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B  
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# SECTION **GW**

## GLASS & WINDOW SYSTEM

### CONTENTS

<b>SYMPTOM DIAGNOSIS</b> .....	2	<b>Inspection</b> .....	13	F
<b>SQUEAK AND RATTLE TROUBLE DIAG- NOSES</b> .....	2	<b>REAR WINDOW GLASS</b> .....	14	G
Work Flow .....	2	Exploded View .....	14	
Generic Squeak and Rattle Trouble Shooting .....	4	Removal and Installation .....	14	
Diagnostic Worksheet .....	6	Inspection .....	15	
<b>PRECAUTION</b> .....	8	<b>FRONT DOOR GLASS</b> .....	16	H
<b>PRECAUTIONS</b> .....	8	Exploded View .....	16	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER" .....	8	Removal and Installation .....	16	
Precautions Necessary for Steering Wheel Rota- tion after Battery Disconnect (Early Production, With Electronic Steering Column Lock) .....	8	Inspection and Adjustment .....	17	I
Procedure without Cowl Top Cover .....	9	<b>FRONT REGULATOR</b> .....	19	J
Handling for Adhesive and Primer .....	9	Exploded View .....	19	
<b>PREPARATION</b> .....	10	Removal and Installation .....	19	
<b>PREPARATION</b> .....	10	Inspection and Adjustment .....	20	
Special Service Tools .....	10	<b>REAR DOOR GLASS</b> .....	22	GW
Commercial Service Tools .....	10	Exploded View .....	22	
<b>ON-VEHICLE REPAIR</b> .....	11	Removal and Installation .....	22	
<b>WINDSHIELD GLASS</b> .....	11	Inspection and Adjustment .....	23	L
Exploded View .....	11	<b>REAR REGULATOR</b> .....	24	
Removal and Installation .....	12	Rear Door Glass Regulator .....	24	
		<b>DISASSEMBLY AND ASSEMBLY</b> .....	25	M
		<b>FRONT REGULATOR</b> .....	25	
		Exploded View .....	25	N
		Disassembly .....	25	
		Assembly .....	25	O
				P

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

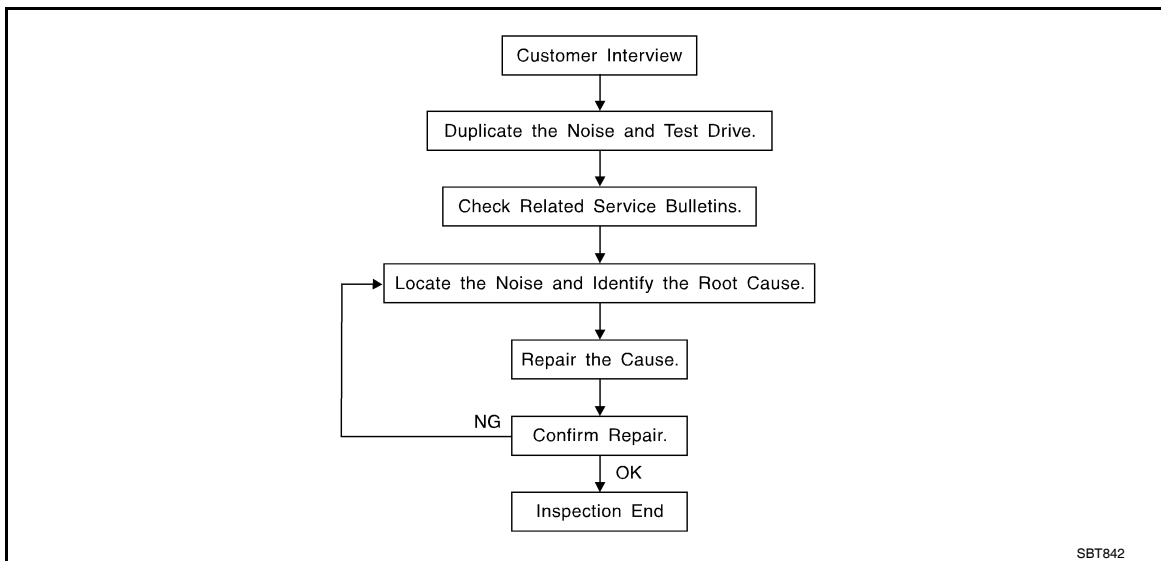
< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### SQUEAK AND RATTLE TROUBLE DIAGNOSES

#### Work Flow

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#### 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 customer's comments; refer to [GW-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, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving 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 bumble bee)  
Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you 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 you confirm the repair.

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 CVT and 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 you suspect the noise is coming from.  
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 you suspect is causing 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 with your hand by touching the component(s) that you suspect is (are) causing the noise.
  - placing a piece of paper between components that you suspect are causing the noise.
  - looking for loose components and contact marks.  
Refer to [GW-4, "Generic Squeak and Rattle Trouble Shooting"](#).

## 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 your authorized Nissan Parts Department.

### **CAUTION:**

**Do not 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 × 1.97 in)

FELT CLOTHTAPE

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

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Used to insulate where movement does not occur. Ideal for instrument panel applications.  
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 will be visible or not fit. Will only last a few months.

### SILICONE SPRAY

Use when grease cannot be applied.

### DUCT TAPE

Use 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.

## Generic Squeak and Rattle Trouble Shooting

INFOID:000000005461776

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 silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

### **CAUTION:**

**Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.**

### 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:

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. You can usually insulate the areas 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 owner.

In addition look for:

1. Trunk lid bumpers out of adjustment

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## < SYMPTOM DIAGNOSIS >

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2. Trunk lid striker out of adjustment
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 seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Causes 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 under hood 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

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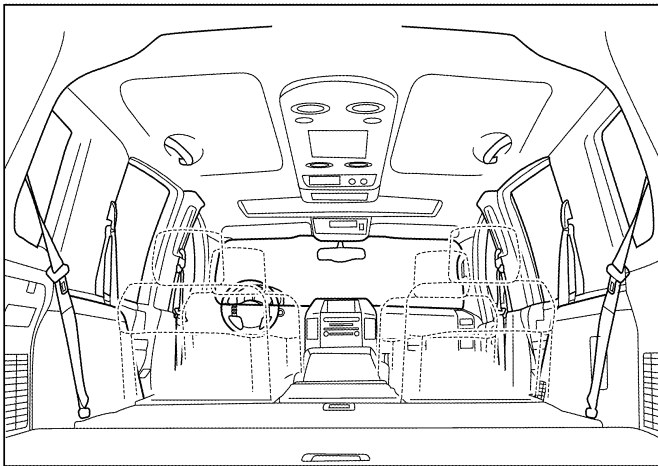
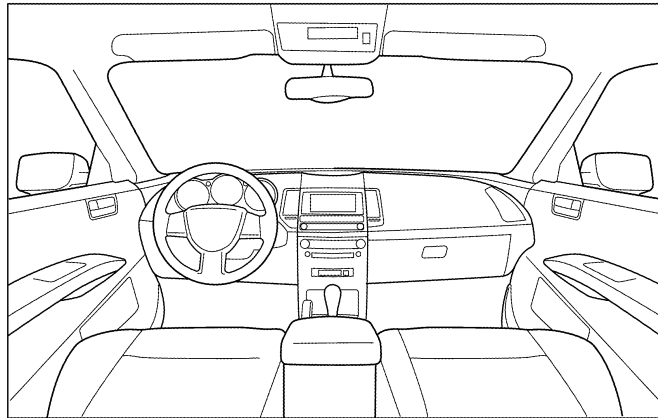
Dear Customer:

We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle 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.

### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

#### 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.

# 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

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## PRECAUTION

### PRECAUTIONS

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

INFOID:000000005461778

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 SR and SB section 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 SR section.
- Do not 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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precautions Necessary for Steering Wheel Rotation after Battery Disconnect (Early Production, With Electronic Steering Column Lock)

INFOID:000000005885937

#### **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. Carry the Intelligent Key or insert it to the key slot and 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.



# PRECAUTIONS

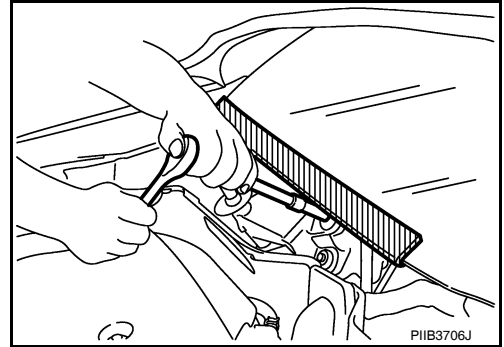
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5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.

## Procedure without Cowl Top Cover

INFOID:000000005461780

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



## Handling for Adhesive and Primer

INFOID:000000005461781

- Do not use an adhesive which is past its usable date. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box.
- Keep primers and adhesive in a cool, dry place. Ideally, they should be stored in a refrigerator.
- Open the seal of the primer and adhesive just before application. Discard the remainder.
- Before application, be sure to shake the primer container to stir the contents. If any floating material is found, do not use it.
- If any primer or adhesive contacts the skin, wipe it off with gasoline or equivalent and wash the skin with soap.
- When using primer and adhesive, always observe the precautions in the instruction manual.

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# PREPARATION

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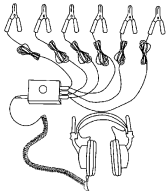
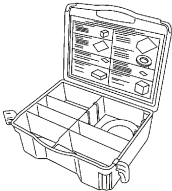
## PREPARATION

### PREPARATION

#### Special Service Tools

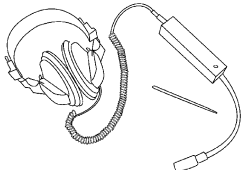
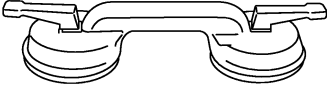
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

#### Commercial Service Tools

INFOID:000000005461783

Tool name	Description
Engine ear   SIIA0995E	Locating the noise
Suction lifter   PIIB1805J	Holding the door glass

# WINDSHIELD GLASS

< ON-VEHICLE REPAIR >

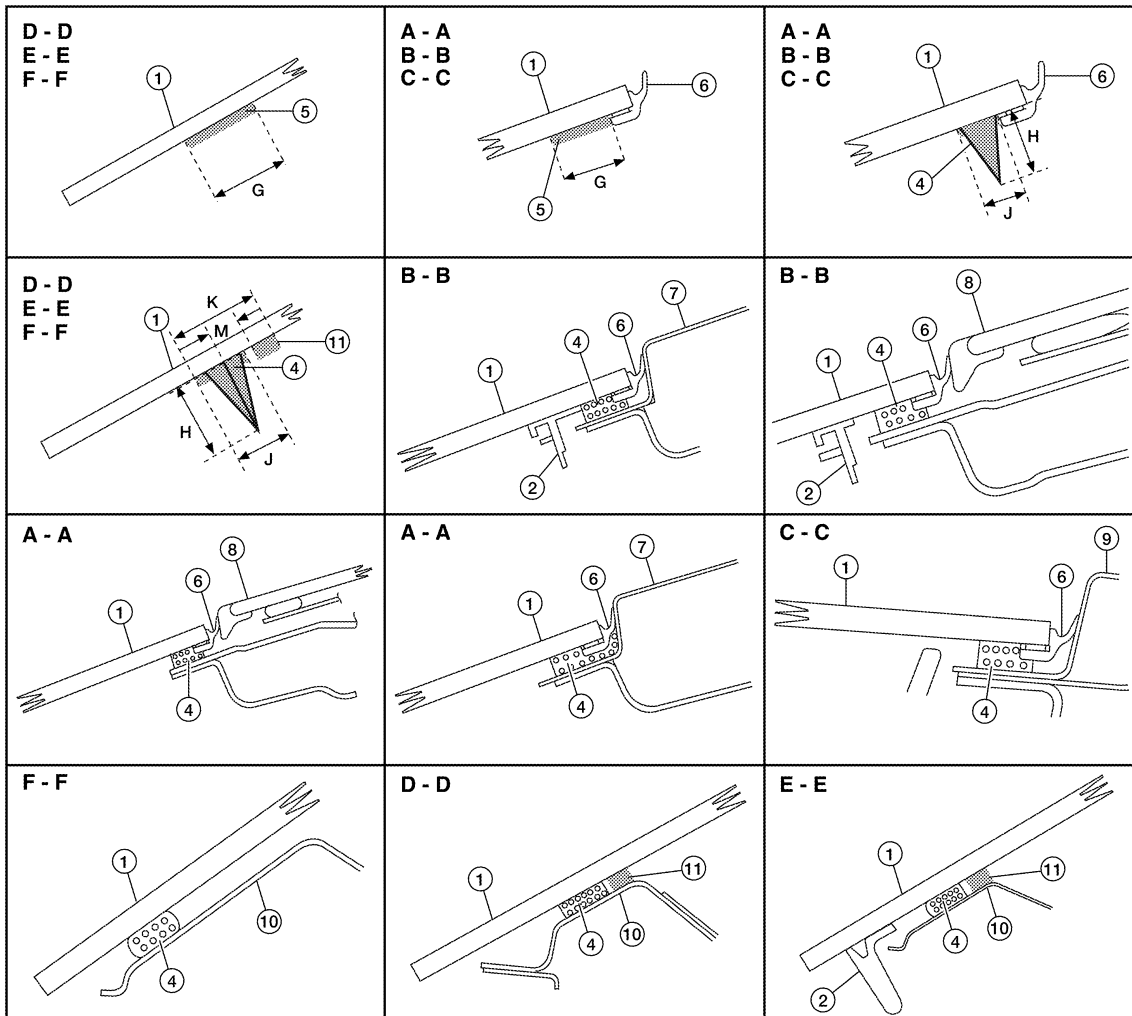
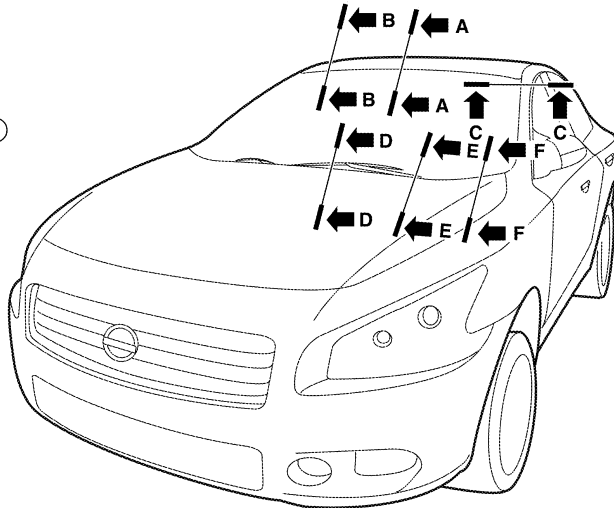
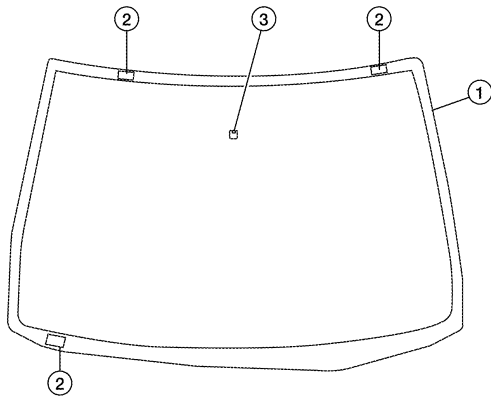
## ON-VEHICLE REPAIR

### WINDSHIELD GLASS

Exploded View

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SEC. 720



AWKIA1547GB

# WINDSHIELD GLASS

## < ON-VEHICLE REPAIR >

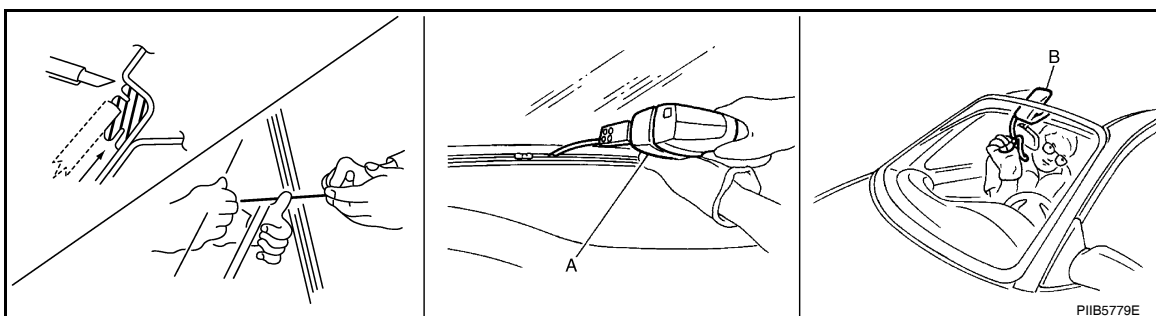
- |                                 |                               |   |
|---------------------------------|-------------------------------|---|
| 1. Windshield glass             | 2. Spacer                     | 3. Mirror base  |
| 4. Adhesive                     | 5. Primer                     | 6. Windshield molding   |
| 7. Metal roof                   | 8. Dual Panel Sunroof         | 9. Front pillar   |
| 10. Cowl top                    | 11. Rubber dam                | G. 8 mm (0.31 in.) for top and sides<br>25 mm (0.98 in.) for bottom |
| H. 12 - 14 mm (0.47 - 0.55 in.) | J. 7 - 9 mm (0.28 - 0.35 in.) | K. 15 mm (0.59 in)  |
| M. 6.5 mm (0.26 in)             |                               |   |

## Removal and Installation

INFOID:000000005461785

### REMOVAL

1. Remove the cowl top. Refer to [EXT-18, "Removal and Installation"](#).
  2. Remove roof side molding (if equipped). Refer to [EXT-25, "Removal and Installation"](#)
  3. Remove inside mirror. Refer to [MIR-19, "Removal and Installation"](#).
  4. Partially remove the headlining (front edge). Refer to [INT-32, "Removal and Installation"](#).
  5. Apply a protective tape around the windshield glass to protect the painted surface from damage.
- After removing moldings, remove glass using piano wire or power cutting tool (A) and an inflatable pump bag (B).



- If the windshield glass is to be reused, mark the body and the glass with mating marks.

### WARNING:

When cutting the glass from the vehicle, always wear safety glasses and heavy gloves to help prevent glass splinters from entering your eyes or cutting your hands.

### CAUTION:

- Be careful not to scratch the glass when removing.
- Do not set or stand the glass on its edge. Small chips may develop into cracks.
- When the windshield glass is to be reused, do not use a cutting knife or power cutting tool.

### INSTALLATION

Installation is in the reverse order of removal.

- Use a genuine Nissan Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- The molding must be installed securely so that it is in position and leaves no gap.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (preferably 24 hours). Curing time varies with temperature and humidity.

### WARNING:

- Keep heat and open flames away as primers and adhesive are flammable.
- The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Avoid contact with the skin and eyes.
- Use in an open, well ventilated location. Avoid breathing the vapors. They can be harmful if inhaled. If affected by vapor inhalation, immediately move to an area with fresh air.
- Driving the vehicle before the urethane adhesive has completely cured may affect the performance of the windshield in case of an accident.

### CAUTION:

# WINDSHIELD GLASS

## < ON-VEHICLE REPAIR >

- Do not use an adhesive which is past its usable term. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box.
- Keep primers and adhesive in a cool, dry place. Ideally, they should be stored in a refrigerator.
- Do not leave primers or adhesive cartridge unattended with their caps open or off.
- The vehicle should not be driven for at least 24 hours or until the urethane adhesive has completely cured. Curing time varies depending on temperature and humidity. The curing time will increase under lower temperature and lower humidity.

## Inspection

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### Repairing water Leaks for Windshield

Leaks can be repaired without removing and reinstalling glass.

If water is leaking between the urethane adhesive material and body or glass, determine the extent of leakage.

This can be done by applying water to the windshield area while pushing glass outward.

To stop the leak, apply primer (if necessary) and then urethane adhesive to the leak point.

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# REAR WINDOW GLASS

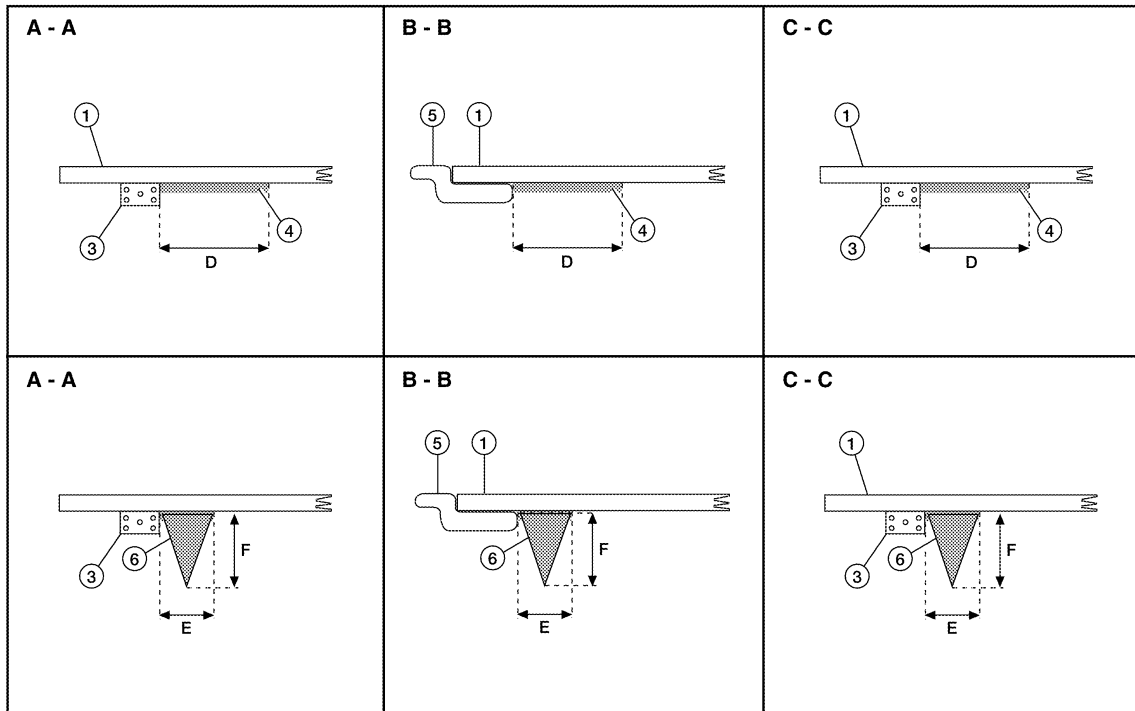
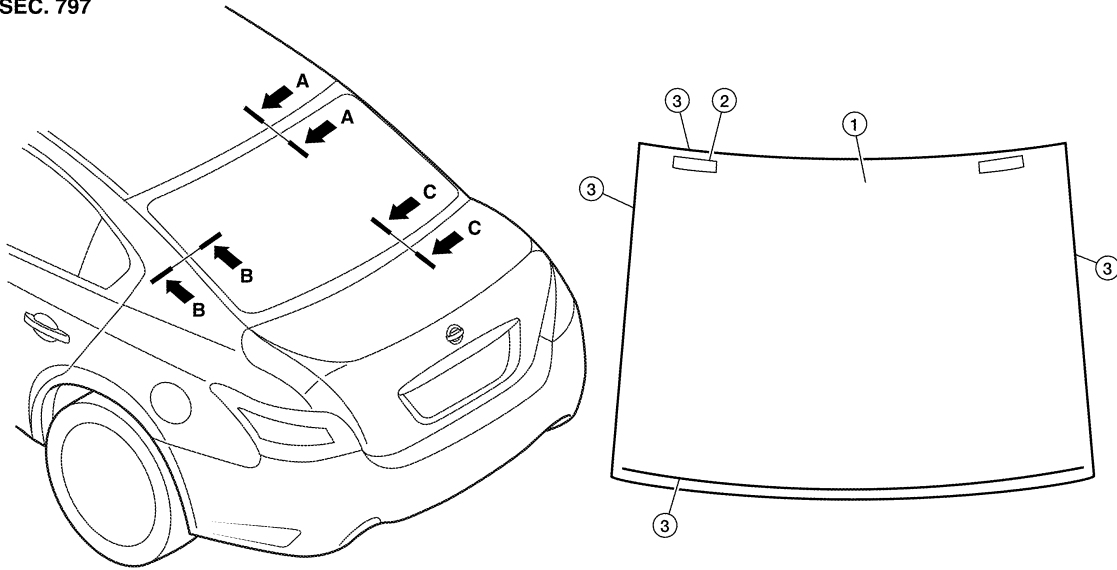
< ON-VEHICLE REPAIR >

## REAR WINDOW GLASS

Exploded View

INFOID:000000005461787

SEC. 797



ALKIA1621GB

- |                      |                        |                             |
|----------------------|------------------------|-----------------------------|
| 1. Rear window glass | 2. Spacer              | 3. Rubber dam (if equipped) |
| 4. Primer            | 5. Rear window molding | 6. Adhesive                 |
| D. 16 mm (0.63 in.)  | E. 7 mm (0.28 in.)     | F. 12 mm (0.47 in.)         |

## Removal and Installation

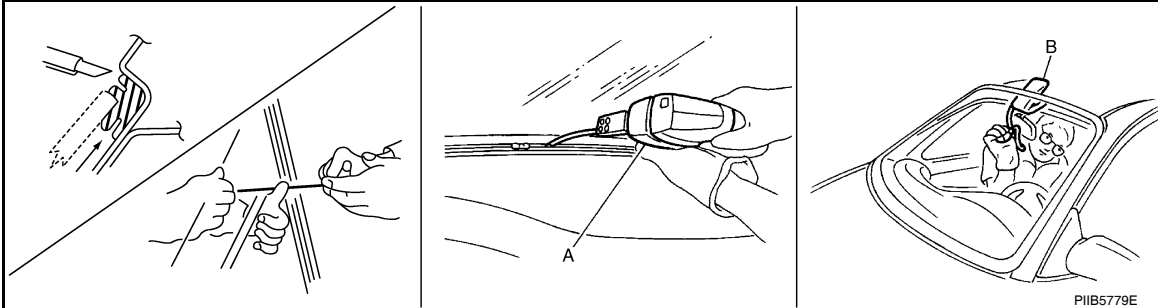
INFOID:000000005461788

### REMOVAL

# REAR WINDOW GLASS

## < ON-VEHICLE REPAIR >

1. Partially remove the rear of the headliner (rear edge). Refer to [INT-32, "Removal and Installation"](#).
  2. Remove roof side moldings. Refer to [EXT-25, "Removal and Installation"](#).
  3. Remove the connectors and grounds for the rear window defogger and the antenna.
  4. Apply protective tape around the rear window glass to protect the painted surface from damage.
- After removing moldings, remove glass using piano wire or power cutting tool (A) and an inflatable pump bag (B).



- If the rear window glass is to be reused, mark the body and the glass with mating marks.

### **WARNING:**

When cutting the glass from the vehicle, always wear safety glasses and heavy gloves to help prevent glass splinters from entering your eyes or cutting your hands.

### **CAUTION:**

- When the rear window glass is to be reused, do not use a cutting knife or power cutting tool.
- Be careful not to scratch the glass when removing.
- Do not set or stand the glass on its edge. Small chips may develop into cracks.

## INSTALLATION

Installation is in the reverse order of removal.

- Use a genuine Nissan Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- The molding must be installed securely so that it is in position and leaves no gap.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (preferably 24 hours). Curing time varies with temperature and humidity.

### **WARNING:**

- Keep heat and open flames away as primers and adhesive are flammable.
- The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Avoid contact with the skin and eyes.
- Use in an open, well ventilated location. Avoid breathing the vapors. They can be harmful if inhaled. If affected by vapor inhalation, immediately move to an area with fresh air.
- Driving the vehicle before the urethane adhesive has completely cured may affect the performance of the rear window glass in case of an accident.

### **CAUTION:**

- Do not use an adhesive which is past its usable term. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box.
- Keep primers and adhesive in a cool, dry place. Ideally, they should be stored in a refrigerator.
- Do not leave primers or adhesive cartridge unattended with their caps open or off.
- The vehicle should not be driven for at least 24 hours or until the urethane adhesive has completely cured. Curing time varies depending on temperature and humidity. The curing time will increase under lower temperature and lower humidity.

## Inspection

INFOID:000000005461789

## REPAIRING WATER LEAKS

Leaks can be repaired without removing and reinstalling glass.

If water is leaking between the urethane adhesive material and body or glass, determine the extent of leakage. This can be done by applying water to the side window area while pushing glass outward. To stop the leak, apply primer (if necessary) and then urethane adhesive to the leak point.

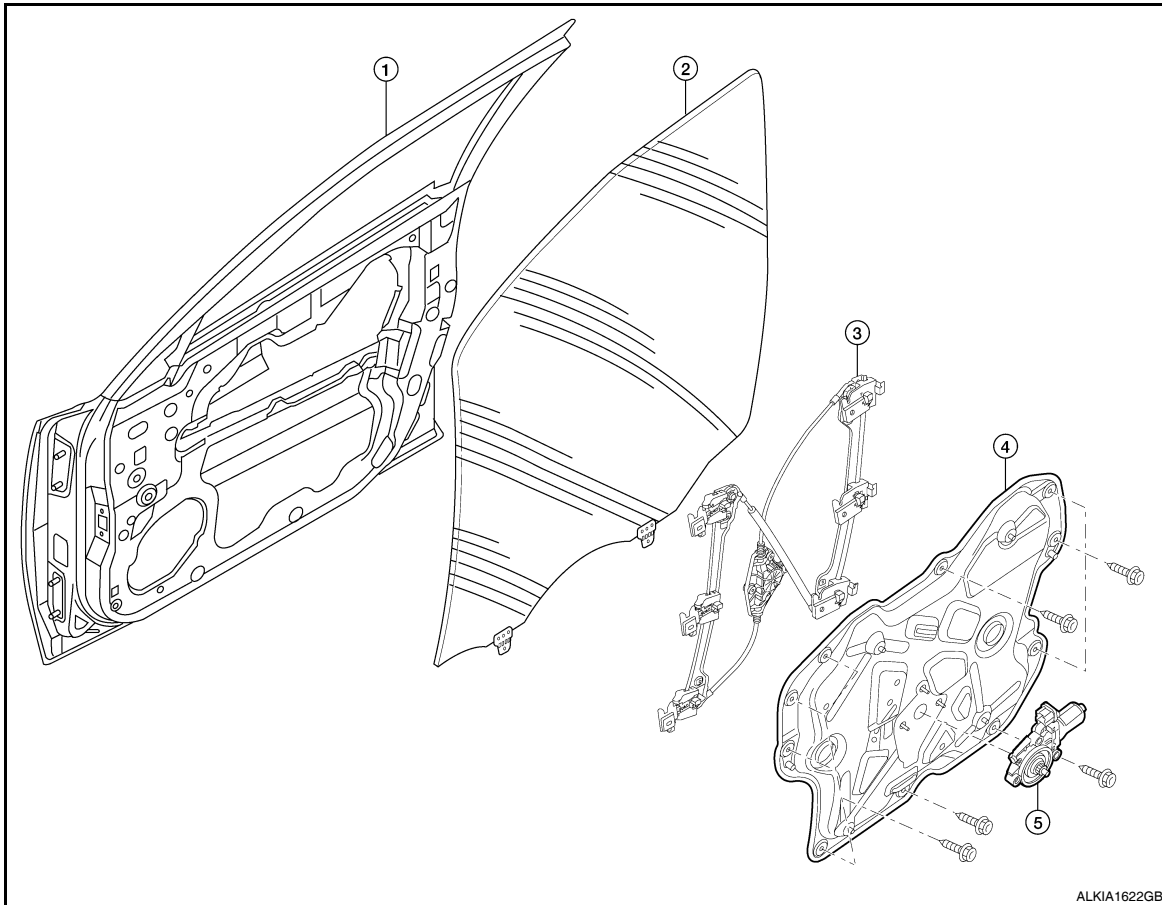
# FRONT DOOR GLASS

< ON-VEHICLE REPAIR >

## FRONT DOOR GLASS

### Exploded View

INFOID:000000005461790



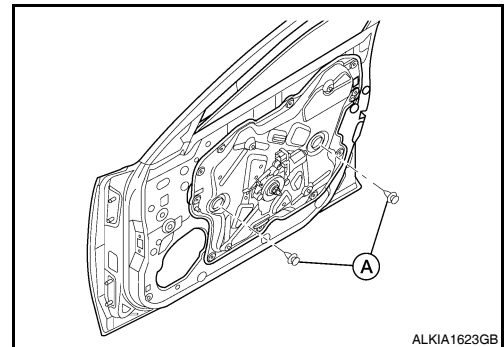
- |                         |                 |                       |
|-------------------------|-----------------|-----------------------|
| 1. Door panel           | 2. Door glass   | 3. Regulator assembly |
| 4. Door module assembly | 5. Window motor |                       |

### Removal and Installation

INFOID:000000005461791

#### REMOVAL

1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove the bolt hole covers.
3. Reconnect the window switch to raise/lower the door glass until the door glass bolts (A) can be seen.
4. Remove the door glass bolts (A).

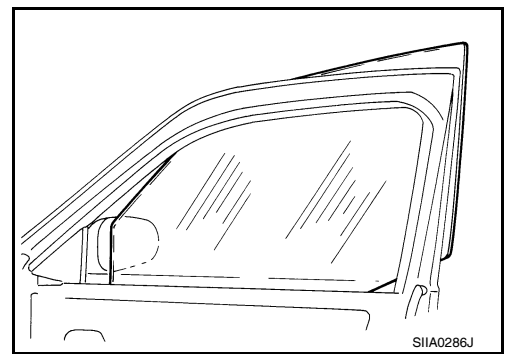




# FRONT DOOR GLASS

## < ON-VEHICLE REPAIR >

5. While holding the door glass, raise it at the rear end to pull the door glass out of the sash toward the outside of the door.



### Installation

Installation is in the reverse order of removal.

### Inspection and Setting After Installation

#### Inspection After Installation

- Check that the door glass is securely set into the glass run groove.
- Lower the door glass slightly [approximately 10 to 20 mm (0.39 to 0.79 in)] and check that the clearance to the sash is parallel. If the clearance between the door glass and sash is not parallel, loosen the regulator bolts, guide rail bolts, and door glass and guide rail bolts to correct the glass position.

### Inspection and Adjustment

INFOID:000000005461792

### SYSTEM INITIALIZATION

If any of the following work has been done, initialize the system.

- Electric power supply to power window switch or motor is interrupted by blown fuse or disconnecting battery cable, etc.
- Removal and installation of the regulator assembly.
- Removal and installation of the motor from the regulator assembly.
- Removal and installation of the harness connector of the power window switch.
- Operate the regulator assembly as a unit.
- Removal and installation of the door glass.
- Removal and installation of the door glass run.

#### Initialization

After installing each component to the vehicle, follow the steps below.

1. Disconnect the negative battery terminal or disconnect the power window switch harness connector temporarily, then reconnect after at least 1 minute.
2. Turn ignition switch ON.
3. Open the window fully by operating the power window switch. (Exclude this procedure if the window is already fully opened.)
4. Fully raise the power window switch in up direction (auto close position) and hold. Keep holding the switch even when window is completely closed and then release after 3 seconds have passed.
5. Inspect the anti-pinch system function.

#### NOTE:

Initialization may be cancelled with continuous opening and closing operation. In this case, initialize the system.

### INSPECT THE FUNCTION OF THE ANTI-PINCH SYSTEM

1. Fully open the door glass.
2. Place a wooden piece (wooden hammer handle, etc.) at near fully closed position.
3. Carry out fully closing operation with auto up switch.

#### CAUTION:

- Do not inspect the anti-pinch system by using a hand or finger. Work carefully not to be pinched.
- Check that auto up function is normal before inspection following the system initialization.
- Check that the glass reverses without pinching the wooden piece, is lowered approx. 150 mm (5.91 in) or for 2 seconds, and then stops.
- The glass should not be raised with power window main switch operated while it is reversing or lowering.

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## FRONT DOOR GLASS

< ON-VEHICLE REPAIR >

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### FINAL INSPECTION

- Make sure the glass is securely set into the glass run groove.
- Lower the glass slightly [approx. 10 to 20 mm (0.39 to 0.79 in)] and make sure the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator mounting bolts, guide rail mounting bolts, and glass and guide rail mounting bolts to adjust the glass position.

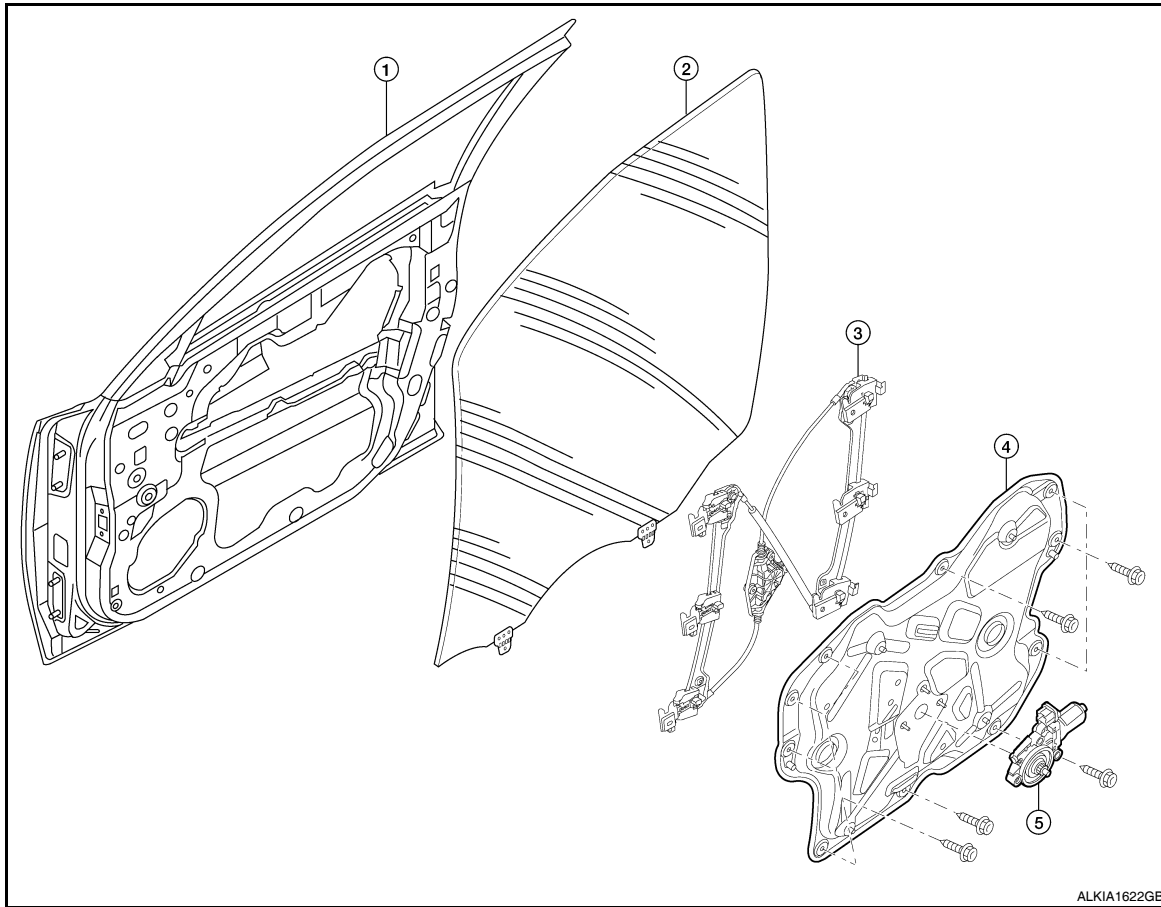
# FRONT REGULATOR

< ON-VEHICLE REPAIR >

## FRONT REGULATOR

Exploded View

INFOID:000000005461793



1. Door panel

2. Door glass

3. Regulator assembly

4. Door module assembly

5. Window motor

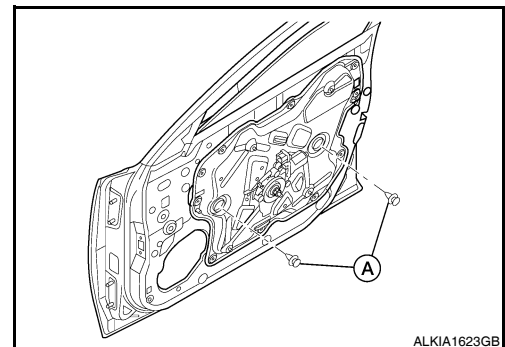
GW

## Removal and Installation

INFOID:000000005461794

### REMOVAL

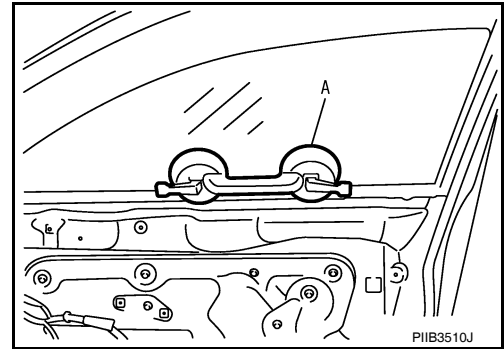
1. Remove the front door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Reconnect the window switch to raise/lower the door glass until the door glass bolts (A) can be seen.
3. Remove the door glass bolts (A).



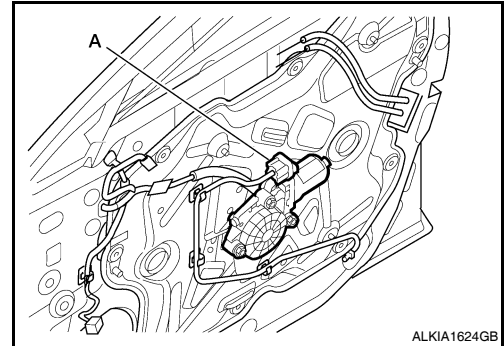
# FRONT REGULATOR

## < ON-VEHICLE REPAIR >

4. Raise the door glass and hold with a suction lifter (A).

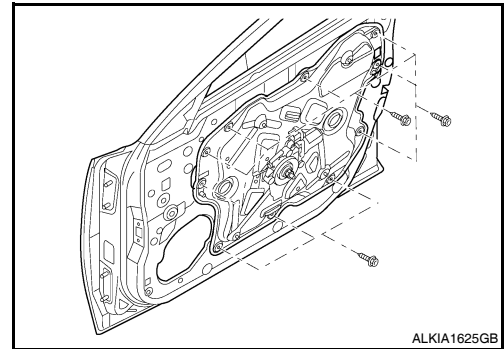


5. Disconnect the window motor connector (A).



6. Remove the door module assembly mounting bolts.

7. Remove the door module assembly.



## INSTALLATION

Installation is in the reverse order of removal.

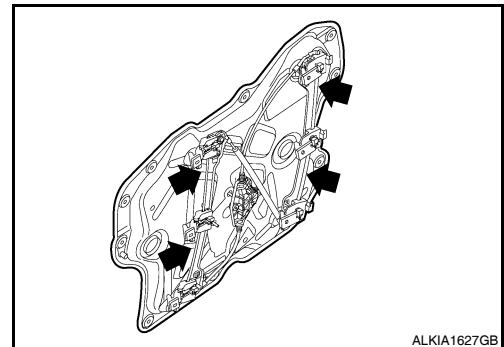
## Inspection and Adjustment

INFOID:000000005461795

### Inspection after Removal

Check the regulator assembly for the following items. If a malfunction is detected, replace or grease it.

- Wire wear
  - Regulator deformation
  - Grease condition for each sliding part
- Apply multi-purpose grease at the locations shown.



## SYSTEM INITIALIZATION

If any of the following work has been done, initialize the system.

- Electric power supply to power window switch or motor is interrupted by blown fuse or disconnecting battery cable, etc.
- Removal and installation of the regulator assembly.
- Removal and installation of the motor from the regulator assembly.

# FRONT REGULATOR

## < ON-VEHICLE REPAIR >

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- Removal and installation of the harness connector of the power window switch.
- Operate the regulator assembly as a unit.
- Removal and installation of the door glass.
- Removal and installation of the door glass run.

### Initialization

After installing each component to the vehicle, follow the steps below.

1. Disconnect the negative battery terminal or disconnect the power window switch harness connector temporarily, then reconnect after at least 1 minute.
2. Turn ignition switch ON.
3. Open the window fully by operating the power window switch. (Exclude this procedure if the window is already fully opened.)
4. Fully raise the power window switch in up direction (auto close position) and hold. Keep holding the switch even when window is completely closed and then release after 3 seconds have passed.
5. Inspect the anti-pinch system function.

#### **NOTE:**

Initialization may be cancelled with continuous opening and closing operation. In this case, initialize the system.

### INSPECT THE FUNCTION OF THE ANTI-PINCH SYSTEM

1. Fully open the door glass.
2. Place a wooden piece (wooden hammer handle, etc.) at near fully closed position.
3. Carry out fully closing operation with auto up switch.

#### **CAUTION:**

- **Do not inspect the anti-pinch system by using a hand or finger. Work carefully not to be pinched.**
- **Check that auto up function is normal before inspection following the system initialization.**
- Check that the glass reverses without pinching the wooden piece, is lowered approx. 150 mm (5.91 in) or for 2 seconds, and then stops.
- The glass should not be raised with power window main switch operated while it is reversing or lowering.

### FINAL INSPECTION

- Make sure the glass is securely set into the glass run groove.
- Lower the glass slightly [approx. 10 to 20 mm (0.39 to 0.79 in)] and make sure the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator mounting bolts, guide rail mounting bolts, and glass and guide rail mounting bolts to adjust the glass position.

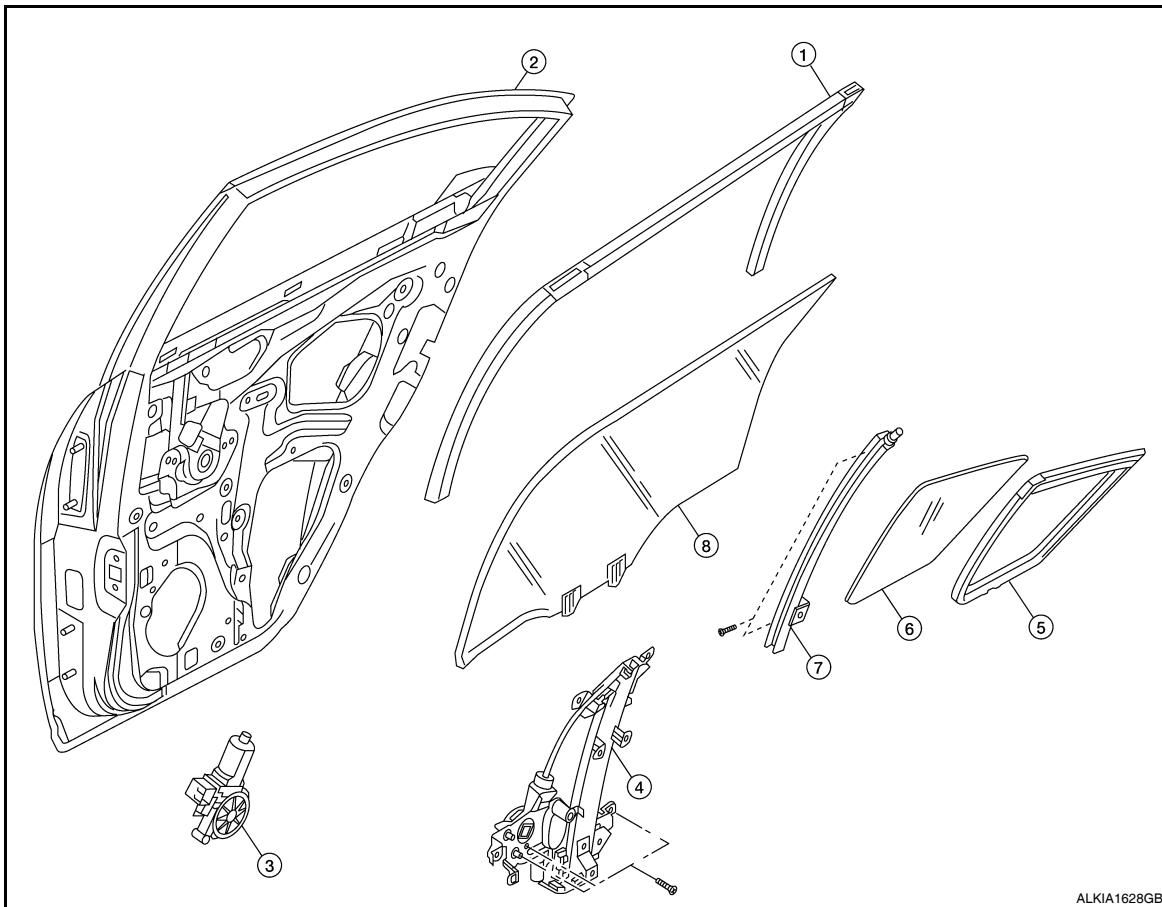
# REAR DOOR GLASS

< ON-VEHICLE REPAIR >

## REAR DOOR GLASS

Exploded View

INFOID:000000005461796



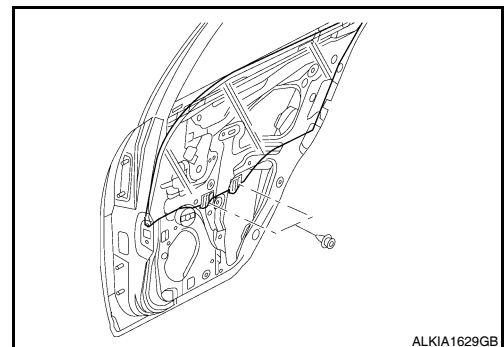
- |                       |                        |                    |
|-----------------------|------------------------|--------------------|
| 1. Door glass run     | 2. Door panel          | 3. Window motor    |
| 4. Regulator assembly | 5. Partition glass run | 6. Partition glass |
| 7. Partition sash     | 8. Door glass          |                    |

## Removal and Installation

INFOID:000000005461797

### REMOVAL

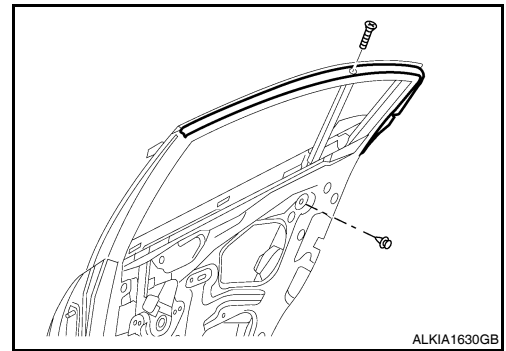
1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Position the vapor barrier aside.
3. Temporarily reconnect the power window switch and raise/lower the door window until the glass bolts can be seen.
4. Remove the glass bolts, and place the glass on the inner bottom of the panel.



## REAR DOOR GLASS

### < ON-VEHICLE REPAIR >

5. Remove the partition sash from the glass run.
6. Remove the partition sash bolt (lower) and screw (upper) to remove the sash.
7. Remove the glass from the inside of the panel.



### INSTALLATION

Installation is in the reverse order of removal.

### Inspection and Adjustment

INFOID:000000005461798

### FITTING INSPECTION

- Check that the glass is securely fit into the glass run groove.
- Lower the glass slightly [approximately 10 to 20 mm (0.39 to 0.79 in)], and check that the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator bolts, guide rail bolts, and glass and carrier plate bolts to correct the glass position.

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# REAR REGULATOR

< ON-VEHICLE REPAIR >

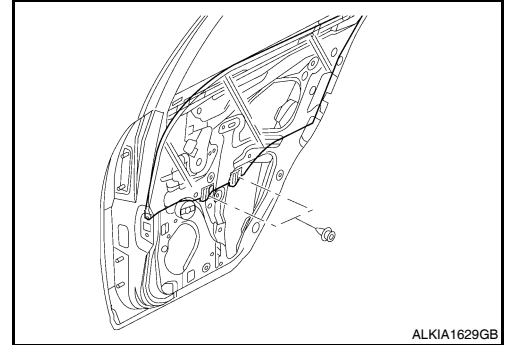
## REAR REGULATOR

### Rear Door Glass Regulator

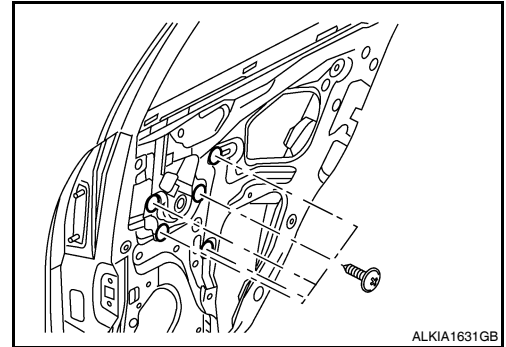
INFOID:000000005461799

#### REMOVAL

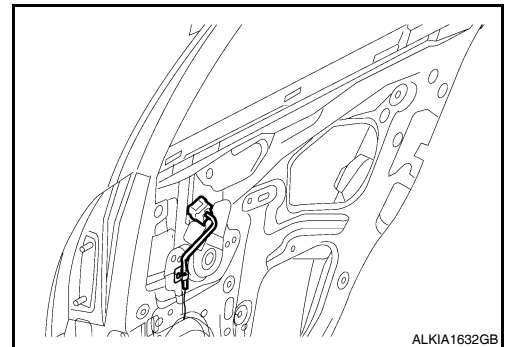
1. Remove the rear door finisher. Refer to [INT-21. "Removal and Installation"](#).
2. Position aside the vapor barrier.
3. Temporarily reconnect the power window switch and raise/lower the door window until the glass bolts can be seen.
4. Remove the glass bolts.
5. Raise the door glass and hold with a suction lifter.



6. Remove the bolts and the regulator and guide channel from the panel.



7. Disconnect the connector from the regulator assembly.
8. Remove the regulator assembly.



#### INSPECTION AFTER REMOVAL

Check the regulator assembly for the following items. If a malfunction is detected, replace or grease it.

- Gear wear
- Regulator deformation
- Spring damage
- Grease condition for each sliding part

#### INSTALLATION

Installation is in the reverse order of removal.

- Perform fitting inspection. Refer to [GW-23. "Inspection and Adjustment"](#).



# FRONT REGULATOR

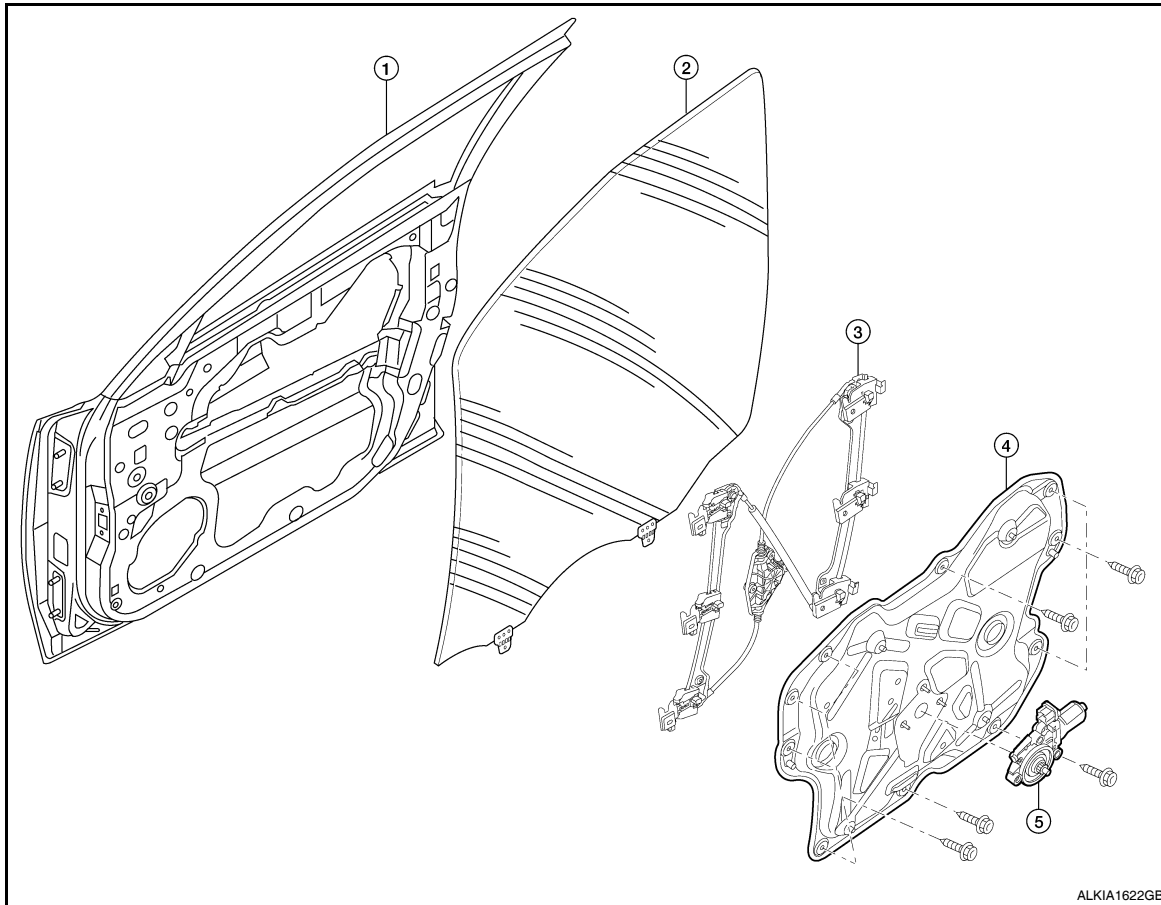
< DISASSEMBLY AND ASSEMBLY >

## DISASSEMBLY AND ASSEMBLY

### FRONT REGULATOR

Exploded View

INFOID:000000005461800



- 1. Door panel
- 4. Door module assembly

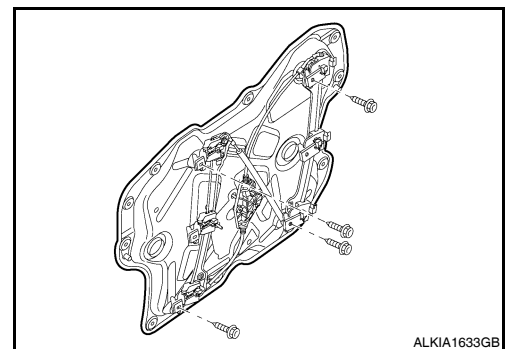
- 2. Door glass
- 5. Window motor

- 3. Regulator assembly

### Disassembly

INFOID:000000005461801

1. Remove the window motor from the door module assembly.
2. Remove the four window regulator bolts from the door module assembly.
3. Remove the window regulator from the door module assembly.



### Assembly

INFOID:000000005461802

Assembly is in the reverse order of disassembly.

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