

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”

NIS001AK

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.

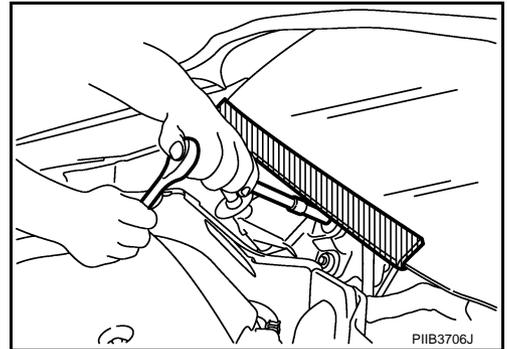
WARNING:

- 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 Procedures without Cowl Top Cover

NIS001LB

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



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Handling for Adhesive and Primer

NIS001AL

- 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

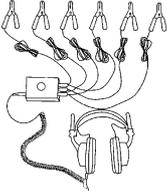
PREPARATION

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Special Service Tools

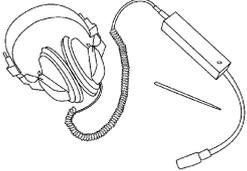
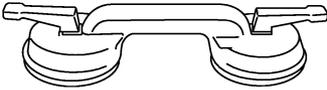
NIS001AN

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

| Tool number (Kent-Moore No.) Tool name | Description |
|---|------------------------------|
| (J-39570) Chassis ear  <p style="text-align: right; margin-right: 20px;">SIIA0993E</p> | Locating the noise |
| (J-43980) NISSAN Squeak and Rattle Kit  <p style="text-align: right; margin-right: 20px;">SIIA0994E</p> | Repairing the cause of noise |

Commercial Service Tools

NIS001AO

| Tool name | Description |
|---|---|
| Engine ear  <p style="text-align: right; margin-right: 20px;">SIIA0995E</p> | Locating the noise |
| Suction lifter  <p style="text-align: right; margin-right: 20px;">PIIB1805J</p> | Remove the wind shield, back door window glass Holding the door glass |

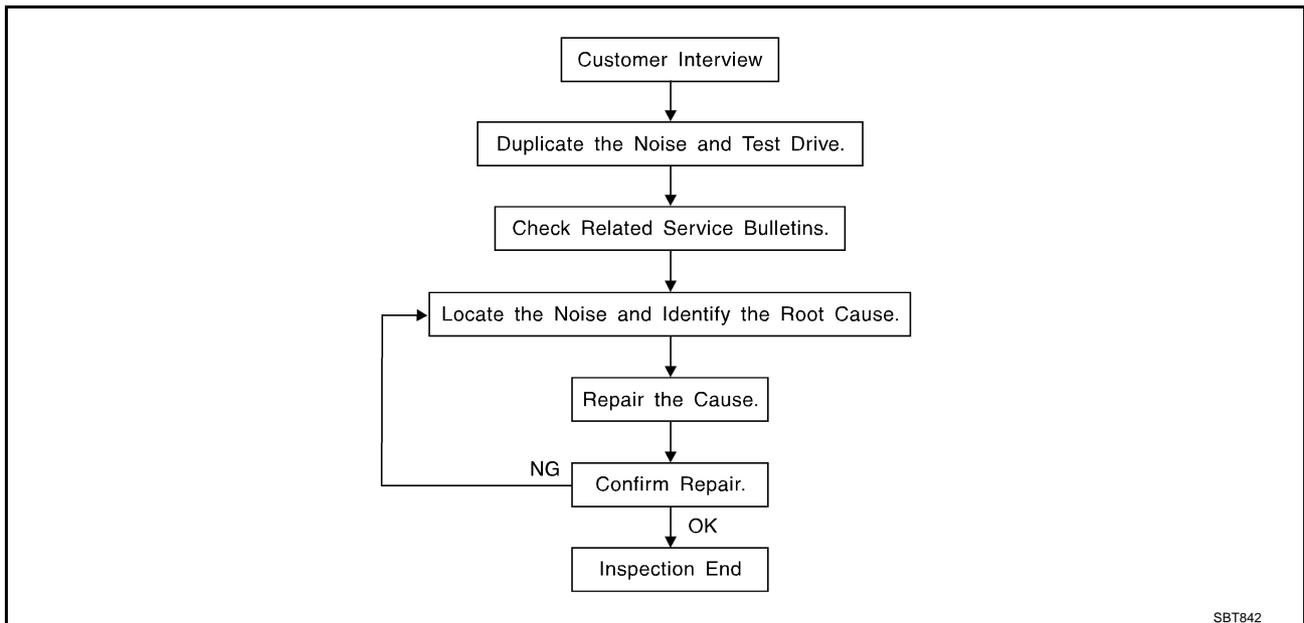
SQUEAK AND RATTLE TROUBLE DIAGNOSES

SQUEAK AND RATTLE TROUBLE DIAGNOSES

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Work Flow

NIS001AP



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: J-39570, Engine Ear and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
 - removing the components in the area that you suspect the noise is coming from.
Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
 - tapping or pushing/pulling the component that you suspect is causing the noise.
Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
 - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
 - placing a piece of paper between components that you suspect are causing the noise.
 - looking for loose components and contact marks.
Refer to [GW-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 (J-43980) is available through your authorized Nissan Parts Department.

CAUTION:

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

NOTE:

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

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

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

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

71L02: 15 × 25 mm (0.59 × 0.98 in)

INSULATOR (Foam blocks)

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

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

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

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 CLOTHTAPE

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

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

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

UHMW (TEFLON) TAPE

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

SILICONE GREASE

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

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

NIS001AQ

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 (J-43980) to repair the noise.

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

NIS001AR



SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

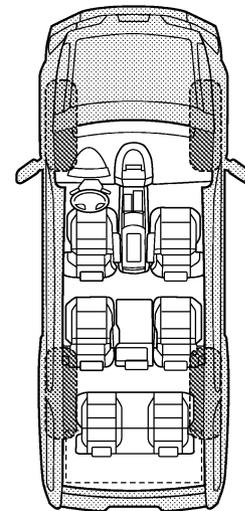
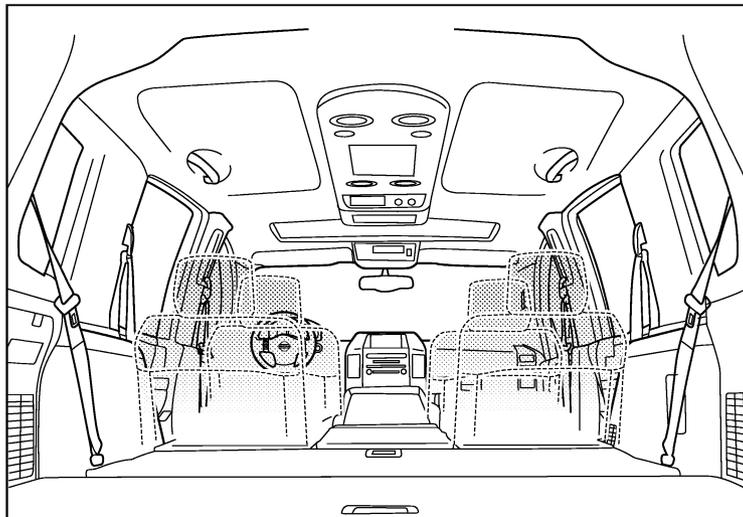
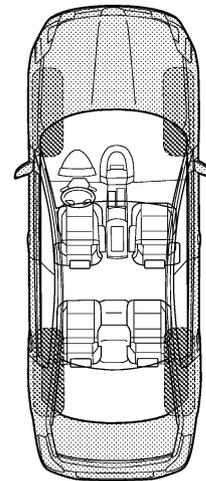
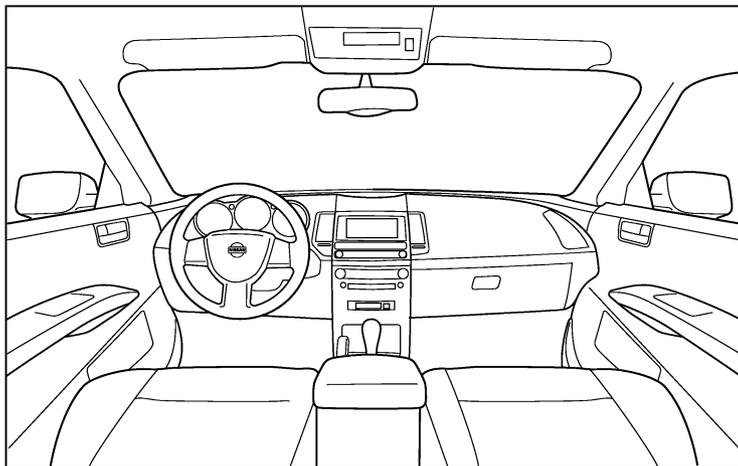
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Dear Nissan Customer:

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

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

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



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

PIIB8740E

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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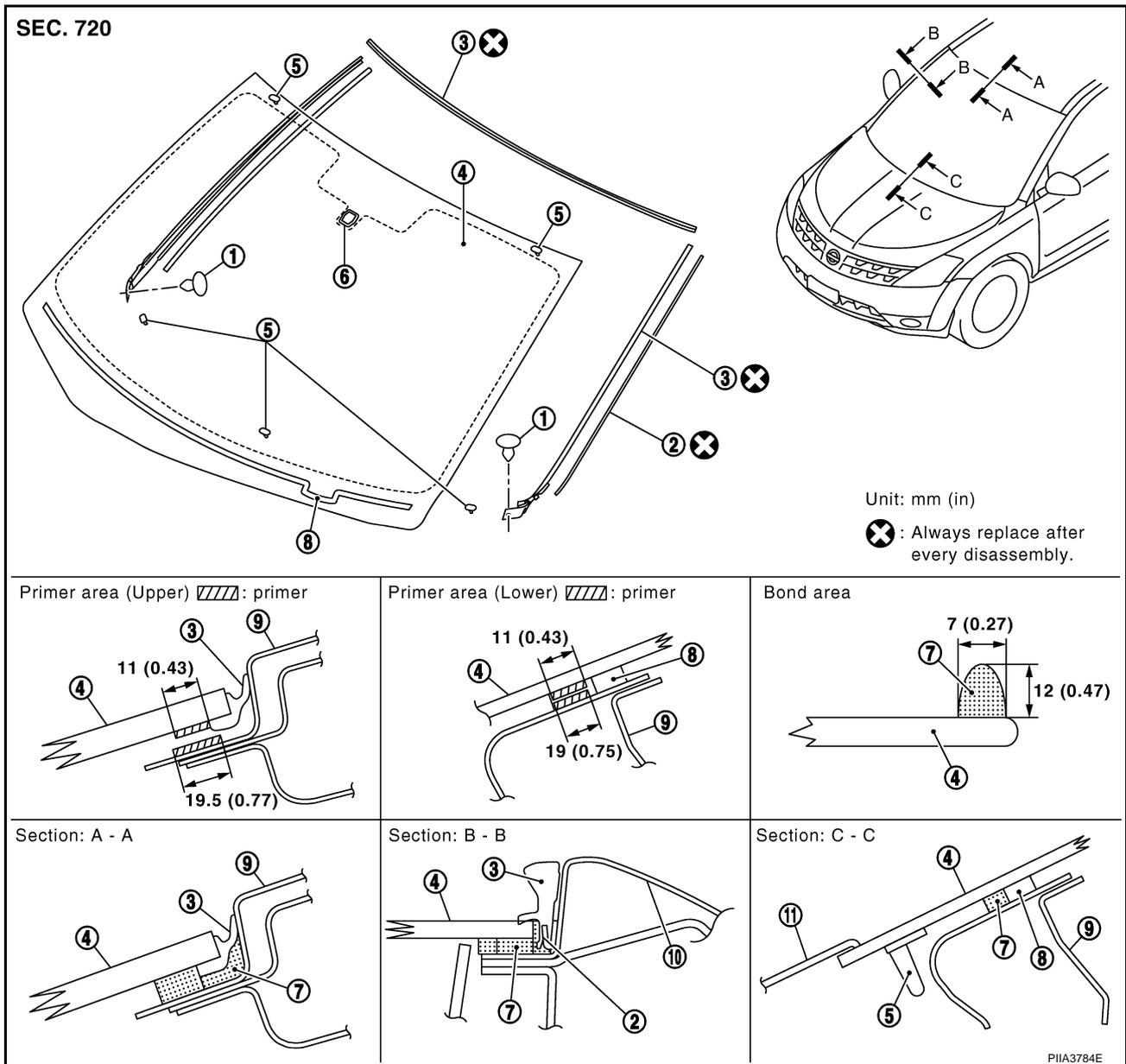
WINDSHIELD GLASS

WINDSHIELD GLASS

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Removal and Installation

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- | | | |
|-----------------------|--------------------|----------------|
| 1. Clip (C103) | 2. Fastener | 3. Molding |
| 4. Windshield glass | 5. Spacer | 6. Mirror base |
| 7. Bond | 8. Insulator | 9. Panel |
| 10. Body side (outer) | 11. Cowl top cover | |

REMOVAL

- Remove the front pillar garnish. Refer to [EI-32, "BODY SIDE TRIM"](#).
 - Partially remove the headlining (front edge). Refer to [EI-35, "HEADLINING"](#).
 - Remove the front wiper arms. Refer to [WW-33, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#).
 - Remove roof side molding. Refer to [EI-28, "ROOF SIDE MOLDING"](#).
 - 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.

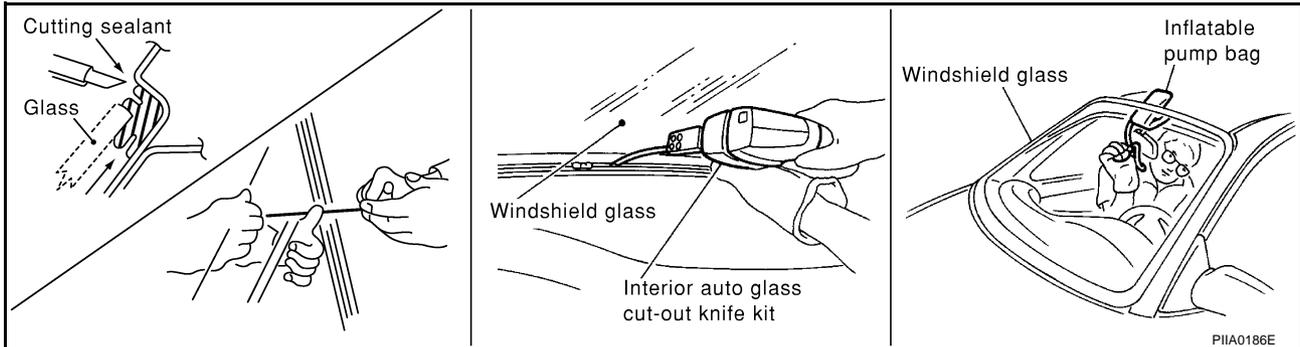
WINDSHIELD GLASS

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.



6. Remove the wind shield 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 room 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 humidity. The curing time will increase under lower temperature and lower humidity.

Repairing Water Leaks for Windshield

Leaks can be repaired without removing and reinstalling glass.

If water is leaking between the urethane adhesive material and body or glass, determine the extent of leakage. This can be done by applying water to the windshield area while pushing glass outward.

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

BACK DOOR WINDOW GLASS

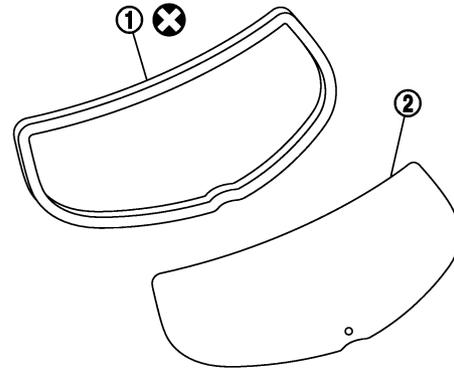
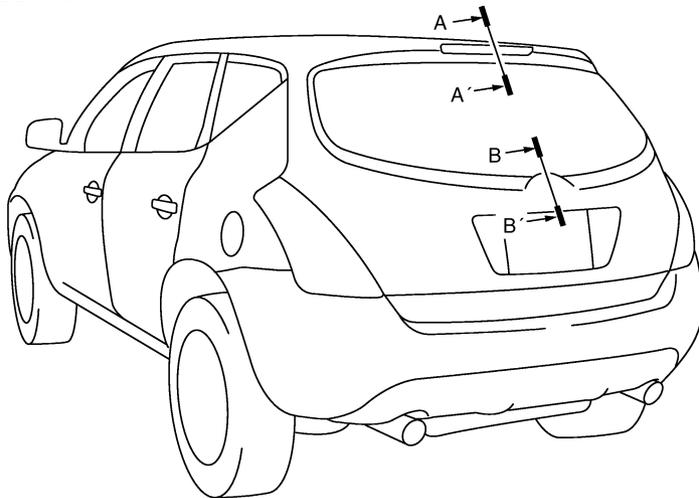
BACK DOOR WINDOW GLASS

PFP:90300

Removal and Installation

NIS001AT

SEC. 797

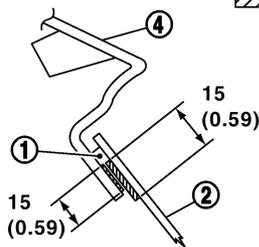


Unit: mm (in)

⊗: Always replace after every disassembly.

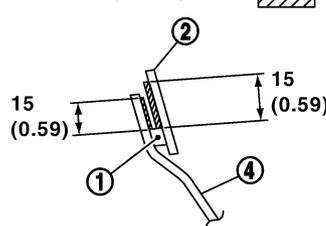
Primer area (Upper)

: Primer

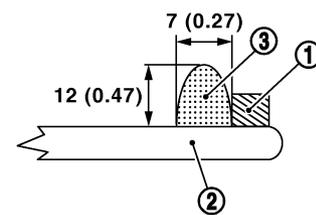


Primer area (Lower)

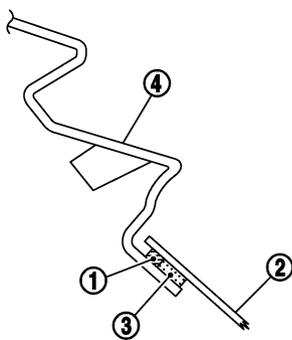
: Primer



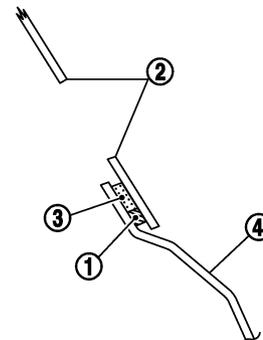
Bond area



Section: A-A'



Section: B-B'



1. Dam rubber
4. Back door outer panel

2. Back door window glass

3. Bond

PIIA3785E

REMOVAL

1. Remove the back door finisher. Refer to [EI-39, "BACK DOOR TRIM"](#).
2. Remove the rear wiper arm. Refer to [WW-51, "Removal and Installation of Rear Wiper Arm, Adjustment of Wiper Arms Stop Location"](#).
3. Remove the connectors and grounds for the rear window defogger and printed antenna.
4. Remove glass using cutting knife or power cutting tool and an inflatable pump bag.

- If a back door 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.

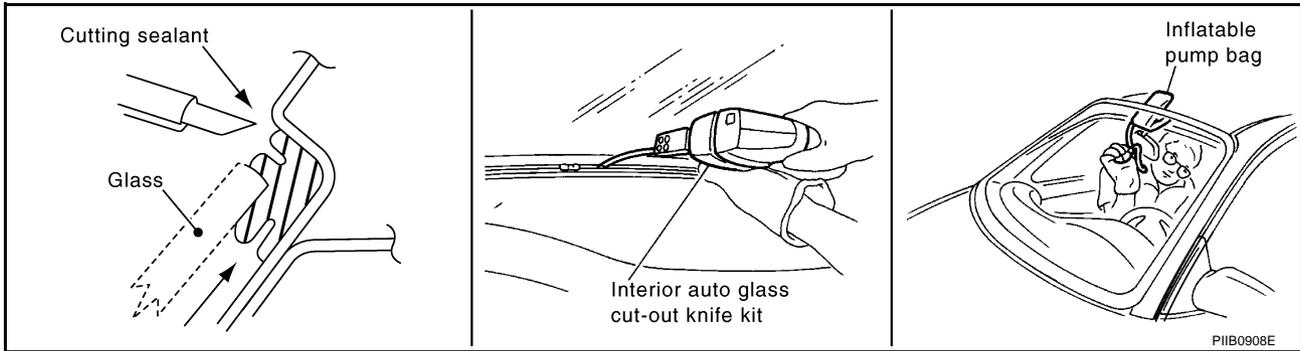
CAUTION:

- Be careful not to scratch the glass when removing.

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BACK DOOR WINDOW GLASS

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



5. Remove the back door window glass, using suction rafter.

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 room 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 back door 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.
- If the substrate of the glass's joining surface on back door panel side is exposed to air, exchange the back door assembly without recoating.
- Do not apply paint on the glass's joining surface (primer apply area) on back door panel side after exchanging the back door assembly.

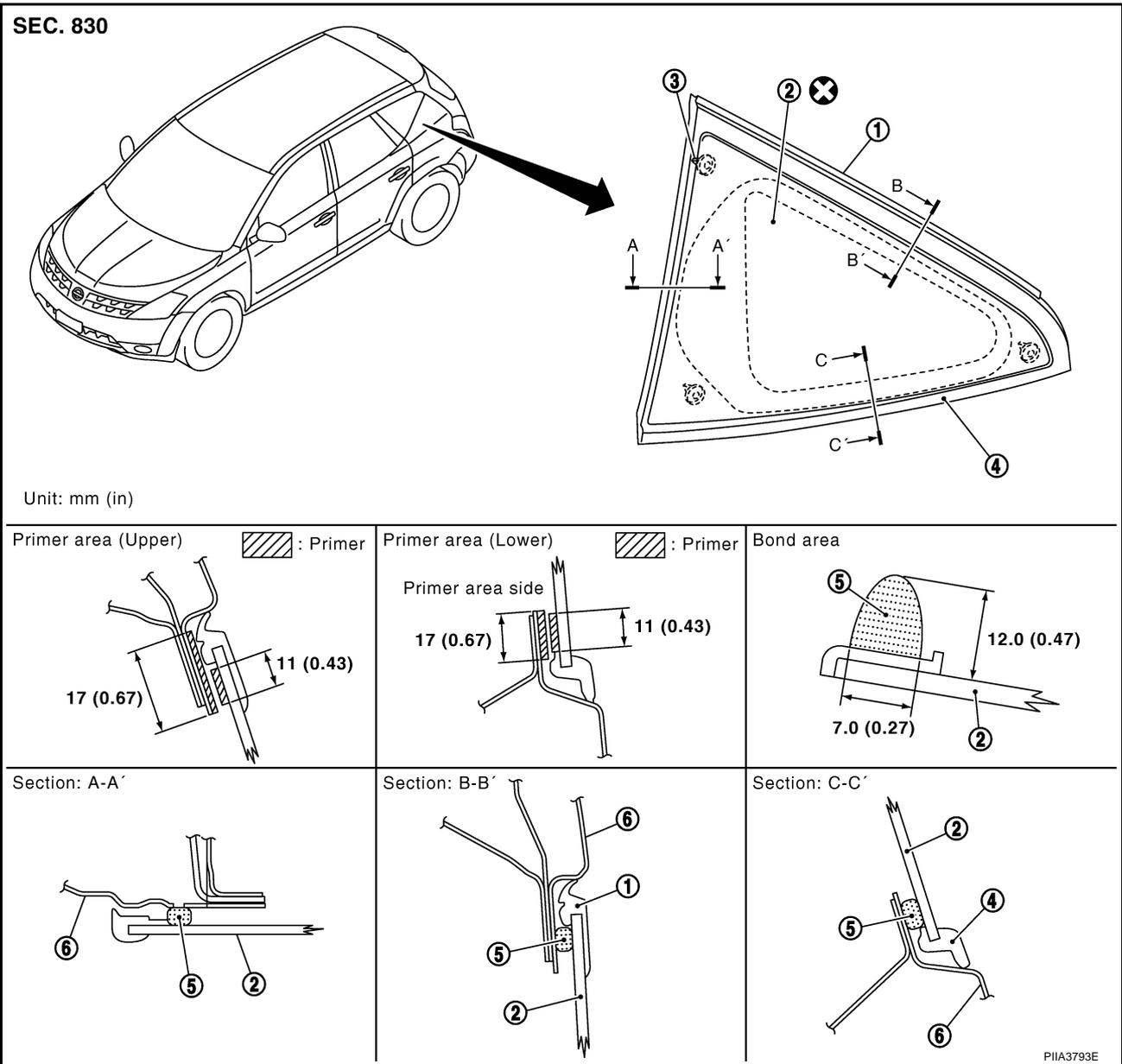
SIDE WINDOW GLASS

PFP:83300

NIS001AU

SIDE WINDOW GLASS Removal and Installation

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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. Body side outer panel |

REMOVAL

1. Remove the luggage side finisher upper. Refer to [EI-37, "LUGGAGE FLOOR TRIM"](#).
2. Remove the headlining. Refer to [EI-35, "HEADLINING"](#).
3. Apply protective tape around the side window to protect the painted surface from damage.
4. Remove the side window 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 room 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 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.

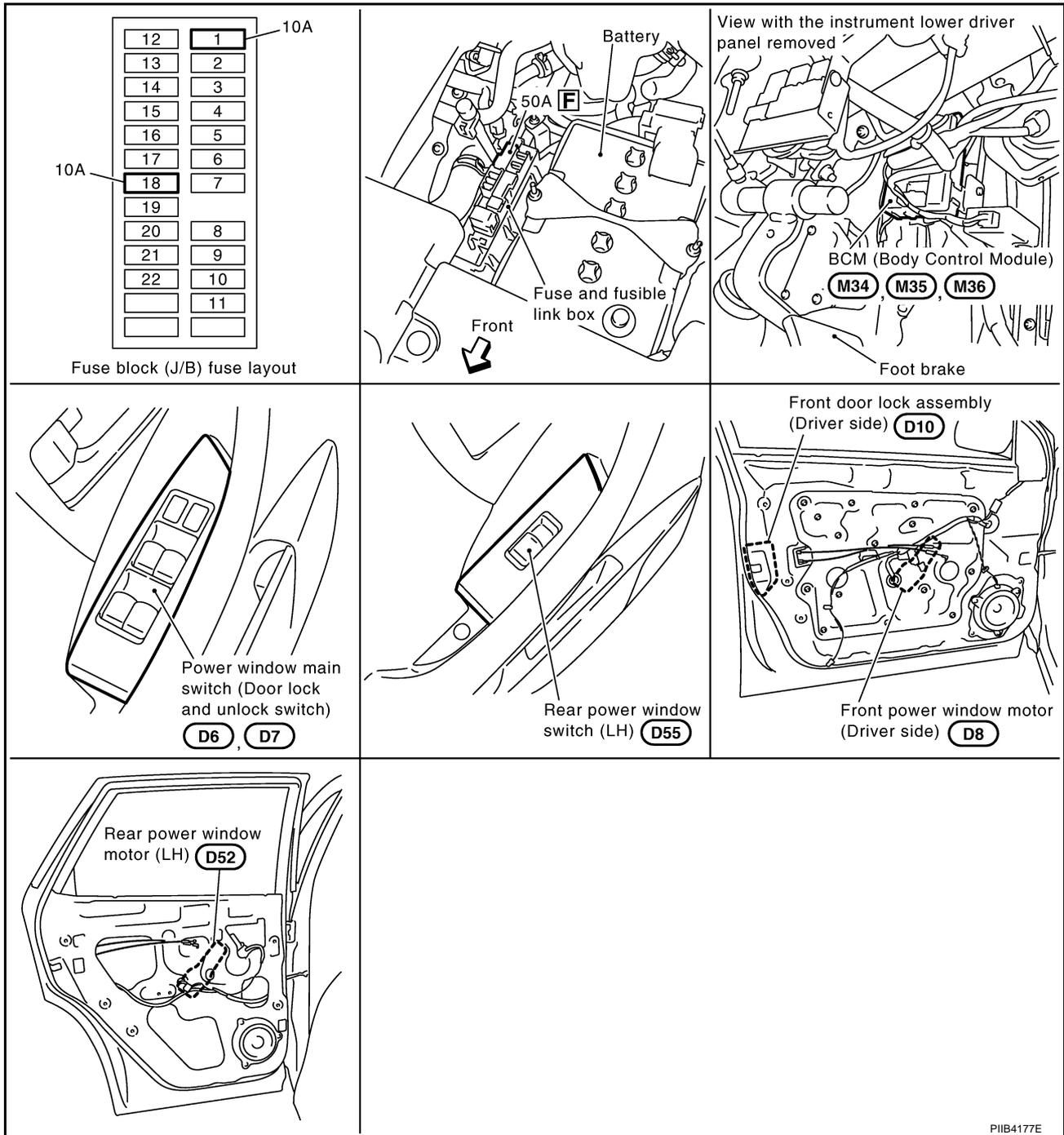
POWER WINDOW SYSTEM

POWER WINDOW SYSTEM

PPF:25401

Component Parts and Harness Connector Location

NIS001AV



PIIB4177E

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System Description

Power is supplied at all time

- from 50A fusible link (letter **F** , located in the fuse and fusible link box)
- to BCM terminal 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 19
- to front power window switch (passenger side) 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
- to rear power window switch (LH and RH) terminal 1.

Ground supplied

- to BCM terminal 52
- through body grounds M14 and M78
- to power window main switch terminal 17
- through body grounds M14 and M78
- to front power window switch (passenger side) terminal 11
- through body grounds M14 and M78

MANUAL OPERATION

Front Driver Side Door

WINDOW UP

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

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

Ground is supplied

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

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

WINDOW DOWN

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

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

Ground is supplied

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

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

POWER WINDOW SYSTEM

Front Passenger Side Door

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) OPERATION

WINDOW UP

When the front power window switch (passenger side) is pressed in the up position

Power is supplied

- through front power window switch (passenger side) terminal 8
- to front power window motor (passenger side) terminal 2.

Ground is supplied

- to front power window motor (passenger side) terminal 1
- through front power window switch (passenger side) terminal 9.

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

WINDOW DOWN

When the front power window switch (passenger side) is pressed in the down position

Power is supplied

- through front power window switch (passenger side) terminal 9
- to front power window motor (passenger side) terminal 1.

Ground is supplied

- to front power window motor (passenger side) terminal 2
- through front power window switch (passenger side) 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 14
- to front power window switch (passenger side) terminal 16.

The operation of power window after receive the signal is as same as operate the power window with sub-switch (front passenger side).

Rear Door (LH or RH)

REAR POWER WINDOW SWITCH (LH OR RH) OPERATION

WINDOW UP

When the rear power window switch (LH or RH) is pressed in the up position

Power is supplied

- through rear power window switch (LH or RH) terminal 5
- to rear power window motor (LH or RH) terminal 2.

Ground is supplied

- to rear power window motor (LH or RH) terminal 1
- through rear power window switch (LH or RH) terminal 4.

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

WINDOW DOWN

When the rear power window switch (LH or RH) is pressed in the down position

Power is supplied

- through rear power window switch (LH or RH) terminal 4
- to rear power window motor (LH or RH) terminal 1.

Ground is supplied

- to rear power window motor (LH or RH) terminal 2
- through rear power window switch (LH or RH) terminal 5.

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

POWER WINDOW MAIN SWITCH OPERATION

WINDOW UP

When the power window main switch (rear LH or RH) is pressed in the up position

Power is supplied

- through power window main switch terminal 1 (LH) or 7 (RH)
- through rear power window switch (LH or RH) terminal 2

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POWER WINDOW SYSTEM

- through rear power window switch (LH or RH) terminal 5
- to rear power window motor (LH or RH) terminal 2.

Ground is supplied

- to rear power window motor (LH or RH) terminal 1
- through rear power window switch (LH or RH) terminal 4
- through rear power window switch (LH or RH) terminal 3
- through power window main switch terminal 3 (LH) or 5 (RH).

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

WINDOW DOWN

When the power window main switch (rear LH or RH) is pressed in the down position

Power is supplied

- through power window main switch terminal 3 (LH) or 5 (RH)
- through rear power window switch (LH or RH) terminal 3
- through rear power window switch (LH or RH) terminal 4
- to rear power window motor (LH or RH) terminal 1.

Ground is supplied

- to rear power window motor (LH or RH) terminal 2
- through rear power window switch (LH or RH) terminal 5
- through rear power window switch (LH or RH) terminal 2
- through power window main switch terminal 1 (LH) or 7 (RH)

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

AUTO OPERATION

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

POWER WINDOW SERIAL LINK

Power window main switch, front power window switch (passenger side) 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 and front power window switch (passenger side)

- Keyless power window down signal.

The under mentioned signal is transmitted from power window main switch to front power window switch (passenger side)

- Front passenger side door window operation signal.
- Power window control by key cylinder switch signal.
- Power window lock switch signal.
- Retained power operation signal

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver side door window.

When the lock position, ground of the rear power window switches in the power window main switch is disconnected. This prevents the power window motors from operating.

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

- through BCM terminal 53
- to power window main switch terminal 10.
- to rear power window switch (LH and RH) terminals 1.

Then the power window can be operated.

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

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

RAP signal period can be changed by CONSULT-II. Refer to [GW-37, "CONSULT-II Function \(BCM\)"](#).

ANTI-PINCH SYSTEM

Power window main switch and front power window switch (passenger side) 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 front 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 (passenger side) controls each power window regulator 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, front power window can be opened or closed by turning the front door key cylinder driver side 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 opening 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 opening is operated.

CAN Communication System Description

NIS001AX

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

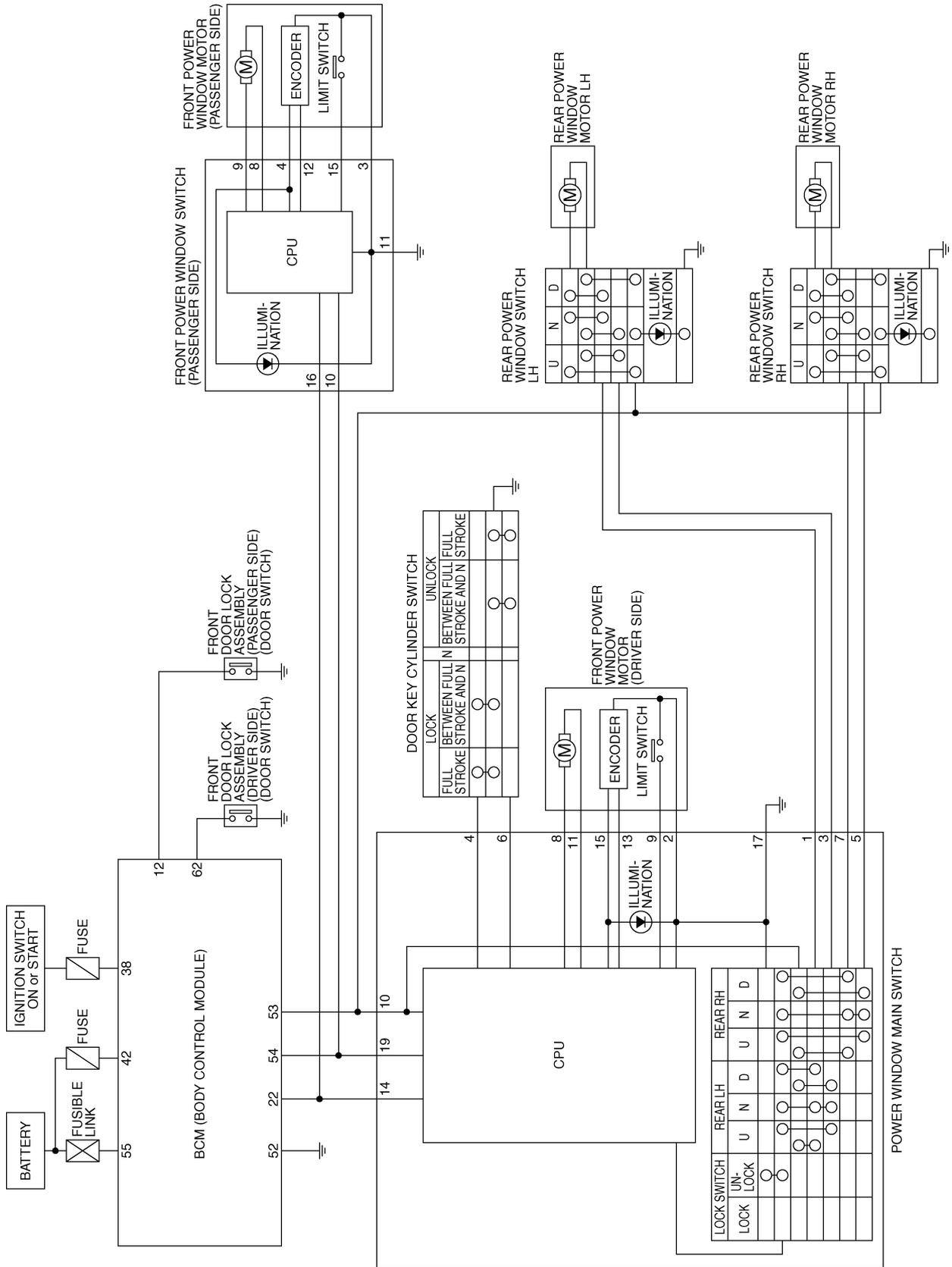
NIS001AY

Refer to [LAN-49, "CAN System Specification Chart"](#)

POWER WINDOW SYSTEM

Schematic/With Intelligent Key

NIS001AZ



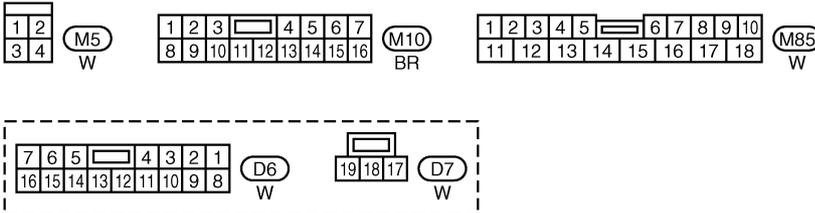
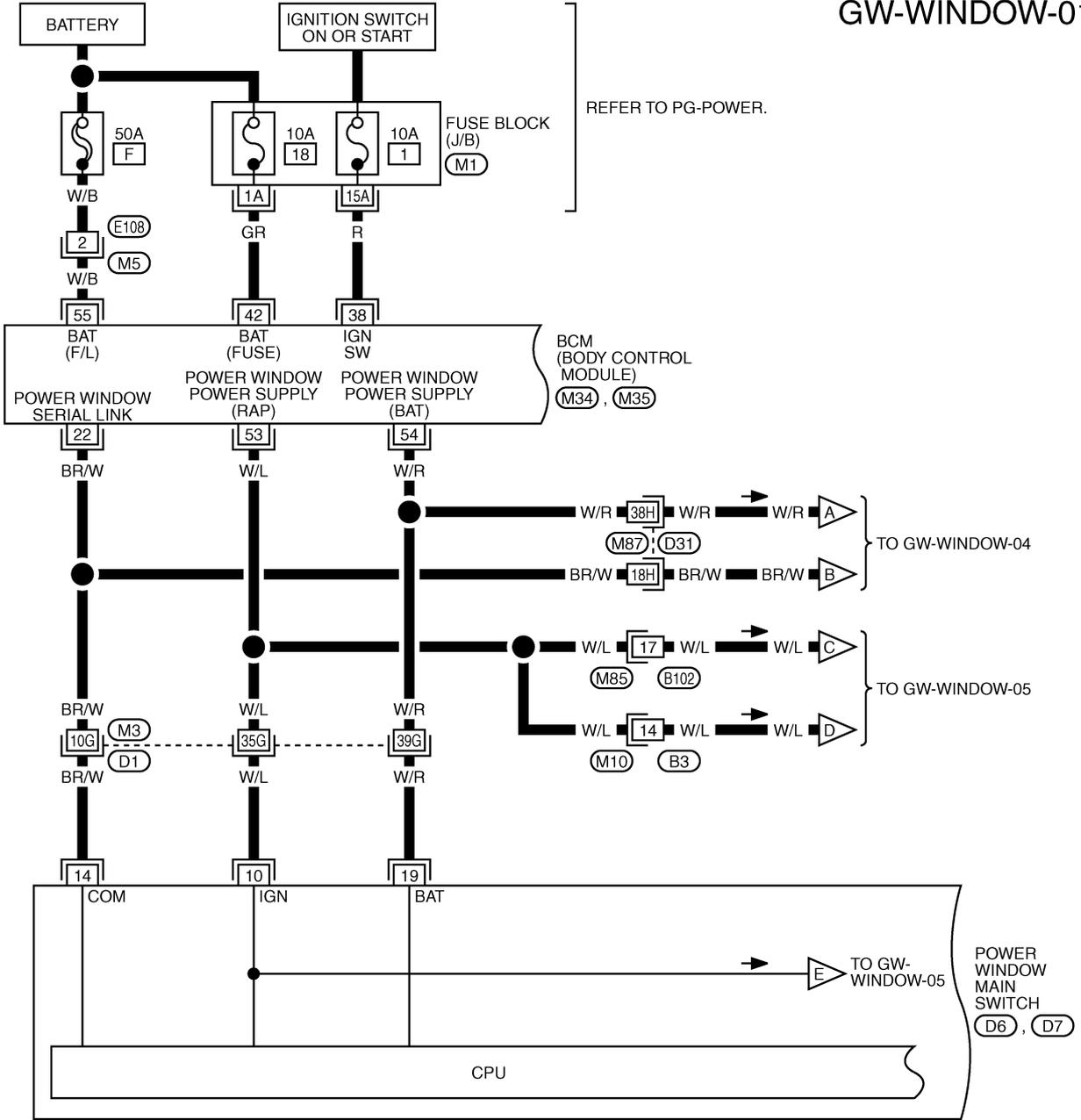
TIWB0795E

POWER WINDOW SYSTEM

Wiring Diagram — WINDOW —/With Intelligent Key

NIS001B0

GW-WINDOW-01



REFER TO THE FOLLOWING.

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

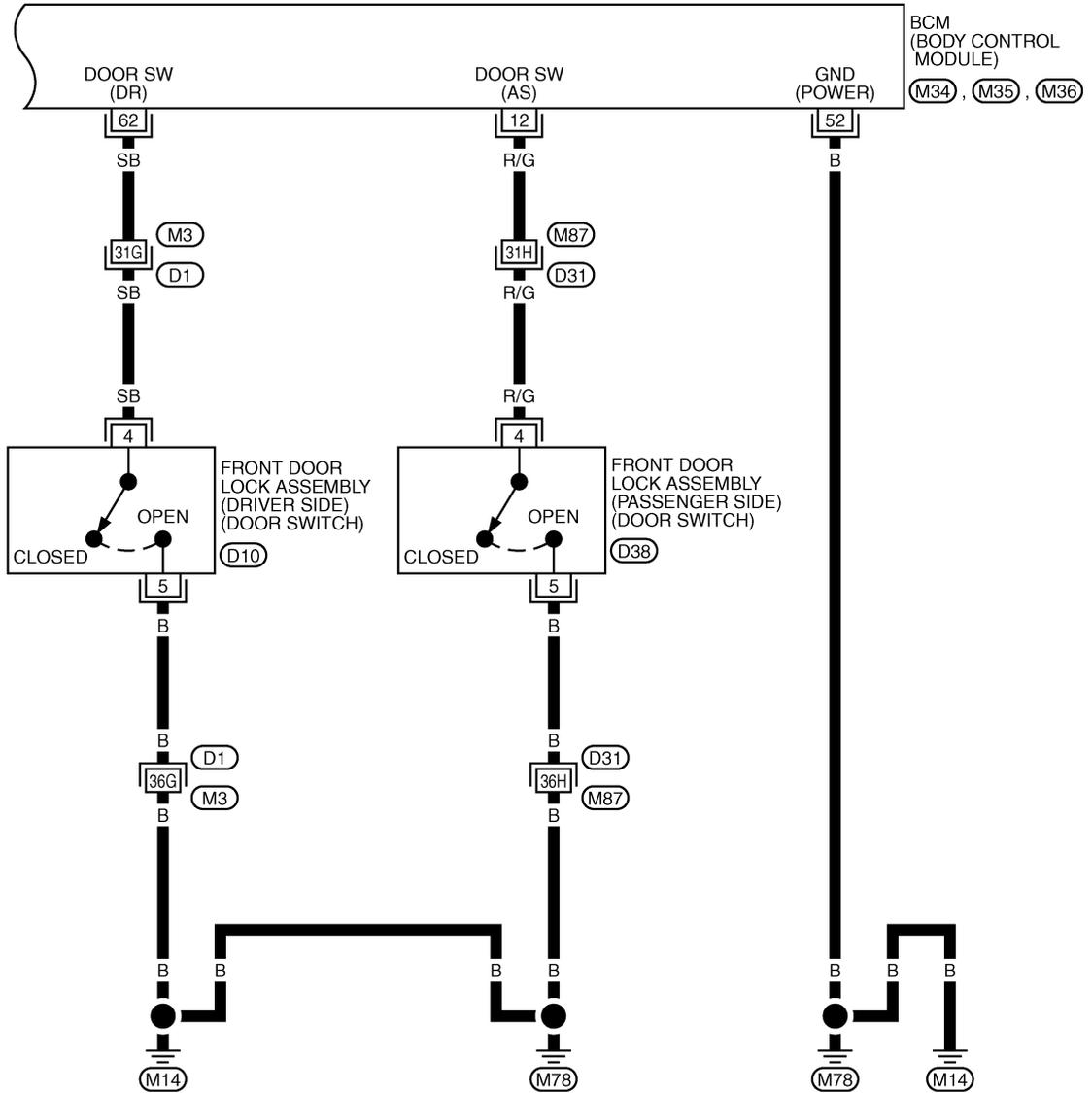
(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

(M34), (M35) -ELECTRICAL UNITS

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POWER WINDOW SYSTEM

GW-WINDOW-02

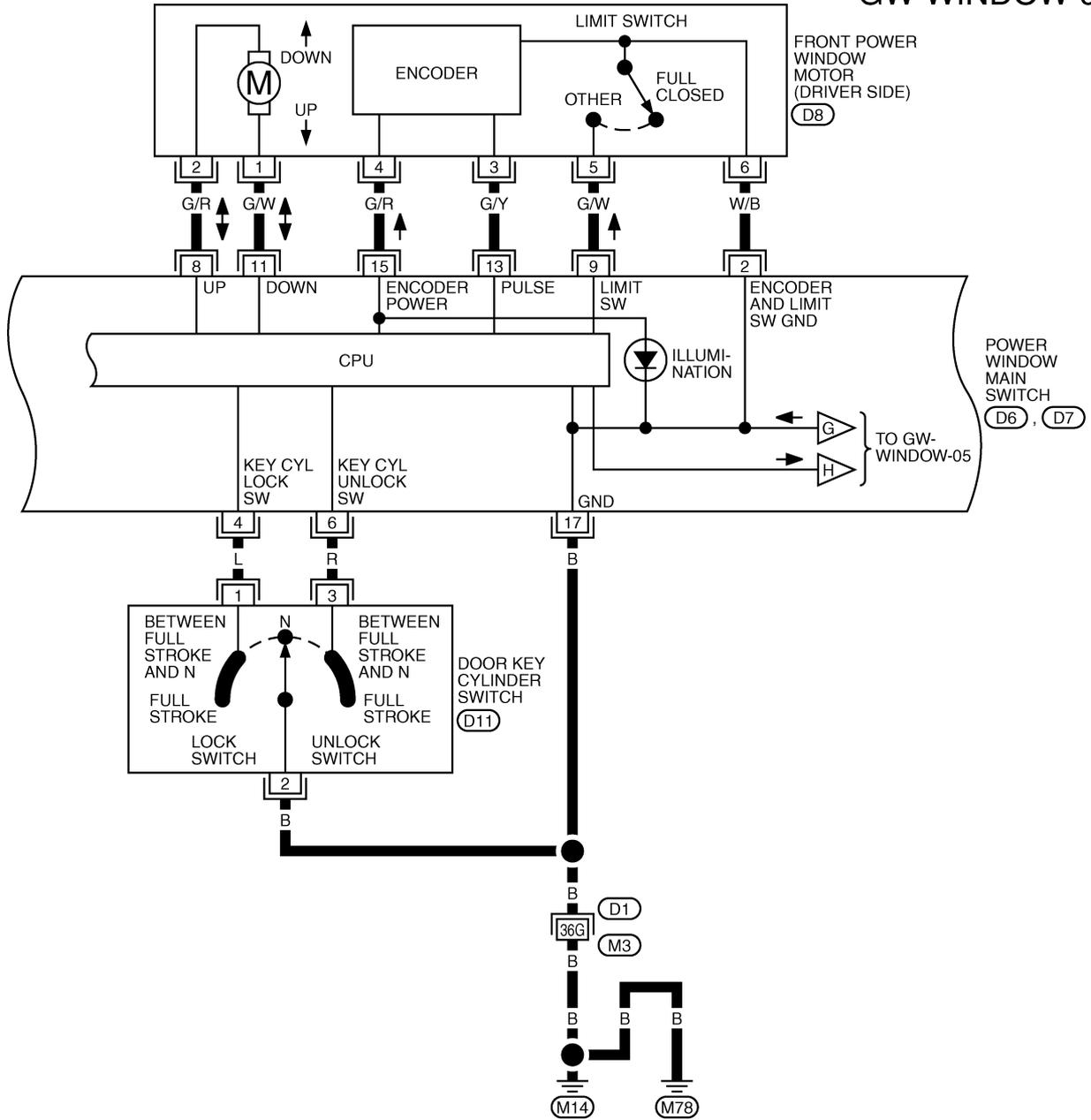


REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
 (M34), (M35), (M36) -ELECTRICAL UNITS

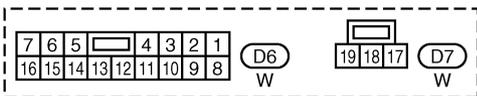
TIWB0796E

POWER WINDOW SYSTEM

GW-WINDOW-03



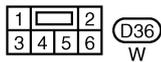
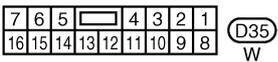
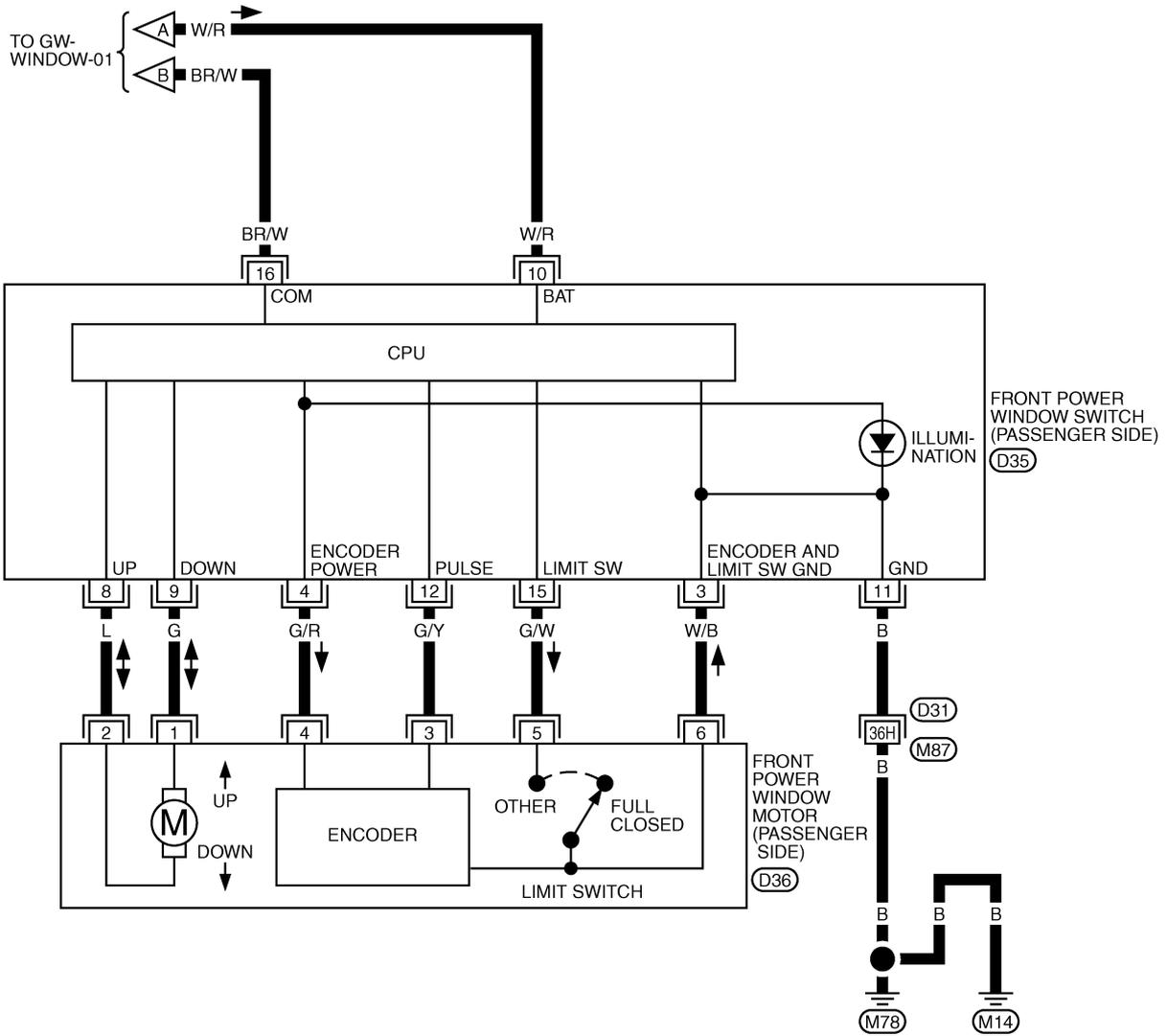
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REFER TO THE FOLLOWING.
 (D1) -SUPER MULTIPLE JUNCTION (SMJ)

POWER WINDOW SYSTEM

GW-WINDOW-04

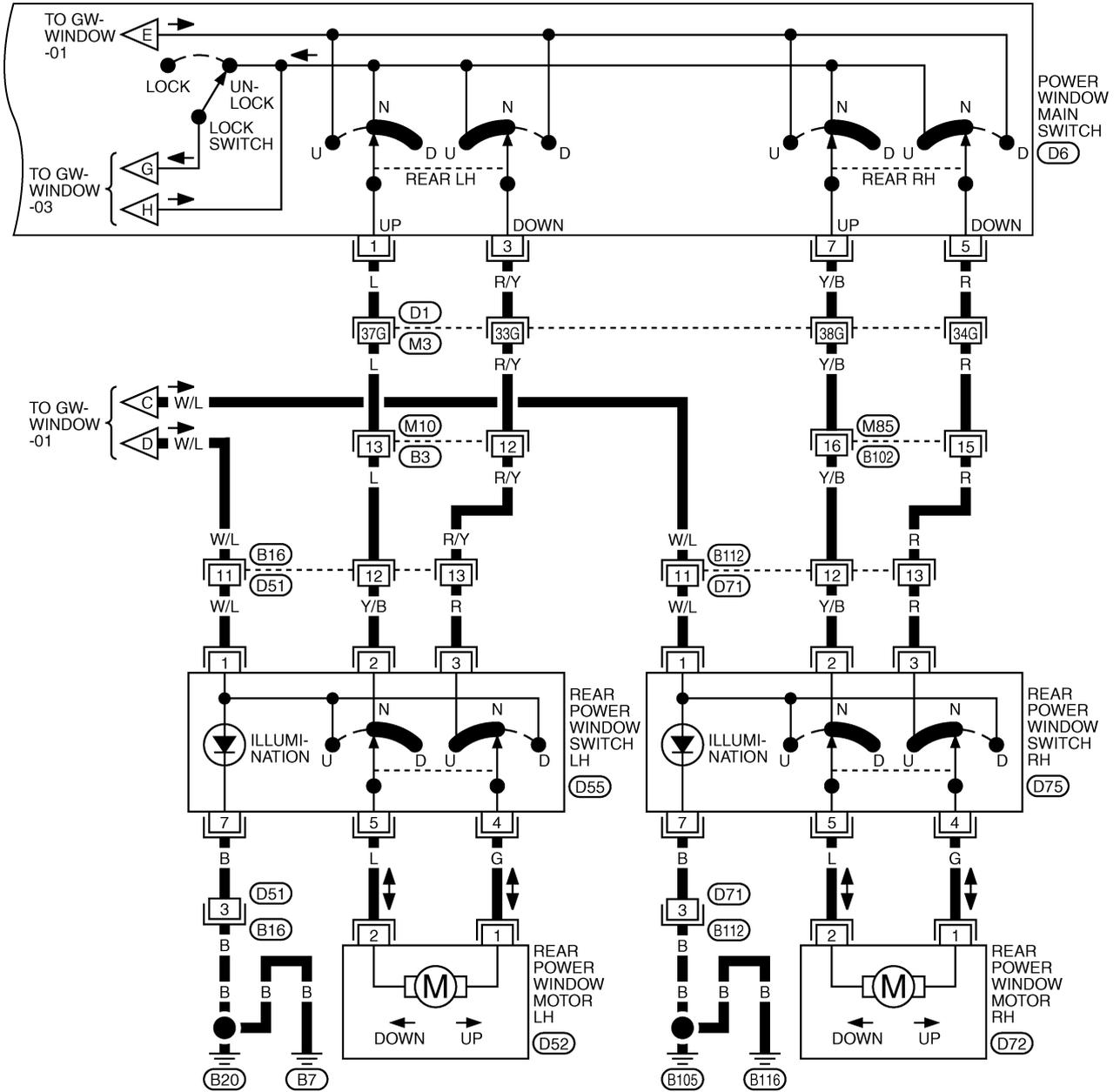


REFER TO THE FOLLOWING.
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)

TIWA0506E

POWER WINDOW SYSTEM

GW-WINDOW-05



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(M10)

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(B16)

W

(B112)

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(D52)

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(D72)

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| 1 | 5 | 4 | 3 | 2 |

(D55)

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(D75)

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REFER TO THE FOLLOWING.

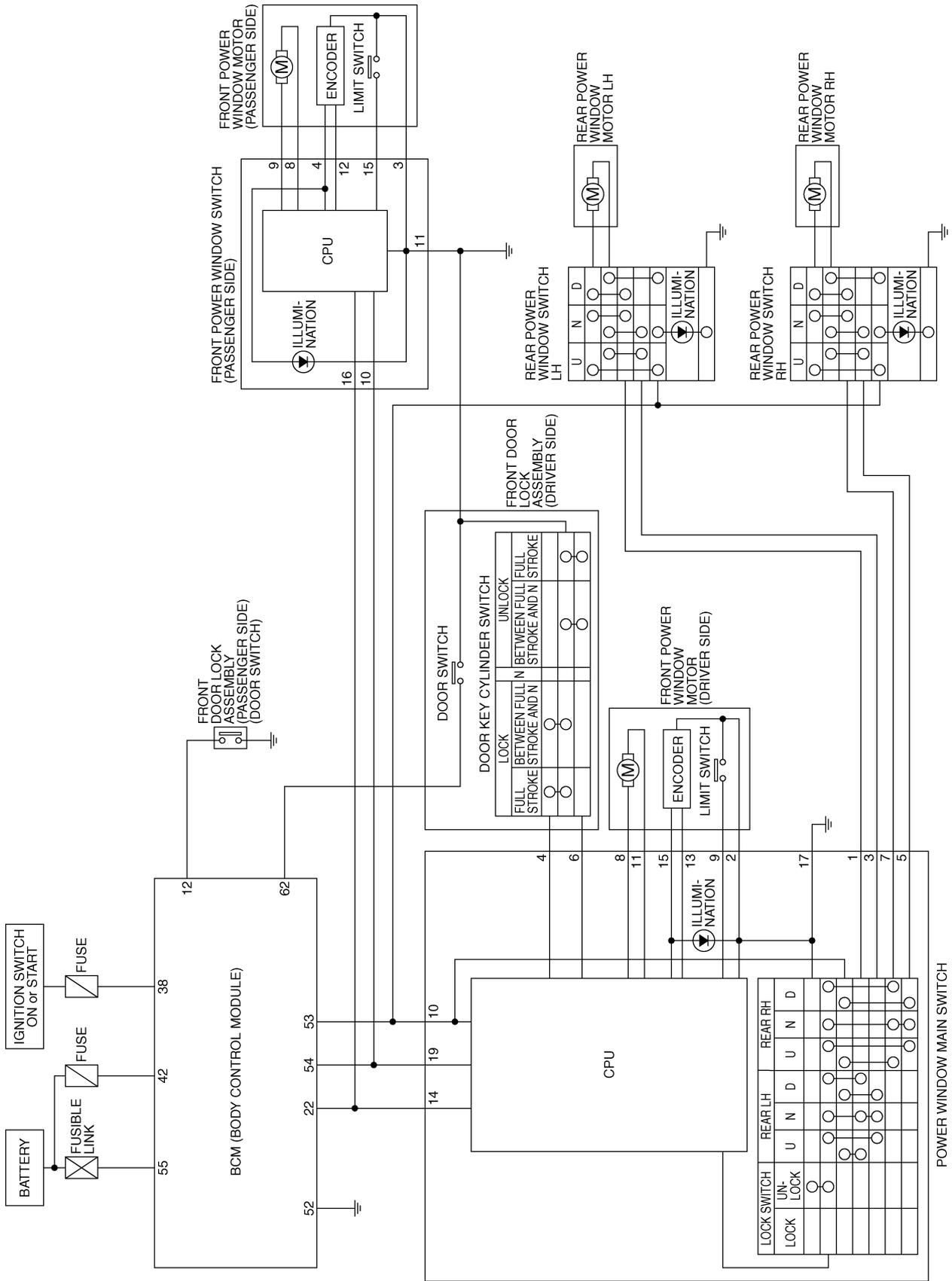
(D1) -SUPER MULTIPLE JUNCTION (SMJ)

TIWB0797E

POWER WINDOW SYSTEM

Schematic/Without Intelligent Key

NIS001B1



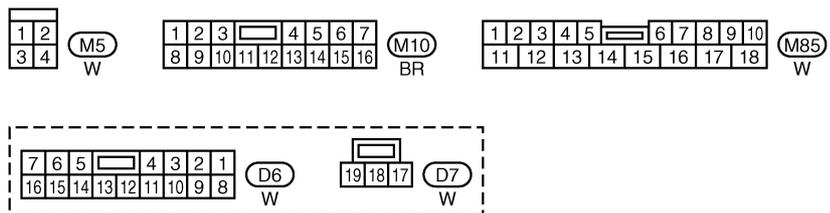
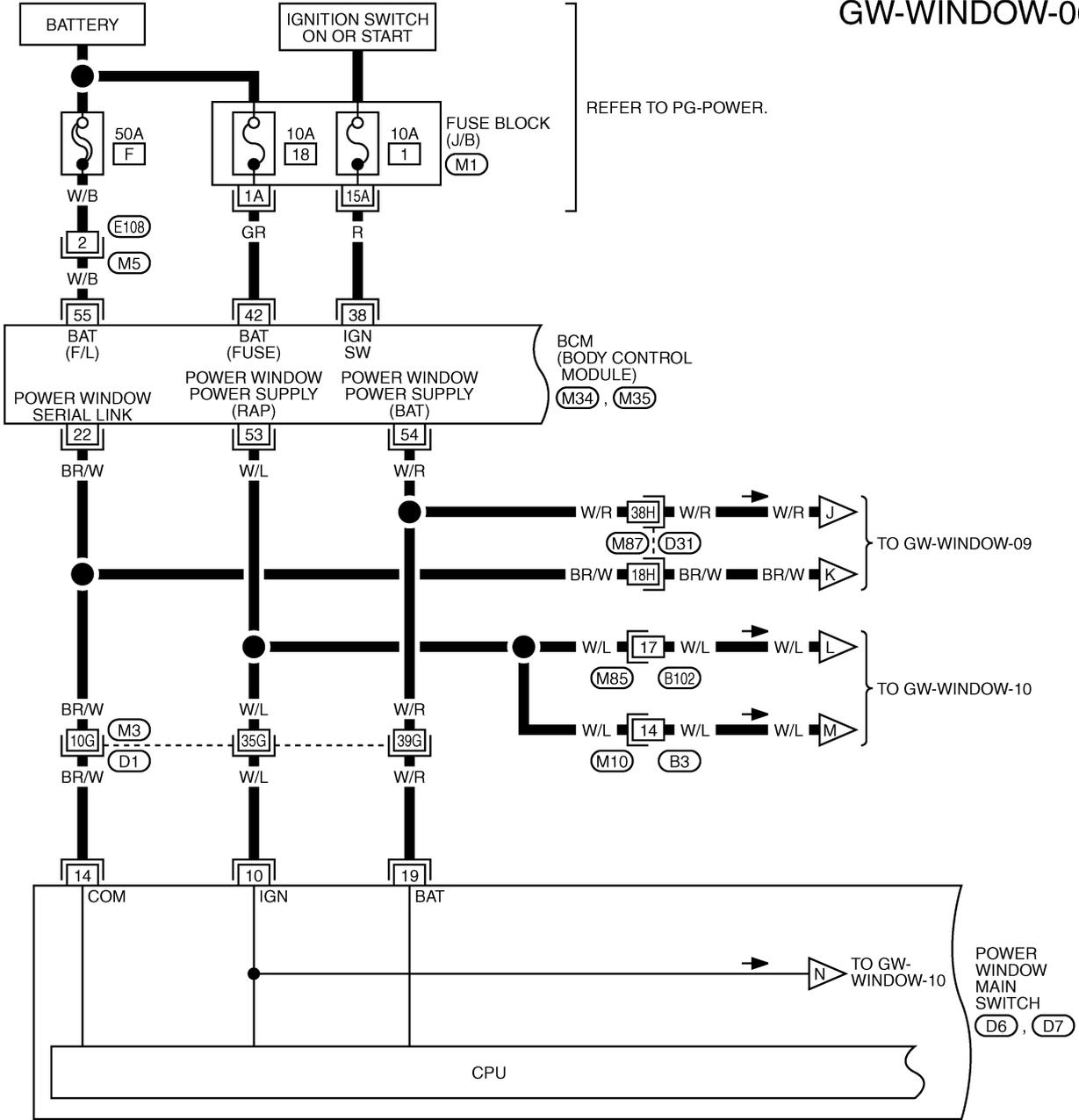
TIWB0798E

POWER WINDOW SYSTEM

Wiring Diagram — WINDOW —/Without Intelligent Key

NIS001B2

GW-WINDOW-06

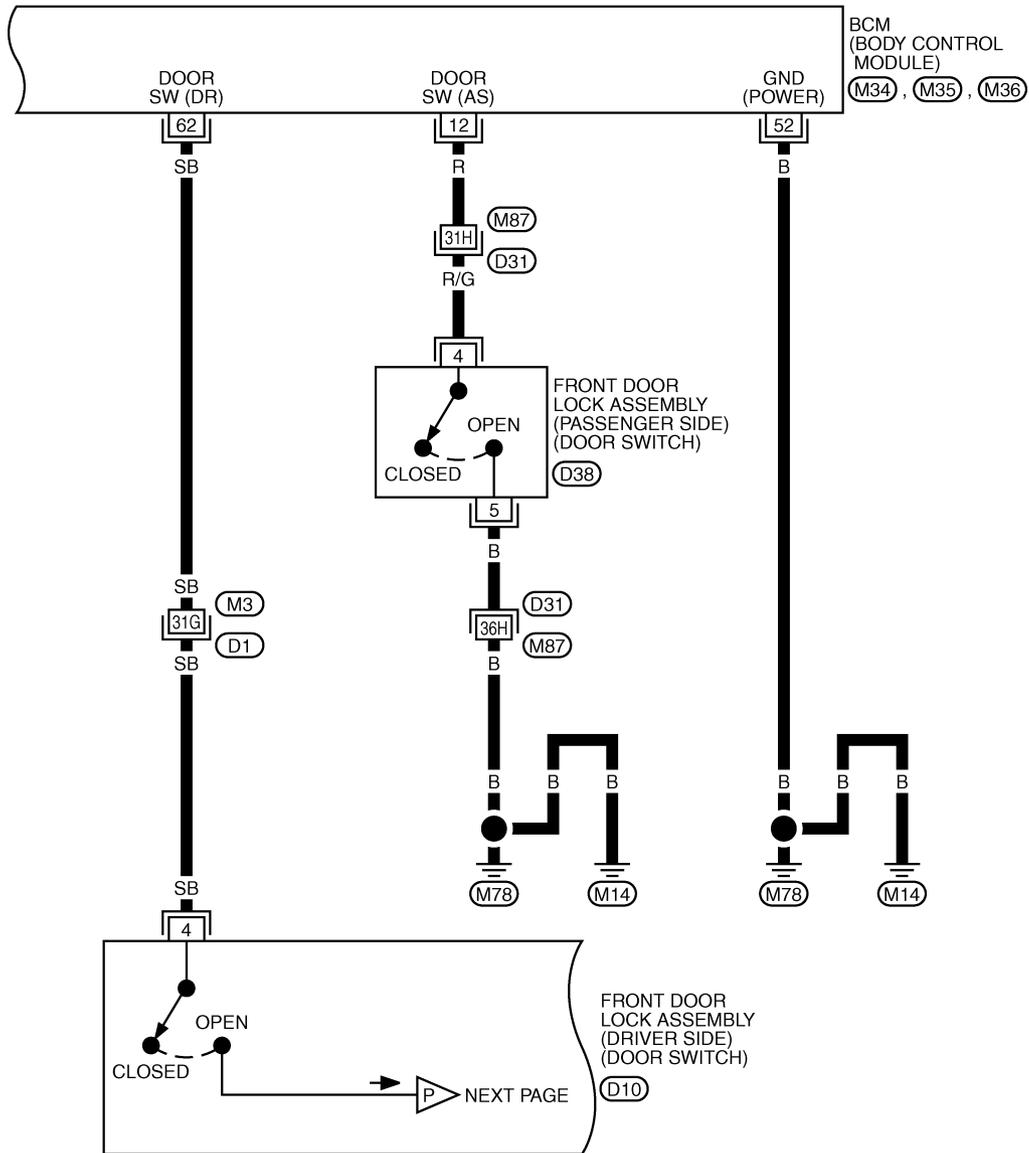


REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B)
 (M34), (M35) -ELECTRICAL UNITS

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POWER WINDOW SYSTEM

GW-WINDOW-07

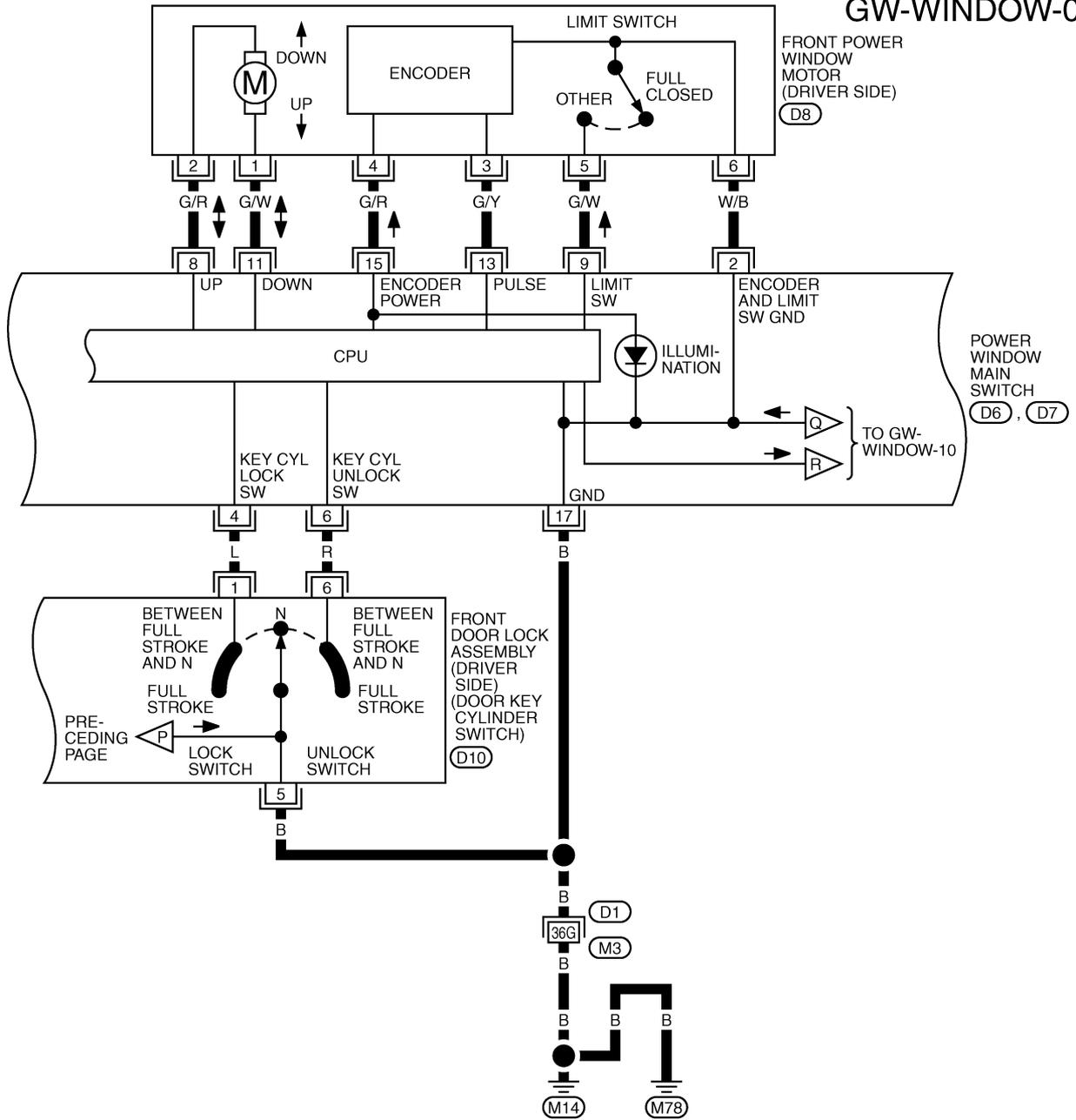


REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
 (M34), (M35), (M36) -ELECTRICAL UNITS

TIWB0799E

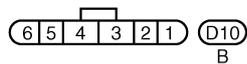
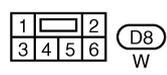
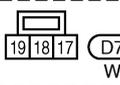
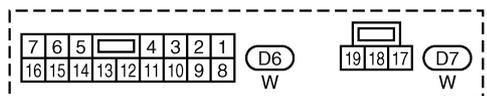
POWER WINDOW SYSTEM

GW-WINDOW-08



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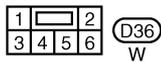
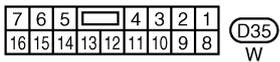
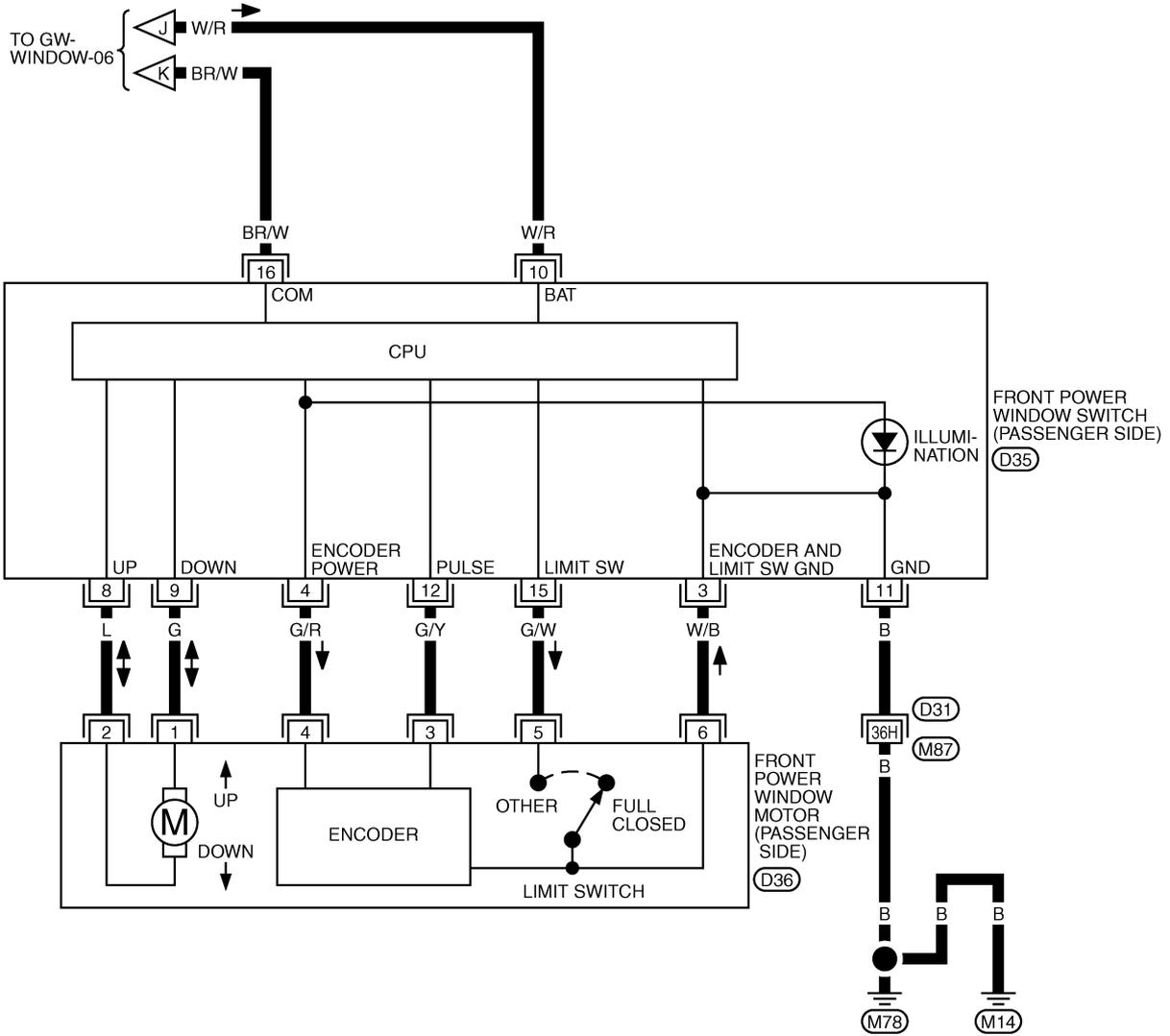
GW



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

POWER WINDOW SYSTEM

GW-WINDOW-09

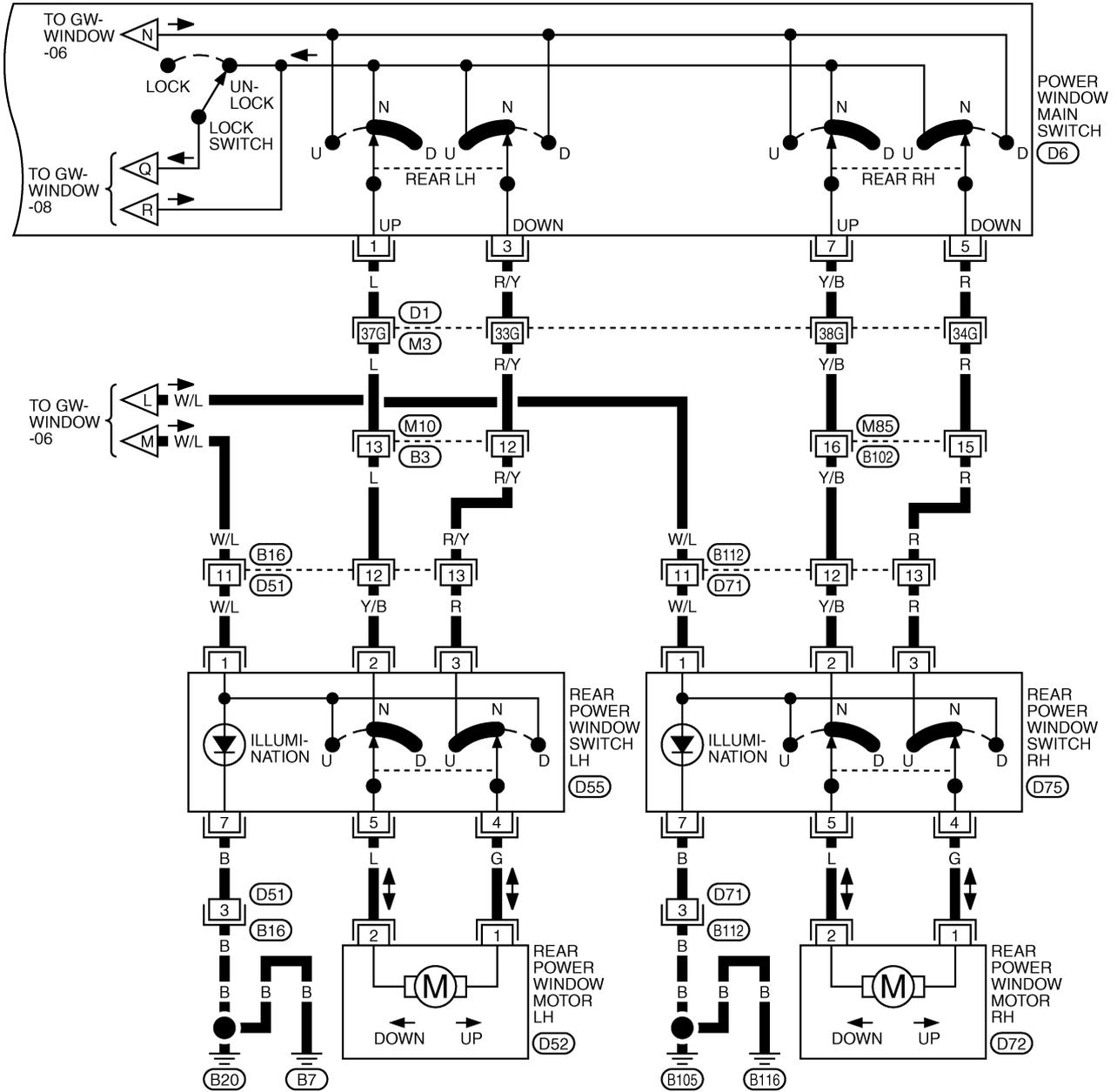


REFER TO THE FOLLOWING.
 (D31) -SUPER MULTIPLE JUNCTION (SMJ)

TIWB0283E

POWER WINDOW SYSTEM

GW-WINDOW-10



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(M10)
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|----|----|----|----|----|----|----|----|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | |

(M85), (B16), (B112)
W W W

| | | | | | | | | |
|----|----|----|----|----|----|----|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | | |
| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

(D6)
W

| | |
|---|---|
| 2 | 1 |
|---|---|

(D52), (D72)
BR BR

| | | | | | |
|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 |
| 1 | 5 | 4 | 3 | 2 | |

(D55), (D75)
W W

REFER TO THE FOLLOWING.

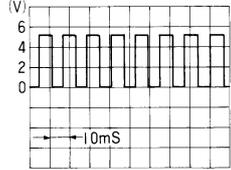
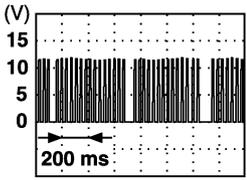
(D1) -SUPER MULTIPLE JUNCTION (SMJ)

TIWB0800E

POWER WINDOW SYSTEM

Terminal and Reference Value for Power Window Main Switch

NIS001B3

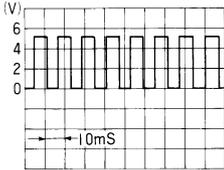
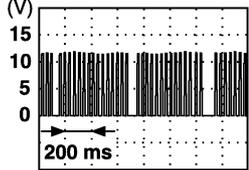
| Terminal | Wire color | Signal name | Signal input/output | Measuring condition | | Voltage (V) (Approx.) |
|----------|------------|--|---------------------|---------------------|--|---|
| | | | | Ignition switch | Operation or condition | |
| 1 | L | Rear LH power window UP signal | Output | ON | when rear LH switch in power window main switch is UP at operated. | Battery voltage |
| 2 | W/B | Limit switch and encoder ground | — | ON | — | 0 |
| 3 | R/Y | Rear LH power window DOWN signal | Output | ON | When rear LH switch in power window main switch is DOWN at operated. | Battery voltage |
| 4 | L | Key cylinder switch lock signal | Input | OFF | Key position (Neutral → Locked) | 5 → 0 |
| 5 | R | Rear RH power window DOWN signal | Output | ON | When rear RH switch in power window main switch is DOWN at operated. | Battery voltage |
| 6 | R | Key cylinder switch unlock signal | Input | OFF | Key position (Neutral → Unlocked) | 5 → 0 |
| 7 | Y/B | Rear RH power window UP signal | Output | ON | When rear RH switch in power window main switch is UP at operated. | Battery voltage |
| 8 | G/R | Front driver side power window motor UP signal | Output | ON | When power window motor is UP at operated | Battery voltage |
| 9 | G/W | 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 | W/L | RAP signal | Input | — | IGN SW ON | Battery voltage |
| | | | | | Within 45 seconds after ignition switch is turned to OFF | Battery voltage |
| | | | | | When driver side door or passenger side open in power window timer is operates | 0 |
| 11 | G/W | Front driver side power window motor DOWN signal | Output | ON | When power window motor is DOWN at operated | Battery voltage |
| 13 | G/Y | Encoder pulse signal | Input | ON | When power window motor operates. |  <p style="text-align: right;">OCC3383D</p> |
| 14 | BR/W | Power window serial link | — | ON | IGN SW ON or power window timer operating. |  <p style="text-align: right;">PIIA2344J</p> |

POWER WINDOW SYSTEM

| Terminal | Wire color | Signal name | Signal input/output | Measuring condition | | Voltage (V) (Approx.) |
|----------|------------|----------------------|---------------------|---------------------|--|--------------------------|
| | | | | Ignition switch | Operation or condition | |
| 15 | G/R | Encoder power supply | Output | ON | IGN SW ON or power window timer operating. | 10 |
| 17 | B | Ground | — | ON | — | 0 |
| 19 | W/R | Battery power supply | Input | OFF | — | Battery voltage |

Terminal and Reference Value for Front Power Window Switch (Passenger Side)

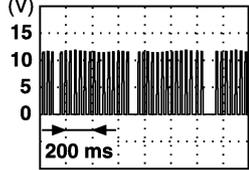
NIS001B4

| Terminal | Wire color | Signal name | Signal input/output | Measuring condition | | Voltage (V) (Approx.) |
|----------|------------|---|---------------------|---------------------|---|---|
| | | | | Ignition switch | Operation or condition | |
| 3 | W/B | Limit switch and encoder ground | — | ON | — | 0 |
| 4 | G/R | Encoder power supply | Output | ON | IGN SW ON or power window timer operating. | 10 |
| 8 | L | Front passenger side power window motor UP signal | Output | ON | When power window motor is UP at operated. | Battery voltage |
| 9 | G | Front passenger side power window motor DOWN signal | Output | ON | When power window motor is DOWN at operated. | Battery voltage |
| 10 | W/R | Battery power supply | Input | OFF | — | Battery voltage |
| 11 | B | Ground | — | ON | — | 0 |
| 12 | G/Y | Encoder pulse signal | Input | ON | When power window motor operates. |  <p style="text-align: right;">OCC3383D</p> |
| 15 | G/W | 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 | BR/W | Power window serial link | Input | ON | IGN SW ON or power window timer operating. |  <p style="text-align: right;">PIIA2344J</p> |

POWER WINDOW SYSTEM

Terminal and Reference Value for BCM

NIS001B5

| Terminal | Wire color | Signal name | Signal input/output | Measuring condition | | Voltage (V) (Approx.) |
|----------|------------|----------------------------------|---------------------|---------------------|--|---|
| | | | | Ignition switch | Operation or condition | |
| 12 | R/G (R) | Front door switch passenger side | Input | OFF | OPEN (ON) | 0 |
| | | | | | CLOSE (OFF) | Battery voltage |
| 22 | BR/W | Power window link signal | Input | ON | IGN SW ON or power window timer operating. |  <p style="text-align: right; font-size: small;">PIIA2344J</p> |
| 38 | R | Ignition switch (ON or START) | Input | ON | Ignition switch (ON or START position) | Battery voltage |
| 42 | GR | Power source (Fuse) | Input | OFF | — | Battery voltage |
| 52 | B | Ground | — | ON | — | 0 |
| 53 | W/L | RAP signal | Output | — | IGN SW ON | Battery voltage |
| | | | | | Within 45 seconds after ignition switch is turned to OFF | Battery voltage |
| | | | | | When driver side or passenger side is open in power window timer is operates | 0 |
| 54 | W/R | Power window power supply | Output | OFF | — | Battery voltage |
| 55 | W/B | Power source (Fusable link) | Input | OFF | — | Battery voltage |
| 62 | SB | Front door switch driver side | Input | OFF | OPEN (ON) | 0 |
| | | | | | CLOSE (OFF) | Battery voltage |

() : without intelligent key

POWER WINDOW SYSTEM

CONSULT-II Function (BCM)

NIS001B6

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 POWER | 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"](#)

ACTIVE TEST

| Test Item | Description |
|-------------------|--|
| RETAINED PWR | <p>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.</p> <p>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 to "ON" or "OFF" on CONSULT-II screen when ignition switch is OFF.</p> |
| POWER WINDOW DOWN | This test able to transmitted of power window down signal from BCM to power window main switch and front power window switch (passenger side). |

WORK SUPPORT

| Work item | Description |
|--------------|---|
| RETAINED PWR | <p>RAP signal's power supply period can be changed by mode setting. Selects RAP signal's power supply period between three steps</p> <ul style="list-style-type: none"> ● MODE1 (45 sec.) / MODE2 (OFF) / MODE 3 (2 min.). |

DATA MONITOR

| Work item | Description |
|---------------|--|
| IGN ON SW | Indicates (ON / OFF) condition of ignition switch |
| DOOR SW-DR | Indicates (ON / OFF) condition of front door switch driver side |
| DOOE SW-AS | Indicates (ON / OFF) condition of front door switch passenger side |
| LOCK SW DR/AS | Indicates (ON / OFF) condition of lock signal from lock and unlock switch on power window main switch or front power window switch (passenger side). |
| UNLK SW DR/AS | Indicates (ON / OFF) condition of unlock signal from lock and unlock switch on power window main switch or front power window switch (passenger side). |
| KEY CYL LK-SW | Indicates (ON / OFF) condition of lock signal from key cylinder. |
| KEY CYL UN-SW | Indicates (ON / OFF) condition of unlock signal from key cylinder. |

POWER WINDOW SYSTEM

Work Flow

NIS001B7

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-38, "Trouble Diagnosis Symptom Chart"](#) .
4. Does power window system operate normally? Yes, GO TO 5, If No, GO TO 3.
5. INSPECTION END

Trouble Diagnosis Symptom Chart

NIS001B8

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

| Symptom | Repair order | Refer to page |
|--|--|--|
| None of the power windows can be operated using any switch. | 1. Check BCM power supply and ground circuit | GW-40 |
| | 2. Check power window main switch power supply and ground circuit | GW-41 |
| | 3. Check power window serial link | GW-63 |
| | 4. Replace BCM. | BCS-14 |
| Driver side power window alone does not operate. | Check power window motor (driver side) circuit | GW-43 |
| Front passenger side power window alone does not operate. | 1. Check front power window switch (passenger side) power and ground circuit | GW-42 |
| | 2. Check power window serial link | GW-63 |
| | 3. Check front power window motor (passenger side) circuit | GW-44 |
| Rear LH side power window alone does not operate. | Check rear power window motor (LH) circuit | GW-44 |
| Rear RH side power window alone does not operate. | Check rear power window motor (RH) circuit | GW-46 |
| Anti-pinch system does not operate normally (driver side). | 1. Door window sliding part malfunction <ul style="list-style-type: none"> ● A foreign material adheres to window glass or glass run rubber. ● Glass run rubber wear or deformation. ● Sash is tilted too much, or no enough. | — |
| | 2. Limit switch adjusting | GW-68 |
| | 3. Check limit switch circuit (driver side) | GW-48 |
| | 4. Check encoder circuit (driver side) | GW-52 |
| Anti-pinch system does not operate normally (passenger side). | 1. Door window sliding part malfunction <ul style="list-style-type: none"> ● A foreign material adheres to window glass or glass run rubber. ● Glass run rubber wear or deformation. ● Sash is tilted too much, or no enough. | — |
| | 2. Limit switch adjusting | GW-68 |
| | 3. Check limit switch circuit (passenger side) | GW-50 |
| | 4. Check encoder circuit (passenger side) | GW-54 |
| Power window retained power operation does not operate properly. | 1. Check the retained power operation mode setting. | GW-37 |
| | 2. Check door switch | GW-57 |
| | 3. Replace BCM. | BCS-14 |
| Does not operate by key cylinder switch. | 1. Check door key cylinder switch | GW-59 *1 GW-61 *2 |
| | 2. Replace power window main switch | EI-30 |
| Power window lock switch does not function. | 1. Check power window serial link | GW-63 |
| | 2. Check power window lock switch | GW-65 |

POWER WINDOW SYSTEM

| Symptom | Repair order | Refer to page |
|--|--|-----------------------|
| Auto operation does not operate but manual operate normally. (driver side) | Check encoder circuit (driver side) | GW-52 |
| Auto operation does not operate but manual operate normally. (passenger side) | Check encoder circuit (passenger side) | GW-54 |

*1: Without Intelligent Key

*2: With Intelligent Key

A

B

C

D

E

F

G

H

GW

J

K

L

M

POWER WINDOW SYSTEM

NIS001B9

Check BCM Power Supply and Ground Circuit

1. CHECK FUSE

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

2. CHECK POWER SUPPLY CIRCUIT

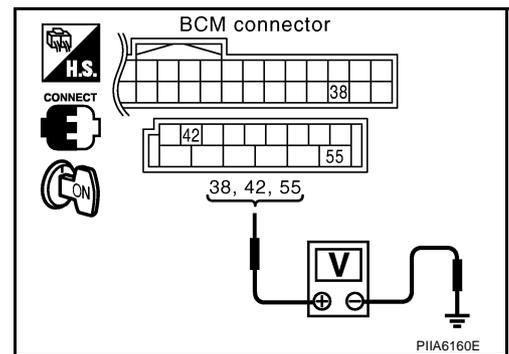
1. Turn ignition switch ON.
2. Check voltage between BCM connector M34, M35 terminal 38, 42, 55 and ground.

38 (R) – Ground : Battery voltage
42 (GR) – Ground : Battery voltage
55 (W/B) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.

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



3. CHECK GROUND CIRCUIT

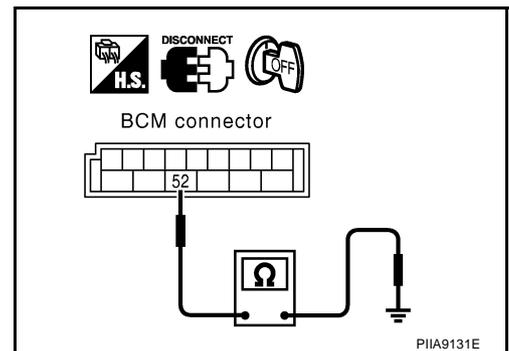
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M35 terminal 52 and ground.

52 (B) – Ground : Continuity should exist.

OK or NG

OK >> BCM power supply and ground circuit is OK.

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



POWER WINDOW SYSTEM

Check Power Window Main Switch Power Supply Circuit

NIS001BA

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between power window main switch connector D6, D7 terminals 10, 19 and ground.

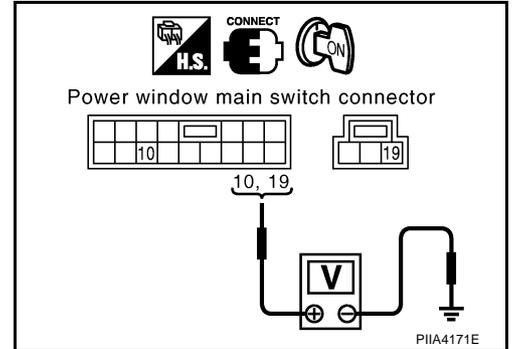
10 (W/L) – Ground : Battery voltage

19 (W/R) – Ground : Battery voltage

OK or NG

OK >> GO TO 2.

NG >> GO TO 3.



2. CHECK GROUND CIRCUIT

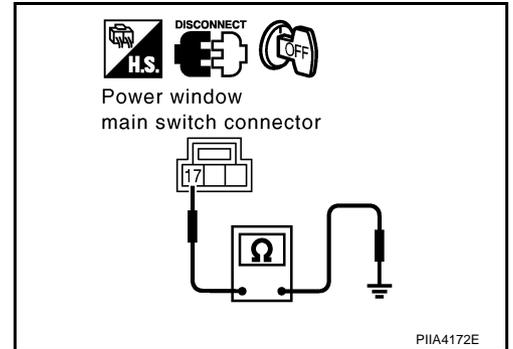
1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch connector D7 terminal 17 and ground.

17 (B) – Ground : Continuity should exist.

OK or NG

OK >> Power window main switch power supply and ground circuit is OK.

NG >> Repair or replace harness.



3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector and power window main switch connector.
3. Check continuity between BCM connector M35 terminals 53, 54 and power window main switch connector D6, D7 terminal 10, 19.

53 (W/L) – 10 (W/L) : Continuity should exist.

54 (W/R) – 19 (W/R) : Continuity should exist.

4. Check continuity between BCM connector M35 terminals 53, 54 and ground.

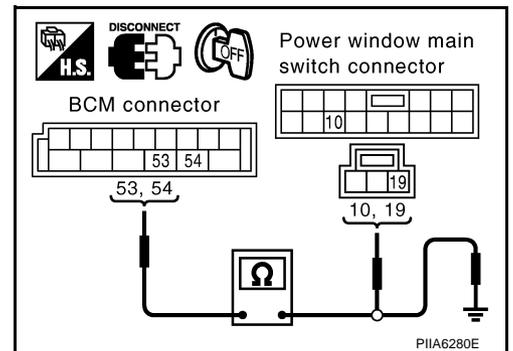
53 (W/L) – Ground : Continuity should exist.

54 (W/R) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



POWER WINDOW SYSTEM

4. CHECK BCM OUTPUT SIGNAL

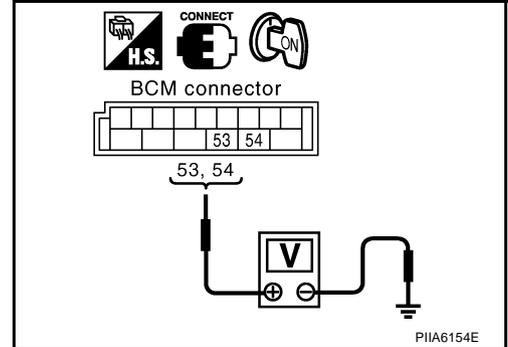
1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M35 terminal 53, 54 and ground.

53 (W/L) – Ground : Battery voltage

54 (W/R) – Ground : Battery voltage

OK or NG

- OK >> Check the condition of the harness and the connector.
NG >> Replace BCM.



Check Front Power Window Switch (Passenger Side) Power Supply and Ground Circuit

NIS001BB

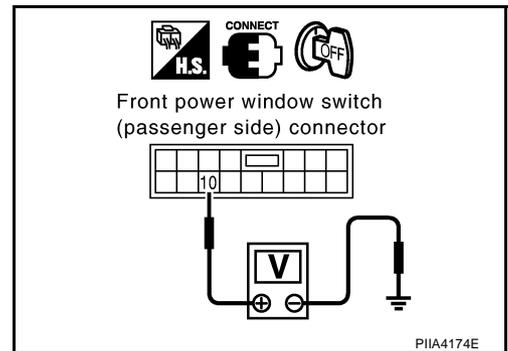
1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Check voltage between front power window switch (passenger side) connector D35 terminal 10 and ground.

10 (W/R) – Ground : Battery voltage

OK or NG

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



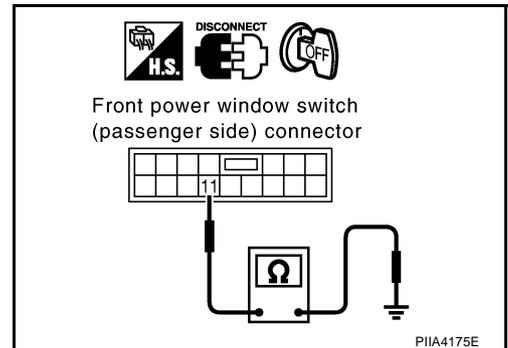
2. CHECK GROUND CIRCUIT

1. Disconnect front power window switch (passenger side) connector.
2. Check continuity between front power window switch (passenger side) connector D35 terminal 11 and ground.

11 (B) – Ground : Continuity should exist.

OK or NG

- OK >> Front power window switch (passenger side) power supply and ground circuit is OK.
NG >> Repair or replace harness.



POWER WINDOW SYSTEM

3. CHECK HARNESS CONTINUITY

1. Disconnect BCM connector.
2. Check continuity between BCM connector M35 terminal 54 and front power window switch (passenger side) connector D35 terminal 10.

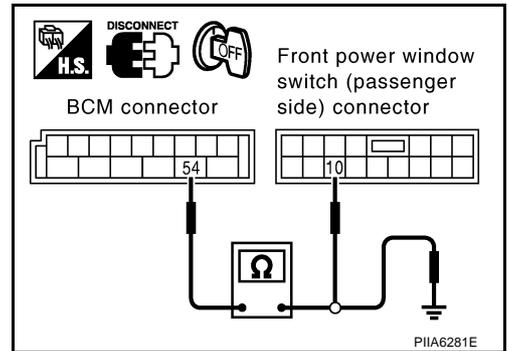
54 (W/R) – 10 (W/R) : Continuity should exist.

3. Check continuity between BCM connector M35 terminal 54 and ground.

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

OK or NG

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



Check Front Power Window Motor (Driver Side) Circuit

NIS001BC

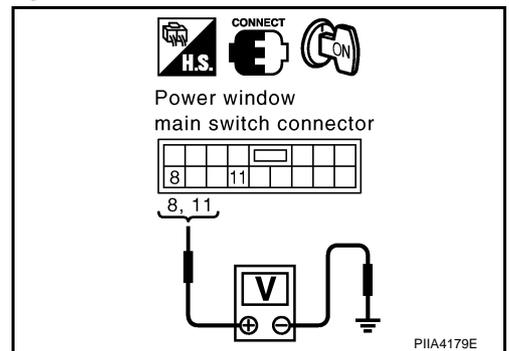
1. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

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

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|--------------------------|
| | (+) | (-) | | |
| D6 | 8 (G/R) | Ground | Closing | Battery voltage |
| | | | Opening | 0 |
| | 11 (G/W) | | Closing | 0 |
| | | | Opening | Battery voltage |

OK or NG

- OK >> GO TO 2.
 NG >> Replace power window main switch.



2. CHECK HARNESS CONTINUITY

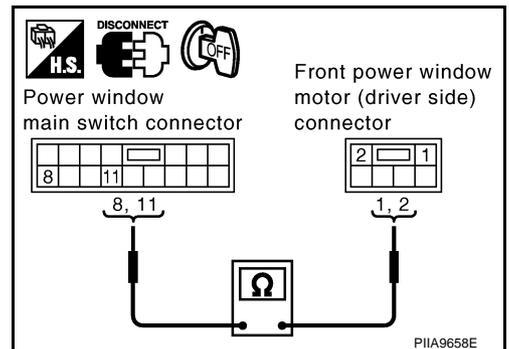
1. Turn ignition switch OFF.
2. Disconnect power window main switch and front power window motor (driver side) connector.
3. Check continuity between power window main switch connector D6 terminal 8, 11 and front power window motor (driver side) connector D8 terminals 1,2.

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

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

OK or NG

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



POWER WINDOW SYSTEM

Check Front Power Window Motor (Passenger Side) Circuit

NIS001BD

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) OUTPUT SIGNAL

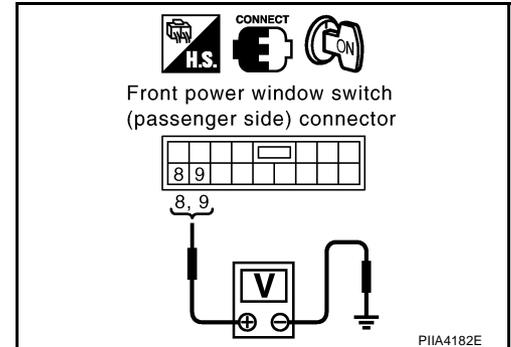
1. Turn igniting switch ON.
2. Check voltage between front power window switch (passenger side) connector and ground.

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|--------------------------|
| | (+) | (-) | | |
| D35 | 8 (L) | Ground | Closing | Battery voltage |
| | | | Opening | 0 |
| | 9 (G) | | Closing | 0 |
| | | | Opening | Battery voltage |

OK or NG

OK >> GO TO 2.

NG >> Replace front power window switch (passenger side).



2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) and front power window motor (passenger side) connector.
3. Check continuity between front power window switch (passenger side) connector D35 terminals 8,9 and front power window motor (passenger side) connector D36 terminals 1, 2.

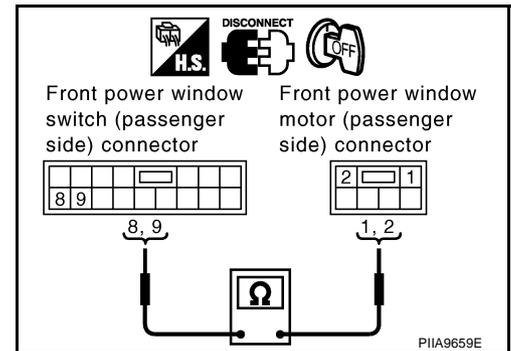
8 (L) – 2 (L) : Continuity should exist.

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

OK or NG

OK >> Replace front power window motor (passenger side).

NG >> Repair or replace harness.



Check Rear Power Window Motor (LH) Circuit

NIS001BE

1. CHECK REAR POWER WINDOW SWITCH (LH) OUTPUT SIGNAL

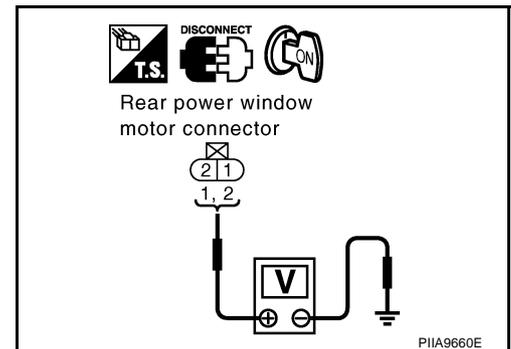
1. Turn ignition switch OFF.
2. Disconnect rear power window motor (LH).
3. Turn ignition switch ON.
4. Check voltage between rear power window motor (LH) connector and ground.

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|--------------------------|
| | (+) | (-) | | |
| D52 | 1 (G) | Ground | Closing | 0 |
| | | | Opening | Battery voltage |
| | 2 (L) | | Closing | Battery voltage |
| | | | Opening | 0 |

OK or NG

OK >> Replace rear power window motor (LH).

NG >> GO TO 2.



POWER WINDOW SYSTEM

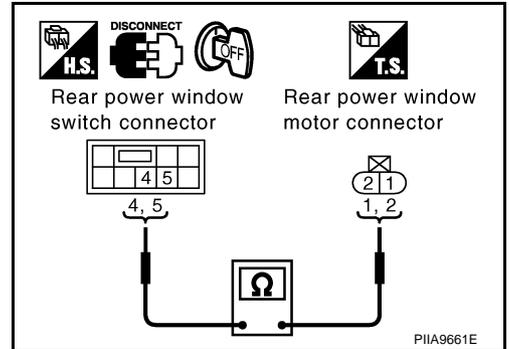
2. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect rear power window switch (LH) connector.
3. Check continuity between rear power window switch (LH) connector D55 terminal 4, 5 and rear power window motor (LH) connector D52 terminals 1, 2.

4 (G) – 1 (G) : Continuity should exist.
5 (L) – 2 (L) : Continuity should exist.

OK or NG

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



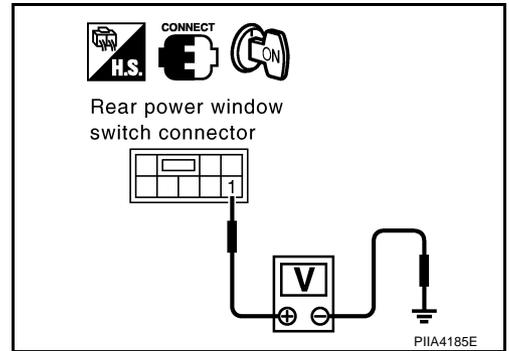
3. CHECK REAR POWER WINDOW SWITCH (LH) POWER SUPPLY

1. Connect rear power window switch (LH) connector.
2. Turn ignition switch ON.
3. Check voltage between rear power window switch (LH) connector D55 terminal 1 and ground.

1 (W/L) – Ground : Battery voltage

OK or NG

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



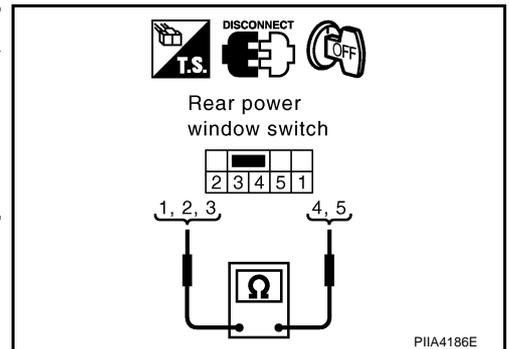
4. CHECK REAR POWER WINDOW SWITCH LH

1. Turn igniting switch OFF.
2. Disconnect rear power window switch (LH) connector.
3. Check continuity between rear power window switch (LH) connector D55 terminals 1, 2, 3 and 4, 5.

| Terminal | | Switch condition | Continuity |
|----------|---|------------------|------------|
| 1 | 4 | DOWN position | Yes |
| 3 | | Free | |
| 1 | 5 | UP position | |
| 2 | | Free | |

OK or NG

- OK >> GO TO 5.
 NG >> Replace rear power window switch (LH).



POWER WINDOW SYSTEM

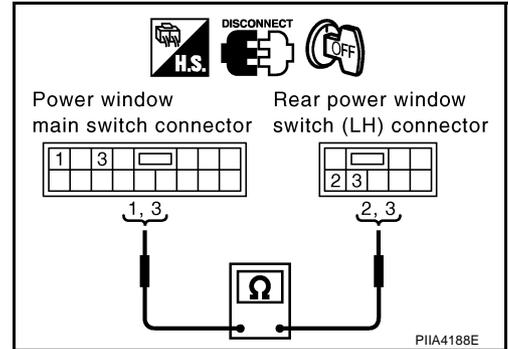
5. CHECK HARNESS CONTINUITY

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D6 terminals 1, 3 and rear power window switch (LH) connector D55 terminals 2, 3.

1 (L) – 2 (Y/B) : Continuity should exist.
3 (R/Y) – 3 (R) : Continuity should exist.

OK or NG

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



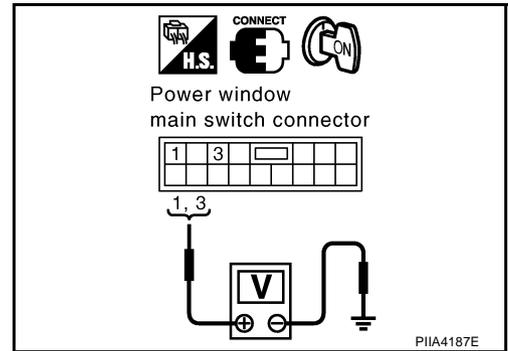
6. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Power window main switch is operated, check voltage between power window main switch connector and ground.

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|-----------------------|
| | (+) | (-) | | |
| D6 | 1 (L) | Ground | Closing | Battery voltage |
| | | | Opening | 0 |
| | 3 (R/Y) | | Closing | 0 |
| | | | Opening | Battery voltage |

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace power window main switch.



Check Rear Power Window Motor (RH) Circuit

NIS001BF

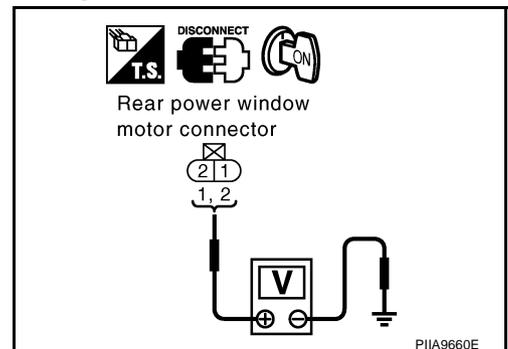
1. CHECK REAR POWER WINDOW SWITCH (RH) OUTPUT SIGNAL

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

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|-----------------------|
| | (+) | (-) | | |
| D72 | 1 (G) | Ground | Closing | 0 |
| | | | Opening | Battery voltage |
| | 2 (L) | | Closing | Battery voltage |
| | | | Opening | 0 |

OK or NG

- OK >> Replace rear power window motor (RH).
 NG >> GO TO 2.



POWER WINDOW SYSTEM

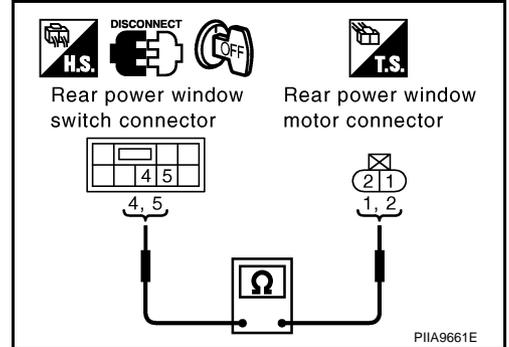
2. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect rear power window switch (RH) connector.
3. Check continuity between rear power window switch (RH) connector D75 terminals 4, 5 and rear power window motor (RH) connector D72 terminal 1, 2.

4 (G) – 1 (G) : Continuity should exist.
5 (L) – 2 (L) : Continuity should exist.

OK or NG

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



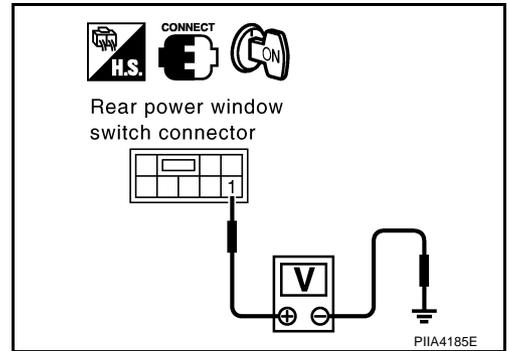
3. CHECK REAR POWER WINDOW SWITCH (RH) POWER SUPPLY

1. Connect rear power window switch (RH) connector.
2. Turn ignition switch ON.
3. Check voltage between rear power window switch (RH) connector D75 terminal 1 and ground.

1 (W/L) – Ground : Battery voltage

OK or NG

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



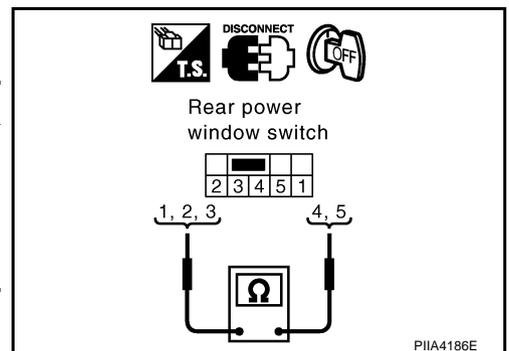
4. CHECK REAR POWER WINDOW SWITCH (RH)

1. Turn ignition switch OFF.
2. Disconnect rear power window switch (RH) connector.
3. Check continuity between rear power window switch (RH) connector D75 terminal 1, 2, 3 and 4, 5.

| Terminal | Switch condition | Continuity |
|----------|------------------|------------|
| 1 | DOWN position | Yes |
| 3 | Free | |
| 1 | UP position | |
| 2 | Free | |

OK or NG

- OK >> GO TO 5.
 NG >> Replace rear power window switch (RH).



POWER WINDOW SYSTEM

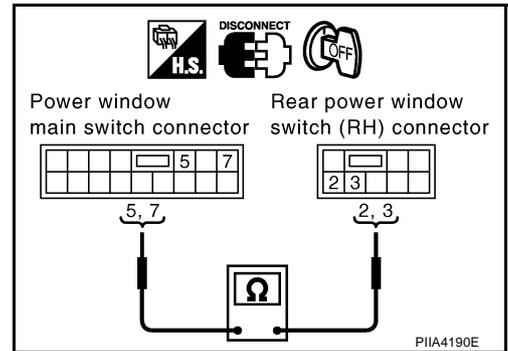
5. CHECK HARNESS CONTINUITY

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D6 terminal 5, 7 and rear power window switch (RH) connector D75 terminal 2, 3.

5 (R) – 3 (R) : Continuity should exist.
7 (Y/B) – 2 (Y/B) : Continuity should exist.

OK or NG

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



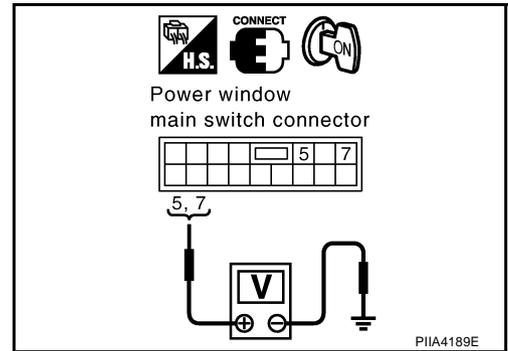
6. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Power window main switch is operated, check voltage between power window main switch connector and ground.

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|-----------|-----------------------|
| | (+) | (-) | | |
| D6 | 5 (R) | Ground | Closing | 0 |
| | | | Opening | Battery voltage |
| | 7 (Y/B) | | Closing | Battery voltage |
| | | | Opening | 0 |

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace power window main switch.



Check Limit Switch Circuit (Driver Side)

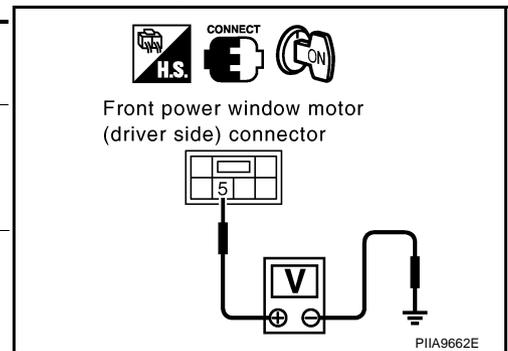
1. CHECK DRIVER DOOR MAIN SWITCH LIMIT SIGNAL

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

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|--|-----------------------|
| | (+) | (-) | | |
| D8 | 5 (G/W) | 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 switch circuit is OK.
 NG >> GO TO 2.



POWER WINDOW SYSTEM

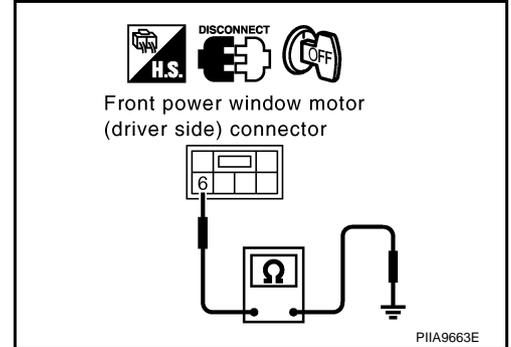
2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) connector.
3. Check continuity between front power window motor (driver side) connector D8 terminal 6 and ground.

6 (W/B) – Ground : Continuity should exist.

OK or NG

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



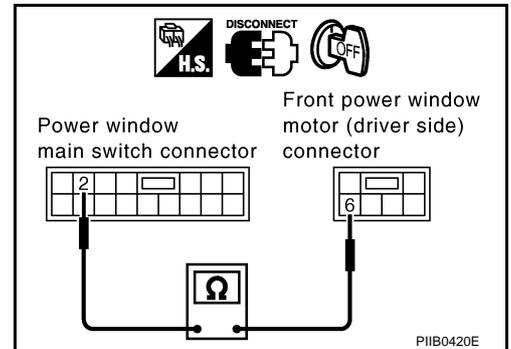
3. CHECK HARNESS CONTINUITY 1

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D6 terminal 2 and front power window motor (driver side) connector D8 terminal 6.

2 (W/B) – 6 (W/B) : Continuity should exist.

OK or NG

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



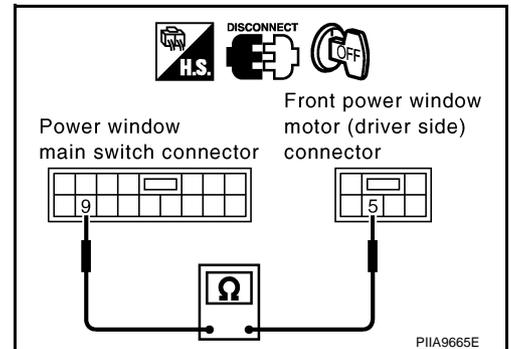
4. CHECK HARNESS CONTINUITY 2

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D6 terminal 9 and front power window motor (driver side) connector D8 terminal 5.

9 (G/W) – 5 (G/W) : Continuity should exist.

OK or NG

- OK >> GO TO 5.
NG >> Repair or replace harness.



POWER WINDOW SYSTEM

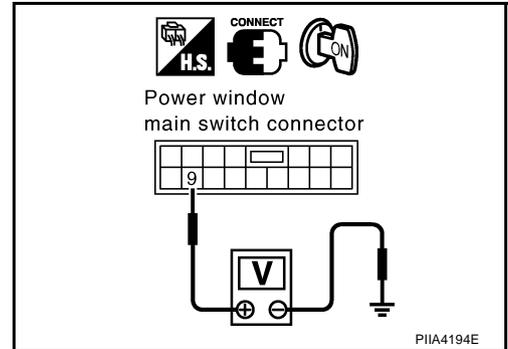
5. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect power window main switch connector.
2. Turn ignition switch ON.
3. Check voltage between power window main switch connector D6 terminal 9 and ground.

9 (G/W) – Ground : Approx. 5V

OK or NG

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



6. CHECK LIMIT SWITCH

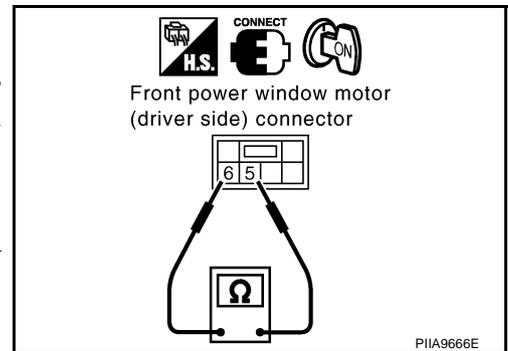
1. Connect power window main switch and front power window motor (driver side) connector.
2. Turn ignition switch ON.
3. Check continuity between front power window motor (driver side) connector D8 terminals 5 and 6.

| Connector | Terminals (Wire color) | | Condition | Continuity |
|-----------|------------------------|---------|--|------------|
| D8 | 5 (G/W) | 6 (W/B) | 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 front power window motor (driver side).



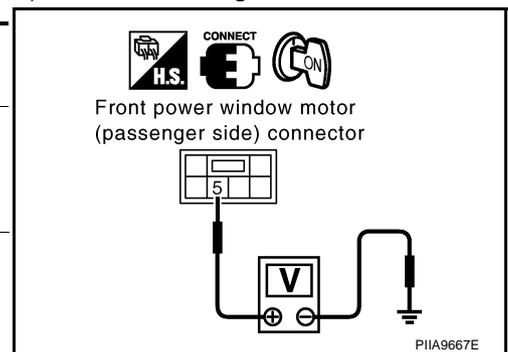
Check Limit Switch Circuit (Passenger Side)

NIS001BH

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) LIMIT SIGNAL

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

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|---|-----------------------|
| | (+) | (-) | | |
| D36 | 5 (G/W) | 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 switch circuit is OK.
 NG >> GO TO 2.

POWER WINDOW SYSTEM

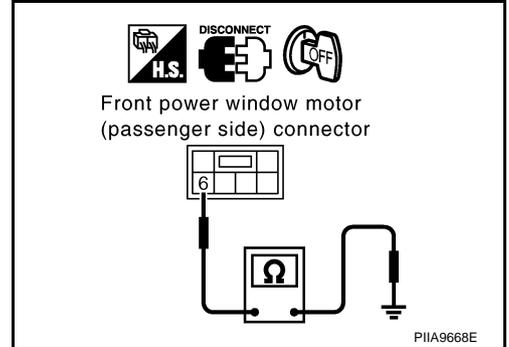
2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor (passenger side) connector.
3. Check continuity between front power window motor (passenger side) connector D36 terminal 6 and ground.

6 (W/B) – Ground : Continuity should exist.

OK or NG

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



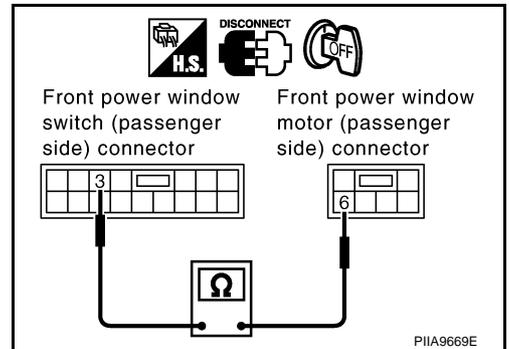
3. CHECK HARNESS CONTINUITY 1

1. Disconnect front power window switch (passenger side) connector.
2. Check continuity between front power window switch (passenger side) connector D35 terminal 3 and front power window motor (passenger side) connector D36 terminal 6.

3 (W/B) – 6 (W/B) : Continuity should exist.

OK or NG

- OK >> Replace front power window switch (passenger side).
NG >> Repair or replace harness.



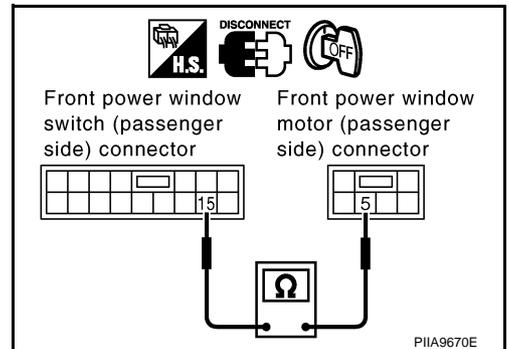
4. CHECK HARNESS CONTINUITY 2

1. Disconnect front power window switch (passenger side) connector.
2. Check continuity between front power window switch (passenger side) connector D35 terminal 15 and front power window motor (passenger side) connector D36 terminal 5.

15 (G/W) – 5 (G/W) : Continuity should exist.

OK or NG

- OK >> GO TO 5.
NG >> Repair or replace harness.



POWER WINDOW SYSTEM

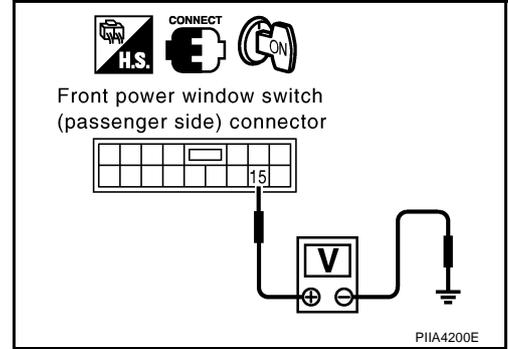
5. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) OUTPUT SIGNAL

1. Connect front power window switch (passenger side) connector.
2. Turn ignition switch ON.
3. Check voltage between front power window switch (passenger side) connector D35 terminal 15 and ground.

15 (G/W) – Ground : Approx. 5V

OK or NG

- OK >> GO TO 6.
 NG >> Replace front power window switch (passenger side).



6. CHECK LIMIT SWITCH

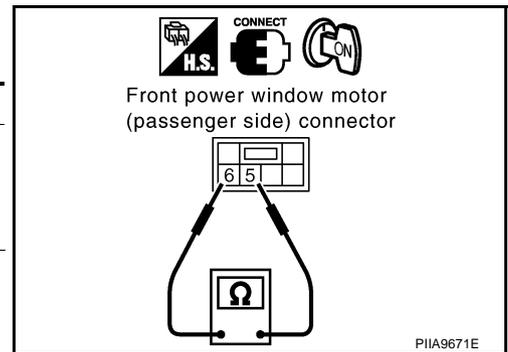
1. Connect front power window motor (passenger side) and front power window switch (passenger side) connector.
2. Turn ignition switch ON.
3. Check continuity between front power window motor (passenger side) connector D36 terminals 5 and 6.

| Connector | Terminals (Wire color) | | Condition | Continuity |
|-----------|------------------------|---------|---|------------|
| D36 | 5 (G/W) | 6 (W/B) | 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 front power window motor (passenger side).



Check Encoder Circuit (Driver Side)

NIS001B1

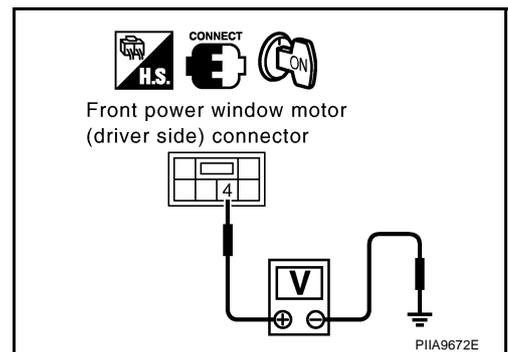
1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE) POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between front power window motor (driver side) connector D8 terminal 4 and ground.

4 (G/R) – Ground : Approx. 10V

OK or NG

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



POWER WINDOW SYSTEM

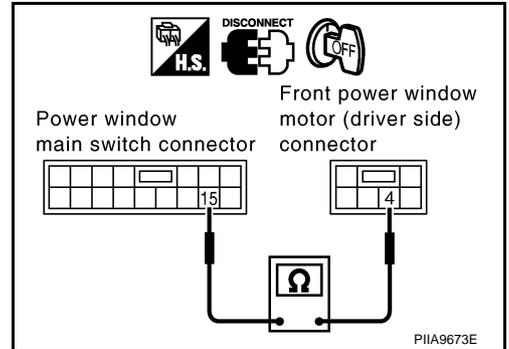
2. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) and power window main switch.
3. Check continuity between power window main switch connector D6 terminal 15 and front power window motor (driver side) connector D8 terminal 4.

15 (G/R) – 4 (G/R) : Continuity should exist.

OK or NG

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



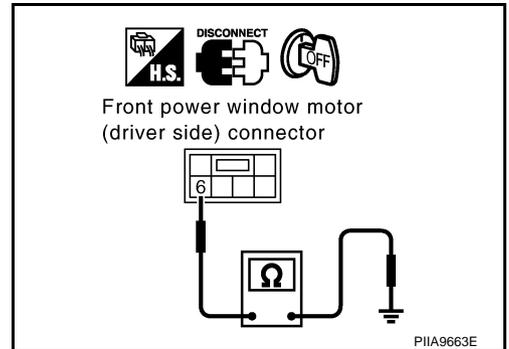
3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) connector.
3. Check continuity between front power window motor (driver side) connector D8 terminal 6 and round.

6 (W/B) – Ground : Continuity should exist.

OK or NG

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



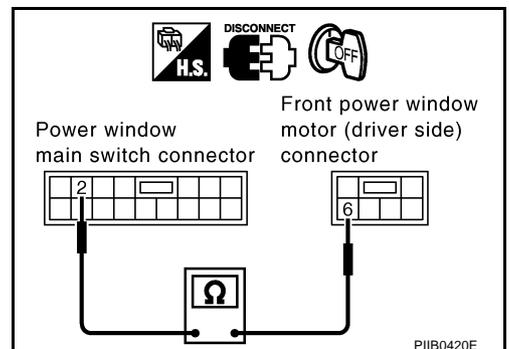
4. CHECK HARNESS CONTINUITY 2

1. Disconnect power window main switch connector.
2. Check continuity between power window main switch connector D6 terminal 2 and front power window motor (driver side) connector D8 terminal 6.

2 (W/B) – 6 (W/B) : Continuity should exist.

OK or NG

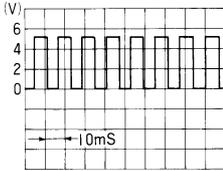
- OK >> Replace power window main switch.
NG >> Repair or replace harness.

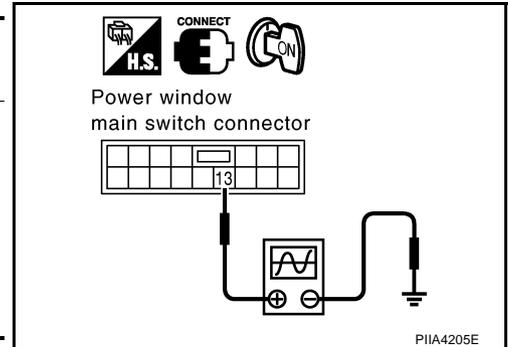


POWER WINDOW SYSTEM

5. CHECK ENCODER SIGNAL

1. Connect front power window motor (driver side) 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 value) |
|-----------|------------------------|--------|-----------|--|
| | (+) | (-) | | |
| D6 | 13 (G/Y) | Ground | opening |  <p style="text-align: right;">OCC3383D</p> |



OK or NG

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

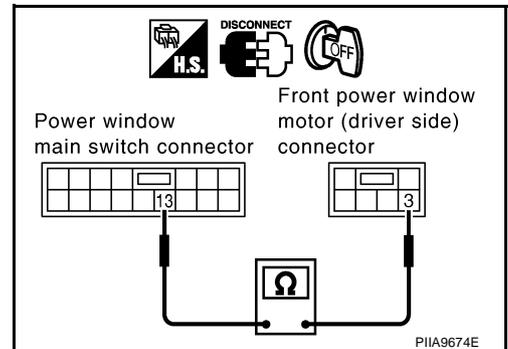
6. CHECK HARNESS CONTINUITY 3

1. Turn ignition switch OFF.
2. Disconnect power window main switch and front power window motor (driver side) connector.
3. Check continuity between power window main switch connector D6 terminal 13 and front power window motor (driver side) connector D8 terminal 3.

13 (G/Y) – 3 (G/Y) : Continuity should exist.

OK or NG

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



Check Encoder Circuit (Front Passenger Side)

NIS001BJ

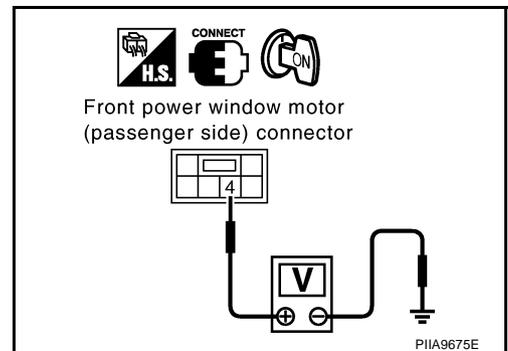
1. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between front power window motor (passenger side) connector D36 terminal 4 and ground.

4 (G/R) – Ground : Approx. 10V

OK or NG

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



POWER WINDOW SYSTEM

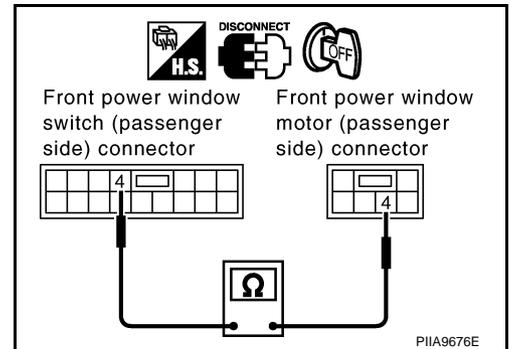
2. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) connector and front power window motor (passenger side) connector.
3. Check continuity between front power window switch (passenger side) connector D35 terminal 4 and front power window motor (passenger side) connector D36 terminal 4.

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

OK or NG

- OK >> Replace front power window switch (passenger side).
NG >> Repair or replace harness.



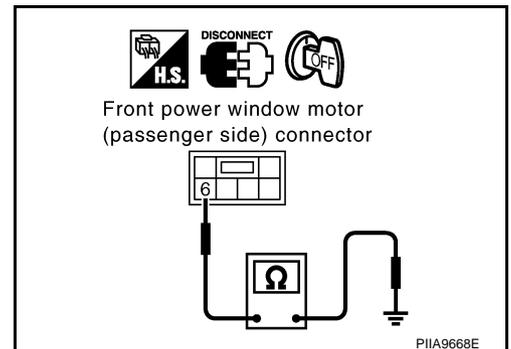
3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor (passenger side) connector.
3. Check continuity between front power window motor (passenger side) connector D36 terminal 6 and ground.

6 (W/B) – Ground : Continuity should exist.

OK or NG

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



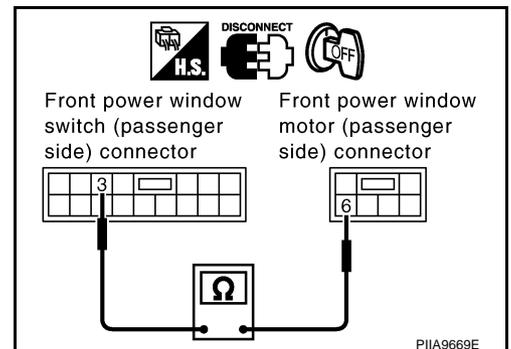
4. CHECK HARNESS CONTINUITY 2

1. Disconnect front power window switch (passenger side) connector.
2. Check continuity between front power window switch (passenger side) connector D35 terminal 3 and front power window motor (passenger side) connector D36 terminal 6.

3 (W/B) – 6 (W/B) : Continuity should exist.

OK or NG

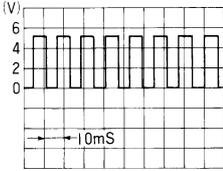
- OK >> Replace front power window switch (passenger side).
NG >> Repair or replace harness.

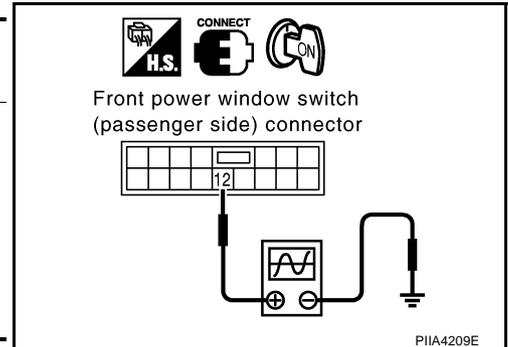


POWER WINDOW SYSTEM

5. CHECK ENCODER SIGNAL

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

| Connector | Terminals (Wire color) | | Condition | Signal (Reference value) |
|-----------|------------------------|--------|-----------|---|
| | (+) | (-) | | |
| D35 | 12 (G/Y) | Ground | opening |  <p>OCC3383D</p> |



OK or NG

- OK >> Replace front power window switch (passenger side).
 NG >> GO TO 6.

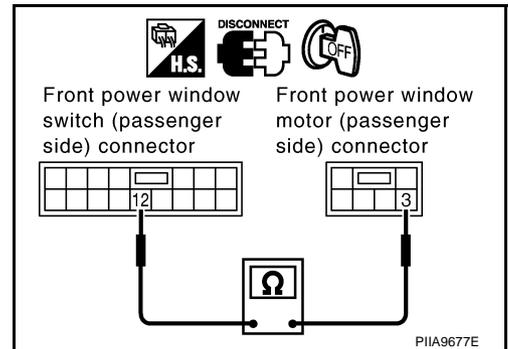
6. CHECK HARNESS CONTINUITY 3

1. Turn ignition switch OFF.
2. Disconnect front power window switch (passenger side) and front power window motor (passenger side) connector.
3. Check continuity between front power window switch (passenger side) connector D35 terminal 12 and front power window motor (passenger side) connector D36 terminal 3.

12 (G/Y) – 3 (G/Y) : Continuity should exist.

OK or NG

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



POWER WINDOW SYSTEM

Check Door Switch

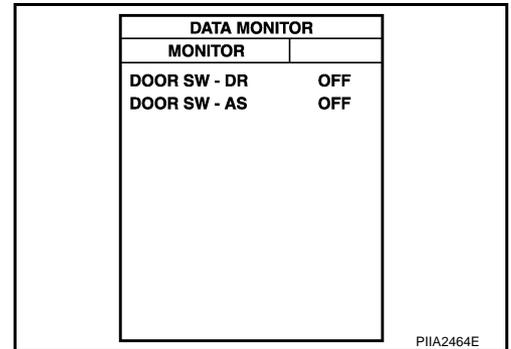
NIS001BK

1. CHECK DOOR SWITCH INPUT SIGNAL 1

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 |



Without CONSULT-II

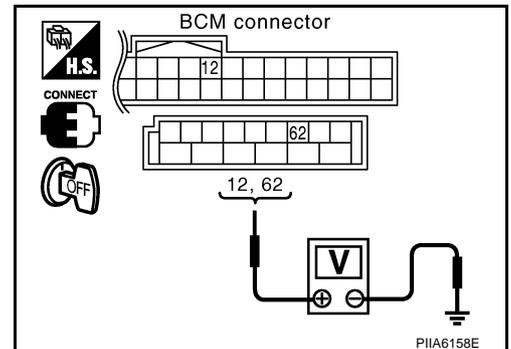
Check voltage between BCM connector and ground.

| Item | Con- nector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-------------------|----------------|------------------------|--------|-----------|--------------------------|
| | | (+) | (-) | | |
| Passenger side | M34 | 12 (R/G or R*) | Ground | OPEN | 0 |
| | | | | CLOSE | Battery voltage |
| Driver side | M36 | 62 (SB) | | OPEN | 0 |
| | | | | CLOSE | Battery voltage |

* : without intelligent key

OK or NG

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



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

GW

POWER WINDOW SYSTEM

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and front door lock assembly (driver and passenger side) connector.
3. Check continuity between BCM connector M34, 36 terminals 12, 62 and front door lock assembly connector D10 (driver side), D38 (passenger side) terminal 4.

Driver side

62 (SB) – 4 (SB) : Continuity should exist.

Passenger side

12 (R/G) – 4 (R/G) : Continuity should exist.

4. Check continuity between BCM connector M34, 36 terminals 12, 62 and ground.

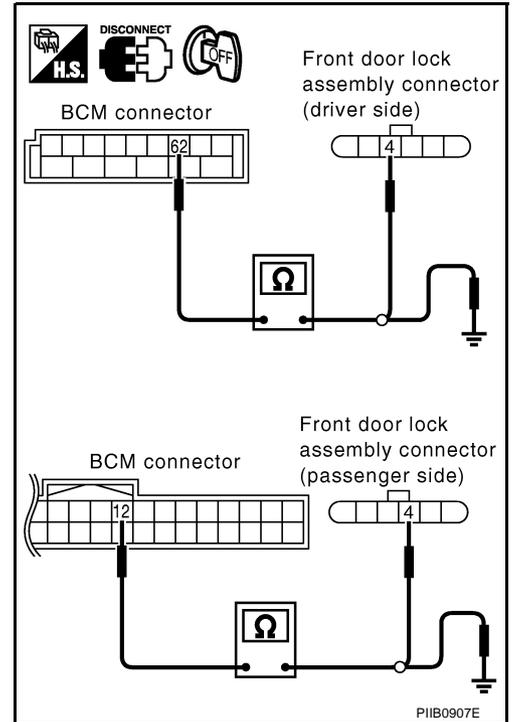
12 (R/G) – Ground : Continuity should not exist.

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

OK or NG

OK >> GO TO 3.

NG >> Repair or replace harness.



3. CHECK DOOR SWITCH

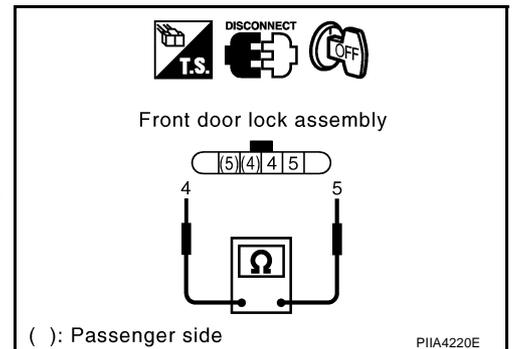
Check continuity between front door lock assembly terminals 4 and 5.

| Terminal | | Door switch | Continuity |
|----------|---|-------------|------------|
| 4 | 5 | OPEN | No |
| | | CLOSE | Yes |

OK or NG

OK >> GO TO 4.

NG >> Replace malfunction front door lock assembly.



4. CHECK DOOR SWITCH GROUND CIRCUIT

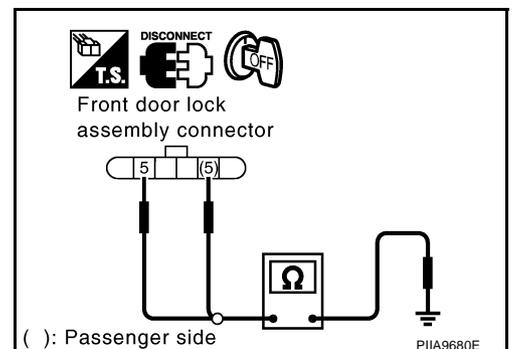
Check continuity between front door lock assembly connector D10 (driver side), D38 (passenger side) terminal 5 and ground.

5 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair or replace harness.



POWER WINDOW SYSTEM

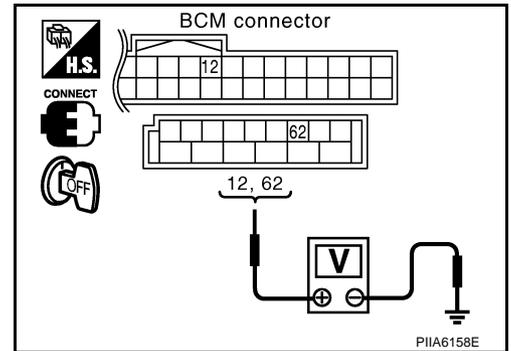
5. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector M3, B14 terminals 12, 62 and ground.

12 (R/G) – Ground : Battery voltage
62 (SB) – Ground : Battery voltage

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace BCM.



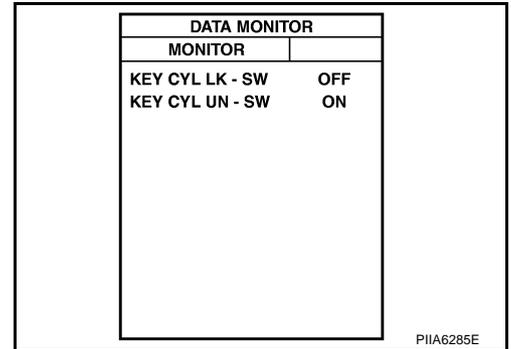
Check Door Key Cylinder Switch/Without Intelligent Key

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 with CONSULT-II.

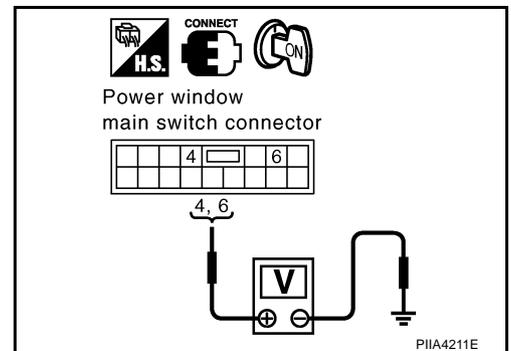
| Monitor item | Condition |
|---------------|------------------------|
| KEY CYL LK-SW | Lock : ON |
| | Neutral / Unlock : OFF |
| KEY CYL UN-SW | Unlock : ON |
| | Neutral / Lock : OFF |



Without CONSULT-II

Check voltage between power window main switch connector and ground.

| Connector | Terminals (Wire color) | | Key position | Voltage (V) (Approx.) |
|-----------|------------------------|--------|------------------|-----------------------|
| | (+) | (-) | | |
| D6 | 4 (L) | Ground | Lock | 0 |
| | | | Neutral / Unlock | 5 |
| | 6 (R) | | Unlock | 0 |
| | | | Neutral / Lock | 5 |



OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> GO TO 2.

POWER WINDOW SYSTEM

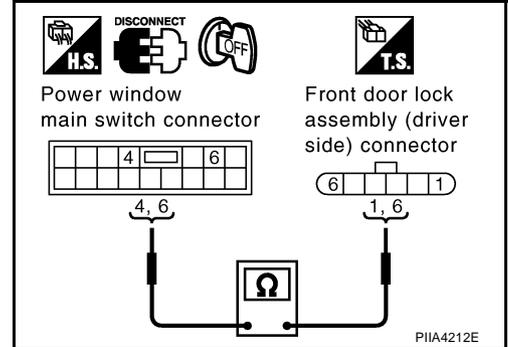
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window main switch and front door lock assembly (driver side) connector.
3. Check continuity between power window main switch connector D6 terminals 4, 6 and front door lock assembly (driver side) connector D10 terminals 1, 6.

4 (L) – 1 (L) : Continuity should exist.
6 (R) – 6 (R) : Continuity should exist.

OK or NG

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



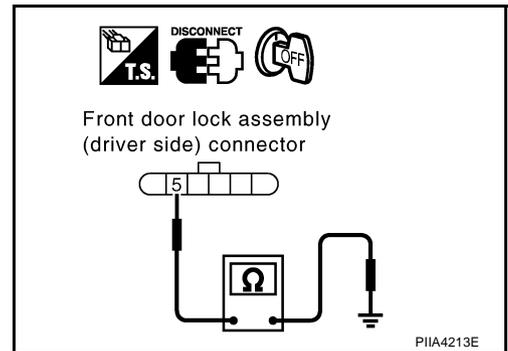
3. CHECK GROUND CIRCUIT

Check continuity between key cylinder switch (driver side) connector D10 terminal 5 and ground.

5 (B) – Ground : Continuity should exist.

OK or NG

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



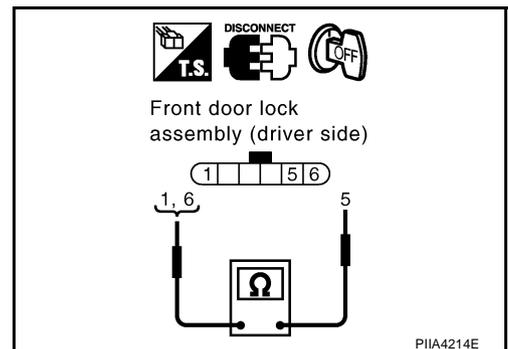
4. CHECK DOOR KEY CYLINDER SWITCH

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

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

OK or NG

- OK >> GO TO 5.
 NG >> Replace key cylinder switch (driver side).



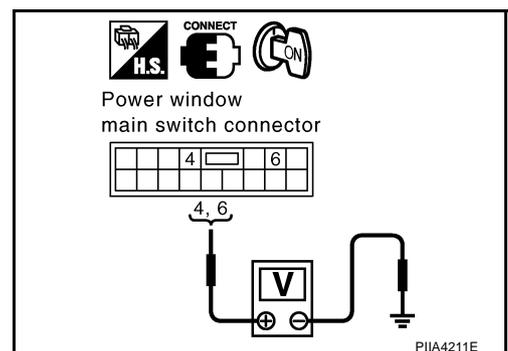
5. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect power window main switch connector.
2. Check voltage between power window main switch connector D6 terminal 4, 6 and ground.

4 (L) – Ground : Approx. 5V
6 (R) – Ground : Approx. 5V

OK or NG

- OK >> Check the condition of the harness and the connector.
 NG >> Replace power window main switch.



POWER WINDOW SYSTEM

Check Door Key Cylinder Switch/With Intelligent Key

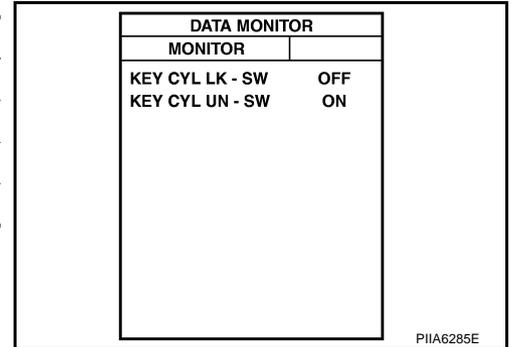
NIS001BM

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 with CONSULT-II.

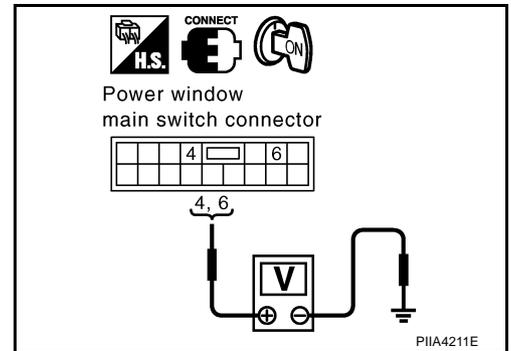
| Monitor item | Condition |
|----------------|---------------------|
| KEY CYL LK- SW | Lock: ON |
| | Neutral/Unlock: OFF |
| KEY CYL UN- SW | Unlock: ON |
| | Neutral/Lock: OFF |



Without CONSULT-II

Check voltage between power window main switch connector and ground.

| Connector | Terminals (Wire color) | | Key position | Voltage (V) (Approx.) |
|-----------|------------------------|--------|----------------|--------------------------|
| | (+) | (-) | | |
| D6 | 4 (L) | Ground | Lock | 0 |
| | | | Neutral/Unlock | 5 |
| | 6 (R) | | Unlock | 0 |
| | | | Neutral/Lock | 5 |



OK or NG

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

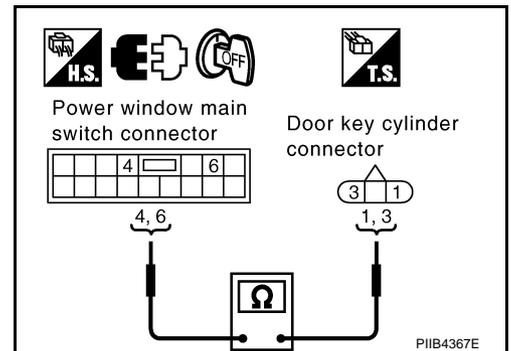
2. CHECK DOOR KEY CYLINDER SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch and door key cylinder switch connector.
3. Check continuity between power window main switch connector D6 terminal 4, 6 and door key cylinder switch connector D11 terminals 1, 3.

- 4 (L) – 1 (L) : Continuity should exist.**
- 6 (R) – 3 (R) : 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

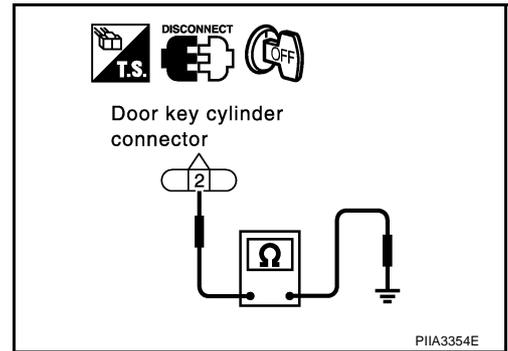
Check continuity between door key cylinder switch connector D11 terminal 2 and ground.

2 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair or replace harness.



4. CHECK DOOR KEY CYLINDER SWITCH

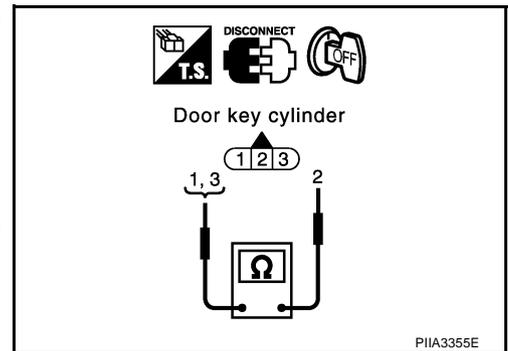
Check continuity between door key cylinder switch connector D11 terminals 1, 3 and 2.

| Connector | Terminal | Key position | Continuity |
|-----------|----------|----------------|------------|
| D11 | 1 | Neutral/Unlock | No |
| | | Lock | Yes |
| | 3 | Neutral/Lock | No |
| | | Unlock | Yes |

OK or NG

OK >> GO TO 5.

NG >> Replace door key cylinder switch.



5. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect power window main switch connector.
2. Check voltage between power window main switch connector D6 terminal 4, 6 and ground.

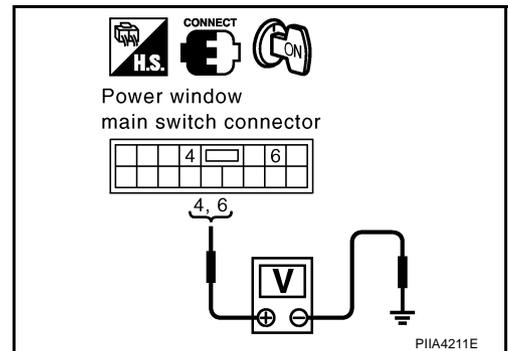
4 (L) – Ground : Approx. 5V

6 (R) – Ground : Approx. 5V

OK or NG

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

NG >> Replace power window main switch.



POWER WINDOW SYSTEM

NIS001BN

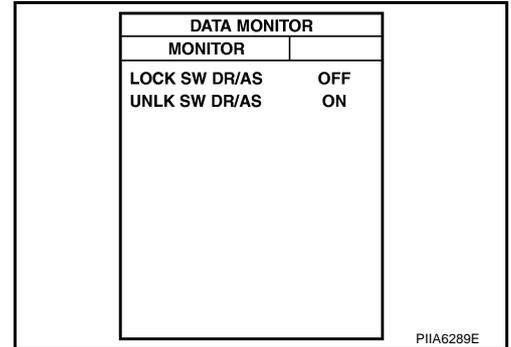
Check Power Window Serial Link

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 with CONSULT-II. Refer to [GW-37, "DATA MONITOR"](#)

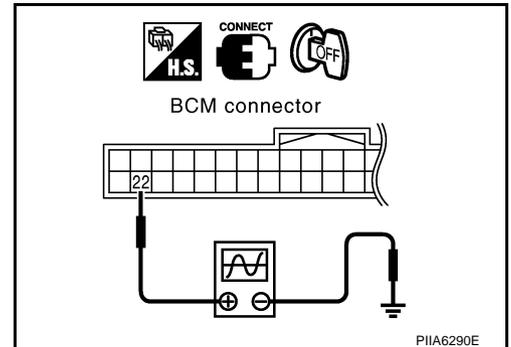
| Monitor item | Condition |
|-----------------|--------------|
| LOCK SW DR / AS | LOCK : ON |
| | UNLOCK : OFF |
| UNLK SW DR / AS | LOCK : ON |
| | UNLOCK : OFF |



Without CONSULT-II

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

| Connector | Terminals (Wire color) | | Signal (Reference value) |
|-----------|------------------------|--------|--|
| | (+) | (-) | |
| M34 | 22 (BR/W) | Ground | <p>(V) 15 10 5 0</p> <p>10 ms</p> <p>PIIA1297E</p> |



OK or NG

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

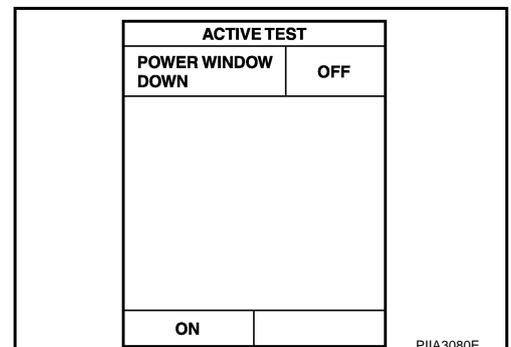
2. CHECK BCM OUTPUT SIGNAL

Check power window serial link ("POWER WINDOW DOWN") in "ACTIVE TEST" mode with CONSULT-II. Refer to [GW-37, "ACTIVE TEST"](#)

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

OK or NG

- OK >> Power window serial link is OK.
- NG >> Replace BCM.

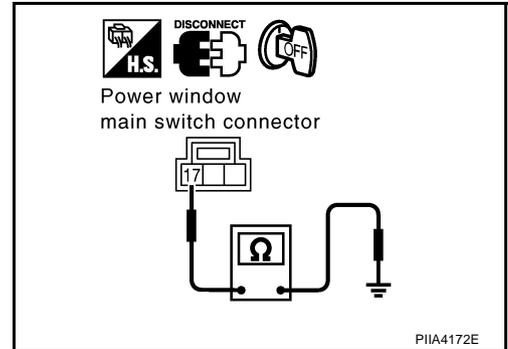


POWER WINDOW SYSTEM

3. CHECK POWER WINDOW SWITCH GROUND

1. Turn ignition switch OFF.
2. Disconnect power window main switch and front power window switch (passenger side) connector.
3. Check continuity between power window main switch connector D7 terminal 17 and ground.

17 (B) – Ground : Continuity should exist.



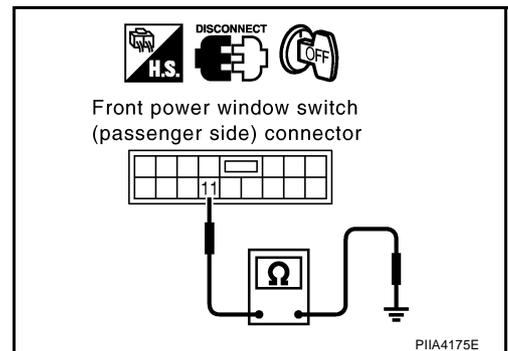
4. Check continuity between front power window switch (passenger side) connector D35 terminal 11 and ground.

11 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

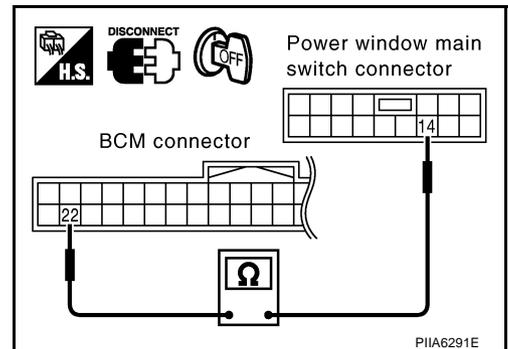
NG >> Repair or replace harness.



4. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector M34 terminal 22 and power window main switch connector D6 terminal 14.

22 (BR/W) – 14 (BR/W) : Continuity should exist.



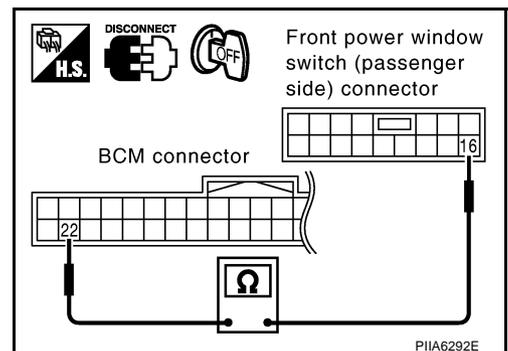
3. Check continuity between BCM connector M34 terminal 22 and front power window switch (passenger side) connector D35 terminal 16.

22 (BR/W) – 16 (BR/W) : Continuity should exist.

OK or NG

OK >> Replace power window main switch.

NG >> Repair or replace harness.



POWER WINDOW SYSTEM

Check Power Window Lock Switch

NIS001B0

1. CHECK POWER WINDOW MAIN SWITCH

Exchanges for a normal power window main switch, and operation is checked.

Does power window lock operate?

OK or NG

OK >> Replace malfunction power window main switch.

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

A

B

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GW

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K

L

M

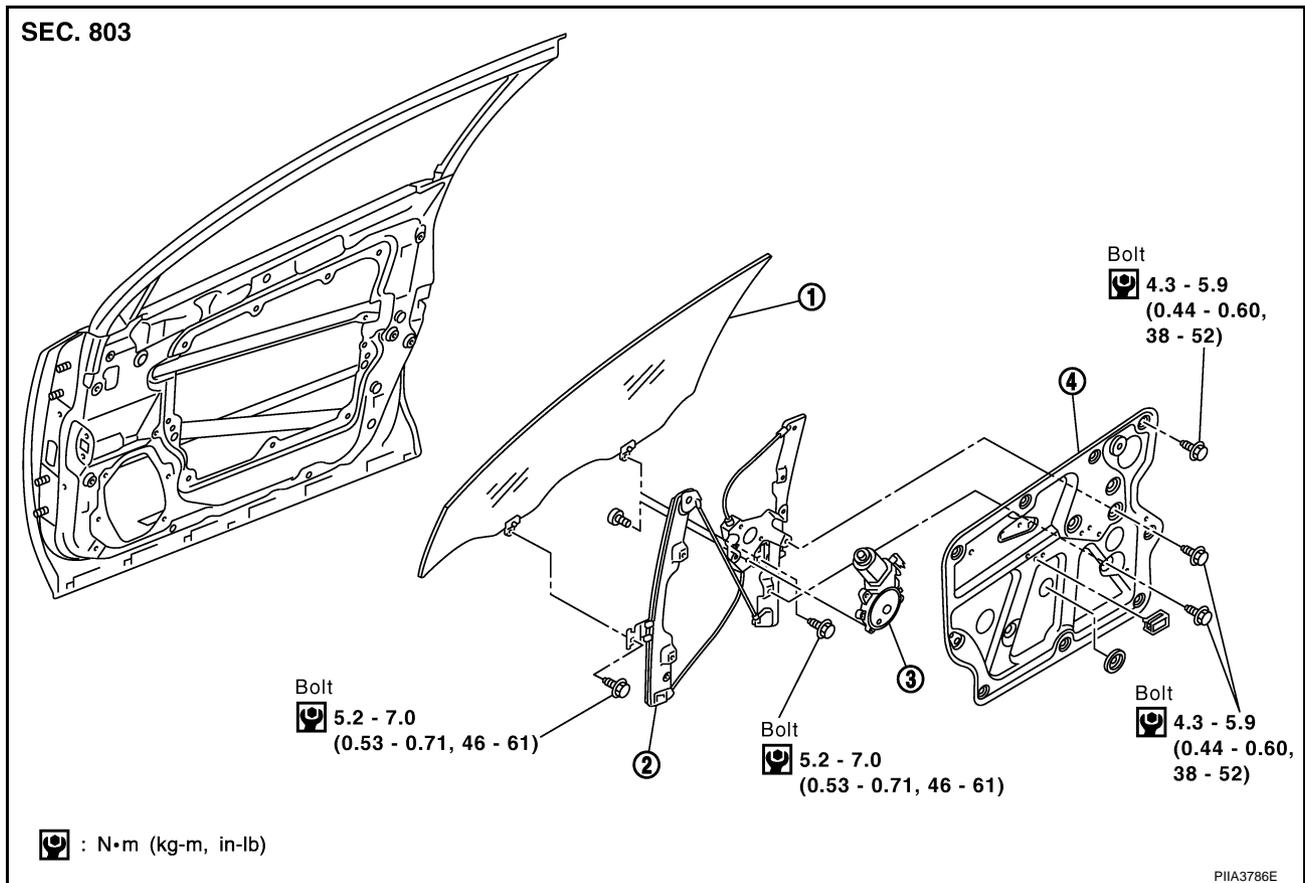
FRONT DOOR GLASS AND REGULATOR

FRONT DOOR GLASS AND REGULATOR

PFP:80300

Removal and Installation

NIS001BP

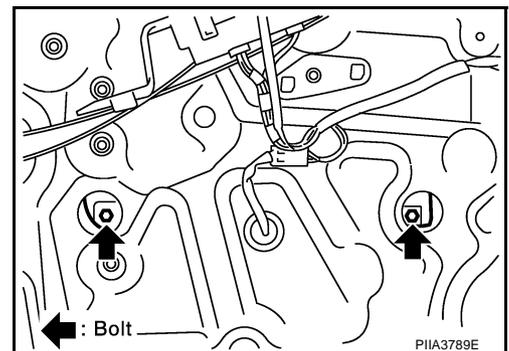


1. Door glass
2. Regulator assembly
3. Power window motor
4. Module assembly

DOOR GLASS

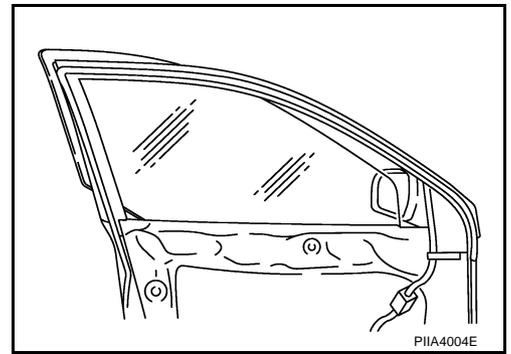
Removal

1. Remove the front door finisher. Refer to [EI-30, "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 the glass out of the sash toward the outside of the door.



A
B
C
D

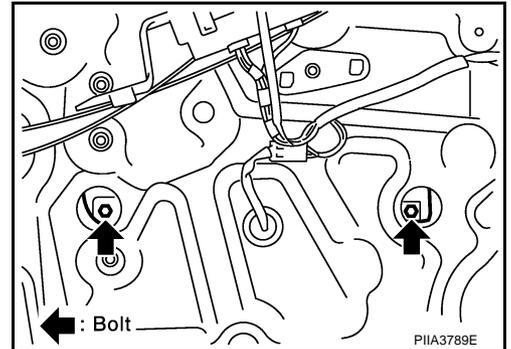
Installation

Install in the reverse order of removal.

REGULATOR ASSEMBLY

Removal

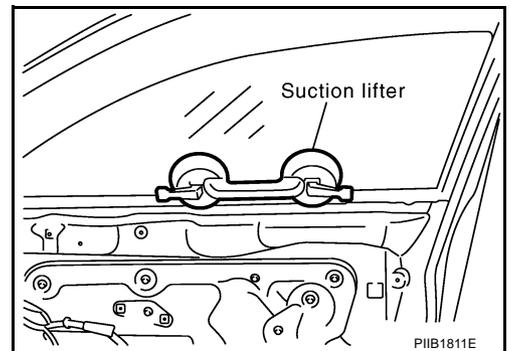
1. Remove the front door finisher. Refer to [EI-30, "DOOR FINISHER"](#).
2. Operate the power window main switch to raise/lower the door window until the glass mounting bolts can be seen.
3. Remove the glass mounting bolts.



E
F
G
H

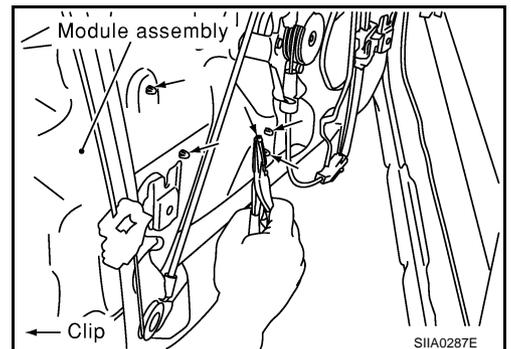
GW

4. Raise up the door glass and hold with a suction lifter.



J
K
L
M

5. Remove the mounting bolts, and remove the module assembly.
6. Disconnect the harness connector for the module assembly, and unclip the harness from the back.



Installation

Install in the reverse order of removal.

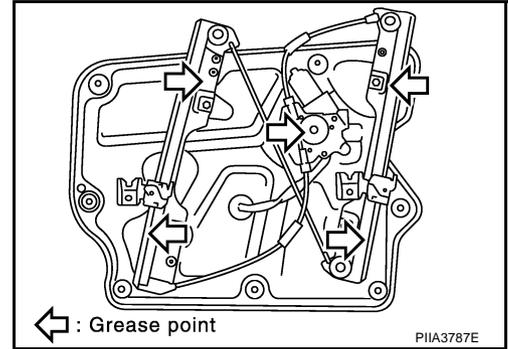
FRONT DOOR GLASS AND REGULATOR

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

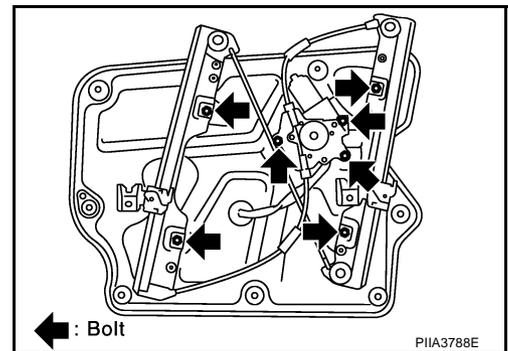
The arrows in the figure show the application points of the multi-purpose grease.



Disassembly and Assembly REGULATOR ASSEMBLY

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

If any of the following work has been done, reset 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.
- Removal and installation of the glass run.

Resetting

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

1. Remove the motor from regulator.
2. Connect the connector. Rotate the motor unit with power window switch for more than 5 sec in glass raising direction.
3. Install motor to regulator.
4. Raise glass to the top position.

CAUTION:

Do not use Auto switch to raise the glass to the top position.

FITTING INSPECTION

- Make sure 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 make sure the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator mounting bolts, guide rail mounting bolts, and glass and guide rail mounting bolts to correct the glass position.

REAR DOOR GLASS AND REGULATOR

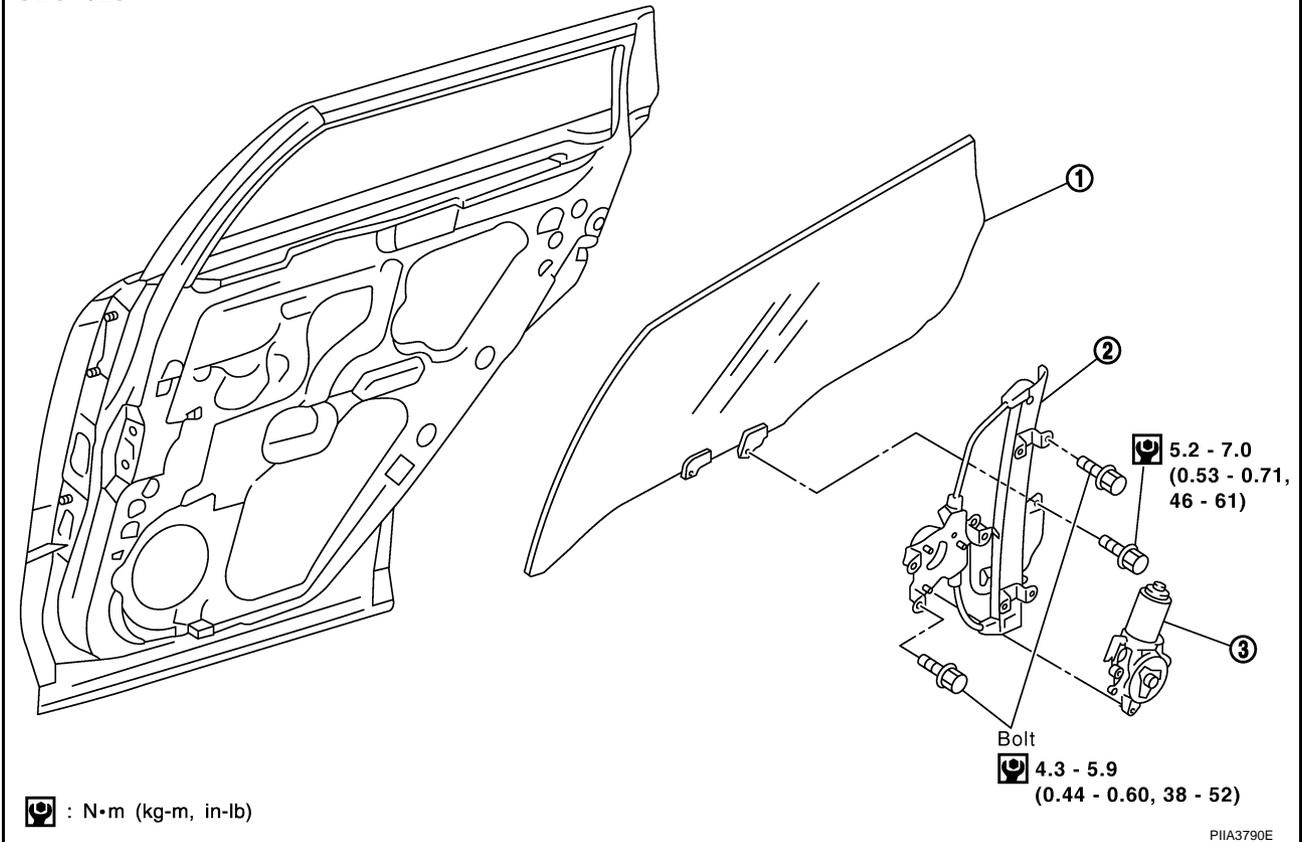
REAR DOOR GLASS AND REGULATOR

PFP:82300

Removal and Installation

NIS001BS

SEC. 823



1. Door glass

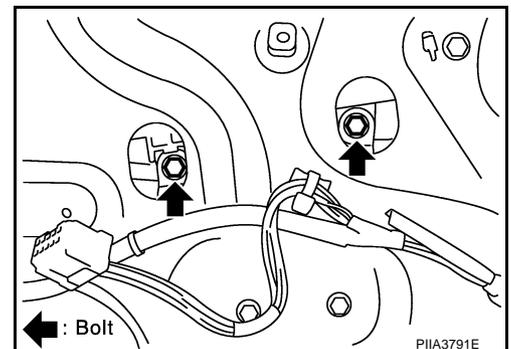
2. Regulator assembly

3. Power window motor

DOOR GLASS

Removal

1. Remove the rear door finisher. Refer to [EI-30, "DOOR FINISHER"](#) .
2. Remove the rear door outside molding. Refer to [EI-22, "DOOR OUTSIDE MOLDING"](#) .
3. Remove the sealing screen.
4. Remove the rear lower sash.
5. Operate the power window switch to raise/lower the door window until the glass mounting bolts can be seen.
6. Remove the glass mounting bolts, and remove the glass from the inside of the panel.



Installation

Install in the reverse order of removal.

REGULATOR ASSEMBLY

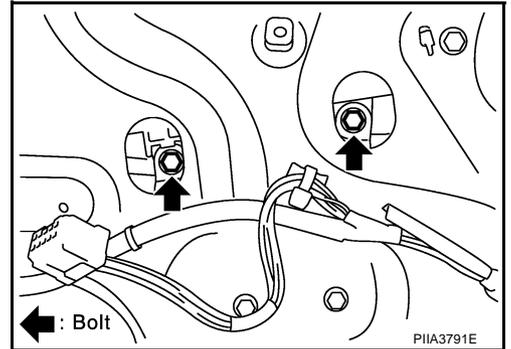
Removal

1. Remove the rear door finisher. Refer to [EI-30, "DOOR FINISHER"](#) .
2. Remove the rear door outside molding. Refer to [EI-22, "DOOR OUTSIDE MOLDING"](#) .

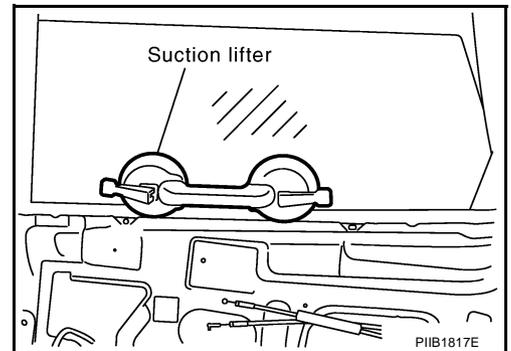
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REAR DOOR GLASS AND REGULATOR

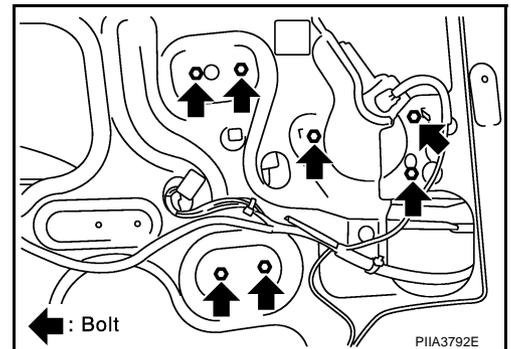
3. Remove the sealing screen.
4. Remove the rear lower sash.
5. Operate the power window switch to raise/lower the door window until the glass mounting bolts can be seen.
6. Remove the glass mounting bolts.



7. Raise up the door glass and hold with a suction lifter.



8. Remove the regulator mounting bolts, and remove the regulator from the panel.
9. Disconnect the connector for the regulator assembly.



Installation

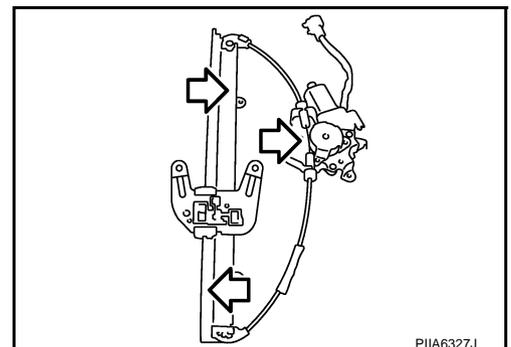
Install in the reverse order of removal.

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 multi-purpose grease.



REAR DOOR GLASS AND REGULATOR

Disassembly and Assembly REGULATOR ASSEMBLY

NIS001BT

Disassembly

Remove power window motor from regulator assembly.

Assembly

Assemble in the reverse order of removal.

Inspection after Installation FITTING INSPECTION

NIS001BU

- Make sure 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 make sure the clearance to the sash is parallel. If the clearance between the glass and sash is not parallel, loosen the regulator mounting bolts, guide rail mounting bolts, and glass and carrier plate mounting bolts to correct the glass position.

A

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INSIDE MIRROR

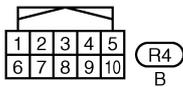
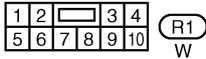
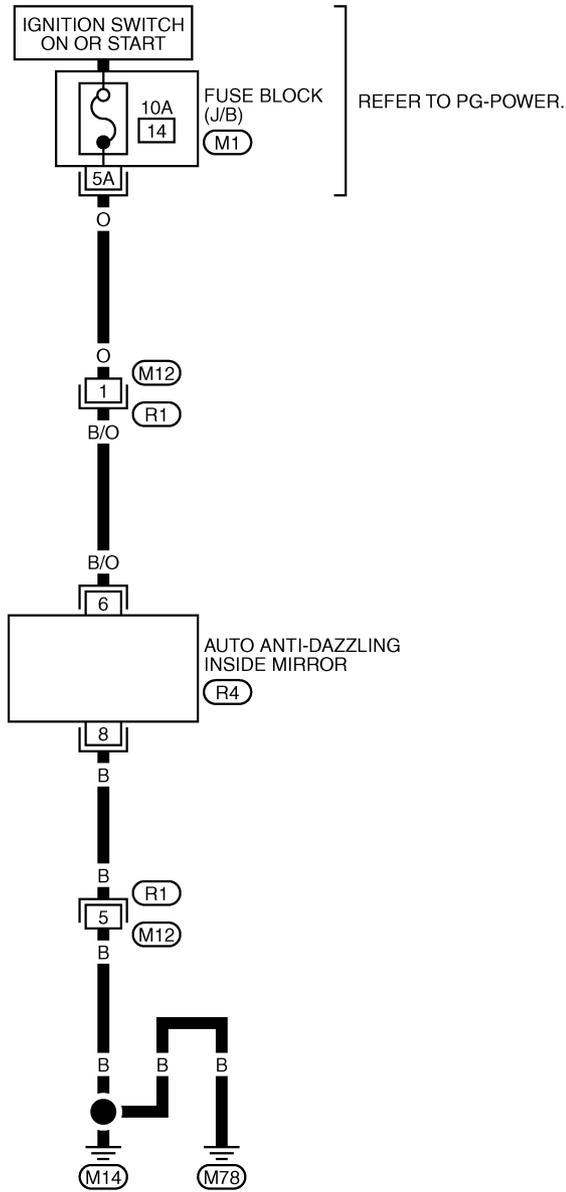
PF9:96321

INSIDE MIRROR

Wiring Diagram — I/MIRR —

NIS001BV

GW-I/MIRR-01



REFER TO THE FOLLOWING.

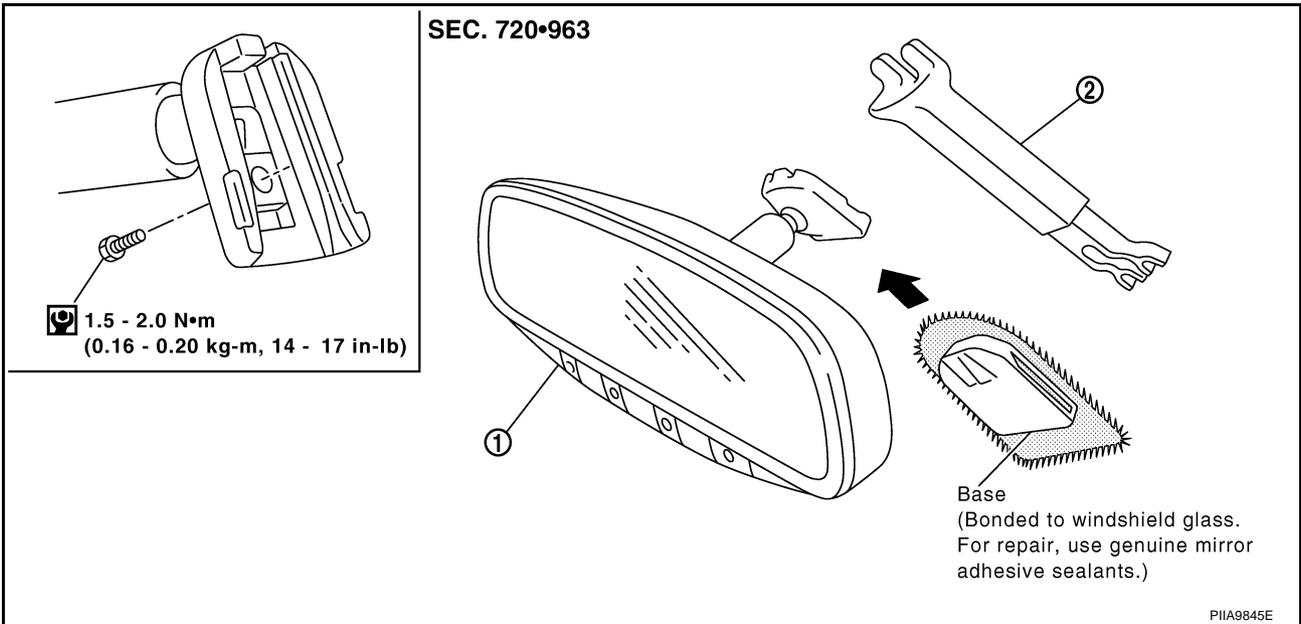
(M1) - FUSE BLOCK-JUNCTION
BOX (J/B)

TIWB0801E

INSIDE MIRROR

Removal and Installation

NIS001BW



CAUTION:

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

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

A
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GW

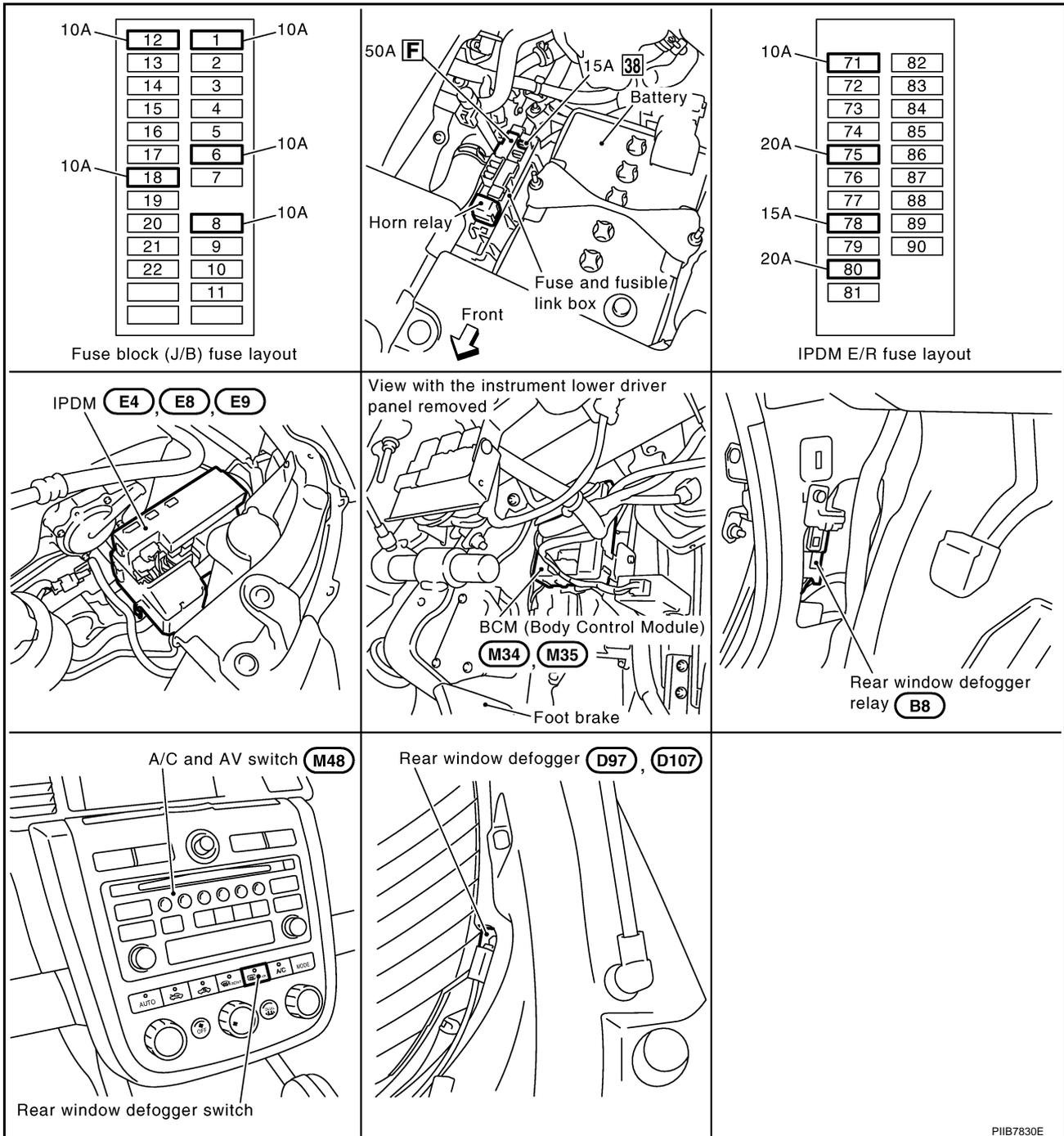
REAR WINDOW DEFOGGER

PF2:25350

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

NIS001BX



System Description

NIS001BY

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 terminals 3 and 6.
- through 15A fuse [No. 38, located in the fuse block (J/B)]
- to A/C and AV switch terminal 1.
- through 50A fusible link [letter F, located in the fuse block (J/B)]

REAR WINDOW DEFOGGER

- 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.12, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1.
- through 10A fuse [No.1, located in the fuse block (J/B)]
- to BCM terminal 38.
- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to A/C and AV switch terminal 2.

Ground is supplied

- to BCM terminal 52
- through body grounds M14 and M78.
- to A/C and AV switch terminal 5
- through body grounds M14 and M78.
- to internal CPU of IPDM E/R terminals 38 and 60
- through body grounds E13, E26 and E28.

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

- to BCM terminal 9
- through A/C and AV switch terminal 16
- through A/C and AV switch terminal 5
- through body grounds M14 and M78.

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 and display control unit (with navigation) or display unit (without navigation) via DATA LINE (CAN H, CAN L).

When display control unit (with navigation) or display unit (without navigation) receives rear window defogger switch signals, and display on the screen.

When IPDM E/R 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 E13, E26 and E28,

and then rear window defogger relay is energized.

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

- through rear window defogger relay terminals 5 and 7
- to rear window defogger terminal 1,
- Rear window defogger terminal 2, is grounded through body grounds B7 and B20.

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

When rear window defogger relay is turned to ON, (with door mirror defogger)

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 6.

Door mirror defogger (Driver side and passenger side) terminal 5 is grounded through body grounds M14 and M78.

A

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C

D

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G

H

GW

J

K

L

M

REAR WINDOW DEFOGGER

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

CAN Communication System Description

NIS001BZ

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

NIS001C0

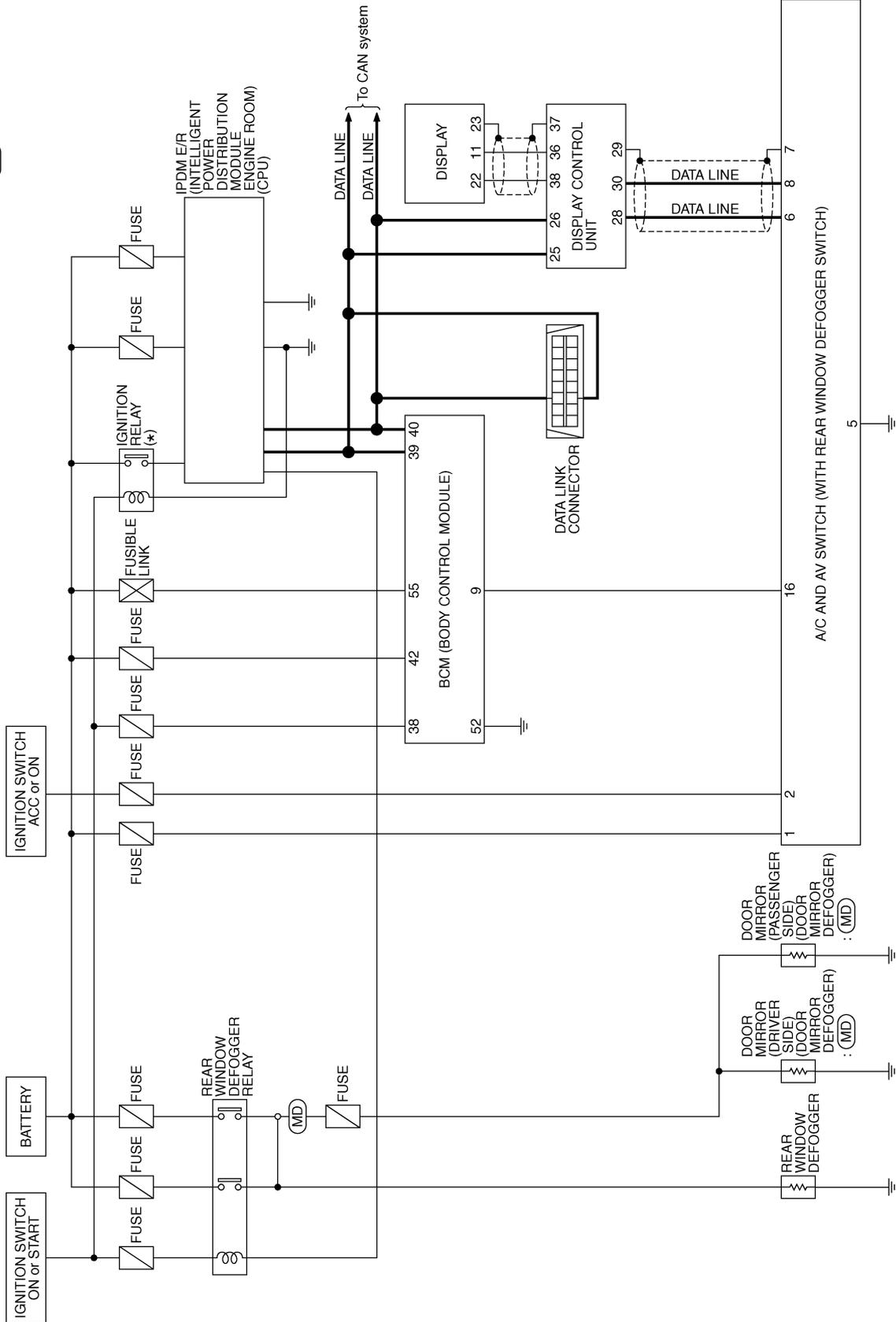
Refer to [LAN-49, "CAN System Specification Chart"](#)

REAR WINDOW DEFOGGER

Schematic

NIS001C1

(MD) : With mirror defogger



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

A
B
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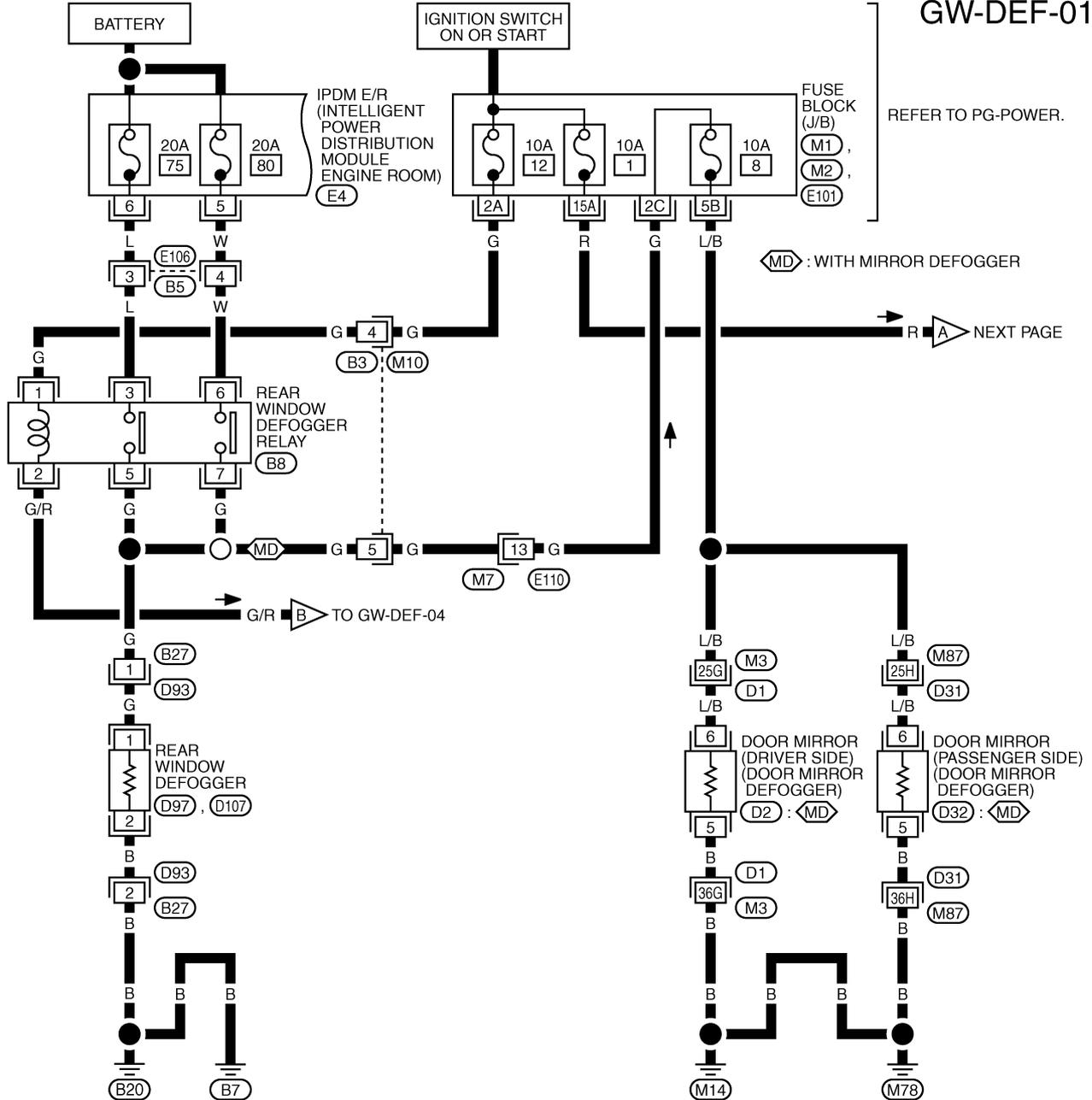
TIWB0802E

REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

NIS001C2

GW-DEF-01

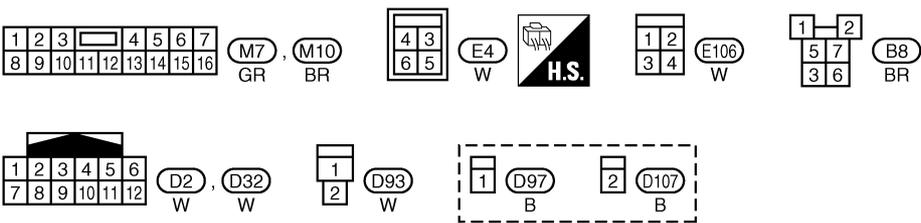


REFER TO PG-POWER.

MD: WITH MIRROR DEFOGGER

▶ NEXT PAGE

▶ TO GW-DEF-04

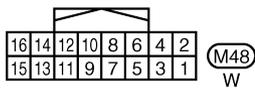
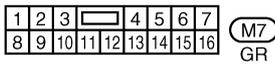
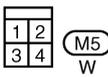
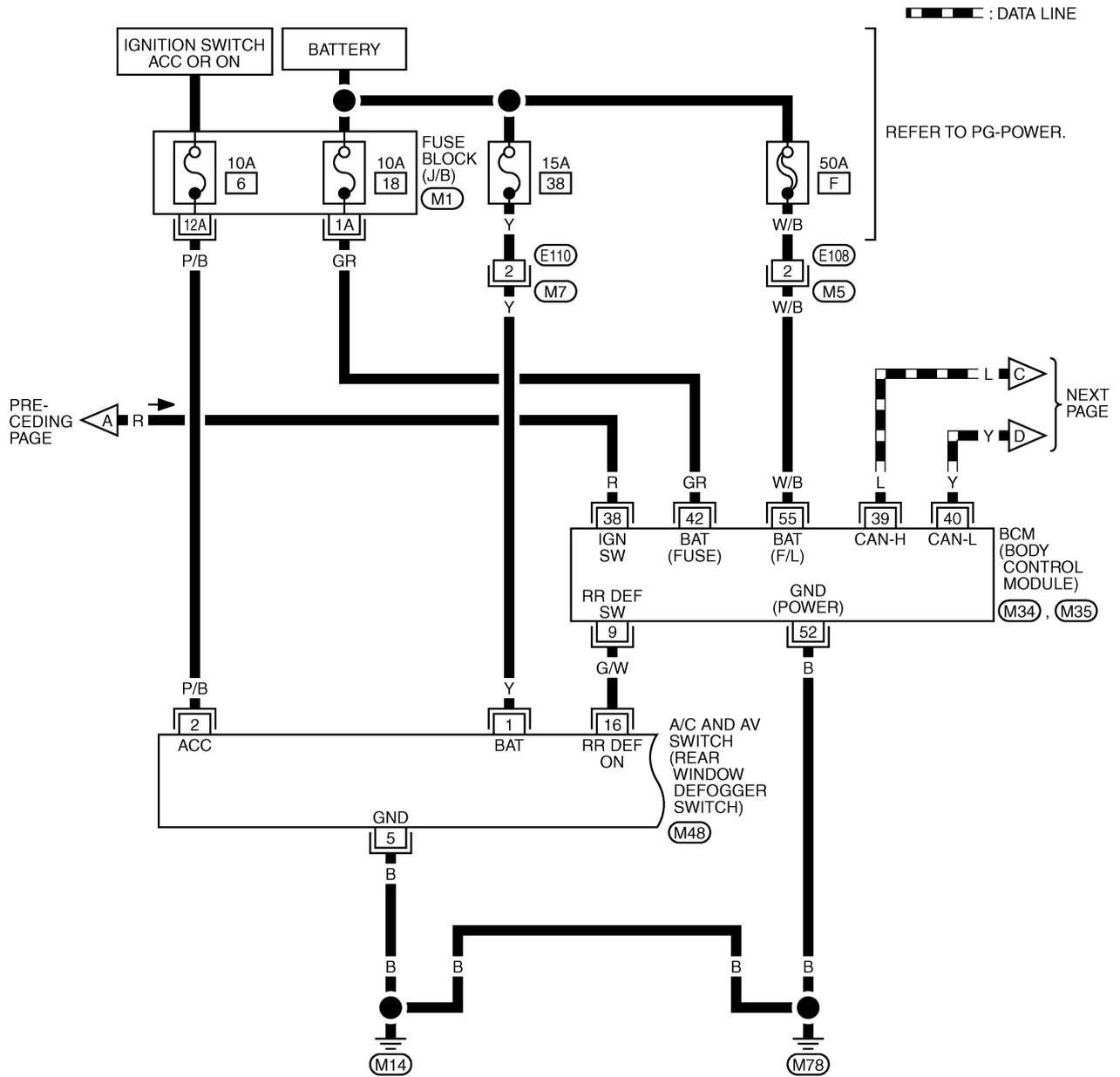


REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (M2), (E101) -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0177E

REAR WINDOW DEFOGGER

GW-DEF-02



REFER TO THE FOLLOWING.

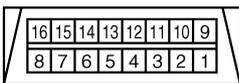
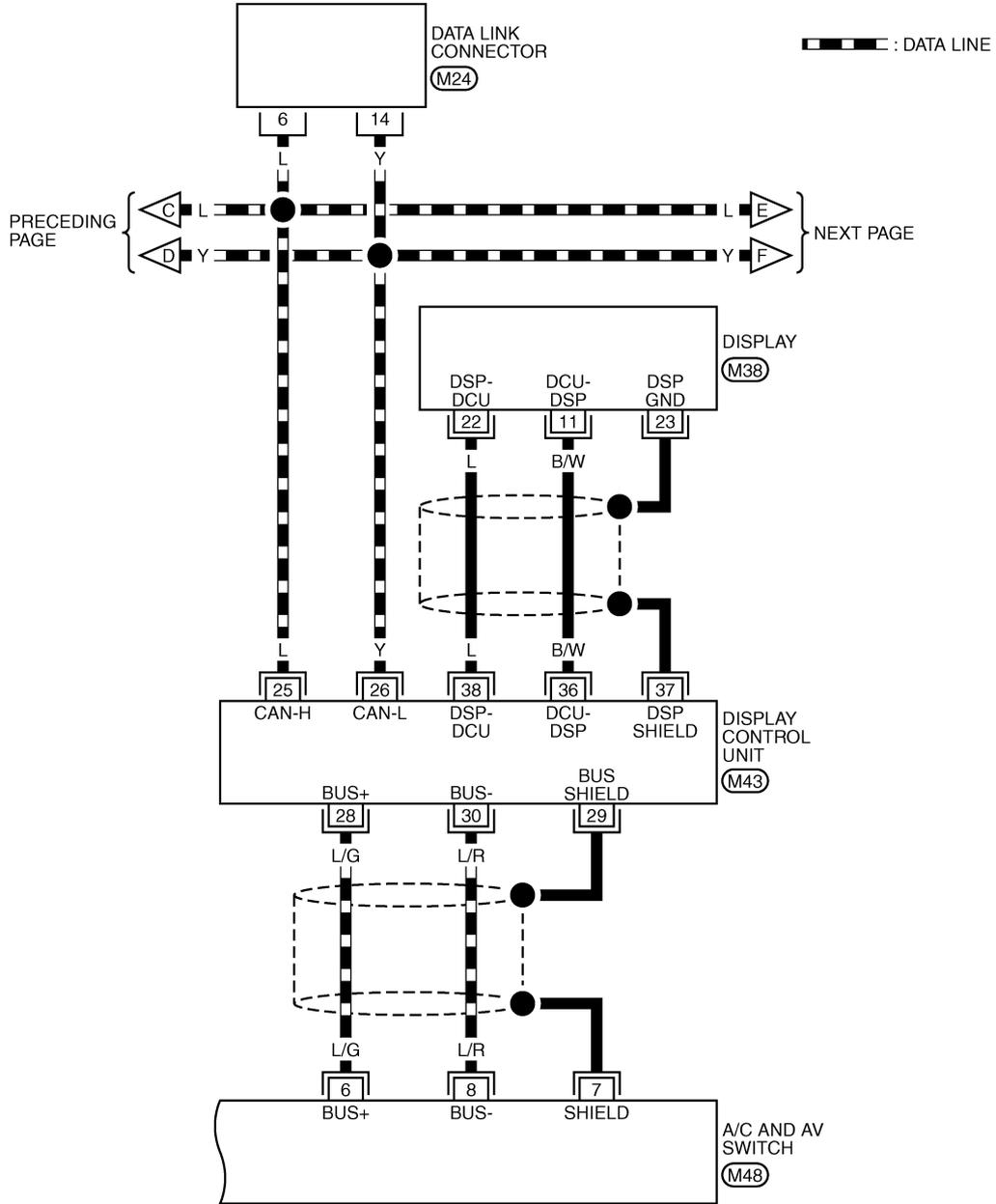
(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

(M34), (M35) -ELECTRICAL UNITS

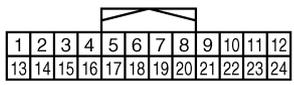
TIWB0803E

REAR WINDOW DEFOGGER

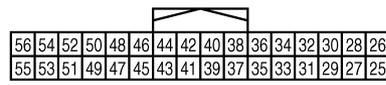
GW-DEF-03



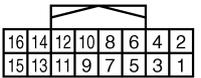
(M24)
W



(M38)
W



(M43)
W



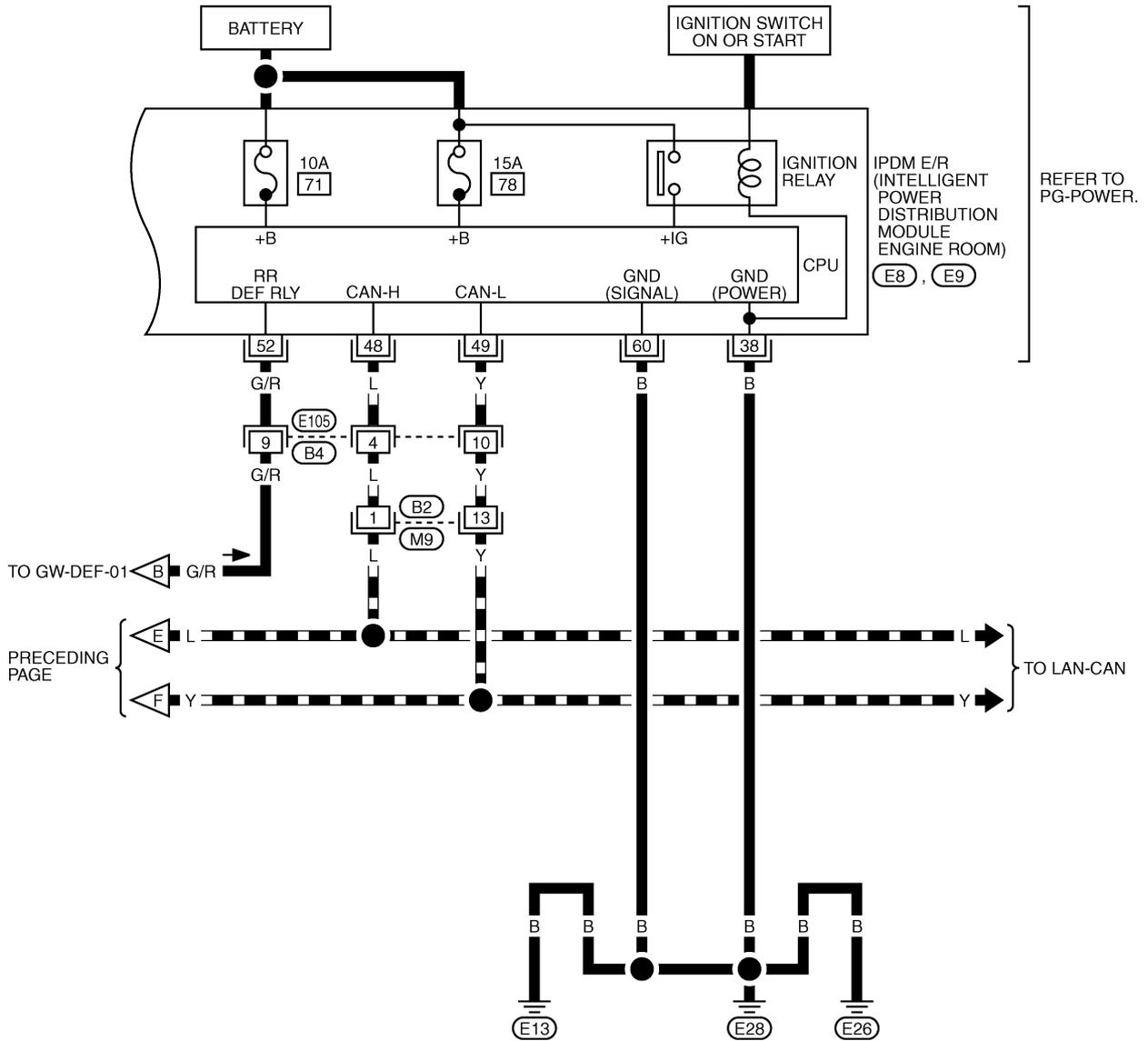
(M48)
W

TIWB0804E

REAR WINDOW DEFOGGER

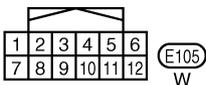
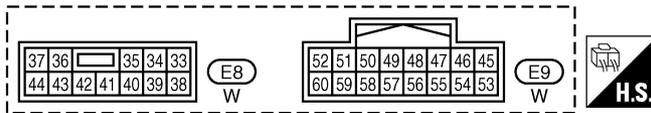
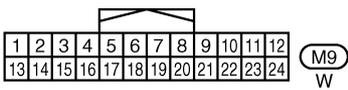
GW-DEF-04

▬ : DATA LINE



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GW



TIWB0805E

REAR WINDOW DEFOGGER

Terminal and Reference Value for BCM

NIS001C3

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

Terminal and Reference Value for IPDM E/R

NIS001C4

| Terminal | Wire color | Item | Signal input/output | Condition | | Voltage (V) (Approx.) |
|----------|------------|---|---------------------|-----------------|--|-----------------------|
| | | | | Ignition switch | Operation or condition | |
| 5 | W | Battery power supply | Output | OFF | — | Battery voltage |
| 6 | L | Battery power supply | Output | OFF | — | Battery voltage |
| 38 | B | Ground (Power) | — | ON | — | 0 |
| 48 | L | CAN H | Input/Output | — | — | — |
| 49 | Y | 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 | Ground (Signal) | — | ON | — | 0 |

REAR WINDOW DEFOGGER

CONSULT-II Function (BCM)

NIS001C5

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 relay to activate it. |

A
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C
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GW

REAR WINDOW DEFOGGER

Work Flow

NIS001C6

1. Check the symptom and customer's requests.
2. Understand the outline of system. Refer to [GW-74, "System Description"](#) .
3. According to the trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [GW-84, "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

NIS001C7

Make sure 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. (With door mirror defogger) | 1. Check BCM power supply and ground circuit | GW-85 |
| | 2. Check IPDM E/R auto active test | PG-21 |
| | 3. Check rear window defogger switch circuit | GW-86 |
| | 4. Check rear window defogger power supply circuit | GW-87 |
| | 5. Replace IPDM E/ R | PG-28 |
| Rear window defogger does not operate. (Without door mirror defogger) | 1. Check BCM power supply and ground circuit | GW-85 |
| | 2. Perform IPDM E/R auto active test | PG-21 |
| | 3. Check rear window defogger switch circuit | GW-86 |
| | 4. Check rear window defogger power supply circuit | GW-87 |
| | 5. Check rear window defogger circuit | GW-89 |
| | 6. Check filament | GW-94 |
| | 7. Replace IPDM E/ R | PG-28 |
| Rear window defogger does not operate but both of door mirror defogger operate. (With door mirror defogger) | 1. Check rear window defogger circuit | GW-89 |
| | 2. Check filament | GW-94 |
| Both of door mirror defogger does not operated but rear window defogger operate. (With door mirror defogger) | Check door mirror defogger power supply circuit | GW-90 |
| Driver side door mirror defogger does not operate. | Check driver side door mirror defogger circuit | GW-91 |
| Passenger side door mirror defogger does not operate. | Check passenger side door mirror defogger circuit | GW-92 |
| Rear window defogger switch does not light, and rear window defogger is not displayed on the display. But rear window defogger operates. | Check rear window defogger signal | GW-93 |

REAR WINDOW DEFOGGER

NIS001C8

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, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

1. CHECK FUSE

- 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-74, "Component Parts and Harness Connector Location"](#).

OK or NG

OK >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between BCM connector M34, M35 terminals 38, 42, 55 and ground.

38 (R) – Ground : Battery voltage

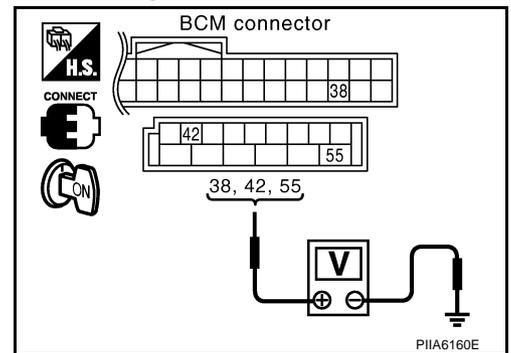
42 (GR) – Ground : Battery voltage

55 (W/B) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.

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



3. CHECK GROUND CIRCUIT

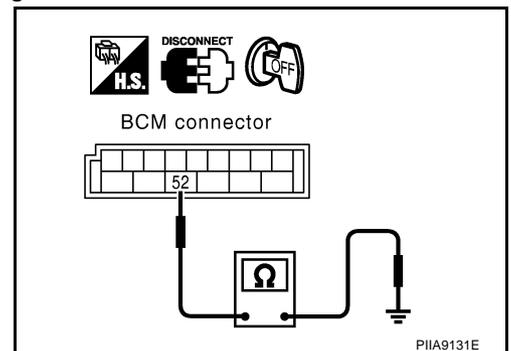
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM connector M35 terminals 52 and ground.

52 (B) – Ground : Continuity should exist.

OK or NG

OK >> BCM power supply and ground circuit are OK.

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



REAR WINDOW DEFOGGER

NIS001C9

Check Rear Window Defogger Switch Circuit

1. CHECK REAR WINDOW DEFOGGER SWITCH OPERATION

With CONSULT-II

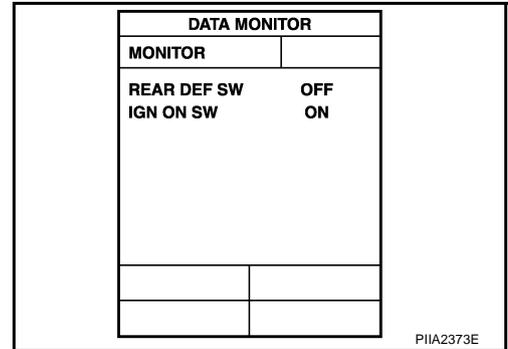
Check ("REAR DEF SW", "IGN ON SW") in DATA MONITOR mode with CONSULT-II.

When rear window defogger switch is turned to ON

REAR DEF SW : ON

When ignition switch is turned to ON

IGN ON SW : ON



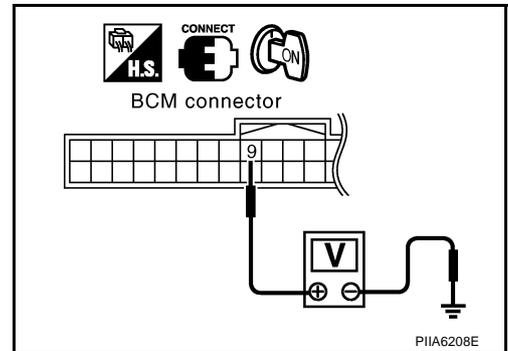
With out CONSULT-II

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

| Connector | Terminal (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|-----------------------|--------|---|--------------------------|
| | (+) | (-) | | |
| M34 | 9 (G/W) | 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.



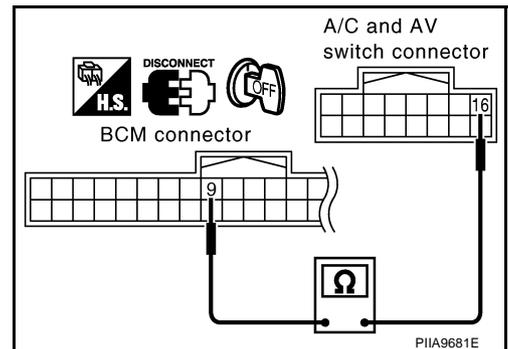
2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and A/C and AV switch connector.
3. Check continuity between BCM connector M34 terminal 9 and A/C and AV switch connector M48 terminal 16.

9 (G/W) – 16(G/W) : Continuity should exist.

OK or NG

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



REAR WINDOW DEFOGGER

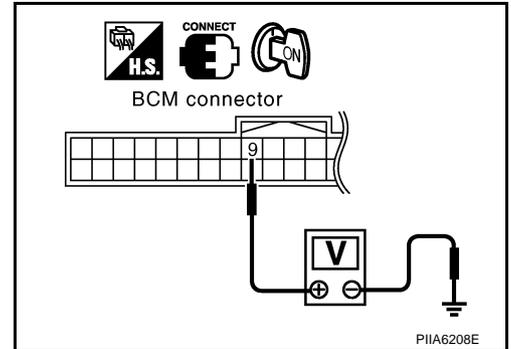
3. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M34 terminal 9 and ground.

9 (G/W) – Ground : Approx. 5

OK or NG

- OK >> Replace A/C and AV switch.
NG >> Replace BCM.



Check Rear Window Defogger Power Supply Circuit

NIS001CA

1. CHECK FUSE

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

NOTE:

Refer to [GW-74, "Component Parts and Harness Connector Location"](#).

OK or NG

- OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

2. CHECK 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 B8 terminals 1, 3, 6 and ground.

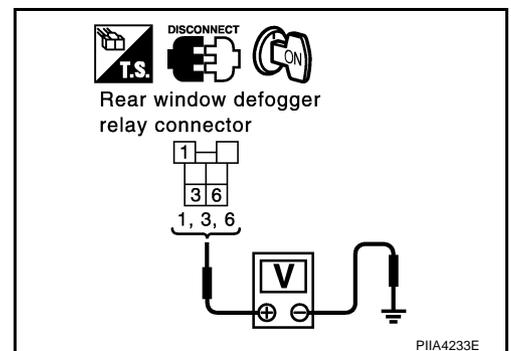
1 (G) – Ground : Battery voltage

3 (L) – Ground : Battery voltage

6 (W) – Ground : Battery voltage

OK or NG

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

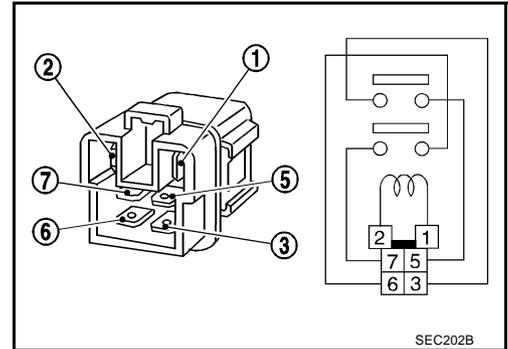


REAR WINDOW DEFOGGER

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 |



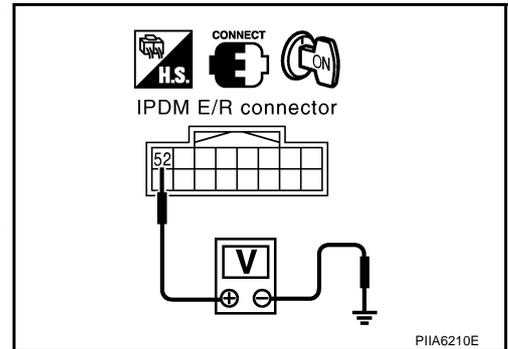
OK or NG

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

4. CHECK GROUND CIRCUIT

1. Installation rear window defogger relay.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R connector and ground.

| Connector | Terminals (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|------------------------|--------|--------------------------------------|-----------------------|
| | (+) | (-) | | |
| E9 | 52 (G/R) | Ground | When rear window defogger switch ON | 0 |
| | | | When rear window defogger switch OFF | Battery voltage |



OK or NG

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

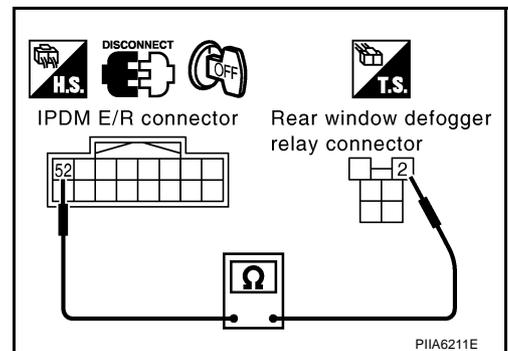
5. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and rear window defogger relay.
3. Check continuity between IPDM E/R connector E9 terminal 52 and rear window defogger relay connector B8 terminal 2.

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

OK or NG

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



REAR WINDOW DEFOGGER

NIS001CB

Rear Window Defogger Circuit Check

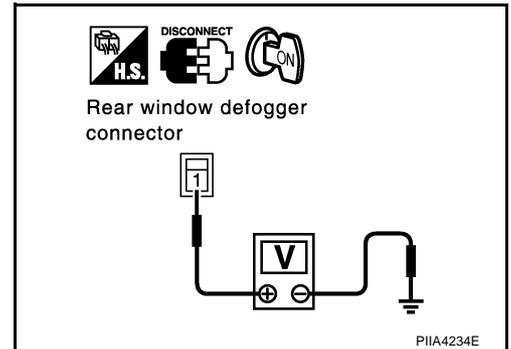
1. CHECK POWER SUPPLY CIRCUIT

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 (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|-----------------------|--------|----------------------------------|--------------------------|
| | (+) | (-) | | |
| D97 | 1 (G) | 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.



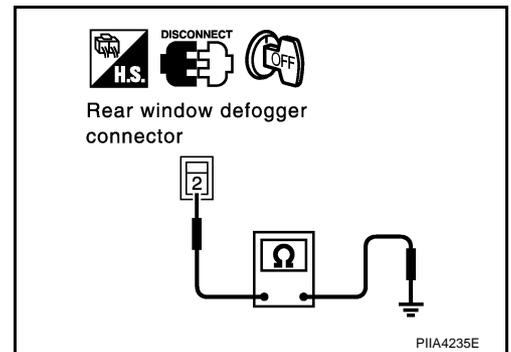
2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear window defogger connector D107 terminal 2 and ground.

2 (B) – Ground : Continuity should exist.

OK or NG

- OK >> Check filament. Refer to [GW-94, "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.



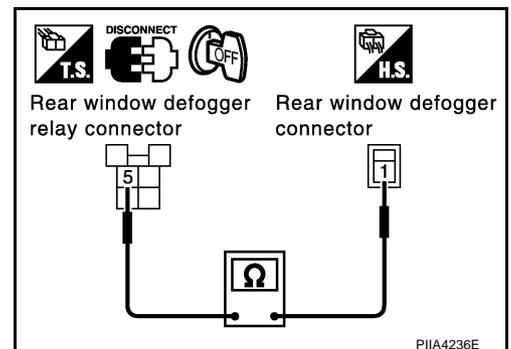
3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear window defogger relay.
3. Check continuity between rear window defogger relay connector B8 terminal 5 and rear window defogger connector D97 terminal 1.

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

OK or NG

- OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness rear window defogger relay and rear window defogger. When there is malfunction inside back door, replace the back door.



REAR WINDOW DEFOGGER

NIS001CC

Check Door Mirror Defogger Power Supply Circuit

1. CHECK FUSE

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

NOTE:

Refer to [GW-74, "Component Parts and Harness Connector Location"](#) .

OK or NG

OK >> GO TO 2.

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

2. CHECK 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 (G) | 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 POWER SUPPLY CIRCUIT 2

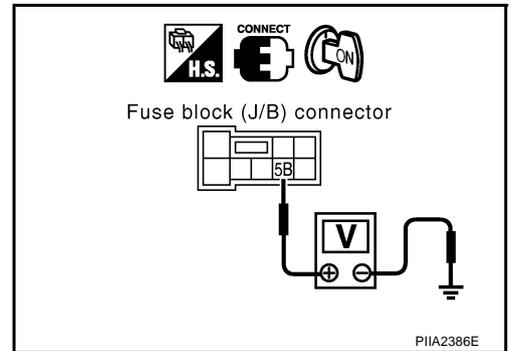
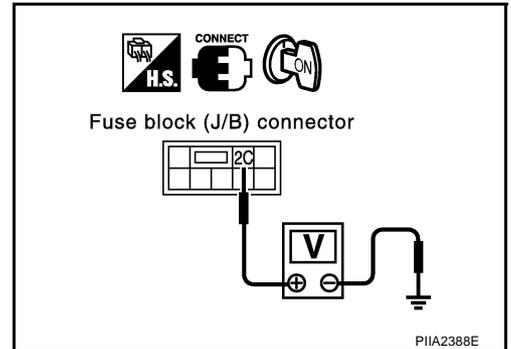
Check voltage between fuse block (J/B) connector and ground.

| Connector | Terminal (Wire color) | | Condition | Voltage (V) (Approx.) |
|-----------|-----------------------|--------|---------------------------------|--------------------------|
| | (+) | (-) | | |
| M2 | 5B (L/B) | 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

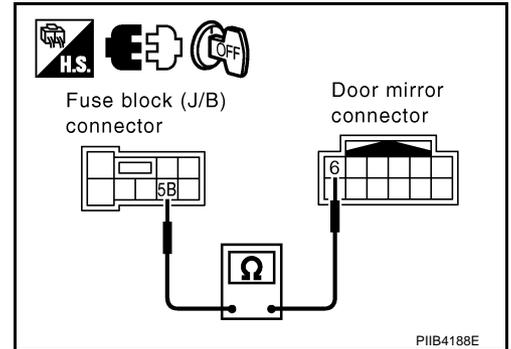
4. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect fuse block (J/B) and door mirror connector.
3. Check continuity between fuse block (J/B) connector M2 terminal 5B and door mirror connector D2 (driver side) or D32 (passenger side) terminal 6.

5B (L/B) – 6 (L/B) : Continuity should exist.

OK or NG

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



NIS001CD

Check Driver Side Door Mirror Defogger Circuit

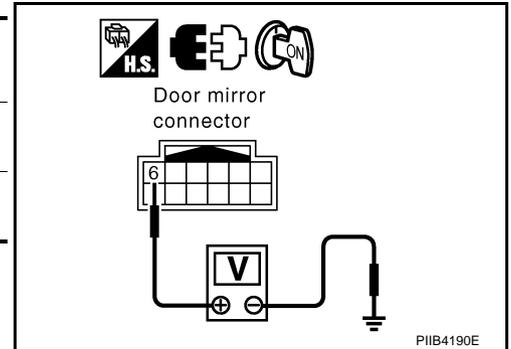
1. CHECK POWER SUPPLY CIRCUIT

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 | 6 (L/B) | 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.



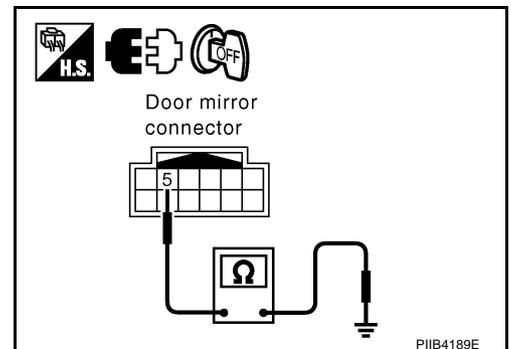
2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between door mirror (driver side) connector D2 terminal 5 and ground.

5 (B) – Ground : Continuity should exist.

OK or NG

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



REAR WINDOW DEFOGGER

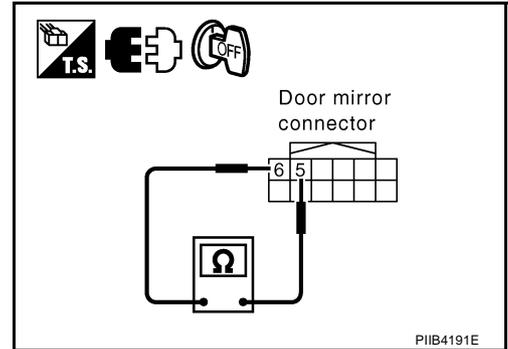
3. CHECK DOOR MIRROR DEFOGGER

Check continuity between door mirror terminals 6 and 5.

6 – 5 : 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

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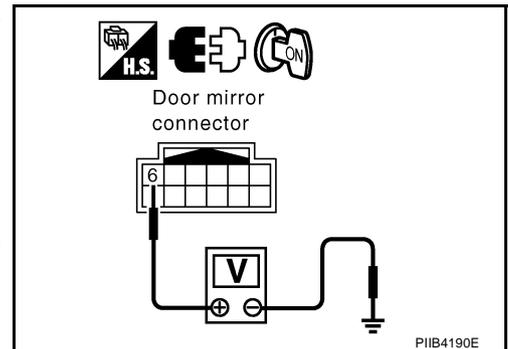
1. CHECK POWER SUPPLY CIRCUIT

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 | 6 (L/B) | 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.



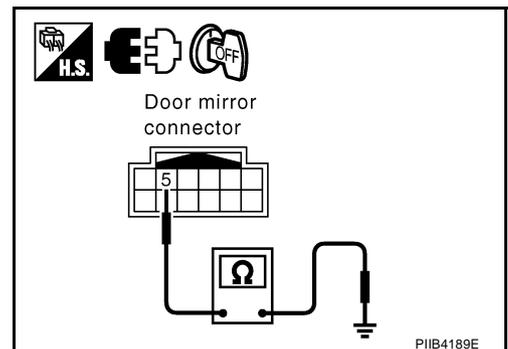
2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between door mirror (passenger side) connector D32 terminal 5 and ground.

5 (B) – Ground : Continuity should exist.

OK or NG

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



REAR WINDOW DEFOGGER

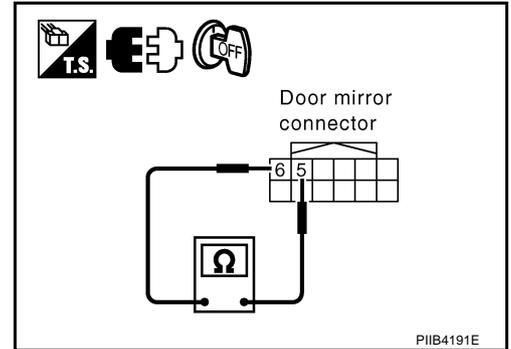
3. CHECK DOOR MIRROR DEFOGGER

Check continuity between door mirror terminals 6 and 5.

6 – 5 : Continuity should exist.

OK or NG

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



Check Rear Window Defogger Signal

1. CHECK REAR WINDOW DEFOGGER SWITCH LAMP

A/C and AV switch self-diagnosis is executed. Refer to [AV-101, "A/C and AV Switch Self-Diagnosis Function"](#)

Does rear window defogger switch light?

OK or NG

- OK >> GO TO 2.
- NG >> Replace A/C and AV switch.

2. CHECK AV COMMUNICATION LINE

AV communication line check is executed. Refer to [AV-106, "Unable to Operate System with A/C and AV Switch"](#).

Is rear window defogger displayed on the display?

OK or NG

- OK >> GO TO 3.
- NG >> Replace display control unit.

3. CHECK CAN COMMUNICATION LINE

CAN communication check is executed. Refer to [AV-105, "CAN Communication Check"](#).

OK or NG

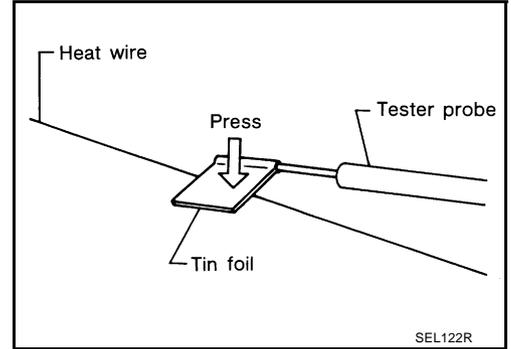
- OK >> Check the condition of the harness and the connector.
- NG >> In addition, it is necessary to check CAN communication line. Refer to [AV-105, "CAN Communication Check"](#).

REAR WINDOW DEFOGGER

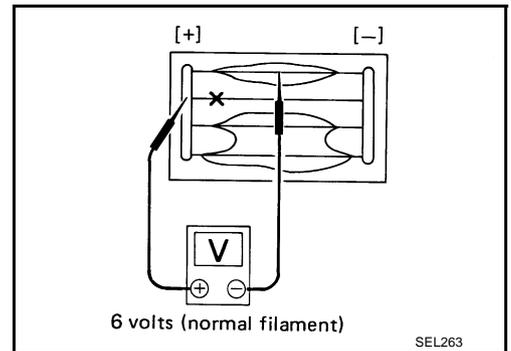
Check Filament

NIS001CG

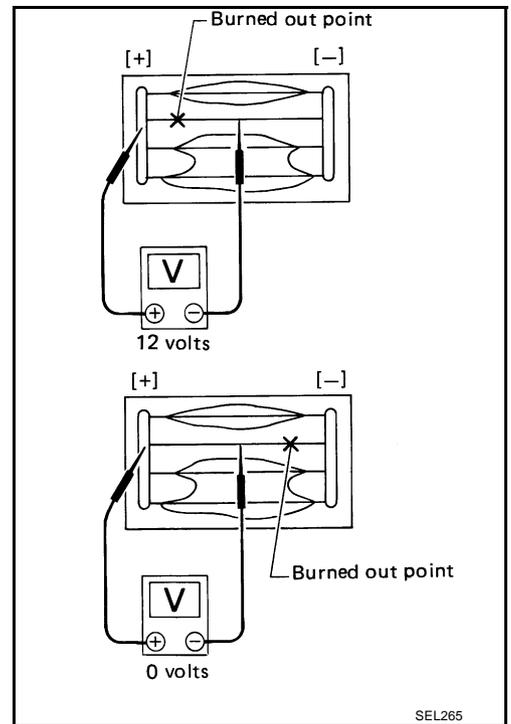
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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.



Filament Repair REPAIR EQUIPMENT

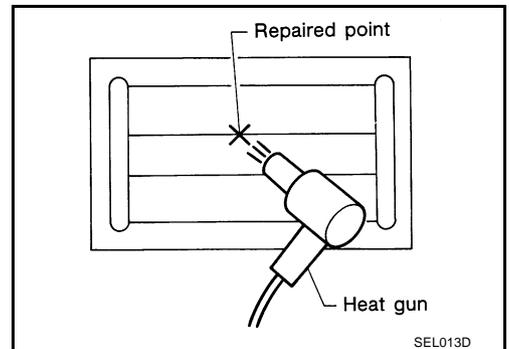
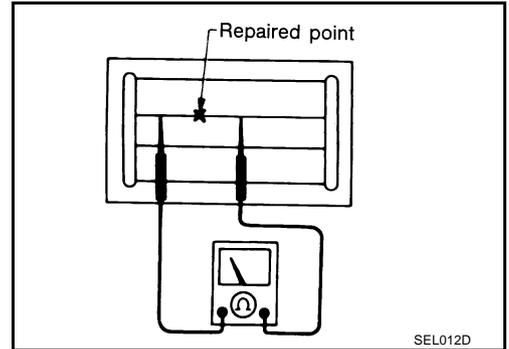
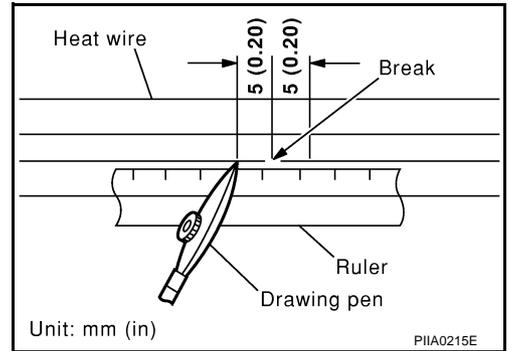
NIS001CH

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

REAR WINDOW DEFOGGER

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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DOOR MIRROR

DOOR MIRROR

PFP:96301

Automatic Drive Positioner Interlocking Door Mirror

NIS001CI

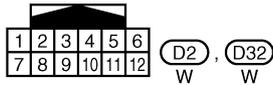
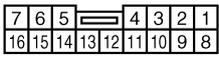
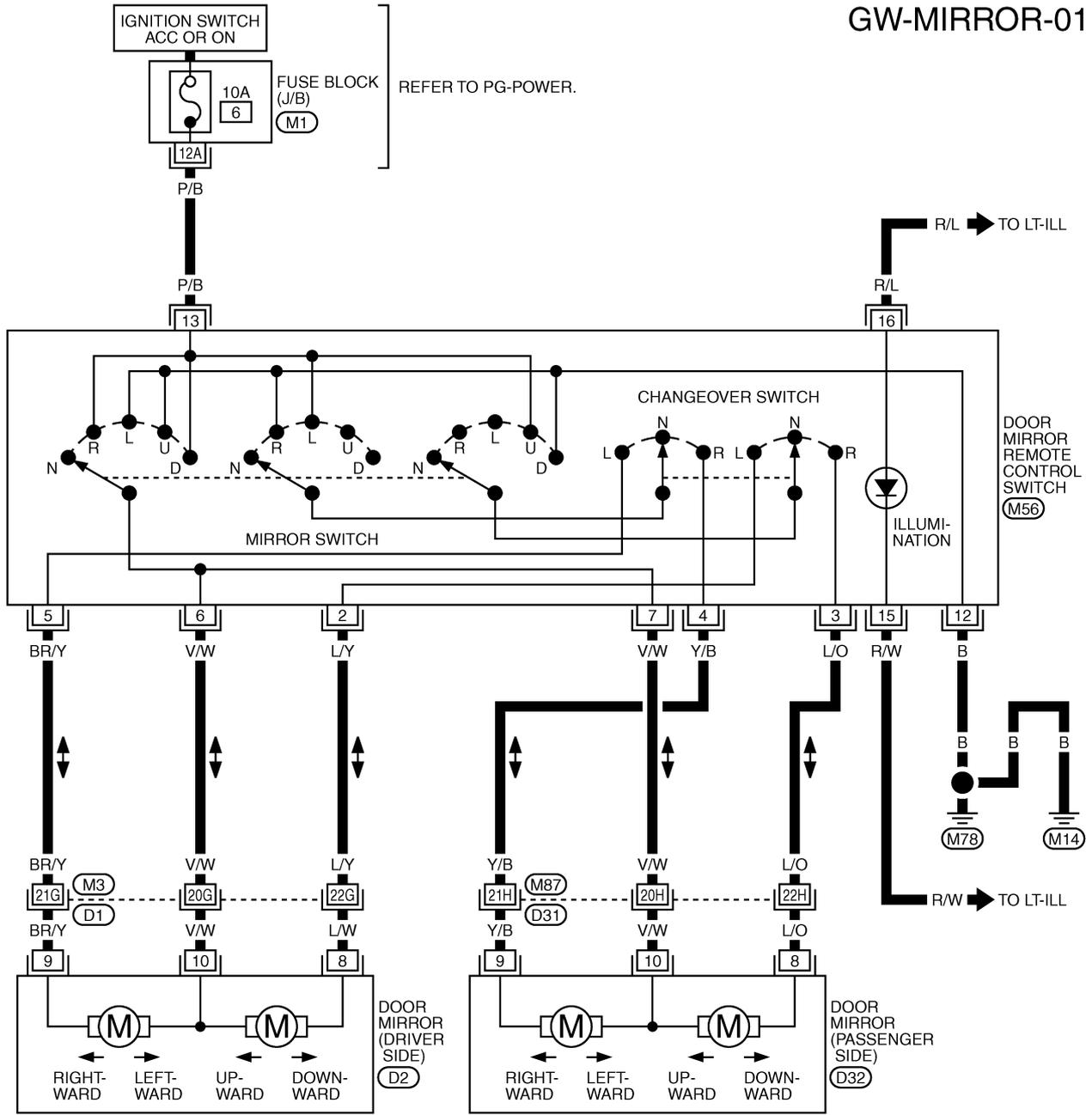
Automatic drive positioner interlocking door mirror. Refer to [SE-12, "AUTOMATIC DRIVE POSITIONER"](#) .

DOOR MIRROR

Power Door Mirror (Only Manual Operation Model) WIRING DIAGRAM -MIRROR-

NIS001CJ

GW-MIRROR-01



REFER TO THE FOLLOWING.

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

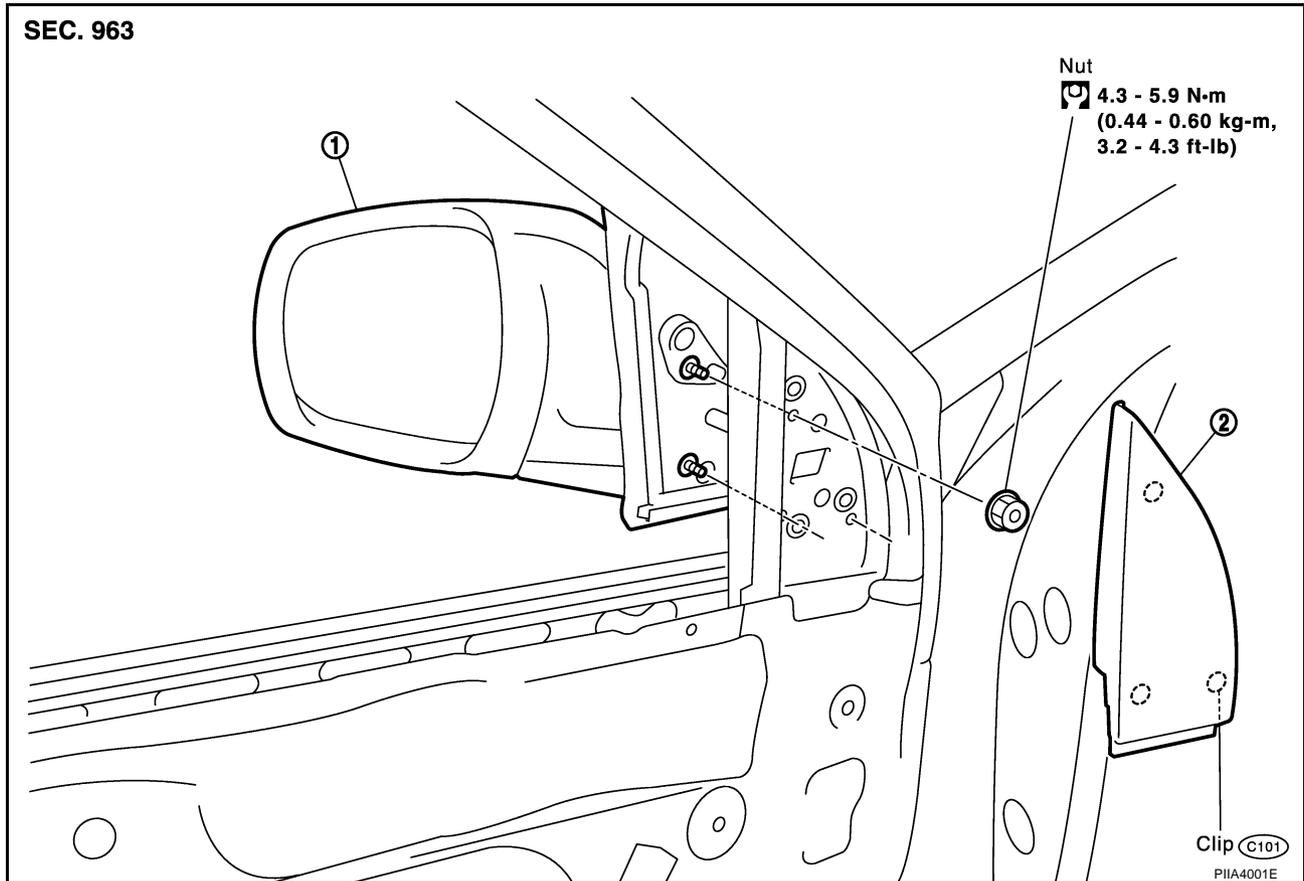
(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0806E

DOOR MIRROR

Removal and Installation

NIS001CK



CAUTION:

Be careful not to damage the mirror bodies.

REMOVAL

1. Remove the front door finisher. Refer to [EI-30, "DOOR FINISHER"](#).
2. Remove the front door sash cover.
3. Remove 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.

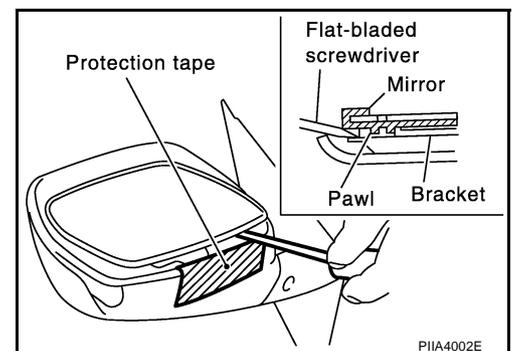
Disassembly and Assembly DISASSEMBLY

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 two pawls to remove mirror holder lower half side.

NOTE:

When pushing up pawls do not attempt to use one 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 two terminals of mirror heater attachment.
5. Lightly lift up lower side of mirror surface from mirror surface, and detach two pawls of upper side as if pulling it out. Remove mirror surface from mirror body.



DOOR MIRROR

NOTE:

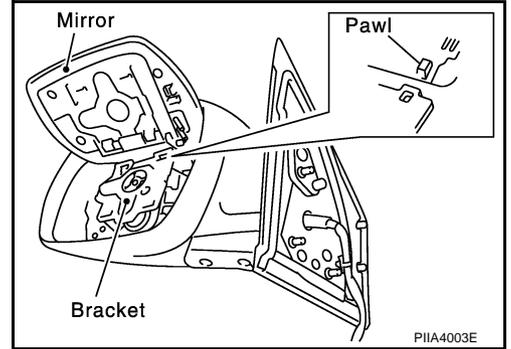
Be certain not to allow grease on sealing agent in center of mirror body assembly (actuator) or back side of mirror surface (mirror holder).

ASSEMBLY

1. Place mirror holder bracket and mirror body assembly (actuator) in a horizontal position.
2. Connect two terminals of heater installed mirror.
3. Fit the upper two 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 make sure lower two pawls are securely engaged from the bottom of mirror face.



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DOOR MIRROR
