GW SECTION **GLASSES, WINDOW SYSTEM & MIRRORS**

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PRECAUTIONS

PRECAUTIONS

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

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 harnesses or harness connectors.

Handling for Adhesive and Primer

- 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

PREPARATION Special Service Tool

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EIS004TM

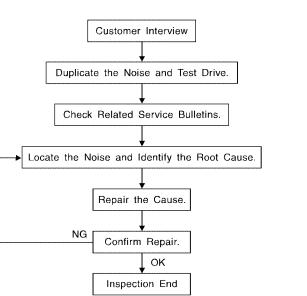
The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tool

(Kent-Moore No.) Tool name		Description
(J-39565) Engine ear	SIIA0995E	Locating the noise
(—) Suction Lifter	LIA1991E	Holding door glass

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-9, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs. GW

- 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

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 model, drive position on A/T model).
- 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: 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 <u>GW-7</u>, "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 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 CLOTH TAPE	٨
Used to insulate where movement does not occur. Ideal for instrument panel applications.	А
$68370-4B000: 15\times25 \text{ mm} (0.59\times0.98 \text{ in}) \text{ pad}/68239-13E00: 5 \text{ mm} (0.20 \text{ in}) \text{ wide tape roll. The following materials not found in the kit can also be used to repair squeaks and rattles.}$	В
UHMW (TEFLON) TAPE Insulates where slight movement is present. Ideal for instrument panel applications.	
SILICONE GREASE	
Used instead of UHMW tape that will be visible or not fit. Note: Will only last a few months.	С
SILICONE SPRAY	
Use when grease cannot be applied. DUCT TAPE	D
Use to eliminate movement.	
CONFIRM THE REPAIR	Е
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	F
Refer to Table of Contents for specific component removal and installation information.	
INSTRUMENT PANEL	G
Most incidents are caused by contact and movement between:	
1. The cluster lid A and instrument panel	
2. Acrylic lens and combination meter housing	Н
3. Instrument panel to front pillar garnish	
4. Instrument panel to windshield	GW
5. Instrument panel mounting pins	011
6. Wiring harnesses behind the combination meter	
7. A/C defroster duct and duct joint	J
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 apply-	
ing felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring har-	K
ness.	N
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.	L
CENTER CONSOLE	
Components to pay attention to include:	M
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
- 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/HEADLINER

Noises in the sunroof/headliner 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. Sun visor shaft shaking in the holder
- 3. Front or rear windshield touching headliner 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.

OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage. In addition look for:

- 1. Loose harness or harness connectors.
- 2. Front console map/reading lamp lense loose.
- 3. Loose screws at console attachment points.

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.

Cause of seat noise include:

- 1. Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- 3. The rear seatback lock and bracket

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

UNDERHOOD

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

Causes of transmitted underhood noise include:

- 1. Any component mounted to the engine wall
- 2. Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- 4. Loose radiator mounting pins
- 5. Hood bumpers out of adjustment
- 6. Hood striker out of adjustment

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

Diagnostic Worksheet

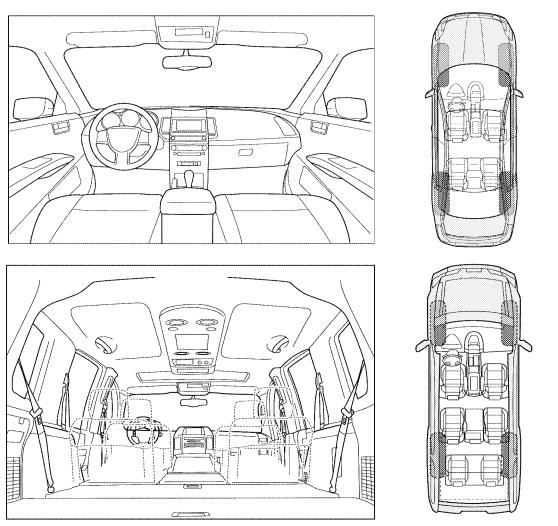
Dear Customer:

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.

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SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

II. WHEN DOES IT OCCUR? (please check the boxes that apply)					
 Anytime 1 st time in the morning Only when it is cold outside Only when it is hot outside 	 After sitting out in the rain When it is raining or wet Dry or dusty conditions Other: 				
III. WHEN DRIVING:	IV. WHAT TYPE OF NOISE				
 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 minute 	 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

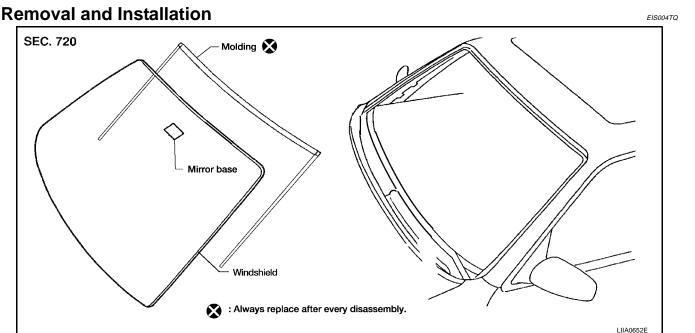
Test Drive Notes:

	YES	NO	Initials of person performing
Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired - Follow up test drive performed to confirm repair			

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WINDSHIELD GLASS

WINDSHIELD GLASS



REMOVAL

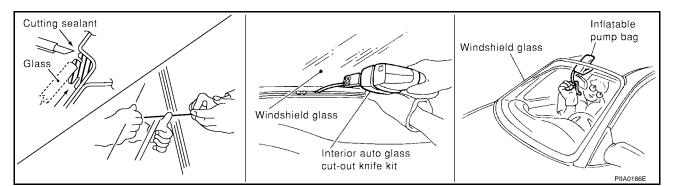
- 1. Remove inside mirror. Refer to GW-73, "Removal and Installation" .
- 2. Partially remove the headlining (front edge). Refer to EI-38, "HEADLINING" .
- 3. Remove cowl top cover. Refer to EI-18, "Removal and Installation" .
- 4. Apply a protective tape around the windshield glass to protect the painted surface from damage.
- Remove glass using piano wire or power cutting tool and an inflatable pump bag.
- 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:

- When the windshield 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 glass on its edge. Small chips may develop into cracks.



INSTALLATION

- 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.

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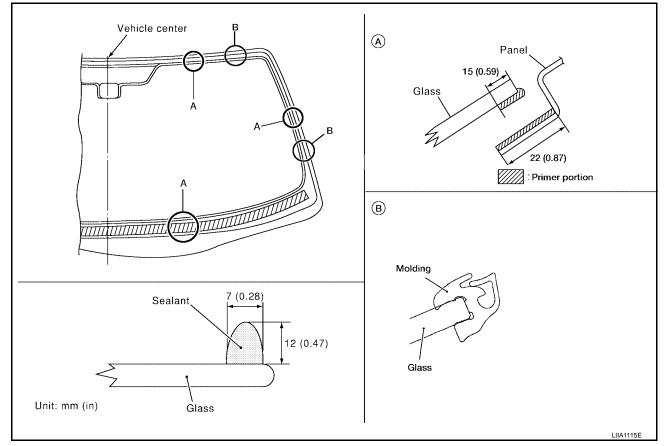
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (preferably 24 hours). Curing time varies with temperature and humidity.
- Install parts removed.

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:

- 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.



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.

REAR WINDOW GLASS AND MOLDING

REAR WINDOW GLASS AND MOLDING

Removal and Installation

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EIS00631 5.36 (0.55, 47) o 1 \bigcirc 5.36 (0.55, 47 (7)3 \bigcirc 6 6 (2) 4 2 6 3 N·m (kg-m, in-lb) LIIA1892E 1. Back door assembly 2. Weatherstrip 3. Rear glass stay RH, LH 4. Rear window hinge assembly RH, 5. Rear window glass handle 6. Rear window glass latch striker LH

7. Rear glass assembly

REMOVAL

- 1. Remove the rear spoiler. Refer to EI-26, "REAR SPOILER" .
- 2. Disconnect the rear window defogger electrical connectors.
- 3. Remove the rear glass stays.
- Remove the hinge nuts and the rear glass assembly. 4.
- Remove the striker and handle. 5.

6. Remove the rear glass hinges.

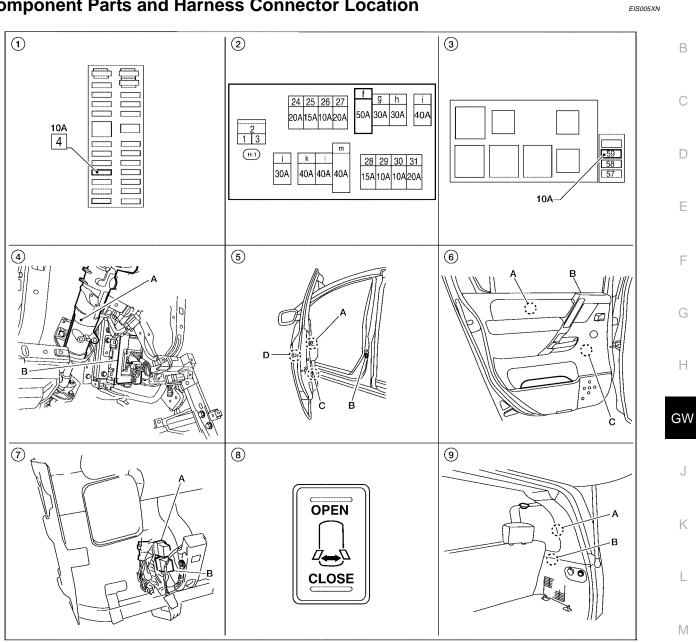
INSTALLATION

Installation is in the reverse order of removal.

Component Parts and Harness Connector Location

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1. Fuse block (J/B)

- 2. Fuse and fusible link box
- 3. Fuse and relay box

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- A. Steering column B. BCM M18, M19, M20 (View with instrument panel removed)
- 5. A. Main power window and door 6. lock/unlock switch D7, D8 Power window and door lock/unlock switch RH D105 B. Front door switch LH B8, RH B108 C. Front power window motor LH D9, RH D104 D. Front door lock actuator LH (key cylinder switch)
- 7. A. Rear power vent window relay (CLOSE) B. Rear power vent window relay (OPEN)
- 8. Rear power vent window switch R103
- A. Rear power window switch LH D203, RH D303 B. Rear power window motor LH D204, RH D304
- 9. A. Rear power vent window motor LH B52, RH B150 B. Condenser-3 B119 Condenser-4 B120

System Description

Power is supplied at all time

- from 50A fusible link (letter f, located in the fuse and fusible link box)
- to BCM terminal 70
- through BCM terminal 69
- to main power window and door lock/unlock switch terminal 19
- to power window and door lock/unlock switch RH terminal 10.

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

- through 10A fuse (No. 59, located in the fuse and relay box) •
- to BCM terminal 38
- through BCM terminal 68
- to main power window and door lock/unlock switch terminal 10. •
- to rear power vent window relays (OPEN and CLOSE) terminal 1.

With ignition switch in ON or START position, ground is supplied

- to BCM terminal 67
- to main power window and door lock/unlock switch terminal 17
- to power window and door lock/unlock switch RH terminal 11
- through body grounds M57, M61 and M79.

MANUAL OPERATION

Front Door LH

WINDOW UP

When the front LH switch in the main power window and door lock/unlock switch is pressed in the up position, power is supplied

- through main power window and door lock/unlock switch terminal 8
- to front power window motor LH terminal 2.

Ground is supplied

- through main power window and door lock/unlock switch terminal 11
- to front power window motor LH terminal 1.

Then, the motor raises the window until the switch is released.

WINDOW DOWN

When the front LH switch in the main power window and door lock/unlock switch is pressed in the down position, power is supplied

- through main power window and door lock/unlock switch terminal 11
- to front power window motor LH terminal 1. •

Ground is supplied

- through main power window and door lock/unlock switch terminal 8
- to front power window motor LH terminal 2.

Then, the motor lowers the window until the switch is released.

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Front Door RH	•
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH OPERATION	А
WINDOW UP	
When the power window and door lock/unlock switch RH is pressed in the up position, power is supplied	Ē
through power window and door lock/unlock switch RH terminal 8	В
 to front power window motor RH terminal 2. 	
Ground is supplied	С
 through power window and door lock/unlock switch RH terminal 9 	C
 to front power window motor RH terminal 1. 	
Then, the motor raises the window until the switch is released.	D
WINDOW DOWN When the power window and door lock/unlock switch RH is pressed in the down position, power is supplied	
 through power window and door lock/unlock switch RH terminal 9 	
 to front power window motor RH terminal 1. 	E
Ground is supplied	
 through power window and door lock/unlock switch RH terminal 8 	
 to front power window motor RH terminal 2. 	F
Then, the motor lowers the window until the switch is released.	
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION	
Signal is sent	G
 through main power window and door lock/unlock switch terminal 14 	
• to power window and door lock/unlock switch RH terminal 16.	Н
The operation of power window after receiving the signal is the same as operating the power window with	
power window and door lock/unlock switch RH.	
Rear Door (LH or RH)	G۷
REAR POWER WINDOW SWITCH LH OR RH OPERATION	
WINDOW UP	
When the rear power window switch LH or RH is pressed in the up position, power is supplied	J
 to rear power window control unit LH or RH terminal 13 	
through rear power window control unit LH or RH terminal 7	
 through rear power window switch LH or RH terminal 2 and 3 	K
 through rear power window switch LH or RH terminal 5 	
 through rear power window control unit LH or RH terminal 11 	I
 to rear power window motor LH or RH terminal 2. 	
Ground is supplied	
 to rear power window control unit LH or RH terminal 15 	M
 through rear power window control unit LH or RH terminal 16 	
 through rear power window switch LH or RH terminal 1 and 7 	
 through rear power window switch LH or RH terminal 4 	
 through rear power window control unit LH or RH terminal 12 	
• to rear power window motor LH or RH terminal 1.	
Then, the motor raises the window until the switch is released.	
WINDOW DOWN	
When the rear power window switch LH or RH is pressed in the down position, power is supplied	
to rear power window control unit LH or RH terminal 1	
through rear power window control unit LH or RH terminal 7	
through rear power window switch LH or RH terminal 2 and 3	
through rear power window switch LH or RH terminal 4	
 through rear power window control unit LH or RH terminal 12 	
• to rear power window motor LH or RH terminal 1.	
Ground is supplied	

- to rear power window control unit LH or RH terminal 15
- through rear power window control unit LH or RH terminal 16
- through rear power window switch LH or RH terminal 1 and 7
- through rear power window switch LH or RH terminal 5
- through rear power window control unit LH or RH terminal 11
- to rear power window motor LH or RH terminal 2.

Then, the motor lowers the window until the switch is released.

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OPERATION Signal is sent

- through main power window and door lock/unlock switch terminal 14
- to rear power window control unit LH or RH terminal 1.

The operation of power window after receiving the signal is the same as operating the power window with rear power window switch LH or RH.

VENT WINDOW CLOSE

When the rear power vent window switch is pressed in the close position, power is supplied

- to rear power vent window relay (CLOSE) terminal 5
- through rear power vent window relay (CLOSE) terminal 3
- to rear power vent window motors terminal 2.

Ground is supplied

- to rear power vent window relay (OPEN) terminal 4
- through rear power vent window relay (OPEN) terminal 3
- to rear power vent window motors terminal 1.
- Then, the motors close the windows until the switch is released.

VENT WINDOW OPEN

When the main power window and door lock/unlock switch (rear LH) is pressed in the open position, power is supplied

- to rear power vent window relay (OPEN) terminal 5
- through rear power vent window relay (OPEN) terminal 3
- to rear power vent window motors terminal 1.

Ground is supplied

- to rear power vent window relay (CLOSE) terminal 4
- through rear power vent window relay (CLOSE) terminal 3
- to rear power vent window motors terminal 2.

Then, the motors open the windows until the switch is released.

AUTO OPERATION

The power window AUTO feature enables the driver to open or close the window without holding the window switch in the down or up position.

POWER WINDOW SERIAL LINK

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window control units and BCM transmit and receive the signal by power window serial link. The signal is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH

- Keyless power window down signal.
- Rear power window switch illumination.

The signal is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH

- Front door window RH operation signal.
- Power window control by front door lock assembly LH (key cylinder switch) signal.
- Power window lock signal.
- Retained power operation signal.
- Rear power window operation.

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for front door window LH. When in the lock position, the power window lock signal is transmitted to power window and door lock/unlock switch RH by power window serial link. This prevents the power window motor from operating.

RETAINED POWER OPERATION

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

- to main power window and door lock/unlock switch terminal 10
- from BCM terminal 68.

When power and ground are supplied, the BCM continues to be energized, and the power window can be operated.

The retained power operation is canceled when the front LH or front RH door is opened.

Retained power operation period can be changed by CONSULT-II. Refer to <u>GW-33, "CONSULT-II Function</u> (<u>BCM)"</u>

ANTI-PINCH SYSTEM

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and rear power window control unit LH and RH monitors the power window motor operation and the power window position (full closed or other) for each power window by the signals from encoder and limit switch in power window motor.

When a window switch detects interruption during the following close operation,

- automatic close operation when ignition switch is in the ON position
- automatic close operation during retained power operation

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and rear power window control unit LH and RH controls each power window motor for open and the power window will be lowered about 150 mm (5.91 in).

POWER WINDOW CONTROL BY THE FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

When ignition key switch is OFF, front power window LH and RH can be opened or closed by turning the front door lock assembly LH (key cylinder switch) to the UNLOCK/LOCK position for more than 1 second.

- Front power windows can be opened as the front door lock assembly LH (key cylinder switch) is kept fully turned to the UNLOCK position.
- Front power windows can be closed as the front door lock assembly LH (key cylinder switch) is kept fully turned to the LOCK position.
- While performing open/close operation for the windows, power window is stopped when the front door lock assembly LH (key cylinder switch) is placed in the NEUTRAL position.
- When the ignition switch is turned ON while the power window opening operation is performed, the power window opening stops.

CAN Communication System Description

Refer to LAN-26, "CAN COMMUNICATION" .

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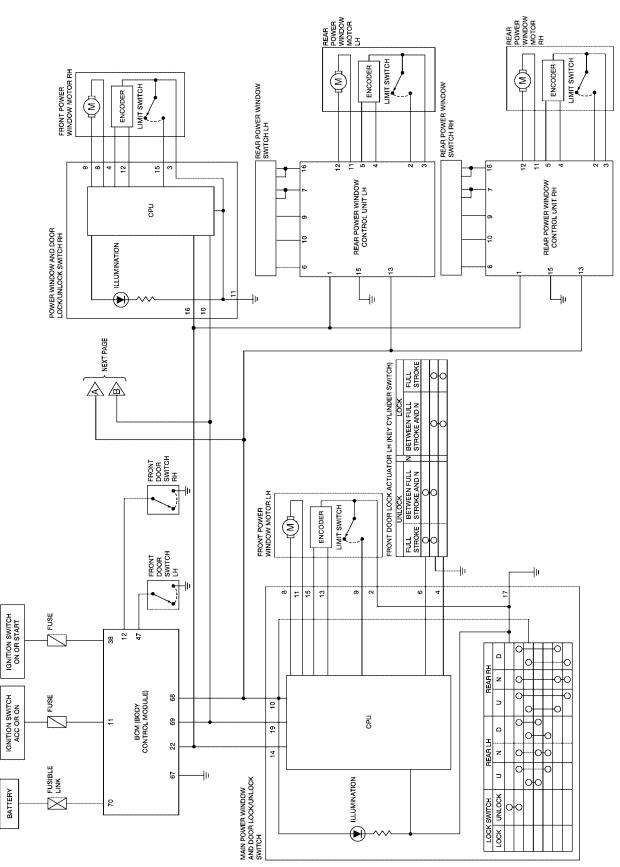
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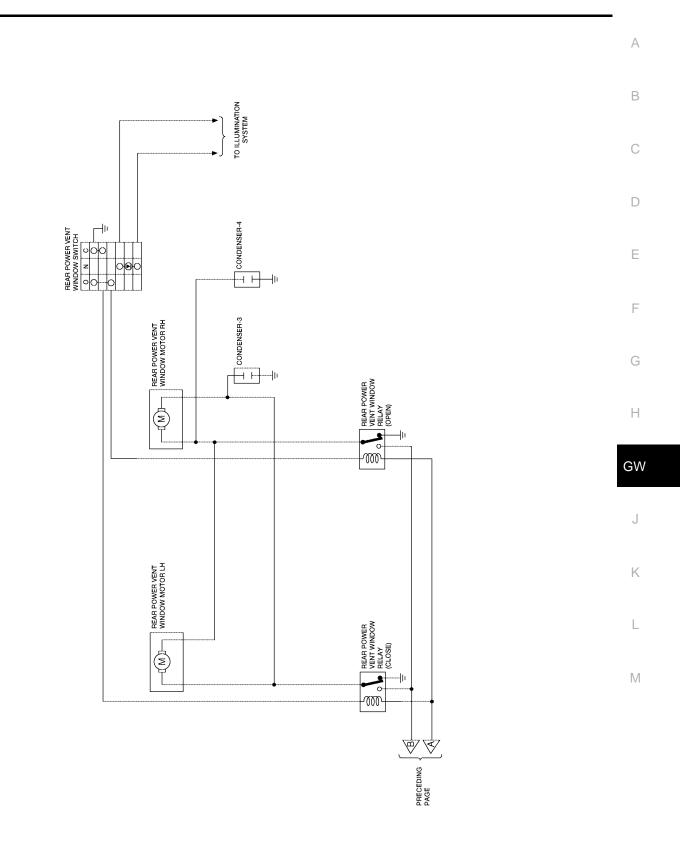
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Schematic

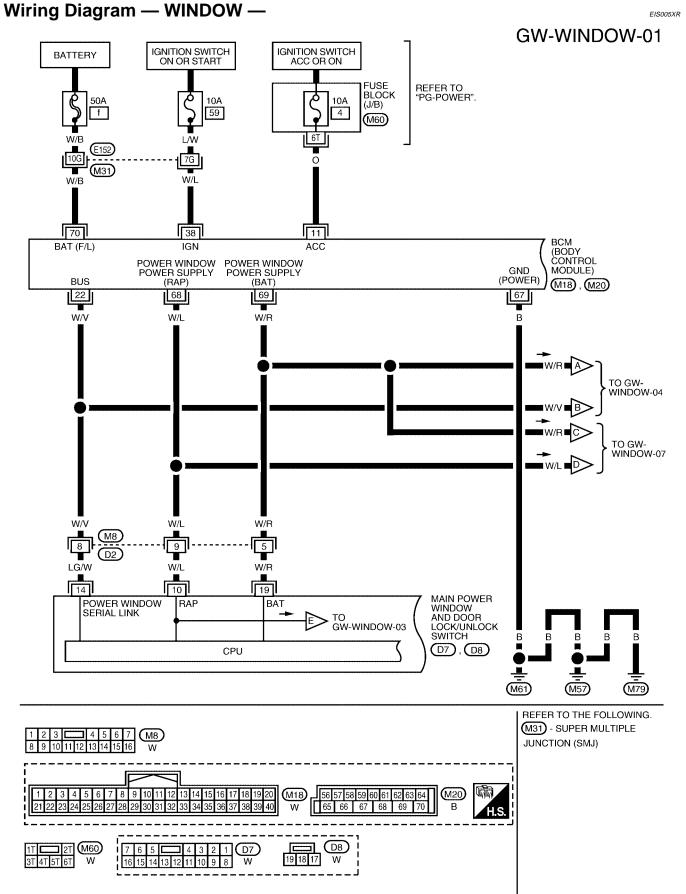




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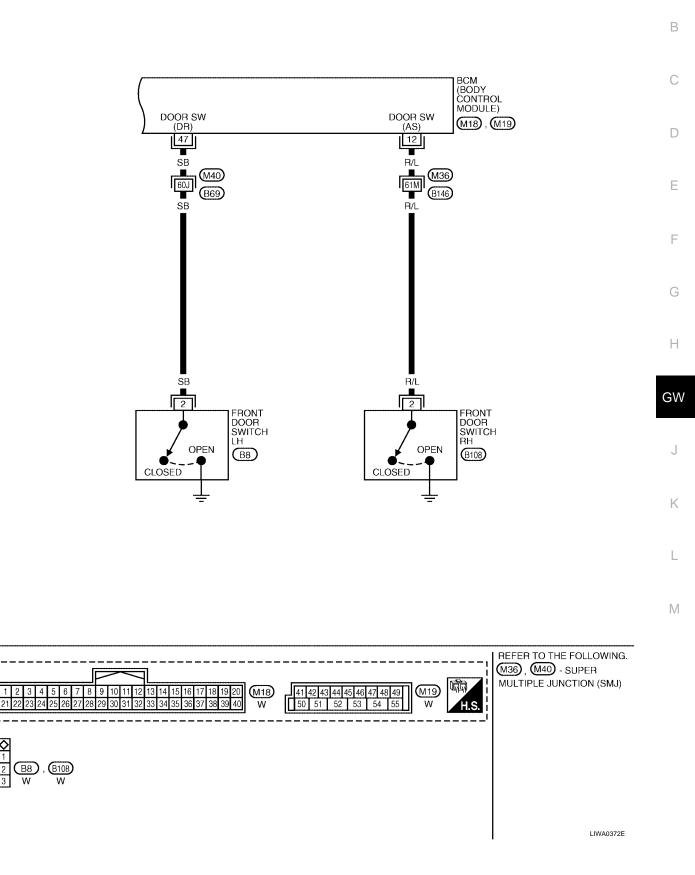
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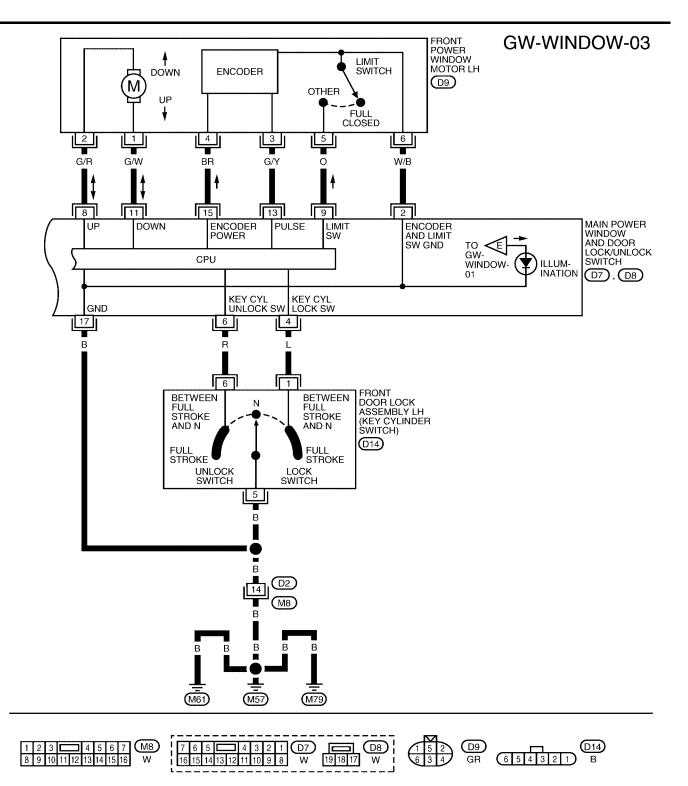
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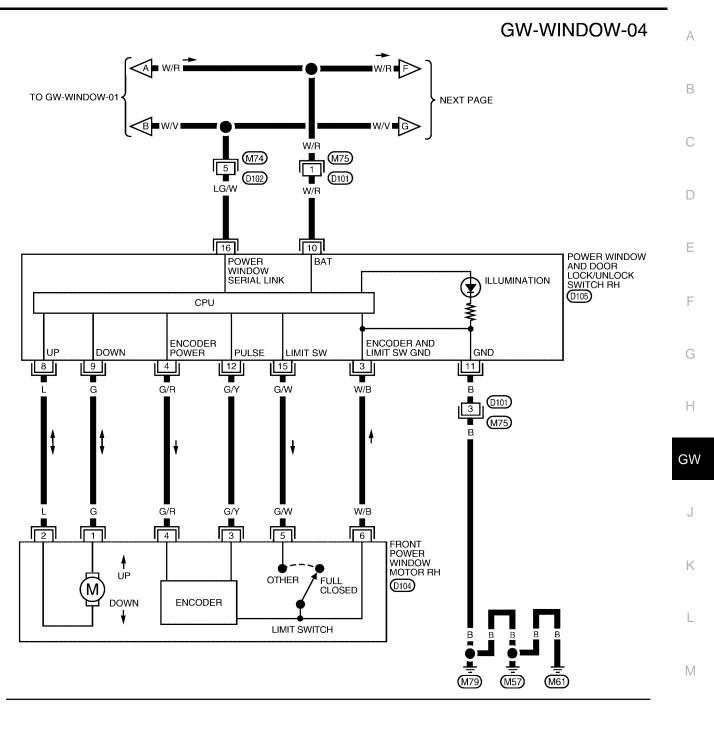


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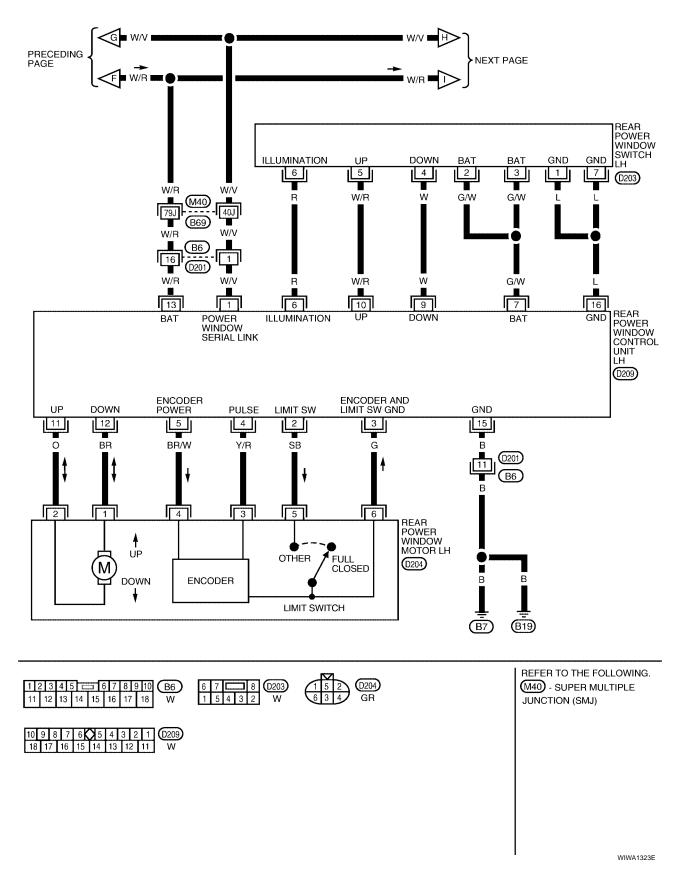


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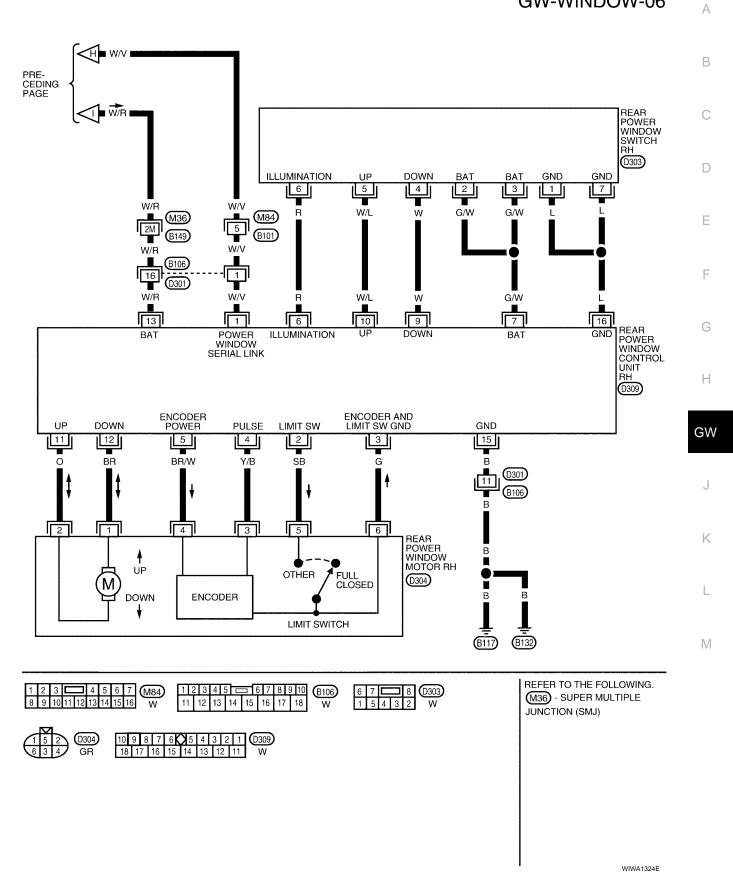
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 9 (M74) (D104) **D105** 1 2 3 4 5 🖬 7 8 10 1 14 15 16 17 18 19 20 W GR BR

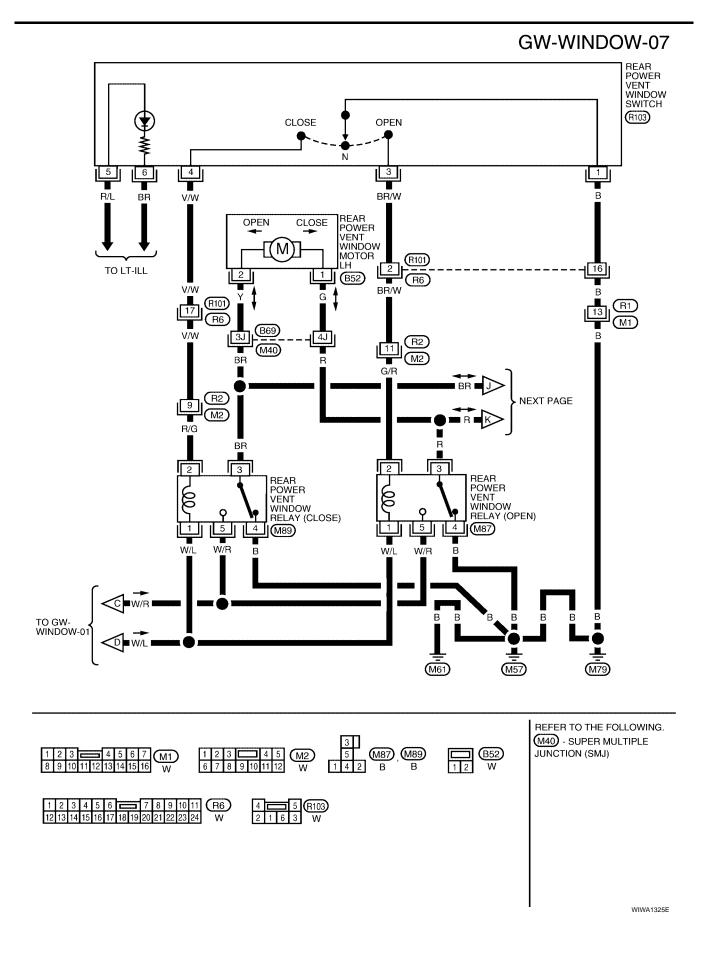
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GW-WINDOW-05

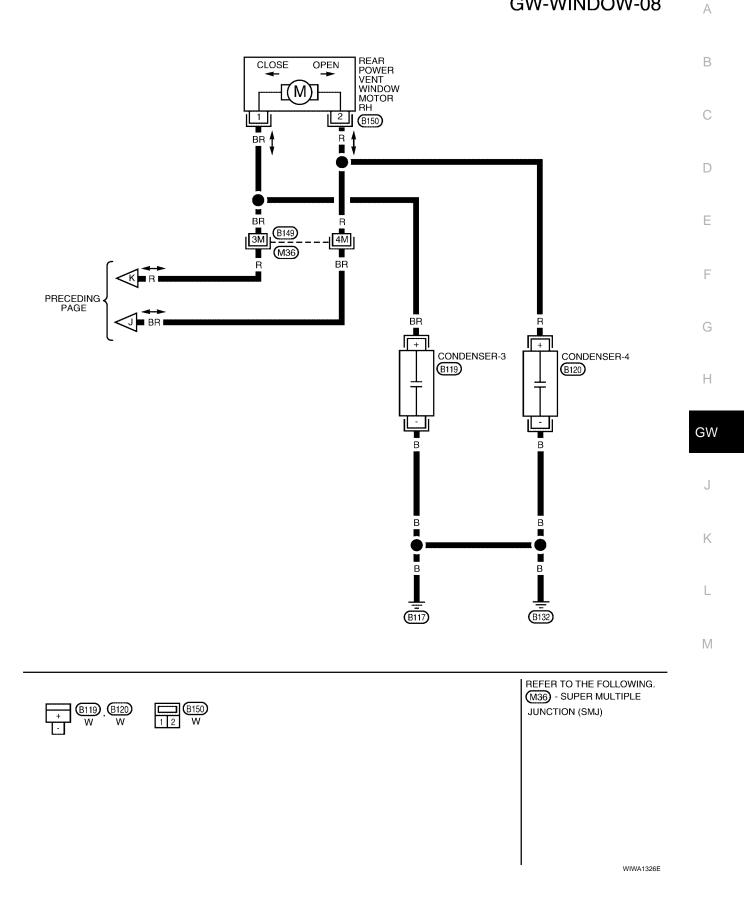


GW-WINDOW-06





GW-WINDOW-08



Terminal and Reference Value for Main Power Window and Door Lock/Unlock Switch

Terminal	Wire Color	ltem	Condition	Voltage (V) (Approx.)
2	W/B	Limit switch and encoder ground	—	0
4	L	Front door key cylinder switch LH lock signal	Key position (Neutral \rightarrow Unlocked)	$5 \rightarrow 0$
6	R	Front door key cylinder LH switch unlock signal	Key position (Neutral \rightarrow Locked)	$5 \rightarrow 0$
8	G/R	Front power window motor LH UP signal	When power window motor is operated UP	Battery voltage
			Front power window LH is between fully-open and just before fully-closed position (ON)	0
9	0	Limit switch signal	Front power window LH is between just before fully-closed position and fully-closed position (OFF)	5
			When ignition switch ON	Battery voltage
			Within 45 seconds after ignition switch is turned to OFF	Battery voltage
10 W/L	W/L	W/L RAP signal	More than 45 seconds after igni- tion switch is turned to OFF	0
				When front door LH or RH open or power window timer operates
11	G/W	Front power window motor LH DOWN signal	When power window motor is operated DOWN	Battery voltage
13	G/Y	Encoder pulse signal	When power window motor oper- ates	(V) 6 2 0
14	LG/W	Power window serial link	When ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms PIIA2344J
15	BR	Encoder power supply	When ignition switch ON or power window timer operates	10
17	В	Ground		0
19	W/R	Battery power supply	_	Battery voltage

Terminal and Reference Value for Power Window and Door Lock/Unlock Switch RH

Terminal	Wire Color	ltem	Condition	Voltage (V) (Approx.)
3	W/B	Limit switch and encoder ground	—	0
4	G/R	Encoder power supply	When ignition switch ON or power window timer operates	10

Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
8	L	Front power window motor RH UP signal	When power window motor is operated UP	Battery voltage
9	G	Front power window motor RH DOWN signal	When power window motor is operated DOWN	Battery voltage
10	W/R	Battery power supply	—	Battery voltage
11	В	Ground	—	0
12	G/Y	Encoder pulse signal	When power window motor oper- ates	(V) 6 4 2 0
				OCC3383D
15 G/W Li			Rear power window RH is between fully-open and just before fully-closed position (ON)	0
	G/W Limit switch signal	Rear power window RH is between just before fully-closed position and fully-closed position (OFF)	5	
16	LG/W	Power window serial link	When ignition switch is ON or power window timer operating	(V) 15 10 5 0 200 ms PIIA2344J

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Terminal and Reference Value for BCM

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Terminal	Wire Color	Item	Condition	Voltage (V) (Approx.)
11	0	Ignition switch (ACC or ON)	Ignition switch (ACC or ON position)	Battery voltage
12	R/L	Front door owitch DLL signal	ON (Open)	Battery voltage
12	K/L	Front door switch RH signal	OFF (Close)	0
22	W/V	BUS	When ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms PIIA2344J
38	W/L	Ignition switch (ON or START)	Ignition switch (ON or START position)	Battery voltage
47	<u>CD</u>	SB Front door switch LH signal	ON (Open)	Battery voltage
47 S	30		OFF (Close)	0
67	В	Ground		0
			When ignition switch ON	Battery voltage
			Within 45 seconds after ignition switch is turned to OFF	Battery voltage
68	W/L	W/L Power window power supply (RAP)	More than 45 seconds after igni- tion switch is turned to OFF	0
			When front door LH or RH is open or power window timer operates	0
69	W/R	Power window power supply (BAT)	_	Battery voltage
70	W/B	Battery power supply	_	Battery voltage

Work Flow

- 1. Check the symptom and customer's requests.
- 2. Understand the outline of system. Refer to <u>GW-16, "System Description"</u>.
- 3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to <u>GW-35</u>, "Trouble Diagnoses Symptom Chart".
- 4. Does power window system operate normally? Yes, GO TO 5, If No, GO TO 3.
- 5. Inspection End.

CONSULT-II Function (BCM)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

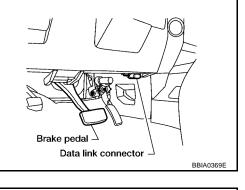
BCM diagnostic test item	Diagnostic mode	Content
	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.
Inspection by part	DATA MONITOR	Displays BCM input/output data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.
	CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.
	ECU PART NUMBER	BCM part number can be read.
	CONFIGURATION	Performs BCM configuration read/write functions.

CONSULT-II INSPECTION PROCEDURE

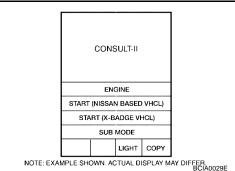
CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be GW detected in self-diagnosis depending on control unit which carries out CAN communication.

- 1. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.
- 2. Turn ignition switch ON.



3. Touch "START (NISSAN BASED VHCL)".



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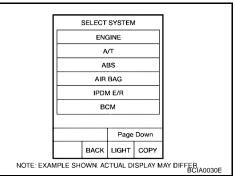
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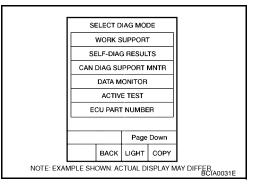
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4. Touch "BCM". If "BCM" is not indicated, refer to <u>GI-40, "CONSULT-II Data Link</u> <u>Connector (DLC) Circuit"</u>.

"ACTIVE TEST", "WORK SUPPORT" and "DATA MONITOR"



SELECT TEST ITEM LIGHT WARN ALM SEAT BELT ALM INT LAMP BATTERY SAVER THEFT ALM RETAINED PWR



ACTIVE TEST

5.

6.

Touch "RETAINED PWR".

Select diagnosis mode.

are available.

Test Item	Description	
	This test is able to supply RAP signal (power) from BCM (body control module) to power window system and power sunroof system (if equipped). Those systems can be operated when turning on "RETAINED PWR" on CONSULT-II screen even if the ignition switch is turned OFF.	
RETAINED PWR	NOTE: During this test, CONSULT-II can be operated with ignition switch in OFF position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF to check retained power operation. CONSULT-II might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.	

WORK SUPPORT

Work item	Description
RETAINED PWR	 RAP signal's power supply period can be changed by mode setting. Selects RAP signal's power supply period between three steps MODE1 (45 sec.) / MODE2 (OFF) / MODE 3 (2 min.).

DATA MONITOR

Work item	Description
IGN ON SW	Indicates (ON / OFF) condition of ignition switch

DOOR SW-DR	Indicates (ON/OFF) condition of front door switch driver side	^
DOOR SW-AS	Indicates (ON/OFF) condition of front door switch passenger side	A

Trouble Diagnoses Symptom Chart

Check that other systems using the signal of the following systems operate normally.

В

Symptom	Repair order	Refer to page
	1. BCM power supply and ground circuit check	<u>GW-37</u>
None of the power windows can be operated using any switch	2. Main power window and door lock/unlock power supply and ground circuit check	<u>GW-38</u>
	1. BCM power supply and ground circuit check 2. Main power window and door lock/unlock power supply and ground circuit check 3. Power window serial link check front LH and RH 1. Main power window and door lock/unlock power supply and ground circuit check 2. Front power window motor LH circuit check 3. Replace main power window and door lock/unlock switch 1. Power window and door lock/unlock switch RH power supply and ground circuit check 2. Power window serial link check front LH and RH 3. Front power window motor RH circuit check 4. Replace BCM 1. Rear power window switch LH or RH power supply and ground circuit check 2. Rear power window switch LH or RH power supply and ground circuit check 3. Rear power window switch LH or RH power supply and ground circuit check 4. Power window serial link check rear LH and RH 5. Replace BCM 1. Rear power window soutrol unit LH or RH power supply and ground circuit check 2. Rear power window switch LH or RH power supply and ground circuit check 3. Rear power window switch LH or RH power supply and ground circuit check 3. Rear power window switch LH or RH power supply and ground circuit check 3. Rear power window switch LH or RH power supply and ground circuit check 3. Rear power window switch LH or RH power supply and ground circuit check 3. R	<u>GW-39</u>
		<u>GW-38</u>
Front power window LH alone does not operate	2. Front power window motor LH circuit check	<u>GW-40</u>
		<u>EI-32</u>
		<u>GW-39</u>
Front power window RH alone does not operate		<u>GW-51</u>
	3. Front power window motor RH circuit check	<u>GW-41</u>
1. Rear power window control unit L	4. Replace BCM	BCS-20
-		<u>GW-54</u>
Rear power window LH alone does not operate	3. Rear power window motor LH circuit check	<u>GW-54</u>
		<u>GW-59</u>
	5. Replace BCM	BCS-20
		<u>GW-54</u>
Rear power window RH alone does not operate	3. Rear power window motor RH circuit check	<u>GW-55</u>
		<u>GW-59</u>
	5. Replace BCM	BCS-20
Rear power vent windows do not operate	1. Rear power vent window switch circuit check	<u>GW-61</u>
Rear power vent window LH alone does not operate		<u>GW-61</u>
Rear power vent window RH alone does not operate		<u>GW-61</u>
Rear power vent windows do not open	1. Rear power vent window relay (OPEN) check	<u>GW-61</u>
Rear power vent windows do not close	1. Rear power vent window relay (CLOSE) check	<u>GW-61</u>

Symptom	Repair order	Refer to page
	1. Door window sliding part malfunction	
	 A foreign material adheres to window glass or glass run rubber. 	_
	 Glass run rubber wear or deformation. 	
Anti-pinch system does not operate normally (Front LH)	 Sash is tilted too much, or not enough. 	
	2. Limit switch adjusting	<u>GW-66</u>
	3. Limit switch circuit check front LH	<u>GW-41</u>
-pinch system does not operate normally (Front RH)	4. Encoder circuit check front LH	<u>GW-44</u>
	1. Door window sliding part malfunction	
	 A foreign material adheres to window glass or glass run rubber. 	
	 Glass run rubber wear or deformation. 	
Anti-pinch system does not operate normally (Front RH)	 Sash is tilted too much, or not enough. 	
	2. Limit switch adjusting	<u>GW-66</u>
	3. Limit switch circuit check front RH	<u>GW-43</u>
	4. Encoder circuit check front RH	<u>GW-46</u>
	1. Door window sliding part malfunction	
	 A foreign material adheres to window glass or glass run rubber. 	_
	 Glass run rubber wear or deformation. 	
Anti-pinch system does not operate normally (Rear LH)	 Sash is tilted too much, or not enough. 	
	2. Limit switch adjusting	<u>GW-66</u>
	3. Limit switch circuit check rear LH or RH	<u>GW-56</u>
	4. Encoder circuit check rear LH or RH	<u>GW-58</u>
	 Door window sliding part malfunction A foreign material adheres to window glass 	_
	or glass run rubber.	
	 Glass run rubber wear or deformation. 	
Anti-pinch system does not operate normally (Rear RH)	 Sash is tilted too much, or not enough. 	
	2. Limit switch adjusting	<u>GW-66</u>
	3. Limit switch circuit check rear LH or RH	<u>GW-56</u>
	4. Encoder circuit check rear LH or RH	<u>GW-58</u>
	1. Check the retained power operation mode setting.	<u>GW-34</u>
Power window retained power operation does not operate properly	2. Door switch check	<u>GW-48</u>
	3. Replace BCM.	BCS-20
Power windows do not operate by front door lock assembly LH	1. Front door lock assembly LH (key cylinder switch) check	<u>GW-49</u>
key cylinder switch)	2. Replace main power window and door lock/ unlock switch	<u>EI-32</u>
Power window lock switch does not function	1. Power window lock switch circuit check	GW-51

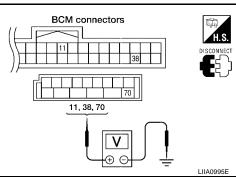
BCM Power Supply and Ground Circuit Check EISODSXY 1. CHECK FUSE AND FUSIBLE LINK		
Check 10A fuse (No. 4, located in the fuse block (J/B)]	-	
Check 10A fuse (No. 59, located in the fuse and relay box)	В	
Check 50A fusible link (letter f, located in the fuse and fusible link box)		
NOTE: Refer to <u>GW-15, "Component Parts and Harness Connector Location"</u> .	С	
OK or NG		
 OK >> GO TO 2. NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG 	<u>–</u> D	

3, "PRECAUTIONS".

2. CHECK BCM POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.
- 3. Check voltage between BCM connector and ground.

Connector	Term	Terminals		Condition	Voltage (V)
	(+)	(-)	source	Condition	(Approx.)
M20	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage
M18	38	Ground	lgnition power supply	Ignition switch ON or START	Battery voltage
	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage



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OK or NG

OK >> GO TO 3.

NG >> Repair or replace the harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

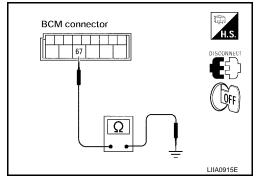
67 - Ground

: Continuity should exist.

OK or NG

OK >> Power supply and ground circuit is OK.

NG >> Repair or replace harness.



Main Power Window and Door Lock/Unlock Switch Power Supply and Ground **Circuit Check**

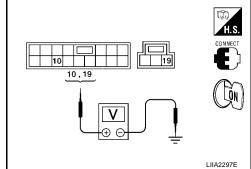
1. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch ON.
- Check voltage between main power window and door lock/ 2. unlock switch connector D7 terminal 10, D8 terminal 19 and ground.
 - 10 Ground
- : Battery voltage
- 19 Ground

>> GO TO 2.

>> GO TO 3.

- : Battery voltage



Main power window

and door lock/unlock

switch connector

17

2. CHECK GROUND CIRCUIT

- Turn ignition switch OFF. 1.
- 2. Disconnect main power window and door lock/unlock switch.
- 3. Check continuity between main power window and door lock/ unlock switch connector D8 terminal 17 and ground.

17 - Ground

: Continuity should exist.

OK or NG

OK or NG OK

NG

- OK >> Power supply and ground circuit are OK.
- NG >> Repair or replace harness.

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY CIRCUIT

- Turn ignition switch OFF. 1.
- 2. Disconnect BCM and main power window and door lock/unlock switch.
- Check continuity between BCM connector and main power win-3. dow and door lock/unlock switch connectors.

Connector	Terminal	Connector	Terminal	Continuity
А	Terrinida	В	Terrinidi	Continuity
	68	Main power window and door lock/unlock switch: D7	10	Yes
BCM: M20	69	C Main power window and door lock/unlock switch: D8	19	Yes

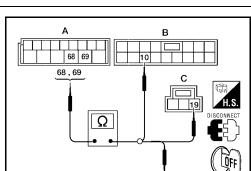
4. Check continuity between BCM and ground.

Connector	Terminal		Continuity
Α	Terrinia	Ground	Continuity
BCM: M20	68	Ground	No
	69		No

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



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4. CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM.
- 2. Turn ignition switch ON.
- 3. Check voltage between BCM connector M20 terminals 68, 69 and ground.
 - 68 Ground 69 - Ground
- : Battery voltage
- : Battery voltage

OK or NG

OK >> Check the condition of the harness and the connector.

NG >> Replace BCM.

Power Window and Door Lock/Unlock Switch RH Power Supply and Ground Circuit Check

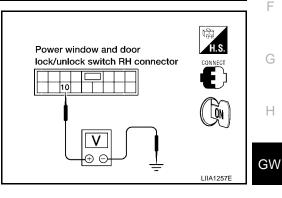
- **1. CHECK POWER SUPPLY CIRCUIT**
- 1. Turn ignition switch ON.
- 2. Check voltage between power window and door lock/unlock switch RH connector D105 terminal 10 and ground.

10 - Ground

: Battery voltage

OK or NG

OK	>> GO TO 2.
NG	>> GO TO 3.



2. CHECK GROUND CIRCUIT

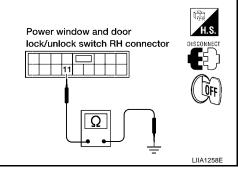
- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH.
- 3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

11 - Ground

: Continuity should exist.

OK or NG

- OK >> Power supply and ground circuit are OK.
- NG >> Repair or replace harness.



$\mathbf{3.}\,$ check power window and door lock/unlock switch RH power supply circuit

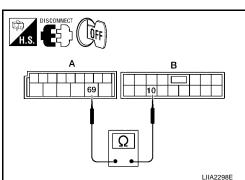
- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.
- Check continuity between BCM connector M20 (A) terminal 69 and power window and door lock/unlock switch RH connector D105 (B) terminal 10.

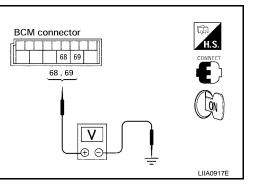
69 - 10

: Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.





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4. CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM.
- 2. Turn ignition switch ON.
- 3. Check voltage between BCM connector M20 terminal 69 and ground.

69 - Ground

: Battery voltage

OK or NG

- OK >> Check the condition of the harness and the connector.
- NG >> Replace BCM. Refer to <u>BCS-20, "BCM"</u>.

BCM connector

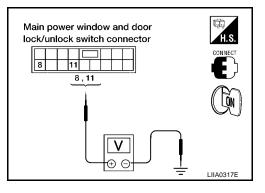
Front Power Window Motor LH Circuit Check

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.

2. Check voltage between main power window and door lock/ unlock switch connector D7 terminals 8, 11 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
Connector	(+)			
D711	Ground	Ground	UP	Battery voltage
			DOWN	0
			UP	0
		DOWN	Battery voltage	



OK or NG

OK >> GO TO 2.

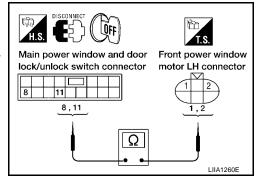
NG >> Replace main power window and door lock/unlock switch. Refer to EI-32, "REMOVAL" .

2. CHECK POWER WINDOW MOTOR CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and front power window motor LH.
- 3. Check continuity between main power window and door lock/ unlock switch connector D7 terminals 8, 11 and front power window motor LH connector D9 terminals 1, 2.
 - 8 2 11 - 1
- . . .
- : Continuity should exist. : Continuity should exist.

OK or NG

- OK >> Replace front power window motor LH.
- NG >> Repair or replace harness. Refer to <u>GW-66, "FRONT DOOR GLASS REGULATOR"</u>.

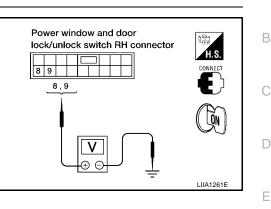


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Front Power Window Motor RH Circuit Check 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH OUTPUT SIGNAL

- 1. Connect power window and door lock/unlock switch RH.
- 2. Turn ignition switch ON.
- 3. Check voltage between power window and door lock/unlock switch RH connector D105 terminals 8, 9 and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
D105 9 8	Ground	Ground	UP	0
			DOWN	Battery voltage
			UP	Battery voltage
		DOWN	0	



OK or NG

OK >> GO TO 2.

NG >> Replace power window and door lock/unlock switch RH. Refer to EI-32, "REMOVAL".

2. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH and power window and door lock/unlock switch RH.
- 3. Check continuity between power window and door lock/unlock switch RH connector D105 terminals 8. 9 and front power window motor RH connector D104 terminals 1, 2.
 - 8 2
 - 9 1

: Continuity should exist.

: Continuity should exist.

OK or NG

- OK >> Replace front power window motor RH. Refer to <u>GW-66</u>, "FRONT DOOR GLASS REGULATOR" .
- NG >> Repair or replace harness.

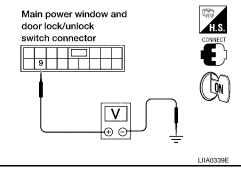
Limit Switch Circuit Check Front LH



1. Turn ignition switch ON.

2. Check voltage between main power window and door lock/ unlock switch connector D7 termimal 9 and ground.

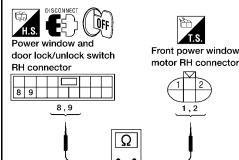
Connector –	Tern	ninal	Condition	Voltage (V)
	(+)	(-)	Condition	(Approx.)
D7	9	Ground	Front power window LH is between fully-open and just before fully-closed position (ON)	0
	3	Ground	Front power window LH is between just before fully- closed position and fully- closed position (OFF)	5



OK or NG

OK >> Limit switch circuit is OK.

NG >> GO TO 2.



Front power window

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2. CHECK FRONT POWER WINDOW MOTOR LH LIMIT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor LH.
- 3. Turn ignition switch ON.
- 4. Check voltage between front power window motor LH connector D9 terminal 5 and ground.

5 - Ground

: Approx. 5V

OK or NG

OK >> GO TO 3. NG >> GO TO 5.

3. CHECK LIMIT SWITCH GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between front power window motor LH connector D9 terminal 6 and ground.

6 - Ground

: Continuity should exist.

OK or NG

OK >> Replace front power window motor LH. Refer to <u>GW-66</u>, <u>"FRONT DOOR GLASS REGULATOR"</u>. NG >> GO TO 4.

Main power window and

door lock/unlock

switch connector

4. CHECK HARNESS CONTINUITY

- 1. Disconnect main power window and door lock/unlock switch.
- 2. Check continuity between front power window motor LH connector D9 terminal 6 and main power window and door lock/unlock switch connector D7 terminal 2.

6 - 2

: Continuity should exist.

OK or NG

- OK >> Replace main power window and door lock/unlock switch. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.

5. CHECK HARNESS CONTINUITY

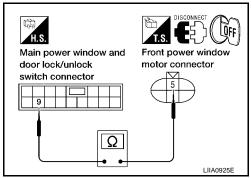
- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch.
- 3. Check continuity between front power window motor LH connector D9 terminal 5 and main power window and door lock/unlock switch connector D7 terminal 9.

5 - 9

: Continuity should exist.

OK or NG

- OK >> Replace main power window and door lock/unlock switch. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.



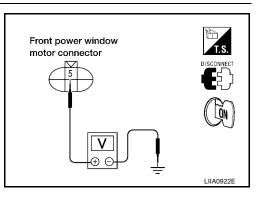
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Front power window

motor connector



Limit Switch Circuit Check Front RH 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH LIMIT SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between power window motor RH connector D105 terminal 15 and ground.

Connector	Term	inals	Condition	Voltage (V)	
Connector	(+)	(-)	Condition	(Approx.)	
D105		15	Ground	Front power window RH is between fully-open and just before fully-closed position (ON)	0
2103	15	Ground	Front power window RH is between just before fully- closed position and fully- closed position (OFF)	5	

Power window and door lock/unlock switch RH connector 15 LON (Ŧ) F LIIA1263E

OK or NG

OK >> Limit switch circuit is OK.

NG >> GO TO 2.

2. CHECK FRONT POWER WINDOW MOTOR RH LIMIT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH.
- 3. Turn ignition switch ON.
- 4. Check voltage between front power window motor RH connector D104 terminal 5 and ground.

5 - Ground

: Approx. 5V

OK or NG

OK >> GO TO 3. NG >> GO TO 5.

3. CHECK LIMIT SWITCH GROUND CIRCUIT

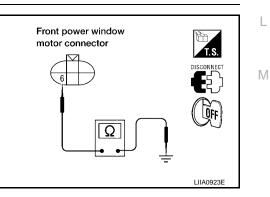
- 1. Turn ignition switch OFF.
- 2. Check continuity between front power window motor RH connector D104 terminal 6 and ground.

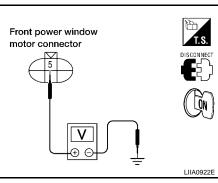
6 - Ground

: Continuity should exist.

- OK or NG
- OK >> Replace front power window motor RH. Refer to GW-66, "FRONT DOOR GLASS REGULATOR"

NG >> GO TO 4.





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4. CHECK HARNESS CONTINUITY

- 1. Disconnect power window and door lock/unlock switch RH.
- 2. Check continuity between front power window motor RH connector D104 terminal 6 and power window and door lock/unlock switch RH connector D105 terminal 3.

6 - 3

: Continuity should exist.

OK or NG

- OK >> Replace power window and door lock/unlock switch RH. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.

5. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH.
- 3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 15 and front power window motor RH connector D104 terminal 5.

15 - 5

: Continuity should exist.

OK or NG

- OK >> Replace power window and door lock/unlock switch RH. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.

Encoder Circuit Check Front LH

1. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor LH.
- 3. Turn ignition switch ON.
- 4. Check voltage between front power window motor LH connector D9 terminal 4 and ground.

4 - Ground

: Approx. 10V

OK or NG

OK >> GO TO 3. NG >> GO TO 2.

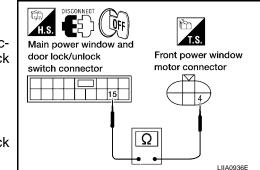
2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch.
- 3. Check continuity between front power window motor LH connector D9 terminal 4 and main power window and door lock/unlock switch connector D7 terminal 15.

4 - 15 : Continuity should exist.

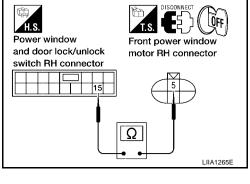
<u>OK or NG</u>

- OK >> Replace main power window and door lock/unlock switch. Refer to <u>EI-32</u>, "REMOVAL" .
- NG >> Repair or replace harness.



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Power window and door lock/unlock switch RH connector



Front power window

motor connector

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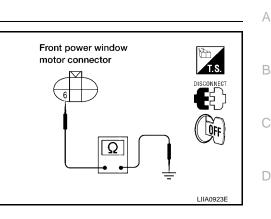
- 1. Turn ignition switch OFF.
- 2. Check continuity between front power window motor LH connector D9 terminal 6 and ground.

6 - Ground

: Continuity should exist.

OK or NG

OK	>> GO TO 5.
NG	>> GO TO 4.



Main power window and

door lock/unlock

switch connector

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motor connector

Front power window

4. CHECK ENCODER GROUND CIRCUIT

- 1. Disconnect main power window and door lock/unlock switch.
- 2. Check continuity between front power window motor LH connector D9 terminal 6 and main power window and door lock/unlock switch connector D7 terminal 2.

6 - 2 : Continuity should exist.

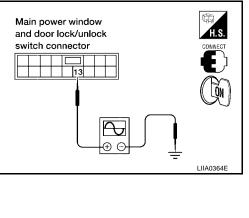
OK or NG

- OK >> Replace main power window and door lock/unlock switch. Refer to EI-32, "REMOVAL".
- NG >> Repair or replace harness.

5. CHECK ENCODER SIGNAL

- 1. Connect front power window motor LH.
- 2. Turn ignition switch ON.
- 3. Check the signal between main power window and door lock/ unlock switch connector and ground with oscilloscope.

Connec-	Terminals		Condition	Signal
tor	tor (+) (-)	Condition	Olgilai	
D7	13	Ground	Opening	(V) 6 4 2 0



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OK or NG

OK >> Replace main power window and door lock/unlock switch. Refer to EI-32, "REMOVAL".

NG >> GO TO 6.

Revision: November 2009

6. CHECK ENCODER CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor LH and main power window and door lock/unlock switch.
- 3. Check continuity between front power window motor LH connector D9 (B) terminal 3 and main power window and door lock/ unlock switch connector D7 (A) terminal 13.

3 - 13 : Continuity should exist.

OK or NG

- OK >> Replace front power window motor LH. Refer to <u>GW-66,</u> <u>"FRONT DOOR GLASS REGULATOR"</u>.
- NG >> Repair or replace harness.

Encoder Circuit Check Front RH

1. CHECK POWER WINDOW MOTOR RH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH.
- 3. Turn ignition switch ON.
- 4. Check voltage between front power window motor RH connector D104 terminal 4 and ground.

4 - Ground : Approx. 10V

OK or NG

OK >> GO TO 3. NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH.
- 3. Check continuity between front power window motor RH connector D104 terminal 4 and power window and door lock/unlock switch RH connector D105 terminal 4.

4 - 4

: Continuity should exist.

OK or NG

- OK >> Replace power window and door lock/unlock switch RH. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.

3. CHECK ENCODER GROUND

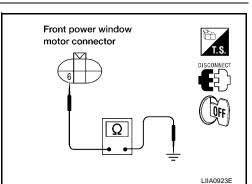
- 1. Turn ignition switch OFF.
- 2. Check continuity between front power window motor RH connector D104 terminal 6 and ground.

6 - Ground

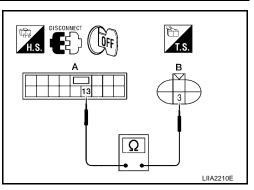
: Continuity should exist.

OK or NG

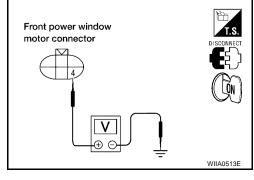
OK	>> GO TO 5.
NG	>> GO TO 4.



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Power window

and door lock/unlock

switch RH connector

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Front power window

motor RH connector

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Power window

and door lock/unlock switch RH connector

4. CHECK ENCODER GROUND CIRCUIT

- 1. Disconnect power window and door lock/unlock switch RH.
- 2. Check continuity between front power window motor RH connector D104 terminal 6 and power window and door lock/unlock switch RH connector D105 terminal 3.

6 - 3

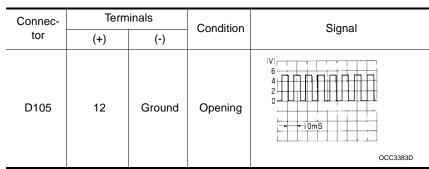
: Continuity should exist.

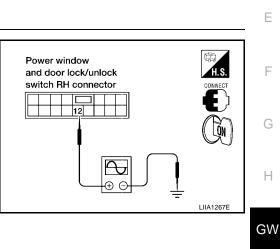
OK or NG

- OK >> Replace power window and door lock/unlock switch RH. Refer to EI-32, "REMOVAL" .
- NG >> Repair or replace harness.

5. CHECK ENCODER SIGNAL

- Connect front power window motor RH. 1.
- 2. Turn ignition switch ON.
- Check the signal between power window and door lock/unlock 3. switch RH connector and ground with oscilloscope.





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DISCONNECT

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Front power window

motor RH connector

OK or NG

OK >> Replace power window and door lock/unlock switch RH. Refer to EI-32. "REMOVAL".

NG >> GO TO 6.

6. CHECK ENCODER CIRCUIT

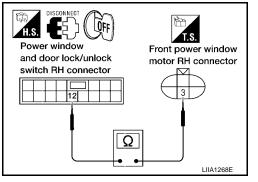
- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH and power window and door lock/unlock switch RH.
- 3. Check continuity between front power window motor RH connector D104 terminal 3 and power window and door lock/unlock switch RH connector D105 terminal 12.

3 - 12

: Continuity should exist.

OK or NG

- OK >> Replace front power window motor RH. Refer to GW-66, "FRONT DOOR GLASS REGULATOR" .
- NG >> Repair or replace harness.



Door Switch Check

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check front door switches ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-II. Refer to <u>GW-34</u>, <u>"DATA MONITOR"</u>.

Monitor item	Condition
DOOR SW-DR	OPEN: ON
	CLOSE: OFF
DOOR SW-AS	OPEN: ON
	CLOSE: OFF

DATA MONITOR MONITOR DOOR SW - DR OFF DOOR SW - AS OFF

Without CONSULT-II

Check voltage between BCM connector and ground.

ltem	Connector	Term	Terminals		Voltage (V)
nem	Connector	(+)	(-)	Condition	(Approx.)
Front RH	M18	12		OPEN	0
	IVI I O			Ground	CLOSE
Front LH	M19 47	47	Giouna	OPEN	0
			47	CLOSE	Battery voltage

OK or NG

OK >> Front door switch is OK.

NG >> GO TO 2.

2. CHECK FRONT DOOR SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front door switch LH or RH and BCM.
- 3. Check continuity between front door switch connector B8 (LH) or B108 (RH) terminal 2 and BCM connector M19 terminal 47 (LH) or connector M18 terminal 12 (LH).

Front LH	
2 - 47	: Continuity should exist.
Front RH	
2 - 12	: Continuity should exist.

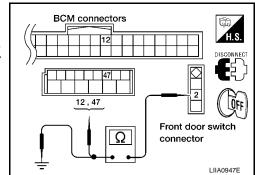
4. Check continuity between front door switch connector B8 (LH) or B108 (RH) terminal 2 and ground.

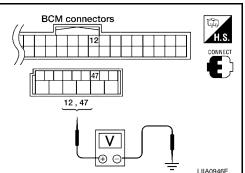
2 - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.





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3. CHECK DOOR SWITCH

- 1. Disconnect front door switch LH or RH.
- 2. Check continuity between each front door switch terminal 2 and body ground part of front door switch.

Terminal		Door switch	Continuity
	Body ground part	Pushed	No
2	of front door switch	Released	Yes

OK or NG

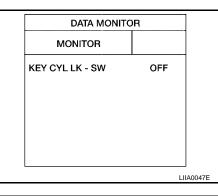
- OK >> Replace BCM. Refer to BCS-20, "BCM" .
- NG >> Replace malfunctioning front door switch.

Front Door Lock Assembly LH (Key Cylinder Switch) Check 1. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) INPUT SIGNAL

(P)With CONSULT-II

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-II. Refer to GW-34, "DATA MONITOR".

> "KEY CYL LK-SW" should be "ON" when key inserted in door key cylinder is turned to lock.



Front or rear door switch

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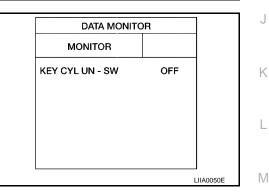
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Check front door lock assembly LH (key cylinder switch) ("KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-II. Refer to GW-34, "DATA MONITOR" .

> "KEY CYL UN-SW" should be "ON" when key inserted in door key cylinder was turned to unlock.



Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector and ground.

Connector	Term	inals (-) Key position	Key position	Voltage (V)
0011100101	(+)	(-)		(Approx.)
	6	- Ground -	Neutral / Unlock	5
D7			Lock	0
DI	4	Gibunu	Neutral / Lock	5
	4		Unlock	0

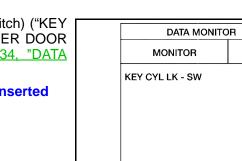
4 C 6 4,6 $\oplus \in$

Main power window and door lock/unlock switch connector

OK or NG

OK >> Front door lock assembly LH (key cylinder switch) is OK.

NG >> GO TO 2.



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2. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and front door lock assembly (key cylinder switch).
- 3. Check continuity between main power window and door lock/ unlock switch connector D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector D14 terminals 1, 6.
 - 6 6

: Continuity should exist.

4 - 1

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

3. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) GROUND

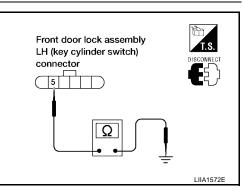
Check continuity between front door lock assembly LH (key cylinder switch) connector D14 terminal 5 and ground.

5 - Ground

: Continuity should exist.

OK or NG

NG >> Repair or replace harness.



5

Main power window

switch connector

and door lock/unlock

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connector

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Front door lock

assembly LH (key

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1,6

cylinder switch)

4. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)

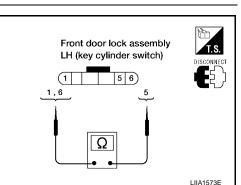
Check continuity between front door lock assembly LH (key cylinder switch) terminals 1, 6 and 5.

Term	ninals	Key position Continuity	
6		Neutral / Unlock	No
0	5	Lock	Yes
1	5	Neutral / Lock	No
I		Unlock	Yes

OK or NG

OK >> Replace main power window and door lock/unlock switch.Refer to EI-32, "REMOVAL" .

NG >> Replace front door lock assembly LH (key cylinder switch). Refer to BL-131, "FRONT DOOR LOCK" .



Power Window Serial Link Check Front LH and RH

1. CHECK BUS OUTPUT SIGNAL

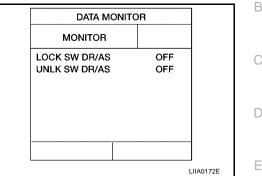
(P)With CONSULT-II

Check door lock and unlock switch ("LOCK SW DR/AS", "UNLK SW DR/AS") in DATA MONITOR mode for "MULTI REMOTE ENT" with CONSULT-II. Refer to <u>BL-27, "DATA MONITOR"</u> .

When door lock and unlock switch is turned to LOCK

LOCK SW DR/AS : **ON**

When door lock and unlock switch is turned to UNLOCK **UNLK SW DR/AS** : **ON**

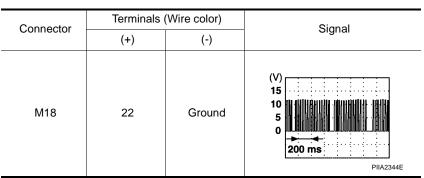


BCM connectors

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Without CONSULT-II

- 1. Remove key from ignition switch, and the door of driver side and passenger side is closed.
- 2. Check the signal between BCM connector and ground with oscilloscope when door lock and unlock switch (front LH and front RH) is turned "LOCK" or "UNLOCK".
- 3. Make sure signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (front LH and front RH) is turned "LOCK" or "UNLOCK".



OK or NG

OK >> GO TO 2.

NG >> GO TO 3.

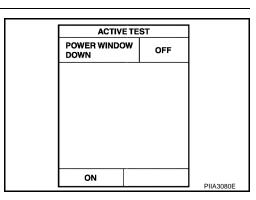
2. CHECK BCM BUS OUTPUT SIGNAL

Check power window serial link ("POWER WINDOW DOWN") in "ACTIVE TEST" mode with CONSULT-II. Refer to GW-34, "ACTIVE TEST".

When "ACTIVE TEST" is executed, is the window of driver side and passenger side lowered.

OK or NG

- OK >> Further inspection is necessary. Refer to <u>GW-35, "Trou-</u> ble Diagnoses Symptom Chart" .
- >> Replace BCM. Refer to .BCS-20, "BCM" NG



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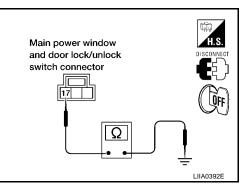
L

3. CHECK POWER WINDOW SWITCH GROUND

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and power window and door lock/unlock switch RH.
- 3. Check continuity between main power window and door lock/ unlock switch connector D8 terminal 17 and ground.

17 - Ground

: Continuity should exist.



Power window and door

11

lock/unlock switch RH connector

4. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

11 - Ground

: Continuity should exist.

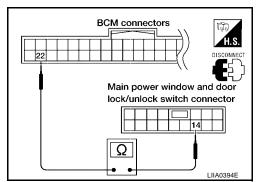
OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.



- 1. Disconnect BCM.
- 2. Check continuity between BCM connector M18 terminal 22 and main power window and door lock/unlock switch connector D7 terminal 14.
 - 22 14

: Continuity should exist.



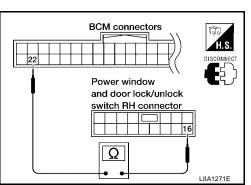
3. Check continuity between BCM connector M18 terminal 22 and power window and door lock/unlock switch RH connector D105 terminal 16.

<mark>22 - 16</mark>

: Continuity should exist.

OK or NG

- OK >> Replace main power window and door lock/unlock switch or power window and door lock/unlock switch RH. Refer to EI-32, "REMOVAL".
- NG >> Repair or replace harness.



LIIA1270E

Rear Power Window Control Unit LH or RH Power Supply and Ground Circuit Check

1. CHECK POWER WINDOW POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect Rear power window control unit LH.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power window control unit LH or RH connector D209 (LH), D309 (RH) terminal 13 and ground.

13 - Ground

: Battery voltage

OK or NG

OK >> GO TO 2. NG >> GO TO 3.

2. CHECK POWER WINDOW GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window control unit LH or RH.
- 3. Check continuity between rear power window control unit LH or RH connector D209 (LH), D309 (RH) terminal 15 and ground.

15 - Ground

: Continuity should exist.

OK or NG

- OK >> Rear power window control unit LH or RH power supply and ground circuit is OK. Refer to <u>GW-35, "Trouble</u> <u>Diagnoses Symptom Chart"</u>.
- NG >> Repair or replace harness.

3. CHECK REAR POWER WINDOW CONTROL UNIT LH OR RH POWER SUPPLY CIRCUIT

- 1. Disconnect BCM.
- Check continuity between BCM connector M20 terminal 69 and rear power window control unit LH or RH connector D209 (LH), D309 (RH) terminal 13.

69 - 13

: Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

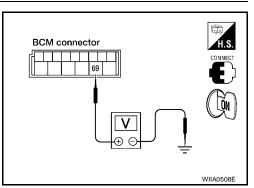
- 1. Connect BCM.
- 2. Turn ignition switch ON.
- 3. Check voltage between BCM connector M20 terminal 69 and ground.

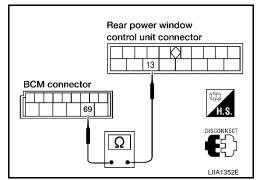
69 - Ground

: Battery voltage

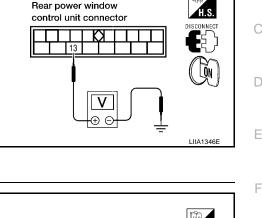
<u>OK or NG</u>

- OK >> Check the condition of the harness and the connector.
- NG >> Replace BCM. Refer to <u>BCS-20, "BCM"</u>.





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Rear power window

control unit connector

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Rear Power Window Switch LH or RH Power Supply and Ground Circuit Check

1. CHECK POWER WINDOW POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch LH or RH.
- 3. Turn ignition switch ON.
- 4 Check voltage between rear power window switch LH or RH connector D203 (LH), D303 (RH) terminals 2, 3 and ground.
 - 2 Ground 3 - Ground

- : Battery voltage
- : Battery voltage

OK or NG

>> GO TO 2. OK

NG >> Repair or replace harness.

$2.\,$ Check power window ground circuit

- Turn ignition switch OFF. 1.
- 2. Disconnect rear power window switch LH or RH.
- 3. Check continuity between rear power window switch LH or RH connector D203 (LH), D303 (RH) terminals 1, 7 and ground.
 - 1 Ground

: Continuity should exist.

7 - Ground

: Continuity should exist.

OK or NG

1.

- OK >> Rear power window switch LH or RH power supply and ground circuit is OK. Refer to GW-35, "Trouble Diagnoses Symptom Chart" .
- NG >> Repair or replace harness.

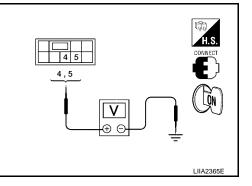
Turn ignition switch ON.

Rear Power Window Motor LH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH LH OUTPUT SIGNAL

Check voltage between rear power window switch LH connector 2. D203 terminals 4, 5 and ground. Terminals Condition Connector (__) (-)

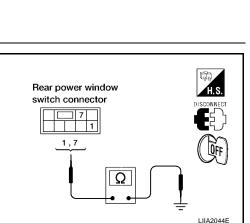
(+)	(-)		(Appiox.)
4		Closing	0
D203		Opening	Battery voltage
5	Ground	Closing	Battery voltage
		Opening	0
	4	4 Ground	4 Closing Ground Closing 5





OK >> Replace rear power window switch LH. Refer to EI-33, "REMOVAL".

NG >> GO TO 2.



Rear power window

switch connector

2,3

2 3

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Voltage (V)

 $(\Delta n n r o x)$



- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch LH and rear power window control unit LH.
- 3. Check continuity between rear power window switch LH connector D203 terminals 4, 5 and rear power window control unit LH connector D209 terminals 9, 10.
 - 4 9

: Continuity should exist.

5 - 10

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH.
- 3. Check continuity between rear power window control unit LH connector D209 terminals 11, 12 and rear power window motor LH connector D204 terminals 1, 2.
 - 11 2

: Continuity should exist.

12 - 1

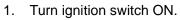
: Continuity should exist.

OK or NG

- OK >> Replace rear power window motor LH. Refer to <u>GW-69</u>, "REAR DOOR GLASS REGULATOR"
- NG >> Repair or replace harness.

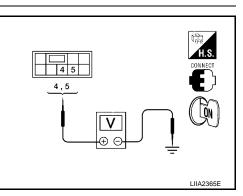
Rear Power Window Motor RH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL



2. Check voltage between rear power window switch RH connector D303 terminals 4, 5 and ground.

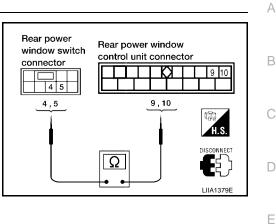
Connector	Connector	ninals	Condition	Voltage (V)	
Connector	(+)	(-)		(Approx.)	
	1		Closing	0	
D303	4)3 Ground	One and	Opening	Battery voltage
D303	5	Ground	Closing	Battery voltage	
	5		Opening	0	

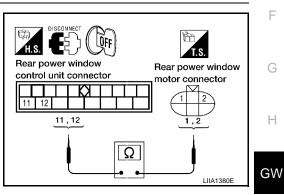


OK or NG

OK >> Replace rear power window switch RH. Refer to EI-33, "REMOVAL" .

NG >> GO TO 2.





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2. CHECK REAR POWER WINDOW SWITCH RH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch RH and rear power window control unit RH.
- 3. Check continuity between rear power window switch RH connector D303 terminals 4, 5 and rear power window control unit RH connector D309 terminals 9, 10.
 - 4 9

: Continuity should exist.

5 - 10

: Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.

3. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor RH.
- 3. Check continuity between rear power window control unit RH connector D309 terminals 11, 12 and rear power window motor RH connector D304 terminals 1, 2.
 - 11 2

: Continuity should exist.

12 - 1

: Continuity should exist.

OK or NG

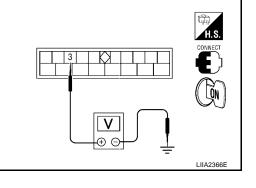
- OK >> Replace rear power window motor RH. Refer to <u>GW-69</u>, "REAR DOOR GLASS REGULATOR".
- NG >> Repair or replace harness.

Limit Switch Circuit Check Rear LH and RH

1. CHECK REAR POWER WINDOW MOTOR LH AND RH LIMIT SWITCH SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between rear power window control unit LH or RH connector and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
D209 (LH)	3	Ground	Rear power window LH or RH is between fully-open and just before fully-closed position (ON)	0
D309 (RH)	5	Ground	Rear power window LH or RH is between just before fully- closed position and fully- closed position (OFF)	5

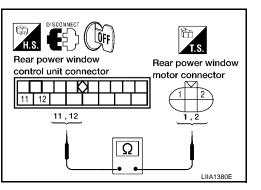


OK or NG

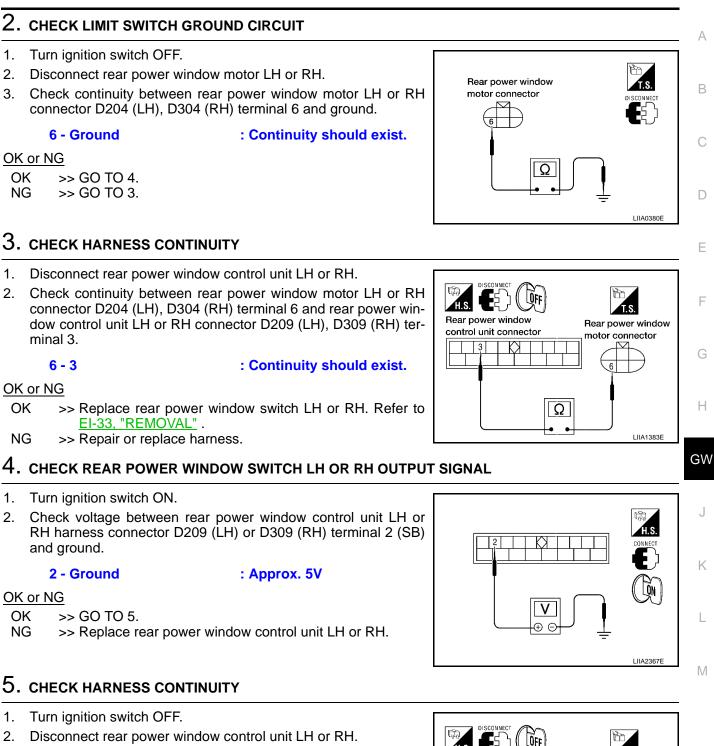
OK >> Limit switch circuit is OK.

NG >> GO TO 2.

Rear power window switch connector



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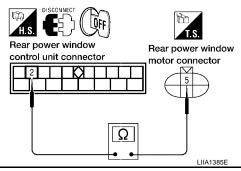
 Check continuity between rear power window control unit LH or RH connector D209 (LH), D309 (RH) terminal 2 and rear power window motor LH or RH connector D204 (LH), D304 (RH) terminal 5.

2 - 5

: Continuity should exist.

OK or NG

- OK >> Replace rear power window motor LH or RH. Refer to <u>GW-69, "REAR DOOR GLASS REGULATOR"</u>.
- NG >> Repair or replace harness.



Encoder Circuit Check Rear LH or RH

1. CHECK REAR POWER WINDOW MOTOR LH OR RH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH or RH.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power window motor LH or RH connector D204 (LH) or D304 (RH) terminal 4 and ground.

4 - Ground

: Approx. 10V

OK or NG

OK >> GO TO 3. NG >> GO TO 2.

2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH or RH and rear power window control unit LH or RH.
- Check continuity between rear power window motor LH or RH connector D204 (LH) or D304 (RH) (B) terminal 4 and rear power window control unit LH or RH connector D209 (LH) or D309 (RH) (A) terminal 5.

4 - 5

: Continuity should exist.

OK or NG

- OK >> Replace rear power window switch LH or RH. Refer to EI-33, "REMOVAL".
- NG >> Repair or replace harness.

3. CHECK ENCODER GROUND

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH or RH.
- 3. Check continuity between rear power window motor LH or RH connector D204 (LH) or D304 (RH) terminal 6 and ground.

6 - Ground

: Continuity should exist.

OK or NG

OK >> GO TO 5. NG >> GO TO 4.

4. CHECK ENCODER GROUND CIRCUIT

- 1. Disconnect rear power window control unit LH or RH.
- Check continuity between rear power window motor LH or RH connector D204 (LH) or D304 (RH) terminal 6 and rear power window control unit LH or RH connector D209 (LH), D309 (RH) terminal 3.

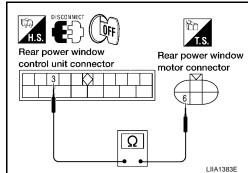
6 - 3

Revision: November 2009

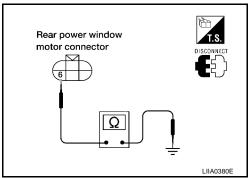
: Continuity should exist.

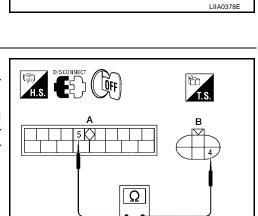
OK or NG

- OK >> Replace rear power window control unit LH or RH.
- NG >> Repair or replace harness.



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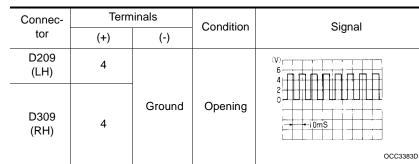
Rear power window

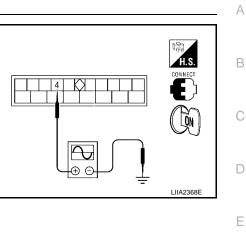
motor connector



5. CHECK ENCODER SIGNAL

- 1. Connect rear power window motor LH or RH and rear power window control unit LH or RH.
- 2. Turn ignition switch ON.
- Check the signal between rear power window control unit LH or RH connector D209 (LH) or D309 (RH) terminal 4 and ground with oscilloscope.





OK or NG

OK >> GO TO 6.

NG >> Replace rear power window control unit LH or RH.

6. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window control unit LH or RH and rear power window motor LH or RH.
- Check continuity between rear power window control unit LH or RH connector D209 (LH) or D309 (RH) terminal 4 and rear power window motor LH or RH connector D204 (LH), D304 (RH) terminal 3.

4 - 3 : Continuity should exist.

OK or NG

- OK >> Replace rear power window motor LH or RH. Refer to <u>GW-69, "REAR DOOR GLASS REGULATOR"</u>.
- NG >> Repair or replace harness.

Power Window Serial Link Check Rear LH or RH

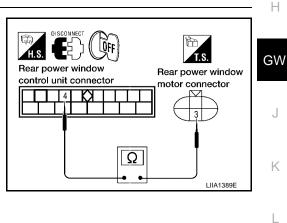
1. CHECK REAR POWER WINDOW CONTROL UNIT LH OR RH

- 1. Replace with operative rear power window control unit LH or RH.
- 2. Does window operate normally?

OK or NG

OK >> Replace rear power window control unit LH or RH.

NG >> GO TO 2.





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2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and rear power window control unit LH or RH.
- Check continuity between main power window and door lock/ unlock switch connector D7 terminal 14 and rear power window control unit LH or RH connector D209 (LH) or D309 (RH) terminal 1.

OK or NG

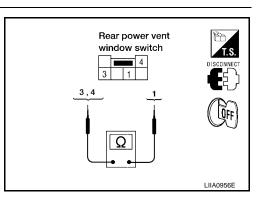
- OK >> Replace main power window and door lock/unlock switch. Refer to <u>EI-32, "REMOVAL"</u>.
- NG >> Repair or replace harness.

Rear Power Vent Window Switch Circuit Check

1. CHECK REAR POWER VENT WINDOW SWITCH OPERATION

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power vent window switch.
- 3. Check continuity between rear power vent window switch terminals 1, 3 and 4.

Ter	minal	Condition	Continuity
(+)	(-)	Condition	Continuity
3	1	Rear power vent window switch is pressed OPEN.	Yes
4	1	Rear power vent window switch is pressed CLOSE.	Yes



OK or NG

OK >> GO TO 2.

NG >> Replace rear power vent window switch.

2. CHECK REAR POWER VENT WINDOW SWITCH CIRCUIT HARNESS CONTINUITY

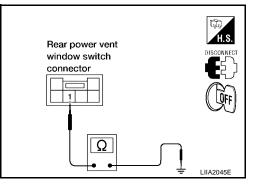
Check continuity between rear power vent window switch connector R103 terminal 1 and ground.

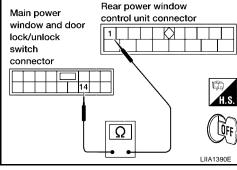
1 - Ground

: Continuity should exist.

OK or NG

- OK >> Rear power vent window switch circuit harness OK.
- NG >> Repair or replace harness.



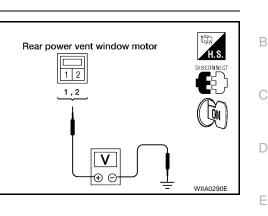


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Rear Power Vent Window Motor LH Circuit Check 1. CHECK REAR POWER VENT WINDOW LH SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power vent window motor LH.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power vent window motor LH connector B52 terminals 1, 2 and ground.

Connector	Connector		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
	1		Opening	Battery voltage
B52		Ground	Closing	0
0.02	2	Ground	Opening	0
			Closing	Battery voltage



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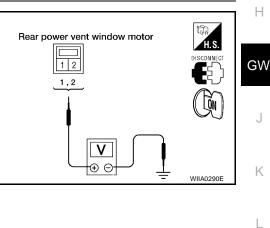
OK or NG

- OK >> Replace rear power vent window motor LH. Refer to <u>GW-71, "Removal and Installation"</u>.
- NG >> Repair or replace harness.

Rear Power Vent Window Motor RH Circuit Check 1. CHECK REAR POWER VENT WINDOW SWITCH RH SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power vent window motor RH.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power vent window motor RH connector B150 terminals 1, 2 and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
B150	1	Ground	Opening	Battery voltage
			Closing	0
	2	Ground	Opening	0
			Closing	Battery voltage



OK or NG

OK >> Replace rear power vent window motor RH. Refer to <u>GW-71, "Removal and Installation"</u>.

NG >> Repair or replace harness.

Rear Power Vent Window Relay (OPEN) Check 1. CHECK REAR POWER VENT WINDOW RELAY (OPEN) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power vent window relay (OPEN).
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power vent window relay (OPEN) connector and ground.

Connector	Term	ninals	Voltage (V) (Approx.)
	(+)	(-)	
M87	1	Ground Battery volta	Battory voltago
	5		Ballery vollage

OK or NG

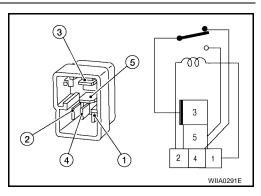
OK >> GO TO 2.

NG >> Repair or replace harness.

2. CHECK REAR POWER VENT WINDOW RELAY (OPEN)

Check continuity between rear power vent window relay (OPEN) terminals 3 and 4, 3 and 5.

Terr	ninal	Condition	Continuity
3 4	4	12V direct current supply between terminals 1 and 2	No
		No current supply	Yes
3	5	12V direct current supply between terminals 1 and 2	Yes
		No current supply	No



OK or NG

OK >> GO TO 3.

NG >> Replace rear power vent window relay (OPEN).

3. CHECK REAR POWER VENT WINDOW RELAY (OPEN) GROUND CIRCUIT

Check continuity between rear power vent window relay (OPEN) connector M87 terminal 4 and ground.

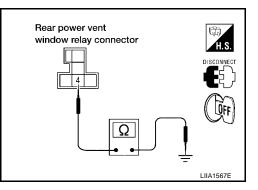
4 - Ground

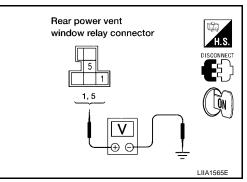
: Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.





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4. CHECK REAR POWER VENT WINDOW RELAY (OPEN) CIRCUIT

- 1. Disconnect rear power vent window switch.
- Check continuity between rear power vent window relay (OPEN) connector M87 terminal 2 and rear power vent window switch connector R103 terminal 3.

2 - 3

: Continuity should exist.

OK or NG

- OK >> Replace rear power vent window switch.
- NG >> Repair or replace harness.

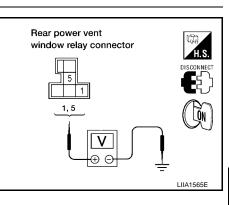
Rear power vent window relay connector

Rear Power Vent Window Relay (CLOSE) Check

1. CHECK REAR POWER VENT WINDOW RELAY (CLOSE) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power vent window relay (CLOSE).
- 3. Turn ignition switch ON.
- 4. Check voltage between rear power vent window relay (CLOSE) connector and ground.

Connector	Term	ninals	Voltage (V) (Approx.)
	(+)	(-)	
M89	1	Ground Battery volta	Pattonyvoltago
	5		ballery vollage



OK or NG

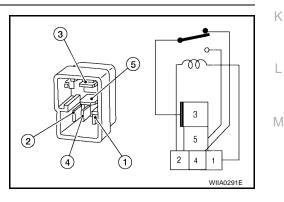
OK >> GO TO 2.

NG >> Repair or replace harness.

2. CHECK REAR POWER VENT WINDOW RELAY (CLOSE)

Check continuity between rear power vent window relay (CLOSE) terminals 3 and 4, 3 and 5.

Terr	minal	Condition	Continuity
3	4	12V direct current supply between terminals 1 and 2	No
		No current supply	Yes
3	5	12V direct current supply between terminals 1 and 2	Yes
		No current supply	No



OK or NG

OK >> GO TO 3.

NG >> Replace rear power vent window relay (CLOSE).

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3. CHECK REAR POWER VENT WINDOW RELAY (CLOSE) GROUND CIRCUIT

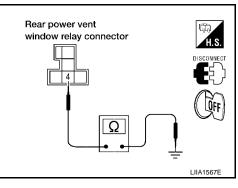
Check continuity between rear power vent window relay (CLOSE) connector M89 terminal 4 and ground.

4 - Ground

: Continuity should exist.

OK or NG

- OK >> GO TO 4.
- NG >> Repair or replace harness.



4. CHECK REAR POWER VENT WINDOW RELAY (CLOSE) CIRCUIT

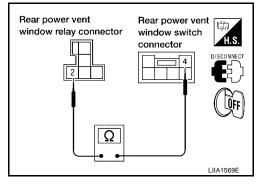
- 1. Disconnect rear power vent window switch.
- 2. Check voltage between rear power vent window relay (CLOSE) connector M89 terminal 2 and rear power vent window switch R103 terminal 4.

2 - 4

: Continuity should exist.

OK or NG

- OK >> Replace rear power vent window switch.
- NG >> Repair or replace harness.



FRONT DOOR GLASS AND REGULATOR

FRONT DOOR GLASS AND REGULATOR Removal and Installation

💽 : N·m (kg-m, in-lb)

FRONT DOOR GLASS

Removal

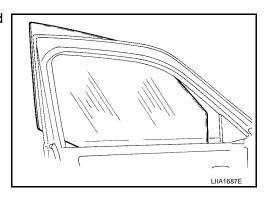
- 1. Remove the front door finisher. Refer to EI-32, "DOOR FINISHER" .
- 2. Remove the hole cover over rear glass bolt.

97.5 (0.77, 66)

- 3. Temporarily reconnect the power window switch.
- 4. Operate the power window switch to raise/lower the door window until the glass bolts can be seen.

Regulator assembly

- 5. Remove the inside seal.
- 6. Remove the glass bolts.
- 7. While holding the front door glass, raise it at the rear end and pull the glass out of the sash toward the outside of the door.



7.5 (0.77, 66)

Installation

Installation is in the reverse order of removal.

Glass bolts

: 6.1 N·m (0.62 kg-m, 54 in-lb)

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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 guide rail bolts to correct the glass position.

FRONT DOOR GLASS REGULATOR

Removal

- 1. Remove the front door finisher. Refer to EI-32, "DOOR FINISHER" .
- 2. Remove the hole cover over rear glass bolt.
- 3. Temporarily reconnect the power window switch.
- 4. Operate the power window main switch to raise/lower the door window until the glass bolts can be seen.
- 5. Remove the inside seal.
- 6. Remove the glass bolts.
- 7. Raise the front door glass and hold it in place with suitable tool.
- 8. Disconnect the harness connector from the regulator assembly.
- 9. Remove the bolts and the regulator assembly.

Disassembly And Assembly

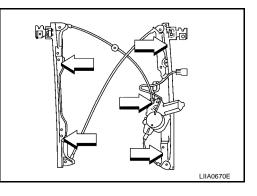
Remove the regulator motor from the regulator assembly.

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

The arrows in the figure show the application points of the body grease.



Installation

- 1. Install the regulator assembly. Refer to <u>GW-66, "FRONT DOOR GLASS REGULATOR"</u>.
- 2. Connect the harness connector to the regulator assembly.
- 3. Align the glass and install the glass bolts.

: 6.1 N·m (0.62 kg-m, 54 in-lb)

- 4. Reset the limit switch. Refer to <u>GW-66, "Setting of Limit Switch"</u>.
- 5. Install front door finisher. Refer to EI-32, "DOOR FINISHER" .

SETTING AFTER INSTALLATION

Setting of Limit Switch

Glass bolts

If any of the following work has been done, set the limit switch (integrated in the motor).

- Removal and installation of the regulator.
- Removal and installation of the motor from the regulator.
- Removal and installation of the glass.
- Removal and installation of the glass run.

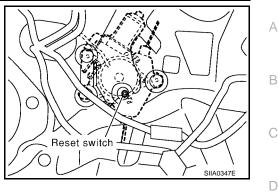
Resetting

After installing each component, perform the following procedure to reset the limit switch.

- 1. Raise the glass to the top position.
- 2. While pressing and holding the reset switch, lower the glass to the bottom position.
- 3. Release the reset switch. Verify that the reset switch returns to the original position, if not, pull the switch using suitable tool.
- 4. Raise the glass to the top position.

CAUTION:

Do not operate the glass automatically to raise the glass to the top position.



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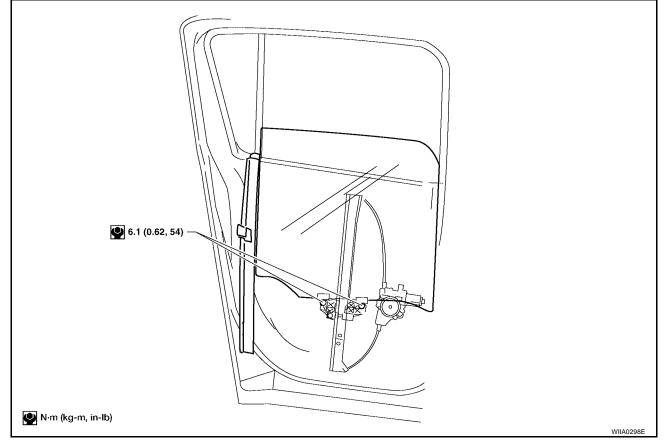
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REAR DOOR GLASS AND REGULATOR

REAR DOOR GLASS AND REGULATOR

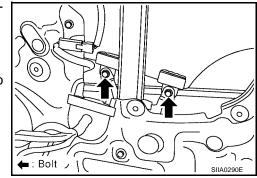
Removal and Installation



REAR DOOR GLASS Removal

1. Remove the rear door finisher. Refer to EI-33, "REMOVAL".

- 2. Temporarily reconnect the power window switch.
- 3. Operate the power window switch to raise/lower the door window until the glass bolts can be seen.
- 4. Remove the inside seal.
- 5. Remove the glass run from the partition glass.
- 6. Remove the partition sash bolt (lower) and screw (upper) to remove the sash.
- 7. Remove the glass bolts and glass.



Installation

Installation is in the reverse order of removal.

Reset the power window limit switch. Refer to <u>GW-70, "SETTING AFTER INSTALLATION"</u>.

Glass bolts

: 6.1 N·m (0.62 Kg-m, 54 in-lb)

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.

GW-68

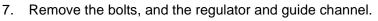
PFP:82300

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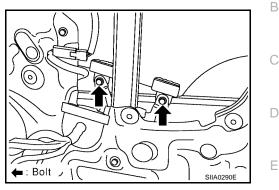
REAR DOOR GLASS REGULATOR

Removal

- 1. Remove the rear door finisher. Refer to EI-33, "REMOVAL" .
- 2. Temporarily reconnect the power window switch.
- 3. Operate the power window switch to raise/lower the door window until the glass bolts can be seen.
- 4. Remove the inside seal.
- 5. Remove the glass bolts.
- 6. Raise the glass and hold in place with suitable tool.



8. Disconnect the connector from the regulator assembly.



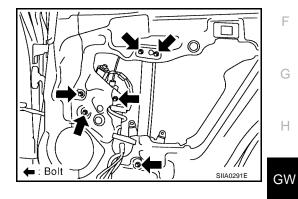
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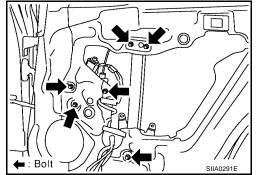
Inspection after removal

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

1. Connect the harness connector to the regulator assembly and install the regulator and guide channel.



REAR DOOR GLASS AND REGULATOR

- 2. Install the glass from outside to ensure that it is in both the front and rear glass channels. Tighten glass bolts to the specified torque.
 - Reset the power window limit switch. Refer to <u>GW-70, "SET-</u> <u>TING AFTER INSTALLATION"</u>.

Glass bolts

: 6.1 N·m (0.62 kg-m, 54 in-lb)

- 3. Install the inside seal.
- 4. Install the rear door finisher. Refer to EI-33, "REMOVAL" .

SETTING AFTER INSTALLATION

Setting of Limit Switch

If any of the following work has been done, set the limit switch (integrated in the motor).

- Removal and installation of the regulator.
- Removal and installation of the motor from the regulator.
- Removal and installation of the glass.
- Removal and installation of the glass run.

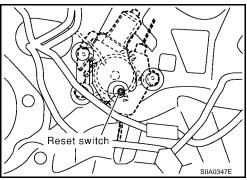
Resetting

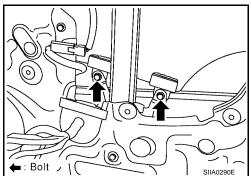
After installing each component, perform the following procedure to reset the limit switch.

- 1. Raise the glass to the top position.
- 2. While pressing and holding the reset switch, lower the glass to the bottom position.
- 3. Release the reset switch. Verify that the reset switch returns to the original position, if not, pull the switch using suitable tool.
- 4. Raise the glass to the top position.

CAUTION:

Do not operate the glass automatically to raise the glass to the top position.





SIDE WINDOW GLASS

SIDE WINDOW GLASS **Removal and Installation**

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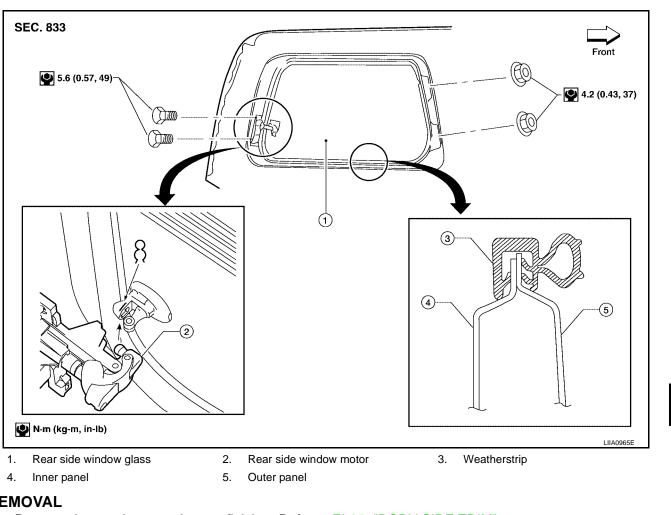
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REMOVAL

- 1. Remove the rear lower and upper finisher. Refer to EI-35, "BODY SIDE TRIM" .
- 2. Disconnect the rear side window motor harness.
- 3. Remove the rear side window motor mounting bolts.
- Remove the rear side window front mounting nuts. 4.

INSTALLATION

Μ Install the glass from outside to insure that it is even with the top and bottom of the opening. Tighten rear 1. side window front mounting nuts to the specified torque.

Glass mounting nuts : 4.2 N·m (0.43 kg-m, 37 in-lb)

2. Install rear side window motor mounting bolts. Tighten rear side window latch mounting bolts to the specified torque.

Motor mounting bolts : 5.6 N·m (0.57 kg-m, 49 in-lb)

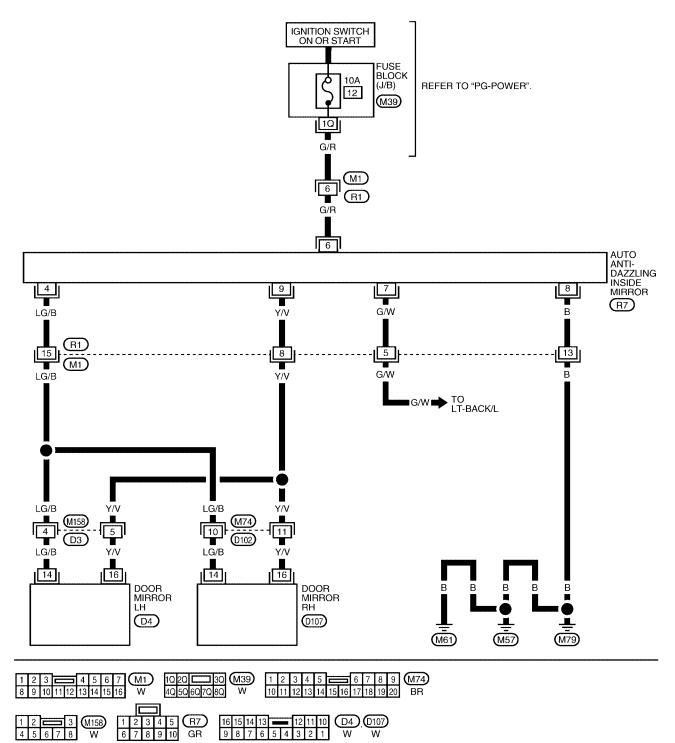
- 3. Connect the rear side window motor harness.
- Install rear pillar upper and lower finisher. Refer to EI-35, "BODY SIDE TRIM" . 4.

INSIDE MIRROR Wiring Diagram — I/MIRR —

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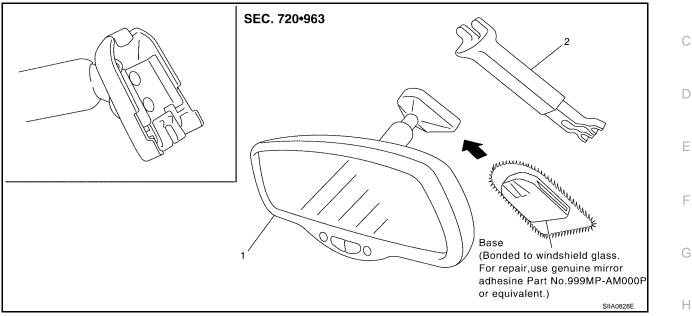


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INSIDE MIRROR

Removal and Installation INSIDE MIRROR

- 2. Slide the mirror upward to remove.
- 3. Disconnect the connector.



1. Inside mirror

2. Inside mirror finisher

Installation is in the reverse order of removal.

If replacing the inside mirror, re-calibrate the compass. Refer to <u>DI-29</u>, "Calibration Procedure for Compass".

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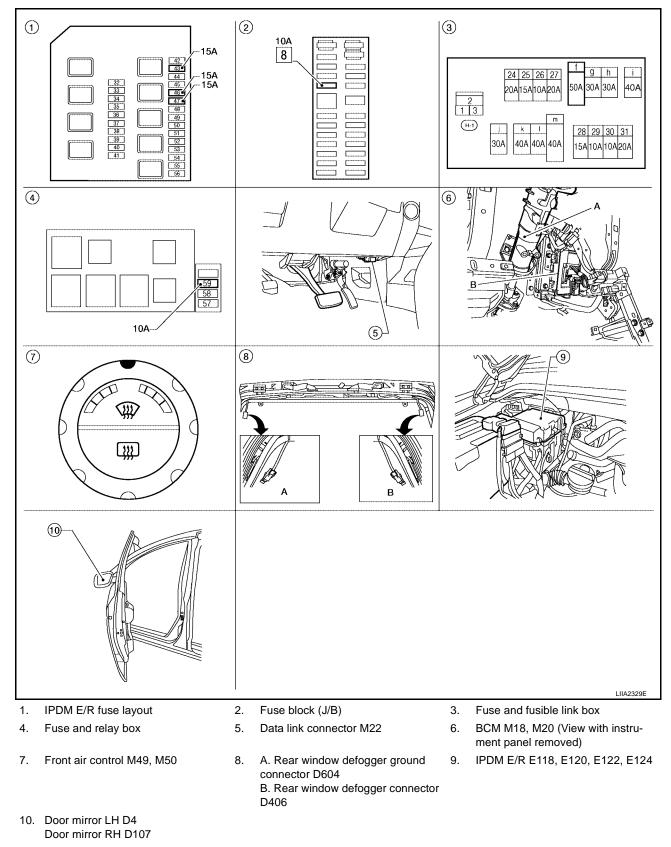
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Component Parts and Harness Connector Location

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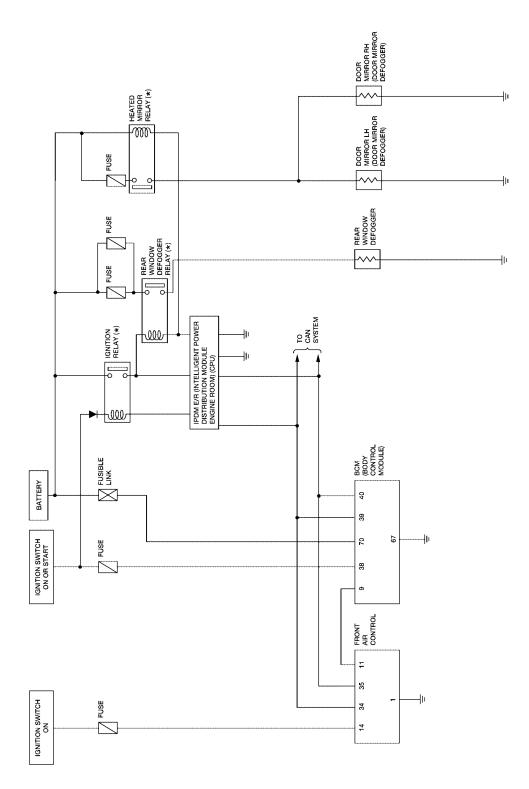
EIS005YM



System Description	
The rear window defogger system is controlled by BCM (body control module) and IPDM E/R (intelligent	А
power distribution module engine room).	
The rear window defogger operates only for approximately 15 minutes. Power is supplied at all times	В
 through 15A fuses (No. 43, 46, and 47 located in the IPDM E/R) 	
 to rear window defogger relay and heated mirror relay (located in the IPDM E/R) 	
 through 50A fusible link (letter f, located in the fuse and fusible link box) 	С
 to BCM terminal 70. 	
With the ignition switch turned to ON or START position, power is supplied	
 through ignition switch 	D
 to rear window defogger relay (located in the IPDM E/R) 	
 through 10A fuse (No. 59, located in the fuse and relay box) 	Е
 to BCM terminal 38 	
 through 10A fuse [No. 8, located in the fuse block (J/B)] 	
• to front air control terminal 14.	F
Ground is supplied	
• to BCM terminal 67	
• to front air control terminal 1	G
 through body grounds M57, M61 and M79 	
• to IPDM E/R terminals 38 and 59	Н
 through body grounds E9, E15 and E24. 	11
When front air control (rear window defogger switch) is turned to ON, ground is supplied	
• to BCM terminal 9	G٧
 through front air control terminal 11 	
through front air control terminal 1	
 through body grounds M57, M61 and M79. 	J
Then rear window defogger switch is illuminated.	
Then BCM recognizes that rear window defogger switch is turned to ON.	IZ.
Then it sends rear window defogger switch signals to IPDM E/R and display control unit via CAN communica- tion (CAN-H, CAN-L).	K
When display control unit receives rear window defogger switch signals, and displays on the screen.	
When IPDM E/R receives rear window defogger switch signals, ground is supplied	L
 to rear window defogger relay (located in the IPDM E/R) 	
through IPDM E/R terminal 38	
through IPDM E/R terminal 59	M
 through body grounds E9, E15 and E24 	
and then rear window defogger relay is energized.	
With power and ground supplied, rear window defogger filaments heat and defog the rear window. When rear window defogger relay is turned to ON, power is supplied	
 through heated mirror relay (located in the IPDM E/R) 	
 through IPDM E/R terminal 23 	
 to door mirror defogger (LH and RH) terminal 10. 	
Door mirror defogger (LH and RH) is grounded through body grounds M57, M61 and M79.	
With power and ground supplied, rear window defogger filaments heat and defog the rear window and door mirror defogger filaments heat and defog the mirror.	
CAN Communication System Description	
Refer to LAN-26, "CAN COMMUNICATION".	

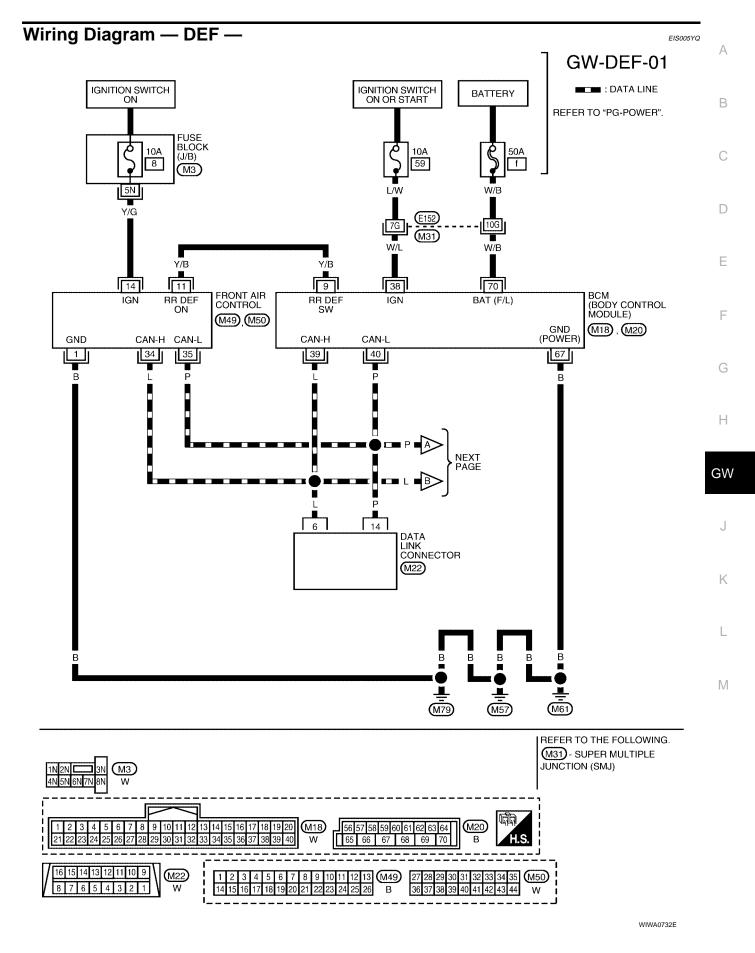
Schematic

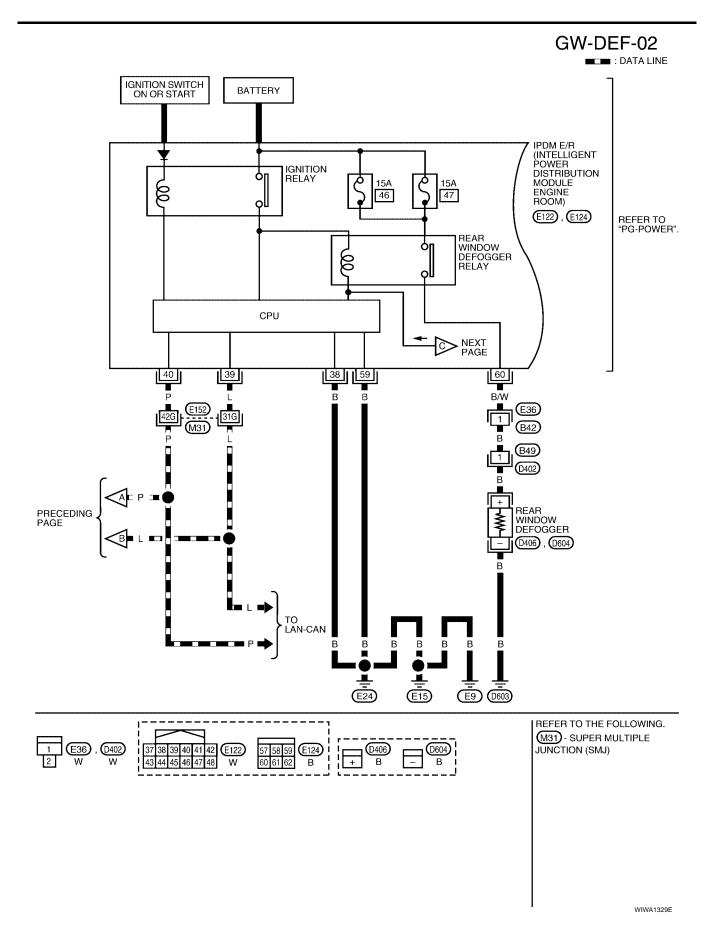


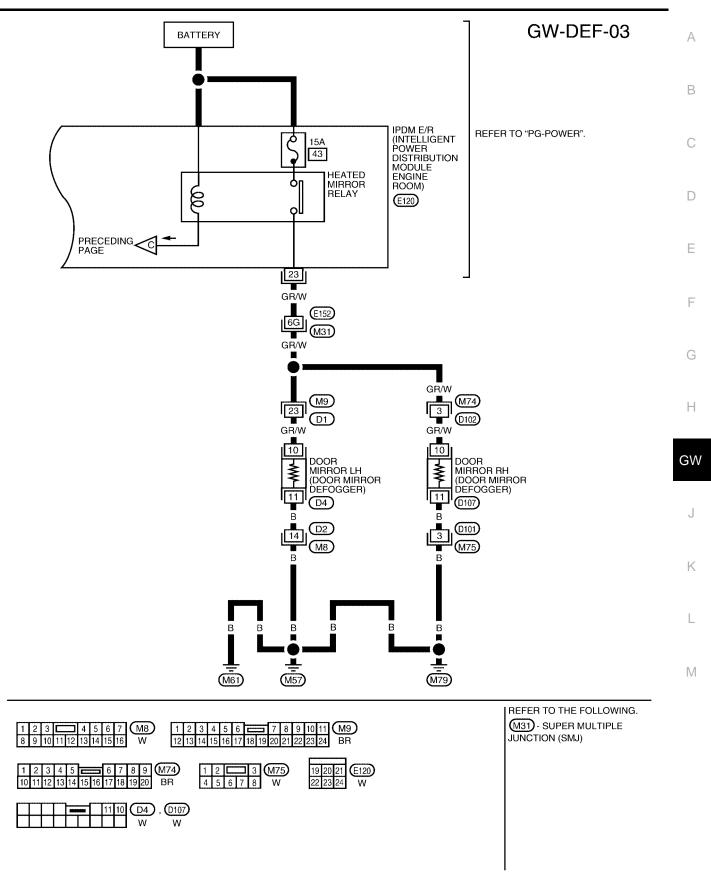


* : THIS RELAY IS BUILT INTO THE IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

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Terminal and Reference Value for BCM

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Terminal	Wire color	ltem	Condition	Voltage (V) (Approx.)
9	Y/B	Rear window defogger	When rear window defogger switch is pressed.	0
9	1/D	switch signal	When rear window defogger switch is OFF.	5
38	W/L	Ignition switch ON or START	Ignition switch (ON or START position)	Battery voltage
39	L	CAN-H	_	_
40	Р	CAN-L	_	_
67	В	Ground	_	0
70	W/B	Battery power supply	_	Battery voltage

Terminal and Reference Value for IPDM E/R

EIS005YS

Terminal	Wire color	ltem	Condition	Voltage (V) (Approx.)
38	В	Ground (Power)		0
39	L	CAN-H		_
40	Р	CAN-L		_
59	В	Ground (Signal)	—	0
60	60 B Rear window defogge signal	Rear window defogger output	When rear window defogger switch is ON.	Battery voltage
00		signal	When rear window defogger switch is OFF.	0

Work Flow

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- 1. Check the symptom and customer's requests.
- 2. Understand the outline of system. Refer to <u>GW-75, "System Description"</u>.
- 3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to <u>GW-82</u>, <u>"Trouble Diagnoses Symptom Chart"</u>.
- 4. Does rear window defogger and door mirror defogger operate normally? YES: GO TO 5, NO: GO TO 3.
- 5. Inspection end.

CONSULT-II Function (BCM)

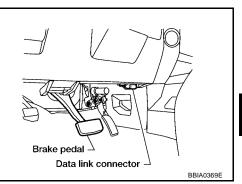
CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

BCM diagnostic test item	Diagnostic mode	Content	B
	WORK SUPPORT	Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed.	
	DATA MONITOR	Displays BCM input/output data in real time.	C
Inspection by part	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.	-
1 51	SELF-DIAG RESULTS	Displays BCM self-diagnosis results.	D
	CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.	-
	ECU PART NUMBER	BCM part number can be read.	_
	CONFIGURATION	Performs BCM configuration read/write functions.	E

CONSULT-II BASIC OPERATION PROCEDURE

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

- 1. Turn ignition switch OFF.
- 2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.
- 3. Turn ignition switch ON.



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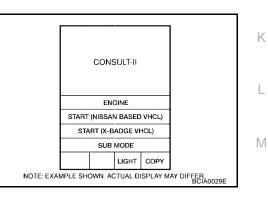
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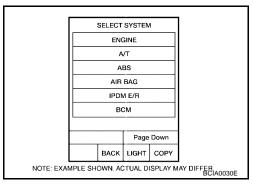
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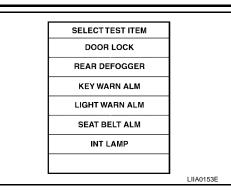
4. Touch "START (NISSAN BASED VHCL)".





5. Touch "BCM". If "BCM" is not indicated, go to <u>GI-40, "CONSULT-II Data Link</u> <u>Connector (DLC) Circuit"</u>.

6. Touch "REAR DEFOGGER".



SELECT DIAG MODE WORK SUPPORT SELF-DIAG RESULTS CAN DIAG SUPPORT MNTR DATA MONITOR ACTIVE TEST ECU PART NUMBER BACK LIGHT COPY NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFEB

DATA MONITOR Display Item List

7.

Monitor item "Operation"		Content	
REAR DEF SW	"ON/OFF"	Displays "Press (ON)/others (OFF)" status determined with the rear window defogger switch.	
IGN ON SW	"ON/OFF"	Displays "IGN (ON)/OFF" status determined with the ignition switch signal.	

ACTIVE TEST Display Item List

Test item	Content
REAR WINDOW DEFOGGER	Gives a drive signal to the rear window defogger to activate it.

Trouble Diagnoses Symptom Chart

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Make sure other systems using the signal of the following systems operate normally.

Select diagnosis mode, "DATA MONITOR" and "ACTIVE TEST".

Symptom	Diagnoses / Service procedure	Refer to page
	1. BCM power supply and ground circuit check	<u>GW-84</u>
	2. IPDM E/R auto active test check	PG-24
Rear window defogger and door mirror defoggers do not operate.	3. Rear window defogger switch circuit check	<u>GW-85</u>
	4. Rear window defogger circuit check	<u>GW-86</u>
	5. Replace IPDM E/ R	PG-30
	1. Rear window defogger circuit check	<u>GW-86</u>
Rear window defogger does not operate but both of door mirror defoggers operate.	2. Filament check	<u>GW-86</u>
	3. Replace IPDM E/R	<u>PG-30</u>
Both door mirror defoggers do not operate but rear win-	1. Door mirror defogger power supply circuit check	<u>GW-87</u>
dow defogger operates.	2. Replace IPDM E/R	<u>PG-30</u>
Door mirror defogger LH does not operate.	1. Door mirror LH (door mirror defogger) circuit check	<u>GW-89</u>

Symptom	Diagnoses / Service procedure	Refer to page	
Door mirror defogger RH does not operate.	1. Door mirror LH (door mirror defogger) circuit check	<u>GW-90</u>	
Rear window defogger switch does not light, and rear win- dow defogger is not shown on the display, but the rear win- dow defogger operates.	1. Rear window defogger signal check	<u>GW-90</u>	

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BCM Power Supply and Ground Circuit Check

1. CHECK FUSES AND FUSIBLE LINK

- Check 10A fuse (No. 8, located in the fuse block (J/B)]
- Check 10A fuse (No. 59, located in the fuse and relay box)

• Check 50A fusible link (letter **f** , located in the fuse and fusible link box)

NOTE:

Refer to $\underline{\text{GW-74}}$, "Component Parts and Harness Connector Location" .

OK or NG

- OK >> GO TO 2.
- NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to <u>PG-</u> <u>4, "POWER SUPPLY ROUTING CIRCUIT"</u>.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch ON.
- 2. Check voltage between BCM connector M18, M20 terminals 38, 70

and ground.

- 70 Ground
- 38 Ground
- : Battery voltage
- : Battery voltage

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

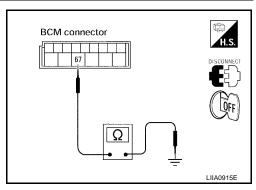
- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.
- 3. Check continuity between BCM connector M20 terminal 67 and ground.

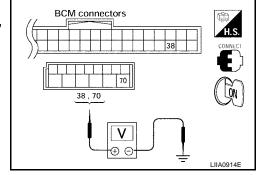
67 - Ground

: Continuity should exist.

OK or NG

- OK >> BCM power supply and ground circuit is OK.
- NG >> Repair or replace harness.





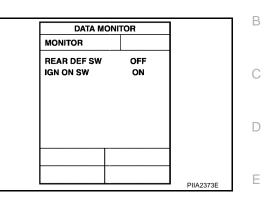
Rear Window Defogger Switch Circuit Check

1. CHECK REAR WINDOW DEFOGGER SWITCH OPERATION

(B) With CONSULT-II

Check ("REAR DEF SW", "IGN ON SW") in DATA MONITOR mode with CONSULT-II. Refer to <u>GW-82, "DATA MONITOR"</u>.

When rear window defogger switch is turned to ONREAR DEF SW: ONWhen ignition switch is turned to ONIGN ON SW: ON



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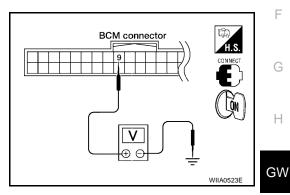
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Without CONSULT-II

- 1. Turn ignition switch ON.
- 2. Check voltage between BCM connector and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Contaition	(Approx.)
M18	9	Ground	Rear window defogger switch is pressed.	0
IVI I O			Rear window defogger switch is OFF.	5



OK or NG

OK >> Rear window defogger switch check is OK.

NG >> GO TO 2.

2. CHECK REAR WINDOW DEFOGGER SWITCH CIRCUIT HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and front air control.
- 3. Check continuity between BCM connector M18 terminal 9 and front air control connector M49 terminal 11.

9 - 11

: Continuity should exist.

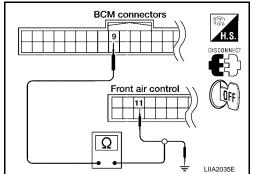
4. Check continuity between BCM connector M18 terminal 9 and ground

9 - Ground

: Continuity should not exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.



3. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.

- 2. Turn ignition switch ON.
- 3. Check voltage between BCM connector M18 terminal 9 and ground.

9 - Ground

: Approx. 5

OK or NG

- OK >> Replace front air control. Refer to <u>ATC-144, "FRONT</u> <u>AIR CONTROL"</u>.
- NG >> Replace BCM. Refer to <u>BCS-20, "BCM"</u>.

. "FRONT

BCM connector

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Rear Window Defogger Circuit Check

1. CHECK FUSES

Check if any of the following fuses in IPDM E/R are blown.

COMPONENT PARTS	AMPERE	FUSE NO.
IPDM E/R	15A	46
IPDM E/R	15A	47

NOTE:

Refer to GW-74, "Component Parts and Harness Connector Location" .

OK or NG

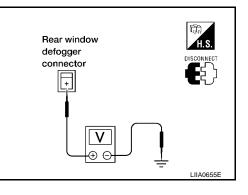
OK >> GO TO 2. NG >> If fuse is b

>> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, refer to <u>GW-</u> 74, "Component Parts and Harness Connector Location".

2. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear window defogger.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear window defogger connector D406 terminal + and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
D406		. Orașed	Rear window defogger switch ON.	Battery voltage
D406 +	Ground	Rear window defogger switch OFF.	0	



OK or NG

OK >> GO TO 3.

NG >> GO TO 4.

3. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- Check continuity between rear window defogger connector D604 terminal - and ground.

- - Ground

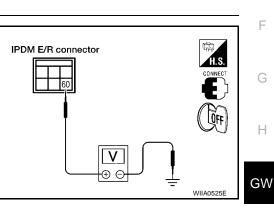
: Continuity should exist.

- OK or NG
- OK >> Check filament. Refer to <u>GW-91, "Filament Check"</u>.
 - If filament is OK. Check the condition of the harness and the connector.
 - If filament is NG. Repair filament.
- NG >> Repair or replace harness.

4. CHECK REAR WINDOW DEFOGGER RELAY OUTPUT SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between IPDM E/R connector E124 terminal 60 and ground.

Connector	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
E124	60 Ground	Ground	Rear window defogger switch ON.	Battery voltage
L124		Rear window defogger switch OFF.	0	



OK or NG

OK >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R".

NG >> Repair or replace harness.

Door Mirror Defogger Power Supply Circuit Check 1. CHECK FUSE

Check if any of the following fuses in fuse block (J/B) are blown.

COMPONENT PARTS	AMPERE	FUSE NO.	L
IPDM E/R	15A	43	

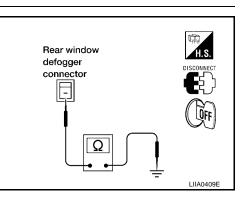
NOTE:

Refer to GW-74, "Component Parts and Harness Connector Location" .

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to <u>GW-74, "Component Parts and Harness Connector Location"</u>.



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2. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT 2

Check voltage between IPDM E/R connector and ground.

Connector –	Terminals		Condition	Voltage (V)
	(+)	(-)	Condition	(Approx.)
E120 23	23	Ground	Rear window defogger switch ON	Battery voltage
	23		Rear window defogger switch OFF	0



OK >> GO TO 3.

NG >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R" .

3. CHECK DOOR MIRROR DEFOGGER CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R and door mirror LH or RH.
- 3. Check continuity between IPDM E/R connector E120 terminal 23 and door mirror connector D4 (LH) or D107 (RH) terminal 10.

23 - 10

: Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.

IPDM E/R connector 23 Door mirror connecto 10 Ω WIIA0529E

4. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

Check continuity between each door mirror connector D4 (LH) or D107 (RH) terminal 11 and ground.

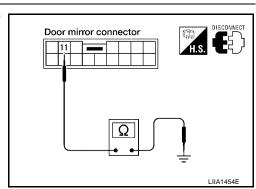
11 - Ground

: Continuity should exist.

OK or NG

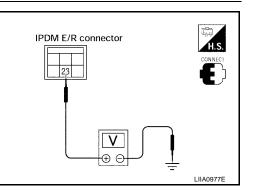
>> GO TO 5. OK

NG >> Repair or replace harness.

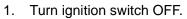


5. CHECK DOOR MIRROR DEFOGGER

Check continuity between each door mirror LH or RH terminals 10 and 11. 10 - 11 : Continuity should exist. OK or NG OK >> Check the condition of the harness and the connector. >> Replace malfunctioning door mirror LH or RH. Refer to NG GW-94, "Door Mirror Assembly" . Ω



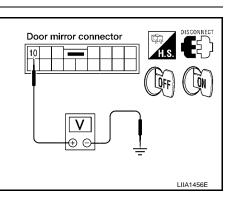




- 2. Disconnect door mirror LH.
- 3. Turn ignition switch ON.

4. Check voltage between door mirror LH connector and ground.

Connector	Tern	ninals	Condition	Voltage (V)
	(+)	(-)		(Approx.)
D4 10	10	10 Ground	Rear window defogger switch ON	Battery voltage
	Ground	Rear window defogger switch OFF 0	0	



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OK or NG

OK >> GO TO 2.

NG >> Repair or replace harness.

2. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

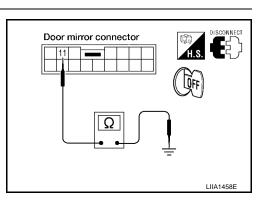
- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror LH connector D4 terminal 11 and ground.

11 - Ground

: Continuity should exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.



3. CHECK DOOR MIRROR DEFOGGER

Check continuity between door mirror LH terminals 10 and 11.

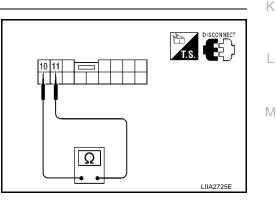
10 - 11

: Continuity should exist.

OK or NG

OK >> Repair or replace harness.

NG >> Replace door mirror LH. Refer to <u>GW-94, "Door Mirror</u> <u>Assembly"</u>



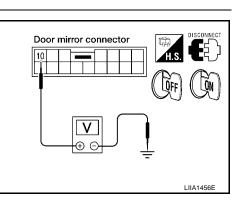
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Door Mirror RH (Door Mirror Defogger) Circuit Check 1. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror RH.
- 3. Turn ignition switch ON.
- 4. Check voltage between door mirror RH connector and ground.

Connector (+)	ninals	Condition	Voltage (V)	
	(+)	(-)	Condition	(Approx.)
D107 10	10	Ground	Rear window defogger switch ON	Battery voltage
	Giouna	Rear window defogger switch OFF	0	



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OK or NG

OK >> GO TO 2.

NG >> Repair or replace harness.

2. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

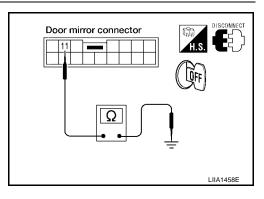
- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror RH connector D107 terminal 11 and ground.

11 - Ground

: Continuity should exist.

OK or NG

- OK >> GO TO 3.
- NG >> Repair or replace harness.



3. Check door mirror defogger

Check continuity between each door mirror RH terminals 10 and 11.

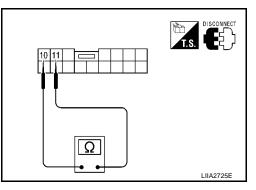
10 - 11

: Continuity should exist.

OK or NG

OK >> Repair or replace harness.

NG >> Replace door mirror RH. Refer to <u>GW-94, "Door Mirror</u> <u>Assembly"</u>



Rear Window Defogger Signal Check

1. CHECK AV COMMUNICATION LINE

AV communication line check is executed. Refer to AV-44, "Audio Communication Line Check" .

Is rear window defogger displayed on the display?

OK or NG

- OK >> GO TO 2.
- NG >> Replace display control unit. Refer to <u>AV-167, "DISPLAY CONTROL UNIT"</u>.

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2. CHECK CAN COMMUNICATION LINE

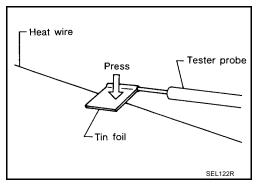
CAN communication line check is executed. Refer to <u>LAN-26, "CAN COMMUNICATION"</u>.

OK or NG

- OK >> Check the condition of the harness and the connector.
- NG >> In addition, it is necessary to check CAN communication line. Refer to <u>LAN-26</u>, "CAN COMMUNI-<u>CATION"</u>.

Filament Check

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



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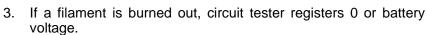
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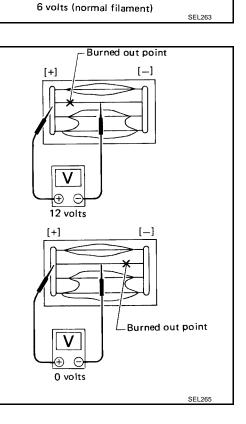
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2. Attach probe circuit tester (in Volt range) to middle portion of each filament.



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



Filament Repair REPAIR EQUIPMENT

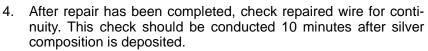
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

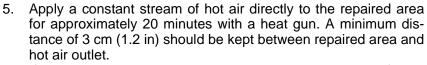
- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

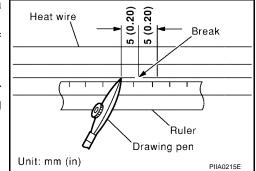
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.

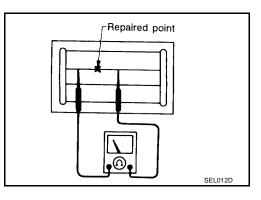


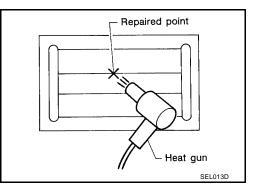
Do not touch repaired area while test is being conducted.



If a heat gun is not available, let the repaired area dry for 24 hours.

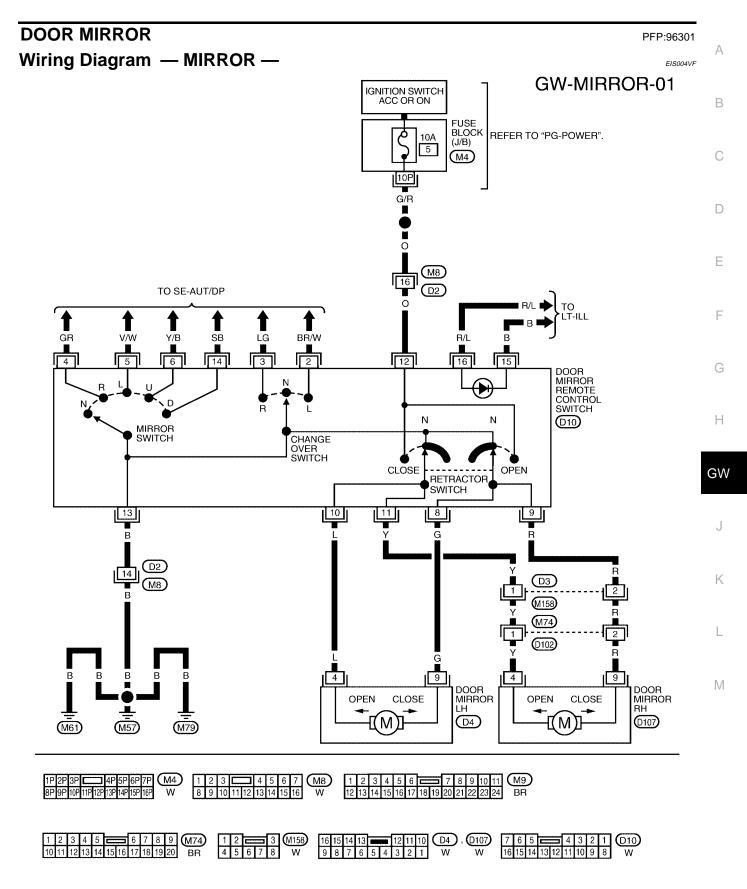






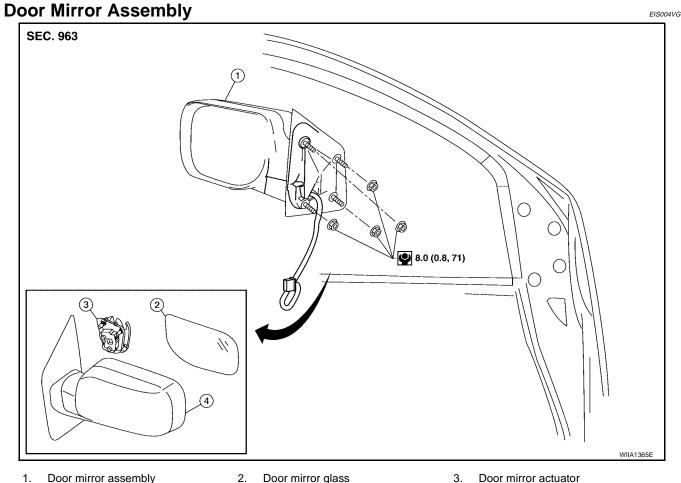
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DOOR MIRROR



WIWA1331E

DOOR MIRROR



- 1. Door mirror assembly
- Door mirror glass
- 3. Door mirror actuator

4. Door mirror housing

REMOVAL

NOTE:

Be careful not to damage the mirror bodies.

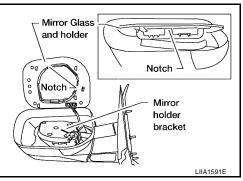
- 1. Remove the front door sash cover. Refer to AV-56, "FRONT TWEETER".
- 2. Disconnect the door mirror harness connector.
- 3. Remove the door mirror mounting nuts, and remove the door mirror assembly.

INSTALLATION

Installation is in the reverse order of removal.

Door Mirror Glass REMOVAL

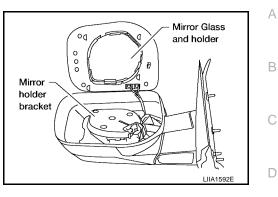
- Set mirror assembly mirror glass upward. 1.
- 2. Apply protective tape to mirror housing.
- Insert a screwdriver at notch and gently pry mirror glass and 3. holder from mirror holder bracket.
- 4. Disconnect two electrical connectors from mirror glass and holder.



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INSTALLATION

- 1. Set mirror holder bracket and mirror glass and holder in the horizontal position.
- 2. Connect two electrical connectors to the back of the mirror holder.
- 3. Align mirror glass and holder with mirror holder bracket and push mirror glass and holder onto mirror holder bracket.
- 4. Rotate mirror to ensure proper installation.





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