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EXT

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

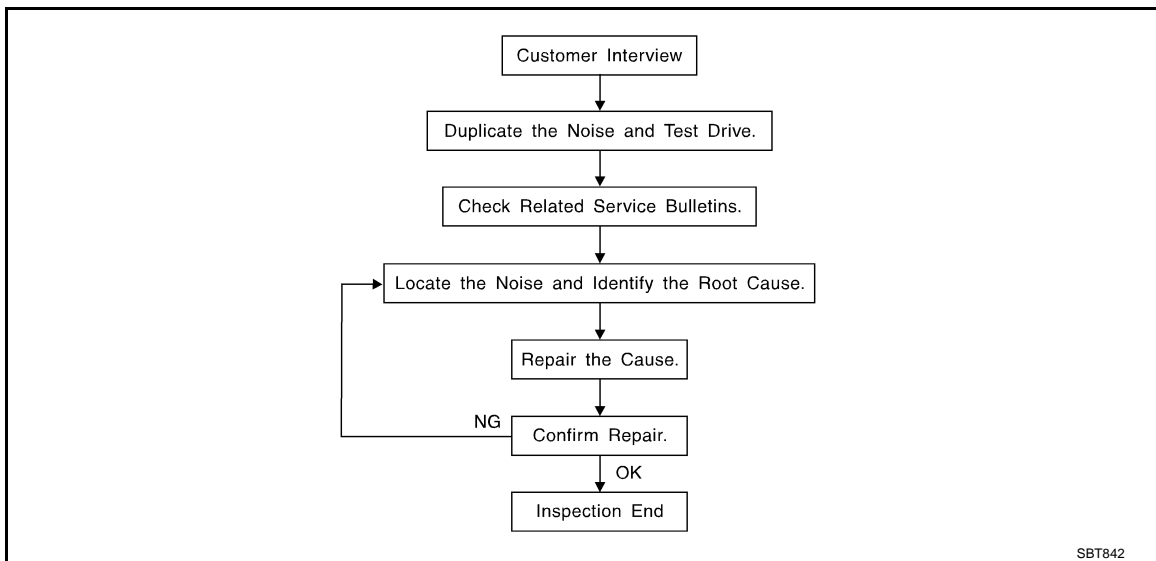
< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### SQUEAK AND RATTLE TROUBLE DIAGNOSES

#### Work Flow

INFOID:000000004466886



#### CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any of customer's comments; refer to [EXT-6, "Diagnostic Worksheet"](#). This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, perform a diagnosis and repair the noise that the customer is concerned about. This can be accomplished by performing a cruise test on the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak – (Like tennis shoes on a clean floor)  
Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping
- Creak – (Like walking on an old wooden floor)  
Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle – (Like shaking a baby rattle)  
Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock – (Like a knock on a door)  
Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick – (Like a clock second hand)  
Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump – (Heavy, muffled knock noise)  
Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz – (Like a bumblebee)  
Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending up on the person. A noise that a technician may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

#### DUPLICATE THE NOISE AND TEST DRIVE

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when the repair is reconfirmed.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
  - 2) Tap or push/pull around the area where the noise appears to be coming from.
  - 3) Rev the engine.
  - 4) Use a floor jack to recreate vehicle "twist".
  - 5) At idle, apply engine load (electrical load, half-clutch on M/T models, drive position on A/T models).
  - 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
  - If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

## CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

## LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis ear: J-39570, Engine ear and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
  - Removing the components in the area that is are suspected to be the cause of the noise.  
Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
  - Tapping or pushing/pulling the component that is are suspected to be the cause of the noise.  
Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
  - Feeling for a vibration by hand by touching the component(s) that is are suspected to be the cause of the noise.
  - Placing a piece of paper between components that are suspected to be the cause of the noise.
  - Looking for loose components and contact marks.  
Refer to [EXT-4. "Inspection Procedure"](#).

## REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
  - Separate components by repositioning or loosening and retightening the component, if possible.
  - Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through the authorized Nissan Parts Department.

### CAUTION:

**Never use excessive force as many components are constructed of plastic and may be damaged.**

### NOTE:

Always check with the Parts Department for the latest parts information.

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100 × 135 mm (3.94 × 5.31 in)/76884-71L01: 60 × 85 mm (2.36 × 3.35 in)/76884-71L02: 15 × 25 mm (0.59 × 0.98 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50 × 50 mm (1.97 × 1.97 in)/73982-

50Y00: 10 mm (0.39 in) thick, 50 × 50 mm (1.97 × 1.97 in)

INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick, 30 × 50 mm (1.18 × 1.97in)

FELT CLOTHTAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

68370-4B000: 15 × 25 mm (0.59 × 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll

The following materials, not found in the kit, can also be used to repair squeaks and rattles.

### UHMW (TEFLON) TAPE

Insulates where slight movement is present. Ideal for instrument panel applications.

### SILICONE GREASE

Used in place of UHMW tape that is be visible or does not fit. Will only last a few months.

### SILICONE SPRAY

Used when grease cannot be applied.

### DUCT TAPE

Used to eliminate movement.

## CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

## Inspection Procedure

INFOID:000000004466887

Refer to Table of Contents for specific component removal and installation information.

## INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicon spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

### **CAUTION:**

**Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the recheck of repair becomes impossible.**

## CENTER CONSOLE

Components to pay attention to include:

1. Shifter assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

## DOORS

Pay attention to the following:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.

## TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer.

In addition look for the following:

1. Trunk lid dumpers out of adjustment
2. Trunk lid striker out of adjustment

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

3. The trunk lid torsion bars knocking together

4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

## SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise

2. Sunvisor shaft shaking in the holder

3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

## SEATS

When isolating seat noise it's important to note the position the seats in and the load placed on the seat when the noise occurs. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

1. Headrest rods and holder

2. A squeak between the seat pad cushion and frame

3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

## UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

1. Any component mounted to the engine wall

2. Components that pass through the engine wall

3. Engine wall mounts and connectors

4. Loose radiator mounting pins

5. Hood bumpers out of adjustment

6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## Diagnostic Worksheet

INFOID:000000004466937



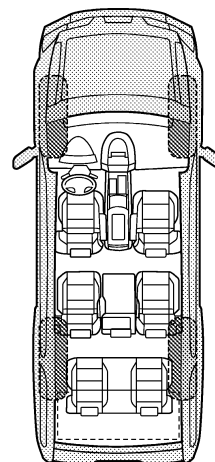
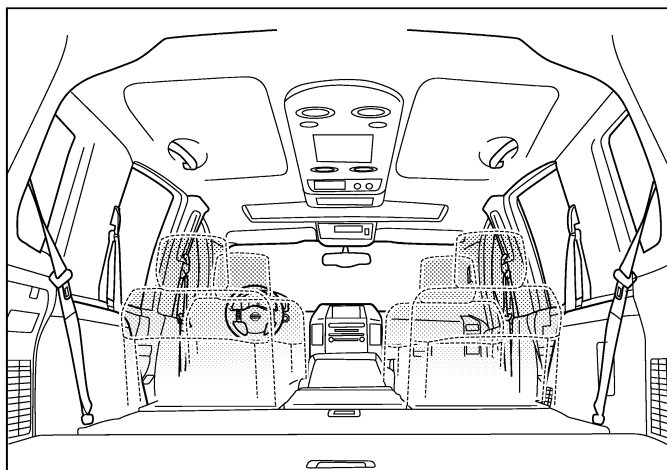
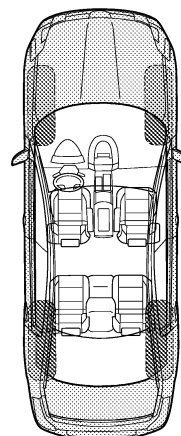
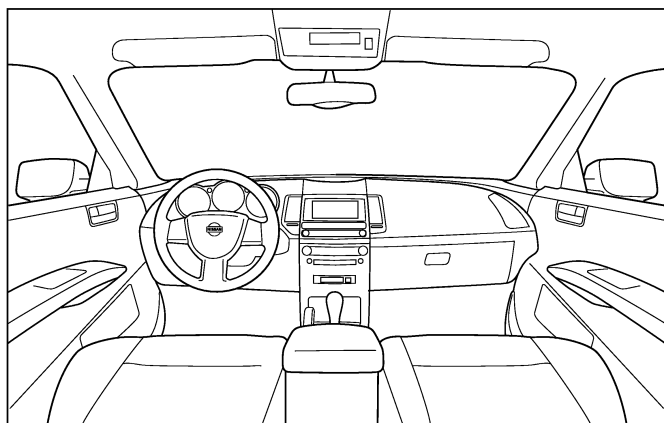
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Nissan Customer:

We are concerned about your satisfaction with your Nissan vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Nissan right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

#### I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

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# SQUEAK AND RATTLE TROUBLE DIAGNOSES

< SYMPTOM DIAGNOSIS >

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

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---

### II. WHEN DOES IT OCCUR? (please check the boxes that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> anytime                      | <input type="checkbox"/> after sitting out in the rain |
| <input type="checkbox"/> 1st time in the morning      | <input type="checkbox"/> when it is raining or wet     |
| <input type="checkbox"/> only when it is cold outside | <input type="checkbox"/> dry or dusty conditions       |
| <input type="checkbox"/> only when it is hot outside  | <input type="checkbox"/> other:                        |

### III. WHEN DRIVING:

- ☐ through driveways
- ☐ over rough roads
- ☐ over speed bumps
- ☐ only about \_\_\_\_ mph
- ☐ on acceleration
- ☐ coming to a stop
- ☐ on turns: left, right or either (circle)
- ☐ with passengers or cargo
- ☐ other: \_\_\_\_\_
- ☐ after driving \_\_\_\_ miles or \_\_\_\_ minutes

### IV. WHAT TYPE OF NOISE

- ☐ squeak (like tennis shoes on a clean floor)
- ☐ creak (like walking on an old wooden floor)
- ☐ rattle (like shaking a baby rattle)
- ☐ knock (like a knock at the door)
- ☐ tick (like a clock second hand)
- ☐ thump (heavy, muffled knock noise)
- ☐ buzz (like a bumble bee)

### TO BE COMPLETED BY DEALERSHIP PERSONNEL

#### Test Drive Notes:

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	YES	NO	Initials of person performing
Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

VIN: \_\_\_\_\_ Customer Name: \_\_\_\_\_  
W.O.# \_\_\_\_\_ Date: \_\_\_\_\_

This form must be attached to Work Order

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# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000004466889

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIRBAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIRBAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors while ignition switch is ON or engine is running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration may activate the sensor(s), deploy the airbag(s), possibly cause serious injury. When using air or electric power tools or hammers, always turn OFF ignition switch, disconnect the battery, and wait 3 minutes or more before performing any service.

#### Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:000000004466890

#### **NOTE:**

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Turn the push-button ignition switch to ACC position.  
(At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.



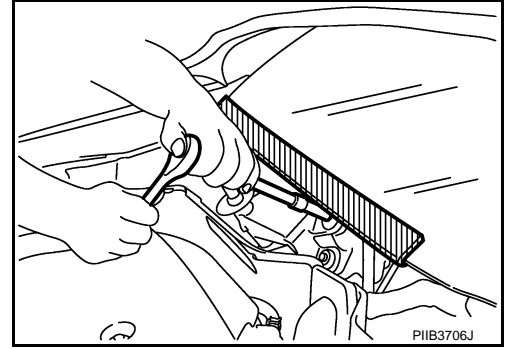
# PRECAUTIONS

## < PRECAUTION >

### Precaution for Procedure without Cowl Top Cover

INFOID:000000004466891

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



### Precaution for Battery Service

INFOID:000000004678880

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

### Precaution for Work

INFOID:000000004466892

- After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.

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# PREPARATION

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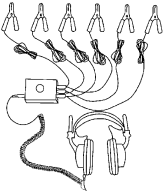
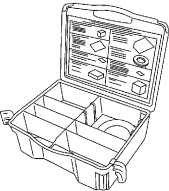
## PREPARATION

### PREPARATION

#### Special Service Tools

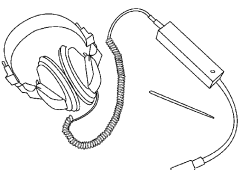
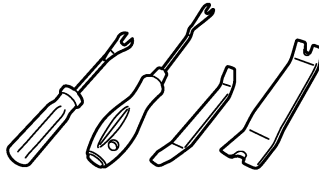
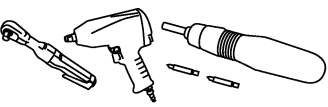
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
(J-39570) Chassis ear  SIIA0993E	Locates the noise
(J-43980) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairs the cause of noise

#### Commercial Service Tools

INFOID:000000004466894

Tool name	Description
Engine ear  SIIA0995E	Locates the noise
Remover tool  JMKIA3050ZZ	Removes clips, pawls, and metal clips
Power tool  PIIB1407E	

# FRONT BUMPER

< ON-VEHICLE REPAIR >

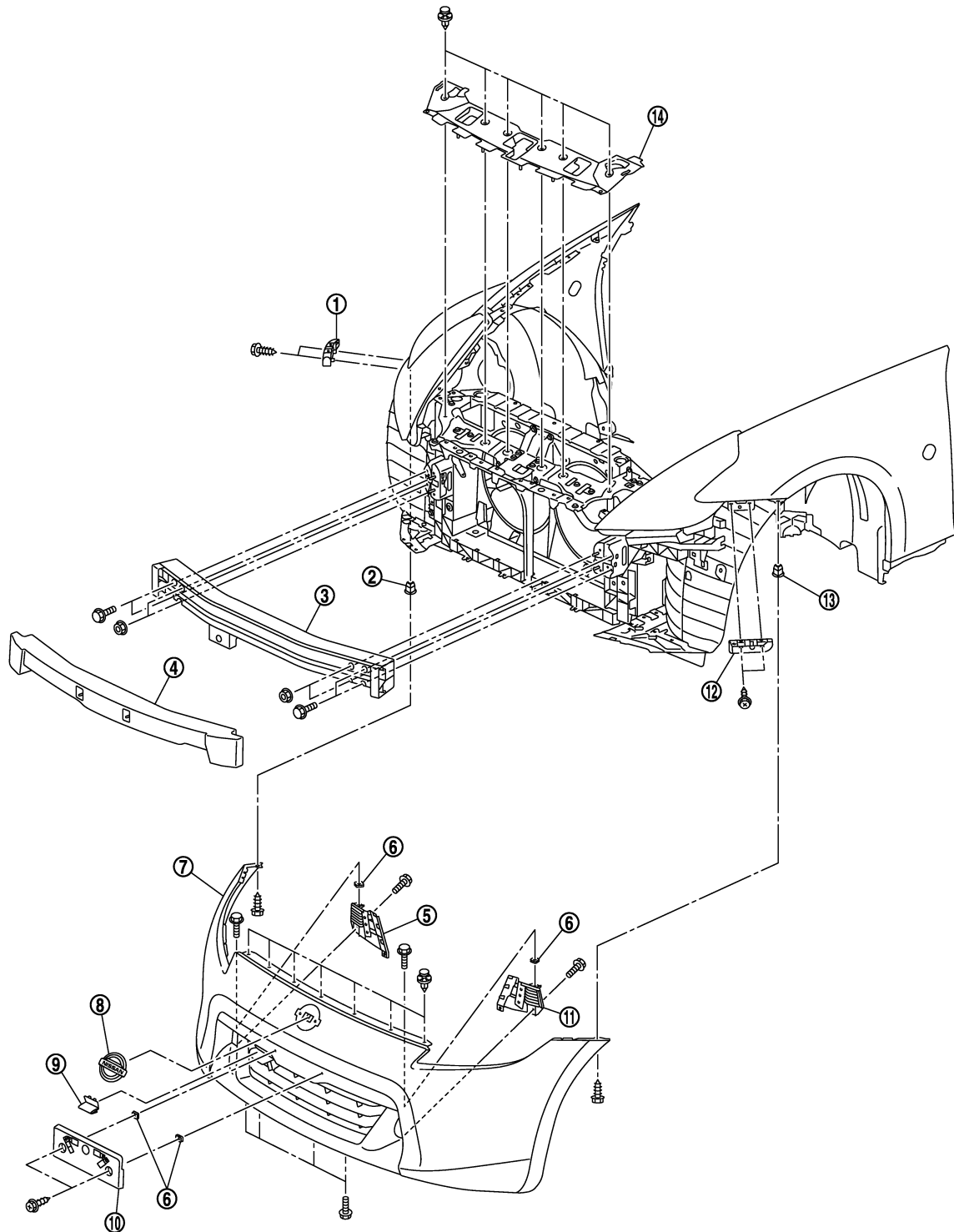
## ON-VEHICLE REPAIR

### FRONT BUMPER

Exploded View

INFOID:000000004466895

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JMKIA3464ZZ

# FRONT BUMPER

## < ON-VEHICLE REPAIR >

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|----------------------------|----------------------------------|---------------------------|
| 1. Bumper side bucket RH   | 2. Bumper side grommet RH        | 3. Bumper reinforcement   |
| 4. Energy absorber         | 5. Bumper sight shield RH        | 6. Spring nut             |
| 7. Bumper fascia assembly  | 8. Front emblem                  | 9. Bumper finisher        |
| 10. License plate bracket  | 11. Bumper sight shield LH       | 12. Bumper side bucket LH |
| 13. Bumper side grommet LH | 14. Bumper center upper finisher |                           |

## Removal and Installation

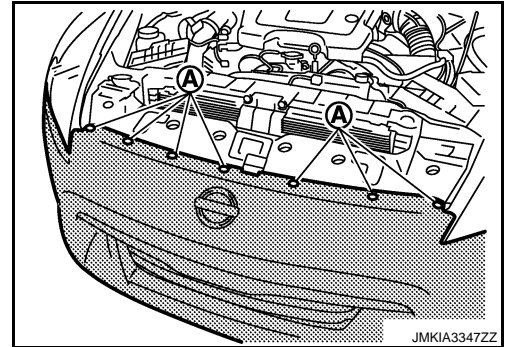
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### REMOVAL

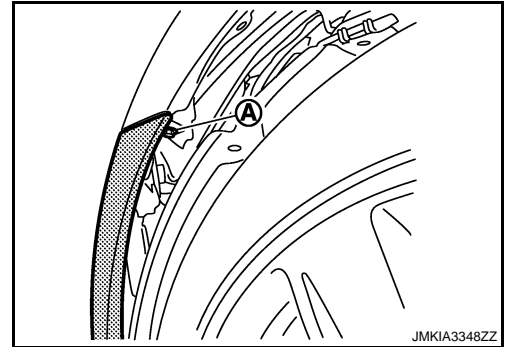
#### CAUTION:

**Bumper fascia is made of resin. Never apply strong force to it, and be careful to prevent contact with oil.**

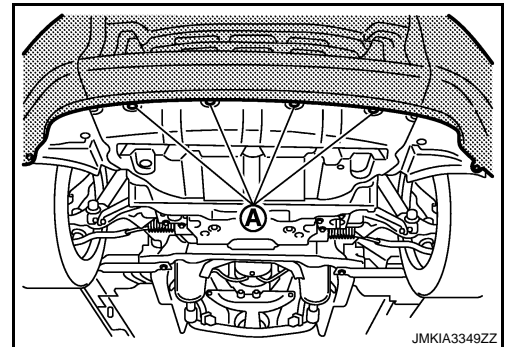
1. Fully open hood assembly.
2. Remove front bumper fascia assembly upper side fixing clips (A).



3. Remove fender protector (front) fixing clips and screws to access bumper fascia assembly fixing screw (A), and then remove bumper fascia fixing screws (LH/RH).




4. Remove bumper fascia assembly fixing bolts (A) from bumper fascia assembly lower side.

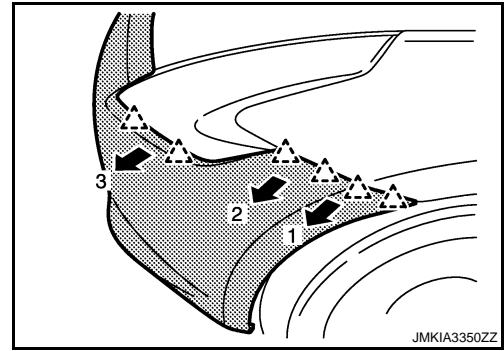


# FRONT BUMPER

## < ON-VEHICLE REPAIR >

- Pull bumper fascia assembly side toward the vehicle side as shown by the arrow in the figure, and then disengage bumper fascia assembly from bumper side brackets (LH/RH).

 : Pawl



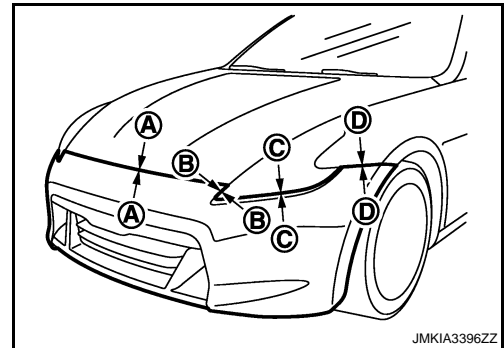
- Remove bumper fascia assembly.  
**CAUTION:**  
**When removing bumper fascia, 2 workers are required so as to prevent it from dropping.**
- Remove the following parts after removing bumper fascia.
  - Bumper sight shields (LH/RH)
  - Bumper finisher
  - Bumper side brackets (LH/RH)
  - Front spoiler. Refer to [EXT-18, "Removal and Installation"](#).
  - License plate bracket
- Remove bumper energy absorber.
- Remove bumper reinforcement mounting nuts and bolts, and then remove bumper reinforcement with power tool.

## INSTALLATION

Install in the reverse order of removal.

### NOTE:

After installing, perform fitting adjustment.



Portion		Clearance	Surface height difference
Front bumper – Hood	A – A	2.9 – 6.9 mm (0.114 – 0.272 in)	–1.0 – 3.0 mm (–0.039 – 0.118 in)
Front bumper – Front combination lamp	B – B	1.8 – 5.2 mm (0.071 – 0.205 in)	—
Front bumper – Front combination lamp	C – C	0.0 – 3.0 mm (0.000 – 0.118 in)	—
Front bumper – Front fender	D – D	0.0 – 0.8 mm (0.000 – 0.031 in)	–0.25 – 1.75 mm (–0.010 – 0.069 in)

# REAR BUMPER

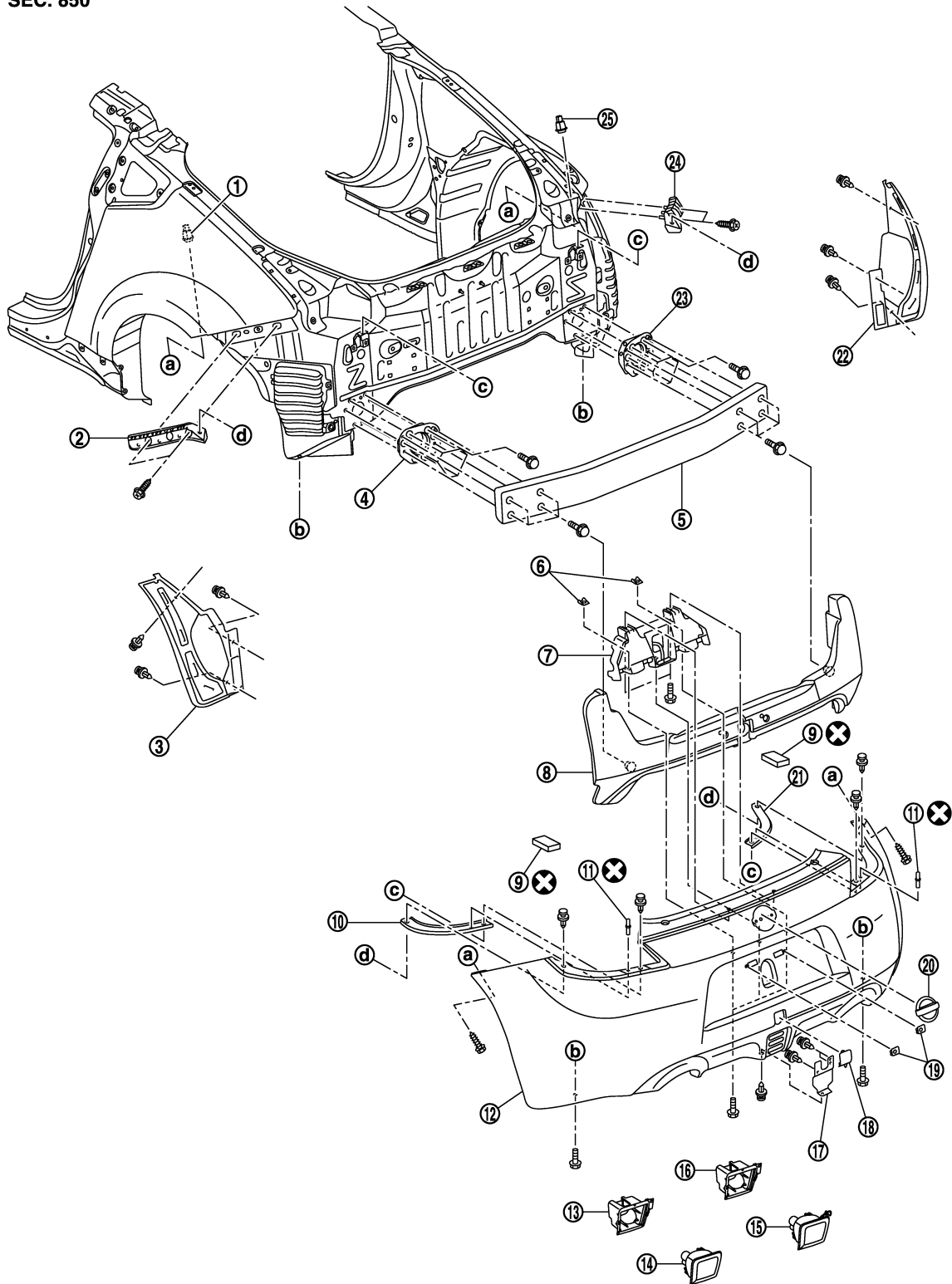
< ON-VEHICLE REPAIR >

## REAR BUMPER

Exploded View

INFOID:000000004466897

SEC. 850



JMKIA3465ZZ

- 1. Bumper side grommet LH
- 4. Bumper stay LH
- 7. License plate lamp bracket

- 2. Bumper side bracket LH
- 5. Bumper reinforcement
- 8. Energy absorber

- 3. Bumper closing LH
- 6. Spring nut
- 9. Bumper spacer

# REAR BUMPER

## < ON-VEHICLE REPAIR >

- |                              |                           |                            |
|------------------------------|---------------------------|----------------------------|
| 10. Bumper brace LH          | 11. Rivet                 | 12. Bumper fascia assembly |
| 13. Reflex reflector bracket | 14. Reflex reflector      | 15. Rear fog lamp          |
| 16. Rear fog lamp bracket    | 17. Bumper lower retainer | 18. Bumper cover           |
| 19. U-nut                    | 20. Rear emblem           | 21. Bumper brace RH        |
| 22. Bumper closing RH        | 23. Bumper stay RH        | 24. Bumper side bracket RH |
| 25. Bumper side grommet RH   |                           |                            |

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation


INFOID:000000004466898

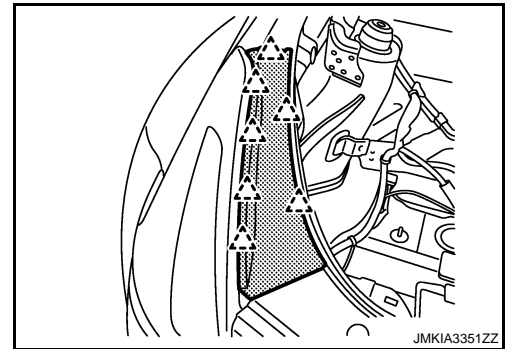
### REMOVAL

#### CAUTION:

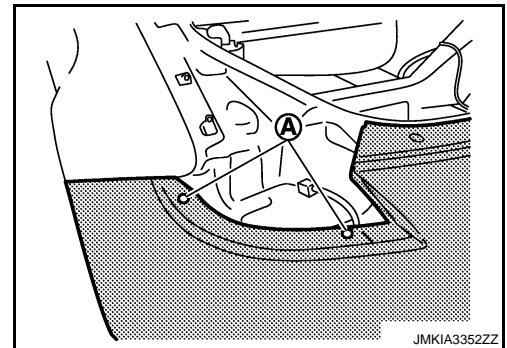
**Bumper fascia is made of resin. Never apply strong force to it, and be careful to prevent contact with oil.**

1. Fully open back door.
2. Remove rear combination lamp finishers (LH/RH).

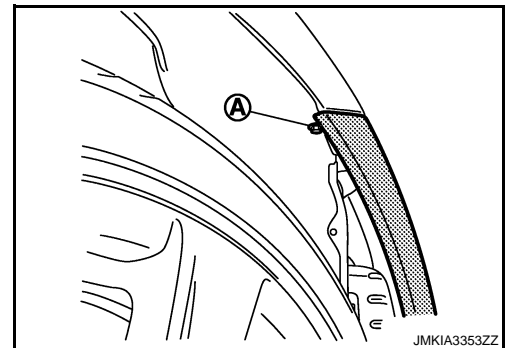
 : Pawl



3. Remove rear combination lamps (LH/RH). Refer to [EXL-167, "Removal and Installation"](#).
4. Remove clips (A) (LH/RH) located under rear combination lamps (LH/RH).



5. Remove bumper closings (LH/RH).
6. Remove bumper fascia assembly fixing screws (A) (LH/RH).




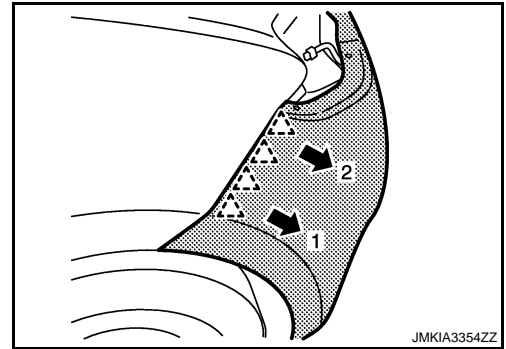
7. Remove bumper fascia assembly fixing clip and screws from bumper fascia assembly lower side.

## REAR BUMPER

### < ON-VEHICLE REPAIR >

8. Pull bumper fascia assembly toward the vehicle out side as shown by the arrows in the figure, and then disengage the bumper fascia assembly from bumper side brackets (LH/RH).

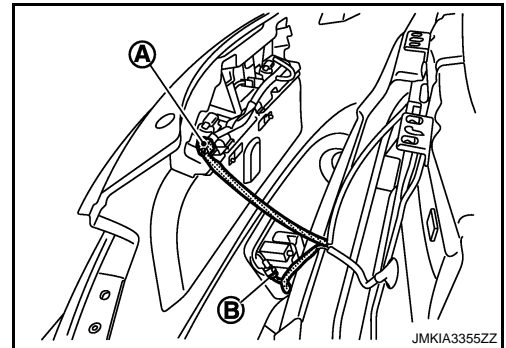
 : Pawl



9. Remove bumper fascia assembly, after disconnect license lamp bracket assembly harness connector (A) and rear fog lamp harness connector (B) (If equipped).

**CAUTION:**

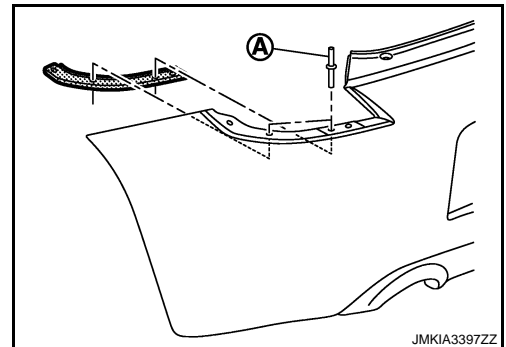
**When removing bumper fascia, 2 workers are required so as to prevent it from dropping and severing harness connectors.**



10. Remove the following parts after removing bumper fascia assembly.

- License lamp bracket
- Rear fog lamp (If equipped)
- Reflector (If equipped)
- Bumper cover
- Drafter ducts (LH/RH)
- Drafter guards (LH/RH)
- Bumper side bracket (LH/RH)
- Bumper spacers
- Bumper brace (LH/RH)

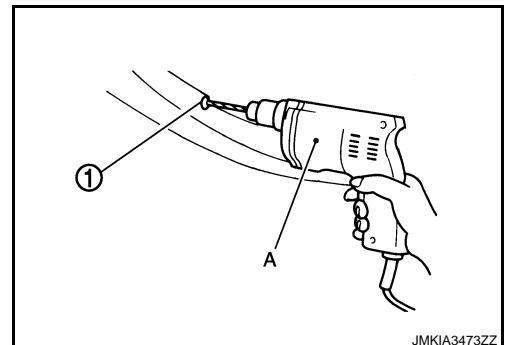
Remove the rivets (A), and then remove the bumper brace from the bumper fascia assembly.



**NOTE:**

Removal of rivet.

Grind the head of rivet (1) with a drill (A) [bit of 4.0 –  $\phi$ 4.5 mm (0.157 –  $\phi$ 0.177 in)] and then remove the bumper brace.





# REAR BUMPER

## < ON-VEHICLE REPAIR >

11. Remove bumper energy absorber.
12. Remove bumper reinforcement mounting nuts and bolts, and then remove bumper reinforcement.
13. Remove bumper stay mounting bolts, and then remove bumper stays (LH/RH).

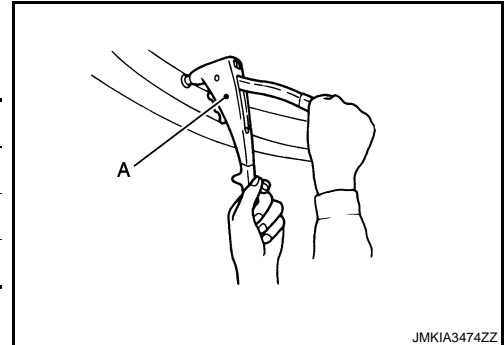
## INSTALLATION

Install in the reverse order of removal.

### NOTE:

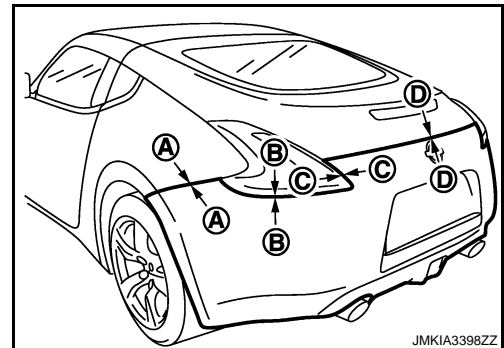
- Securely crimp the bumper brace with the bumper fascia assembly with a hand riveter (A).

Bumper brace	
Crimping thickness	: 1.2 – 6.4 mm (0.047 – 0.252 in)
Prepared hole diameter	: 4.1 – $\phi$ 4.4 mm (0.161 – $\phi$ 0.173 in)
Used rivet head diameter	: $\phi$ 12.0 mm ( $\phi$ 0.472 in)



JMKIA3474ZZ

- After installing, perform fitting adjustment.



JMKIA3398ZZ

Portion		Clearance	Surface height difference
Rear bumper – Rear fender	A – A	0.0 – 0.8 mm (0.000 – 0.031 in)	–0.2 – 1.8 mm (–0.008 – 0.071 in)
Rear bumper – Rear combination lamp	B – B	0.0 – 3.0 mm (0.000 – 0.118 in)	—
Rear bumper – Rear combination lamp	C – C	3.5 – 6.5 mm (0.138 – 0.256 in)	—
Rear bumper – Back door	D – D	3.0 – 7.0 mm (0.118 – 0.276 in)	–1.0 – 3.0 mm (–0.039 – 0.118 in)

EXT

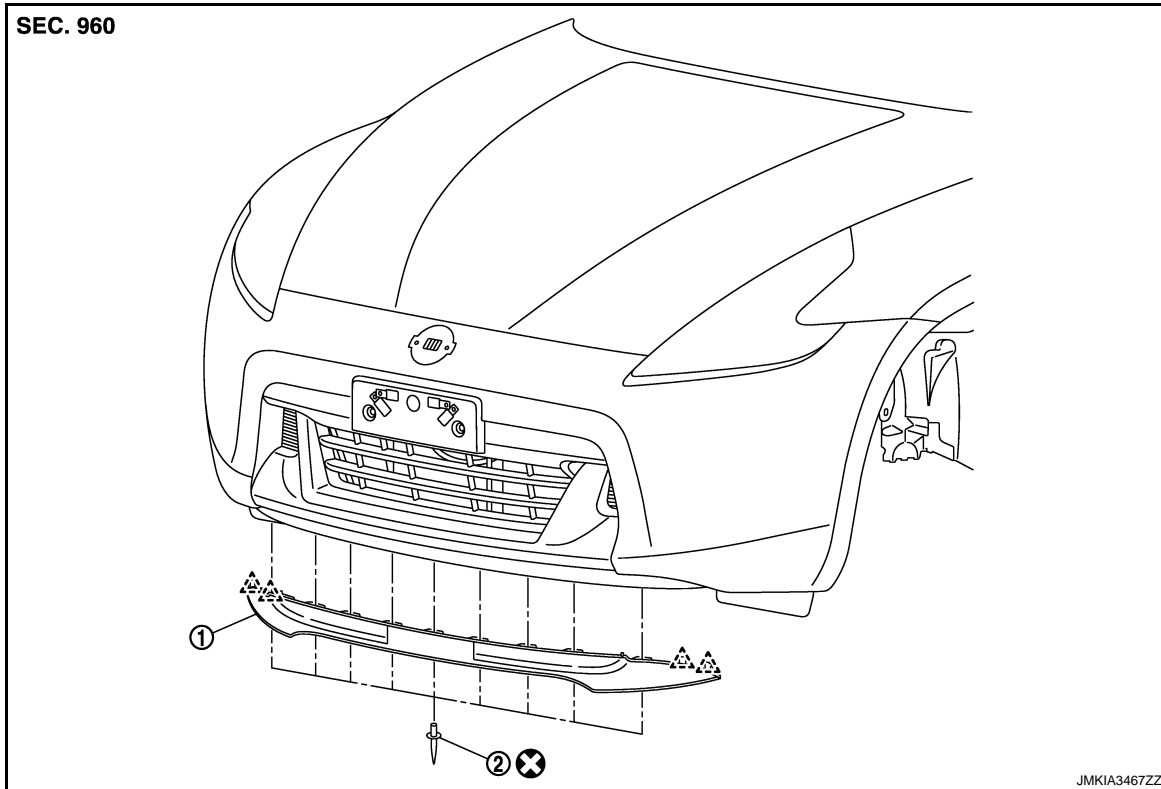
# FRONT SPOILER

< ON-VEHICLE REPAIR >

## FRONT SPOILER

### Exploded View

INFOID:000000004466933



1. Front spoiler assembly

2. Rivet

△ : Pawl

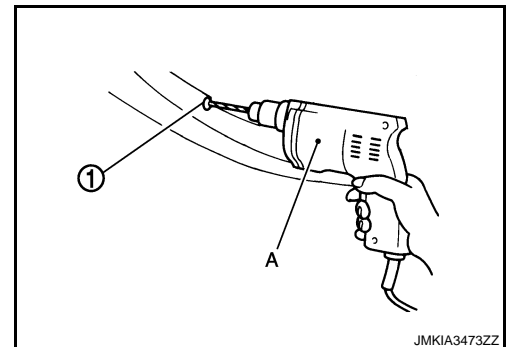
Refer to [GI-4, "Components"](#) for symbols in the figure.

### Removal and Installation

INFOID:000000004466934

#### REMOVAL

1. Lift up the vehicle.
2. Grind the head of rivet (1) with a drill (A) [bit of 4.0 -  $\phi$ 5.0mm (0.157 -  $\phi$ 0.197 in)] and remove the front spoiler.



#### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

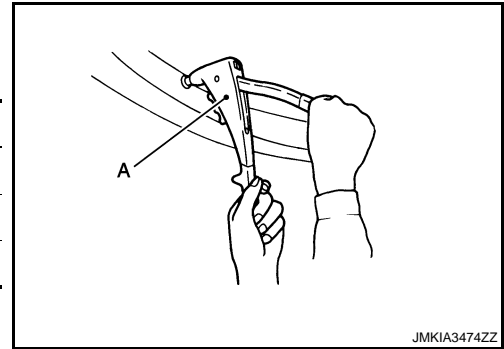
Installation of rivet.

## FRONT SPOILER

### < ON-VEHICLE REPAIR >

Securely crimp the front spoiler with the bumper fascia assembly with a hand riveter (A).

Front spoiler	
Crimping thickness	: 0.5 – 6.4 mm (0.020 – 0.252 in)
Prepared hole diameter	: 5.1 – $\phi$ 5.3 mm(0.201 – $\phi$ 0.209 in)
Used rivet head diameter	: $\phi$ 15.0 mm ( $\phi$ 0.591 in)



A

B

C

D

E

F

G

H

I

J

EXT

L

M

N

O

P

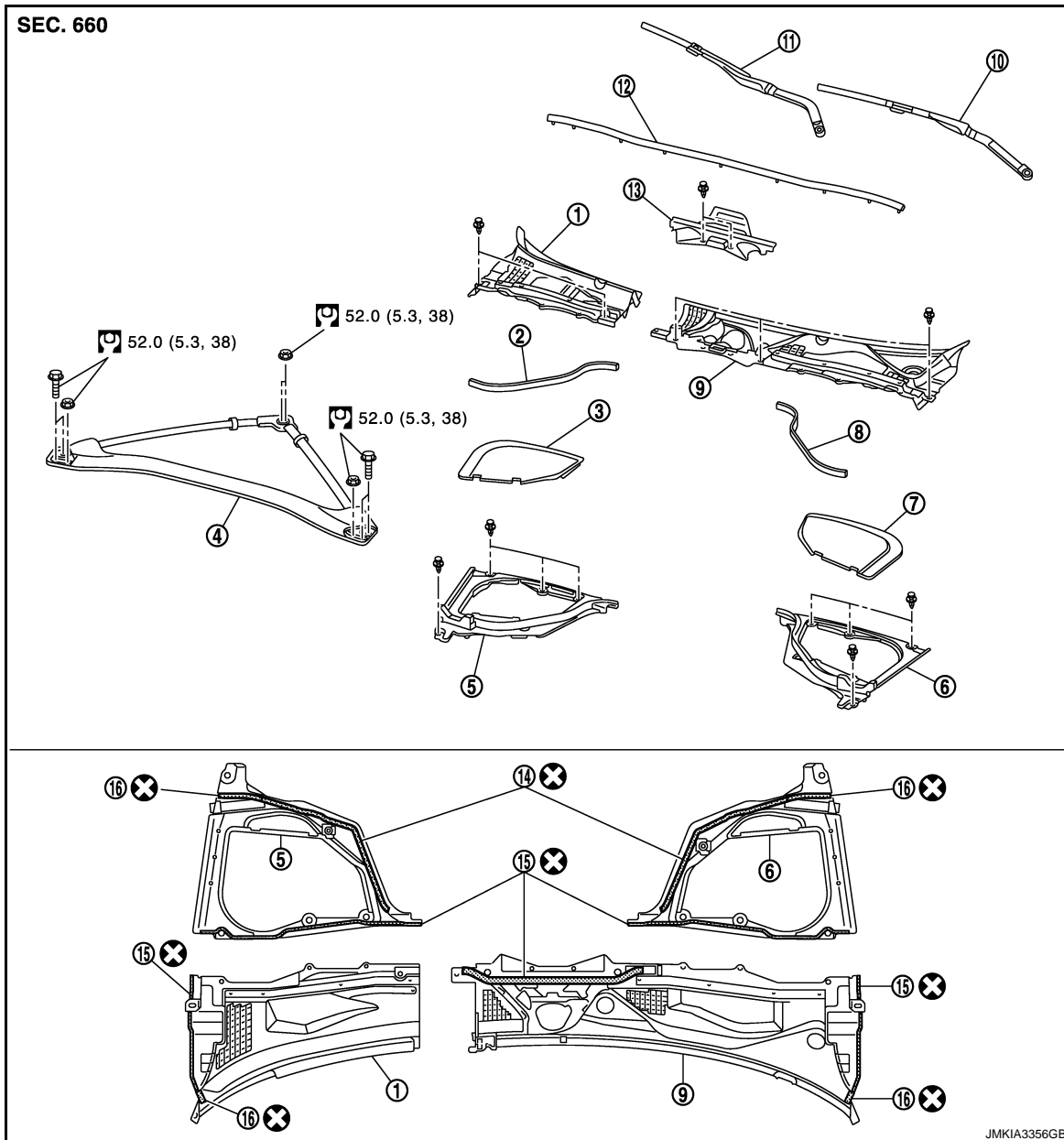
# COWL TOP

< ON-VEHICLE REPAIR >

## COWL TOP

### Exploded View

INFOID:000000004466901



JMKIA3356GB

- |  |                                       |                                       |
|--|---------------------------------------|---------------------------------------|
| 1. Cowl top cover RH                   | 2. Cowl top cover seal RH             | 3. Battery cover                      |
| 4. Front tower bar assembly            | 5. Hoodledge cover RH                 | 6. Hoodledge cover LH                 |
| 7. Brake master cylinder cover         | 8. Cowl top cover seal LH             | 9. Cowl top cover LH                  |
| 10. Wiper arm and blade LH             | 11. Wiper arm and blade RH            | 12. Cowl top cover seal               |
| 13. Cowl top cover center              | 14. EPT sealer [t: 5.0 mm (0.197 in)] | 15. EPT sealer [t: 3.0 mm (0.118 in)] |
| 16. EPT sealer [t: 10.0 mm (0.394 in)] |                                       |                                       |

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

INFOID:000000004466902

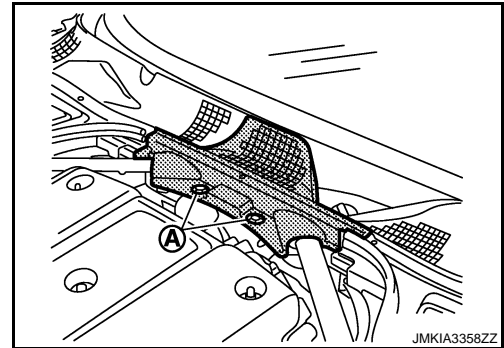
### REMOVAL

1. Fully open hood assembly.



# COWL TOP

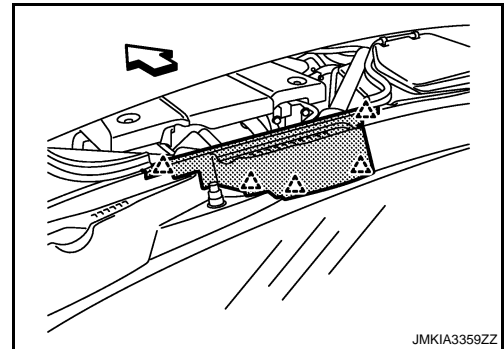
## < ON-VEHICLE REPAIR >

2. Remove battery cover and brake master cylinder cover.
3. Remove hoodledge covers (LH/RH) fixing clips, and then remove hoodledge covers.
4. Remove front wiper arms and blades (LH/RH). Refer to [WW-91, "Removal and Installation"](#).
5. Remove cowl top cover seal.
6. Remove cowl top cover center.
  - Remove cowl top cover center fixing clips (A).




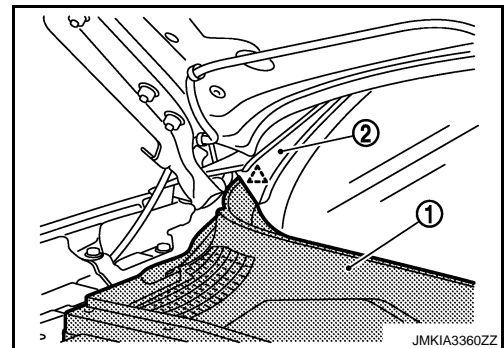
- Disengage cowl top cover center fixing pawls, and then remove cowl top cover center.

 : Pawl  
 : Vehicle front

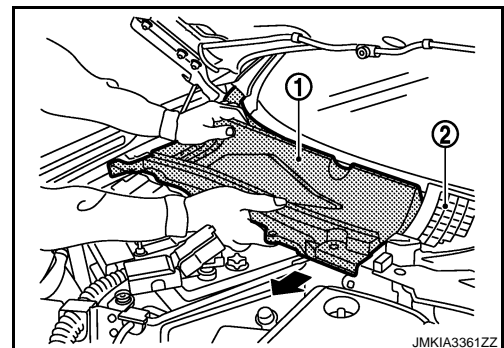


7. Remove front tower bar assembly.
8. Remove cowl top cover RH.
  - Remove cowl top cover RH fixing clips.
  - Disengage cowl top cover RH (1) and front pillar finisher (2) fixing pawl.

 : Pawl



- Pull cowl top cover RH toward arrow direction, and then disengage cowl top cover RH (1) and cowl top cover LH (2).




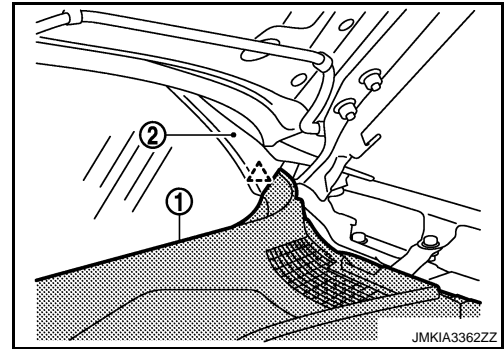
9. Remove cowl top cover LH.

## COWL TOP

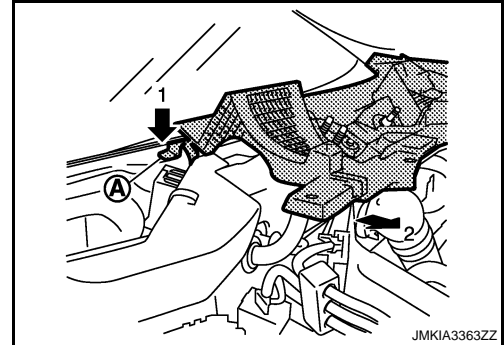
### < ON-VEHICLE REPAIR >

- Disengage cowl top cover LH (1) and front pillar finisher (2) fixing pawl.

 : Pawl



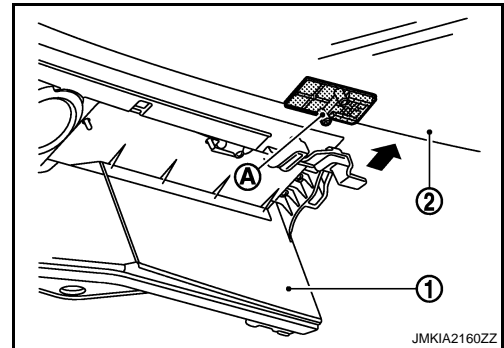
- Press pawl (A) and pull cowl top cover LH toward vehicle front as shown by the arrow in the figure, and then remove cowl top cover LH.



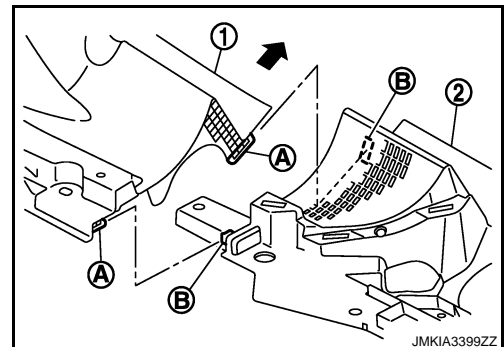
### INSTALLATION

Note the following items, and install in the reverse order of removal.

- Align concave of cowl top cover LH (1) to windshield glass (2) pin (A) as shown in the figure when installing.



- Slide cowl top cover RH (1) toward the arrow direction to engage pawls (A) into concave part (B) of cowl top cover LH (2).



### CAUTION:

- Always replace EPT sealers with a new one, if the cowl top cover is reused.
- After installing, perform adjustment of wiper arm. Refer to [WW-91, "Adjustment"](#).

# FENDER PROTECTOR

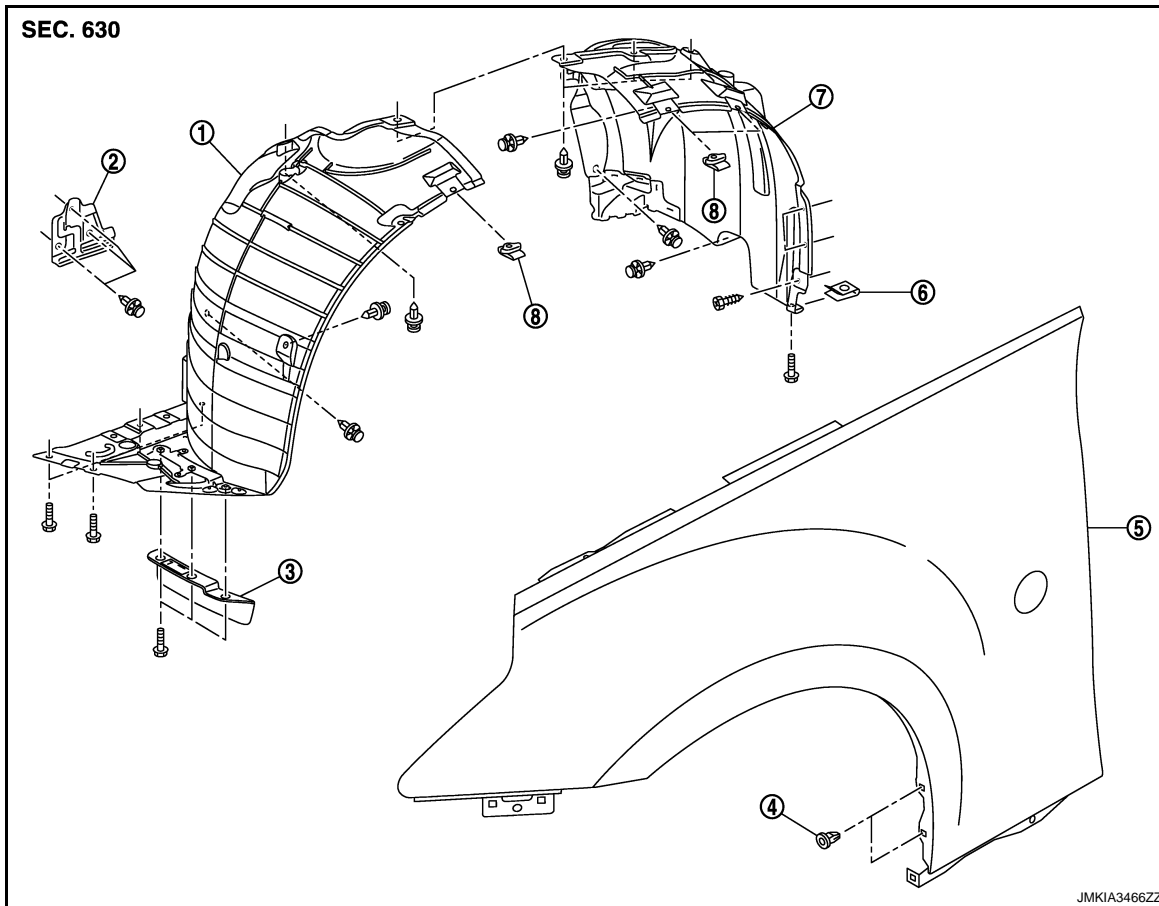
< ON-VEHICLE REPAIR >

## FENDER PROTECTOR

## FENDER PROTECTOR

### FENDER PROTECTOR : Exploded View

INFOID:0000000004466903



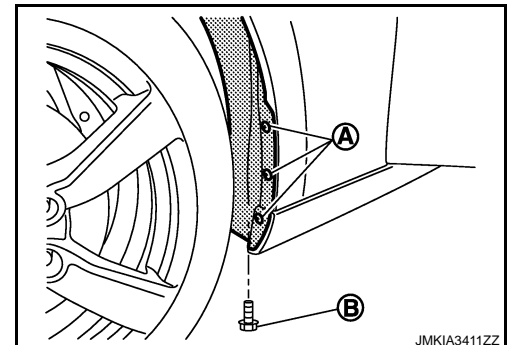
- |                             |                 |              |
|-----------------------------|-----------------|--------------|
| 1. Fender protector (front) | 2. Splash guard | 3. Air guide |
| 4. Grommet                  | 5. Front fender | 6. J-nut     |
| 7. Fender protector (rear)  | 8. Fender clip  |              |

### FENDER PROTECTOR : Removal and Installation

INFOID:0000000004466904

#### REMOVAL

1. Remove front road wheel.
2. Remove splash guard.
3. Remove fender protectors (rear side) fixing screws (A) and bolt (B).



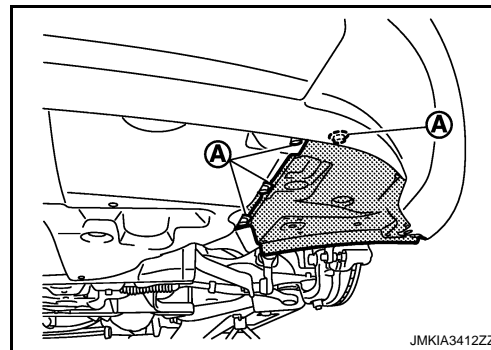
4. Remove fender protector (rear) fixing clips, and then remove fender protector (rear).

## FENDER PROTECTOR

### < ON-VEHICLE REPAIR >

---

5. Remove air guide.
6. Remove fender protector (front) fixing bolts (A).



7. Remove fender protector (front) fixing clips, and then remove fender protector (front).
8. Remove the following parts after removing fender protector.
  - Fender clips
  - J-nut

### INSTALLATION

Install in the reverse order of removal.



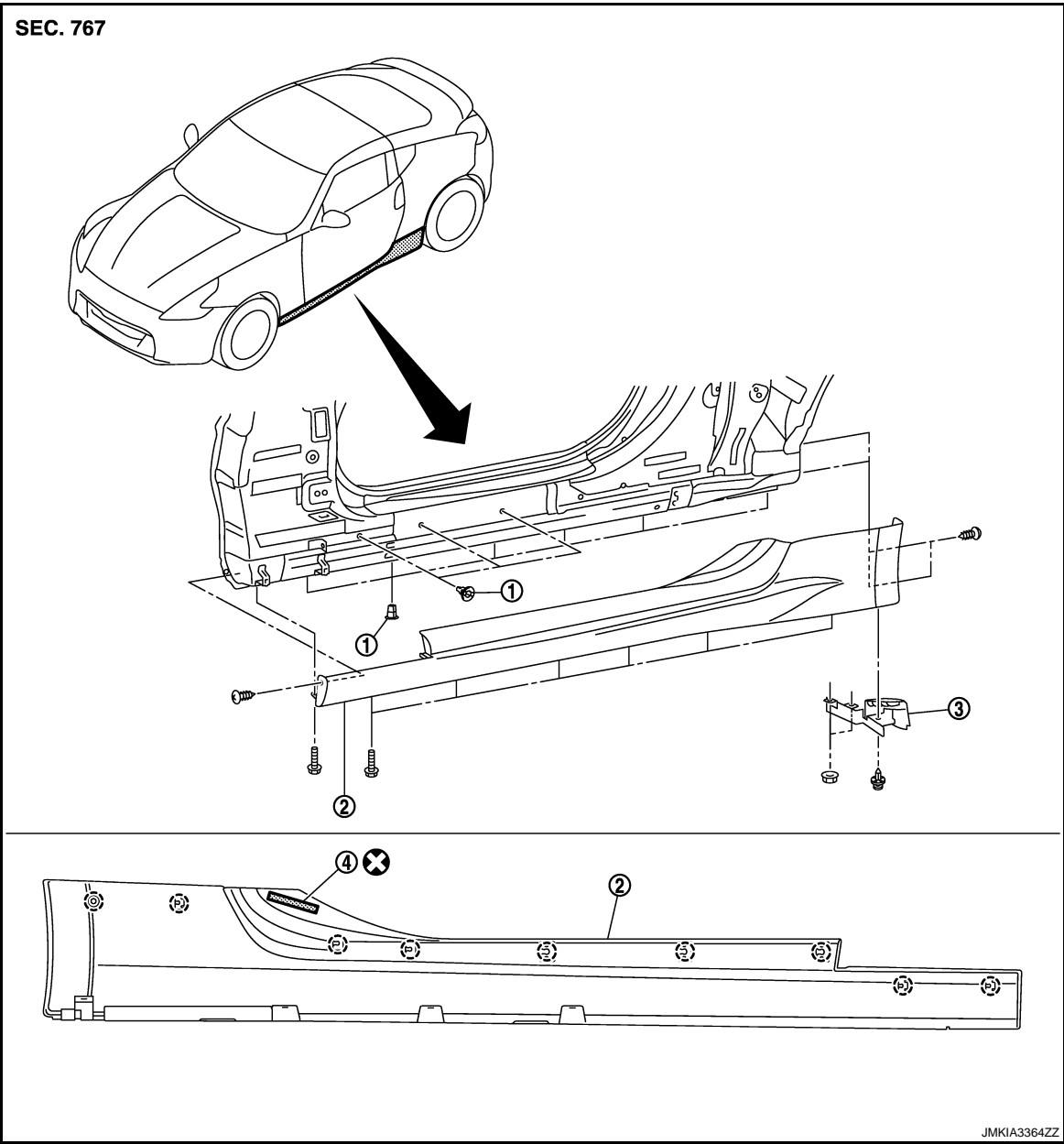
# SILL COVER

< ON-VEHICLE REPAIR >

## SILL COVER

### Exploded View

INFOID:000000004466907



## Removal and Installation

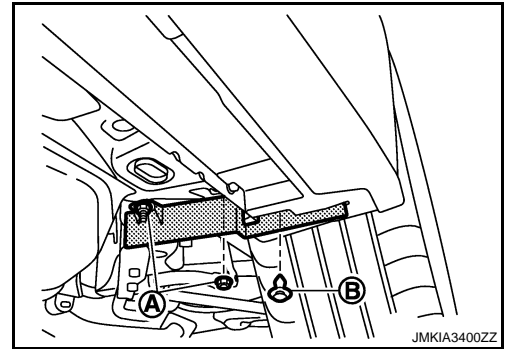
INFOID:000000004466908

### REMOVAL

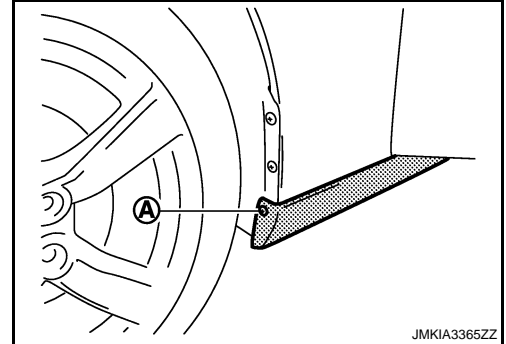
## SILL COVER

### < ON-VEHICLE REPAIR >

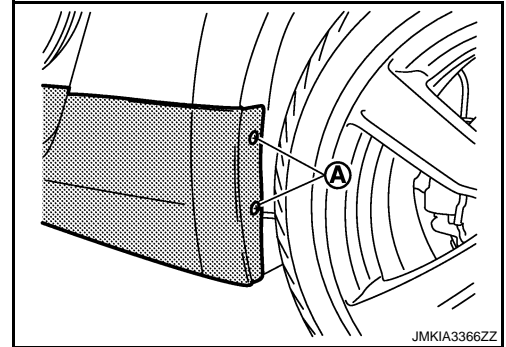
1. Remove nuts (A) and clip (B) and then remove wind deflector.




2. Remove center mud guard front end fixing screw (A).



3. Remove center mud guard rear end fixing screws (A).

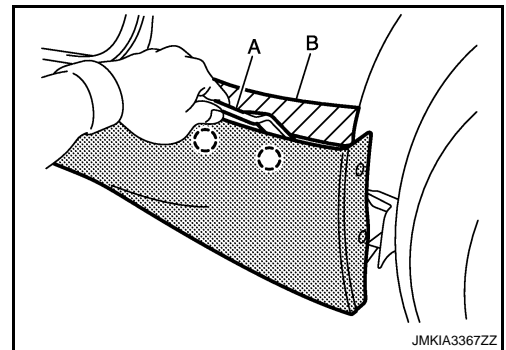


4. Remove center mud guard fixing screws from center mud guard lower side.
5. Fully open front door.
6. Remove clips from center mud guard back side with a remover tool (A).

 : Clip

#### **CAUTION:**

- Apply protective tape (B) on the body to protect the painted surface from damage.
- Never use an item as a remover tool that could damage body panel.
- Disengage the clips slowly and carefully.
- Never pull the center mud guard strongly.



7. Remove center mud guard from body side.

### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

- Visually check the clips for deformation and damage during installation. Replace with new ones if necessary.
- When installing center mud guard, check that clips are securely fitted in body panel holes, and then press them in.

# FLOOR SIDE FAIRING

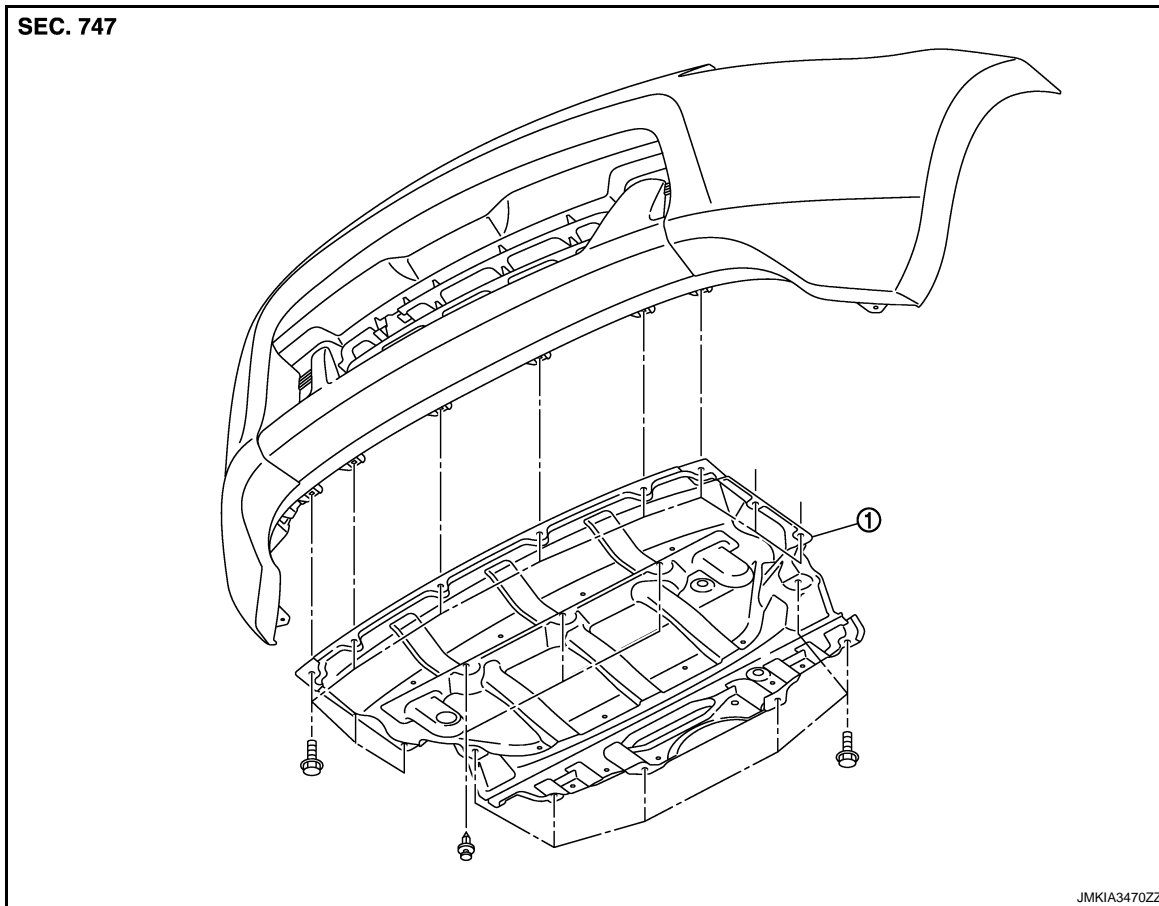
< ON-VEHICLE REPAIR >

## FLOOR SIDE FAIRING

### ENGINE UNDER COVER

#### ENGINE UNDER COVER : Exploded View

INFOID:000000004523315



1. Floor under cover

#### ENGINE UNDER COVER : Removal and Installation

INFOID:000000004523316

##### REMOVAL

1. Lift up the vehicle.
2. Remove front under cover fixing clips and bolts.
3. Remove front under cover.

##### **CAUTION:**

**When removing engine under cover, 2 workers are required so as to prevent it from dropping.**

##### INSTALLATION

Install in the reverse order of removal.

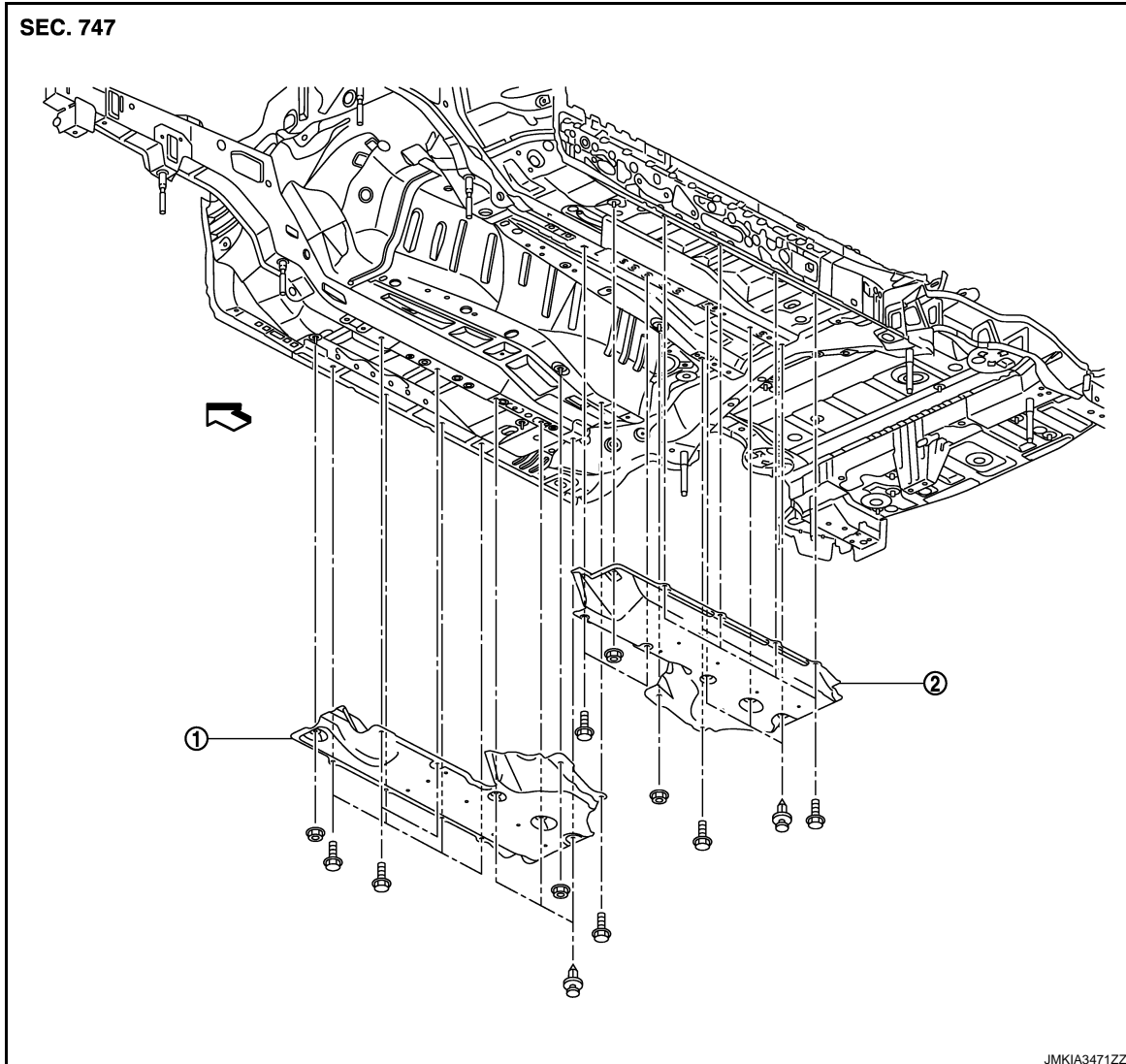
### FLOOR UNDER COVER

## FLOOR SIDE FAIRING

< ON-VEHICLE REPAIR >

### FLOOR UNDER COVER : Exploded View

INFOID:000000004523317



### FLOOR UNDER COVER : Removal and Installation

INFOID:000000004523318

#### REMOVAL

##### FLOOR UNDER COVER LH

1. Lift up the vehicle.
2. Remove floor under cover LH mounting bolts, nuts and clips.
3. Remove floor under cover LH.

#### **CAUTION:**

**When removing floor under cover LH, 2 workers are required so as to prevent it from dropping.**

##### FLOOR UNDER COVER RH

1. Lift up the vehicle.
2. Remove floor under cover RH mounting bolts, nuts, and clips.
3. Remove floor under cover RH.

#### **CAUTION:**

**When removing floor under cover RH, 2 workers are required so as to prevent it from dropping.**

#### INSTALLATION

FLOOR SIDE FAIRING

< ON-VEHICLE REPAIR >

Install in the reverse order of removal.

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- EXT
- L
- M
- N
- O
- P

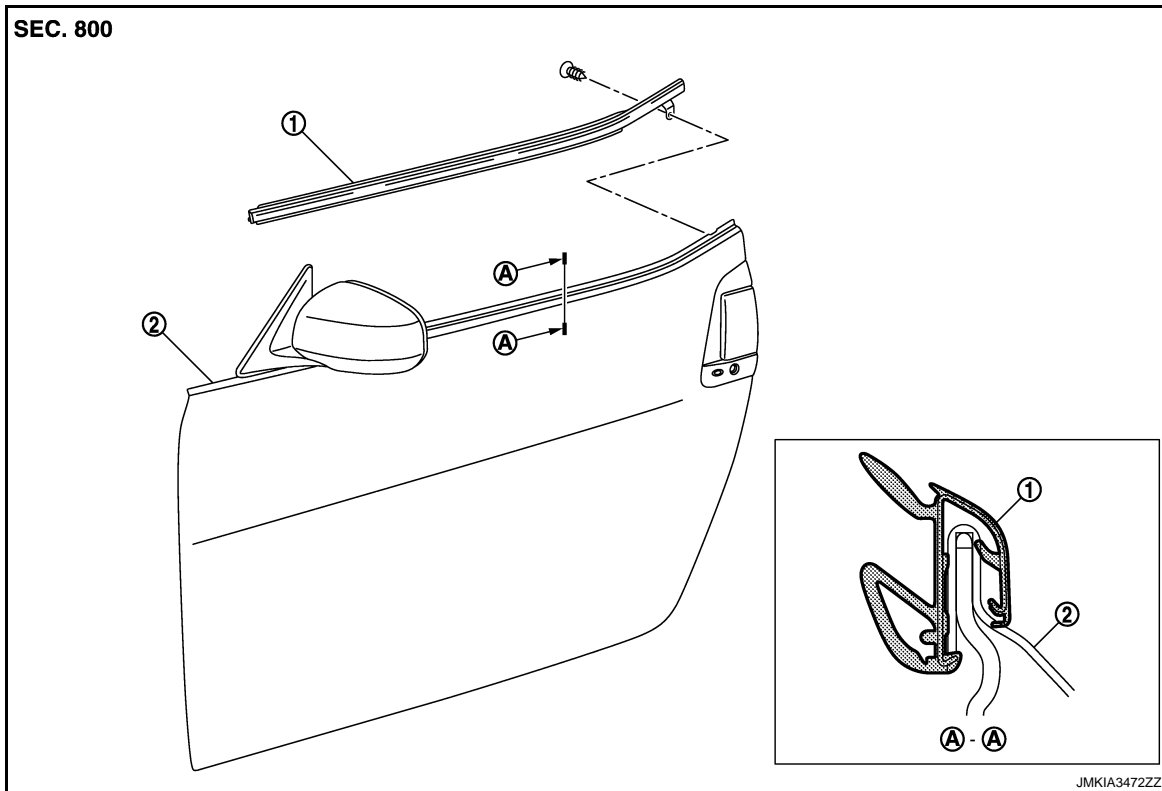
# DOOR OUTSIDE MOLDING

< ON-VEHICLE REPAIR >

## DOOR OUTSIDE MOLDING

Exploded View

INFOID:000000004466919

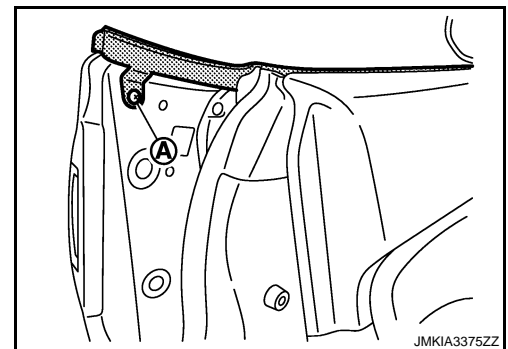


## Removal and Installation

INFOID:000000004466920

### REMOVAL

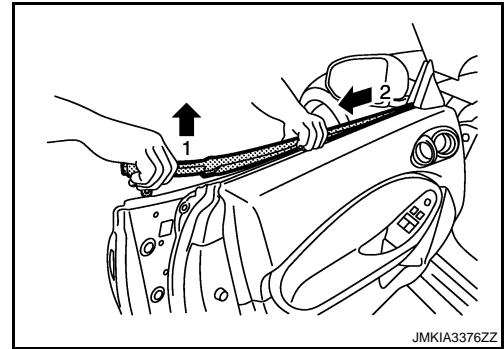
1. Fully open door window.
2. Remove door outside molding fixing screw (A).



## DOOR OUTSIDE MOLDING

### < ON-VEHICLE REPAIR >

3. Pull up door outside molding, and then slide door outside molding toward door rear side as shown by the arrow in the figure.



### INSTALLATION

Install in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
EXT  
L  
M  
N  
O  
P

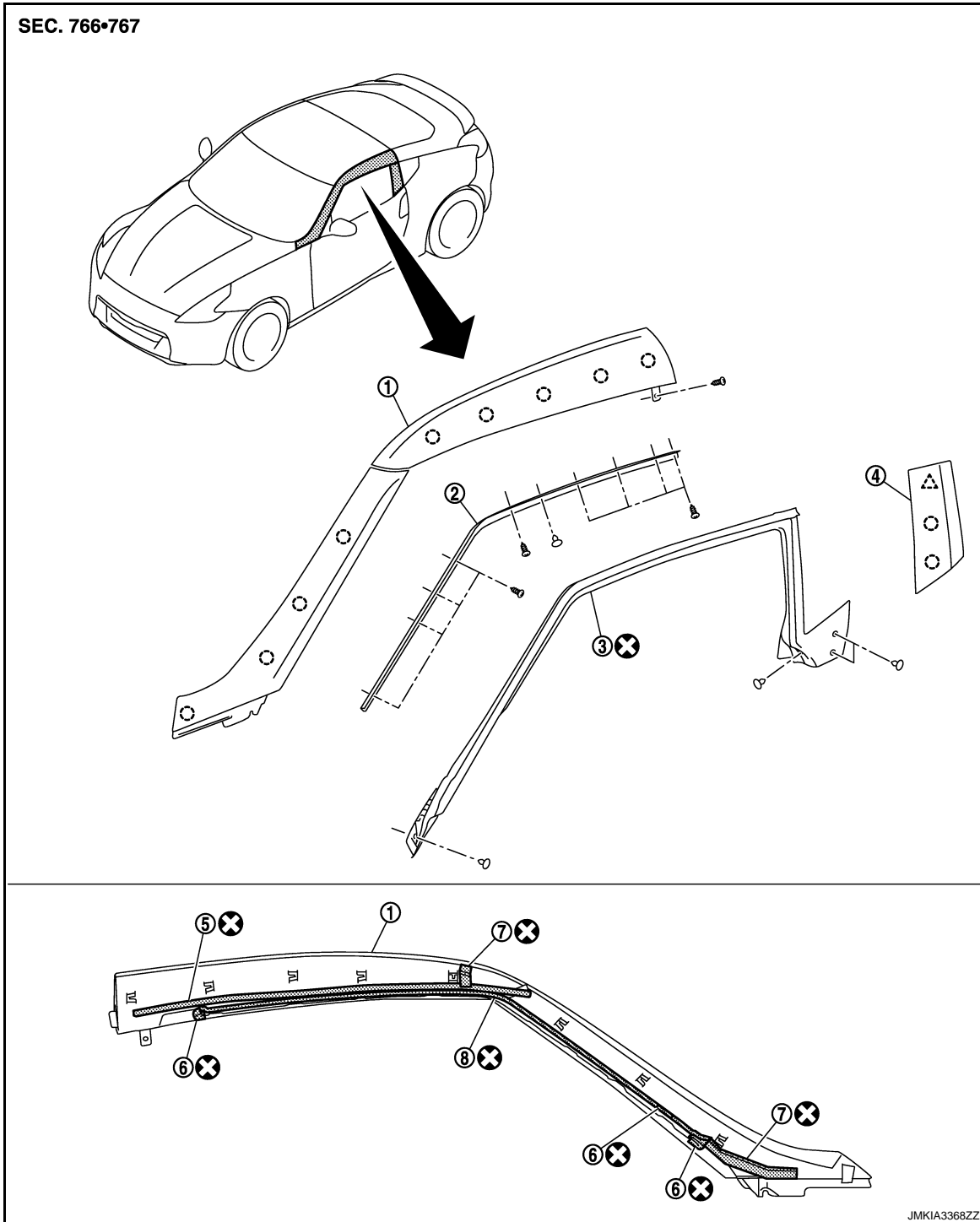
# FRONT PILLAR FINISHER

< ON-VEHICLE REPAIR >

## FRONT PILLAR FINISHER

Exploded View

INFOID:000000004466929



- |                                    |                                     |                                   |
|------------------------------------|-------------------------------------|-----------------------------------|
| 1. Front pillar finisher           | 2. Body side weather-strip retainer | 3. Body side weather-strip        |
| 4. Lock pillar finisher            | 5. EPT sealer [t:7.0mm (0.276in)]   | 6. EPT sealer [t:3.0mm (0.118in)] |
| 7. EPT sealer [t:17.0mm (0.669in)] | 8. EPT sealer [t:2.0mm (0.079in)]   |                                   |

○ : Clip

△ : Pawl

Refer to [GI-4, "Components"](#) for symbols in the figure.



# FRONT PILLAR FINISHER

< ON-VEHICLE REPAIR >

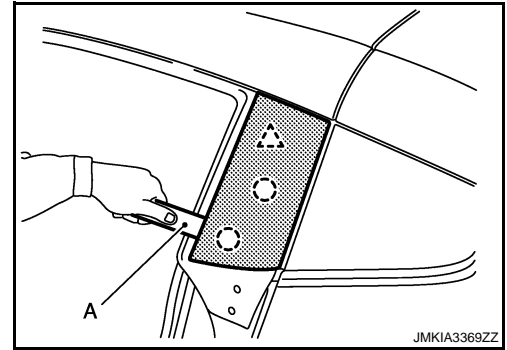
## Removal and Installation

INFOID:000000004466930

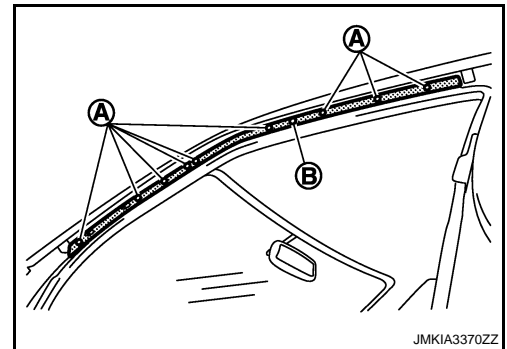
### REMOVAL

1. Disengage clips and pawl with remover tool (A), and then remove lock pillar finisher.

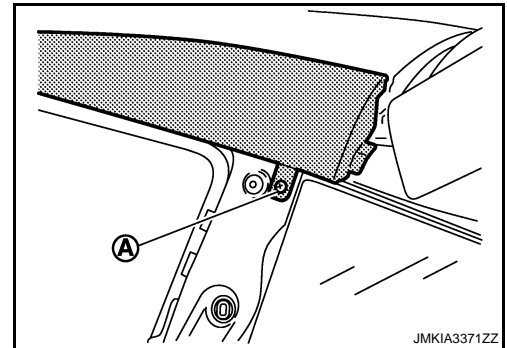
○ : Clip  
△ : Pawl



2. Remove body side weather-strip.
3. Remove screws (A) and clip (B), and then remove body side weather-strip retainer.

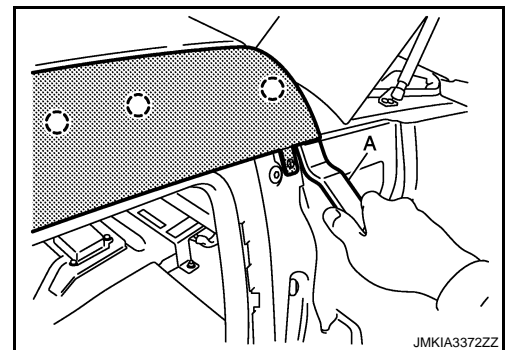


4. Remove front pillar finisher fixing screw (A).



5. Fully open back door.
6. Disengage front pillar finisher fixing clips with remover tool (A).

○ : Clip

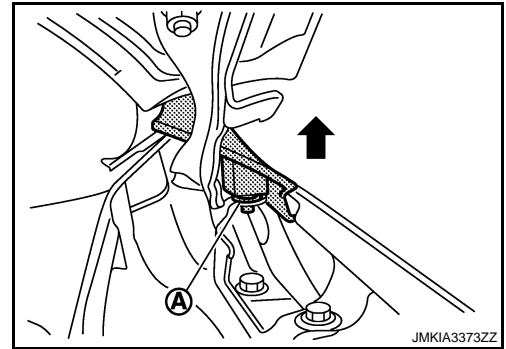


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
EXT  
L  
M  
N  
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P

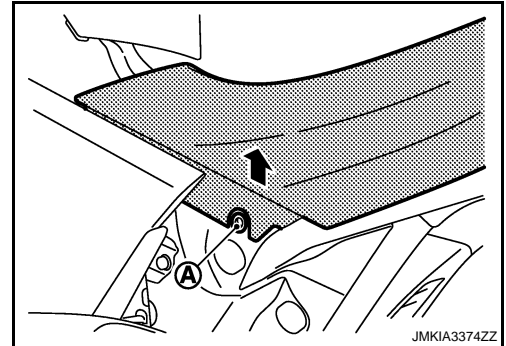
## FRONT PILLAR FINISHER

### < ON-VEHICLE REPAIR >

7. Disengage front pillar finisher fixing clip (A).



8. Pull up front pillar finisher to release portion (A) as shown by the arrow in the figure, and then remove front pillar finisher.



### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

- Visually check the clips for deformation and damage during installation. Replace with new ones if necessary.
- When installing front pillar finisher, check that clips are securely fitted in body panel holes, and press them in.

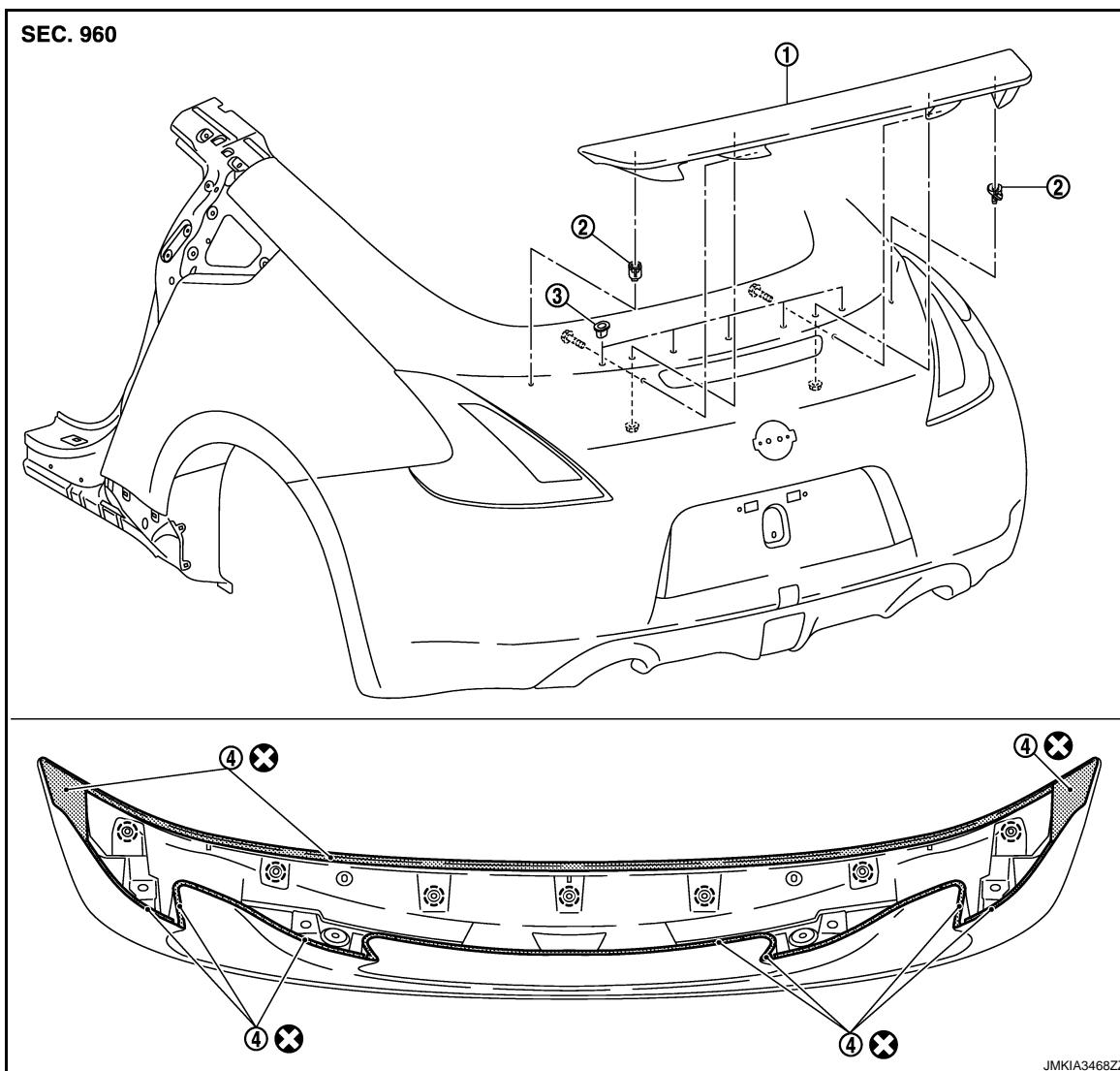
# REAR SPOILER

< ON-VEHICLE REPAIR >


## REAR SPOILER

### Exploded View

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- 1. Rear spoiler assembly
- 2. Rear spoiler spacer
- 3. Grommet
- 4. Double-faced adhesive tape  
[t: 2.0mm (0.079 in)]

 : Clip

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

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### REMOVAL

1. Remove back door trim. Refer to [INT-27, "Removal and Installation"](#).
2. Remove rear spoiler mounting nuts and bolts.
3. Disengage the clips with remover tool while peeling the double-faced adhesive tape with threads, and then remove rear spoiler.

#### CAUTION:

**Apply protective tape around the outer edge of mating surface between rear spoiler and back door to prevent damage.**

4. Remove the following parts after removing rear spoiler.

## REAR SPOILER

### < ON-VEHICLE REPAIR >

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- Rear spoiler spacers
- Grommets

### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

- Be careful no to damage the back door.
- Always replace double-faced adhesive tape with a new one, if rear spoiler is reused.
- Remove double-faced adhesive tape remaining on back door panel and back of rear spoiler with a double-faced adhesive tape remover, after removing rear spoiler.
- When installing, visually check the rear spoiler and the clips, then replace them with new parts if they are damaged.
- When installing rear spoiler, check that clips and bolts are securely fitted in back door panel holes, and then press them in.
- Never wash the vehicle within 24 hours after installing so as to keep adhesive.