SECTION GW

GLASSES, WINDOW SYSTEM & MIRRORS

CONTENTS

PRECAUTIONS

PFP:00001

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

BIS000DP

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. 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

BIS000DQ

- When removing or disassembling any part, be careful not to damage or deform it. Protect parts, which may get in the way with cloth.
- When removing parts with a screwdriver or other tool, protect parts by wrapping them with vinyl or tape.
- Keep removed parts protected with cloth.
- If a clip is deformed or damaged, replace it.
- If an unreusable part is removed, replace it with a new one.
- Tighten bolts and nuts firmly to the specified torque.
- After re-assembly has been completed, make sure each part functions correctly.
- Remove stains in the following way.

Water-soluble stains:
Dip a soft cloth in warm water, and then squeeze it tightly. After wiping the stain, wipe with a soft dry cloth.
Oil stain:
Dissolve a synthetic detergent in warm water (density of 2 to 3% or less), dip the cloth, then clean off the stain with the cloth. Next, dip the cloth in fresh water and squeeze it tightly. Then clean off the detergent completely. Then wipe the area with a soft dry cloth.

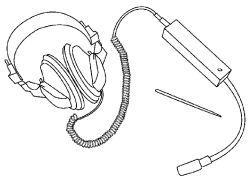
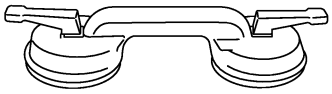
- Do not use any organic solvent, such as thinner or benzine.

PREPARATION

PFP:00002

Commercial Service Tools

BIS000DR

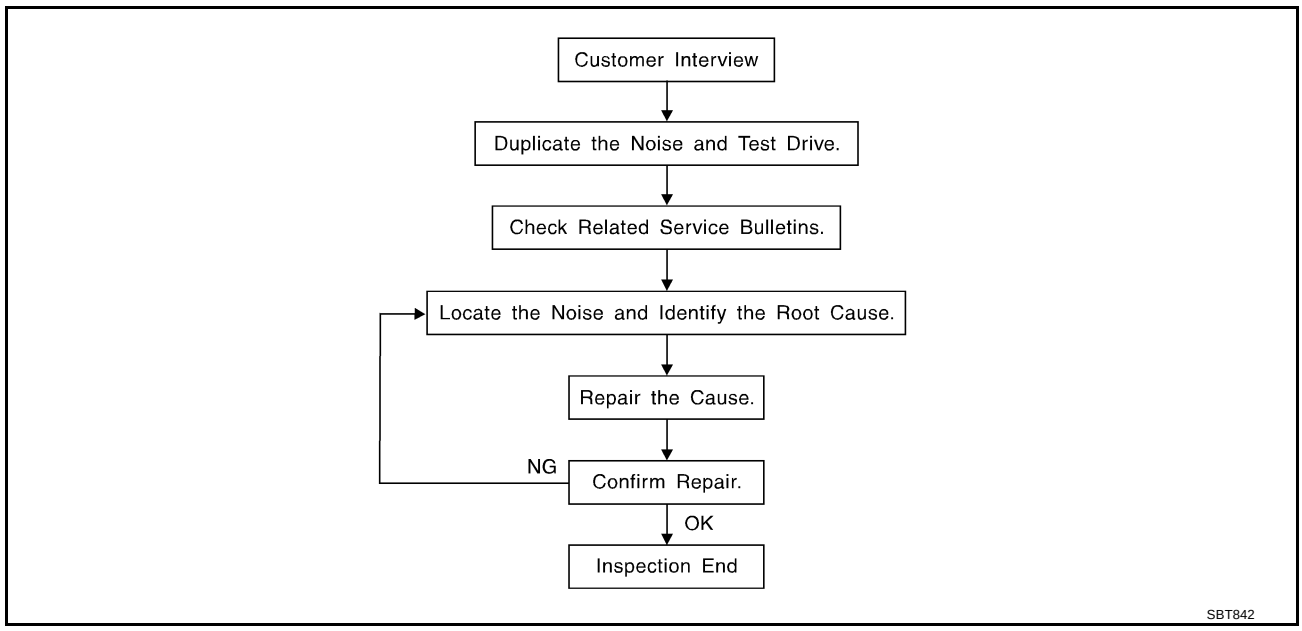
Tool name	Description
Engine ear  SIIA0995E	Location the noise
Suction lifter  PIIB1805J	Remove the windshield, back door window glass Holding the door glass

SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00000

Work Flow

BIS000DS



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 drought on by activity.
- Buzz—(Like a bumble bee)
  Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.
If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

1) Close a door.
2) Tap or push/pull around the area where the noise appears to be coming from.
3) Rev the engine.
4) Use a floor jack to recreate vehicle “twist”.
5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.
If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Engine Ear or 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 are 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.
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) think, 50 × 50 mm (1.97 × 1.97 in)
INSULATOR (Light foam block)
80845-71L00: 30 mm (1.18 in) thick, 30 × 50 mm (1.18 × 1.97 in)

FELT CLOTHTAPE
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 available through NISSAN Parts Department, can also be used to repair squeaks and rattles.
UHMW(TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.
SILICONE GREASE
Used in of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

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

Generic Squeak and Rattle Troubleshooting

BIS000DT

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

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. 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 to repair the noise.

TRUNK

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

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

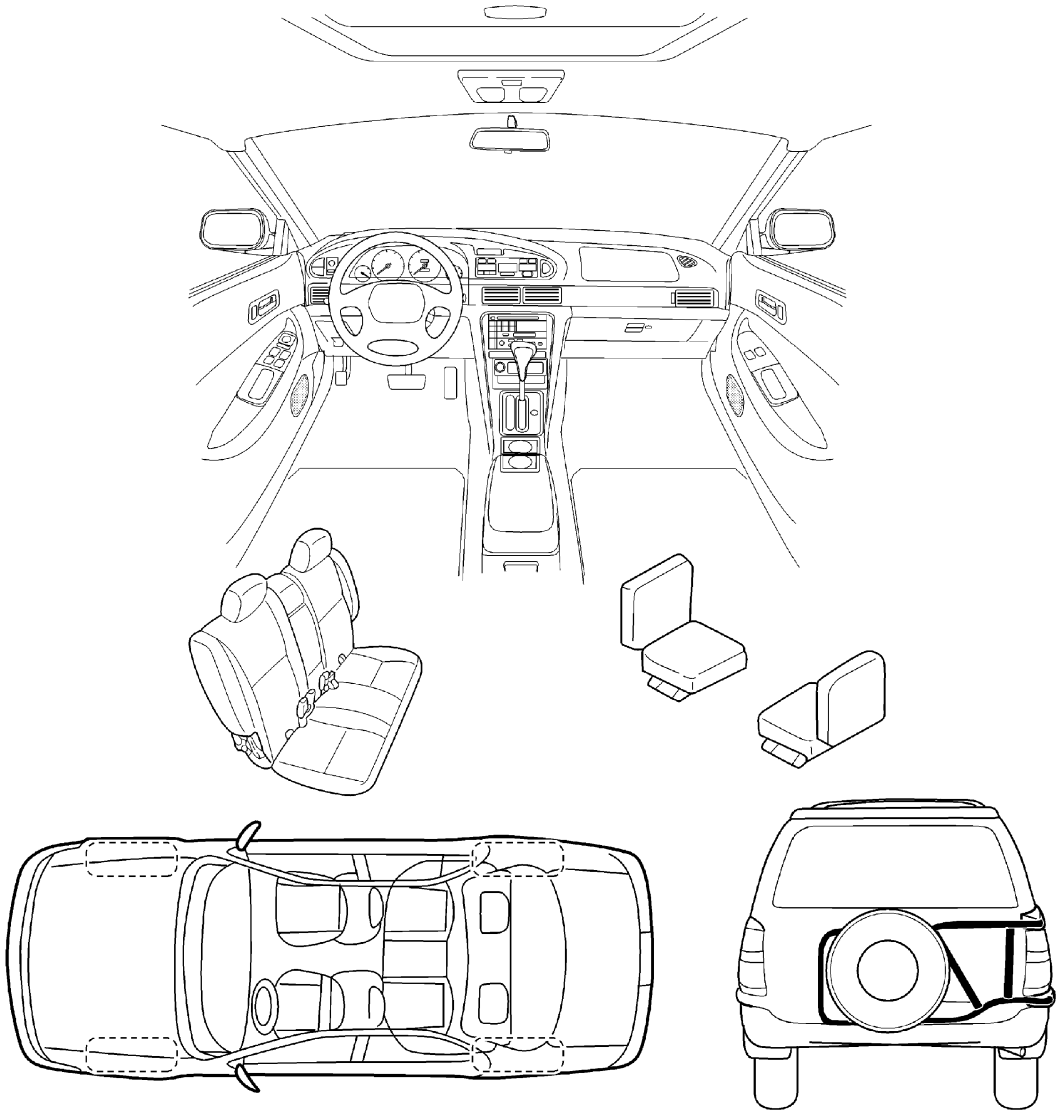
Diagnostic Worksheet

BIS000DU

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



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

PIIB0723E

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

_____

_____

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

- ❑ anytime
- ❑ 1st time in the morning
- ❑ only when it is cold outside
- ❑ only when it is hot outside
- ❑ after sitting out in the sun
- ❑ when it is raining or wet
- ❑ dry or dusty conditions
- ❑ other: _____

III. WHEN DRIVING:

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

IV. WHAT TYPE OF NOISE?

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

TO BE COMPLETED BY DEALERSHIP PERSONNEL
Test Drive Notes:

_____

_____

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

VIN: _____ Customer Name: _____

W.O. #: _____ Date: _____

This form must be attached to Work Order

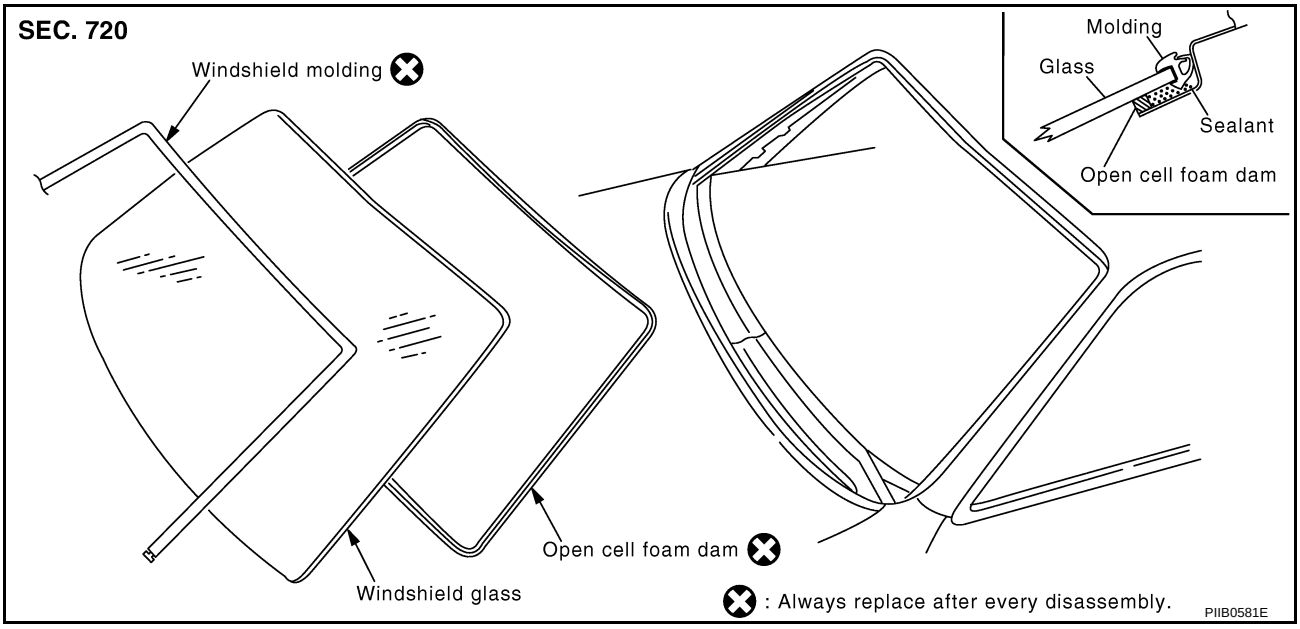
SBT844

WINDSHIELD GLASS AND MOLDING

PFP:72700

Removal and Installation

BIS000DV



REMOVAL

1. Remove the front pillar garnish and headlining. Refer to EI-35, "BODY SIDE TRIM" and EI-39, "HEADLINING" .
2. Remove the body side welt on the front pillar.
3. Remove the cowl top cover. Refer to EI-20, "COWL TOP" .
4. 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.

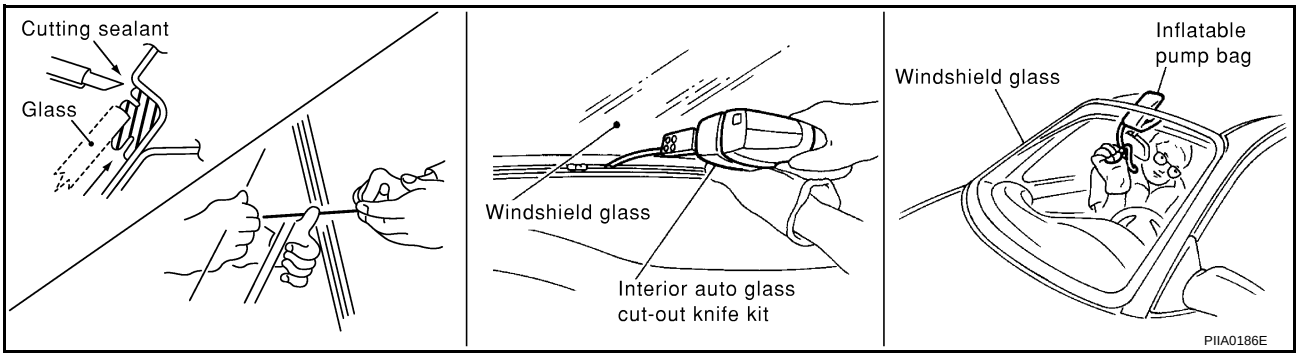
- If a windshield glass is to be reused, mark the body and the glass with mating marks.

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.**



5. Remove the windshield glass, using suction lifter.

INSTALLATION

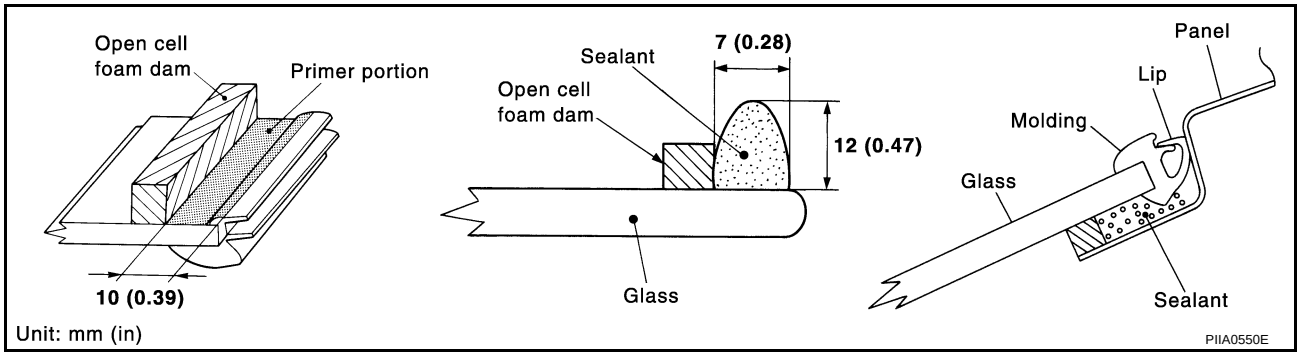
- Use a genuine Nissan Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- The molding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

WARNING:

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

CAUTION:

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



Repairing Water Leaks

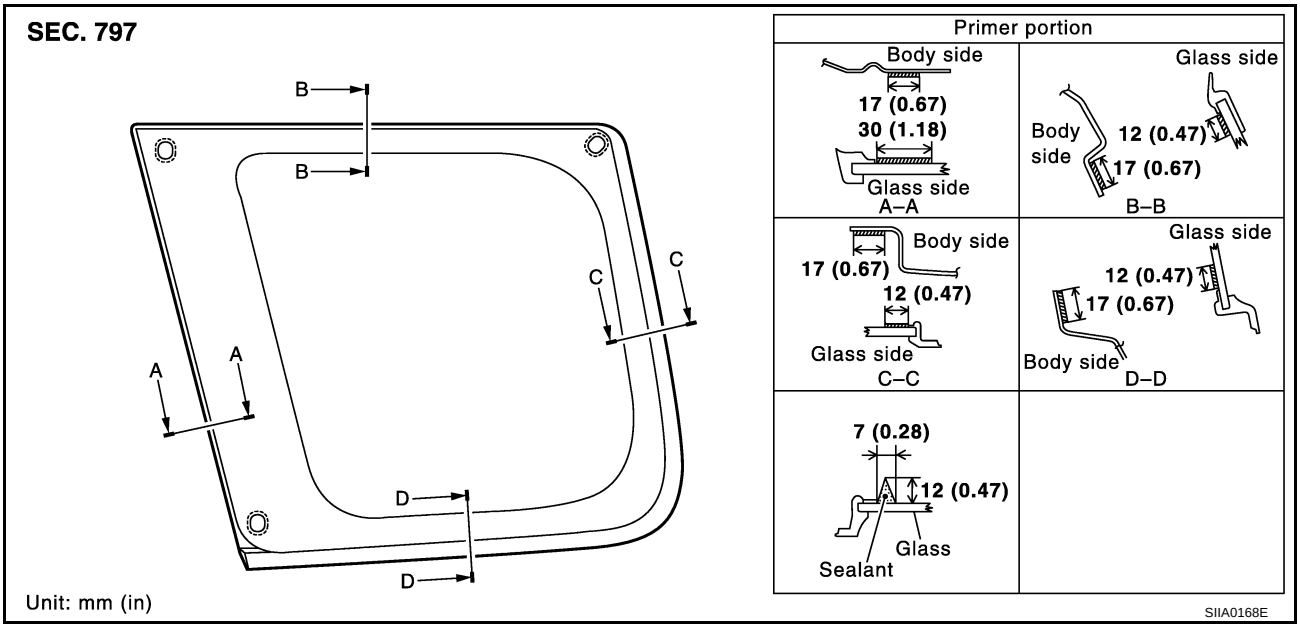
Leaks can be repaired without removing and reinstalling glass.
If water is leaking between the urethane adhesive material and body or glass, determine the extent of leakage. This can be done by applying water to the windshield area while pushing glass outward.
To stop the leak, apply primer (if necessary) and then urethane adhesive to the leak point.

SIDE WINDOW GLASS

PFP:83300

Removal and Installation

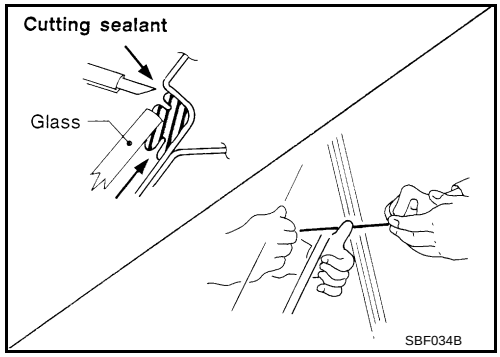
BIS000DW



REMOVAL

1. Remove luggage side lower finisher and rear pillar finisher. Refer to EI-35, "BODY SIDE TRIM" .
2. Apply protective tape on body panels around side window glass to protect painted surfaces from damage.

- Remove glass using piano wire or power cutting tool and an inflatable pump bag.
- If a side window glass is to be reused, mark the body and the glass with mating marks.



WARNING:

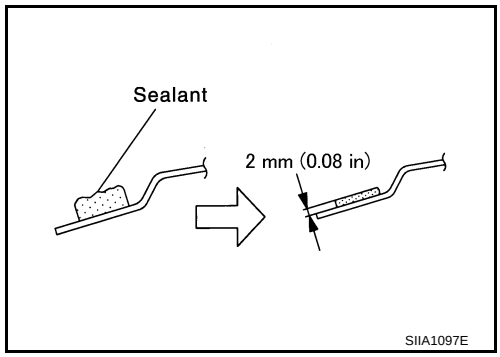
When cutting the glass from the vehicle, always wear safety glasses and heavy gloves to help prevent glass splinters from entering your eyes or cutting your hands.

CAUTION:

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

INSTALLATION

- With a knife, scrape off remaining adhesive left around on the side of vehicle body to as thin and flat as 2 mm (0.08 in).



- Use a genuine Nissan Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- The molding must be installed securely so that it is in position and leaves no gap.

- Inform the customer that the vehicle should remain stationary unit 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.**
- **They vehicle should not be driven for at least 24 hours or until the urethane adhesive has completely cured. Curing time varies depending on temperature and humidities. The curing time will increase under lower temperatures and lower humidities.**

REPAIRING WATER LEAKS

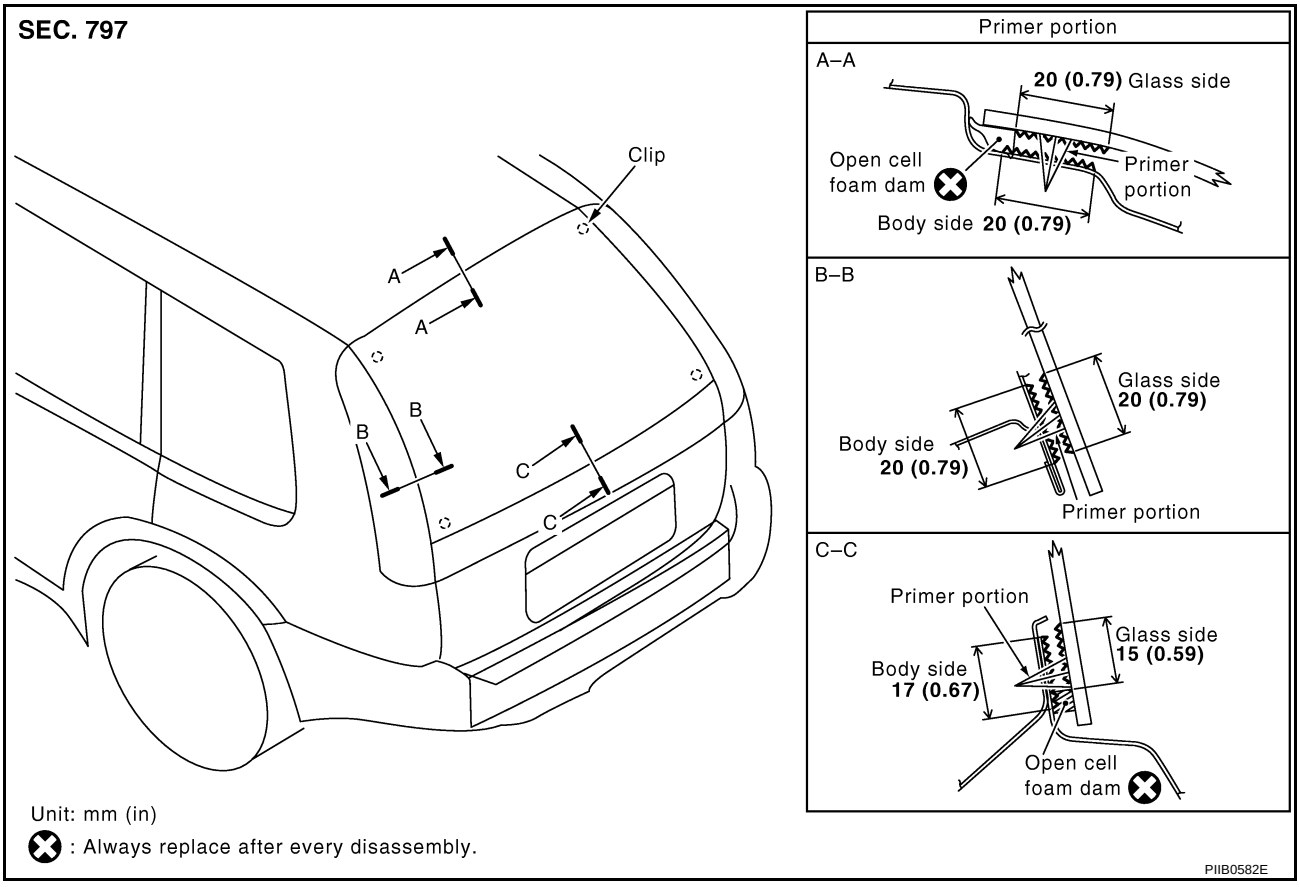
Leaks can be repaired without removing and reinstalling glass.
If water is leaking between the urethane adhesive material and body or glass, determine the extent of leakage. This can be done by applying water to the side window area while pushing glass outward.
To stop the leak, apply primer (if necessary) and then urethane adhesive to the leak point.

BACK DOOR WINDOW GLASS

PFP:90300

Removal and Installation

BIS000DX



REMOVAL

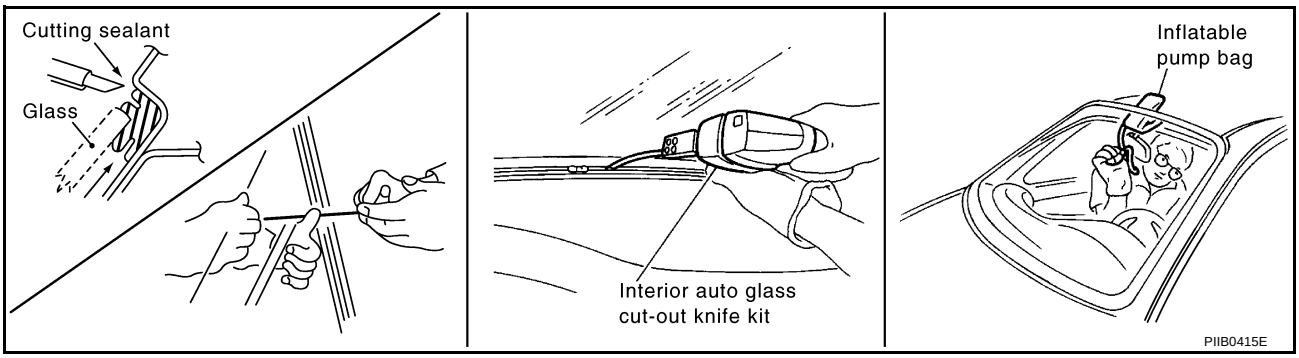
1. Remove rear wiper arm. Refer to WW-17, "Removal and Installation of Rear Wiper Arms, Adjustment of Wiper Arms Stop Location" .
2. Remove rear washer nozzle. Refer to WW-19, "Removal and Installation of Rear Washer Nozzle" .
3. Remove rear defogger connectors.
4. Apply a protective tape around the back door window glass to prevent the paint surface from being damaged.
5. Cut adhesive 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:

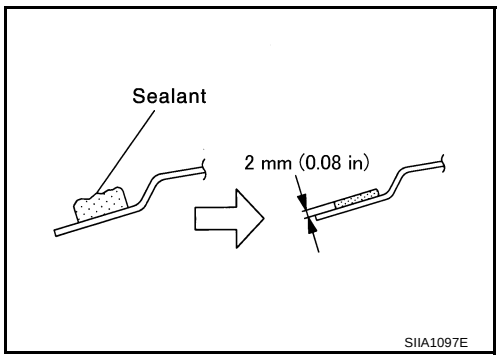
- **When a windshield glass is to be reused, do not use a cutting knife or power cutting tool.**
- **Be careful not to scratch the glass when removing.**
- **Do not set or stand the glass on its edge. Small chips may develop into cracks.**



6. Remove the back door window glass, using suction lifter.

INSTALLATION

- With a knife, scrape off remaining adhesive left around on the side of vehicle body to as thin and flat as 2 mm (0.08 in).
- Use a genuine Insane Urethane Adhesive Kit (if available) or equivalent and follow the instructions furnished with it.
- While the urethane adhesive is curing, open a door window. This will prevent the glass from being forced out by passenger compartment air pressure when a door is closed.
- Inform the customer that the vehicle should remain stationary until the urethane adhesive has completely cured (preferably 24 hours). Curing time varies with temperature and humidity.



WARNING:

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

CAUTION:

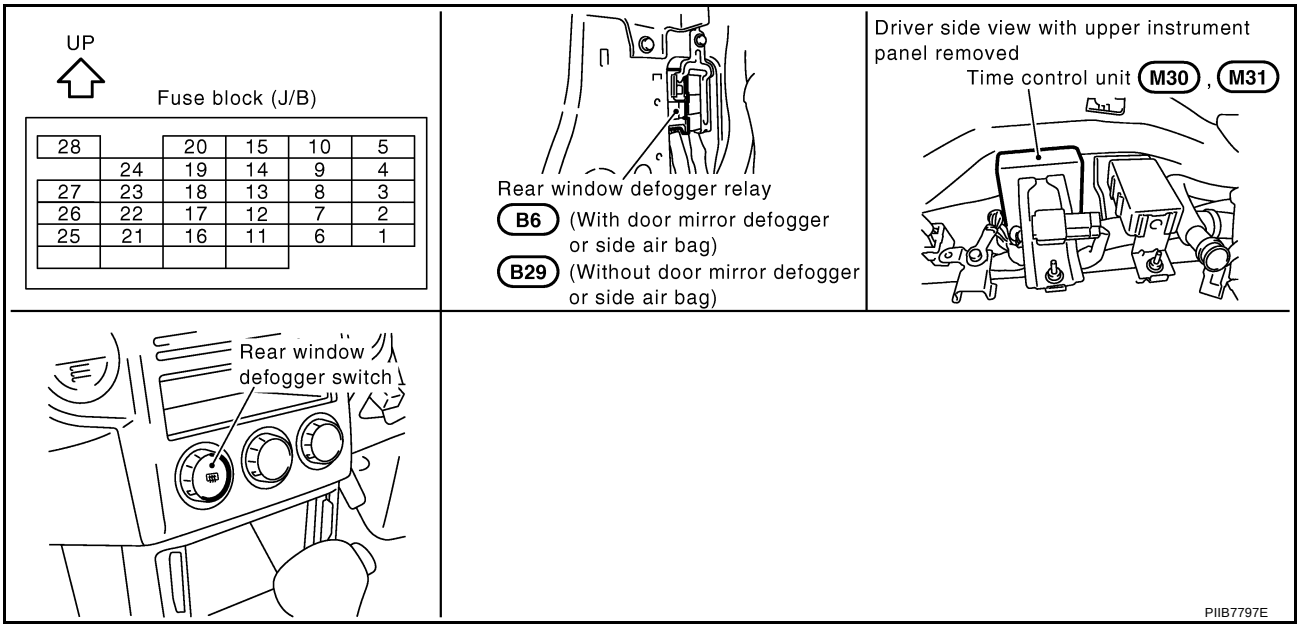
- **Do not use an adhesive which is past its usable term. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box.**
- **Keep primers and adhesive in a cool, dry place. Ideally, they should be stored 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 temperatures and lower humidities.**

REAR WINDOW DEFOGGER

PFP:25350

Component Parts and Harness Connector Location

BIS000DY



System Description / LHD Models

BIS000DZ

The rear window defogger system is controlled by time control unit. The rear window defogger operates only for approximately 15 minutes.
Power is supplied at all times

- through 20A fuse (No.25, located in the fuse and fusible link box)
- to rear window defogger relay terminal 3 (with door mirror defogger or side air bag)
- to rear window defogger relay terminal 5 (without door mirror defogger or side air bag).
- through 10A fuse [No.27, located in the fuse block (J/B)]
- to rear window defogger relay terminal 6 (with door mirror defogger).
- through 10A fuse [No.28, located in the fuse block (J/B)]
- to time control unit terminal 1.

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

- through 10A fuse [No.5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1 (without door mirror defogger or side air bag).
- to time control unit terminal 17.

Ground is supplied

- to time control unit terminal 16.
- to A/C auto amp. terminal 3
- through body ground M27 and M70.

When the rear window defogger switch is turned ON, ground is supplied

- to time control unit terminal 35
- through A/C auto amp, terminal 22

Terminal 27 of the time control unit then supplies ground to the rear window defogger relay terminals 2.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied

- through rear window defogger relay terminals 5 and 7 (with door mirror defogger or side air bag)
- through rear window defogger relay terminal 3 (without door mirror defogger or side air bag)
- to the rear window defogger and door mirror actuator terminals 2 (with door mirror defogger).

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

When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.
Power is supplied

- through rear window defogger relay terminal 3 (without door mirror defogger or side air bag)
- through rear window defogger relay terminal 5 (with door mirror defogger or side air bag)
- to A/C auto amp, terminal 23

System Description / RHD Models

BIS000E0

The rear window defogger system is controlled by time control unit. The rear window defogger operates only for approximately 15 minutes.
Power is supplied at all times

- through 20A fuse (No.25, located in the fuse and fusible link box)
- to rear window defogger relay terminal 3 (with door mirror defogger or side air bag)
- to rear window defogger relay terminal 5 (without door mirror defogger or side air bag).

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

- through 10A fuse [No.5, located in the fuse block (J/B)]
- to rear window defogger relay terminal 1
- to time control unit terminal 17.

Ground is supplied

- to time control unit terminal 16.
- to A/C auto amp. terminal 3
- through body ground M27 and M70.

When the rear window defogger switch is turned ON, ground is supplied

- to time control unit terminal 35
- through A/C auto amp, terminal 22.

Terminal 27 of the time control unit then supplies ground to the rear window defogger relay terminals 2.
With power and ground supplied, the rear window defogger relay is energized.
Power is supplied

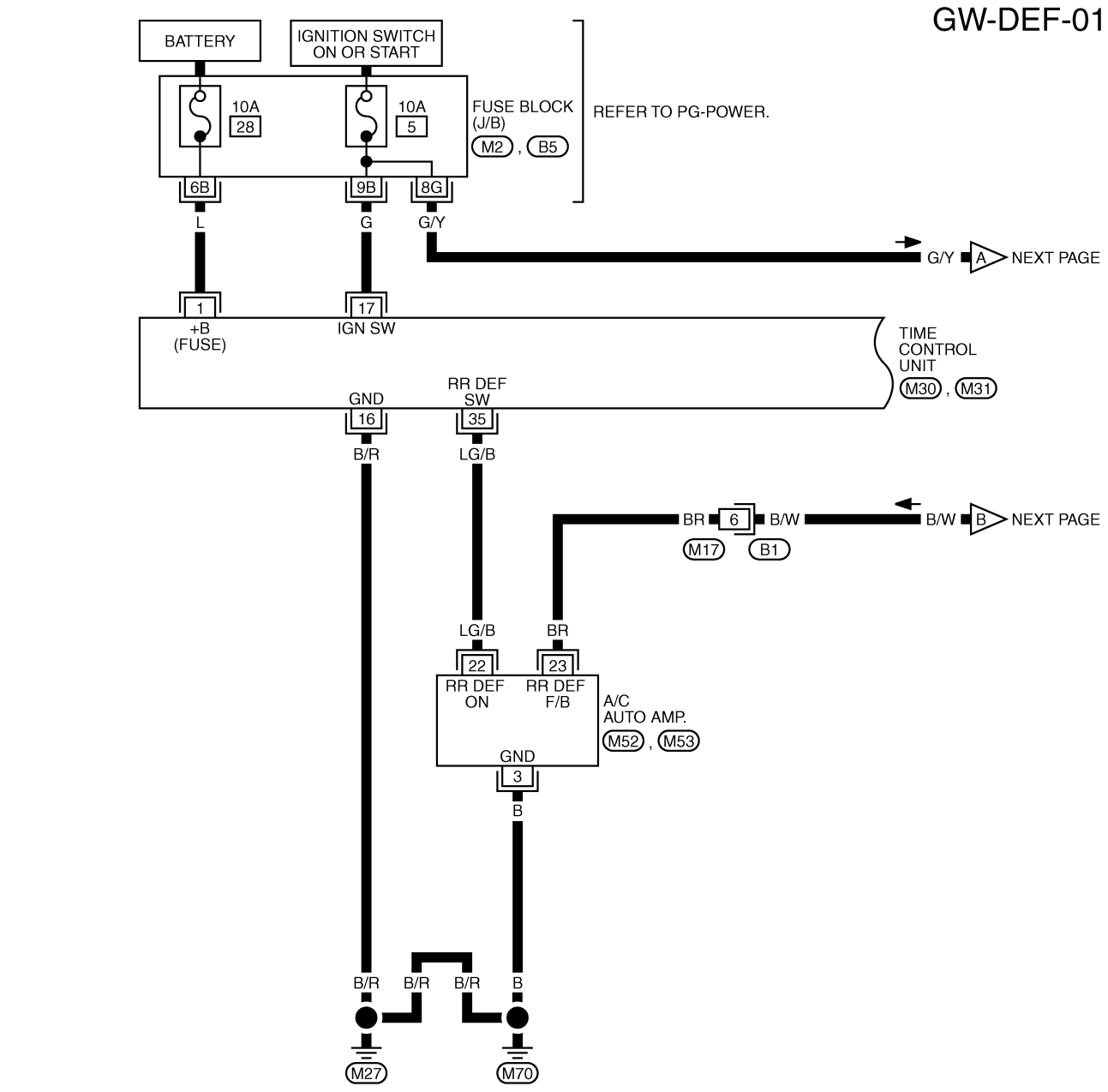
- through rear window defogger terminal 3 (without door mirror defogger or side air bag)
- through rear window defogger terminal 5 (with door mirror defogger or side air bag)
- to the rear window defogger.

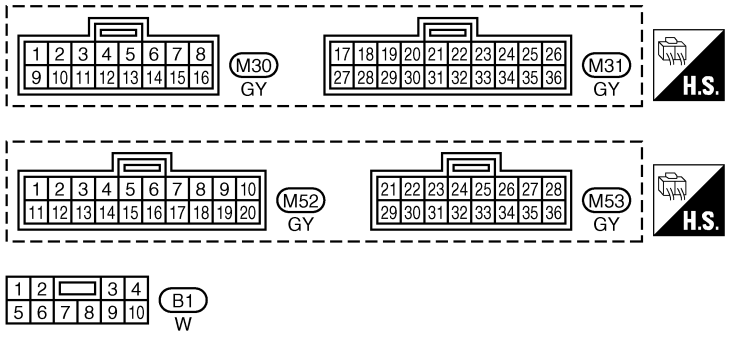
The rear window defogger and door mirror defogger has an independent ground.
With power and ground supplied, the rear window defogger and door mirror defogger filaments heat and defog the rear window and door mirror.
When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.
Power is supplied

- through rear window defogger relay terminal 3 (without door mirror defogger or side air bag)
- through rear window defogger relay terminal 5 (with door mirror defogger or side air bag)
- to A/C auto amp, terminal 23.

Wiring Diagram — DEF — / For LHD models

BIS000E1

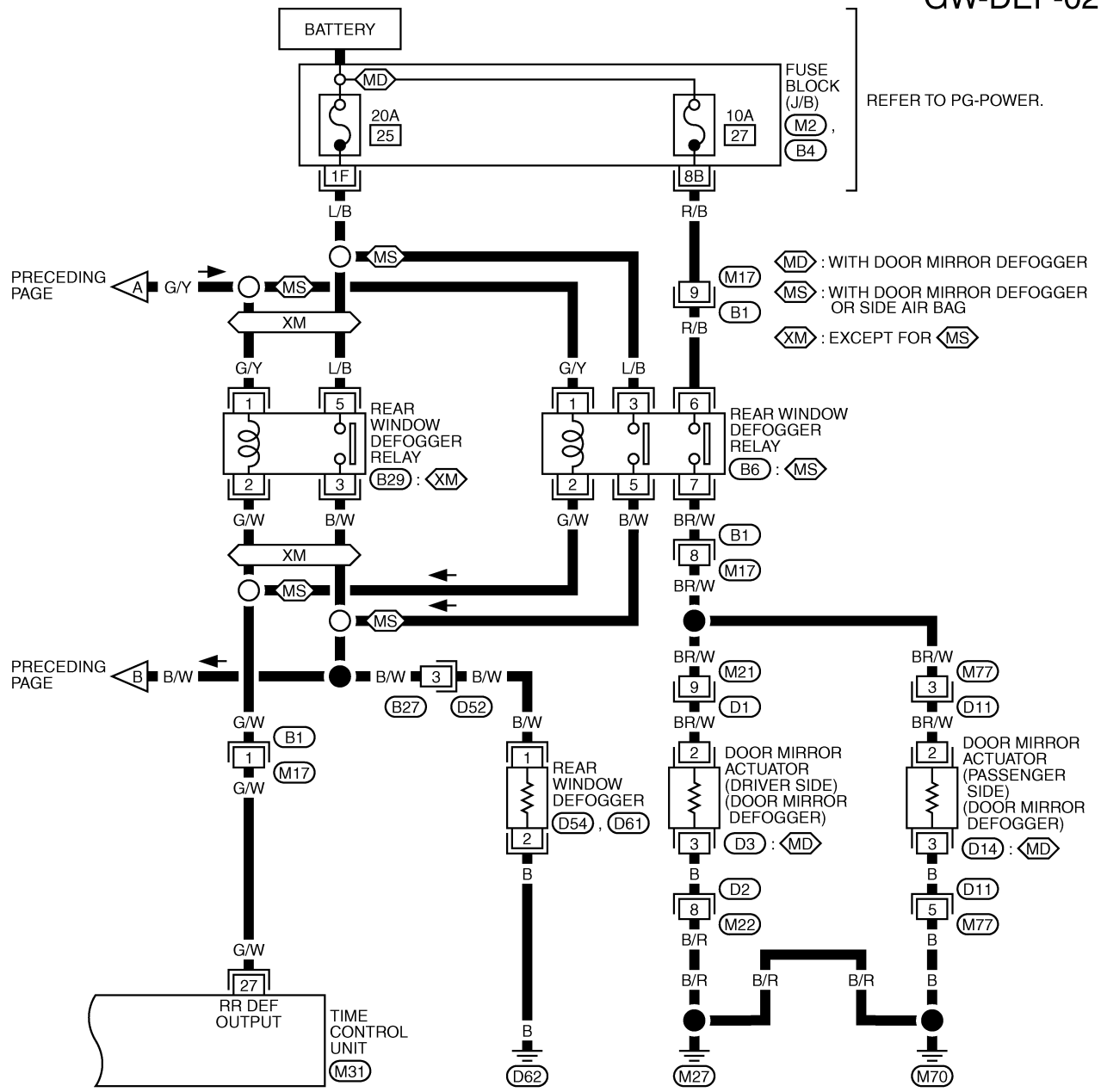


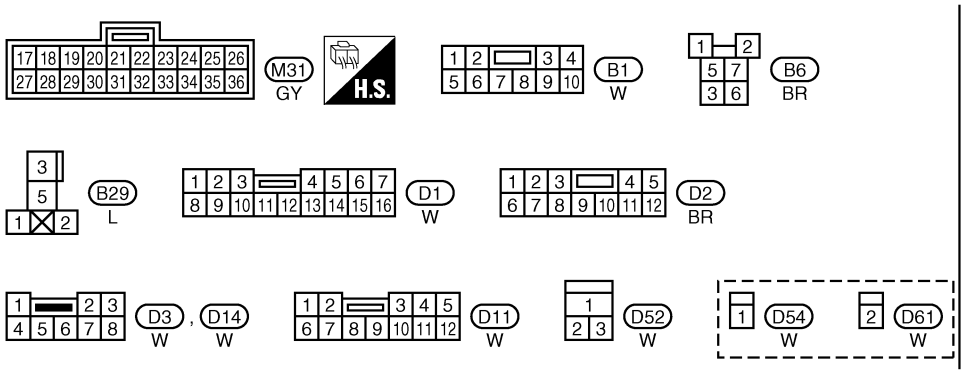


REFER TO THE FOLLOWING.
M2 , B5 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0821E

GW-DEF-02





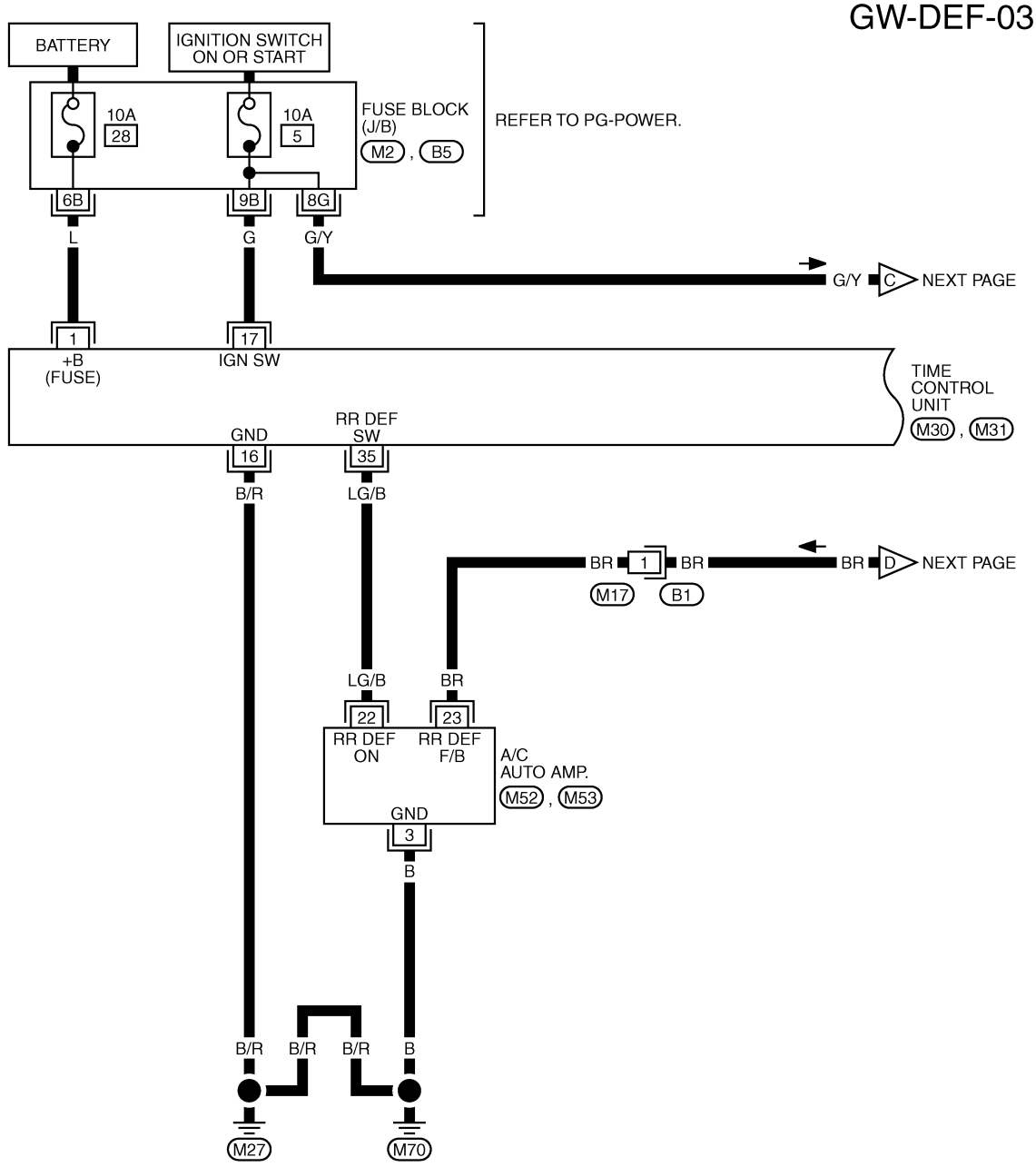
REFER TO THE FOLLOWING.
M2 , B4 -FUSE BLOCK-JUNCTION BOX (J/B)

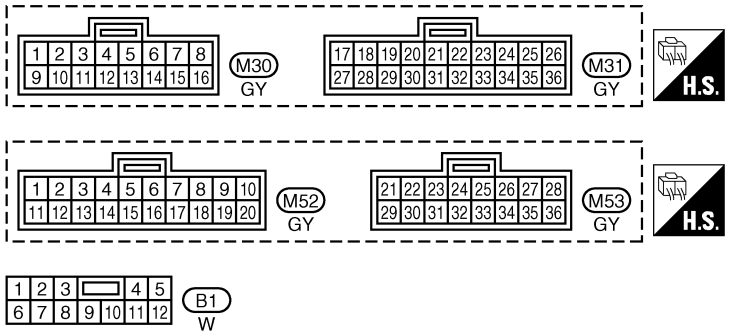
TIWA0445E

Wiring Diagram — DEF — / For RHD models

BIS000E2

GW-DEF-03

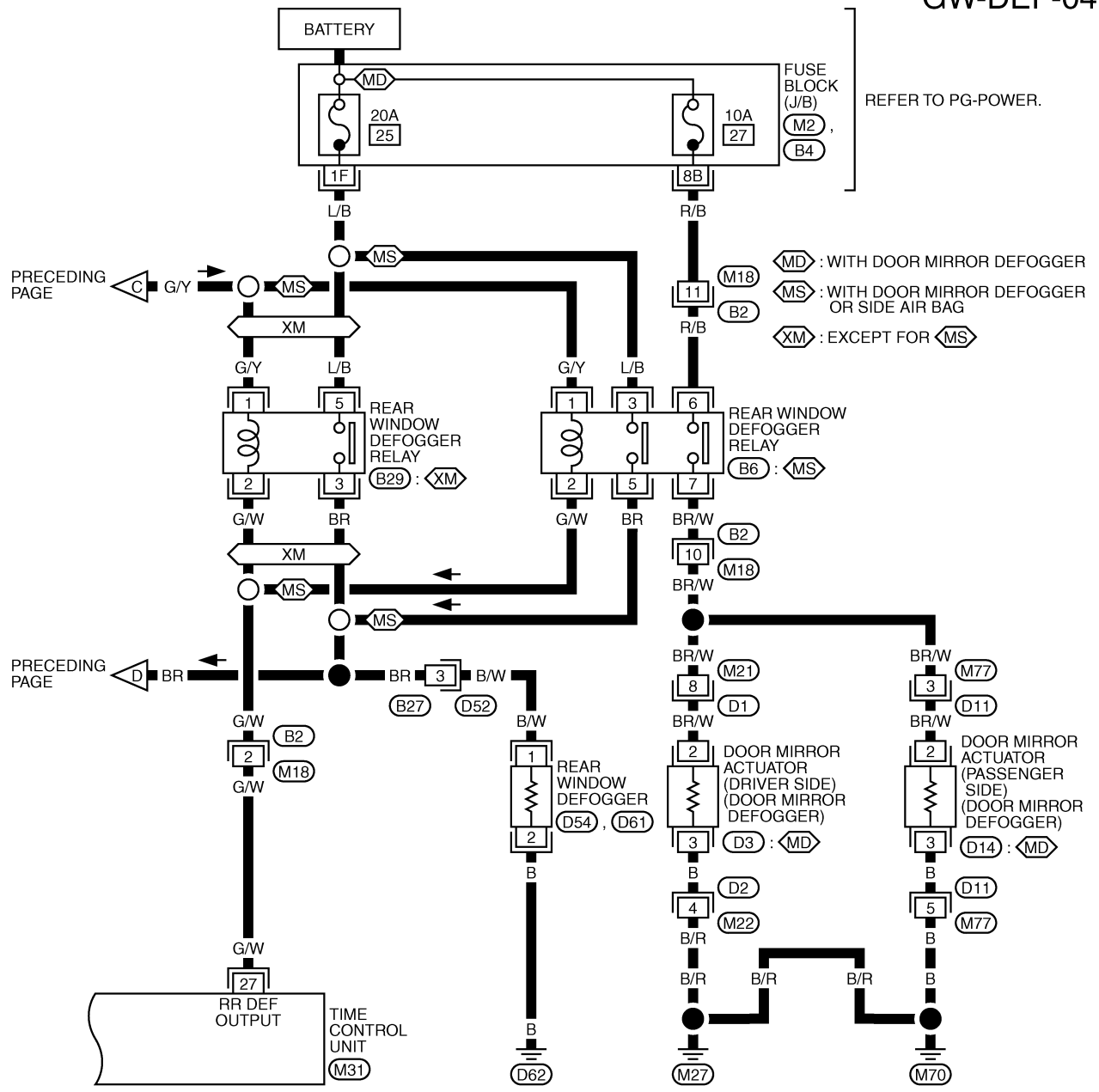


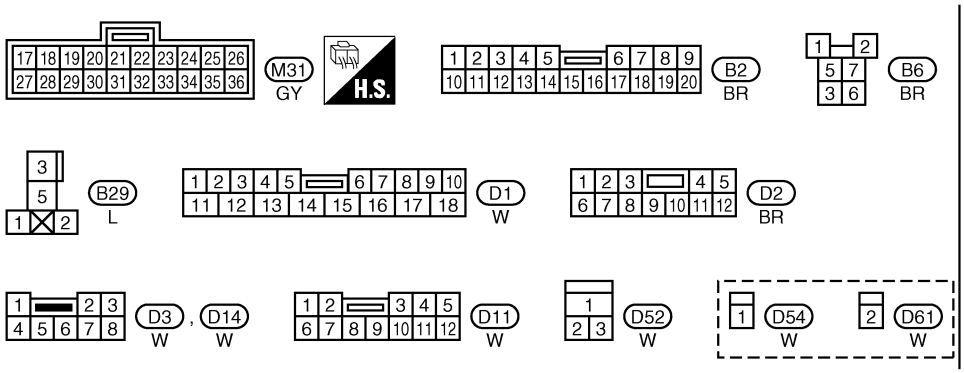


REFER TO THE FOLLOWING.
M2 , B5 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0822E

GW-DEF-04





REFER TO THE FOLLOWING.
M2, B4 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWA0447E

Terminals and Reference Value for Time Control Unit

BIS000E3

TERMINAL	WIRE COLOR	ITEM	CONDITION		VOLTAGE (V) (Approx.)
1	L	Power source (Fuse)	—		Battery voltage
16	B/R	Ground	—		0
17	G	Ignition switch ON	Ignition switch position (ON or START)		Battery voltage
27	G/W	Rear window defogger relay control signal	Rear window defogger switch	: ON	0
				: OFF	Battery voltage
35	LG/B	Rear window defogger switch signal	Rear window defogger switch	: ON	0
				: OFF	Battery voltage

Trouble Diagnoses symptom chart

BIS000E4

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

LHD Models

Symptom	Diagnoses / Service procedure	Refer to page
Rear window defogger does not operate. (without door mirror defogger or side air back)	1. Check rear window defogger relay power supply 1	GW-24
	2. Check time control unit power supply and ground	GW-25
Rear window defogger and door mirror defogger does not operate. (with door mirror defogger)	1. Check rear window defogger relay power supply 2	GW-26
	2. Check time control unit power supply and ground	GW-25
Rear window defogger does not operate. (with door mirror defogger)	1. Check rear window defogger circuit	GW-28
Door mirror defogger does not operate. (with door mirror defogger)	1. Check door mirror defogger circuit	GW-30
Rear window defogger does not operate. (with side air bag)	1. Check rear window defogger relay power supply 2	GW-26
	2. Check time control unit power supply and ground	GW-25

RHD Models

Symptom	Diagnoses / Service procedure	Refer to page
Rear window defogger does not operate. (without door side air back)	1. Cehck rear window defogger relay power supply 1	GW-24
	2. Check time control unit power supply and ground	GW-25
Rear window defogger does not operate. (with side air bag)	1. Check rear window defogger relay power supply 2	GW-26
	2. Check time control unit power supply and ground	GW-25

Check rear Window Defogger Relay Power Supply 1

BIS000E5

1. CHECK FUSE

- Check 10A fuse [No. 5, located in fuse block (J/B)]
- Check 20A fuse [No. 25, located in fuse block (J/B)]

NOTE:
Refer to GW-17, "Component Parts and Harness Connector Location"

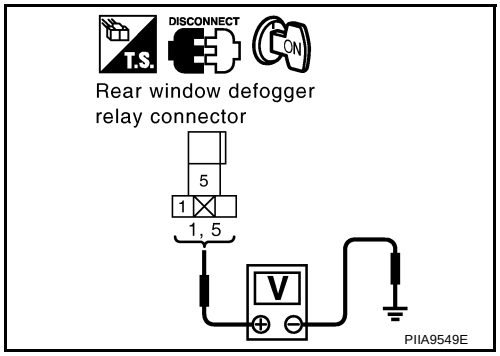
OK or NG

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

2. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between rear window defogger relay harness connector B29 terminal 1, 5 and ground.

1 (G/Y) - Ground : Battery voltage
5 (L/B) - Ground : Battery voltage



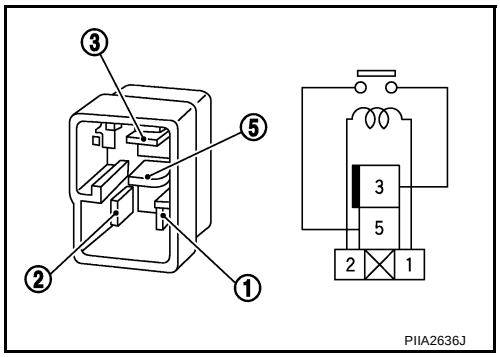
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between fuse block (J/B) and rear window defogger relay.

3. CHECK REAR WINDOW DEFOGGER RELAY

Check continuity between rear window defogger relay terminal 3 and 5.

Terminal		Condition	Continuity
3	5	12V direct current supply between terminal 1 and 2	Yes
		Not current supply	No



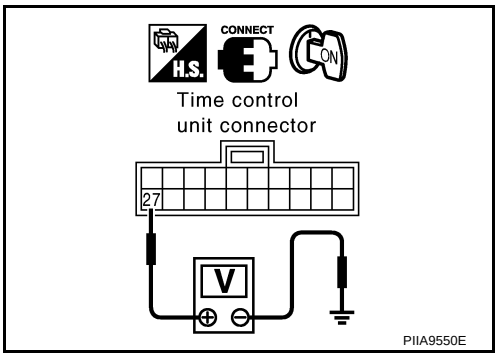
OK or NG

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

4. CHECK REAR WINDOW DEFOGGER RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Installation rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between time control unit connector M31 terminal 27 and ground.

27 (G/W) - Ground : Battery voltage



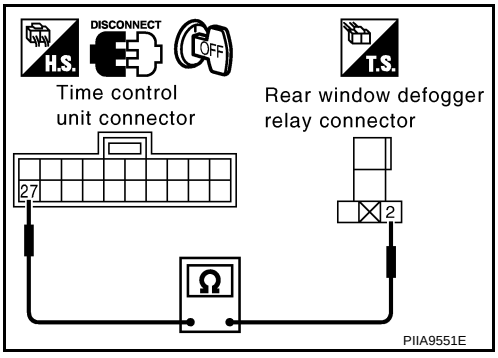
OK or NG

OK >> Rear window defogger relay power supply is OK.
NG >> GO TO 5.

5. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect time control unit connector and rear window defogger relay.
3. Check continuity between time control unit connector M31 terminal 27 and rear window defogger relay connector B29 terminal 2.

27 (G/W) - 2 (G/W) : Continuity should exist.



OK or NG

OK >> Rear window defogger relay power supply is OK.
NG >> Repair or replace harness between time control unit and rear window defogger relay.

Check Time Control Unit Power Supply and Ground

BIS000E6

1. CHECK FUSE

- Check 10A fuse [No. 5, located in fuse block (J/B)]
- Check 10A fuse [No. 28, located in fuse block (J/B)]

NOTE:
Refer to GW-17, "Component Parts and Harness Connector Location"

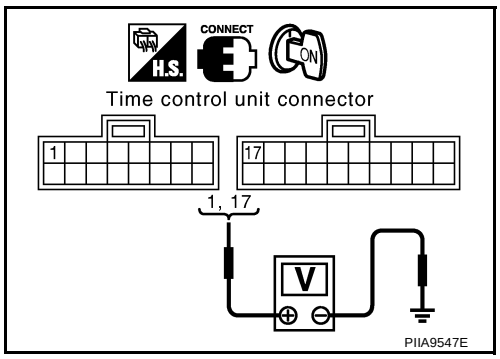
OK or NG

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

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between time control unit connector M30, M31 terminal 1, 17 and ground.

1 (L) - Ground	**: Battery voltage**
17 (G) - Ground	**: Battery voltage**



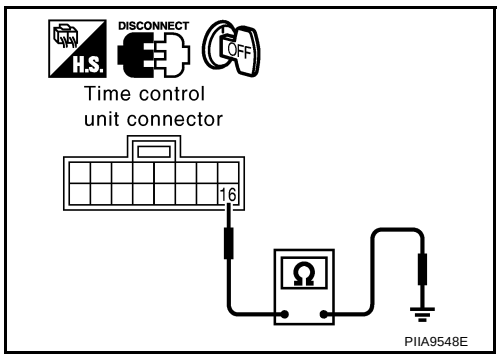
OK or NG

OK >> GO TO 3.
NG >> Check time control unit power supply circuit for open or short.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect time control unit connector.
3. Check continuity between time control unit connector M30 terminal 16 and ground.

16 (B/R) - Ground	**: Continuity should exist**



OK or NG

OK >> Power supply and ground circuit is OK.
NG >> Check time control unit ground circuit for open or short.

Check Rear Window Defogger Relay Power Supply 2

BIS000E8

1. CHECK FUSE

- Check 10A fuse [No. 5, located in fuse block (J/B)]
- Check 20A fuse [No. 25, located in fuse block (J/B)]

NOTE:
Refer to GW-17, "Component Parts and Harness Connector Location"

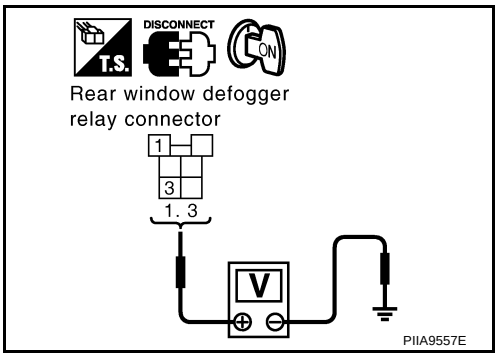
OK or NG

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

2. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between rear window defogger relay connector B6 terminal 1, 3 and ground.

1 (G/Y) - Ground : Battery voltage
3 (L/B) - Ground : Battery voltage



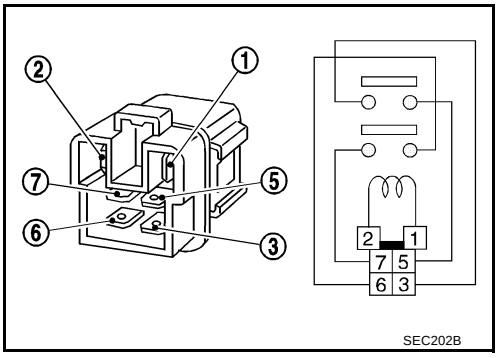
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between fuse block (J/B) and rear window defogger relay.

3. CHECK REAR WINDOW DEFOGGER RELAY

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

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



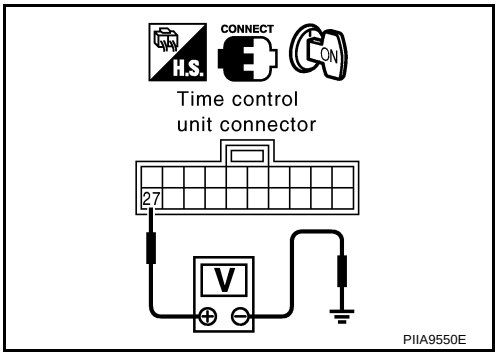
OK or NG

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

4. CHECK REAR WINDOW DEFOGGER RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Installation rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between time control unit connector M31 terminal 27 and ground.

27 (G/W) - Ground : Battery voltage



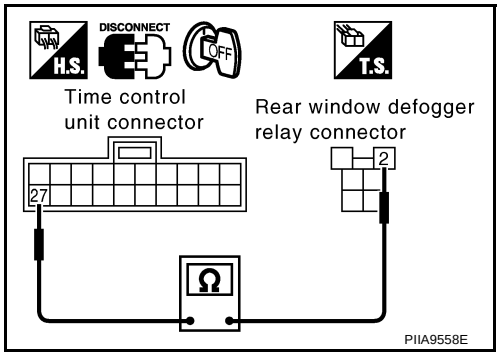
OK or NG

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

5. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect time control unit connector and rear window defogger relay.
3. Check continuity between time control unit connector M31 terminal 27 and rear defogger relay connector B6 terminal 2.

27 (G/W) - 2 (G/W) : Continuity should exist.



OK or NG

OK >> Rear window defogger relay power supply is OK.
NG >> Repair or replace harness between time control unit and rear window defogger relay.

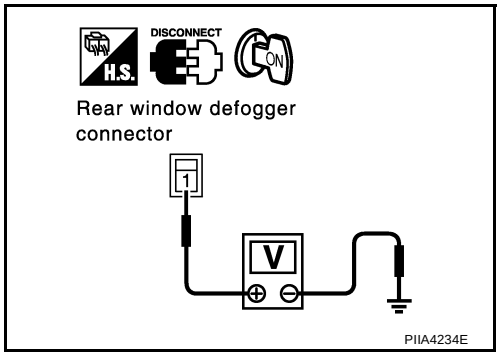
Check Rear Window Defogger Circuit 1

BIS000E9

1. CHECK REAR WINDOW DEFOGGER 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.)
	(+)	(-)			
D54	1 (B/W)	Ground	Rear window defogger switch	: ON	Battery voltage
				: OFF	0



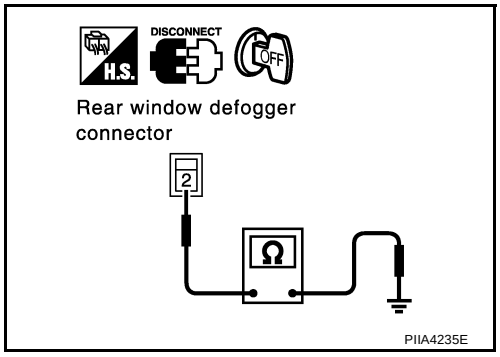
OK or NG

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

2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear window defogger connector D61 terminal 2 and ground.

2 (B) - Ground : Continuity should exist.



OK or NG

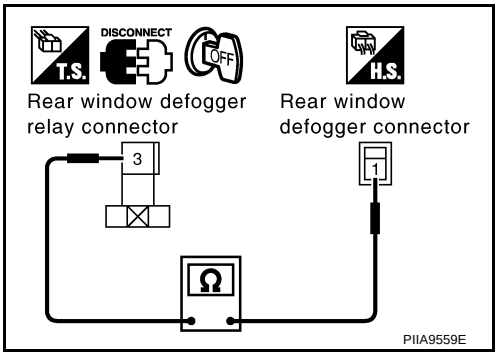
OK >> Check filament, Refer to GW-32, "Check Filament"
- If filament is OK
  Check the condition of the harness and the connector.
- If filament is ON
  Repair filament.

NG >> Repair or replace harness between rear window defogger and ground.

3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Remove the rear window defogger relay.
3. Check continuity between rear window defogger relay connector B29 terminal 3 and rear window defogger connector D54 terminal 1.

3 (B/W or BR) - 1 (B/W) : Continuity should exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between rear window defogger relay and rear window defogger.

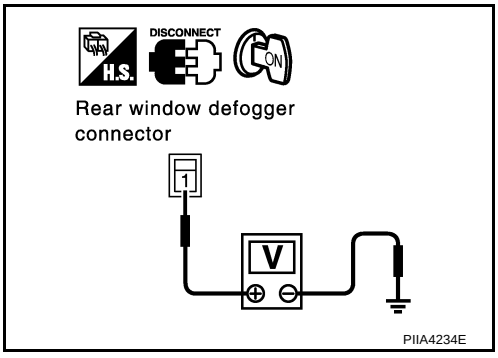
Check Rear Window Defogger Circuit 2

BIS000EA

1. CHECK REAR WINDOW DEFOGGER 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.)
	(+)	(-)			
D54	1 (B/W)	Ground	Rear window defogger switch	: ON	Battery voltage
				: OFF	0



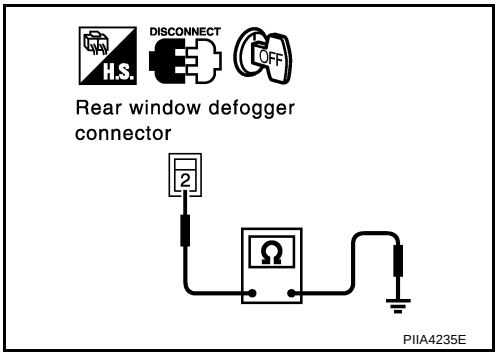
OK or NG

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

2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear window defogger connector D61 terminal 2 and ground.

2 (B) - Ground : Continuity should exist.



OK or NG

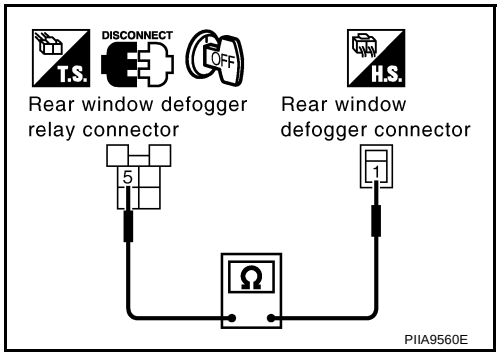
OK >> Check filament, Refer to GW-32, "Check Filament"
- If filament is OK
  Check the condition of the harness and the connector.
- If filament is ON
  Repair filament.

NG >> Repair or replace harness between rear window defogger and ground.

3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Remove the rear window defogger relay.
3. Check continuity between rear window defogger relay connector B6 terminal 5 and rear window defogger connector D54 terminal 1.

5 (B/W or BR) - 1 (B/W) : Continuity should exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between rear window defogger relay and rear window defogger.

Check Door Mirror Defogger Circuit

BIS000EB

1. CHECK FUSE

Check 10A fuse [No.27, located in fuse block (J/B)]

NOTE:
Refer to GW-17, "Component Parts and Harness Connector Location"

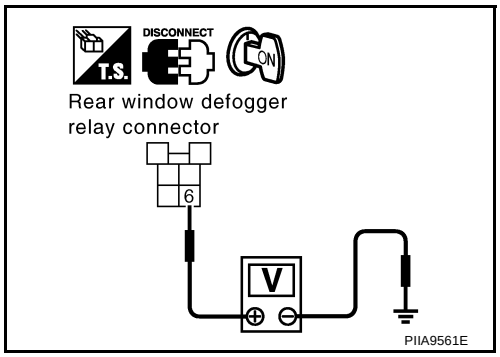
OK or NG

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

2. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between rear window defogger relay harness connector B6 terminal 6 and ground.

6 (R/B) - Ground : Battery voltage



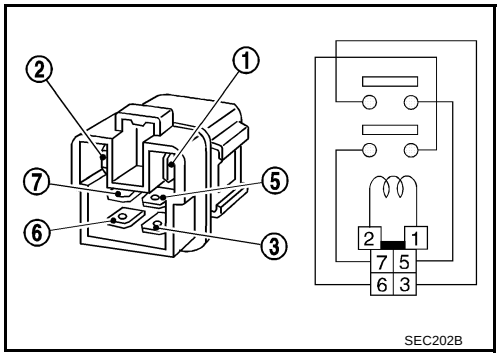
OK or NG

OK >> GO TO 3.
NG >> Repair or replace harness between fuse block (J/B) and rear window defogger relay.

3. CHECK REAR WINDOW DEFOGGER RELAY

Check continuity between rear window defogger relay terminal 6 and 7.

Terminal		Condition	Continuity
6	7	12V direct current supply between terminals 1 and 2	Yes
		No current supply	No



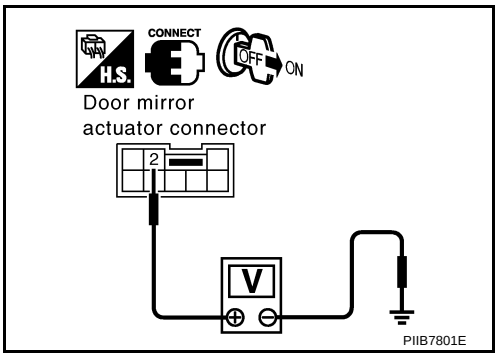
OK or NG

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

4. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY

1. Turn ignition switch OFF.
2. Install rear window defogger relay.
3. Turn ignition switch ON.
4. Check voltage between door mirror actuator connector D3 (driver side), D14 (passenger side) terminal 2 and ground.

Connector	Terminal (Wire color)		Condition		Voltage (V) (Approx.)
	(+)	(-)			
D3 D14	2 (BR/W)	Ground	Rear window defogger switch	: ON	Battery voltage
				: OFF	0



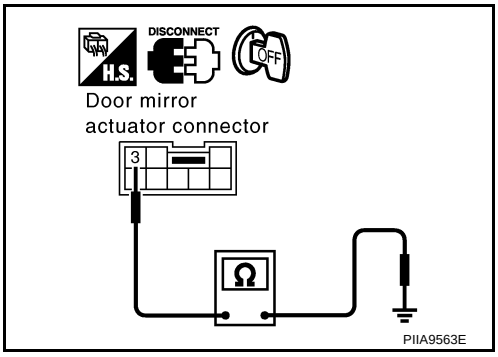
OK or NG

OK >> GO TO 5.
NG >> GO TO 6.

5. CHECK DOOR MIRROR DEFOGGER GROUND

1. Turn ignition switch OFF.
2. Disconnect door mirror actuator connector.
3. Check continuity between door mirror actuator connector D3 (driver side), D14 (passenger side) terminal 3 and ground.

3 (B) - Ground : Continuity should exist.



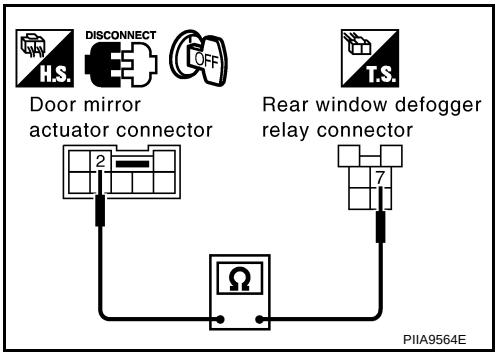
OK or NG

OK >> Replace malfunction door mirror actuator.
NG >> Repair or replace harness between door mirror actuator and ground.

6. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect door mirror actuator connector and rear window defogger relay.
3. Check continuity between door mirror actuator D3 (driver side), D14 (passenger side) terminal 2 and rear window defogger relay connector B6 terminal 7.

2 (BR/W) - 7 (BR/W) : Continuity should exist.



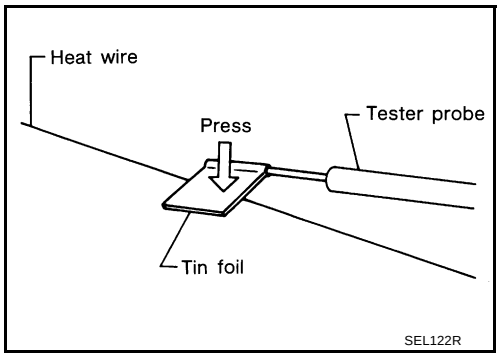
OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between door mirror actuator and rear window defogger relay.

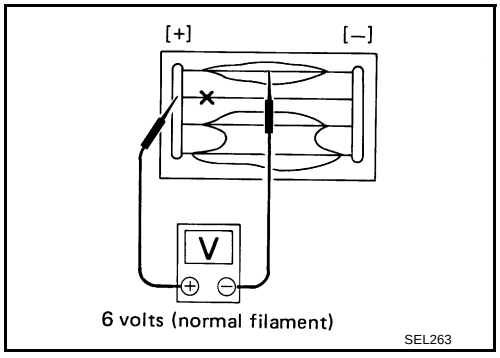
Check Filament

BIS000EE

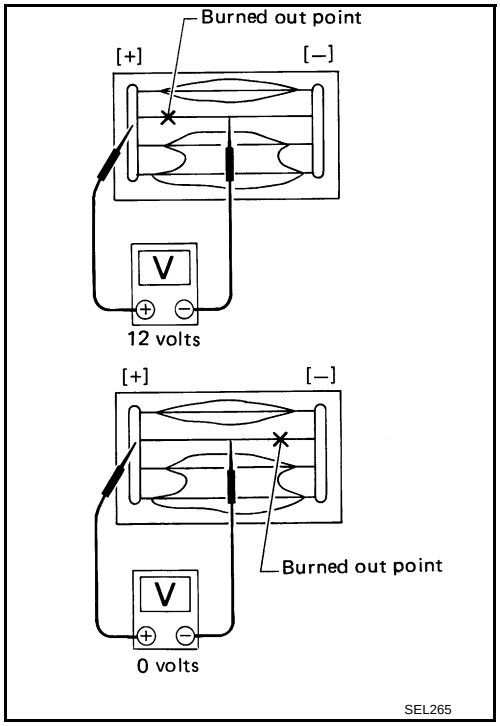
1. When measuring voltage, wrap tin foil around the top of the negative probe.Then press the foil against the wire with your finder.



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

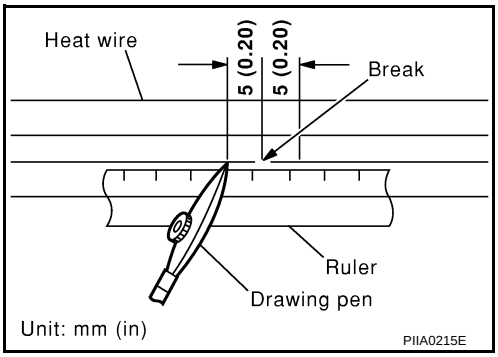
BIS000EF

REPAIR EQUIPMENT

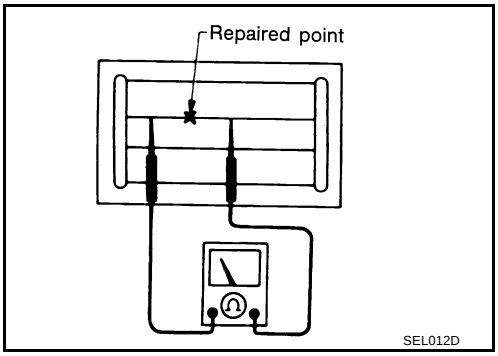
- Conductive silver composition (Dupont NO.4817 or equivalent)
- Ruler 30 cm(11.8in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

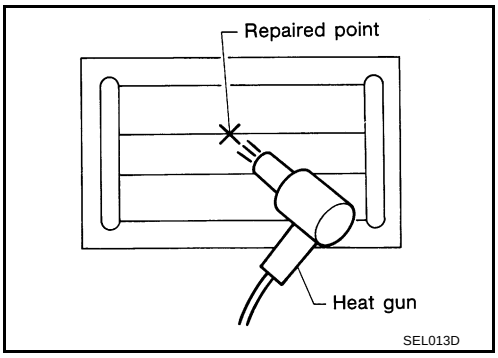
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line.Deposit conductive silver composition on break with drawing pen.Slightly overlap existing heat wire on both sides [preferably 5 mm(0.20in)] 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 3cm(1.2in) 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.

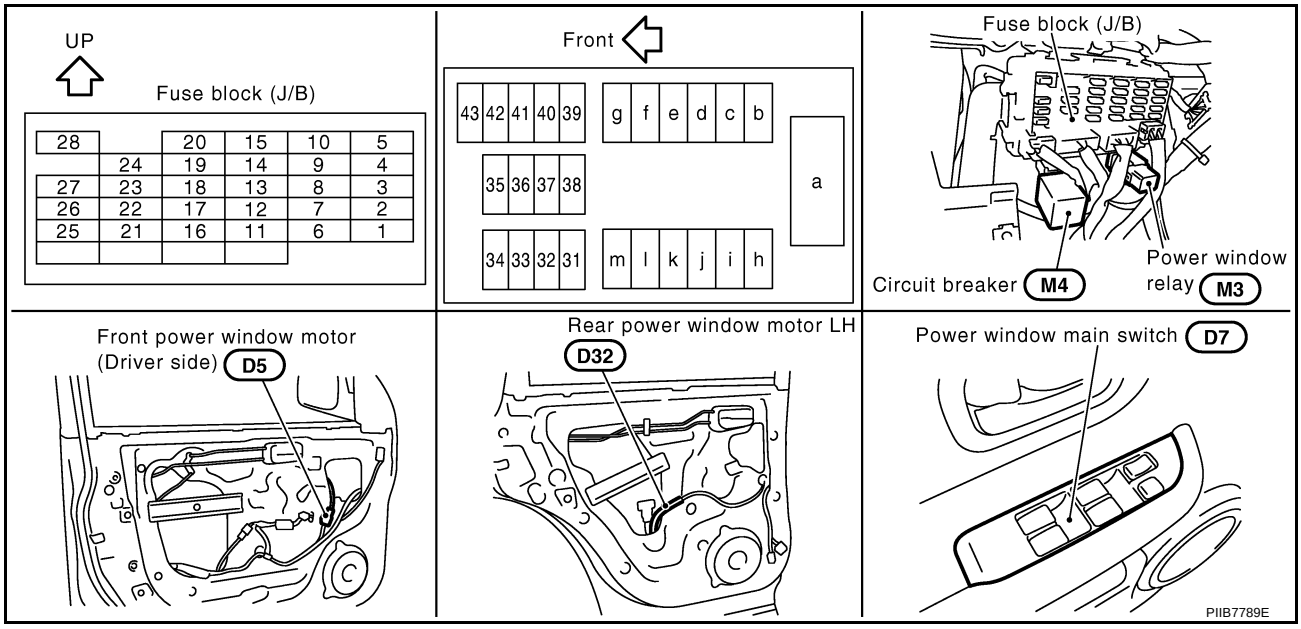


POWER WINDOW SYSTEM

PFP:25401

Component Parts and Harness Connector Location

BIS000EG



System Description

BIS000EH

Power is supplied at all times

- from 40A fusible link (letter **B** , located in the fuse and fusible link box)
- through circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3 and
- to power window main switch terminal 5 (LHD models) or 3 (RHD models).

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

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

Ground is supplied

- to power window relay terminal 2
- through body grounds M27 and M70,
- to power window main switch terminal 19
- through body grounds M27 and M70.

When power and ground are supplied, the power window relay is energized and then power is supplied

- through power window relay terminal 5
- to power window main switch terminal 12,
- to front power window switch (passenger side) terminal 5,
- to rear power window switch LH and RH terminals 5.

MANUAL OPERATION

Front door (Driver Side)

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

- through power window main switch terminal 2 (LHD models) or 6 (RHD models).
- to driver side power window motor terminal 1

Ground is supplied

- to driver side power window motor terminal 3
- through power window main switch terminal 1 (LHD models) or 7 (RHD models).

Then, the motor raises the window until the switch is released.
WINDOW DOWN
When the driver's window switch in the power window main switch is pressed in the down position,
Power is supplied

- through power window main switch terminal 1(LHD models) or 7 (RHD models)
- to driver side power window motor terminal 3

Ground is supplied

- to driver side power window motor terminal 1
- through power window main switch terminal 2 (LHD models) or 6 (RHD models).

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

Front door (Passenger Side)

POWER WINDOW MAIN SWITCH OPERATION

WINDOW UP
When the passenger side switch in the power window main switch is pressed in the up position,
Power is supplied

- through power window main switch terminal 4 (LHD models) or 5 (RHD models)
- to front power window switch (passenger side) terminal 3
- to front power window switch (passenger side) terminal 1
- to front power window motor (passenger side) terminal 1

Ground is supplied

- to front power window motor (passenger side) terminal 2
- to front power window switch (passenger side) terminal 2
- to front power window switch (passenger side) terminal 4
- through power window main switch terminal 3 (LHD models) or 4 (RHD models)

Then, the motor raises the window until the switch is released.
WINDOW DOWN
When the passenger side switch in the power window main switch is pressed in the down position,
Power is supplied

- through power window main switch terminal 3 (LHD models) or 4 (RHD models)
- to front power window switch (passenger side) terminal 4
- to front power window switch (passenger side) terminal 2
- to front power window motor (passenger side) terminal 2

Ground is supplied

- to front power window motor (passenger side) terminal 1
- to front power window switch (passenger side) terminal 1
- to front power window switch (passenger side) terminal 3
- through power window main switch terminal 4 (LHD models) or 5 (RHD models)

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

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 1
- to front power window motor (passenger side) terminal 1

Ground is supplied

- to front power window motor (passenger side) terminal 2
- to front power window switch (passenger side) terminal 2
- to front power window switch (passenger side) terminal 4
- through power window main switch terminal 3 (LHD models) or 4 (RHD models)

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 2
- to front power window motor (passenger side) terminal 2

Ground is supplied

- to front power window motor (passenger side) terminal 1
- to front power window switch (passenger side) terminal 1
- to front power window switch (passenger side) terminal 3
- through power window main switch terminal 4 (LHD models) or 5 (RHD models)

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

Rear door LH

POWER WINDOW MAIN SWITCH OPERATION

WINDOW UP

When the rear LH switch in the power window main switch is pressed in the up position,
Power is supplied

- through power window main switch terminal 14 (LHD models) or 13 (RHD models)
- to rear power window switch LH terminal 3
- to rear power window switch LH terminal 1
- to rear power window motor LH terminal 1

Ground is supplied

- to rear power window motor LH terminal 2
- to rear power window switch LH terminal 2
- to rear power window switch LH terminal 4
- through power window main switch terminal 15 (LHD models) or 14 (RHD models)

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

WINDOW DOWN

When the rear LH switch in the power window main switch is pressed in the down position,
Power is supplied

- through power window main switch terminal 15 (LHD models) or 14 (RHD models)
- to rear power window switch LH terminal 4
- to rear power window switch LH terminal 2
- to rear power window motor LH terminal 2

Ground is supplied

- to rear power window motor LH terminal 1
- to rear power window switch LH terminal 1
- to rear power window switch LH terminal 3
- through power window main switch terminal 14 (LHD models) or 13 (RHD models)

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

REAR POWER WINDOW SWITCH LH OPERATION

WINDOW UP

When the rear power window switch LH is pressed in the up position,
Power is supplied

- through rear power window switch LH terminal 1
- to rear power window motor LH terminal 1

Ground is supplied

- to rear power window motor LH terminal 2
- to rear power window switch LH terminal 2
- to rear power window switch LH terminal 4
- through power window main switch terminal 15 (LHD models) or 14 (RHD models)

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

WINDOW DOWN

When the rear power window switch LH is pressed in the down position,
Power is supplied

- through rear power window switch LH terminal 2
- to rear power window motor LH terminal 2

Ground is supplied

- to rear power window motor LH terminal 1
- to rear power window switch LH terminal 1
- to rear power window switch LH terminal 3
- through power window main switch terminal 14 (LHD models) or 13 (RHD models)

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

Rear door RH

POWER WINDOW MAIN SWITCH OPERATION

WINDOW UP

When the rear RH switch in the power window main switch is pressed in the up position,
Power is supplied

- through power window main switch terminal 10 (LHD models) or 9 (RHD models)
- to rear power window switch RH terminal 3
- to rear power window switch RH terminal 1
- to rear power window motor RH terminal 1

Ground is supplied

- to rear power window motor RH terminal 2
- to rear power window switch RH terminal 2
- to rear power window switch RH terminal 4
- through power window main switch terminal 11 (LHD models) or 10 (RHD models)

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

WINDOW DOWN

When the rear RH switch in the power window main switch is pressed in the down position,
Power is supplied

- through power window main switch terminal 11 (LHD models) or 10 (RHD models)
- to rear power window switch RH terminal 4
- to rear power window switch RH terminal 2
- to rear power window motor RH terminal 2

Ground is supplied

- to rear power window motor RH terminal 1
- to rear power window switch RH terminal 1
- to rear power window switch RH terminal 3
- through power window main switch terminal 10 (LHD models) or 9 (RHD models)

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

REAR POWER WINDOW SWITCH LH OPERATION

WINDOW UP

When the rear power window switch RH is pressed in the up position,
Power is supplied

- through rear power window switch RH terminal 1
- to rear power window motor RH terminal 1

Ground is supplied

- to rear power window motor RH terminal 2
- to rear power window switch RH terminal 2
- to rear power window switch RH terminal 4
- through power window main switch terminal 11 (LHD models) or 10 (RHD models)

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

WINDOW DOWN

When the rear power window switch RH is pressed in the down position,
Power is supplied

- through rear power window switch RH terminal 2
- to rear power window motor RH terminal 2

Ground is supplied

- to rear power window motor RH terminal 1
- to rear power window switch RH terminal 1
- to rear power window switch RH terminal 3
- through power window main switch terminal 10 (LHD models) or 9 (RHD models)

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

AUTO OPERATION

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

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver's window.
When the lock switch is pressed to lock position, ground of the sub–switches in the power window main switch is disconnected.This prevents the power window motors from operating.

TIMER FUNCTION

With the timer function, driver power window can be operated for approximately 15 minutes after ignition switch is turned OFF (positions other than ON). However, the timer will be cancel when a specific signal, such as driver door close (door switch OFF) → open (door switch ON), or ignition switch OFF → ON, is input.

DRIVER WINDOW ANTI–PINCH FUNCTION

During raising operation of driver power window, if power window main switch detects that foreign object is pinched, power window lowers approximately 150 mm (5.91 in).

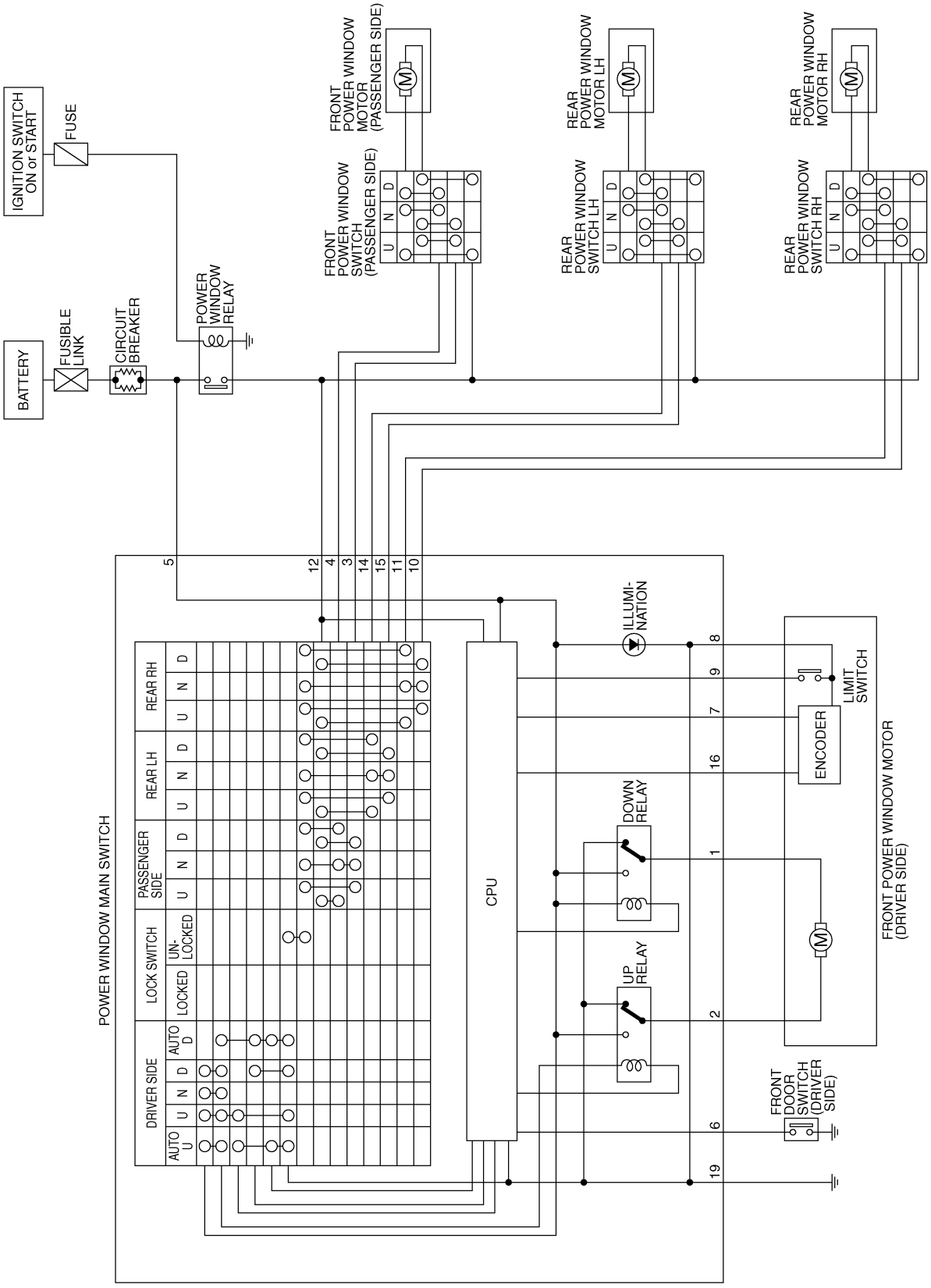
NOTE:
Depending on environment and driving conditions, if a similar impact or load is applied to power window, it may lower.

Operation conditions

- Driver door window is between fully-open and just before fully-closed position (when the limit switch is ON).
- During automatic operation when ignition switch is turned ON.
- During automatic or manual operation when ignition switch is other than ON position (when the timer operates).

Schematic / For LHD Models

BIS000EI

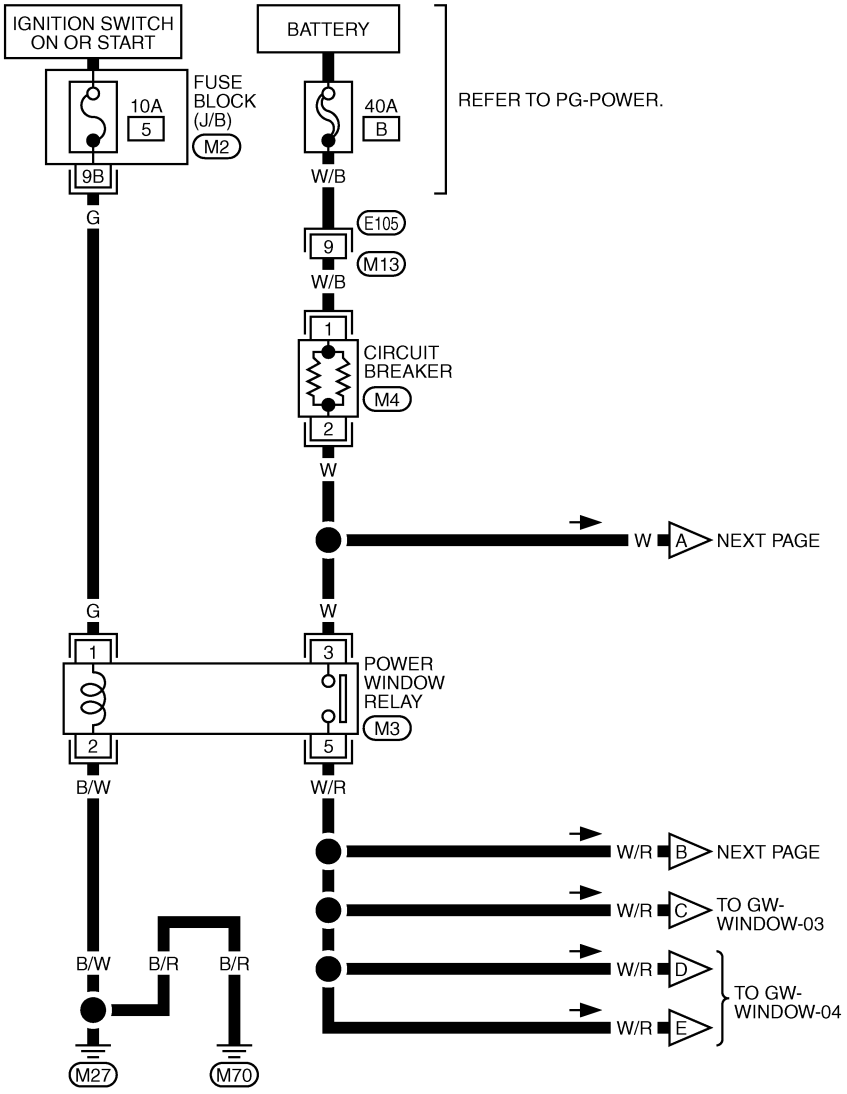


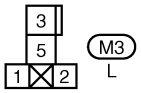
TIWB0823E

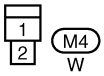
Wiring Diagram – WINDOW – / For LHD Models

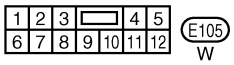
BIS000EJ

GW-WINDOW-01







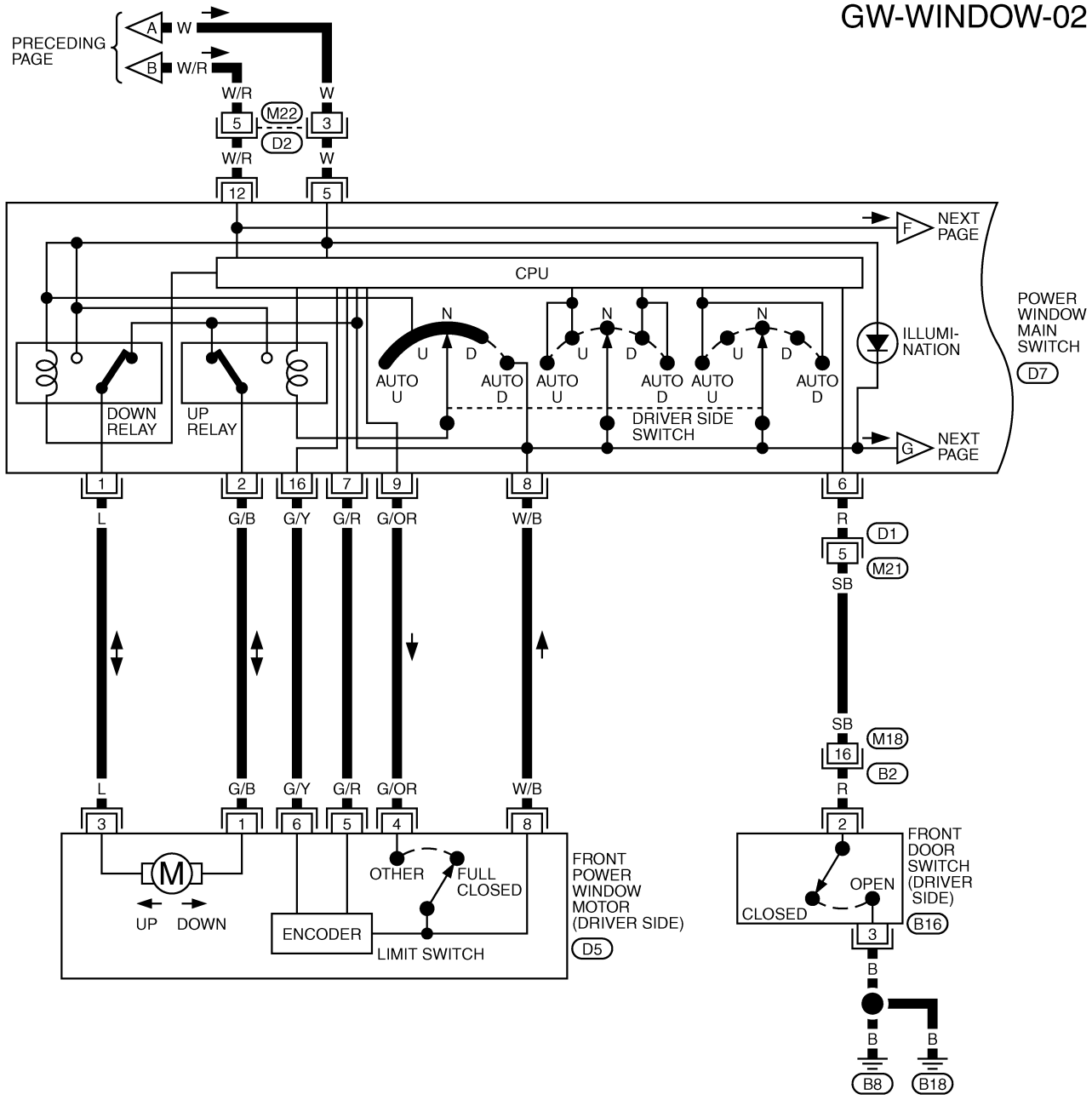


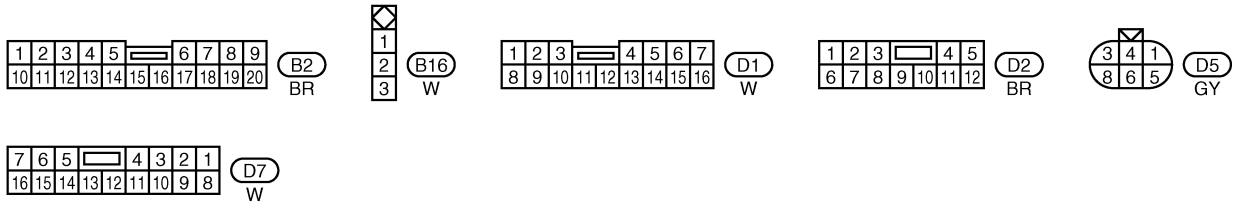
REFER TO THE FOLLOWING.

M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWA0449E

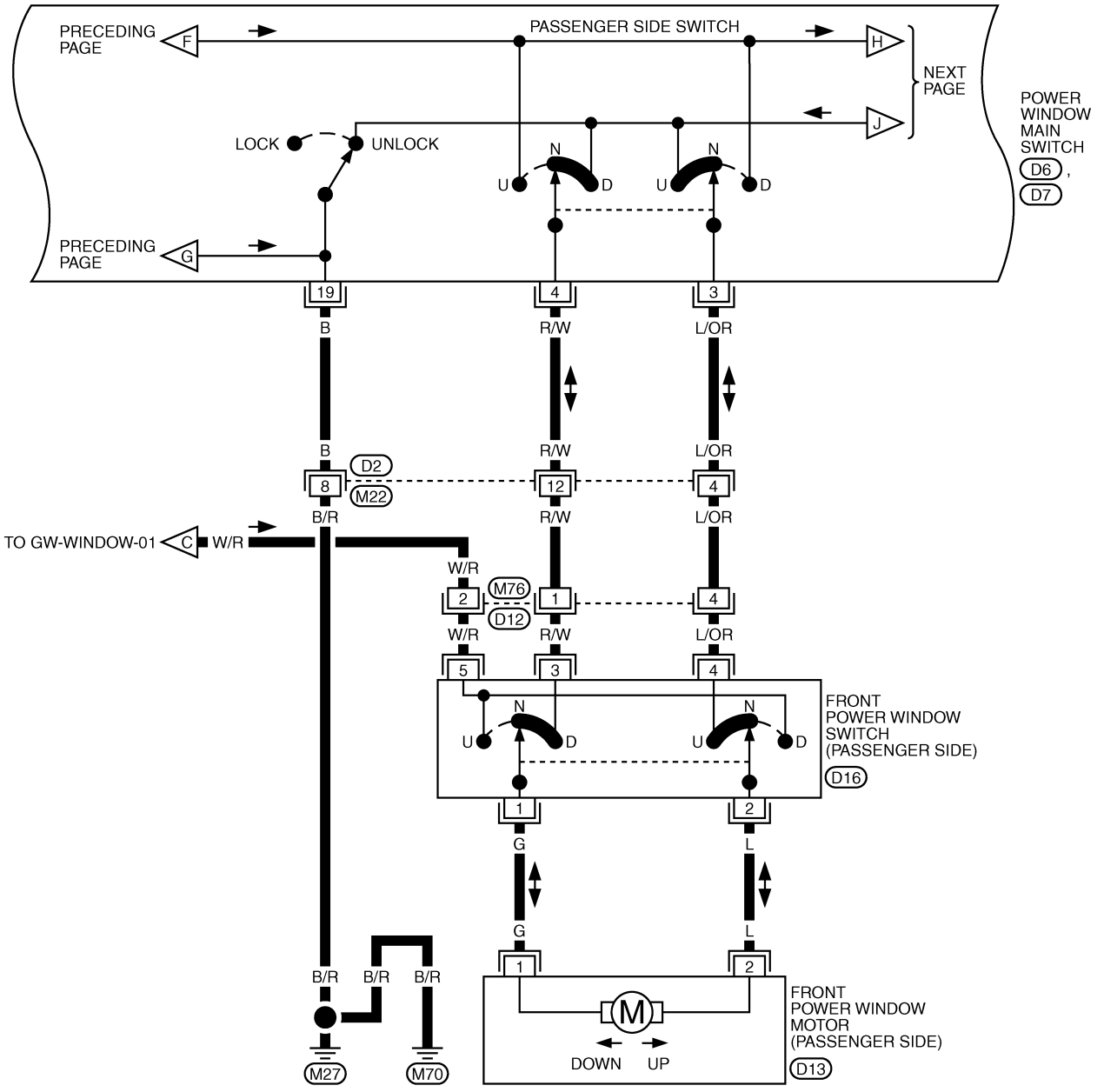
GW-WINDOW-02

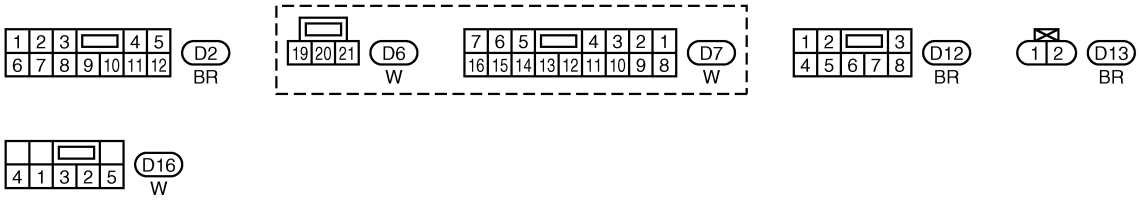




TIWA0450E

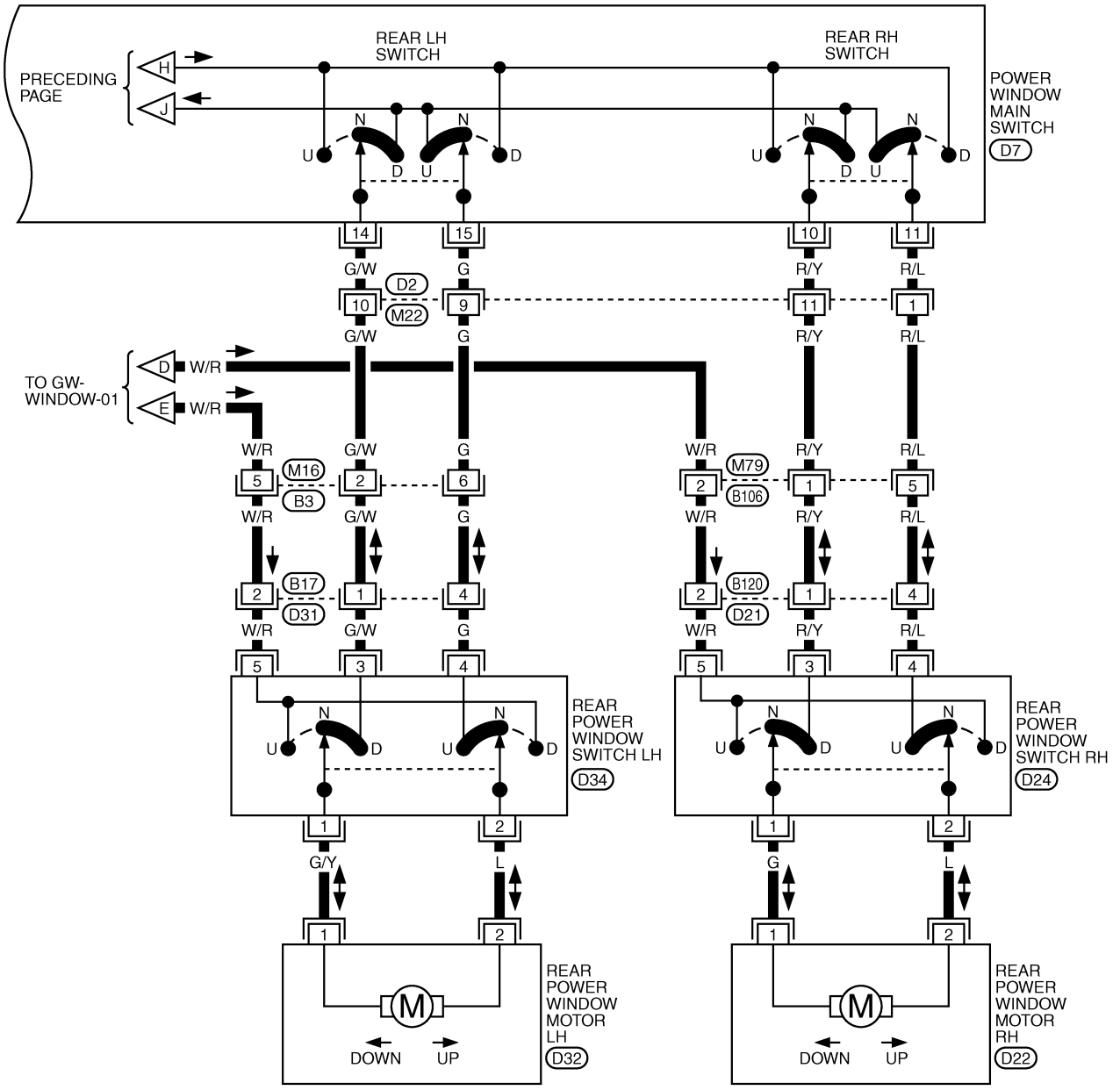
GW-WINDOW-03

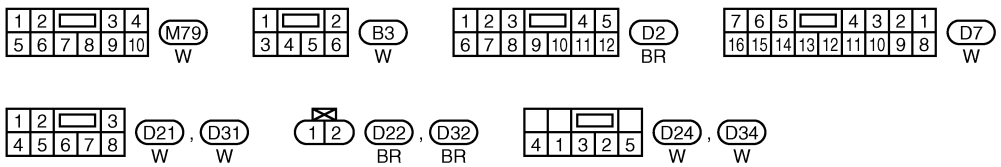




TIWA0451E

GW-WINDOW-04

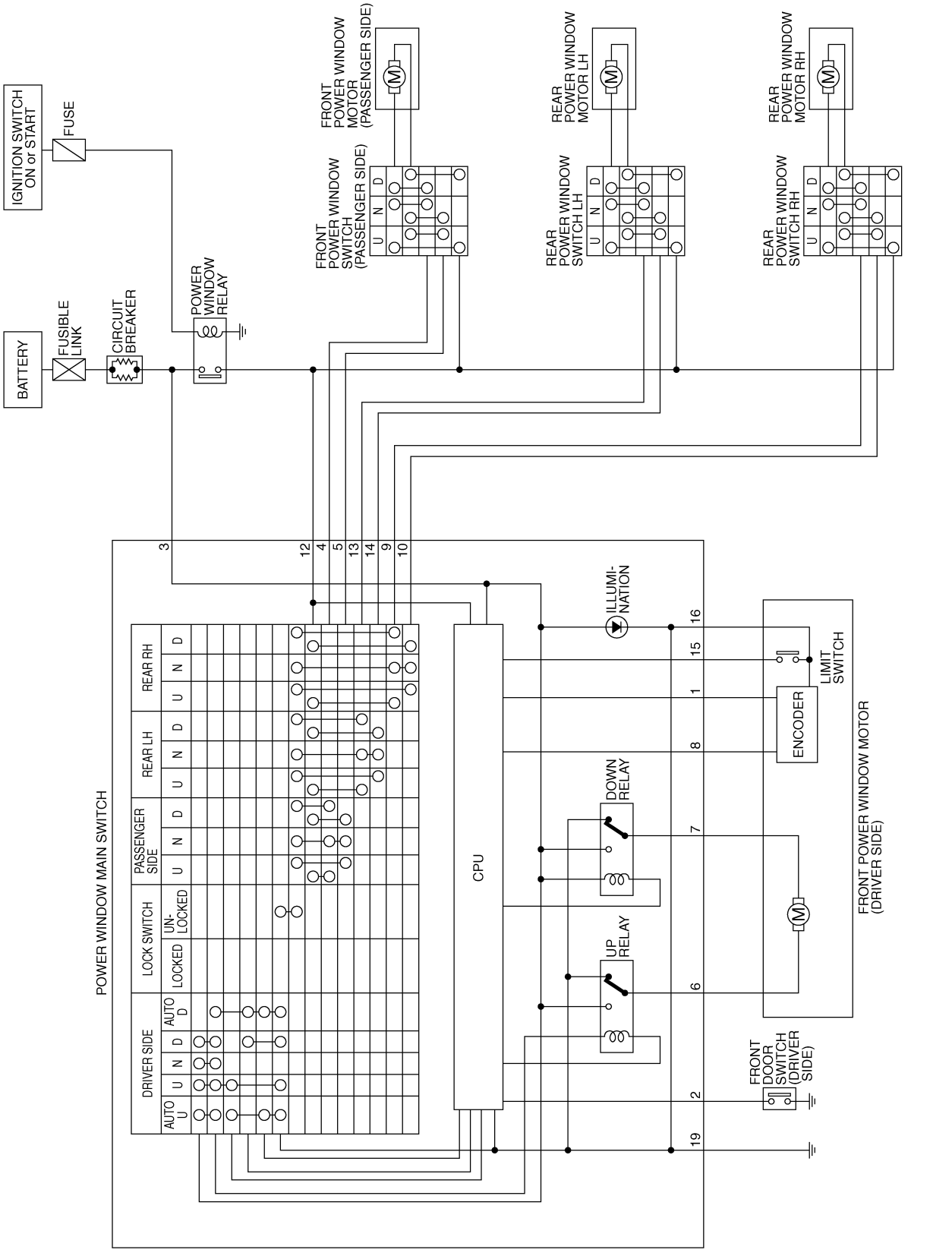




TIWA0452E

Schematic / For RHD Models

BIS000EL

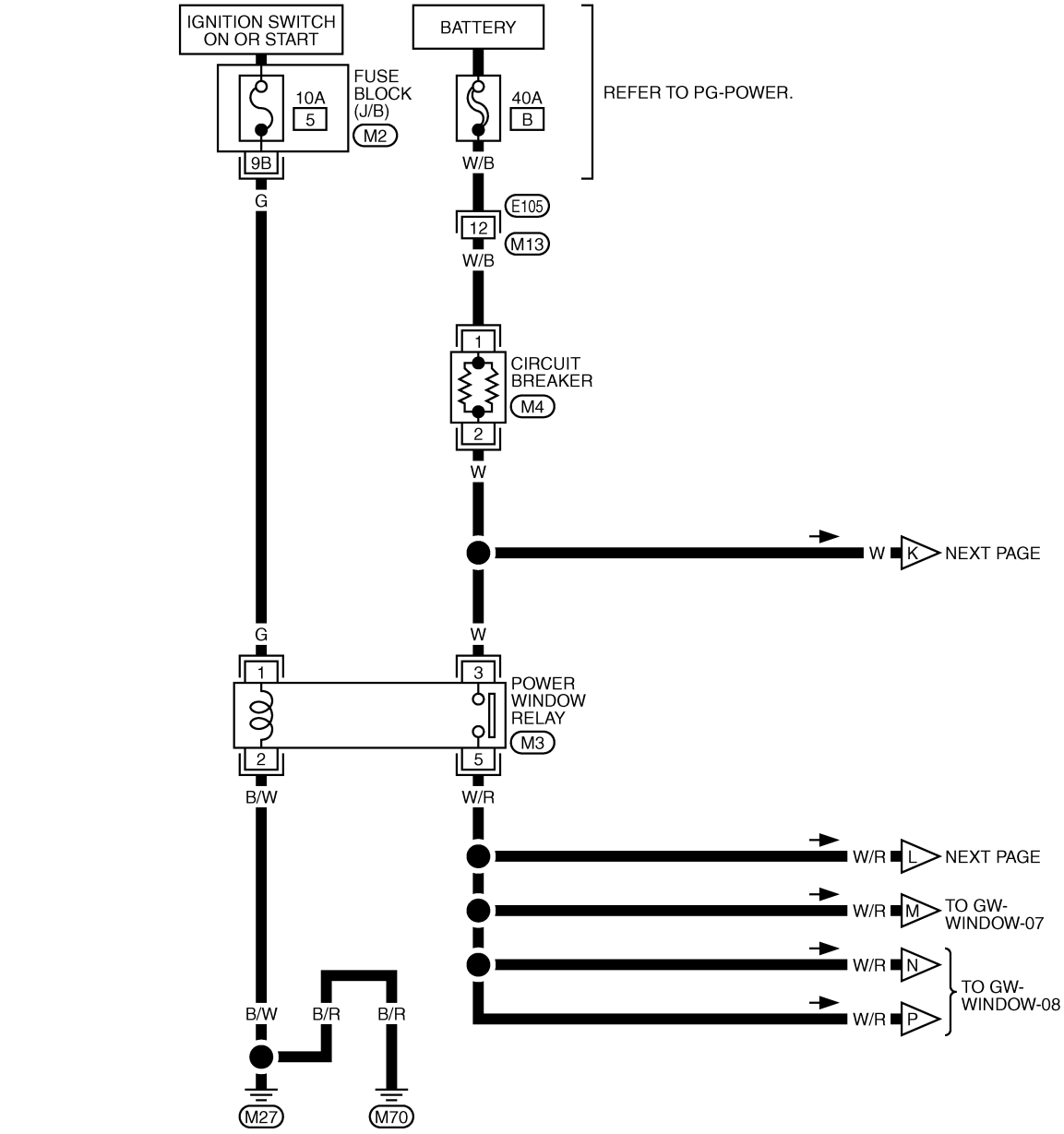


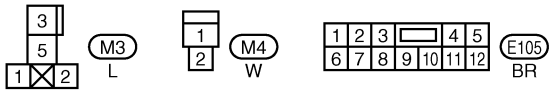
TIWB0824E

Wiring Diagram – WINDOW – / For RHD Models

BIS000EM

GW-WINDOW-05

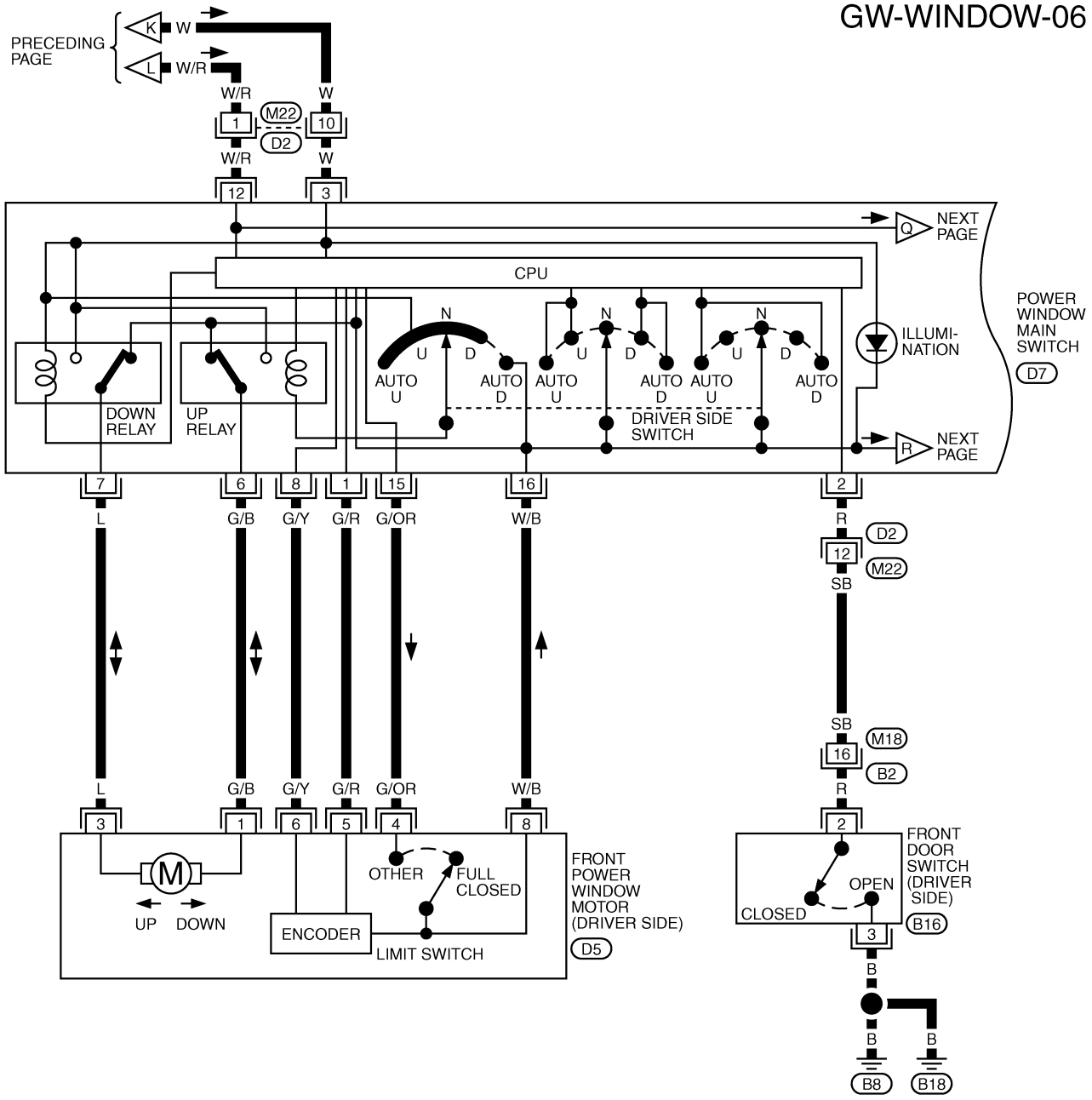


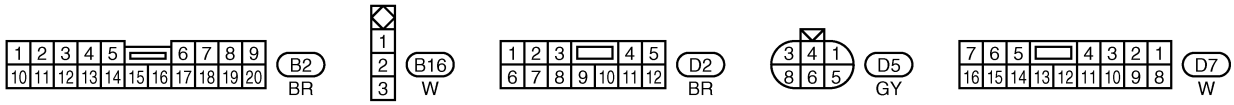


REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWA0454E

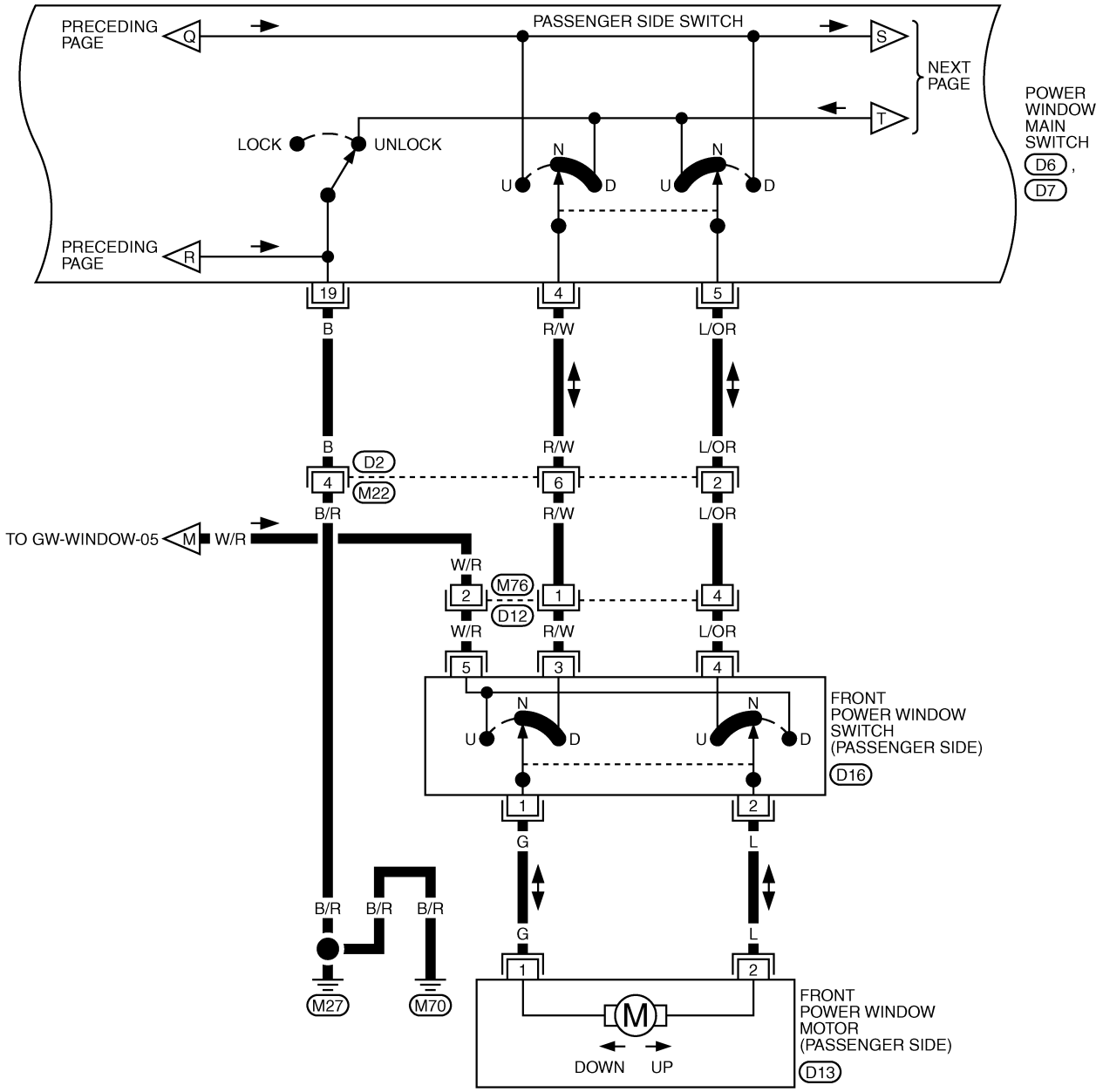
GW-WINDOW-06

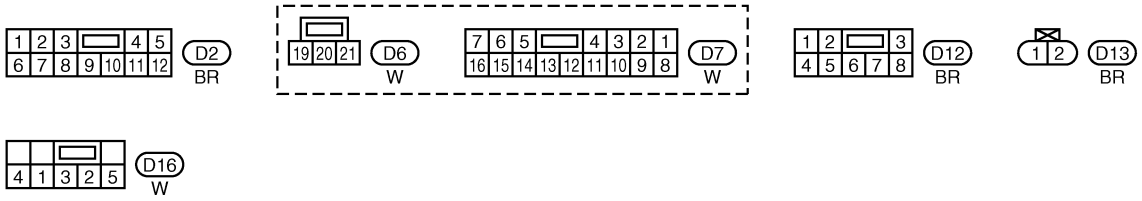




TIWA0455E

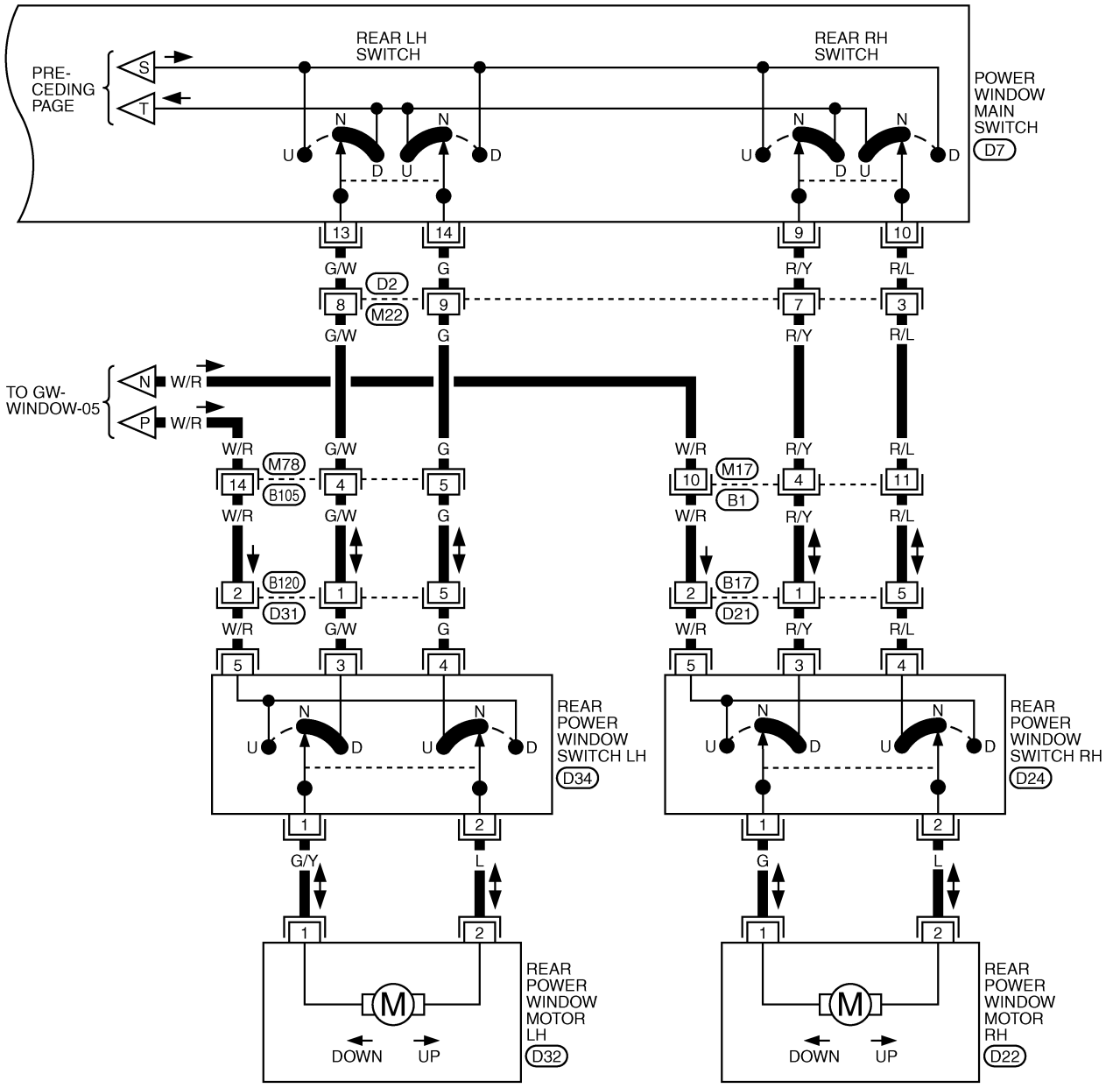
GW-WINDOW-07

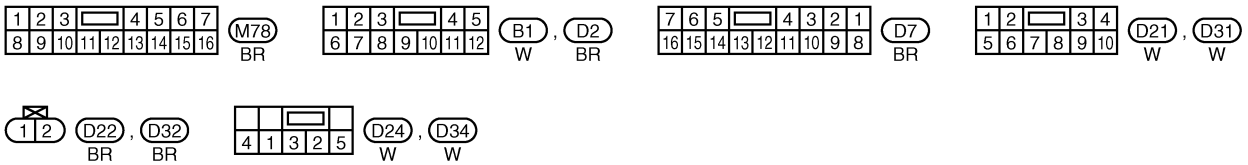




TIWA0456E

GW-WINDOW-08



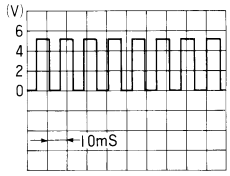


TIWA0457E

Terminal and Reference Value for Power Window Main Switch / For LHD Models

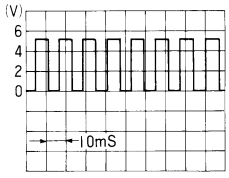
BIS000EK

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) (Approx.)
1	L	Driver side power window motor DOWN signal	When power window motor is DOWN at operated.	Battery voltage
			Other than above.	0
2	G/B	Driver side power window motor UP signal	When power window motor is UP at operated.	Battery voltage
			Other than above.	0
3	L/OR	Passenger side power window motor DOWN signal	When passenger switch in power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0
4	R/W	Passenger side power window motor UP signal	When passenger switch in power window main switch is UP at operated.	Battery voltage
			Other than above.	0
5	W	Power souse (fusible link)	—	Battery voltage
6	R	Driver side door switch signal	ON (open)	0
			OFF (close)	Battery voltage
7	G/R	Encoder power supply	Ignition switch position ON and timer operating	10
8	W/B	Limit switch and encoder ground	—	0
9	G/OR	Limit switch signal	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	R/Y	Rear RH side power window motor UP signal	When rear RH switch in power window main switch is UP at operated.	Battery voltage
			Other than above.	0
11	R/L	Rear RH side power window motor DOWN signal	When rear RH switch in power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0
12	W/R	Power window relay	Ignition switch position (ON or START)	Battery voltage
14	G/W	Rear LH side power window motor UP signal	When rear LH switch in power window main switch is UP at operated.	Battery voltage
			Other than above.	0
15	G	Rear LH side power window motor DOWN signal	When rear LH switch in power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) (Approx.)
16	G/Y	Encoder pulse signal	When power window motor operates.	 OCC3383D
19	B	Ground	—	0

Terminal and Reference Value for Power Window Main Switch / For RHD Models

BIS000EN

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) (Approx.)
1	G/R	Encoder power supply	Ignition switch position ON or timer is operating	10
2	R	Driver side door switch signal	ON (open)	0
			OFF (close)	Battery voltage
3	W	Power source (fusible link)	—	Battery voltage
4	R/W	Passenger side power window motor UP signal	When passenger switch in power window main switch is UP at operated.	Battery voltage
			Other than above.	0
5	L/OR	Passenger side power window motor DOWN signal	When passenger switch in power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0
6	G/B	Driver side power window motor UP signal	When power window motor is UP at operated.	Battery voltage
			Other than above.	0
7	L	Driver side power window motor DOWN signal	When power window motor is DOWN at operated.	Battery voltage
			Other than above.	0
8	G/Y	Encoder pulse signal	When power window motor operates.	 OCC3383D
9	R/Y	Rear RH side power window motor UP signal	When rear RH switch is power window main switch is UP at operated.	Battery voltage
			Other than above.	0
10	R/L	Rear RH side power window motor DOWN signal	When rear RH switch is power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0
12	W/R	Power window relay	Ignition switch position (ON or START)	Battery voltage
13	G/W	Rear LH side power window motor UP signal	When rear LH switch is power window main switch is UP at operated.	Battery voltage
			Other than above.	0
14	G	Rear LH side power window motor DOWN signal	When rear LH switch is power window main switch is DOWN at operated.	Battery voltage
			Other than above.	0

TERMINAL	WIRE COLOR	ITEM	CONDITION	VOLTAGE (V) (Approx.)
15	G/OR	Limit switch signal	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
16	W/B	Limit switch and encoder ground	—	0
19	B	Ground	—	0

Trouble Diagnoses Symptom Chart

BIS000EO

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

Symptom	Repair order	Refer to page
None of the power window can be operated using by any switch	1. Check power window relay power supply and ground	GW-53
	2. Check power window main switch power supply and ground circuit	GW-54
Driver side power window does not operate.	1. Check power window motor (driver side) circuit	GW-55
Passenger side power window does not operate.	1. Check power window motor circuit	GW-56
	2. Check power window switch	GW-57
	3. Check power window (passenger side) circuit	GW-58
Rear LH power window does not operate.	1. Check power window motor circuit	GW-56
	2. Check power window switch	GW-57
	3. Check power window (rear LH) circuit	GW-60
Rear RH power window does not operate.	1. Check power window motor circuit	GW-56
	2. Check power window switch	GW-57
	3. Check power window (rear RH) circuit	GW-62
Anti-pinch system does not operate normally (driver side)	1. Door window sliding part malfunction ● A foreign adheres to window glass or glass run rubber ● Glass run rubber wear or deformation. ● Sash is tilted to much, or no enough.	—
	2. Limit switch adjusting	GW-76
	3. Check limit switch circuit	GW-64
	4. Check encoder circuit	GW-66
Auto operation does not operate but manual operate normally	1. Check encoder circuit	GW-66
Power window retained power operation does not operate properly	1. Check door switch	GW-71

Check Power Window Relay Power Supply and Ground Circuit

BIS000EP

1. CHECK FUSE

- Check 10A fuse [No. 5, located in fuse block (J/B)]
- Check 40A fusible link (litter **B** , located in the fuse and fusible link box.)

NOTE:
Refer to GW-34, "Component Parts and Harness Connector Location" .

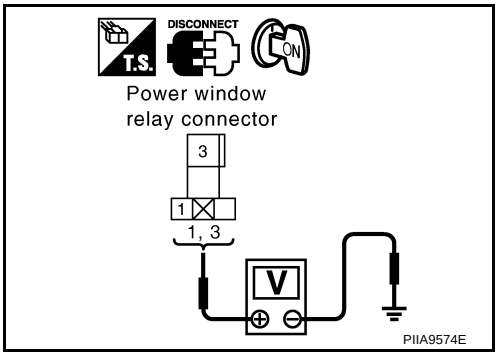
OK or NG

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

2. CHECK POWER WINDOW RELAY POWER SUPPLY

1. Turn ignition switch OFF.
2. Remove power window relay.
3. Turn ignition switch ON.
4. Check voltage between power window relay connector M3 terminal 1, 3 and ground.

1 (G) - Ground : Battery voltage
3 (W) - Ground : Battery voltage



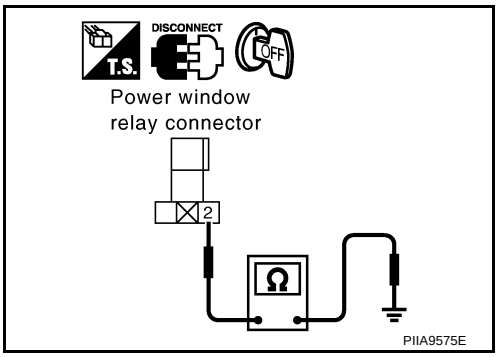
OK or NG

OK >> GO TO 3.
NG >> Check power window relay power supply circuit for open or short.

3. CHECK POWER WINDOW RELAY GROUND

1. Turn ignition switch OFF.
2. Check continuity between power window relay connector M3 terminal 2 and ground.

2 (B) - Ground : Continuity should exist.



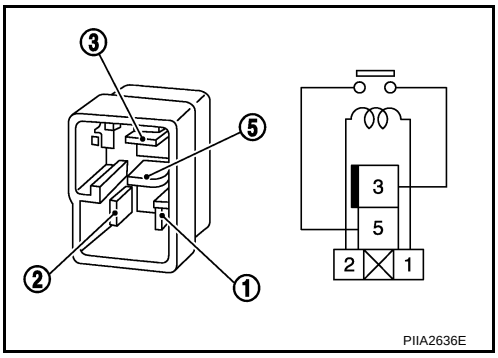
OK or NG

OK >> GO TO 4.
NG >> Check power window relay ground circuit for open or short.

4. CHECK POWER WINDOW RELAY

Check continuity between power window relay terminal 3 and 5.

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



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Replace power window relay.

Check Power Window Main Switch Power Supply and Ground Circuit

BIS000EQ

1. CHECK POWER SUPPLY CIRCUIT

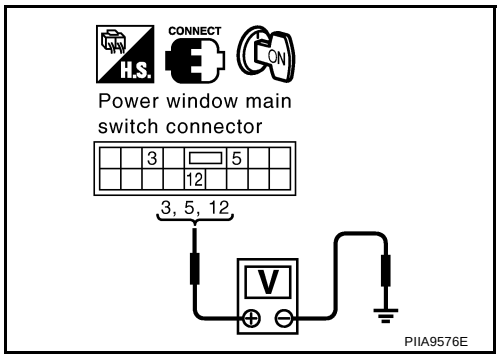
1. Turn ignition switch ON.
2. Check voltage between power window main switch connector D7 terminal 5, 12 (LHD) or 3, 12 (RHD) and ground.

(LHD models)

5 (W) - Ground	**: Battery voltage**
12 (W/R) - Ground	**: Battery voltage**

(RHD models)

3 (W) - Ground	**: Battery voltage**
12 (W/R) - Ground	**: Battery voltage**



OK or NG

OK >> GO TO 2.
NG >> Repair or replace harness between power window main switch power supply circuit.

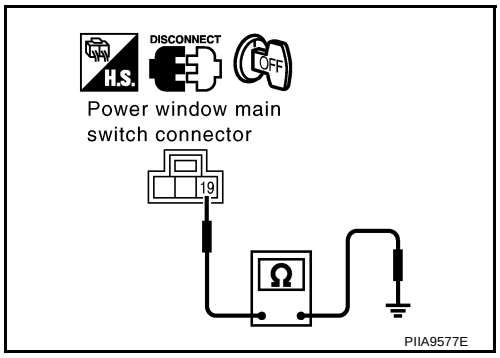
2. CHECK POWER WINDOW MAIN SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. Check continuity between power window main switch connector D6 terminal 19 and ground.

19 (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 between power window main switch and ground.



Check Power Window Motor (Driver side) Circuit

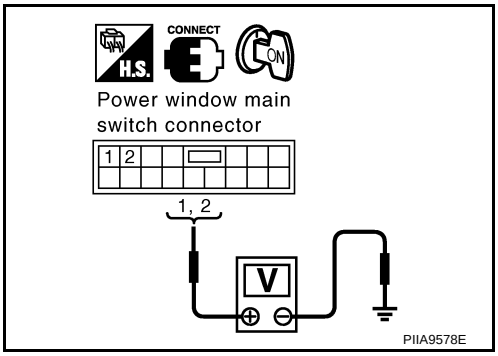
BIS000ER

1. CHECK POWER WINDOW MAIN SWITCH SIGNAL

1. Turn ignition switch ON.
2. Driver side switch in power window main switch operated, check voltage between Power window main switch connector and ground.

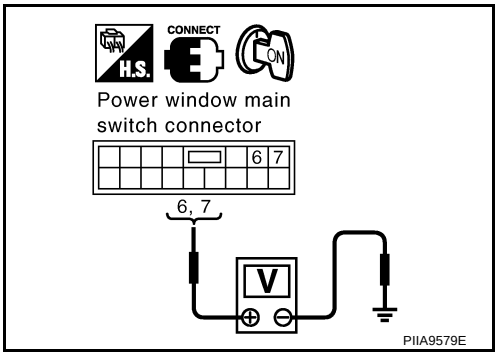
(LHD)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	1 (L)	Ground	Closing	0
			Opening	Battery voltage
	2 (G/B)		Closing	Battery voltage
			Opening	0



(RHD)

Connector	Terminal (Wire color)		Condition	Voltage (V)
	(+)	(-)		
D7	6 (G/B)	Ground	Closing	Battery voltage
			Opening	0
	7 (L)		Closing	0
			Opening	Battery voltage



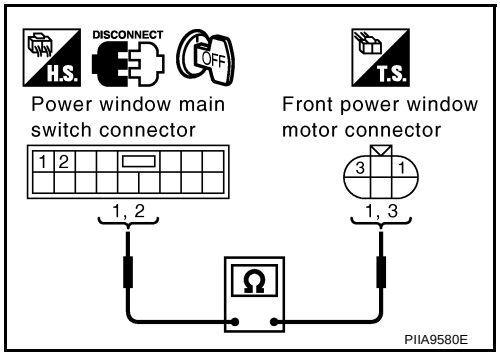
OK or NG

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

2. CHECK POWER WINDOW MOTOR CIRCUIT

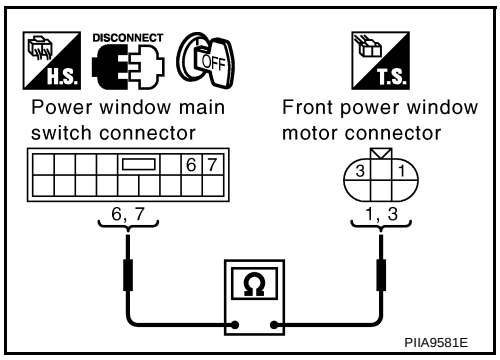
1. Turn ignition switch OFF.
2. Disconnect power window main switch and front power window motor (driver side) connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 1, 2 and front power window motor (driver side) connector D5 terminal 1, 3.

   1 (L) - 3 (L) : Continuity should exist.
   2 (G/B) - 1 (G/B) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 6, 7 and front power window motor (driver side) connector D5 terminal 1, 3.

   6 (G/B) - 1 (G/B) : Continuity should exist.
   7 (L) - 3 (L) : Continuity should exist.



OK or NG

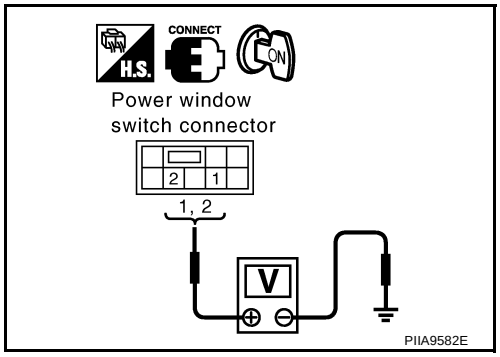
OK >> Replace front power window motor (driver side).
NG >> Repair or replace harness between power window main switch and front power window motor (driver side).

Check Power Window Motor Circuit

BIS000ES

1. CHECK POWER WINDOW SWITCH SIGNAL

1. Turn ignition switch ON.
2. Power window switch operated, check voltage between power window switch connector and ground.



Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D16 (Passenger side)	1 (G or G/Y)	Ground	Closing	Battery voltage
			Opening	0
D24 (Rear RH)	2 (L)		Closing	0
D34 (Rear LH)			Opening	Battery voltage

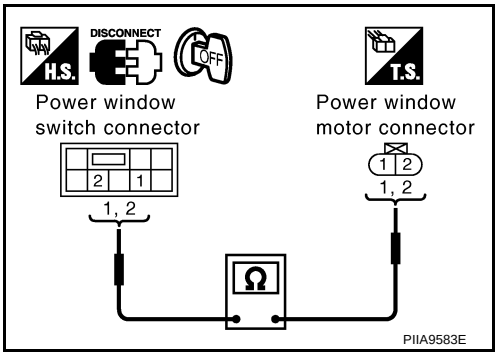
OK or NG

OK >> GO TO 2.
NG >> Check power window switch. Refer to GW-57 .

2. CHECK POWER WINDOW MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window switch and power window motor connector.
3. Check continuity between power window switch connector D16 (passenger side), D24 (rear RH), D34 (rear LH) terminal 1, 2 and power window motor connector D13 (passenger side), D 22 (rear RH), D32 (rear LH) terminal 1, 2.

1 (G or G/Y) - 1 (G or G/Y) : Continuity should exist.
2 (L) - 2 (L) : Continuity should exist.



OK or NG

OK >> Replace malfunction power window motor.
NG >> Repair or replace harness between power window switch and power window motor.

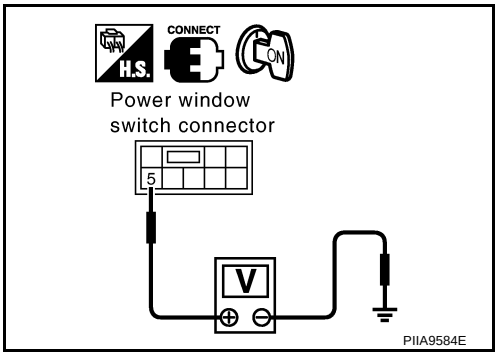
Check Power Window Switch

BIS000ET

1. CHECK POWER WINDOW SWITCH POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between power window switch connector D16 (passenger side), D24 (rear RH), D34 (rear LH) terminal 5 and ground.

5 (W/R) - Ground : Battery voltage



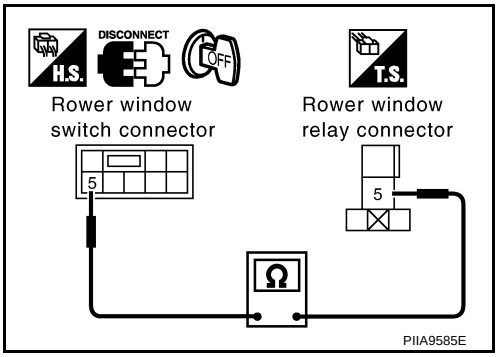
OK or NG

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

2. CHECK POWER WINDOW SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect power window switch connector and power window relay.
3. Check continuity between power window switch connector D16 (passenger side), D24 (rear RH), D34 (rear LH) terminal 5 and power window relay connector M3 terminal 5.

5 (W/R) - 5 (W/R) : Continuity should exist.

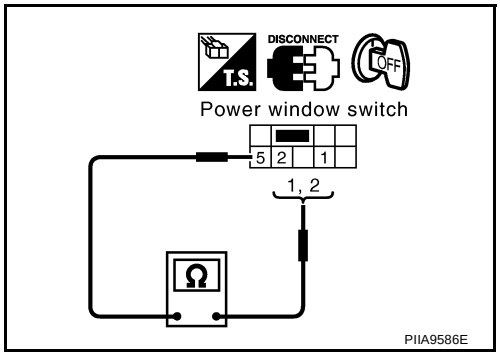


OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between power window switch and power window relay.

3. CHECK POWER WINDOW SWITCH

1. Turn ignition switch OFF.
2. Disconnect power window switch connector.
3. Power window switch operated, check continuity between power window switch connector D16 (passenger side), D24 (rear RH), D34 (rear LH) terminal 1, 2 and 5.



Terminal		Condition	Continuity
1	5	UP	Yes
2		DOWN	Yes

OK or NG

OK >> Power window switch is OK.
NG >> Replace malfunction power window switch.

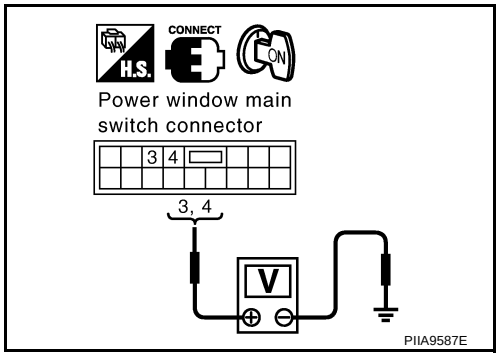
Check Power Window (Passenger side) Circuit

BIS000EU

1. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

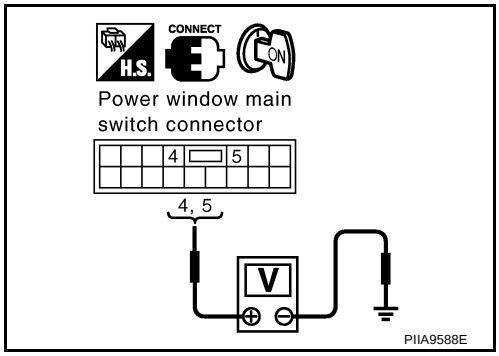
1. Turn ignition switch ON.
2. Passenger side switch in power window main switch operated, check voltage between power window main switch connector and ground.

(LHD models)



Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	3 (L/OR)	Ground	Closing	0
			Opening	Battery voltage
	4 (R/W)		Closing	Battery voltage
			Opening	0

(RHD models)



Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	4 (R/W)	Ground	Closing	Battery voltage
			Opening	0
	5 (L/OR)		Closing	0
			Opening	Battery voltage

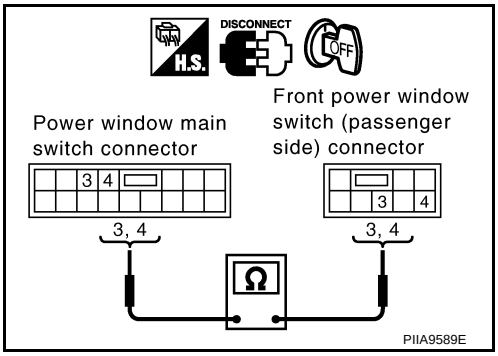
OK or NG

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

2. CHECK POWER WINDOW SWITCH CIRCUIT

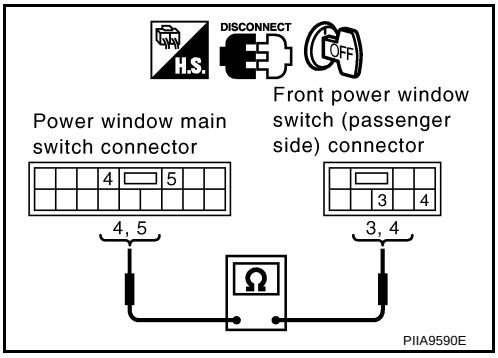
1. Turn ignition switch OFF.
2. Disconnect power window main switch and font power window switch (passenger side) connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D6 terminal 3, 4 and front power window switch (passenger side) connector D16 terminal 3, 4.

   3 (L/OR) - 4 (L/OR) : Continuity should exist.
   4 (R/W) - 3 (R/W) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D6 terminal 4, 5 and front power window switch (passenger side) connector D16 terminal 3, 4.

   4 (R/W) - 3 (R/W) : Continuity should exist.
   5 (L/OR) - 4 (L/OR) : Continuity should exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between power window main switch and front power window switch (passenger side).

Check Power Window (Rear LH) Circuit

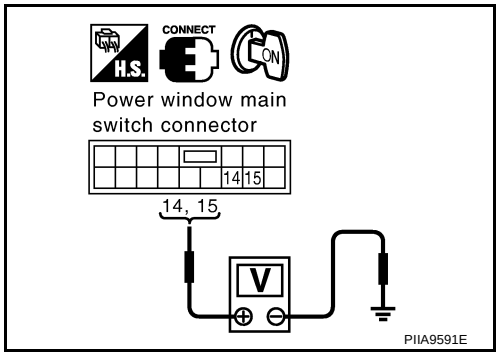
BIS000EV

1. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Rear LH switch in power window main switch operated, check voltage between power window main switch connector and ground.

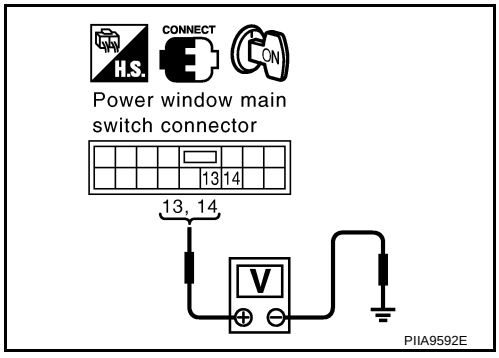
(LHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	14 (G/W)	Ground	Closing	Battery voltage
			Opening	0
	15 (G)		Closing	0
			Opening	Battery voltage



(RHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	13 (G/W)	Ground	Closing	Battery voltage
			Opening	0
	14 (G)		Closing	0
			Opening	Battery voltage



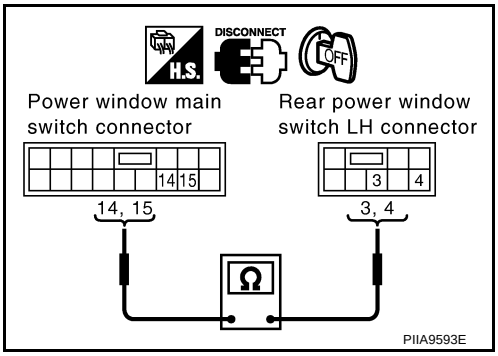
OK or NG

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

2. CHECK POWER WINDOW SWITCH CIRCUIT

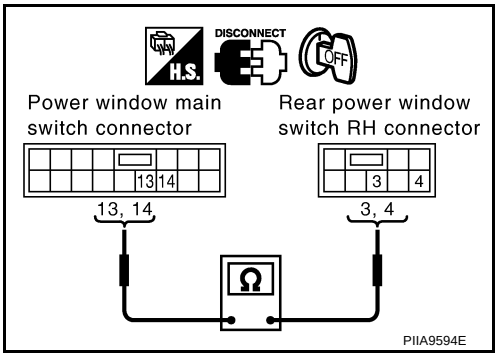
1. Turn ignition switch OFF.
2. Disconnect power window main switch and rear power window switch LH connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 14, 15 and rear power window switch LH connector D34 terminal 3, 4.

   14 (G/W) - 3 (G/W) : Continuity should exist.
   15 (G) - 4 (G) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 13, 14 and rear power window switch LH connector D34 terminal 3, 4.

   13 (G/W) - 3 (G/W) : Continuity should exist.
   14 (G) - 4 (G) : Continuity should exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between power window main switch and rear power window switch LH.

Check Power Window (Rear RH) Circuit

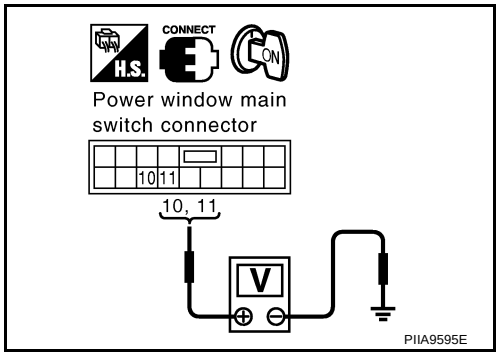
BIS000EW

1. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.
2. Rear RH switch in power window main switch operated, check voltage between power window main switch connector and ground.

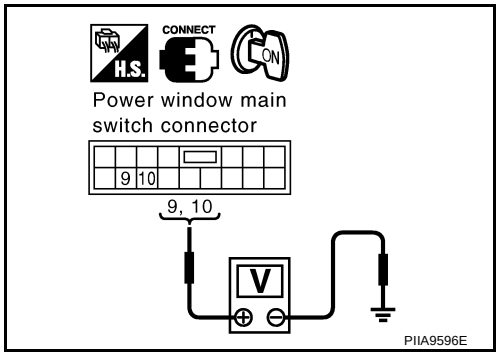
(LHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	10 (R/Y)	Ground	Closing	Battery voltage
			Opening	0
	11 (R/L)		Closing	0
			Opening	Battery voltage



(RHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	9 (R/Y)	Ground	Closing	Battery voltage
			Opening	0
	10 (R/L)		Closing	0
			Opening	Battery voltage



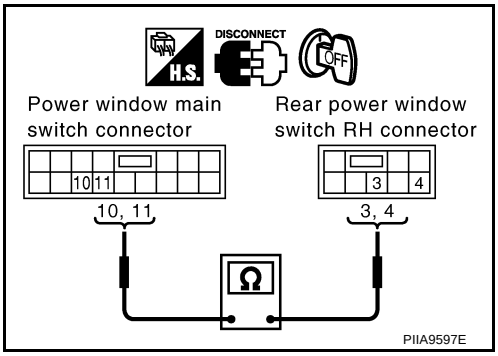
OK or NG

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

2. CHECK POWER WINDOW SWITCH CIRCUIT

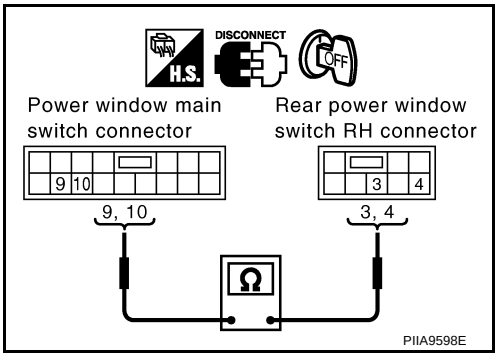
1. Turn ignition switch OFF.
2. Disconnect power window main switch and rear power window switch LH connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 10, 11 and rear power window switch RH connector D24 terminal 3, 4.

   10 (R/Y) - 3 (R/Y) : Continuity should exist.
   11 (R/L) - 4 (R/L) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 9, 10 and rear power window switch LH connector D34 terminal 3, 4.

   9 (R/Y) - 3 (R/Y) : Continuity should exist.
   10 (R/L) - 4 (R/L) : Continuity should exist.



OK or NG

OK >> Check the condition of the harness and the connector.
NG >> Repair or replace harness between power window main switch and rear power window switch RH.

Check Limit Switch Circuit

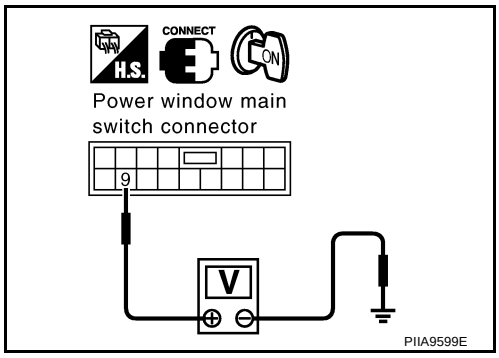
BIS000EX

1. CHECK LIMIT SWITCH SIGNAL

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

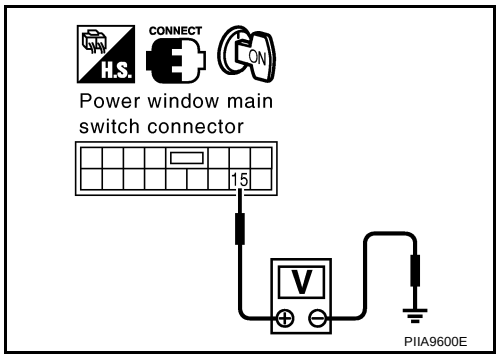
(LHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	9 (G/OR)	Ground	Driver side door window is Between fully-open and Just before fully-closed Position (ON)	0
			Driver side door window is Between just before fully-Closed position and fully-Closed position (OFF)	5



(RHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	15 (G/OR)	Ground	Driver side door window is Between fully-open and Just before fully-closed Position (ON)	0
			Driver side door window is Between just before fully-Closed position and fully-Closed position (OFF)	5



OK or NG

OK >> Limit switch is OK.
NG >> GO TO 2.

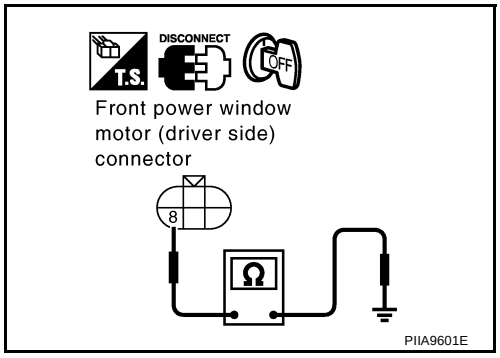
2. CHECK LIMIT SWITCH GROUND CIRCUIT

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 D5 terminal 8 and ground.

8 (W/B) - Ground : Continuity should exist.

OK or NG

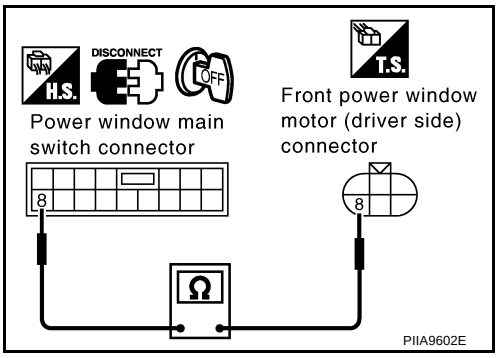
OK >> GO TO 4.
NG >> GO TO 3.



3. CHECK HARNESS CONTINUITY

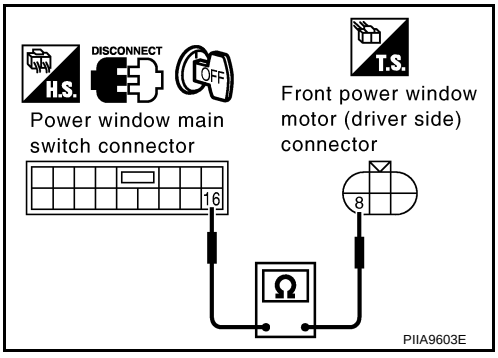
1. Disconnect power window main switch connector.
2. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 8 and front power window motor (driver side) connector D5 terminal 8.

   8 (W/B) - 8 (W/B) : Continuity should exist.



(RHD models)
Check continuity between power window main switch connector D7 terminal 16 and front power window motor (driver side) connector D5 terminal 8.

16 (W/B) - 8 (W/B) : Continuity should exist.



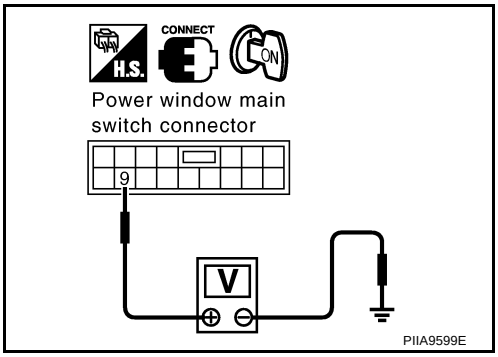
OK or NG

OK >> Replace power window main switch.
NG >> Repair or replace harness between power window main switch and front power window motor (driver side).

4. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

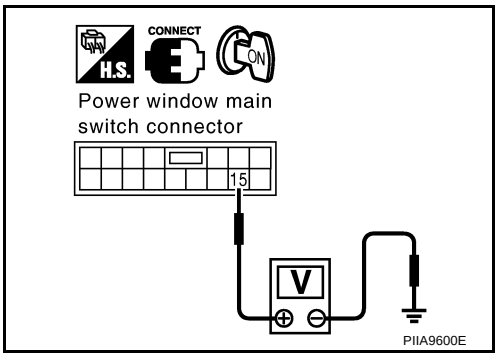
1. Turn ignition switch ON.
2. **(LHD models)**
   Check voltage between power window main switch connector D7 terminal 9 and ground.

   9 (G/OR) - Ground : Approx. 5V



(RHD models)
Check voltage between power window main switch connector D7 terminal 15 and ground.

15 (G/OR) - Ground : Approx. 5V



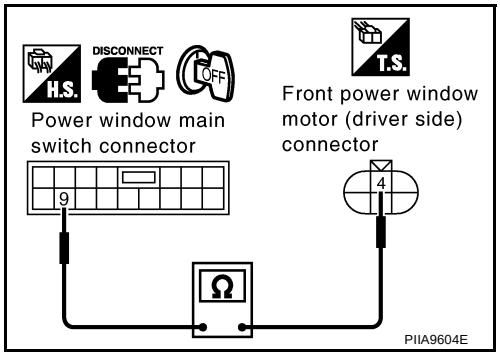
OK or NG

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

5. CHECK HARNESS CONTINUITY

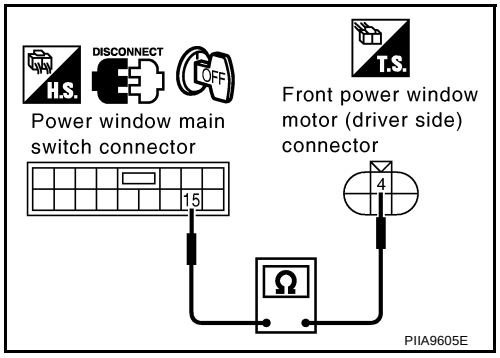
1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 9 and front power window motor (driver side) connector D5 terminal 4.

   9 (G/OR) - 4 (G/OR) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 15 and front power window motor (driver side) connector D5 terminal 4.

   15 (G/OR) - 4 (G/OR) : Continuity should exist.



OK or NG

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

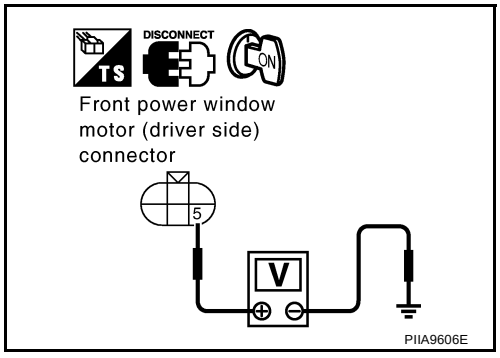
Check Encoder Circuit

BIS000EY

1. CHECK ENCODER POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect front power window motor (driver side) connector.
3. Turn ignition switch ON.
4. Check voltage between front power window motor (driver side) connector D5 terminal 5 and ground.

   5 (G/R) - Ground : Approx. 10V



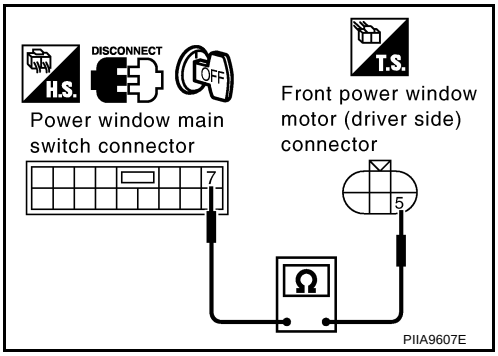
OK or NG

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

2. CHECK HARNESS CONTINUITY

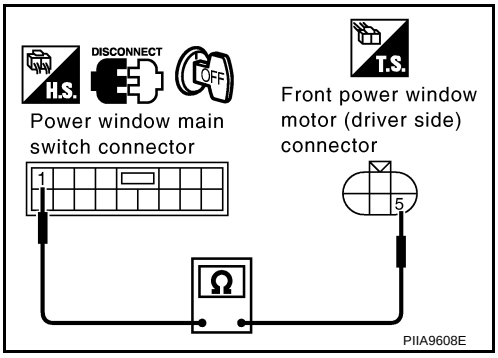
1. Turn ignition switch OFF.
2. Disconnect power window main switch connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 7 and front power window motor (driver side) connector D5 terminal 5.

   7 (G/R) - 5 (G/R) **: Continuity should exist.**



(RHD models)
Check continuity between power window main switch connector D7 terminal 1 and front power window motor (driver side) connector D5 terminal 5.

1 (G/R) - 5 (G/R) **: Continuity should exist.**



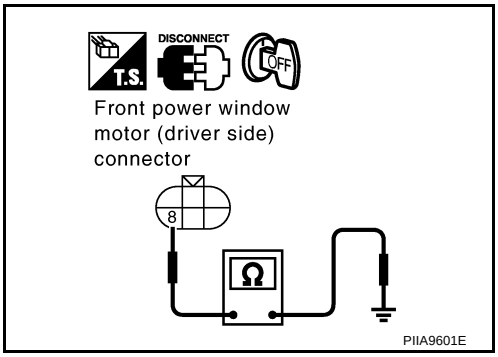
OK or NG

OK >> Replace power window main switch.
NG >> Repair or replace harness between power window main switch and front power window motor (driver side).

3. CHECK ENCODER GROUND

1. Turn ignition switch OFF.
2. Check continuity between front power window motor (driver side) connector D5 terminal 8 and ground.

   8 (W/B) - Ground **: Continuity should exist.**



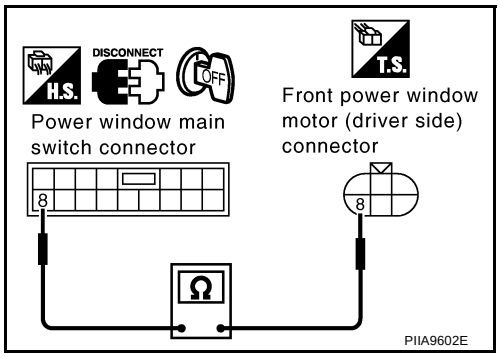
OK or NG

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

4. CHECK ENCODER GROUND CIRCUIT

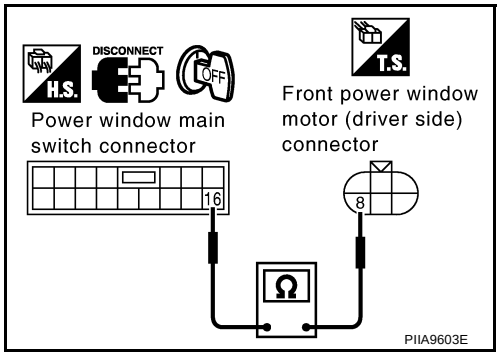
1. Disconnect power window main switch connector.
2. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 8 and front power window motor (driver side) connector D5 terminal 8.

   8 (W/B) - 8 (W/B) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 16 and front power window motor (driver side) connector D5 terminal 8.

   16 (W/B) - 8 (W/B) : Continuity should exist.



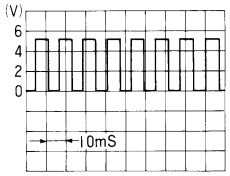
OK or NG

OK >> Replace power window main switch.
NG >> Repair or replace harness between power window main switch and front power window motor (driver side).

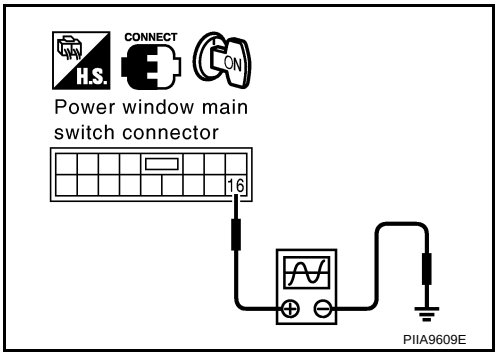
5. CHECK ENCODER SIGNAL

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.

(LHD models)

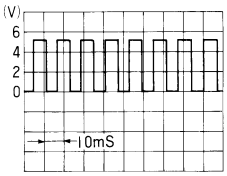
Connector	Terminal (Wire color)		Condition	Signal (Reference value)
	(+)	(-)		
D7	16 (G/Y)	Ground	opening	

OCC3383D

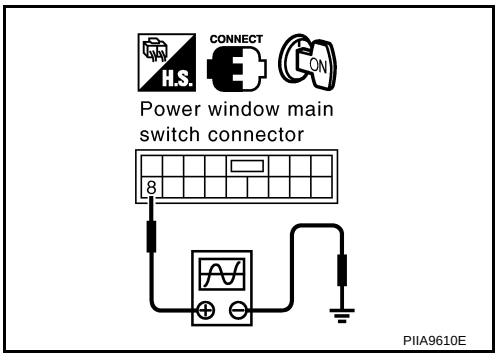


PIIA9609E

(RHD models)

Connector	Terminal (Wire color)		Condition	Signal (Reference value)
	(+)	(-)		
D7	8 (G/Y)	Ground	opening	

OCC3383D



PIIA9610E

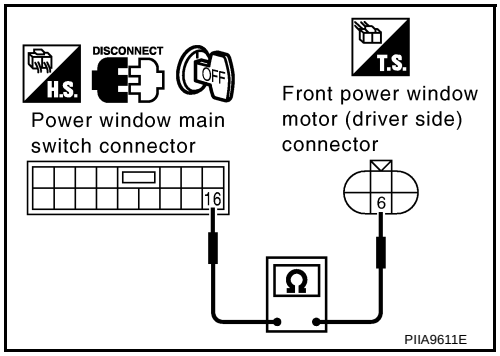
OK or NG

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

6. CHECK ENCODER CIRCUIT

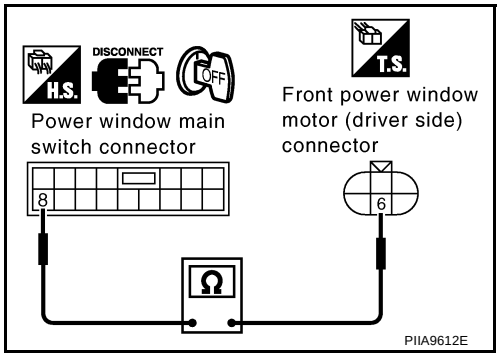
1. Turn ignition switch OFF.
2. Disconnect power window main switch and front power window motor (driver side) connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 16 and front power window motor (driver side) connector D5 terminal 6.

   16 (G/Y) - 6 (G/Y) : Continuity should exist.



   (RHD models)
   Check continuity between power window main switch connector D7 terminal 8 and front power window motor (driver side) connector D5 terminal 6.

   8 (G/Y) - 6 (G/Y) : Continuity should exist.



OK or NG

OK >> Replace front power window motor (driver side).
NG >> Repair or replace harness between power window main switch and front power window motor (driver side).

Check Door Switch

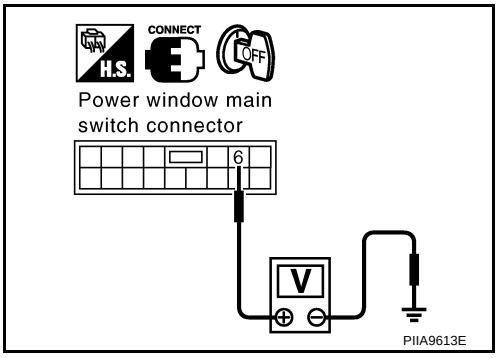
BIS000EZ

1. CHECK DOOR SWITCH INPUT SIGNAL

Check voltage between power window main switch connector and ground.

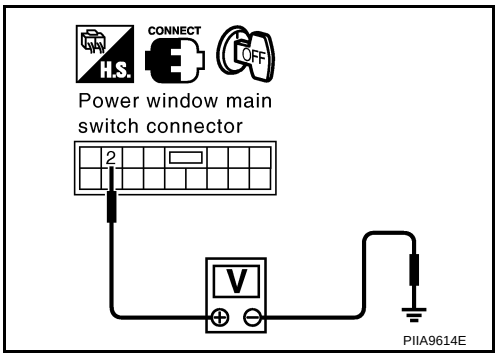
(LHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	6 (R)	Ground	OPEN	0
			CLOSE	Battery voltage



(RHD models)

Connector	Terminal (Wire color)		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	2 (R)	Ground	OPEN	0
			CLOSE	Battery voltage



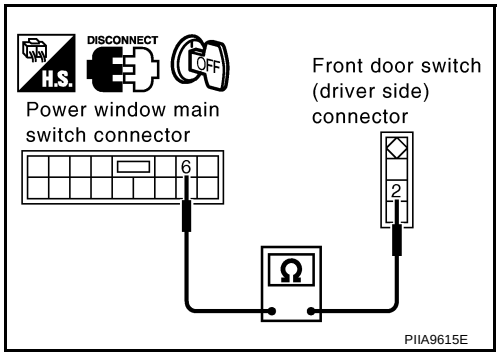
OK or NG

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

2. CHECK DOOR SWITCH CIRCUIT

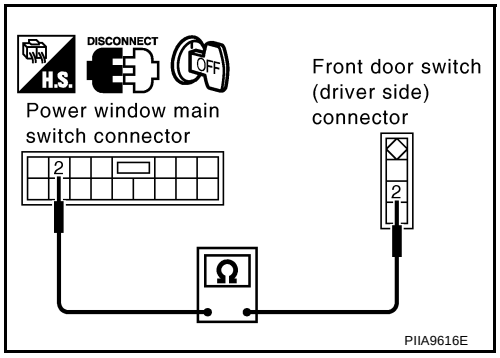
1. Turn ignition switch OFF.
2. Disconnect power window main switch and front door switch (driver side) connector.
3. **(LHD models)**
   Check continuity between power window main switch connector D7 terminal 6 and front door switch (driver side) connector B16 terminal 2.

   6 (R) - 2 (R) **: Continuity should exist.**



(RHD models)
Check continuity between power window main switch connector D7 terminal 2 and front door switch (driver side) connector B16 terminal 2.

2 (R) - 2 (R) **: Continuity should exist.**



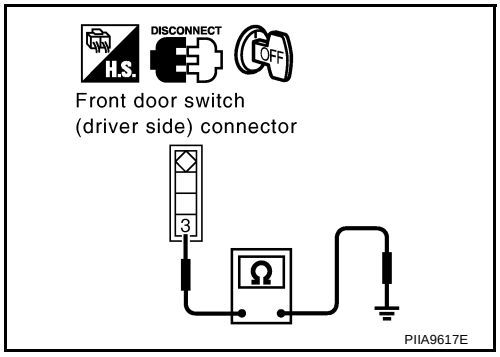
OK or NG

OK >> GO TO 3
NG >> Repair or replace harness between power window main switch and front door switch (driver side).

3. CHECK DOOR SWITCH GROUND CIRCUIT

Check continuity between front door switch (driver side) connector B16 terminal 3 and ground.

3 (B) - Ground **: Continuity should exist.**



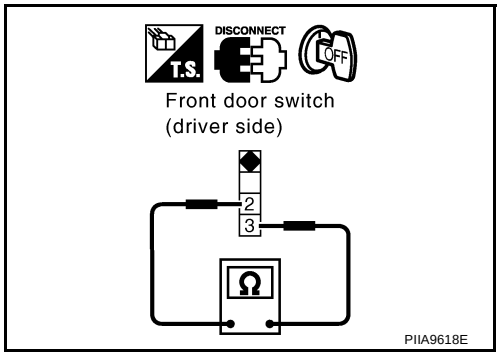
OK or NG

OK >> GO TO 4.
NG >> Repair or replace harness between front door switch (driver side) and ground.

4. CHECK DOOR SWITCH

Check continuity between front door switch (driver side) terminal 2 and 3.

Terminal		Door switch	Continuity
2	3	Pushed	No
		Released	Yes



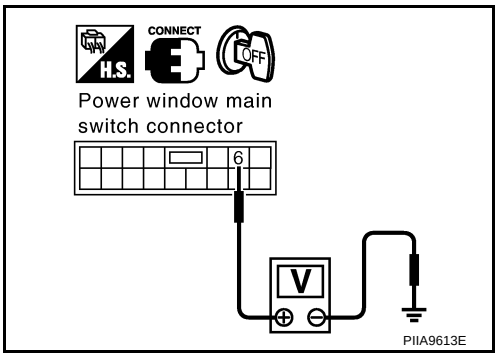
OK or NG

OK >> GO TO 5.
NG >> Replace front door switch (driver side).

5. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

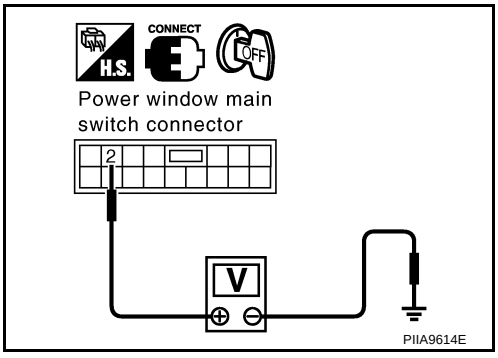
1. Connect power window main switch connector.
2. **(LHD models)**
   Check voltage between power window main switch connector D7 terminal 6 and ground.

   6 (R) - Ground : Battery voltage



   (RHD models)
   Check voltage between power window main switch connector D7 terminal 2 and ground.

   2 (R) - Ground : Battery voltage



OK or NG

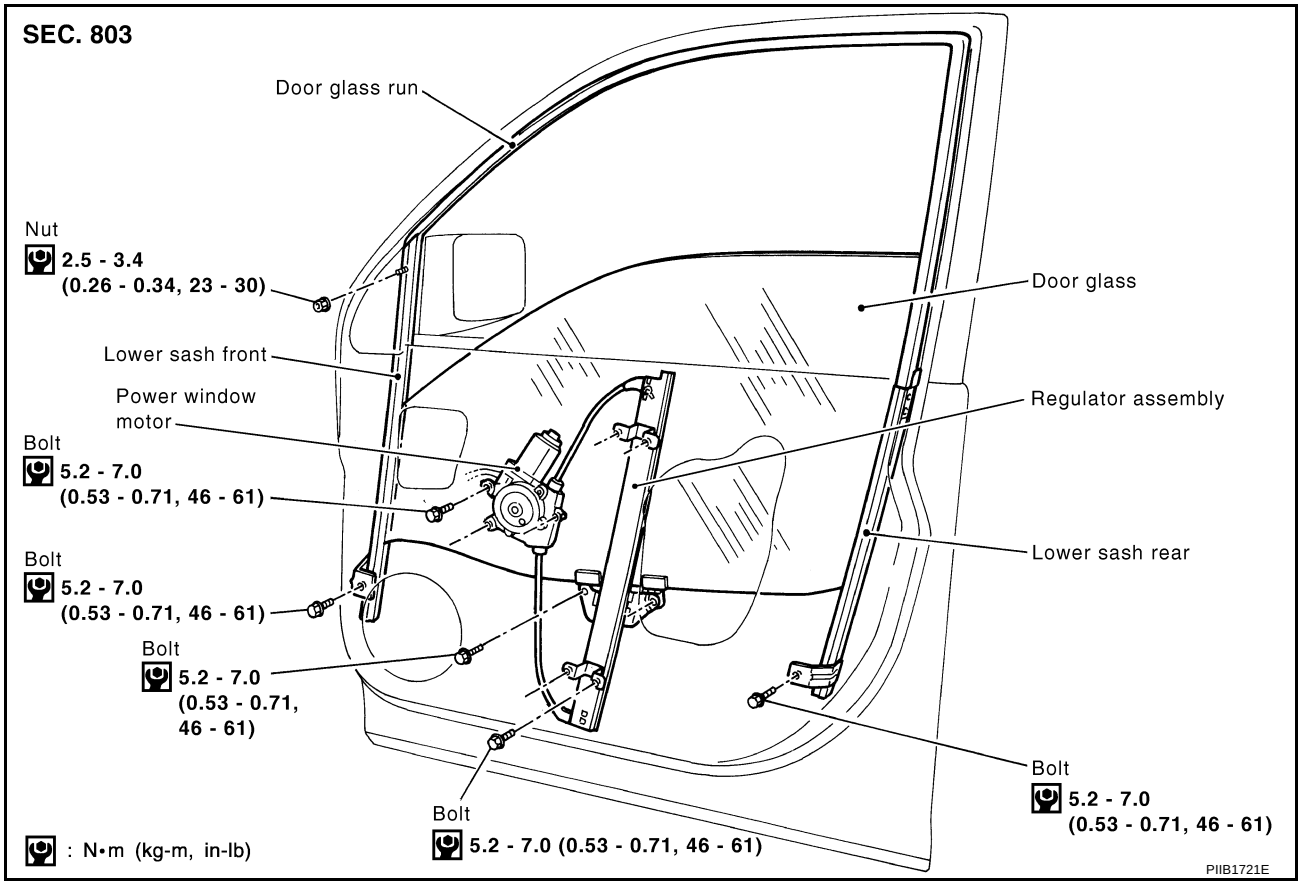
OK >> Check the condition of the harness and the connector.
NG >> Replace power window main switch.

FRONT DOOR GLASS AND REGULATOR

PFP:80300

Removal and Installation

BIS000HH

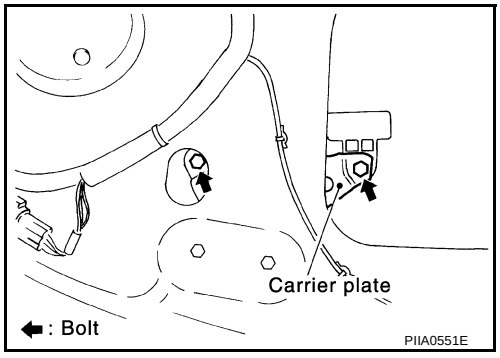


FRONT DOOR GLASS

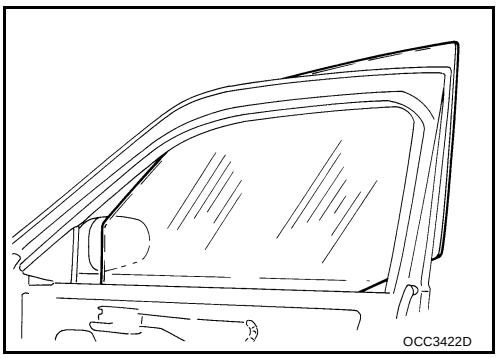
Removal

1. Remove front door finisher. Refer to EI-32, "DOOR FINISHER" .
2. Remove sealing screen.

   NOTE:
   If sealing screen is reused, cut the butyl-tape so that a part of butyl-tape remains on the sealing screen.
3. Operate power window main switch to raise or lower the door window until the carrier plate mounting bolts appear.
4. Remove carrier plate mounting bolts.



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



Installation

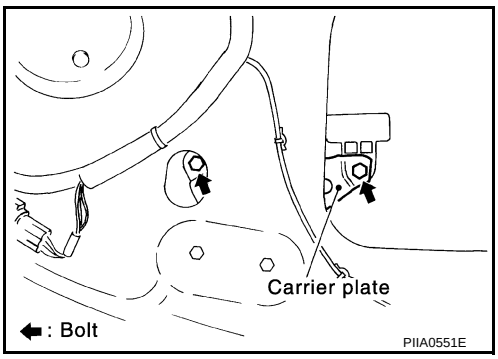
Install in the reverse order of removal.

FRONT DOOR REGULATOR ASSEMBLY

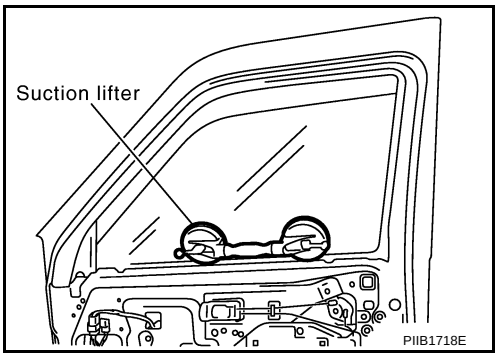
Removal

1. Remove front door finisher. Refer to EI-32, "DOOR FINISHER" .
2. Remove sealing screen.

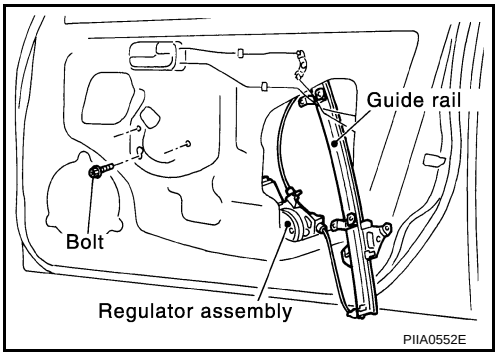
   NOTE:
   If sealing screen is reused, cut the butyl-tape so that a part of butyl-tape remains on the sealing screen.
3. Operate power window main switch to raise or lower the door window until the carrier plate mounting bolts appear.
4. Remove carrier plate mounting bolts.



5. Raise up the door glass and hold with the suction lifter.



6. Disconnect power window motor harness connector.
7. Remove regulator assembly and guide rail mounting bolts, and remove regulator assembly through the access hole.



Installation

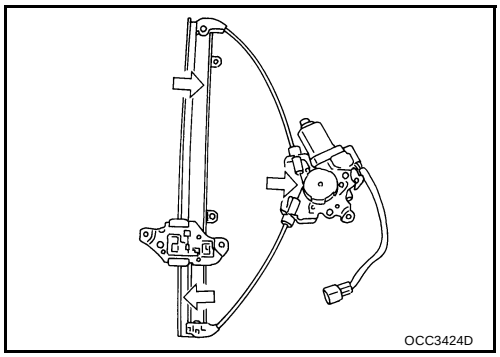
Install in the reverse order of removal.

Inspection after Removal

Check regulator assembly for the following. 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 body grease application points of the multi-purpose grease.



Disassembly

Remove power window motor from regulator assembly.

Assembly

Assemble in the reverse order of disassembly.

Inspection after Installation

SETTING OF LIMIT SWITCH (DRIVER SIDE)

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

- Removal and installation of regulator assembly
- Removal and installation of power window motor from the regulator assembly
- Operate regulator assembly as a unit
- Removal and installation of door glass
- Removal and installation of door glass run

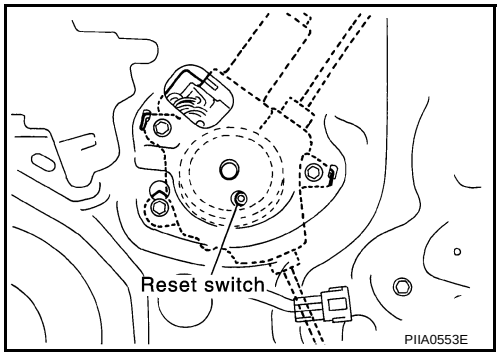
RESET OPERATION

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

1. Raise door glass to the top position.
2. While pressing and holding reset switch, lower door glass to the bottom position.
3. Release reset switch, and check that reset switch returns to the original position. Then raise door glass to the top position.

CAUTION:

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



Fitting Inspection

BIS000HI

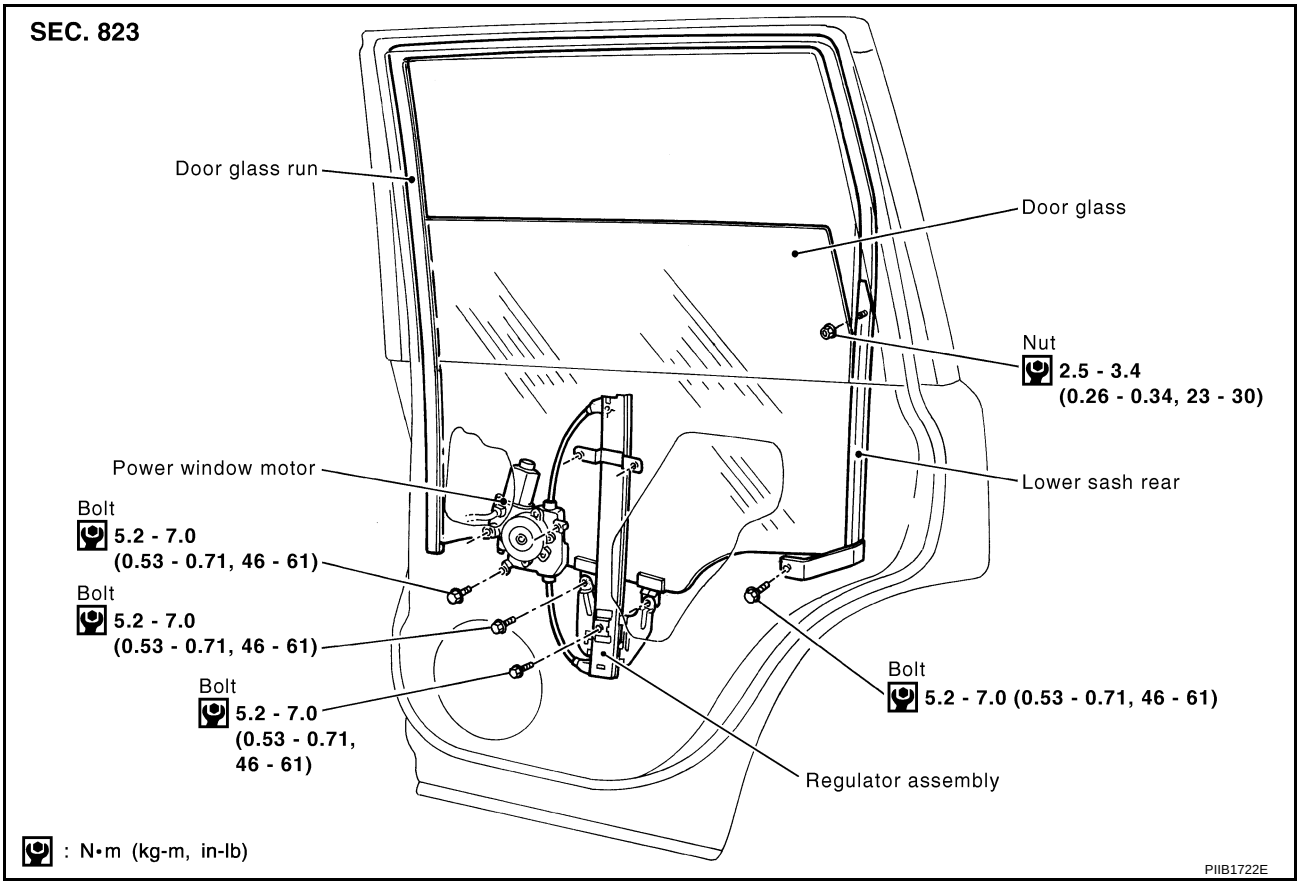
- Check that door glass is securely fit into door glass run groove.
- While raising and lowering the window, check for abnormal operation.
- Lower the door glass slightly [approx. 10 to 20 mm (0.39 to 0.79 in)], and check that the clearance to the sash is parallel. If the clearance between the door glass and sash is not parallel, loosen the regulator assembly mounting bolts, guide rail mounting bolts, and door glass & carrier plate mounting bolts to correct the door glass position.

REAR DOOR GLASS AND REGULATOR

PFP:82300

Removal and Installation

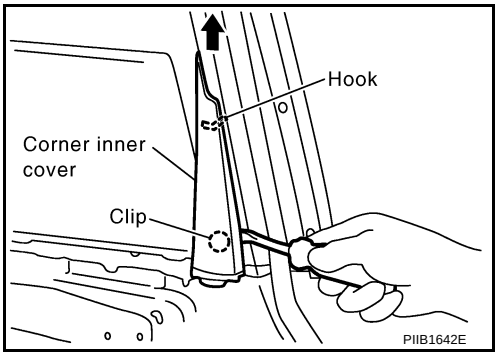
BIS000HJ



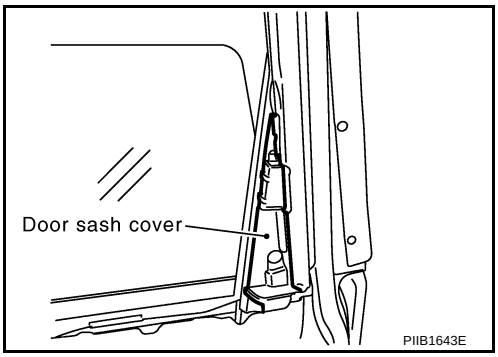
REAR DOOR GLASS

Removal

1. Remove rear door finisher. Refer to EI-32, "DOOR FINISHER" .
2. Using a slotted screwdriver or similar tool, remove clip on the corner inner cover. Slide the corner inner cover upward to disconnect the upper hook, and remove the cover.

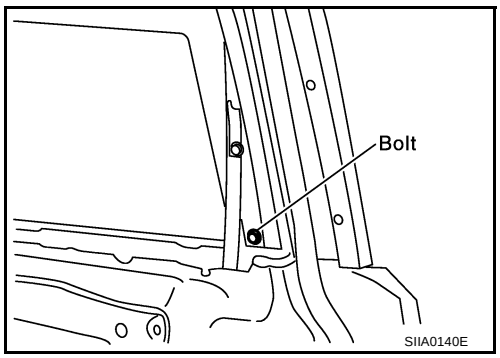


3. Slide the door sash cover forward to remove.



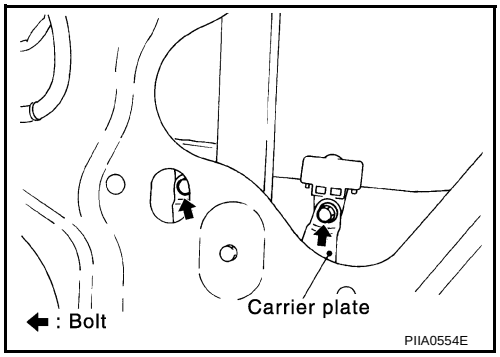
4. Remove corner outer cover mounting bolt. Disconnect upper hook, and remove the cover.

   : 3.0 N·m (0.31 kg-m, 27 in-lb)

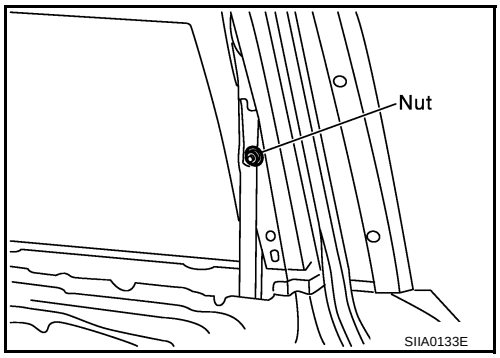


5. Remove door outside molding. Refer to EI-22, "DOOR OUTSIDE MOLDING" .
6. Remove sealing screen.

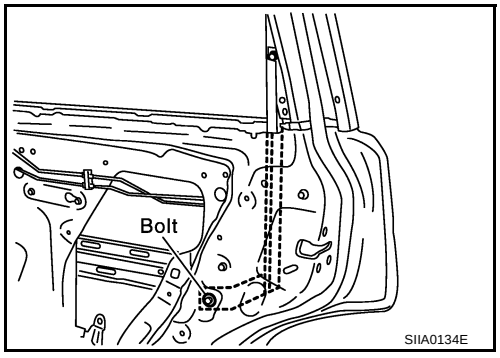
   NOTE:
   If sealing screen is reused, cut the butyl-tape so that a part of butyl-tape remains on the sealing screen.
7. Operating power window switch, raise or lower the door window until the carrier plate mounting bolts appear.
8. Remove carrier plate mounting bolts.



9. Remove mounting nut on upper portion of lower sash rear.



10. Remove mounting bolt from lower portion of lower sash rear.
11. Rotate lower sash rear, and remove door glass from door glass run.
12. Pull out the door glass toward the outside of the door to remove.
13. Remove door glass run from lower sash rear.
14. Remove lower sash rear.



Installation

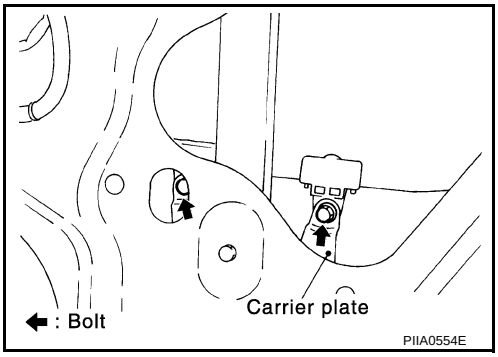
Install in the reverse order of removal.

REAR DOOR REGULATOR ASSEMBLY

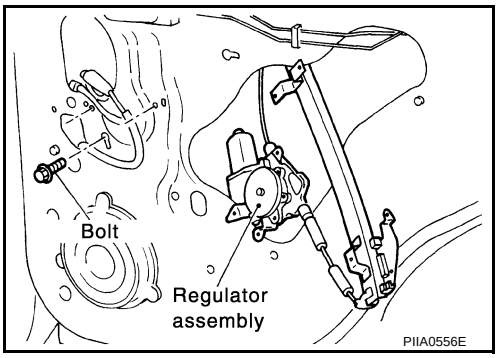
Removal

1. Remove rear door finisher. Refer to EI-32, "DOOR FINISHER" .
2. Remove sealing screen.

   NOTE:
   If sealing screen is reused, cut the butyl-tape so that a part of butyl-tape remains on the sealing screen.
3. Operating power window switch, raise or lower the door glass until the carrier plate mounting bolts appear.
4. Remove carrier plate mounting bolts.



5. Raise up the door glass and hold with the suction lifter.
6. Disconnect power window motor harness connector.
7. Remove mounting bolts, and then remove regulator assembly through the access hole.



Installation

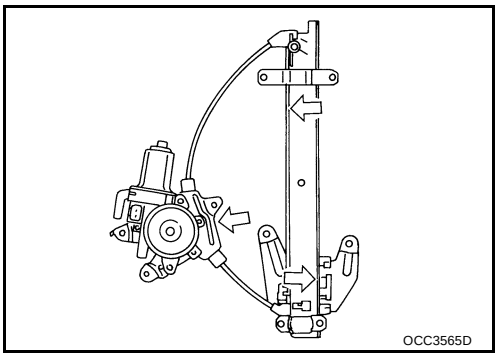
Install in the reverse order of removal.

Inspection After Removal

Check regulator assembly for the following. 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 application points of the multi-purpose grease.



Disassembly

Remove power window motor from regulator assembly.

Assembly

Assemble in the reverse order of disassembly.

Fitting Inspection

BIS000HK

- Check that door glass is securely fit into door glass run groove.
- While raising and lowering the door glass, check for abnormal operation.

- Lower the door glass slightly [approx. 10 to 20 mm (0.39 to 0.79 in)], and check that the clearance to the sash is parallel. If the clearance between the door glass and sash is not parallel, loosen the regulator assembly mounting bolts and glass & carrier plate mounting bolts to correct the glass position.

DOOR MIRROR

PFP:96301

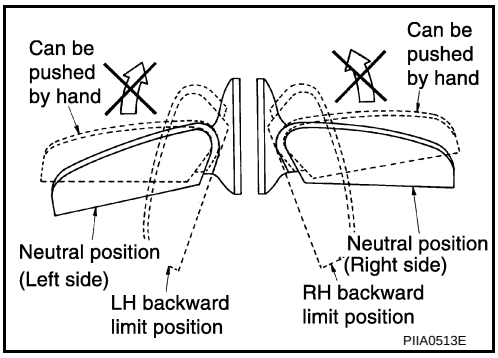
Precautions to Handle Retractable Power Door Mirrors

BIS000F2

- Do not manually operate retractable power door mirrors. If mirror is operated manually, be sure to use the retracting switch to move mirror fully to the opposite direction until it stops. In this case, a loud click sound is heard, but it is not abnormal. (If mirror body is manually moved to the neutral position, door mirror will have some disturbing symptoms during driving, including vibration, rough retracting movement, or sometimes no retracting.)

  CAUTION:

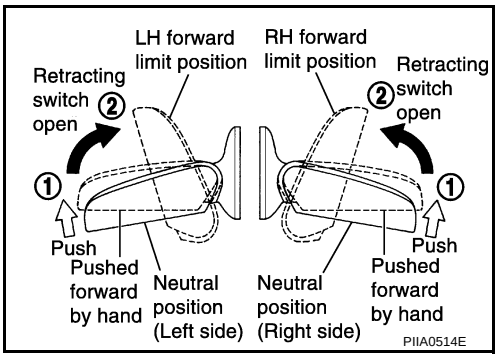
  Tilting mirror body forward with excessive force may damage it.



- When operating retracting switch to move mirror from the neutral position to the fully-closed (backward limit) position, at the beginning of the movement a faint click sound is heard, but it is not abnormal.
- RH and LH retractable power door mirror bodies have different mounting angles in the neutral position. This is why the RH mirror body delays slightly when operated with the retracting switch.

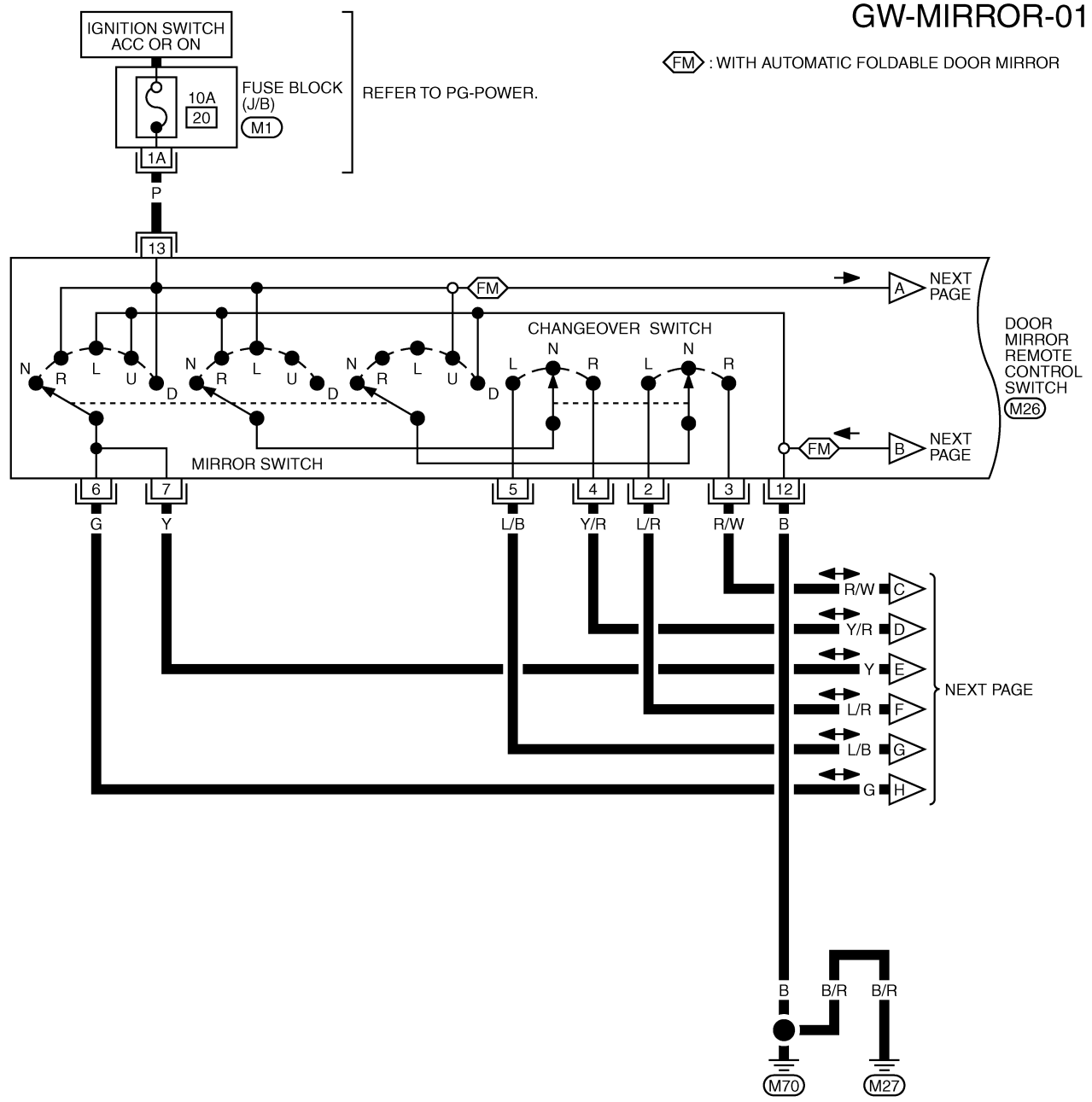
  NOTE:

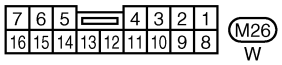
  - When the retractable power door mirror body is in the neutral position, if retracting switch is operated to the opening direction while pressing it forward, mirror body is moved to the forward limit position, but it is not abnormal. In this case, be sure to operate retracting switch to move mirror to the fully-closed (backward limit) position.
  - When the retracting switch is operated continuously 5 times or more, the retractable power door mirror may be inactivated to prevent overheating. In this case, wait for approximately 5 minutes to recover.



Wiring Diagram — MIRROR — / For LHD Models

BIS000F3

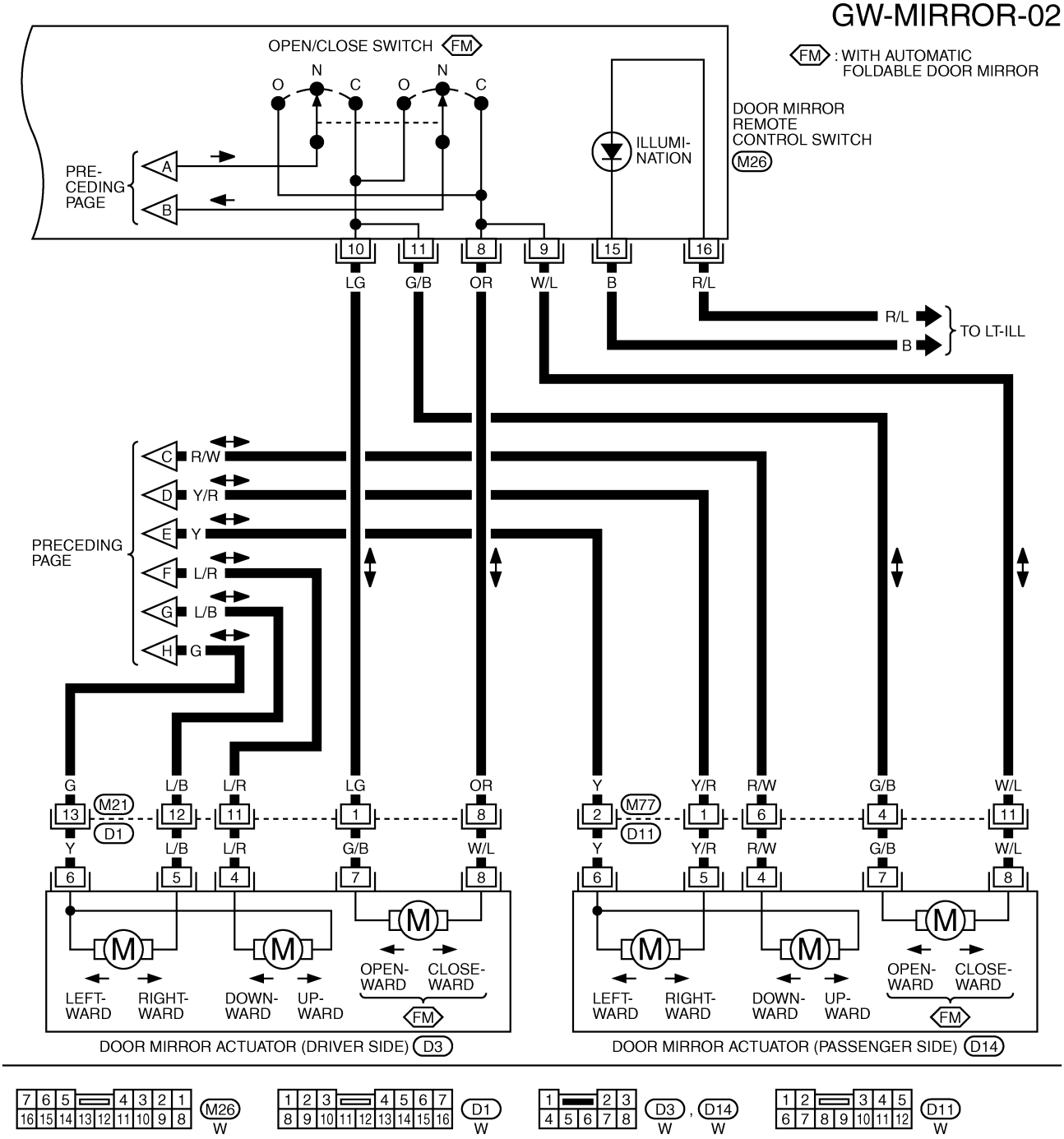




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0825E

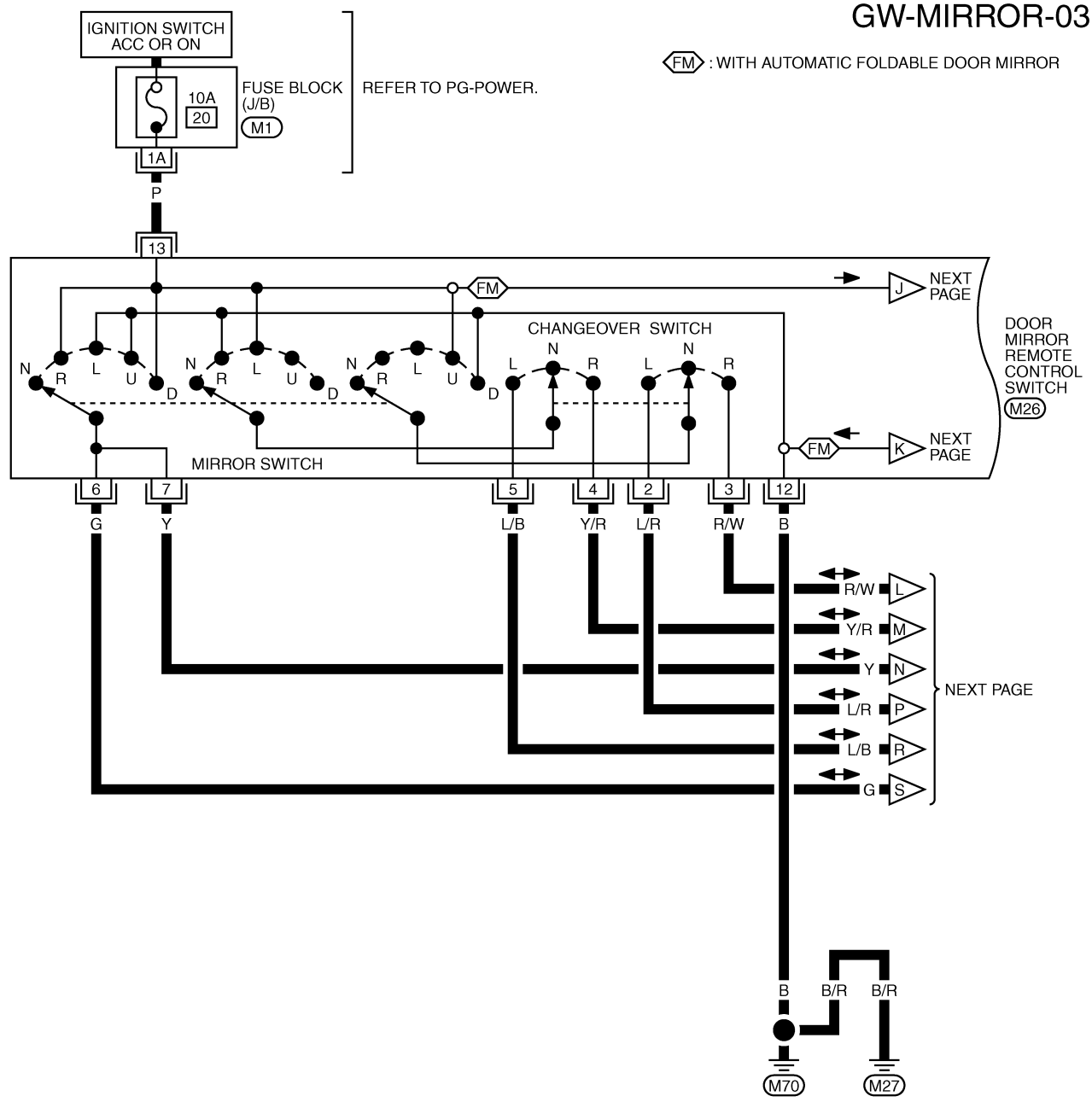
GW-MIRROR-02

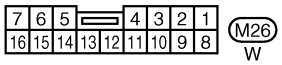


TIWB0826E

Wiring Diagram — MIRROR — / For RHD Models

BIS000F4

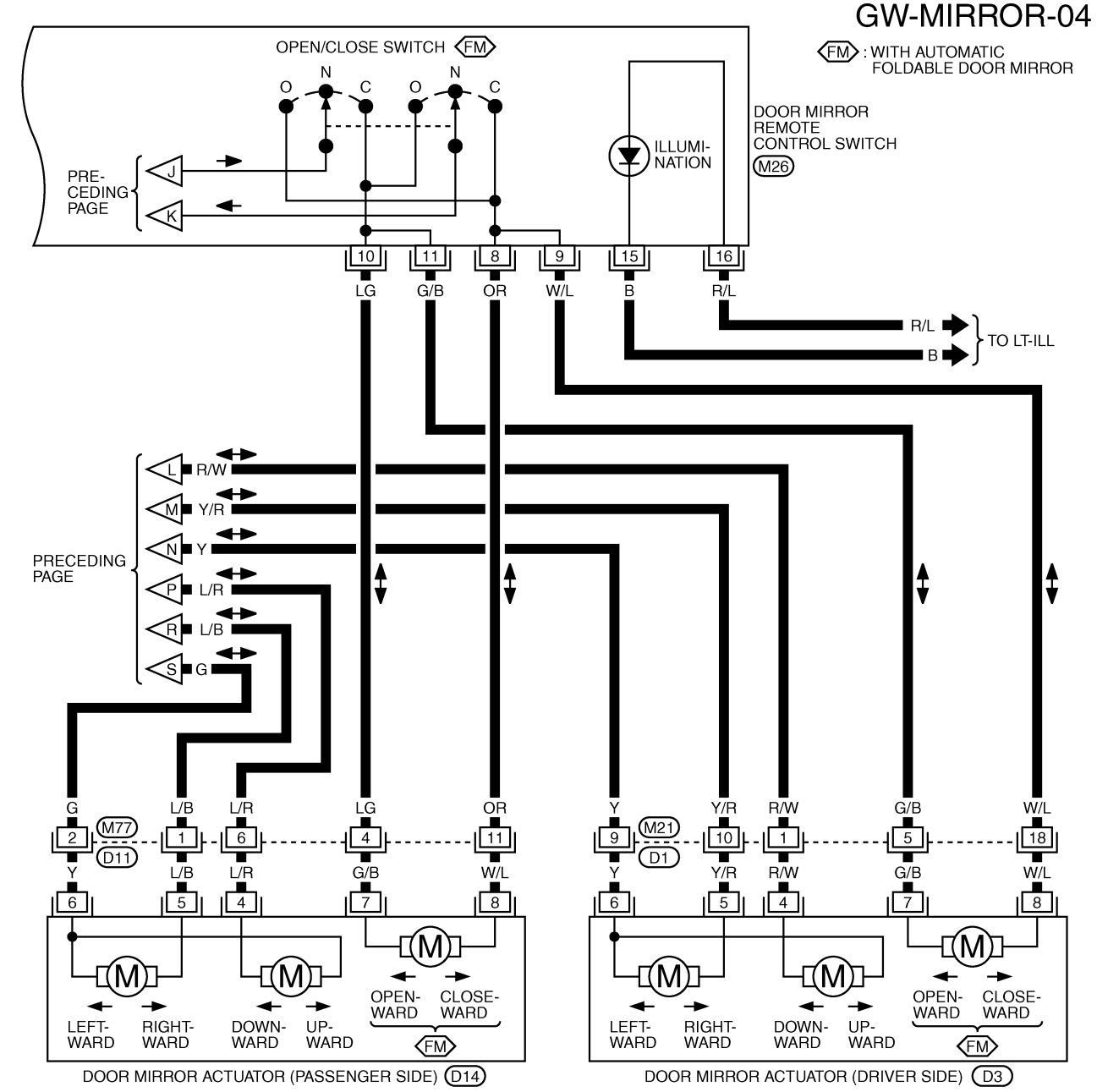


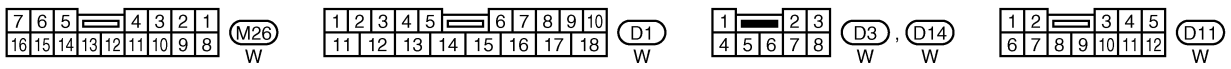


REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TIWB0827E

GW-MIRROR-04

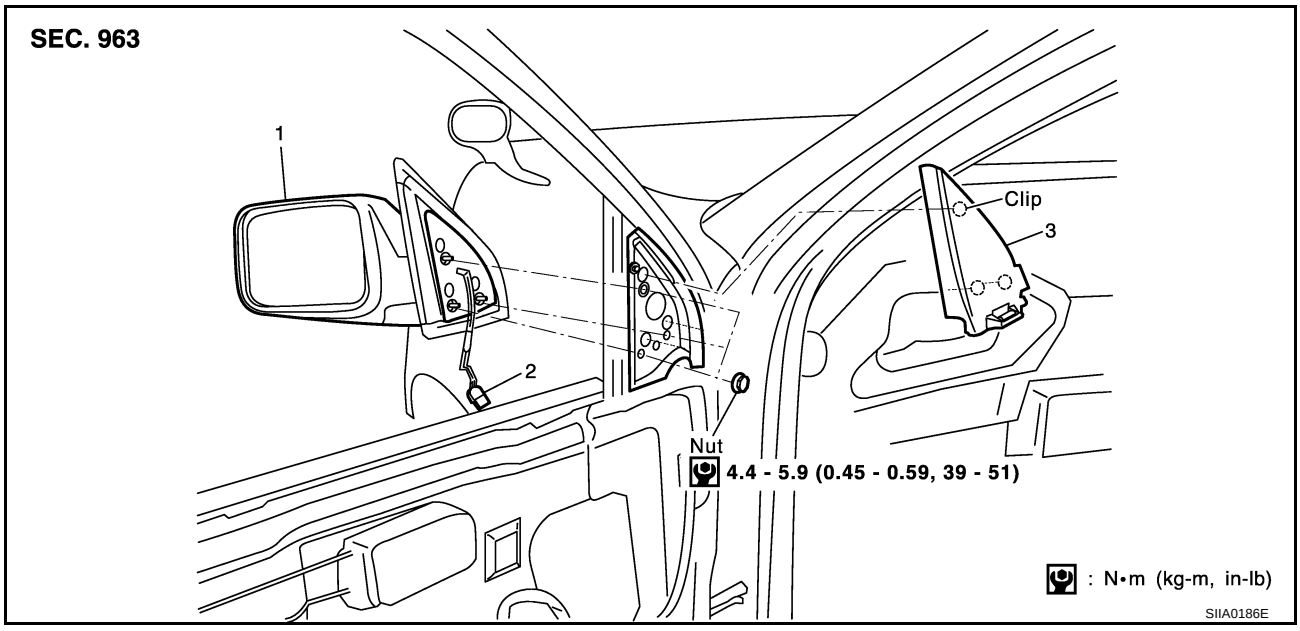




TIWB0828E

Removal and Installation

BIS000F5



1. Door mirror
2. Connector
3. Corner cover

REMOVAL

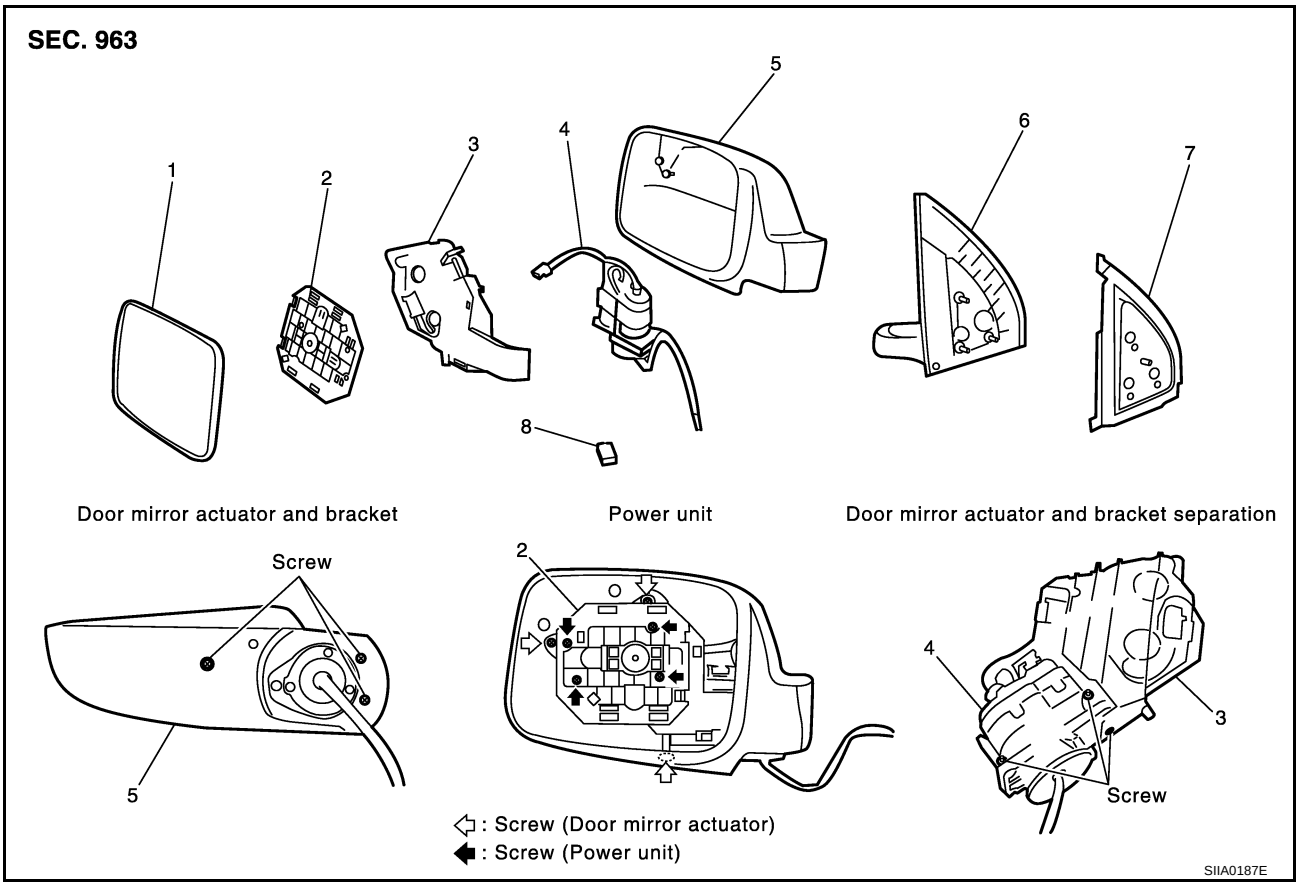
1. Remove front door finisher. Refer to EI-32, "Removal and Installation" .
2. Remove corner cover.
3. Remove door mirror harness connector.
4. Remove door mirror mounting nuts, and remove door mirror assembly.

INSTALLATION

Install in the reverse order of removal.

Disassembly and Assembly

BIS000F6



1. Mirror body
2. Power unit
3. Bracket
4. Electric retracting unit
5. Housing
6. Base
7. Packing
8. Connector

DISASSEMBLY

1. Pull out all the terminals from the connector.

   NOTE:
   Before pulling out the terminal, note the connector terminal arrangement.
2. Turn the mirror glass surface upward.
3. Apply a protective tape to the housing.
4. Insert a narrow slotted screwdriver in the concave gap between mirror glass and power unit to push up tabs (2 locations) on mirror holder to disengage lower part of mirror holder, and remove mirror body assembly.

   NOTE:
   When pushing up the tabs, do not forcefully push up only 1 concave but try to push up using 2 concave positions.
5. Remove packing.
6. Remove base.
7. Remove electric retracting unit.
8. Remove power unit, and disconnect the connector.
9. Separate the electric retracting unit from the bracket.

ASSEMBLY

1. Install bracket to the electric retracting unit.
2. Connect power unit connector. Install electric retracting unit (bracket).
3. Install electric retracting unit and base to the housing.
4. Place power unit and mirror body assembly in a horizontal position.
5. Engage upper tabs of mirror glass with power unit. Then, press lower part of mirror glass down until the lower part snaps to allow engagement of lower tabs.

   NOTE:
   After installation, visually check that the lower tabs (2) are securely engaged when viewed from the bottom of mirror surface.
6. Install the packing to the base.
7. Insert the harness terminal into the connector.

   NOTE:
   Make sure to insert the harness terminal into the correct connector. Do not confuse the locations.

INSIDE MIRROR

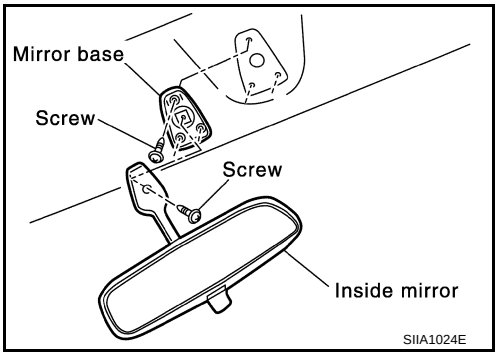
PFP:96321

Removal and Installation

BIS000F7

REMOVAL

Remove the screws securing inside mirror assembly and mirror base as shown in the figure.



INSTALLATION

Install in the reverse order of removal.