

# SECTION **PWC**

## POWER WINDOW CONTROL SYSTEM

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000009823270

DETAILED FLOW

#### 1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicle in.

>> GO TO 2

#### 2. REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction on the vehicle that the customer describes.  
Inspect the relation of the symptoms and the condition when the symptoms occur.

>> GO TO 3

#### 3. IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

Use "Symptom diagnosis" from the symptom inspection result in step 2 and then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 4

#### 4. IDENTIFY THE MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

Perform the diagnosis with "Component diagnosis" of the applicable system.

>> GO TO 5

#### 5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6

#### 6. FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.

Are the malfunctions corrected?

YES >> Inspection End.

NO >> Refer to [GI-42. "Intermittent Incident"](#).

# POWER WINDOW SYSTEM

< SYSTEM DESCRIPTION >

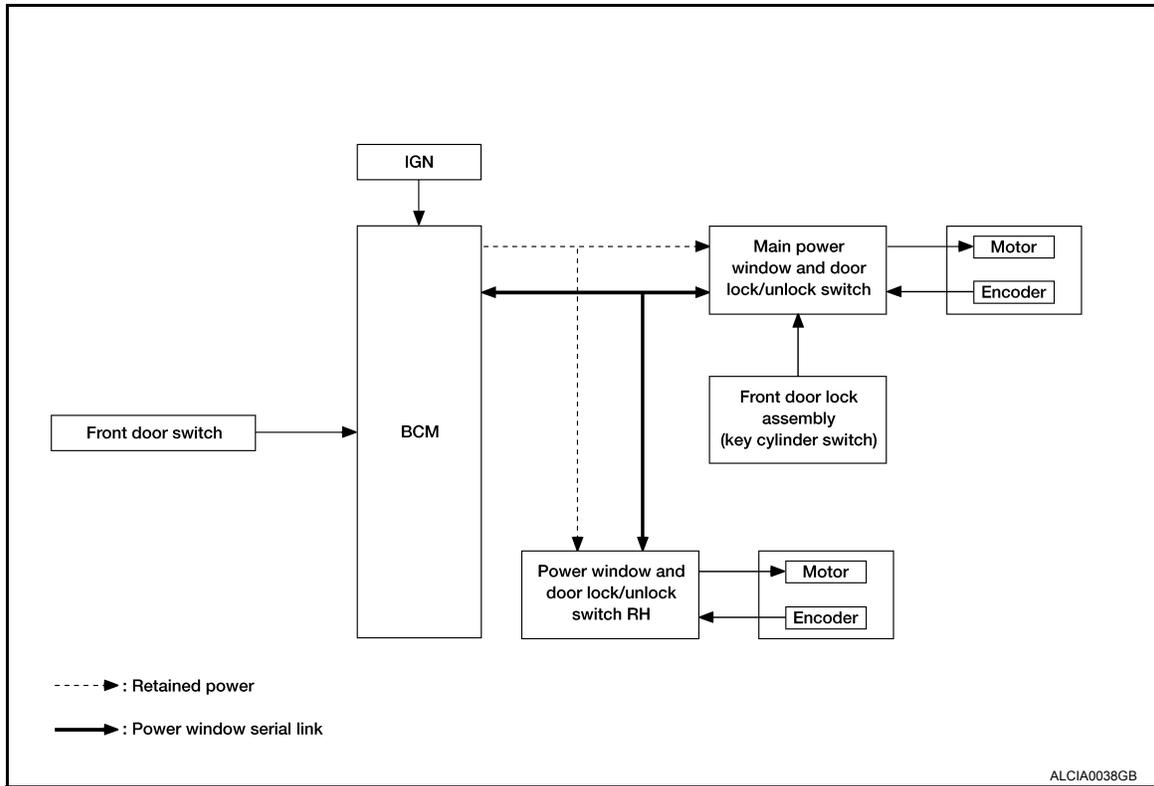
## SYSTEM DESCRIPTION

### POWER WINDOW SYSTEM

#### System Diagram

INFOID:000000009823271

#### FRONT WINDOW ANTI-PINCH SYSTEM



#### System Description

INFOID:000000009823272

#### POWER WINDOW MAIN SWITCH INPUT/OUTPUT SIGNAL CHART

PWC

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1.5 seconds over)	Power window control	Front power window motor
Encoder	Encoder pulse signal		
Main power window and door lock/unlock switch	Front power window motor LH UP/DOWN signal		
Power window and door lock/unlock switch RH	Front power window motor RH UP/DOWN signal		
BCM	RAP signal		
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

#### POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH INPUT/OUTPUT SIGNAL CHART

# POWER WINDOW SYSTEM

## < SYSTEM DESCRIPTION >

Item	Input signal to front power window switch	Front power window switch function	Actuator
Power window and door lock/unlock switch RH	Front power window motor RH UP/DOWN signal	Power window control	Front power window motor RH
Encoder	Encoder pulse signal		
BCM	RAP signal		

### POWER WINDOW OPERATION

- Power window system is operable during the retained power operation timer after turning ignition switch ON and OFF.
- Main power window and door lock/unlock switch can open/close all windows.
- Power window and door lock unlock switch RH & rear power window switches LH and RH can open/close the corresponding windows.

### REAR POWER VENT WINDOW OPERATION (IF EQUIPPED)

- Rear power vent window system is operable during the retained power operation timer after turning ignition switch ON and OFF.
- Rear power vent window switch can open/close the rear power vent window LH and RH.

### POWER WINDOW AUTO-OPERATION (FRONT LH & RH)

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch & power window and door lock/unlock switch RH turns to AUTO.
- Encoder continues detecting the movement of power window motor and transmits to power window switch as the encoder pulse signal while power window motor is operating.
- Power window switch reads the changes of encoder signal and stops AUTO operation when door glass is at fully opened/closed position.
- Power window motor is operable in case encoder is malfunctioning.

### RETAINED POWER OPERATION

- Retained power operation is an additional power supply function that enables power window system to operate during the 45 seconds even when ignition switch is turned OFF

#### Retained power function cancel conditions

- Front door CLOSE (door switch OFF)→OPEN (door switch ON).
- When ignition switch is ON.
- When timer time passes. (45 seconds)

### POWER WINDOW LOCK

Ground circuit inside main power window and door lock/unlock switch shuts off when power window lock switch is ON. This inhibits power window switch operation except with the main power window and door lock/unlock switch.

### ANTI-PINCH OPERATION (FRONT LH & RH)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm (5.91 in) or 2 seconds when detected.
- Encoder continues detecting the movement of power window motor and transmits to power window switch as the encoder pulse signal while power window motor is operating.
- Resistance is applied to the power window motor rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window switch controls to lower the window glass for 150 mm (5.91 in) or 2 seconds after it detects encoder pulse signal frequency change.

### OPERATION CONDITION

- When all door glass AUTO-UP operation is performed (anti-pinch function does not operate just before the door glass closes and is fully closed)

#### **NOTE:**

Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.

### KEY CYLINDER SWITCH OPERATION

# POWER WINDOW SYSTEM

## < SYSTEM DESCRIPTION >

Hold the door key cylinder to the LOCK or UNLOCK direction for more than 1 second to OPEN or CLOSE front power windows when ignition switch is OFF. In addition, it stops when key position is moved to NEUTRAL when operating.

### OPERATION CONDITION

- Ignition switch OFF
- Hold door key cylinder to LOCK position for more than 1 second to perform CLOSE operation of the door glass.
- Hold door key cylinder to UNLOCK position for more than 1 second to perform OPEN operation of the door glass.

### KEYLESS POWER WINDOW DOWN OPERATION (FRONT LH & RH)

Front power windows open when the unlock button on Intelligent Key or keyfob is activated and kept pressed for more than 3<sup>(NOTE)</sup> seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously pressed.

The power window opening stops when the following operations are performed:

- When the unlock button is kept pressed more than 15 seconds.
- When the ignition switch is turned ON while the power window opening is operated.
- When the unlock button is released.

While retained power operation activate, keyless power window down function cannot be operated.

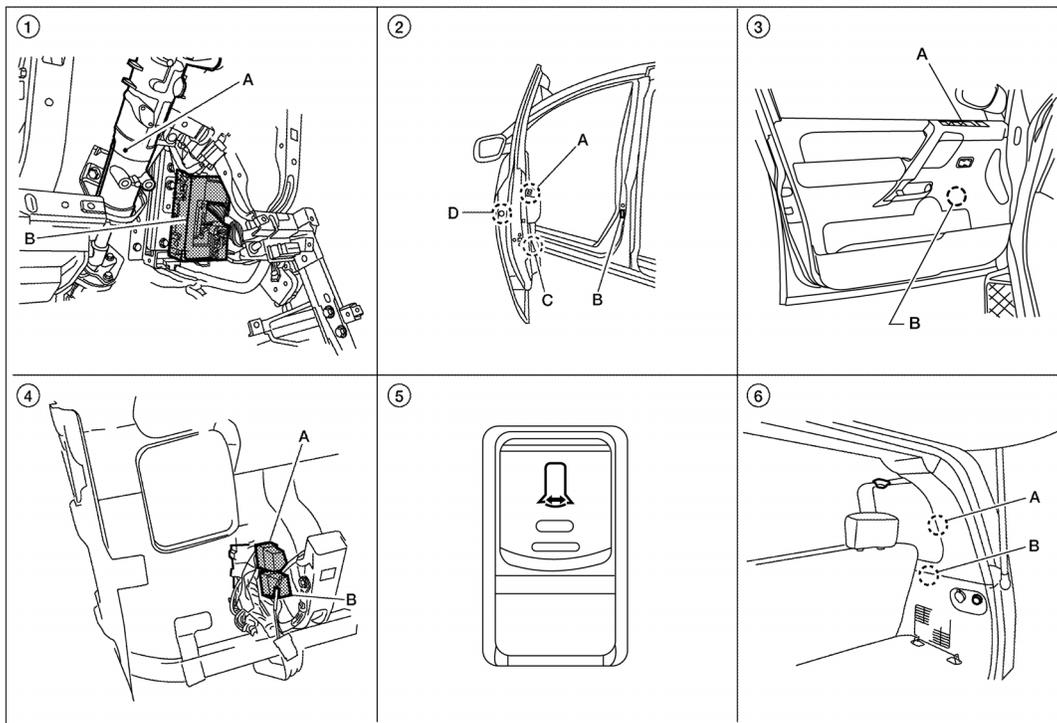
### NOTE:

Use CONSULT to change settings.

MODE1 (3sec) / MODE2 (OFF) / MODE3 (5sec)

## Component Parts Location

INFOID:000000009823273



AWKIA2075ZZ

# POWER WINDOW SYSTEM

## < SYSTEM DESCRIPTION >

- |  |  |  |
|--|--|--|
| <p>1. A. Steering column<br/>B. BCM M18, M19, M20 (view with instrument panel removed)</p>           | <p>2. A. Main power window and door lock/unlock switch D7, D8<br/>Power window and door lock/unlock switch RH D105<br/>B. Front door switch LH B8, RH B108<br/>C. Front power window motor LH D9, RH D104<br/>D. Front door lock assembly LH (key cylinder switch) D14</p> | <p>3. A. Rear power window switch LH D203, RH D303<br/>B. Rear power window motor LH D204, RH D304</p>               |
| <p>4. A. Rear power vent window relay (CLOSE) M89<br/>B. Rear power vent window relay (OPEN) M87</p> | <p>5. Rear power vent window switch M95 (if equipped)</p>  | <p>6. A. Rear power vent window motor LH B52, RH B150 (if equipped)<br/>B. Condenser-3 B119<br/>Condenser-4 B120</p> |

## Component Description

INFOID:000000009823274

## FRONT WINDOW ANTI-PINCH SYSTEM

Component	Function
BCM	<ul style="list-style-type: none"> <li>Supplies power supply to power window switch.</li> <li>Controls retained power.</li> </ul>
Main power window and door lock/unlock switch	<ul style="list-style-type: none"> <li>Directly controls all power window motor of all doors.</li> <li>Controls anti-pinch operation of front power window LH.</li> </ul>
Power window and door lock/unlock switch RH	<ul style="list-style-type: none"> <li>Controls front power window motor RH.</li> <li>Controls anti-pinch operation of front power window RH.</li> </ul>
Rear power window switch	<ul style="list-style-type: none"> <li>Controls rear power window motors LH and RH.</li> </ul>
Front power window motor LH	<ul style="list-style-type: none"> <li>Integrates the ENCODER and POWER WINDOW MOTOR.</li> <li>Starts operating with signals from main power window and door lock/unlock switch.</li> <li>Transmits power window motor rotation as a pulse signal to main power window and door lock/unlock switch.</li> </ul>
Front power window motor RH	Starts operating with signals from main power window and door lock/unlock switch & power window and door lock/unlock switch RH.
Rear power window motor	Starts operating with signals from main power window and door lock/unlock switch & rear power window switch.
Front door lock assembly LH (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.
Front door switch LH or RH	Detects door open/close condition and transmits to BCM.

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000009823275

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	<ul style="list-style-type: none"> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

### SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		x	x	x	x		
Rear window defogger	REAR DEFOGGER			x	x			
Warning chime	BUZZER			x	x			
Interior room lamp timer	INT LAMP			x	x	x		
Remote keyless entry system	MULTI REMOTE ENT			x	x	x		
Exterior lamp	HEADLAMP			x	x	x		
Wiper and washer	WIPER			x	x	x		
Turn signal and hazard warning lamps	FLASHER			x	x			
Air conditioner	AIR CONDITIONER			x				
Intelligent Key system	INTELLIGENT KEY			x				
Combination switch	COMB SW			x				
BCM	BCM	x	x			x	x	x
Immobilizer	IMMU		x	x	x			
Interior room lamp battery saver	BATTERY SAVER			x	x	x		
Back door open	TRUNK			x	x			
Vehicle security system	THEFT ALM			x	x	x		
RAP system	RETAINED PWR			x	x	x		
Signal buffer system	SIGNAL BUFFER			x	x			
TPMS	AIR PRESSURE MONITOR		x	x	x	x		
Panic alarm system	PANIC ALARM				x			

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# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

## RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000009823276

### DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

### ACTIVE TEST

Test Item	Description
RETAINED PWR	This test is able to check retained power operation [Off/On].

### WORK SUPPORT

Support Item	Setting	Description
RETAINED PWR SET	MODE3	2 min
	MODE2	OFF
	MODE1*	45 sec

\*: Initial setting

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### POWER WINDOW MAIN SWITCH

#### POWER WINDOW MAIN SWITCH : Description

INFOID:000000009823277

- BCM supplies power.
- It operates each power window motor via corresponding power window switch and makes window move up/down when main power window and door lock/unlock switch is operated.

#### POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:000000009823278

#### Main Power Window And Door Lock/Unlock Switch

#### 1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

Does power window motor operate with main power window and door lock/unlock switch operation?

Is the inspection result normal?

- YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.  
 NO >> Refer to [PWC-11, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

#### POWER WINDOW MAIN SWITCH : Diagnosis Procedure

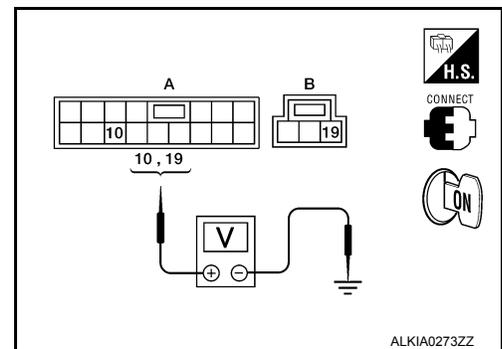
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Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

#### 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connectors and ground.

Terminal (+)		Terminal (-)	Voltage (V) (Approx.)
Main power window and door lock/unlock switch connector	Terminal		
D7 (A)	10	Ground	Battery voltage
D8 (B)	19		



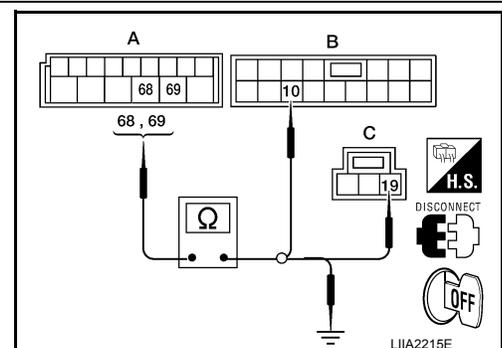
Is the measurement value within the specification?

- YES >> GO TO 3  
 NO >> GO TO 2

#### 2. CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M20 (A)	68	D7 (B)	10	Yes
	69	D8 (C)	19	



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# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

4. Check continuity between BCM connector (A) and ground.

BCM connector	Terminal	Ground	Continuity
M20 (A)	68		
	69		

Is the inspection result normal?

- YES >> GO TO 4  
 NO >> Repair or replace harness.

### 3. CHECK GROUND CIRCUIT

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D8	17		

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).  
 NO >> Repair or replace harness.

### 4. CHECK BCM OUTPUT SIGNAL

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

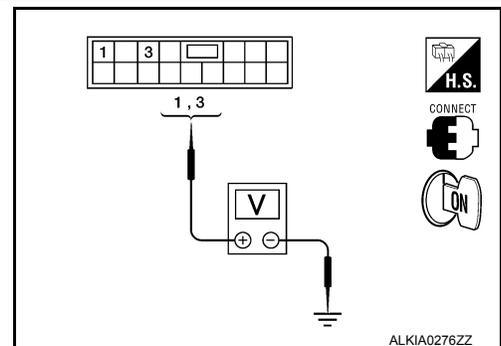
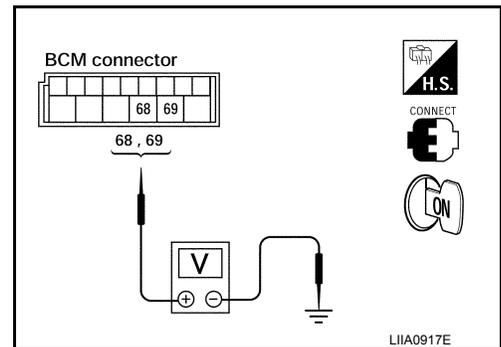
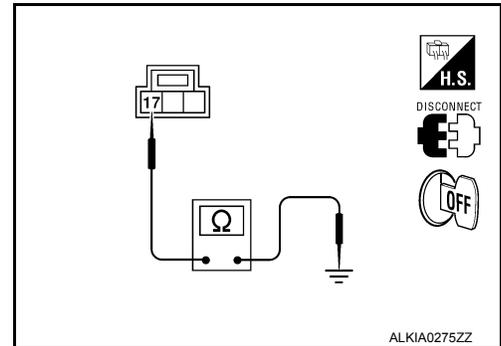
Terminals		(-)	Voltage (V) (Approx.)
(+)			
BCM connector	Terminal	Ground	Battery voltage
M20	68		
	69		

Is the measurement value within the specification?

- YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5  
 YES >> Check main power window and door lock/unlock switch output signal (rear power window switch RH) GO TO 6  
 NO >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).

### 5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH LH)

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



# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Terminal		Window condition	Voltage (V) (Approx.)
(+)	(-)		
Main power window and door lock/unlock switch connector	Terminal		
D7	1	UP	Battery voltage
		DOWN	0
	3	UP	0
		DOWN	Battery voltage

Is the measurement value within the specification?

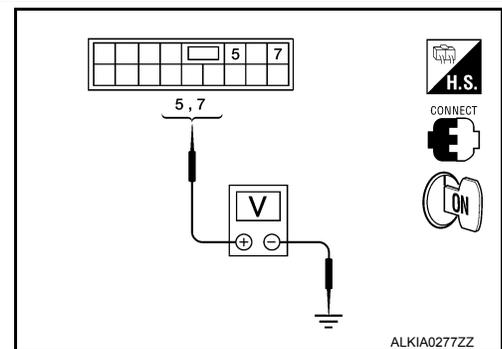
YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).

### 6. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH RH)

- Turn ignition switch ON.
- Check voltage between main power window and door lock/unlock switch connector and ground.

Terminal		Window condition	Voltage (V) (Approx.)
(+)	(-)		
Main power window and door lock/unlock switch connector	Terminal		
D7	7	UP	Battery voltage
		DOWN	0
	5	UP	0
		DOWN	Battery voltage



Is the measurement value within the specification?

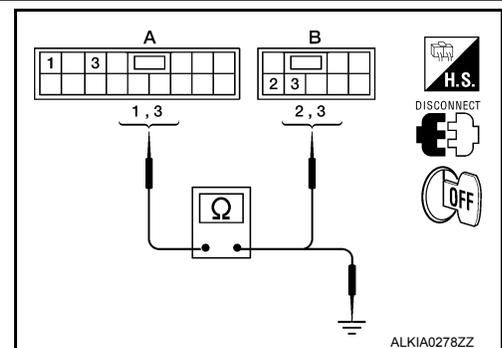
YES >> GO TO 8

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).

### 7. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

- Turn ignition switch OFF.
- Disconnect rear power window switch LH.
- Check continuity between main power window and door lock/unlock switch connector and rear power window switch LH connector.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7 (A)	1	D203 (B)	2	Yes
	3		3	



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

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	1		Ground
	3		

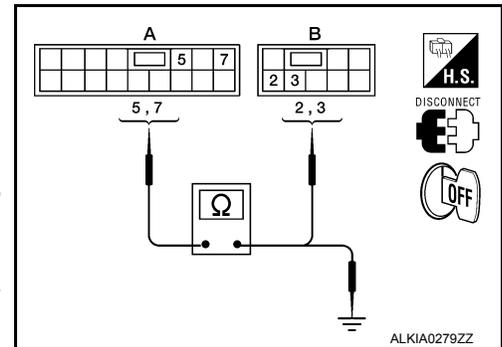
Is the inspection result normal?

YES >> GO TO 9

NO >> Repair or replace harness.

### 8. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

- Turn ignition switch OFF.
- Disconnect rear power window switch RH.
- Check continuity between main power window and door lock/unlock switch connector and rear power window switch RH connector.



Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7 (A)	5	D303 (B)	3	Yes
	7		2	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	5		Ground
	7		

Is the inspection result normal?

YES >> GO TO 9

NO >> Repair or replace harness.

### 9. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.

Refer to [PWC-14, "POWER WINDOW MAIN SWITCH : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).

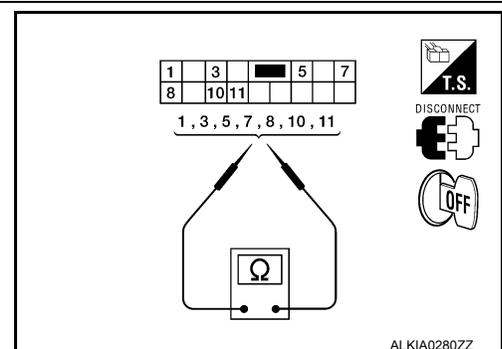
## POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:000000009823280

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

- Check main power window and door lock/unlock switch.

Terminal	Main power window and door lock/unlock switch condition	Continuity
10	1	UP
10	7	
1	3	NEUTRAL
5	7	
10	3	DOWN
10	5	

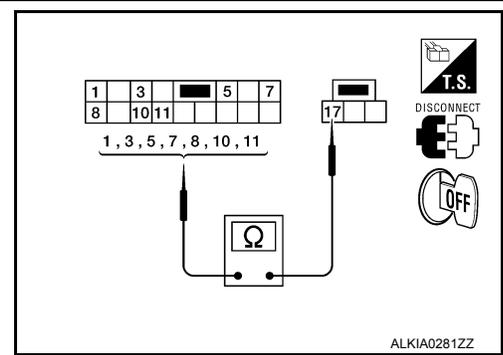


# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

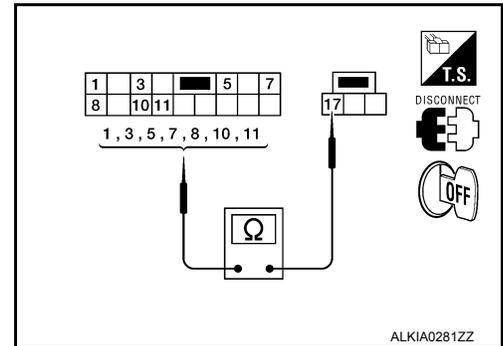
2. Check continuity between main power window and door lock/unlock switch (power window lock switch). (Lock operation).

Terminal	Main power window and door lock/unlock switch condition	Continuity
3	Rear LH	UP
5	Rear RH	
1	Rear LH	NEUTRAL
3	Rear RH	
5	Rear LH	DOWN
7	Rear RH	



3. Check continuity between main power window and door lock/unlock switch (power window lock switch). (Unlock operation).

Terminal	Main power window and door lock/unlock switch condition	Continuity
3	Rear LH	UP
5	Rear RH	
1	Rear LH	NEUTRAL
3	Rear RH	
5	Rear LH	DOWN
7	Rear RH	



Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-94. "Removal and Installation"](#).

PWC

## FRONT POWER WINDOW SWITCH

### FRONT POWER WINDOW SWITCH : Description

INFOID:000000009823281

- BCM supplies power.
- Front power window motor RH will be operated if power window and door lock/unlock switch RH is operated.

### FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:000000009823282

#### Power Window And Door Lock/Unlock Switch RH

##### 1. CHECK FRONT POWER WINDOW MOTOR RH FUNCTION

Does front power window motor RH operate with power window and door lock/unlock switch RH operation?

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.

NO >> Refer to [PWC-15. "FRONT POWER WINDOW SWITCH : Diagnosis Procedure"](#).

### FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000009823283

Regarding Wiring Diagram information, refer to [PWC-66. "Wiring Diagram"](#).

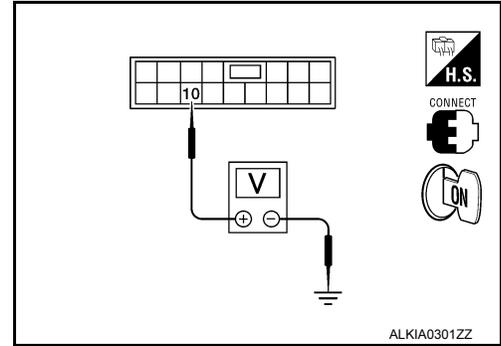
# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

### 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between power window and door lock/unlock switch RH connector and ground.

Terminal			Voltage (V) (Approx.)
(+)		(-)	
Power window and door lock/unlock switch RH connector	Terminal		
D105	10	Ground	Battery voltage



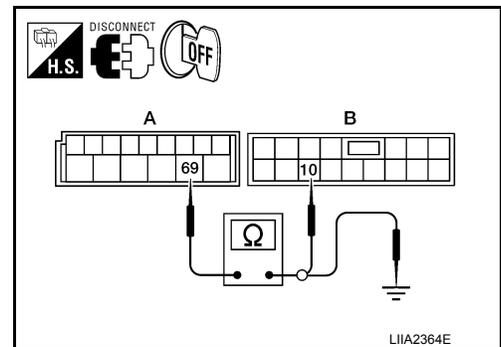
Is the measurement value within the specification?

- YES >> GO TO 3  
NO >> GO TO 2

### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and power window and door lock/unlock switch RH.
3. Check continuity between BCM connector and power window and door lock/unlock switch RH connector.

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M20 (A)	69	D105 (B)	10	Yes



4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M20 (A)	69		No

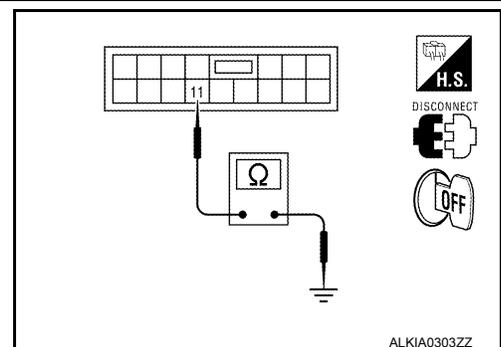
Is the inspection result normal?

- YES >> GO TO 4  
NO >> Repair or replace harness.

### 3. CHECK GROUND CIRCUIT

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

Power window and door lock/unlock switch RH	Terminal	Ground	Continuity
D105	11		Yes



Is the inspection result normal?

- YES >> Replace power window and door lock/unlock switch RH.  
Refer to [PWC-95, "Removal and Installation"](#).  
NO >> Repair or replace harness.

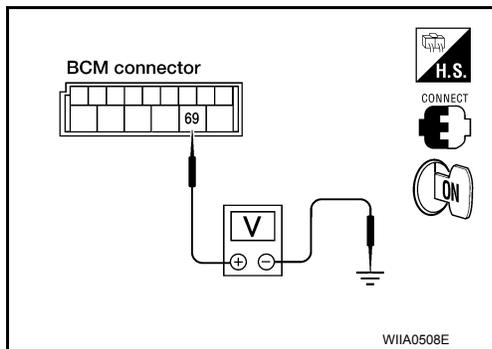
### 4. CHECK BCM OUTPUT SIGNAL

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

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

Terminals			Voltage (V) (Approx.)
(+)		(-)	
BCM connector	Terminal		
M20	69	Ground	Battery voltage



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH.

Refer to [PWC-95. "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-54. "Removal and Installation"](#).

## REAR POWER WINDOW SWITCH

### REAR POWER WINDOW SWITCH : Description

INFOID:000000009823284

- BCM supplies power.
- Rear power window motor will be operated if rear power window switch is operated. Rear power window switch.

### REAR POWER WINDOW SWITCH : Component Function Check

INFOID:000000009823285

#### Rear Power Window Switch

#### 1. CHECK REAR POWER WINDOW MOTOR FUNCTION

Does rear power window motor operate with rear power window switch operation?

Is the inspection result normal?

YES >> Rear power window switch power supply and ground circuit are OK.

NO >> Refer to [PWC-17. "REAR POWER WINDOW SWITCH : Diagnosis Procedure"](#).

### REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000009823286

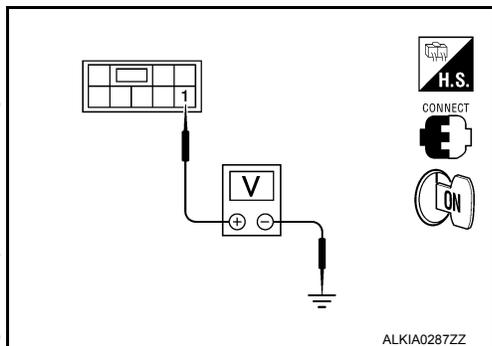
Regarding Wiring Diagram information, refer to [PWC-66. "Wiring Diagram"](#).

PWC

#### 1. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear power window switch connector and ground.

Terminal			Condition	Voltage (V) (Approx.)	
(+)		(-)			
Rear power window switch connector	Terminal				
LH	D203	1	Ground	Ignition switch ON	Battery voltage
RH	D303				



Is the measurement value within the specification?

YES >> GO TO 2 (Rear power window switch LH)

YES >> GO TO 3 (Rear power window switch RH)

NO >> GO TO 4

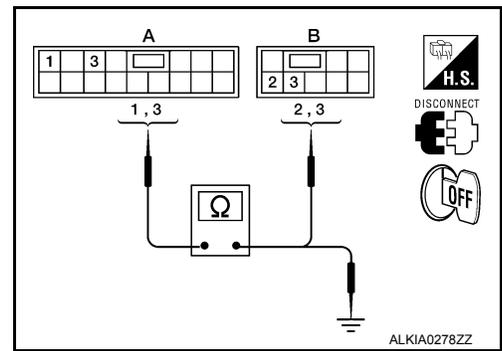
#### 2. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

## POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch LH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch LH connector.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7 (A)	1	D203 (B)	2	Yes
	3		3	



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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	1	Ground	No
	3		

#### Is the inspection result normal?

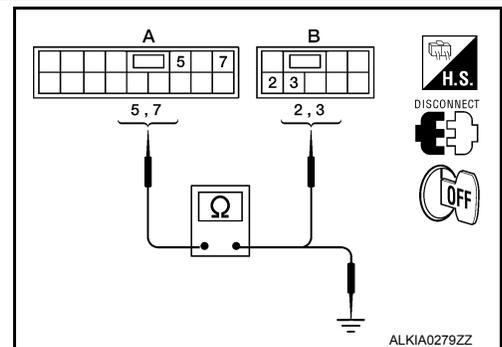
YES >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

NO >> Repair or replace harness.

### 3. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch RH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch RH connector.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7 (A)	5	D303 (B)	3	Yes
	7		2	



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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	5	Ground	No
	7		

#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

NO >> Repair or replace harness.

### 4. CHECK HARNESS CONTINUITY

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

1. Disconnect BCM and rear power window switch.
2. Check continuity between BCM connector and rear power window switch connector.

BCM connector	Terminal	Rear power window switch connector		Terminal	Continuity
M20 (A)	68	LH	D203 (B)	1	Yes
		RH	D303 (B)		

3. Check continuity between BCM connector (A) and ground.

BCM connector	Terminal	Ground	Continuity
M20 (A)	68		No

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

## 5. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to [PWC-19, "REAR POWER WINDOW SWITCH : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

NO >> Replace rear power window switch. Refer to [PWC-96, "Removal and Installation"](#).

## REAR POWER WINDOW SWITCH : Component Inspection

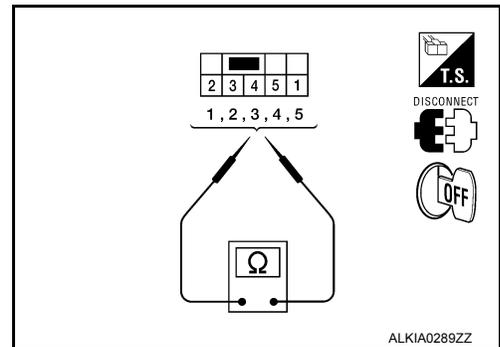
INFOID:000000009823287

### COMPONENT INSPECTION

#### 1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Terminal	Power window switch condition	Continuity
1	5	Yes
3	4	
3	4	
5	2	
1	4	
5	2	



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to [PWC-96, "Removal and Installation"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

PWC

# POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW MOTOR DRIVER SIDE

### DRIVER SIDE : Description

INFOID:000000009823288

Door glass moves UP/DOWN by receiving the signal from power window main switch.

### DRIVER SIDE : Component Function Check

INFOID:000000009823289

#### 1. CHECK POWER WINDOW MOTOR CIRCUIT

Does front power window motor LH operate with operating main power window and door lock/unlock switch?  
Is the inspection result normal?

YES >> Front power window motor LH is OK.

NO >> Refer to [PWC-20, "DRIVER SIDE : Diagnosis Procedure"](#).

### DRIVER SIDE : Diagnosis Procedure

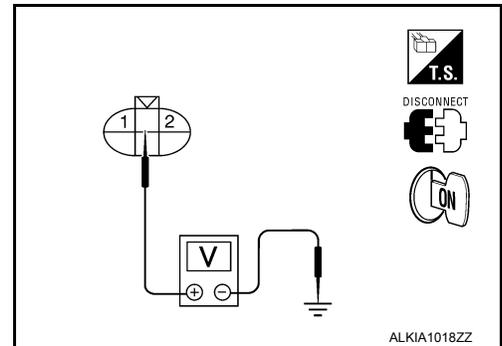
INFOID:000000009823290

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

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

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

Terminal (+)		Terminal (-)	Main power window and door lock/unlock switch condition	Voltage (V) (Approx.)
Power window motor LH connector	Terminal			
D9	2	Ground	UP	Battery voltage
			DOWN	0
	1		UP	0
			DOWN	Battery voltage



Is the measurement value within the specification?

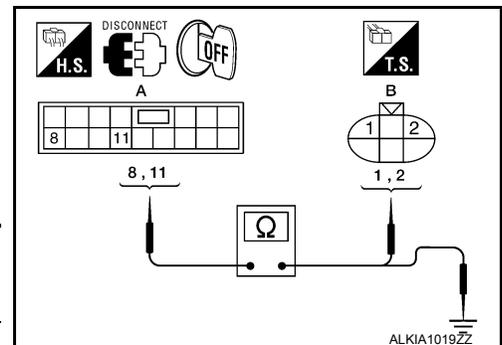
YES >> GO TO 2

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).

#### 2. CHECK HARNESS CONTINUITY

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	8	D9 (B)	2	Yes
	11		1	



# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
	D7 (A)		8
	11		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

### 3. CHECK POWER WINDOW MOTOR

Check front power window motor LH.

Refer to [PWC-21, "DRIVER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

NO >> Replace power window motor LH. Refer to [GW-13, "Removal and Installation"](#).

## DRIVER SIDE : Component Inspection

INFOID:000000009823291

### COMPONENT INSPECTION

#### 1. CHECK FRONT POWER WINDOW MOTOR LH

Does motor operate by connecting the battery voltage directly to power window motor?

Terminal		Motor condition
(+)	(-)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

YES >> Front power window motor LH is OK.

NO >> Replace front power window motor LH. Refer to [GW-13, "Removal and Installation"](#).

## PASSENGER SIDE

### PASSENGER SIDE : Description

INFOID:000000009823292

Door glass moves UP/DOWN by receiving the signal from main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

### PASSENGER SIDE : Component Function Check

INFOID:000000009823293

#### 1. CHECK POWER WINDOW MOTOR CIRCUIT

Does power window motor operate with operating main power window and door lock/unlock switch or power window and door lock/unlock switch RH?

Is the inspection result normal?

YES >> Front power window motor RH is OK.

NO >> Refer to [PWC-21, "PASSENGER SIDE : Diagnosis Procedure"](#).

## PASSENGER SIDE : Diagnosis Procedure

INFOID:000000009823294

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

#### 1. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

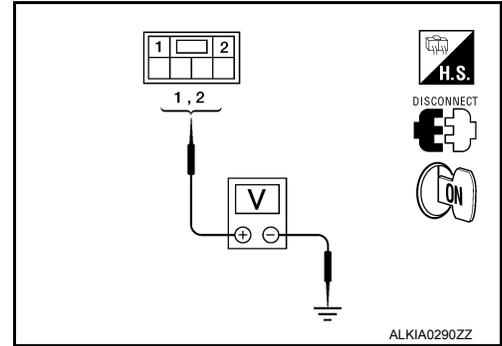
PWC

# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

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

Terminal (+)		Terminal (-)	Front power window motor RH condition	Voltage (V) (Approx.)
Front power window motor RH connector	Terminal			
D104	2	Ground	UP	Battery voltage
			DOWN	0
	1		UP	0
			DOWN	Battery voltage



Is the measurement value within the specification?

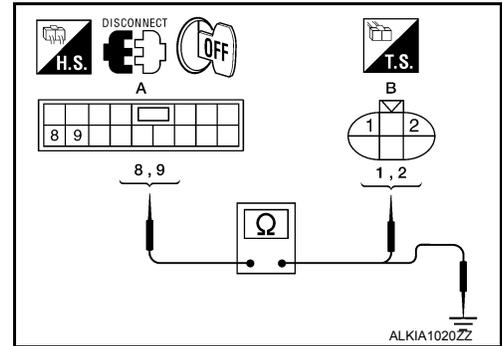
YES >> GO TO 2

NO >> Replace power window and door lock/unlock switch RH. Refer to [PWC-95. "Removal and Installation"](#).

## 2. CHECK HARNESS CONTINUITY

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	8	D104 (B)	2	Yes
	9		1	



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

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	8	Ground	No
	9		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK FRONT POWER WINDOW MOTOR RH

Check front power window motor RH.

Refer to [PWC-22. "PASSENGER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

NO >> Replace front power window motor RH. Refer to [GW-13. "Removal and Installation"](#).

## PASSENGER SIDE : Component Inspection

INFOID:000000009823295

### COMPONENT INSPECTION

#### 1. CHECK FRONT POWER WINDOW MOTOR RH

Does motor operate by connecting the battery voltage directly to front power window motor RH?

# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

Terminal		Motor condition
(+)	(-)	
1	2	DOWN
2	1	UP

### Is the inspection result normal?

YES >> Front power window motor RH is OK.

NO >> Replace front power window motor RH. Refer to [GW-13. "Removal and Installation"](#).

## REAR LH

### REAR LH : Description

INFOID:000000009823296

Door glass moves UP/DOWN by receiving the signal from power window main switch or rear power window switch LH.

### REAR LH : Component Function Check

INFOID:000000009823297

#### 1. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

Does rear power window motor LH operate with main power window and door lock/unlock switch or rear power window switch LH?

### Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Refer to [PWC-23. "REAR LH : Diagnosis Procedure"](#)

### REAR LH : Diagnosis Procedure

INFOID:000000009823298

Regarding Wiring Diagram information, refer to [PWC-66. "Wiring Diagram"](#).

#### 1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

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

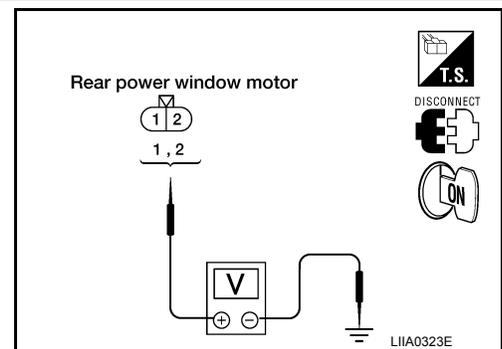
Terminal		Window condition	Voltage (V) (Approx.)
(+)	(-)		
Rear power window motor LH connector  D204	2	UP	Battery voltage
		DOWN	0
	1	UP	0
		DOWN	Battery voltage

### Is the measurement value within the specification?

YES >> GO TO 2

NO >> Check rear power window switch LH. Refer to [PWC-17. "REAR POWER WINDOW SWITCH : Component Function Check"](#).

#### 2. CHECK HARNESS CONTINUITY



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# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH.
3. Check continuity between rear power window switch LH connector and rear power window motor LH connector.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203 (A)	5	D204 (B)	2	Yes
	4		1	

4. Check continuity between rear power window switch LH connector and ground.

Rear power window switch LH connector	Terminal	Ground	Continuity
D203 (A)	5	Ground	No
	4		

Is the inspection result normal?

- YES >> GO TO 3  
 NO >> Repair or replace harness.

### 3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to [PWC-24, "REAR LH : Component Inspection"](#).

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).  
 NO >> Replace rear power window motor LH. Refer to [GW-16, "Removal and Installation"](#).

## REAR LH : Component Inspection

INFOID:000000009823299

### COMPONENT INSPECTION

#### 1. CHECK REAR POWER WINDOW MOTOR LH

Does motor operate by connecting the battery voltage directly to rear power window motor LH?

Terminal		Motor condition
(+)	(-)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

- YES >> Rear power window motor LH is OK.  
 NO >> Replace rear power window motor LH. Refer to [GW-16, "Removal and Installation"](#).

## REAR RH

### REAR RH : Description

INFOID:000000009823300

Door glass moves UP/DOWN by receiving the signal from main power window and door lock/unlock switch or rear power window switch RH.

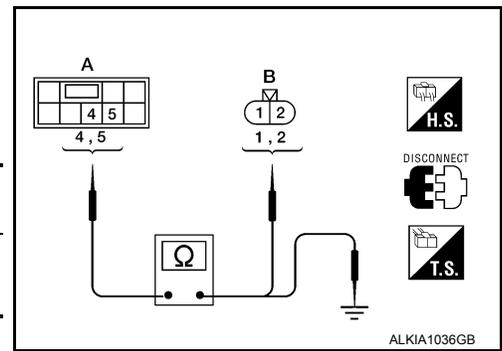
### REAR RH : Component Function Check

INFOID:000000009823301

#### 1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

Does rear power window motor RH operate with operating main power window and door lock/unlock switch or rear power window switch RH?

Is the inspection result normal?



# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

- YES >> Rear power window motor RH is OK.
- NO >> Refer to [PWC-25, "REAR RH : Diagnosis Procedure"](#).

## REAR RH : Diagnosis Procedure

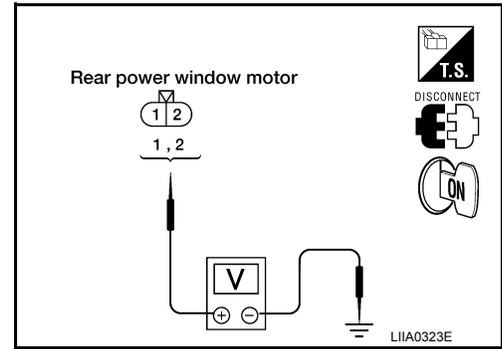
INFOID:000000009823302

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

### 1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

Terminal		Rear power window switch RH condition	Voltage (V) (Approx.)
(+)	(-)		
Rear power window motor RH connector	Terminal		
D304	2	UP	Battery voltage
		DOWN	0
	1	UP	0
		DOWN	Battery voltage



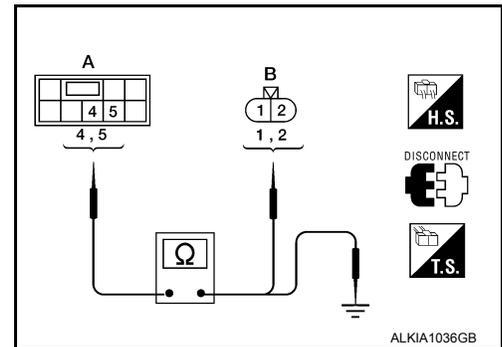
Is the measurement value within the specification?

- YES >> GO TO 2
- NO >> Check rear power window switch RH. Refer to [PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check"](#).

### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH.
3. Check continuity between rear power window switch RH connector and rear power window motor RH connector.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303 (A)	5	D304 (B)	2	Yes
	4		1	



4. Check continuity between rear power window switch RH connector and ground.

Rear power window switch RH connector	Terminal	Ground	Continuity
D303 (A)	5	Ground	No
	4		

Is the inspection result normal?

- YES >> GO TO 3
- NO >> Repair or replace harness.

### 3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.  
Refer to [PWC-26, "REAR RH : Component Inspection"](#).

Is the inspection result normal?

# POWER WINDOW MOTOR

## < DTC/CIRCUIT DIAGNOSIS >

---

- YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).  
NO >> Replace rear power window motor RH. Refer to [GW-16, "Removal and Installation"](#).

## REAR RH : Component Inspection

INFOID:000000009823303

### COMPONENT INSPECTION

#### 1. CHECK REAR POWER WINDOW MOTOR RH

---

Does motor operate by connecting the battery voltage directly to rear power window motor RH?

Terminal		Motor condition
(+)	(-)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

- YES >> Rear power window motor RH is OK.  
NO >> Replace rear power window motor RH. Refer to [GW-16, "Removal and Installation"](#).

# ENCODER

< DTC/CIRCUIT DIAGNOSIS >

## ENCODER DRIVER SIDE

### DRIVER SIDE : Description

INFOID:000000009823304

Detects condition of the front power window motor LH operation and transmits to main power window and door lock/unlock switch as pulse signal.

### DRIVER SIDE : Component Function Check

INFOID:000000009823305

#### 1. CHECK ENCODER OPERATION

Does front door glass LH perform AUTO open/close operation normally when operating main power window and door lock/unlock switch?

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to [PWC-27, "DRIVER SIDE : Diagnosis Procedure"](#)

### DRIVER SIDE : Diagnosis Procedure

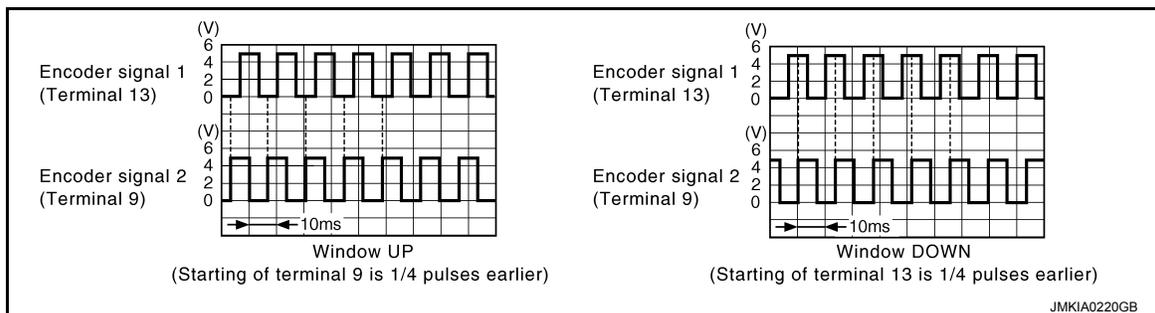
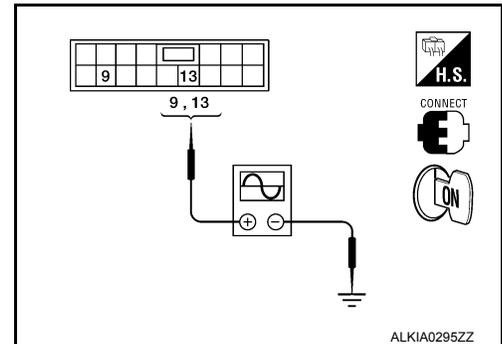
INFOID:000000009823306

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

#### 1. CHECK ENCODER OPERATION

1. Turn ignition switch ON.
2. Check signal between main power window and door lock/unlock switch connector and ground with oscilloscope.

Terminals		Signal (Reference value)
(+)	(-)	
Main power window and door lock/unlock switch connector	Terminal	Ground
D7	9 13	
		Refer to following signal



Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

NO >> GO TO 2

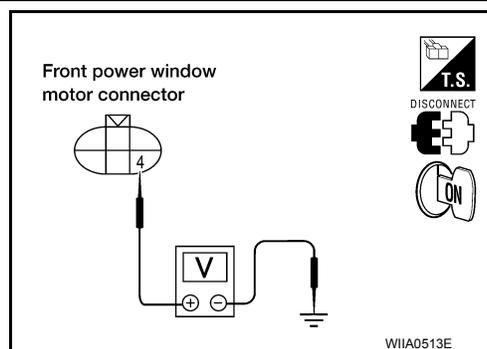
#### 2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

# ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

1. Disconnect front power window motor LH.
2. Check voltage between front power window motor LH connector and ground.

Terminal		Voltage (V) (Approx.)
(+)	(-)	
Front power window motor LH connector	Terminal	
D9	4	Ground
		10



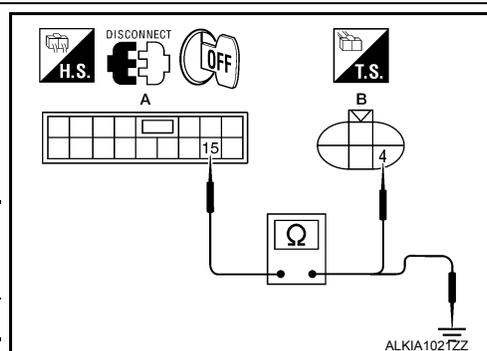
Is the measurement value within the specification?

- YES >> GO TO 4  
NO >> GO TO 3

### 3. CHECK HARNESS CONTINUITY 1

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	15	D9 (B)	4	Yes



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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	15		No

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).  
NO >> Repair or replace harness.

### 4. CHECK GROUND CIRCUIT

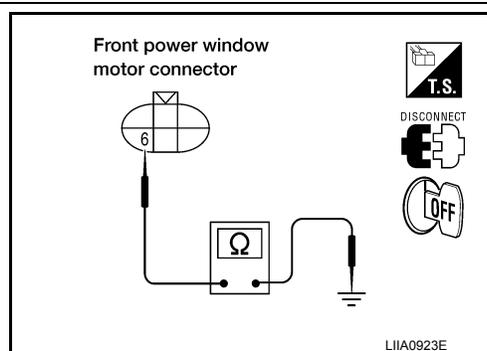
1. Turn ignition switch OFF.
2. Check continuity between front power window motor LH connector and ground.

Front power window motor LH connector	Terminal	Ground	Continuity
D9	6		Yes

Is the inspection result normal?

- YES >> GO TO 6  
NO >> GO TO 5

### 5. CHECK HARNESS CONTINUITY 2



# ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	2	D9	6	Yes

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).

NO >> Repair or replace harness.

## 6. CHECK HARNESS CONTINUITY 3

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

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7 (A)	9	D9 (B)	5	Yes
	13		3	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	9	Ground	No
	13		

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to [GW-13, "Removal and Installation"](#).

NO >> Repair or replace harness.

## PASSENGER SIDE

### PASSENGER SIDE : Description

INFOID:000000009823307

Detects condition of the front power window motor RH operation and transmits to power window and door lock/unlock switch RH as pulse signal.

### PASSENGER SIDE : Component Function Check

INFOID:000000009823308

## 1. CHECK ENCODER OPERATION

Does front door glass RH perform AUTO open/close operation normally when operating power window and door lock/unlock switch RH?

Is the inspection result normal?

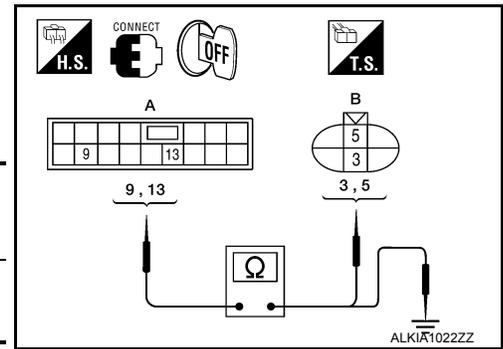
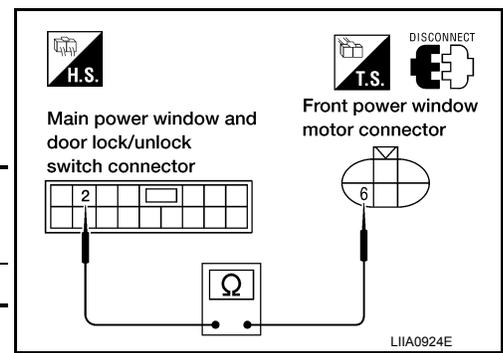
YES >> Encoder operation is OK.

NO >> Refer to [PWC-29, "PASSENGER SIDE : Diagnosis Procedure"](#).

### PASSENGER SIDE : Diagnosis Procedure

INFOID:000000009823309

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).



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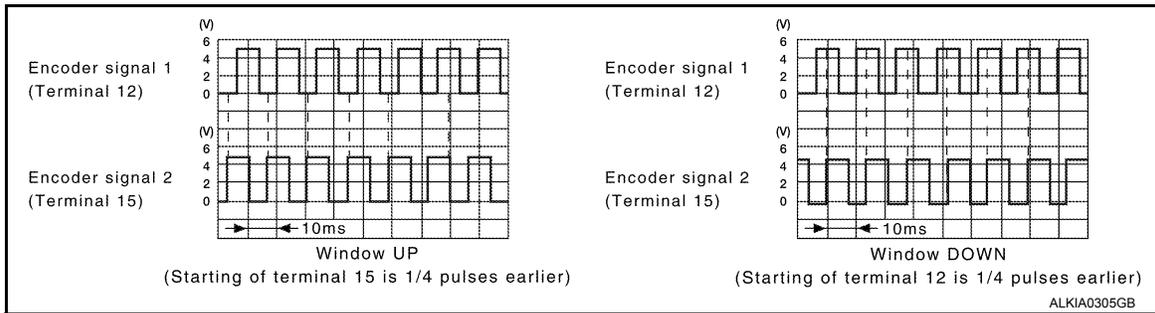
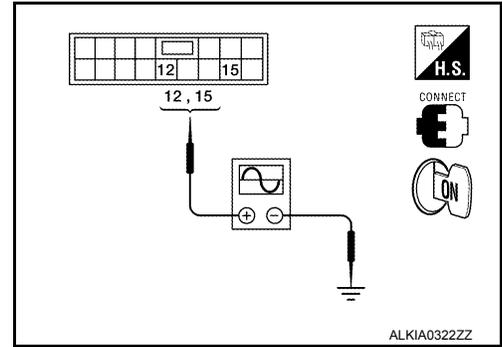
# ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

### 1. CHECK ENCODER SIGNAL

1. Turn ignition switch ON.
2. Check signal between power window and door lock/unlock switch RH connector and ground with oscilloscope.

Terminals			Signal (Reference value)
(+) Terminal		(-)	
Power window and door lock/unlock switch RH connector	Terminal		
D105	12	Ground	Refer to following signal
	15		



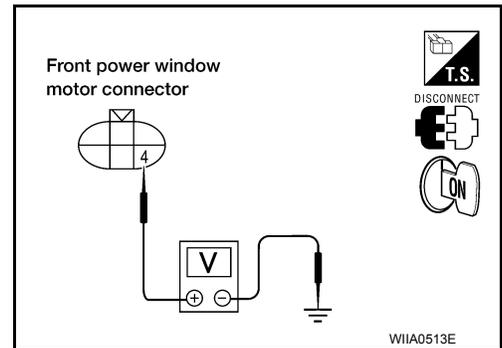
Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).  
 NO >> GO TO 2

### 2. CHECK FRONT POWER WINDOW MOTOR RH POWER SUPPLY

1. Disconnect front power window motor RH.
2. Check voltage between front power window motor RH connector and ground.

Terminal			Voltage (V) (Approx.)
(+) Terminal		(-)	
Front power window motor RH connector	Terminal		
D105	4	Ground	10



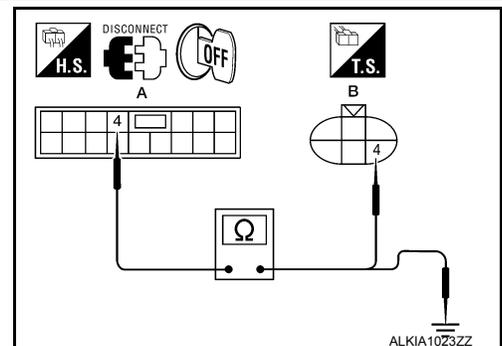
Is the measurement value within the specification?

- YES >> GO TO 4  
 NO >> GO TO 3

### 3. CHECK HARNESS CONTINUITY 1

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

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	4	D104 (B)	4	Yes



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

# ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	4		No

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to [PWC-95. "Removal and Installation"](#).

NO >> Repair or replace harness.

### 4. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between front power window motor RH connector and ground.

Front power window motor RH connector	Terminal	Ground	Continuity
D104	6		Yes

Is the inspection result normal?

YES >> GO TO 6

NO >> GO TO 5

### 5. CHECK HARNESS CONTINUITY 2

- Disconnect power window and door lock/unlock switch RH.
- Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	3	D104	6	Yes

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to [PWC-95. "Removal and Installation"](#).

NO >> Repair or replace harness.

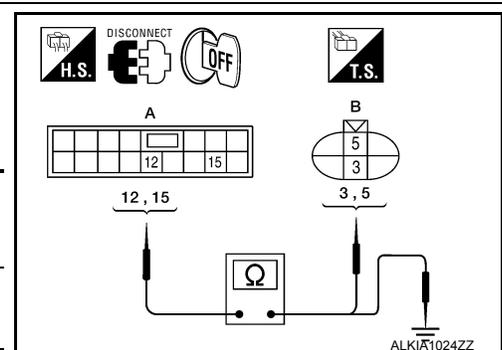
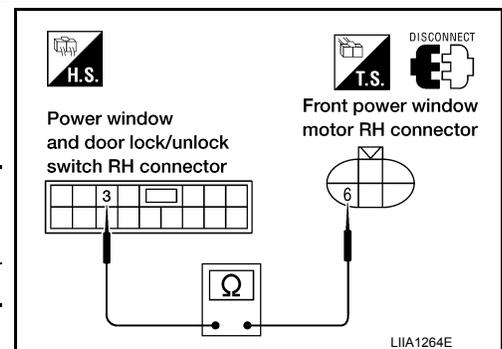
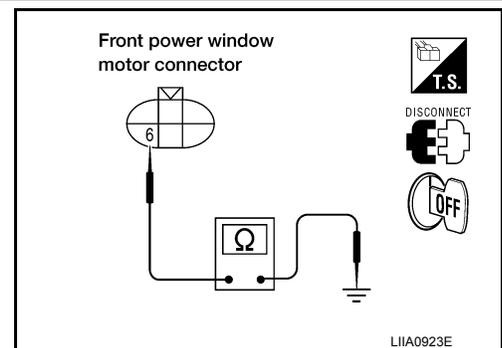
### 6. CHECK HARNESS CONTINUITY 3

- Disconnect power window and door lock/unlock switch RH.
- Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105 (A)	12	D104 (B)	3	Yes
	15		5	

- Check continuity between power window and door lock/unlock switch RH connector and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105 (A)	12		No
	15		



## ENCODER

< DTC/CIRCUIT DIAGNOSIS >

---

Is the inspection result normal?

- YES >> Replace front power window motor RH. Refer to [GW-13, "Removal and Installation"](#).
- NO >> Repair or replace harness.

# DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

## DOOR SWITCH

### Description

INFOID:000000009823310

Detects front door open/close condition and transmits the signal to BCM.

### Component Function Check

INFOID:000000009823311

#### 1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT. Refer to [BCS-26, "RETAINED PWR : CONSULT Function \(BCM - RETAINED PWR\)"](#).

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

Is the inspection result normal?

- YES >> Front door switch circuit is OK.
- NO >> Refer to [PWC-33, "Diagnosis Procedure"](#).

### Diagnosis Procedure

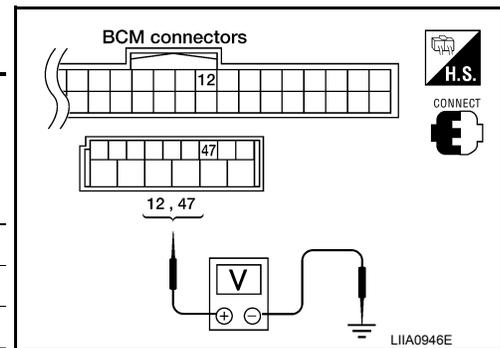
INFOID:000000009823312

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

#### 1. CHECK FRONT DOOR SWITCH

Check voltage between BCM connector and ground.

Terminals		Front door condition	Voltage (V) (Approx.)
(+)	(-)		
BCM connector	Terminal		
M18	12	Front door RH	OPEN : 0
			CLOSE : Battery voltage
M19	47	Front door LH	OPEN : 0
			CLOSE : Battery voltage



Is the measurement value within the specification?

- YES >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).
- NO >> GO TO 2

#### 2. CHECK HARNESS CONTINUITY

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# DOOR SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect BCM and front door switch.
3. Check continuity between BCM connector and front door switch connector.

BCM connector	Terminal	Front door switch connector	Terminal	Continuity
M18	12	RH: B108	2	Yes
M19	47	LH: B8		

4. Check continuity between front door switch connector and ground.

Front door switch connector	Terminal	Ground	Continuity
B8 (LH)	2	Ground	No
B108 (RH)			

Is the inspection result normal?

- YES >> GO TO 3  
 NO >> Repair or replace harness.

### 3. CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM connector and ground.

Terminal		(-)	Voltage (V) (Approx.)
(+)			
BCM connector	Terminal	Ground	Battery voltage
M18	12		
M19	47		

Is the measurement value within the specification?

- YES >> GO TO 4  
 NO >> Replace BCM. Refer to [BCS-54, "Removal and Installation"](#).

### 4. CHECK FRONT DOOR SWITCH

Check front door switch.  
 Refer to [PWC-34, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).  
 NO >> Replace front door switch.

## Component Inspection

INFOID:000000009823313

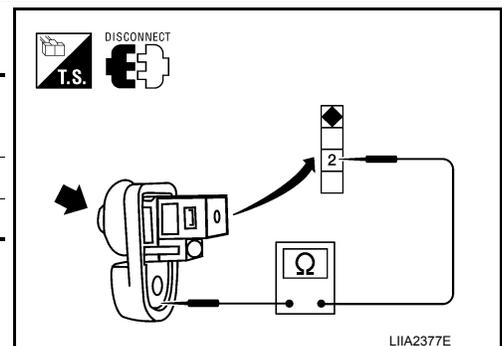
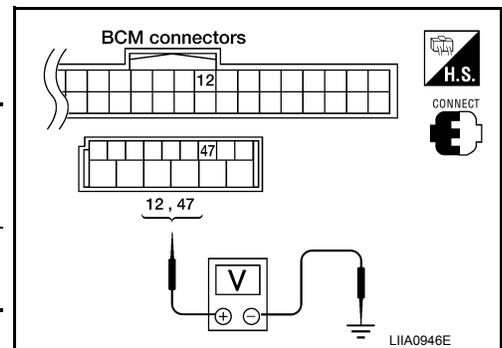
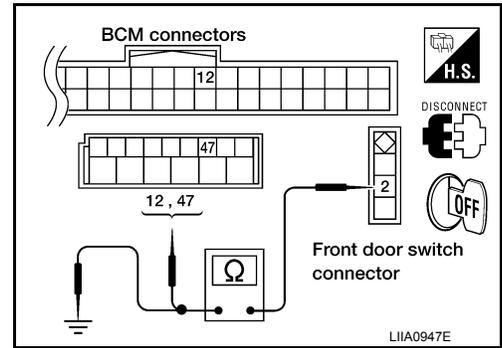
### 1. CHECK FRONT DOOR SWITCH

Check front door switches.

Terminal		Front door switch	Continuity
Front door switches			
2	Ground part of door switch	Pressed	No
		Released	Yes

Is the inspection result normal?

- YES >> Front door switch is OK.  
 NO >> Replace front door switch.



# DOOR KEY CYLINDER SWITCH

< DTC/CIRCUIT DIAGNOSIS >

## DOOR KEY CYLINDER SWITCH

### Description

INFOID:000000009823314

Main power window and door lock/unlock switch detects condition of the door key cylinder and transmits to BCM as the LOCK or UNLOCK signals.

### Component Function Check

INFOID:000000009823315

### 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to [BCS-16. "COMMON ITEM : CONSULT Function \(BCM - COMMON ITEM\)"](#).

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

Is the inspection result normal?

- YES >> Key cylinder switch is OK.
- NO >> Refer to [PWC-35. "Diagnosis Procedure"](#).

### Diagnosis Procedure

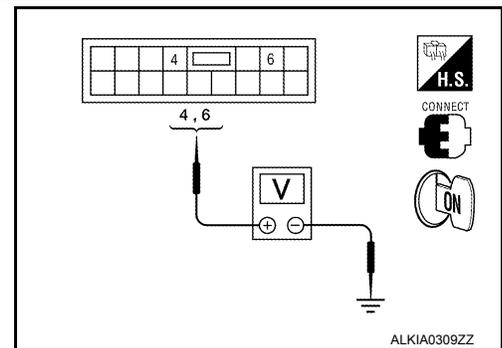
INFOID:000000009823316

Regarding Wiring Diagram information, refer to [PWC-66. "Wiring Diagram"](#).

### 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Terminals		Key position	Voltage (V) (Approx.)
(+)	(-)		
Main power window and door lock/unlock switch connector  D7	4	Lock	0
		Neutral/Unlock	5
	6	Unlock	0
		Neutral/Lock	5



Is the measurement value within the specification?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94. "Removal and Installation"](#).
- NO >> GO TO 2

### 2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

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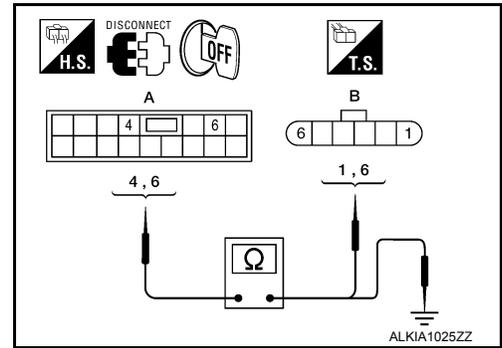
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# DOOR KEY CYLINDER SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

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

Main power window and door lock/unlock switch connector	Terminal	Front door lock assembly LH (key cylinder switch) connector	Terminal	Continuity
D7 (A)	4	D14 (B)	1	Yes
	6		6	



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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7 (A)	4	Ground	No
	6		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

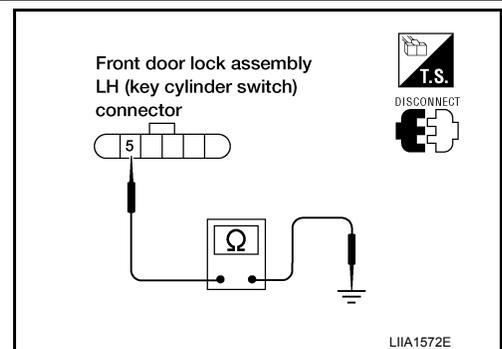
Check continuity between front door lock assembly LH (key cylinder switch) connector and ground.

Front door lock assembly LH (key cylinder switch) connector	Terminal	Ground	Continuity
D14	5	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.



## 4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to [PWC-36, "Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

NO >> Replace front door lock assembly LH (door key cylinder switch). Refer to [DLK-235, "Removal and Installation"](#) (with Intelligent Key) or [DLK-393, "Removal and Installation"](#) (without Intelligent Key).

## Component Inspection

INFOID:000000009823317

### COMPONENT INSPECTION

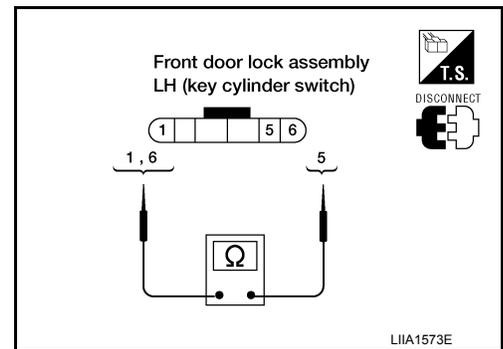
#### 1. CHECK DOOR KEY CYLINDER SWITCH

## DOOR KEY CYLINDER SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

Check front door lock assembly LH (key cylinder switch).

Terminal		Key position	Continuity
Front door lock assembly LH (key cylinder switch) connector			
6	5	Unlock	Yes
		Neutral/Lock	No
1	5	Lock	Yes
		Neutral/Unlock	No



### Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (door key cylinder switch). Refer to [DLK-235, "Removal and Installation"](#) (with Intelligent Key) or [DLK-393, "Removal and Installation"](#) (without Intelligent Key).

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# POWER WINDOW SERIAL LINK

< DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW SERIAL LINK

### POWER WINDOW MAIN SWITCH

#### POWER WINDOW MAIN SWITCH : Description

INFOID:000000009823318

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.

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

- Keyless power window down signal

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

- Front door window RH operation signal
- Power window control by key cylinder switch signal
- Power window lock switch signal
- Retained power operation signal

#### POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:000000009823319

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

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to [BCS-16. "COMMON ITEM : CONSULT Function \(BCM - COMMON ITEM\)"](#).

Monitor item	Condition
CDL LOCK SW	LOCK : ON
	UNLOCK : OFF
CDL UNLOCK SW	LOCK : OFF
	UNLOCK : ON

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to [PWC-38. "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

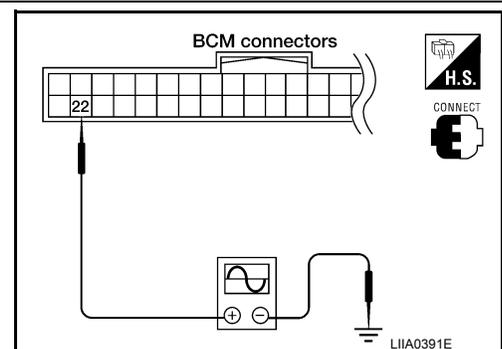
#### POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000009823320

Regarding Wiring Diagram information, refer to [PWC-66. "Wiring Diagram"](#).

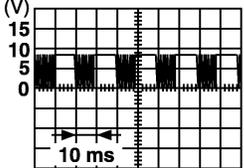
### 1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

1. Remove Intelligent Key or ignition key, and close front door LH and RH.
2. Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
3. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".



# POWER WINDOW SERIAL LINK

## < DTC/CIRCUIT DIAGNOSIS >

Terminal		Signal (Reference value)
(+)	(-)	
BCM connector	Terminal	
M18	22	 PIIA1297E

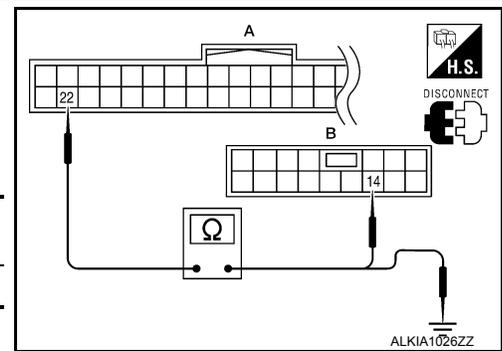
Is the inspection result normal?

- YES >> Power window serial link is OK.  
 NO >> GO TO 2

## 2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM and main power window and door lock/unlock switch.
- Check continuity between BCM connector and main power window and door lock/unlock switch connector.

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M18 (A)	22	D7 (B)	14	Yes



- Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	22		No

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94. "Removal and Installation"](#).  
 NO >> Repair or replace harness.

## FRONT POWER WINDOW SWITCH

### FRONT POWER WINDOW SWITCH : Description

INFOID:000000009823321

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.

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

- Keyless power window down signal

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

- Front door window RH operation signal
- Power window control by key cylinder switch signal
- Retained power operation signal
- Power window lock switch signal

### FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:000000009823322

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

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# POWER WINDOW SERIAL LINK

## < DTC/CIRCUIT DIAGNOSIS >

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to [BCS-16, "COMMON ITEM : CONSULT Function \(BCM - COMMON ITEM\)"](#).

Monitor item	Condition
CDL LOCK SW	LOCK : ON
	UNLOCK : OFF
CDL UNLOCK SW	LOCK : OFF
	UNLOCK : ON

### Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to [PWC-40, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure"](#).

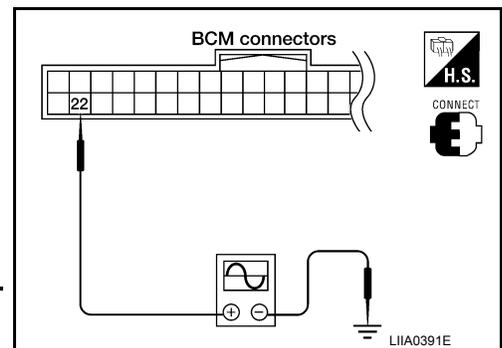
## FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000009823323

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

### 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

- Remove Intelligent Key or ignition key, and close the front door LH and RH.
- Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".



Terminal		Signal (Reference value)
(+)	(-)	
BCM connector	Terminal	
M18	22	Ground

PIIA1297E

### Is the inspection result normal?

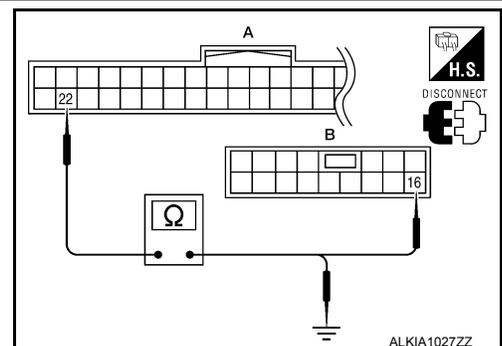
YES >> Power window serial link is OK.

NO >> GO TO 2

### 2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM.
- Check continuity between BCM connector and power window and door lock/unlock switch RH connector.

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M18 (A)	22	D105 (B)	16	Yes



# POWER WINDOW SERIAL LINK

## < DTC/CIRCUIT DIAGNOSIS >

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	22		No

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94, "Removal and Installation"](#).
- NO >> Repair or replace harness.

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# POWER WINDOW LOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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## POWER WINDOW LOCK SWITCH

### Description

INFOID:000000009823324

Ground circuit of main power window and door lock/unlock switch shuts off if power window lock switch of main power window and door lock/unlock switch is operated. This inhibits all operation, except for the main switch.

### Component Function Check

INFOID:000000009823325

#### 1. CHECK POWER WINDOW LOCK SIGNAL

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Exchanges for a normal main power window and door lock/unlock switch, and operation is checked.

#### Does power window lock operate?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-94. "Removal and Installation"](#).
- NO >> Check condition of harness and connector.

# REAR POWER VENT WINDOW SWITCH CIRCUIT CHECK

< DTC/CIRCUIT DIAGNOSIS >

## REAR POWER VENT WINDOW SWITCH CIRCUIT CHECK

### Description

INFOID:000000009823326

Rear power vent window motor LH and RH will be operated if rear power vent window switch is operated.

### Diagnosis Procedure

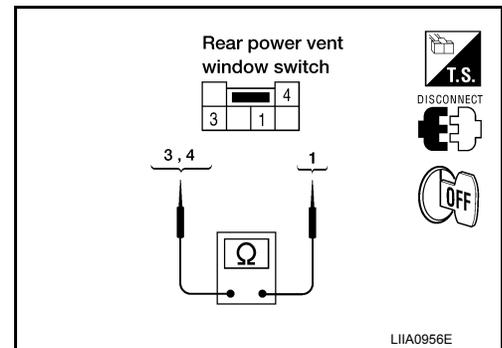
INFOID:000000009823327

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

## 1. CHECK REAR POWER VENT WINDOW SWITCH OPERATION

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

Terminals	Condition	Continuity
3      1	Rear power vent window switch is pressed OPEN.	Yes
4      1	Rear power vent window switch is pressed CLOSE.	Yes



Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Replace rear power vent window switch.

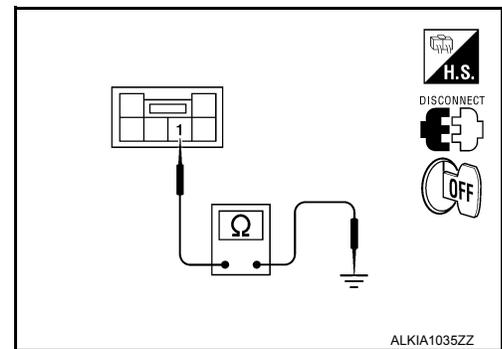
## 2. CHECK REAR POWER VENT WINDOW SWITCH CIRCUIT HARNESS CONTINUITY

Check continuity between rear power vent window switch connector M95 terminal 1 and ground.

**1 - Ground : Continuity should exist.**

Is the inspection result normal?

- YES >> Rear power vent window switch circuit harness OK.
- NO >> Repair or replace harness.



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# REAR POWER VENT WINDOW MOTOR LH CIRCUIT CHECK

< DTC/CIRCUIT DIAGNOSIS >

## REAR POWER VENT WINDOW MOTOR LH CIRCUIT CHECK

### Description

INFOID:000000009823328

Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

### Diagnosis Procedure

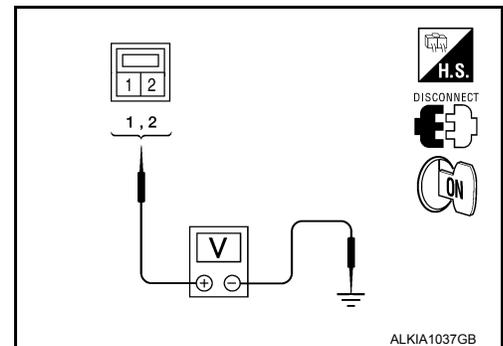
INFOID:000000009823329

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

### 1. CHECK REAR POWER VENT WINDOW LH SIGNAL

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

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



Is the inspection result normal?

- YES >> Replace rear power vent window motor LH. Refer to [GW-20, "Removal and Installation \(with Rear Power Vent Windows\)"](#).
- NO >> Repair or replace harness.

# REAR POWER VENT WINDOW MOTOR RH CIRCUIT CHECK

< DTC/CIRCUIT DIAGNOSIS >

## REAR POWER VENT WINDOW MOTOR RH CIRCUIT CHECK

### Description

INFOID:000000009823330

Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

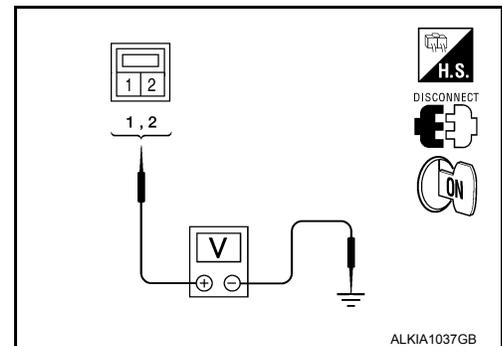
### Diagnosis Procedure

INFOID:000000009823331

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

### 1. CHECK REAR POWER VENT WINDOW SWITCH RH SIGNAL

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



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

Is the inspection result normal?

- YES >> Replace rear power vent window motor RH. Refer to [GW-20, "Removal and Installation \(with Rear Power Vent Windows\)"](#).
- NO >> Repair or replace harness.

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# REAR POWER VENT WINDOW RELAY (OPEN) CHECK

< DTC/CIRCUIT DIAGNOSIS >

## REAR POWER VENT WINDOW RELAY (OPEN) CHECK

### Description

INFOID:000000009823332

Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

### Diagnosis Procedure

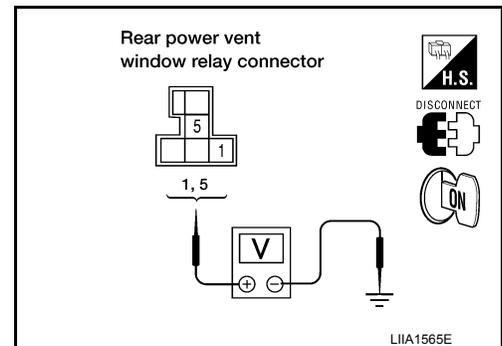
INFOID:000000009823333

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

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

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

Connector	Terminals		Voltage (V) (Approx.)
	(+)	(-)	
M87	1	Ground	Battery voltage
	5		



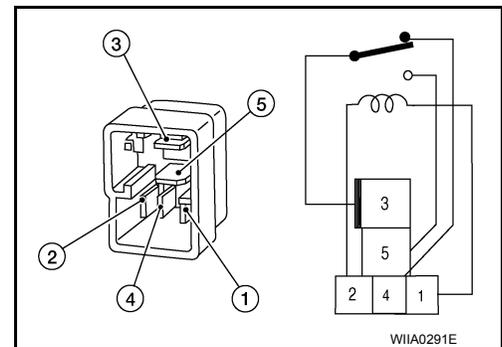
Is the inspection result normal?

- YES >> GO TO 2  
NO >> Repair or replace harness.

### 2. CHECK REAR POWER VENT WINDOW RELAY (OPEN)

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

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



Is the inspection result normal?

- YES >> GO TO 3  
NO >> Replace rear power vent window relay (OPEN).

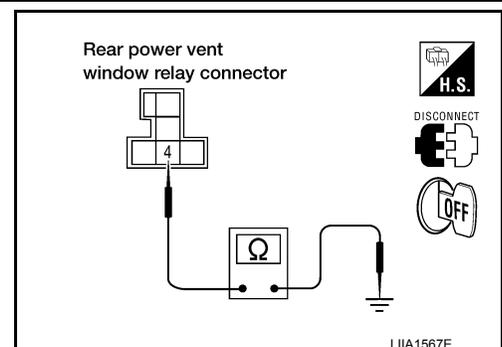
### 3. CHECK REAR POWER VENT WINDOW RELAY (OPEN) GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear power vent window relay (OPEN) connector M87 terminal 4 and ground.

**4 - Ground : Continuity should exist.**

Is the inspection result normal?

- YES >> GO TO 4  
NO >> Repair or replace harness.



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

## REAR POWER VENT WINDOW RELAY (OPEN) CHECK

### < DTC/CIRCUIT DIAGNOSIS >

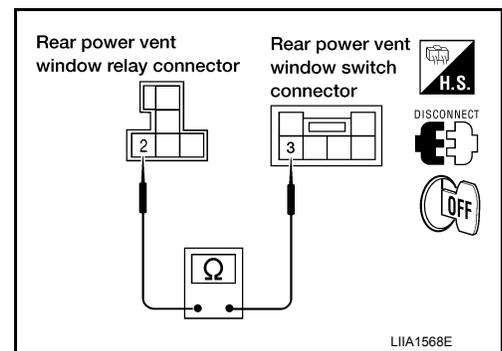
1. Disconnect rear power vent window switch.
2. Check continuity between rear power vent window relay (OPEN) connector M87 terminal 2 and rear power vent window switch connector M95 terminal 3.

2 - 3

: Continuity should exist.

Is the inspection result normal?

- YES >> Replace rear power vent window switch. Refer to [PWC-97. "Removal and Installation"](#).
- NO >> Repair or replace harness.



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# REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

< DTC/CIRCUIT DIAGNOSIS >

## REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

### Description

INFOID:000000009823334

Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

### Diagnosis Procedure

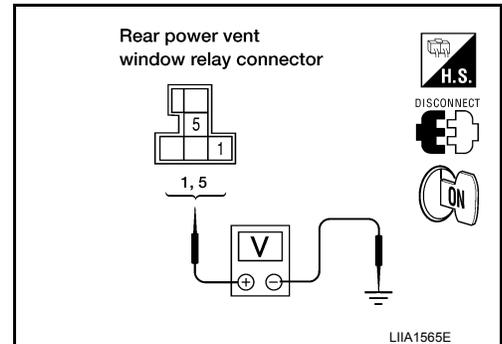
INFOID:000000009823335

Regarding Wiring Diagram information, refer to [PWC-66, "Wiring Diagram"](#).

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

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

Connector	Terminals		Voltage (V) (Approx.)
	(+)	(-)	
M89	1	Ground	Battery voltage
	5		



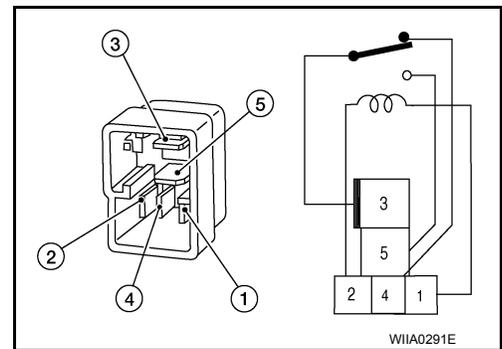
Is the inspection result normal?

- YES >> GO TO 2  
NO >> Repair or replace harness.

### 2. CHECK REAR POWER VENT WINDOW RELAY (CLOSE)

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

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



Is the inspection result normal?

- YES >> GO TO 3  
NO >> Replace rear power vent window relay (CLOSE).

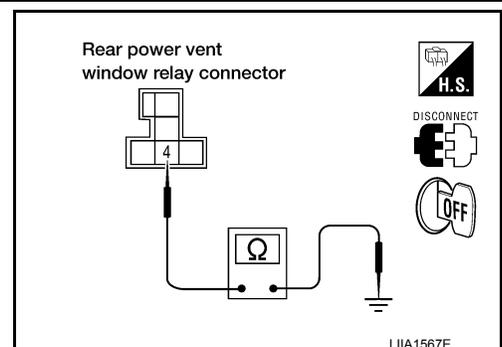
### 3. CHECK REAR POWER VENT WINDOW RELAY (CLOSE) GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear power vent window relay (CLOSE) connector M89 terminal 4 and ground.

**4 - Ground : Continuity should exist.**

Is the inspection result normal?

- YES >> GO TO 4  
NO >> Repair or replace harness.



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

## REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

### < DTC/CIRCUIT DIAGNOSIS >

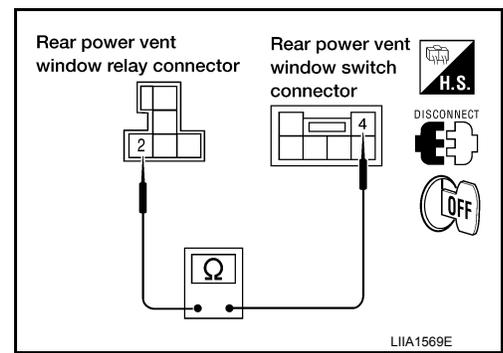
1. Disconnect rear power vent window switch.
2. Check continuity between rear power vent window relay (CLOSE) connector M89 terminal 2 and rear power vent window switch M95 terminal 4.

**2 - 4**

**: Continuity should exist.**

Is the inspection result normal?

- YES >> Replace rear power vent window switch. Refer to [PWC-97. "Removal and Installation"](#).
- NO >> Repair or replace harness.



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# POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS INFORMATION >

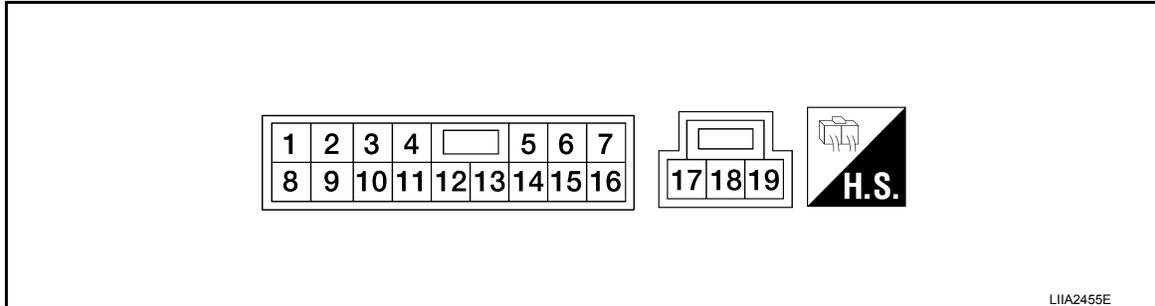
## ECU DIAGNOSIS INFORMATION

### POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000009823336

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

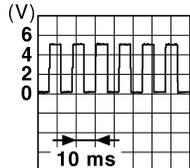
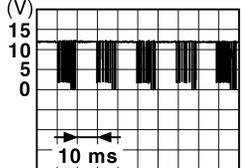
#### MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
1 (R/Y)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage
2 (W/B)	Ground	Encoder ground	—	—	0
3 (R/B)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is operated DOWN.	Battery voltage
4 (L)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral → Locked)	5 → 0
5 (L)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is operated DOWN.	Battery voltage
6 (R)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0
7 (R)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage
8 (G/R)	11	Front door power window mo- tor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage
9 (O)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	

JMKIA0070GB

# POWER WINDOW MAIN SWITCH

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
10 (W/L)	Ground	RAP signal	Input	IGN SW ON	Battery voltage
				Within 45 second after ignition switch is turned to OFF.	Battery voltage
				When front LH or RH door is opened during retained power operation.	0
11 (G/W)	8	Front door power window motor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage
13 (G/Y)	2	Encoder pulse signal 1	Input	When power window motor operates.	 <small>JMKIA0070GB</small>
14 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 <small>JPMIA0013GB</small>
15 (BR)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	10
17 (B)	Ground	Ground	—	—	0
19 (W/R)	Ground	Battery power supply	Input	—	Battery voltage

### Fail Safe

INFOID:000000009823337

### FAIL-SAFE CONTROL

Switches to fail-safe control when malfunction is detected in encoder signal that detects up/down speed and direction of door glass. Switches to fail-safe control when error beyond regulation value is detected between the fully closed position and the actual position of the glass.

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.

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## POWER WINDOW MAIN SWITCH

### < ECU DIAGNOSIS INFORMATION >

Error	Error condition
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

It changes to condition before initialization and the following functions do not operate when switched to fail-safe control.

- Auto-up operation
- Anti-pinch function
- Retained power function

Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window switch or in motor.

# FRONT POWER WINDOW SWITCH

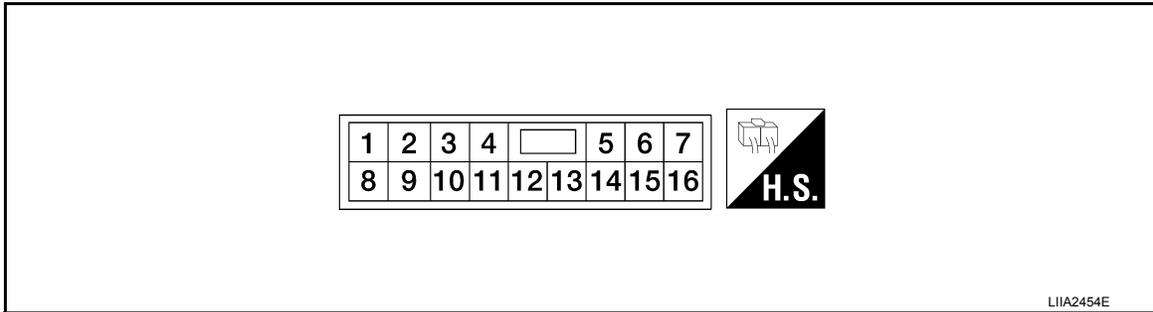
< ECU DIAGNOSIS INFORMATION >

## FRONT POWER WINDOW SWITCH

Reference Value

INFOID:000000009823338

### TERMINAL LAYOUT



### PHYSICAL VALUES

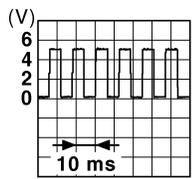
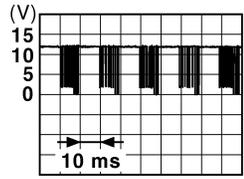
#### POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
3 (W/B)	Ground	Encoder ground	—	—	0
4 (G/R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	10
8 (L)	9	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage
9 (G)	8	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage
10 (W/R)	Ground	Battery power supply	Input	—	Battery voltage
11 (B)	Ground	Ground	—	—	0
12 (G/Y)	3	Encoder pulse signal 1	Input	When power window motor operates.	<p>The timing diagram shows a square wave signal between 0V and 6V. The period of the signal is indicated as 10ms. The signal is labeled as 'Encoder pulse signal 1'.</p>

JMKIA0070GB

# FRONT POWER WINDOW SWITCH

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
15 (G/W)	3	Encoder pulse signal 2	Input	When power window motor operates.	 <small>JMKIA0070GB</small>
16 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 <small>JPMIA0013GB</small>

## Fail Safe

INFOID:000000009823339

### FAIL-SAFE CONTROL

Switches to fail-safe control when malfunction is detected in encoder signal that detects up/down speed and direction of door glass. Switches to fail-safe control when error beyond regulation value is detected between the fully closed position and the actual position of the glass.

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

It changes to condition before initialization and the following functions do not operate when switched to fail-safe control.

- Auto-up operation
- Anti-pinch function
- Retained power function

Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window switch or in motor.

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## BCM (BODY CONTROL MODULE)

### Reference Value

INFOID:000000009823340

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength
- Test remote keyless entry keyfob relative signal strength

### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
	Cargo lamp switch ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
I-KEY LOCK <sup>1</sup>	LOCK button of Intelligent Key is not pressed	Off
	LOCK button of Intelligent Key is pressed	On
I-KEY PANIC <sup>1</sup>	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
I-KEY PW DWN <sup>1</sup>	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
I-KEY UNLOCK <sup>1</sup>	UNLOCK button of Intelligent Key is not pressed	Off	A
	UNLOCK button of Intelligent Key is pressed	On	
KEY CYL LK-SW	Door key cylinder LOCK position	Off	B
	Door key cylinder other than LOCK position	On	
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off	C
	Door key cylinder other than UNLOCK position	On	
KEY ON SW	Mechanical key is removed from key cylinder	Off	
	Mechanical key is inserted to key cylinder	On	D
KEYLESS LOCK <sup>2</sup>	LOCK button of key fob is not pressed	Off	
	LOCK button of key fob is pressed	On	E
KEYLESS PANIC <sup>2</sup>	PANIC button of key fob is not pressed	Off	
	PANIC button of key fob is pressed	On	F
KEYLESS UNLOCK <sup>2</sup>	UNLOCK button of key fob is not pressed	Off	
	UNLOCK button of key fob is pressed	On	G
LIGHT SW 1ST	Lighting switch OFF	Off	
	Lighting switch 1st	On	H
OIL PRESS SW	<ul style="list-style-type: none"> <li>• Ignition switch OFF or ACC</li> <li>• Engine running</li> </ul>	Off	
	Ignition switch ON	On	I
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V	
	Dark outside of the vehicle	Close to 0V	J
PASSING SW	Other than lighting switch PASS	Off	
	Lighting switch PASS	On	
PUSH SW <sup>1</sup>	Return to ignition switch to LOCK position	Off	
	Press ignition switch	On	
REAR DEF SW	Rear window defogger switch OFF	Off	PWC
	Rear window defogger switch ON	On	
RR WASHER SW	Rear washer switch OFF	Off	
	Rear washer switch ON	On	L
RR WIPER INT	Rear wiper switch OFF	Off	
	Rear wiper switch INT	On	M
RR WIPER ON	Rear wiper switch OFF	Off	
	Rear wiper switch ON	On	
RR WIPER STOP	Rear wiper stop position	Off	N
	Other than rear wiper stop position	On	
RR WIPER STP2	Rear wiper stop position	Off	
	Other than rear wiper stop position	On	O
TURN SIGNAL L	Turn signal switch OFF	Off	
	Turn signal switch LH	On	P
TURN SIGNAL R	Turn signal switch OFF	Off	
	Turn signal switch RH	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off	
	Low tire pressure warning lamp in combination meter ON	On	

1: With Intelligent Key

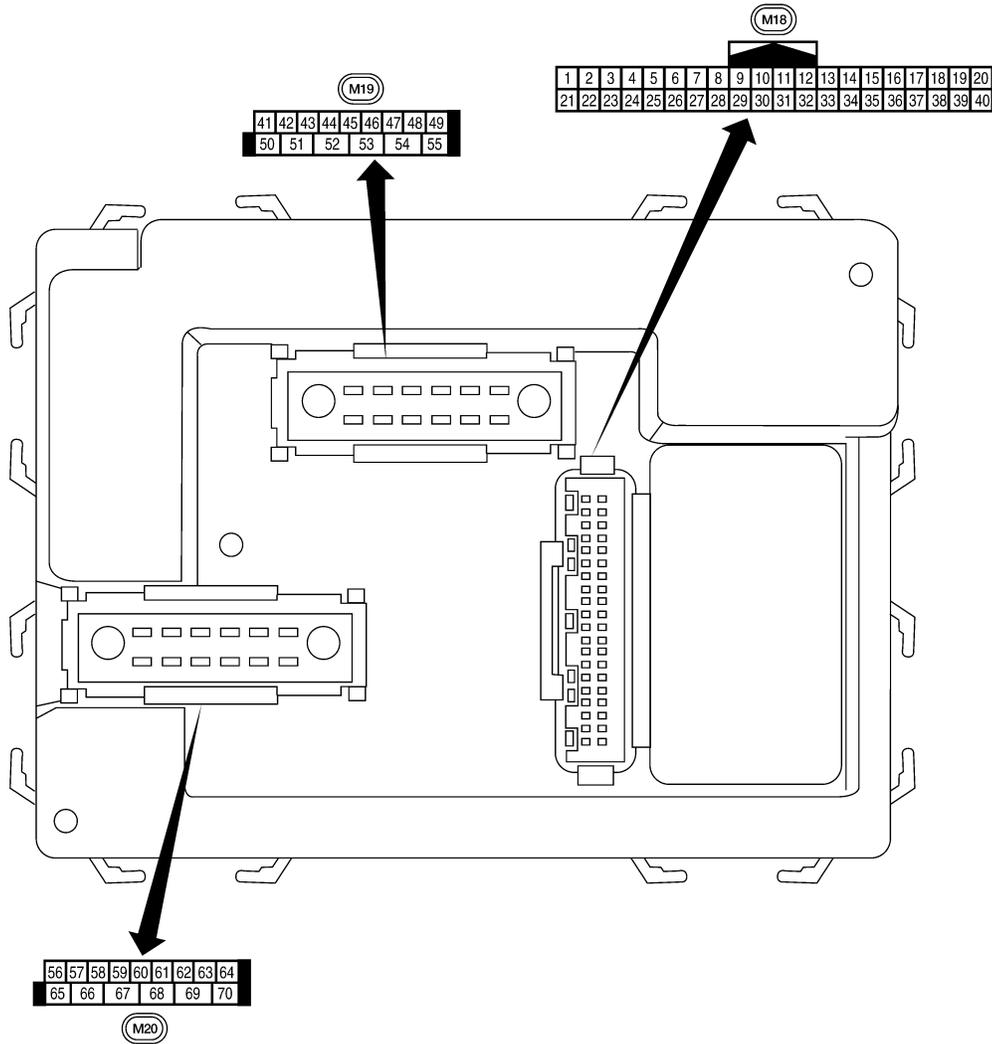
# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

2: With remote keyless entry system

## Terminal Layout

INFOID:000000009823341



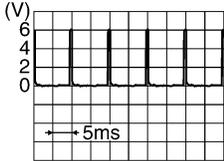
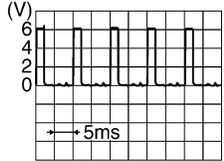
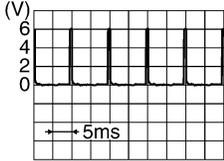
## Physical Values

LIIA2443E

INFOID:000000009823342

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR/W	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	V	Combination switch input 1				
9	R/G	Stop lamp switch	Input	OFF	Brake pedal depressed	Battery voltage
					Brake pedal released	0V
10	G	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
					OFF (other than above)	Battery voltage
11	O	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	—	5V
18	P	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

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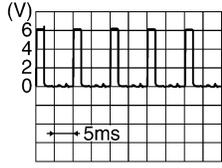
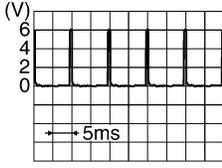
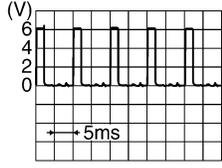
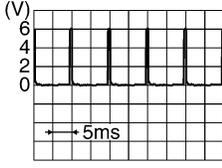
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	<p style="text-align: right; font-size: small;">LIA1893E</p>
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	<p style="text-align: right; font-size: small;">LIA1894E</p>
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	<p style="text-align: right; font-size: small;">LIA1895E</p>
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	W/V	BUS	—	—	Ignition switch ON or power window timer operates	<p style="text-align: right; font-size: small;">PIIA2344E</p>
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

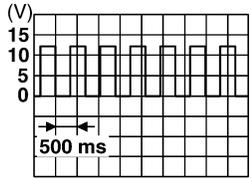
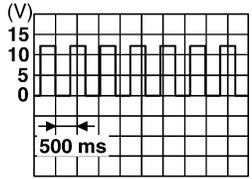
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
35	O/B	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
36	R/W	Combination switch output 1				
37 <sup>1</sup>	B/R	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
37 <sup>2</sup>	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
41	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open	0
					Glass hatch closed	Battery

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
43	R/B	Back door switch (without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
44	O	Rear wiper auto stop switch 1	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	Y/B	Trailer turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
54	Y	Rear wiper output circuit 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	0V
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Battery voltage
55	SB	Rear wiper output circuit 1	Output	ON	OFF	0
					ON	Battery voltage

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
56	R/G	Battery saver output	Output	OFF	10 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch	ON (open) 0V OFF (closed) Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH, rear door lock actuators LH/RH and back door lock actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68	W/L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	W/R	Power window power supply	Output	—	—	Battery voltage
70	W/B	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key system

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

2: With remote keyless entry system

### Fail Safe

INFOID:000000009823343

#### Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

### DTC Inspection Priority Chart

INFOID:000000009823344

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	<ul style="list-style-type: none"><li>• U1000: CAN COMM CIRCUIT</li></ul>
2	<ul style="list-style-type: none"><li>• B2190: NATS ANTENNA AMP</li><li>• B2191: DIFFERENCE OF KEY</li><li>• B2192: ID DISCORD BCM-ECM</li><li>• B2193: CHAIN OF BCM-ECM</li><li>• B2013: STRG COMM 1</li><li>• B2552: INTELLIGENT KEY</li><li>• B2590: NATS MALFUNCTION</li></ul>
3	<ul style="list-style-type: none"><li>• C1729: VHCL SPEED SIG ERR</li><li>• C1735: IGNITION SIGNAL</li></ul>
4	<ul style="list-style-type: none"><li>• C1708: [NO DATA] FL</li><li>• C1709: [NO DATA] FR</li><li>• C1710: [NO DATA] RR</li><li>• C1711: [NO DATA] RL</li><li>• C1712: [CHECKSUM ERR] FL</li><li>• C1713: [CHECKSUM ERR] FR</li><li>• C1714: [CHECKSUM ERR] RR</li><li>• C1715: [CHECKSUM ERR] RL</li><li>• C1716: [PRESSDATA ERR] FL</li><li>• C1717: [PRESSDATA ERR] FR</li><li>• C1718: [PRESSDATA ERR] RR</li><li>• C1719: [PRESSDATA ERR] RL</li><li>• C1720: [CODE ERR] FL</li><li>• C1721: [CODE ERR] FR</li><li>• C1722: [CODE ERR] RR</li><li>• C1723: [CODE ERR] RL</li><li>• C1724: [BATT VOLT LOW] FL</li><li>• C1725: [BATT VOLT LOW] FR</li><li>• C1726: [BATT VOLT LOW] RR</li><li>• C1727: [BATT VOLT LOW] RL</li></ul>

### DTC Index

INFOID:000000009823345

#### NOTE:

- Details of time display
- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	<a href="#">BCS-29</a>
B2013: STRG COMM 1	—	—	—	<a href="#">SEC-30</a>
B2190: NATS ANTENNA AMP	—	—	—	<a href="#">SEC-33</a> (with I- Key), <a href="#">SEC-140</a> (without I-Key)
B2191: DIFFERENCE OF KEY	—	—	—	<a href="#">SEC-36</a> (with I- Key), <a href="#">SEC-143</a> (without I-Key)
B2192: ID DISCORD BCM-ECM	—	—	—	<a href="#">SEC-37</a> (with I- Key), <a href="#">SEC-144</a> (without I-Key)
B2193: CHAIN OF BCM-ECM	—	—	—	<a href="#">SEC-39</a> (with I- Key), <a href="#">SEC-146</a> (without I-Key)
B2552: INTELLIGENT KEY	—	—	—	<a href="#">SEC-41</a>
B2590: NATS MALFUNCTION	—	—	—	<a href="#">SEC-42</a>
C1708: [NO DATA] FL	—	—	—	<a href="#">WT-13</a>
C1709: [NO DATA] FR	—	—	—	<a href="#">WT-15</a>
C1710: [NO DATA] RR	—	—	—	<a href="#">WT-15</a>
C1711: [NO DATA] RL	—	—	—	<a href="#">WT-15</a>
C1712: [CHECKSUM ERR] FL	—	—	—	<a href="#">WT-15</a>
C1713: [CHECKSUM ERR] FR	—	—	—	<a href="#">WT-15</a>
C1714: [CHECKSUM ERR] RR	—	—	—	<a href="#">WT-15</a>
C1715: [CHECKSUM ERR] RL	—	—	—	<a href="#">WT-15</a>
C1716: [PRESSDATA ERR] FL	—	—	—	<a href="#">WT-17</a>
C1717: [PRESSDATA ERR] FR	—	—	—	<a href="#">WT-15</a>
C1718: [PRESSDATA ERR] RR	—	—	—	<a href="#">WT-15</a>
C1719: [PRESSDATA ERR] RL	—	—	—	<a href="#">WT-15</a>
C1720: [CODE ERR] FL	—	—	—	<a href="#">WT-15</a>
C1721: [CODE ERR] FR	—	—	—	<a href="#">WT-15</a>
C1722: [CODE ERR] RR	—	—	—	<a href="#">WT-15</a>
C1723: [CODE ERR] RL	—	—	—	<a href="#">WT-15</a>
C1724: [BATT VOLT LOW] FL	—	—	—	<a href="#">WT-15</a>
C1725: [BATT VOLT LOW] FR	—	—	—	<a href="#">WT-15</a>
C1726: [BATT VOLT LOW] RR	—	—	—	<a href="#">WT-15</a>
C1727: [BATT VOLT LOW] RL	—	—	—	<a href="#">WT-15</a>
C1729: VHCL SPEED SIG ERR	—	—	—	<a href="#">WT-19</a>
C1735: IGN_CIRCUIT_OPEN	—	—	—	<a href="#">WT-20</a>

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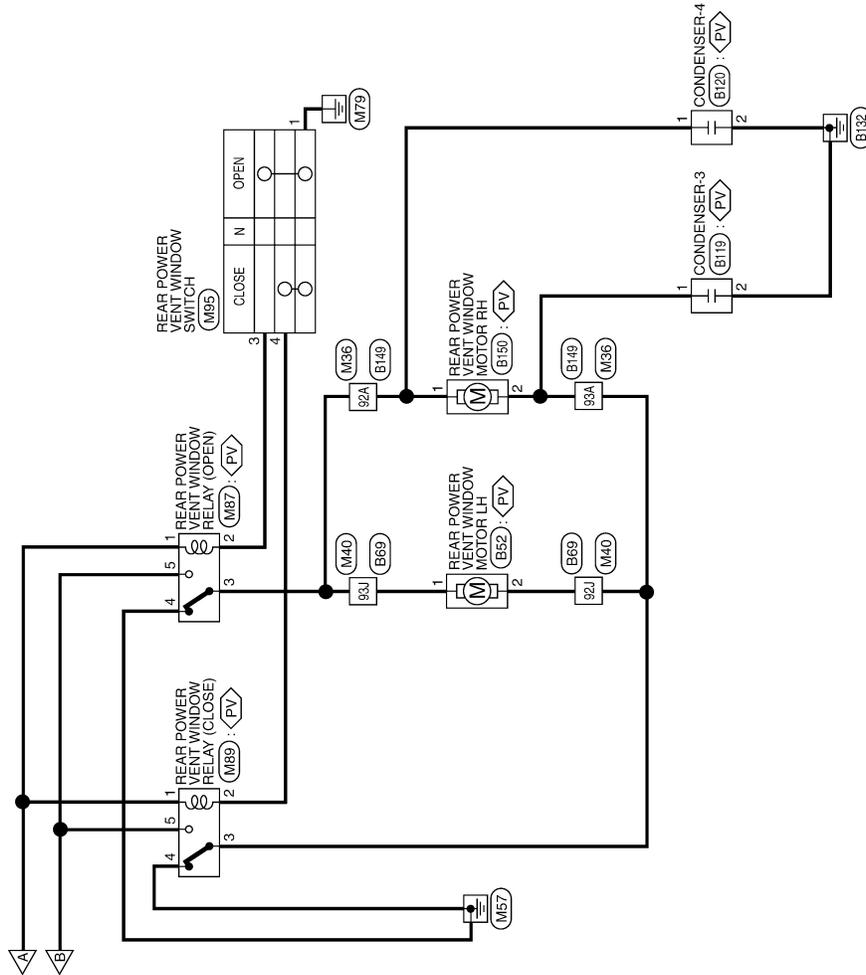
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# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

PV WITH REAR POWER VENT WINDOWS



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ABKWA1865GB

# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

## POWER WINDOW SYSTEM CONNECTORS

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



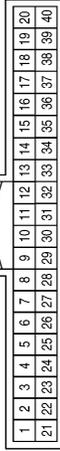
Terminal No.	Color of Wire	Signal Name
5P	O/L	-

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



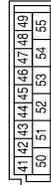
Terminal No.	Color of Wire	Signal Name
1	R/B	-
2	R/Y	-
3	L	-
4	R	-
5	W/R	-
8	W/V	-
9	W/L	-
14	B	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	O	ACC SW
12	R/L	DOOR SW (AS)
22	W/V	ANTI-PINCH SERIAL LINK (RX, TX)
38	W/L	IGN SW

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
47	SB	DOOR SW (DR)

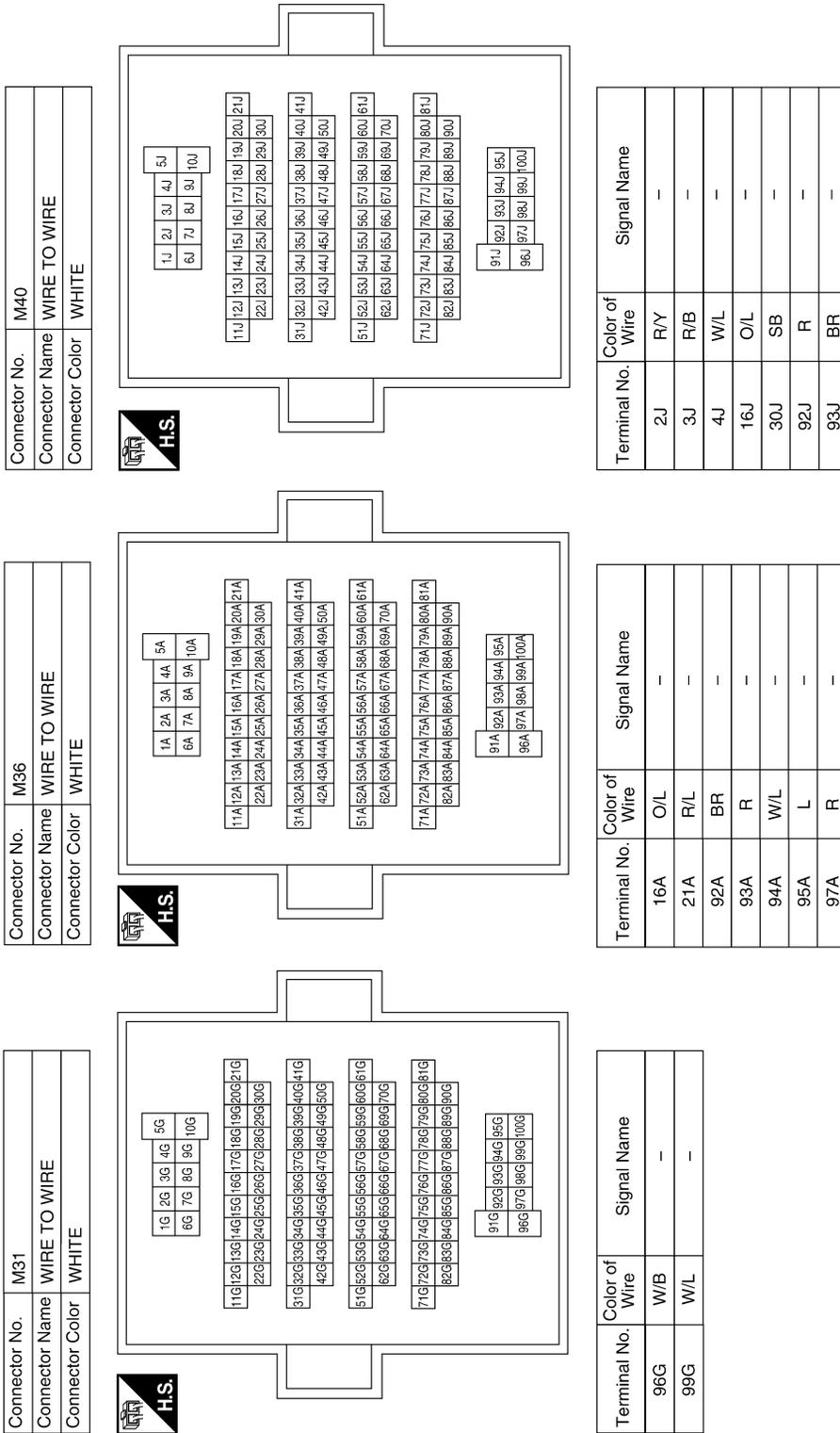
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
68	W/L	POWER WINDOW POWER SUPPLY (LINKED TO RAP)
69	W/R	POWER WINDOW POWER SUPPLY (BAT)
70	W/B	BAT (F/L)

# POWER WINDOW SYSTEM

< WIRING DIAGRAM >



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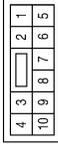
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ABKIA3928GB

# POWER WINDOW SYSTEM

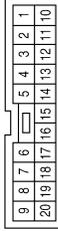
## < WIRING DIAGRAM >

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



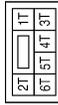
Terminal No.	Color of Wire	Signal Name
1	W/R	-
3	B	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
5	W/V	-

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6T	O	-

Connector No.	M95
Connector Name	REAR POWER VENT WINDOW SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
3	R/G	-
4	G/R	-

Connector No.	M89
Connector Name	REAR POWER VENT WINDOW RELAY (CLOSE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	W/L	-
2	G/R	-
3	R	-
4	B	-
5	W/R	-

Connector No.	M87
Connector Name	REAR POWER VENT WINDOW RELAY (OPEN)
Connector Color	BLACK



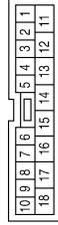
Terminal No.	Color of Wire	Signal Name
1	W/L	-
2	R/G	-
3	BR	-
4	B	-
5	W/R	-

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# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

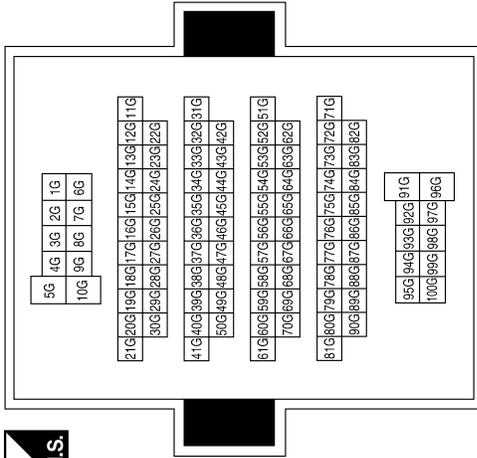
Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	R/B	-
18	R/Y	-

Terminal No.	Color of Wire	Signal Name
96G	W/B	-
99G	L/W	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

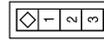


Connector No.	B52
Connector Name	REAR POWER VENT WINDOW MOTOR LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
2	G	-

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	SB	-

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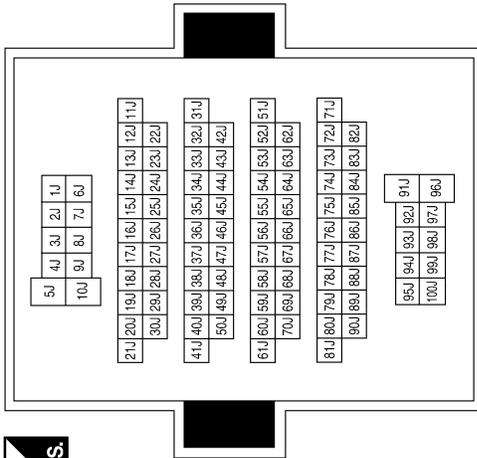
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# POWER WINDOW SYSTEM

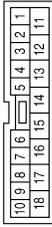
< WIRING DIAGRAM >

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2J	R/Y	-
3J	R/B	-
4J	W/L	-
16J	O/L	-
30J	SB	-
92J	G	-
93J	Y	-

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	L	-
18	R	-

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	R/L	-

Connector No.	B119
Connector Name	CONDENSER-3
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-

Connector No.	B120
Connector Name	CONDENSER-4
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-

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# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

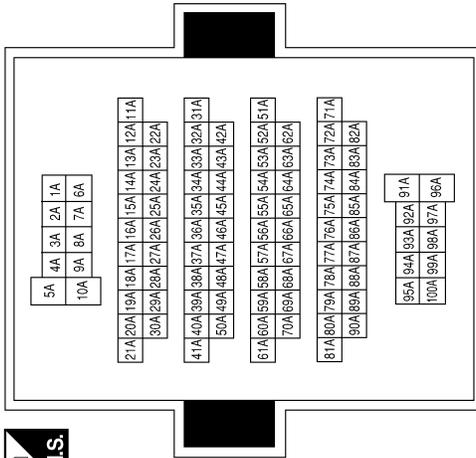
Connector No.	B150
Connector Name	REAR POWER VENT WINDOW MOTOR RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	-
2	BR	-

Terminal No.	Color of Wire	Signal Name
16A	O/L	-
21A	R/L	-
92A	R	-
93A	BR	-
94A	W/L	-
95A	L	-
97A	R	-

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



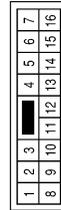
Terminal No.	Color of Wire	Signal Name
6	R	KEY CYLINDER UNLOCK
7	R	UP (RR)
8	G/R	UP (DR)
9	O	LIMIT SW
10	W/L	IGN
11	G/W	DN (DR)
12	-	-
13	G/Y	ENCODER PULSE
14	LG/W	COMMUNICATION
15	BR	ENCODER POWER SUPPLY
16	-	-

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/Y	UP (RL)
2	W/B	ENCODER GND
3	R/B	DOWN (RL)
4	L	KEY CYLINDER LOCK
5	L	DOWN (RR)

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/B	-
2	R/Y	-
3	L	-
4	R	-
5	W/R	-
8	LG/W	-
9	W/L	-
14	B	-

ABKIA3932GB

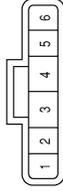
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# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

Connector No.	D14
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	BLACK



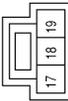
Terminal No.	Color of Wire	Signal Name
1	L	-
5	B	-
6	R	-

Connector No.	D9
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	GW	-
2	G/R	-
3	G/Y	-
4	BR	-
5	O	-
6	W/B	-

Connector No.	D8
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE



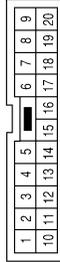
Terminal No.	Color of Wire	Signal Name
17	B	GND
18	-	-
19	W/R	BAT

Connector No.	D104
Connector Name	FRONT POWER WINDOW MOTOR RH
Connector Color	GRAY



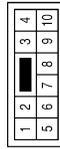
Terminal No.	Color of Wire	Signal Name
1	G	-
2	L	-
3	G/Y	-
4	G/R	-
5	GW	-
6	W/B	-

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
5	LG/W	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



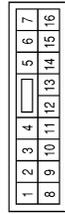
Terminal No.	Color of Wire	Signal Name
1	W/R	-
3	B	-

ABKIA3933GB

# POWER WINDOW SYSTEM

< WIRING DIAGRAM >

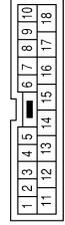
Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	-	-
2	-	-
3	W/B	ENCODER GND
4	G/R	ENCODER POWER SUPPLY

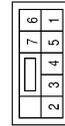
Terminal No.	Color of Wire	Signal Name
5	-	-
6	-	-
7	-	-
8	L	UP
9	G	DOWN
10	W/R	BAT
11	B	GND
12	G/Y	ENCODER PULSE
13	-	-
14	-	-
15	G/W	LIMIT SW
16	LG/W	COMMUNICATION

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	R/B	-
18	R/Y	-

Connector No.	D203
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Color	WHITE



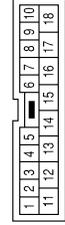
Terminal No.	Color of Wire	Signal Name
1	W/L	-
2	R/Y	-
3	R/B	-
4	G	-
5	L	-
6	O/L	-
7	B	-

Connector No.	D204
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	G	-
2	L	-

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	L	-
18	R	-

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# POWER WINDOW SYSTEM

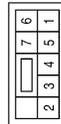
< WIRING DIAGRAM >

Connector No.	D304
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	Y/B	-
2	BR	-

Connector No.	D303
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W/L	-
2	R	-
3	L	-
4	Y/B	-
5	BR	-
6	O/L	-
7	B	-

ABKIA3935GB

# NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

### Diagnosis Procedure

INFOID:000000009823347

#### 1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to [BCS-30, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window switch main power supply and ground circuit.

Refer to [PWC-11, "POWER WINDOW MAIN SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

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

Check main power window and door lock/unlock switch serial circuit.

Refer to [PWC-11, "POWER WINDOW MAIN SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace the malfunctioning parts.

#### 4. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.

Refer to [PWC-11, "POWER WINDOW MAIN SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

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## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

---

### DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

#### Diagnosis Procedure

INFOID:000000009823348

#### 1. CHECK FRONT POWER WINDOW MOTOR LH

---

Check front power window motor LH.

Refer to [PWC-20, "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

# FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

### Diagnosis Procedure

INFOID:000000009823349

#### 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Check power window and door lock/unlock switch RH.

Refer to [PWC-15, "FRONT POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH SERIAL LINK CIRCUIT

Check power window and door lock/unlock switch RH serial link circuit.

Refer to [PWC-39, "FRONT POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace the malfunctioning parts.

#### 3. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit.

Refer to [PWC-21, "PASSENGER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

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PWC

# REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

---

## REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

### Diagnosis Procedure

INFOID:000000009823350

#### 1. CHECK REAR POWER WINDOW SWITCH LH

---

Check rear power window switch LH.

Refer to [PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK REAR POWER WINDOW MOTOR LH

---

Check rear power window motor LH.

Refer to [PWC-23, "REAR LH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

# REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

### Diagnosis Procedure

INFOID:000000009823351

#### 1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-17, "REAR POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to [PWC-24, "REAR RH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

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# ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)

< SYMPTOM DIAGNOSIS >

## ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)

---

### Diagnosis Procedure

INFOID:000000009823352

#### 1. CHECK DOOR WINDOW SLIDING PART

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- A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK ENCODER CIRCUIT

---

Check encoder circuit.

Refer to [PWC-27. "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

# ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

## ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)

### Diagnosis Procedure

INFOID:000000009823353

#### 1. CHECK DOOR WINDOW SLIDING PART

- A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to [PWC-29. "PASSENGER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

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# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)

< SYMPTOM DIAGNOSIS >

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## AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)

### Diagnosis Procedure

INFOID:000000009823354

#### 1. RESET LIMIT SWITCH

---

Refer to [GW-13, "Removal and Installation"](#).

Does automatic function operate normally?

- YES >> Inspection End.
- NO >> GO TO 2.

#### 2. CHECK ENCODER

---

Check encoder.

Refer to [PWC-27, "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

## AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (PASSENGER SIDE)

### Diagnosis Procedure

INFOID:000000009823355

#### 1. RESET LIMIT SWITCH

Refer to [GW-13, "Removal and Installation"](#).

Does automatic function operate normally?

YES >> Inspection End.

NO >> GO TO 2.

#### 2. CHECK ENCODER

Check encoder.

Refer to [PWC-29, "PASSENGER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42, "Intermittent Incident"](#).

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# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

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## POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

### Diagnosis Procedure

INFOID:000000009823356

#### 1. CHECK FRONT DOOR SWITCH

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Check front door switch.

Refer to [PWC-33. "Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

# DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

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## DOES NOT OPERATE BY KEY CYLINDER SWITCH

### Diagnosis Procedure

INFOID:000000009823357

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

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Check front door lock assembly LH (key cylinder switch).

Refer to [PWC-35. "Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

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# KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

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## KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

### Diagnosis Procedure

INFOID:000000009823358

#### 1. CHECK INTELLIGENT KEY OR KEYFOB FUNCTION

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Check Intelligent Key or keyfob function.

Refer to [BCS-23. "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#) with Intelligent Key or [BCS-19. "MULTI REMOTE ENT : CONSULT Function \(BCM - MULTI REMOTE ENT\)"](#) with remote keyless entry system.

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).
- NO >> Replace BCM. Refer to [BCS-54. "Removal and Installation"](#).

# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

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## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

### Diagnosis Procedure

INFOID:000000009823359

#### 1. REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

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Replace main power window and door lock/unlock switch.

Refer to [PWC-94. "Removal and Installation"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

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# REAR POWER VENT WINDOWS DO NOT OPERATE

< SYMPTOM DIAGNOSIS >

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## REAR POWER VENT WINDOWS DO NOT OPERATE

### Diagnosis Procedure

INFOID:000000009823360

#### 1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

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Check BCM power supply and ground circuit.  
Refer to [BCS-30. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2  
NO >> Repair or replace the malfunctioning parts.

#### 2. CHECK REAR POWER VENT WINDOW SWITCH

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Check rear power vent window switch.  
Refer to [PWC-43. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3  
NO >> Repair or replace the malfunctioning parts.

#### 3. CHECK REAR POWER VENT WINDOW MOTOR CIRCUIT

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Check rear power vent window motor circuit.  
Refer to [PWC-44. "Diagnosis Procedure"](#) and [PWC-45. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 4  
NO >> Repair or replace the malfunctioning parts.

#### 4. CHECK REAR POWER VENT WINDOW RELAY

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Check rear power vent window relay.  
Refer to [PWC-46. "Diagnosis Procedure"](#) and [PWC-48. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Inspection End.  
NO >> Check intermittent incident. Refer to [GI-42. "Intermittent Incident"](#).

# PRECAUTIONS

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## PRECAUTION

### PRECAUTIONS

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

INFOID:000000009823361

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

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#### **NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

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## PRECAUTIONS

### < PRECAUTION >

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5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

### Precaution for Work

INFOID:000000009823363

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
  - Water soluble dirt:
    - Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
    - Then rub with a soft, dry cloth.
  - Oily dirt:
    - Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
    - Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
    - Then rub with a soft, dry cloth.
  - Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
  - For genuine leather seats, use a genuine leather seat cleaner.

# PREPARATION

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## PREPARATION

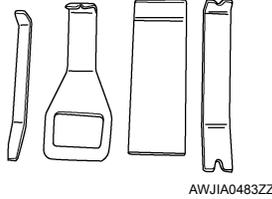
### PREPARATION

#### Special Service Tool

INFOID:000000009823364

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

Tool number (Kent-Moore No.) Tool name	Description
— (J-46534) Trim tool set	Removing trim components



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# POWER WINDOW MAIN SWITCH

< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

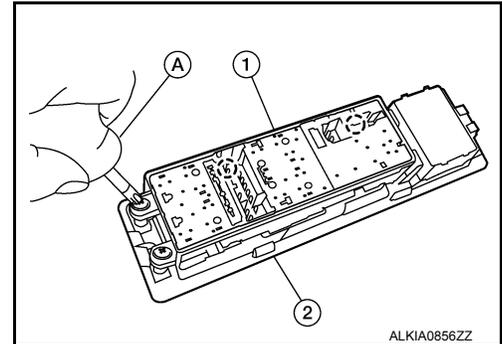
### POWER WINDOW MAIN SWITCH

#### Removal and Installation

INFOID:000000009823365

#### REMOVAL

1. Remove the power window main switch finisher and power window main switch (2) from the front door finisher (LH) using a suitable tool.
  - Disconnect the power window switch harness connector.
2. Remove the power window main switch (1) screws using a suitable tool (A).
3. Separate the power window main switch from the finisher (2).



#### INSTALLATION

Installation is in the reverse order of removal.

# FRONT POWER WINDOW SWITCH

< REMOVAL AND INSTALLATION >

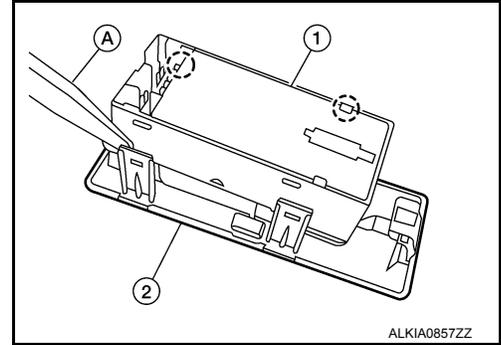
## FRONT POWER WINDOW SWITCH

### Removal and Installation

INFOID:00000009823366

#### REMOVAL

1. Remove the front power window switch finisher and front power window switch (2) from the front door finisher (RH) using a suitable tool.
  - Disconnect the front power window switch harness connector.
2. Release the tabs using a suitable tool (A).  
○: Pawl
3. Separate the front power window switch (1) from the finisher.



#### INSTALLATION

Installation is in the reverse order of removal.

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## REAR POWER WINDOW SWITCH

< REMOVAL AND INSTALLATION >

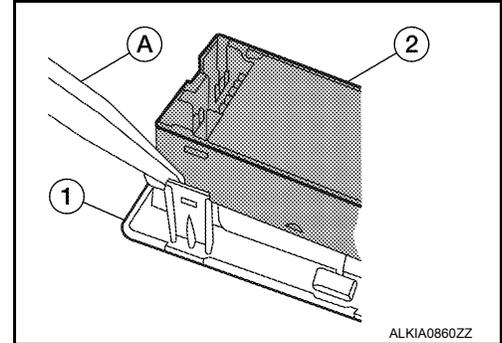
### REAR POWER WINDOW SWITCH

#### Removal and Installation

INFOID:000000009823367

#### REMOVAL

1. Remove the rear power window switch finisher and rear power window switch (1) from the rear door finisher using a suitable tool.
  - Disconnect the rear power window switch harness connector.
2. Release the tabs using a suitable tool (A).
3. Remove the rear power window switch (2).



#### INSTALLATION

Installation is in the reverse order of removal.

# REAR POWER VENT WINDOW SWITCH

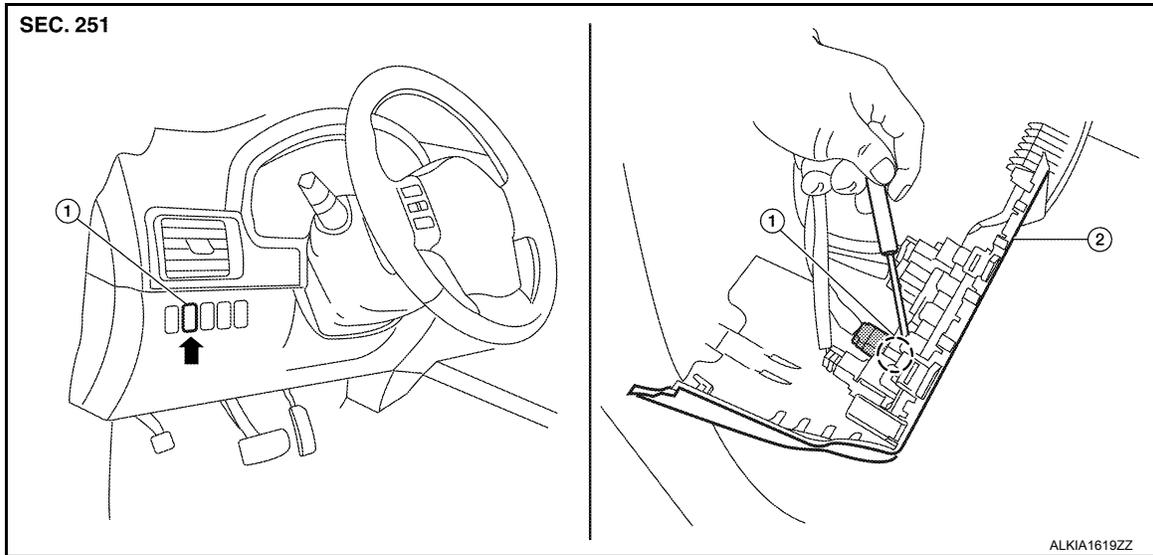
< REMOVAL AND INSTALLATION >

## REAR POWER VENT WINDOW SWITCH

### Removal and Installation

INFOID:00000009823368

#### REMOVAL



1. Rear power vent window switch    2. Instrument lower panel LH     Tab

1. Remove the instrument lower panel LH. Refer to [IP-11, "Exploded View"](#).
2. Release the upper and lower tabs using a suitable tool.
3. Remove the rear power vent window switch.

#### INSTALLATION

Installation is in the reverse order of removal.

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