

SECTION GW

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”

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

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Precautions for Battery Service

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

Handling for Adhesive and Primer

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- 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

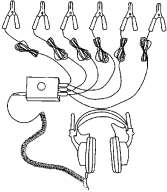
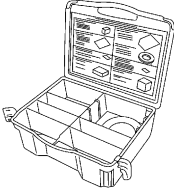
PREPARATION

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Special Service Tools

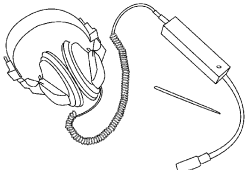
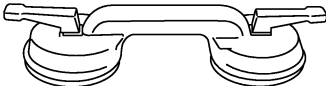
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
(J39570) Chassis ear  SIIA0993E	Locating the noise
(J43980) NISSAN Squeak and Rattle Kit  SIIA0994E	Repairing the cause of noise

Commercial Service Tools

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Tool name	Description
Engine ear  SIIA0995E	Locating the noise
Suction lifter  PIIB1805J	Remove the windshield, rear window glass

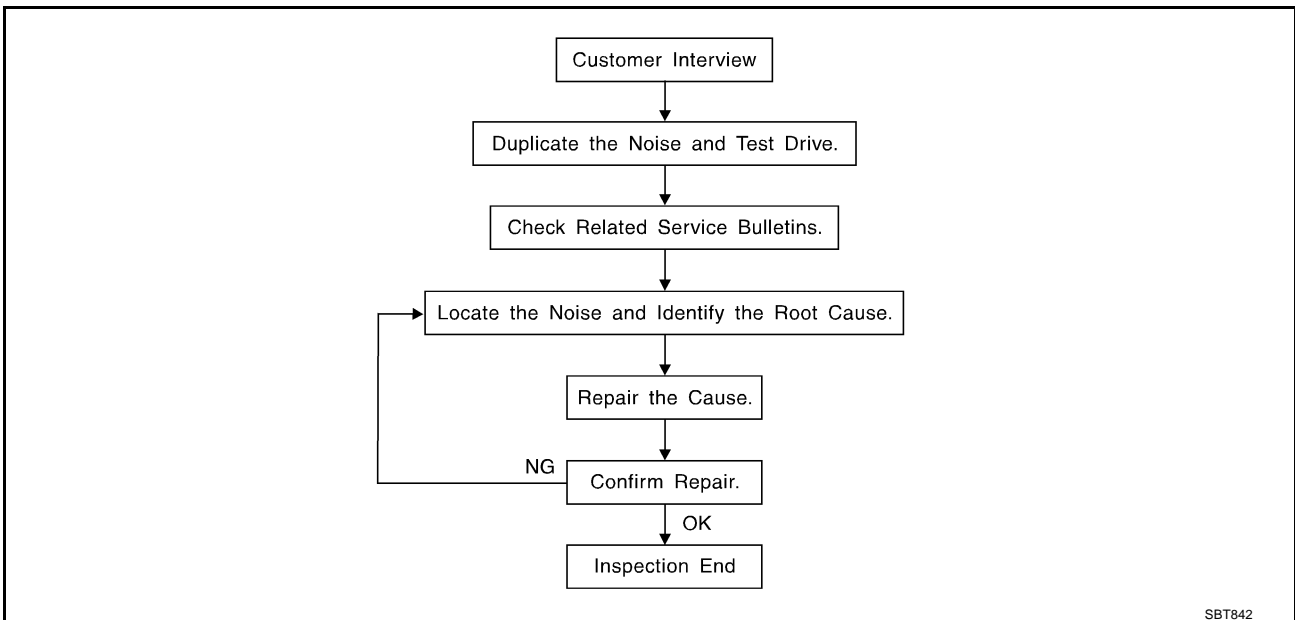
SQUEAK AND RATTLE TROUBLE DIAGNOSES

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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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.

- 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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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 models, drive position on A/T models).
 - 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
 - If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

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

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

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J39570, Engine Ear and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
 - removing the components in the area that you suspect the noise is coming from.
Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
 - tapping or pushing/pulling the component that you suspect is causing the noise.
Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
 - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
 - placing a piece of paper between components that you suspect are causing the noise.
 - looking for loose components and contact marks.
Refer to [GW-7, "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 (J43980) is available through your authorized Nissan Parts Department.

CAUTION:

Do not use excessive force as many components are constructed of plastic and may be damaged.

NOTE:

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

The following materials are contained in the Nissan Squeak and Rattle Kit (J43980). 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)

SQUEAK AND RATTLE TROUBLE DIAGNOSES

INSULATOR (Light foam block)

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

FELT CLOTH TAPE

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

68370-4B000: 15 × 25 mm (0.59 × 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll. The following materials, not found in the kit, can also be used to repair squeaks and rattles.

UHMW (TEFLON) TAPE

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

SILICONE GREASE

Used in of UHMW tape that will be visible or not fit.

Note: Will only last a few months.

SILICONE SPRAY

Use when grease cannot be applied.

DUCT TAPE

Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

NIS000E2

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

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

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

CAUTION:

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

CENTER CONSOLE

Components to pay attention to include:

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

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

DOORS

Pay attention to the:

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

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J43980) to repair the noise.

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

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 dumpers 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/HEADLINING

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

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sunvisor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking

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

SEATS

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

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.

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Diagnostic Worksheet

NIS000E3



INFINITI.

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

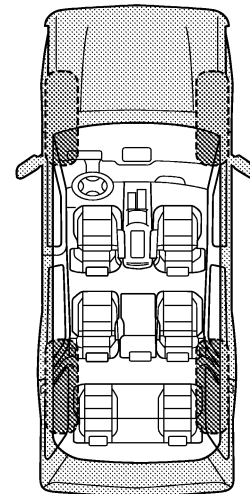
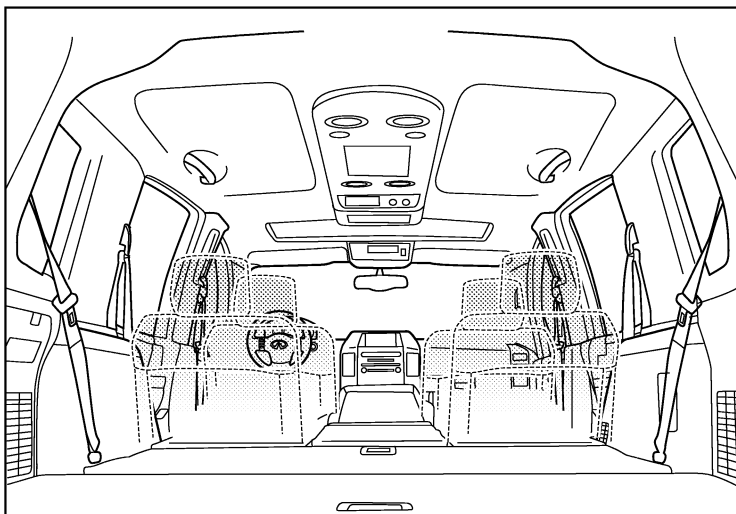
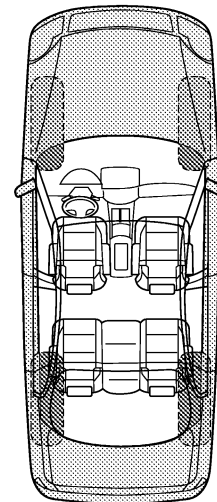
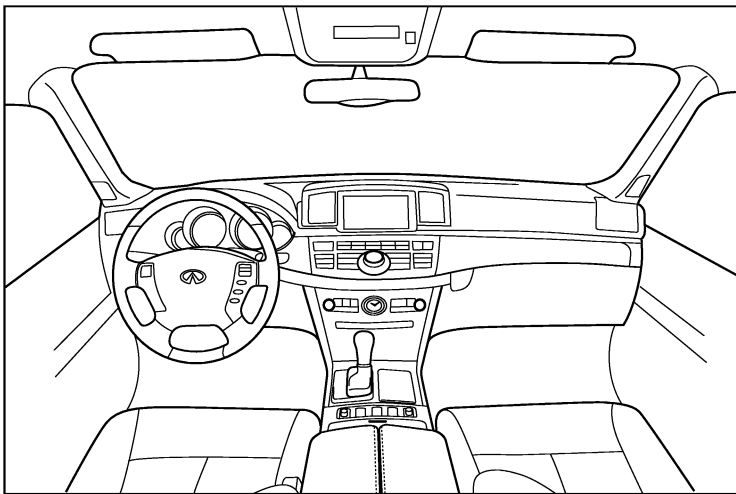
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Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti 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 consultant or technician to ensure we confirm the noise you are hearing.

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

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



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

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SQUEAK AND RATTLE TROUBLE DIAGNOSES

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)

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

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

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

VIN: _____ Customer Name: _____

W.O.# _____ Date: _____

This form must be attached to Work Order

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WINDSHIELD GLASS

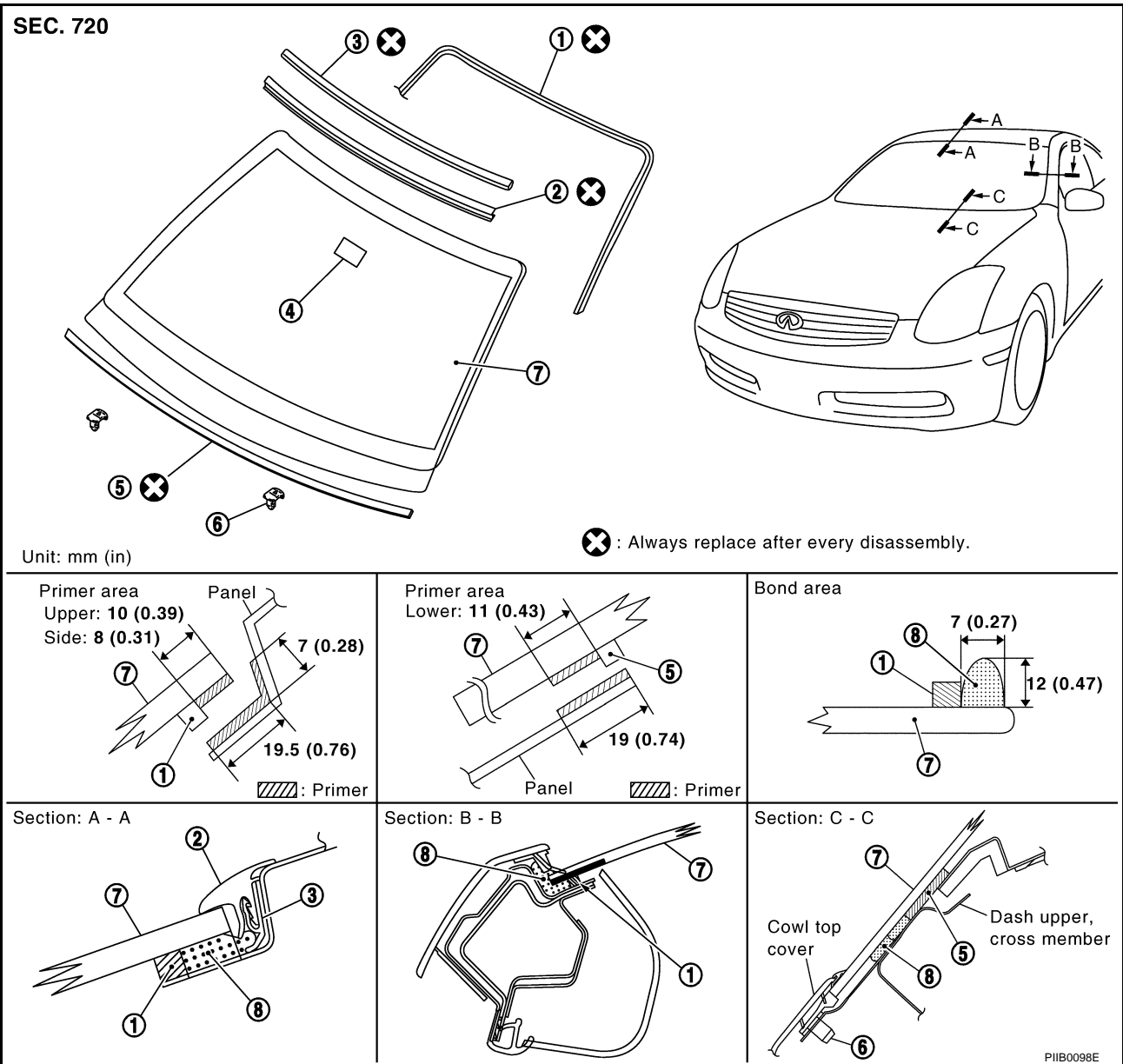
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WINDSHIELD GLASS

Removal and Installation

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- | | | |
|---------------------|--------------------|-------------|
| 1. Dam rubber | 2. Molding (upper) | 3. Fastener |
| 4. Mirror base | 5. Insulator | 6. Spacer |
| 7. Windshield glass | 8. Bond | |

REMOVAL

- Remove the front wiper arms. Refer to [WW-32, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#).
 - Remove the cowl top cover. Refer to [EI-19, "COWL TOP"](#).
 - Remove the front pillar finisher. Refer to [EI-22, "FRONT PILLAR FINISHER"](#).
 - Remove the front pillar garnish. Refer to [EI-31, "BODY SIDE TRIM"](#).
 - Partially remove the headlining (front edge). Refer to [EI-36, "HEADLINING"](#).
 - Apply a protective tape around the windshield glass to protect the painted surface from damage.
- After removing moldings, remove glass using piano wire or power cutting tool and an inflatable pump bag.
- If a windshield glass is to be reused, mark the body and the glass with mating marks.

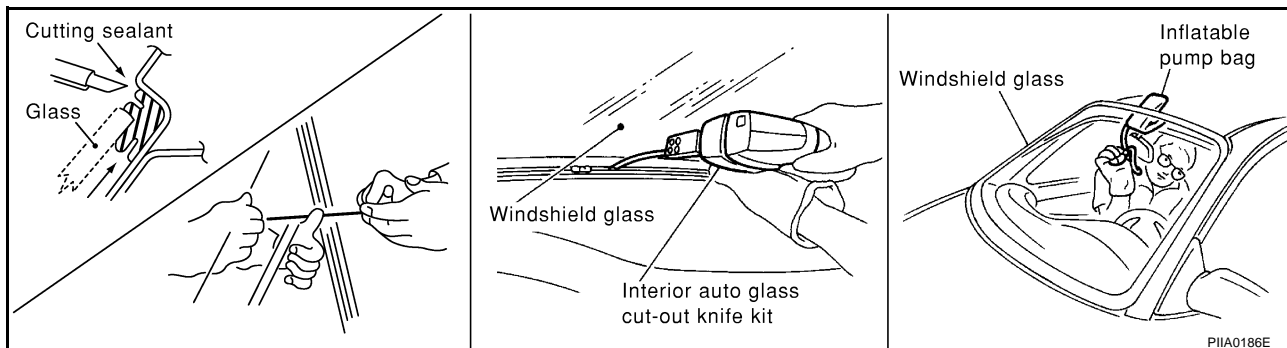
WINDSHIELD GLASS

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 a 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 the glass on its edge. Small chips may develop into cracks.



7. Remove the windshield glass, using suction lifter.

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

WARNING:

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

CAUTION:

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

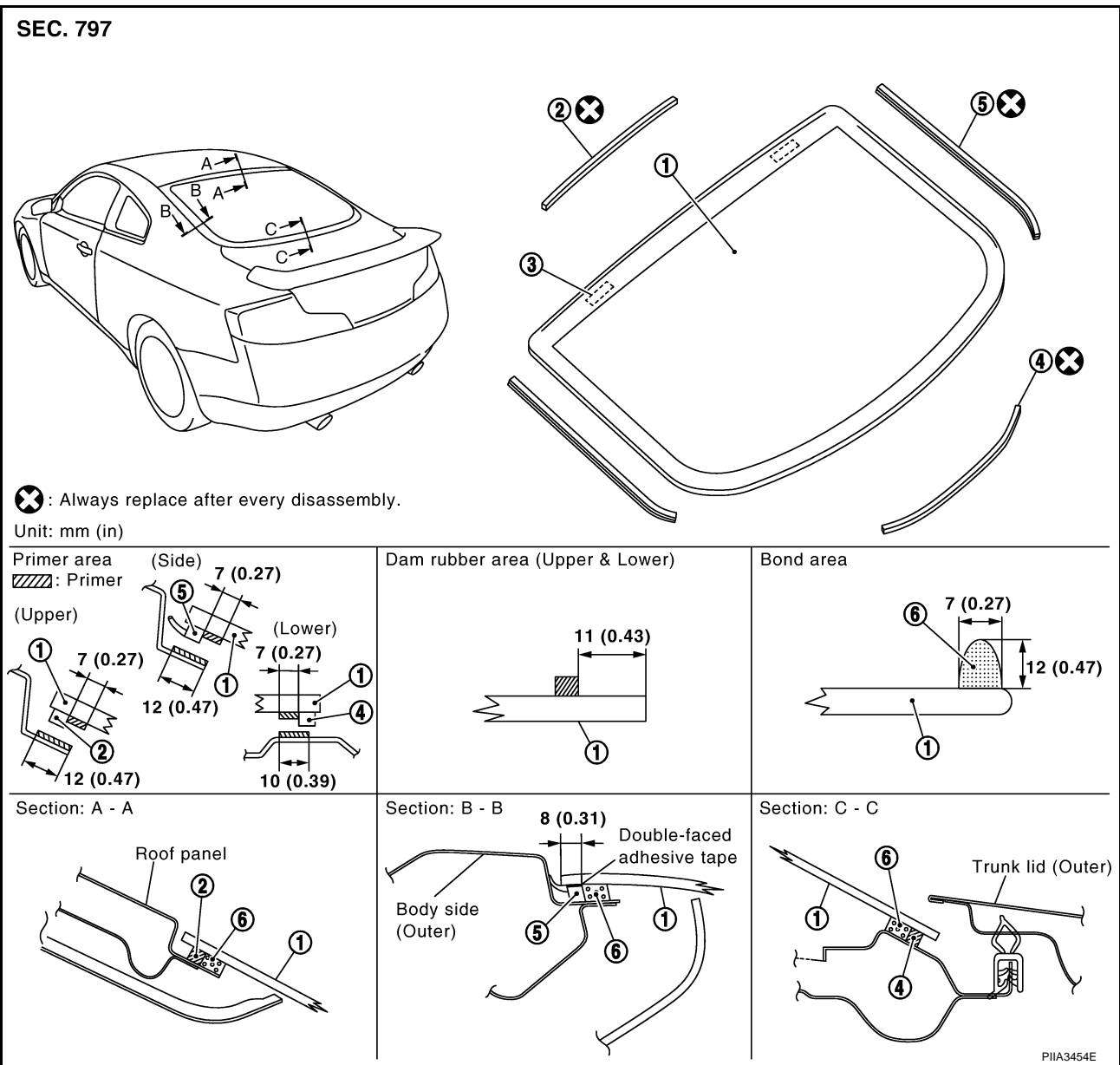
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REAR WINDOW GLASS AND MOLDING

Removal and Installation

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|-----------------------|-----------------------|-----------|
| 1. Rear window glass | 2. Dam rubber (upper) | 3. Spacer |
| 4. Dam rubber (lower) | 5. Molding (side) | 6. Bond |

REMOVAL

- Remove the headlining. Refer to [EI-36, "HEADLINING"](#).
- Remove the rear parcel shelf finisher. Refer to [EI-33, "REAR PARCEL SHELF FINISHER"](#).
- Remove the connectors and grounds for the rear window defogger and printed antenna.
 - After removing moldings, remove glass using piano wire or power cutting tool and an inflatable pump bag.
 - If a rear window glass is to be reused, mark the body and the glass with mating marks.

WARNING:

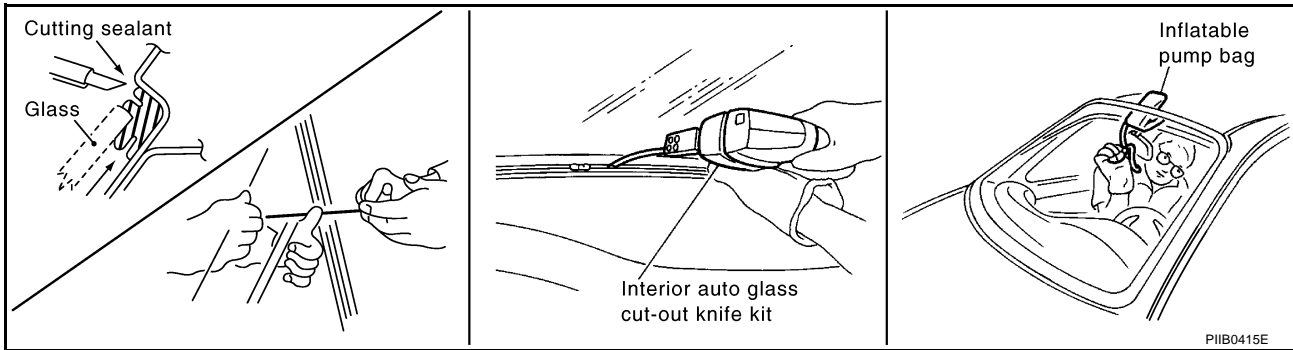
When cutting the glass from the vehicle, always wear safety glasses and heavy gloves to help prevent glass splinters from entering your eyes or cutting your hands.

CAUTION:

- When a rear window glass is to be reused, do not use a cutting knife or power cutting tool.
- Be careful not to scratch the glass when removing.

REAR WINDOW GLASS AND MOLDING

- Do not set or stand the glass on its edge. Small chips may develop into cracks.



4. Remove the rear window glass, using suction lifter.

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

WARNING:

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

CAUTION:

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

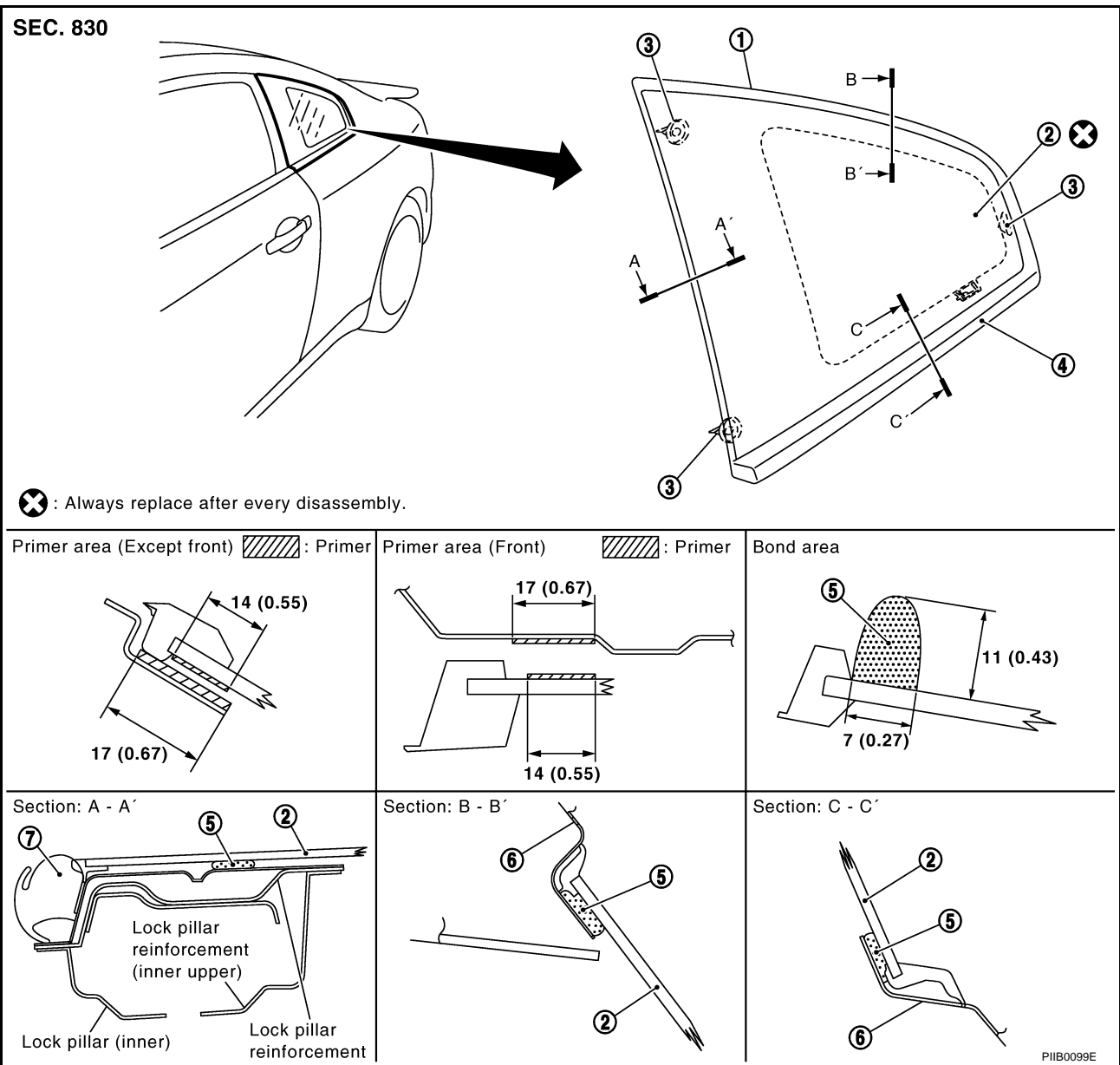
SIDE WINDOW GLASS

PFP:83300

SIDE WINDOW GLASS Removal and Installation

NIS000E6

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|--------------------------------------|----------------------|----------------|
| 1. Side window glass molding (upper) | 2. Side window glass | 3. Clip |
| 4. Side window glass molding (lower) | 5. Bond | 6. Rear fender |
| 7. Weatherstrip | | |

REMOVAL

1. Remove rear side finisher. Refer to [EI-31, "BODY SIDE TRIM"](#).
2. Remove rear pillar garnish. Refer to [EI-31, "BODY SIDE TRIM"](#).
3. Remove glass using piano wire or power cutting tool and an inflatable pump bag.

WARNING:

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

CAUTION:

- Be careful not to scratch the glass when removing.
- Do not set or stand the glass on its edge. Small chips may develop into cracks.

SIDE WINDOW GLASS

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

WARNING:

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

Leaks can be repaired without removing and reinstalling glass.

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

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

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

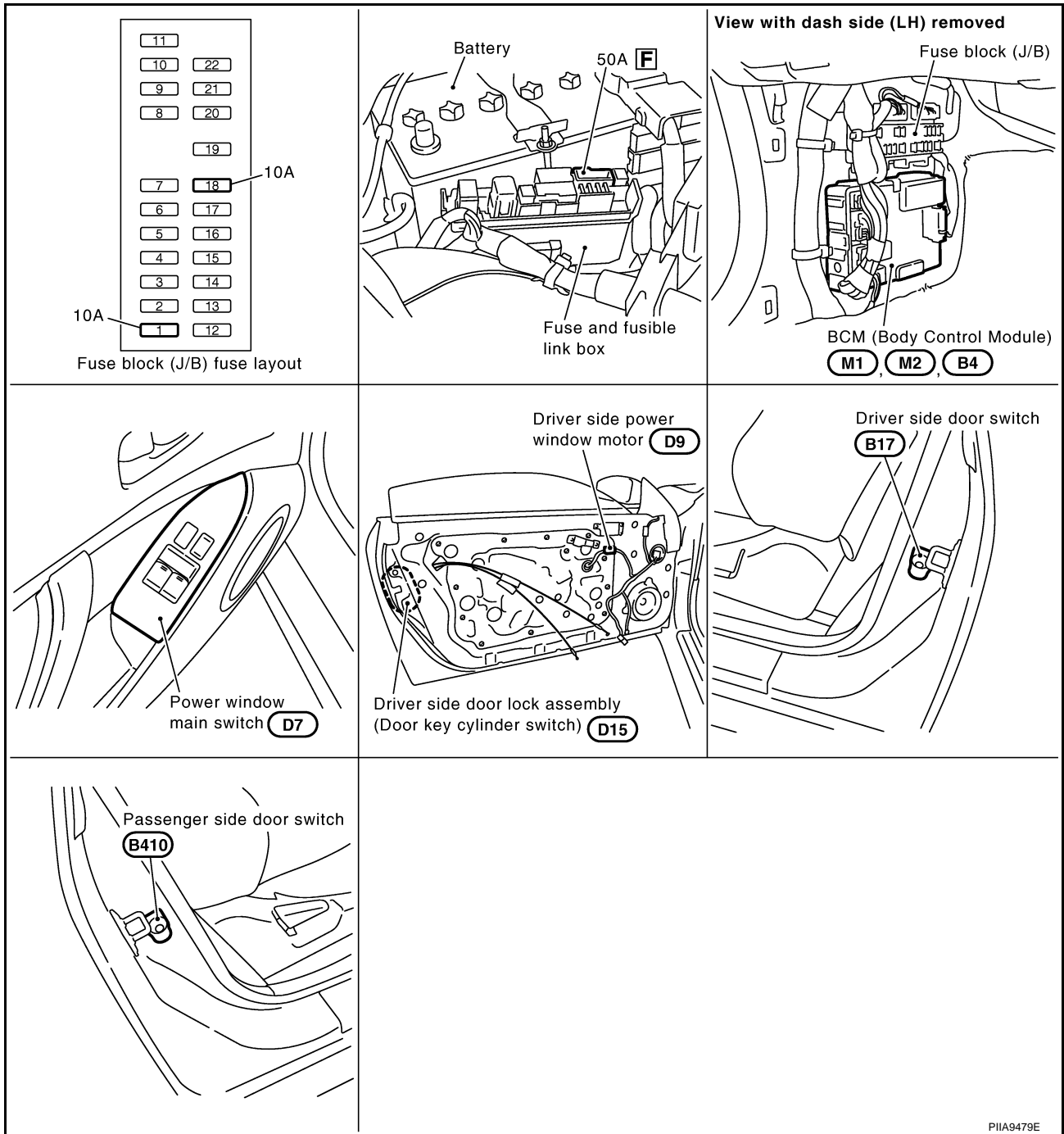
POWER WINDOW SYSTEM

POWER WINDOW SYSTEM

PPF:25401

Component Parts and Harness Connector Location

NIS000E7



PIIA9479E

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POWER WINDOW SYSTEM

NIS000E8

System Description

Power is supplied at all time

- through 50A fusible link (letter **F** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 10A fuse [No. 18, located in the fuse block (J/B)]
- to BCM terminal 42
- through BCM terminal 54
- to power window main switch terminal 1
- to power window sub-switch terminal 10.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38
- through BCM terminal 53
- to power window main switch terminal 10

Ground supplied

- to BCM terminal 52
- through body grounds M30 and M66.
- to power window main switch terminal 15
- through body grounds M30 and M66.
- to power window sub-switch terminal 11
- through body grounds M30 and M66.

MANUAL OPERATION

Driver Side Door

WINDOW UP

When the driver side window switch in the power window main switch is pressed in the up position, Power is supplied

- through power window main switch terminal 8.
- to driver side power window motor terminal 2

Ground is supplied

- to driver side power window motor terminal 1
- through power window main switch terminal 11.

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

WINDOW DOWN

When the driver side window switch in the power window main switch is pressed in the down position Power is supplied

- through power window main switch terminal 11.
- to driver side power window motor terminal 1

Ground is supplied

- to driver side power window motor terminal 2
- through power window main switch terminal 8.

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

POWER WINDOW SYSTEM

Passenger Side Door

POWER WINDOW SUB-SWITCH OPERATION

WINDOW UP

When the power window sub-switch is pressed in the up position

Power is supplied

- through power window sub-switch terminal 8.
- to passenger side power window motor terminal 2

Ground is supplied

- to passenger side power window motor terminal 1
- through power window sub-switch terminal 9.

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

WINDOW DOWN

When the power window sub-switch is pressed in the down position

Power is supplied

- through power window sub-switch terminal 9.
- to passenger side power window motor terminal 1

Ground is supplied

- to passenger side power window motor terminal 2
- through power window sub-switch terminal 8.

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

POWER WINDOW MAIN SWITCH OPERATION

Signal is sent

- through power window main switch terminal 12.
- to power window sub-switch terminal 16

The operation of power window after receiving the signal is as same as for operating the power window with sub-switch.

POWER WINDOW SERIAL LINK

Power window main switch, power window sub-switch and BCM transmit and receive the signal by power window serial link.

The under mentioned signal is transmitted from BCM to power window main switch.

- Driver side door switch signal.
- Keyless power window down signal.

The under mentioned signal is transmitted from BCM to power window sub-switch.

- Passenger side door switch signal.
- Keyless power window down signal.

The under mentioned signal is transmitted from power window main switch to power window sub-switch

- Passenger side door window operation signal.
- Power window control by key cylinder switch signal.
- Power window lock signal.

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 LOCK

The power window lock is designed to lock operation of passenger side door window.

When the lock position, power window lock signal is sent by using power window serial link from power window main switch to power window sub-switch.

Power window sub-switch by which the signal is received, prohibits the operation of passenger side power window by power window sub-switch.

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POWER WINDOW SYSTEM

RETAINED POWER OPERATION

When the ignition switch is turned to the OFF position from ON or START position.

Power is supplied for 45 seconds

- from BCM terminal 53.
- to power window main switch terminal 10.

Then the power window can be operated.

The retained power operation is canceled when the driver side door is opened.

RAP signal period can be changed by CONSULT-II. Refer to [GW-30, "WORK SUPPORT"](#) .

ANTI-PINCH SYSTEM

Power window main switch and power window sub-switch monitors the power window motor operation and the power window position (full closed or other) for driver side and passenger side power window by the signals from encoder and limit switch in power window motor (driver side and passenger side).

When power window main 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
- manual close operation during retained power operation

power window main switch or power window sub-switch 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 KEY CYLINDER SWITCH

When ignition key switch is OFF, power window can be opened or closed by turning the door key cylinder UNLOCK / LOCK position more than 1.5 second over condition.

- Power window can be opened as the door key cylinder is kept fully turning to the UNLOCK position.
- Power window can be closed as the door key cylinder is kept fully turning to the LOCK position.

The power window control operation by the key cylinder switch stops when the following operations are carried out.

- While performing open / close the window, power window is stopped at the position as the door key cylinder is placed on NEUTRAL.
- When the ignition switch is turned ON while the power window control operation by the key cylinder switch is operated.

AUTOMATIC WINDOW ADJUSTING FUNCTION

When the driver's / passenger's door(s) is opened, the window of the opened door is lowered approx. 10 mm (0.39in).

When the door is closed, the window is raised to fully-closed positions.

Automatic window adjusting function system (opening operation) does not operate when the following.

- The window is 10 mm (0.39 in) or more open from fully-closed positions.

Automatic window adjusting function system (closing operation) does not operate when the following.

- The automatic window adjusting function system (opening operation) operation.
- The keyless power window operation.
- The power window control by the key cylinder switch operation.

POWER WINDOW SYSTEM

CAN Communication System Description

NIS000E9

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

NIS000EA

Refer to [LAN-47, "CAN System Specification Chart"](#)

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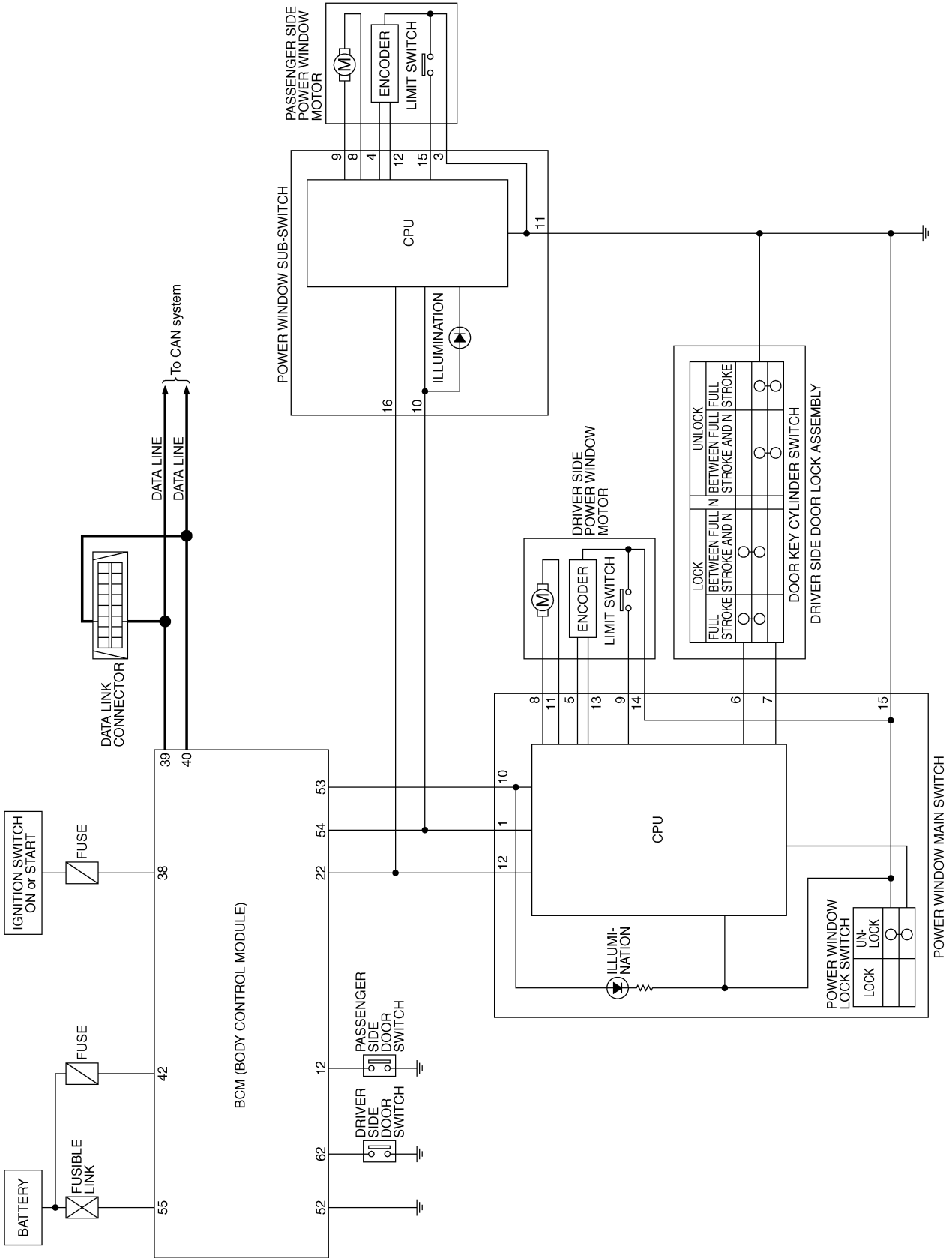
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POWER WINDOW SYSTEM

Schematic

NIS000EB



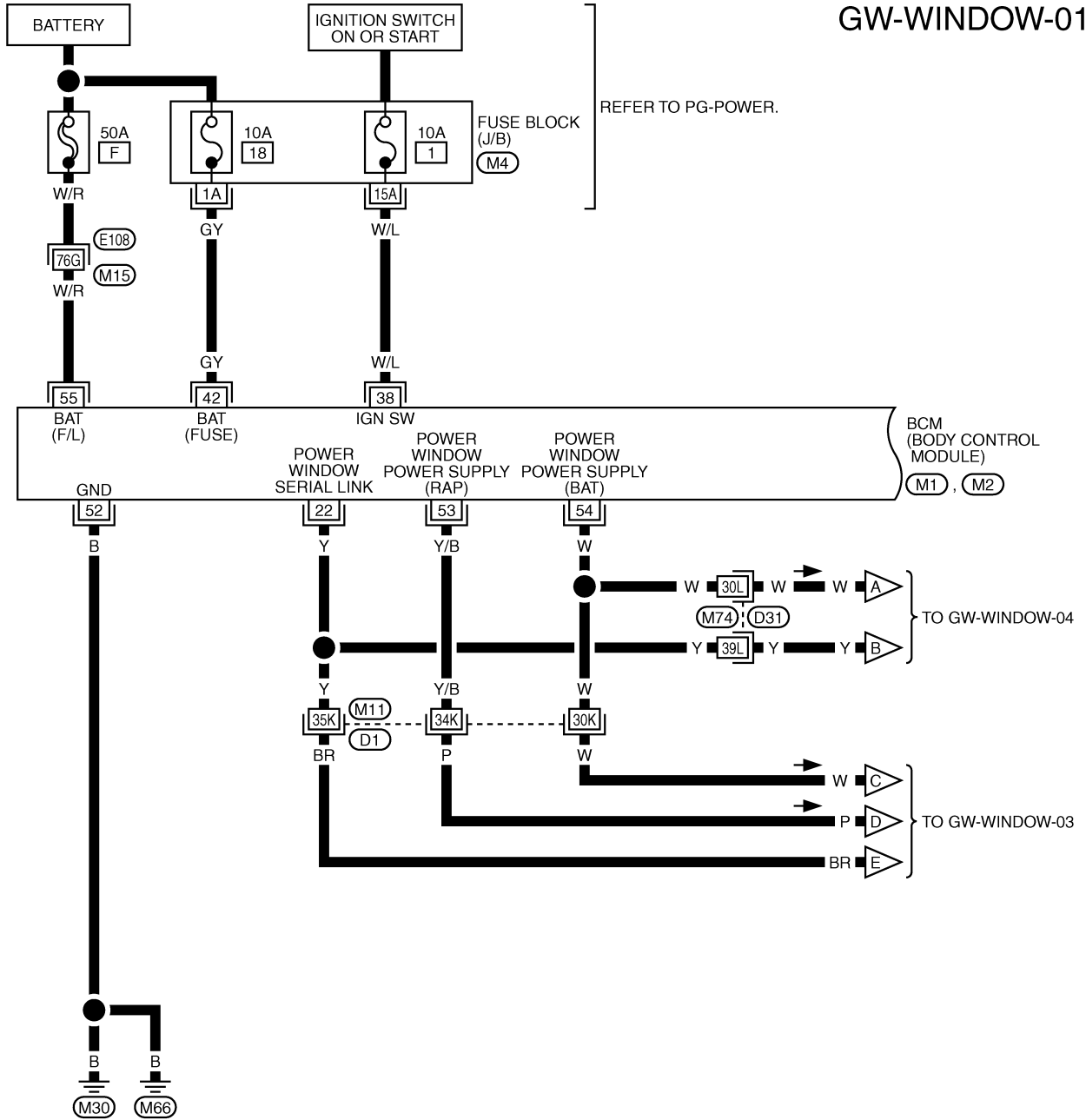
TIWM1892E

POWER WINDOW SYSTEM

Wiring Diagram – WINDOW –

NIS000EC

GW-WINDOW-01



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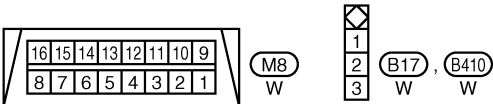
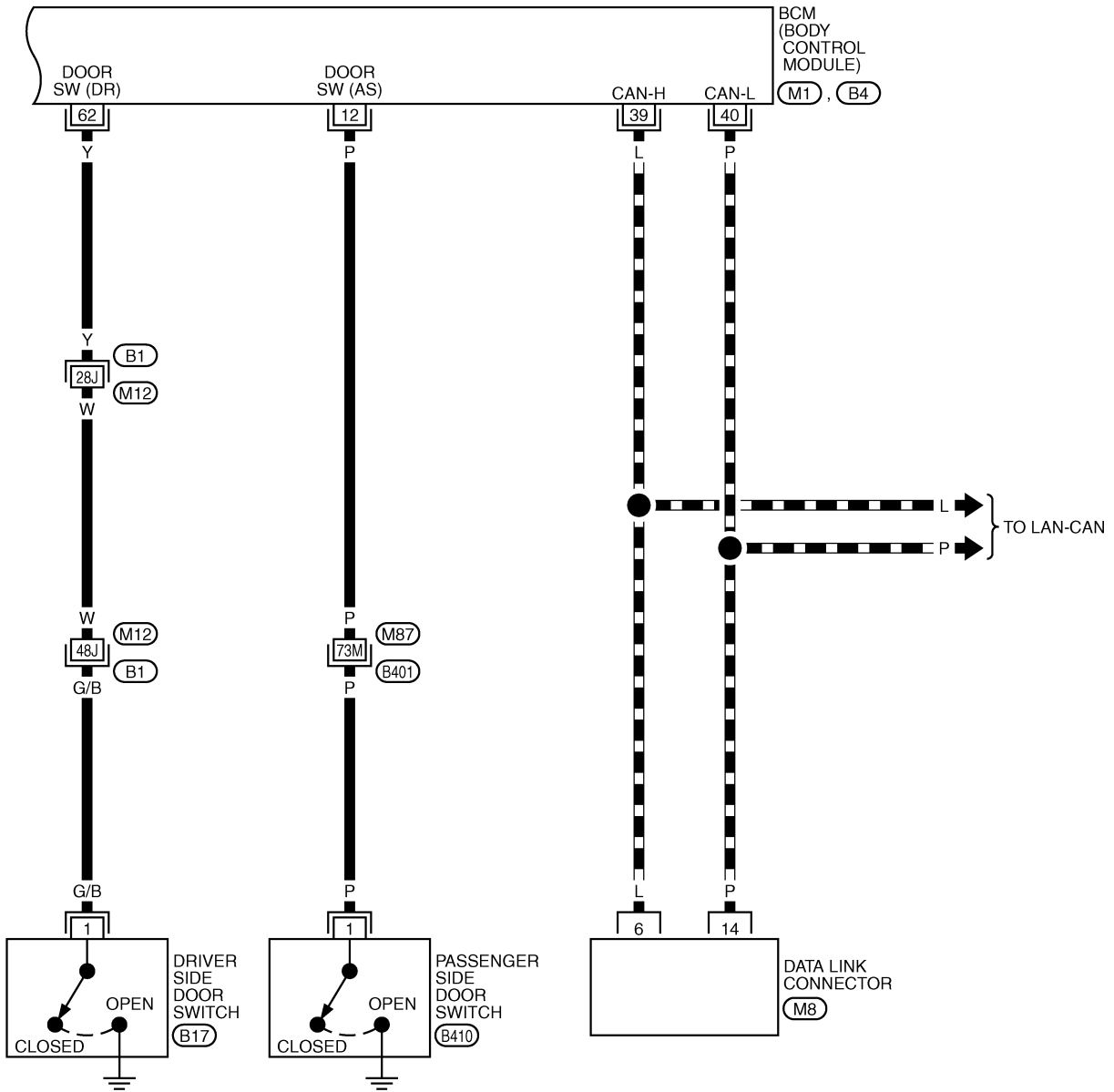
REFER TO THE FOLLOWING.
 (E108), (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
 (M4) -FUSE BLOCK-JUNCTION BOX (J/B)
 (M1), (M2) -ELECTRICAL UNITS

TIWM1007E

POWER WINDOW SYSTEM

GW-WINDOW-02

▬ : DATA LINE

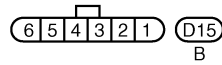
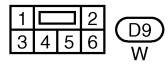
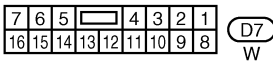
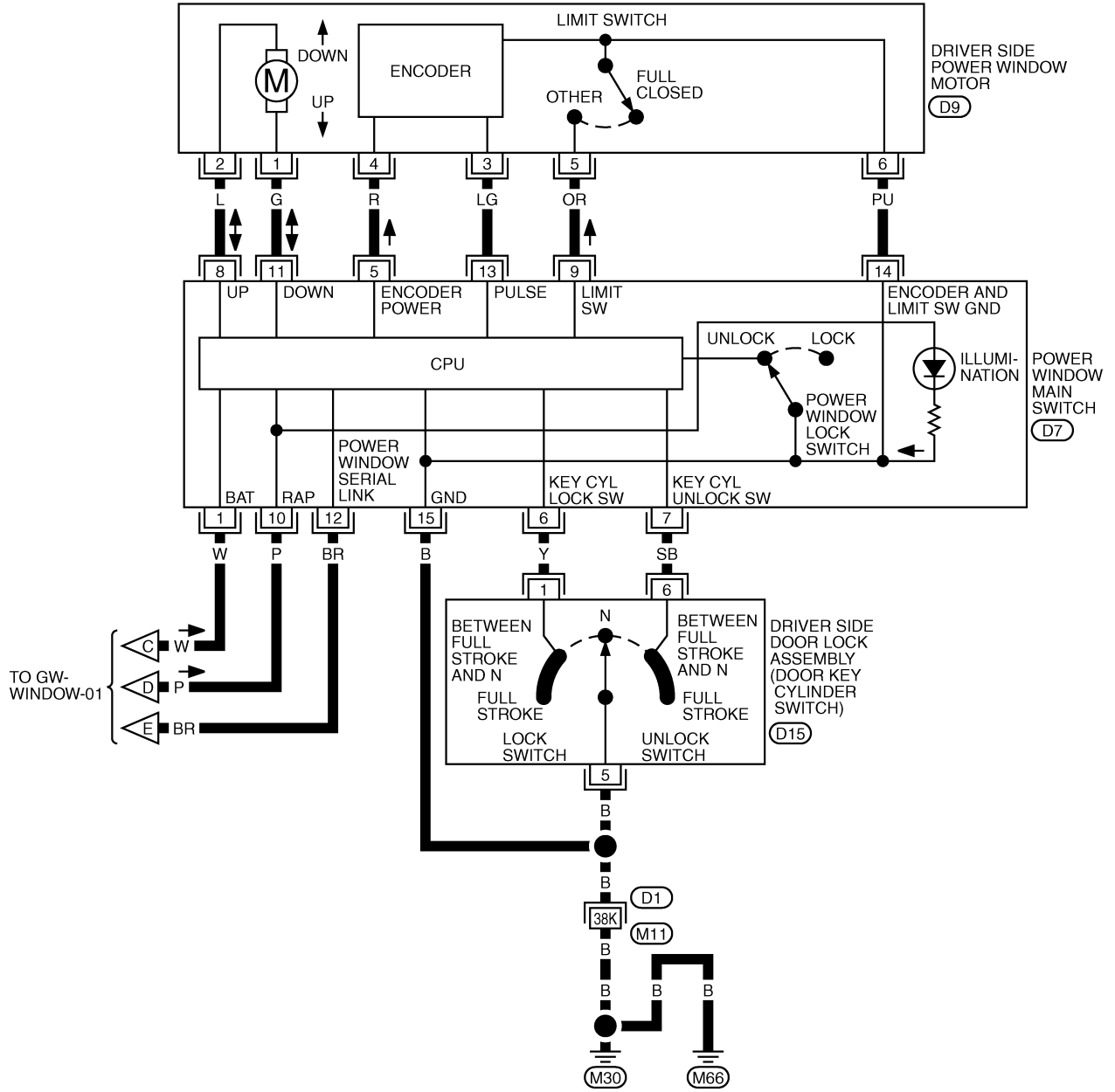


REFER TO THE FOLLOWING.
 (B1), (B401) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (B4) -ELECTRICAL UNITS

TIWM1490E

POWER WINDOW SYSTEM

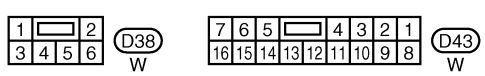
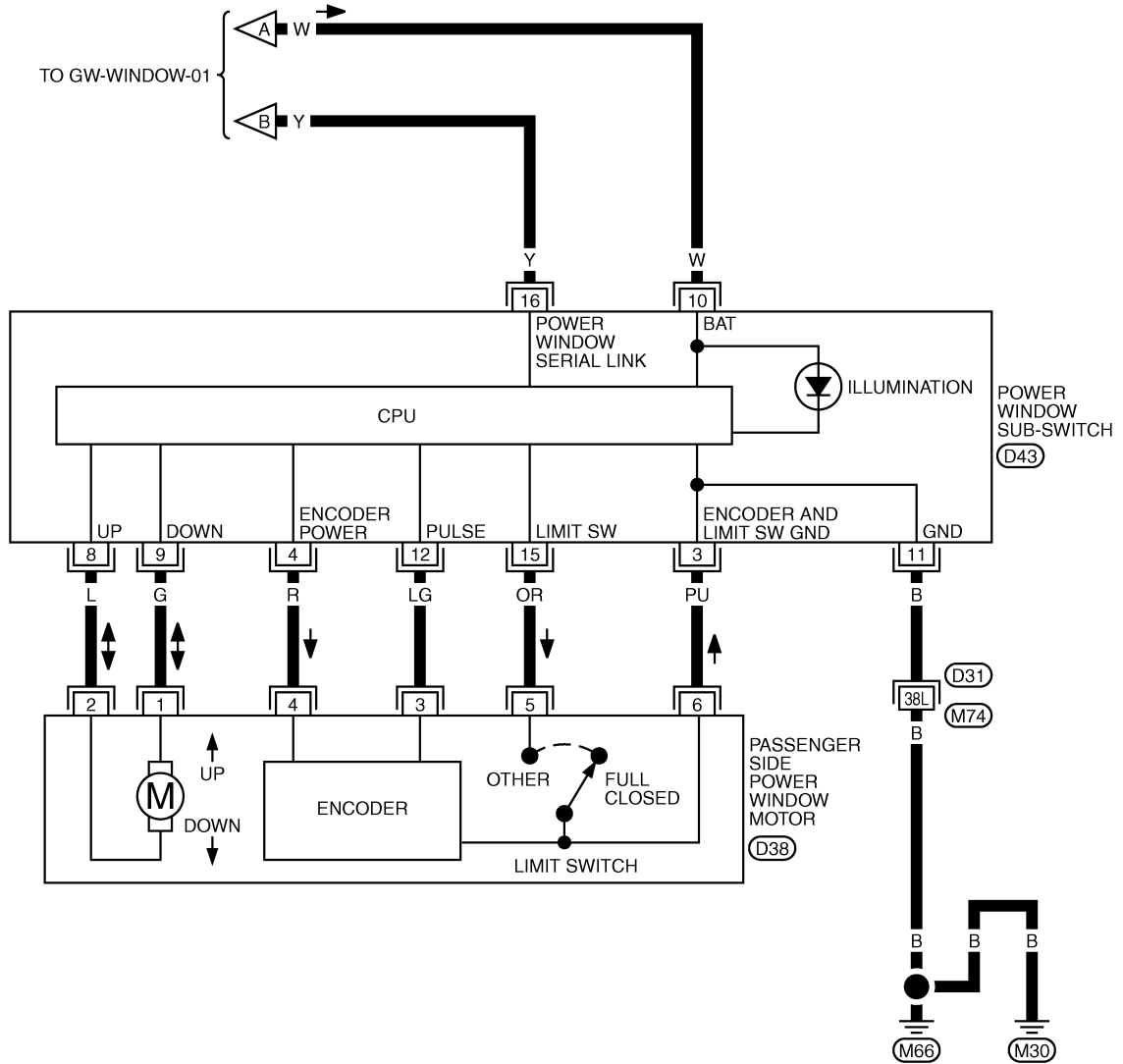
GW-WINDOW-03



REFER TO THE FOLLOWING.
 (D1) -SUPER MULTIPLE JUNCTION (SMJ)

POWER WINDOW SYSTEM

GW-WINDOW-04



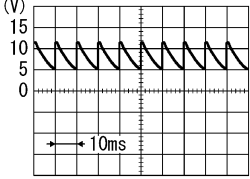
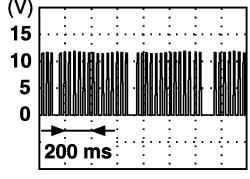
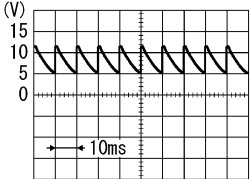
REFER TO THE FOLLOWING.
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)

TIWM1894E

POWER WINDOW SYSTEM

Terminal and Reference Value for BCM

NIS000ED

Terminal	Wire color	Item	Signal input/output	Condition		Voltage (V) (Approx.)
				Ignition switch	Operation or condition	
12	P	Passenger side door switch	Input	OFF	ON (open)	0
					OFF (closed)	 <p style="text-align: right; font-size: small;">SKIB3419J</p>
22	Y	Power window serial link	Input/Output	ON	—	 <p style="text-align: right; font-size: small;">PIIA2344J</p>
38	W/L	Ignition switch ON or START	Input	ON	Ignition switch (ON or START position)	Battery voltage
39	L	CAN - H	Input/Output	—	—	—
40	P	CAN - L	Input/Output	—	—	—
42	GY	BAT power supply	Input	OFF	—	Battery voltage
52	B	Ground	—	ON	—	0
53	Y/B	Rap signal	Output	—	IGN SW ON	Battery voltage
					Within 45 second after ignition switch is turned to OFF	Battery voltage
					When driver side or passenger side door is open in power window timer is operates.	0
54	W	Power window switch power supply	Output	OFF	—	Battery voltage
55	W/R	BAT power supply	Input	OFF	—	Battery voltage
62	Y	Driver side door switch	Input	OFF	ON (open)	0
					OFF (closed)	 <p style="text-align: right; font-size: small;">SKIB3419J</p>

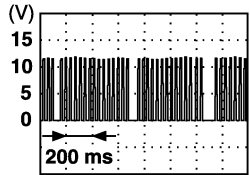
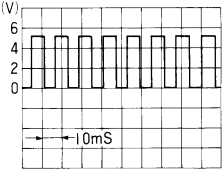
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POWER WINDOW SYSTEM

Terminal and Reference Value for Power Window Main Switch

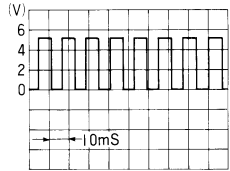
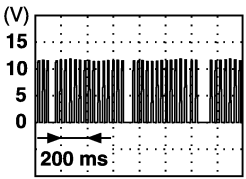
NIS000EE

Terminal	Wire color	Item	Signal input/output	Condition		Voltage (V) (Approx.)
				Ignition switch	Operation or condition	
1	W	BAT power supply	Input	OFF	—	Battery voltage
5	R	Encoder power supply	Output	ON	When ignition switch ON or power window timer operates	10
6	Y	Key cylinder lock switch	Input	OFF	Key position (Neutral → Locked)	5 → 0
7	SB	Key cylinder unlock switch	Input	OFF	Key position (Neutral → Unlocked)	5 → 0
8	L	Driver side power window motor UP signal	Output	ON	When power window motor UP operation.	Battery voltage
9	OR	Limit switch signal	Input	ON	Driver side door window is between fully-open and just before fully-closed position (ON).	0
					Driver side door window is between just before fully-closed position and fully-closed position (OFF).	5
10	P	Rap signal	Input	—	IGN SW ON	Battery voltage
					Within 45 second after ignition switch is turned to OFF	Battery voltage
					When driver side or passenger side door is open in power window timer operates.	0
11	G	Driver side power window motor DOWN signal	Output	ON	When power window motor DOWN operation.	Battery voltage
12	BR	Power window serial link	Input/Output	ON	—	 <p style="text-align: right; font-size: small;">PIIA2344J</p>
13	LG	Encoder pulse signal	Input	ON	When power window motor operates.	 <p style="text-align: right; font-size: small;">OCC3383D</p>
14	PU	Limit switch and encoder ground	—	ON	—	0
15	B	Ground	—	OFF	—	0

POWER WINDOW SYSTEM

Terminal and Reference Value for Power Window Sub-Switch

NIS000EF

Terminal	Wire color	Item	Signal input/output	Condition		Voltage (V) (Approx)
				Ignition switch	Operation or condition	
3	PU	Limit switch and encoder ground	—	ON	—	0
4	R	Encoder power supply	Output	ON	When ignition switch ON or power window timer operates	10
8	L	Passenger side power window motor UP signal	Output	ON	When power window motor UP operation.	Battery voltage
9	G	Passenger side power window motor DOWN signal	Output	ON	When power window motor DOWN operation.	Battery voltage
10	W	BAT power supply	Input	OFF	—	Battery voltage
11	B	Ground	—	ON	—	0
12	LG	Encoder pulse signal	Input	ON	When power window motor operates.	 <p style="text-align: right; font-size: small;">OCC3383D</p>
15	OR	Limit switch signal	Input	ON	Passenger side door window is between fully-open and just before fully-closed position (ON).	0
					Passenger side door window is between just before fully-closed position and fully-closed position (OFF).	5
16	Y	Power window serial link	Input/Output	ON	—	 <p style="text-align: right; font-size: small;">PIIA2344J</p>

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POWER WINDOW SYSTEM

CONSULT-II Function (BCM)

NIS000EG

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

BCM diagnostic test item	Check item diagnostic test mode	Content
RETAINED PWR	Work support	Changes setting of each function.
	Data monitor	Displays the input data of BCM in real time.
	Active test	Gives a drive signal to a load to check the operation.

CONSULT-II START PROCEDURE

Refer to [GI-37, "CONSULT-II Start Procedure"](#)

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 ● MODE 1 (45 sec.) / MODE 2 (OFF) / MODE 3 (2 min.).

DATE MONITOR

Monitor item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

ACTIVE TEST

Test Item	Description
RETAINED PWR	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. 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.

POWER WINDOW SYSTEM

Work Flow

NIS000EH

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [GW-18, "System Description"](#) .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [GW-31, "Trouble Diagnoses Symptom Chart"](#) .
4. Does power window system operate normally? If Yes, GO TO 5, If No, GO TO 3.
5. INSPECTION END.

Trouble Diagnoses Symptom Chart

NIS000EI

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

Symptom	Diagnoses / service procedure	Refer to page
None of the power windows can be operated using any switch.	1. Check BCM power supply and ground circuit.	GW-32
	2. Check Power window switch power supply circuit.	GW-33
	3. Check Power window serial link.	GW-47
	4. Replace the BCM	BCS-16
Driver side power window cannot be operated	1. Check Driver side power window motor circuit	GW-34
	2. Replace the power window main switch	EI-29
Passenger side power window cannot be operated.	1. Check Power window sub-switch power supply circuit and ground.	GW-49
	2. Check Power window serial link.	GW-47
	3. Check Passenger side power window motor circuit.	GW-35
	4. Replace the BCM	BCS-16
Anti-pinch system does not operate normally (driver side).	1. Door window sliding part malfunction ● A foreign material adheres to window glass or grass run rubber. ● Glass run rubber wear or deformation. ● Sash is tilted too much, or not enough.	—
	2. Limit switch adjusting.	GW-54
	3. Check Limit switch circuit (driver side).	GW-35
	4. Check Encoder circuit (driver side).	GW-39
Anti-pinch system does not operate normally (passenger side).	1. Door window sliding part malfunction ● A foreign material adheres to window glass or grass run rubber. ● Glass run rubber wear or deformation. ● Sash is tilted too much, or not enough.	—
	2. Limit switch adjusting.	GW-54
	3. Check Limit switch circuit (passenger side).	GW-37
	4. Check Encoder circuit check (passenger side).	GW-41
Power window retained power operation does not operate properly.	1. Check the retained power operation mode setting.	GW-30
	2. Check Door switch.	GW-44
	3. Replace the BCM.	BCS-16
Automatic window adjusting function does not operate.	1. Check Door switch.	GW-44
	2. Limit switch adjusting.	GW-54
	3. Check Limit switch circuit (driver side)	GW-35
	4. Check Limit switch circuit (passenger side)	GW-37
	5. Check Power window serial link.	GW-47
	6. Replace the BCM	BCS-16

POWER WINDOW SYSTEM

Symptom	Diagnoses / service procedure	Refer to page
Power window does not operate by the key cylinder switch.	1. Check Door key cylinder switch.	GW-50
	2. Replace the power window main switch.	EI-29
Power window lock switch does not function.	1. Check Power window serial link.	GW-47
	2. Replace the power window main switch.	EI-29

Check BCM Power Supply and Ground Circuit

NIS000EJ

1. FUSE INSPECTION

- Check 10A fuse [No.1, located in fuse block (J/B)]
- Check 10A fuse [No.18, located in fuse block (J/B)]
- Check 50A fusible link (letter **F** , located in the fuse and fusible link box).

NOTE:

Refer to [GW-17, "Component Parts and Harness Connector Location"](#) .

OK or NG

OK >> GO TO 2

NG >> If fuse is blown out, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) .

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M1, M2 terminal 38, 42, 55 and ground.

38 (W/L) – Ground : Battery voltage

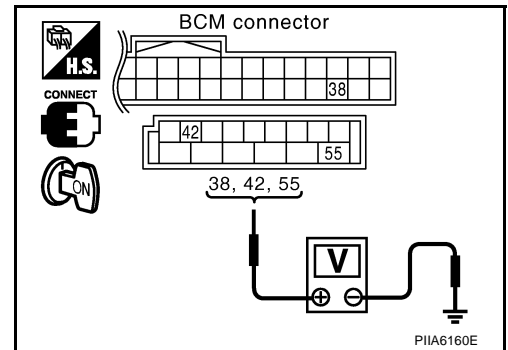
42 (GY) – Ground : Battery voltage

55 (W/R) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check BCM power supply circuit for open or short.



3. CHECK GROUND CIRCUIT

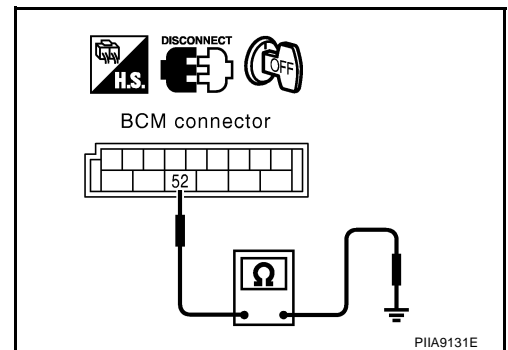
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M2 terminal 52 and ground.

52 (B) – Ground :Continuity should exist.

OK or NG

OK >> Power supply and ground circuit is OK.

NG >> Check BCM ground circuit for open or short.



POWER WINDOW SYSTEM

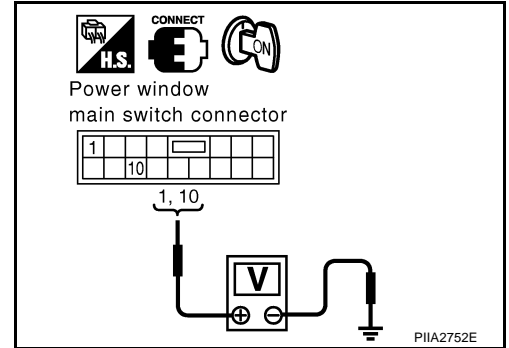
NIS000EK

Check Power Window Switch Power Supply Circuit

1. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch ON.
2. Check voltage between power window main switch connector D7 terminal 1, 10 and ground.

1 (W) – Ground :Battery voltage
10 (P) – Ground :Battery voltage

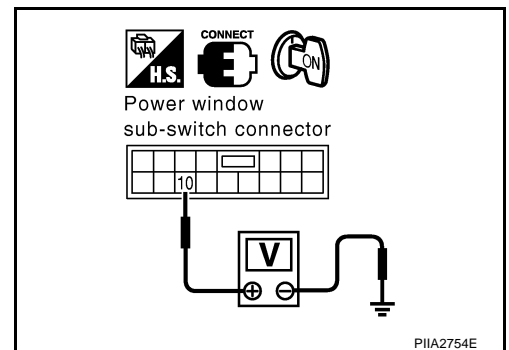


3. Check voltage between power window sub-switch connector D43 terminal 10 and ground.

10 (W) – Ground :Battery voltage

OK or NG

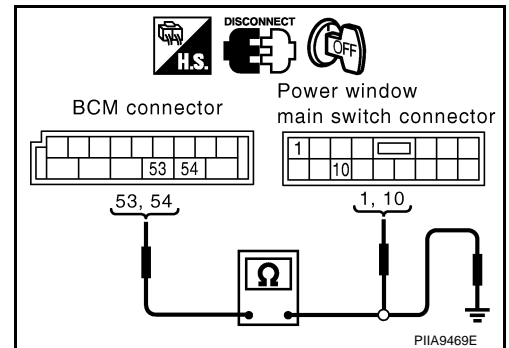
- OK >> Power window switch power supply is OK.
NG >> GO TO 2.



2. CHECK POWER WINDOW SWITCH POWER SUPPLY CIRCUIT

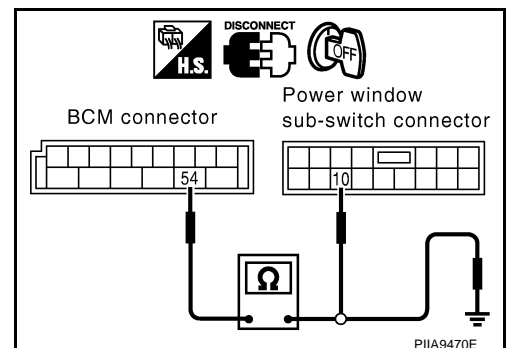
1. Turn ignition switch OFF.
2. Disconnect BCM, power window main switch and power window sub-switch connector.
3. Check continuity between BCM connector M2 terminal 53, 54, power window main switch connector D7 terminal 1, 10, and between BCM connector M2 terminal 53, 54 and ground.

BCM – Power window main switch
53 (Y/B) – 10 (P) : Continuity should exist.
54 (W) – 1 (W) : Continuity should exist.
BCM – Ground
53 (Y/B) – Ground : Continuity should not exist.
54 (W) – Ground : Continuity should not exist.



4. Check continuity between BCM connector M2 terminal 54, power window sub-switch connector D43 terminal 10, and between BCM connector M2 terminal 54 and ground.

BCM – Power window sub-switch
54 (W) – 10 (W) : Continuity should exist.
BCM – Ground
54 (W) – Ground : Continuity should not exist.



OK or NG

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

POWER WINDOW SYSTEM

3. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M2 terminal 53, 54 and ground.

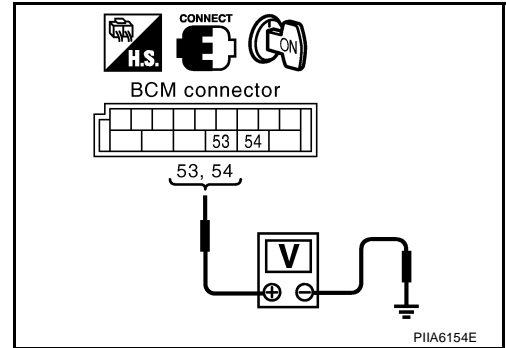
53 (Y/B) – Ground : Battery voltage

54 (W) – Ground : Battery voltage

OK or NG

OK >> INSPECTION END

NG >> Replace BCM.



Check Drive Side Power Window Motor Circuit

1. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

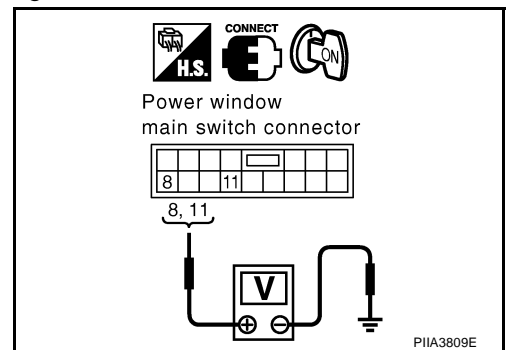
1. Turn ignition switch ON.
2. Check voltage between power window main switch connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	8 (L)	Ground	Closing	Battery voltage
			Opening	0
	11 (G)		Closing	0
			Opening	Battery voltage

OK or NG

OK >> GO TO 2.

NG >> Replace power window main switch.



2. CHECK POWER WINDOW MOTOR (DRIVER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch and driver side power window motor connector.
3. Check continuity between power window main switch connector D7 terminals 8, 11 and driver side power window motor connector D9 terminals 1, 2.

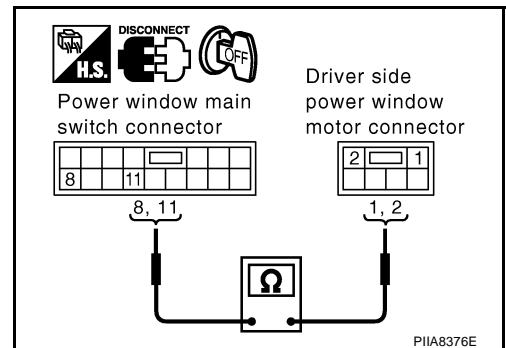
8 (L) – 2 (L) : Continuity should exist.

11 (G) – 1 (G) : Continuity should exist.

OK or NG

OK >> Replace driver side power window motor.

NG >> Repair or replace harness.



POWER WINDOW SYSTEM

NIS000EM

Check Passenger Side Power Window Motor Circuit

1. CHECK POWER WINDOW SUB-SWITCH OUTPUT SIGNAL

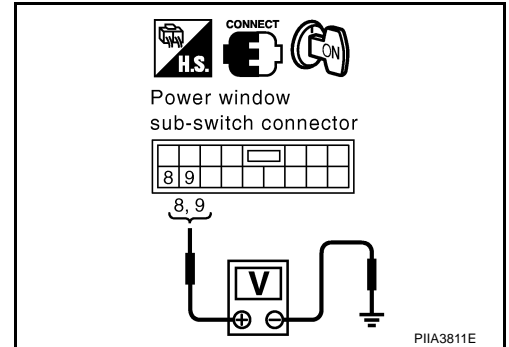
1. Turn ignition switch ON.
2. Check voltage between power window sub-switch connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D43	8 (L)	Ground	Closing	Battery voltage
			Opening	0
	9 (G)		Closing	0
			Opening	Battery voltage

OK or NG

OK >> GO TO 2.

NG >> Replace power window sub-switch.



2. CHECK POWER WINDOW MOTOR (PASSENGER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window sub-switch and passenger side power window motor connector.
3. Check continuity between power window sub-switch connector D43 terminals 8, 9 and passenger side power window motor connector D38 terminals 1, 2.

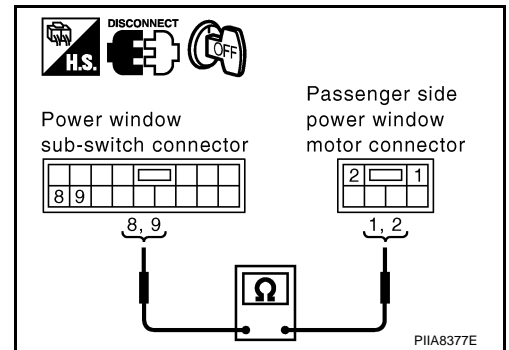
9 (G) – 1 (G) :Continuity should exist.

8 (L) – 2 (L) :Continuity should exist.

OK or NG

OK >> Replace passenger side power window motor.

NG >> Repair or replace harness.



Check Limit Switch Circuit (Driver Side)

NIS000EN

1. CHECK DRIVER SIDE LIMIT SWITCH SIGNAL

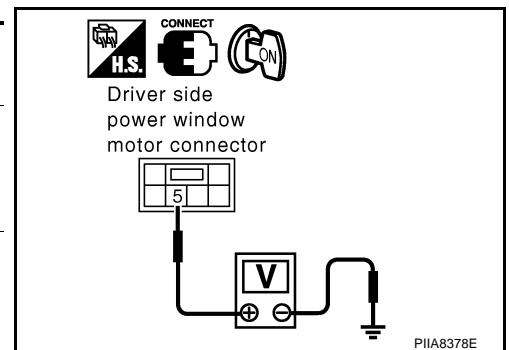
1. Turn ignition switch ON.
2. Check voltage between driver side power window motor connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D9	5 (OR)	Ground	Driver side door window is between fully-open and just before fully-closed position (ON)	0
			Driver side door window is between just before fully-closed position and fully-closed position (OFF)	5

OK or NG

OK >> Limit sw circuit is OK.

NG >> GO TO 2.



POWER WINDOW SYSTEM

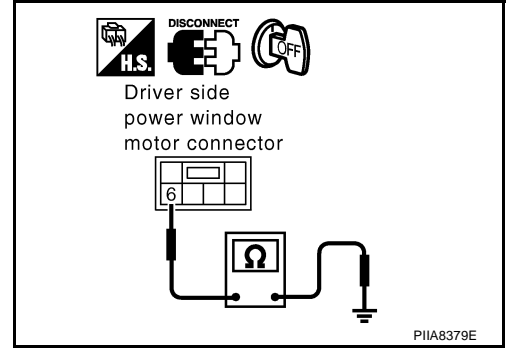
2. CHECK LIMIT SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect driver side power window motor connector.
3. Check continuity between driver side power window motor connector D9 terminal 6 and ground.

6 (PU) – Ground :Continuity should exist.

OK or NG

- OK >> GO TO 4.
NG >> GO TO 3.



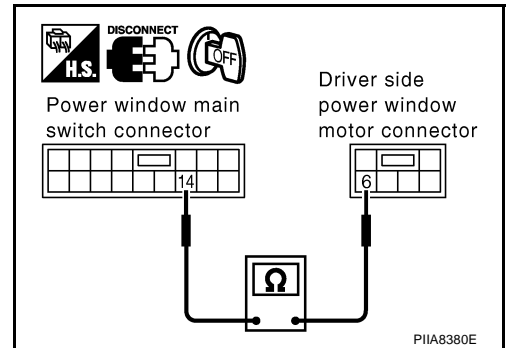
3. CHECK HARNESS CONTINUITY

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D7 terminal 14 and driver side power window motor connector D9 terminal 6.

14 (PU) – 6 (PU) Continuity should exist.

OK or NG

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



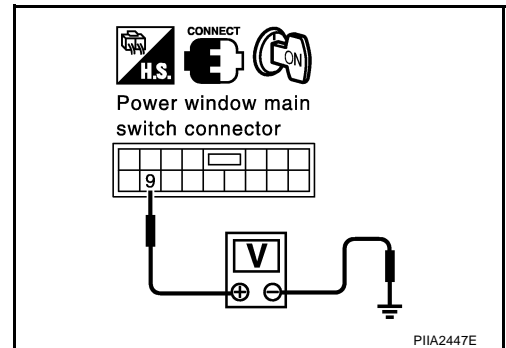
4. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between power window main switch connector D7 terminal 9 and ground.

9 (OR) – Ground :Approx. 5V

OK or NG

- OK >> GO TO 5.
NG >> Replace power window main switch.



POWER WINDOW SYSTEM

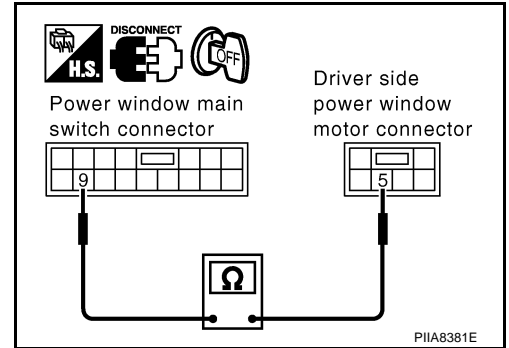
5. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch connector D7 terminal 9 and driver side power window motor connector D9 terminal 5.

9 (OR) – 5 (OR) : Continuity should exist.

OK or NG

- OK >> GO TO 6.
 NG >> Repair or replace harness.



6. CHECK LIMIT SWITCH

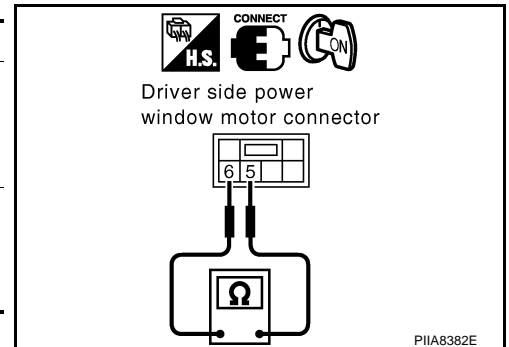
1. Connect power window main switch and driver side power window motor connector.
2. Check continuity between driver side power window motor connector D9 terminal 5 and 6.

Connector	Terminal (Wire color)		Condition	Continuity
D9	5 (OR)	6 (PU)	Driver side door window is between fully-open and just before fully-closed position (ON)	Yes*
			Driver side door window is between just before fully-closed position and fully-closed position (OFF)	No*

*: When checking continuity, turn ignition switch OFF.

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace driver side power window motor.



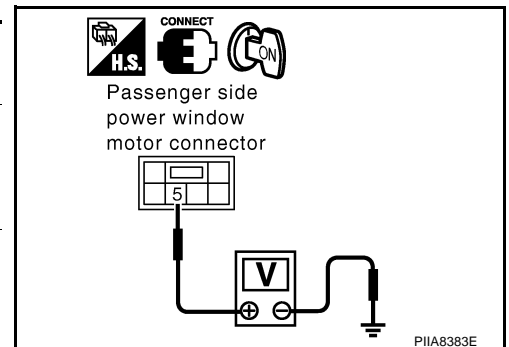
Check Limit Switch Circuit (Passenger Side)

NIS000EO

1. CHECK POWER WINDOW LIMIT SWITCH SIGNAL

1. Turn ignition switch ON.
2. Check voltage between passenger side power window motor connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D38	5 (OR)	Ground	Passenger side door window is between fully-open and just before fully-closed position (ON)	0
			Passenger side door window is between just before fully-closed position and fully-closed position (OFF)	5



OK or NG

- OK >> Limit sw circuit is OK.
 NG >> GO TO 2.

POWER WINDOW SYSTEM

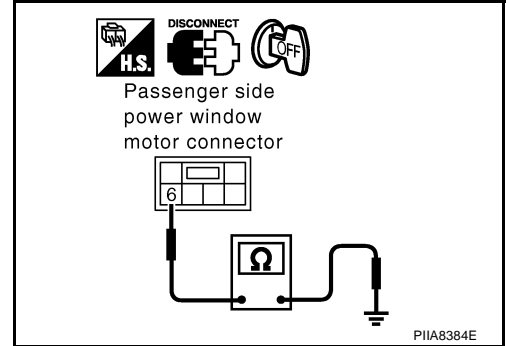
2. CHECK LIMIT SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect passenger side power window motor connector.
3. Check continuity between passenger side power window motor connector D38 terminal 6 and ground

6 (PU) – Ground :Continuity should exist.

OK or NG

- OK >> GO TO 4.
NG >> GO TO 3.



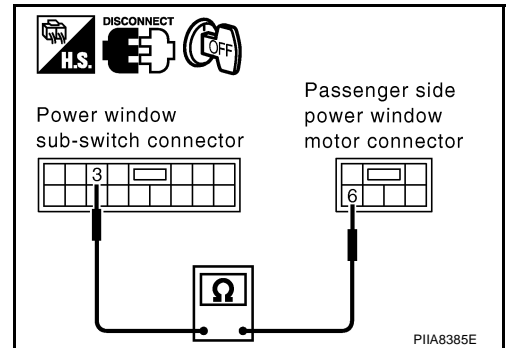
3. CHECK HARNESS CONTINUITY

1. Disconnect power window sub-switch connector.
2. Check continuity between power window sub-switch connector D43 terminal 3 and passenger side power window motor connector D38 terminal 6.

3 (PU) – 6 (PU) :Continuity should exist.

OK or NG

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



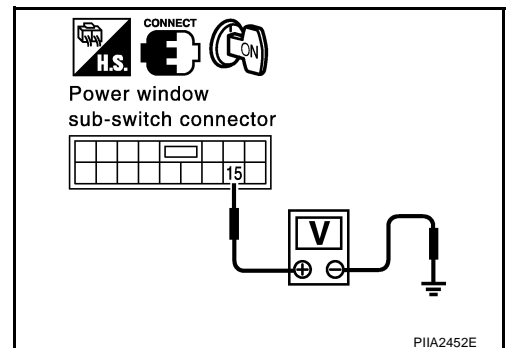
4. CHECK POWER WINDOW SUB-SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between power window sub-switch connector D43 terminal 15 and ground.

15 (OR) – Ground :Approx. 5V

OK or NG

- OK >> GO TO 5.
NG >> Replace power window sub-switch.



POWER WINDOW SYSTEM

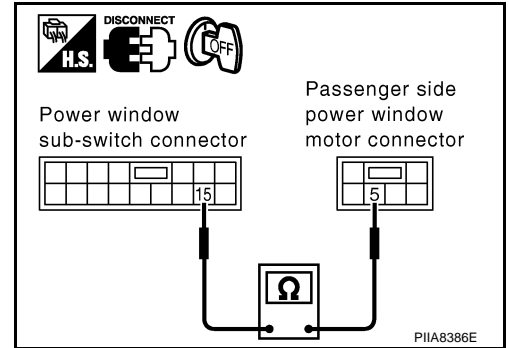
5. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window sub-switch connector.
3. Check continuity between power window sub-switch connector D43 terminal 15 and passenger side power window motor connector D38 terminal 5.

15 (OR) – 5 (OR) : Continuity should exist.

OK or NG

- OK >> GO TO 6.
 NG >> Repair or replace harness.



6. CHECK LIMIT SWITCH

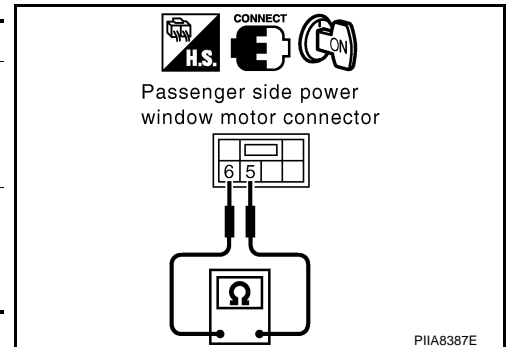
1. Connect power window sub-switch and passenger side power window motor connector.
2. Check continuity between passenger side power window motor connector D38 terminal 5 and 6.

Connector	Terminal (Wire color)		Condition	Continuity
D38	5 (OR)	6 (PU)	Passenger side door window is between fully-open and just before fully-closed position (ON)	Yes*
			Passenger side door window is between just before fully-closed position and fully-closed position (OFF)	No*

*: When checking continuity, turn ignition switch OFF.

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace passenger side power window motor.



Check Encoder Circuit (Driver Side)

NIS000EP

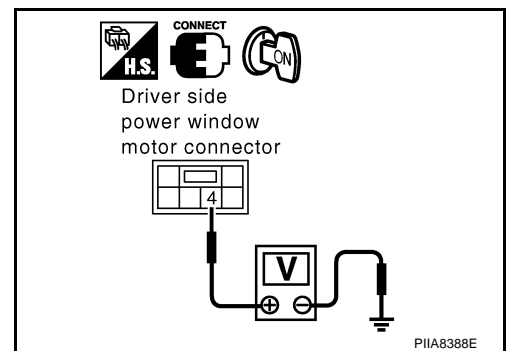
1. CHECK DRIVER SIDE POWER WINDOW MOTOR POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between driver side power window motor connector D9 terminal 4 and ground.

4 (R) – Ground : Approx. 10V

OK or NG

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



POWER WINDOW SYSTEM

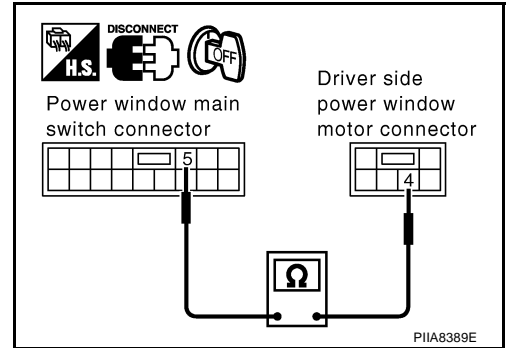
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window main switch and driver side power window motor connector.
3. Check continuity between power window main switch connector D7 terminal 5 and driver side power window motor connector D9 terminal 4.

5 (R) – 4 (R) : Continuity should exist.

OK or NG

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



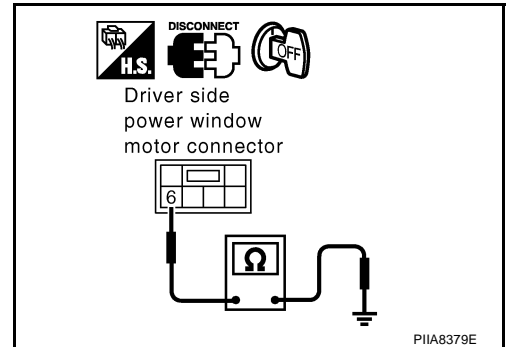
3. CHECK ENCODER GROUND

1. Turn ignition switch OFF.
2. Disconnect driver side power window motor connector.
3. Check continuity between driver side power window regulator connector D9 terminal 6 and ground.

6 (PU) – Ground : Continuity should exist.

OK or NG

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



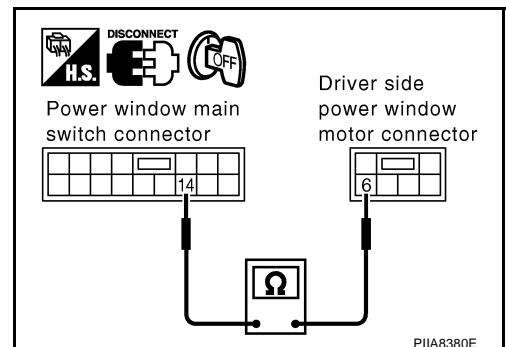
4. CHECK ENCODER GROUND CIRCUIT

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D7 terminal 14 and driver side power window motor connector D9 terminal 6.

14 (PU) – 6 (PU) : Continuity should exist.

OK or NG

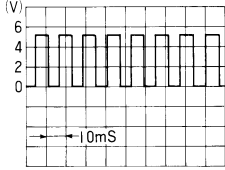
- OK >> Replace power window main switch.
NG >> Repair or replace harness.



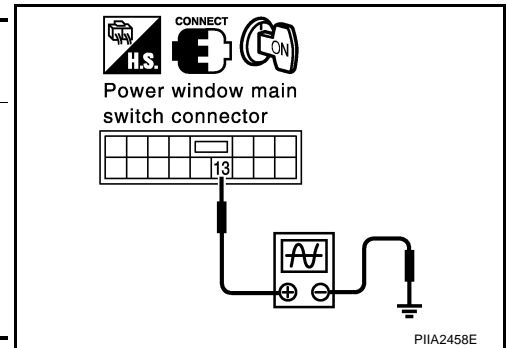
POWER WINDOW SYSTEM

5. CHECK ENCODER SIGNAL

1. Connect driver side power window motor connector.
2. Turn ignition switch ON.
3. Check the signal between power window main switch connector and ground with oscilloscope.

Connector	Terminals (Wire color)		Condition	Signal (Reference valve)
	(+)	(-)		
D7	13 (LG)	Ground	opening	

OCC3383D



OK or NG

- OK >> Replace power window main switch.
 NG >> GO TO 6.

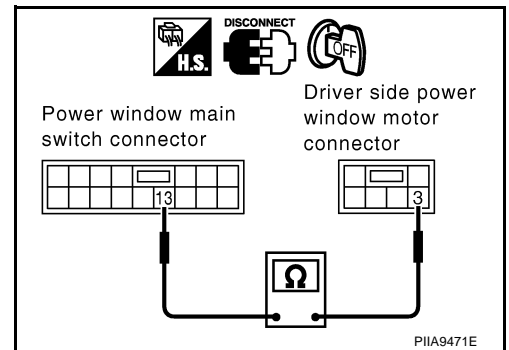
6. CHECK ENCODER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch and driver side power window motor connector.
3. Check continuity between power window main switch connector D7 terminal 13 and driver side power window motor connector D9 terminal 3.

13 (LG) – 3 (LG) : Continuity should exist.

OK or NG

- OK >> Replace driver side power window motor.
 NG >> Repair or replace harness.



Check Encoder Circuit (Passenger Side)

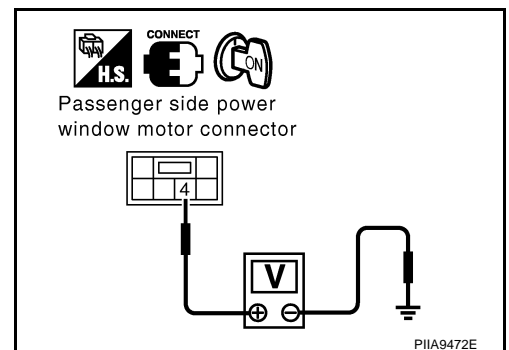
1. CHECK PASSENGER SIDE POWER WINDOW MOTOR POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between passenger side power window motor connector D38 terminal 4 and ground.

4 (R) – Ground : Approx. 10V

OK or NG

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



POWER WINDOW SYSTEM

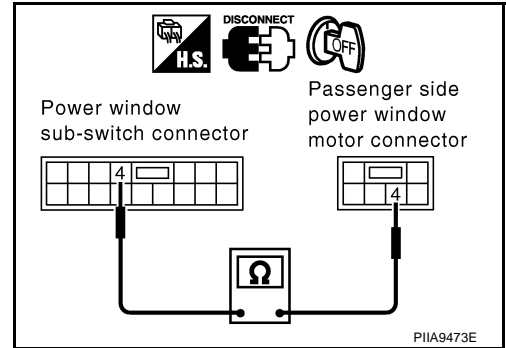
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window sub-switch and passenger side power window motor connector.
3. Check continuity between power window sub-switch connector D43 terminal 4 and passenger side power window motor connector D38 terminal 4.

4 (R) – 4 (R) : Continuity should exist.

OK or NG

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



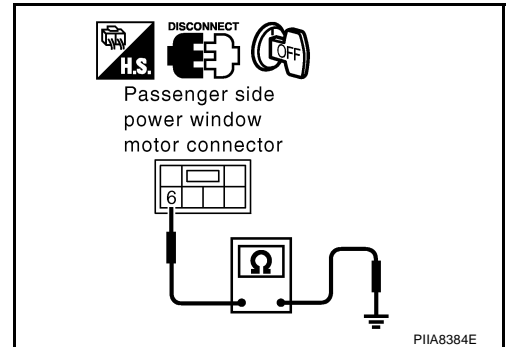
3. CHECK ENCODER GROUND

1. Turn ignition switch OFF.
2. Disconnect passenger side power window motor connector.
3. Check continuity between passenger side power window motor connector D38 terminal 6 and ground.

6 (PU) – Ground : Continuity should exist.

OK or NG

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



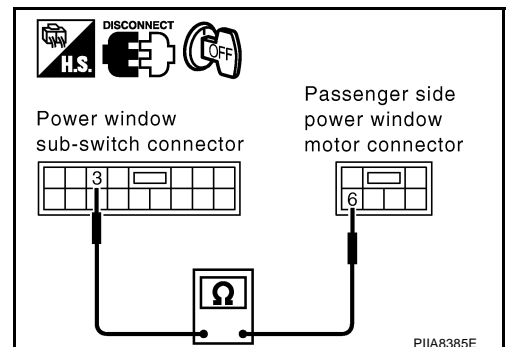
4. CHECK ENCODER GROUND CIRCUIT

1. Disconnect power window sub-switch connector.
2. Check continuity between power window sub-switch connector D43 terminal 3 and passenger side power window motor connector D38 terminal 6.

3 (PU) – 6 (PU) : Continuity should exist.

OK or NG

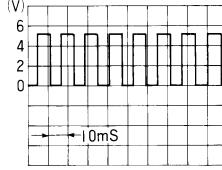
- OK >> Replace power window sub switch.
NG >> Repair or replace harness.

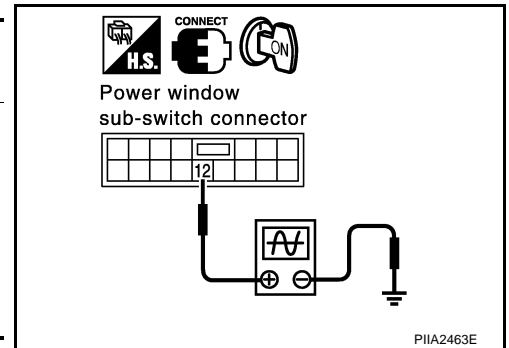


POWER WINDOW SYSTEM

5. CHECK ENCODER SIGNAL

1. Connect passenger side power window motor connector.
2. Turn ignition ON.
3. Check the signal between power window sub-switch connector and ground with oscilloscope.

Connector	Terminals (Wire color)		Condition	Signal (Reference value)
	(+)	(-)		
D43	12 (LG)	Ground	opening	 <p>OCC3383D</p>



OK or NG

- OK >> Replace power window sub-switch.
 NG >> GO TO 6.

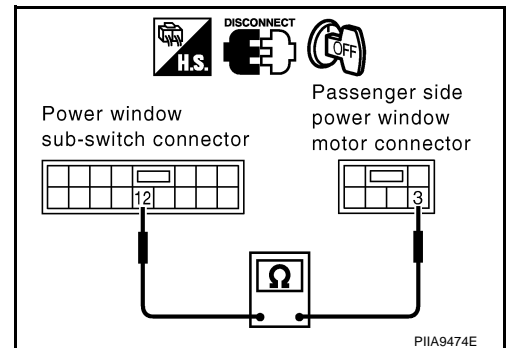
6. CHECK ENCODER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window sub-switch and passenger side power window motor connector.
3. Check continuity between power window sub-switch connector D43 terminal 12 and passenger side power window motor connector D38 terminal 3.

12 (LG) – 3 (LG) : Continuity should exist.

OK or NG

- OK >> Replace passenger side power window motor.
 NG >> Repair or replace harness.



A
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POWER WINDOW SYSTEM

NIS000ER

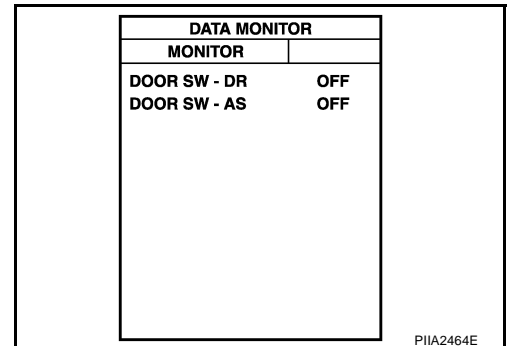
Check Door Switch

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-II.

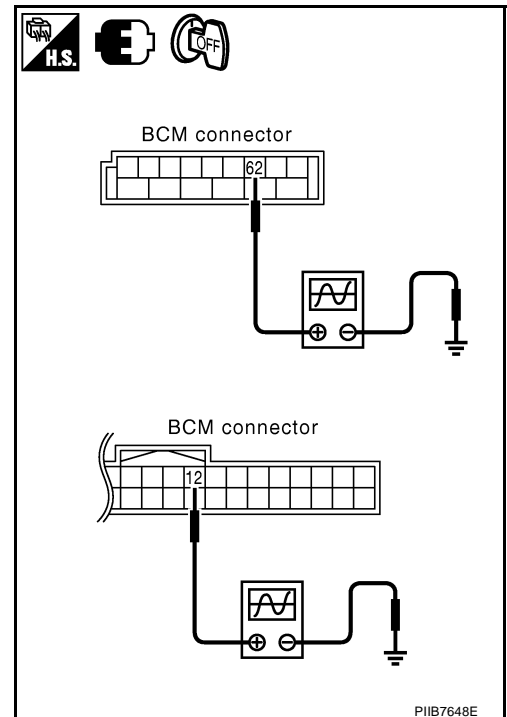
Monitor item	Condition
DOOR SW-DR	OPEN : ON
	CLOSE : OFF
DOOR SW-AS	OPEN : ON
	CLOSE : OFF



PIIA264E

Without CONSULT-II

Check voltage between BCM connectors B4 (driver side), M1 (passenger side) terminals 62, 12 and ground.



PIIB7648E

Item	Connectors	Terminals (Wire color)		Condition	Signal (Reference value)
		(+)	(-)		
Driver side door switch	B4	62 (Y)	Ground	CLOSE	<p>SKIB3419J</p>
Passenger side door switch	M1	12 (P)		OPEN	0

OK or NG

- OK >> Door switch is OK.
- NG >> GO TO 2.

POWER WINDOW SYSTEM

2. CHECK DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door switch and BCM connector.
3. Check continuity between BCM connector M1, B4 terminals 12, 62 and door switch connector B17, B410 terminals 1.

Driver side door

62 (Y) – 1 (G/B) : Continuity should exist.

Passenger side door

12 (P) – 1 (P) : Continuity should exist.

4. Check continuity between BCM connector M1, B4 terminals 12, 62 and ground.

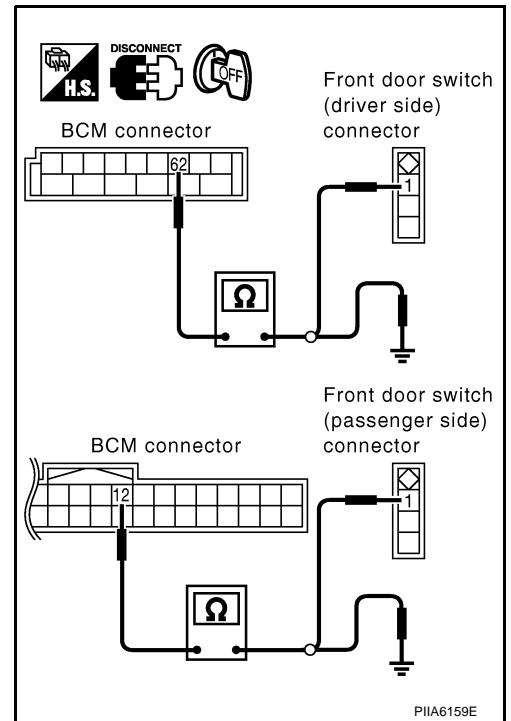
12 (P) – Ground : Continuity should not exist.

62 (Y) – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

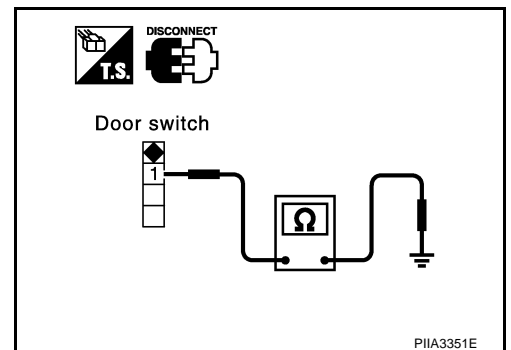
Check continuity between door switch B17 (driver side) or B410 (passenger side) terminal 1 and body ground part of door switch.

Terminal		Door switch	Continuity
1	Body ground part of door switch	Pushed (close)	No
		Released (open)	Yes

OK or NG

OK >> GO TO 4.

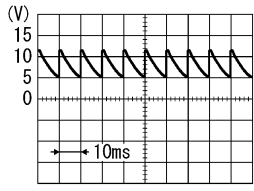
NG >> Replace malfunction door switch.

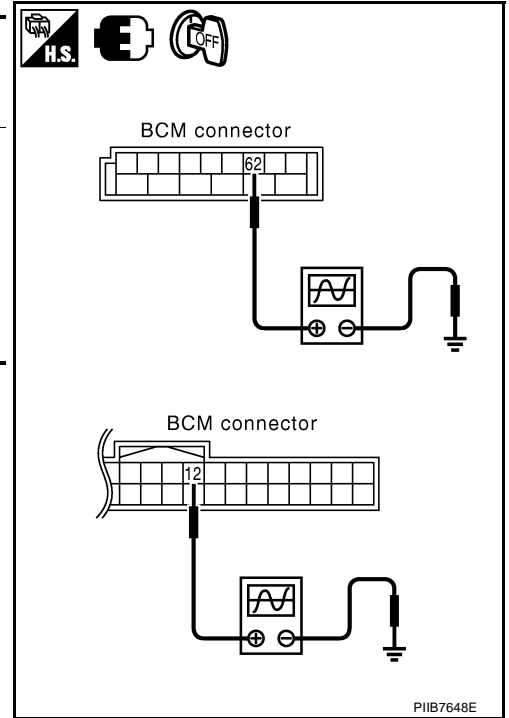


POWER WINDOW SYSTEM

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M1(passenger side), B4(driver side) terminals 12, 62 and ground.

Item	Con-nectors	Terminals (Wire color)		Condi-tion	Voltage [V] (Approx.)
		(+)	(-)		
Driver side door switch	B4	62 (Y)	Ground	CLOSE	 <small>SKIB3419J</small>
Passen-ger side door switch	M1	12 (P)			



OK or NG

- OK >> Further inspection is necessary. Refer to [GW-31](#) .
 NG >> Replace BCM.

POWER WINDOW SYSTEM

NIS000ES

Check Power Window Serial Link

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

With CONSULT-II

Check door lock and unlock switch ("LOCK SW DR/AS", "UNLK SW DR/AS") in DATA MONITOR mode for "POWER DOOR LOCK SYSTEM" with CONSULT-II. Refer to [BL-36](#).

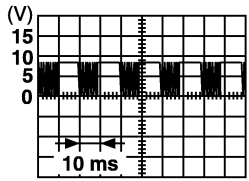
- When door lock and unlock switch is turned to LOCK
LOCK SW DR/AS :ON
- When door lock and unlock switch is turned to UNLOCK
UNLK SW DR/AS :ON

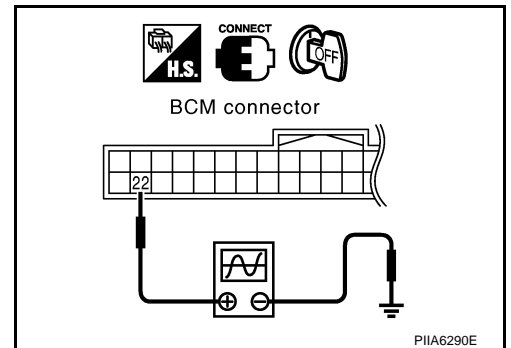
DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

LIA0172E

Without CONSULT-II

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

Connector	Terminals (Wire color)		Signal (Reference valve)
	(+)	(-)	
M1	22 (Y)	Ground	 <p style="text-align: right;">PIIA1297E</p>



OK or NG

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

2. CHECK BCM OUTPUT SIGNAL

Check power window serial link ("POWER WINDOW DOWN") in "ACTIVE TEST" mode for "REMOTE KEY-LESS ENTRY SYSTEM" with CONSULT-II. Refer to [BL-63, "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 symptom chart.
- NG >> Replace BCM.

ACTIVE TEST	
POWER WINDOW DOWN	OFF
ON	

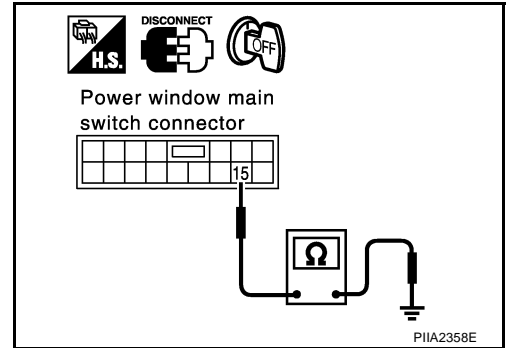
PIIA3080E

POWER WINDOW SYSTEM

3. CHECK POWER WINDOW SWITCH GROUND

1. Turn ignition switch OFF.
2. Disconnect power window main switch and power window sub-switch connector.
3. Check continuity between power window main switch connector D7 terminals 15 and ground.

15 (B) – Ground : Continuity should exist.



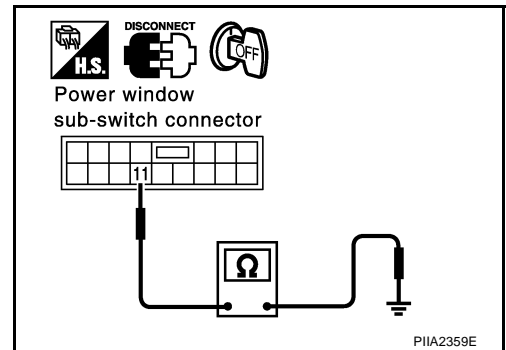
4. Check continuity between power window sub-switch connector D43 terminal 11 and ground.

11 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

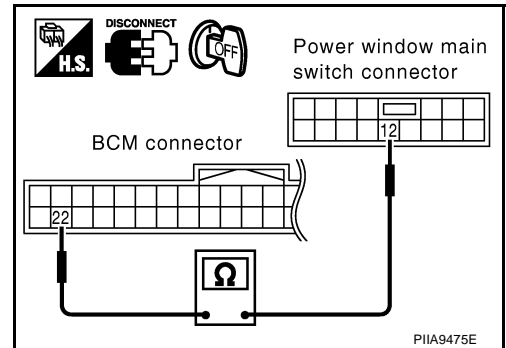
NG >> Repair or replace harness.



4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector M1 terminal 22 and power window main switch connector D7 terminal 12.

22 (Y) – 12 (BR) : Continuity should exist.



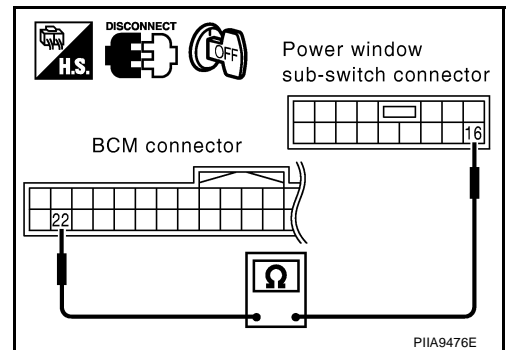
3. Check continuity between BCM connector M1 terminal 22 and power window sub-switch connector D43 terminal 16.

22 (Y) – 16 (Y) : Continuity should exist.

OK or NG

OK >> Replace power window main switch.

NG >> Repair or replace harness.



POWER WINDOW SYSTEM

Check Power Window Sub-Switch Power Supply and Ground Circuit

NIS000ET

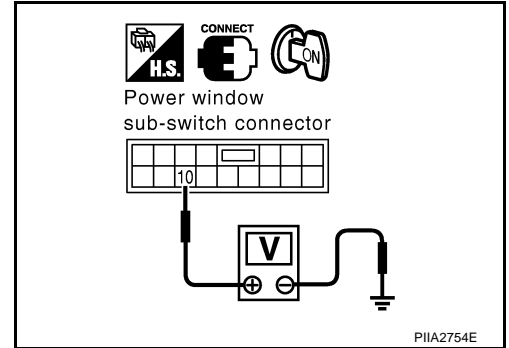
1. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch ON.
2. Check voltage between power window sub-switch connector D43 terminal 10 and ground.

10 (W) – Ground : Battery voltage.

OK or NG

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



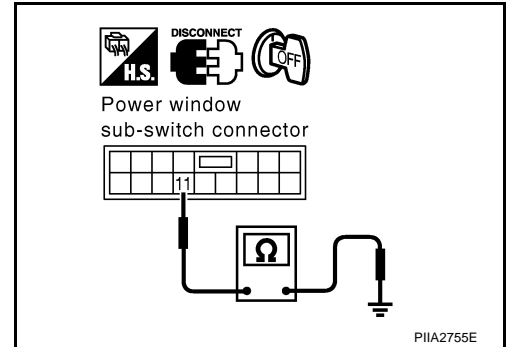
2. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect power window sub-switch connector.
3. Check continuity between power window sub-switch connector D43 terminal 11 and ground.

11 (B) – Ground : Continuity should exist.

OK or NG

- OK >> Power window sub-switch power supply and ground circuit are OK. Further inspection is necessary. Refer to symptom chart.
NG >> Repair or replace harness.



3. POWER WINDOW SUB-SWITCH POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect BCM and power window sub-switch connector.
3. Check continuity between BCM connector M2 terminal 54 and power window sub-switch connector D43 terminal 10.

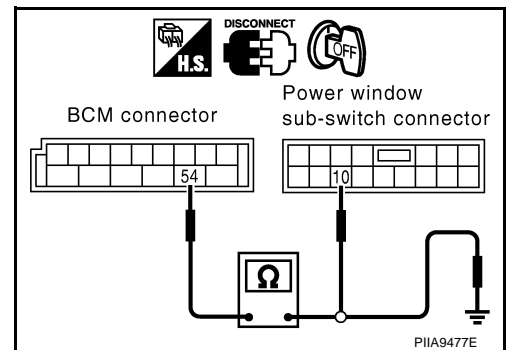
54 (W) – 10 (W) : Continuity should exist.

4. Check continuity between BCM connector M2 terminal 54 and ground.

54 (W) – Ground : Continuity should not exist.

OK or NG

- OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness.



POWER WINDOW SYSTEM

NIS000EU

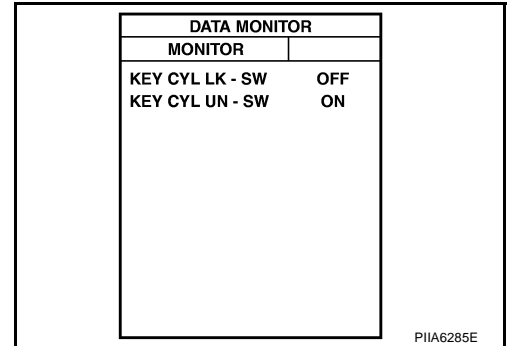
Check Door Key Cylinder Switch

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

With CONSULT-II

Check door key cylinder switch ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-II. Refer to [BL-36](#)

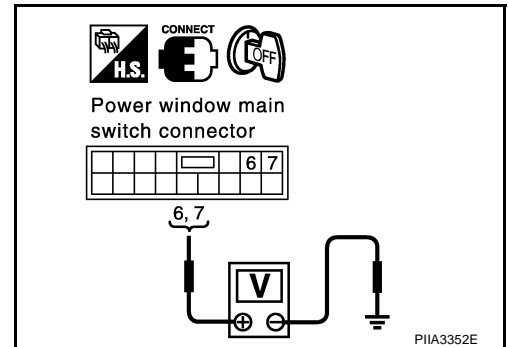
Monitor item	Condition	
KEY CYL LK-SW	Neutral / Unlock	: OFF
	Lock	: ON
KEY CYL UN-SW	Neutral / Lock	: OFF
	Unlock	: ON



Without CONSULT-II

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

Connector	Terminals (Wire color)		Key position	Voltage (V) (Approx.)
	(+)	(-)		
D7	6 (Y)	Ground	Neutral/Unlock	5
			Lock	0
	7 (SB)		Neutral/Lock	5
			Unlock	0



OK or NG

- OK >> Door key cylinder switch is OK.
 NG >> GO TO 2.

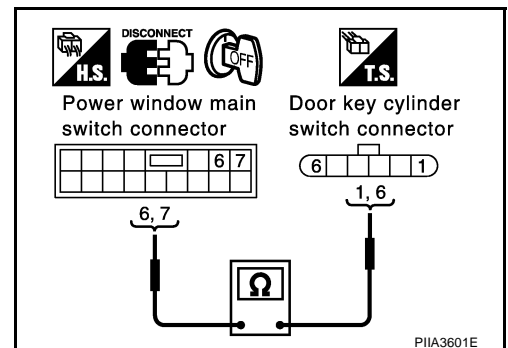
2. CHECK DOOR KEY CYLINDER SWITCH CIRCUIT

- Turn ignition switch OFF.
- Disconnect power window main switch (door lock and unlock switch) and door key cylinder switch connector.
- Check continuity between power window main switch (door lock and unlock switch) connector D7 terminal 6, 7 and door key cylinder switch connector D15 terminals 1, 6.

6 (Y) – 1 (Y) : Continuity should exist.
7 (SB) – 6 (SB) : Continuity should exist.

OK or NG

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



POWER WINDOW SYSTEM

3. CHECK DOOR KEY CYLINDER SWITCH GROUND

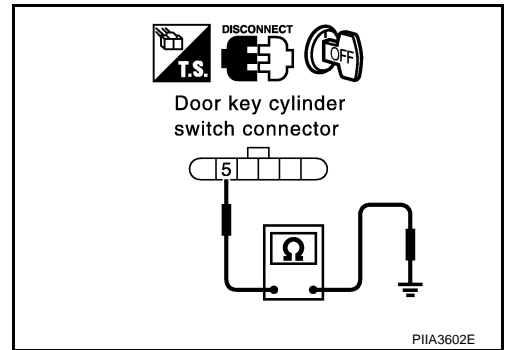
Check continuity between door key cylinder switch connector D15 terminal 5 and ground.

5 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



4. CHECK DOOR KEY CYLINDER SWITCH

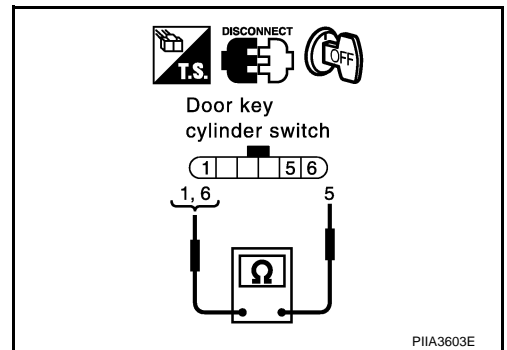
Check continuity between door key cylinder switch terminal 1, 6 and 5.

Terminals	Key position	Continuity
1	Neutral / Unlock	No
	Lock	Yes
6	Neutral / Lock	No
	Unlock	Yes

OK or NG

OK >> Further inspection is necessary. Refer to symptom chart.

NG >> Replace door key cylinder switch.



A
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GW

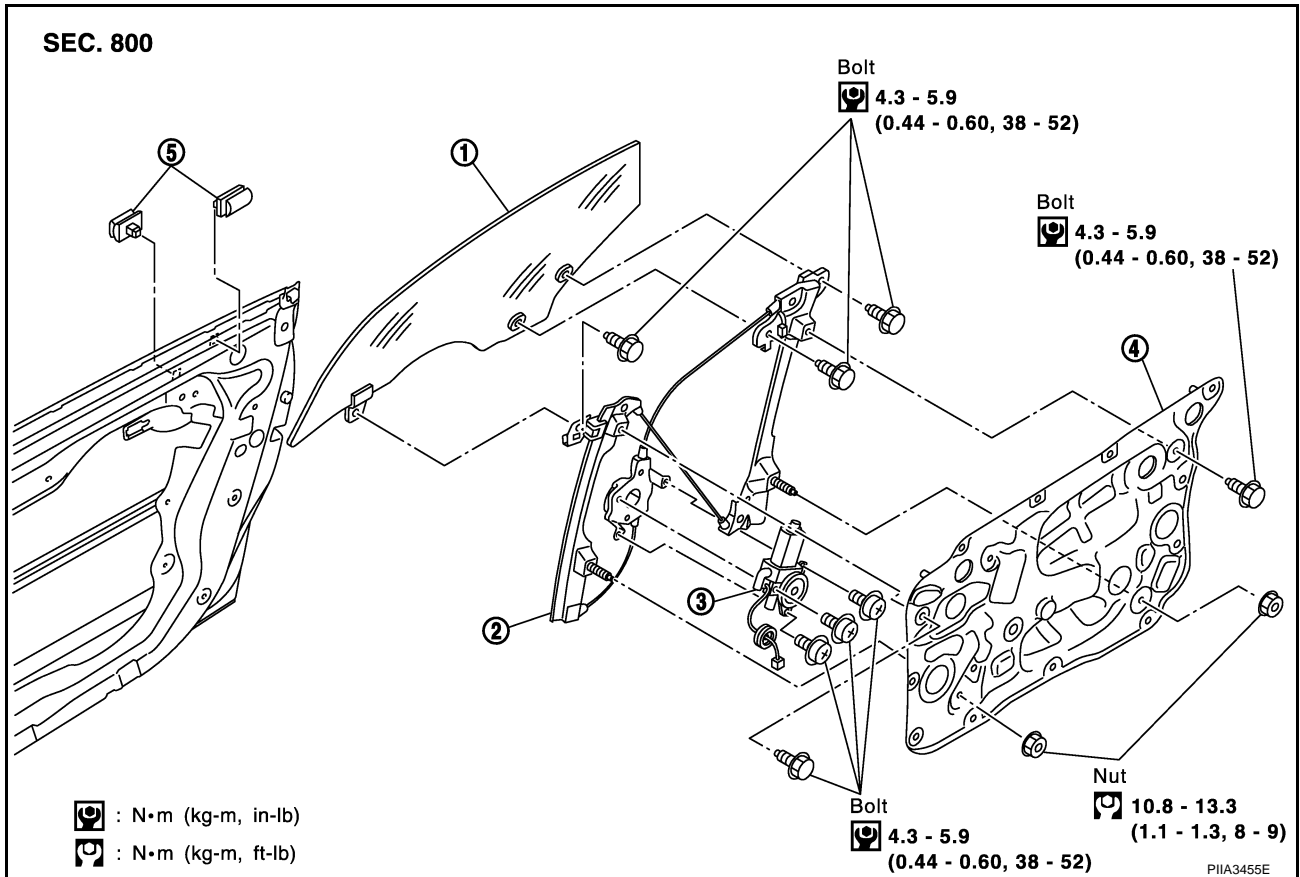
FRONT DOOR GLASS AND REGULATOR

PFP:80300

NIS000EV

FRONT DOOR GLASS AND REGULATOR

Removal and Installation

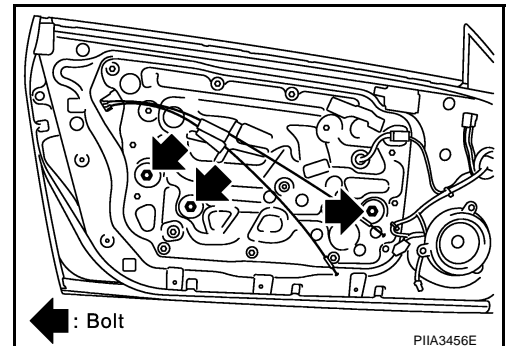


- | | | |
|--------------------|-----------------------|-----------------------|
| 1. Door glass | 2. Regulator assembly | 3. Power window motor |
| 4. Module assembly | 5. Glass stabilizer | |

DOOR GLASS

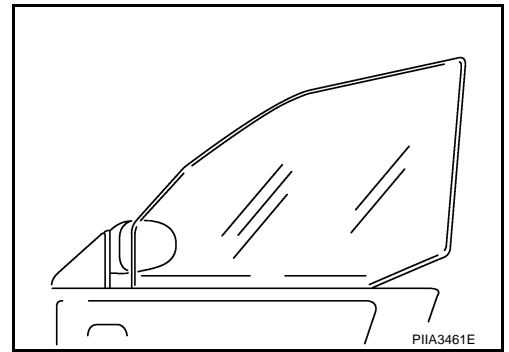
Removal

1. Remove the door finisher. Refer to [EI-29, "DOOR FINISHER"](#).
2. Operate the power window main switch to raise/lower the door window until the glass mounting bolts can be seen.
3. Remove the glass mounting bolts.



FRONT DOOR GLASS AND REGULATOR

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



A
B
C
D

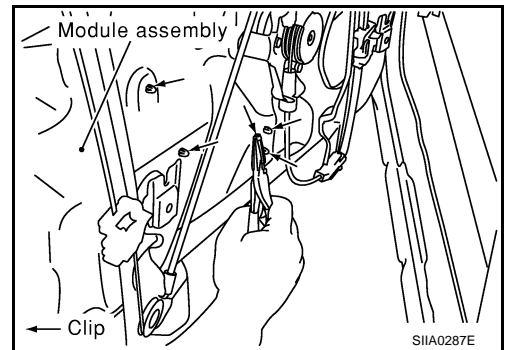
Installation

Install in the reverse order of removal.

REGULATOR ASSEMBLY

Removal

1. Remove the door glass. Refer to [GW-52, "DOOR GLASS"](#).
2. Remove the mounting bolts, and remove the module assembly.
3. Disconnect the harness connector for the module assembly, and unclip the harness from the back.



E
F
G
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GW

Installation

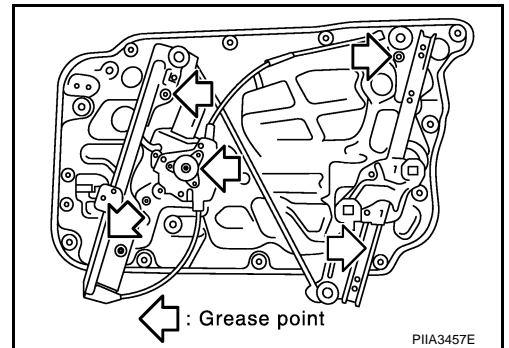
Install in the reverse order of removal.

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.



J
K
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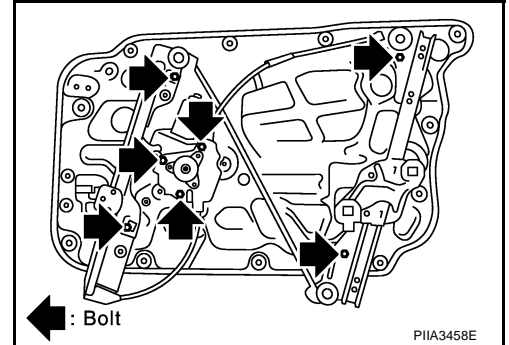
FRONT DOOR GLASS AND REGULATOR

Disassembly and Assembly REGULATOR ASSEMBLY

NIS000EW

Disassembly

Remove power window motor and guide rail from module assembly.



Assembly

Assemble in the reverse order of removal.

Inspection after Installation SETTING OF LIMIT SWITCH

NIS000EX

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.
- Operate the regulators as a unit.
- Removal and installation of the glass.

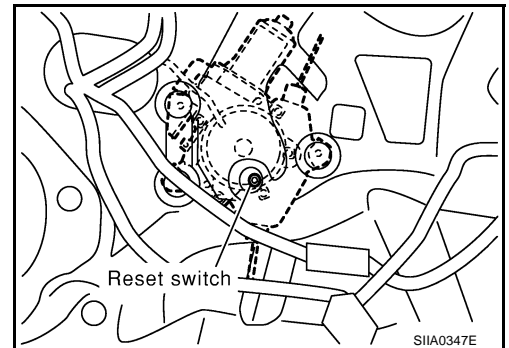
Resetting

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

1. With the door open, lift up and hold the power window switch until the door glass is fully closed.
2. Get inside the vehicle and close the door.
You need to close the door so the door switch is fully depressed.
3. Press and hold the reset switch. While holding the reset switch, press down and hold the power window switch until the door glass is fully opened.
4. Release the reset switch. Then, lift up and hold the power window switch until the door glass is fully closed.
5. Open the door to release the door switch. The door glass should partially move down.

CAUTION:

- Do not use the window auto function.
- Do not release the switch before the window is fully stopped.



FITTING INSPECTION

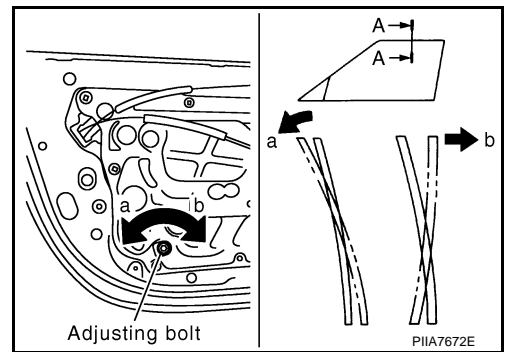
- Check that the glass is securely fit into the glass run groove.
- Lower the glass slightly [approx. 10 to 20 mm (0.39 to 0.79 in)] and check that the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator mounting bolts, guide rail mounting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

FRONT DOOR GLASS AND REGULATOR

- Raise the glass fully and adjust the glass top end and body side welt fitting with the adjusting bolt at the lower of the regulator rear rail.

NOTE:

- Turn the adjusting bolt clockwise to move the door glass upper end outward.
- Turn the adjusting bolt counterclockwise to move the door glass upper end inward.



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INSIDE MIRROR

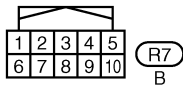
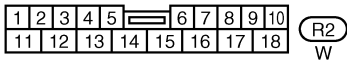
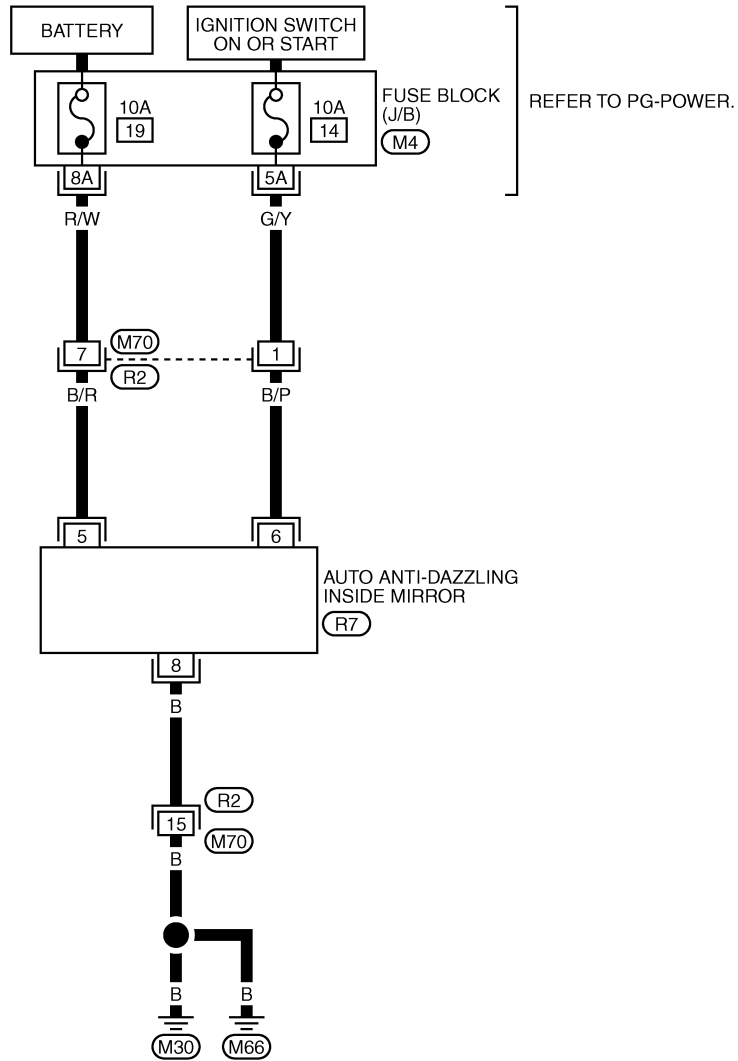
PF9:96321

INSIDE MIRROR

Wiring Diagram -I/MIRR-

NIS000EY

GW-I/MIRR-01



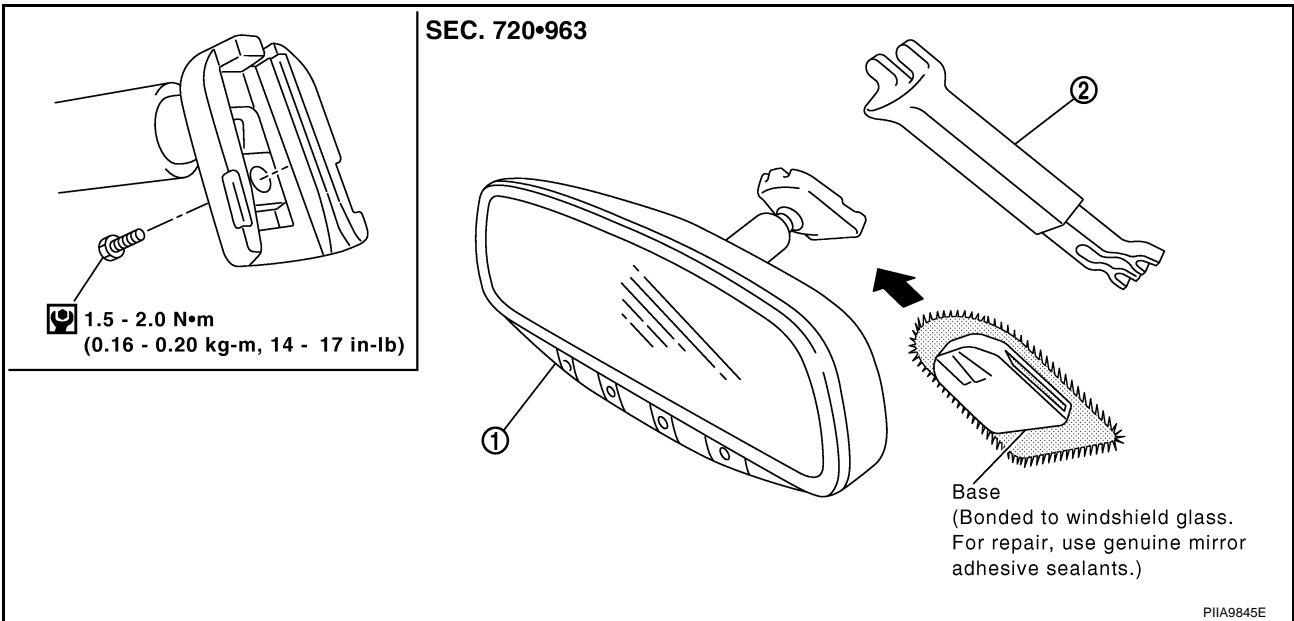
REFER TO THE FOLLOWING.
 (M4) - FUSE BLOCK-JUNCTION BOX (J/B)

TIWM1009E

INSIDE MIRROR

Removal and Installation

NIS000EZ



REMOVAL

1. Remove the inside mirror finisher (if equipped).
2. Disconnect the connector (if equipped).
3. Remove the screw of mirror base.
4. Slide the mirror upward to remove.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Apply Genuine Mirror Adhesive or equivalent to bonding surface of mounting bracket. Refer to [GI-46](#), "[RECOMMENDED CHEMICAL PRODUCTS AND SEALANTS](#)".

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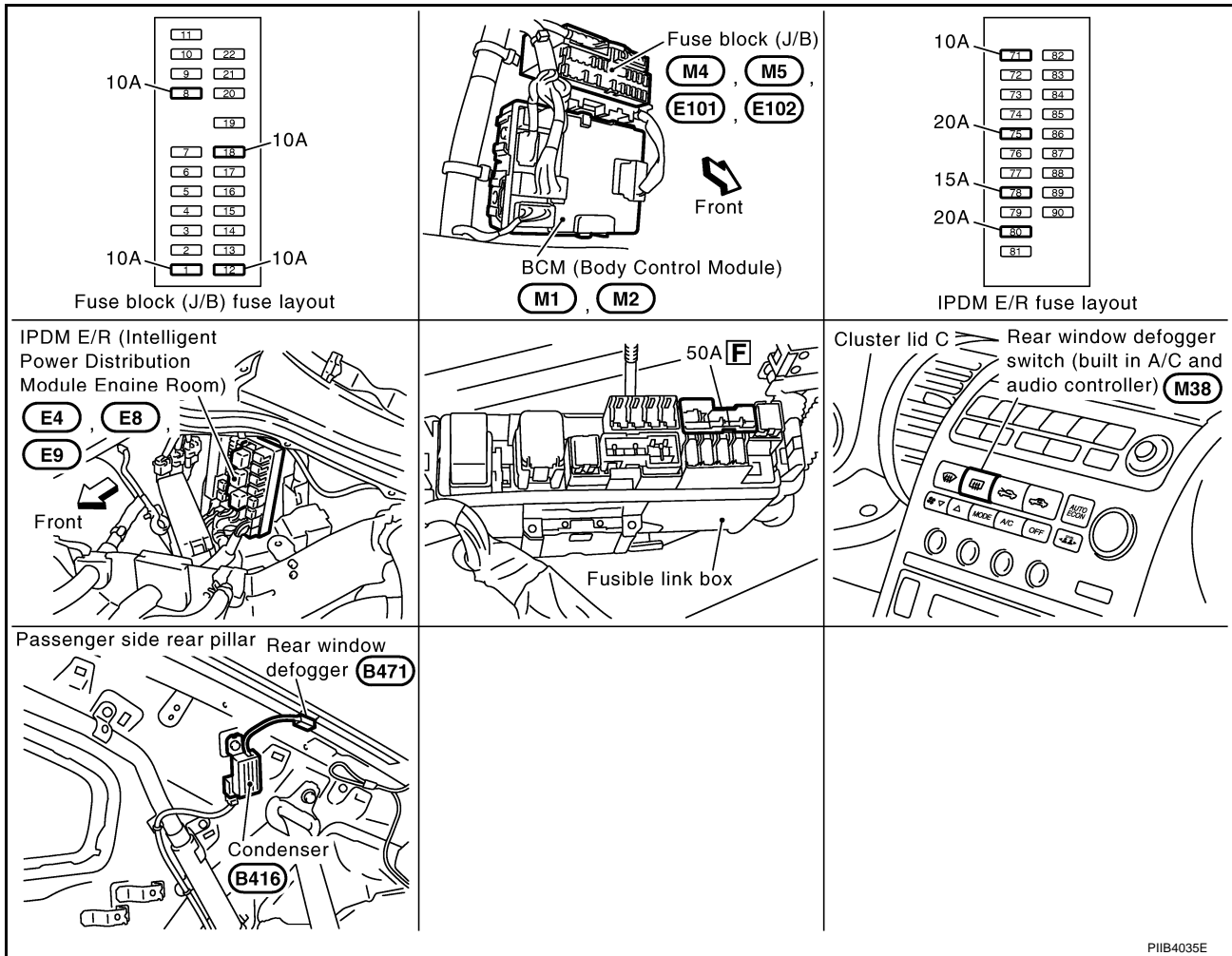
REAR WINDOW DEFOGGER

PFP:25350

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

NIS000F0



PIIB4035E

System Description

NIS000F1

The rear window defogger system is controlled by BCM (Body Control Module) and IPDM E/R (Intelligent Power Distribution Module Engine Room).

The rear window defogger operates only for approximately 15 minutes.

Power is at all times supplied

- through 20A fuse [No. 75, and 80, located in the IPDM E/R]
- to rear window defogger relay terminal 3 and 6.
- through 50A fusible link (letter **F**, located in the fusible link box)
- to BCM terminal 55.
- through 10A fuse [No. 18, located in the fuse block (J/B)]
- to BCM terminal 42.

With the ignition switch turned to ON or START position,

Power is supplied

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38.
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1 and,
- to A/C and audio controller terminal 2.

Ground is supplied

- to BCM terminal 52

REAR WINDOW DEFOGGER

- through body grounds M30, and M66.
- to A/C and audio controller terminal 3
- through body grounds M30 and M66.
- to internal CPU of IPDM E/R terminal 38 and 60
- through body grounds E17, and E43.

When A/C and audio controller (rear window defogger switch) is turned to ON,
Ground is supplied

- to BCM terminal 9
- through A/C and audio controller terminal 12
- through A/C and audio controller terminal 3
- through body grounds M30 and M66.

Then rear window defogger switch is illuminated.

Then BCM recognizes that rear window defogger switch is turned to ON.

Then it sends rear window defogger switch signals to IPDM E/R via DATA LINE (CAN-H, CAN-L).

When IPDM receives rear window defogger switch signals,
Ground is supplied

- to rear window defogger relay terminal 2
- through IPDM E/R terminal 52
- through internal CPU of IPDM E/R and IPDM E/R terminal 60
- through body grounds E17 and E43.

and then rear window defogger relay is energized.

When rear window defogger relay is turned ON,
Power is supplied,

- through rear window defogger relay terminals 5 and 7
- to rear window defogger terminal 2.

Rear window defogger terminal 1, is grounded through body ground B452.

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 rear window defogger relay terminals 5 and 7
- through fuse block (J/B) terminal 2C
- through 10A fuse [No. 8, located in the fuse block (J/B)]
- through fuse block (J/B) terminal 5B
- to door mirror defogger (Driver side and passenger side) terminal 2.

Door mirror defogger (Driver side and passenger side) terminal 1 is grounded through body grounds M30 and M66.

With power and ground supplied, door mirror defogger filaments heat and defog the mirror.

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REAR WINDOW DEFOGGER

CAN Communication System Description

NIS000F2

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

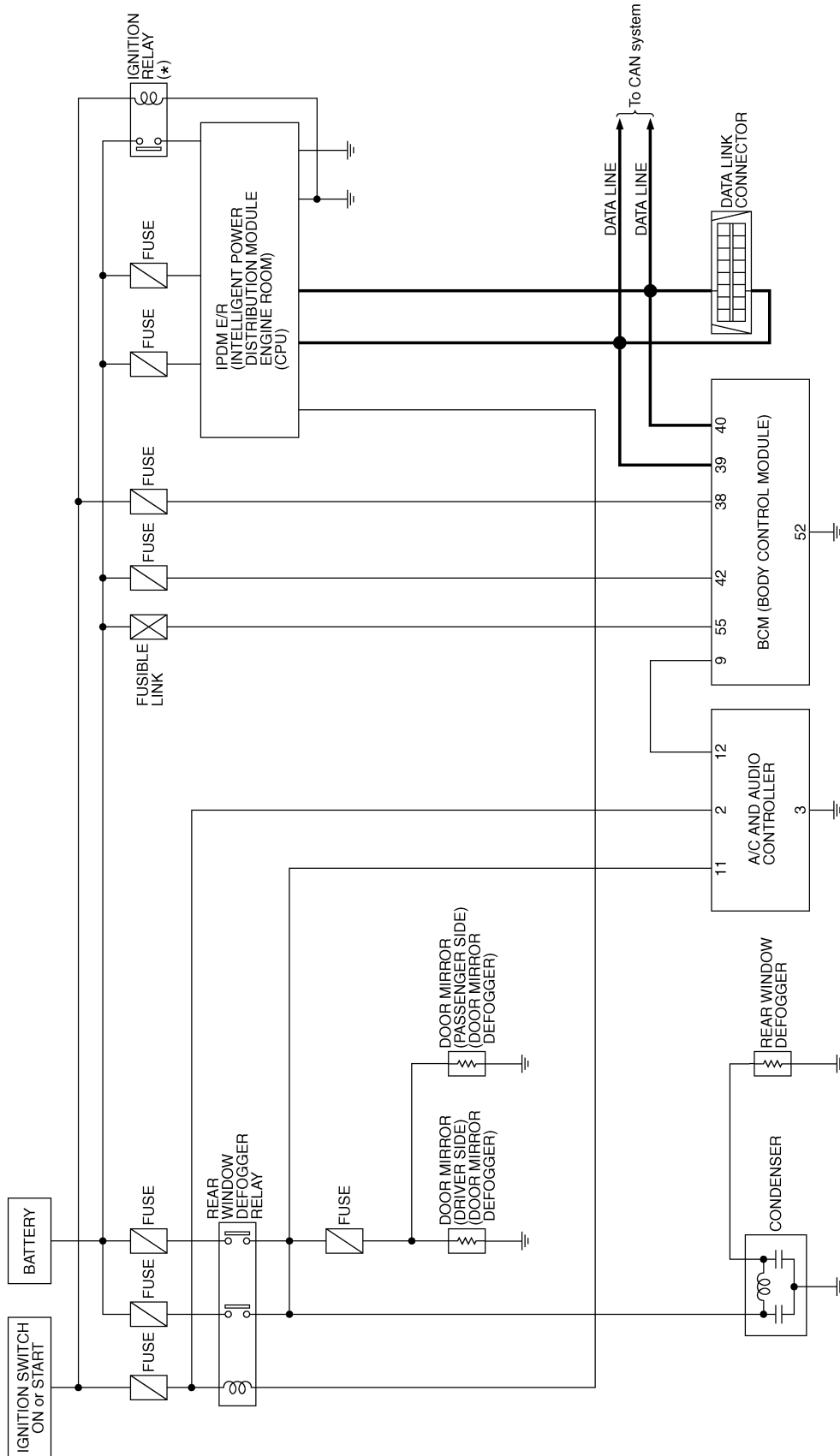
NIS000F3

Refer to [LAN-47, "CAN System Specification Chart"](#)

REAR WINDOW DEFOGGER

Schematic – DEF –

NIS000F4



* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

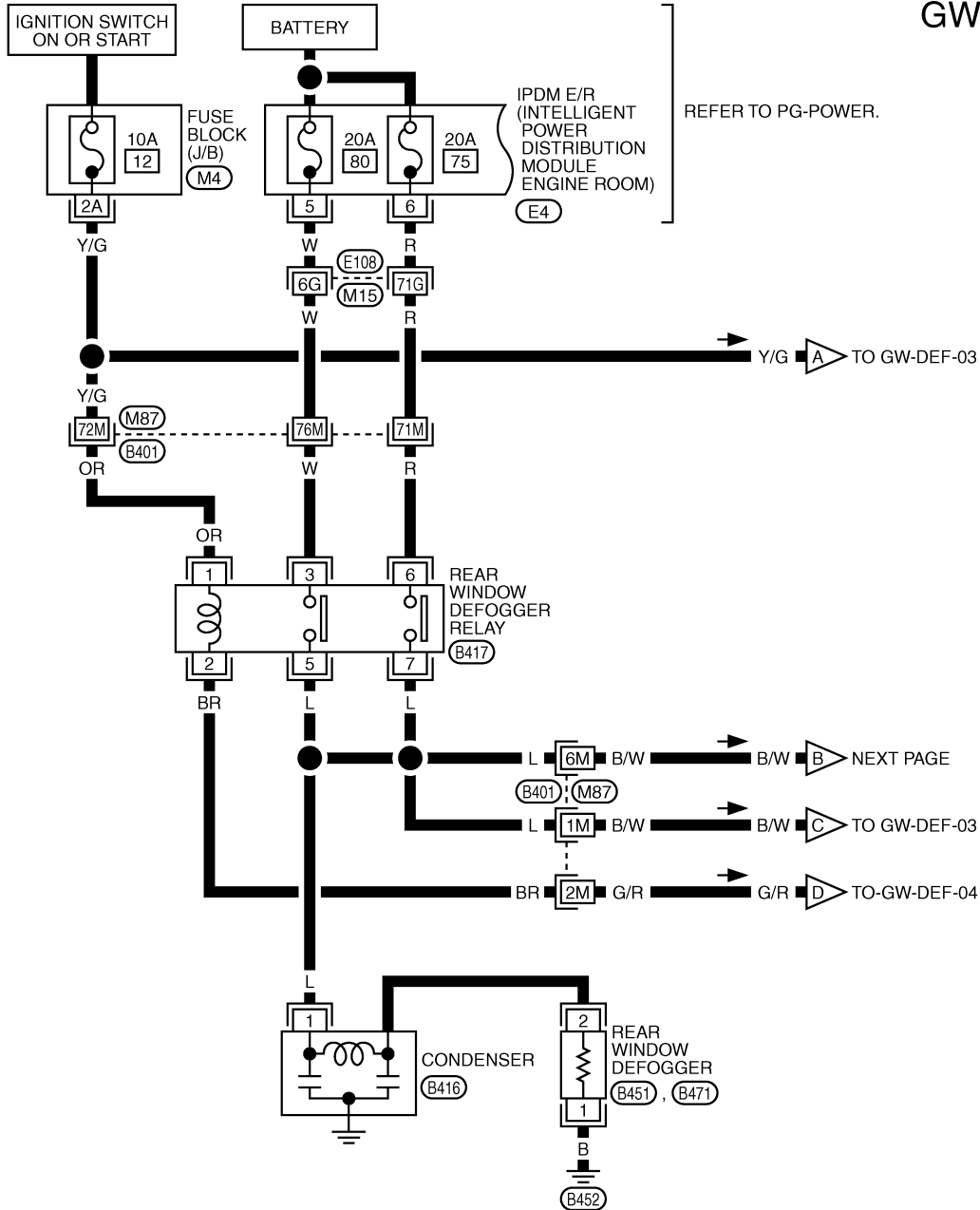
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REAR WINDOW DEFOGGER

Wiring Diagram -DEF-

NIS000F5

GW-DEF-01



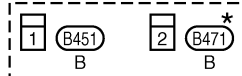
E4
W



1 B416
W



B417
BR



B451
B

B471
B

REFER TO THE FOLLOWING.

E108, B401 -SUPER MULTIPLE JUNCTION (SMJ)

M4 -FUSE BLOCK-JUNCTION BOX (J/B)

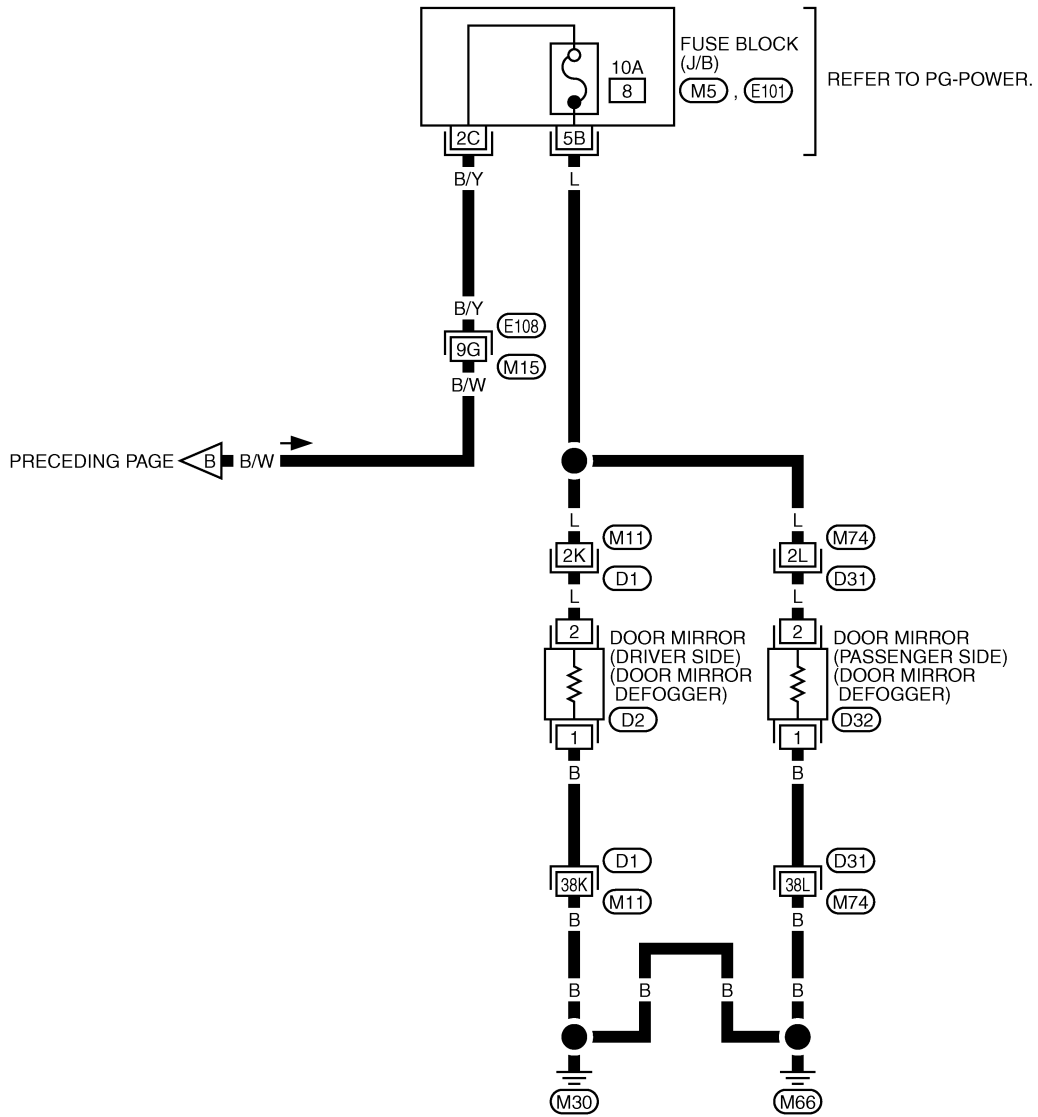
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TIWM1010E

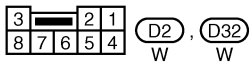
REAR WINDOW DEFOGGER

GW-DEF-02

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GW



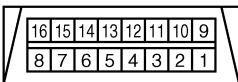
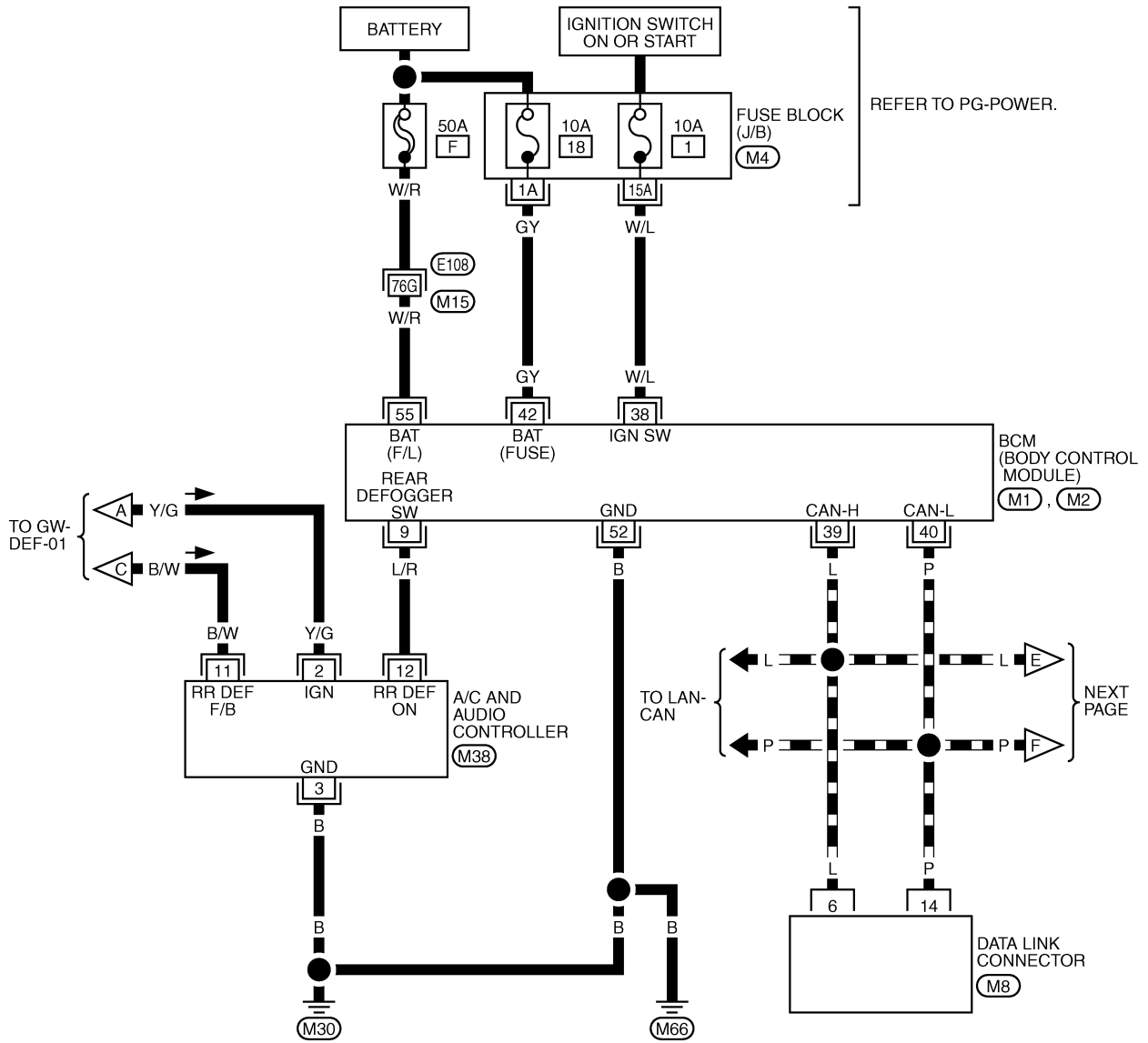
REFER TO THE FOLLOWING.
(E108), (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
(M5), (E101) -FUSE BLOCK-JUNCTION BOX (J/B)

TIWM1157E

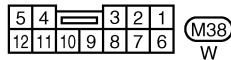
REAR WINDOW DEFOGGER

GW-DEF-03

▬ : DATA LINE



(M8)
W



(M38)
W

REFER TO THE FOLLOWING.

- (E108) -SUPER MULTIPLE JUNCTION (SMJ)
- (M4) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M1), (M2) -ELECTRICAL UNITS

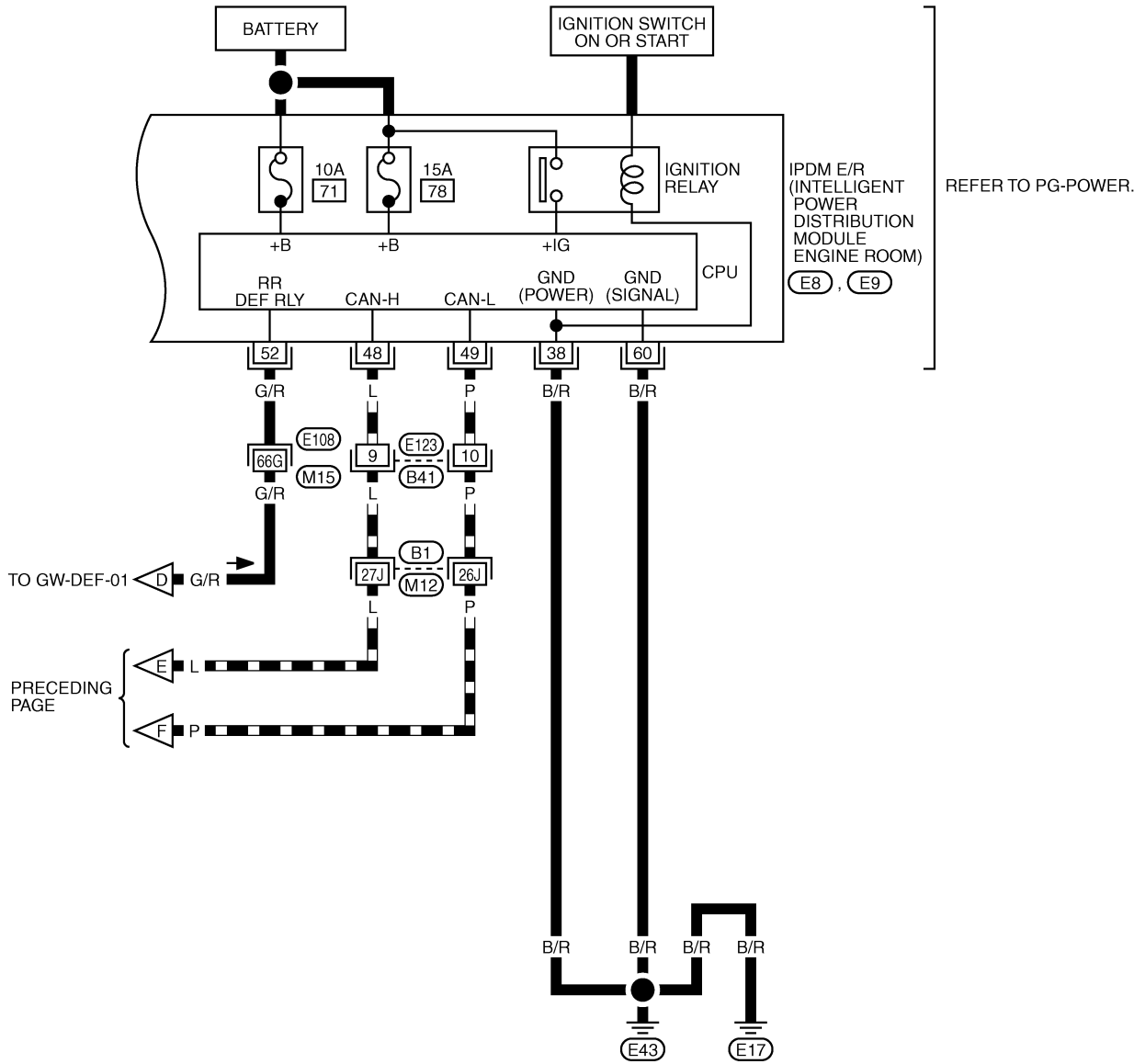
TIWM1011E

REAR WINDOW DEFOGGER

GW-DEF-04

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▬ : DATA LINE



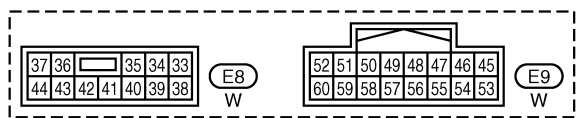
REFER TO PG-POWER.

IPDM E/R
(INTELLIGENT
POWER
DISTRIBUTION
MODULE
ENGINE ROOM)
(E8, E9)

TO GW-DEF-01
D G/R

PRECEDING PAGE
E L
F P

GW



REFER TO THE FOLLOWING.
(E108), (B1) -SUPER MULTIPLE
JUNCTION (SMJ)

TIWM1491E

REAR WINDOW DEFOGGER

Terminal and Reference Value for BCM

NIS000F6

Terminal	Wire color	Item	Signal input/output	Condition		Voltage (V) (Approx.)
				Ignition switch	Operation or condition	
9	L/R	Rear window defogger switch signal	Input	ON	When rear window defogger switch is pressed.	0
					When rear window defogger switch is OFF.	5
38	W/L	Ignition switch ON or START	Input	ON	Ignition switch (ON or START position)	Battery voltage
39	L	CAN- H	Input/Output	—	—	—
40	P	CAN- L	Input/Output	—	—	—
42	GY	Power source (Fuse)	Input	OFF	—	Battery voltage
52	B	Ground	—	ON	—	0
55	W/R	Power source (Fusible link)	Input	OFF	—	Battery voltage

Terminal and Reference Value for IPDM E/R

NIS000F7

Terminal	Wire color	Item	Signal input/output	Condition		Voltage (V) (Approx.)
				Ignition switch	Operation or condition	
5	W	BAT power supply	Output	OFF	—	Battery voltage
6	R	BAT power supply	Output	OFF	—	Battery voltage
38	B/R	Ground (Power)	—	ON	—	0
48	L	CAN- H	Input/Output	—	—	—
49	P	CAN- L	Input/Output	—	—	—
52	G/R	Rear window defogger relay control signal	Input	ON	When rear window defogger switch is ON.	0
					When rear window defogger switch is OFF.	Battery voltage
60	B/R	Ground (Signal)	—	ON	—	0

REAR WINDOW DEFOGGER

CONSULT-II Function (BCM)

NIS000F8

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

BCM diagnostic test item	Check item diagnostic test mode	Content
REAR DEFOGGER	Data monitor	Displays the input data of BCM in real time.
	Active test	Gives a drive signal to a load to check the operation.

CONSULT-II START PROCEDURE

Refer to [GI-37, "CONSULT-II Start Procedure"](#)

DATA MONITOR

Display Item List

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 DEFOGGER	Gives a drive signal to the rear window defogger to activate it.

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GW

REAR WINDOW DEFOGGER

Work Flow

NIS000F9

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [GW-58, "System Description"](#) .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [GW-68, "Trouble Diagnoses Symptom Chart"](#) .
4. Does rear window defogger operate normally? YES: GO TO 5, NO: GO TO 3.
5. INSPECTION END.

Trouble Diagnoses Symptom Chart

NIS000FA

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

Symptom	Diagnoses / service procedure	Refer to page
Rear window defogger and door mirror defogger do not operate.	1. Check BCM power supply and ground circuit.	GW-69
	2. Check IPDM E/R auto active test.	PG-21
	3. Check Rear window defogger switch circuit.	GW-70
	4. Check Rear window defogger power supply circuit.	GW-71
	5. Replace IPDM E/ R.	PG-27
Rear window defogger does not operated.	1. Check BCM power supply and ground circuit.	GW-69
	2. Check IPDM E/R auto active test.	PG-21
	3. Check Rear window defogger switch circuit.	GW-70
	4. Check Rear window defogger power supply circuit.	GW-71
	5. Check Rear window defogger circuit.	GW-73
	6. Check Filament.	GW-78
	7. Replace IPDM E/ R.	PG-27
Rear window defogger does not operate but both of door mirror defoggers operate.	1. Check Rear window defogger circuit.	GW-73
	2. Check Filament.	GW-78
Both of door mirror defoggers do not operated but rear window defogger operate.	Check Door mirror defogger power supply circuit.	GW-74
Driver side door mirror defogger does not operated.	Check Driver side door mirror defogger circuit.	GW-75
Passenger side door mirror defogger does not operated.	Check Passenger side door mirror defogger circuit.	GW-76

REAR WINDOW DEFOGGER

NIS000FB

Check BCM Power Supply and Ground Circuit

First perform the "SELF-DIAG RESULTS" in "BCM" with CONSULT-II, then perform the each trouble diagnosis of malfunction system indicated "SELF-DIAG RESULTS" of "BCM", Refer to [BCS-13, "CONSULT-II Function \(BCM\)"](#) .

1. FUSE INSPECTION

- Check 10A fuse [No.1, located in fuse block (J/B)]
- Check 10A fuse [No.18, located in fuse block (J/B)]
- Check 50A fusible link (letter F , located in the fusible link box).

NOTE:

Refer to [GW-58, "Component Parts and Harness Connector Location"](#) .

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown out, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) .

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M1, M2 terminal 38, 42, 55 and ground.

38 (W/L) – Ground : Battery voltage

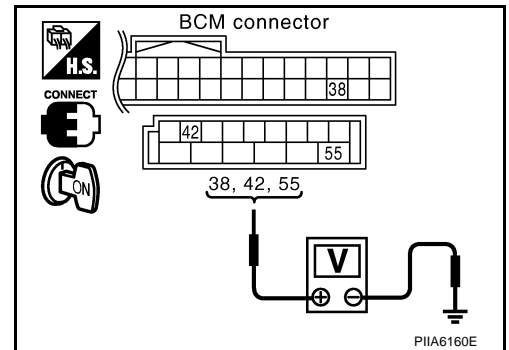
42 (GY) – Ground : Battery voltage

55 (W/R) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check BCM power supply circuit for open or short.



3. CHECK GROUND CIRCUIT

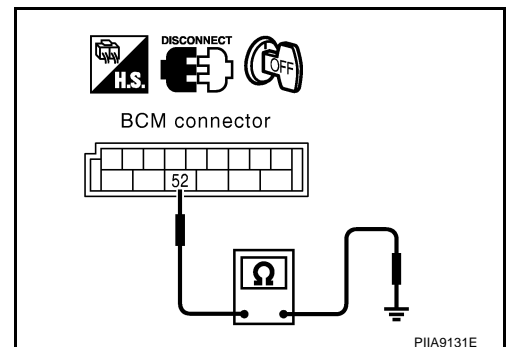
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M2 terminal 52 and ground.

52 (B) – Ground : Continuity should exist.

OK or NG

OK >> Power supply and ground circuit is OK.

NG >> Check BCM ground circuit for open or short.



REAR WINDOW DEFOGGER

NIS000FC

Check Rear Window Defogger Switch Circuit

1. CHECK REAR WINDOW DEFOGGER SWITCH OPERATION

With CONSULT-II

Check ("REAR DEF SW", "IGN ON SW") in DATA MONITOR mode with CONSULT-II. Refer to [GW-67](#).

When rear defogger switch is turned to ON

REAR DEF SW : ON

When ignition switch is turned to ON

IGN ON SW : ON

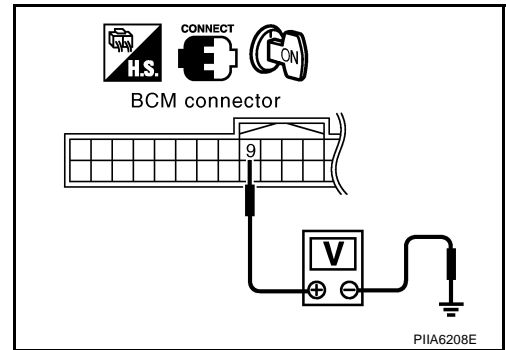
DATA MONITOR	
MONITOR	
REAR DEF SW	OFF
IGN ON SW	ON

PIA2373E

With out CONSULT-II

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

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M1	9 (L/R)	Ground	Rear window defogger switch is pressed.	0
			Rear window defogger switch is OFF.	5



OK or NG

- OK >> Rear window defogger switch check is OK.
 NG >> GO TO 2.

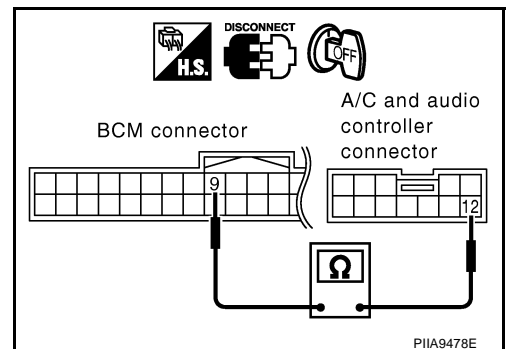
2. CHECK REAR WINDOW DEFOGGER SWITCH CIRCUIT HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and A/C and audio controller connector.
3. Check continuity between BCM connector M1 terminal 9 and A/C and audio controller connector M38 terminal 12.

9 (L/R) – 12(L/R) : Continuity should exist

OK or NG

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



REAR WINDOW DEFOGGER

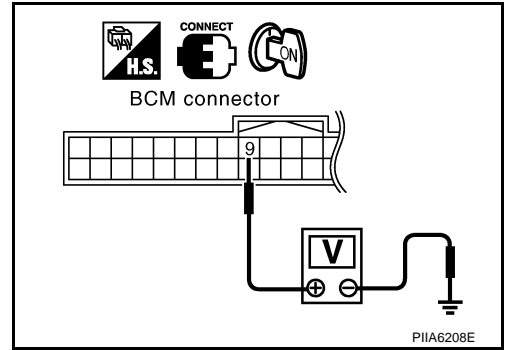
3. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M1 terminal 9 and ground.

9 (L/R) – Ground : Approx. 5V

OK or NG

- OK >> Replace A/C and audio controller.
- NG >> Replace BCM.



Check Rear Window Defogger Power Supply Circuit

NIS000FD

1. CHECK FUSE

- Check 10A fuse [No. 12, located in fuse block (J/B)]
- Check 20A fuse [No. 75, located in fuse IPDM E/R]
- Check 20A fuse [No. 80, located in fuse IPDM E/R]

NOTE:

Refer to [GW-58, "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 [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

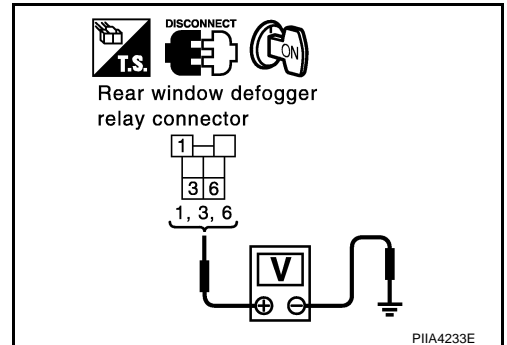
2. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between rear window defogger relay connector B417 terminal 1, 3, 6 and ground.

Connector	Terminals (Wire color)		Voltage (V) (Approx.)
	(+)	(-)	
B417	1 (O/R)	Ground	Battery voltage
	3 (W)		
	6 (R)		

OK or NG

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

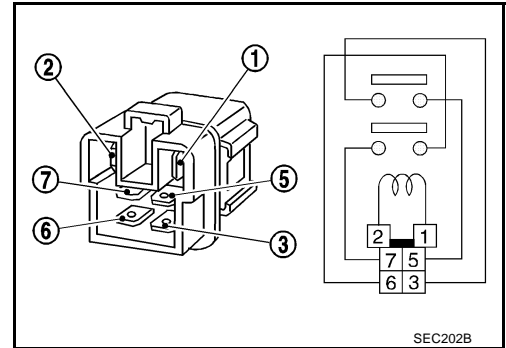


REAR WINDOW DEFOGGER

3. CHECK REAR WINDOW DEFOGGER RELAY

Check continuity between rear window defogger terminals 3 and 5, 6 and 7.

Terminal	Condition	Continuity
3	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No
6	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No



OK or NG

- OK >> GO TO 4.
 NG >> Replace rear window defogger relay.

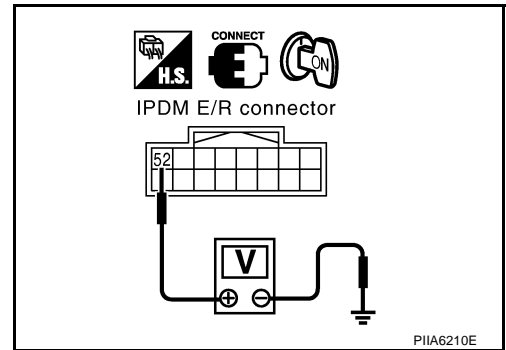
4. CHECK REAR WINDOW DEFOGGER RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Installation rear window defogger relay.
3. Turn ignition switch ON.
4. Turn rear window defogger switch OFF.
5. Check voltage between IPDM E/R connector E9 terminal 52 and ground.

52 (G/R) – Ground : Battery voltage

OK or NG

- OK >> Rear window defogger power supply circuit check is OK.
 NG >> GO TO 5.



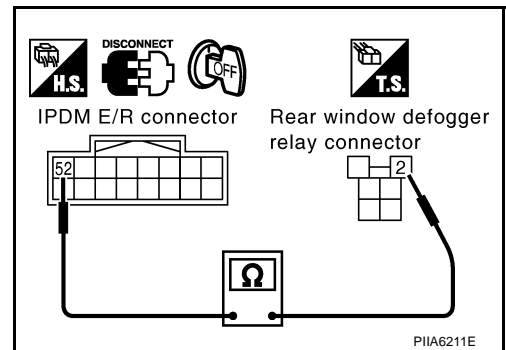
5. CHECK IPDM E/R HARNESS

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and rear defogger relay.
3. Check continuity between IPDM E/R connector E9 terminal 52 and rear window defogger relay connector B417 terminal 2.

52 (G/R) – 2 (BR) : Continuity should exist.

OK or NG

- OK >> Check connector for damage and loose connection.
 NG >> Repair or replace harness.



REAR WINDOW DEFOGGER

NIS000FE

Check Rear Window Defogger Circuit

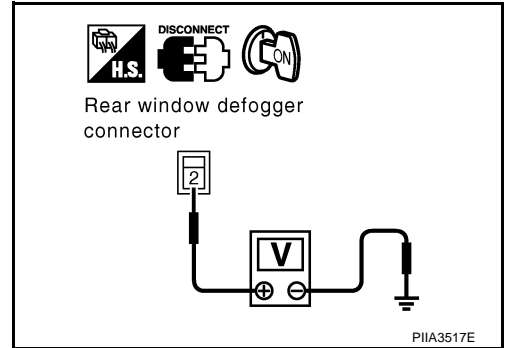
1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1

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

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B471	2	Ground	Rear window defogger switch ON.	Battery voltage
			Rear window defogger switch OFF.	0

OK or NG

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



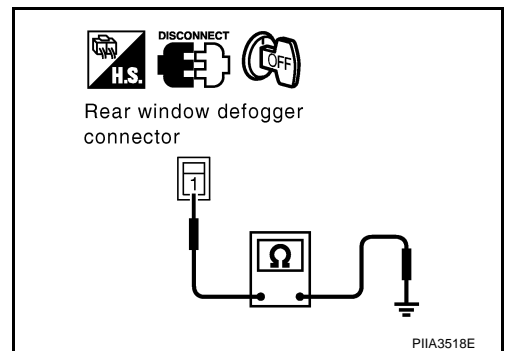
2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear window defogger connector B451 terminal 1 and ground.

1 (B) – Ground : Continuity should exist

OK or NG

- OK >> Check filament, Refer to [GW-78, "Check Filament"](#)
- If filament is OK.
Check the condition of the harness and the connector.
 - If filament is NG.
Repair filament.
- NG >> Repair or replace harness.



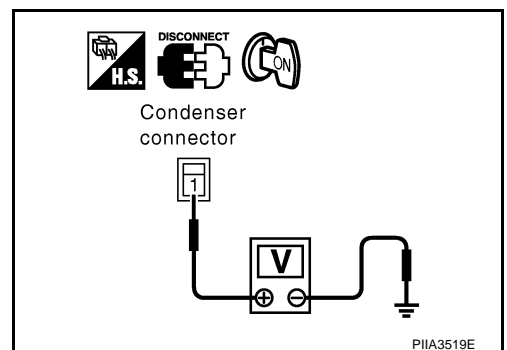
3. CHECK REAR WINDOW DEFOGGER POWER WINDOW SUPPLY CIRCUIT 2

1. Turn ignition switch OFF.
2. Disconnect condenser connector.
3. Turn ignition switch ON.
4. Check voltage between condenser connector and ground.

Connector	Terminals (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
B416	1 (L)	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

OK or NG

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



REAR WINDOW DEFOGGER

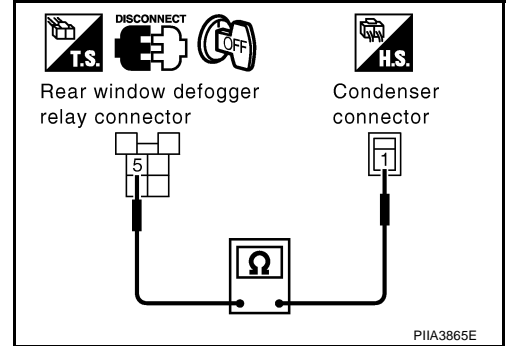
4. CHECK CONDENSER HARNESS

1. Turn ignition switch OFF.
2. Disconnect rear window defogger relay.
3. Check continuity between rear window defogger relay connector B417 terminal 5 and condenser connector B416 terminal 1.

5 (L) – 1 (L) : Continuity should exist.

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Repair or replace harness.



Check Door Mirror Defogger Power Supply Circuit

NIS000FF

1. CHECK FUSE

- Check 10A fuse [No. 8, located in fuse block (J/B)]

NOTE:

Refer to [GW-58, "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 [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

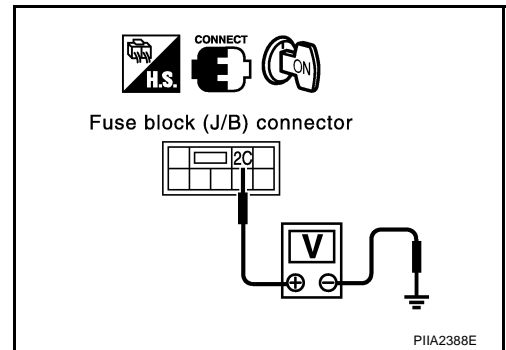
2. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT 1

1. Turn ignition switch ON.
2. Check voltage between fuse block (J/B) connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
E101	2C (B/Y)	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

OK or NG

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



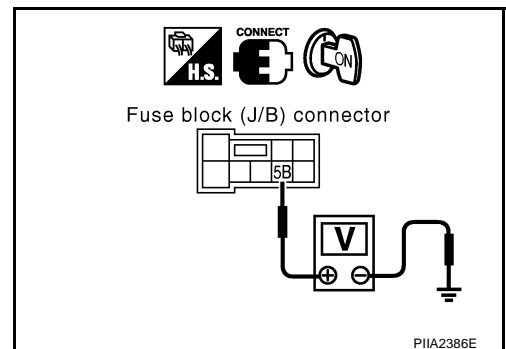
3. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY 2

Check voltage between fuse block (J/B) connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M5	5B (L)	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

OK or NG

- OK >> GO TO 4.
 NG >> Replace fuse block (J/B).



REAR WINDOW DEFOGGER

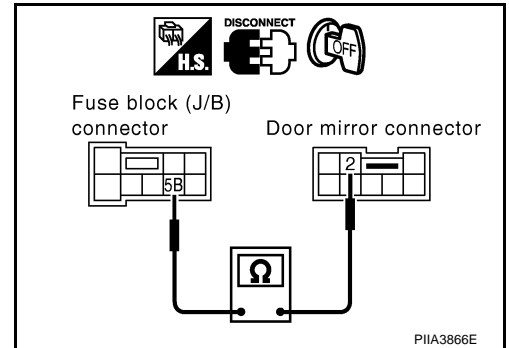
4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect fuse block (J/B) and door mirror connector.
3. Check continuity between fuse block (J/B) connector M5 terminal 5B and door mirror connector D2 (driver side), D32 (passenger side) terminal 2.

5B (L) – 2 (L) : Continuity should exist.

OK or NG

- OK >> INSPECTION END.
 NG >> Repair or replace harness.



Check Driver Side Door Mirror Defogger Circuit

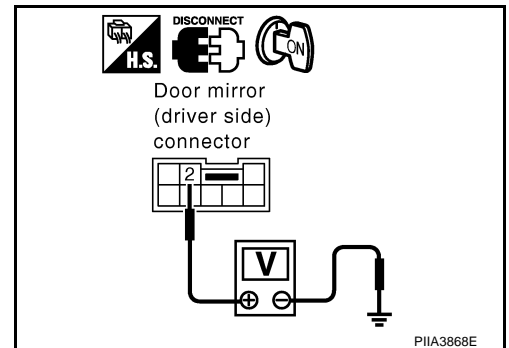
1. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door mirror (driver side) connector.
3. Turn ignition switch ON.
4. Check voltage between door mirror (driver side) connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D2	2 (L)	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

OK or NG

- OK >> GO TO 2.
 NG >> Repair or replace harness.



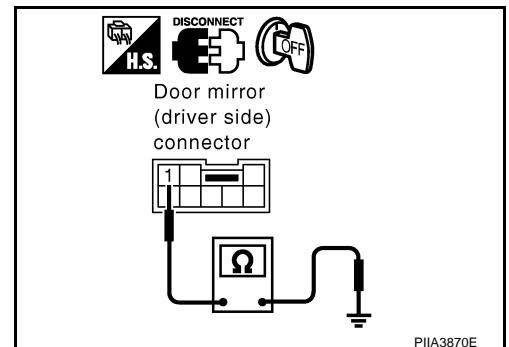
2. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between door mirror (driver side) connector D2 terminal 1 and ground.

1 (B) – Ground : Continuity should exist.

OK or NG

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



REAR WINDOW DEFOGGER

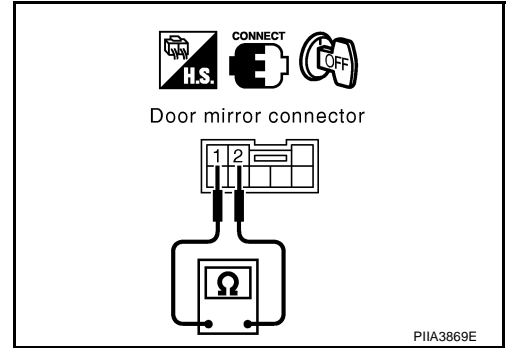
3. CHECK DOOR MIRROR DEFOGGER

1. Connector door mirror connector.
2. Check continuity between each door mirror connector D2 (driver side) terminal 1 and 2.

1 – 2 : Continuity should exist.

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace door mirror (driver side).



Check Passenger Side Door Mirror Defogger Circuit

NIS000FH

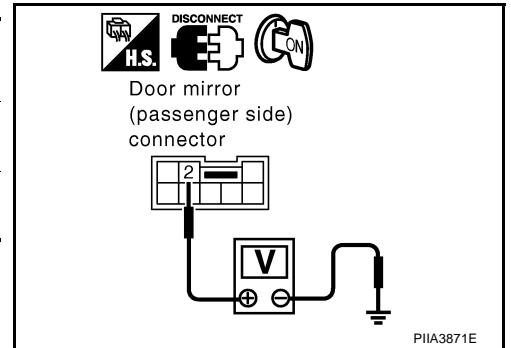
1. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect door mirror (passenger side) connector.
3. Turn ignition switch ON.
4. Check voltage between door mirror (passenger side) connector and ground.

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D32	2 (L)	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

OK or NG

- OK >> GO TO 2.
 NG >> Repair or replace harness.



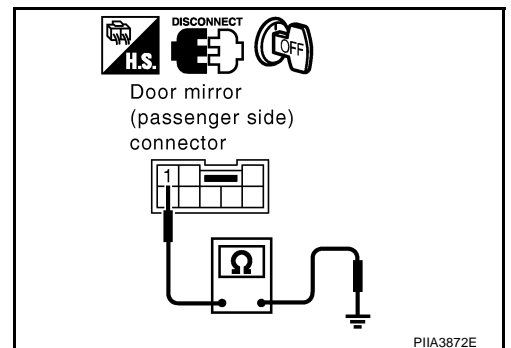
2. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between door mirror (passenger side) connector D32 terminal 1 and ground.

1 (B) – Ground : Continuity should exist.

OK or NG

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



REAR WINDOW DEFOGGER

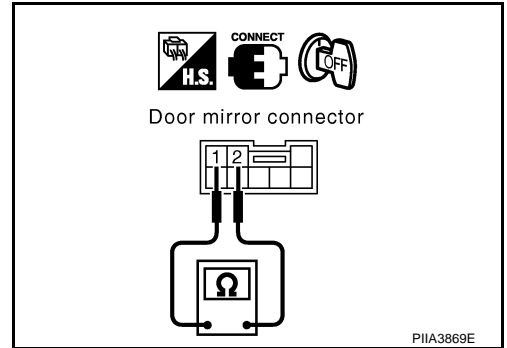
3. CHECK DOOR MIRROR DEFOGGER

1. Connector door mirror connector.
2. Check continuity between each door mirror connector D32 (passenger side) terminal 1 and 2.

1 – 2 : Continuity should exist.

OK or NG

- OK >> Check the condition of the harness and the connector.
NG >> Replace door mirror (passenger side).



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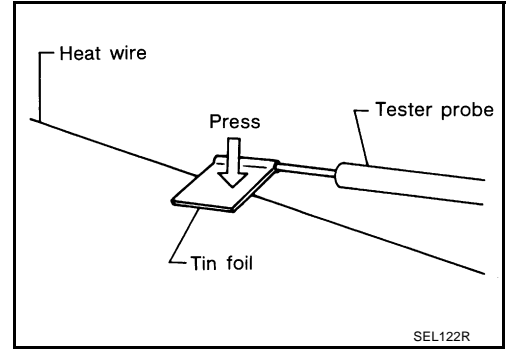
GW

REAR WINDOW DEFOGGER

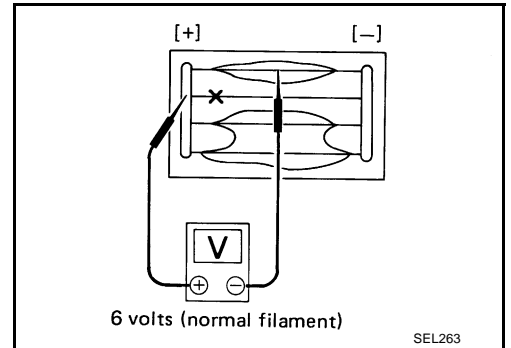
NIS000FI

Check Filament

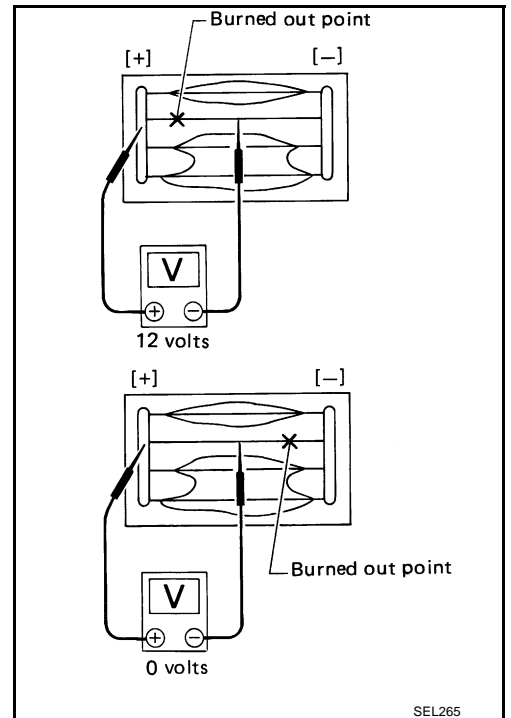
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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



3. If a filament is burned out, circuit tester registers 0 or battery voltage.
4. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.



REAR WINDOW DEFOGGER

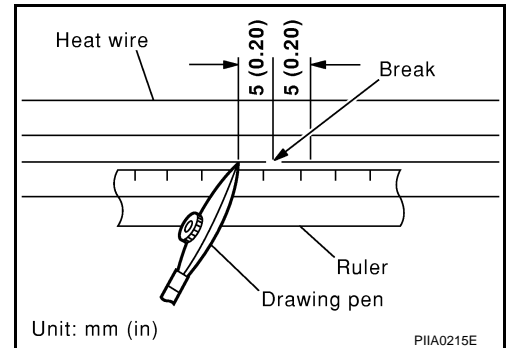
NIS000FJ

Filament Repair REPAIR EQUIPMENT

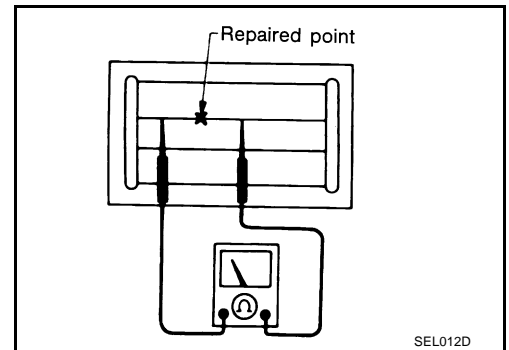
- Conductive silver composition (Dupont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

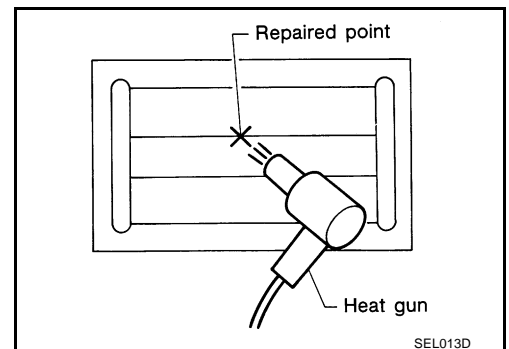
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen. Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited. Do not touch repaired area while test is being conducted.



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



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GW

DOOR MIRROR

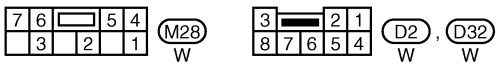
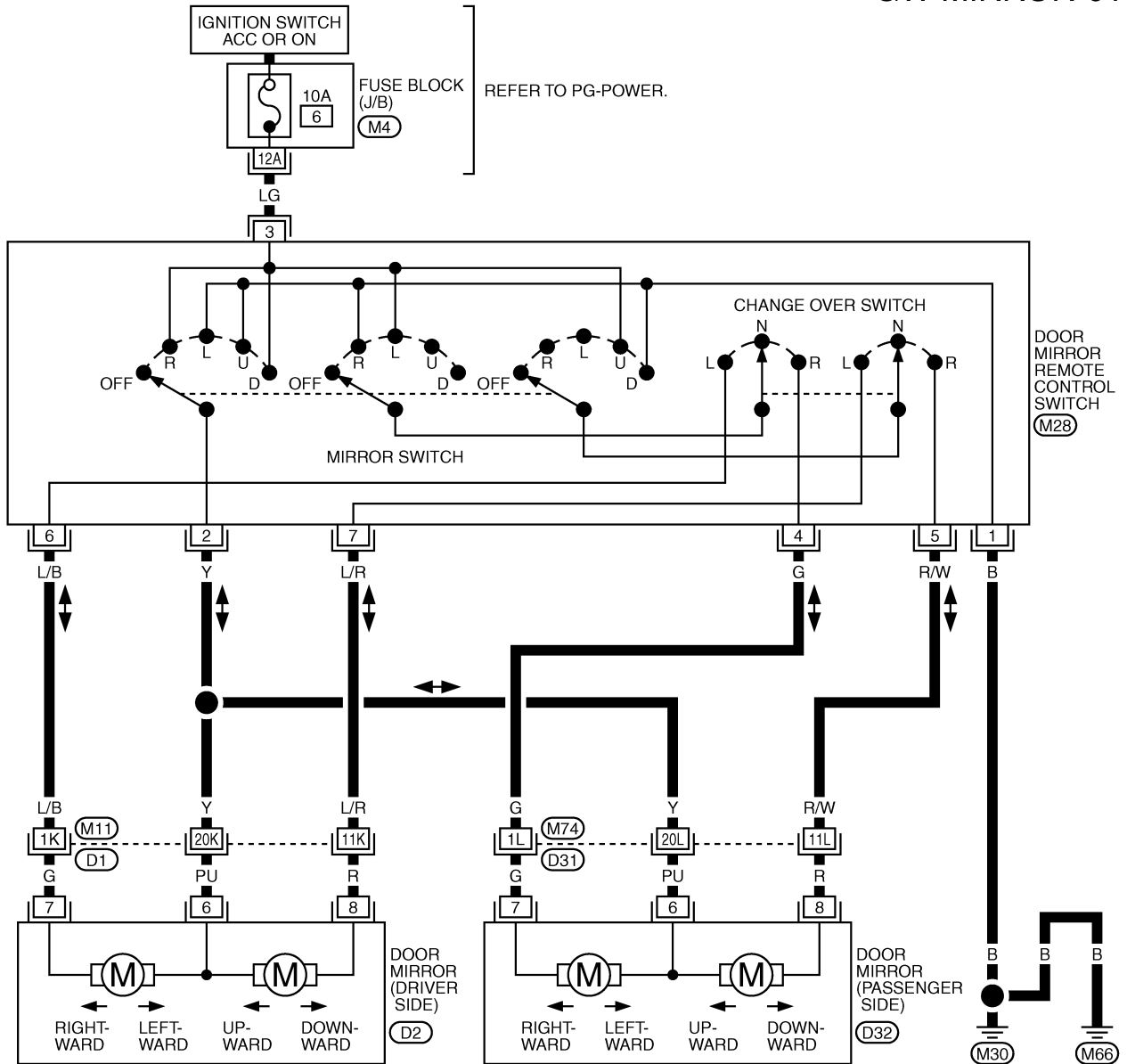
PFP:96301

DOOR MIRROR

Wiring Diagram –MIRROR–

NIS000FK

GW-MIRROR-01



REFER TO THE FOLLOWING.

(D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)

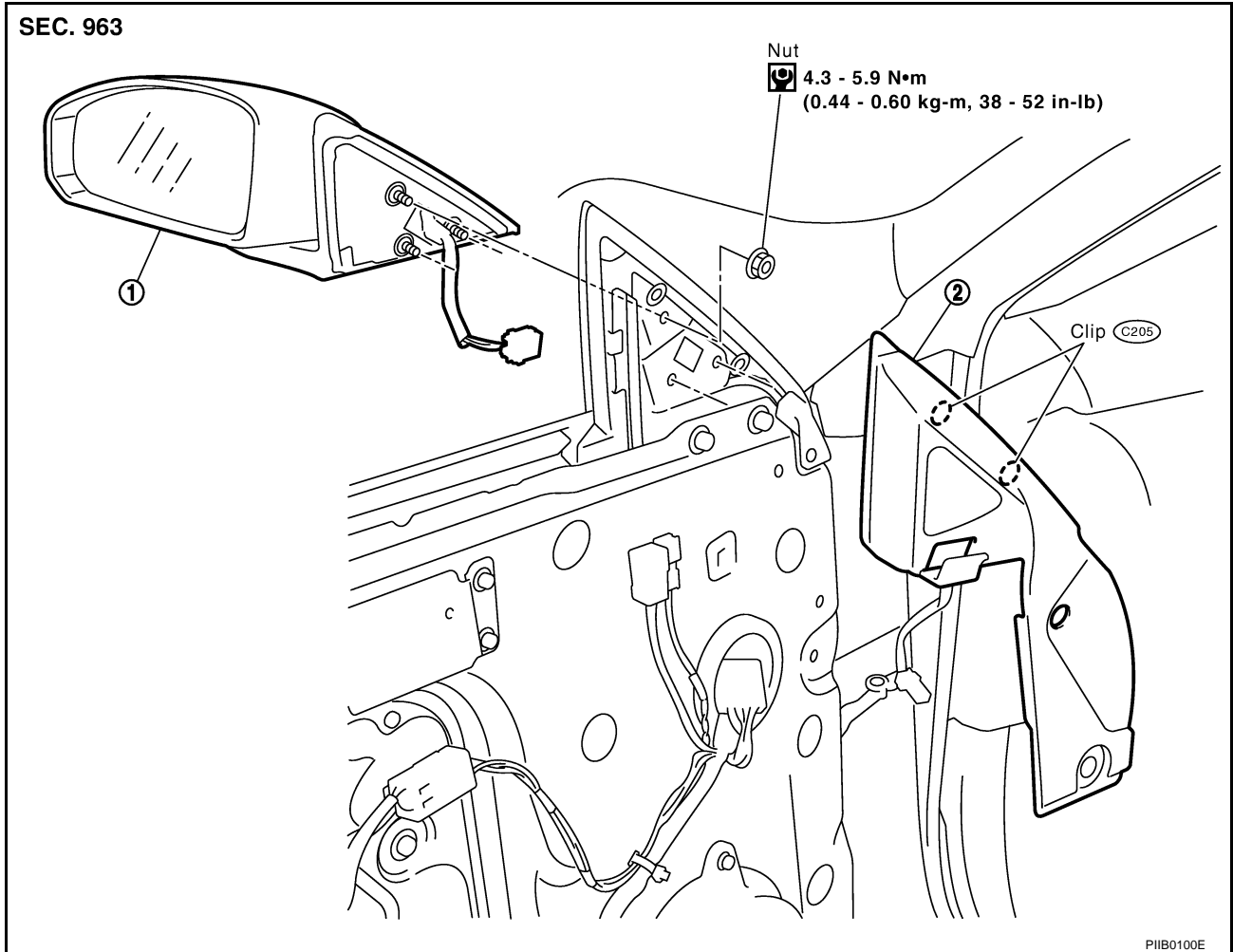
(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

TIWM0478E

DOOR MIRROR

Removal and Installation

NIS000FL



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CAUTION:

Be careful not to damage the mirror bodies.

REMOVAL

1. Remove the door finisher. Refer to [EI-29, "DOOR FINISHER"](#).
2. Remove the front door sash cover.
3. Disconnect the door mirror harness connector.
4. Remove the door mirror mounting nuts, and remove the door mirror assembly.

INSTALLATION

Install in the reverse order of removal.

DOOR MIRROR

NIS000FM

Disassembly and Assembly

DISASSEMBLY

1. Place the mirror body with mirror glass facing upward.
2. Put a strip of protective tape on mirror body.
3. As shown in the figure insert a small slotted screwdriver into the recess between mirror base (mirror holder) and mirror holder bracket and push up pawls to remove mirror holder lower half side.

NOTE:

When pushing up pawls, do not attempt to use 1 recess only, be sure to push up with both recesses. Insert screwdriver into recesses, and push up while rotating (twist) to make work easier.

4. Remove terminals of mirror heater attachment.
5. Lightly lift up lower side of mirror surface, and detach pawls of upper side as if pulling it out. Remove mirror surface from mirror body.

NOTE:

Be certain not to allow grease on sealing agent in center of mirror body assembly (actuator) or back side of mirror surface (mirror holder).

ASSEMBLY

1. Place mirror holder bracket and mirror body assembly (actuator) in a horizontal position.
2. Connect terminals of heater installed mirror.
3. Fit the upper pawls on the mirror face onto the mirror holder bracket first, then press the lower side of mirror face until a click sound is heard to engage the lower pawls.

NOTE:

After installation, visually check that lower pawls are securely engaged from the bottom of mirror face.

