

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:000000001696360

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-55, "Intermittent Incident"](#).

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000001696361

Initial setting is necessary when battery terminal is disconnected.

CAUTION:

The following specified operations are not performed under the non-initialized condition.

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

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:0000000001696362

INITIALIZATION PROCEDURE

1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.
2. Turn ignition switch ON.
3. Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)
4. Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 4 seconds or more.
5. Inspect anti-pinch function.

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
 2. Place a piece of wood near fully closed position.
 3. Close door glass completely with AUTO-UP.
- Check that glass lowers for approximately 150 mm (5.9 in.) or 2 seconds without pinching piece of wood and stops.
 - Check that glass does not rise when operating the power window main switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to XX-XX, "*****".
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.

1. Auto-up operation
2. Anti-pinch function
3. Retained power operation when ignition switch is OFF.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000001696363

Initial setting is necessary when replacing main power window and door lock/unlock switch.

CAUTION:

The following specified operations are not performed under the non-initialized condition.

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000001696364

INITIALIZATION PROCEDURE

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

1. Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.
2. Turn ignition switch ON.
3. Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)
4. Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 4 seconds or more.
5. Inspect anti-pinch function.

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.
 - Check that glass lowers for approximately 150 mm (5.9 in.) or 2 seconds without pinching piece of wood and stops.
 - Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
 - Check that AUTO-UP operates before inspection when system initialization is performed.
 - It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to XX-XX, "*****".
 - Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
 - Finish initial setting. Otherwise, next operation cannot be done.
1. Auto-up operation
 2. Anti-pinch function
 3. Retained power operation when ignition switch is OFF.

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POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

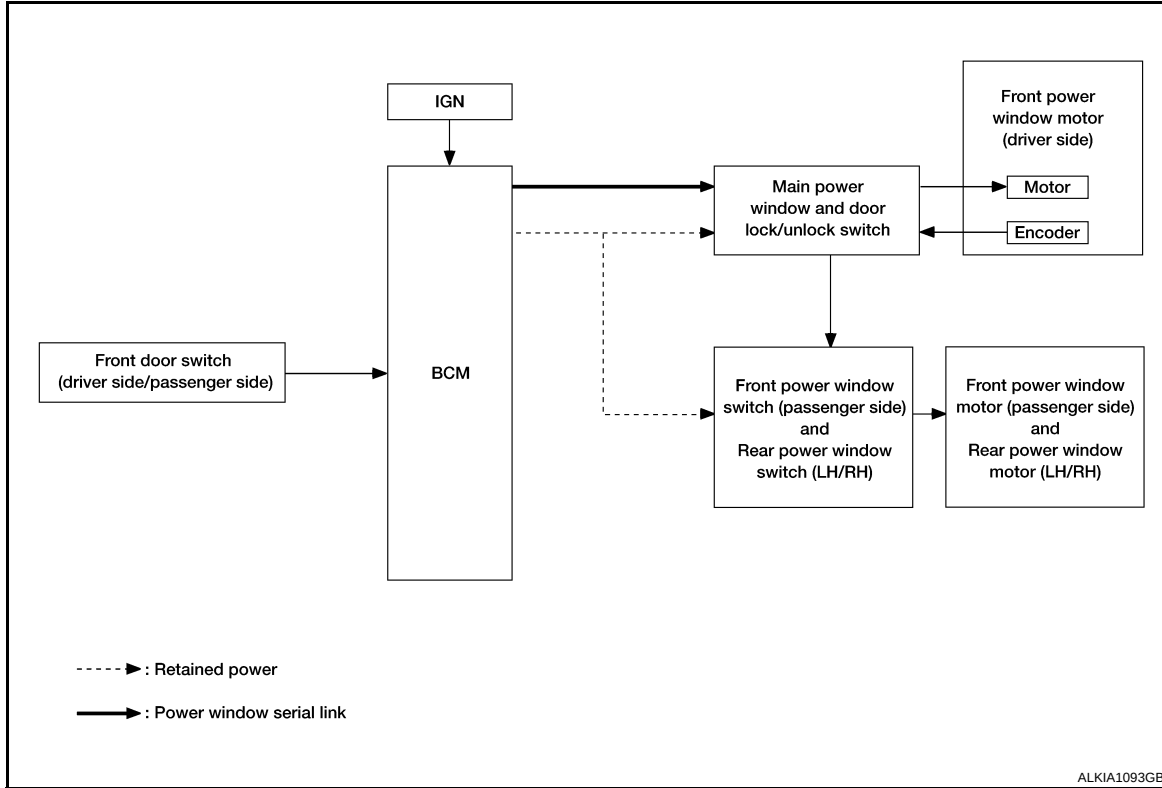
FUNCTION DIAGNOSIS

POWER WINDOW SYSTEM

System Diagram

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POWER WINDOW SYSTEM



System Description

INFOID:000000001696299

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

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator
Encoder	Encoder pulse signal	Power window control	Front power window motor
Main power window and door lock/unlock switch	Front power window motor (driver side) UP/DOWN signal		
Power window and door lock/unlock switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal		
BCM	RAP signal		Rear power window motor
Rear power window switch	Rear power window motor UP/DOWN signal		

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) & REAR POWER WINDOW SWITCH (LH & RH) INPUT/OUTPUT SIGNAL CHART

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

Item	Input signal to front power window switch (passenger side) & rear power window switch (LH & RH)	Front power window switch (passenger side) & rear power window switch (LH & RH) function	Actuator
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal	Power window control	Front power window motor (passenger side)
Rear power window switch (LH & RH)	Rear power window motor (LH & RH) UP/DOWN signal		Rear power window motor (LH & RH)

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.
- Front & rear power window switches can open/close the corresponding windows.

POWER WINDOW AUTO-OPERATION (FRONT DRIVER SIDE)

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch turns to AUTO.
- Encoder continues detecting the movement of power window motor and transmits to main power window and door lock/unlock switch as the encoder pulse signal while power window motor is operating.
- Main power window and door lock/unlock 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 DRIVER SIDE)

- 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 (5.9 in.) or 2 seconds when detected.
- Encoder continues detecting the movement of power window motor and transmits to main power window and door lock/unlock 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 (5.9 in.) or 2 seconds after it detects encoder pulse signal frequency change.

OPERATION CONDITION

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

NOTE:

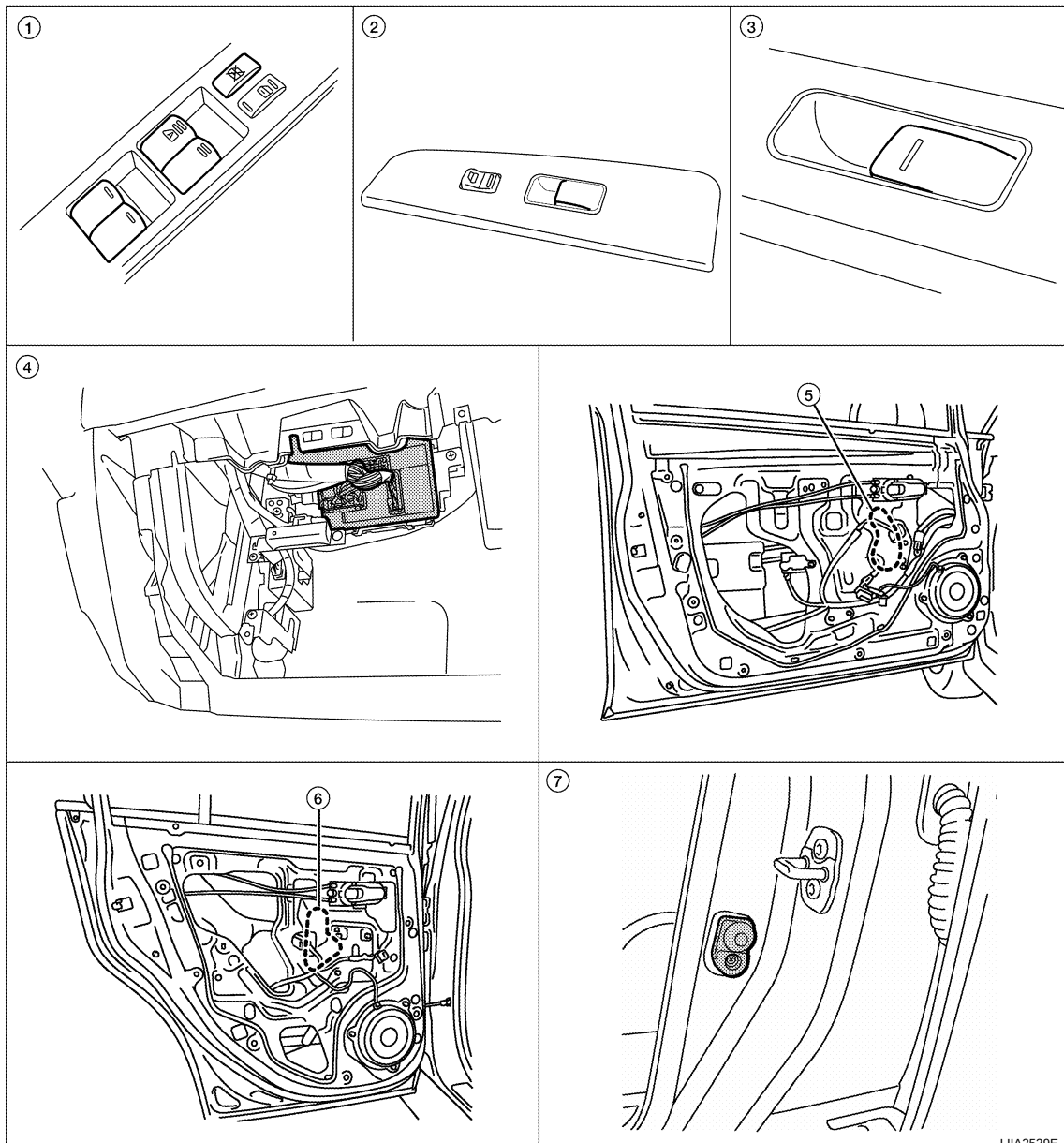
Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

Component Parts Location

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1. Main power window and door lock/unlock switch D7, D8
2. Power window and door lock/unlock switch (passenger side) D105
3. Rear power window switch LH D203, RH D303
4. BCM M18, M19, M20 (view with glove box removed)
5. Front power window motor (driver side) D9, (passenger side) D104
6. Rear power window motor LH D204, RH D304
7. Front door switch (driver side) B34, (passenger side) B27

Component Description

INFOID:000000001696301

POWER WINDOW SYSTEM

Component	Function
BCM	- Supplies power supply to power window switch. - Controls retained power.
Main power window and door lock/unlock switch	- Directly controls all power window motor of all doors. - Controls anti-pinch operation of front power window (driver side).

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

Component	Function
Power window and door lock/unlock switch (passenger side)	Controls front power window motor (passenger side).
Rear power window switch	Controls rear power window motors LH and RH.
Front power window motor (driver side)	- Integrates the ENCODER POWER and WINDOW MOTOR. - Starts operating with signals from main power window and door lock/unlock switch. - Transmits power window motor rotation as a pulse signal to main power window and door lock/unlock switch.
Front power window motor (passenger side)	Starts operating with signals from main power window and door lock/unlock switch & power window and door lock/unlock switch (passenger side).
Rear power window motor	Starts operating with signals from main power window and door lock/unlock switch & rear power window switch.
Front door switch (driver or passenger side)	Detects door open/close condition and transmits to BCM.

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DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:0000000001696302

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-54, "DTC Index" .
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	This function is not used even though it is displayed.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
RAP system	RETAINED PWR		×	

RETAINED PWR

RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)

INFOID:0000000001696303

Data monitor

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:000000001696304

- 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:000000001696305

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

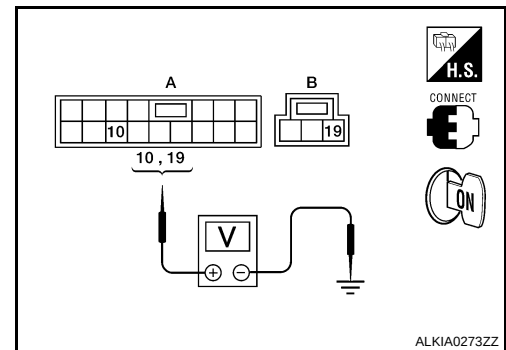
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Main Power Window And Door Lock/unlock Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

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

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?

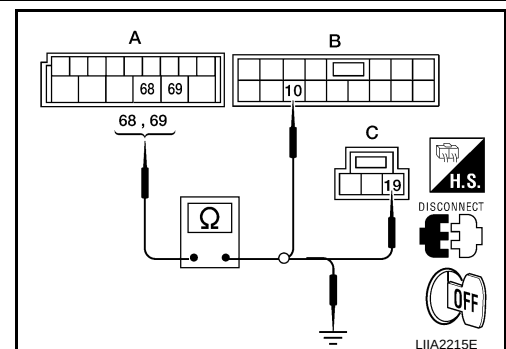
YES >> GO TO 3

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 (A) and main power window and door lock/unlock switch connectors (B and C).

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	



4. Check continuity between BCM connector and ground.

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

BCM connector	Terminal	Ground	Continuity
M20 (A)	68		No
	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		Yes

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to [INT-13, "Removal and Installation"](#).

After that, refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

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		
M20	68	Ground	Battery voltage
	69		

Is the measurement value within the specification?

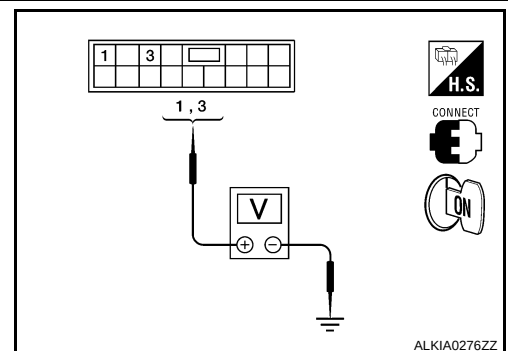
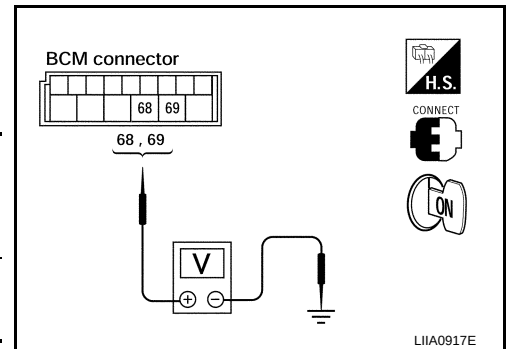
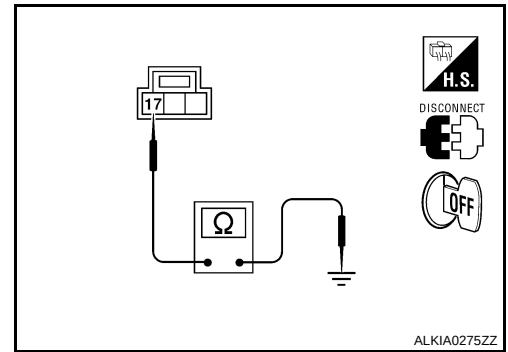
YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5

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-57, "Removal and Installation of BCM"](#).

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

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



POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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

Is the measurement value within the specification?

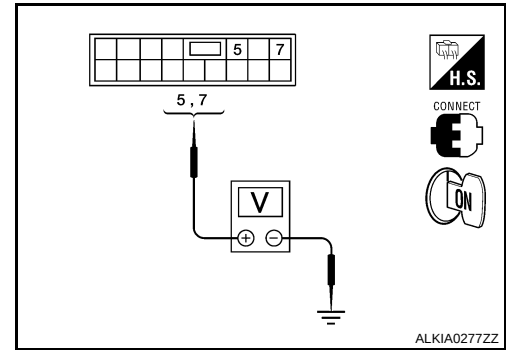
YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to [INT-13, "Removal and Installation"](#). After that, refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

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

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

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



Is the measurement value within the specification?

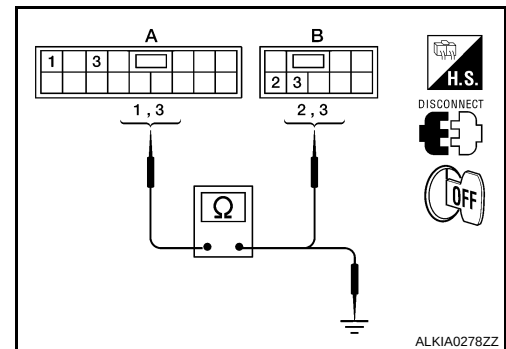
YES >> GO TO 8

NO >> Replace main power window and door lock/unlock switch. Refer to [INT-13, "Removal and Installation"](#). After that, refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

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

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 (A) and rear power window switch LH connector (B).

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 (A) and ground.

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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

Is the inspection result normal?

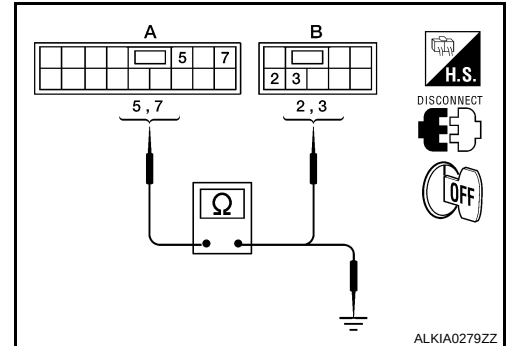
YES >> GO TO 9

NO >> Repair or replace harness.

8. 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 (A) and rear power window switch RH connector (B).

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		No
	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-55. "Intermittent Incident"](#).

NO >> Replace main power window and door lock/unlock switch. Refer to [INT-13. "Removal and Installation"](#). After that, refer to [PWC-16. "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:000000001696307

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

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Terminal		Main power window and door lock/unlock switch condition	Continuity
10	1	Rear LH	UP
10	7	Rear RH	
10	16 (8)	Front (passenger side)	
1	3	Rear LH	NEUTRAL
5	7	Rear RH	
16 (8)	12 (11)	Front (passenger side)	
10	3	Rear LH	DOWN
10	5	Rear RH	
10	12 (11)	Front (passenger side)	

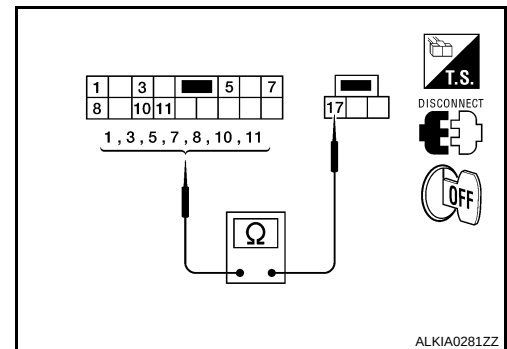
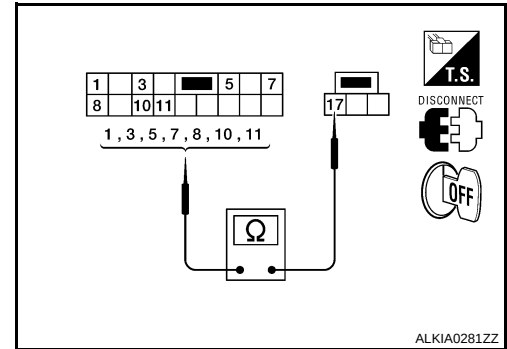
(): RHD

- 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	17	Rear LH	UP
5		Rear RH	
12 (11)		Front (passenger side)	
1		Rear LH	NEUTRAL
3		Rear LH	
5		Rear RH	
7		Rear RH	DOWN
16 (8)		Front (passenger side)	
12 (11)		Front (passenger side)	

(): RHD

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



POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Terminal		Main power window and door lock/unlock switch condition		Continuity
3	17	Rear LH	UP	Yes
5		Rear RH		
12 (11)		Front (passenger side)		
1		Rear LH	NEUTRAL	
3				
5		Rear RH		
7				
16 (8)		Front (passenger side)		
11				
1		Rear LH	DOWN	
7		Rear RH		
8		Front (passenger side)		

(): RHD

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 [INT-13, "Removal and Installation"](#). After that, refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000001696308

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#)

Is the inspection result normal?

YES >> GO TO 2

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#)

Is the inspection result normal?

YES >> Inspection end.

NO >> Refer to [PWC-14, "POWER WINDOW MAIN SWITCH : Component Inspection"](#)

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:000000001696309

- BCM supplies power.
- Front power window motor (passenger side) will be operated if power window and door lock/unlock switch (passenger side) is operated.

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:000000001696310

Power Window And Door Lock/unlock Switch (Passenger Side)

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Does front power window motor (passenger side) operate with power window and door lock/unlock switch (passenger side) operation?

Is the inspection result normal?

YES >> Power window and door lock/unlock switch (passenger side) power supply and ground circuit are OK.

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

FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000001696311

Power Window And Door Lock/Unlock Switch (Passenger Side) Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between power window and door lock/unlock switch (passenger side) connector and ground.

Terminal			Voltage (V) (Approx.)
(+)			
Power window and door lock/unlock switch (passenger side) connector	Terminal	(-)	
D105	1 (8)	Ground	Battery voltage

(): RHD

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 (passenger side).
3. Check continuity between BCM connector and power window and door lock/unlock switch (passenger side) connector.

BCM connector	Terminal	Power window and door lock/unlock switch (passenger side) connector	Terminal	Continuity
M20	68	D105	1 (8)	Yes

(): RHD

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

BCM connector	Terminal	Ground	Continuity
M20	68		No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK HARNESS CONTINUITY [POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH PASSENGER SIDE]

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Main power window and door lock/unlock switch connector	Terminal	Power window and door lock/unlock switch (passenger side) connector	Terminal	Continuity
D7	12 (11)	D105	3 (11)	Yes
	16 (8)		2 (12)	

(): RHD

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	12 (11)		No
	16 (8)		

(): RHD

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55. "Intermittent Incident"](#).

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between power window and door lock/unlock switch (passenger side) connector and ground.

Terminal			Voltage (V) (Approx.)
(+)		(–)	
Power window and door lock/unlock switch (passenger side) connector	Terminal		
D105	1 (8)	Ground	Battery voltage

(): RHD

Is the measurement value within the specification?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (PASSENGER SIDE)

Check power window and door lock/unlock switch (passenger side).

Refer to [PWC-16. "FRONT POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55. "Intermittent Incident"](#).

NO >> Replace power window and door lock/unlock switch (passenger side). Refer to [INT-13. "Removal and Installation"](#).

COMPONENT INSPECTION

1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (PASSENGER SIDE)

Check power window and door lock/unlock switch (passenger side).

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Terminal		Power window switch condition	Continuity
1 (8)	4 (6)	UP	Yes
2 (12)	5 (7)		
2 (12)	5 (7)	NEUTRAL	
4 (6)	3 (11)		
1 (8)	5 (7)	DOWN	
4 (6)	3 (11)		

(): RHD

Is the inspection result normal?

YES >> Power window and door lock/unlock switch (passenger side) is OK.

NO >> Replace power window and door lock/unlock switch (passenger side). Refer to [INT-13, "Removal and Installation"](#).

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

INFOID:000000001696312

- 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:000000001696313

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-19, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"](#).

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000001696314

Rear Power Window Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

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

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

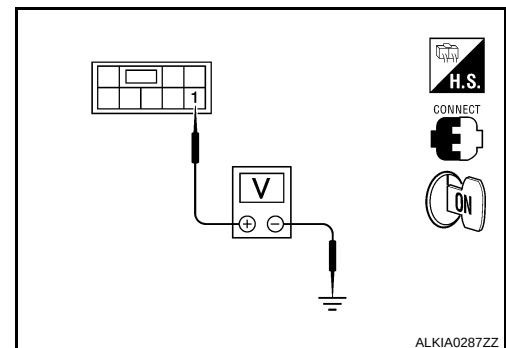
Is the measurement value within the specification?

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)

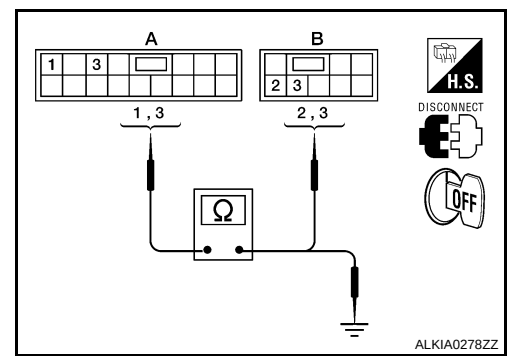


POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT 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 (A) and rear power window switch LH connector (B).

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 switchh connector (A) and ground.

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

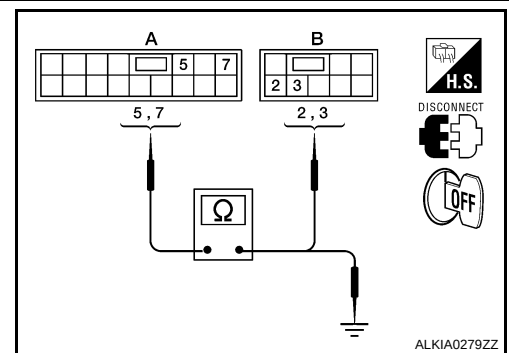
Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-55. "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 (A) and rear power window switch RH connector (B).

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 (A) and ground.

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

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-55. "Intermittent Incident"](#).
 NO >> Repair or replace harness.

4. CHECK HARNESS CONTINUITY

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

1. Disconnect BCM and rear power window switch.
2. Check continuity between BCM connector (A) and rear power window switch connector (B).

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 and ground.

BCM connector	Terminal	Ground	Continuity
M20	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-21, "REAR POWER WINDOW SWITCH : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

NO >> Replace rear power window switch. Refer to [INT-13, "Removal and Installation"](#).

REAR POWER WINDOW SWITCH : Component Inspection

INFOID:000000001696315

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

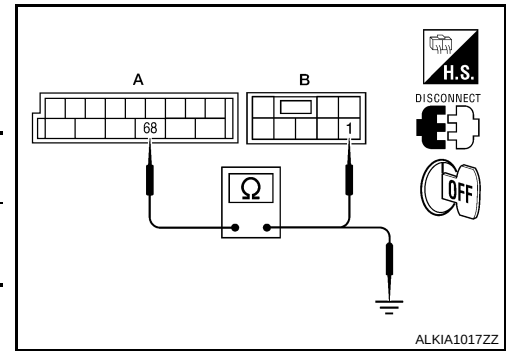
Check rear power window switch.

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

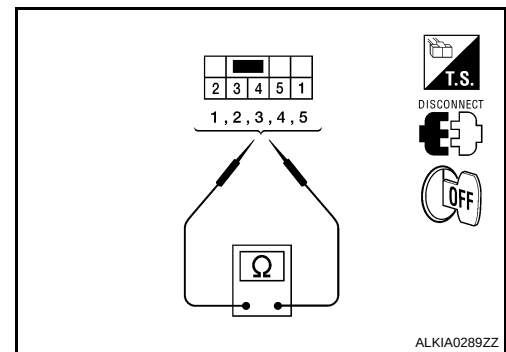
Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to [INT-13, "Removal and Installation"](#).



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POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000001696316

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

DRIVER SIDE : Component Function Check

INFOID:000000001696317

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

Does front power window motor (driver side) operate with the main power window and door lock/unlock switch?

Is the inspection result normal?

YES >> Front power window motor (driver side) is OK.

NO >> Refer to [PWC-22, "DRIVER SIDE : Diagnosis Procedure"](#).

DRIVER SIDE : Diagnosis Procedure

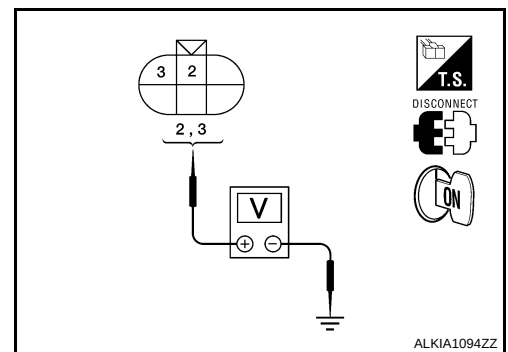
INFOID:000000001696318

Front Power Window Motor LH Circuit Check

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

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

Terminal			Main power window and door lock/unlock switch condition	Voltage (V) (Approx.)
(+)		(–)		
Front power window motor (driver side) connector	Terminal			
D9	2	Ground	UP	Battery voltage
			DOWN	0
	3		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 [INT-13, "Removal and Installation"](#). After that, refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

2. CHECK HARNESS CONTINUITY

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 (driver side) connector.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	8 (16)	D9	2	Yes
	11 (12)		3	

(): RHD

POWER WINDOW MOTOR

< COMPONENT 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	8 (16)		No
	11 (12)		

(): RHD

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).

Refer to [PWC-23, "DRIVER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

NO >> Replace front power window motor (driver side). Refer to [GW-14, "Removal and Installation"](#).
After that, refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

DRIVER SIDE : Component Inspection

INFOID:000000001696319

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

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

Terminal		Motor condition
(+)	(-)	
2	3	DOWN
3	2	UP

Is the inspection result normal?

YES >> Front power window motor (driver side) is OK.

NO >> Replace front power window motor (driver side). Refer to [GW-14, "Removal and Installation"](#).
After that, refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

DRIVER SIDE : Special Repair Requirement

INFOID:000000001696320

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to [PWC-29, "DRIVER SIDE : Component Function Check"](#).

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:000000001696321

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 (passenger side).

PASSENGER SIDE : Component Function Check

INFOID:000000001696322

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

Does front power window motor (passenger side) operate with main power window and door lock/unlock switch or power window and door lock/unlock switch?

Is the inspection result normal?

YES >> Front power window motor (passenger side) is OK.

NO >> Refer to [PWC-24. "PASSENGER SIDE : Diagnosis Procedure"](#).

PASSENGER SIDE : Diagnosis Procedure

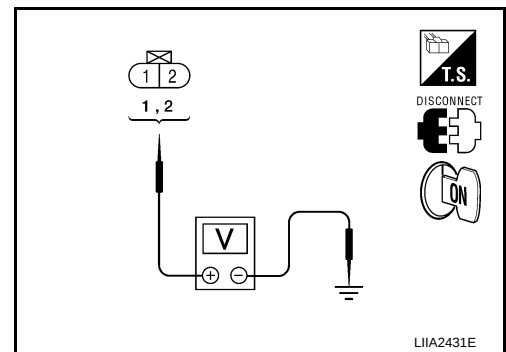
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Front Power Window Motor (Passenger Side) Circuit Check

1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (PASSENGER SIDE) OUTPUT SIGNAL

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

Terminal		Front power window motor RH condition	Voltage (V) (Approx.)
(+)	(-)		
Front power window motor (passenger side) connector	Terminal		
D104	1	UP	Battery voltage
		DOWN	0
	2	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 (passenger side). Refer to [INT-13. "Removal and Installation"](#).

2. CHECK HARNESS CONTINUITY

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

Power window and door lock/unlock-switch (passenger side) connector	Terminal	Front power window motor (passenger side) connector	Terminal	Continuity
D105	4 (6)	D104	1	Yes
	5 (7)		2	

4. Check continuity between power window and door lock/unlock switch connector (A) and ground.

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

Power window and door lock/ unlock switch (passenger side) connector	Terminal	Ground	Continuity
	4 (6) 5 (7)		No

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

Check front power window motor (passenger side).

Refer to [PWC-25, "PASSENGER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

NO >> Replace front power window motor (passenger side). Refer to [GW-14, "Removal and Installation"](#).

PASSENGER SIDE : Component Inspection

INFOID:000000001696324

COMPONENT INSPECTION

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

Does motor operate by connecting the battery voltage directly to front power window motor (passenger side)?

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

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Replace front power window motor (passenger side). Refer to [GW-14, "Removal and Installation"](#).

REAR LH

REAR LH : Description

INFOID:000000001696325

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

REAR LH : Component Function Check

INFOID:000000001696326

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-25, "REAR LH : Diagnosis Procedure"](#)

REAR LH : Diagnosis Procedure

INFOID:000000001696327

Rear Power Window Motor LH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH LH OUTPUT SIGNAL

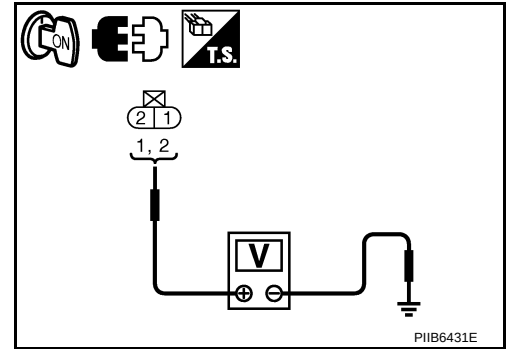
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POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

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	Terminal		
D204	1	UP	Battery voltage
		DOWN	0
	2	UP	0
		DOWN	Battery voltage



Is the measurement value within the specification?

YES >> GO TO 2

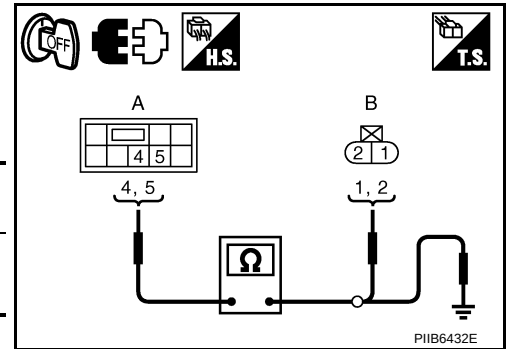
NO >> Check rear power window switch LH. Refer to [PWC-21, "REAR POWER WINDOW SWITCH : Component Inspection"](#).

2. CHECK HARNESS CONTINUITY

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

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 (A) 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-26, "REAR LH : Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

NO >> Replace rear power window motor LH. Refer to [GW-21, "Removal and Installation"](#).

REAR LH : Component Inspection

INFOID:000000001696328

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

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

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

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

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to [GW-21, "Removal and Installation"](#).

REAR RH

REAR RH : Description

INFOID:000000001696329

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:000000001696330

1. CHECK POWER WINDOW MOTOR 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?

YES >> Power window motor is OK.

NO >> Refer to [PWC-27, "REAR RH : Diagnosis Procedure"](#).

REAR RH : Diagnosis Procedure

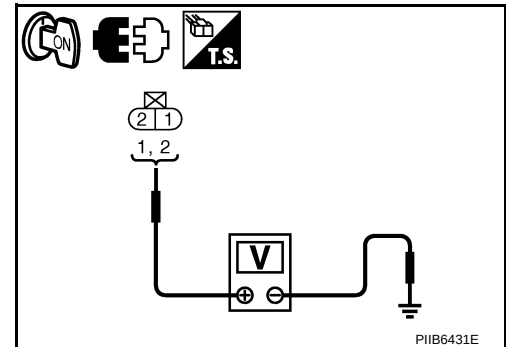
INFOID:000000001696331

Rear Power Window Motor RH Circuit Check

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	1	UP	Battery voltage
		DOWN	0
	2	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-21, "REAR POWER WINDOW SWITCH : Component Inspection"](#).

2. CHECK HARNESS CONTINUITY

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

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

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 (A) and ground.

Rear power window switch RH connector	Terminal	Ground	Continuity
D303 (A)	5		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-28, "REAR RH : Component Inspection"](#).

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).
 NO >> Replace rear power window motor RH. Refer to [GW-21, "Removal and Installation"](#).

REAR RH : Component Inspection

INFOID:000000001696332

COMPONENT INSPECTION

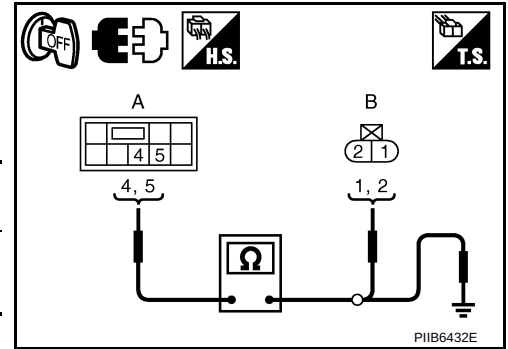
1. CHECK REAR POWER WINDOW MOTOR RH

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

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

Is the inspection result normal?

- YES >> Power window motor is OK.
 NO >> Replace rear power window motor RH. Refer to [GW-21, "Removal and Installation"](#).



ENCODER

< COMPONENT DIAGNOSIS >

ENCODER
DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000001696333

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

DRIVER SIDE : Component Function Check

INFOID:000000001696334

1. CHECK ENCODER OPERATION

Does front door motor (driver side) perform AUTO open/close operation normally with main power window and door lock/unlock switch?

Is the inspection result normal?

- YES >> Encoder operation is OK.
- NO >> Refer to [PWC-29, "DRIVER SIDE : Diagnosis Procedure"](#)

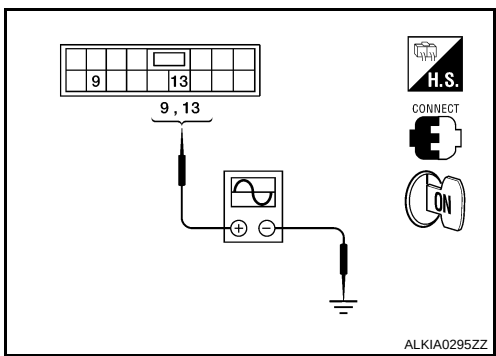
DRIVER SIDE : Diagnosis Procedure

INFOID:000000001696335

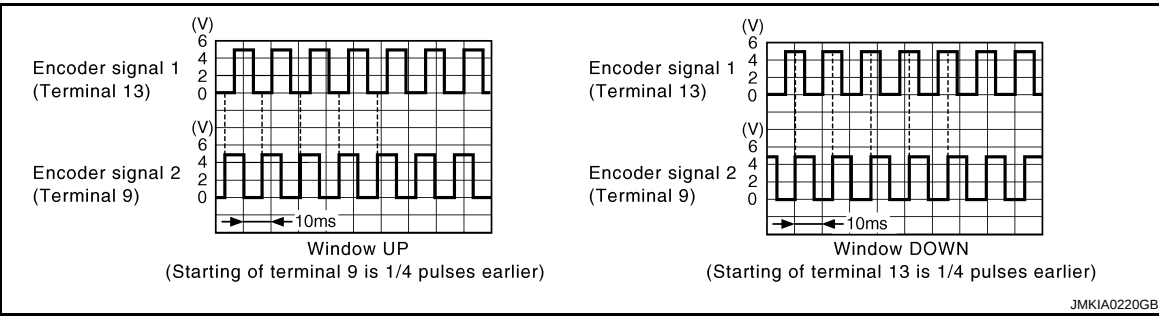
Encoder Circuit Check

1. CHECK ENCODER OPERATION

- 1. Connect front power window motor (driver side).
- 2. Turn ignition switch ON.
- 3. 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	
D7	9	Ground
	13	
		Refer to following signal



Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).
- NO >> GO TO 2

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

ENCODER

< COMPONENT DIAGNOSIS >

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

Terminal			Voltage (V) (Approx.)
(+) (–)		(–)	
Front power window motor (driver side) connector	Terminal		
D9	1	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 and front power window motor (driver side).
3. Check continuity between main power window and door lock/unlock switch connector (A) and front power window motor (driver side) connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power window motor (driver side) connector	Terminal	Continuity
D7 (A)	15	D9 (B)	1	Yes

4. Check continuity between main power window and door lock/unlock switch connector (A) 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 [INT-13, "Removal and Installation"](#). After that, refer to [PWC-31, "DRIVER SIDE : Special Repair Requirement"](#).

NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

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

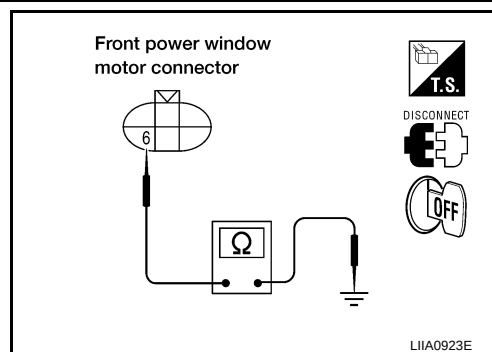
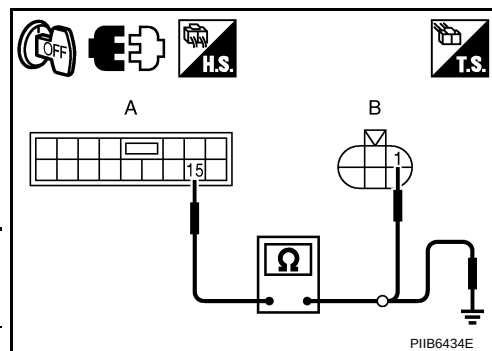
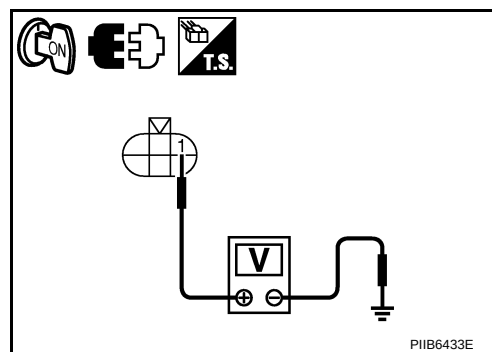
Front power window motor (driver side) connector	Terminal	Ground	Continuity
D9	6		Yes

Is the inspection result normal?

YES >> GO TO 6

NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2



ENCODER

< COMPONENT DIAGNOSIS >

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) and front power window motor (driver side) connector (B).

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

Is the inspection result normal?

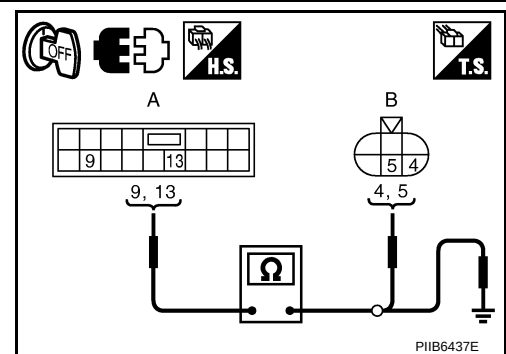
YES >> Replace main power window and door lock/unlock switch. Refer to [INT-13, "Removal and Installation"](#). After that, refer to [PWC-31, "DRIVER SIDE : Special Repair Requirement"](#).

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 (A) and front power window motor (driver side) connector (B).

Main power window and door lock/unlock switch connector	Terminal	Front power window motor (driver side) connector	Terminal	Continuity
D7 (A)	9	D9 (B)	5	Yes
	13		4	



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

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

Is the inspection result normal?

YES >> Replace front power window motor (driver side). Refer to [GW-14, "Removal and Installation"](#). After that, refer to [PWC-23, "DRIVER SIDE : Special Repair Requirement"](#).

NO >> Repair or replace harness.

DRIVER SIDE : Special Repair Requirement

INFOID:000000001696336

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#)

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

Description

INFOID:000000001696337

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

Component Function Check

INFOID:000000001696338

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to [PWC-10, "RETAINED PWR : CONSULT-III 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-32, "Diagnosis Procedure"](#).

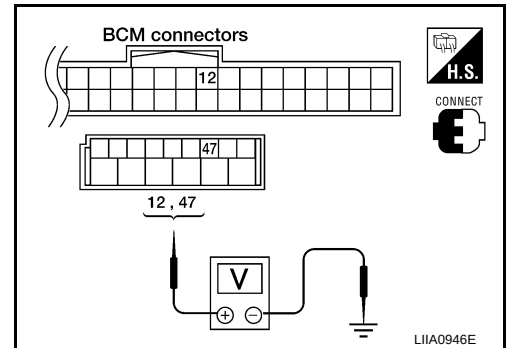
Diagnosis Procedure

INFOID:000000001696339

1. CHECK HARNESS CONTINUITY

Check voltage between BCM connector and ground.

Terminals		Door condition	Voltage (V) (Approx.)		
(+)				(−)	
BCM connector	Terminal				
M18	12	Ground	Front door (passen- ger side)	OPEN	0
				CLOSE	Battery voltage
M19	47		Front door (driver side)	OPEN	0
				CLOSE	Battery voltage



Is the measurement value within the specification?

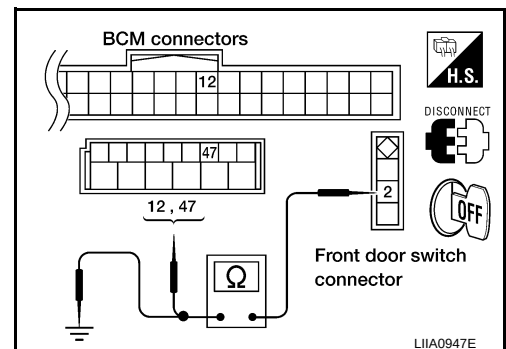
YES >> Replace BCM. Refer to [BCS-57, "Removal and Installation of BCM"](#).

NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

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	Passenger Side: B27	2	Yes
M19	47	Driver side: B34		



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

DOOR SWITCH

< COMPONENT DIAGNOSIS >

Front door switch connector	Terminal	Ground	Continuity
Passenger side: B27	2		No
Driver side: B34	2		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to [PWC-33, "Component Inspection"](#).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

NO >> Replace front door switch.

Component Inspection

INFOID:000000001696340

1. CHECK FRONT DOOR SWITCH

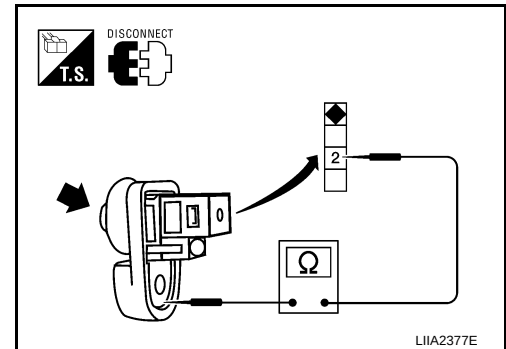
Check front door switches.

Terminal		Door switch	Continuity
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.



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PWC

POWER WINDOW LOCK SWITCH

< COMPONENT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description

INFOID:0000000001696341

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:0000000001696342

1. CHECK POWER WINDOW LOCK SIGNAL

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 [INT-13, "Removal and Installation"](#). After that, [PWC-4, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#)

NO >> Check condition of harness and connector.

Special Repair Requirement

INFOID:0000000001696343

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> Inspection end.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000001696344

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
DOOR SW-DR	Front door (driver side) closed	OFF
	Front door (driver side) opened	ON
DOOR SW-AS	Front door (passenger side) closed	OFF
	Front door (passenger side) opened	ON

TERMINAL LAYOUT

Refer to [BCS-38, "Terminal Layout"](#).

PHYSICAL VALUES

Refer to [BCS-39, "Physical Values"](#).

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PWC

POWER WINDOW MAIN SWITCH

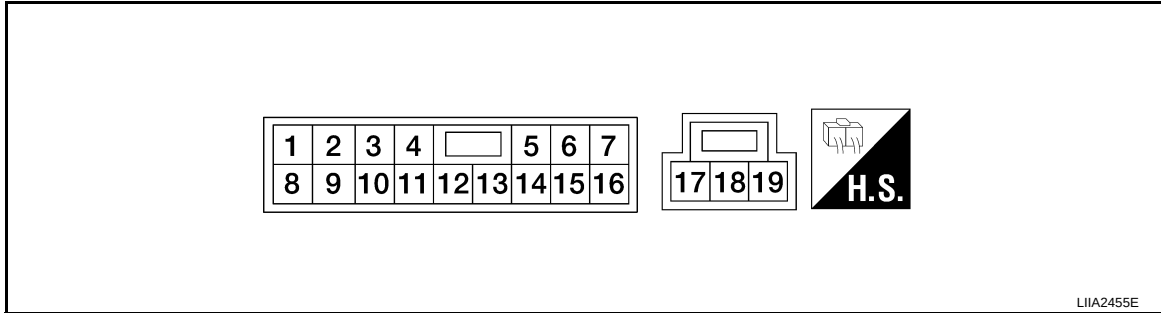
< ECU DIAGNOSIS >

POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000001696345

TERMINAL LAYOUT



PHYSICAL VALUES

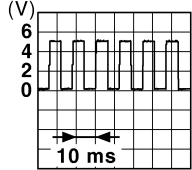
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	—	Signal name	Input/ Output		
1 (R)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage
2 (LG)	Ground	Encoder ground	—	—	0
3 (O)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is operated DOWN.	Battery voltage
5 (Y)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is operated DOWN.	Battery voltage
6 (V)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0
7 (LG)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage
8 ¹ (R)	12	Front power window motor (driver side) UP signal	Output	When front (driver side) switch in power window main switch is operated UP.	Battery voltage
8 ² (R)	11	Front power window motor (passenger side) UP signal	Output	When front (passenger side) switch in power win- dow main switch is operat- ed UP.	Battery voltage
9 (P)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	

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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	—	Signal name	Input/ Output		
10 (L)	Ground	RAP signal	Input	IGN SW ON	Battery voltage
				Within 45 second after ignition switch is turned to OFF.	Battery voltage
				When driver side or passenger side door is opened during retained power operation.	0
11 ¹ (GR)	8	Front power window motor (driver side) DOWN signal	Output	When front (driver side) switch in power window main switch is operated DOWN.	Battery voltage
11 ² (SB)	8	Front power window motor (passenger side) DOWN signal	Output	When front (passenger side) switch in power window main switch is operated DOWN.	Battery voltage
12 ¹ (SB)	16	Front power window motor (passenger side) DOWN signal	Output	When front (passenger side) switch in power window main switch is operated DOWN.	Battery voltage
12 ² (GR)	16	Front power window motor (driver side) DOWN signal	Output	When front (driver side) switch in power window main switch is operated DOWN.	Battery voltage
13 (W)	2	Encoder pulse signal 1	Input	When power window motor operates.	
15 (G)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	10
16 ¹ (R)	12	Front power window motor (passenger side) UP signal	Output	When front (passenger side) switch in power window main switch is operated UP.	Battery voltage
16 ² (R)	12	Front power window motor (driver side) UP signal	Output	When front (driver side) switch in power window main switch is operated UP.	Battery voltage
17 (B)	Ground	Ground	—	—	0
19 (P)	Ground	Battery power supply	Input	—	Battery voltage

1: LHD

2: RHD

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PWC

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Wiring Diagram - LHD -

INFOID:0000000001696346

**NO
DATA**

ALKWA0178GE

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Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
7N	Y/R	—

Terminal No.	Color of Wire	Signal Name
17J	SB	—
93J	L/W	—
94J	G/B	—
95J	G/O	—

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
7	R/Y	—
8	B	—
10	G/R	—
11	G/O	—
12	L/W	—
16	B/W	—

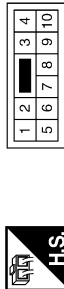
Terminal No.	Color of Wire	Signal Name
2	G/W	—
3	G/B	—
6	B/B	

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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE



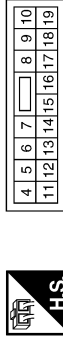
Terminal No.	Color of Wire	Signal Name
2	L/W	—
3	R/B	—
5	B	—
10	R/W	—

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



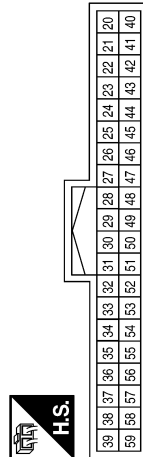
Terminal No.	Color of Wire	Signal Name
1	W/B	BAT_POWER_F/L
2	R/Y	P/W_POWER_SUPPLY_PERM
3	L/W	POWER_WINDOW_POWER_SUPPLY (RAP)

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



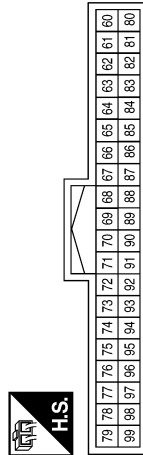
Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT_BCM_FUSE
13	B	GND1
15	Y/L	ACC_LED

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



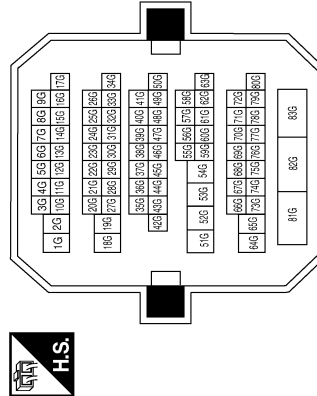
Terminal No.	Color of Wire	Signal Name
32	R/B	AS_DOOR_SW
42	R	S/L_LOCK_LED
58	SB	DR_DOOR_SW

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



Terminal No.	Color of Wire	Signal Name
81	LG	IGN_ON_LED

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE



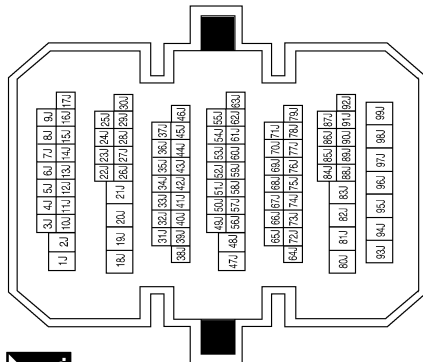
Terminal No.	Color of Wire	Signal Name
82G	W/B	—

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POWER WINDOW MAIN SWITCH

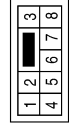
< ECU DIAGNOSIS >

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



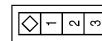
Terminal No.	Color of Wire	Signal Name
17J	SB	—
93J	L/W	—
94J	G/B	—
95J	G/O	—

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



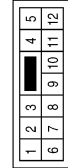
Terminal No.	Color of Wire	Signal Name
2	G/B	—
4	G/O	—
6	B/Y	—
8	L/W	—

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



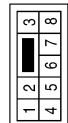
Terminal No.	Color of Wire	Signal Name
2	SB	DOOR SW(DR)

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	L/W	—
3	G/R	—
7	G/B	—
10	R/G	—

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



Terminal No.	Color of Wire	Signal Name
2	G/W	—
4	G/R	—
6	B	—
8	L/W	—

ALKIA0317GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
2	G/W	—
3	G/B	—
6	R/B	—
7	R/Y	—
8	B	—
10	G/R	—
11	G/O	—
12	L/W	—
16	R/W	—

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

1	2	3
---	---	---



Terminal No.	Color of Wire	Signal Name
2	R/G	DOOR SW (AS)

Connector No.	D8
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE



17	18	19
----	----	----

Terminal No.	Color of Wire	Signal Name
17	B	GND
19	R/Y	BAT

Terminal No.	Color of Wire	Signal Name
1	G/B	RL UP
2	W/B	ENCODER_GND
3	G/O	RL DOWN
4	—	—
5	G/R	RR DOWN
6	GR/R	UNLOCK
7	G/W	RR UP
8	R/B	AS UP
9	G/W	ENCODER_SIG2
10	L/W	IGN
11	R/W	AS DOWN
12	L/B	DR DOWN
13	G/Y	ENCODER_SIG1
14	—	—
15	G/R	ENCODER_POWER
16	L/R	DR UP

Connector No.	D7
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE



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

ALKIA0318GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



1	2
3	4

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

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



1	2	3	4
5	6	7	8
9	10		

Terminal No.	Color of Wire	Signal Name
2	L/W	—
3	R/B	—
5	B	—
10	R/W	—

Connector No.	D104
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) FRONT POWER WINDOW MOTOR RH
Connector Color	WHITE



1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
1	L/B	—
2	L/R	—
3	—	—
4	—	—
5	—	—
6	—	—

Connector No.	D105
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



1	2	3	4	5
6	7	8	9	10
11	12			

Terminal No.	Color of Wire	Signal Name
3	B	GND
4	—	—
5	—	—
6	L/B	DOWN
7	L/R	UP
8	L/W	IGN
9	—	—
10	—	—
11	R/W	DOWN
12	R/B	UP

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



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
2	G/B	—
4	G/O	—
6	B	—
8	L/W	—

ALKIA0422GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
2	G/W	—
4	G/R	—
6	B	—
8	L/W	—

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



1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	L/R	UP
2	—	—
3	L/B	DOWN
4	—	—
5	—	—
6	—	—

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



2	3	4	5	1
7				

Terminal No.	Color of Wire	Signal Name
1	L/W	IGN
2	G/B	UP
3	G/O	DOWN
4	L/B	DOWN
5	L/R	UP
6	—	—
7	B	GND
8	—	—

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



1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	L/R	UP
2	—	—
3	L/B	DOWN
4	—	—
5	—	—
6	—	—

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



2	3	4	5	1
7				

Terminal No.	Color of Wire	Signal Name
1	L/W	IGN
2	G/W	UP
3	G/R	DOWN
4	L/B	DOWN
5	L/R	UP
6	—	—
7	B	GND
8	—	—

ALKIA0187GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Wiring Diagram - RHD -

INFOID:000000001728598

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DATA

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

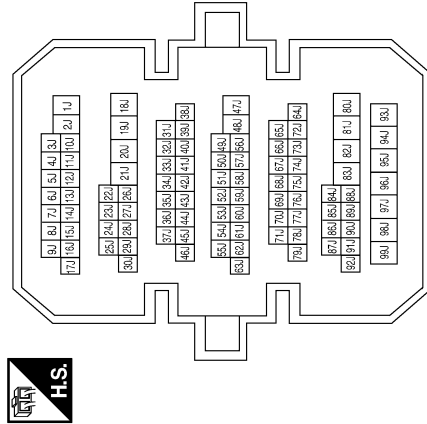
ALKWA0177GE

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

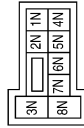
POWER WINDOW SYSTEM/WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM CONNECTORS

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



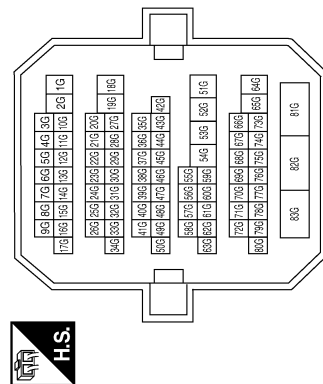
Terminal No.	Color of Wire	Signal Name
17J	SB	—
93J	L/W	—
94J	G/B	—
95J	G/O	—

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7N	Y/R	—

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

4	5	6	7	8	9	10		
11	12	13	14	15	16	17	18	19



Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

1	2
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Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

1	2		3	4
5	6	7	8	9
				10

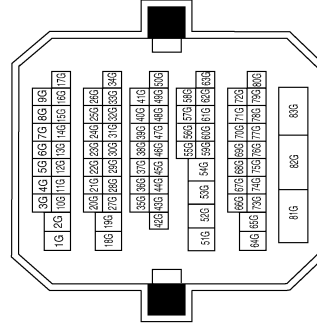


Terminal No.	Color of Wire	Signal Name
1	W/B	BAT_POWER_F/L
2	R/Y	P/W_POWER_SUPPL Y_PERM
3	L/W	POWER_WINDOW_POWER_SUPPLY (RAP)

Terminal No.	Color of Wire	Signal Name
2	L/W	—
3	R/B	—
5	B	—
10	R/W	—

Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT_BCM_FUSE
13	B	GND1
15	Y/L	ACC_LED

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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



79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
81	LG	IGN_ON_LED

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



39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
32	R/B	AS_DOOR_SW
42	R	S/L_LOCK_LED
58	SB	DR_DOOR_SW

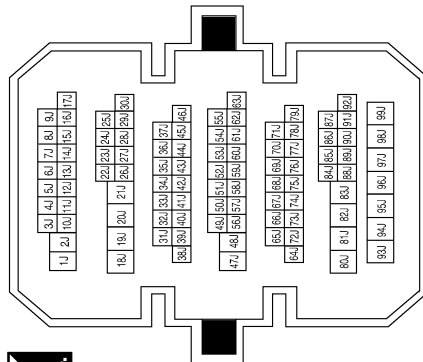
Terminal No.	Color of Wire	Signal Name
82G	W/B	—

ALKIA0183GB

POWER WINDOW MAIN SWITCH

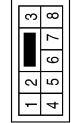
< ECU DIAGNOSIS >

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



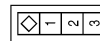
Terminal No.	Color of Wire	Signal Name
17J	SB	—
93J	L/W	—
94J	G/B	—
95J	G/O	—

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

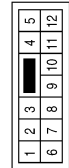


Terminal No.	Color of Wire	Signal Name
2	G/B	—
4	G/O	—
6	B/Y	—
8	L/W	—

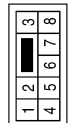
Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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



Terminal No.	Color of Wire	Signal Name
1	L/W	—
3	G/R	—
7	G/B	—
10	R/G	—

Terminal No.	Color of Wire	Signal Name
2	G/W	—
4	G/R	—
6	B	—
8	L/W	—

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

ALKIA0317GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



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

1	2	3
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Terminal No.	Color of Wire	Signal Name
2	R/G	DOOR SW (AS)

Terminal No.	Color of Wire	Signal Name
2	G/W	—
3	G/B	—
6	R/B	—
7	R/Y	—
8	B	—
10	G/R	—
11	G/O	—
12	L/W	—
16	R/W	—

Connector No.	D7
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
1	G/B	RL UP
2	W/B	ENCODER_GND
3	G/O	RL_DOWN
4	—	—
5	G/R	RR_DOWN
6	GR/R	UNLOCK
7	G/W	RR_UP
8	R/B	AS_UP
9	G/W	ENCODER_SIG2
10	L/W	IGN
11	R/W	AS_DOWN
12	L/B	DR_DOWN
13	G/Y	ENCODER_SIG1
14	—	—
15	G/R	ENCODER_POWER
16	L/R	DR_UP

Connector No.	D8
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE



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

ALKIA0318GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



1	2
3	4
5	6

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

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



1	2	3	4
5	6	7	8
9	10		

Terminal No.	Color of Wire	Signal Name
2	L/W	—
3	R/B	—
5	B	—
10	R/W	—

Connector No.	D104
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) FRONT POWER WINDOW MOTOR RH
Connector Color	WHITE



1	2
3	4
5	6

Terminal No.	Color of Wire	Signal Name
1	L/B	—
2	L/R	—
3	—	—
4	—	—
5	—	—
6	—	—

Connector No.	D105
Connector Name	(WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM) POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



1	2	3	4	5
6	7	8	9	10
11	12			

Terminal No.	Color of Wire	Signal Name
3	B	GND
4	—	—
5	—	—
6	L/B	DOWN
7	L/R	UP
8	L/W	IGN
9	—	—
10	—	—
11	R/W	DOWN
12	R/B	UP

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



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
2	G/B	—
4	G/O	—
6	B	—
8	L/W	—

ALKIA0422GB

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
2	G/W	—
4	G/R	—
6	B	—
8	L/W	—

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



1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	L/R	UP
2	—	—
3	L/B	DOWN
4	—	—
5	—	—
6	—	—

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



2	3	4	5	1
7				

Terminal No.	Color of Wire	Signal Name
1	L/W	IGN
2	G/B	UP
3	G/O	DOWN
4	L/B	DOWN
5	L/R	UP
6	—	—
7	B	GND
8	—	—

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



1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	L/R	UP
2	—	—
3	L/B	DOWN
4	—	—
5	—	—
6	—	—

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



2	3	4	5	1
7				

Terminal No.	Color of Wire	Signal Name
1	L/W	IGN
2	G/W	UP
3	G/R	DOWN
4	L/B	DOWN
5	L/R	UP
6	—	—
7	B	GND
8	—	—

ALKIA0187GB

INFOID:000000001696347

Fail Safe

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.

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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.

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:000000001696348

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 main power window and door lock/unlock switch 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

Check main power window and door lock/unlock switch.

Refer to [PWC-16, "FRONT POWER WINDOW SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

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PWC

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000001696349

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).

Refer to [PWC-22, "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "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:000000001696350

1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (PASSENGER SIDE)

Check power window and door lock/unlock switch (passenger side).

Refer to [PWC-16, "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 FRONT POWER WINDOW MOTOR (PASSENGER SIDE) CIRCUIT

Check front power window motor (passenger side) circuit.

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "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:000000001696351

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-19, "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-25, "REAR LH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "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:000000001696352

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-19, "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-27, "REAR RH : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

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PWC

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000001696353

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. 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 3

NO >> Repair or replace the malfunctioning parts.

3. CHECK ENCODER CIRCUIT

Check encoder circuit.

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-55, "Intermittent Incident"](#).

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000001696354

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder.

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-55, "Intermittent Incident"](#).

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PWC

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000001696355

1. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to [PWC-32, "Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000001696356

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

Replace main power window and door lock/unlock switch.

Refer to [INT-13, "Removal and Installation"](#). After that, [PWC-16, "POWER WINDOW MAIN SWITCH : Special Repair Requirement"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-55, "Intermittent Incident"](#).

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PWC

PRE-INSPECTION FOR DIAGNOSTIC

< ON-VEHICLE MAINTENANCE >

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000001696365

BASIC INSPECTION

1. INSPECTION START

1. Check the service history.
2. Check the following parts.
 - Fuse/fusible link blown.
 - Poor connection, open or short circuit of harness connector.
 - Battery voltage.

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Repair or replace the malfunctioning parts.