

## GENERAL

### OUTLINE OF CHANGES

The service procedure has been either changed or established as follows: The other service procedures are the same as before.

- Since the shape of fog lamp was changed to circle, the headlamp aiming procedure has changed.
- Due to the addition of side step illumination lamp, the service procedure has been established.

## FOG LAMPS

### ON-VEHICLE SERVICE

#### FOG LAMP AIMING

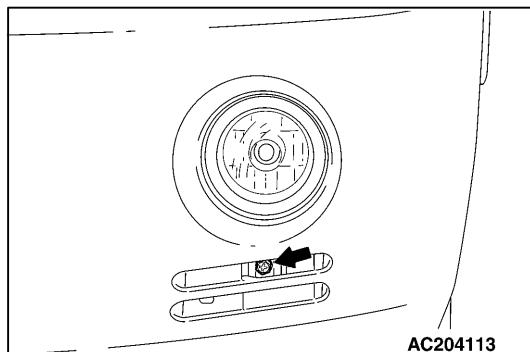
Carry out aiming adjustment after the vehicle is placed in the following condition.

- Check that tyre pressure is kept at the value indicated in the pressure label.
- Place an unladen vehicle on a level surface.
- Place one person (approx. 55 kg) on the driver's seat.
- Charge the battery while keeping the engine speed at 2,000 r/min.

Illuminate the fog lamp and check that beam light falls within the standard value.

#### Standard value:

Project beam light within a range of 40 meters



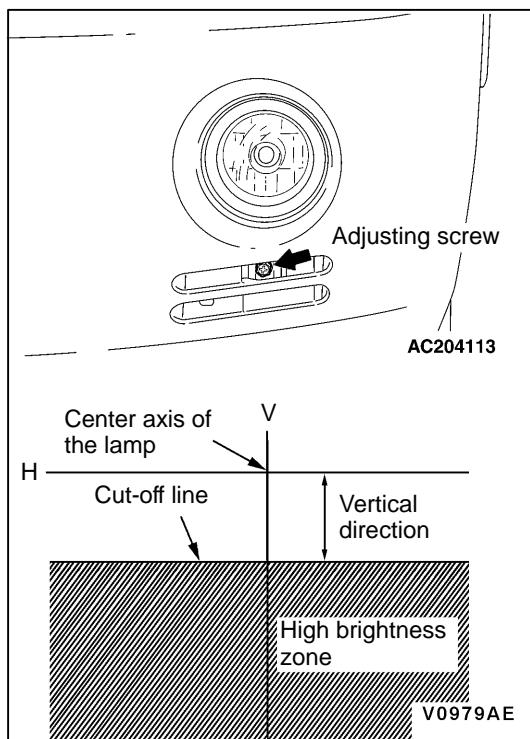
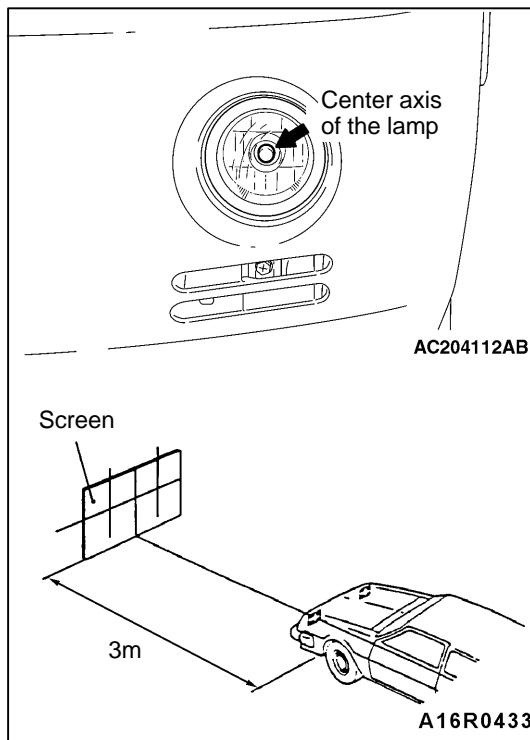
If beam light is out of the standard value, make adjustment with the adjusting screw.

#### NOTE

No adjustment is required for horizontal directions.

#### Caution

1. Disconnect the connectors from the other lamps that are not subject to adjustment so that illumination from those lamps can be avoided. Be careful not to disturb the tuned optical axis when connecting the connector.
2. Be sure to turn an adjusting screw in the tightening direction before completion of adjustment.



Alternatively, the light beam can be adjusted by using a screen as follows (simple test).

1. Measure the center axis of the fog lamp as shown in the illustration.
2. Set a screen so that it can directly face the lamps with a distance of 3 m and illuminate the fog lamps.

3. Make adjustment with an adjusting screw so that the cut-off line (light/dark separation line) position can be the standard value.

**NOTE**

No adjustment is required for horizontal direction.

**Standard value:**

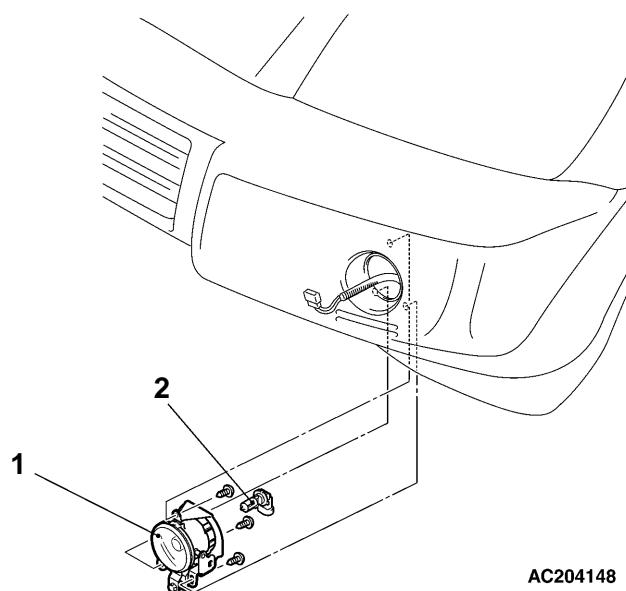
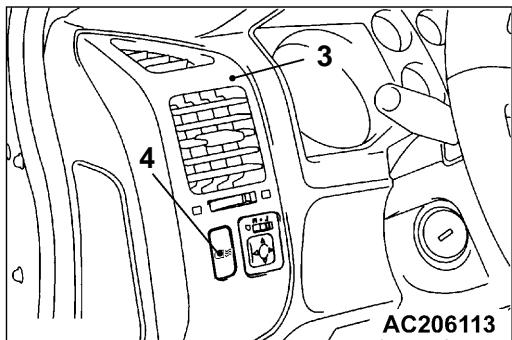
Vertical direction	1.15° (6 cm) lower than the horizontal line H.
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**Caution**

- (1) Disconnect the connectors from the other lamps that are not subject to adjustment so that illumination from those lamps can be avoided. Be careful not to disturb the tuned optical axis when connecting the connector.
- (2) Be sure to turn an adjusting screw in the tightening direction before completion of adjustment.

## FOG LAMPS

### REMOVAL AND INSTALLATION



#### Fog lamp removal steps

- Splash shield  
(Refer to GROUP 42 – fender.)\*
- 1. Fog lamp
- 2. Bulb

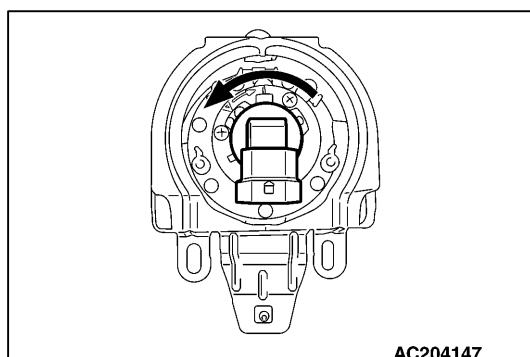


#### NOTE

\*: Refer to 2001 PAJERO Workshop manual (Pub.No.PWJE0005).

#### Fog lamp switch removal steps

3. Air outlet assembly (Refer to GROUP 52A – instrumental panel.)\*
4. Fog lamp switch



## REMOVAL SERVICE POINTS

### ◀A▶ BULB REMOVAL

Turn the bulb anti-clockwise for removal.

#### Caution

1. The specified original parts are required for replacement bulbs.
2. Do not touch glass parts of bulbs with bare hands or dirty gloves.  
Should any contamination is found in the glass parts, clean the parts with alcohol or thinner as soon as possible and dry them well before installation.

# SIDE STEP ILLUMINATION LAMP

## TROUBLESHOOTING

### INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptom	Inspection Procedure No.	Reference page
Side step illumination lamp does not illuminate.	1	54A-5
When a door is either locked or unlocked, the side step illumination lamp does not illuminate normally.	2	54A-6
When a door is either open or closed, the side step illumination lamp does not illuminate normally.	3	54A-6

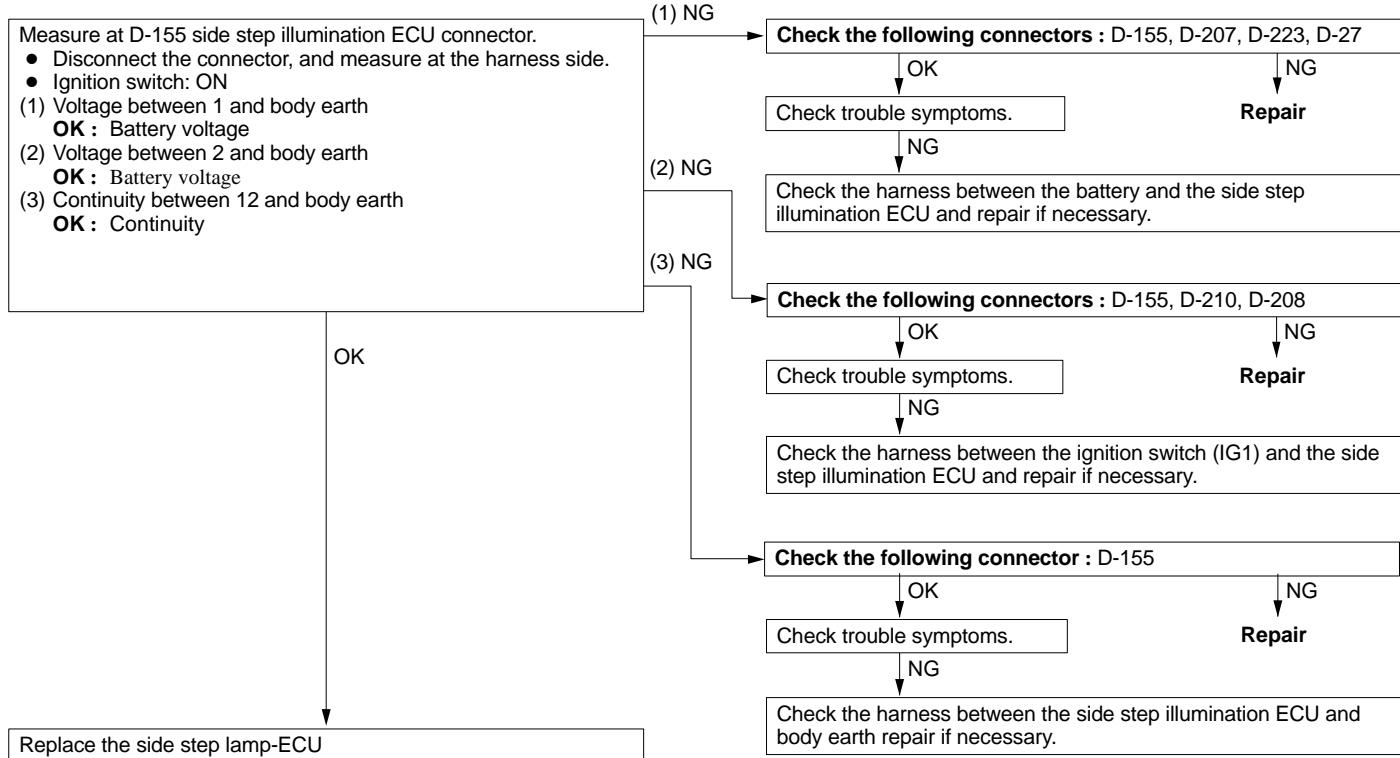
### INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

#### Inspection Procedure 1

Side step illumination lamp does not illuminate.	Probable cause
The side step illumination ECU may be defective.	<ul style="list-style-type: none"> <li>Malfunction of harness or connector</li> <li>Malfunction of side step illumination ECU</li> </ul>

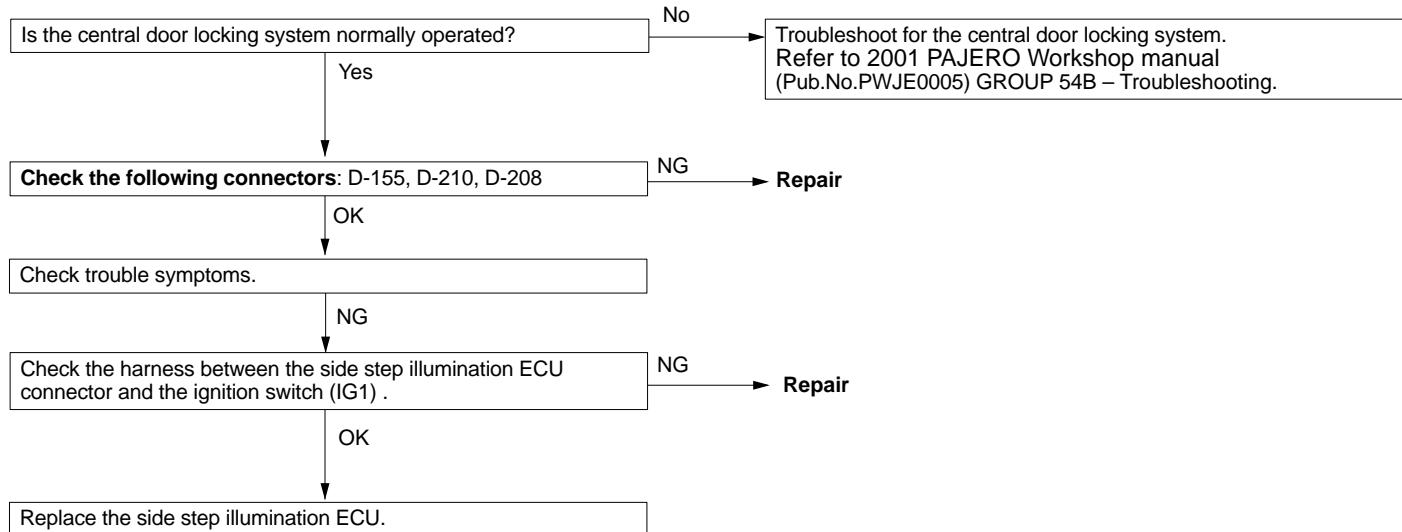
#### NOTE

If either one of side step illumination lamps does not illuminate, check the side step illumination lamp bulbs or check the harness between the side step illumination lamp and the side step illumination-ECU as well as the harness between the side step illumination lamp and body earth and repair if necessary.

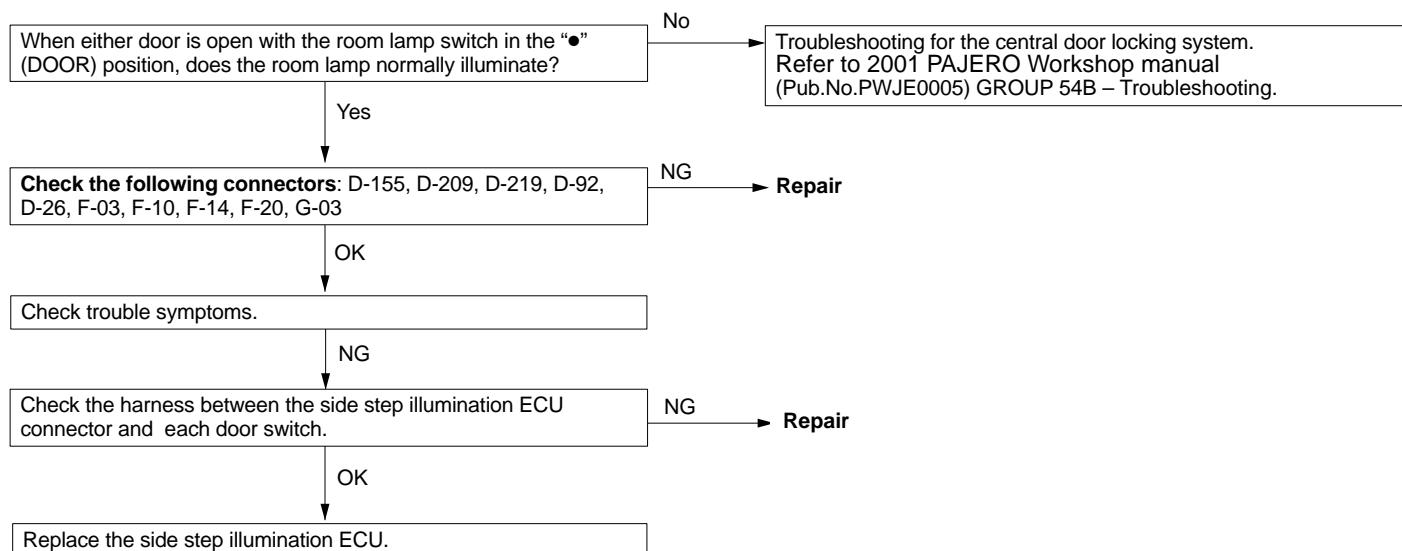


**Inspection Procedure 2**

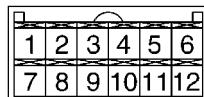
When a door is either locked or unlocked, the side step illumination lamp does not illuminate normally.	Probable cause
The input circuit from the ETACS-ECU or the side step illumination ECU may be defective.	<ul style="list-style-type: none"> <li>• Malfunction of harness or connector</li> <li>• Malfunction of the ETACS-ECU</li> <li>• Malfunction of side step illumination ECU</li> </ul>

**Inspection Procedure 3**

When a door is either open or closed, the side step illumination lamp does not illuminate normally.	Probable cause
The input circuit from the door switch, the side step illumination ECU or the ETACS-ECU may be defective.	<ul style="list-style-type: none"> <li>• Malfunction of door switch</li> <li>• Malfunction of harness or connector</li> <li>• Malfunction of side step illumination ECU</li> <li>• Malfunction of the ETACS-ECU</li> </ul>

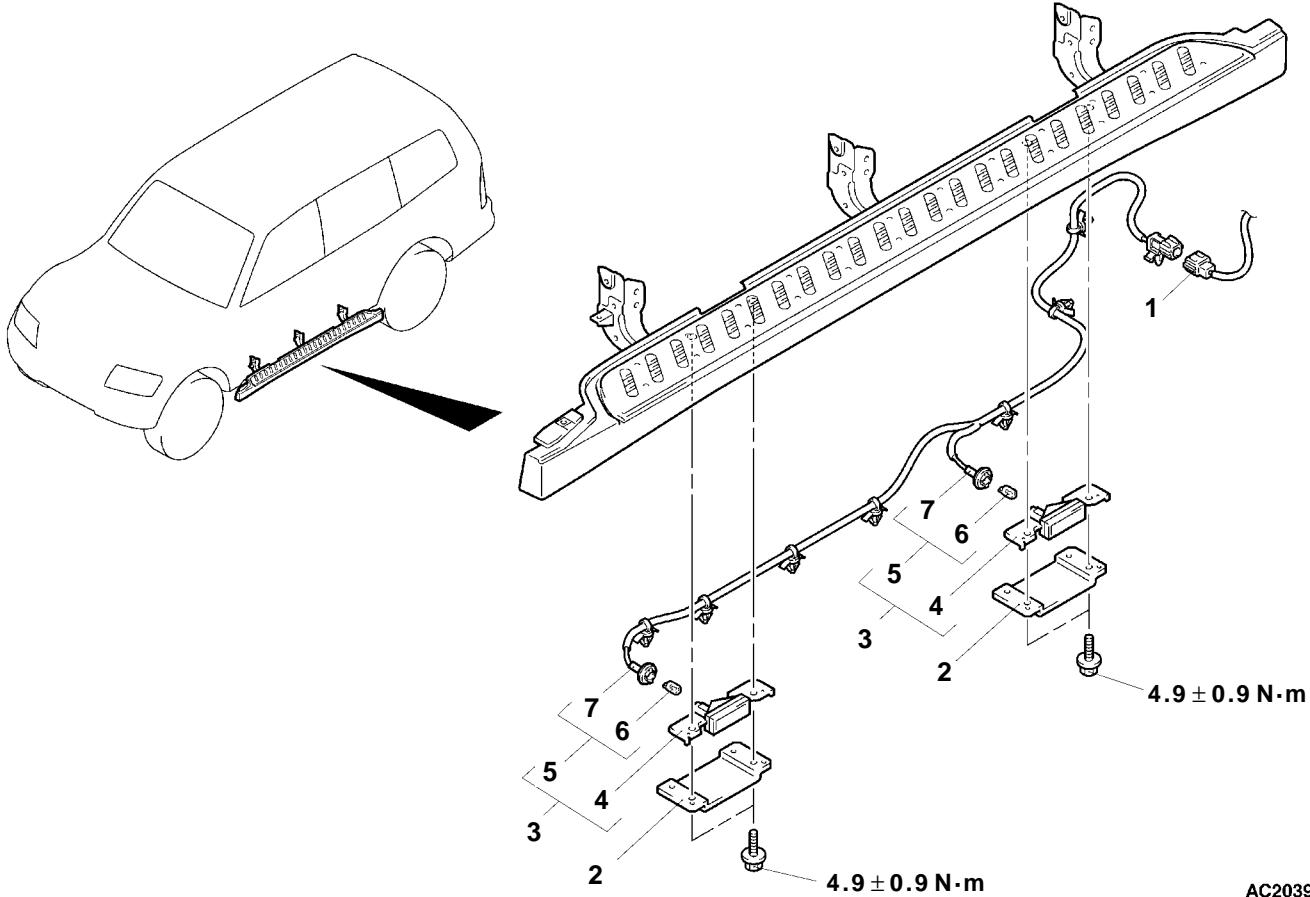


## ECU TERMINAL VOLTAGE CHECK TABLE

Main  
IndexGroup  
TOC

AC203981

Terminal No.	Check item	Check requirement	Standard value
1	Battery power supply	Permanent	Battery voltage
2	Ignition switch (IG1) power supply	Ignition switch: Locked (off)	0 V
		Ignition switch: ON	Battery voltage
3	Lock signal input from the ETACS-ECU	Door lock actuator activated (locked)	0 V
4	Side step illumination lamp output (LH)	Side step illumination lamp (LH) ON	2 V or less
5	Side step illumination lamp output (RH)	Side step illumination lamp (RH) ON	2 V or less
8	Unlock signal input from the ETACS-ECU	Door lock actuator activated (unlocked)	Battery voltage
9	All door switch output	Ignition switch: Locked	0 V
12	Earth (side step illumination lamp ECU)	Always	0 V

**SIDE STEP ILLUMINATION LAMP****REMOVAL AND INSTALLATION**

AC203940AB

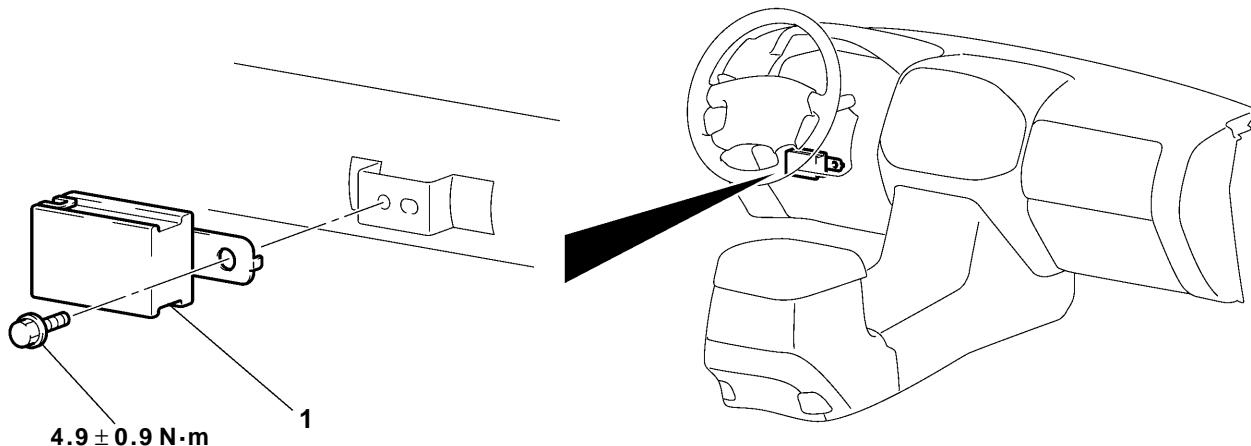
**Side step illumination lamp removal steps**

1. Side step illumination lamp harness connector
2. Side step illumination lamp bracket
3. Side step illumination lamp assembly

4. Side step illumination lamp unit
5. Side step illumination lamp harness and bulb assembly
6. Side step illumination lamp bulb
7. Side step illumination lamp harness

## SIDE STEP ILLUMINATION ECU

### REMOVAL AND INSTALLATION



AC203956

#### Side step illumination ECU removal steps

- Lower panel (Refer to GROUP 52A – Instrument Panel.)\*
- 1. Side step illumination ECU

#### NOTE

\*: Refer to 2001 PAJERO Workshop Manual (Pub. No. PWJE0005).