

SECTION **GW**

GLASSES, WINDOW SYSTEM & MIRRORS

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# PRECAUTIONS

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## PRECAUTIONS

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### Service Notice

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- When removing or installing various parts, place a cloth or padding onto the vehicle body to prevent scratches.
- Handle trim, molding, instruments, grille, etc. carefully during removing or installing. Be careful not to soil or damage them.
- Apply sealing compound where necessary when installing parts.
- When applying sealing compound, be careful that the sealing compound does not protrude from parts.
- When replacing any metal parts (for example body outer panel, members, etc.), be sure to take rust prevention measures.

### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

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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 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 SRS 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 harness connectors.**

# PREPARATION

## PREPARATION

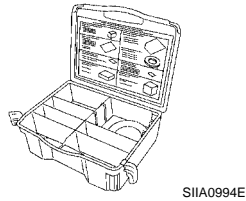
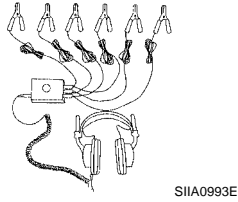
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### Special service tool

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

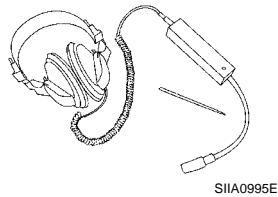
Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear	Locating the noise
— (J-43980) NISSAN Squeak and Rattle Kit	Repairing the cause of noise



## Commercial Service Tool

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Tool name (Kent-Moore No.)	Description
Engine ear (J-39565)	Locating the noise



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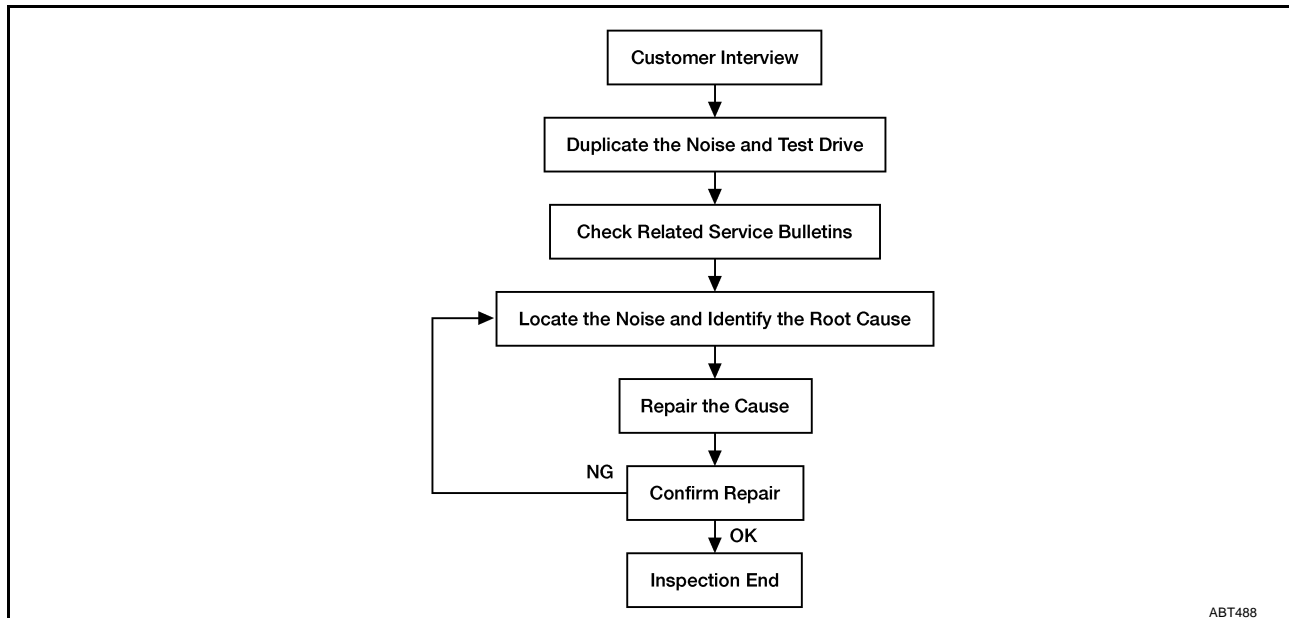
# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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### 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 comments; refer to [GW-8, "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 detail description or 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 sound / something repeating / often brought on by driver action.
  - Tick-(Like a clock second hand)
  - Tick characteristics include light contact of light material / loose components / can be caused by driver action on 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.

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

## Duplicate the Noise and Test Drive

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 locations 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 (electric load, half-clutch on M/T model, drive position on A/T model).
  6. Raise the vehicle on a hoist and hit a tire with 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: J-39565, and mechanic's 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 fasteners 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 Generic Squeak and Rattle Troubleshooting.

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

- The following material are contained in the NISSAN Squeak and Rattle Kit (J-43980) Each item can be ordered separately as needed.
- URETHANE PADS (1.5 mm thick)
  - insulates connectors, harness, etc.
- 76268–9E005: 100 x 135 mm / 76884–71L01: 60 x 85 mm / 76884–71L02: 15 x 25 mm
- INSULATOR (foam blocks)

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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- Insulates components from contact. Can be used to fill space behind a panel.
- 73982-9E000: 45 mm thick, 50 x 50 mm / 73982-50Y00: 10 mm thick, 50 x 50 mm
- INSULATOR (Light foam block)
- 80845-71L00: 30 mm thick, 30 x 50 mm
- FELT CLOTH TAPE
- Used to insulate where movement does not occur. Ideal for instrument panel applications.
- 68370-4B000: 15 x 25 mm pad / 68239-13E00: 5 mm 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.
- Note: 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 TROUBLESHOOTING

### Instrument Panel

Most incidents are caused by contact and movement between:

1. The 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 harness 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 harness behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to 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

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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 or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-43980) to repair the noise.

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## Cargo Area

Cargo area noises are often caused by a loose jack or loose items put into the cargo area by the owner. In addition look for:

B

1. Rear door finisher and inner panel making a slapping noise
2. Rear door striker out of adjustment
3. Wiring harness tapping
4. A loose license plate or bracket

C

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

D

## Sunroof and Headliner

Noises in the sunroof and headliner area can often be traced to one of the following:

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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 headliner and squeaking

F

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.

G

## Seats

When isolating seat noises it is important to note the position of the seat, and the load placed on the seat, when the noise is present.

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These conditions should be duplicated when verifying and isolating the cause of the noise.

Causes of seat noise include:

1. Headrest rods and holders
2. A squeak between the seat pad cushion and frame
3. The rear seat back lock and bracket

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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.

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## Underhood

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

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Causes of transmitted underhood noises include:

1. Any components 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

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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.

Repair can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## DIAGNOSTIC WORKSHEET



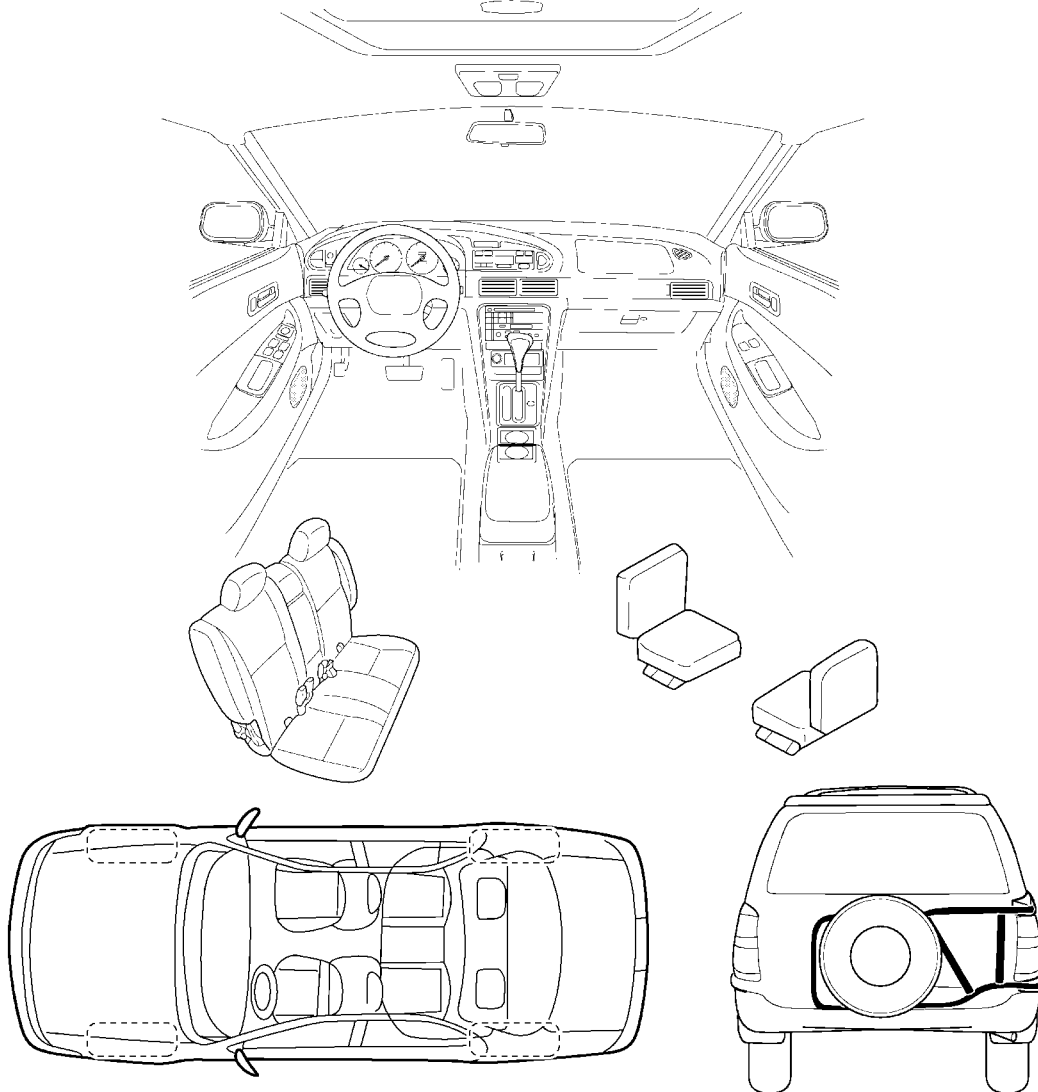
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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 the back 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 DIAGNOSIS

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

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

- |  |   |
|--|---|
| <input type="checkbox"/> anytime                             | <input type="checkbox"/> after sitting out in the sun |
| <input type="checkbox"/> 1 <sup>st</sup> 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 at 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 on a 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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# WINDSHIELD AND WINDOWS

## WINDSHIELD AND WINDOWS

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### Removal and Installation REMOVAL

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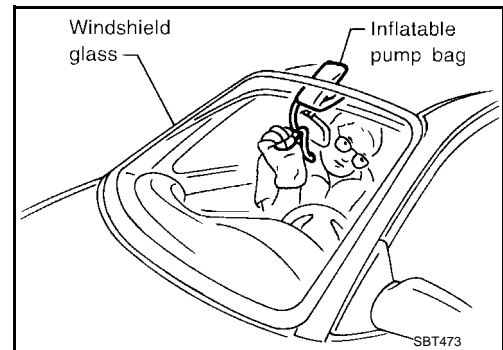
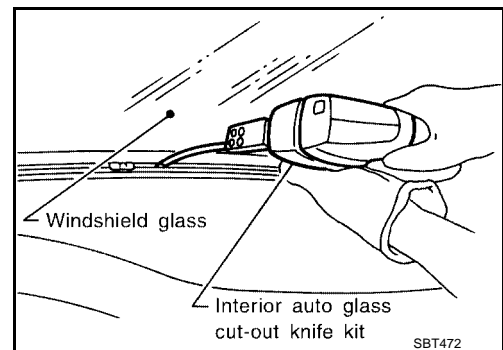
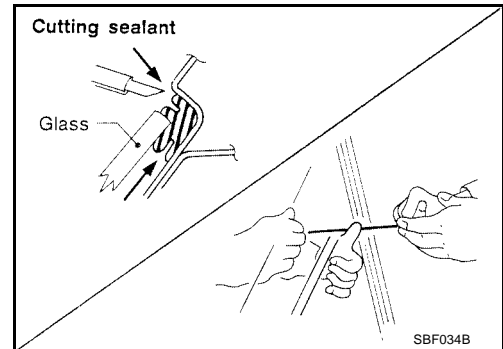
After removing moldings, remove glass using piano wire or power cutting tool and an inflatable pump bag.

#### **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.



### INSTALLATION

- Use genuine NISSAN Urethane Adhesive Kit 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:**

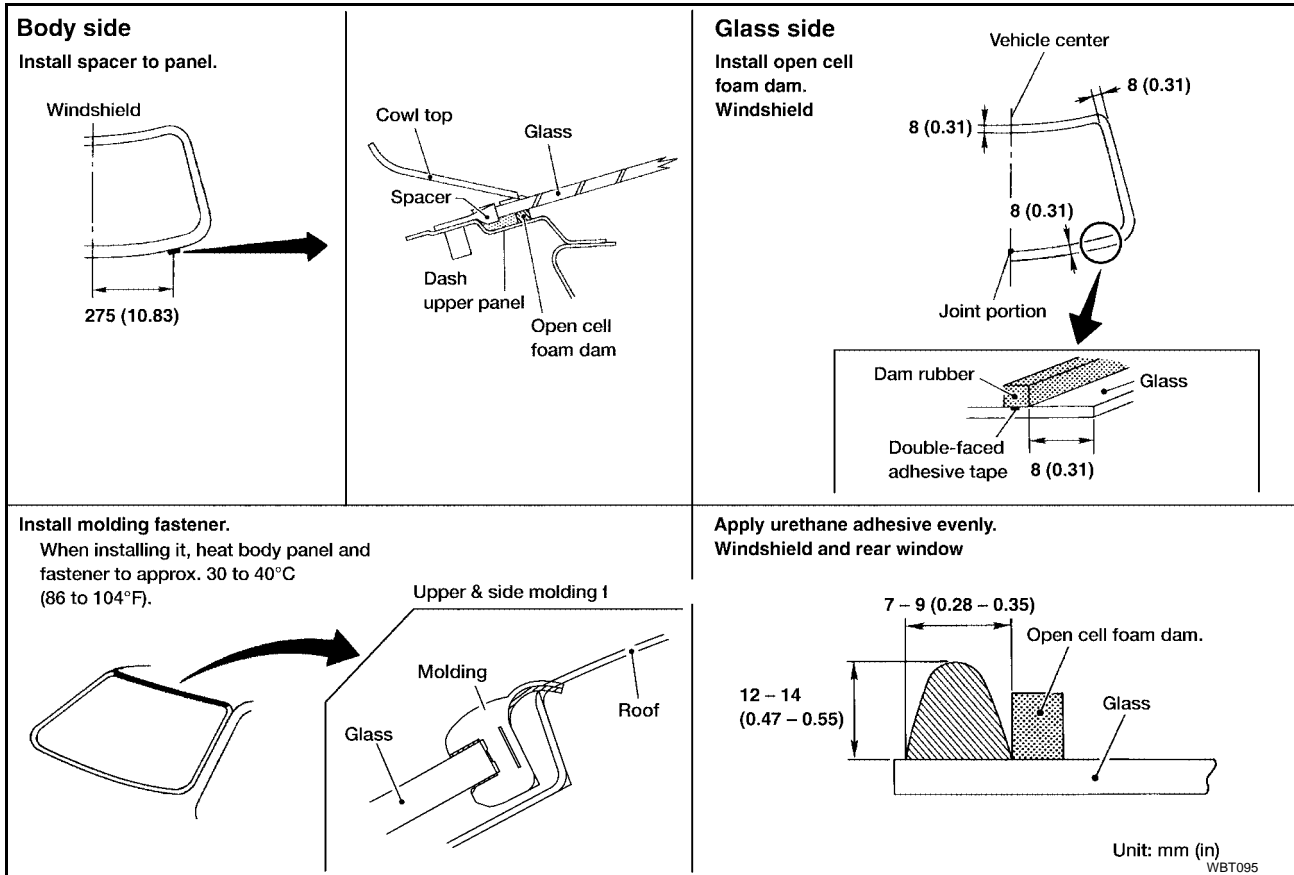
- Keep heat and open flames away as primers and adhesive are flammable.
- The materials contained in the kit are harmful if swallowed, and may irritate skin and eyes. Avoid contact with the skin and eyes.
- Use in an open, well ventilated location. Avoid breathing the vapors. They can be harmful if inhaled. 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.

# WINDSHIELD AND WINDOWS

## 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 humidities. The curing time will increase under higher temperatures and lower humidities.

## WINDSHIELD

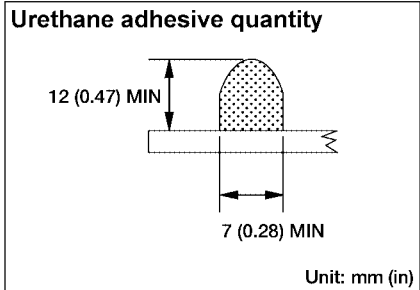
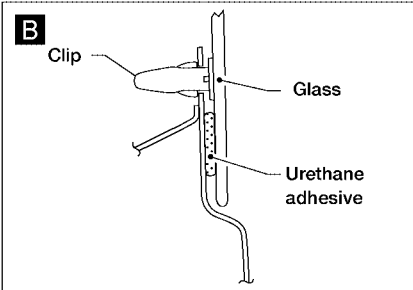
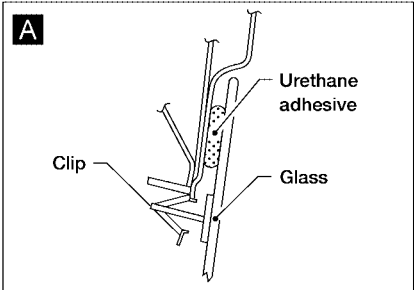
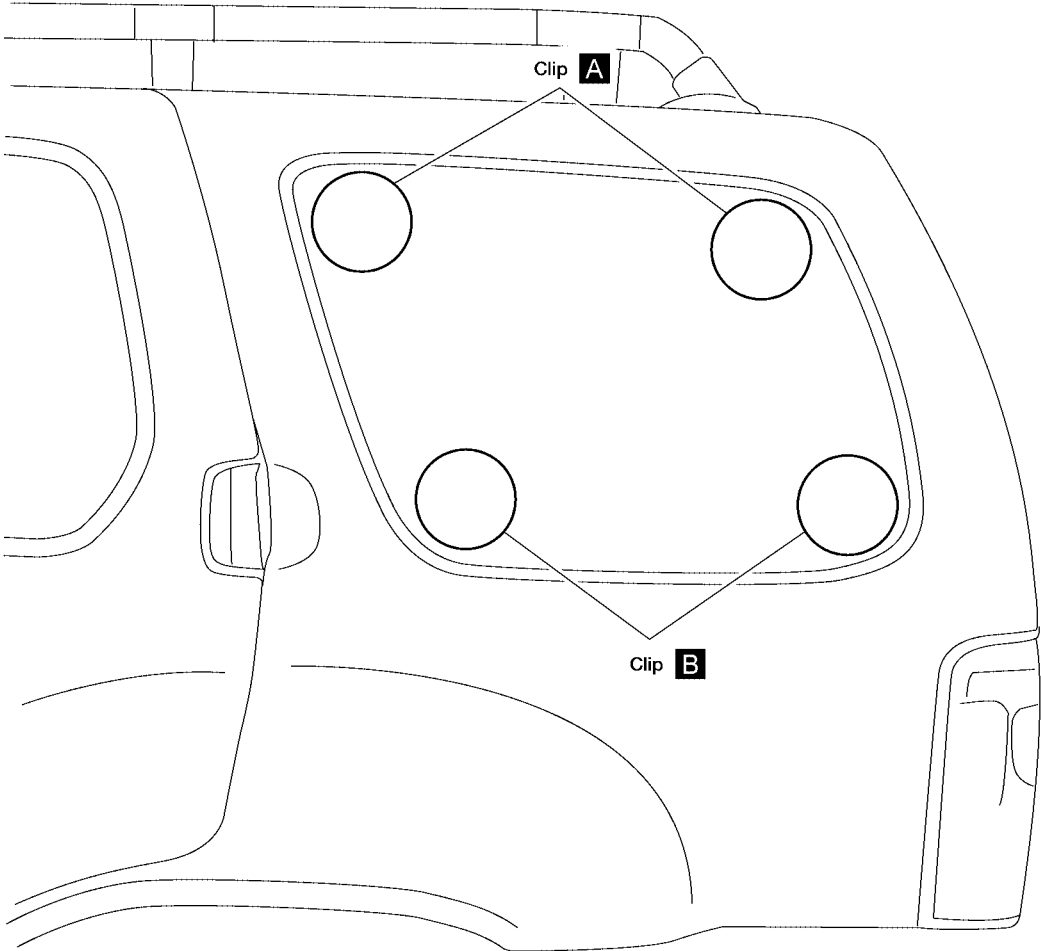


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# WINDSHIELD AND WINDOWS

## REAR SIDE WINDOW

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# WINDSHIELD AND WINDOWS

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## Repairing Water Leaks for Windshield, Side Window

Leaks can be repaired without removing and reinstalling glass.

**If water is leaking between urethane adhesive material and body or glass, determine the extent of leakage. This can be done by applying water to the windshield or side window 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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## POWER WINDOW

### System Description

Power is supplied at all times

- from 30A fusible link (letter f , located in the fuse and fusible link box)
- to circuit breaker terminal +
- through circuit breaker terminal –
- to power window relay terminal 3, and
- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to smart entrance control unit terminal 49.

With the ignition switch in the ACC or ON position, power is supplied

- through 7.5A fuse [No. 20, located in the fuse block (J/B)]
- to smart entrance control unit terminal 26
- through smart entrance control unit terminal 46
- to power window relay terminal 2.

Ground is supplied at all times

- to power window relay terminal 1,
- to smart entrance control unit terminals 43 and 64, and
- to main power window and door lock/unlock switch terminal 10
- through body grounds M14 and M68.

The power window relay is energized and power is supplied

- through power window relay terminal 5
- to main power window and door lock/unlock switch terminal 2
- to front power window switch RH terminal 4
- to rear power window switch LH terminal 2
- to rear power window switch RH terminal 2.

### MANUAL OPERATION

#### NOTE:

Numbers in parentheses are terminal numbers which apply with switch pressed in the UP and DOWN positions respectively.

#### Front Door LH

Power is supplied

- through main power window and door lock/unlock switch terminal (12, 16)
- to front power window motor LH terminal (UP, DN).

Ground is supplied

- to front power window motor LH terminal (DN, UP)
- through main power window and door lock/unlock switch terminal (16, 12).

With power and ground supplied, the motor raises or lowers the window until the switch is released or the window has reached the end of its travel.

#### Front Door RH

#### MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With front RH switch pressed, power is supplied

- through main power window and door lock/unlock switch (14, 13)
- to front power window switch RH (5, 2).

The following description is the same as the front power window switch RH description.

#### FRONT POWER WINDOW SWITCH RH OPERATION

Power is supplied

- through front power window switch RH (6, 3)
- to front power window motor RH (UP, DN).

# POWER WINDOW

Ground is supplied

- to front power window motor RH (DN, UP) A
- through front power window switch RH (3, 6)
- to front power window switch RH (2, 5)
- through main power window and door lock/unlock switch (13, 14). B

With power and ground supplied, the motor raises or lowers the window until the switch is released or the window has reached the end of its travel. C

## Rear Door LH

### MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With rear LH switch pressed, power is supplied D

- through main power window and door lock/unlock switch (1, 6)
- to rear power window switch LH (1, 3).

The following description is the same as the rear power window switch LH description. E

### REAR POWER WINDOW SWITCH LH OPERATION

Power is supplied

- through rear power window switch LH (4, 6) F
- to rear power window motor LH (UP, DN).

Ground is supplied

- to rear power window motor LH (DN, UP) G
- through rear power window switch LH (6, 4)
- to rear power window switch LH (3, 1)
- through main power window and door lock/unlock switch (6, 1). H

With power and ground supplied, the motor raises or lowers the window until the switch is released or the window has reached the end of its travel.

## Rear Door RH

### MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION

With rear RH switch pressed, power is supplied J

- through main power window and door lock/unlock switch (7, 9)
- to rear power window switch RH (1, 3).

The following description is the same as the rear power window switch RH description. K

### REAR POWER WINDOW SWITCH RH OPERATION

Power is supplied

- through rear power window switch RH (4, 6) L
- to rear power window motor RH (UP, DN).

Ground is supplied

- to rear power window motor RH (DN, UP) M
- through rear power window switch RH (6, 4)
- to rear power window switch RH (3, 1)
- through main power window and door lock/unlock switch (9, 7).

With power and ground supplied, the motor raises or lowers the window until the switch is released or the window has reached the end of its travel.

## AUTO OPERATION

The power window AUTO feature enables the driver to lower the driver's window without holding the switch in the DOWN position.

The AUTO feature is activated by pressing the switch beyond the DOWN position to the AUTO position.

The AUTO feature only operates on the downward movement of the driver's window.

The window can be stopped before it is fully open by pressing the window switch to the UP position.

## POWER WINDOW LOCK

The power window lock prevents operation of all windows except the driver's window.

When the lock switch is pressed to the lock position, ground of the front power window switch RH, the rear power window switch LH, and the rear power window switch RH is disconnected in the main power window

GW

## POWER WINDOW

---

and door lock/unlock switch. This prevents the front power window motor RH, the rear power window motor LH, and the rear power window motor RH from operating.

### **RETAINED ACCESSORY POWER (RAP) OPERATION (WITH POWER DOOR LOCKS)**

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to power window relay terminal 2
- from smart entrance control unit terminal 46.

Ground is supplied

- to power window relay terminal 1
- through body grounds M14 and M68.

With power and ground supplied, the power window relay continues to be energized, and the power windows can be operated.

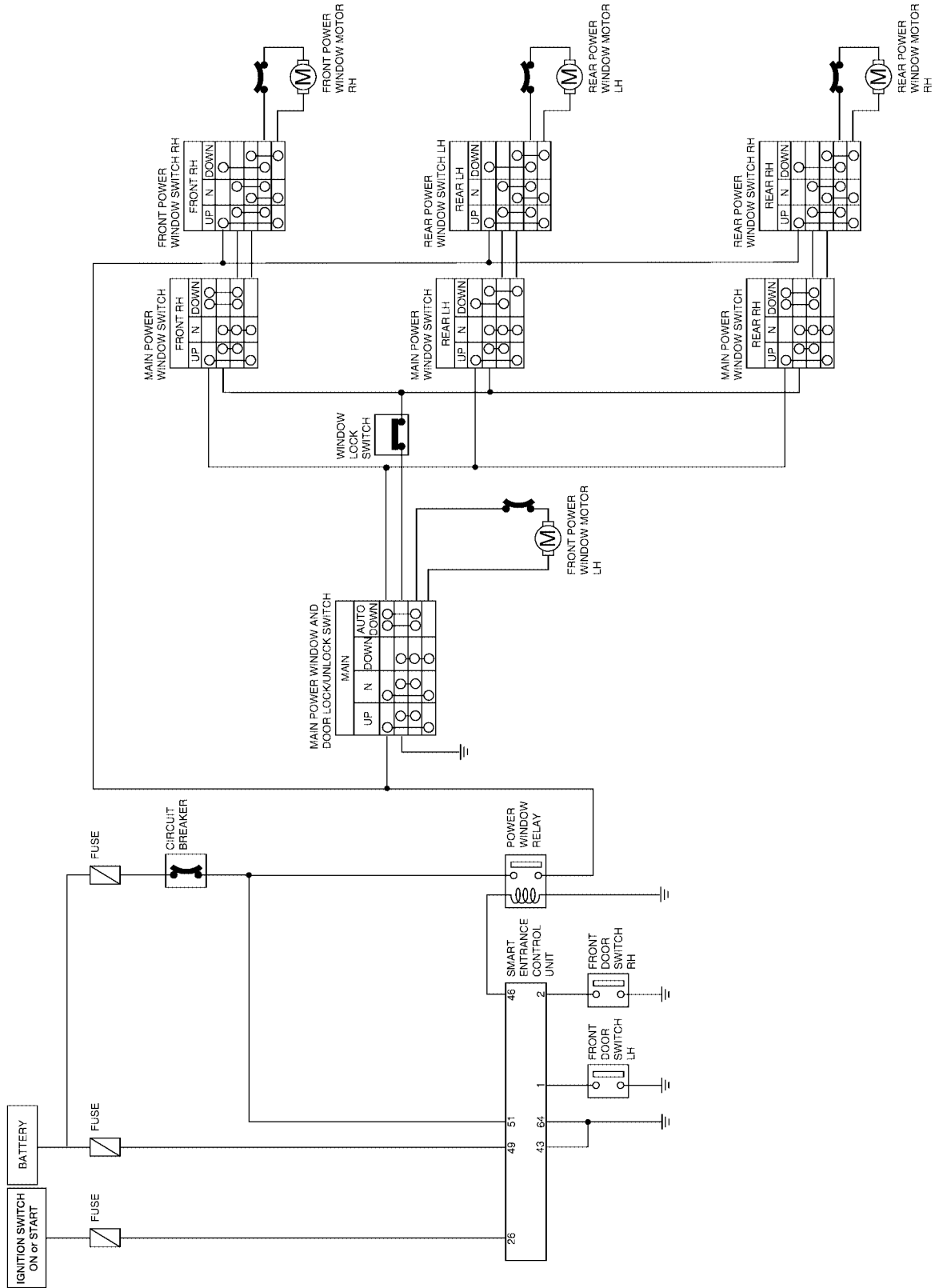
The retained power operation is cancelled when the driver or passenger side door is opened.



# POWER WINDOW

## Circuit Diagram

EIS00130



A  
B  
C  
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F  
G  
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J  
K  
L  
M

**GW**

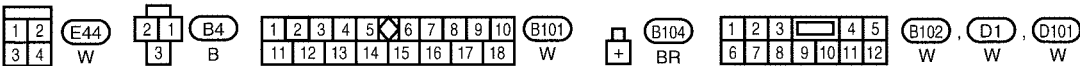
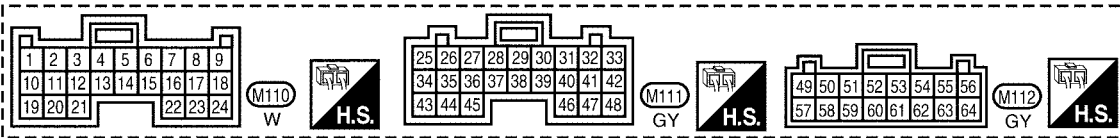
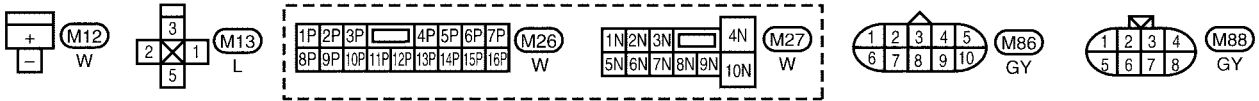
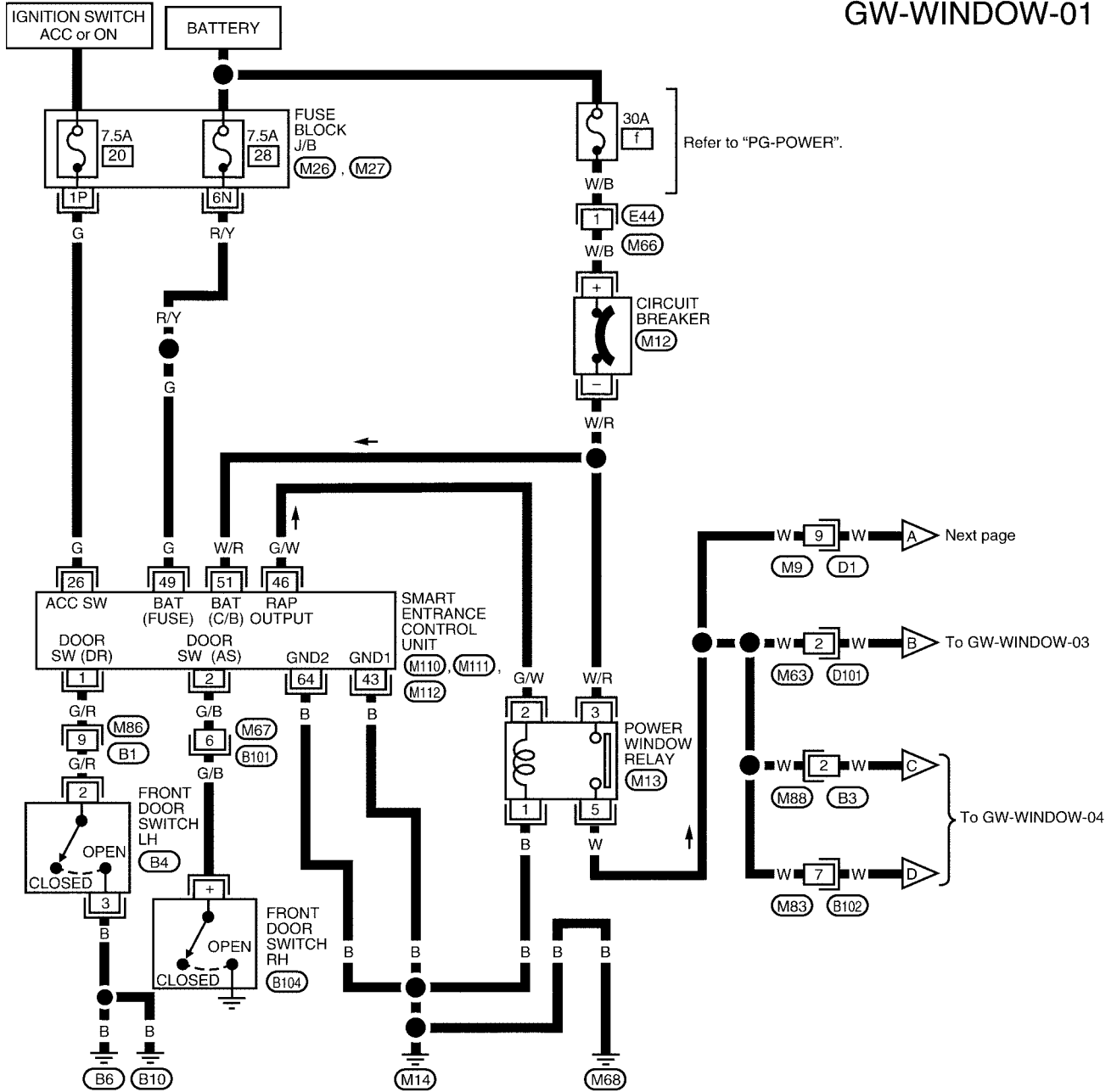
WIWA0115E

# POWER WINDOW

## Wiring Diagram — WINDOW —

EIS0013P

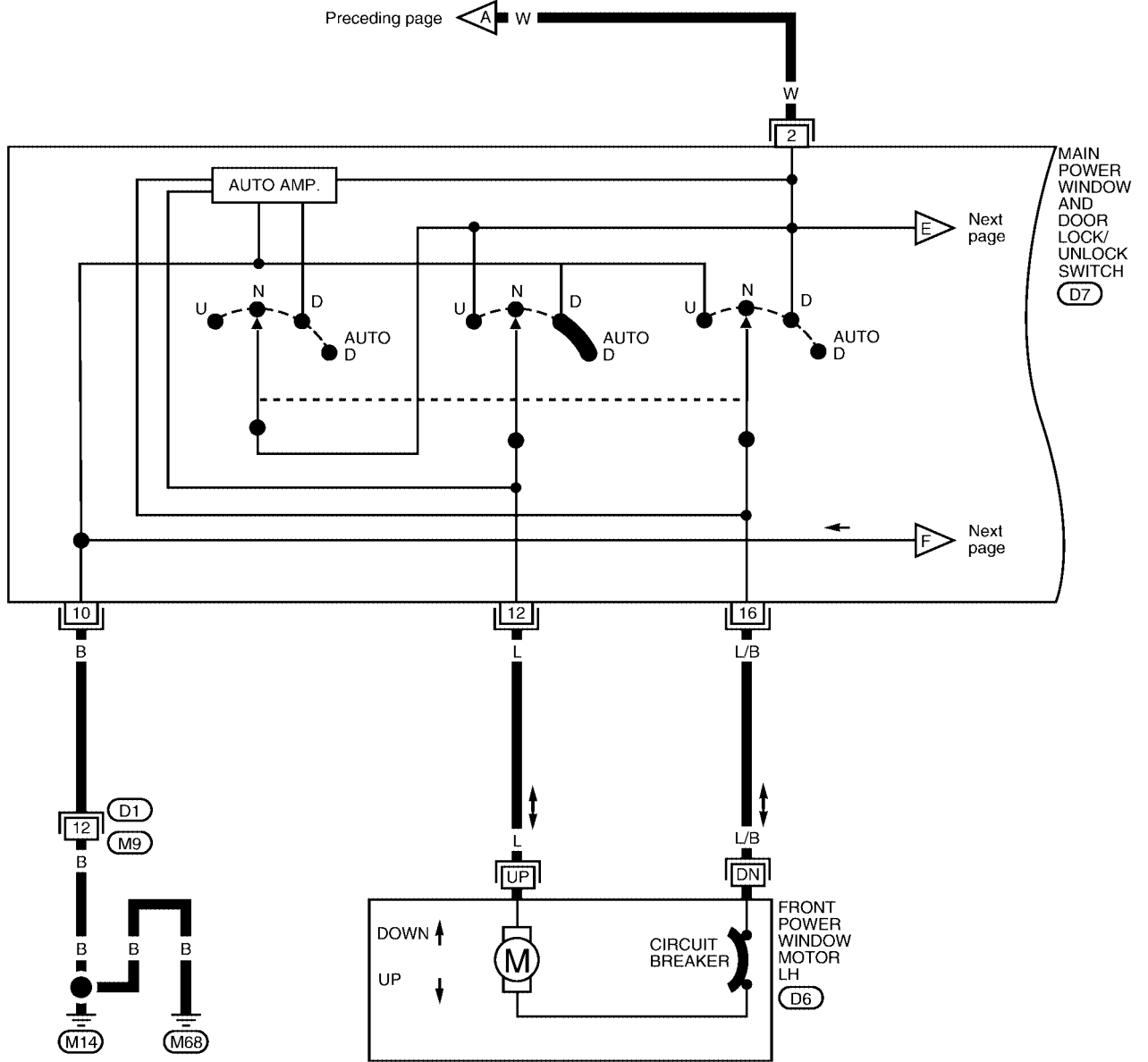
GW-WINDOW-01



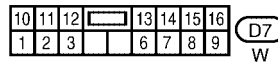
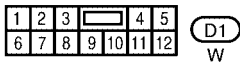
LIWA0263E

# POWER WINDOW

GW-WINDOW-02



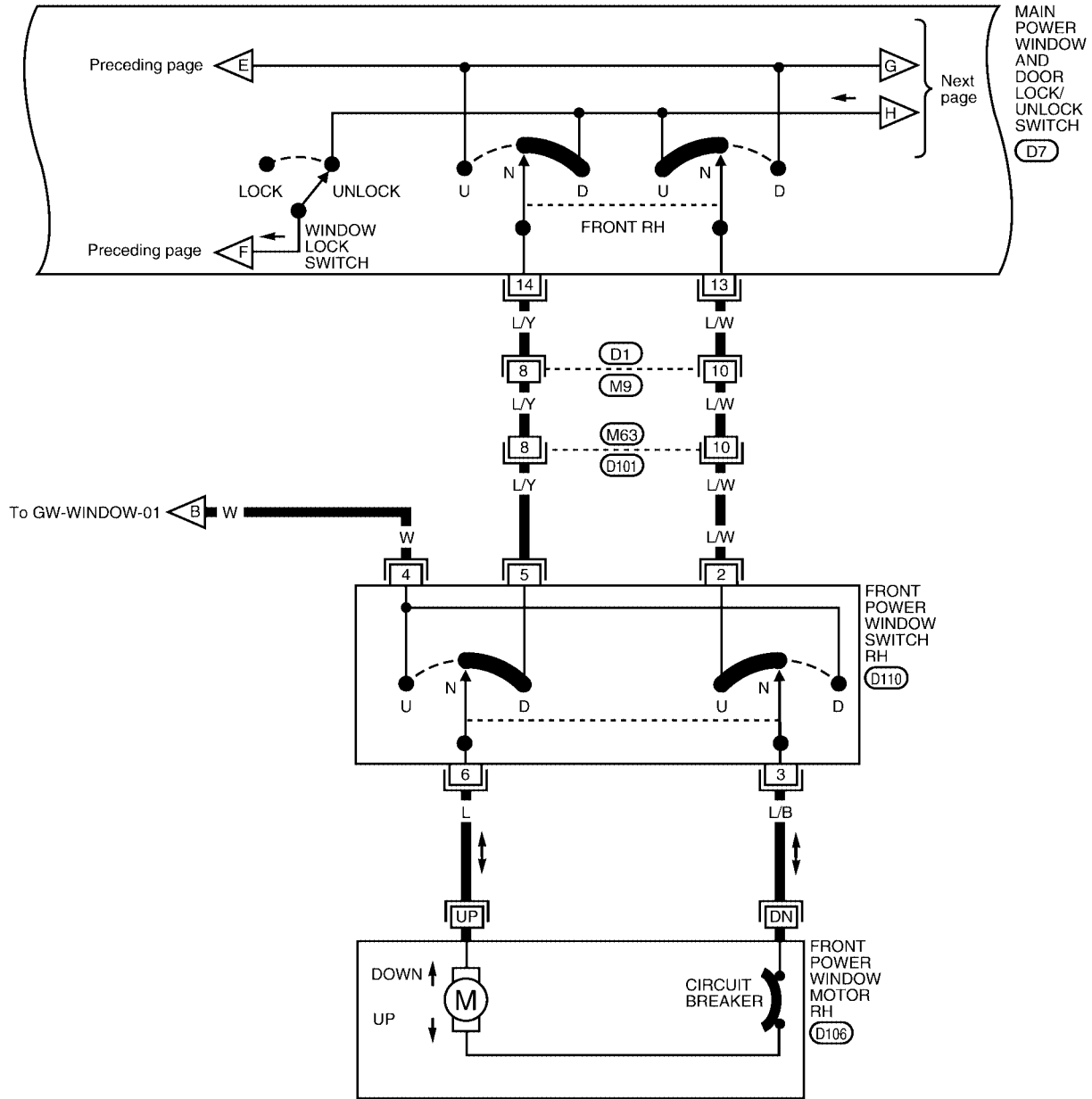
A  
B  
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G  
H  
GW  
J  
K  
L  
M



W1WA0117E

# POWER WINDOW

## GW-WINDOW-03



1	2	3	4	5
6	7	8	9	10
11	12			

D1 W  
D101 W

10	11	12	13	14	15	16
1	2	3	6	7	8	9

D7 W

DN UP D106 B

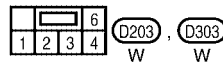
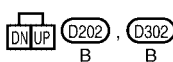
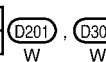
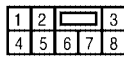
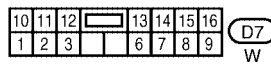
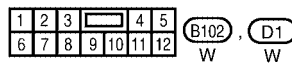
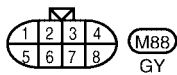
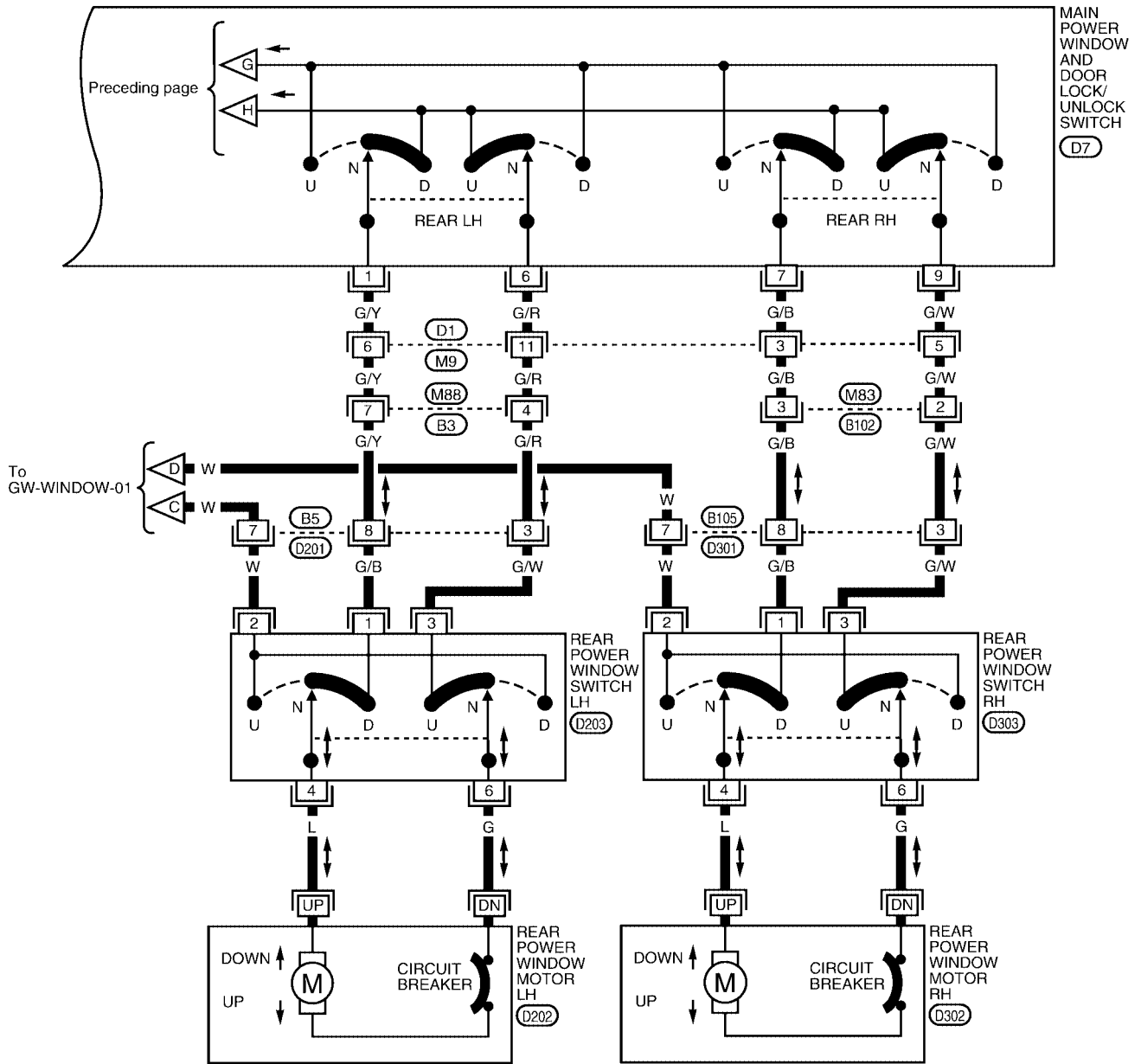
6	5
2	3
4	

D110 W

# POWER WINDOW

## GW-WINDOW-04

A  
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M



# POWER WINDOW

## Trouble Diagnoses

EIS0013Q

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	<ol style="list-style-type: none"> <li>1. 7.5A fuse, 40A fusible link and M12 circuit breaker</li> <li>2. Power window relay ground circuit</li> <li>3. Power window relay</li> <li>4. Open/short in main power window and door lock/unlock switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check 7.5A fuse (No. 20, located in fuse block [J/B]), 40A fusible link (letter f , located in fuse and fusible link box) and M12 circuit breaker. Turn ignition switch ON and verify battery positive voltage is present at main power window and door lock/unlock switch terminal 2, front power window switch RH terminal 4 and rear power window switch LH and RH terminal 2.</li> <li>2. Check power window relay ground circuit.</li> <li>3. Check power window relay.</li> <li>4. Check circuit between power window relay and main power window and door lock/unlock switch for open/short circuit.</li> </ol>
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> <li>1. Front power window motor LH circuit</li> <li>2. Front power window motor LH</li> <li>3. Main power window and door lock/unlock switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check harness between main power window and door lock/unlock switch and front power window motor LH for open or short circuit.</li> <li>2. Check front power window motor LH.</li> <li>3. Check main power window and door lock/unlock switch.</li> </ol>
Passenger side power window cannot be operated.	<ol style="list-style-type: none"> <li>1. Front power window switch RH</li> <li>2. Front power window motor RH</li> <li>3. Main power window and door lock/unlock switch</li> <li>4. Power window circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check front power window switch RH.</li> <li>2. Check front power window motor RH.</li> <li>3. Check main power window and door lock/unlock switch.</li> <li>4. Check the following. <ul style="list-style-type: none"> <li>– Check harnesses between main power window and door lock/unlock switch RH and front power window switch RH for open/short circuit.</li> <li>– Check harnesses between front power window switch RH and front power window motor RH for open/short circuit.</li> </ul> </li> </ol>
Passenger side power window cannot be operated using main power window and door lock/unlock switch but can be operated by front power window switch RH.	<ol style="list-style-type: none"> <li>1. Main power window and door lock/unlock switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check main power window and door lock/unlock switch.</li> </ol>
One or more rear power windows cannot be operated.	<ol style="list-style-type: none"> <li>1. Rear power window switch</li> <li>2. Rear power window motor</li> <li>3. Main power window switch</li> <li>4. Rear power window switch circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check rear power window switch.</li> <li>2. Check rear power window motor.</li> <li>3. Check main power window switch.</li> <li>4. Check the following. <ul style="list-style-type: none"> <li>– Harnesses between the main power window switch and rear power window switches</li> <li>– Harnesses between the rear power window switches and rear power window motors for open or short</li> </ul> </li> </ol>
Power windows (except driver side power window) cannot be operated using main power window switch but can be operated by power window switches.	<ol style="list-style-type: none"> <li>1. Main power window and door lock/unlock switch</li> </ol>	<ol style="list-style-type: none"> <li>1. Check main power window and door lock/unlock switch.</li> </ol>

# POWER WINDOW

Symptom	Possible cause	Repair order
Driver's window AUTO function cannot be operated using main power window and door lock/unlock switch.	1. Main power window and door lock/unlock switch	1. Check main power window and door lock/unlock switch.
Retained accessory power feature does not operate properly	1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Smart entrance control unit	1. Check harness between power window relay terminal 2 and smart entrance control unit terminal 46 for open/short circuit. 2. Check the following – Check harness between smart entrance control unit and driver or passenger side door switch for short circuit. – Check driver or passenger side door switch ground circuit. – Check driver or passenger side door switch. 3. Replace smart entrance control unit.

A  
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GW

# FRONT DOOR

PFP:80100

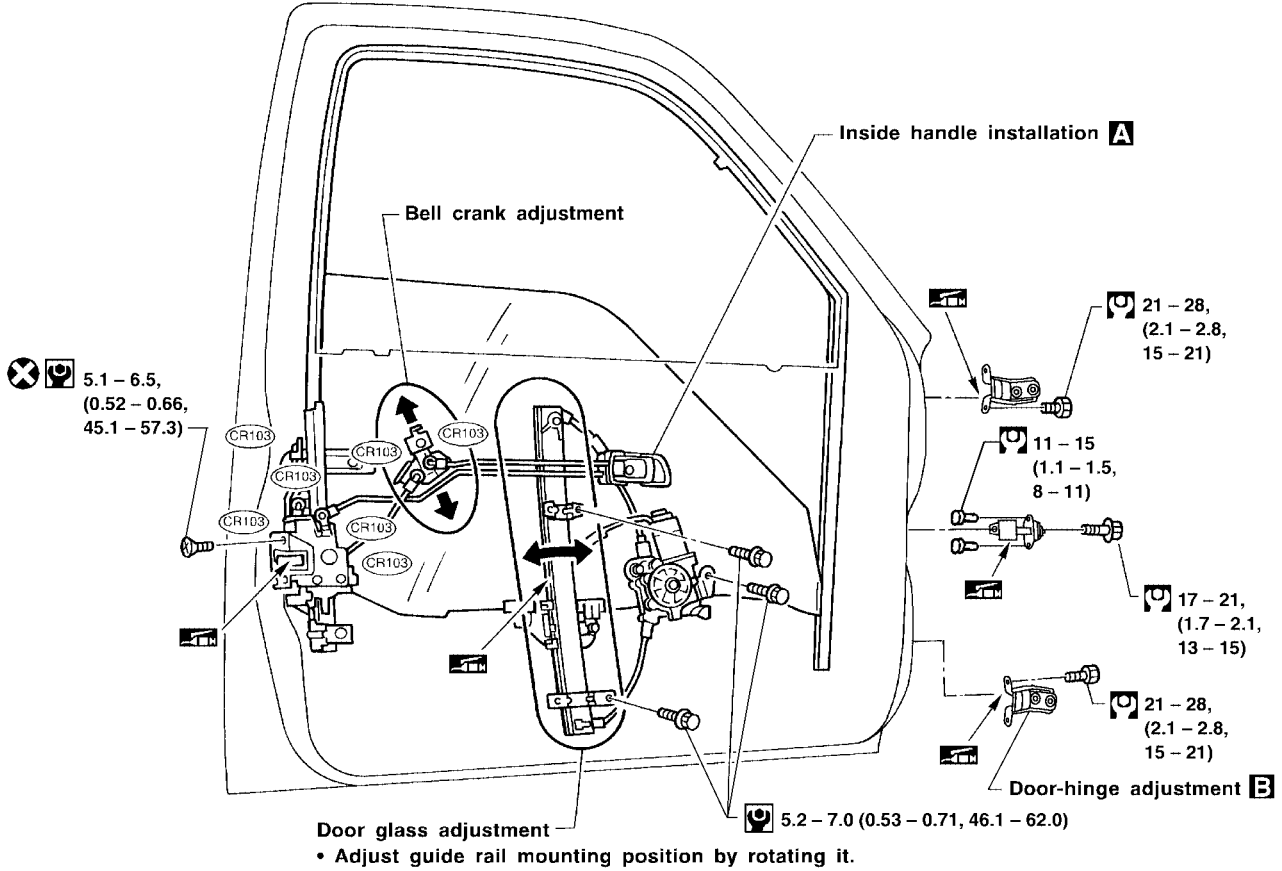
EIS001ET

## FRONT DOOR

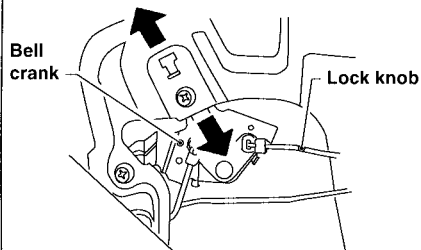
### Overhaul

- For removal of door trim, refer to [EI-21, "Removal and Installation"](#).
- After adjusting door or door lock, check door lock operation.

SEC. 800•803•805

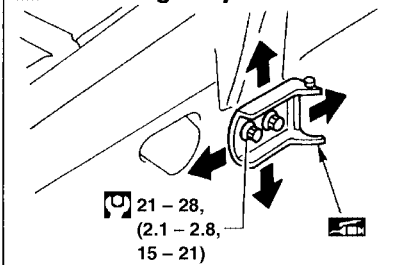


#### A Bell crank adjustment

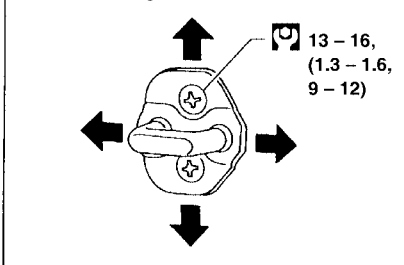


Lock door after setting door lock assembly and inside handle in position. Move bell crank in direction of arrow (shown in figure at left) to take up knob free play, and secure with bolts.

#### B Door-hinge adjustment



#### Striker adjustment



- : N-m (kg-m, in-lb)
- : N-m (kg-m, ft-lb)
- : Grease-up point (Do not apply too much grease as it will drip)

WBT109



# REAR DOOR

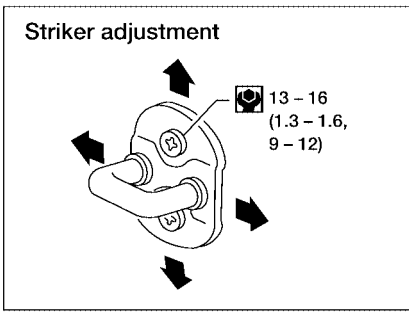
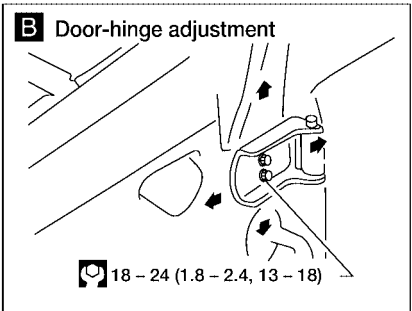
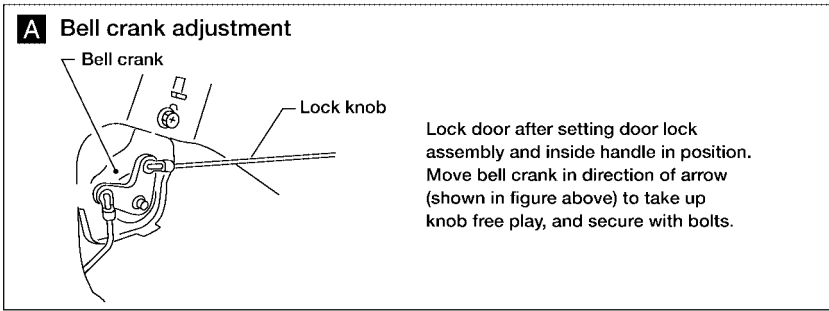
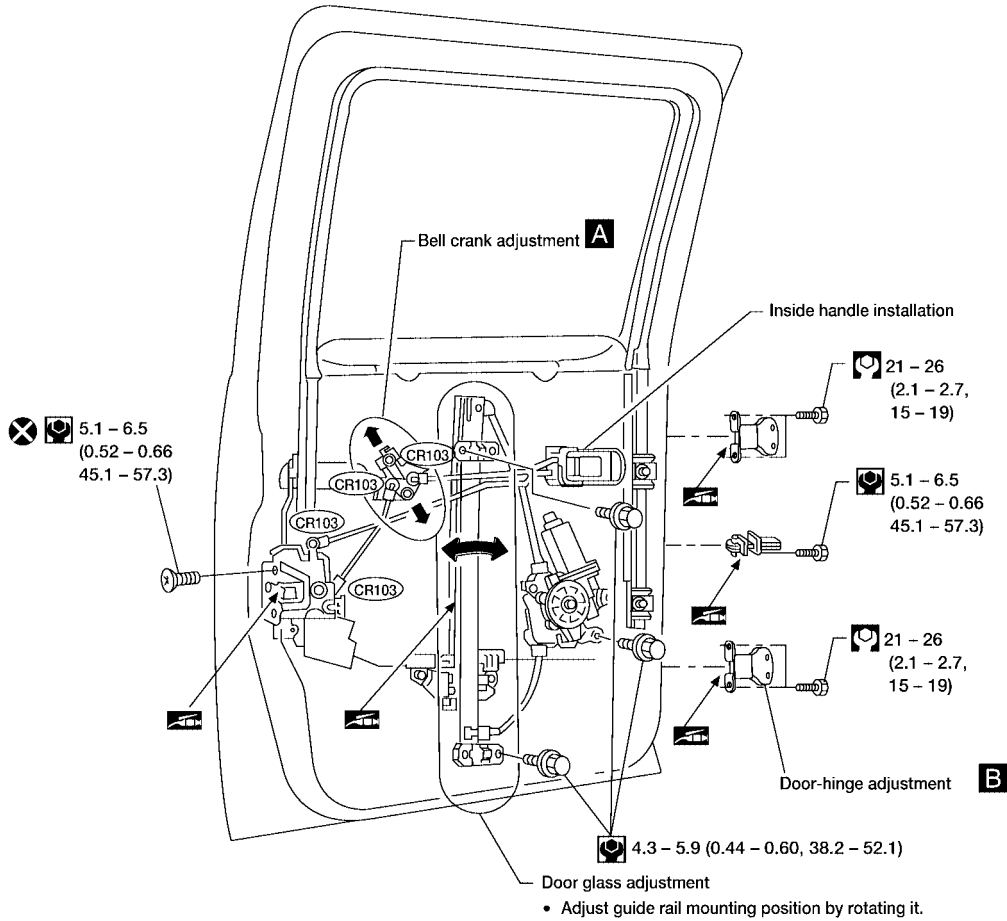
## REAR DOOR

### Overhaul

SEC. 820 • 823 • 825

PFP:82100

EIS001EU



- : N·m (kg-m, in-lb)
- : N·m (kg-m, ft-lb)
- : Grease-up point (Do not apply too much grease as it will drip)

# DOOR MIRROR

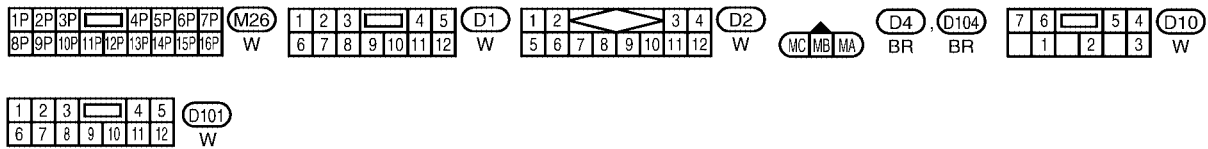
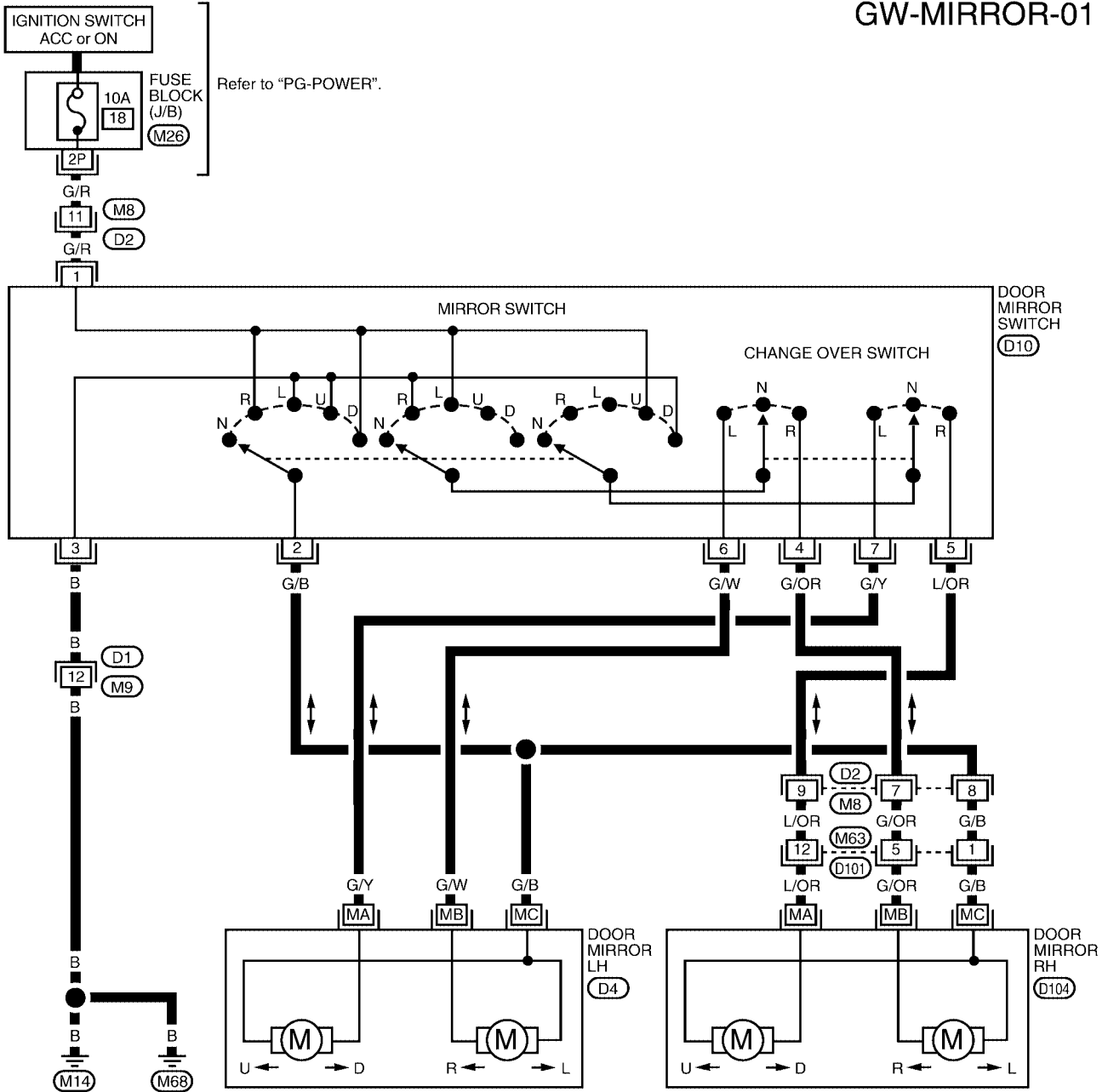
PF9:96301

EIS00140

## DOOR MIRROR

### Wiring Diagram — MIRROR —

GW-MIRROR-01



WIWA0120E

# DOOR MIRROR

EIS00141

## Removal and Installation

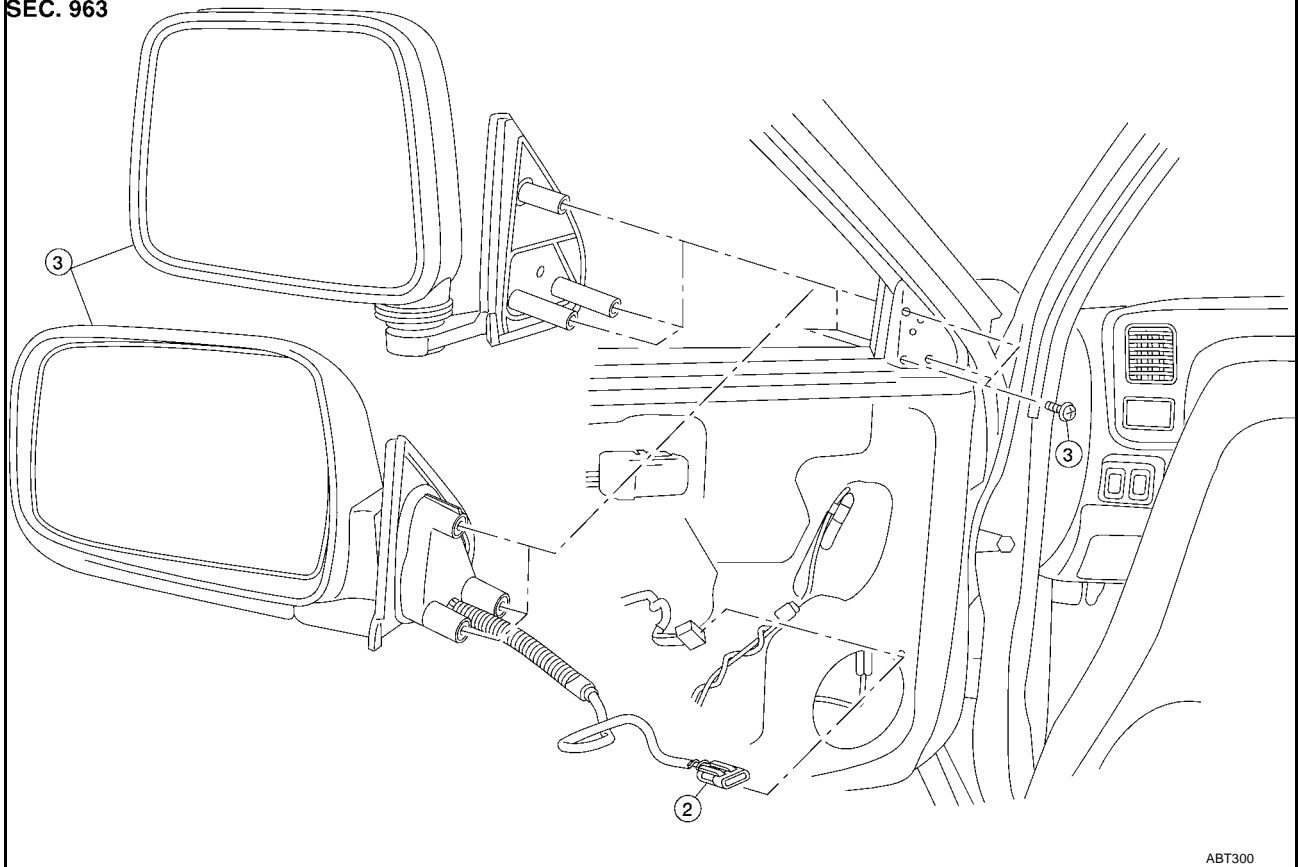
### CAUTION:

Be careful not to scratch door rear view mirror body.

For wiring diagram, refer to [GW-26, "Wiring Diagram — MIRROR —"](#).

1. Remove door trim or inner cover from front corner of door. Refer to [EI-21, "Removal and Installation"](#).
2. Disconnect door mirror harness connector.
3. Remove bolts securing door mirror, then remove door mirror assembly.

SEC. 963



ABT300

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GW

# REAR WINDOW DEFOGGER

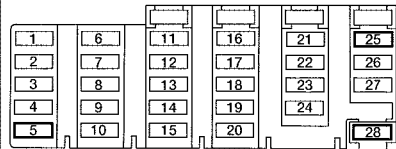
## REAR WINDOW DEFOGGER

PFP:25350

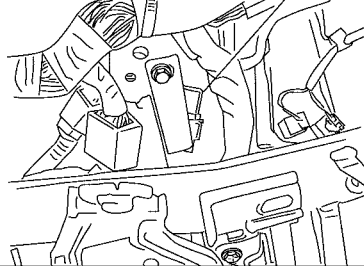
### Component Parts and Harness Connector Location

EIS0013R

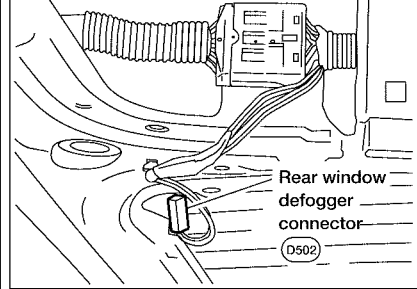
Fuse block (J/B)



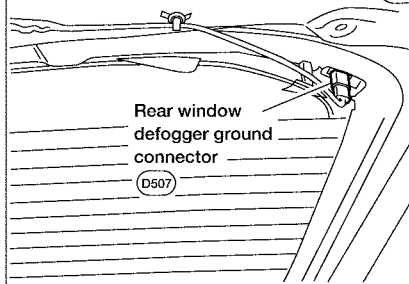
Behind left side of instrument panel  
Rear window defogger relay (M84)



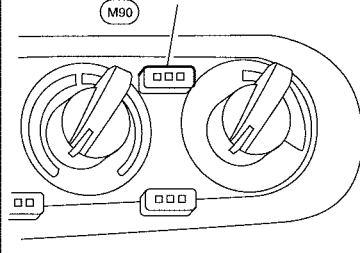
Back door LH with panel removed



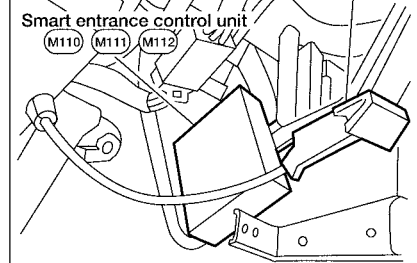
Back door RH with panel removed



Air control  
(Rear window defogger switch) (M90)



View with instrument lower panel driver's side removed  
Smart entrance control unit (M110, M111, M112)  
Parking brake release



# REAR WINDOW DEFOGGER

EIS0013S

## System Description

### MODELS WITHOUT POWER DOOR LOCKS

The rear window defogger system is controlled by the rear window defogger timer. Each time the switch is pressed, the rear window defogger operates for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay terminal 5 and
- through 20A fuse [No. 25, located in the fuse block (J/B)] and

With the ignition switch in the ON or START position, power is supplied

- through 10A fuse [No. 5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1, and
- to rear window defogger timer terminal 1.

Ground is supplied to air control (rear window defogger switch) terminal 8 and rear window defogger timer terminal 4 through body grounds M14 and M68.

With the air control (rear window defogger switch) ON, ground is supplied

- to rear window defogger timer terminal 3
- through air control (rear window defogger switch) terminal 5.

Rear window defogger timer terminal 2 then supplies ground to the rear window defogger relay terminal 2.

With power and ground supplied, the rear window defogger relay is energized.

Power is supplied

- through terminal 3 of the rear window defogger relay
- to rear window defogger terminal +.

Rear window defogger terminal – is grounded through body grounds D402 and D404.

With power and ground supplied, the rear window defogger filaments heat and defog the rear window.

When the system is activated, the rear window defogger indicator illuminates in the air control (rear window defogger switch).

Power is supplied

- from rear window defogger relay terminal 3
- to air control (rear window defogger switch) terminal 4.

Air control (rear window defogger switch) terminal 8 is grounded through body grounds M14 and M68.

### MODELS WITH POWER DOOR LOCKS

The rear window defogger system is controlled by the smart entrance control unit. Each time the switch is pressed, the rear window defogger operates for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay terminal 5
- through 20A fuse [No. 25, located in the fuse block (J/B)], and
- to smart entrance control unit terminal 49
- through 7.5A fuse [No. 28, located in the fuse block (J/B)].

With the ignition switch in the ON or START position, power is supplied

- through 10A fuse [No. 5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 27.

Ground is supplied to air control (rear window defogger switch) terminal 8 and smart entrance control unit terminals 43 and 64 through body grounds M68 and M14.

With the air control (rear window defogger switch) ON, ground is supplied

- to smart entrance control unit terminal 14
- through air control (rear window defogger switch) terminal 5.

Smart entrance control unit terminal 37 then supplies ground to the rear window defogger relay terminal 2.

With power and ground supplied, the rear window defogger relay is energized.

Power is supplied

- through terminal 3 of the rear window defogger relay
- to rear window defogger terminal +.

Rear window defogger terminal – is grounded through body grounds D402 and D404.

A

B

C

D

E

F

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GW

J

K

L

M

## REAR WINDOW DEFOGGER

---

With power and ground supplied, the rear window defogger filaments heat and defog the rear window. When the system is activated, the rear window defogger indicator illuminates in the air control (rear window defogger switch).

Power is supplied

- from rear window defogger relay terminal 3
- to air control (rear window defogger switch) terminal 4.

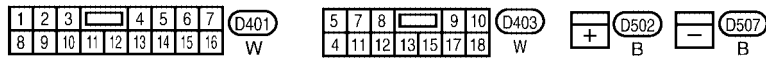
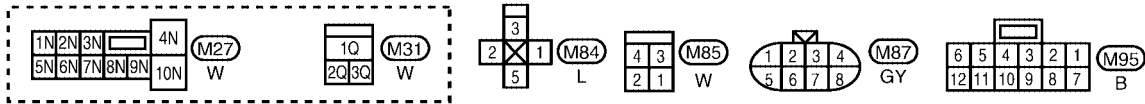
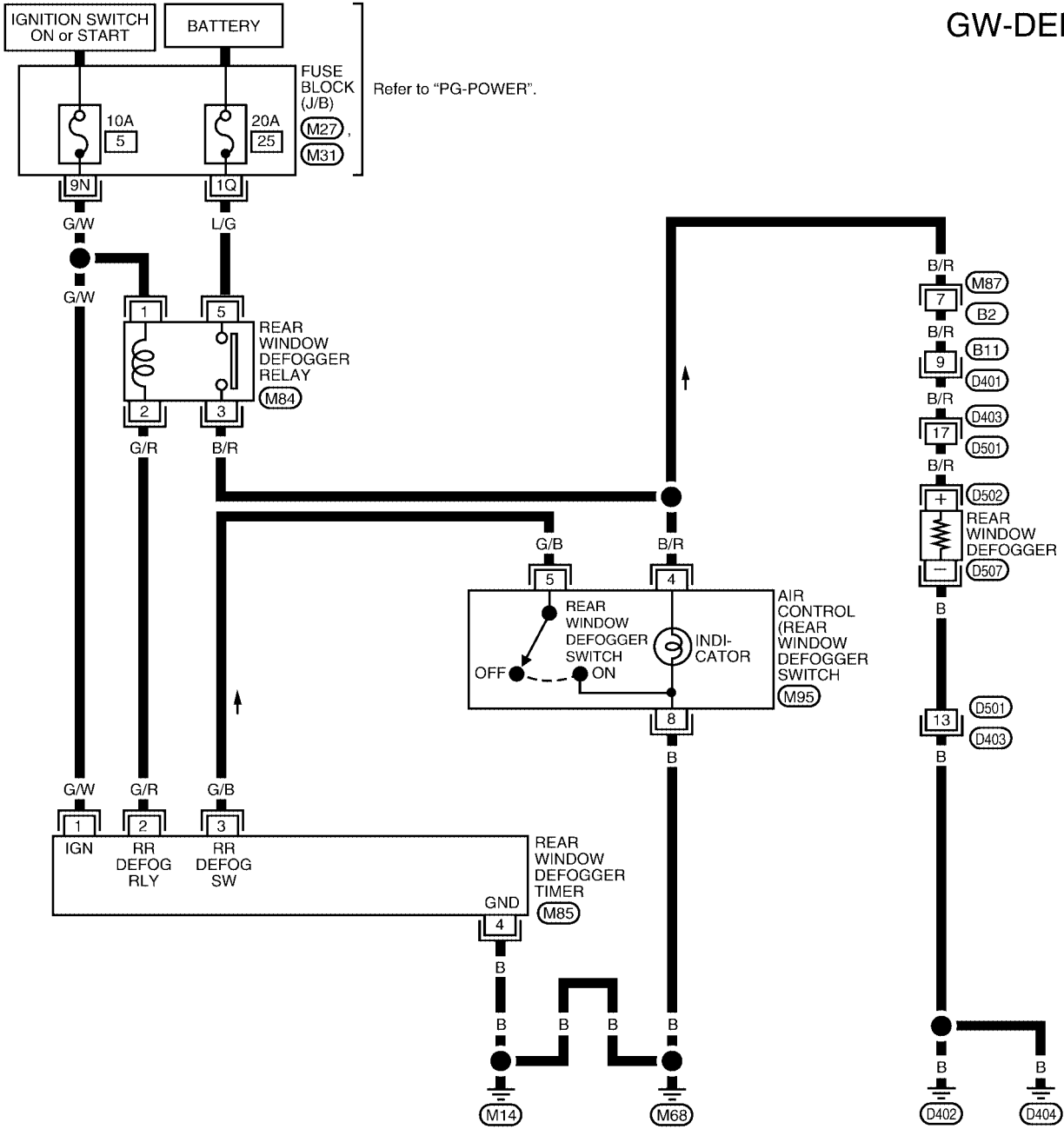
Air control (rear window defogger switch) terminal 8 is grounded through body grounds M14 and M68.

# REAR WINDOW DEFOGGER

EIS0013T

## Wiring Diagram — DEF — MODELS WITHOUT POWER DOOR LOCKS

GW-DEF-01



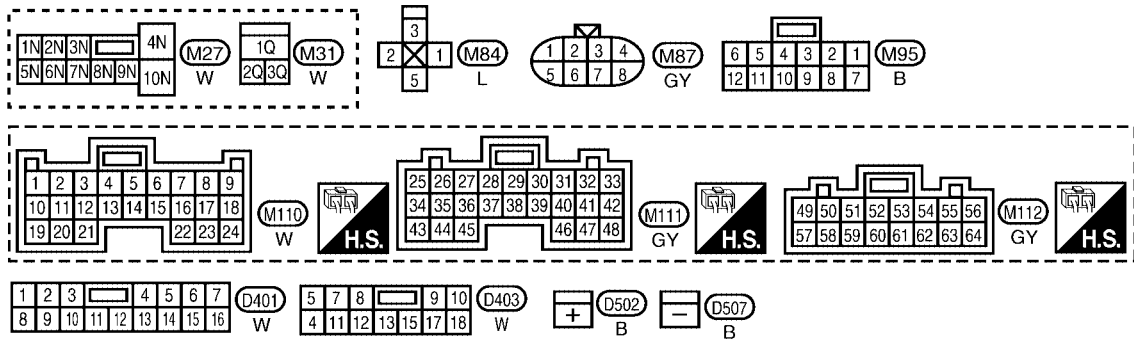
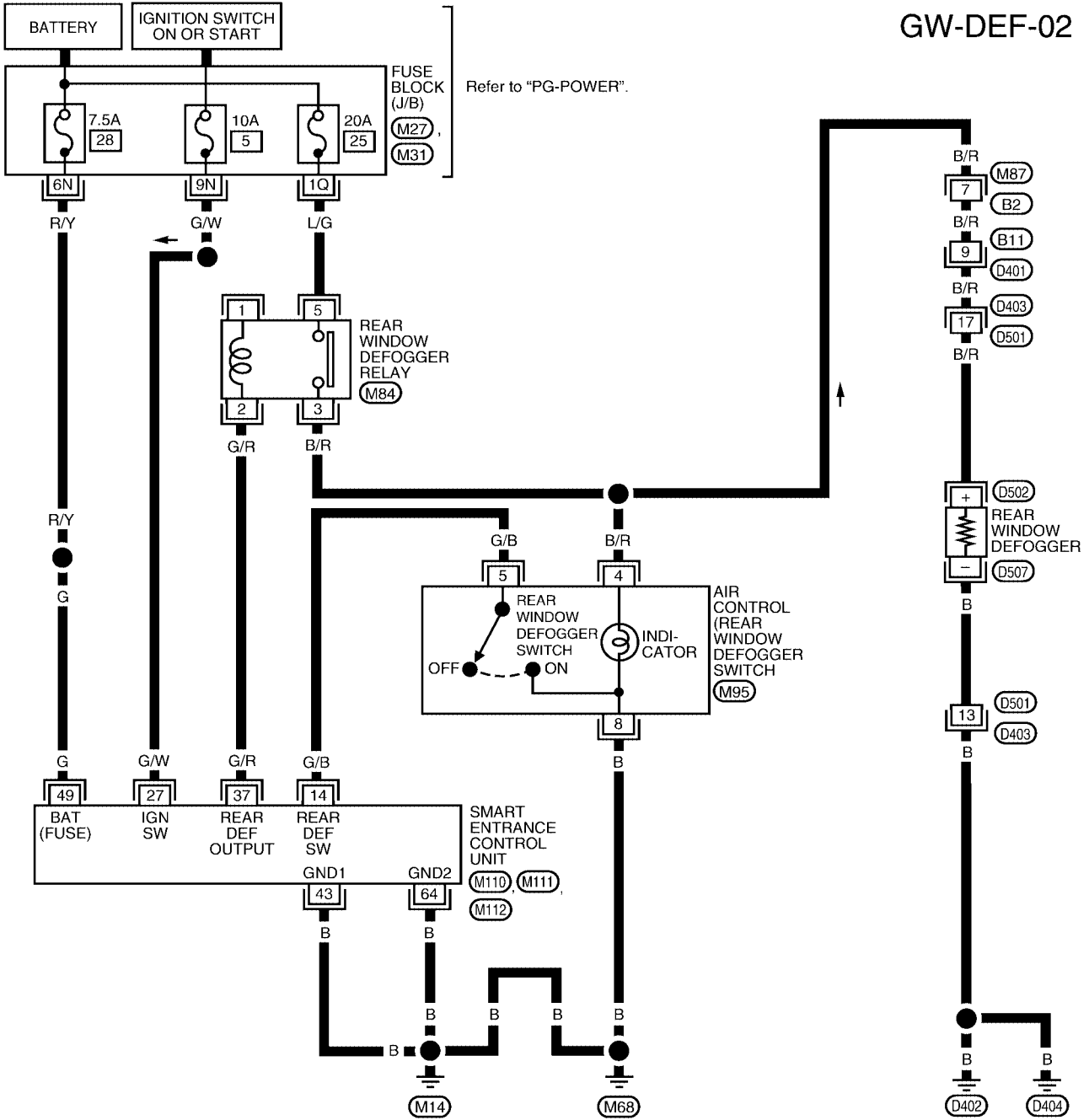
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WIWA0121E

# REAR WINDOW DEFOGGER

## MODELS WITH POWER DOOR LOCKS

GW-DEF-02



WIWA0122E



# REAR WINDOW DEFOGGER

## Trouble Diagnoses

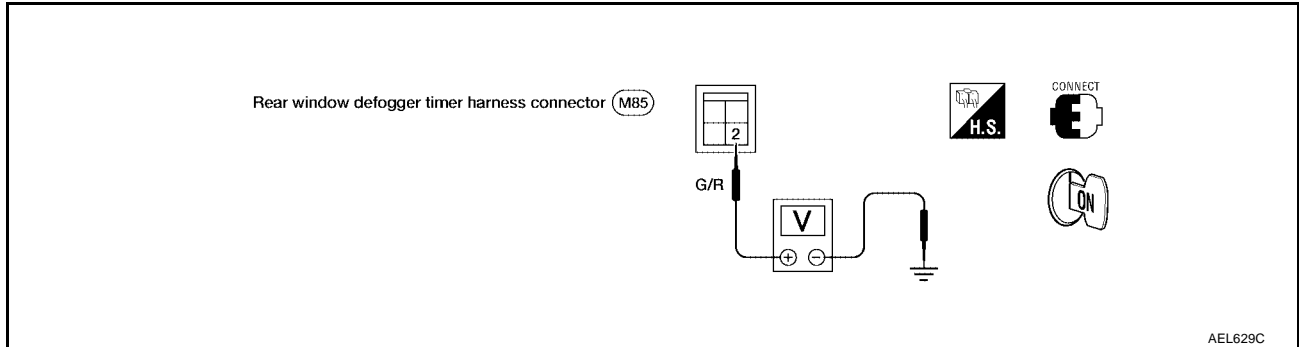
EIS0013U

### REAR WINDOW DEFOGGER DOES NOT ACTIVATE, OR DOES NOT TURN OFF AFTER ACTIVATING

#### Models without Power Door Locks

## 1. CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between rear window defogger timer harness connector terminal 2 and ground.



Rear window defogger switch voltage measurements	Voltage (V)
Rear window defogger switch OFF.	Approx. 12
Rear window defogger switch ON.	0

#### OK or NG

OK >> Check the following.

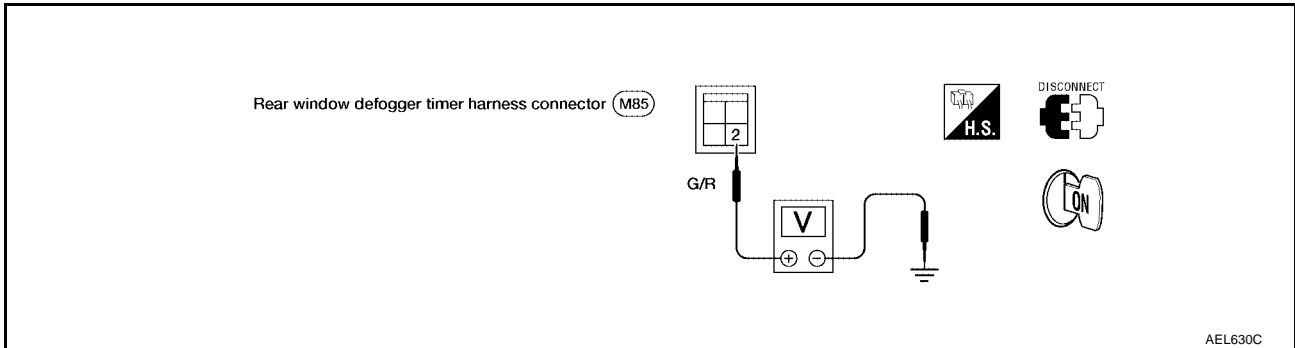
- Rear window defogger relay  
Refer to [GW-38, "REAR WINDOW DEFOGGER RELAY"](#) .
- Rear window defogger circuit  
Refer to [GW-31, "MODELS WITHOUT POWER DOOR LOCKS"](#) .
- Rear window defogger filament  
Refer to [GW-39, "Filament Check"](#) .

NG >> GO TO 2.

# REAR WINDOW DEFOGGER

## 2. CHECK DEFOGGER RELAY COIL SIDE CIRCUIT

1. Disconnect rear window defogger timer harness connector.
2. Turn ignition switch ON.
3. Check voltage between rear window defogger timer harness connector terminal 2 and ground.



Does battery voltage exist?

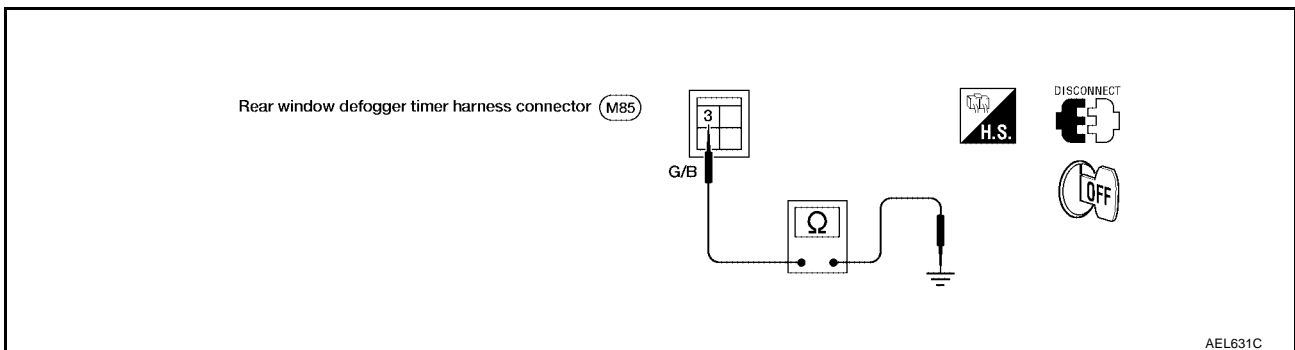
Yes >> GO TO 3.

No >> Check the following.

- 10A fuse [No. 5, located in the fuse block (J/B)]
- Rear window defogger relay.  
Refer to [GW-38, "REAR WINDOW DEFOGGER RELAY"](#).
- Harness for open or short between rear window defogger relay and rear window defogger timer
- Harness for open or short between rear window defogger relay and fuse

## 3. CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

Check continuity between rear window defogger timer harness connector terminal 3 and ground.



<b>Rear window defogger switch continuity measurement</b>	<b>Continuity</b>
<b>Rear window defogger switch is pressed</b>	<b>Yes</b>
<b>Rear window defogger switch is released</b>	<b>No</b>

OK or NG

OK >> GO TO 4.

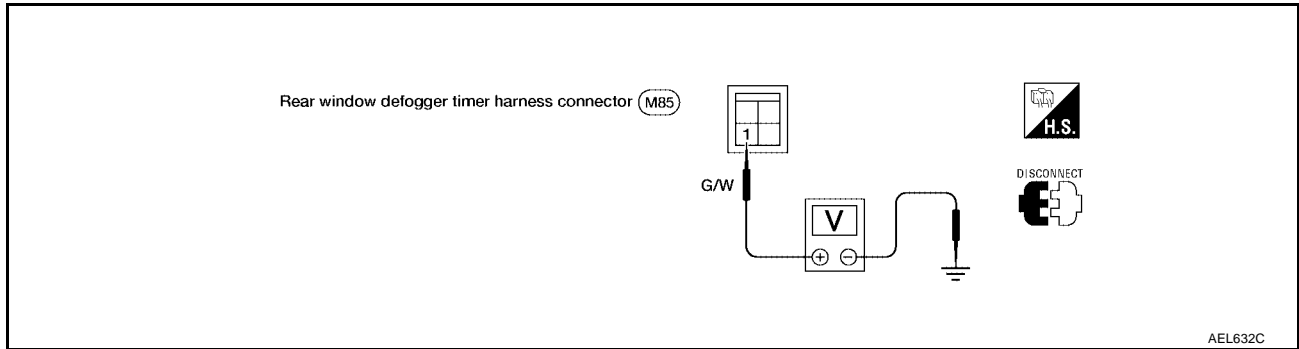
NG >> Check the following.

- Air control (rear window defogger switch)  
Refer to [GW-38, "REAR WINDOW DEFOGGER SWITCH"](#).
- Harness for open or short between rear window defogger timer and air control (rear window defogger switch)
- Air control (rear window defogger switch) ground circuit

# REAR WINDOW DEFOGGER

## 4. CHECK IGNITION INPUT SIGNAL

Check voltage between rear window defogger timer harness connector terminal 1 and ground.



<b>Rear defogger timer voltage measurement</b>	<b>Voltage (V)</b>
<b>Ignition switch ON</b>	<b>Approx. 12</b>
<b>Ignition switch OFF</b>	<b>0</b>

OK or NG

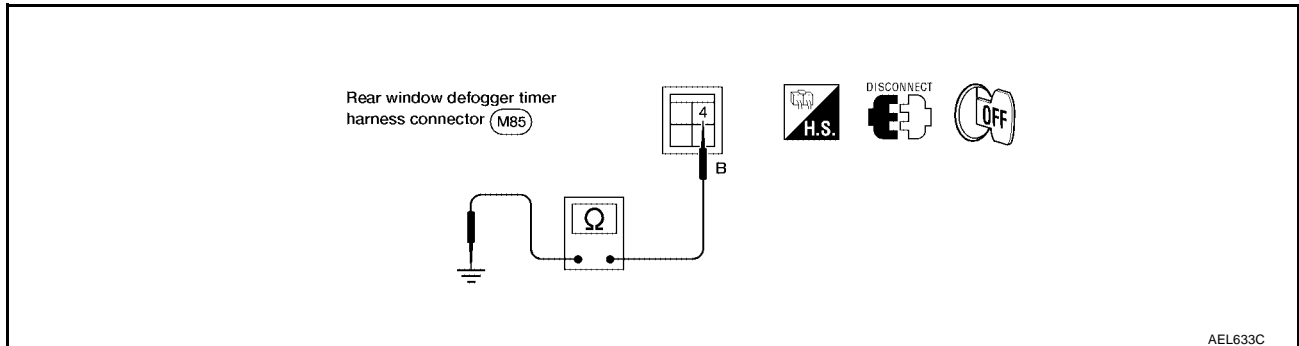
OK >> GO TO 5.

NG >> Check the following.

- 10A fuse [No. 5, located in the fuse block (J/B)]
- Harness for open or short between rear window defogger timer and fuse

## 5. CHECK CONTROL UNIT GROUND CIRCUIT

Check continuity between rear window defogger timer harness connector terminal 4 and ground.



Does continuity exist?

Yes >> Replace rear window defogger timer.

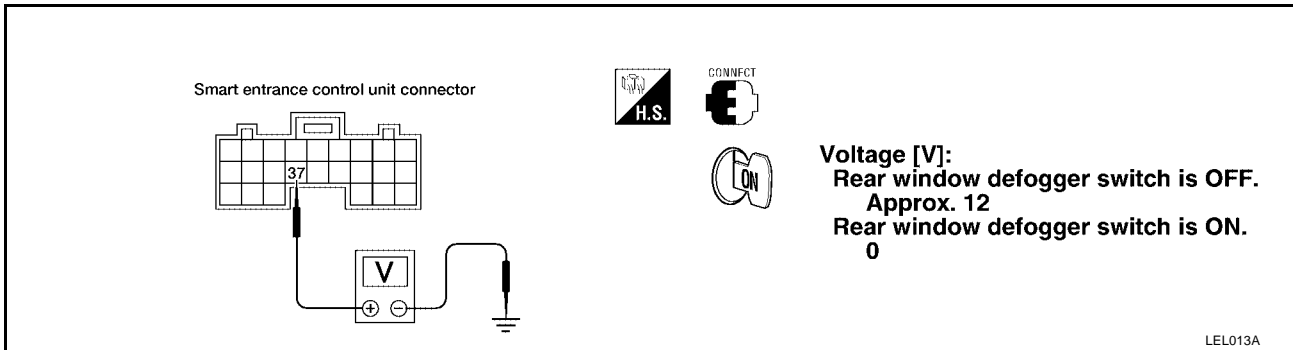
No >> Repair harness or connectors.

# REAR WINDOW DEFOGGER

## Models with Power Door Locks

### 1. CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between smart entrance control unit harness connector M111 terminal 37 (G/R) and ground.



#### OK or NG

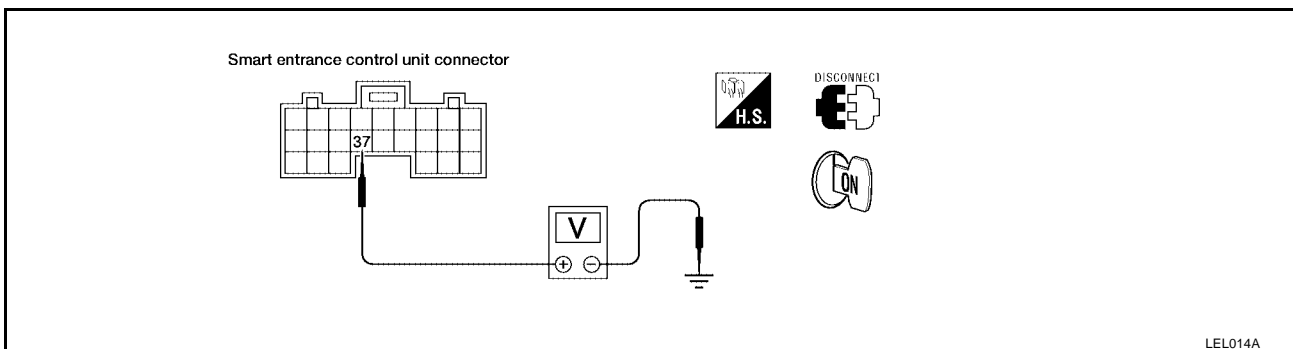
OK >> Check the following.

- Rear window defogger relay  
Refer to [GW-38, "REAR WINDOW DEFOGGER RELAY"](#) .
- Rear window defogger circuit  
Refer to [GW-32, "MODELS WITH POWER DOOR LOCKS"](#) .
- Rear window defogger filament  
Refer to [GW-39, "Filament Check"](#) .

NG >> GO TO 2.

### 2. CHECK DEFOGGER RELAY COIL SIDE CIRCUIT

1. Disconnect smart entrance control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between smart entrance control unit harness connector M111 terminal 37 (G/R) and ground.



#### Does battery voltage exist?

Yes >> GO TO 3.

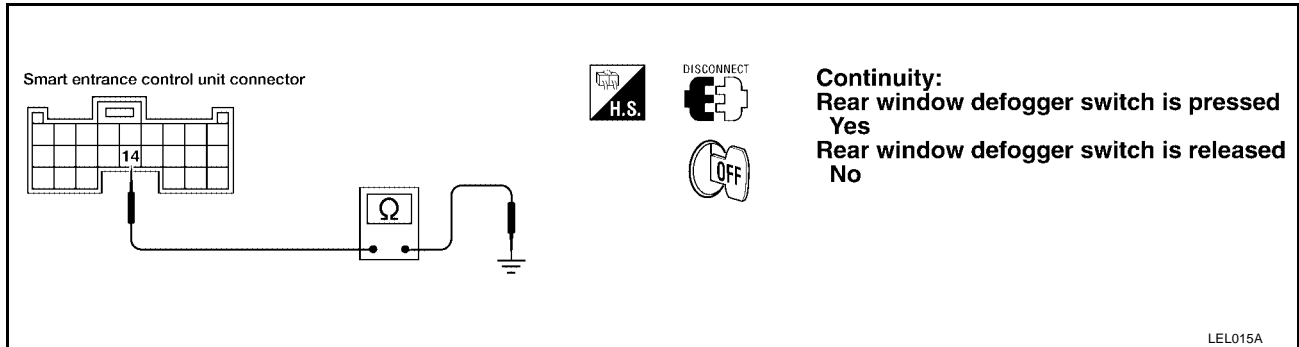
No >> Check the following.

- 10A fuse [No. 5, located in the fuse block (J/B)]
- Rear window defogger relay  
Refer to [GW-38, "REAR WINDOW DEFOGGER RELAY"](#) .
- Harness for open or short between rear window defogger relay and smart entrance control unit
- Harness for open or short between rear window defogger relay and fuse

## REAR WINDOW DEFOGGER

### 3. CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

Check continuity between smart entrance control unit harness connector M110 terminal 14 (G/B) and ground.



OK or NG

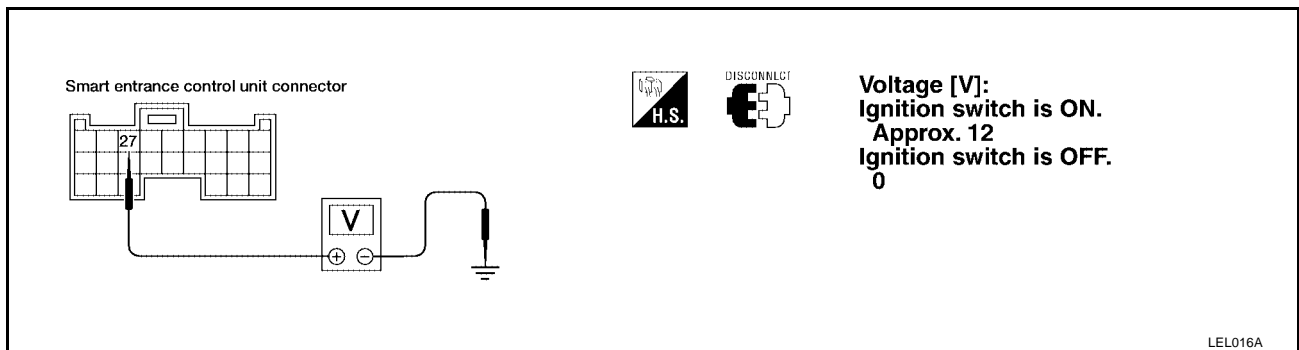
OK >> GO TO 4.

NG >> Check the following.

- Air control (rear window defogger switch)  
Refer to [GW-38. "REAR WINDOW DEFOGGER SWITCH"](#) .
- Harness for open or short between smart entrance control unit and air control (rear window defogger switch)
- Air control (rear window defogger switch) ground circuit

### 4. CHECK IGNITION INPUT SIGNAL

Check voltage between smart entrance control unit harness connector M111 terminal 27 (G/W) and ground.



OK or NG

OK >> GO TO 5.

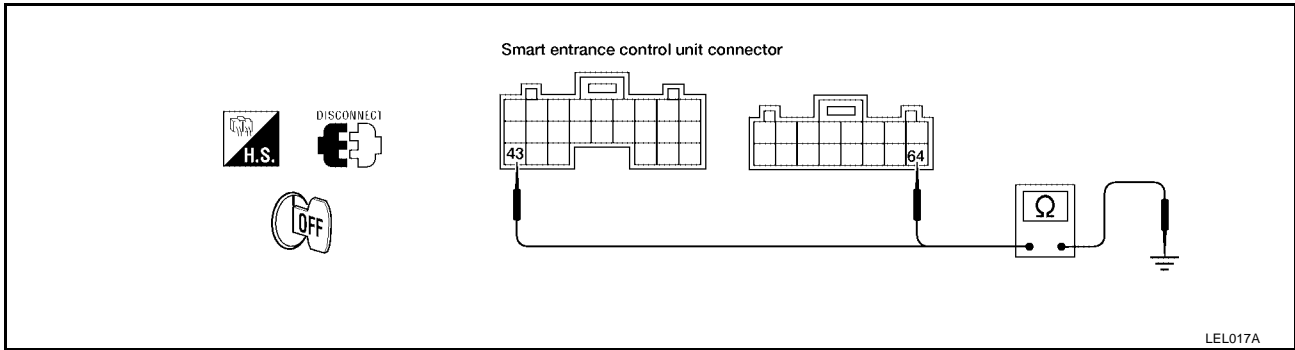
NG >> Check the following.

- 10A fuse [No. 5, located in the fuse block (J/B)]
- Harness for open or short between smart entrance control unit and fuse

# REAR WINDOW DEFOGGER

## 5. CHECK CONTROL UNIT GROUND CIRCUIT

Check continuity between smart entrance control unit harness connector M111 terminal 43 (B), connector M112 terminal 64 (B), and ground.



Does continuity exist?

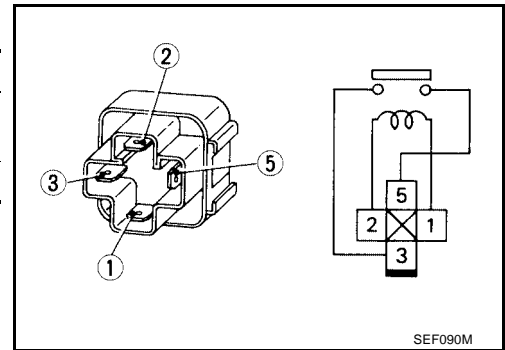
- Yes >> Replace smart entrance control unit.
- No >> Repair harness or connectors.

## Electrical Components Inspection REAR WINDOW DEFOGGER RELAY

EIS0013V

Check continuity between terminals 3 and 5.

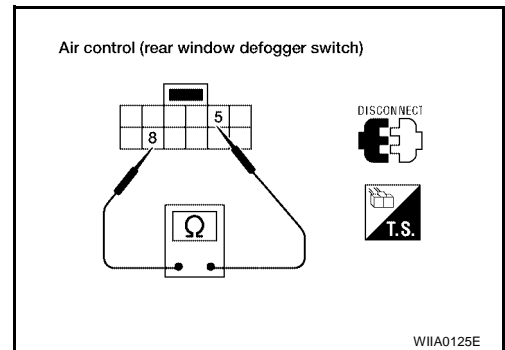
Condition	Continuity
12V direct current supply between terminals 1 and 2	Yes
No current supply	No



## REAR WINDOW DEFOGGER SWITCH

Check continuity between terminals when rear window defogger switch is pushed and released.

Terminals				Condition	Continuity
(+)		(-)			
Connector	Terminal	Connector	Terminal		
M95	5	M95	8	Rear window defogger switch is pushed	Yes
				Rear window defogger switch is released	No

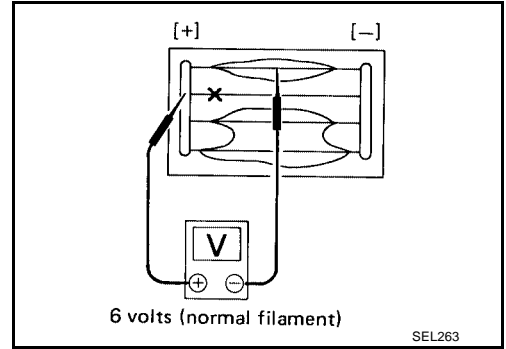


# REAR WINDOW DEFOGGER

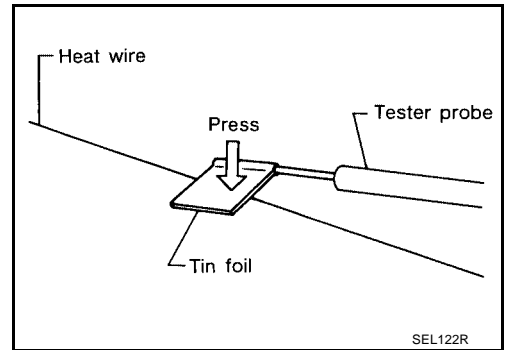
EIS0013W

## Filament Check

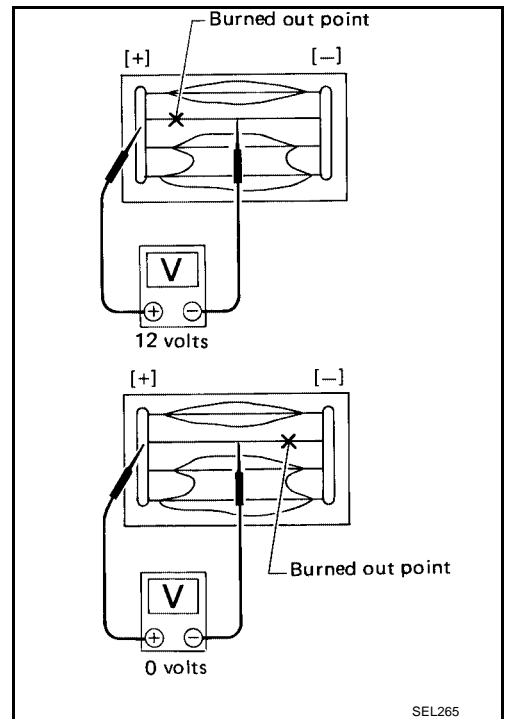
1. Attach probe circuit tester (in volt range) to middle portion of each filament.



- When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



2. If a filament is burned out, circuit tester registers 0 or 12 volts.

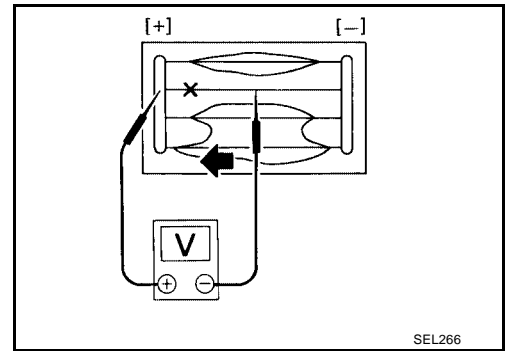


A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M

GW

# REAR WINDOW DEFOGGER

3. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.



EIS0013X

## Filament Repair REPAIR EQUIPMENT

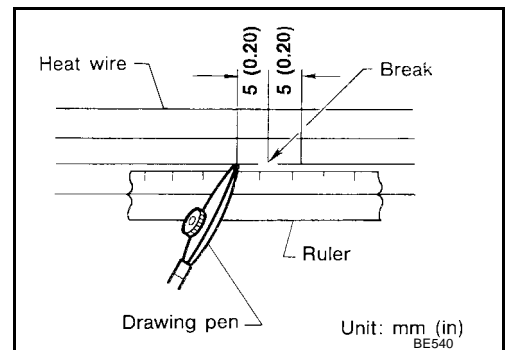
1. Conductive silver composition (Dupont No. 4817 or equivalent)
2. Ruler 30 cm (11.8 in) long
3. Drawing pen
4. Heat gun
5. Alcohol
6. Cloth

## REPAIRING PROCEDURE

1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

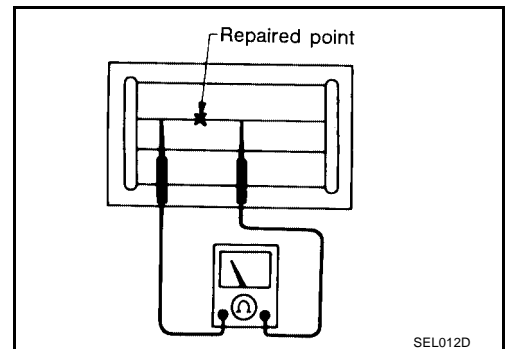
### Shake silver composition container before use.

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

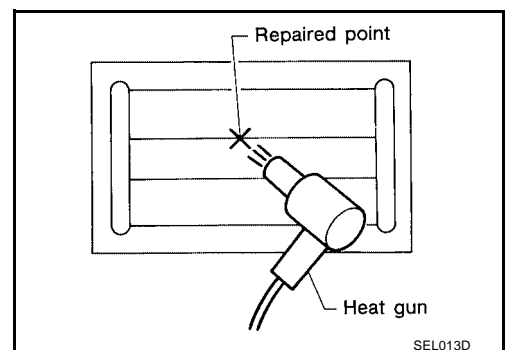


4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

**Do not touch repaired area while test is being conducted.**



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.





# REAR VIEW MIRROR

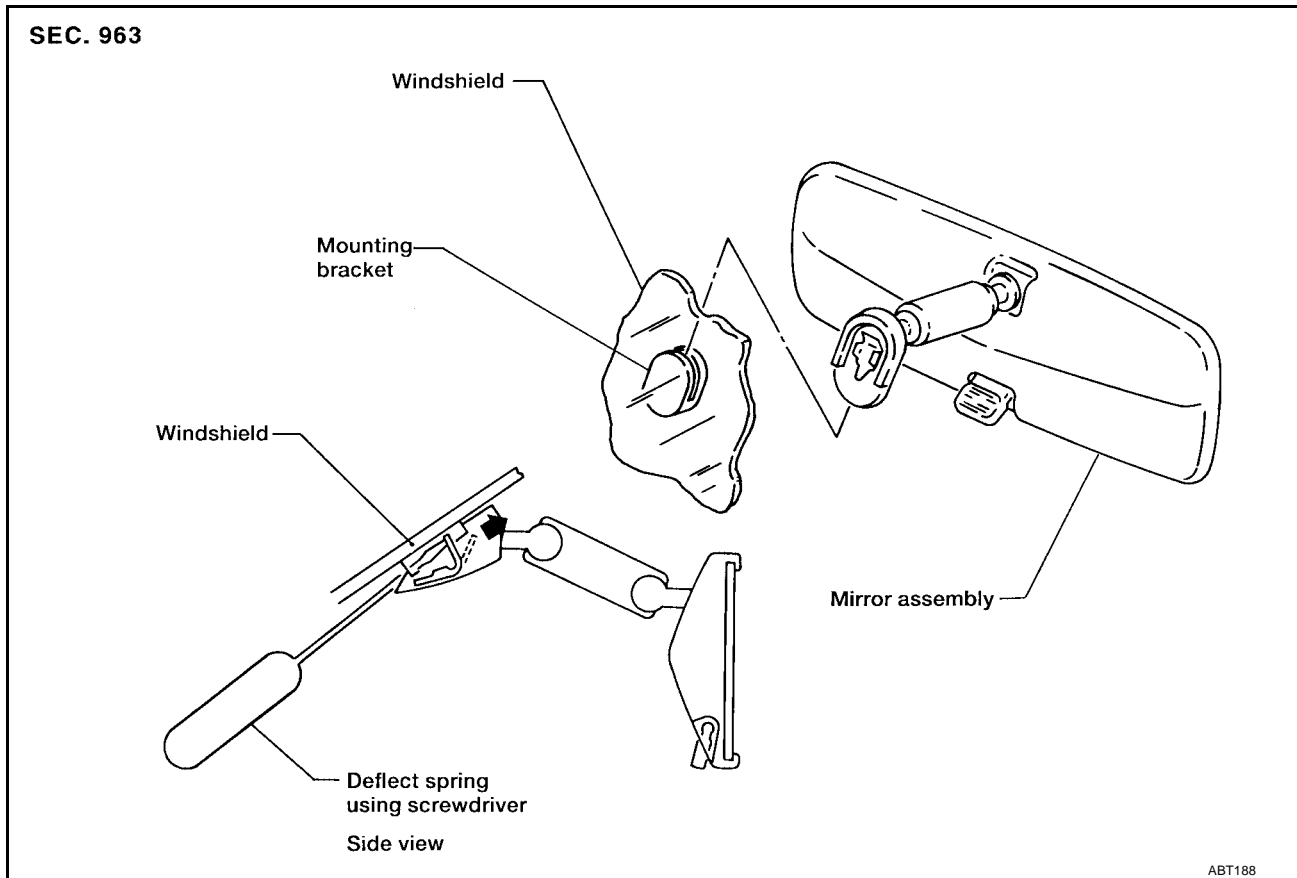
PFP:96321

EIS0013Y

## REAR VIEW MIRROR

### Removal

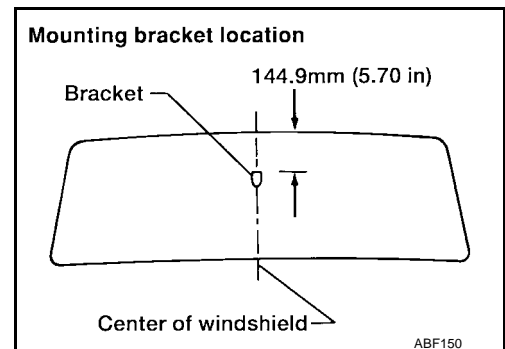
Remove rear view mirror by deflecting spring with screwdriver as shown in the figure.



### Installation

EIS0013Z

1. Install mounting bracket as follows:
  - a. Determine mounting bracket position on windshield by measuring from top of windshield to top of mounting bracket as shown in the figure.
  - b. Mark location on outside of windshield with wax pencil or equivalent.
  - c. Clean attaching point on inside of windshield with an alcohol-saturated paper towel.
  - d. Sand bonding surface of mounting bracket with sandpaper (No. 320 or No. 360).
  - e. Clean bonding surface of mounting bracket with an alcohol-saturated paper towel.
  - f. Apply Loctite Adhesive 11067-2 or equivalent to bonding surface of mounting bracket.
  - g. Install mounting bracket at pre-marked position and press mounting bracket against glass for 30 to 60 seconds.
  - h. After five minutes, wipe off excess adhesive with an alcohol-moistened paper towel.
2. Install rear view mirror.



# REAR VIEW MIRROR

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