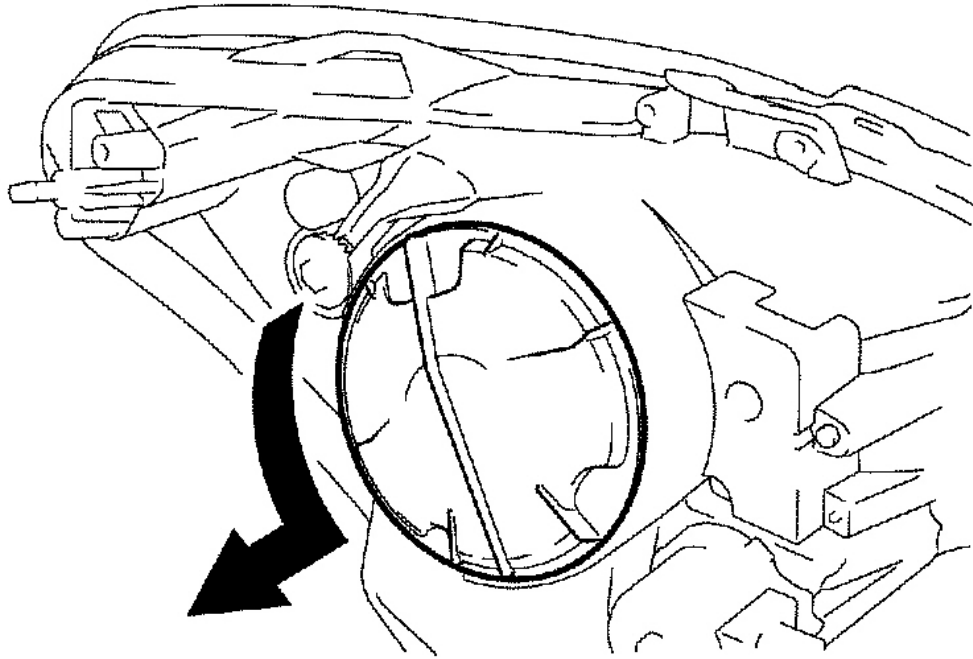


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**Fig. 24: Removing LH Headlamp Assy**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **REMOVE DISCHARGE HEADLAMP BULB**
  - a. Turn the headlamp socket cover as shown in Fig. 25 .

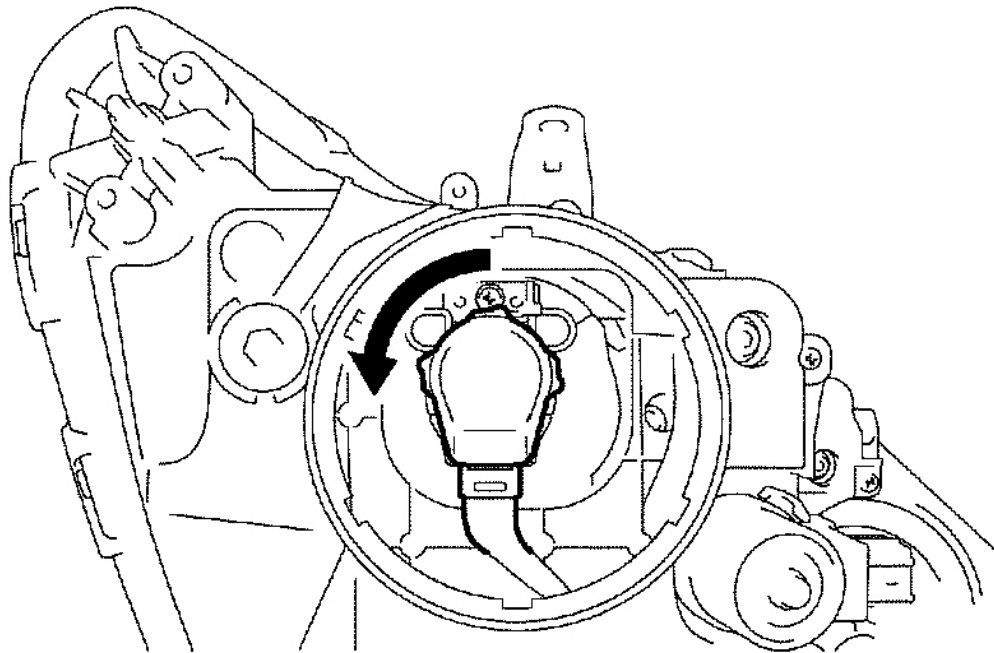


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**Fig. 25: Turning Headlamp Socket Cover**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the discharge headlamp bulb socket as shown in **Fig. 26** .

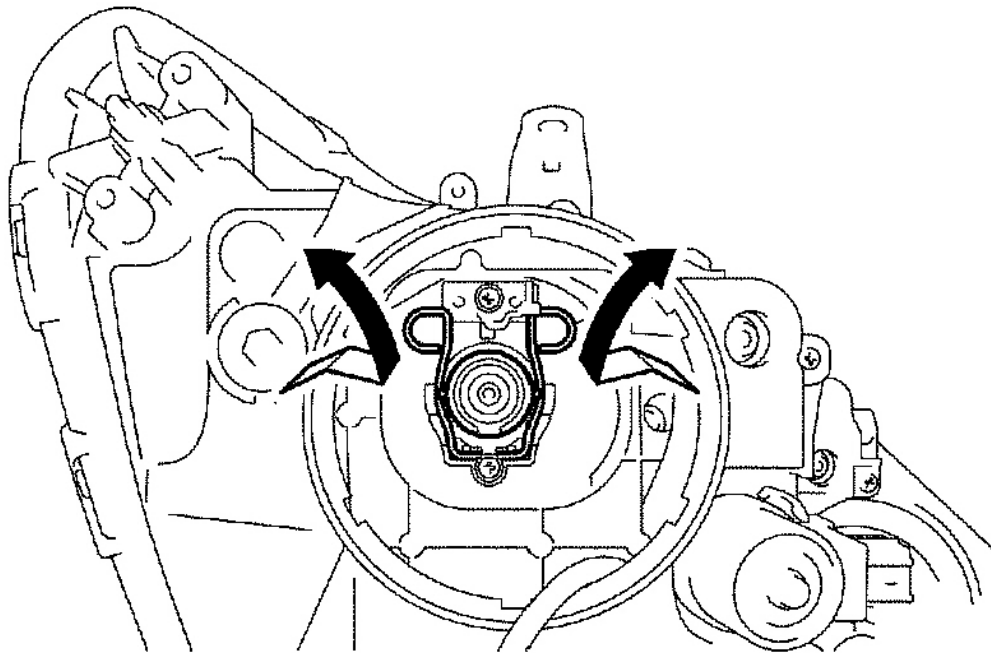


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**Fig. 26: Removing Discharge Headlamp Bulb Socket**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Release the lock of the set spring and remove the discharge headlamp bulb.



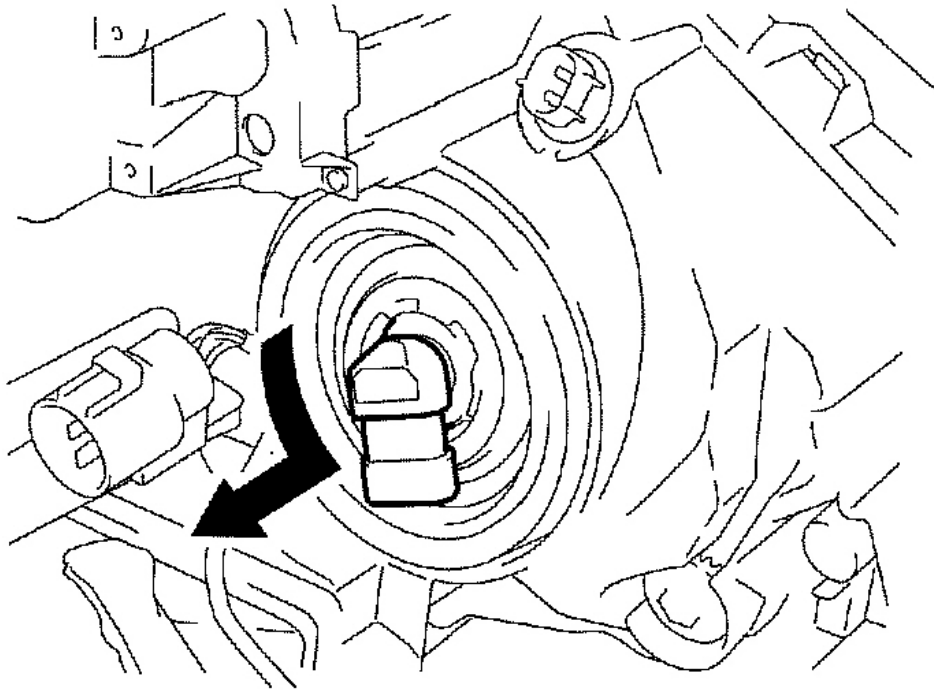
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**Fig. 27: Removing Discharge Headlamp Bulb**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**7. REMOVE HEADLAMP, NO. 2 BULB**

- a. Remove the headlamp, No. 2 bulb as shown in **Fig. 28** .



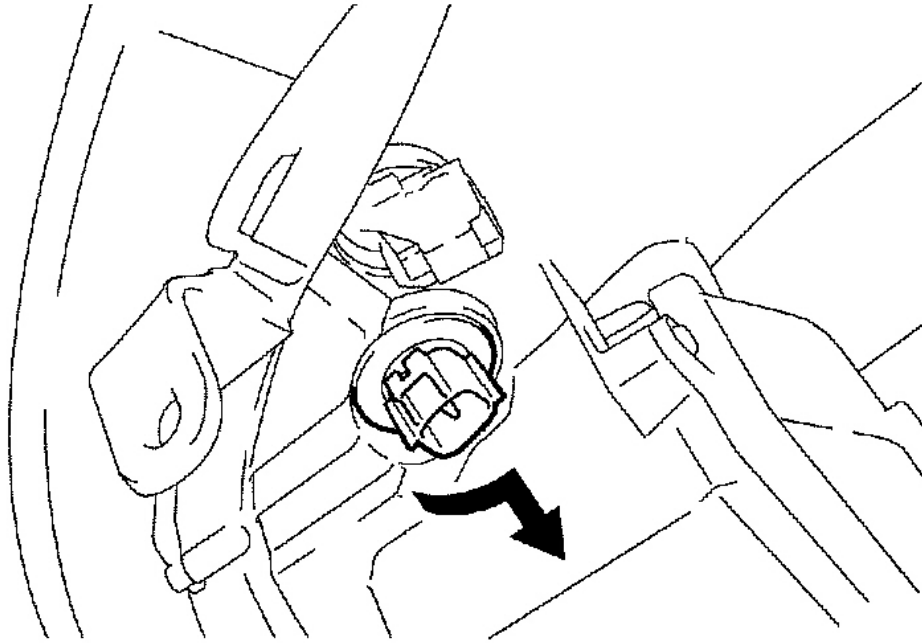
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**Fig. 28: Removing Headlamp No. 2 Bulb**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**8. REMOVE FRONT TURN SIGNAL LAMP BULB**

- a. Remove the front turn signal lamp bulb and the front turn signal lamp socket as shown in **Fig. 29** .
- b. Remove the front turn signal lamp bulb from the front turn signal lamp socket.



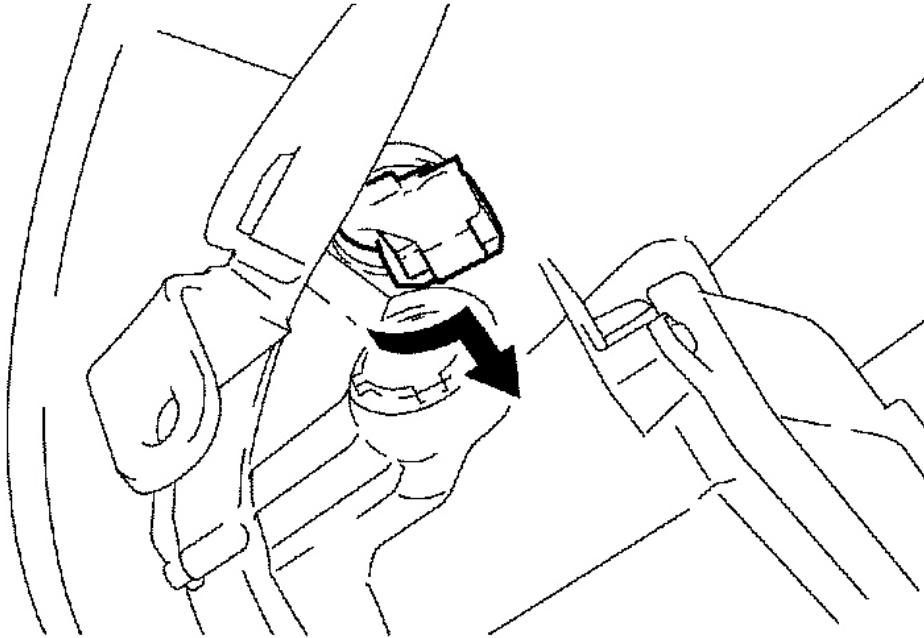
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**Fig. 29: Removing Front Turn Signal Lamp Bulb**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**9. REMOVE FRONT SIDE MAKER LAMP BULB**

- a. Remove the front side maker lamp bulb and the front side maker lamp socket as shown in **Fig. 30** .
- b. Remove the front side maker lamp bulb from the front side maker lamp socket.



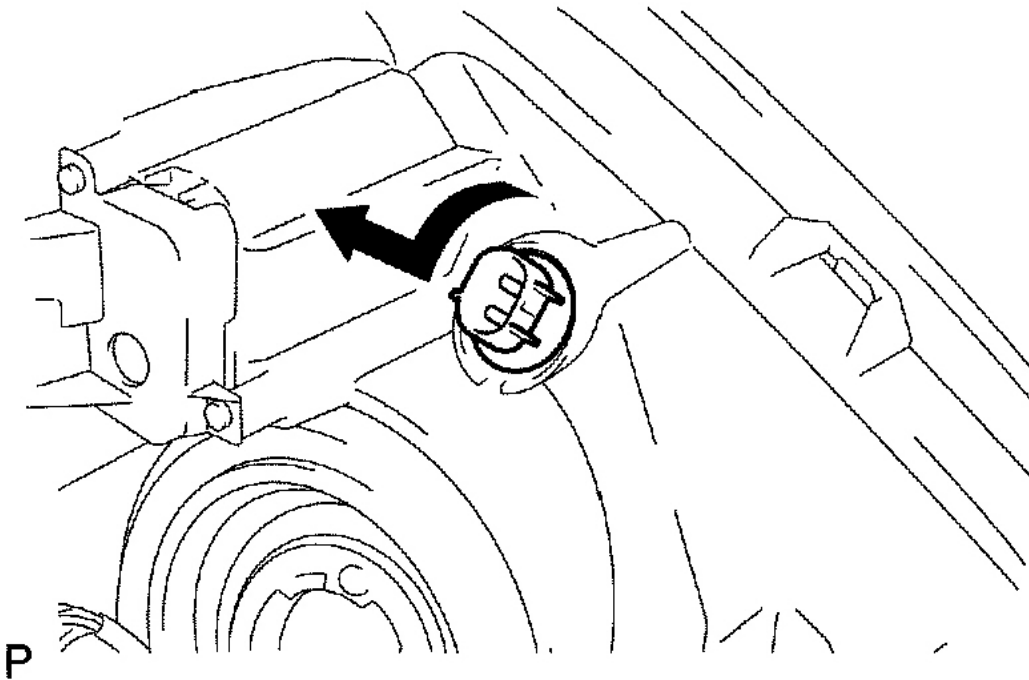
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**Fig. 30: Removing Front Side Maker Lamp Bulb**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **REMOVE CLEARANCE LAMP BULB**

- a. Remove the clearance lamp bulb and the clearance lamp bulb socket as shown in **Fig. 31** .
- b. Remove the clearance lamp bulb from the clearance lamp bulb socket.

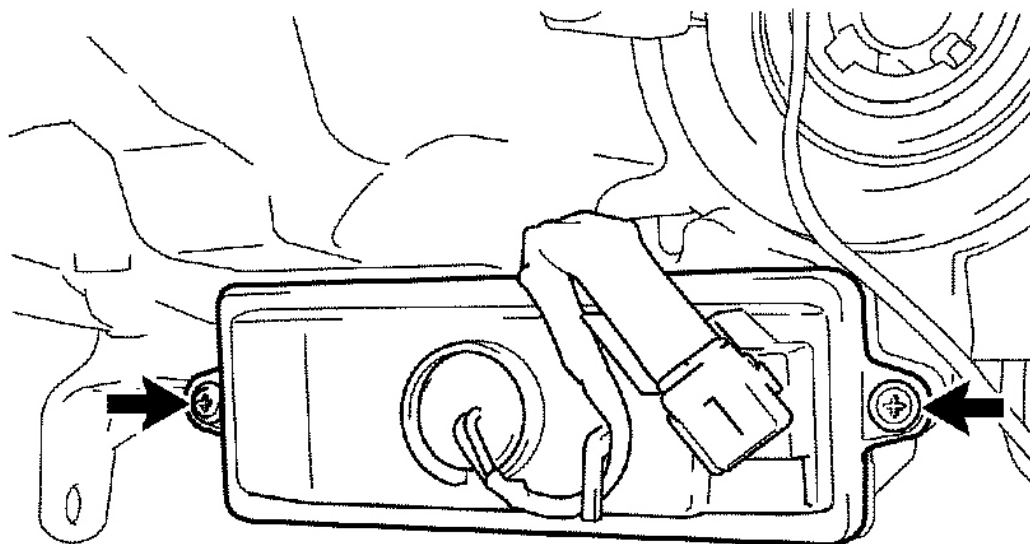


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**Fig. 31: Removing Clearance Lamp Bulb**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. **REMOVE HEADLAMP COVER NO. 1**
  - a. Remove the 2 screws and the headlamp cover No. 1.



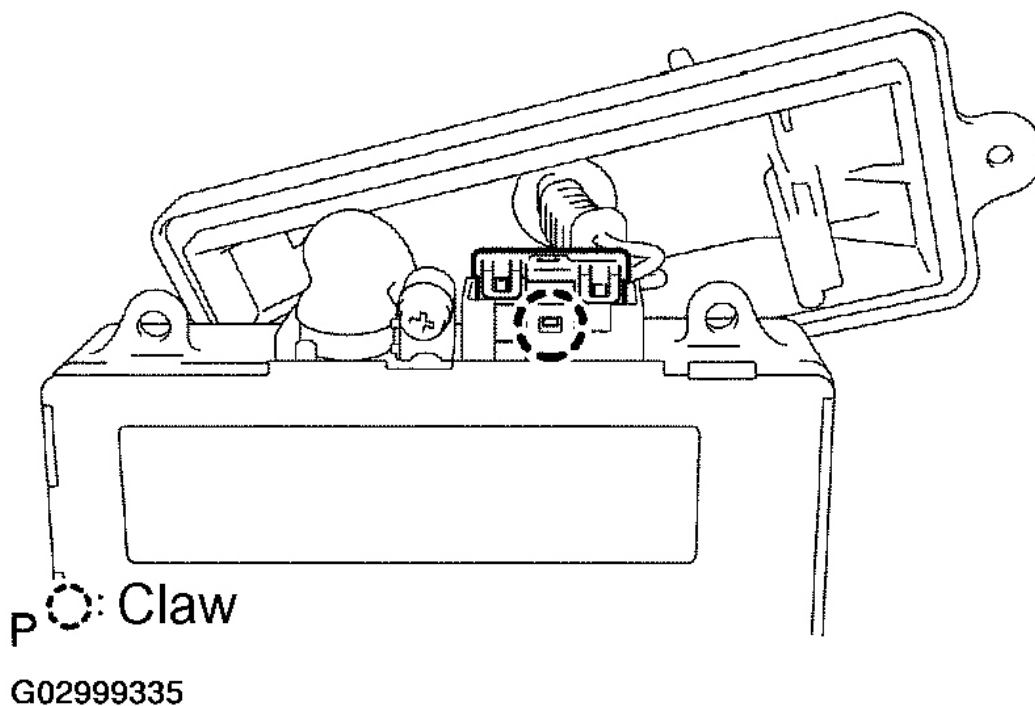


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**Fig. 32: Removing Headlamp Cover No. 1**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Release the claw fitting, disconnect the connector from the light control ECU and remove the headlamp cover No.1.
- c. Remove the headlamp gasket from the headlamp cover No. 1.



**Fig. 33: Removing Headlamp Cover No. 1**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **INSTALL FRONT BUMPER COVER** (See step 5 in **REPLACEMENT** )
13. **INSTALL FRONT FENDER LINER LH** (See **REPLACEMENT** )
14. **INSTALL FRONT FENDER LINER RH** (See **REPLACEMENT** )
15. **INSTALL ENGINE UNDER COVER NO. 1** (See **REPLACEMENT** )
16. **HEADLIGHT AIM ONLY** (See **ADJUSTMENT** )
17. **ADJUST FOG LIGHT AIM** (See **ADJUSTMENT** )

## **ADJUSTMENT**

### **1. HEADLIGHT AIM ONLY**

#### **HINT:**

- Perform aim adjustment with low-beam.
  - Since the low-beam lamp and the high-beam lamp are a unit, if aiming on either side is correct, the other side should also be correct. However, check both beams just to make sure.
- a. Prepare the vehicle by performing the following.

- Make sure the body around the headlamps has no damage or deformation.
  - Fill the fuel tank to full.
  - Inflate the tires to an appropriate pressure (see **INSPECTION** ).
  - Make sure the vehicle is on a level surface.
  - Sit a person weighting approximately 68 kg (150 lb) in the driver seat.
  - Bounce the vehicle up and down to settle the vehicle suspension.
- b. Prepare a piece of thick white paper (Draw base lines).

HINT:

- Stand the paper perpendicularly against a wall.
  - The base lines differ for "Low-beam inspection" and "High-beam inspection".
1. V line (Vehicle center position)

Draw a vertical line down the center of the paper to align with the center of the vehicle.

2. H Line (Headlamp height)

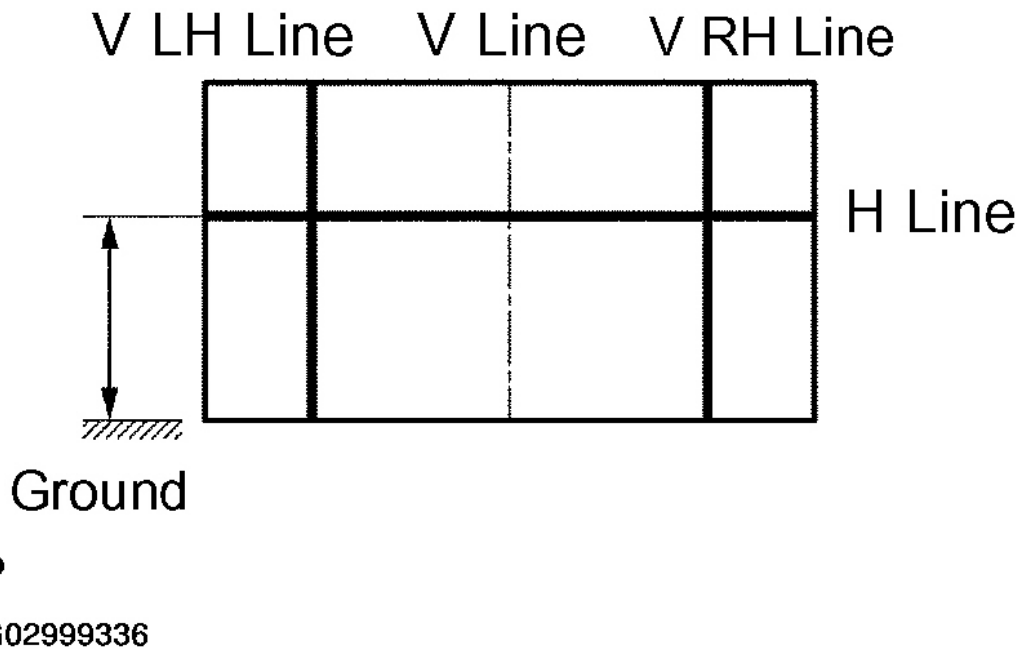
Draw a horizontal line across the paper so that it is at the same height as the center mark of the low beam lamp on the vehicle.

3. V LH line, V RH line (Center mark position of right and left headlamps)

Draw vertical lines on the left and right sides of the paper so that they line up with the center mark on the low-beam lights on the vehicle.

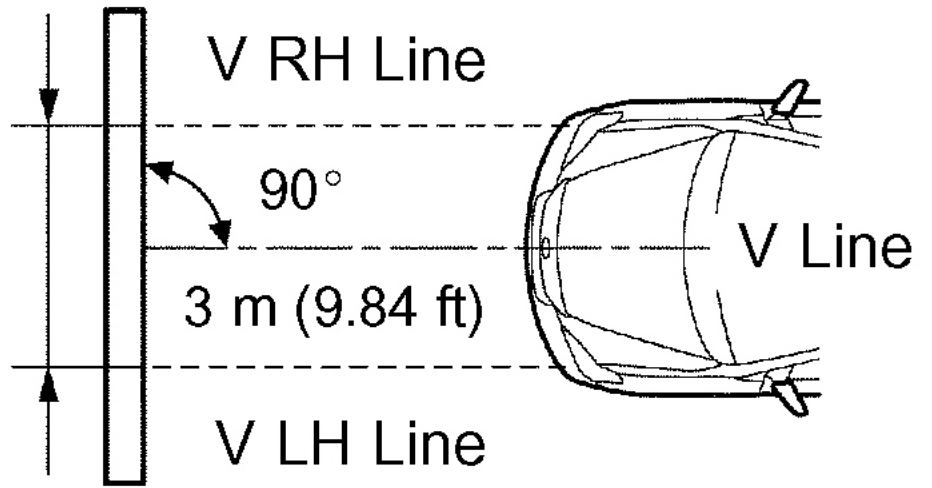
HINT:

Follow the same procedures when adjusting the high-beam lights.



**Fig. 34: Preparing Piece Of White Paper**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check headlamp aim.
  1. Align the paper and vehicle.
    - Make a distance of 3 m (9.84 ft) between the headlamps and the paper. Place the paper against a wall with the H line at the same height as the center mark.
    - Align the center of the vehicle with the V line on the paper. Ensure that the paper forms a 90° angle to the V line.



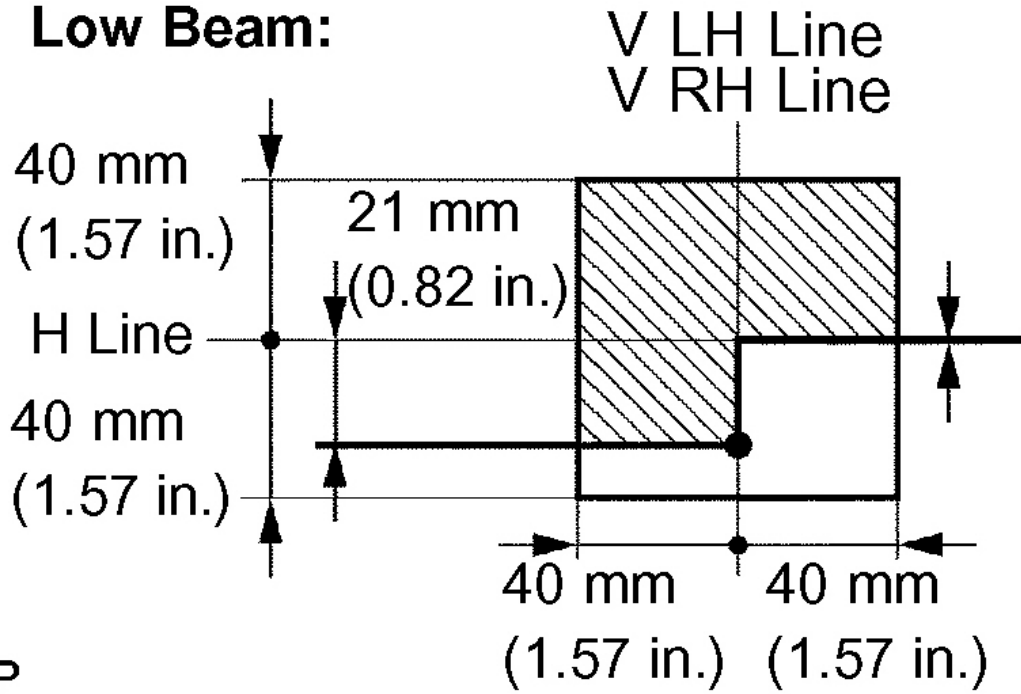
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**Fig. 35: Aligning Paper And Vehicle**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Start the engine.
3. Turn on the headlamps and check that the aim is within the specified range shown in **Fig. 36** and **Fig. 37** .

# Low Beam:



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**Fig. 36: Checking Aim Of Low-Beam**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

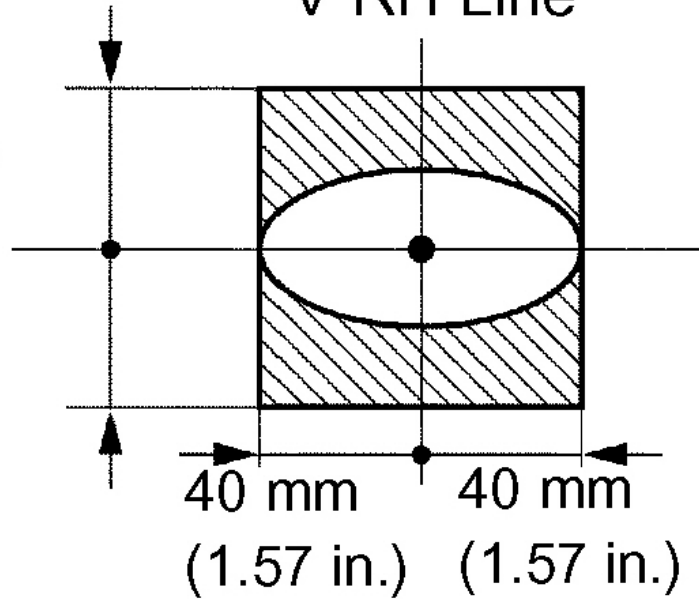
## High Beam:

40 mm  
(1.57 in.)

H Line

40 mm  
(1.57 in.)

V LH Line  
V RH Line



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**Fig. 37: Checking Aim Of High-Beam**

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

### NOTE:

- When covering the headlamps, finish it within 3 minutes.
- The headlamp lens is made of synthetic resin, so it is easily melted or damaged due to heat.

### HINT:

When checking the aim of the high-beam, shut off the low beam or disconnect the low-beam headlamp connector.

- d. Adjust the aim in the vertical direction:

Using a screwdriver, adjust the headlamp aim into the specified range by turning aiming screw A and B.

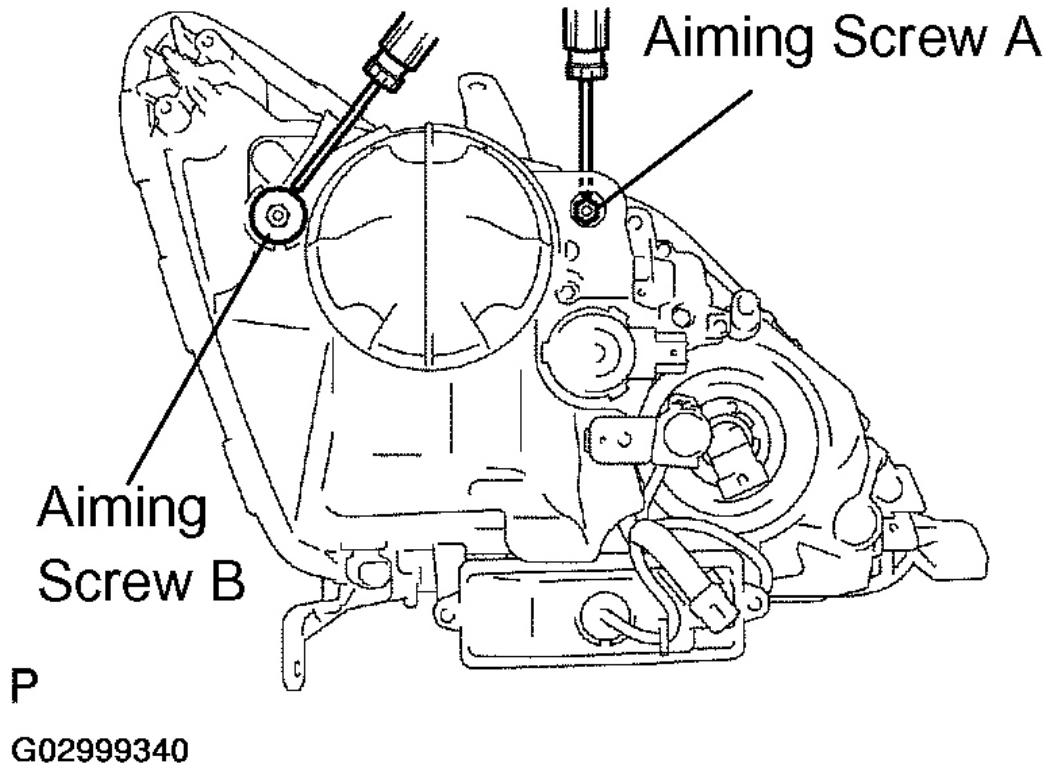
### NOTE:

- Adjust the headlamp aim by turning the screw in the tightening direction.
- When the screw is tightened excessively, loosen it once and

retighten it to adjust the headlamp aim.

HINT:

The headlamp aim moves down when turning the screw clockwise, and it moves up when turning the screw counterclockwise.



**Fig. 38: Adjusting Aim In Vertical Direction**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

## RETAINER, HEADLAMP PROTECTOR

### REPLACEMENT

HINT:

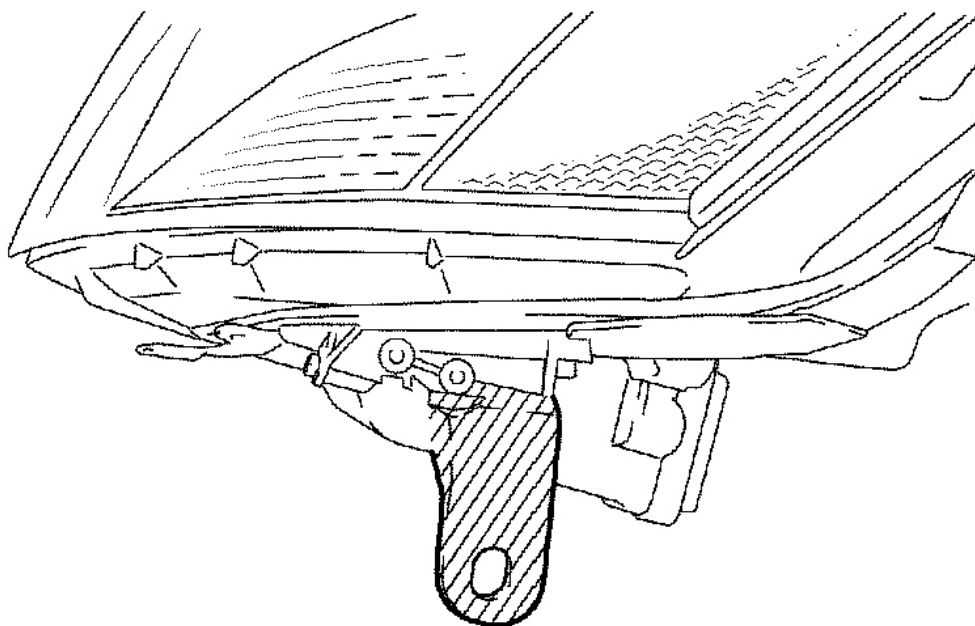
- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.
- To minimize damage to the headlamp unit in case of a collision, the stays for the headlamp unit have been



constructed to break off. The stays are available as supply parts for low-cost repair.

1. **REMOVE ENGINE UNDER COVER NO. 1 (See REPLACEMENT )**
2. **REMOVE FRONT FENDER LINER LH (See REPLACEMENT )**
3. **REMOVE FRONT FENDER LINER RH (See REPLACEMENT )**
4. **REMOVE FRONT BUMPER COVER (See step 5 in REPLACEMENT )**
5. **REMOVE LH HEADLAMP ASSY (See OVERHAUL )**
6. **INSTALL HEADLAMP LH BRACKET**
  - a. Cut off the part shaded in **Fig. 39** and sand smooth with sandpaper.

**NOTE:** After cutting off the part, place the headlamp LH bracket against the bosses and gradually file away until installation is possible.

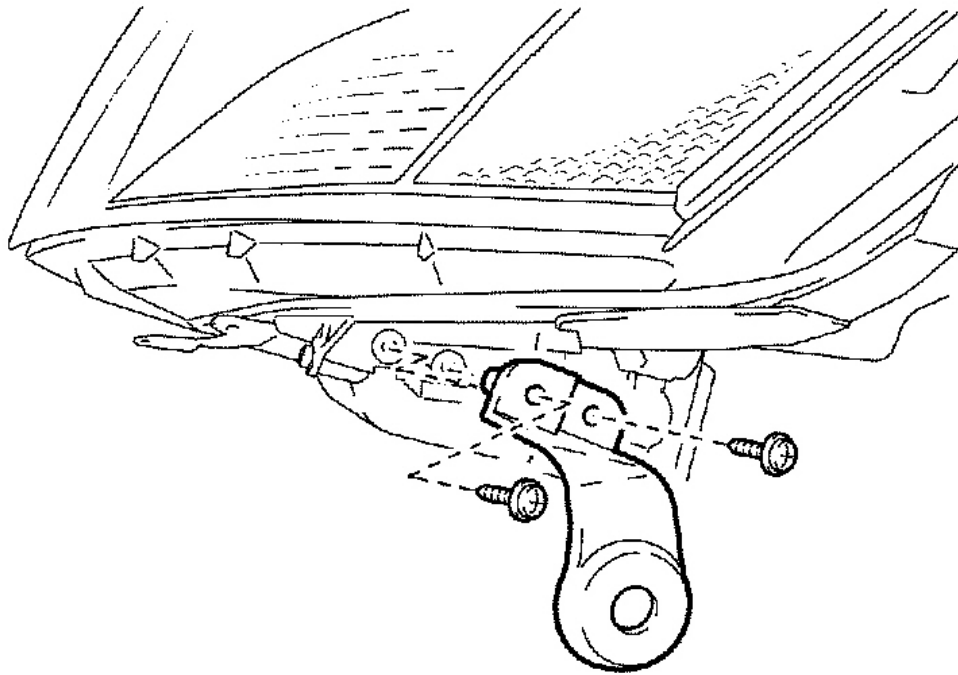


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**Fig. 39: Cutting Off Shaded Part**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the headlamp LH bracket with the 2 screws.



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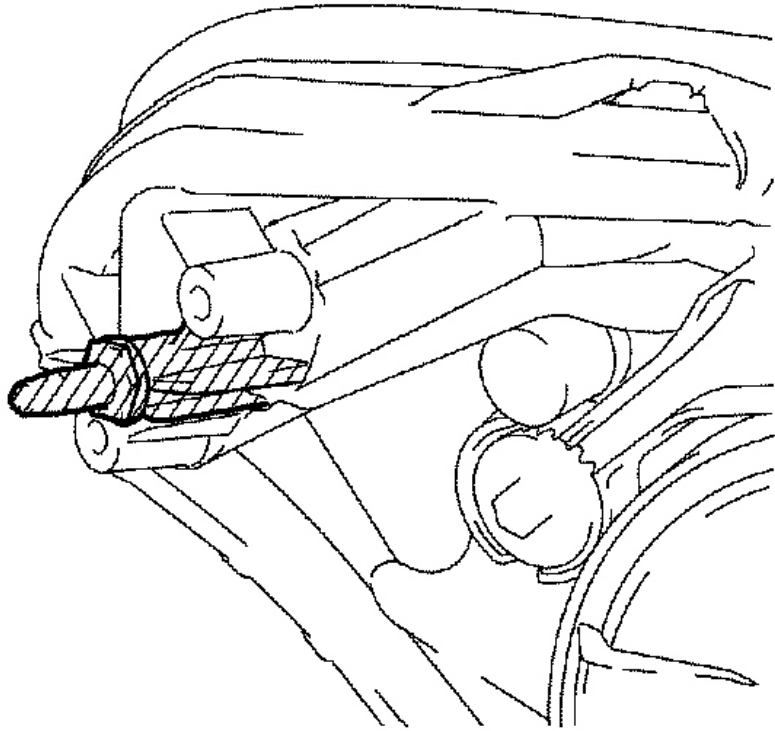
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**Fig. 40: Installing Headlamp LH Bracket**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**7. INSTALL HEADLAMP RH BRACKET**

- a. Cut off the part shaded in **Fig. 41** and sand smooth with sandpaper.

**NOTE:** After cutting off the part, place the headlamp RH bracket against the bosses and gradually file away until installation is possible.

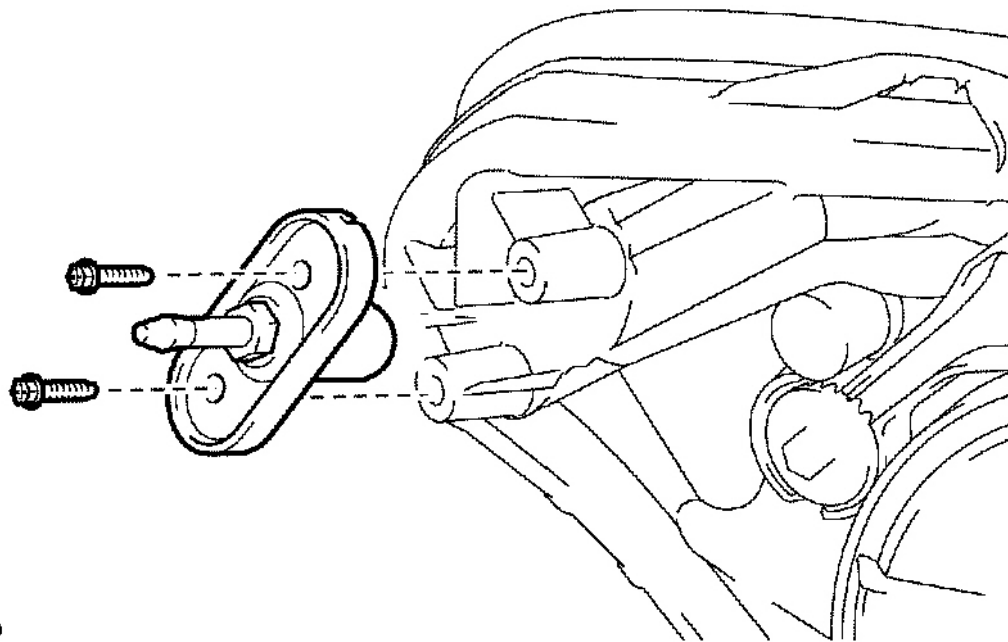


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**Fig. 41: Cutting Off Shaded Part**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the headlamp RH bracket with the 2 screws.



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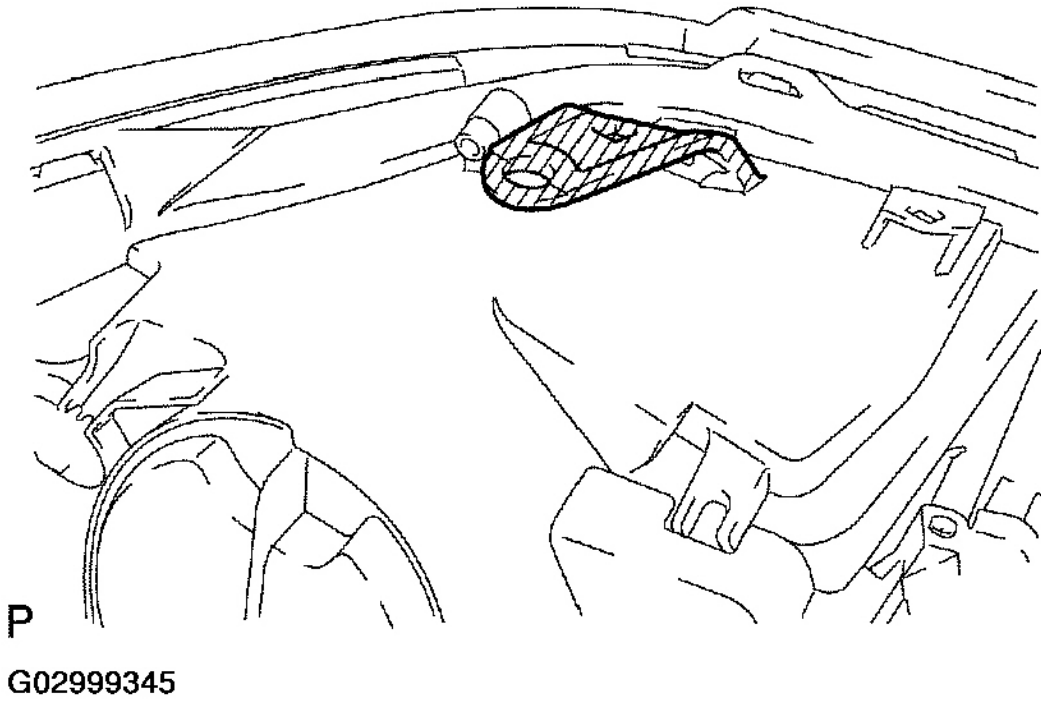
**Fig. 42: Installing Headlamp RH Bracket**

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

**8. INSTALL HEADLAMP PROTECTOR RETAINER UPPER LH**

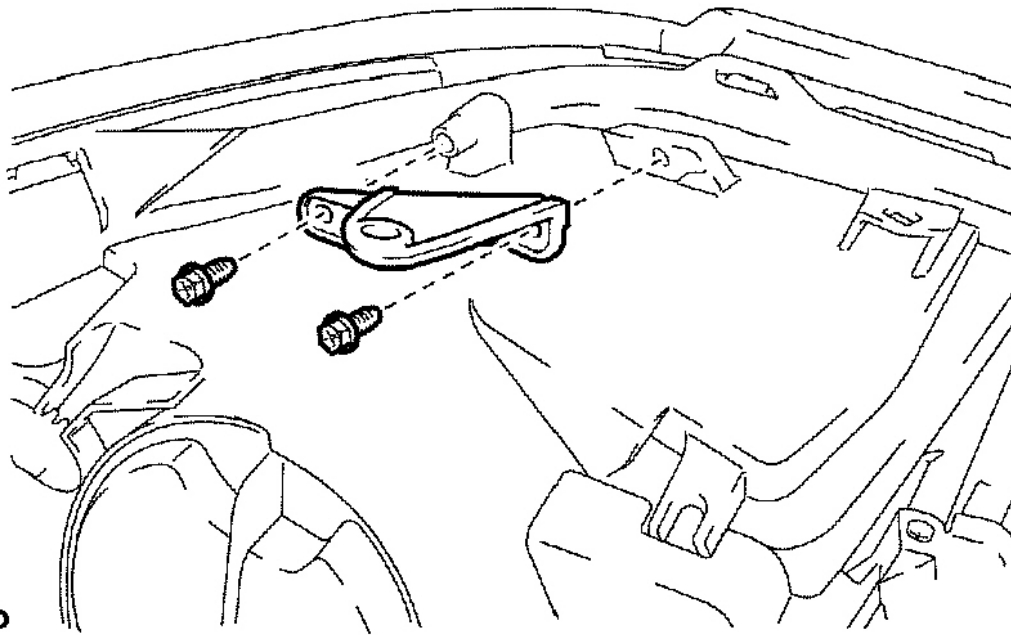
- a. Cut off the part shaded in **Fig. 43** and sand smooth with sandpaper.

**NOTE:** After cutting off the part, place the headlamp protector retainer UPPER LH against the bosses and gradually file away until installation is possible.



**Fig. 43: Cutting Off Shaded Part**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the headlamp protector retainer UPPER LH with the 2 screws.



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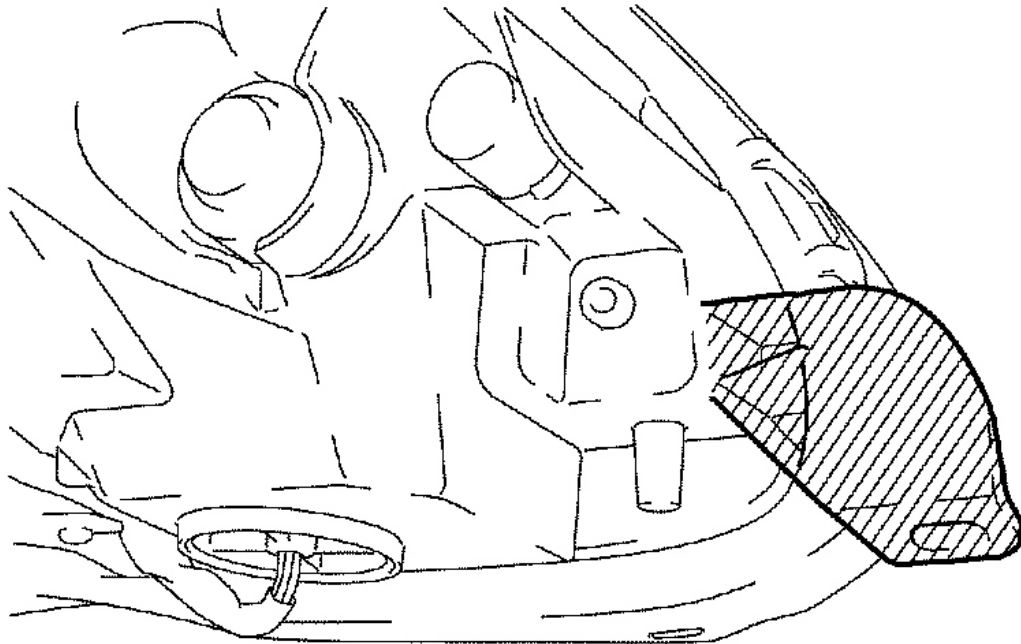
**Fig. 44: Installing Headlamp Protector Retainer Upper LH**

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

**9. INSTALL HEADLAMP PROTECTOR RETAINER LWR LH**

- a. Cut off the part shaded in **Fig. 45** and sand smooth with sandpaper.

**NOTE:** After cutting off the part, place the headlamp protector retainer LWR LH against the bosses and gradually file away until installation is possible.

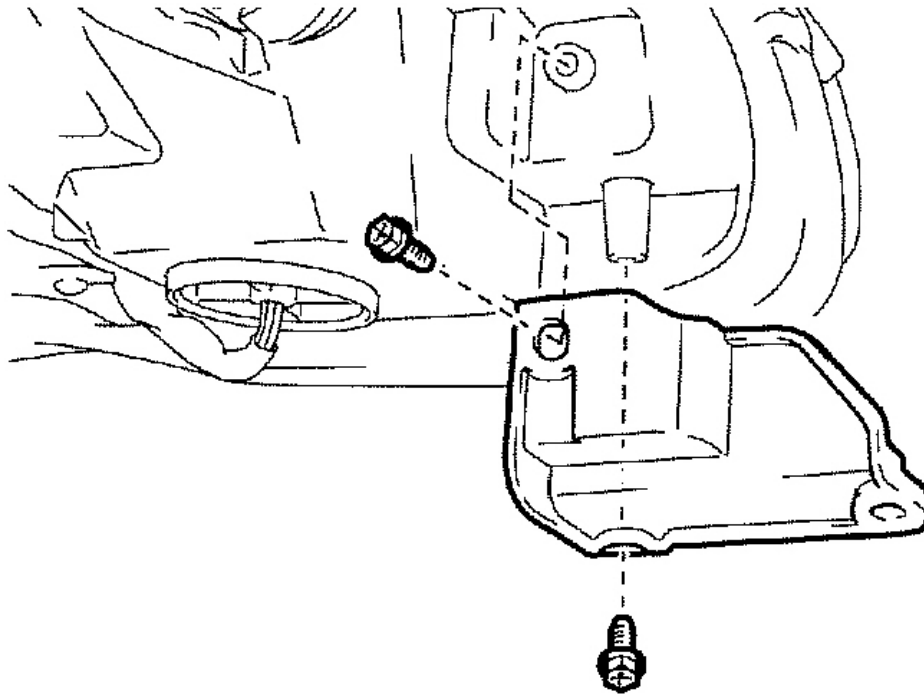


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**Fig. 45: Cutting Off Shaded Part**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the headlamp protector retainer LWR LH with the 2 screws.



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**Fig. 46: Installing Headlamp Protector Retainer LWR LH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. HEADLIGHT AIM ONLY (See ADJUSTMENT )
11. ADJUST FOG LIGHT AIM (See ADJUSTMENT )

## FOG LAMP ASSY

### OVERHAUL

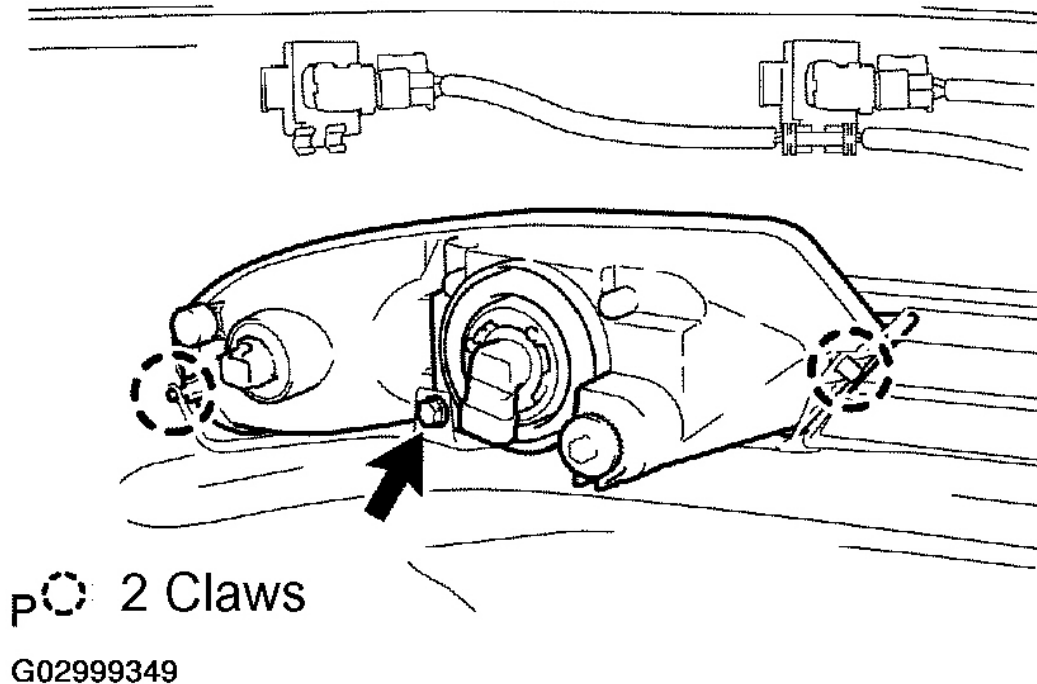
#### HINT:

- See COMPONENTS .
- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.
- Reassembly is in the reverse order of overhaul.

1. REMOVE ENGINE UNDER COVER NO. 1 (See REPLACEMENT )

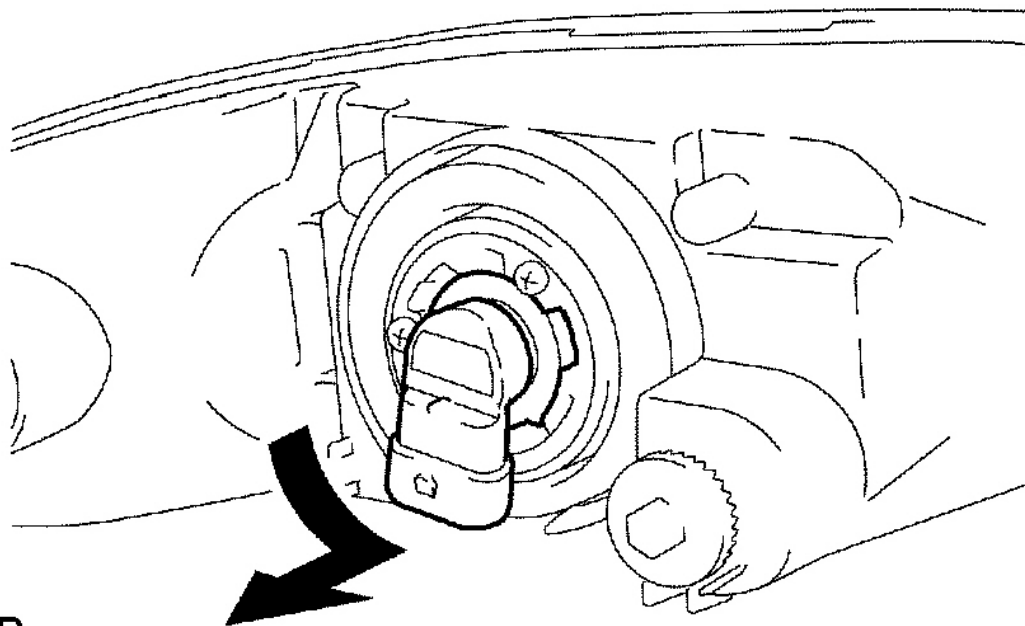


2. **REMOVE FRONT FENDER LINER LH** (See REPLACEMENT )
3. **REMOVE FRONT FENDER LINER RH** (See REPLACEMENT )
4. **REMOVE FRONT BUMPER COVER** (See step 5 in REPLACEMENT )
5. **REMOVE FOG LAMP ASSY LH**
  - a. Remove the bolt from the fog lamp assy LH.
  - b. Release the 2 claw fittings, then pull out the fog lamp assy LH.



**Fig. 47: Removing Fog Lamp Assy LH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **REMOVE FOG LAMP BULB**
  - a. Remove the fog lamp bulb from the fog lamp assy LH as shown in Fig. 48 .



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**Fig. 48: Removing Fog Lamp Bulb**

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

7. **INSTALL FRONT BUMPER COVER** (See step 5 on **REPLACEMENT** )
8. **INSTALL FRONT FENDER LINER LH** (See **REPLACEMENT** )
9. **INSTALL FRONT FENDER LINER RH** (See **REPLACEMENT** )
10. **INSTALL ENGINE UNDER COVER NO. 1** (See **REPLACEMENT** )
11. **PUT VEHICLE UNDER THESE CONDITIONS** (See **ADJUSTMENT** )
12. **ADJUST FOG LIGHT AIM** (See **ADJUSTMENT** )

**ADJUSTMENT**

**1. PUT VEHICLE UNDER THESE CONDITIONS**

- a. Prepare the vehicle by performing the following.
  - Make sure the body around the headlamps has no damage or deformation.
  - Fill the fuel tank to full.
  - Inflate the tires to an appropriate pressure (see **INSPECTION** ).
  - Make sure the vehicle is on a level surface.
  - Sit a person weighting approximately 68 kg (150 lb) in the driver seat.

- Bounce the vehicle up and down to settle the vehicle suspension.

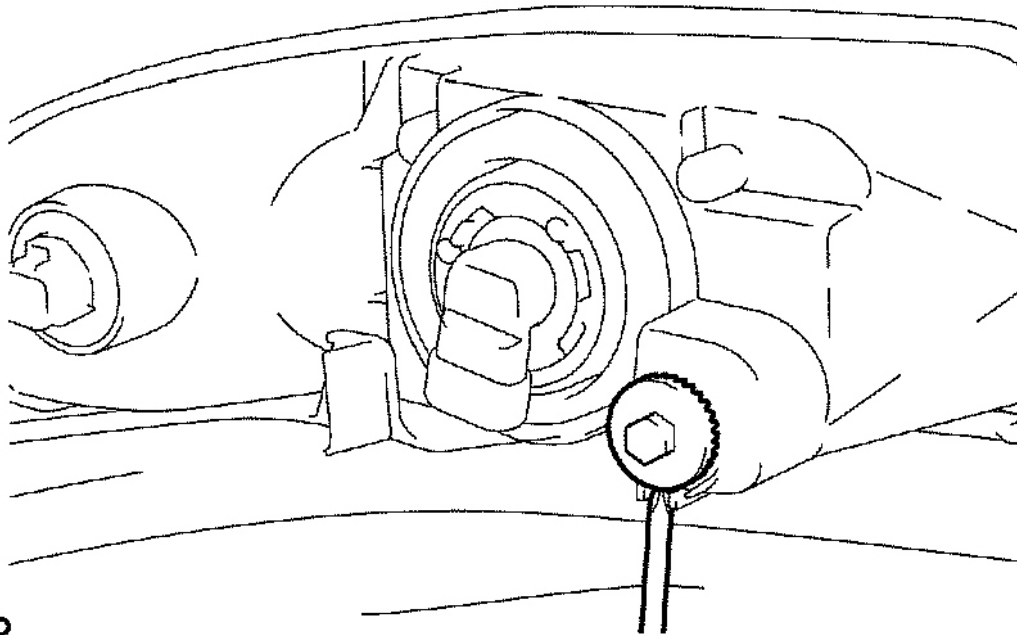
b. Start the engine.

## 2. ADJUST FOG LIGHT AIM

- a. The fog lamp aim can be adjusted by moving the aiming screw in the vertical direction.

HINT:

The fog lamp aim moves up when turning the screw clockwise, while it moves down when turning the screw counterclockwise.



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**Fig. 49: Adjusting Fog Light Aim**

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

## REAR COMBINATION LAMP ASSY

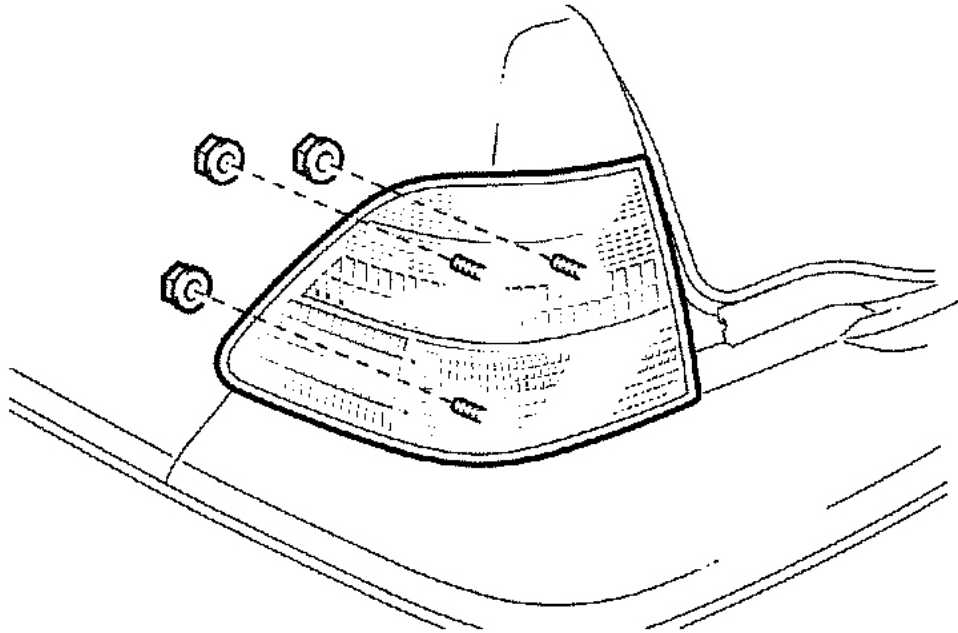
### OVERHAUL

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.

- Reassembly is in the reverse order of overhaul.

1. **REMOVE BACK DOOR TRIM COVER (See step 5 in OVERHAUL )**
2. **REMOVE REAR COMBINATION LAMP ASSY LH**
  - a. Disconnect the connectors.
  - b. Remove the 3 nuts and the rear combination lamp assy LH.



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**Fig. 50: Removing Rear Combination Lamp Assy LH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE REAR COMBINATION LAMP BULB**
  - a. Remove the rear combination lamp bulb and the rear combination lamp socket from the rear combination lamp assy LH.
  - b. Remove the rear combination lamp bulb from the rear combination lamp socket.

## **REAR LAMP ASSY**

### **OVERHAUL**

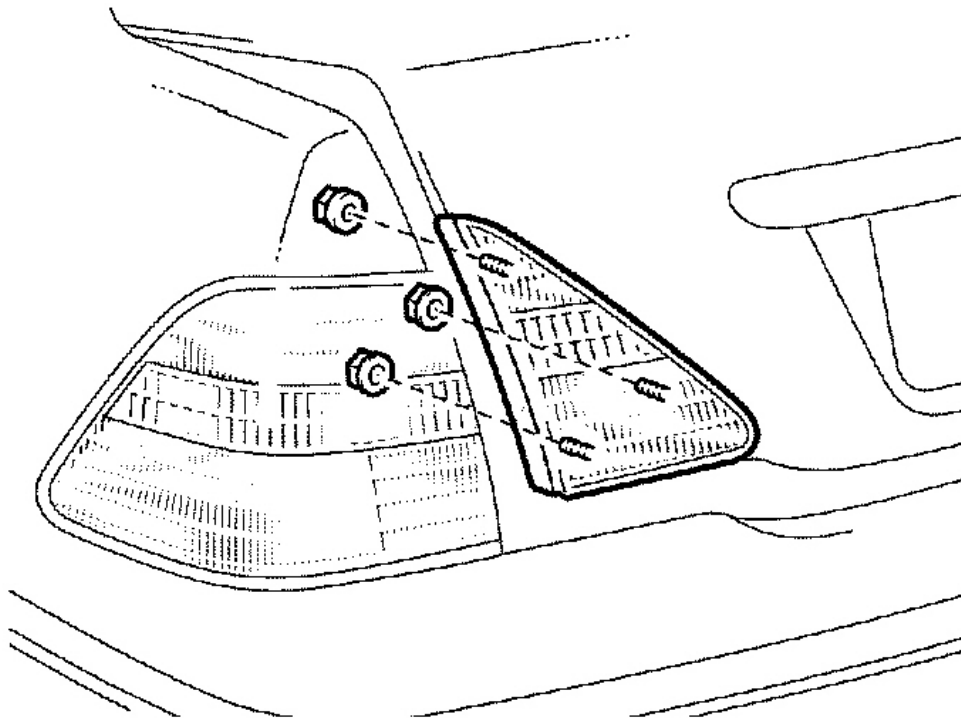
HINT:

- See **COMPONENTS** .
- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.
- Reassembly is in the reverse order of overhaul.

1. **REMOVE BACK DOOR TRIM COVER (See step 5 in OVERHAUL )**

2. **REMOVE REAR LAMP ASSY LH**

- a. Disconnect the connectors.
- b. Remove the 3 nuts and the rear lamp assy LH.



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**Fig. 51: Removing Rear Lamp Assy LH**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE REAR COMBINATION LAMP BULB**

- a. Remove the rear combination lamp bulb and the rear combination lamp socket from the rear lamp assy LH.

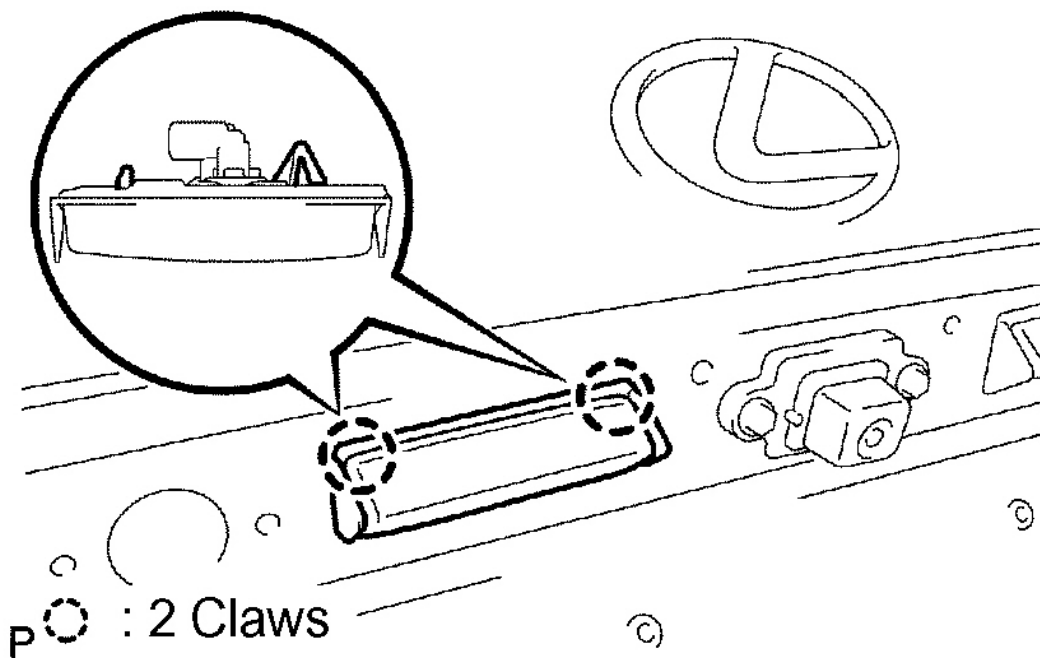
- b. Remove the rear combination lamp bulb from the rear combination lamp socket.

## LICENSE PLATE LAMP LENS

### REPLACEMENT

#### HINT:

- See COMPONENTS .
  - Use the same procedures for the RH side and LH side.
  - The procedures listed below are for the LH side.
  - Install is in the reverse order of removal.
1. **REMOVE BACK DOOR TRIM COVER (See step 5 in OVERHAUL )**
  2. **REMOVE LUGGAGE COMPARTMENT DOOR GARNISH SUB-ASSY OUTSIDE (See step 5 in REPLACEMENT )**
  3. **REMOVE LICENSE PLATE LAMP ASSY**
    - a. Release the 2 claw fittings and disconnect the license plate lamp assy as shown in Fig. 52 .
    - b. Disconnect the connector and remove the license plate lamp assy.



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**Fig. 52: Removing License Plate Lamp Assy**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**4. REMOVE LICENSE PLATE LAMP BULB**

- a. Remove the license plate lamp bulb, the license plate lamp socket and wire.
- b. Remove the license plate lamp bulb from the license plate lamp socket and wire.

**5. REMOVE LICENSE PLATE LAMP SOCKET AND WIRE**

**6. REMOVE LICENSE PLATE LAMP LENS**

## **CENTER STOP LAMP ASSY**

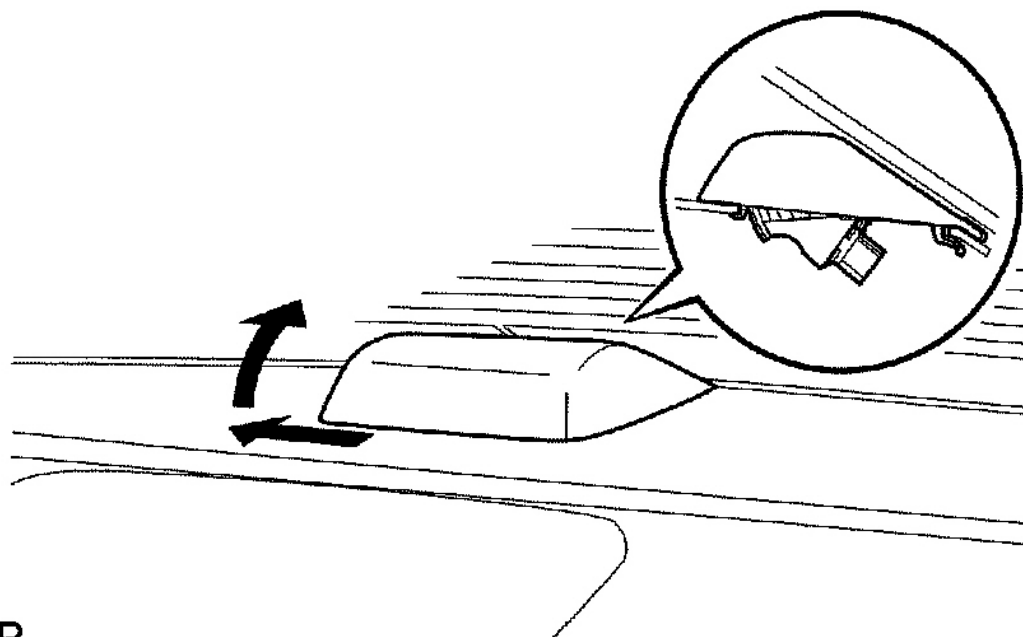
### **REPLACEMENT**

HINT:

Installation is in the reverse order of removal.

**1. REMOVE CENTER STOP LAMP ASSY**

- a. Slide the center stop lamp assy as shown in **Fig. 53** to remove it.
- b. Disconnect the connector.



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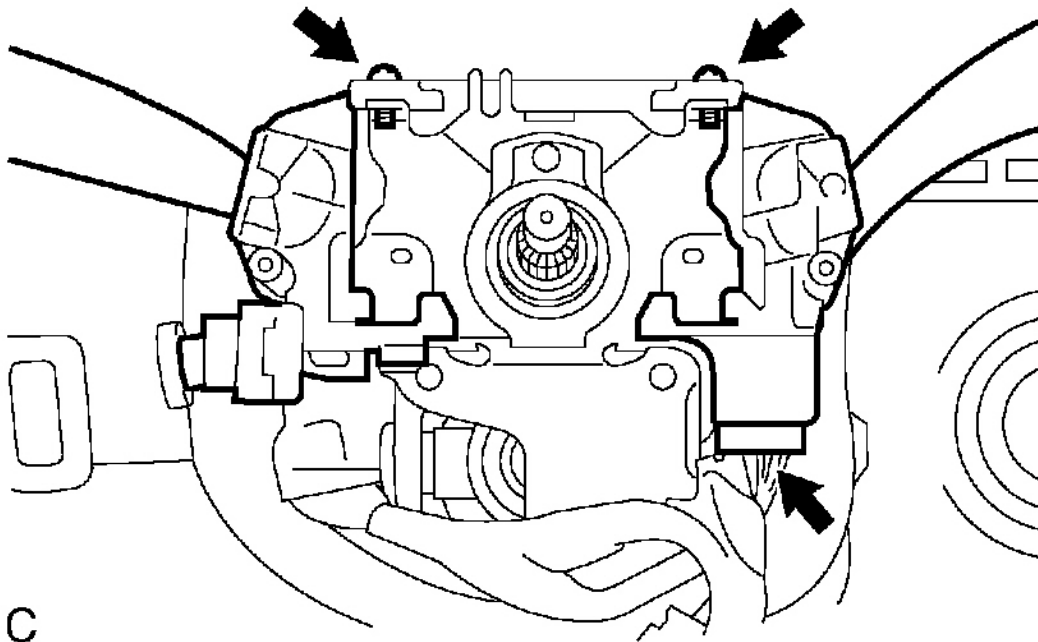
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## **TURN SIGNAL SWITCH ASSY**

### **REPLACEMENT**

1. **PRECAUTION (See PRECAUTION )**
2. **SEPARATE BATTERY NEGATIVE TERMINAL (See PRECAUTION )**
3. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
4. **REMOVE SWITCH & VOLUME CASE (See step 3 in REPLACEMENT )**
5. **REMOVE STEERING WHEEL COVER LOWER NO. 2 (See step 4 in REPLACEMENT )**
6. **REMOVE HORN BUTTON ASSY (See step 5 in REPLACEMENT )**
7. **REMOVE STEERING WHEEL ASSY (See step 7 in OVERHAUL )**  
SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05021)
8. **REMOVE STEERING COLUMN COVER (See step 8 in OVERHAUL )**
9. **REMOVE SPIRAL CABLE SUB-ASSY (See step 9 in REPLACEMENT )**
10. **REMOVE TURN SIGNAL SWITCH ASSY**
  - a. Disconnect the connector.
  - b. Remove the 2 screws and the turn signal switch assy.





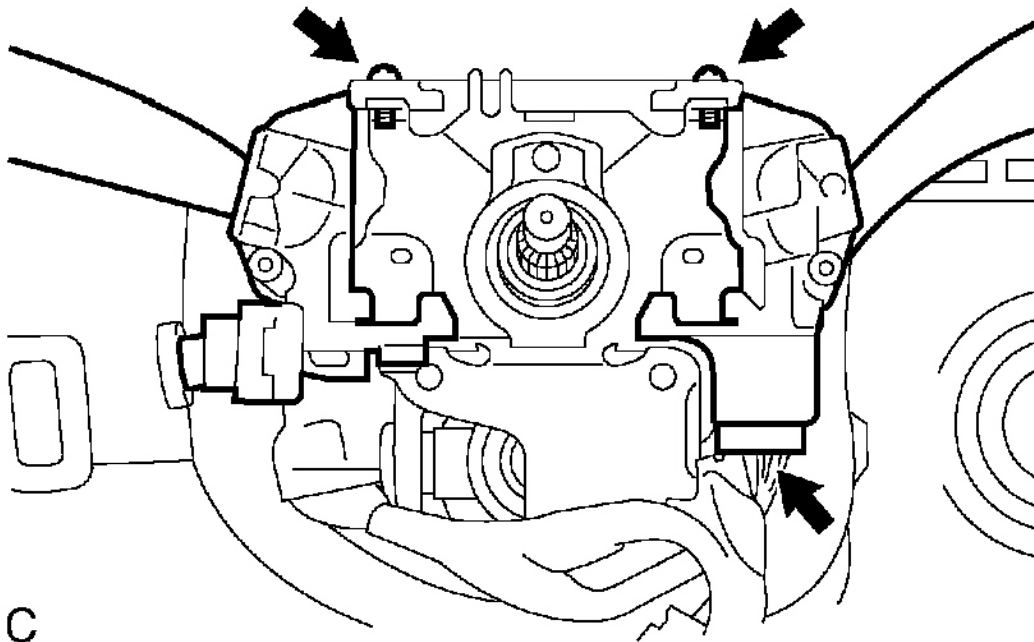
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**Fig. 54: Removing Turn Signal Switch Assy**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**11. INSTALL TURN SIGNAL SWITCH ASSY**

- a. Install the turn signal switch assy and the 2 screws.
- b. Connect the connector.



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**Fig. 55: Installing Turn Signal Switch Assy**

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

12. **INSTALL SPIRAL CABLE SUB-ASSY** (See step 12 in REPLACEMENT )
13. **INSTALL STEERING COLUMN COVER** (See step 94 in OVERHAUL )
14. **INSTALL STEERING WHEEL ASSY** (See step 89 in OVERHAUL )  
     SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05021)
15. **PLACE FRONT WHEELS FACING STRAIGHT AHEAD**
16. **INSTALL HORN BUTTON ASSY** (See step 6 in REPLACEMENT )
17. **INSTALL STEERING WHEEL COVER LOWER NO. 2** (See REPLACEMENT )
18. **INSTALL SWITCH & VOLUME CASE** (See step 3 in REPLACEMENT )
19. **CONNECT BATTERY NEGATIVE TERMINAL** (See PRECAUTION )
20. **INSPECT SRS WARNING LIGHT** (See step 4 in DIAGNOSIS SYSTEM )
21. **PERFORM INITIALIZATION** (See INITIALIZATION )

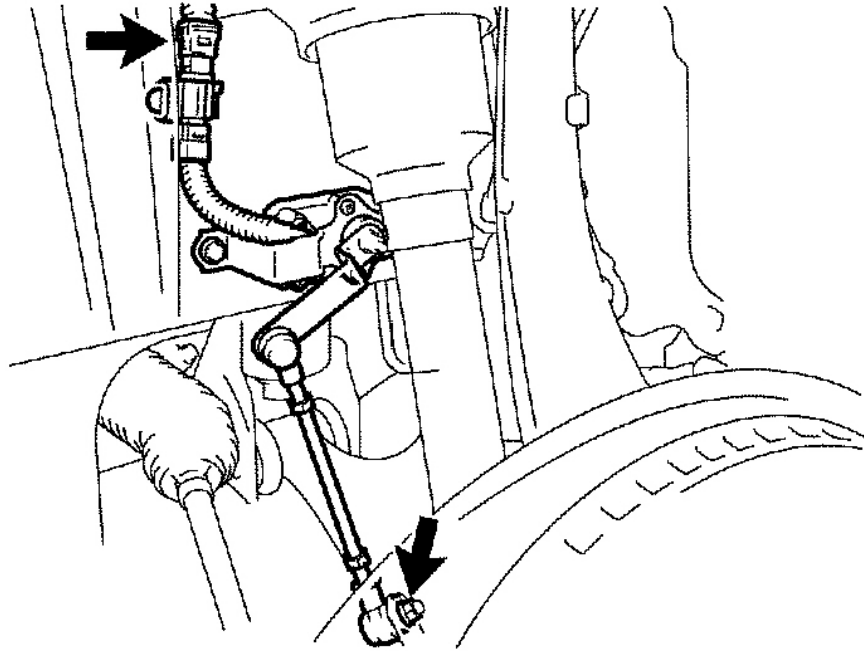
## **HEIGHT CONTROL SENSOR SUB-ASSY FRONT LH**

### **REPLACEMENT**

1. **REMOVE FRONT WHEEL**

2. **REMOVE HEIGHT CONTROL SENSOR SUB-ASSY FRONT LH**

- a. Disconnect the connector.
- b. Remove the nut and disconnect the height control sensor link.

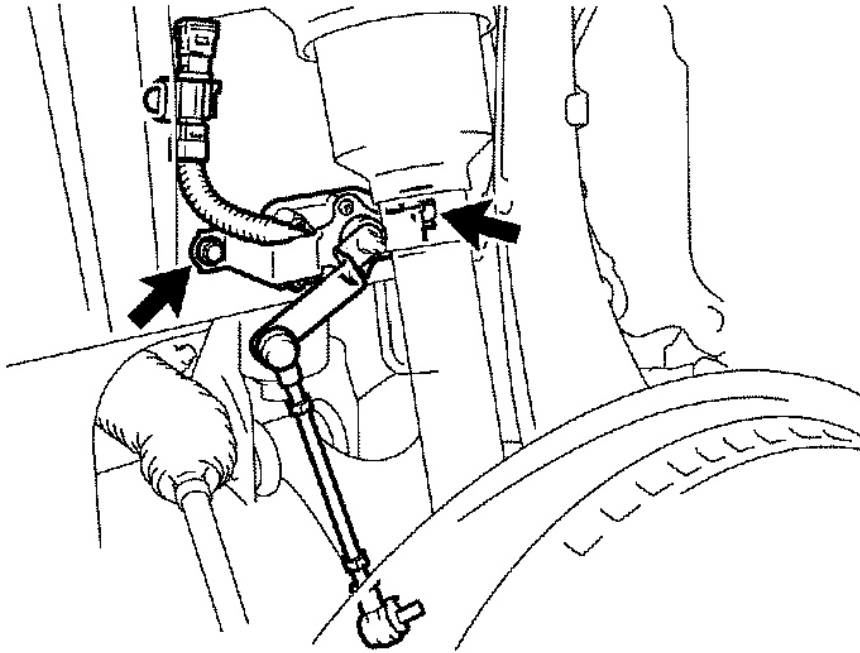


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**Fig. 56: Disconnecting Height Control Sensor Link**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the 2 bolts and the height control sensor sub-assy front LH.

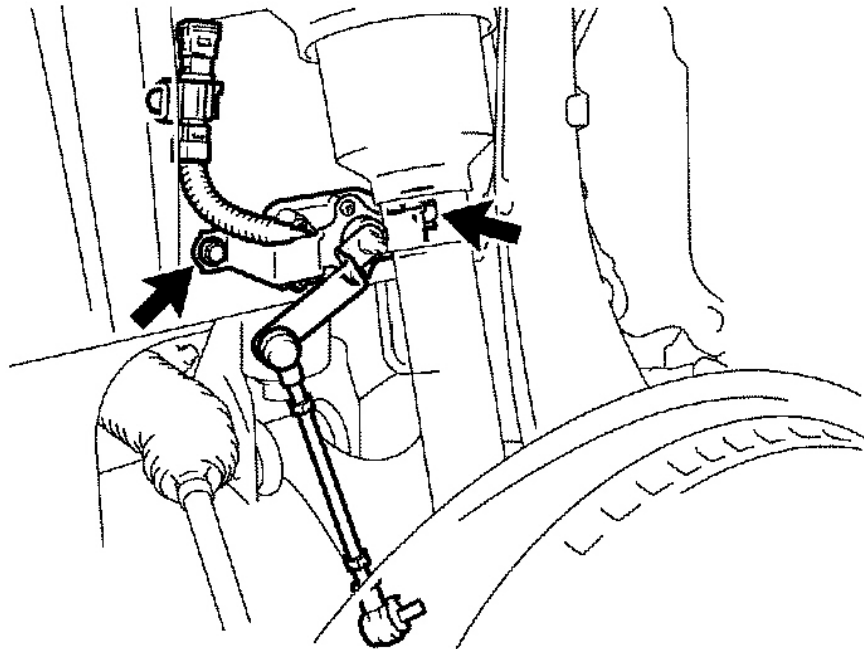


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**Fig. 57: Removing Height Control Sensor Sub-Assy Front LH Bolts**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL HEIGHT CONTROL SENSOR SUB-ASSY FRONT LH**
  - a. Install the height control sensor sub-assy LH with the 2 bolts.

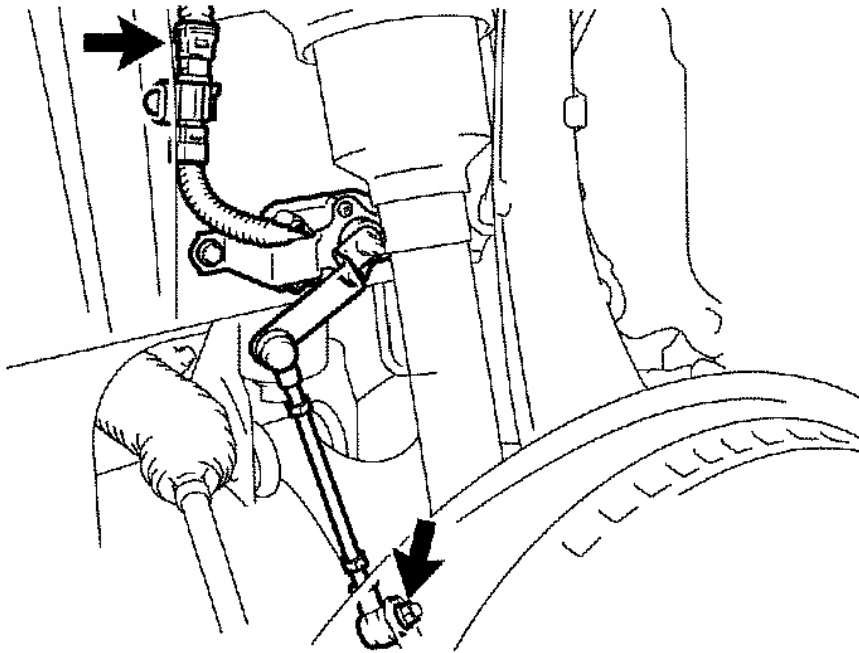


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**Fig. 58: Installing Height Control Sensor Sub-Assy LH Bolts**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the height control sensor link with the nut.  
**Torque: 5.4 N.m (55 kdgf.cm, 48 in.lbf)**
- c. Connect the connector.



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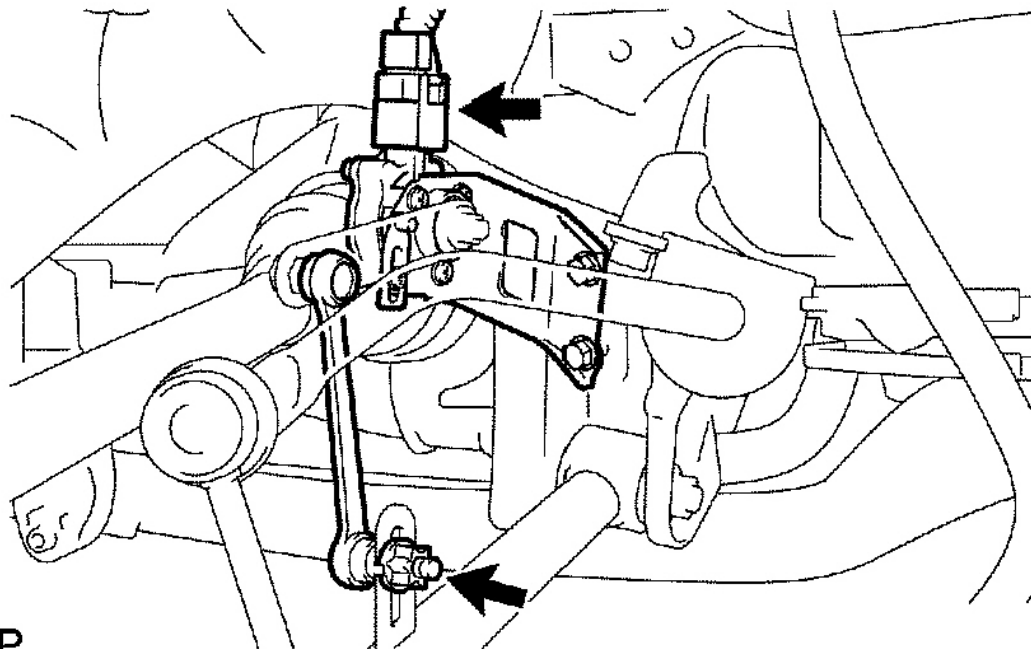
**Fig. 59: Installing Height Control Sensor Link**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. **INSTALL FRONT WHEEL**  
Torque: 103 N.m (1,050 kgf.cm, 76 ft.lbf)
5. **HEADLIGHT AIM ONLY (See ADJUSTMENT )**

## **HEIGHT CONTROL SENSOR SUB-ASSY REAR LH**

### **REPLACEMENT**

1. **REMOVE REAR WHEEL**
2. **REMOVE HEIGHT CONTROL SENSOR SUB-ASSY REAR LH**
  - a. Disconnect the connector.
  - b. Remove the nut and disconnect the height control sensor link.

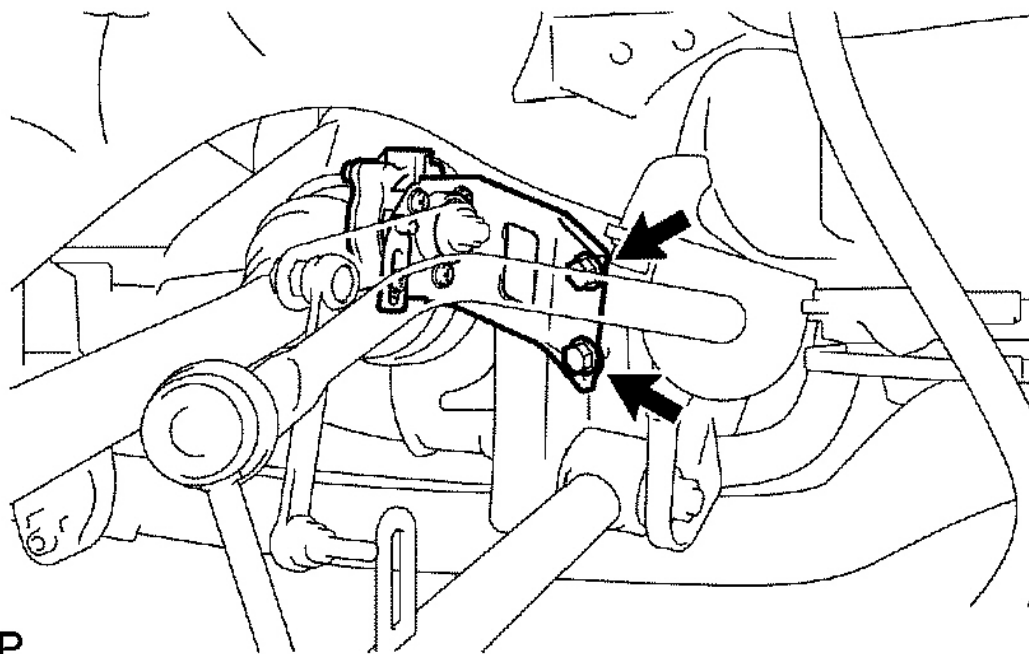


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**Fig. 60: Removing Height Control Sensor Link**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the 2 nuts and the height control sensor sub-assy rear LH.



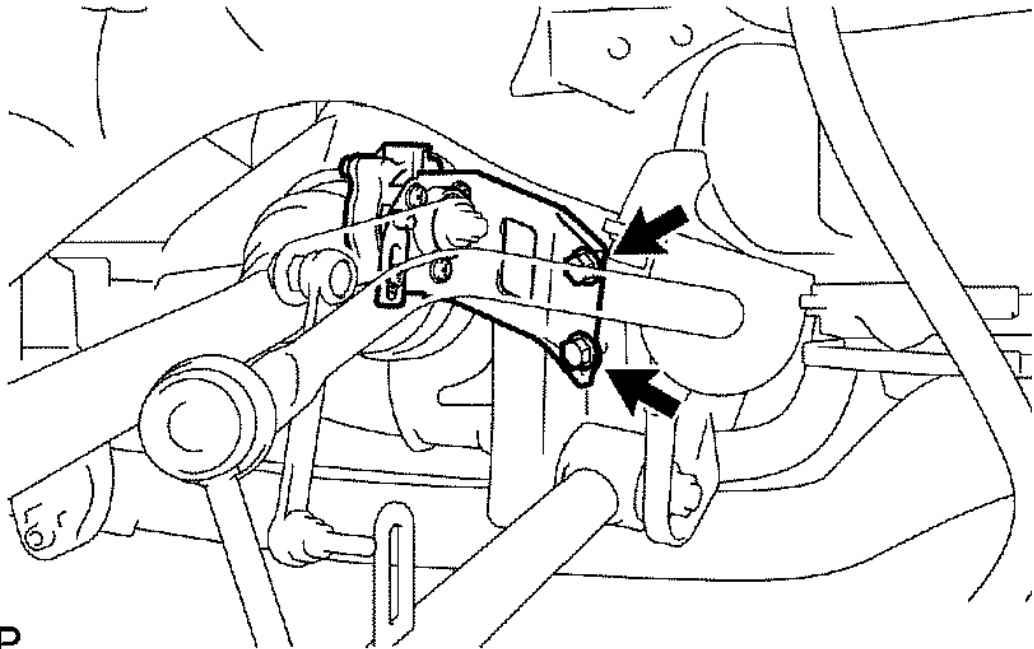
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**Fig. 61: Identifying Height Control Sensor Sub-Assy Rear LH Nuts**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL HEIGHT CONTROL SENSOR SUB-ASSY REAR LH**
  - a. Install the height control sensor sub-assy rear LH with the 2 nuts.



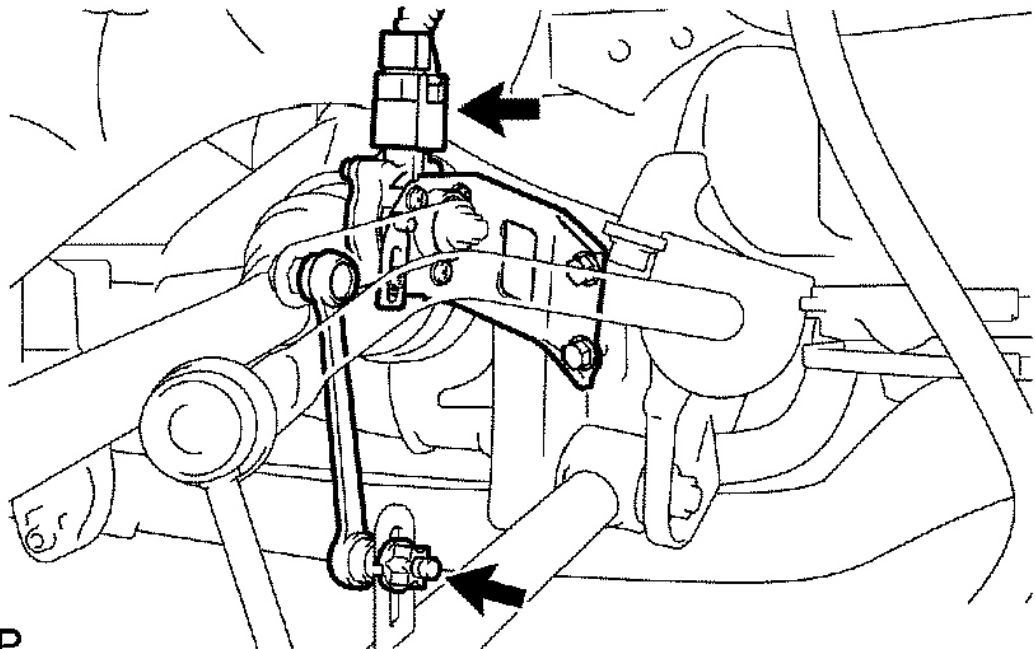


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**Fig. 62: Identifying Height Control Sensor Sub-Assy Rear LH Nuts**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the height control sensor link with the nut.  
**Torque: 5.4 N.m (55 kgf.cm, 48 in.lbf)**



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**Fig. 63: Installing Height Control Sensor Link With Nut**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Connect the connector.
4. **INSTALL REAR WHEEL**  
Torque: 103 N.m (1,050 kgf.cm, 76 ft.lbf)
5. **HEADLIGHT AIM ONLY (See ADJUSTMENT )**

## **HEADLAMP SWIVEL ECU ASSY**

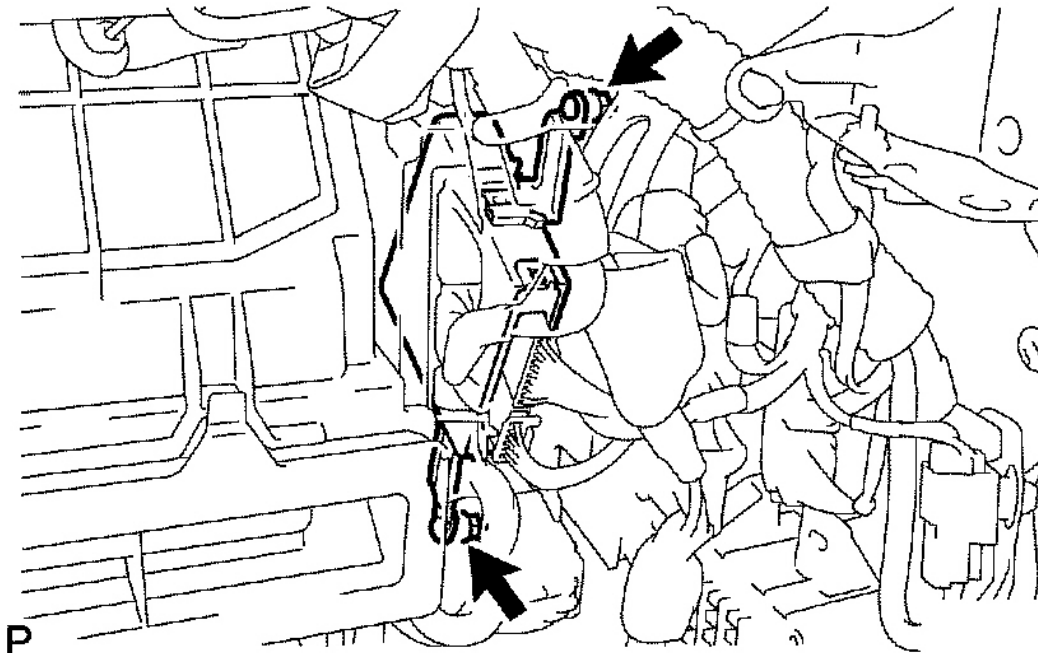
### **REPLACEMENT**

#### **HINT:**

Installation is in the reverse order of removal.

1. **PRECAUTION (See PRECAUTION )**
2. **SEPARATE BATTERY NEGATIVE TERMINAL (See PRECAUTION )**
3. **REMOVE INSTRUMENT PANEL UNDER COVER SUB-ASSY NO. 2 (See step 21 in REPLACEMENT )**

4. **REMOVE INSTRUMENT PANEL GARNISH SUB-ASSY RH (See step 22 in REPLACEMENT )**
5. **REMOVE GLOVE COMPARTMENT PLATE (See step 23 in REPLACEMENT )**
6. **REMOVE GLOVE COMPARTMENT HOLE COVER (See step 24 in REPLACEMENT )**
7. **REMOVE GLOVE COMPARTMENT DOOR ASSY W/INSTRUMENT PANEL AIRBAG ASSY LOWER NO. 2 (See step 25 in REPLACEMENT )**
8. **REMOVE HEADLAMP SWIVEL ECU ASSY**
  - a. Disconnect the connector.
  - b. Remove the 2 nuts and the headlamp swivel ECU assy.



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**Fig. 64: Removing Headlamp Swivel ECU Assy**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **CONNECT BATTERY NEGATIVE TERMINAL (See PRECAUTION )**
10. **INSPECT SRS WARNING LIGHT (See DIAGNOSIS SYSTEM )**
11. **PERFORM INITIALIZATION (See INITIALIZATION )**