GENUINE PARKING SENSORS (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 sensors (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 sensors (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 sensors (Rear).
- Do not install the parking sensors (Rear) remove 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 Sensors (Rear)**
VEHICLE: **MAZDA CX-3**
PART NUMBER: **DB4G V7 290 (Parking Sensors, Main Kit)**
C950 V7 29Y (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. INSTALLATION VIEW

Figure A

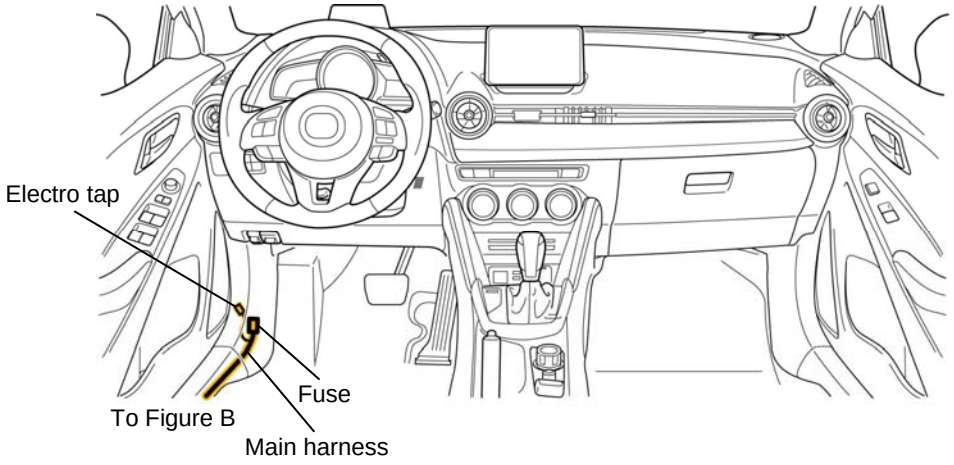
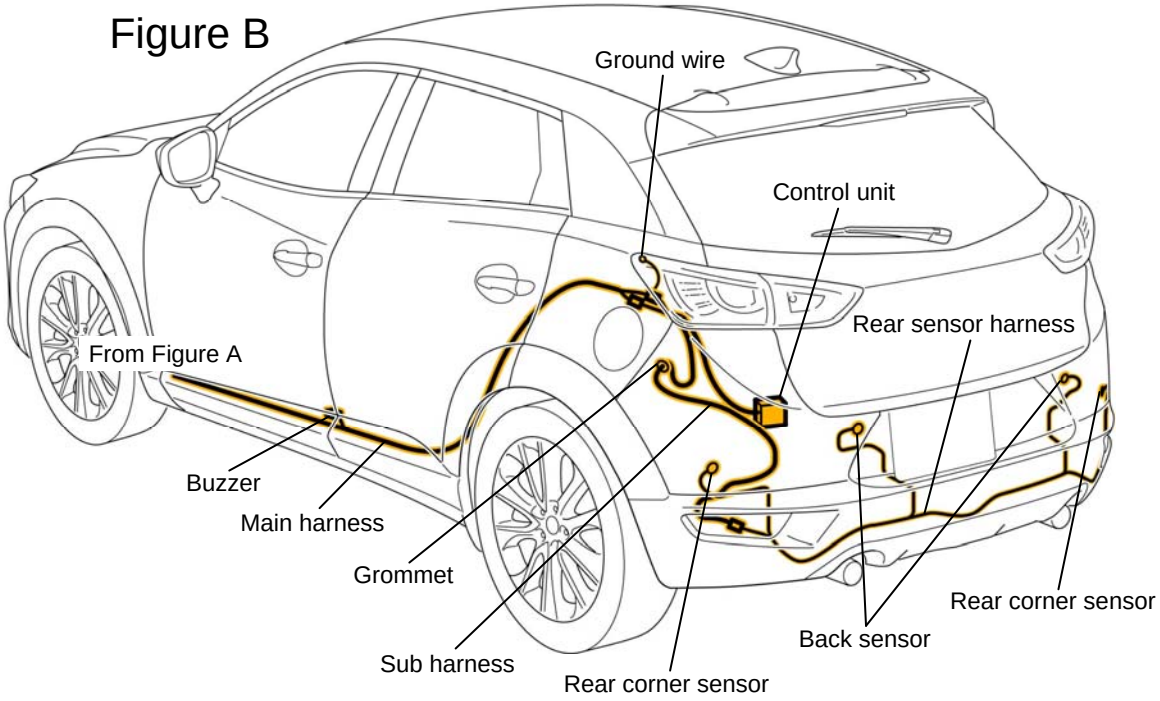


Figure B

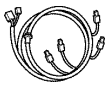
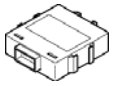
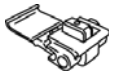
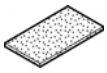


2. PARTS

Note

- Before installation, verify that the kit includes all the following parts and that they are free of dirt, scratches, or damage.

- Parking Sensors, Main Kit (DB4G V7 290)

Part	Part name	Qty.	Part	Part name	Qty.	Part	Part name	Qty.
	Main harness	1		Rear sensor harness	1		Sub harness	1
	Control unit	1		Buzzer (double-sided adhesive tape included)	1		Electro tap	1
	Mount base	4		Seal	4		Tie wrap	25
	Urethane tape	8		Double-sided adhesive tape	1		Installation instructions	1
	User’s instructions	1		Installation inspection sheet	1			

- Sensor (C950 V7 29Y**)

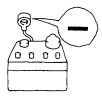
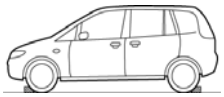
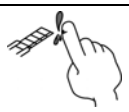
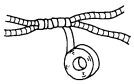
Part	Part name	Qty.
	Sensor	4

3. BEFORE INSTALLATION

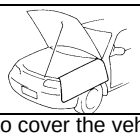
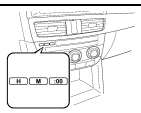
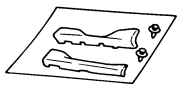
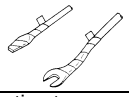
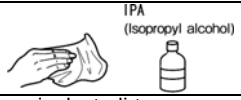
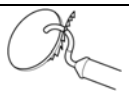
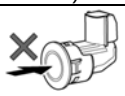
■ REQUIRED TOOLS

☆Screwdriver (Flathead)
☆Screwdriver (Phillips)
☆Socket wrench
☆Stubby phillips screwdriver
☆Box-end wrench/Combination wrench
☆Torque wrench
☆Nipper
☆Needle-nose pliers
☆Pliers
☆Drill (3mm)
☆Hole saw (22mm)
☆Punch
☆Flathead screwdriver wrapped with protective tape
☆Fastener remover wrapped with protective tape
☆Pincers
☆Flat, round file
☆Round file
☆Masking tape
☆Electrical vinyl tape
☆Soft clean cloth
☆Mat
☆Primer (3M Promoter-4298)
☆IPA (Isopropyl alcohol)

⚠ WARNING

			
If the negative battery is connected while performing the work, it may cause electrocution or other personal injuries. Disconnect the negative cable before /installation.	Before performing any work, park the vehicle on level ground, apply the parking brake securely, and then block the wheels.	Be careful when handling drills and other sharp objects. If not handled properly, it could result in serious injury.	
			
When connecting/disconnecting connectors, grasp the connectors, not the wires. Otherwise, a fire or other accident could occur due to a short circuit or poor contact.	Make sure the connector is securely pressed in until a click sound is heard. Otherwise, a fire or other accident may occur due to an open circuit or poor contact.	Secure the wiring harness with the tape (part included) so that they are not left dangling. Otherwise, a fire or other accident may occur due to a short circuit.	Do not pull a wiring harness with excessive force. Doing so can cause breakage which could result in a short circuit or a fire.

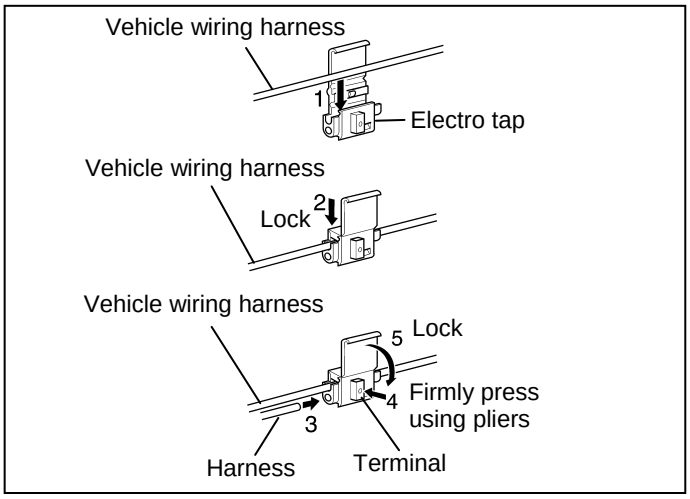
⚠ CAUTION

			
Be sure to cover the vehicle body with protectors or mats to prevent stains, scratches and damage when removing/installing the vehicle parts.	Using improper tools may damage parts. Use the correct tool for the job.	When the negative battery cable is removed, the initial value or memory for the power windows, clock, i-stop, steering angle sensor reference point will be cleared. Perform re-initialization.	Put the removed parts and the kit accessory parts on a protective sheet to prevent scratches.
			
Wrap protective tape around screwdrivers and fastener remover tools to prevent scratching the vehicle.	If there is dust, dirt or grease on the adhesion surface, the adhesive strength of the double-sided adhesive tape will be weakened. Wash and degrease the surface of the adhesion area before applying the double-sided adhesive tape. Be sure to wash interior and exterior parts using IPA (isopropyl alcohol).	If tape or a mount base is removed and then re-adhered, the adhesive strength will be weakened. Before adhering, accurately determine the adhesion position.	To assure sufficient adhesiveness of the double-sided adhesive tape, press the adhesive surface of the tape to the adhesion surface evenly. In particular, press sufficiently at the ends of the double-sided adhesive tape where the adhesion surface is curved.
			
Make sure to remove burrs from the surface so that the bumper surface is smooth.	If the center part of the sensor is pressed, it could result in a malfunction. Press the outer circumference of the sensor when installing it to the bumper.		

Advice

Refer to the Workshop Manual for removal and installation of vehicle parts.


■ Branch connection procedure using electro tap

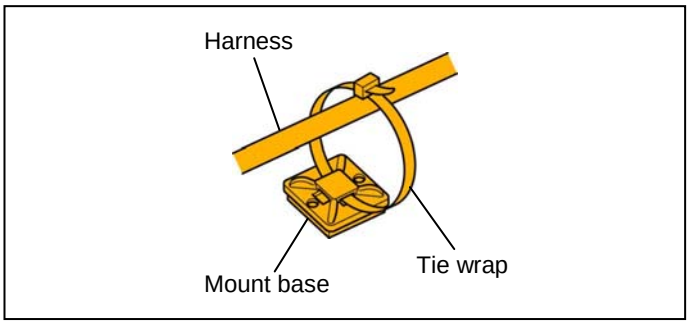


1. Insert the harness and vehicle wiring harness into the electro tap.
2. Fold the electro tap as shown in the figure and lock it.

> **⚠ CAUTION**
> - Firmly engage the lock part until a click sound is heard.

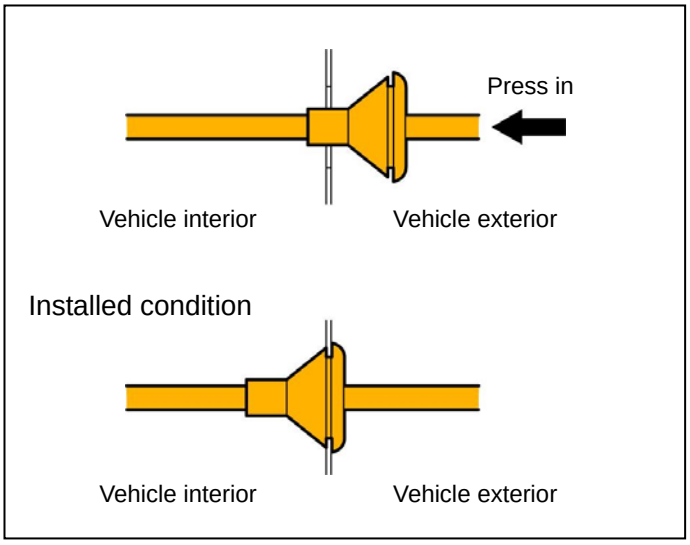
3. Insert the harness to the end of the electro tap.
4. Firmly press the electro tap terminal using pliers.
5. Fold the electro tap in the direction of the arrow shown in the figure and lock it.
6. Soundproof using urethane tape.

■ Securing harness



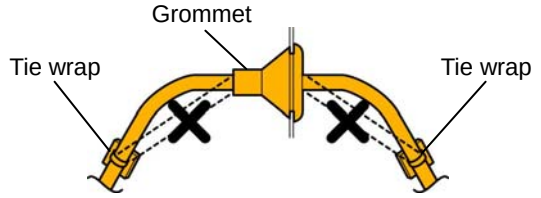
1. When the wiring harness is secured using a mount base, passing a tie wrap through the mount base and temporarily tightening the wiring harness as shown in the figure will make the operation easier.

■ Securing grommet

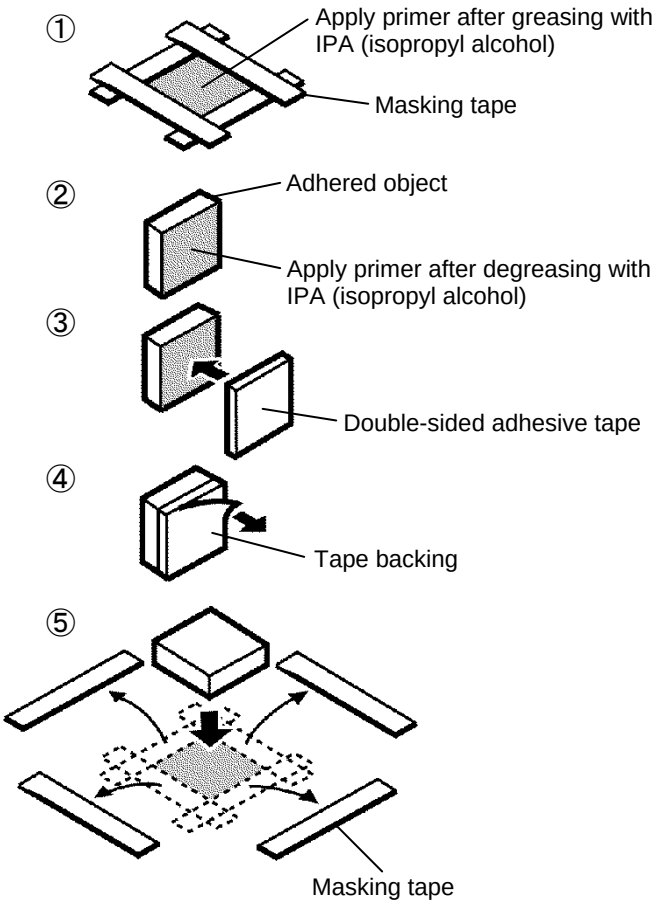


1. When inserting the grommet, firmly press in the entire circumference by hand.

> **⚠ CAUTION**
> - Completely encapsulate with no eversion on the grommet. Otherwise, water may penetrate the cabin causing rust or a malfunction.
> - When securing the tie wrap, be careful not to deform the grommet or separate it at the ends.



■ Affixing double-sided adhesive tape using primer



① Determine the installation position and apply masking tape around the position. Degrease with IPA (isopropyl alcohol) and apply primer.

② Degrease application surface and apply primer.

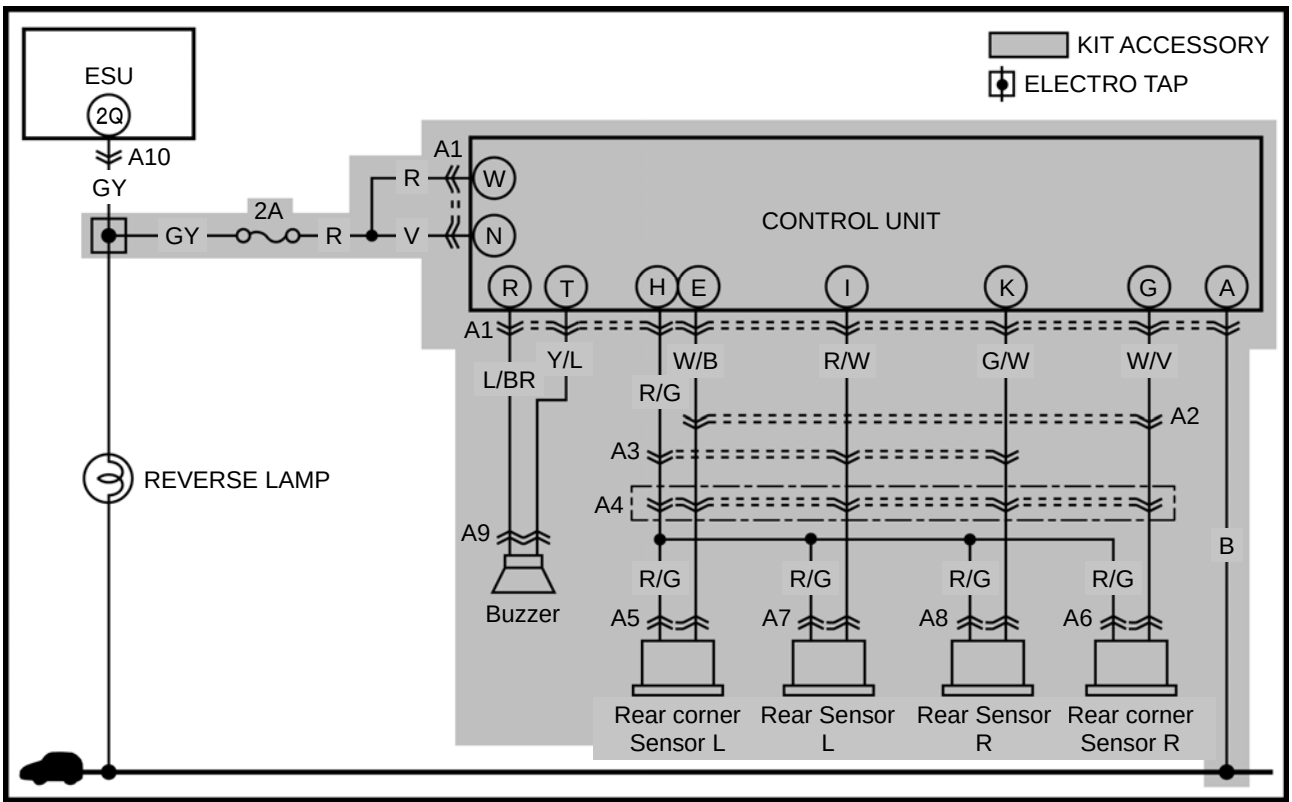
③ After drying primer, apply double-sided adhesive tape to the application surface.

④ Remove the double-sided adhesive tape backing.

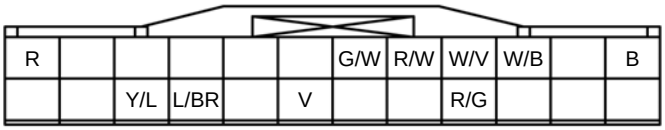
⑤ Remove the masking tape and secure the application surface.

4. CONNECTION DIAGRAM

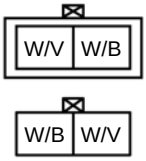
- Figure shows connector viewed from harness side.
- Wire color indicated in figure is wiring harness color for parking sensor kit.



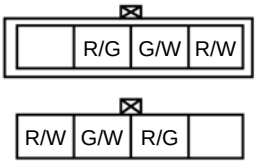
A1 Main harness～Control unit



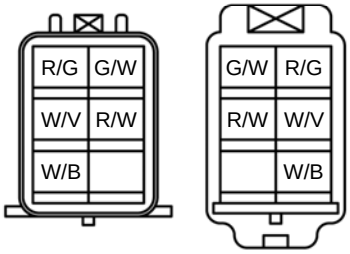
A2 Main harness～
Rear sensor harness



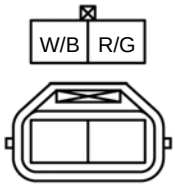
A3 Main harness～Rear sensor harness



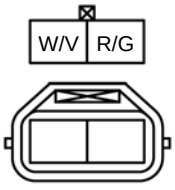
A4 Sub harness～Rear sensor harness



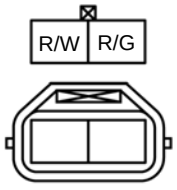
A5 Rear sensor harness～
Rear corner sensor L



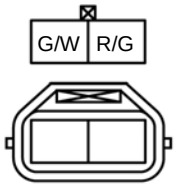
A6 Rear sensor harness～
Rear corner sensor R



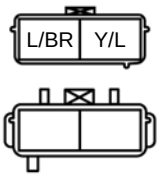
A7 Rear sensor harness～
Rear sensor L



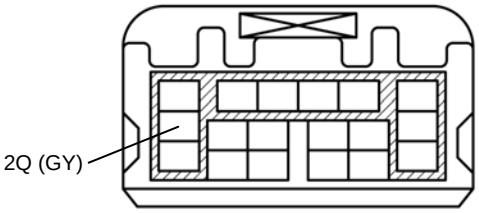
A8 Rear sensor harness～
Rear sensor R



A9 Main harness～Buzzer



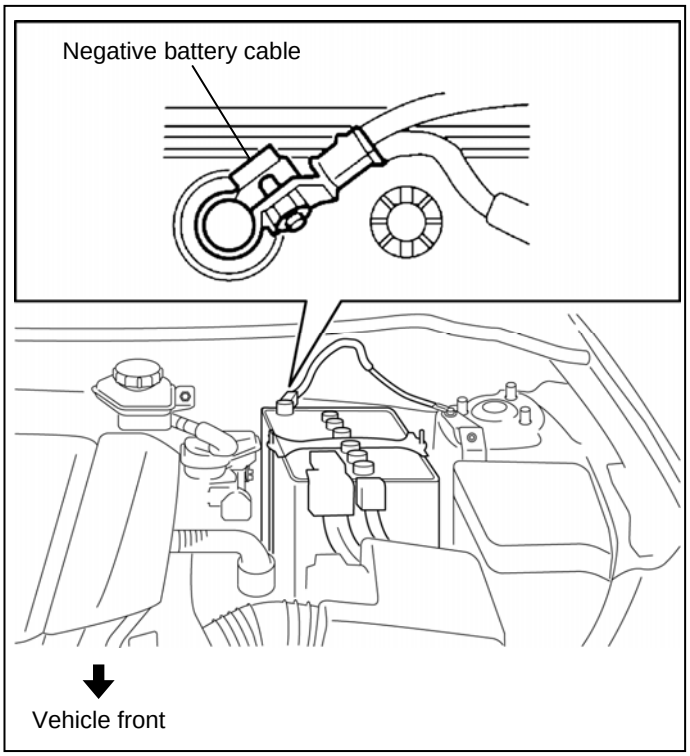
A10 ESU2 18pin connector



5. 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 the P position. (AT vehicles only)

⚠ WARNING

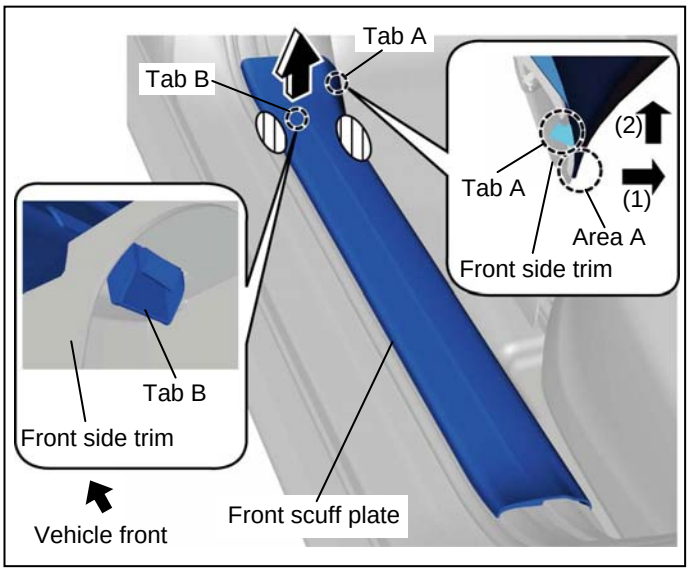
- When removing/installing the parts, park the vehicle on level ground and apply the side brake securely. Be sure to turn the ignition switch off, otherwise the vehicle can move, causing personal injury or vehicle damage.

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

⚠ WARNING

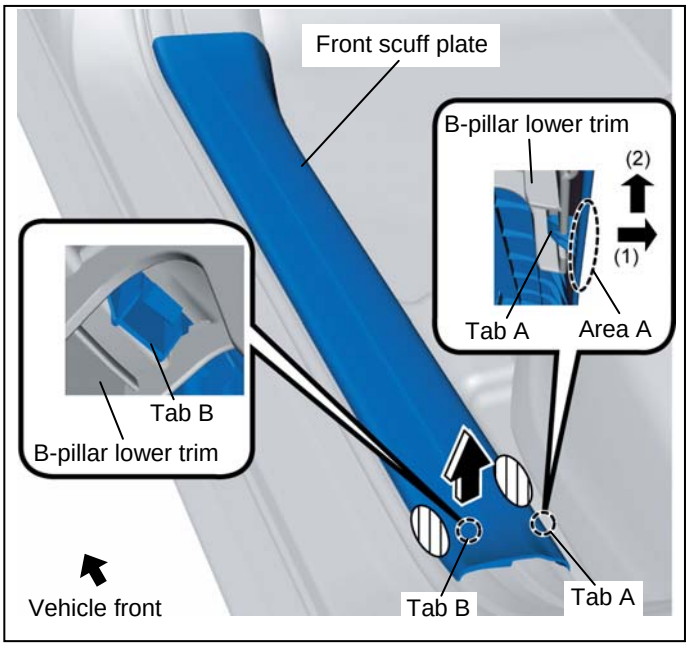
- If the negative battery cable is connected while performing the work, it may cause electrocution or other personal injuries. Disconnect the negative battery cable before removal/installation.

Tightening torque : 4.0-6.0 N·m

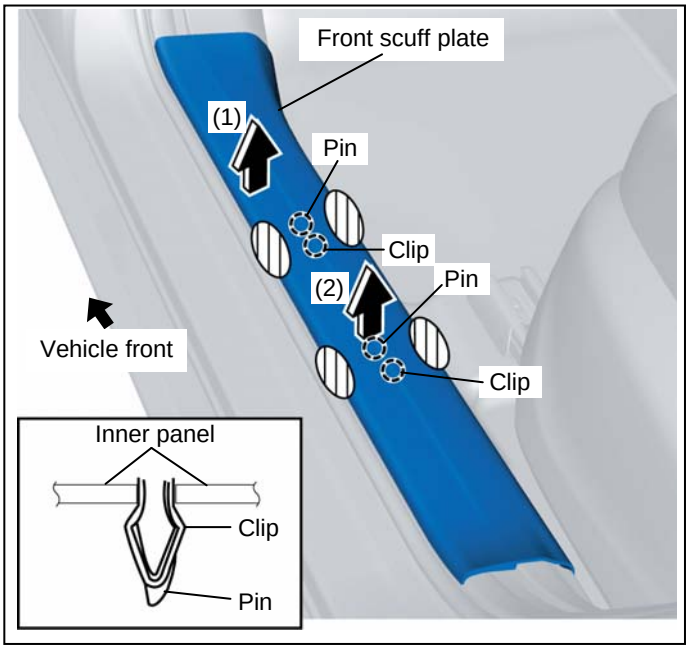


Driver's side front scuff plate removal

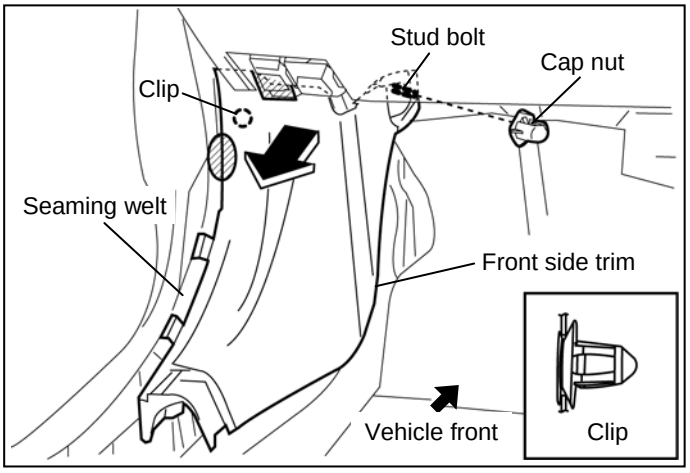
1. Hold area A shown in the figure, open the front scuff plate in the direction of arrow (1), move it in the direction of arrow (2), and detach tab A of the front scuff plate from the front side trim.
2. Hold the shaded area shown in the figure, move the front scuff plate in the direction of arrow (3), and detach tab B of the front scuff plate from the front side trim.



3. Hold area A shown in the figure, open the front scuff plate in the direction of arrow (1), move it in the direction of arrow (2), and detach tab A of the front scuff plate from the B-pillar lower trim.
4. Hold the shaded area shown in the figure, move the front scuff plate in the direction of arrow (3), and detach tab B of the front scuff plate from the B-pillar lower trim.

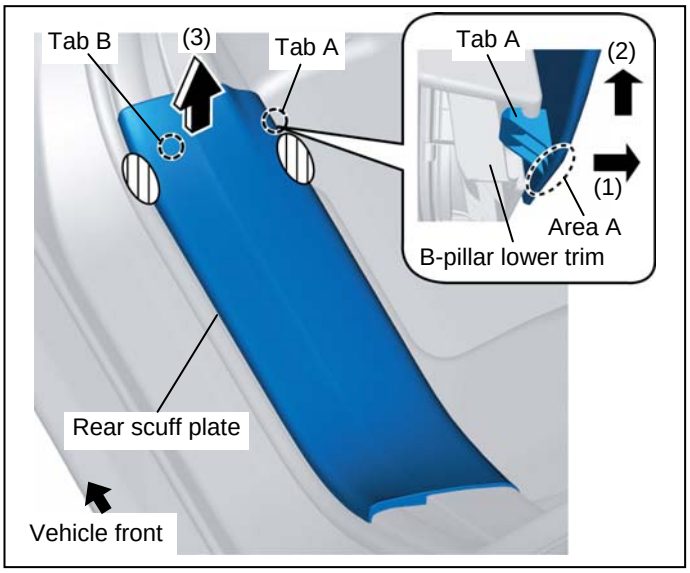


5. Hold the shaded area shown in the figure, move the front scuff plate in the direction of arrow (1), and detach the clips from the inner panel.
6. Hold the shaded area shown in the figure, move the front scuff plate in the direction of arrow (2), and detach the clips from the inner panel.
7. Pull out the pins and remove the front scuff plate.



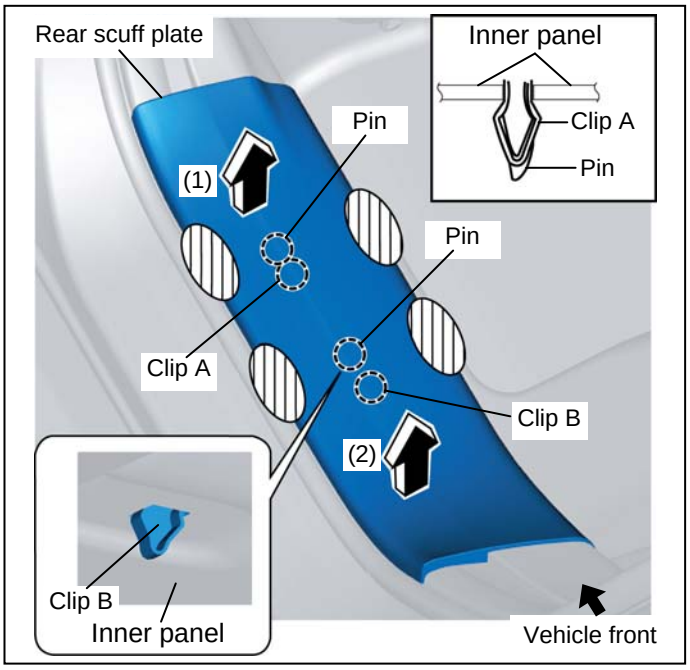
Driver's side front side trim removal

1. Partially peel back the seaming welt.
2. Remove the cap nut.
3. Pull the front side trim out of the stud bolt.
4. Hold the shaded area shown in the figure, move the front side trim in the direction of the arrow, and detach the clip.
5. Remove the front side trim.

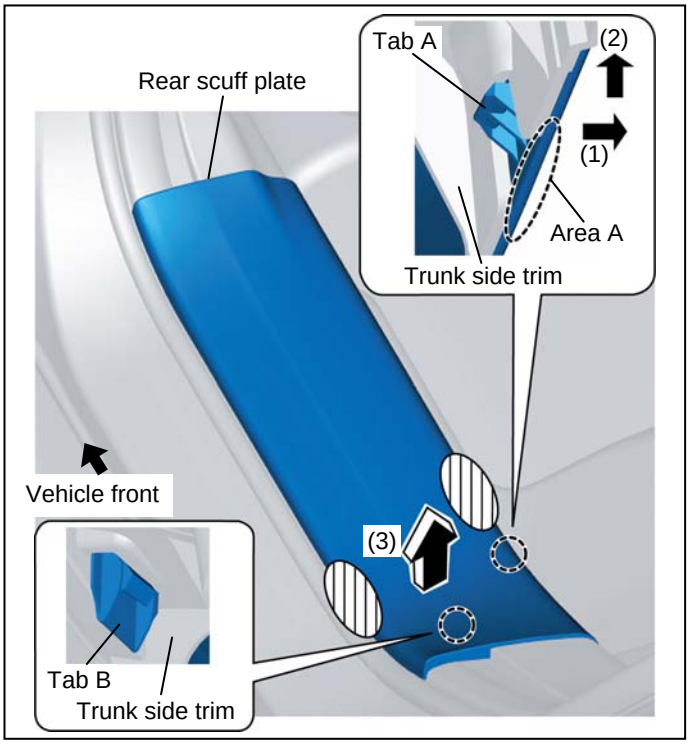


Driver's side rear scuff plate removal

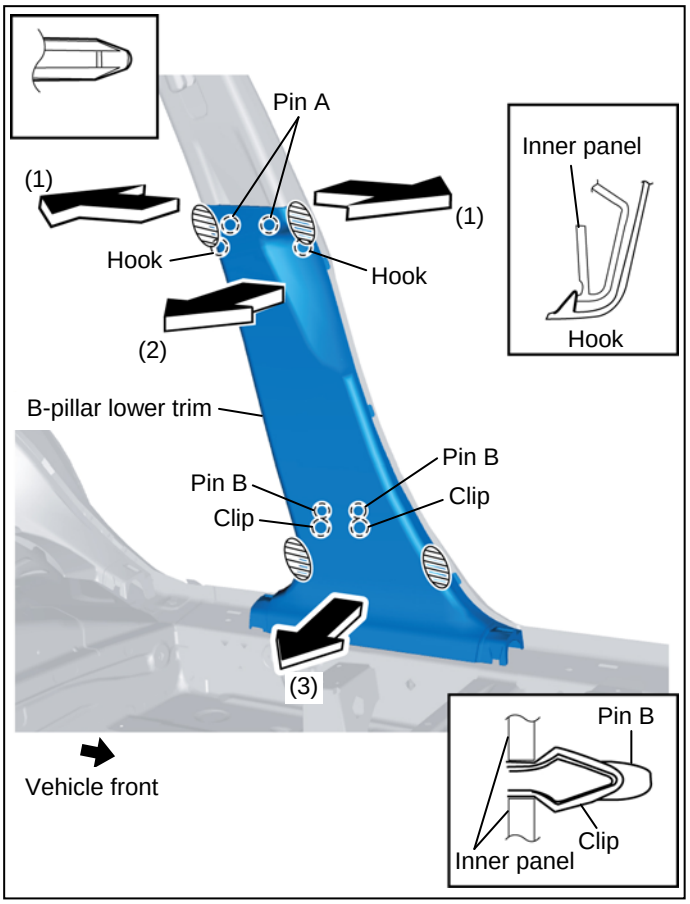
1. Hold area A shown in the figure, open the rear scuff plate in the direction of arrow (1), move it in the direction of arrow (2), and detach tab A of the rear scuff plate from the inner panel.
2. Hold the shaded area shown in the figure, move the rear scuff plate in the direction of arrow (3), and detach tab B of the rear scuff plate from the inner panel.



3. Hold the shaded area shown in the figure, move the rear scuff plate in the direction of arrow (1), detach clip A from the inner panel, and pull out the pins.
4. Hold the shaded area shown in the figure, move the rear scuff plate in the direction of arrow (2), detach clip B from the inner side sill, and pull out the pins.

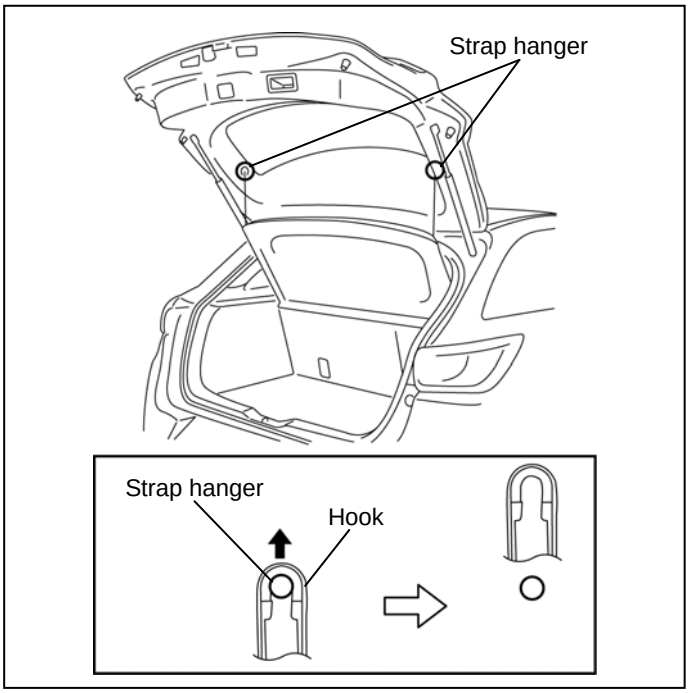


5. Hold area A shown in the figure, open the rear scuff plate in the direction of arrow (1), move it in the direction of arrow (2), and detach tab A of the rear scuff plate from the trunk side trim.
6. Hold the shaded area shown in the figure, move the rear scuff plate in the direction of arrow (3) and detach tab B of the rear scuff plate from the trunk side trim.
7. Remove the rear scuff plate.



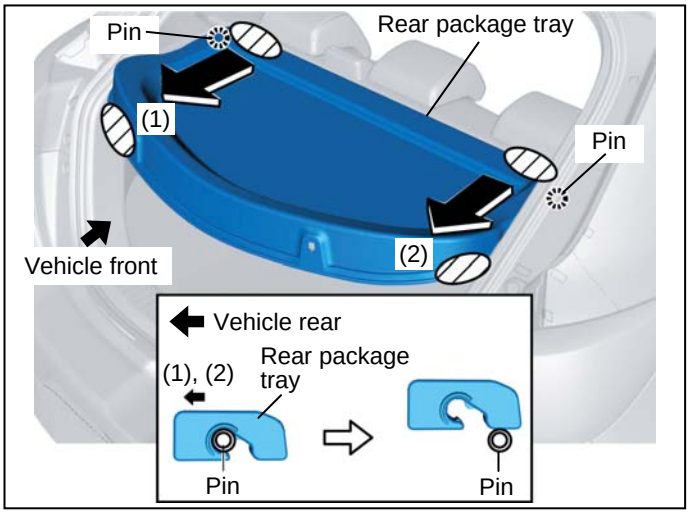
Driver's side B-pillar under trim removal

1. Partially peel back the seaming welt.
2. Grasp the shaded areas shown in the figure, and pull the B-pillar lower trim in the direction of the arrow in the order of (1), (2) while detaching hooks, pins A.
3. Grasp the shaded area shown in the figure, and pull the B-pillar lower trim in the direction of the arrow (3) while detaching the clips, pins B.

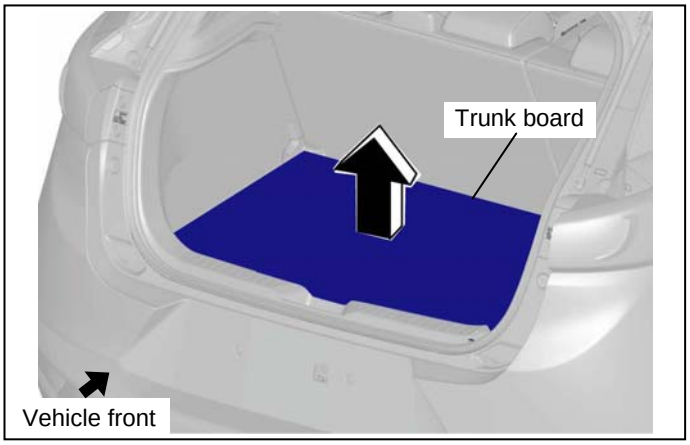


Rear package tray removal

1. Unhook the hooks from the strap hangers.

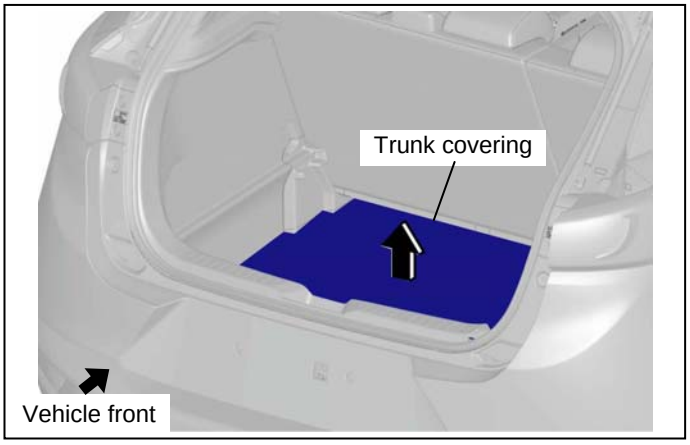


2. Hold the shaded area shown in the figure, pull the rear package tray in the order of arrows (1) and (2) and remove it from the pins.



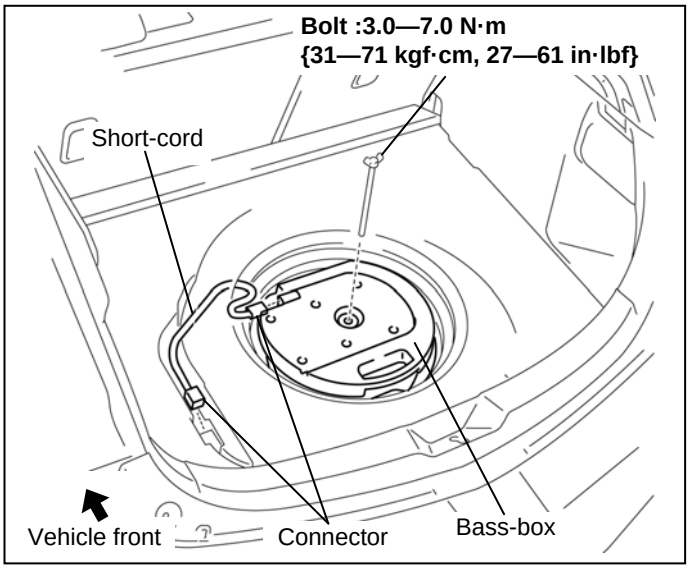
Trunk board removal

1. Remove the trunk board in the direction of arrow shown in the figure.



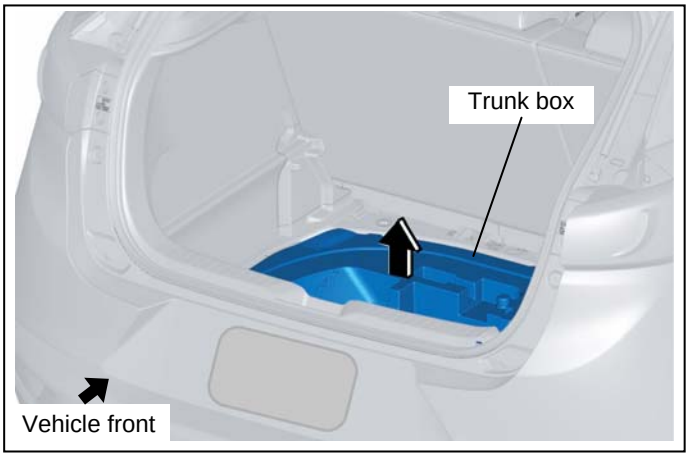
Trunk covering removal

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



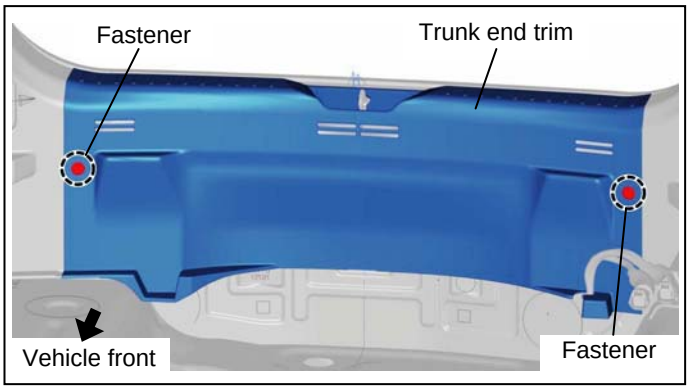
Bass-box removal (with Bose®)

1. Remove the short-cord.
2. Remove the bolt.
3. Remove the bass-box.



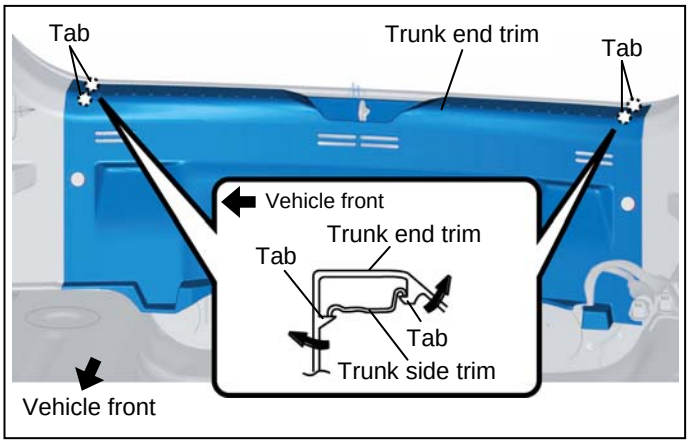
Trunk box removal

1. Remove the trunk box in the direction of arrow shown in the figure.

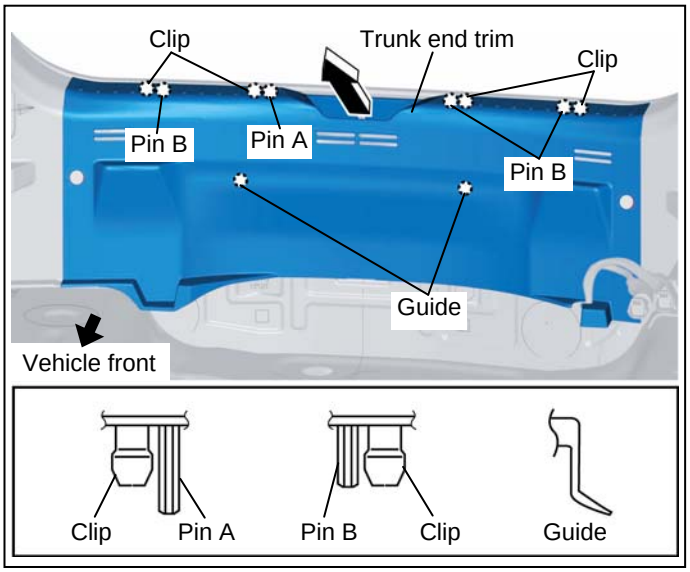


Trunk end trim removal

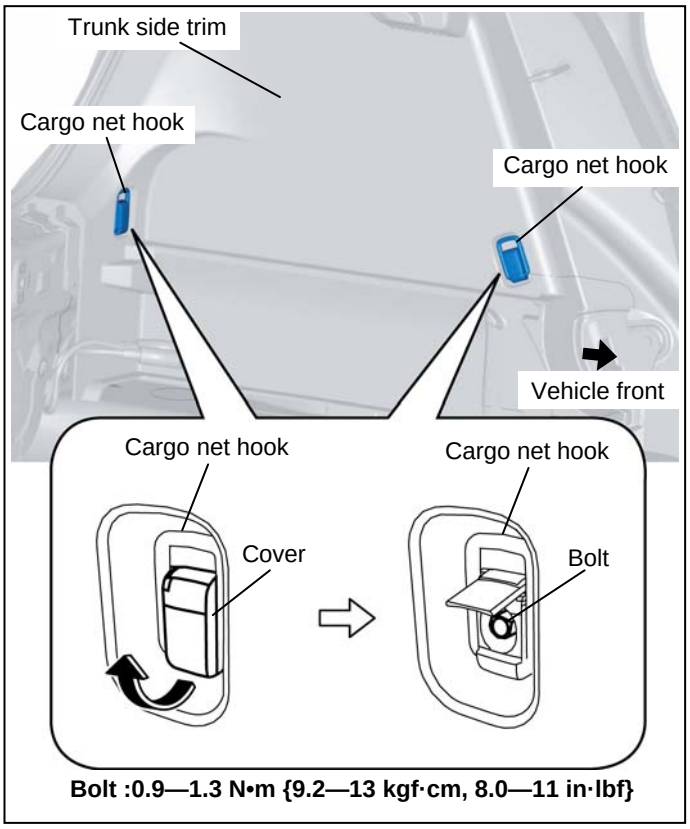
1. Partially peel back the weatherstrip.
2. Remove the fasteners.



3. Move the trunk end trim in the directions of the arrows shown in the figure and detach the trunk end trim tabs from the trunk side trim.

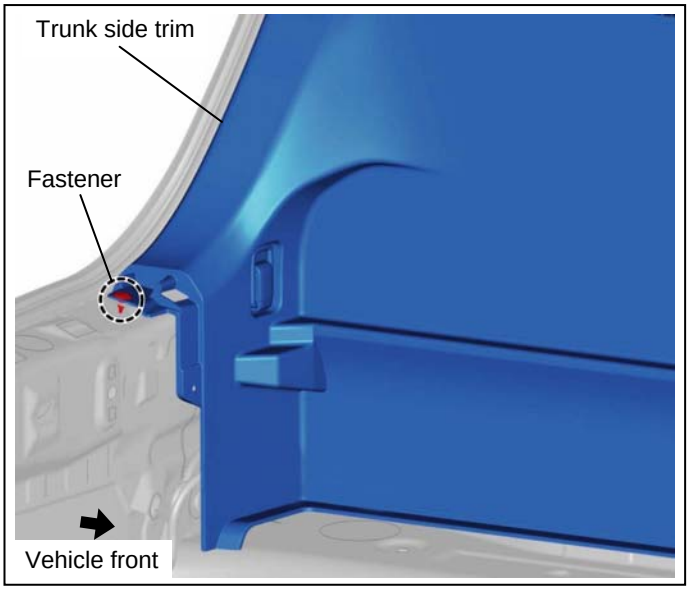


4. Move the trunk end trim in the direction of the arrow shown in the figure, remove it while detaching clips, pin A, pins B, and the guides.

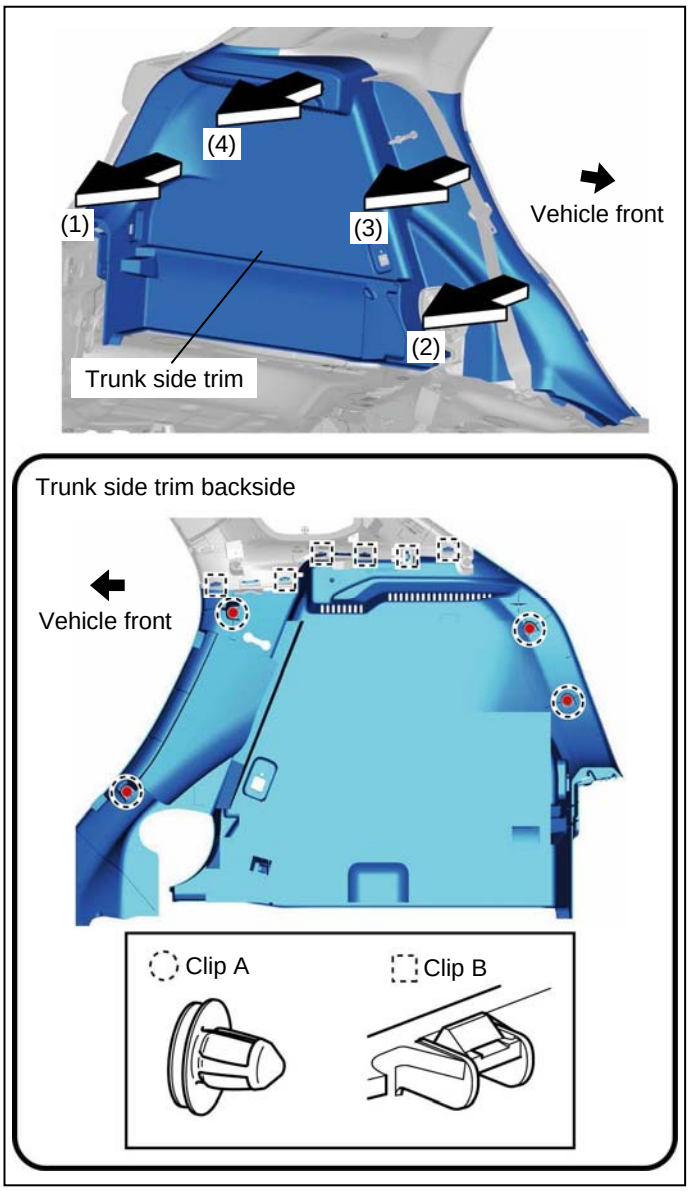


Driver’s side trunk side trim removal

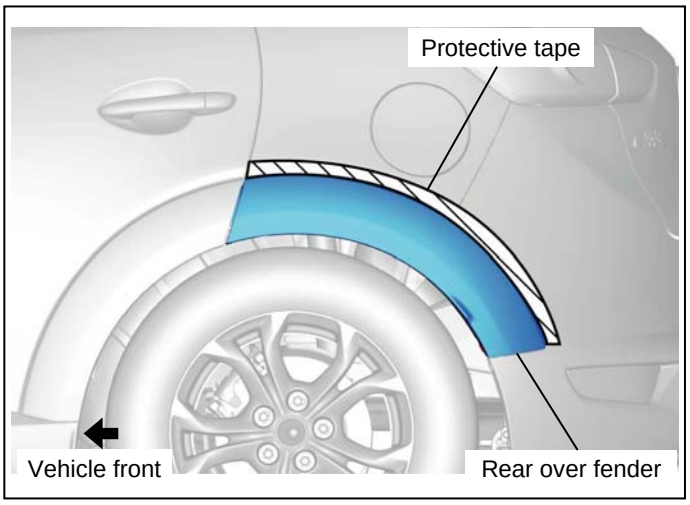
1. Peel back the rear door seaming welt and liftgate weatherstrip.
2. Pull up the cover in the direction the arrow shown in the figure.
3. Remove the bolt, then remove the cargo net hooks.



4. Remove the fastener.

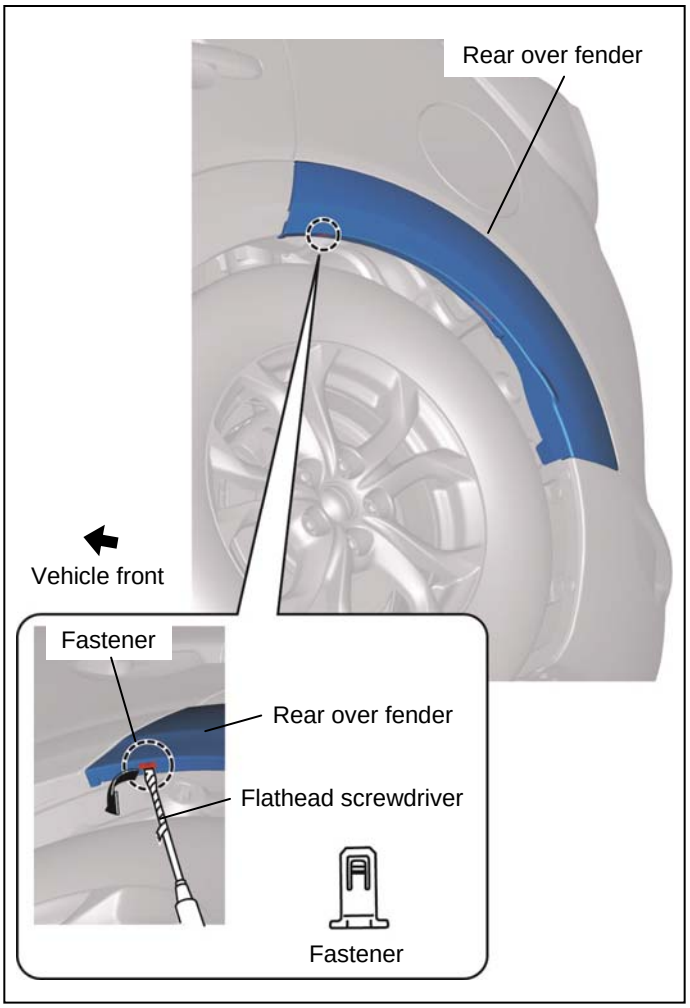


5. Pull the trunk side trim in the order of the arrows shown in the figure and detach clips A and B from the body or the C-pillar trim.

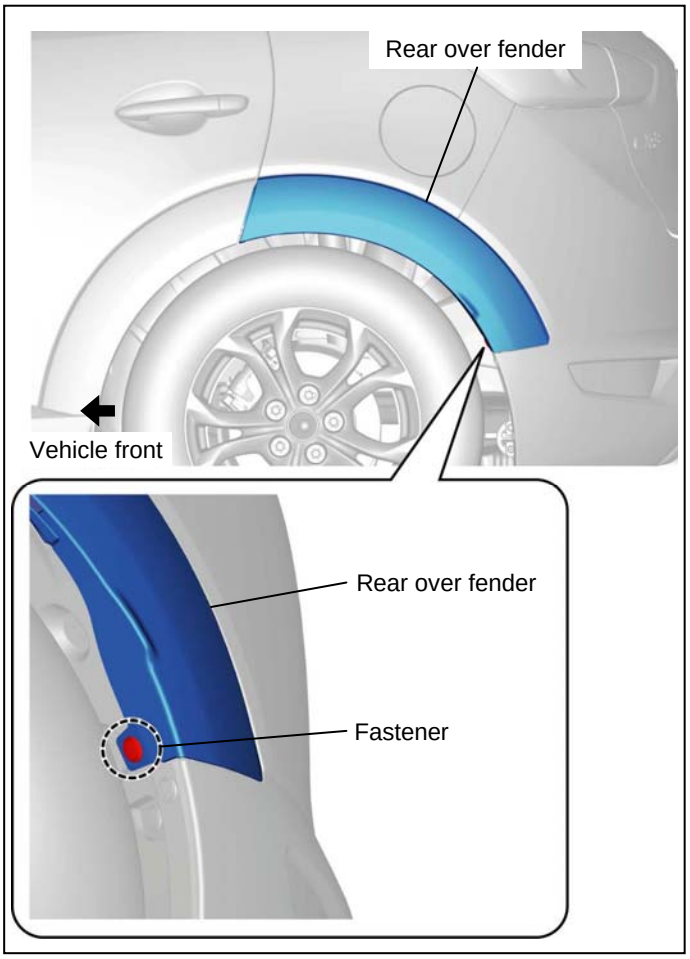


Driver's/ passenger's side rear over fender removal

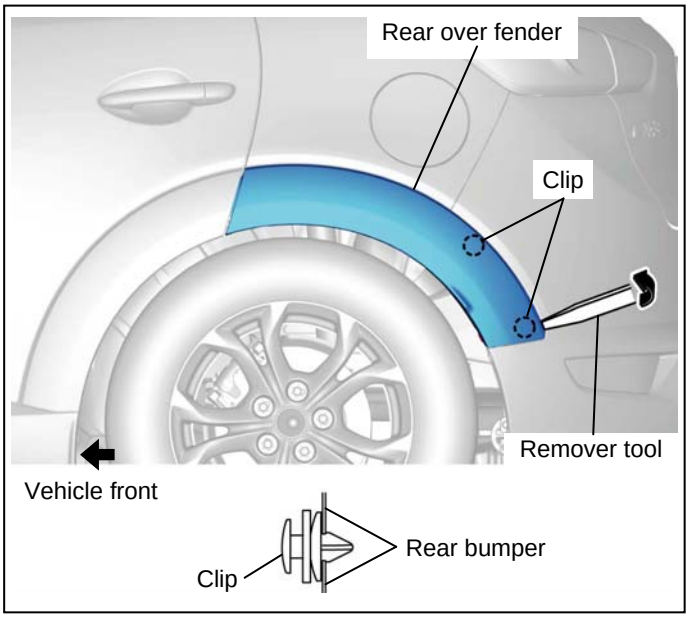
1. Affix the protective tape to the position shown in the figure to prevent scratches and damage.



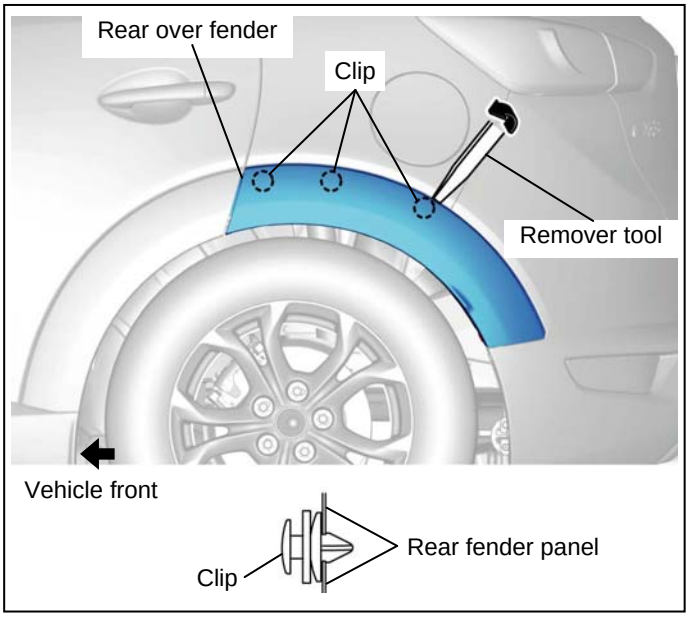
2. Insert a tape-wrapped flathead screwdriver into the position shown in the figure.
3. Move the flathead screwdriver in the direction of the arrow shown in the figure and remove the rear over fender fastener.



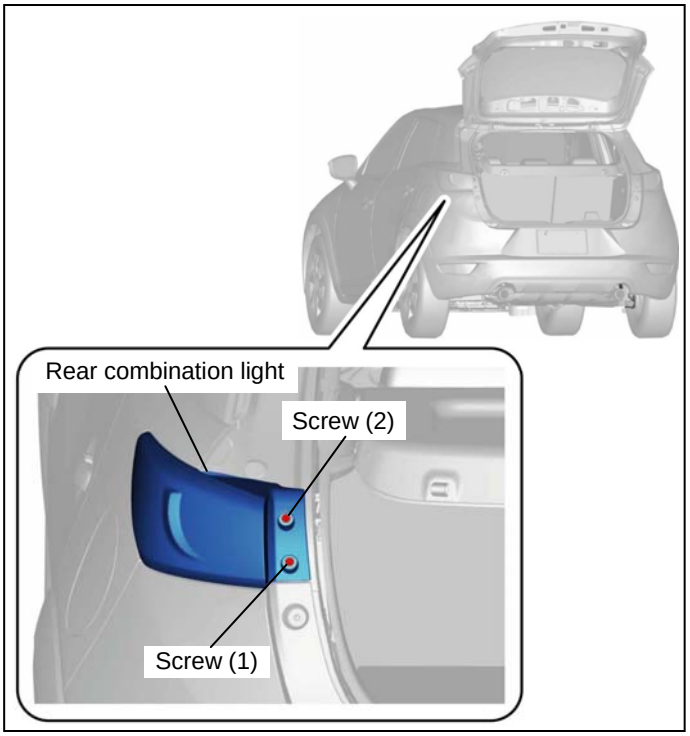
4. Remove fastener.



5. Move the remover tool in the direction of the arrow shown in the figure and detach the rear over fender clips from the rear bumper.

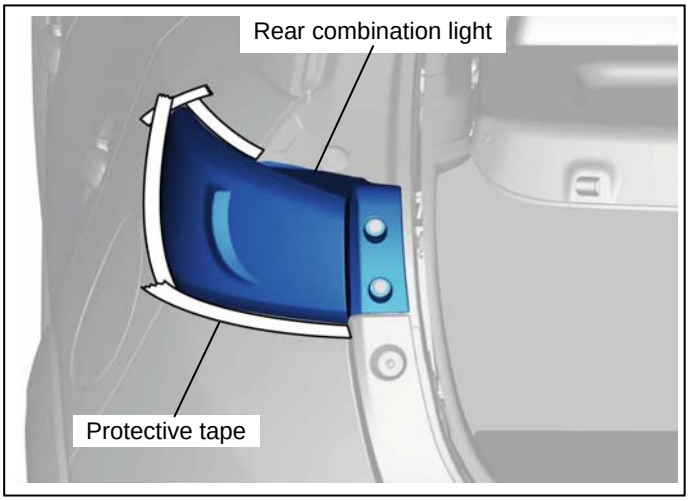


6. Move the remover tool in the direction of the arrow shown in the figure and detach the rear over fender clips from the rear fender panel starting from the vehicle rear.
7. Remove the rear over fender.



Driver's/ passenger's side rear combination light removal

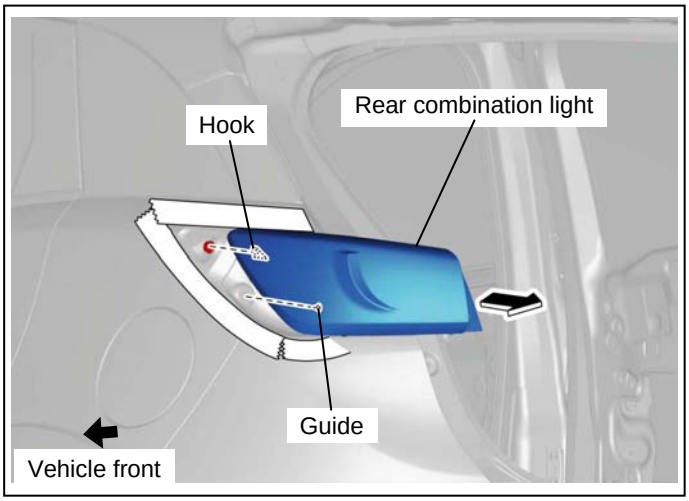
1. Remove the screws in the order of (1) and (2).



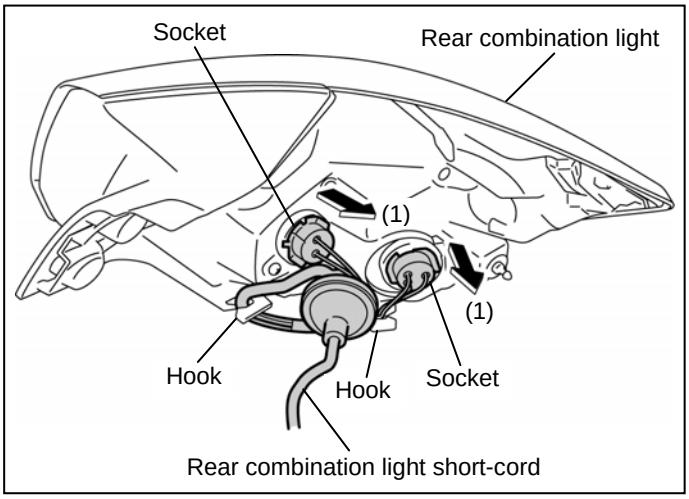
2. To prevent scratches or damage, affix protective tape to the position shown in the figure.

⚠ CAUTION

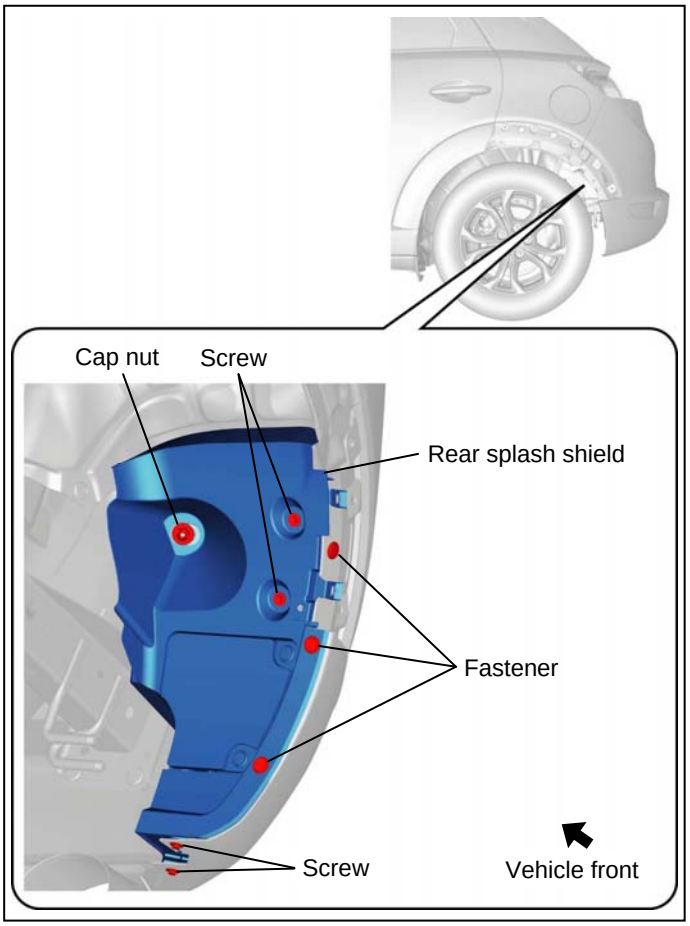
- When removing the rear combination light from the body, it could interfere with the body and cause scratching or damage to the body. When removing the rear combination light from the body, apply protective tape to the body.



3. Pull the rear combination light in the direction of the arrow shown in the figure and pull out guide and hook from the body.

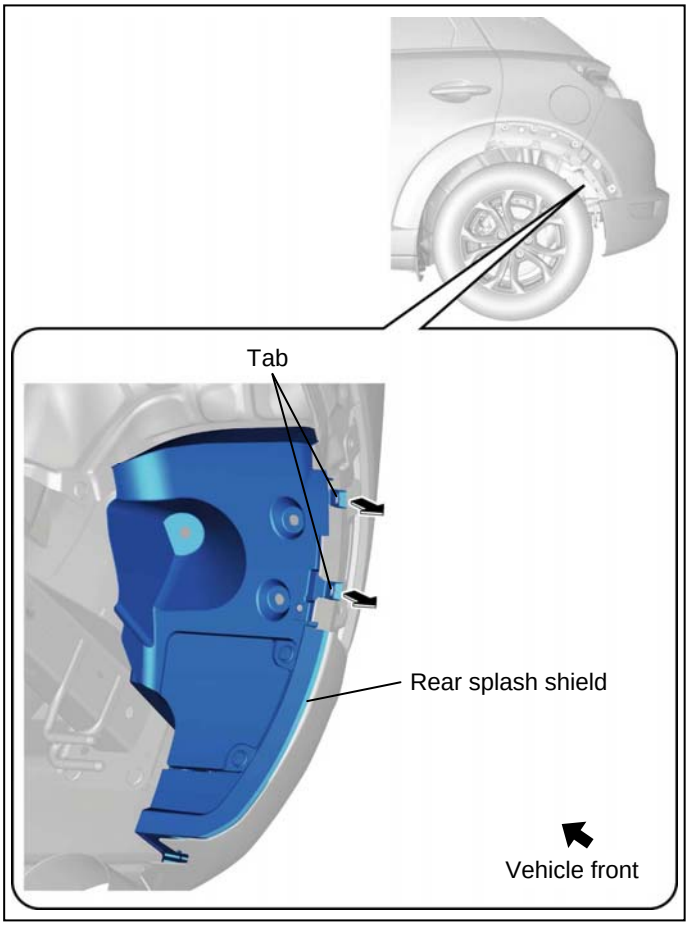


4. Turn the sockets counterclockwise and remove them in the direction of arrow (1) shown in the figure.
5. Remove the rear combination light short-cord from the hooks.

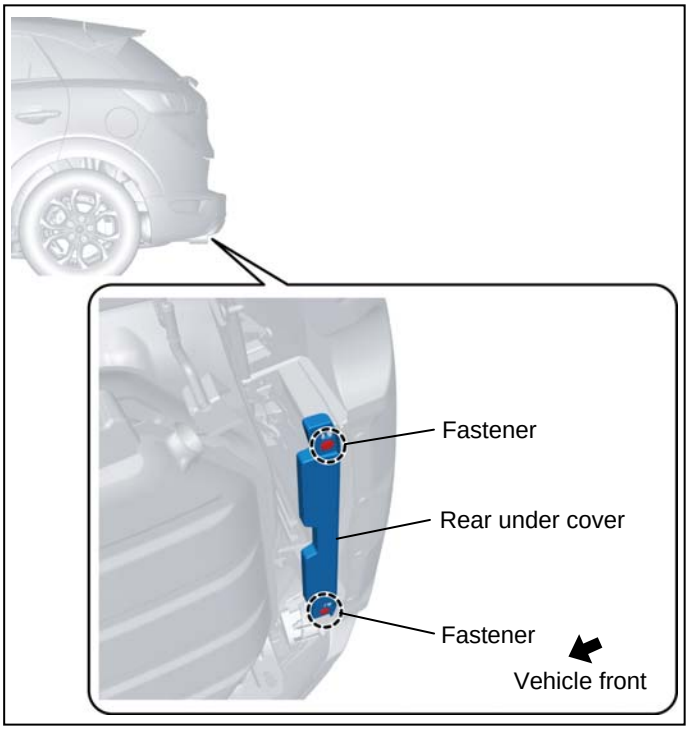


Driver's/ passenger's side rear splash shield removal

1. Remove the screws and fasteners.
2. Remove the cap nut.

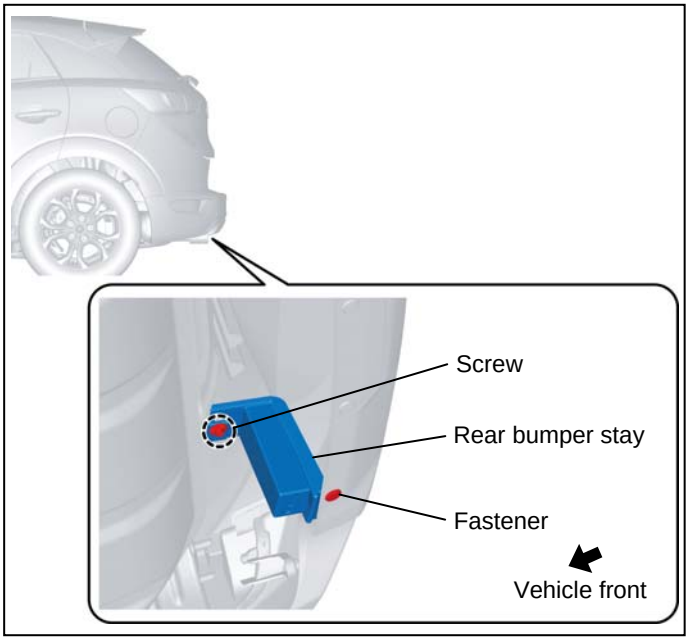


3. Pull the rear splash shield in the direction of the arrows shown in the figure and detach the rear splash shield tabs.
4. Remove the rear splash shield.



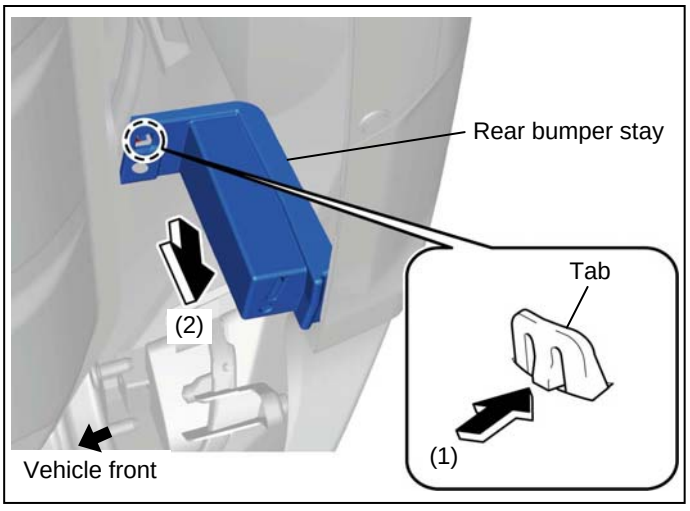
Rear under cover removal (2WD only)

1. Remove the fasteners.
2. Remove the rear under cover.

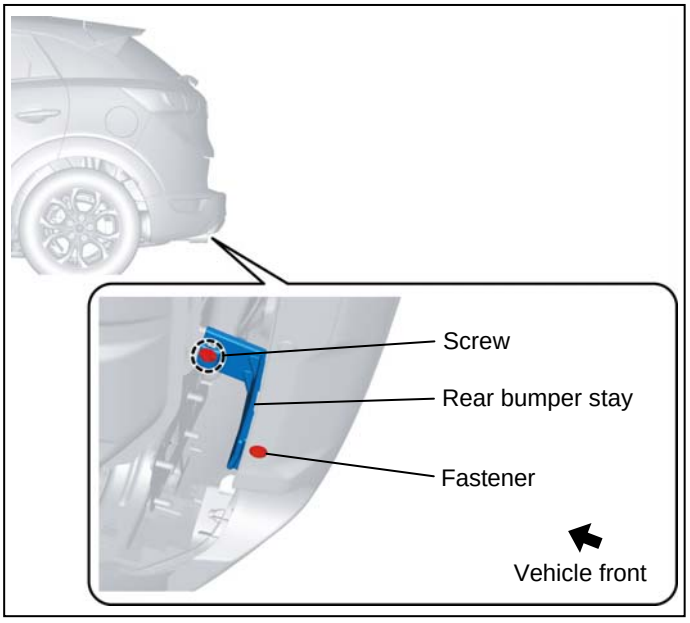


Rear bumper stay removal (2WD only)

1. Remove the screw and fastener.

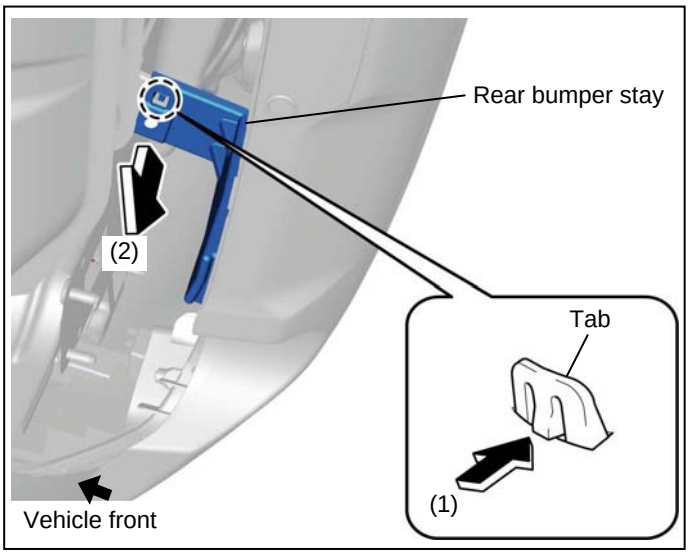


2. While pressing the rear bumper stay tab in the direction of arrow (1) shown in the figure, move the rear bumper stay in the direction of arrow (2) and detach the rear bumper stay from the body.
3. Remove the rear bumper stay.

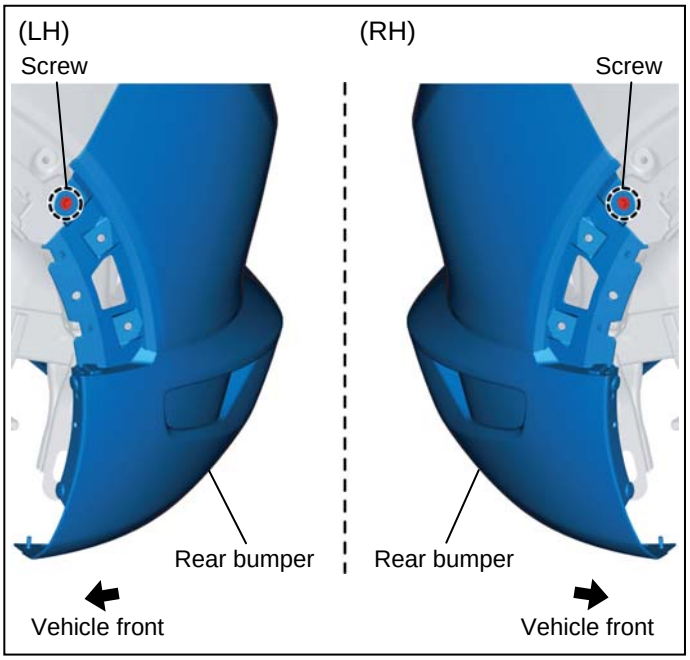


Rear bumper stay removal (4WD only)

1. Remove the screw and fastener.

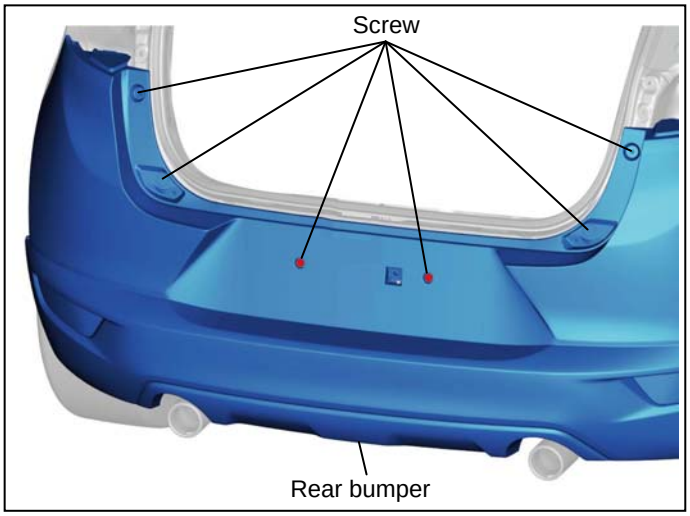


2. While pressing the rear bumper stay tab in the direction of arrow (1) shown in the figure, move the rear bumper stay in the direction of arrow (2) and detach the rear bumper stay from the body.
3. Remove the rear bumper stay.

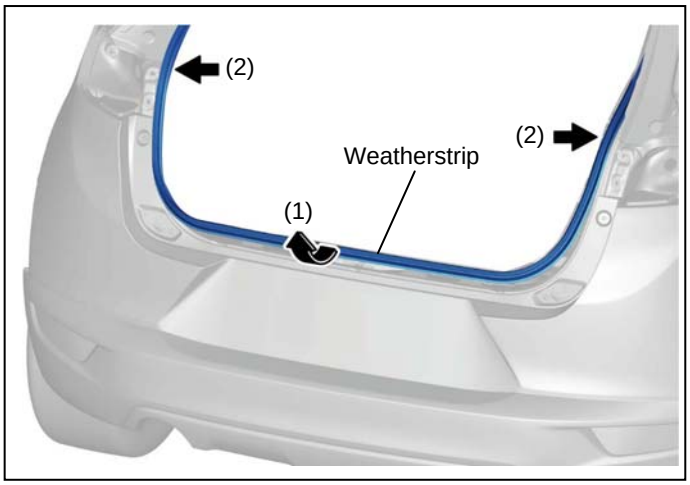


Rear bumper removal

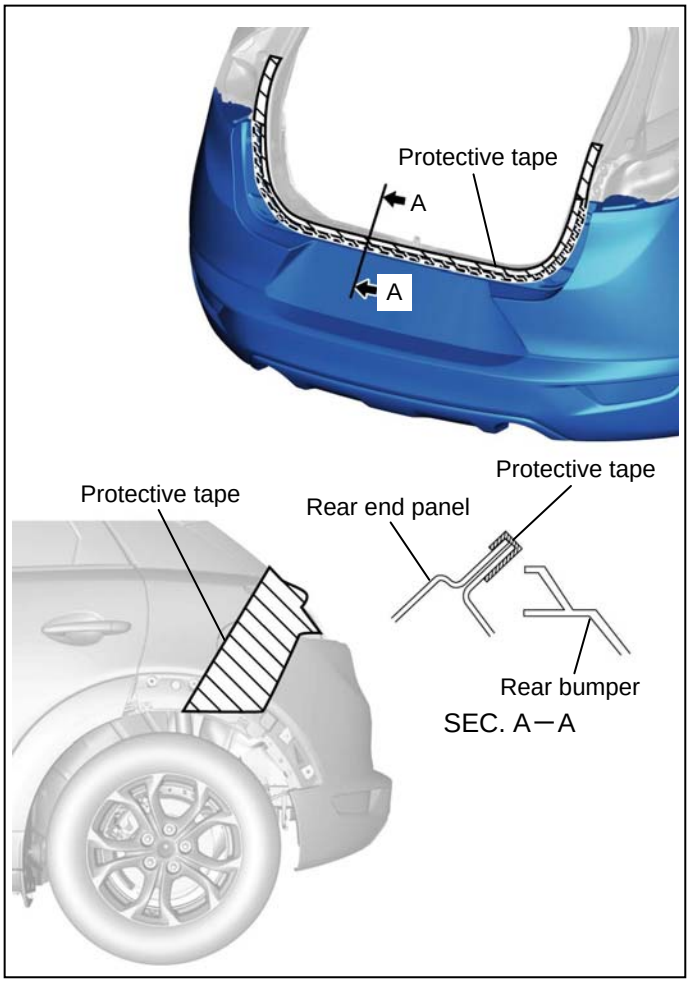
1. Remove the screws.



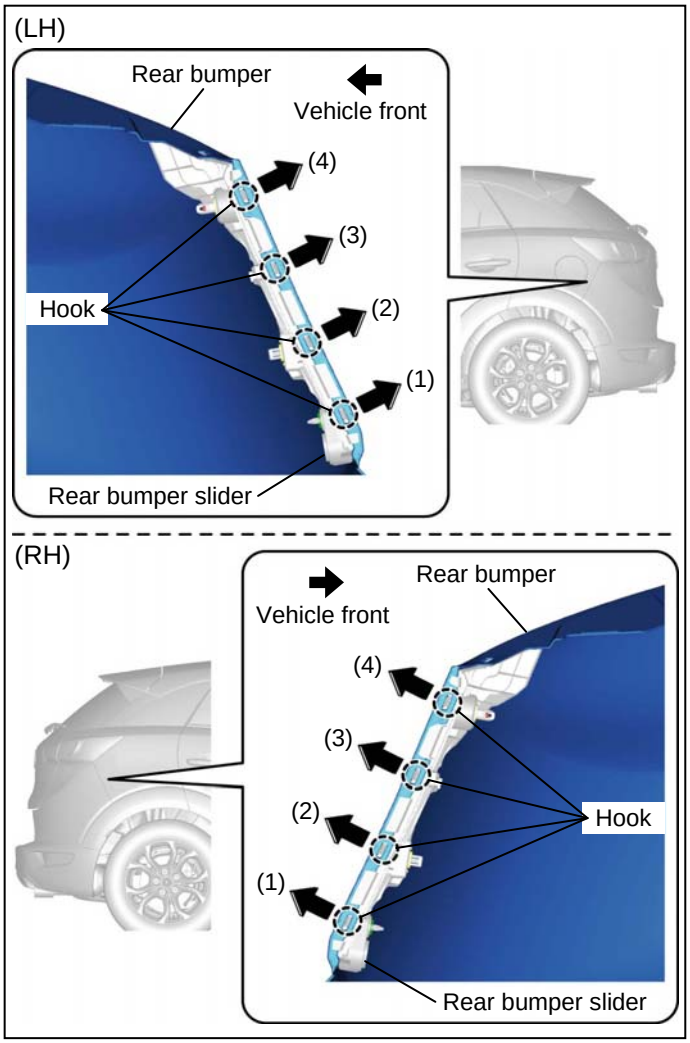
2. Remove the screws.



3. Pull the weatherstrip in the direction of arrow (1) shown in the figure and peel back the weatherstrip to the positions of arrows (2).



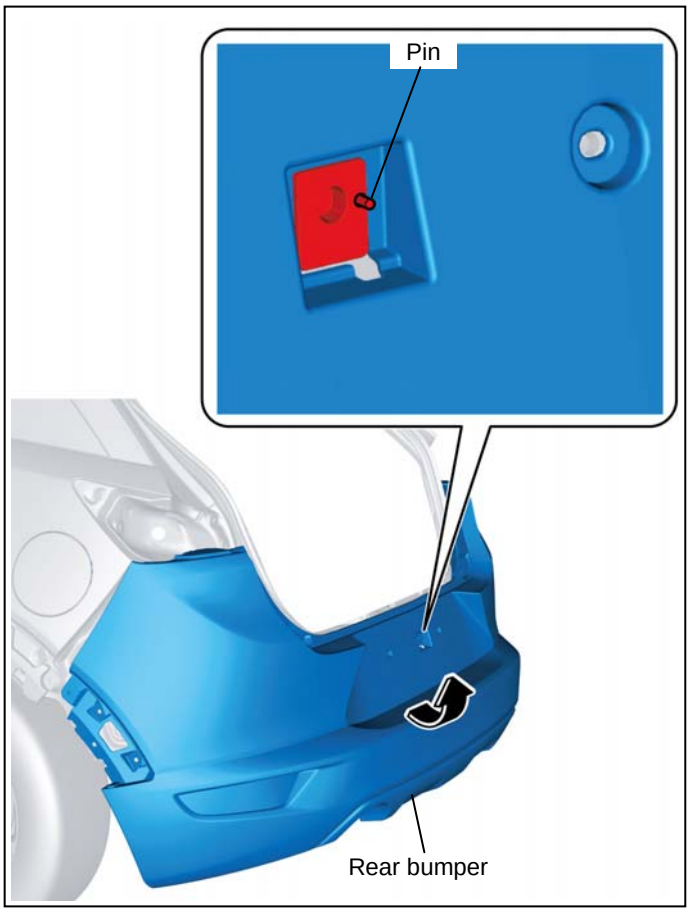
4. Affix the protective tape to the position shown in the figure to prevent scratches and damage.



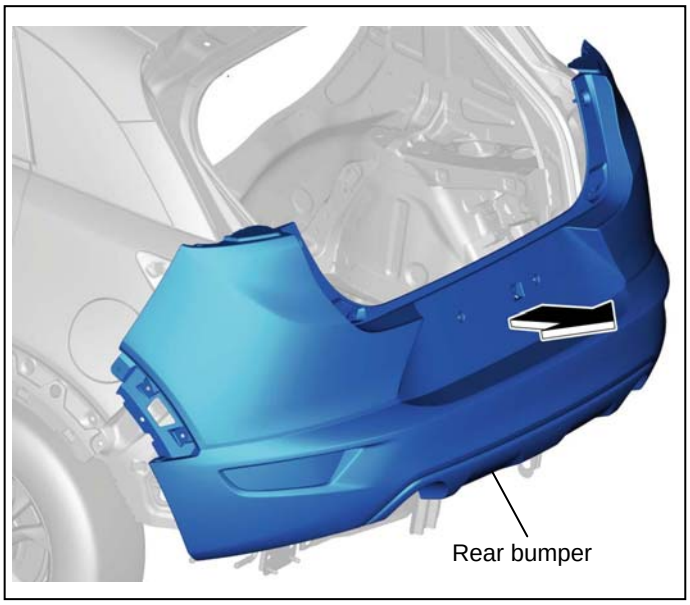
5. Detach the rear bumper from the rear bumper slider while holding the rear end of the rear bumper, moving it in the direction of the arrows shown in the figure, and detaching the hooks.

⚠ CAUTION

- Detach the rear bumper hooks from the rear bumper slider using two people, one person supports the rear bumper. If the rear bumper hooks are detached from the rear bumper without supporting the rear bumper, it may fall off and be damaged.
- 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.



6. Lift the rear bumper in the direction of the arrow shown in the figure and pull the rear bumper from the pin.



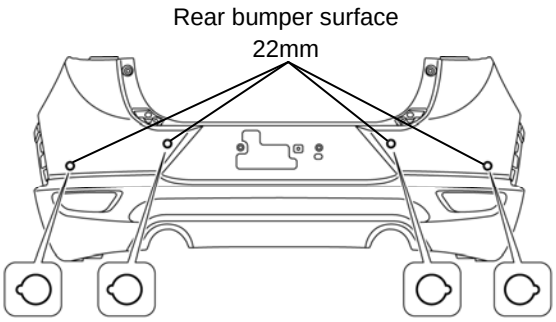
7. Remove the rear bumper by moving it in the direction of the arrow shown in the figure.

6. INSTALLATION OF SENSOR, CONTROL UNIT AND BUZZER

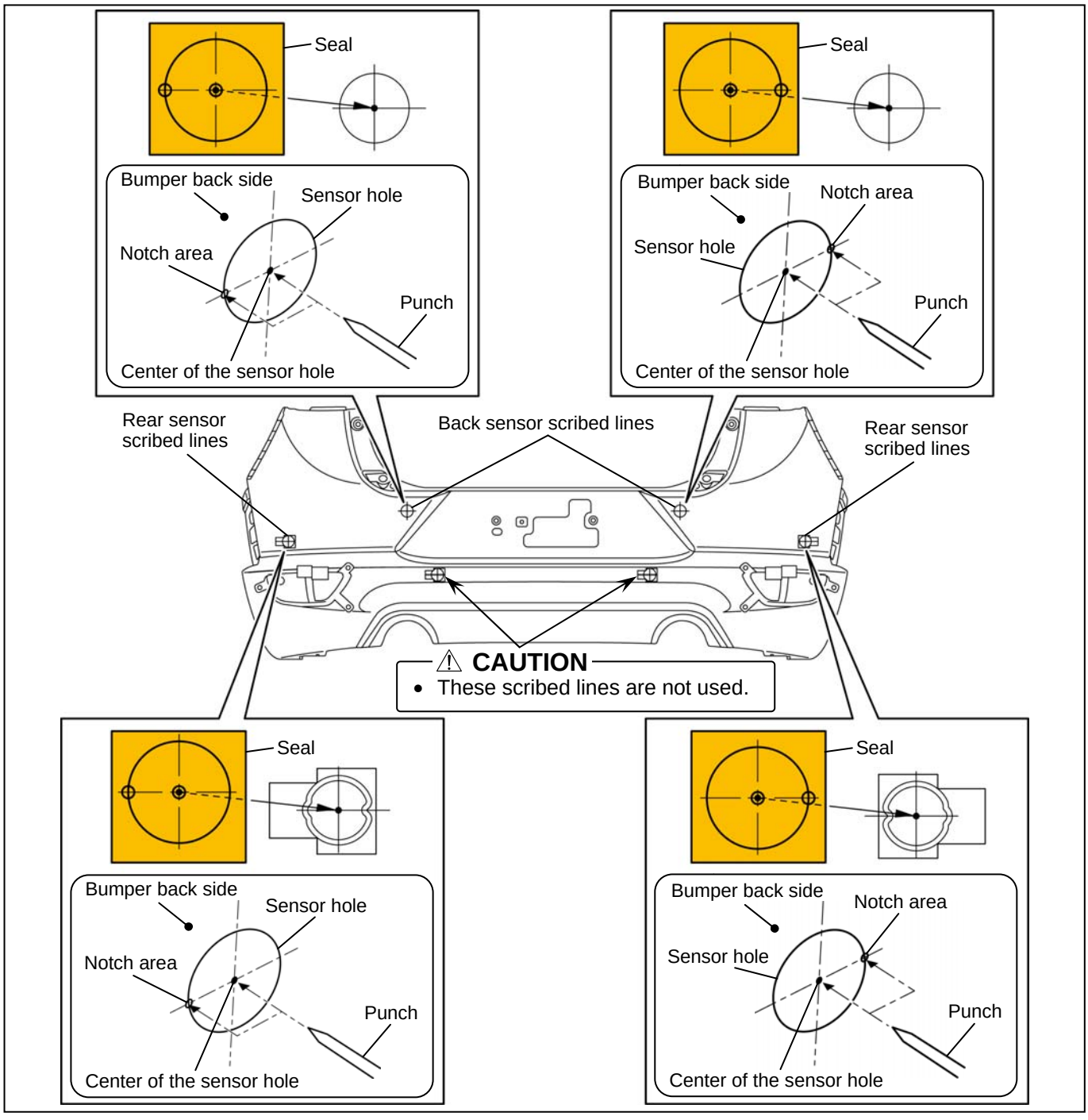
■ Sensor installation

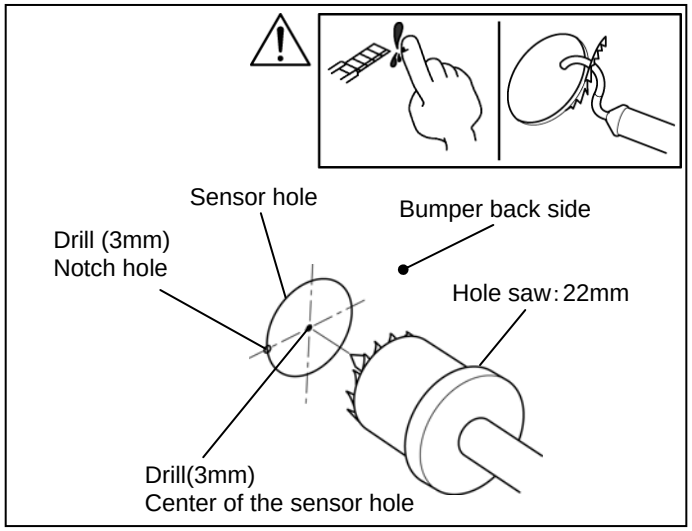
Note

- Installation view



1. Align the seal included with the kit to the center of the crosshairs on the backside of the rear bumper, and mark the center of the seal and the center of the notch drilling hole using a punch.



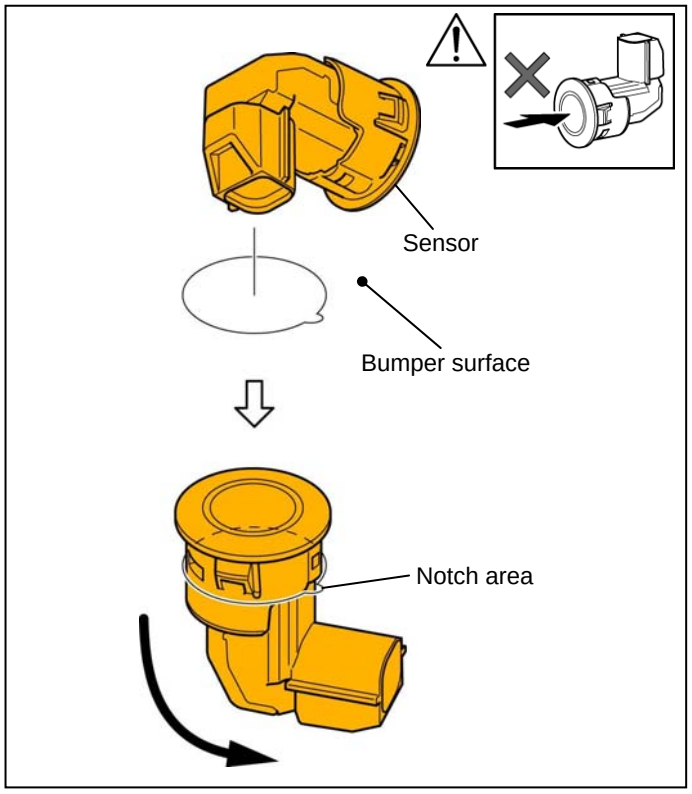


2. Set the drill rotation to low speed.

⚠ CAUTION

- Always use a drill with a rotation speed adjustment, otherwise the rear bumper may deform.
- Make sure to remove burrs. If any burrs remain on the bumper, the bumper will be deformed.

3. With the drill bit pointed perpendicular to the bumper, drill 3mm holes in the marked positions.
    - 3mm hole (2 locations for each sensor)
4. Drill a hole in the center of each sensor hole using a hole saw 22mm.

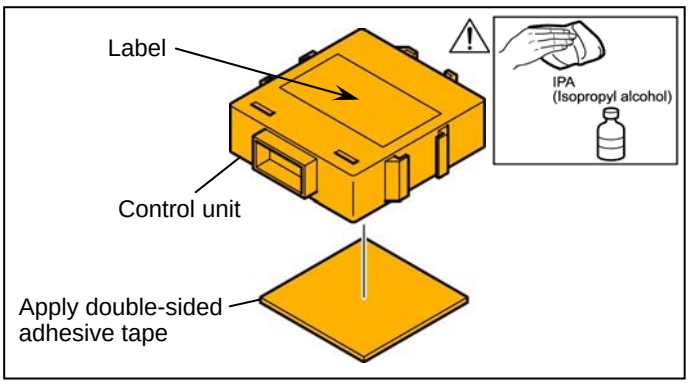


5. Hold the outer circumference of the sensor, align the sensor projection with the notch on the bumper surface, insert the sensor into the hole slowly, and press it in the bumper to secure.

⚠ CAUTION

- After installing, make sure the sensors are securely pressed into the rear bumper.
- If the center part of a sensor is pressed, it could result in a malfunction. Press the outer circumference of the sensor and install it to the bumper.

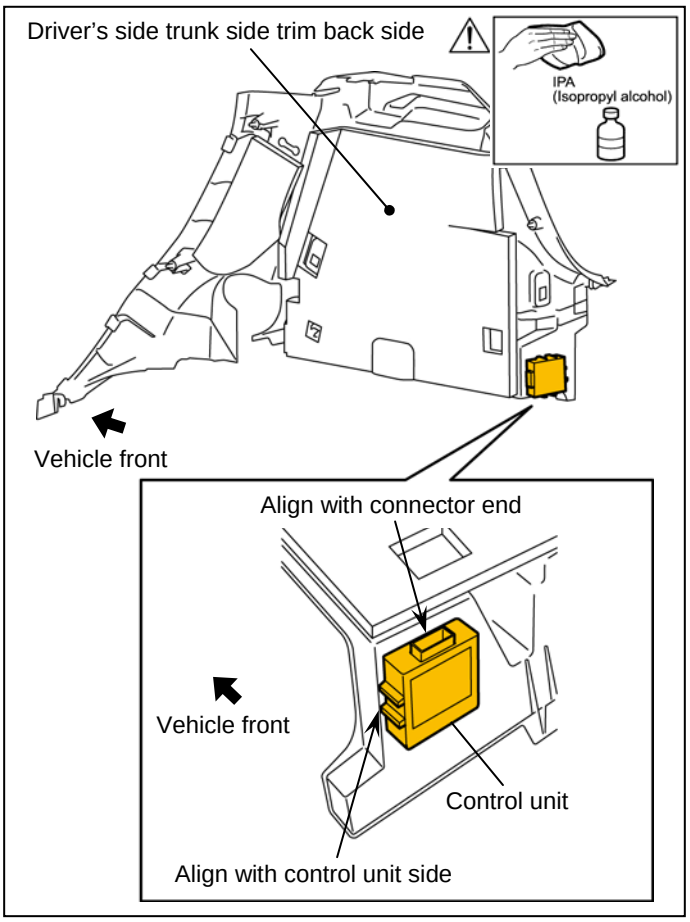
■ Control unit installation



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

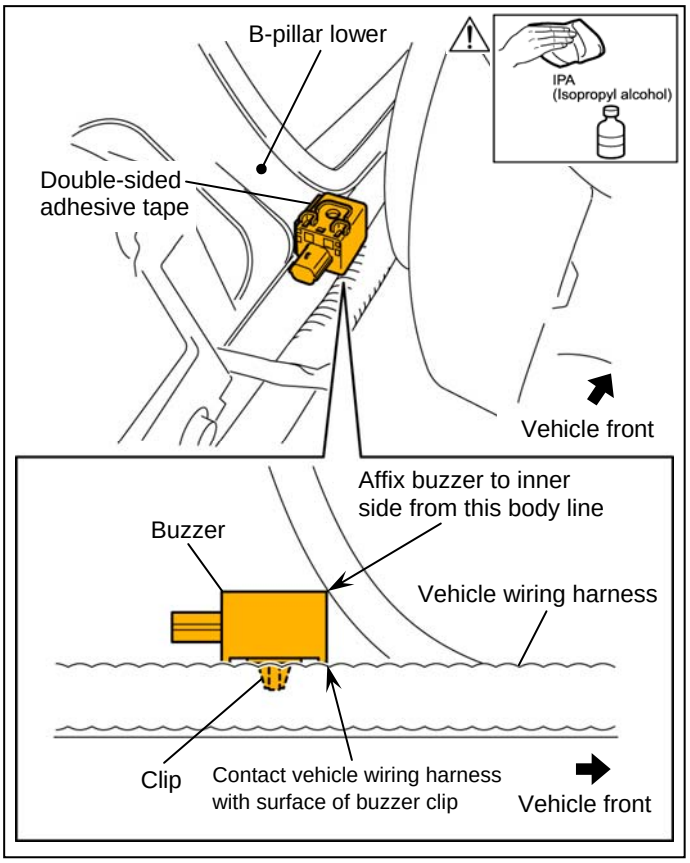
⚠ CAUTION

- Always apply the double-sided adhesive tape to the underside of the control unit (opposite to side on which label is adhered)



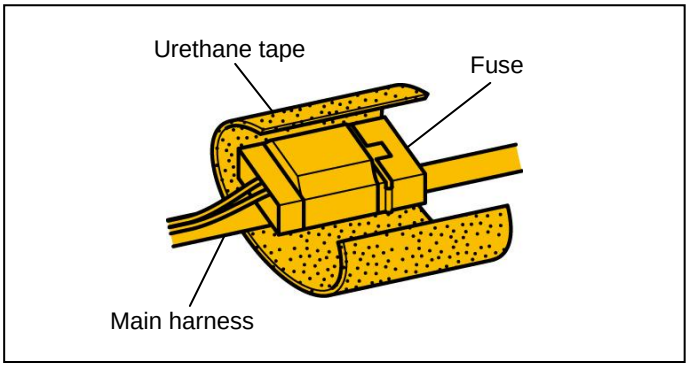
2. Degrease with IPA (isopropyl alcohol) and apply primer.
3. Peel off the paper backing of the double-sided adhesive tape and affix the control unit to the driver's side trunk side trim.

■ Buzzer installation



1. Apply the double-sided adhesive tape to the buzzer side.
2. Secure the buzzer to the body panel in the LH side B-pillar lower trim as shown in the figure.

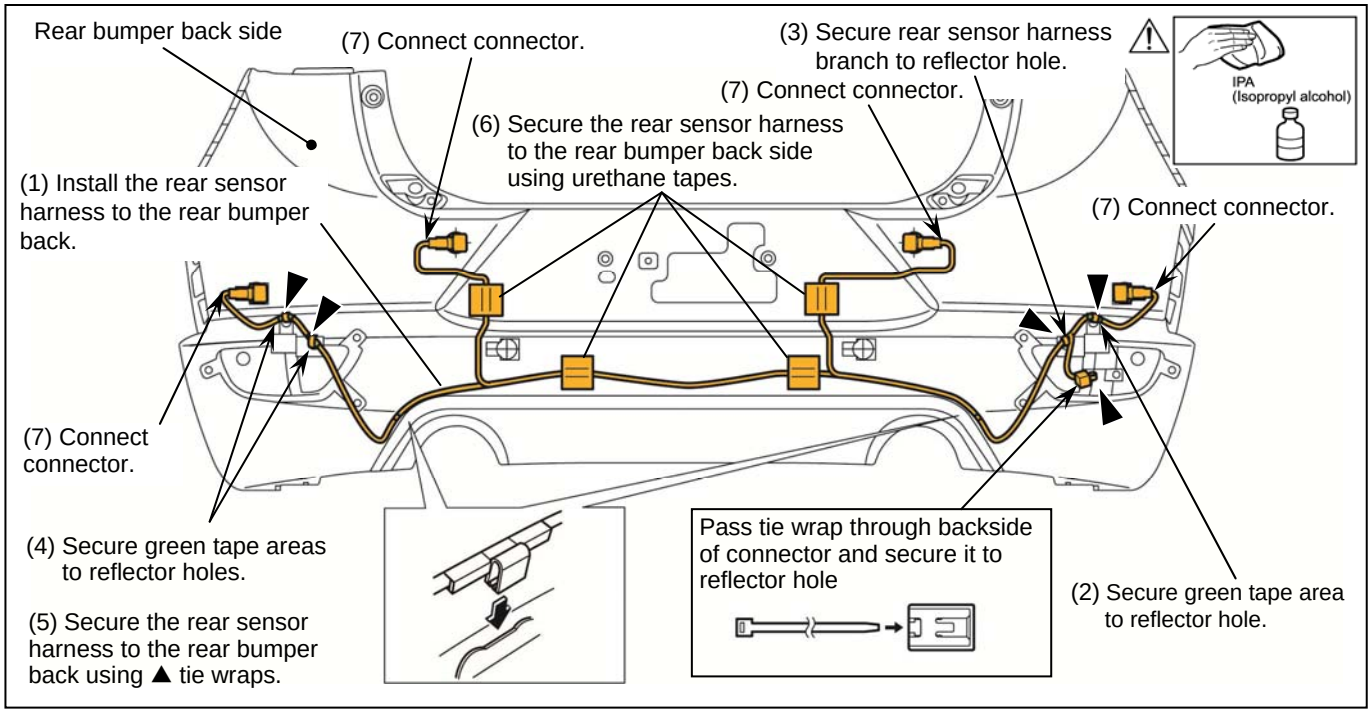
■ Prevention of abnormal noise occurrence



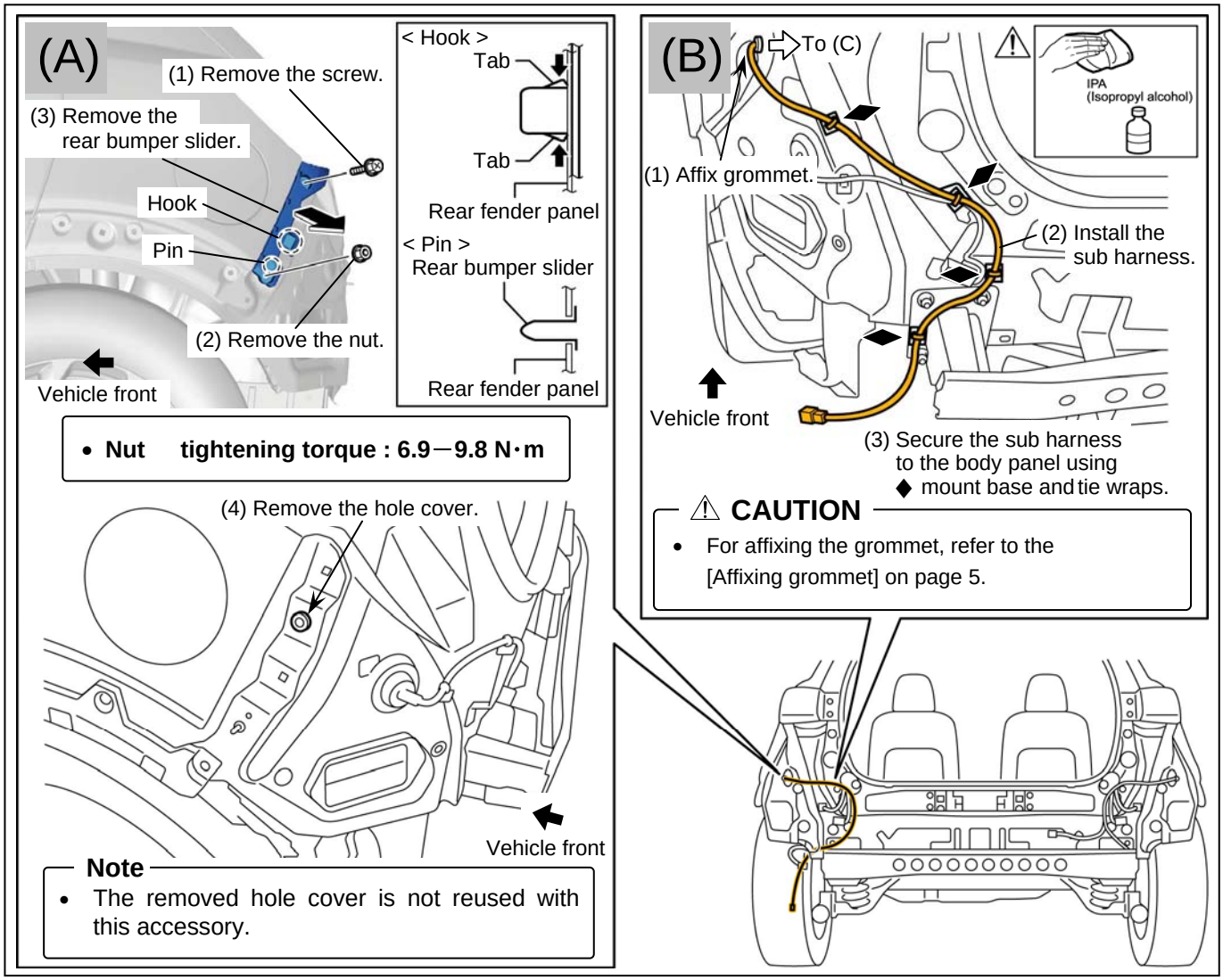
1. Wrap the fuse of the main wiring harness with a piece of urethane tape.

7. INSTALLATION OF THE HARNESS

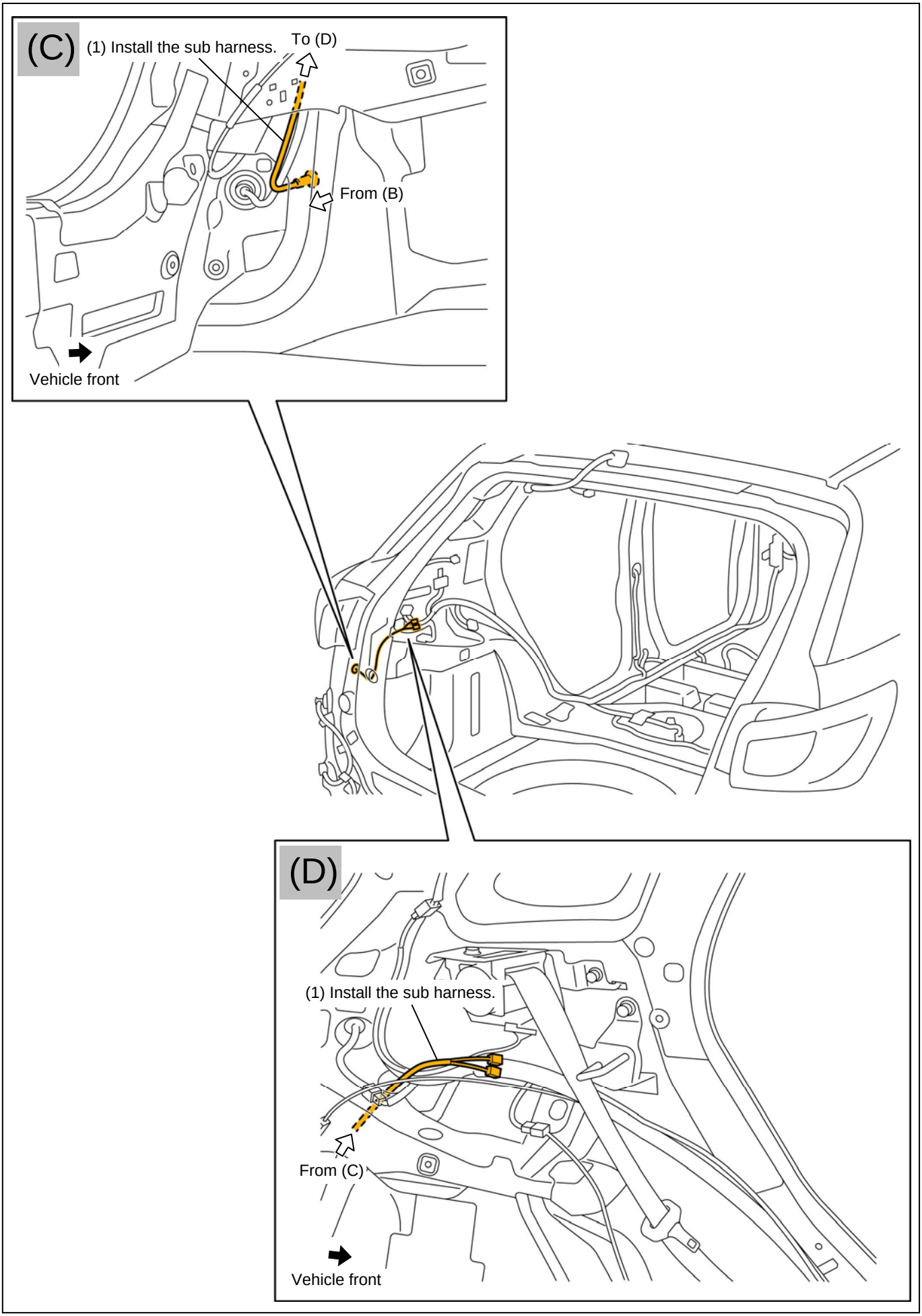
[Rear sensor harness]



[Sub harness]



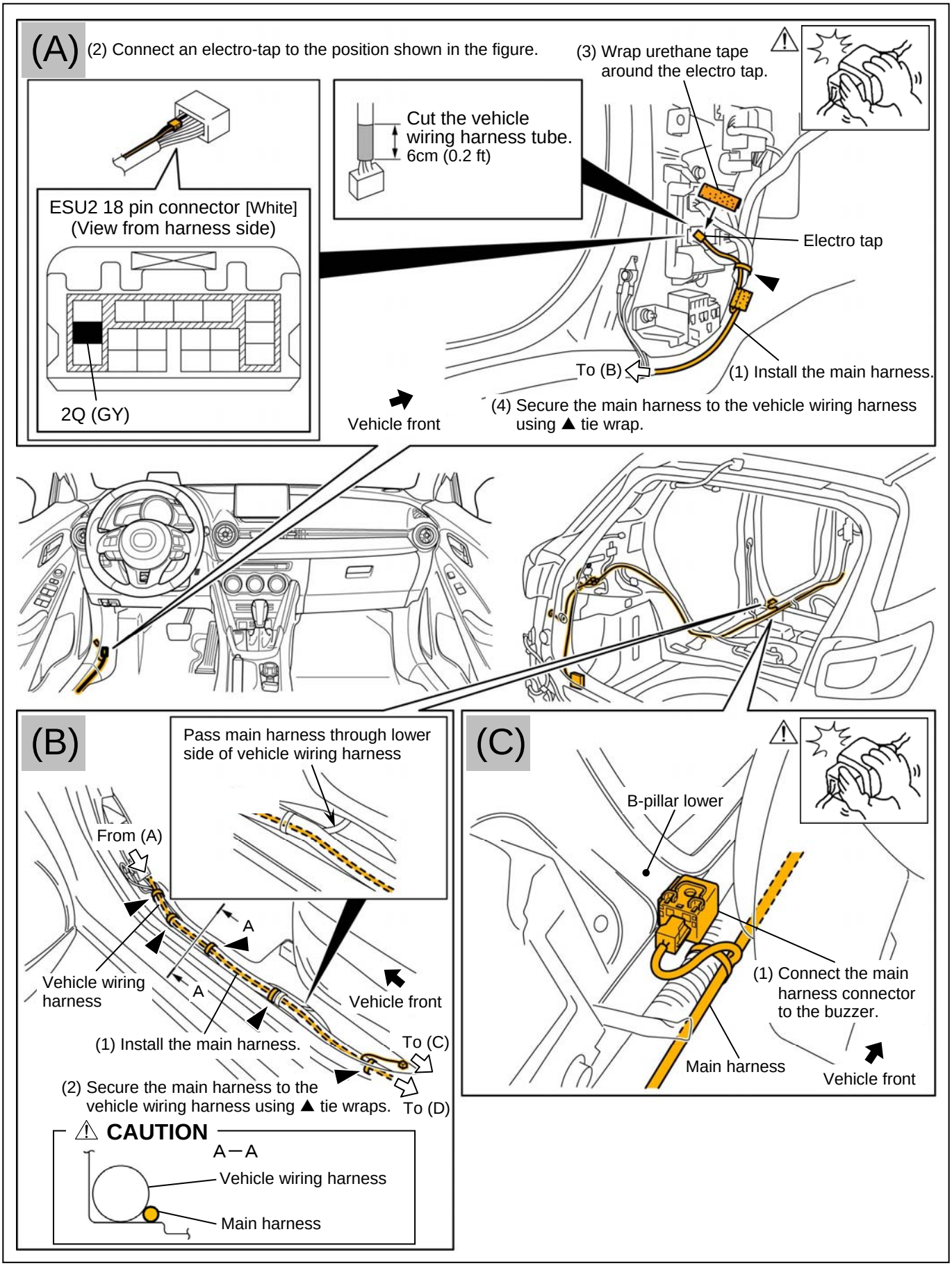
[Sub harness]


(C)
(1) Install the sub harness.
To (D)
From (B)
Vehicle front
(D)
(1) Install the sub harness.
From (C)
Vehicle front

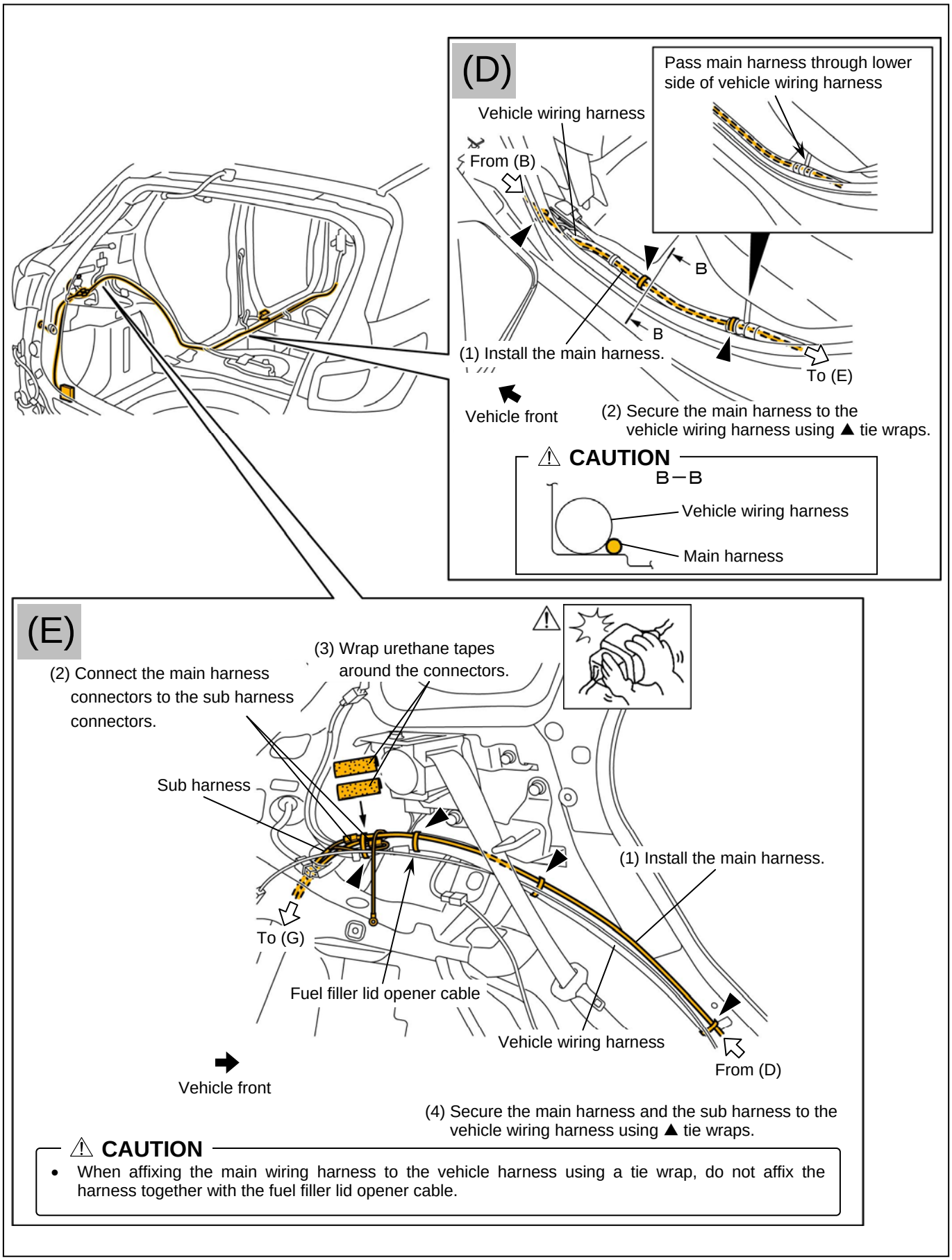
[Main harness]

⚠ CAUTION

- Connect an electro-tap for the main harness to the indicated signal line securely. Misconnection may cause a system or vehicle malfunction.



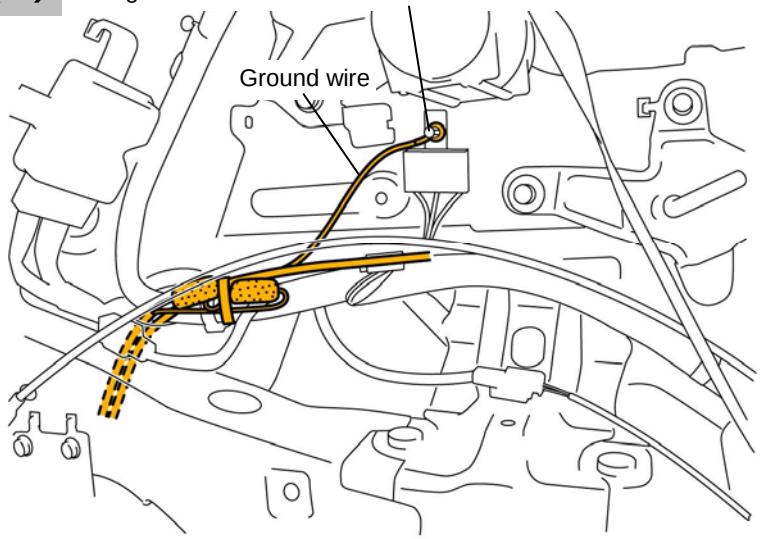
[Main harness]



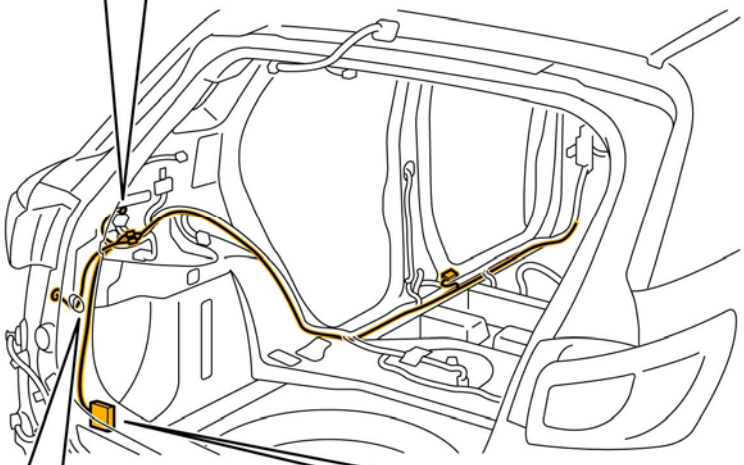
[Main harness]

(F)

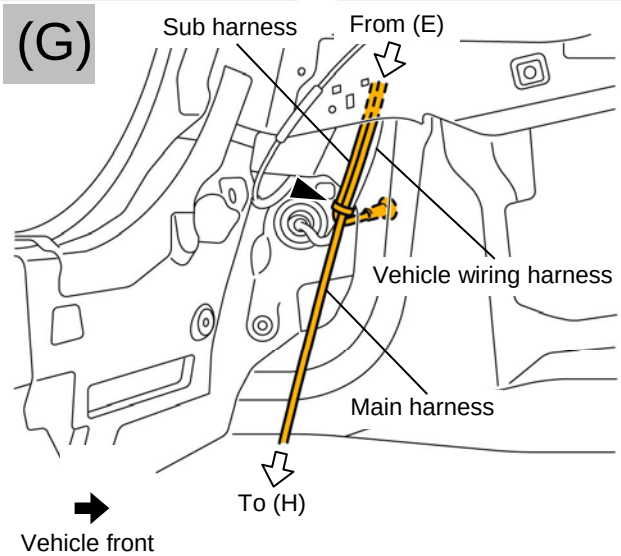
(1) Tighten the main harness ground wire together with the ground bolt on the vehicle left side.



- **Ground bolt tightening torque : 8.8－12.7 N·m**



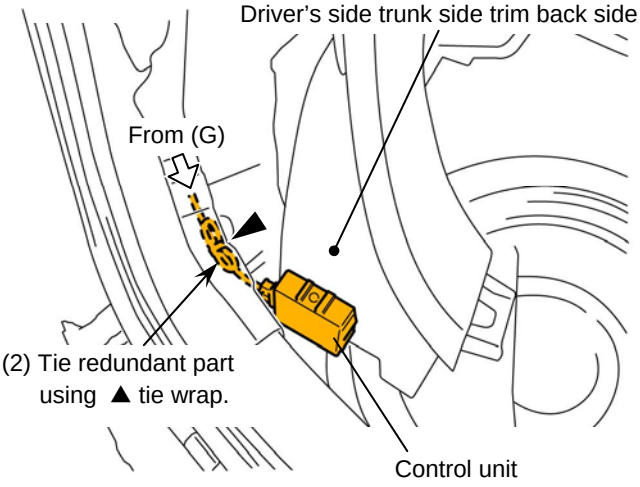
(G)



(1) Secure the main harness and the sub harness to the vehicle wiring harness using ▲ tie wrap.

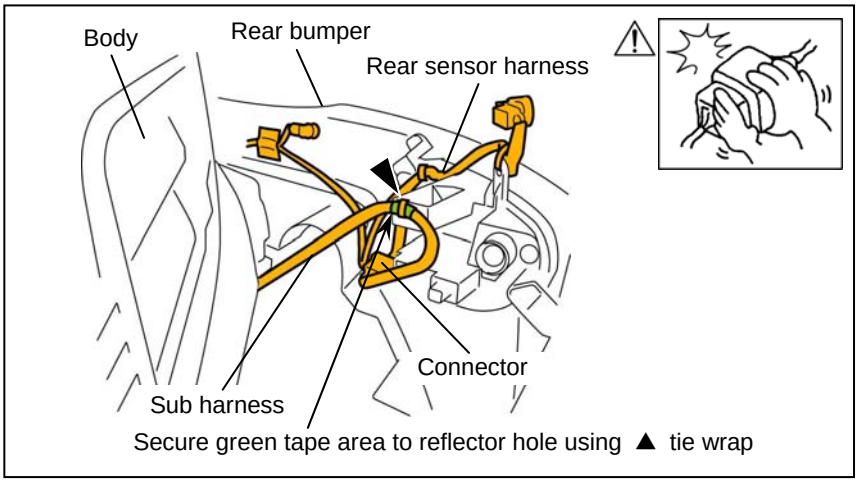
(H)

(1) Connect the main harness connector to the control unit when reinstalling the trunk side trim.



8. OPERATION CHECK

1. Install the rear bumper slider and reinstall the removed vehicle parts in the reverse order of “VEHICLE PARTS REMOVAL”.
   - Connect the rear sensor wiring harness to the sub-wiring harness.



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.

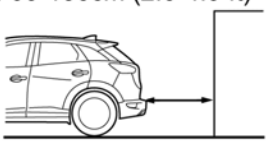
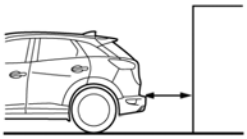
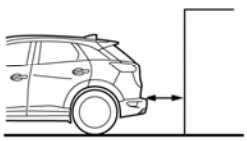
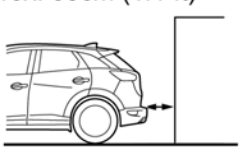
9. OPERATION CONDITION

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

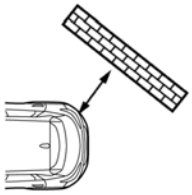
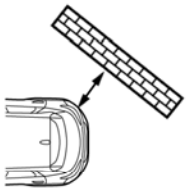
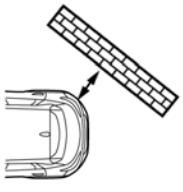
・ Alarm (beeper) sound

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

◇Back sensor

Distance between vehicle and obstruction	Beeper sound*
Approx. 60-150cm (2.0-4.9 ft) 	Slow intermittent sound
Approx. 45-60cm (1.5-2.0 ft) 	Medium intermittent sound
Approx. 35-45cm (1.1-1.5 ft) 	Fast intermittent sound
Within approx. 35cm (1.1 ft) 	Continuous sound

◇ Rear corner sensor

Distance between vehicle and obstruction	Beeper sound*
Approx. 38-55cm (1.2-1.8 ft) 	Medium intermittent sound
Approx. 25-38cm (0.8-1.2 ft) 	Fast intermittent sound
Within approx. 25cm (0.8 ft) 	Continuous sound

* The rate at which the intermittent sound beeps increases as the vehicle approaches the obstruction.

10. TROUBLESHOOT

Malfunction symptom	Inspection	Action
Alarm sound (buzzer) does not activate even though there is an obstruction around the sensor.	Is the ignition switched ON?	Switch the ignition ON.
	Is each part connected correctly? (Each connector, reverse signal line, ground terminal)	Connect each part correctly.
	Is there a device generating ultrasonic waves near the vehicle? (Air compressor, high-pressure car washer, impact wrench, or electric drill)	Take the device away from the ultrasonic wave generation source.
	Is the shift lever in the R position?	Shift the shift lever to the R position.
Alarm sound (buzzer) activates even though there is no obstruction around the sensor.	Is the ground detected? * If beep sound stops after placing cardboard on the ground, the ground may be detected.	Install the sensor correctly.