




GENUINE PARKING SENSOR, REAR


INSTALLATION INSTRUCTIONS

Thank you for purchasing a genuine Mazda accessory.
Before removal and installation, be sure to thoroughly read these instructions.
Please read the contents of this booklet in order to properly install and use the Parking sensor, rear. Your safety depends on it.
Keep these instructions with your vehicle records for future reference.

WARNING

- There are several  **WARNING** and  **CAUTION** sections in this booklet concerning safety when installing or removing the Parking sensor, rear. Always read and follow them in order to prevent injuries, accidents, and possible damage to the vehicle.

 **WARNING:** Indicates a situation in which serious injury or death could result if the warning is ignored.

 **CAUTION:** Indicates a situation in which bodily injury or damage to the vehicle could result if the caution is ignored.

- For areas indicating the tightening torque in this instruction manual, tighten to the specified torque using a torque wrench.
- Do not modify the Parking sensor, rear.
- Do not install the Parking sensor, rear in any way other than described in the following instructions.
- If in any doubt, please ask your Mazda dealer to install the accessory in order to prevent errors in installation.
- If you have any questions about the use of the accessory, ask your Mazda dealer for proper advice before using it.
- Mazda and its suppliers are not responsible for injuries, accidents, and damage to persons and property that arise from the failure of the dealer or installer to follow these instructions.
- To ensure safety and reliability of the work, installation, removal and disposal work must be carried out by an Authorized Mazda Dealership.
- Be careful not to lose removed parts, and be sure that they are kept free from scratches, grease or other dirt.

PART NAME:	PARKING SENSOR, REAR
VEHICLE:	MAZDA6
PART NUMBER:	C853 V7 290
	C844 V7 281 (4 pc. SENSOR)

NOTE

To the dealer

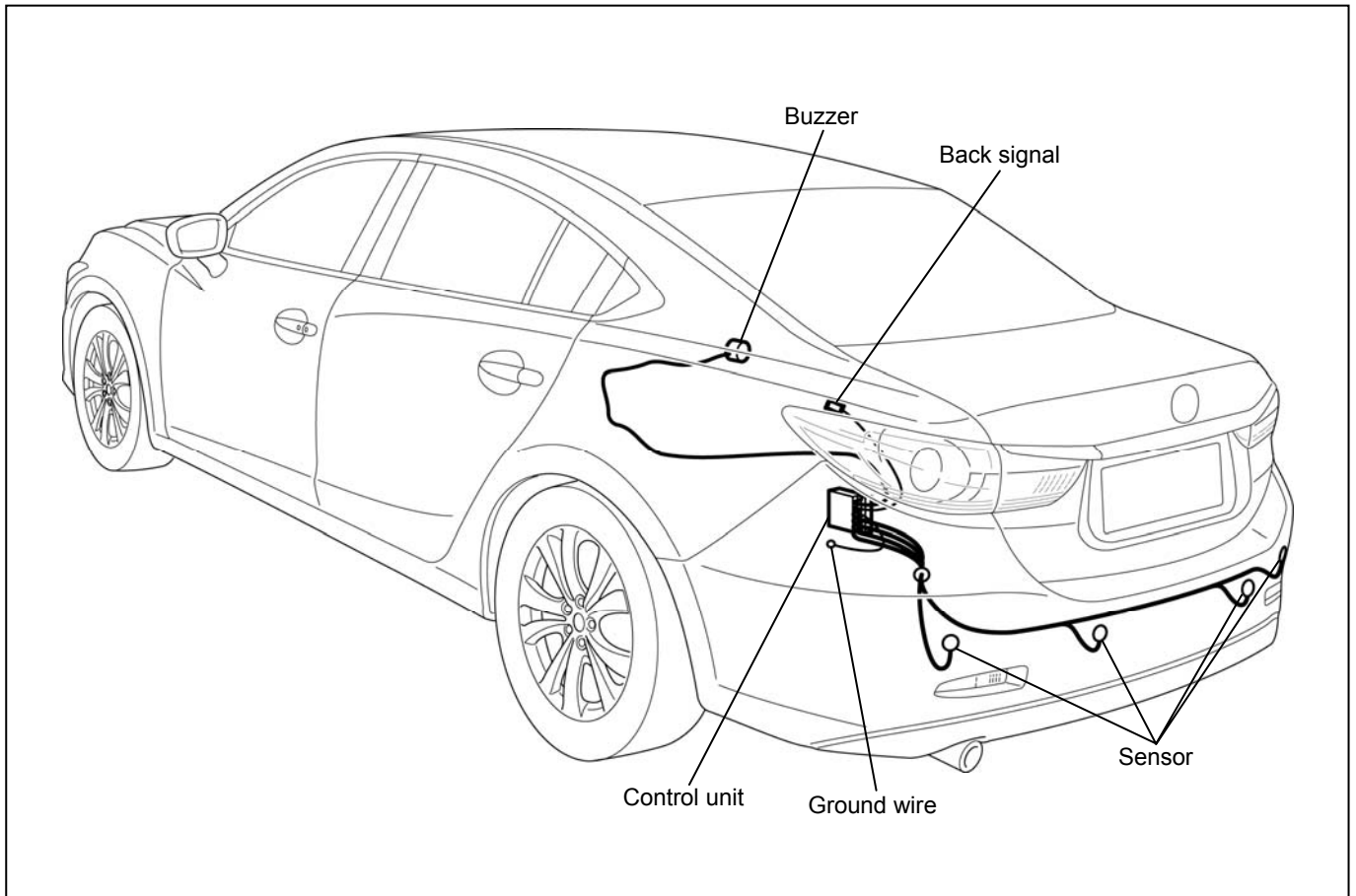
- Please turn over these instructions to the customer after installation.

To the customer

- Keep these instructions after installation. The instructions may be necessary for installing other optional parts or removal of this accessory.
- Should the vehicle or this accessory be resold, always leave these instructions with vehicle for the next owner.

1. PARTS

▼ Installation view









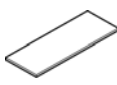






▼ **Parts list**

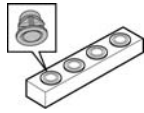
Note

- Verify that the kit includes all the following parts and that the parts are not dirty, scratched, or damaged.

• **PARKING SENSOR, REAR (C853 V7 290)**

Part	Part name	Qty.	Part	Part name	Qty.	Part	Part name	Qty.
	Control unit (C850 V7 288)	1		Buzzer	1		Main harness	1
	Electro tap	1		Mount base	8		Harness (short) (For sensor No.3,4)	2
	Harness (long) (For sensor No.1,2)	2		Tie wrap	15		Double-sided adhesive tape (For control unit)	1
	Double-sided adhesive tape (For buzzer)	1		Ring	4		Installation instructions	1
	Installation inspection sheet	1						

• **4 pc. SENSOR (C844 V7 281)**

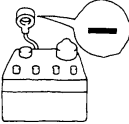


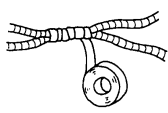
Part	Part name	Qty.
	Sensor	4

2. BEFORE INSTALLATION


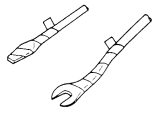
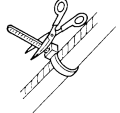
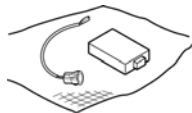
■ REQUIRED TOOLS

- ☆ Screwdriver (Flathead) ☆ Screwdriver (Phillips) ☆ Socket wrench ☆ Torque wrench ☆ Nipper
- ☆ Pliers ☆ Fastener remover ☆ Punch ☆ Drill (2 mm) ☆ Hole saw (20 mm) ☆ Round file
- ☆ Tweezers ☆ Protective tape ☆ Electrical vinyl tape ☆ Soft clean cloth ☆ Mat
- ☆ IPA (Isopropyl alcohol)

⚠ WARNING

<p>When the negative battery cable is connected during operation, it may cause electric shock or other personal injuries. Disconnect the negative battery cable before removal/installation.</p>	<p>When connecting/disconnecting connectors, grasp the connectors, not the wires. Otherwise a short, and an accident from poor contact or fire may occur.</p>	<p>Do not pull the harness with excessive force. Doing so can cause a breakage or a short-related accident, as well as an electrical short or fire.</p>	<p>Secure the harness with the band (part included) so it doesn't dangle. If not, it may cause a short, accident, or fire.</p>
			

⚠ CAUTION

<p>Using improper tools may cause damage and/or broken parts. Use the correct tool for the job.</p>	<p>Wrap protective tape around screwdrivers and fastener remover tools to prevent scratching the vehicle.</p>	<p>Excessive length of tie wrap may interfere with other parts and cause damage. Cut unnecessary part up to about 5 mm {0.19 in} from the fixed point.</p>	<p>Put the removed parts and the parts in the kit on the protective sheet to prevent scratches.</p>
			

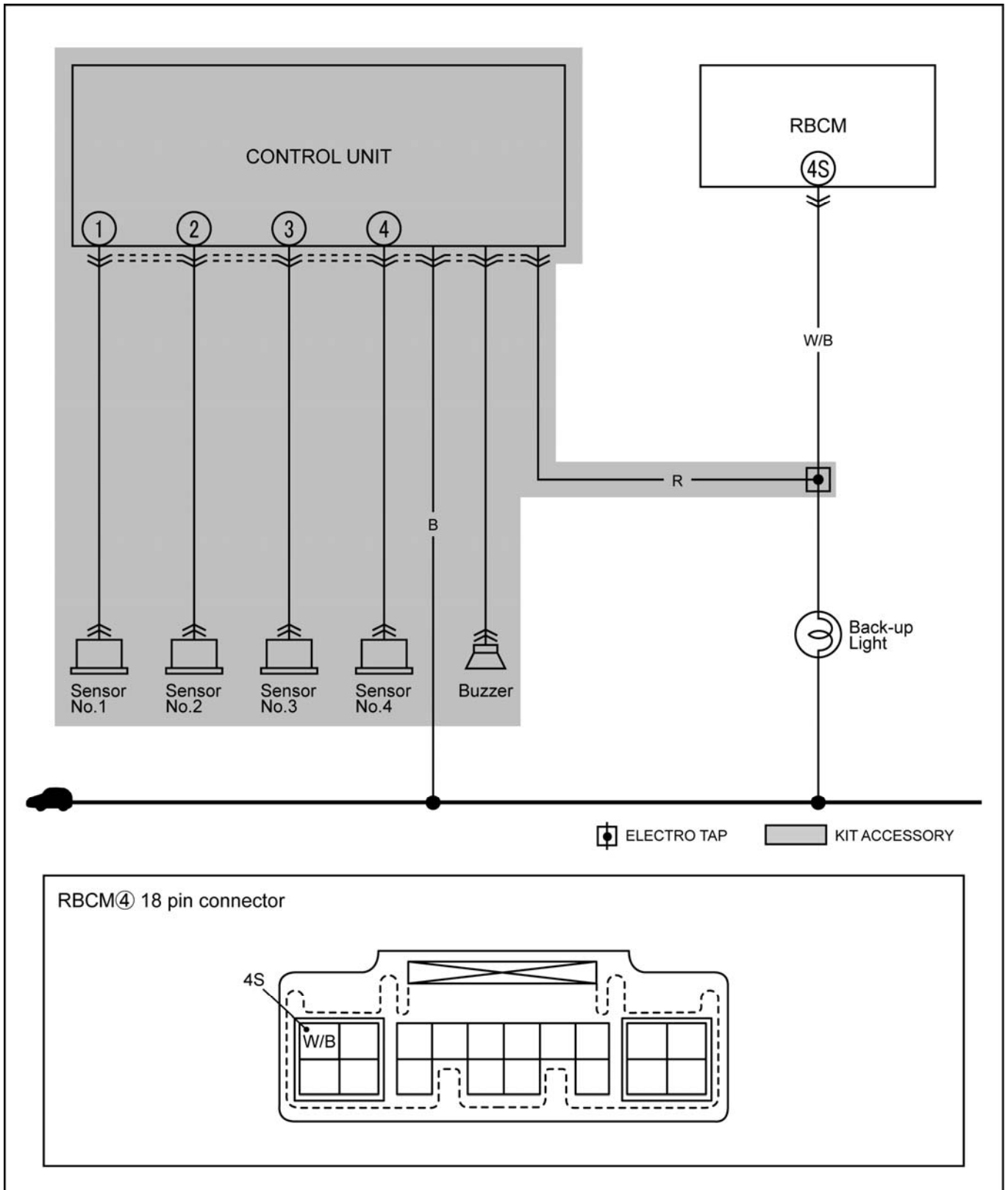
⚠ WARNING

- When removing/installing the parts, park the vehicle on level ground and apply the side brake securely. Be sure to turn the ignition switch off, otherwise the vehicle can move, causing personal injury or vehicle damage.

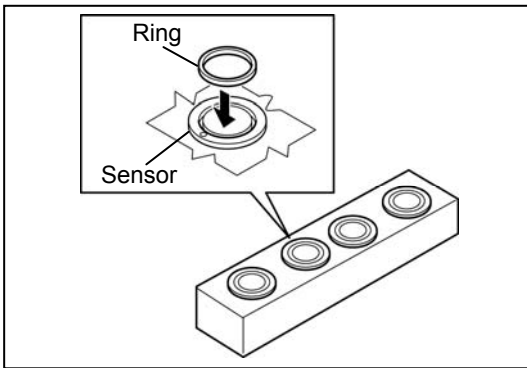
Note

- When the negative battery cable is removed, the clock, radio, trip meters and other memories will be erased. Before performing work, record the content of the memory.
- Refer to the Workshop Manual for removal and installation of vehicle parts. Not following the procedures for removal/installation in the Workshop Manual could result in an accident or vehicle malfunction.

3. CONNECTION DIAGRAM



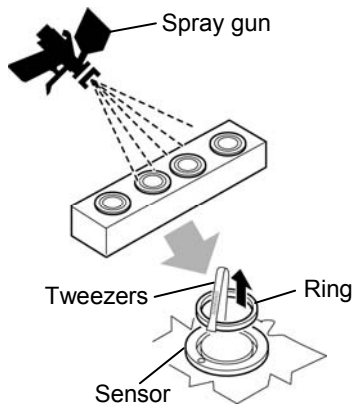
4. PAINT SENSOR



1. Install the ring to the sensor.
2. Masking required (use ring to mask sensor channel)

SURFACE TREATMENTT

- a : Paint same as body color
- b : Masking required



2. Coat the sensor surface with the body color paint.

⚠ CAUTION

- Paint characteristics vary according to paint type. Check manufacturer specifications before painting.

3. Use two-component urethane paint. (Main component: acrylic polyol, curing agent: isocyanate)

⚠ CAUTION

- Do not use lacquer paints because their weatherproofing and adhesion characteristics are poor.

- Maximum paint thickness: primer 30 um, paint 95 um

4. When painting, use a spray gun to apply the paint evenly.

- Paint infiltration into connector must be avoided; pin contact must be guaranteed after painting.

- Maximum paint curing: 90 C for 1 hour.

5. After baking, do not touch the painted product until it has cooled down completely.

- Hot storage temperature: 85 C.

6. When the painting is dried, remove the ring using tweezers.

⚠ CAUTION

- Be careful not to peel off the paint when removing the ring.
- Do not reuse the removed ring.

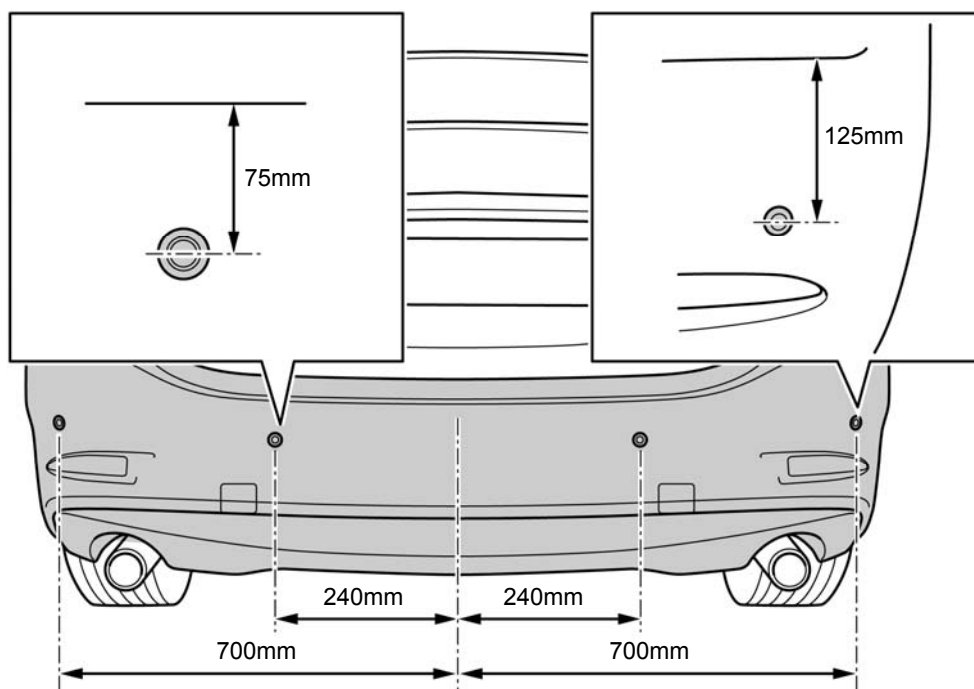
5. BEFORE INSTALLATION

■ Sensor installation position marking (rear bumper)

⚠ CAUTION

- Mark the drilling position for the rear bumper before removing the vehicle parts.

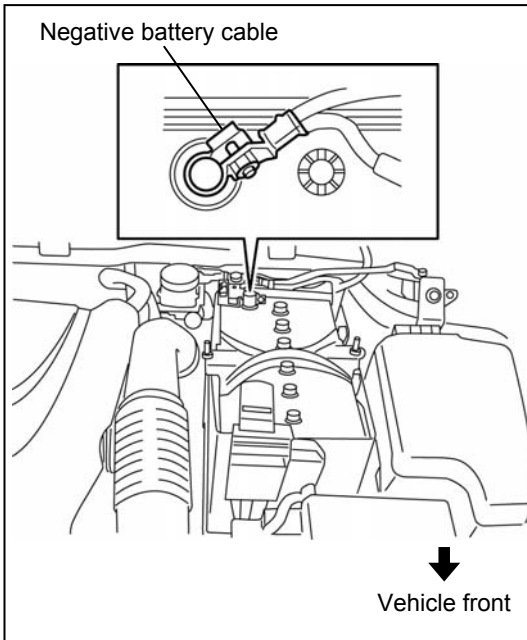
1. Open the trunk lid.
2. Set the shift lever to P range (AT vehicles only).
3. Disconnect the negative battery cable. (Refer to 8 page.)
4. Punch a drill guide mark in the center of the hole drilling positions using a punch.



6. VEHICLE PART REMOVAL

⚠ CAUTION

- Be careful not to damage or lose any parts removed from the vehicle since they will be reused.



Negative battery cable disconnection

1. Set the selector lever to P range.
(AT vehicles only)

⚠ WARNING

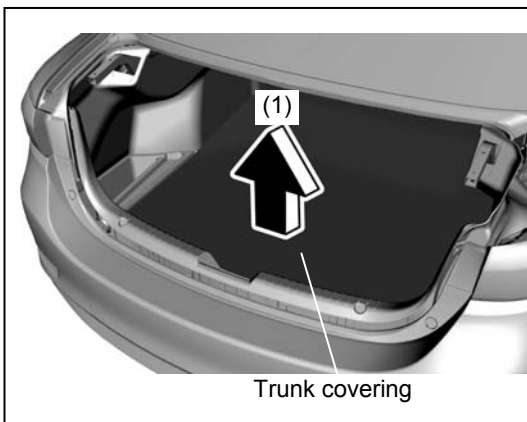
- When removing/installing the parts, park the vehicle on level ground and apply the side brake securely. Be sure to turn the ignition switch off, otherwise the vehicle can move, causing personal injury or vehicle damage.

2. Disconnect the negative battery cable and wrap tape around it to insulate.

⚠ WARNING

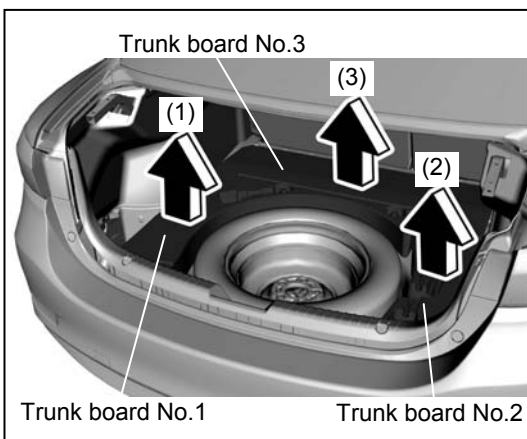
- When the negative battery cable is connected during operation, it may cause electric shock or other personal injuries. Disconnect the negative battery cable before removal/installation.

Tightening torque : 4.0-6.0 N·m



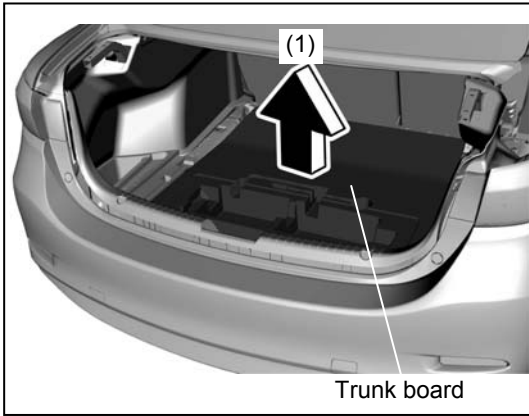
Trunk covering removal

1. Remove the trunk covering in the direction of arrow (1) shown in the figure.



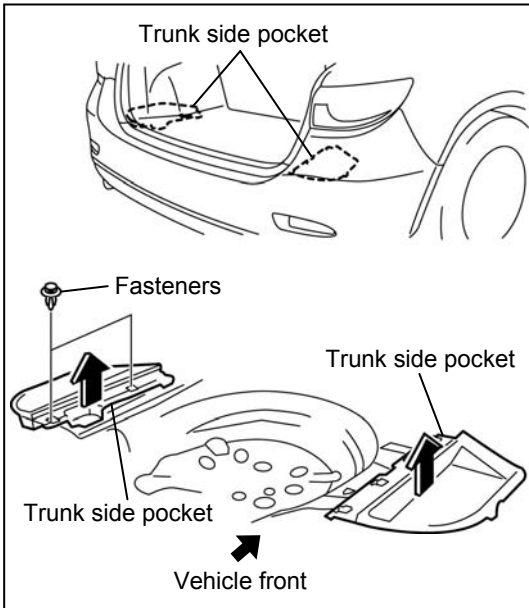
Trunk board removal 【With Temporary Spare Tire】

1. Set the trunk covering aside.
2. Remove the trunk board No.1 in the direction of the arrow (1) shown in the figure.
3. Remove the trunk board No.2 in the direction of the arrow (2) shown in the figure.
4. Remove the trunk board No.3 in the direction of the arrow (3) shown in the figure.



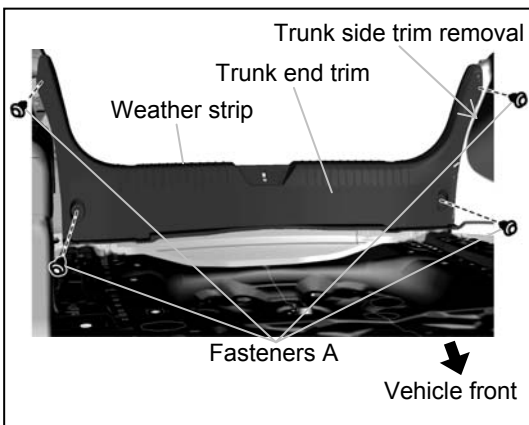
【Without Temporary Spare Tire】

1. Set the trunk covering aside.
2. Remove the trunk board in the direction of the arrow (1) shown in the figure.



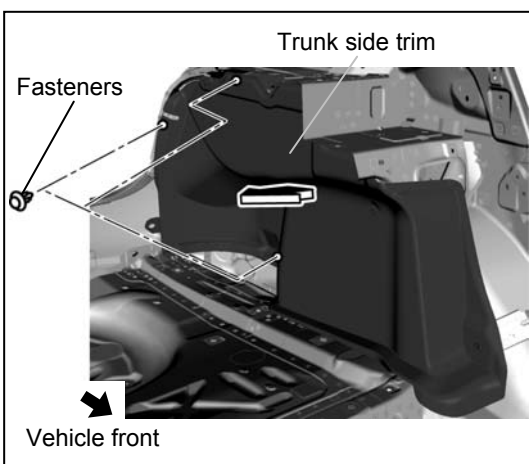
Trunk side pocket removal

1. Remove the fasteners. (LH side only)
2. Remove the trunk side pocket in the direction of the arrow shown in the figure.

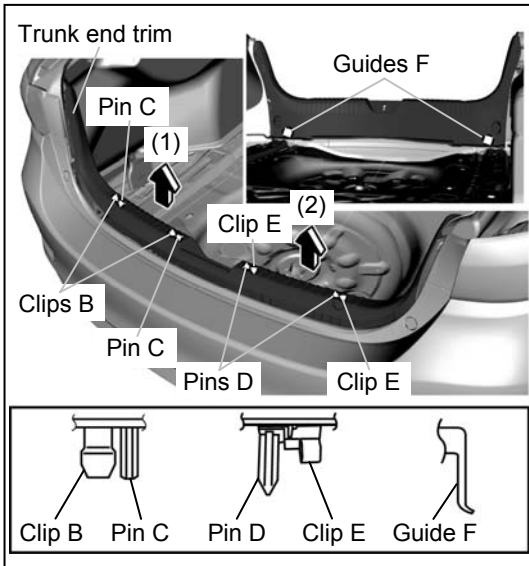


Trunk end trim removal

1. Partially peel back the trunk lid weather strip.
2. Remove fasteners A.



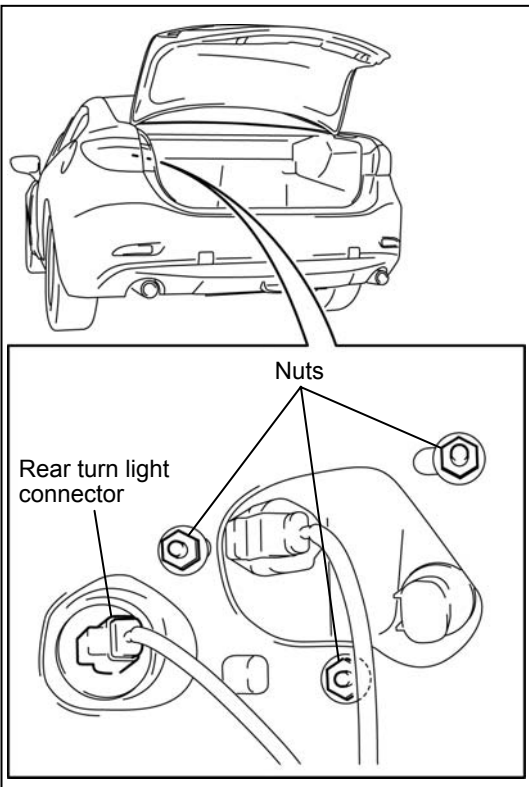
3. Remove fasteners.



4. Pull the trunk end trim in the direction of the arrow in the order of (1), (2) shown in the figure while detaching clips B, pins C, pins D, clips E, and guides F.

⚠ CAUTION

- When performing the procedure with a rear seat cushion removed from the vehicle, perform the procedure on a clean cloth so as not to damage or soil the seat.



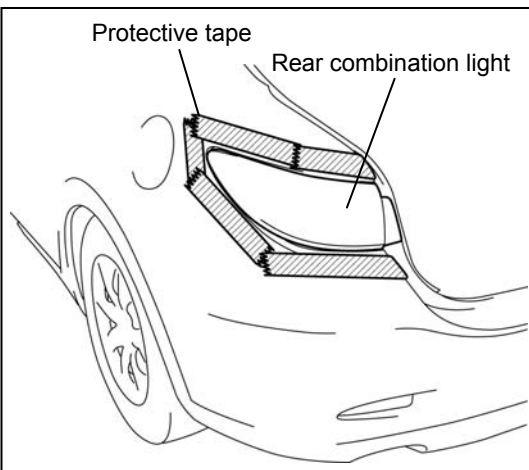
Rear combination light removal

NOTE:

- Fogging or condensation on the inside of the rear combination lights may occur due to a natural phenomenon occurring as a result of a temperature difference between the interior and exterior of the combination lights. However, it has no effect on the light performance because the temperature inside the rear combination lights rises after illuminating the brake/taillight bulbs or a period of time has elapsed.
- The figure shows the left side, however, the procedure is the same for the right side.

1. Disconnect the rear turn light connector.
2. Remove the nuts.

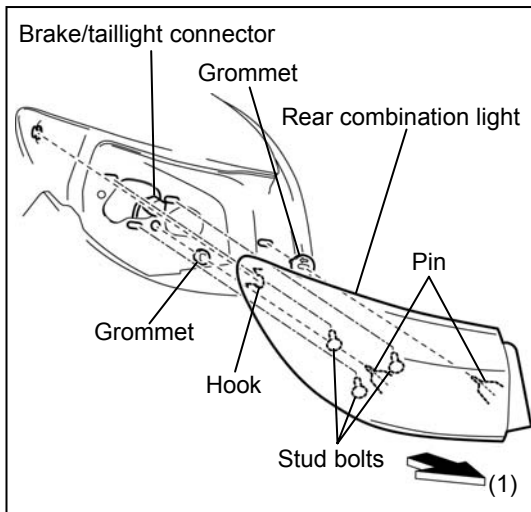
Tightening torque : 4.1-6.1 N·m



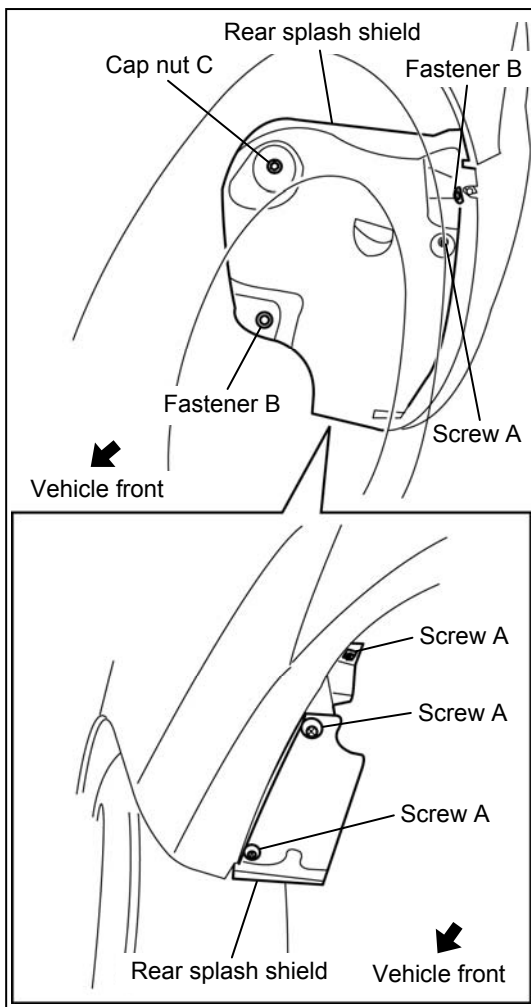
3. To prevent scratches or damage, affix protective tape to the position shown in the figure.

⚠ CAUTION

- When the rear combination light is removed from the body, perform the procedure after affixing protective tape to the body. Otherwise, the body could interfere with the rear combination light and cause scratching or damage to the body.



4. Pull the rear combination light in the direction of the arrow (1) shown in the figure and pull out pins, stud bolts and hook from the body.
5. Disconnect the brake/taillight connector.
6. Remove the rear combination light.

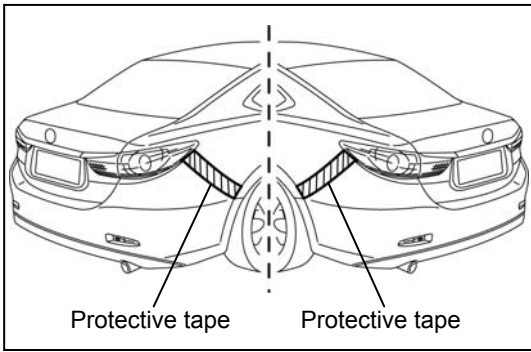


Rear splash shield removal

NOTE:

- The figure shows the left side, however, the procedure is the same for the right side.

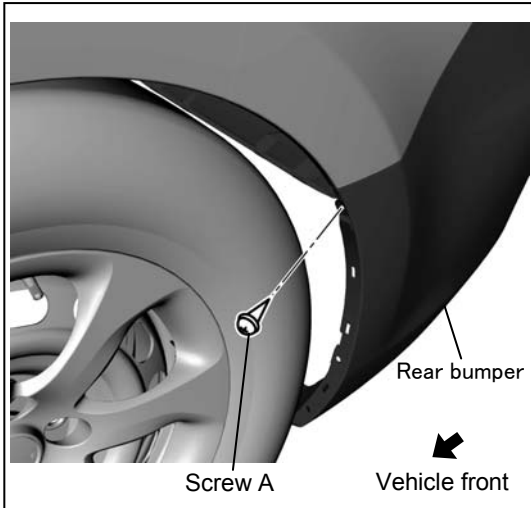
1. Remove screws A.
2. Remove fasteners B.
3. Remove the cap nut C.
4. Remove the rear splash shield.



Rear bumper removal

⚠ CAUTION

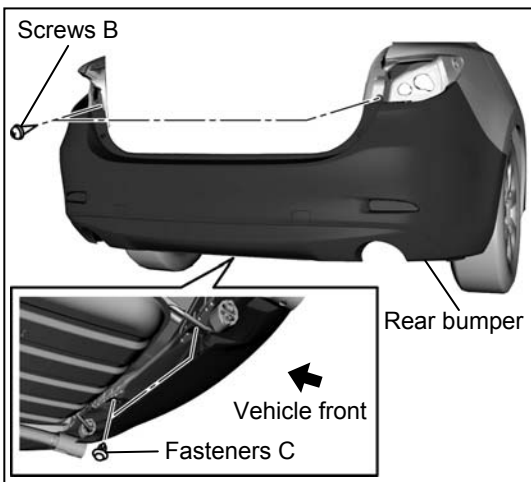
- Affix the protective tape to the position (body side) shown in the figure.



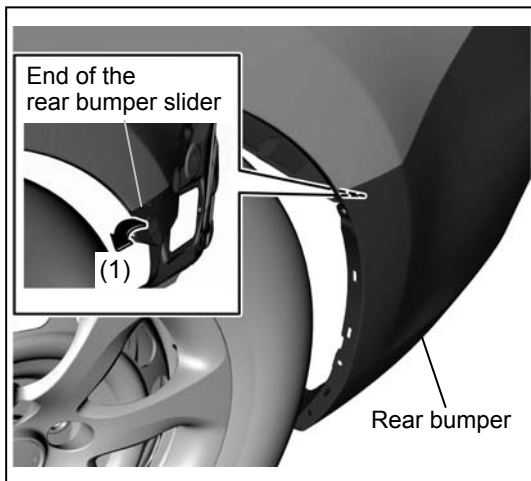
1. Remove screw A.

NOTE:

- The figure shows the left side, however, the procedure is the same for the right side.



2. Remove screws B and fasteners C.



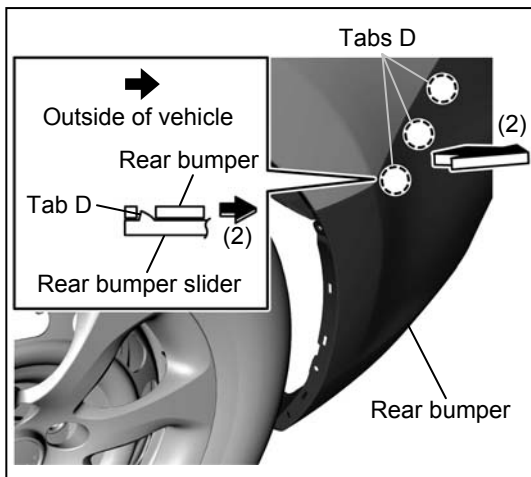
3. Pull the end of the rear bumper in the direction of the arrow (1) shown in the figure.

CAUTION

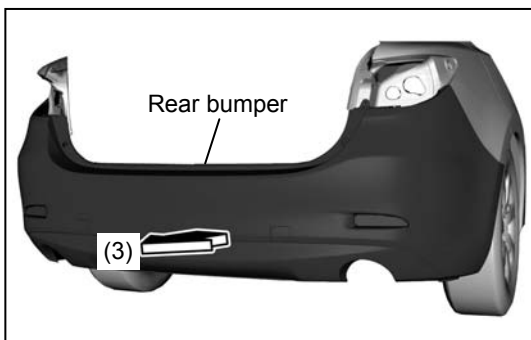
- The rear bumper and rear bumper slider are engaged firmly. If they are disengaged forcibly the bumper could fall and be damaged. Perform the servicing carefully when disengaging the rear bumper from the rear bumper slider.
- When disengaging the rear bumper from the rear bumper slider, the rear bumper could fall and be damaged. Support the front of the rear bumper so that it does not fall.

NOTE:

- The figure shows the left side, however, the procedure is the same for the right side.



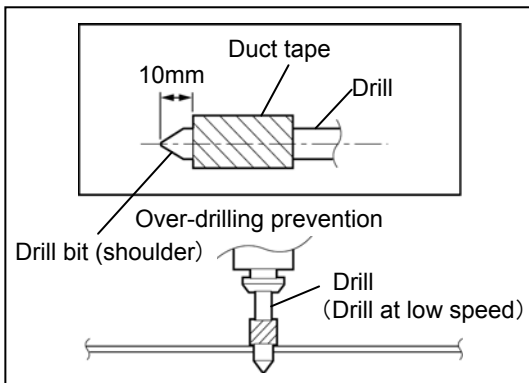
4. Pull the edge of the rear bumper in the direction of the arrow (2) shown in the figure, then remove tabs D.



5. Remove the rear bumper in the direction of the arrow (3) shown in the figure.

7. INSTALLATION OF SENSOR AND BUZZER

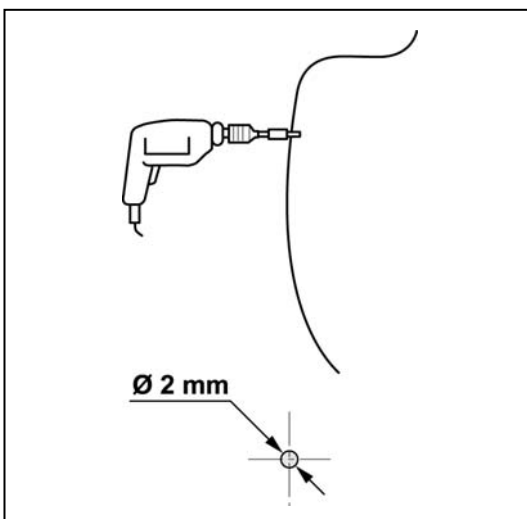
■ Sensor installation



1. Wrap the drill bit with duct tape as shown in the figure.
2. Set the drill rotation to low speed.

⚠ CAUTION

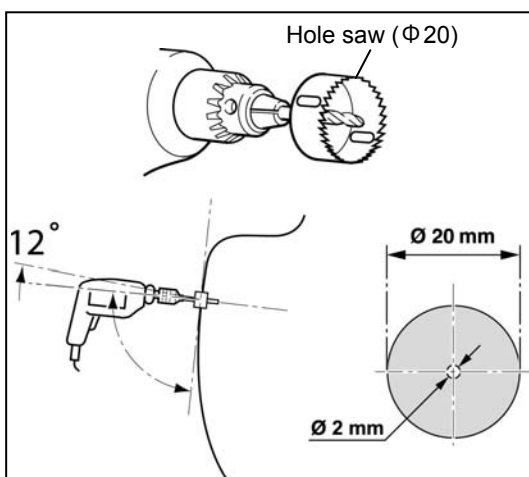
- Always use a drill with a rotation speed adjustment, otherwise the rear bumper may deform.
- Be careful when handling drills and other sharp objects.
- To prevent scratching and over-drilling, always wrap the drill bit with duct tape.



3. With the drill bit pointed perpendicular to the bumper, drill a 2 mm dia. hole in the marked position using a drill. (4 locations)

⚠ WARNING

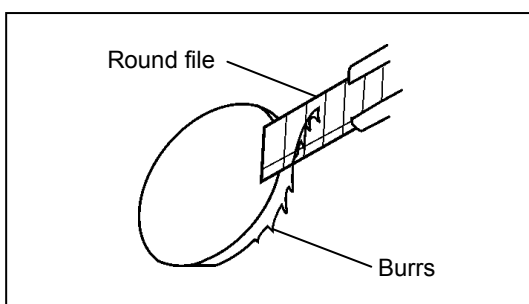
- Be careful when handling drills and other sharp objects. If not handled properly, it could result in serious injury.



4. Drill a 20 mm dia. hole from the center of the sensor hole using a hole saw.

⚠ WARNING

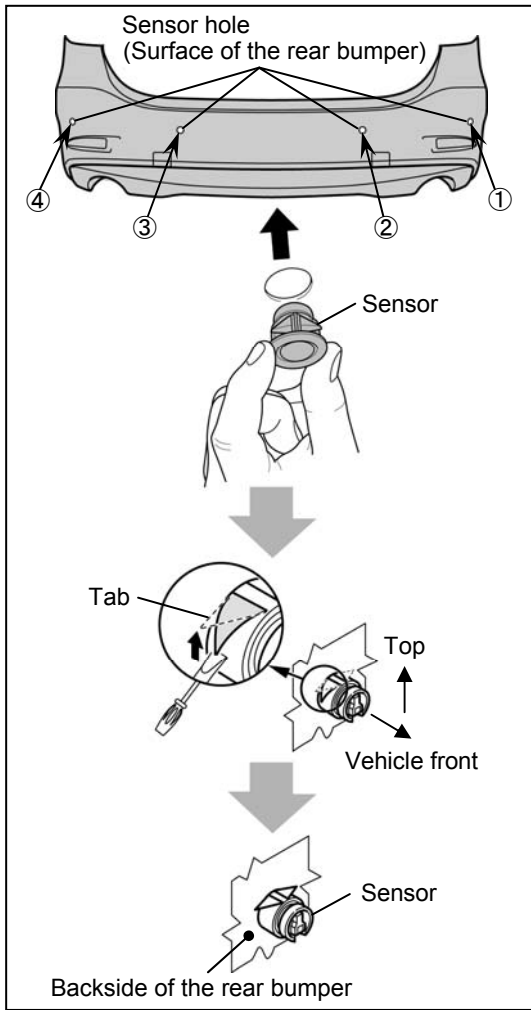
- Be careful when handling drills and other sharp objects. If not handled properly, it could result in serious injury.



5. Remove burrs from the drilled holes using a round file be careful not to make hole bigger than 20mm.

⚠ CAUTION

- If the sensor is installed forcibly while the hole is small, it could deform the bumper.
- Make sure to remove burrs from the surface so that the bumper surface is smooth.

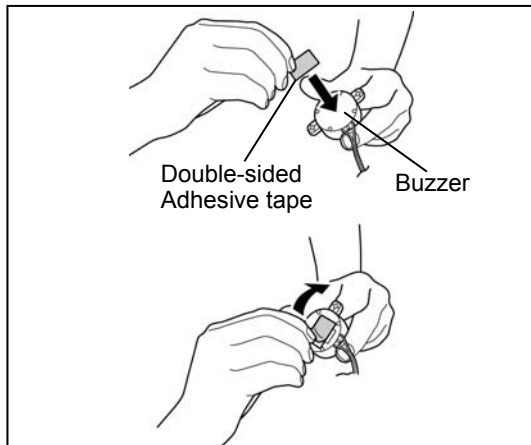


6. Hold the outside of the round part of the back sensor and insert the sensor into the hole slowly.
7. Pull up the sensor tab using a flathead screwdriver.

CAUTION

- Insert the sensor so that the sensor tab is facing upward.
- After installation, verify that the corner sensor and back sensor are securely pressed to the bumper.

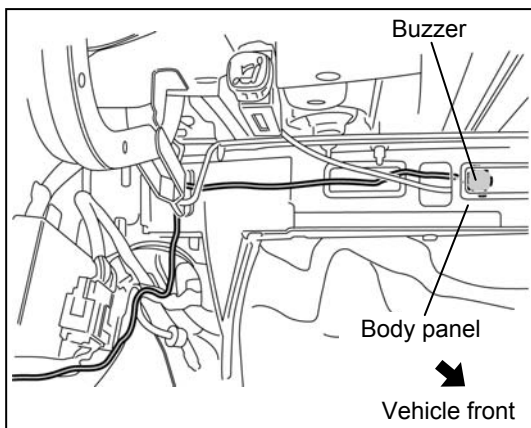
■ Buzzer installation



1. Affix double-sided adhesive tape to the buzzer.

CAUTION

- Always remove dirt or oil because the adhesive strength of the double-sided adhesive tape weakens.



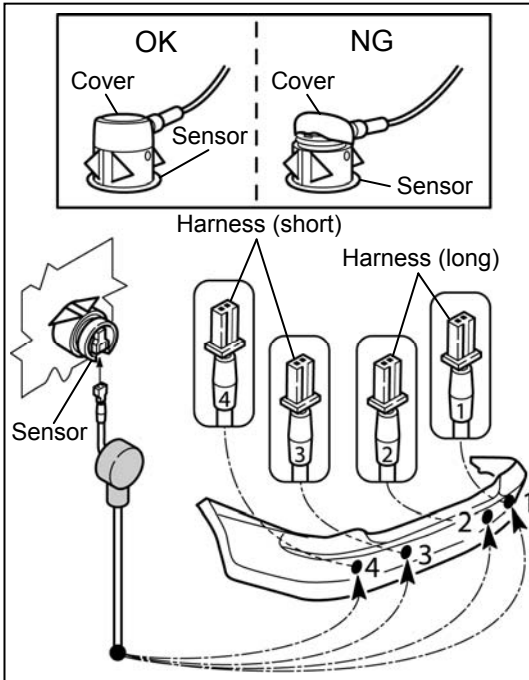
2. Peel off the double-sided adhesive tape backing and secure the rear buzzer to the body panel of the upper inside part of the trunk side trim (driver's side).

CAUTION

- Always remove dirt or oil because the adhesive strength of the double-sided adhesive tape weakens.

8. WIRING HARNESS

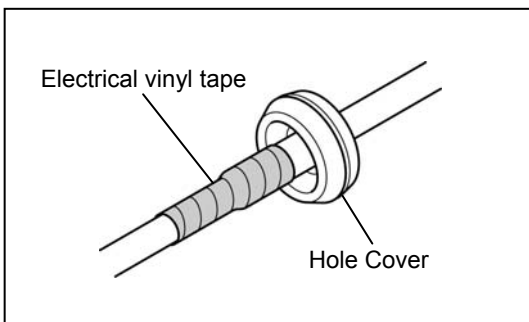
■ Harness (short and long)



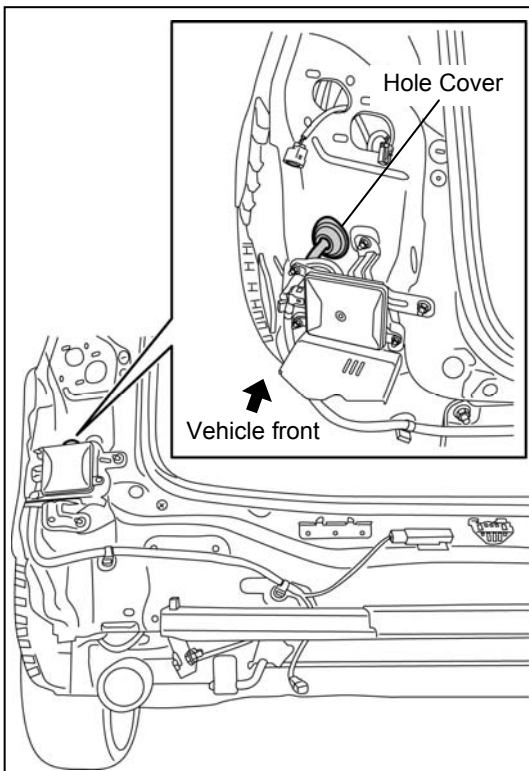
1. Connect the harness (short and long) connector to the No.1, No.2, No.3, No.4 sensor.

⚠ CAUTION

- Make sure the connector is securely pressed in until a click sound is heard.

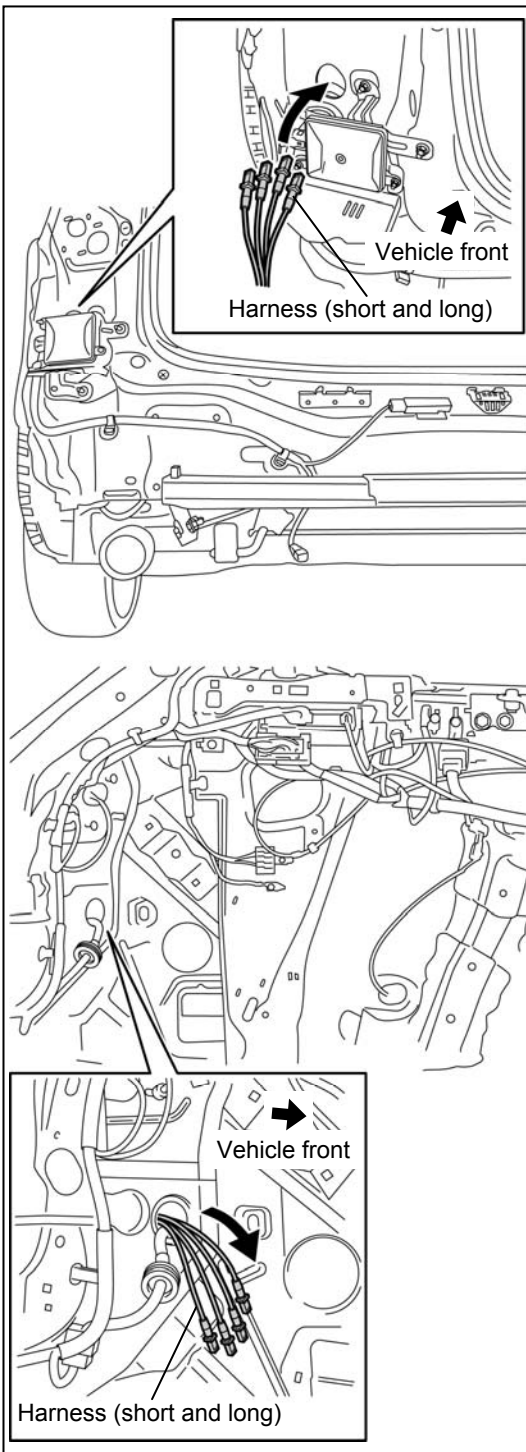


2. Remove the electrical tape wrapped around the hole cover.

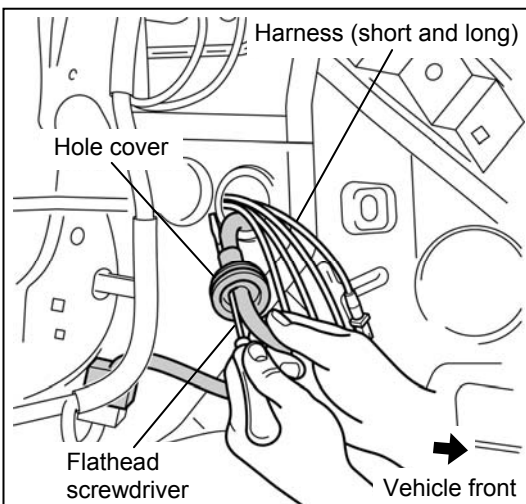


3. Remove the hole cover and set it inside the vehicle using needle-nose pliers.

4. Pull the harness (short and long) into the vehicle cabin.

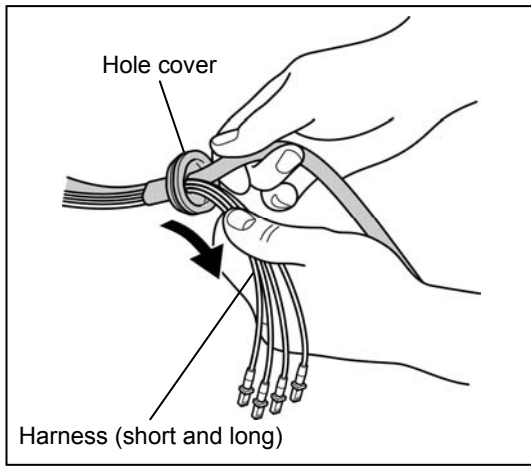


5. Enlarge the hole cover hole using a flathead screwdriver.

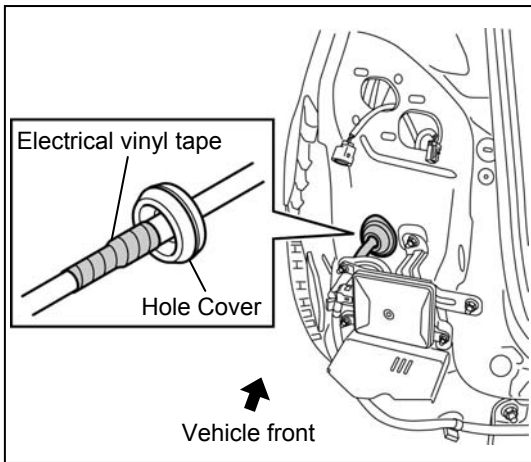


CAUTION

- Enlarge the hole cover hole to route the harness (short and long).



6. Route the harness (short and long) through the hole cover.

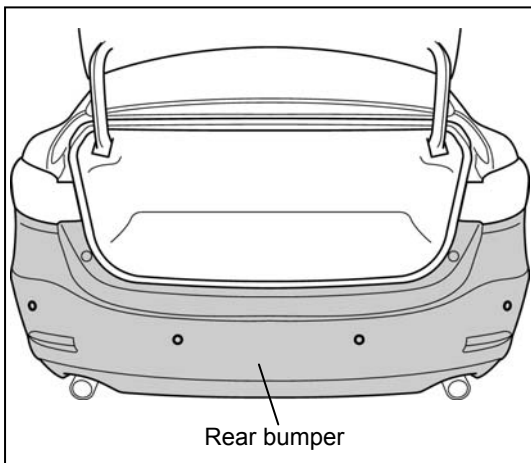


7. Install the hole cover.

8. To prevent water penetration, wrap with electrical tape.

⚠ CAUTION

- Always wrap with electrical tape. Otherwise, it could cause water leakage into the vehicle cabin.

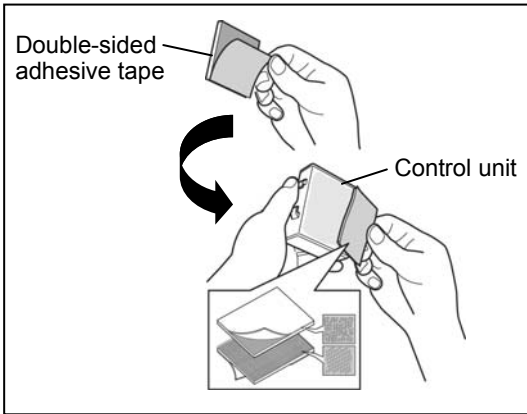


9. Install the rear bumper.

⚠ CAUTION

- Install the vehicle parts in the reverse order of removal.

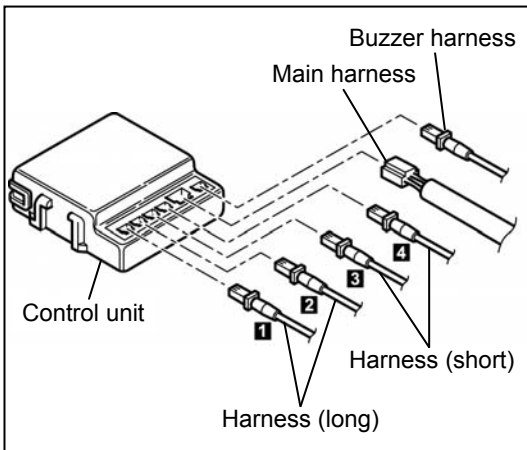
■ Control unit installation



1. Affix double-sided adhesive tape to the control unit.

⚠ CAUTION

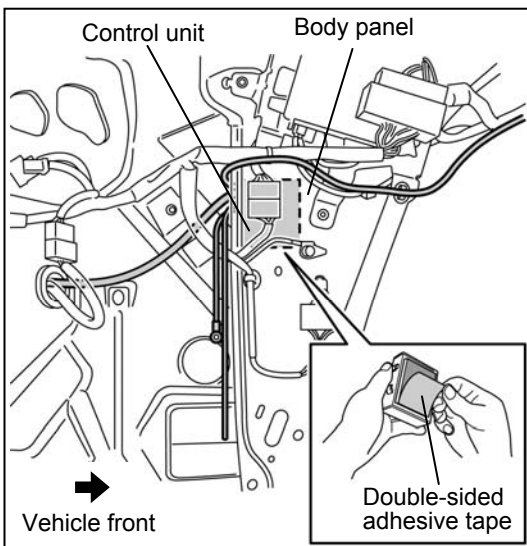
- Always remove dirt or oil because the adhesive strength of the double-sided adhesive tape weakens.



2. Connect the main harness, harness (short and long) and buzzer harness connectors to the control unit.

⚠ CAUTION

- Make sure the connector is securely pressed in until a click sound is heard.

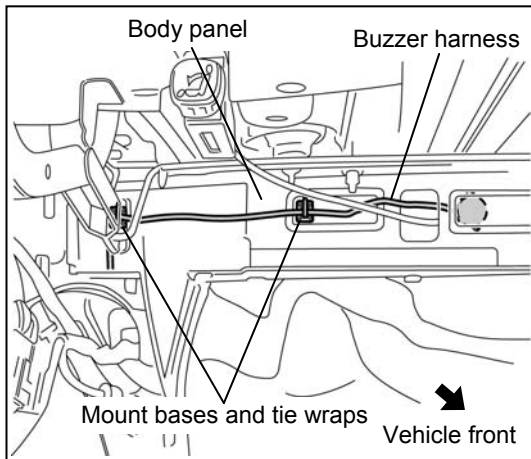


3. Peel off the double-sided adhesive tape backing and adhere the control unit to the body panel of the lower part inside of the trunk side trim (driver's side).

⚠ CAUTION

- Always remove dirt or oil because the adhesive strength of the double-sided adhesive tape weakens.

■ Main harness and buzzer harness



1. Affix the mount bases to the body panel. (2 locations)

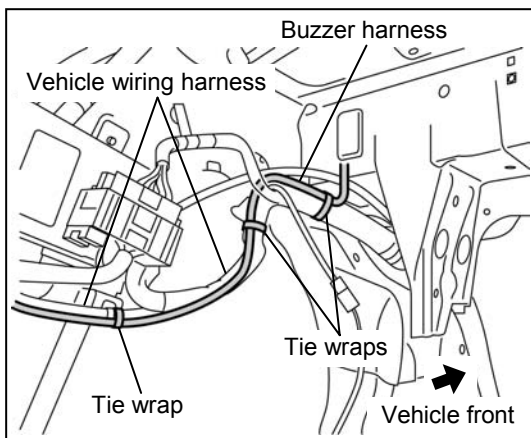
CAUTION

- Always remove dirt or oil because the adhesive strength of the double-sided adhesive tape weakens.

2. Secure the buzzer harness using tie wraps. (2 locations)

CAUTION

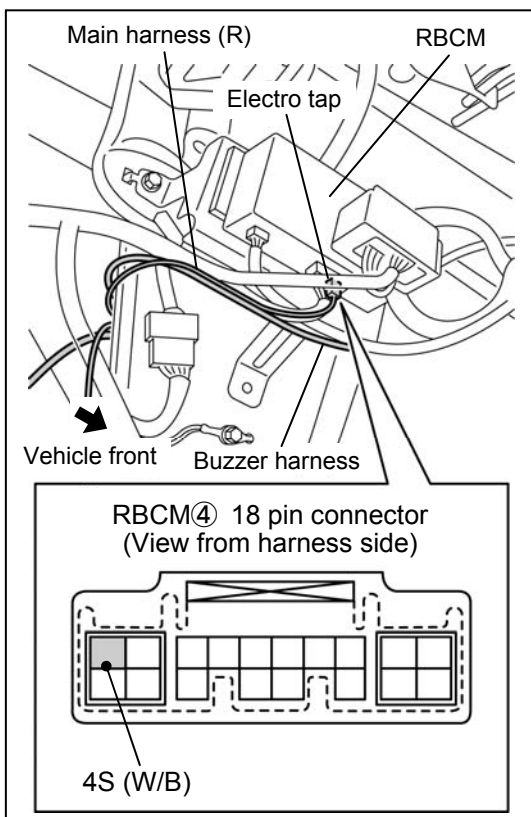
- Cut off the remaining part using nippers or a similar tool when securing using tie wraps.



3. Secure the buzzer harness to the vehicle wiring harness at 3 locations using tie wraps.

CAUTION

- Cut off the remaining part using nippers or a similar tool when securing using tie wraps.



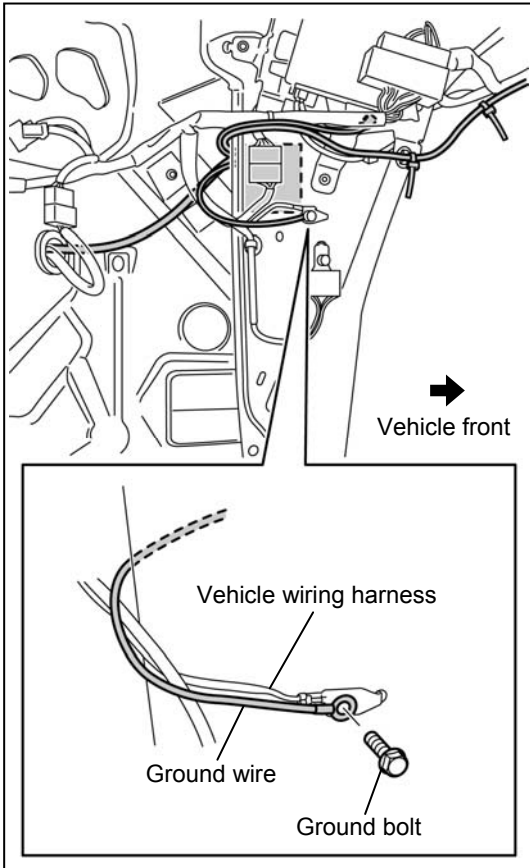
4. Branch connect the main harness (R) for the BACK signal line branch of the main harness to the RBCM④ (W/B) using an electro-tap.

CAUTION

- Connect an electro-tap to the indicated signal line securely. Misconnection may cause a system or vehicle malfunction.
- Wrap the electro-tap area using urethane tape to prevent the occurrence of abnormal noise.

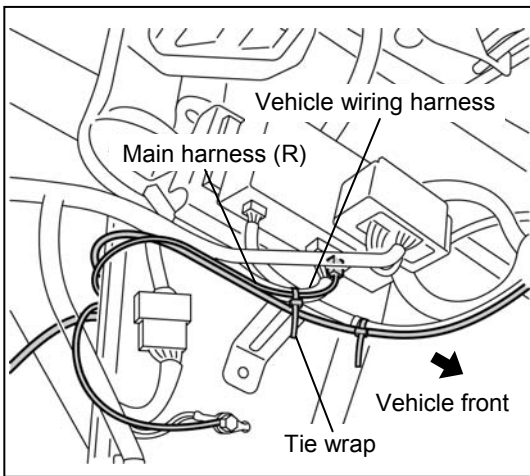
◆ Branch connection procedure using electro tap

- Insert the main harness (R) and vehicle wiring harness (W/B) into the electro tap.
- Firmly press the electro tap terminal using pliers.
- Fold the electro tap in the direction of the arrow shown in the figure and lock it.



5. Tighten the ground wire together with the ground bolt on the vehicle side.

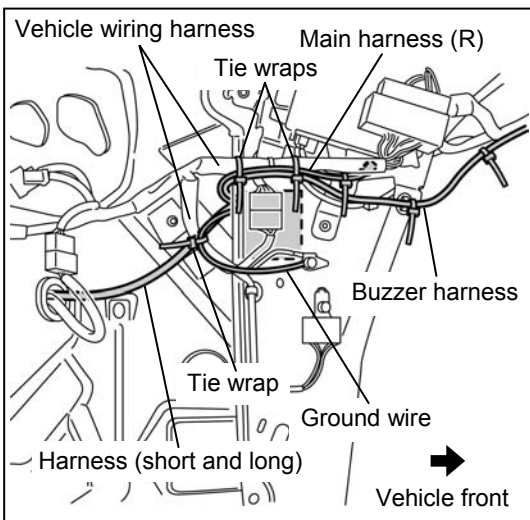
Ground Bolt tightening torque : 8.8—12.7 N·m



6. Secure the main harness (R) to the vehicle wiring harness at 1 location using tie wrap.

⚠ CAUTION

- Cut off the remaining part using nippers or a similar tool when securing using tie wrap.



7. Secure the main harness, harness (short and long) and to the vehicle wiring harness at 3 locations using tie wraps.

⚠ CAUTION

- Cut off the remaining part using nippers or a similar tool when securing using tie wraps.

9. OPERATION CHECK

1. Reinstall parts in the reverse order of the installation procedure in 【PARTS REMOVAL】 .
2. Refer to “Required servicing after disconnecting/connecting negative battery cable” in the vehicle workshop manual or the owner’s manual to restore the vehicle functions.
3. Perform reinstallation and inspection of the vehicle parts.

10. OPERATION CONDITION

- Is available when the ignition is switched ON.
- The sensor detects obstructions when the shift lever is in the R position.

• Alarm (beeper) sound

- The beeper operates (sounds) as follows while the system is operating.

◇ Rear sensor

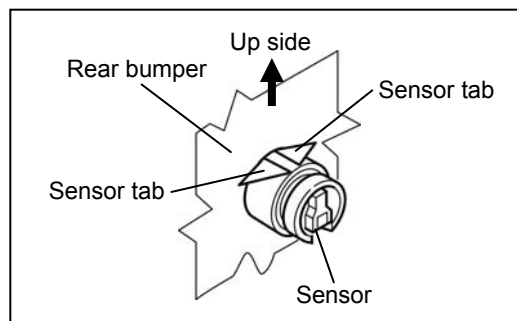
Distance between the vehicle and the obstruction	Buzzer sound
Approx. 2-1.5 ft (23.62-17.71 in) 	Intermittent sound
Approx. 1.5-1 ft (17.71-11.81 in) 	Fast intermittent sound
Within approx. 1 ft (11.81 in) 	Continuous sound

11. TROUBLESHOOT

Procedure	Operation	Inspection item(s)
1	<ul style="list-style-type: none"> • Switch the ignition ON (engine off) • Turn system switch on 	—
2	Bring a piece of cardboard close to each sensor to verify that the intermittent beeper sound changes depending on the distance. * When verifying, shift the shift lever to the reverse position.	<ul style="list-style-type: none"> • Connection between sensor wiring harness and control unit • Connection between each sensor and sensor wiring harness • Connection between control unit and buzzer
3	Verify that a beep sound is not heard even though cardboard comes close to each sensor when the system switch is turned off.	<ul style="list-style-type: none"> • Connection between switch and wiring harness

If a beeper sound is not heard or is heard continuously, verify the following troubleshooting:

Procedure	Operation	Inspection item(s)
1	Beep sound is not heard even if each sensor operates	<ul style="list-style-type: none"> • Is there a device generating ultrasonic waves near the vehicle? (Air compressor, high-pressure car washer, impact wrench, or electric drill)
2	While the system switch is turned on, the malfunction alarm sound (continuous or inconsistent sound for 1 s or more) is heard even though obstructions are not detected.	<ul style="list-style-type: none"> • Connection between sensor wiring harness and main wiring harness • Connection between sensor and sensor wiring harness
3	When the sensor is operated, a beep sound is heard continuously	<ul style="list-style-type: none"> • Are there obstructions around the vehicle? • Is the ground detected? * If beep sound stops after placing cardboard on the ground, the ground may be detected. Is the sensor installed in the direction indicated in the instructions?



Date				
VIN.				
Approved		Checked		Person in charge

INSTALLATION INSPECTION SHEET	MAZDA6	PARKING SENSOR, REAR
		C853 V7 290 (PARKING SENSOR, REAR) C844 V7 281 (4pc. SENSOR)

Perform the following inspections

⚠ WARNING

- Before starting the engine, make sure there are no persons in front of or behind the vehicle, or around the engine compartment. Otherwise a serious accident could result by the vehicle suddenly moving.
- Do not start the engine in a place such as a garage or other location with poor air ventilation. Otherwise, poisoning or asphyxiation could result from accumulation of exhaust gas.
- Always set the wheel blocks on level ground before performing the verification.

1. Inspection items after installation

- Verify the fitting between the vehicle part and the installed part, and inspect for damage or dirt.

Check

- When connecting connectors, verify the connection again to prevent poor connection or mis-connection. (Insert two times.)

Check

2. Vehicle parts reinstallation

Inspection Parts	Inspection Items	Inspection	Check
Negative battery cable	Torque check	Are the battery cables securely tightened to the terminals?	
Rear combination light	Turn on/off	Is the turn light illuminated?	
		Are the brake lights illuminated?	
		Are the back-up lights illuminated?	
Function restore procedure after removal/installation of battery	Operation check	Have the vehicle's functions been restored by referring to "Required servicing after disconnecting/connecting negative battery cable", in the vehicle workshop manual or the owner's manual?	

— Continued backside —

※ The term of validity for this sheet: 3 Years

3. Installation of accessory, operation check

Inspection Parts	Inspection Items	Inspection	Check
Parking sensor, rear	Operation check	Is the detection status of each sensor that of no obstruction detected when the ignition is switched ON and the shift lever is shifted to the R (reverse) position?	
Parking sensor, rear	Operation check	Is the detection status of each sensor that of obstruction detected when the ignition is switched ON and the shift lever is shifted to the R (reverse) position?	
Ground	Torque check	Is the ground tightened to the specified torque?	

· Distance from corner and buzzer intervals

Distance (※1)	Buzzer sound		Remark
	Parking sensor, rear (low-pitched sound)		
	Forward, stop	At R position	
Approx.2-1.5 ft (23.62-17.71 in)	No sound	Beep-Beep	Intermittent sound
Approx.1.5-1 ft (17.71-11.81 in)	No sound	Beep-Beep-Beep	Fast intermittent sound
Approx.1 ft (11.81 in)	No sound	Beep	Continuous sound

※1 : Detection area is distance from sensor