

SECTION **PWC**

POWER WINDOW CONTROL SYSTEM

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PWC

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004916342

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-38. "Intermittent Incident"](#).

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

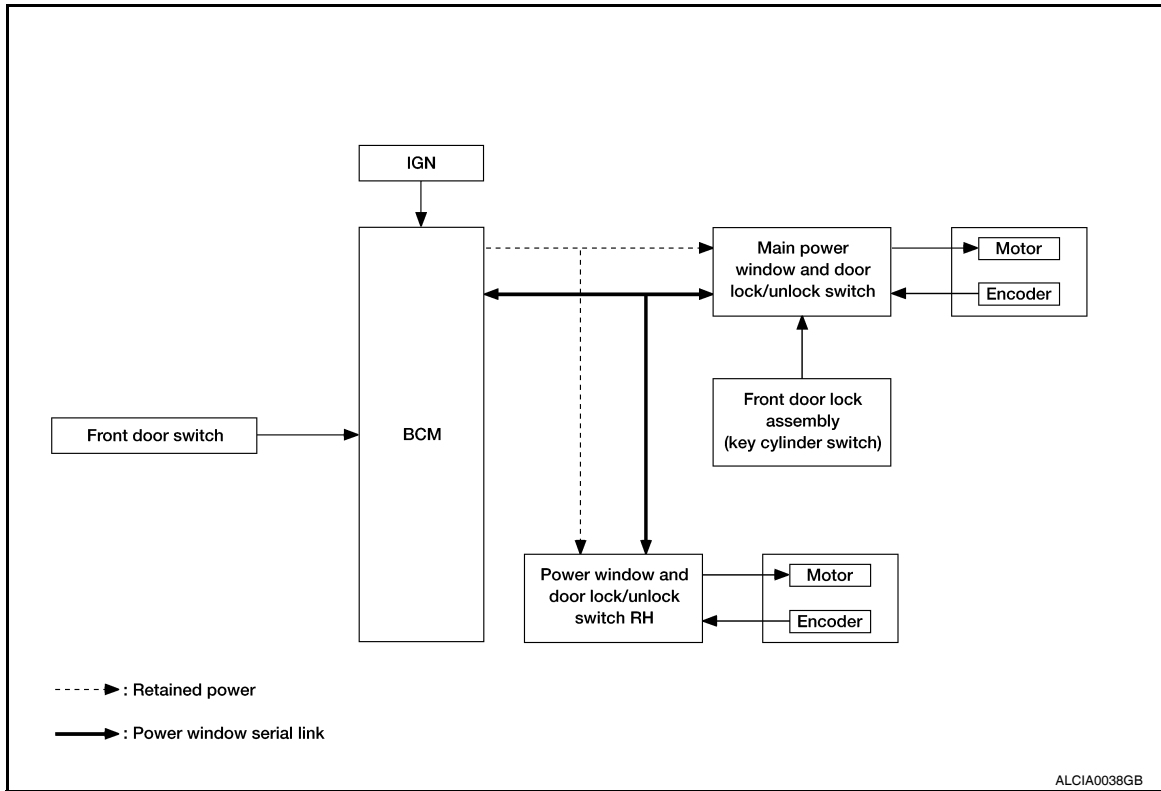
FUNCTION DIAGNOSIS

POWER WINDOW SYSTEM

System Diagram

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FRONT WINDOW ANTI-PINCH SYSTEM



System Description

INFOID:000000004916344

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

< FUNCTION DIAGNOSIS >

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

< FUNCTION DIAGNOSIS >

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^(NOTE) 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.

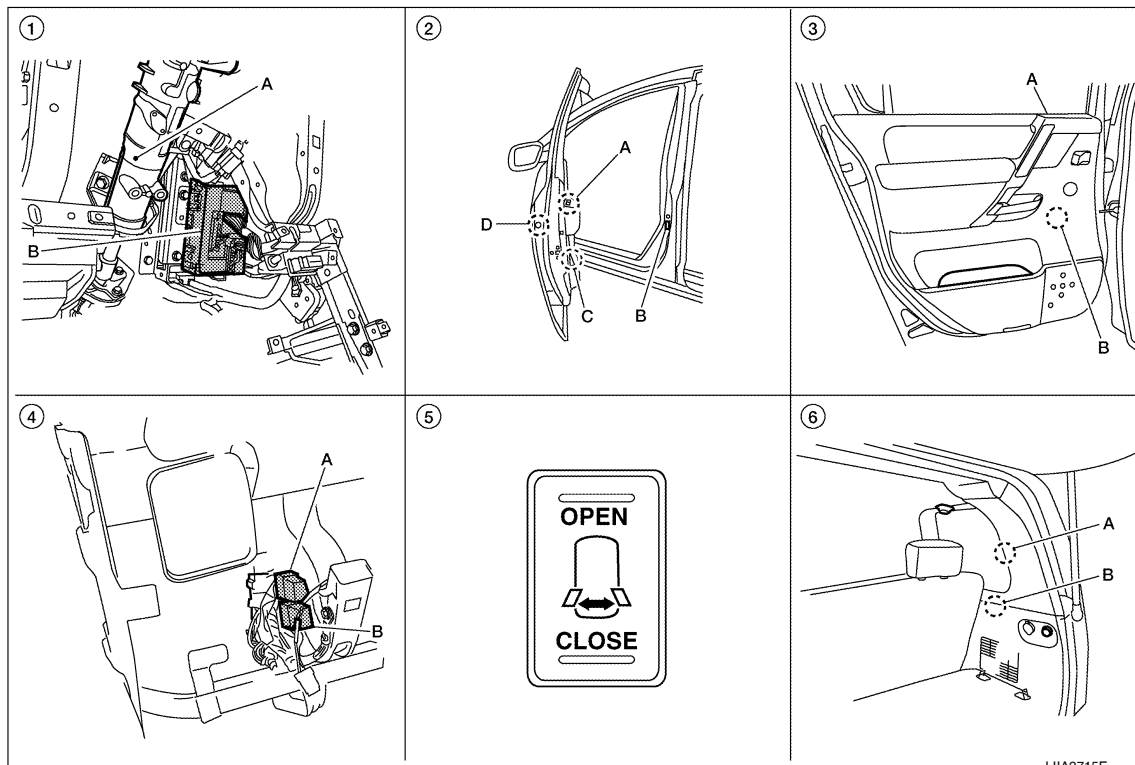
NOTE:

Use CONSULT-III to change settings.

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

Component Parts Location

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POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

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

Component Description

INFOID:000000004916346

FRONT WINDOW ANTI-PINCH SYSTEM

Component	Function
BCM	<ul style="list-style-type: none"> Supplies power supply to power window switch. Controls retained power.
Main power window and door lock/unlock switch	<ul style="list-style-type: none"> Directly controls all power window motor of all doors. Controls anti-pinch operation of front power window LH.
Power window and door lock/unlock switch RH	<ul style="list-style-type: none"> Controls front power window motor RH. Controls anti-pinch operation of front power window RH.
Rear power window switch	<ul style="list-style-type: none"> Controls rear power window motors LH and RH.
Front power window motor LH	<ul style="list-style-type: none"> Integrates the ENCODER and POWER 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 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)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000005241669

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-55. "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	<ul style="list-style-type: none"> Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing BCM.

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	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system*	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	THEFT ALM	×	×	×
Panic alarm system	PANIC ALARM			×

*: With Intelligent Key

RETAINED PWR

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000005241670

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Indicates condition of ignition switch.
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	<p>This test is able to supply RAP signal (power) from BCM (body control module) to power window system and power sunroof system (if equipped). Those systems can be operated when turning on "RETAINED PWR" on CONSULT-III screen even if the ignition switch is turned OFF.</p> <p>NOTE: During this test, CONSULT-III can be operated with ignition switch in OFF position. "RETAINED PWR" should be turned "ON" or "OFF" on CONSULT-III screen when ignition switch is ON. Then turn ignition switch OFF to check retained power operation. CONSULT-III might be stuck if "RETAINED PWR" is turned "ON" or "OFF" on CONSULT-III screen when ignition switch is OFF.</p>

WORK SUPPORT

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:000000004916349

- 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:000000004916350

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

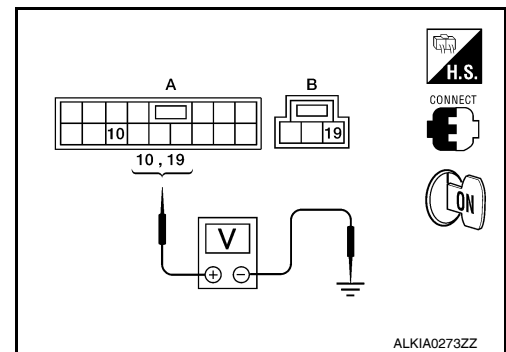
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Regarding Wiring Diagram information, refer to [PWC-52, "Wiring Diagram"](#).

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		



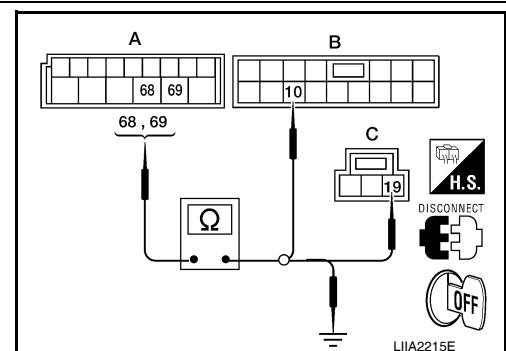
Is the measurement value within the specification?

- 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

< COMPONENT DIAGNOSIS >

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

BCM connector	Terminal	Ground	Continuity
M20 (A)	68		Ground
	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		Ground

Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to [PWC-108. "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.

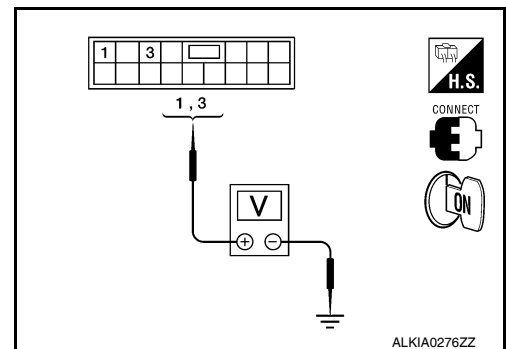
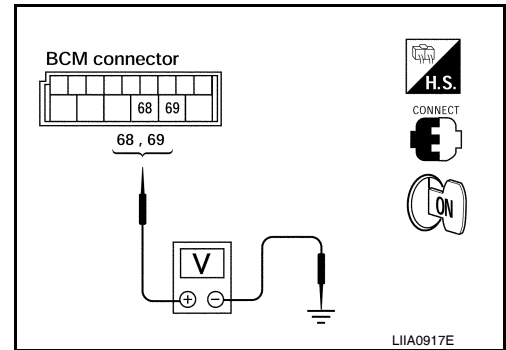
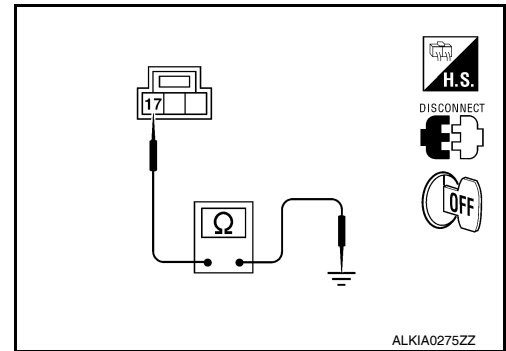
Terminals		Voltage (V) (Approx.)
(+)	(-)	
BCM connector	Terminal	Battery voltage
M20	68	
	69	

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-60. "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

< COMPONENT 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?

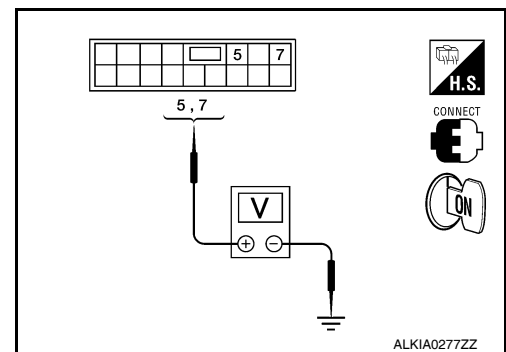
YES >> GO TO 7

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-108, "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?

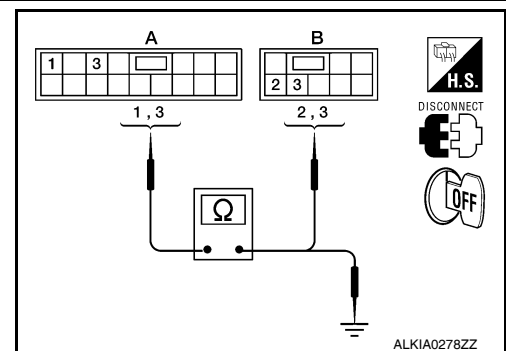
YES >> GO TO 8

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-108, "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

< COMPONENT DIAGNOSIS >

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

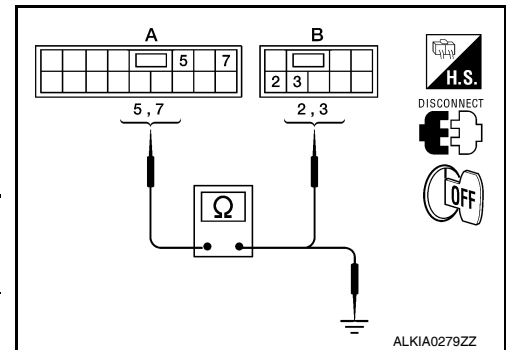
Is the inspection result normal?

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-38, "Intermittent Incident"](#).

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-108, "Removal and Installation"](#).

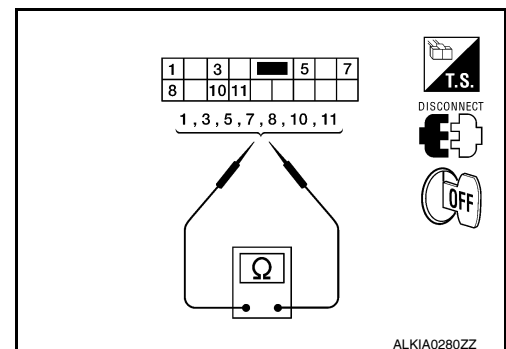
POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:000000004916352

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	

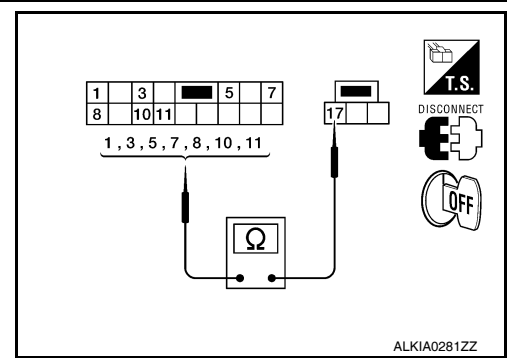


POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

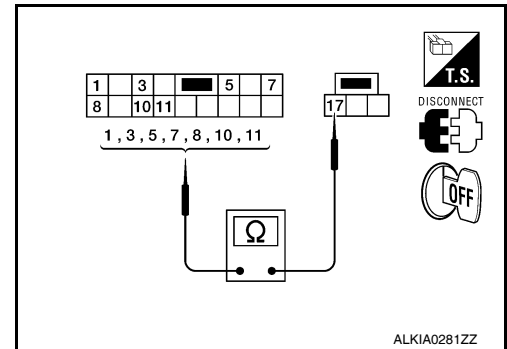
- Check continuity between main power window and door lock/unlock switch (power window lock switch). (Lock operation).

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	



- 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-108. "Removal and Installation"](#).

PWC

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:000000004916353

- 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:000000004916354

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:000000004916355

Regarding Wiring Diagram information, refer to [PWC-65. "Wiring Diagram"](#).

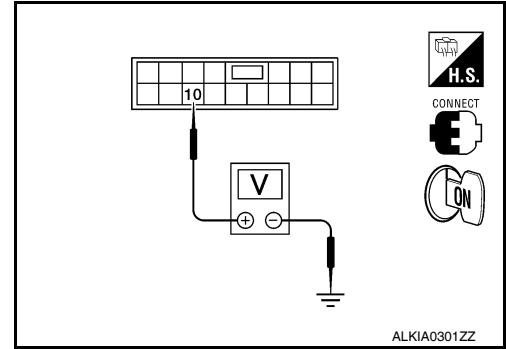
POWER SUPPLY AND GROUND CIRCUIT

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



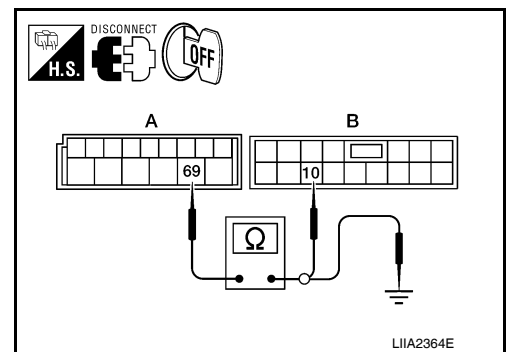
Is the measurement value within the specification?

- 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

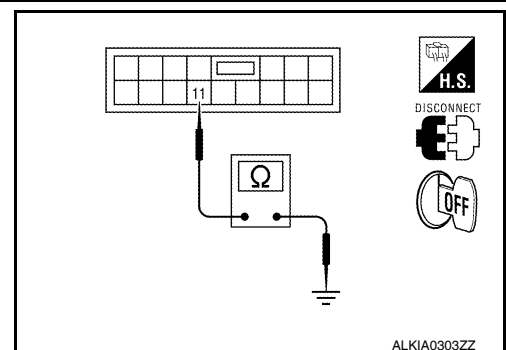
Is the inspection result normal?

- 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-109, "Removal and Installation"](#).
NO >> Repair or replace harness.

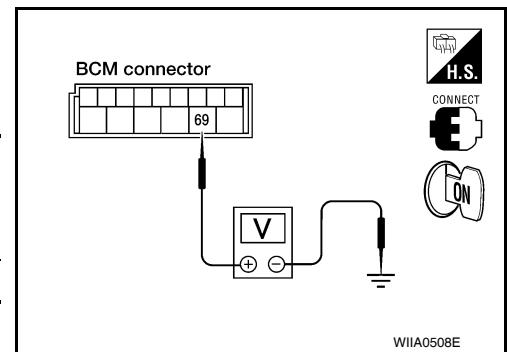
4. CHECK BCM OUTPUT SIGNAL

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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	69		



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH.
Refer to [PWC-109, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-60, "Removal and Installation"](#).

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

INFOID:000000004916356

- 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:000000004916357

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:000000004916358

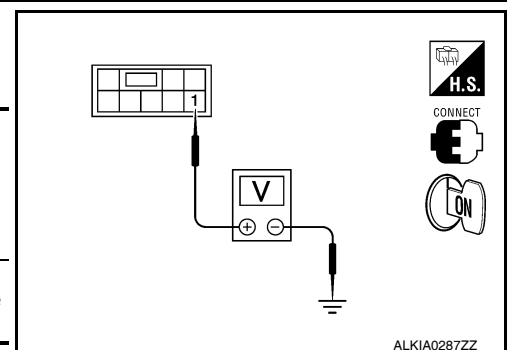
Regarding Wiring Diagram information, refer to [PWC-52, "Wiring Diagram"](#).

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	Ground	Ignition switch ON	Battery voltage			
LH	D203						
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

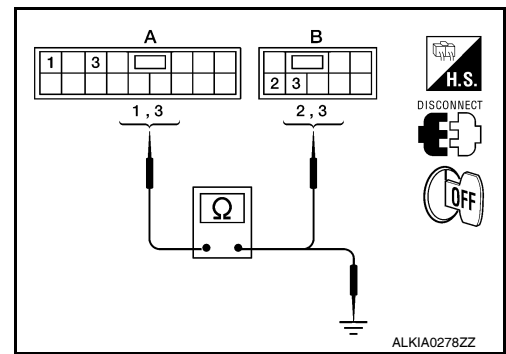
2. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

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 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?

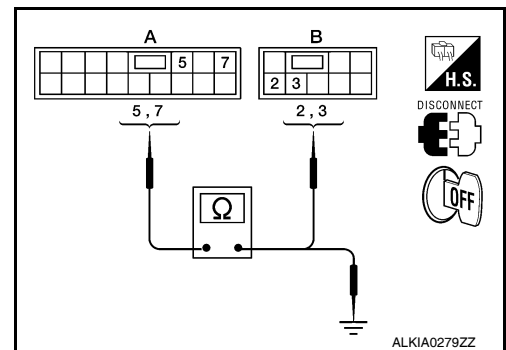
YES >> Check intermittent incident. Refer to [GI-38. "Intermittent Incident"](#).

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-38. "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 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-38, "Intermittent Incident"](#).

NO >> Replace rear power window switch. Refer to [PWC-110, "Removal and Installation"](#).

REAR POWER WINDOW SWITCH : Component Inspection

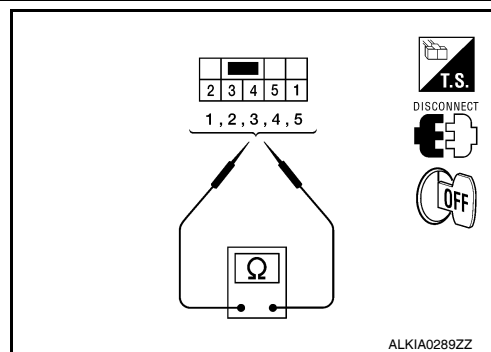
INFOID:000000004916359

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	
5	2		
1	4	DOWN	
5	2		



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to [PWC-110, "Removal and Installation"](#).

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

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000004916360

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

DRIVER SIDE : Component Function Check

INFOID:000000004916361

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

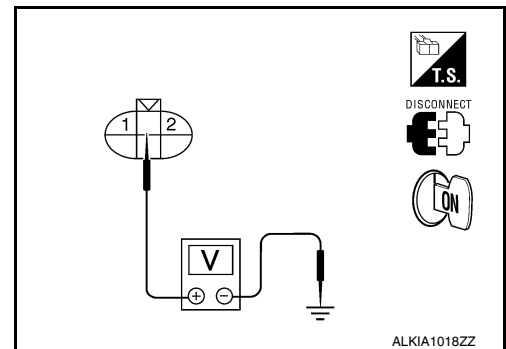
INFOID:000000004916362

Regarding Wiring Diagram information, refer to [PWC-52, "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?

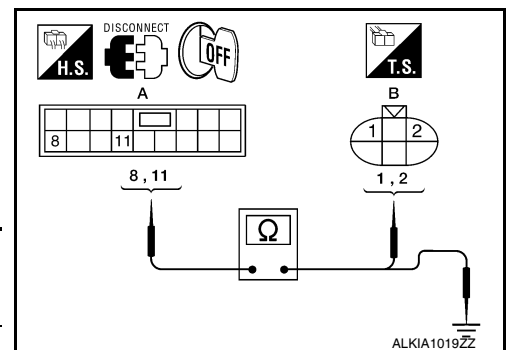
YES >> GO TO 2

NO >> Replace main power window and door lock/unlock switch. Refer to [PWC-108, "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

< 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 (A)	8		No
	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-38, "Intermittent Incident"](#).

NO >> Replace power window motor LH. Refer to [GW-15, "Removal and Installation"](#).

DRIVER SIDE : Component Inspection

INFOID:000000004916363

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-15, "Removal and Installation"](#).

PASSENGER SIDE

PWC

PASSENGER SIDE : Description

INFOID:000000004916364

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:000000004916365

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:000000004916366

Regarding Wiring Diagram information, refer to [PWC-65, "Wiring Diagram"](#).

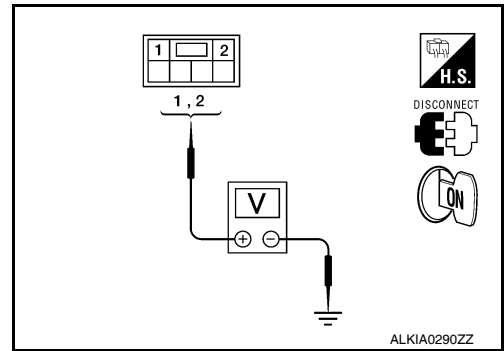
1. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL

POWER WINDOW MOTOR

< COMPONENT 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?

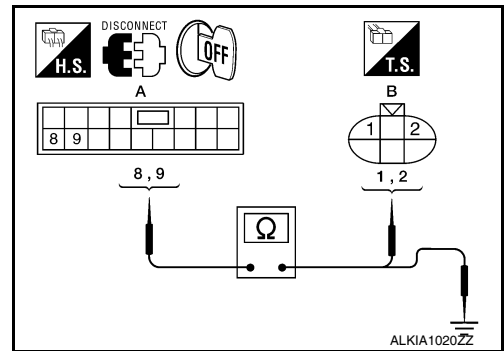
YES >> GO TO 2

NO >> Replace power window and door lock/unlock switch RH. Refer to [PWC-109. "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-38. "Intermittent Incident"](#).

NO >> Replace front power window motor RH. Refer to [GW-15. "Removal and Installation"](#).

PASSENGER SIDE : Component Inspection

INFOID:000000004916367

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

< COMPONENT 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-15. "Removal and Installation"](#).

REAR LH

REAR LH : Description

INFOID:000000004916368

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:000000004916369

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:000000004916370

Regarding Wiring Diagram information, refer to [PWC-52. "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.

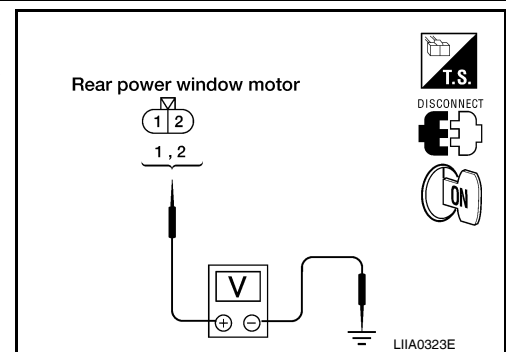
Terminal		Window condition	Voltage (V) (Approx.)
(+)	(-)		
Rear power window motor LH connector D204	2	UP	Battery voltage
		DOWN	0
	1	UP	0
		DOWN	Battery voltage

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



POWER WINDOW MOTOR

< COMPONENT 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-38, "Intermittent Incident"](#).
 NO >> Replace rear power window motor LH. Refer to [GW-18, "Removal and Installation"](#).

REAR LH : Component Inspection

INFOID:000000004916371

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-18, "Removal and Installation"](#).

REAR RH

REAR RH : Description

INFOID:000000004916372

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

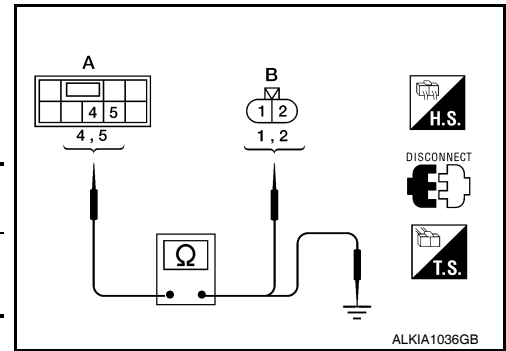
REAR RH : Component Function Check

INFOID:000000004916373

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

< COMPONENT DIAGNOSIS >

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

REAR RH : Diagnosis Procedure

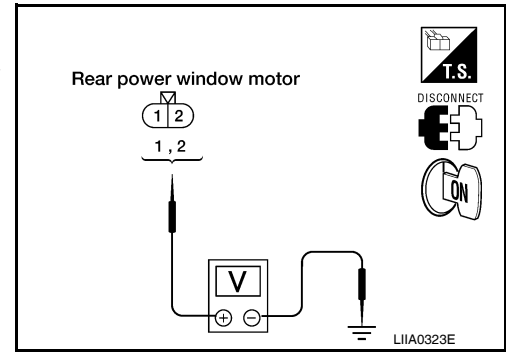
INFOID:000000004916374

Regarding Wiring Diagram information, refer to [PWC-52, "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 (+)		Terminal (-)	Rear power window switch RH condition	Voltage (V) (Approx.)
Rear power window motor RH connector	Terminal			
D304	2	Ground	UP	Battery voltage
			DOWN	0
	1		UP	0
			DOWN	Battery voltage



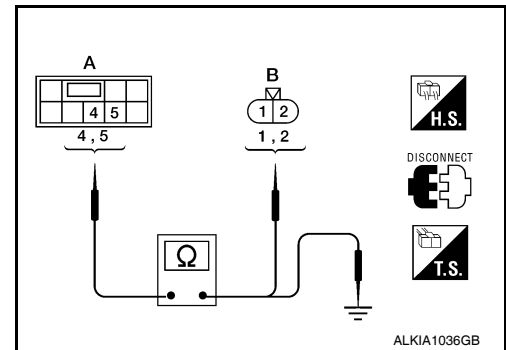
Is the measurement value within the specification?

- YES >> GO TO 2
 NO >> 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

< COMPONENT DIAGNOSIS >

- YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).
NO >> Replace rear power window motor RH. Refer to [GW-18, "Removal and Installation"](#).

REAR RH : Component Inspection

INFOID:000000004916375

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-18, "Removal and Installation"](#).

ENCODER

< COMPONENT DIAGNOSIS >

ENCODER DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000004916376

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:000000004916377

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

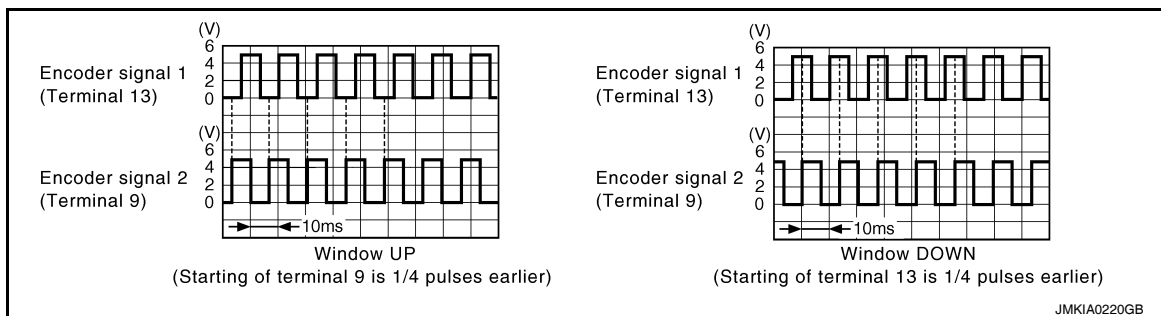
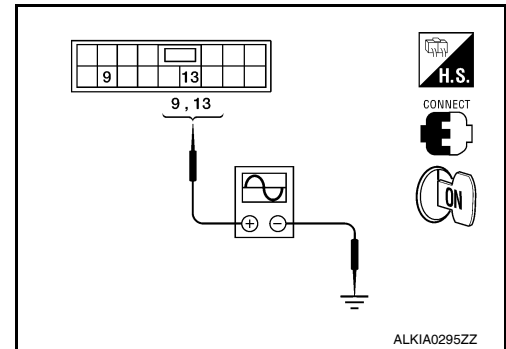
INFOID:000000004916378

Regarding Wiring Diagram information, refer to [PWC-52, "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-38, "Intermittent Incident"](#).

NO >> GO TO 2

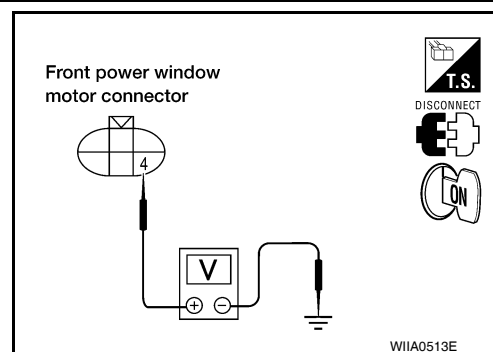
2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

ENCODER

< COMPONENT DIAGNOSIS >

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

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



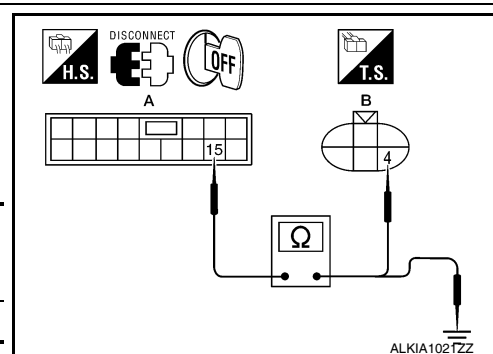
Is the measurement value within the specification?

- 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-108, "Removal and Installation"](#).
NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

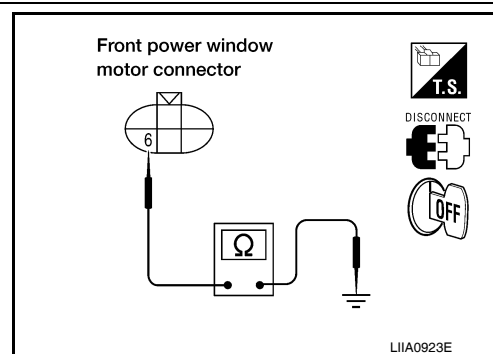
1. Turn ignition switch OFF.
2. Check continuity between front power window motor LH connector and ground.

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

< 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 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-108, "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-15, "Removal and Installation"](#).

NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:000000004916379

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:000000004916380

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?

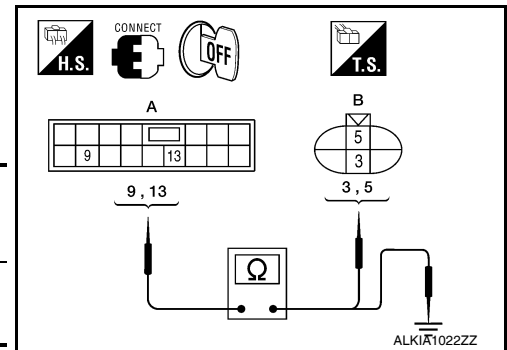
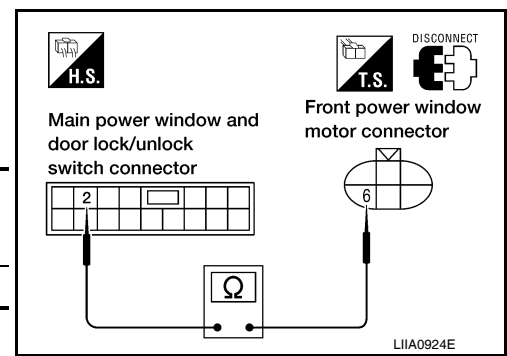
YES >> Encoder operation is OK.

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

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000004916381

Regarding Wiring Diagram information, refer to [PWC-52, "Wiring Diagram"](#).



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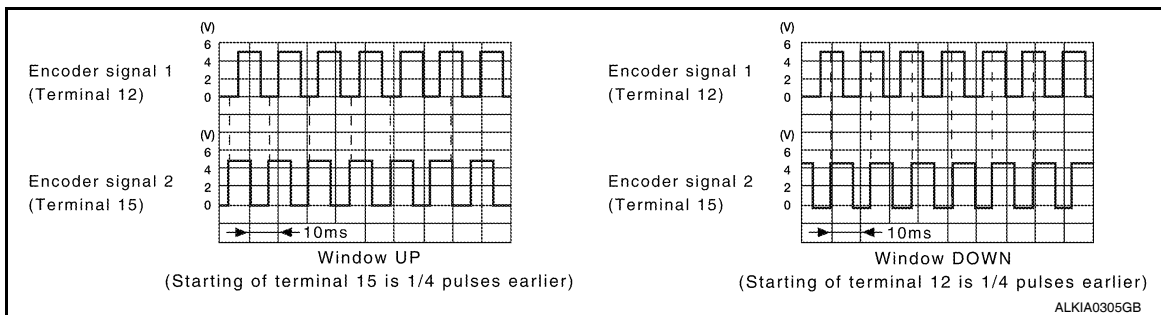
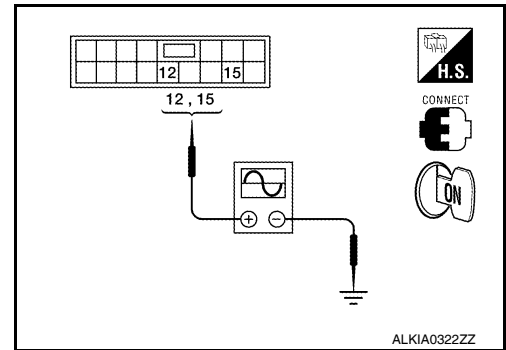
ENCODER

< COMPONENT 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)
(+)	(-)	
Power window and door lock/unlock switch RH connector	Terminal	Ground
D105	12 15	



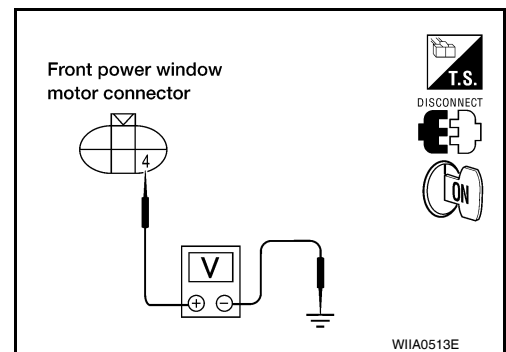
Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-38. "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.)
(+)	(-)	
Front power window motor RH connector	Terminal	10
D105	4	



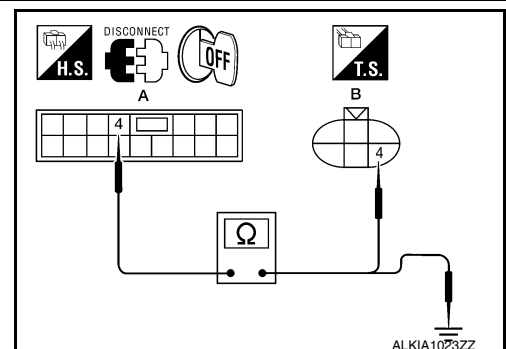
Is the measurement value within the specification?

- 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

< COMPONENT 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-109, "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-109, "Removal and Installation"](#).

NO >> Repair or replace harness.

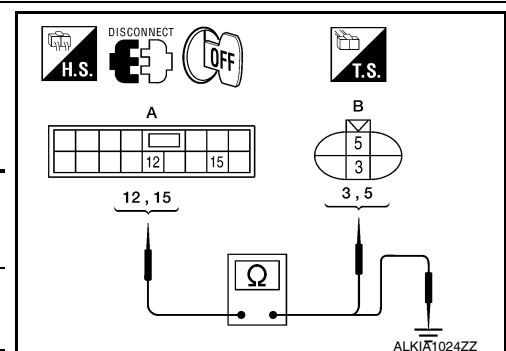
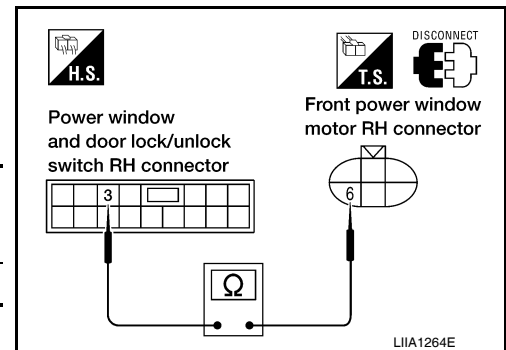
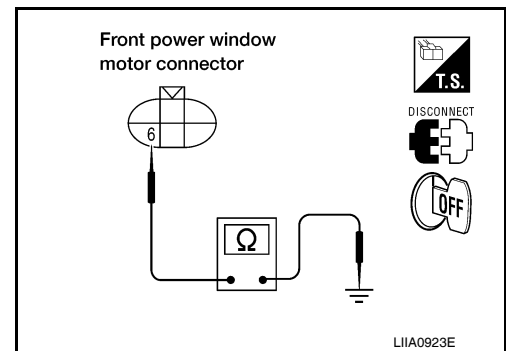
6. CHECK HARNESS CONTINUITY 3

- 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

< COMPONENT DIAGNOSIS >

Is the inspection result normal?

- YES >> Replace front power window motor RH. Refer to [GW-15, "Removal and Installation"](#).
- NO >> Repair or replace harness.

DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

Description

INFOID:000000004916382

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

Component Function Check

INFOID:000000004916383

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to [BCS-27. "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-33. "Diagnosis Procedure"](#).

Diagnosis Procedure

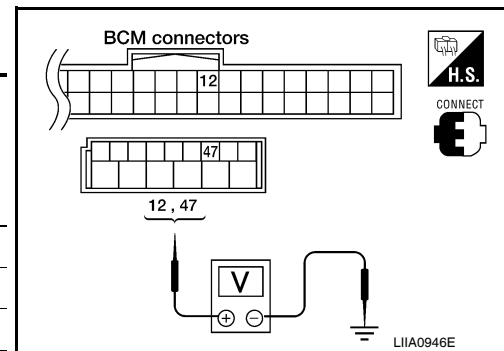
INFOID:000000004916384

Regarding Wiring Diagram information, refer to [PWC-52. "Wiring Diagram"](#).

1. CHECK FRONT DOOR SWITCH

Check voltage between BCM connector and ground.

Terminals		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-60. "Removal and Installation"](#).
- NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

DOOR SWITCH

< COMPONENT 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-60, "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-38, "Intermittent Incident"](#).
 NO >> Replace front door switch.

Component Inspection

INFOID:000000004916385

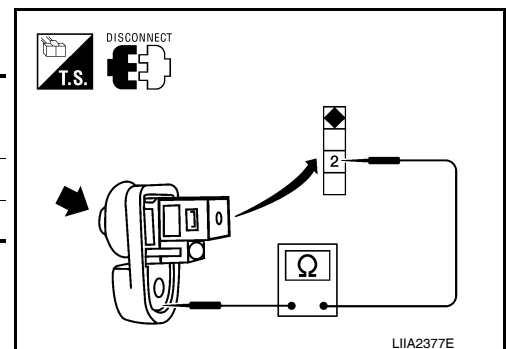
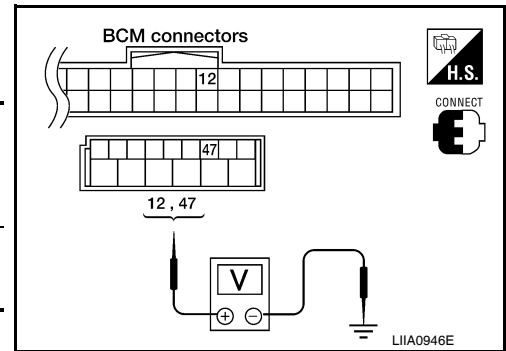
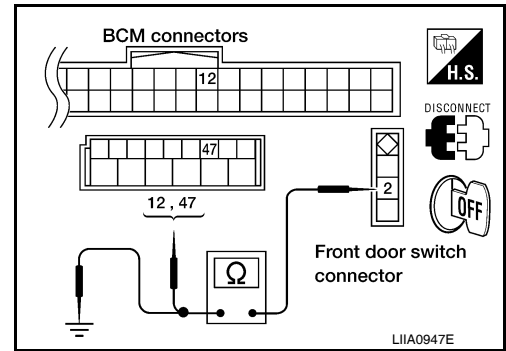
1. CHECK FRONT DOOR SWITCH

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.



DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

DOOR KEY CYLINDER SWITCH

Description

INFOID:000000004916386

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:000000004916387

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-III. Refer to [BCS-16, "COMMON ITEM : CONSULT-III 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

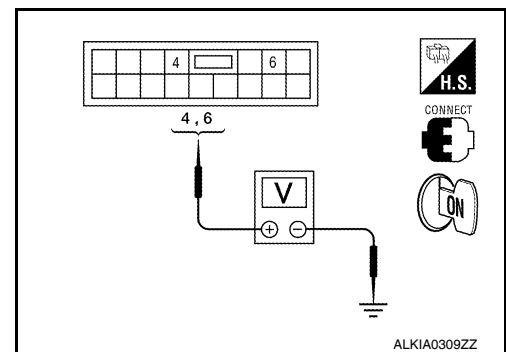
INFOID:000000004916388

Regarding Wiring Diagram information, refer to [PWC-52, "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.
- NO >> GO TO 2

2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

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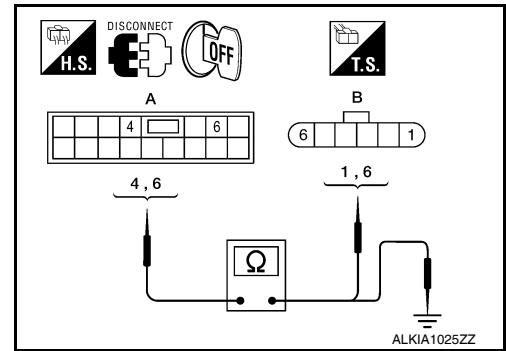
PWC

DOOR KEY CYLINDER SWITCH

< COMPONENT 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		

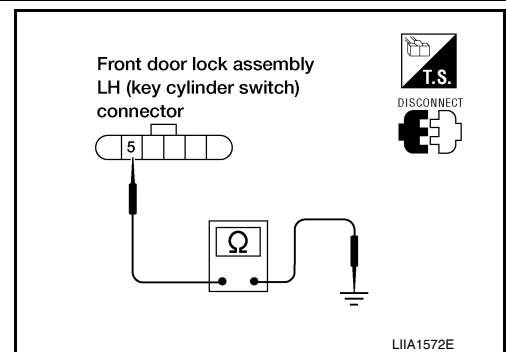
Is the inspection result normal?

- 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-38, "Intermittent Incident"](#).
 NO >> Replace front door lock assembly LH (door key cylinder switch).

Component Inspection

INFOID:000000004916389

COMPONENT INSPECTION

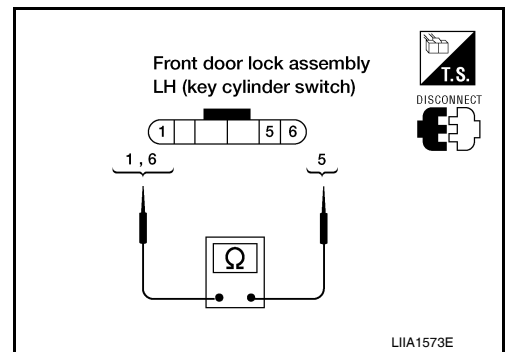
1. CHECK DOOR KEY CYLINDER SWITCH

DOOR KEY CYLINDER SWITCH

< COMPONENT 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 (key cylinder switch).

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POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

POWER WINDOW SERIAL LINK

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:000000004916390

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:000000004916391

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-III. Refer to [BCS-16, "COMMON ITEM : CONSULT-III 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"](#).

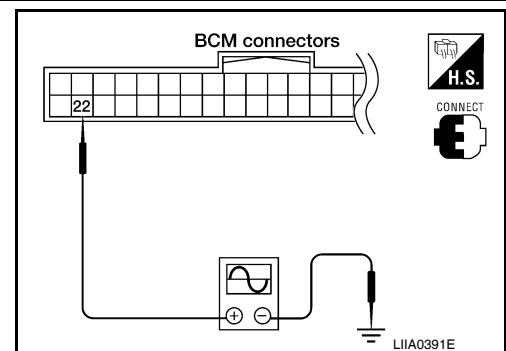
POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000004916392

Regarding Wiring Diagram information, refer to [PWC-52, "Wiring Diagram"](#).

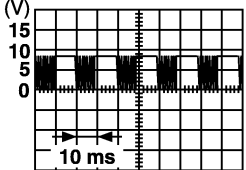
1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

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

< COMPONENT DIAGNOSIS >

Terminal		Signal (Reference value)
(+)	(-)	
BCM connector	Terminal	
M18	22	 <p>PIIA1297E</p>

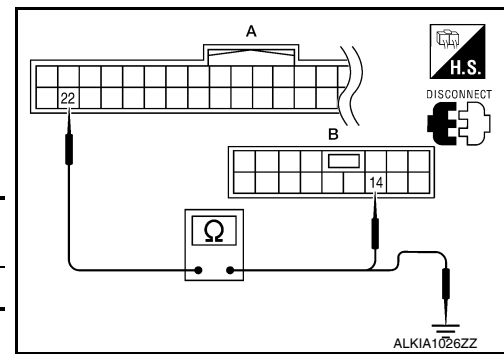
Is the inspection result normal?

- 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-108. "Removal and Installation"](#).
 NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:000000004916393

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:000000004916394

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

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POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

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

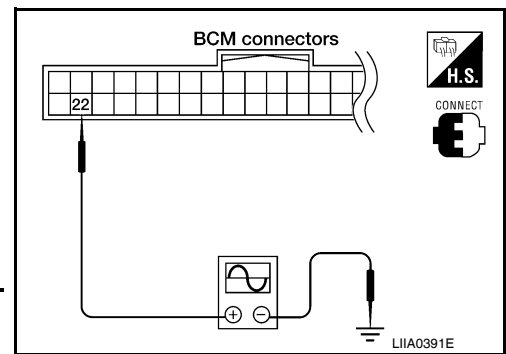
FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000004916395

Regarding Wiring Diagram information, refer to [PWC-65, "Wiring Diagram"](#).

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

1. Remove Intelligent Key or ignition key, and close the 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".



Terminal (+)		Terminal (-)	Signal (Reference value)
BCM connector	Terminal		
M18	2	Ground	

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> GO TO 2

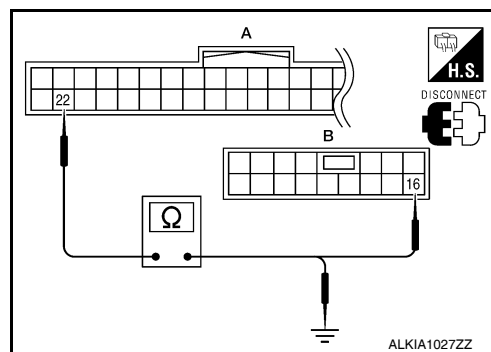
2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect BCM.
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
M18 (A)	22	D105 (B)	16	Yes



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-108. "Removal and Installation"](#).
- NO >> Repair or replace harness.

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POWER WINDOW LOCK SWITCH

< COMPONENT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description

INFOID:000000004916396

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:000000004916397

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 [PWC-108, "Removal and Installation"](#).
- NO >> Check condition of harness and connector.

REAR POWER VENT WINDOW SWITCH CIRCUIT CHECK

< COMPONENT DIAGNOSIS >

REAR POWER VENT WINDOW SWITCH CIRCUIT CHECK

Description

INFOID:000000004916398

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

Diagnosis Procedure

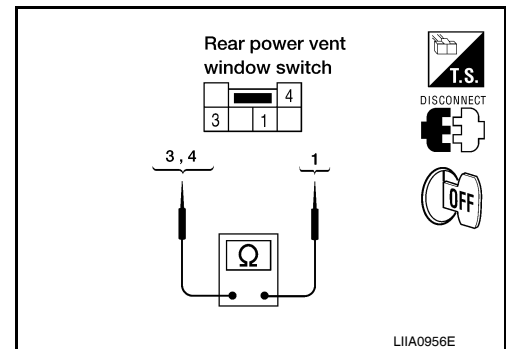
INFOID:000000004916399

Regarding Wiring Diagram information, refer to [PWC-52, "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.

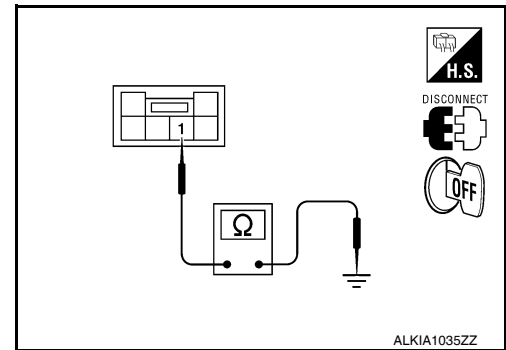
2. CHECK REAR POWER VENT WINDOW SWITCH CIRCUIT HARNESS CONTINUITY

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

< COMPONENT DIAGNOSIS >

REAR POWER VENT WINDOW MOTOR LH CIRCUIT CHECK

Description

INFOID:000000004916400

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

Diagnosis Procedure

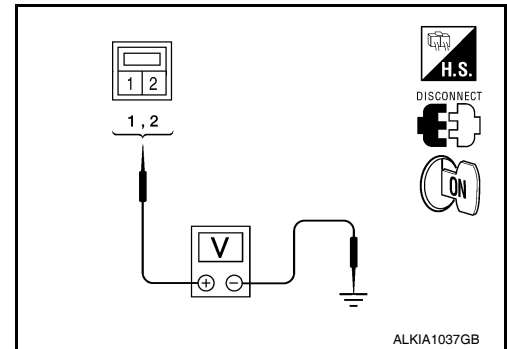
INFOID:000000004916401

Regarding Wiring Diagram information, refer to [PWC-52, "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-22, "Removal and Installation \(with Rear Power Vent Windows\)"](#).
- NO >> Repair or replace harness.

REAR POWER VENT WINDOW MOTOR RH CIRCUIT CHECK

< COMPONENT DIAGNOSIS >

REAR POWER VENT WINDOW MOTOR RH CIRCUIT CHECK

Description

INFOID:000000004916402

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

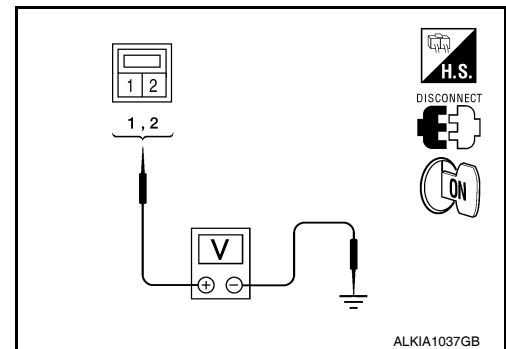
Diagnosis Procedure

INFOID:000000004916403

Regarding Wiring Diagram information, refer to [PWC-52, "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-22, "Removal and Installation \(with Rear Power Vent Windows\)"](#).
- NO >> Repair or replace harness.

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REAR POWER VENT WINDOW RELAY (OPEN) CHECK

< COMPONENT DIAGNOSIS >

REAR POWER VENT WINDOW RELAY (OPEN) CHECK

Description

INFOID:000000004916404

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

Diagnosis Procedure

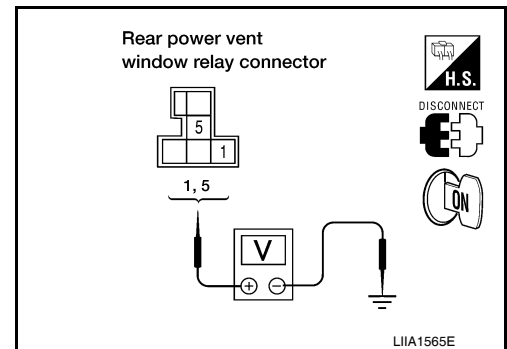
INFOID:000000004916405

Regarding Wiring Diagram information, refer to [PWC-52, "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		



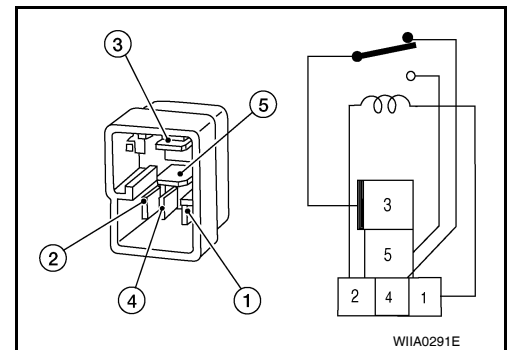
Is the inspection result normal?

- 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).

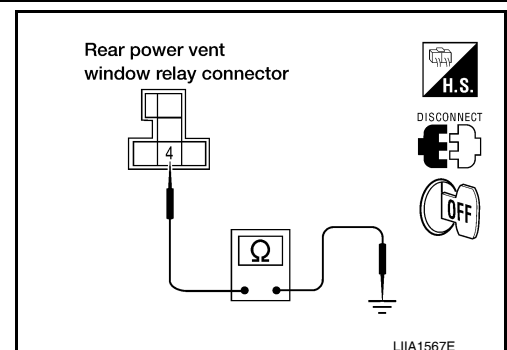
3. CHECK REAR POWER VENT WINDOW RELAY (OPEN) GROUND CIRCUIT

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

< COMPONENT DIAGNOSIS >

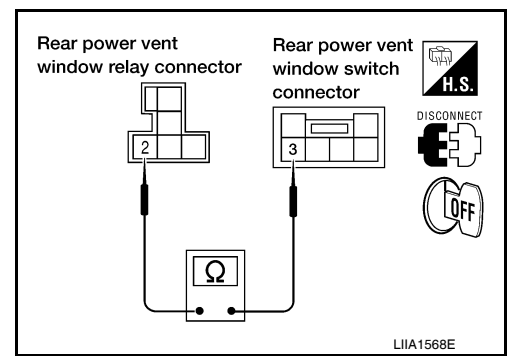
1. Disconnect rear power vent window switch.
2. Check continuity between rear power vent window relay (OPEN) connector M87 terminal 2 and rear power vent window switch connector M95 terminal 3.

2 - 3

: Continuity should exist.

Is the inspection result normal?

- YES >> Replace rear power vent window switch.
NO >> Repair or replace harness.



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REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

< COMPONENT DIAGNOSIS >

REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

Description

INFOID:000000004916406

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

Diagnosis Procedure

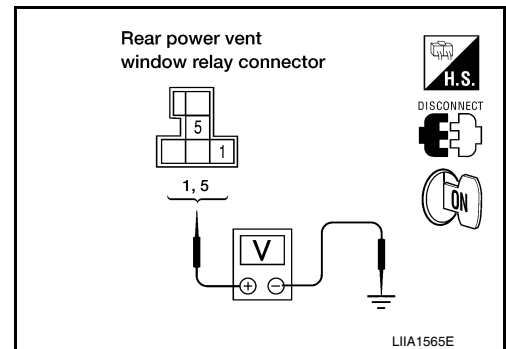
INFOID:000000004916407

Regarding Wiring Diagram information, refer to [PWC-52, "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		



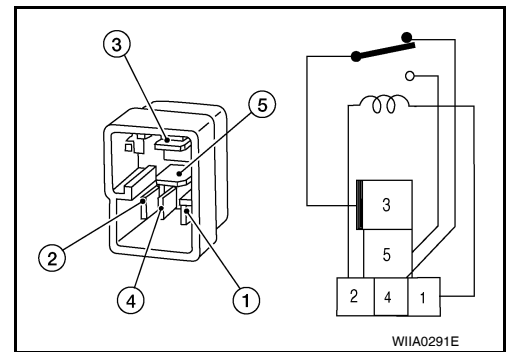
Is the inspection result normal?

- 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).

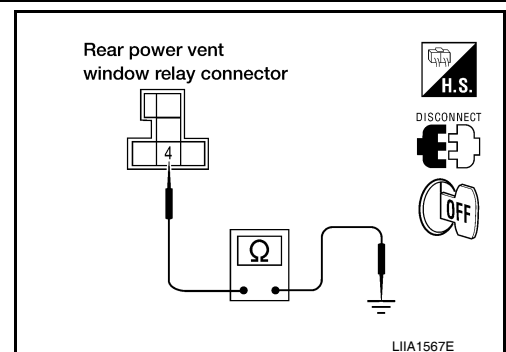
3. CHECK REAR POWER VENT WINDOW RELAY (CLOSE) GROUND CIRCUIT

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

< COMPONENT DIAGNOSIS >

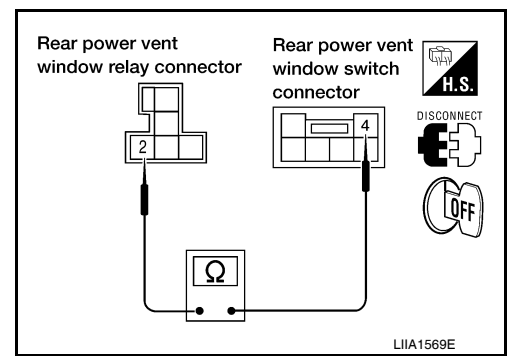
1. Disconnect rear power vent window switch.
2. Check continuity between rear power vent window relay (CLOSE) connector M89 terminal 2 and rear power vent window switch M95 terminal 4.

2 - 4

: Continuity should exist.

Is the inspection result normal?

- YES >> Replace rear power vent window switch.
NO >> Repair or replace harness.



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POWER WINDOW MAIN SWITCH

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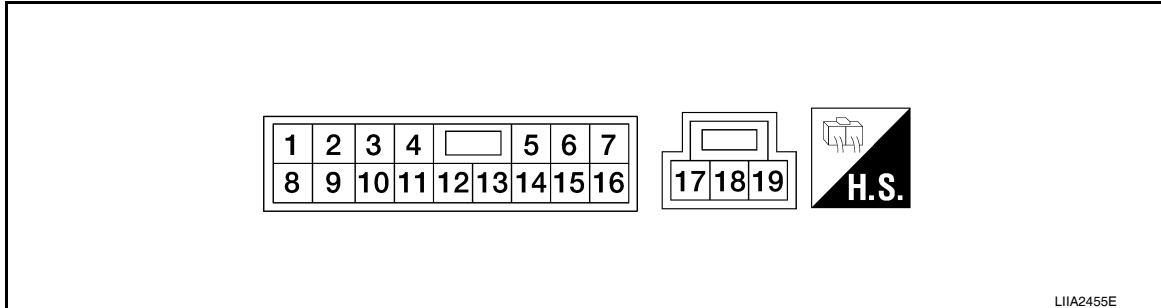
ECU DIAGNOSIS

POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000004916412

TERMINAL LAYOUT



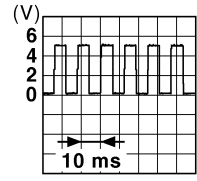
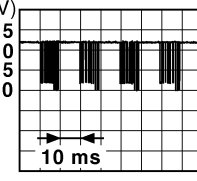
PHYSICAL VALUES

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.	<p style="text-align: right;">JMKIA0070GB</p>

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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.	 <p style="text-align: right; font-size: small;">JMKIA0070GB</p>
14 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 <p style="text-align: right; font-size: small;">JPMIA0013GB</p>
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

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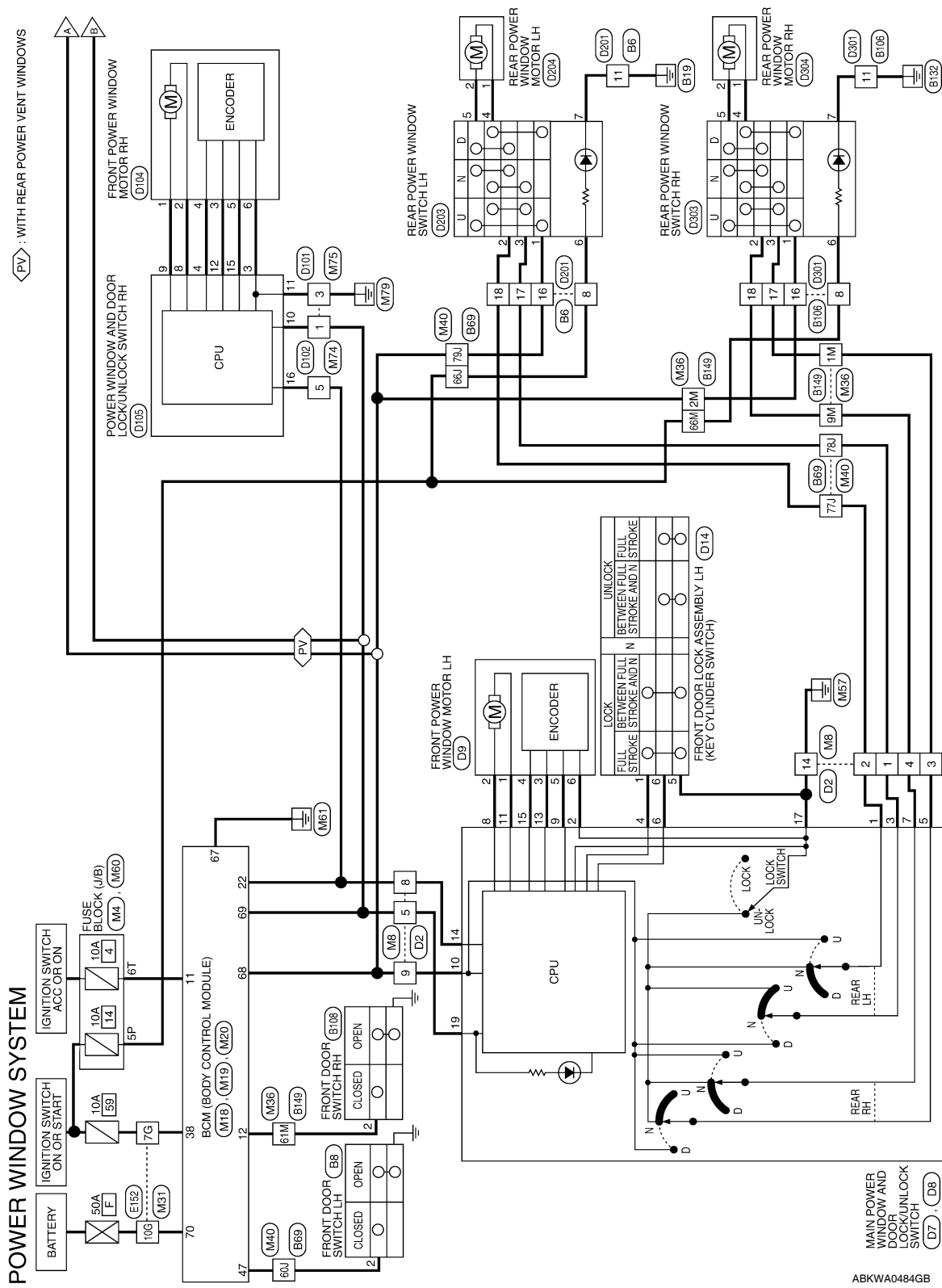
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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Wiring Diagram

INFOID:000000004916413

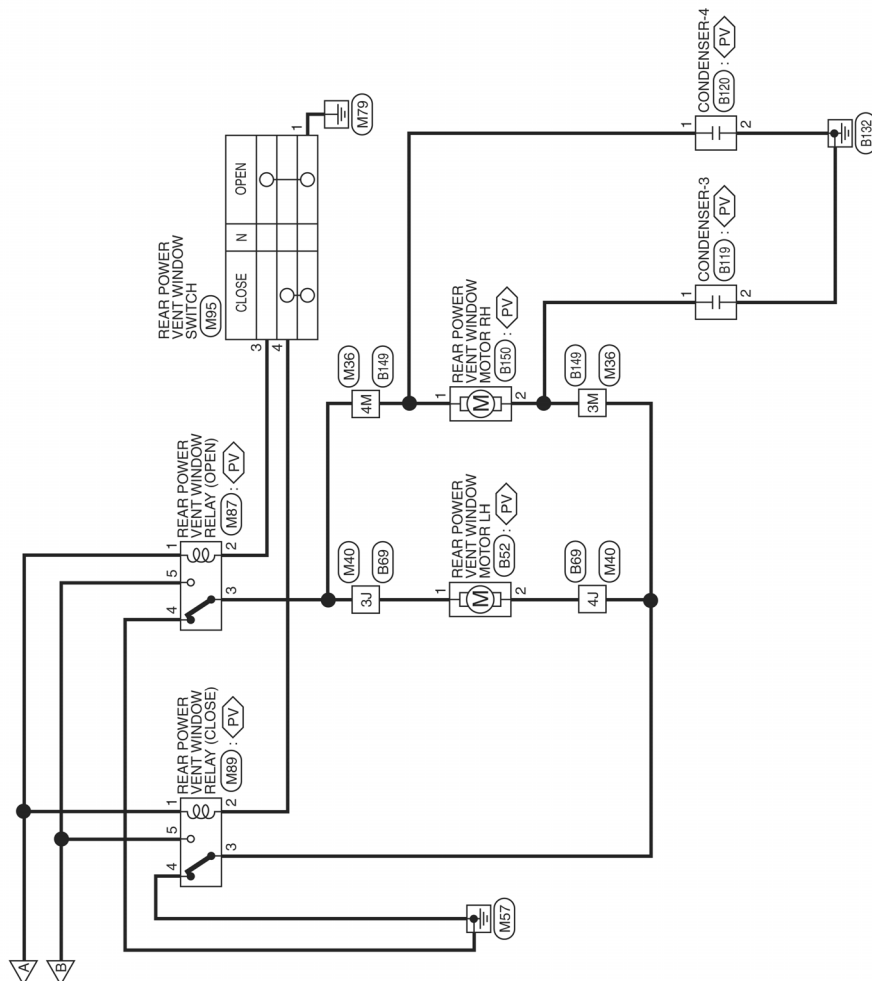


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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

PV : WITH REAR POWER VENT WINDOWS



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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

POWER WINDOW SYSTEM CONNECTORS

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



7P	8P	4P	3P	2P	1P		
16P	13P	14P	13P	11P	10P	9P	8P

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

Connector No.	M8
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
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



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

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



41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

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

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

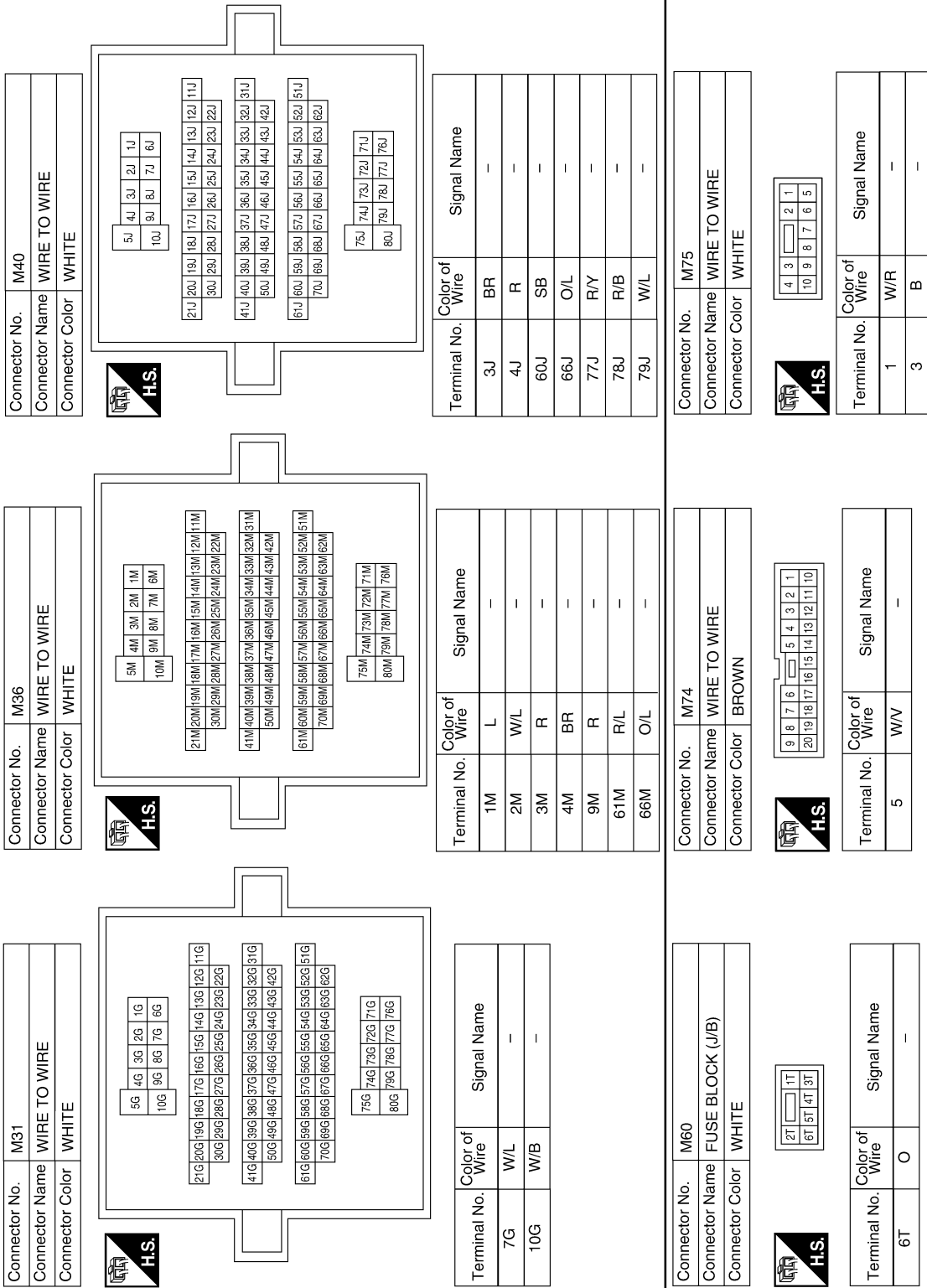


56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			

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 MAIN SWITCH

< ECU DIAGNOSIS >



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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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	-

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



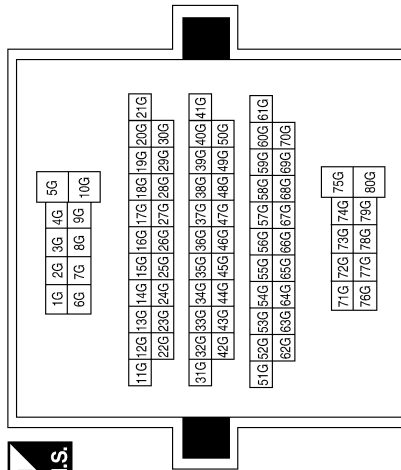
Terminal No.	Color of Wire	Signal Name
1	W/L	-
2	G/R	-
3	R	-
4	B	-
5	W/R	-

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



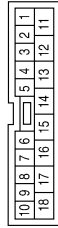
Terminal No.	Color of Wire	Signal Name
1	B	-
3	R/G	-
4	G/R	-

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



Terminal No.	Color of Wire	Signal Name
7G	L/W	-
10G	W/B	-

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



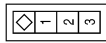
Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	R/B	-
18	R/Y	-

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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



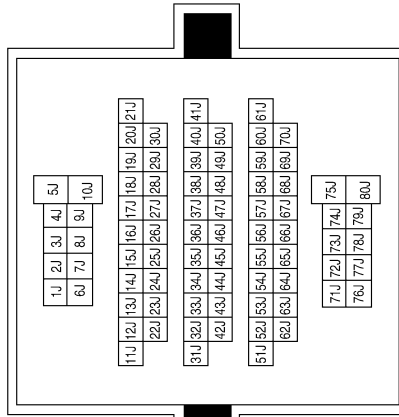
Terminal No.	Color of Wire	Signal Name
2	SB	-

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



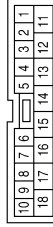
Terminal No.	Color of Wire	Signal Name
1	Y	-
2	G	-

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



Terminal No.	Color of Wire	Signal Name
3J	Y	-
4J	G	-
60J	SB	-
66J	O/L	-
77J	R/Y	-
78J	R/B	-
79J	W/L	-

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	-

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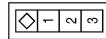
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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



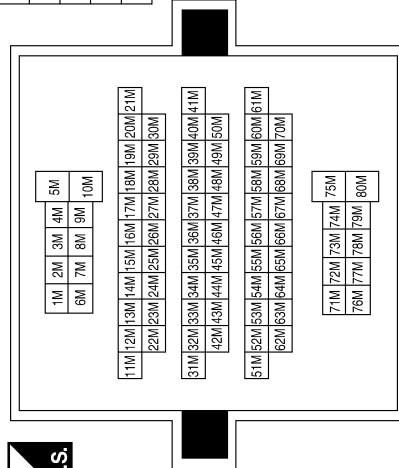
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-

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



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

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



Terminal No.	Color of Wire	Signal Name
1M	L	-
2M	W/L	-
3M	BR	-
4M	R	-
9M	R	-
61M	R/L	-
66M	O/L	-

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

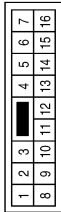


Terminal No.	Color of Wire	Signal Name
1	R	-
2	BR	-

POWER WINDOW MAIN SWITCH

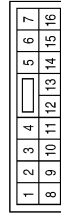
< ECU DIAGNOSIS >

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	-

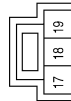
Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
6	R	UNLOCK
7	R	-
8	G/R	-
9	O	-
10	W/L	-
11	G/W	-
12	-	-
13	G/Y	-
14	LG/W	ANTI PINCH SERIAL LINK
15	BR	-
16	-	-

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



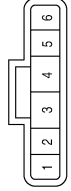
Terminal No.	Color of Wire	Signal Name
17	B	GND
18	-	-
19	W/R	P-WDW BAT

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



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

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



Terminal No.	Color of Wire	Signal Name
1	L	LOCK
5	B	GND
6	R	UNLOCK

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POWER WINDOW MAIN SWITCH

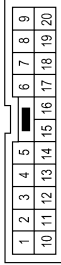
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Connector No.	D104
Connector Name	FRONT POWER WINDOW MOTOR RH
Connector Color	GRAY



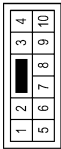
Terminal No.	Color of Wire	Signal Name
1	G	-
2	L	-
3	G/Y	-
4	G/R	-
5	G/W	-
6	W/B	-

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



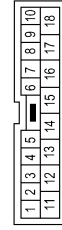
Terminal No.	Color of Wire	Signal Name
5	LG/W	-

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



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

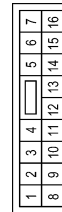
Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
5	-	-
6	-	-
7	-	-
8	L	-
9	G	-
10	W/R	-
11	B	GND
12	G/Y	-
13	-	-
14	-	-
15	G/W	-
16	LG/W	ANTI PINCH SERIAL LINK

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



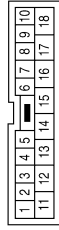
Terminal No.	Color of Wire	Signal Name
1	-	-
2	-	-
3	W/B	-
4	G/R	-

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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

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



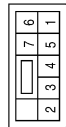
Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	L	-
18	R	-

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.	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	-
8	-	-

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	-
8	-	-

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INFOID:000000004916414

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.

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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.

FRONT POWER WINDOW SWITCH

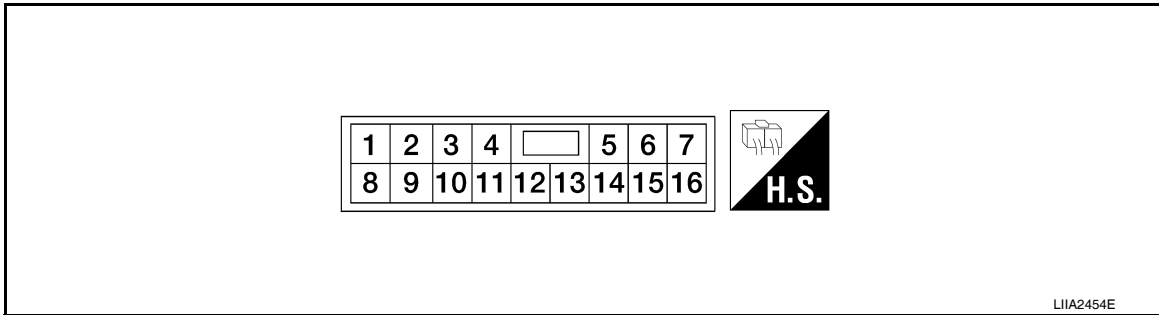
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FRONT POWER WINDOW SWITCH

Reference Value

INFOID:000000004916415

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.	

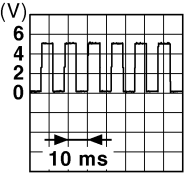
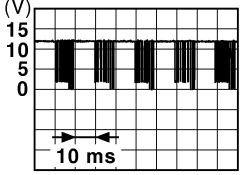
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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

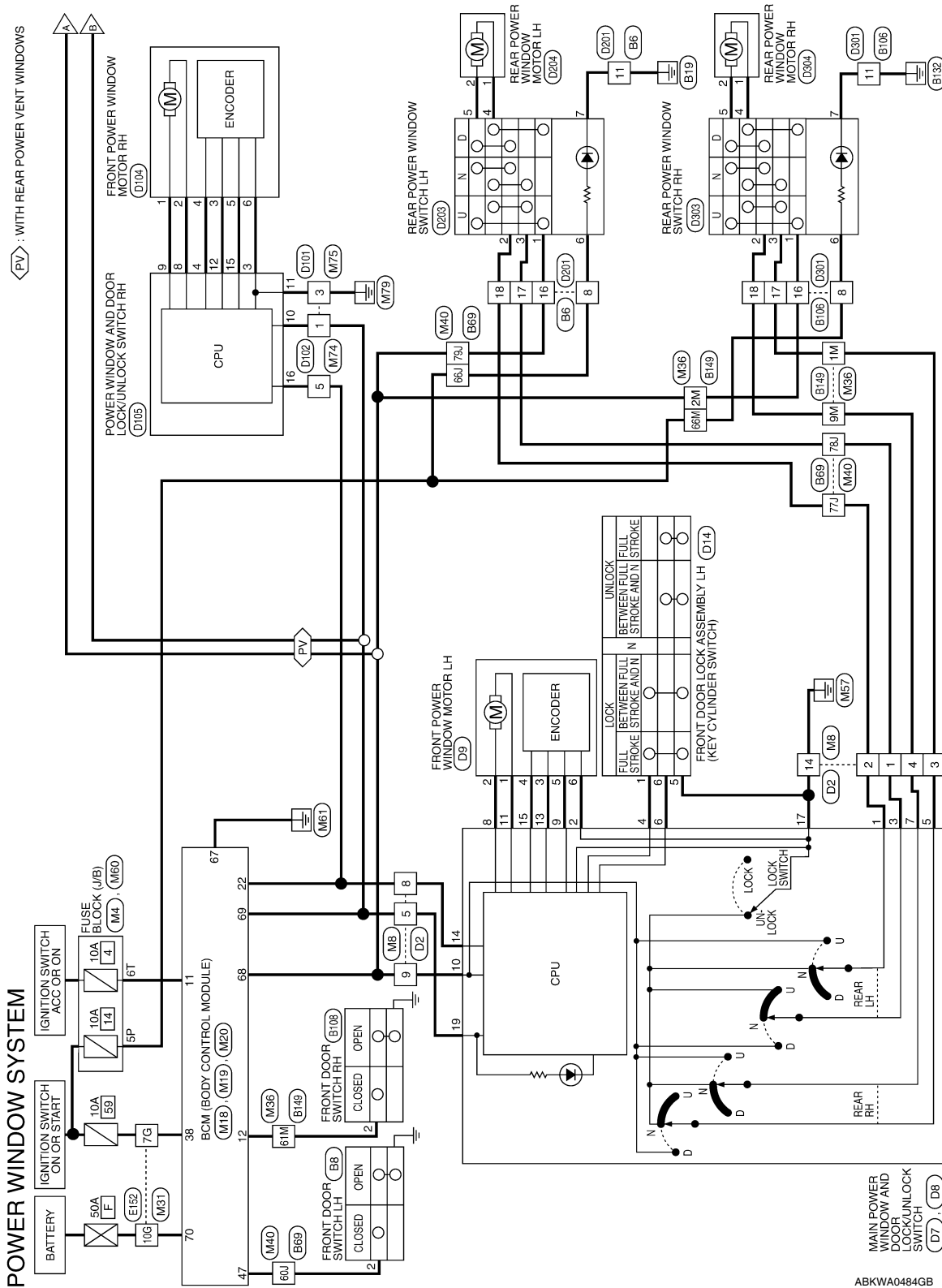
Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
15 (G/W)	3	Encoder pulse signal 2	Input	When power window motor operates.	 <p style="text-align: right; font-size: small;">JMKIA0070GB</p>
16 (LG/W)	Ground	Power window serial link	Input/ Output	IGN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

FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

Wiring Diagram

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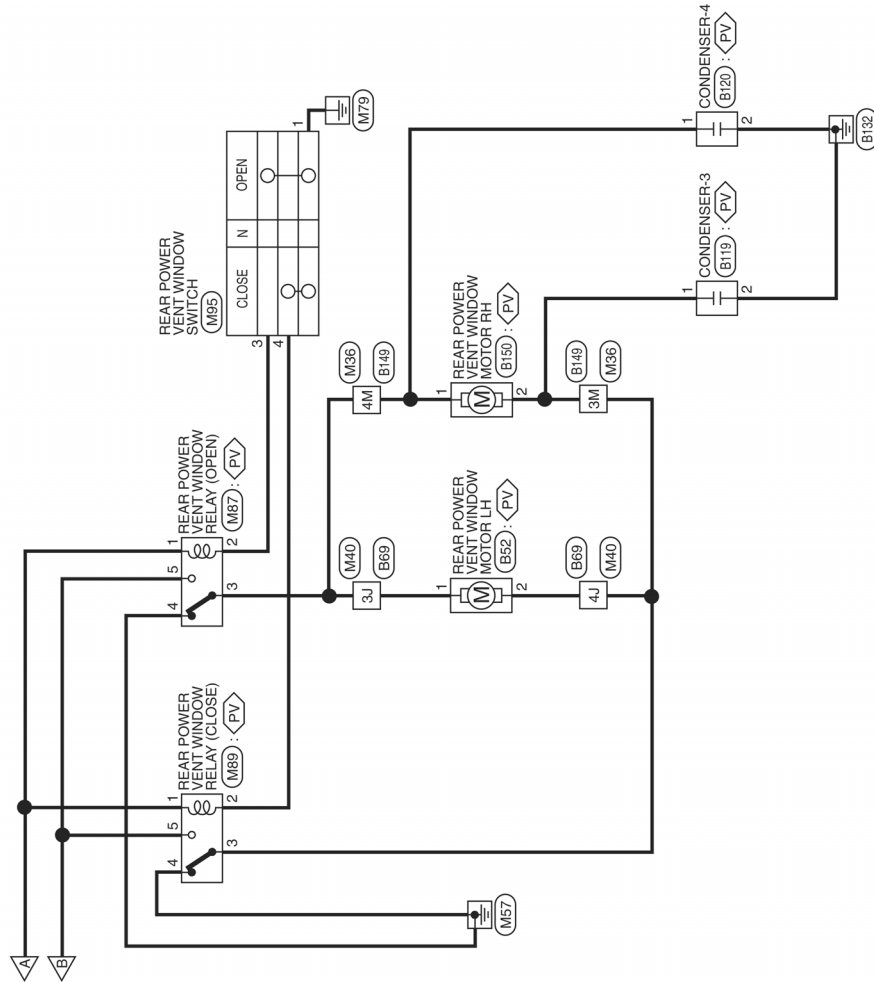
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FRONT POWER WINDOW SWITCH

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PV : WITH REAR POWER VENT WINDOWS



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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

POWER WINDOW SYSTEM CONNECTORS

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



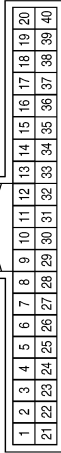
Terminal No.	Color of Wire	Signal Name
5P	O/L	-

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



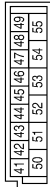
Terminal No.	Color of Wire	Signal Name
1	R/B	-
2	R/Y	-
3	L	-
4	R	-
5	W/R	-
8	W/V	-
9	W/L	-
14	B	-

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)

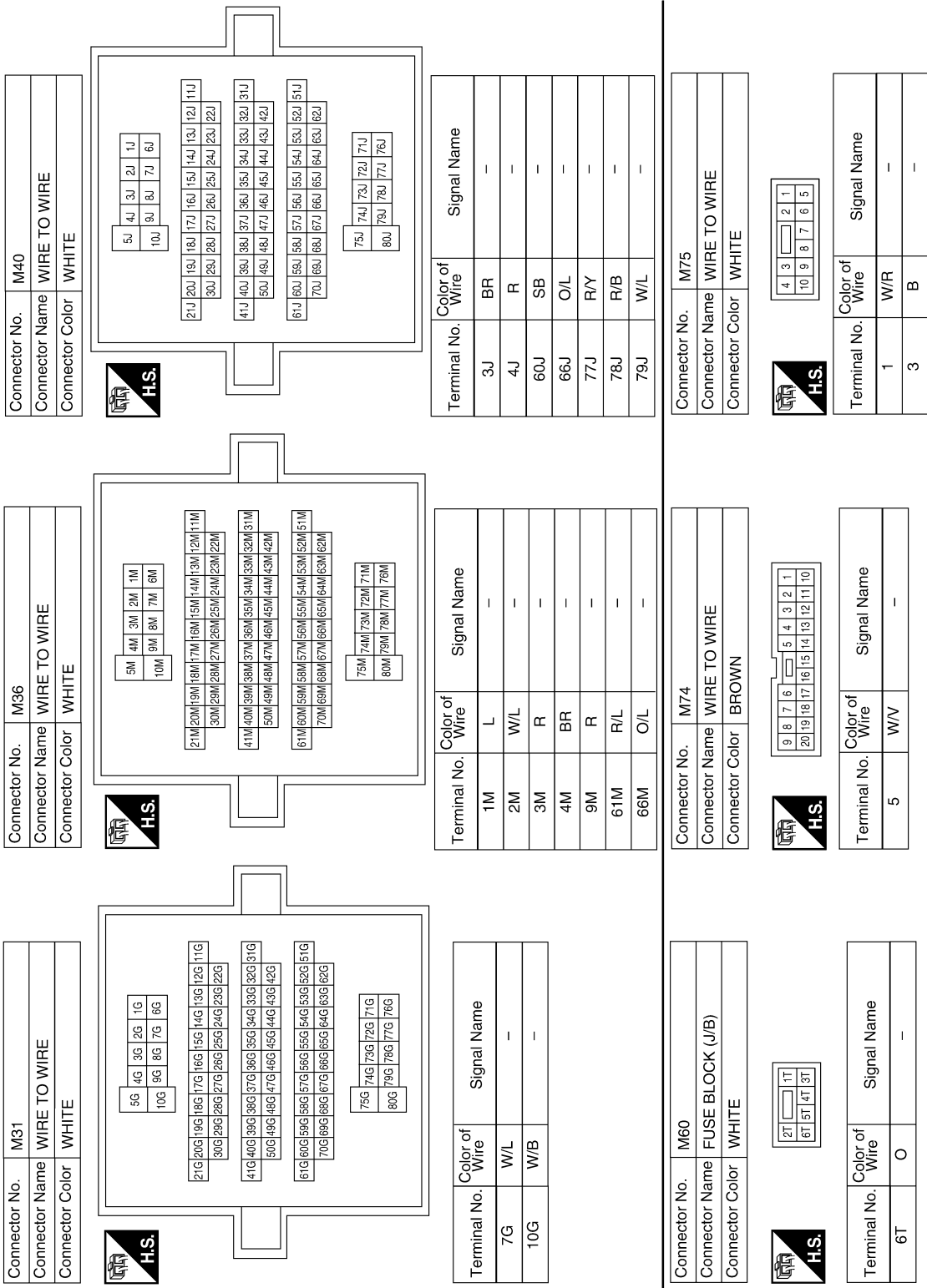
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FRONT POWER WINDOW SWITCH

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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

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



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

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



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

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

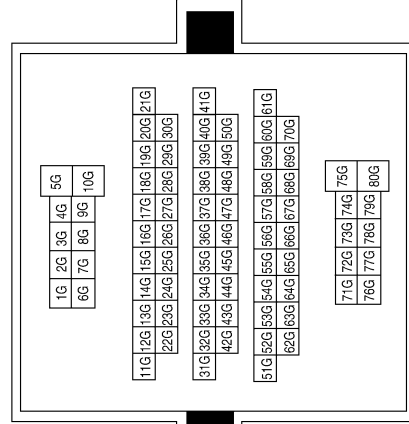
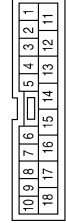


Terminal No.	Color of Wire	Signal Name
7G	L/W	-
10G	W/B	-

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	-



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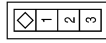
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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

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



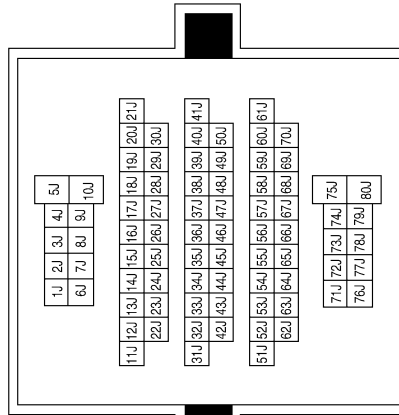
Terminal No.	Color of Wire	Signal Name
2	SB	-

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



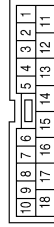
Terminal No.	Color of Wire	Signal Name
1	Y	-
2	G	-

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



Terminal No.	Color of Wire	Signal Name
3J	Y	-
4J	G	-
60J	SB	-
66J	O/L	-
77J	R/Y	-
78J	R/B	-
79J	W/L	-

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



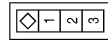
Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	L	-
18	R	-

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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

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



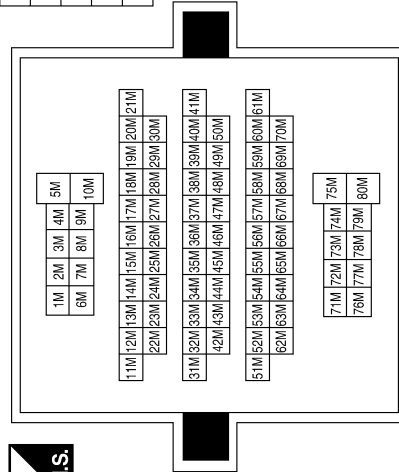
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-

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



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

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



Terminal No.	Color of Wire	Signal Name
1M	L	-
2M	W/L	-
3M	BR	-
4M	R	-
9M	R	-
61M	R/L	-
66M	O/L	-

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	-

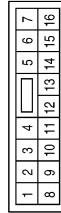
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FRONT POWER WINDOW SWITCH

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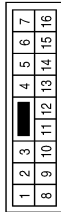
Terminal No.	Color of Wire	Signal Name
6	R	UNLOCK
7	R	-
8	G/R	-
9	O	-
10	W/L	-
11	G/W	-
12	-	-
13	G/Y	-
14	LG/W	ANTI PINCH SERIAL LINK
15	BR	-
16	-	-

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	-
2	W/B	-
3	R/B	-
4	L	LOCK
5	L	-

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	-

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

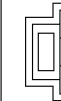


Connector No.	D9
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	L	LOCK
5	B	GND
6	R	UNLOCK

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	P-WDW BAT

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FRONT POWER WINDOW SWITCH

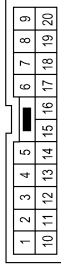
< ECU DIAGNOSIS >

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



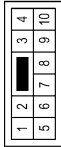
Terminal No.	Color of Wire	Signal Name
1	G	-
2	L	-
3	G/Y	-
4	G/R	-
5	G/W	-
6	W/B	-

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



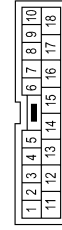
Terminal No.	Color of Wire	Signal Name
5	LG/W	-

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



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

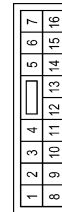
Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
5	-	-
6	-	-
7	-	-
8	L	-
9	G	-
10	W/R	-
11	B	GND
12	G/Y	-
13	-	-
14	-	-
15	G/W	-
16	LG/W	ANTI PINCH SERIAL LINK

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	-
4	G/R	-

ABKIA0023GB

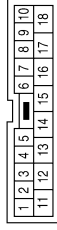
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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

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



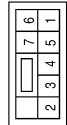
Terminal No.	Color of Wire	Signal Name
8	O/L	-
11	B	-
16	W/L	-
17	L	-
18	R	-

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.	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	-
8	-	-

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	-
8	-	-

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INFOID:000000004916417

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.

FRONT POWER WINDOW 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.

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000005242988

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	OFF
	A/C switch ON	ON
AUT LIGHT SYS	Outside of the room is dark	OFF
	Outside of the room is bright	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
	Lighting switch AUTO	ON
BACK DOOR SW	Back door closed	OFF
	Back door opened	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
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
ENGINE RUN	Engine stopped	OFF
	Engine running	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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
LIGHT SW 1ST	Lighting switch OFF	OFF	A
	Lighting switch 1st	ON	
HEAD LAMP SW1	Headlamp switch OFF	OFF	B
	Headlamp switch 1st	ON	
HEAD LAMP SW2	Headlamp switch OFF	OFF	C
	Headlamp switch 1st	ON	
HI BEAM SW	High beam switch OFF	OFF	D
	High beam switch HI	ON	
IGN ON SW	Ignition switch OFF or ACC	OFF	E
	Ignition switch ON	ON	
IGN SW CAN	Ignition switch OFF or ACC	OFF	F
	Ignition switch ON	ON	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	F
I-KEY LOCK ¹	LOCK button of Intelligent Key is not pressed	OFF	G
	LOCK button of Intelligent Key is pressed	ON	
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is not pressed	OFF	H
	UNLOCK button of Intelligent Key is pressed	ON	
KEY CYL LK-SW	Door key cylinder LOCK position	ON	I
	Door key cylinder other than LOCK position	OF	
KEY CYL UN-SW	Door key cylinder UNLOCK position	ON	J
	Door key cylinder other than UNLOCK position	ON	
KEY ON SW	Mechanical key is removed from key cylinder	OFF	PWC
	Mechanical key is inserted to key cylinder	ON	
KEYLESS LOCK ²	LOCK button of key fob is not pressed	OFF	L
	LOCK button of key fob is pressed	ON	
KEYLESS UNLOCK ²	UNLOCK button of key fob is not pressed	OFF	M
	UNLOCK button of key fob is pressed	ON	
OIL PRESS SW	<ul style="list-style-type: none"> • Ignition switch OFF or ACC • Engine running 	OFF	N
	Ignition switch ON	ON	
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V	O
	Dark outside of the vehicle	Close to 0V	
PASSING SW	Other than lighting switch PASS	OFF	P
	Lighting switch PASS	ON	
PUSH SW ¹	Return to ignition switch to LOCK position	OFF	O
	Press ignition switch	ON	
REAR DEF SW	Rear window defogger switch OFF	OFF	P
	Rear window defogger switch ON	ON	
RKE LCK-UNLCK	LOCK/UNLOCK buttons of key fob not pressed at same time	OFF	P
	LOCK/UNLOCK buttons of key fob pressed at same time	ON	
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	OFF	O
	UNLOCK button of key fob is pressed	ON	
RR WASHER SW	Rear washer switch OFF	OFF	P
	Rear washer switch ON	ON	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
RR WIPER INT	Rear wiper switch OFF	OFF
	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
RR WIPER STP2	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

1: With Intelligent Key

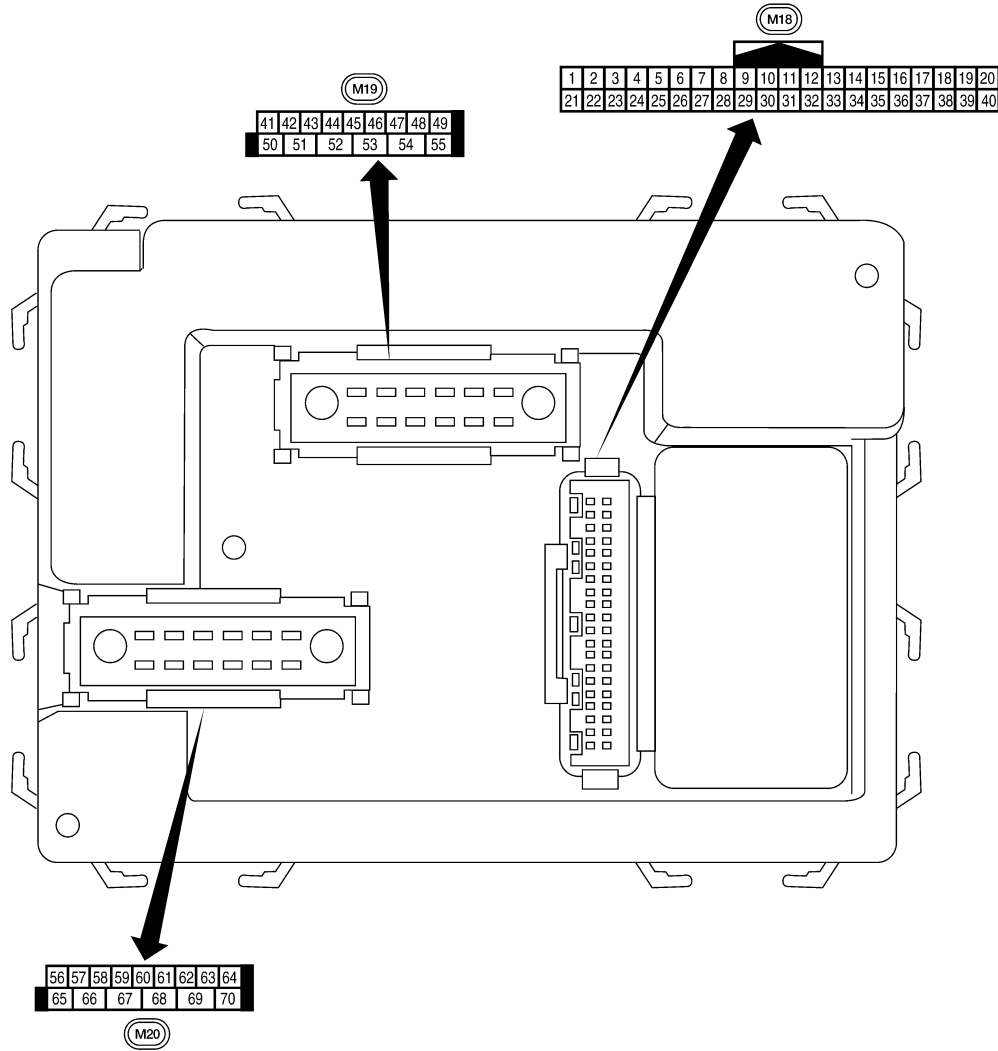
2: With remote keyless entry system

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal Layout

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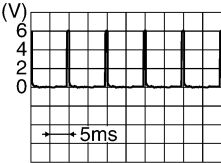

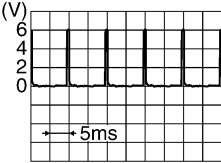
Physical Values

LIA2443E

INFOID:000000005243147

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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; font-size: small;">SKIA5291E</p>
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
6	V	Combination switch input 1				
9	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

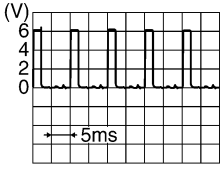
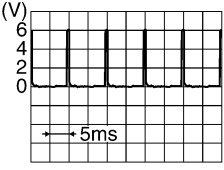
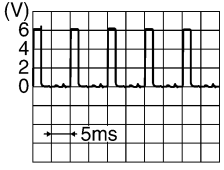
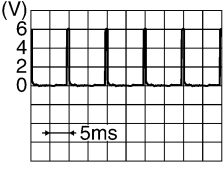
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	<p style="text-align: right;">LIA1893E</p>
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	<p style="text-align: right;">LIA1894E</p>
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	<p style="text-align: right;">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;">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

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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 ¹	B/R	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key inserted	0V
37 ²	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open	0
					Glass hatch closed	Battery
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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

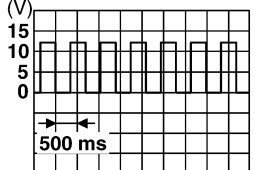
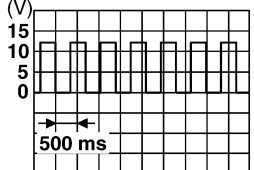
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
44	O	Rear wiper auto stop switch 1	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery 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	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	
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
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
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	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
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

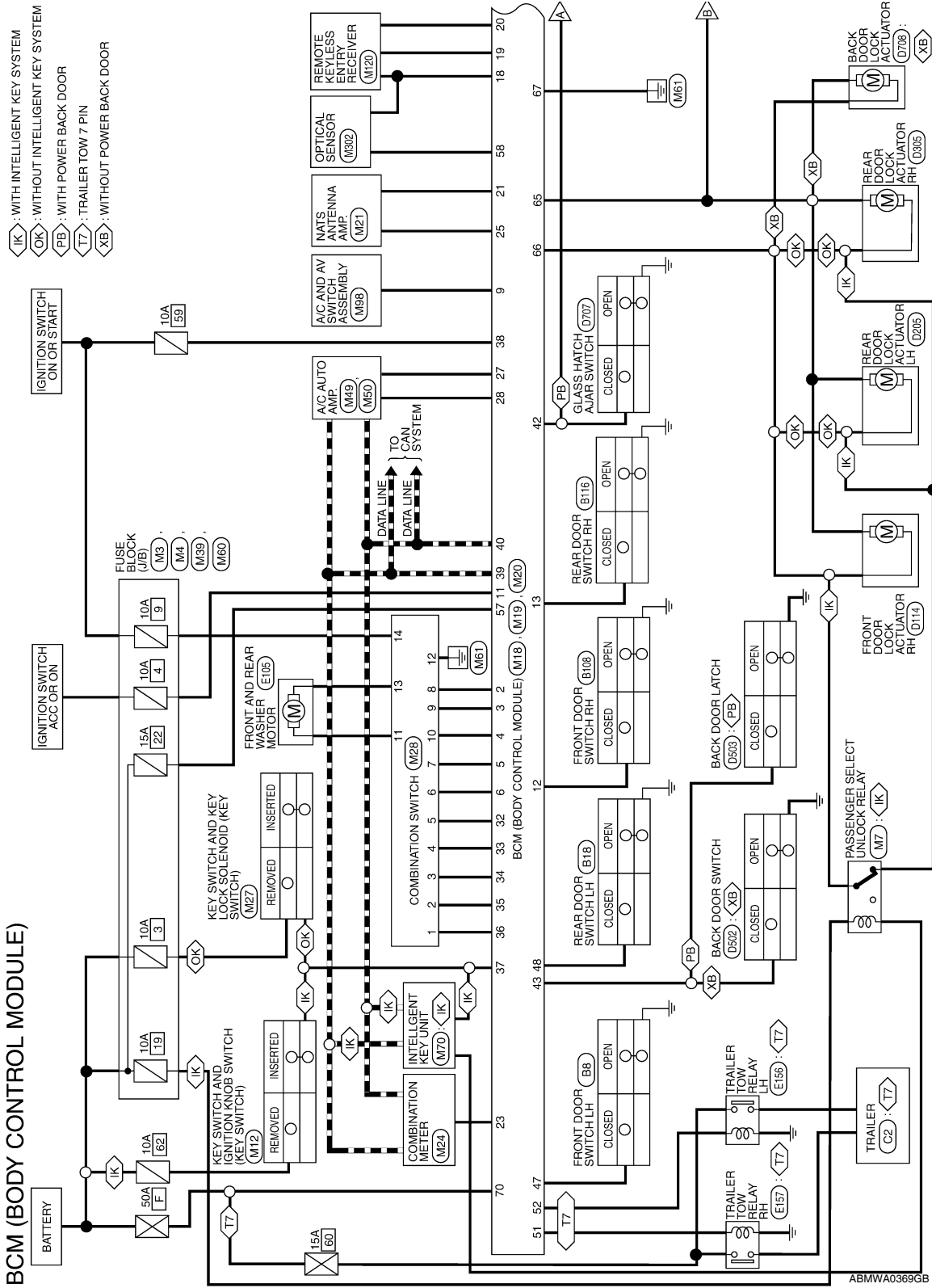
2: With remote keyless entry system

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Wiring Diagram

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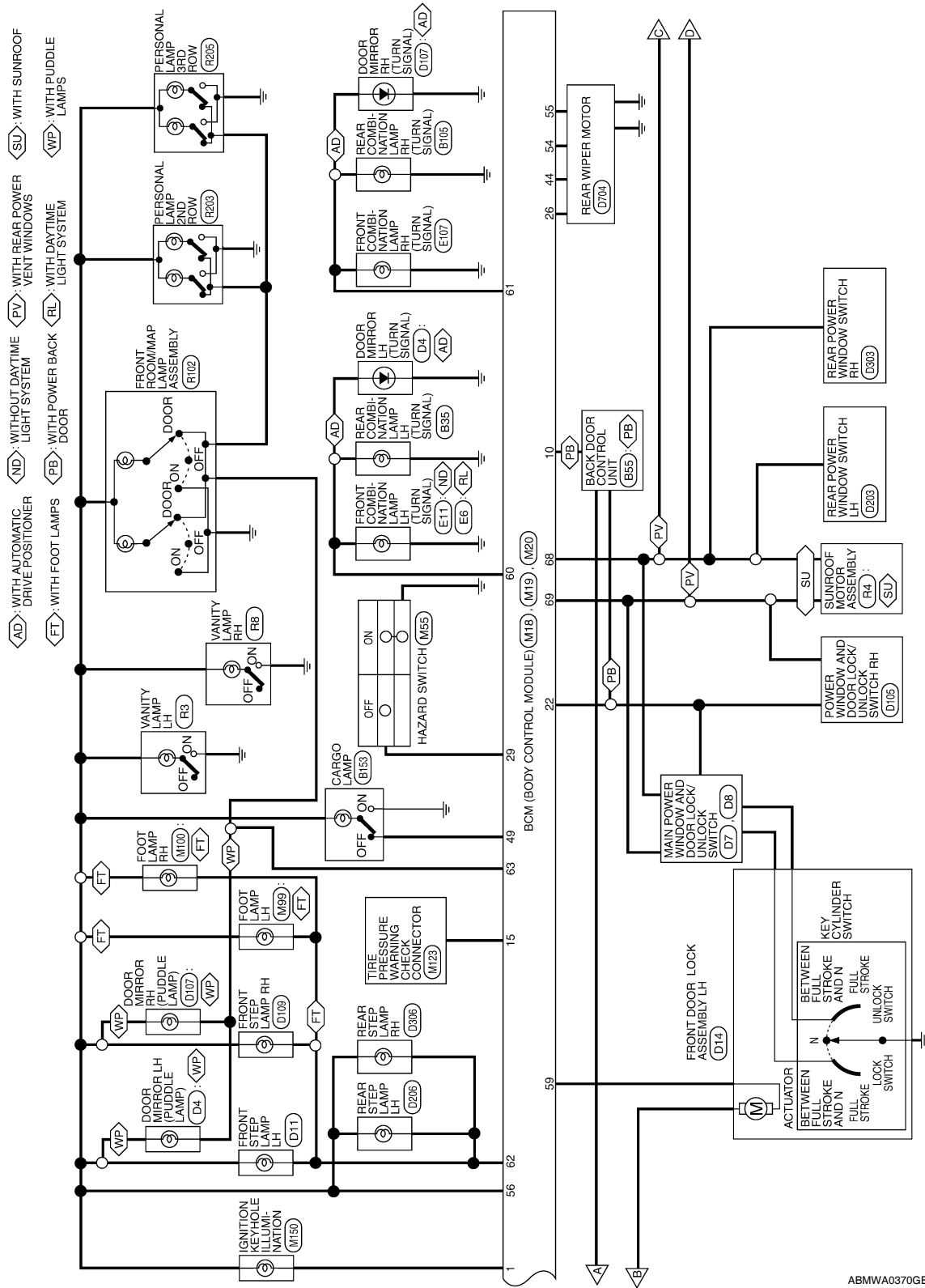


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BCM (BODY CONTROL MODULE)

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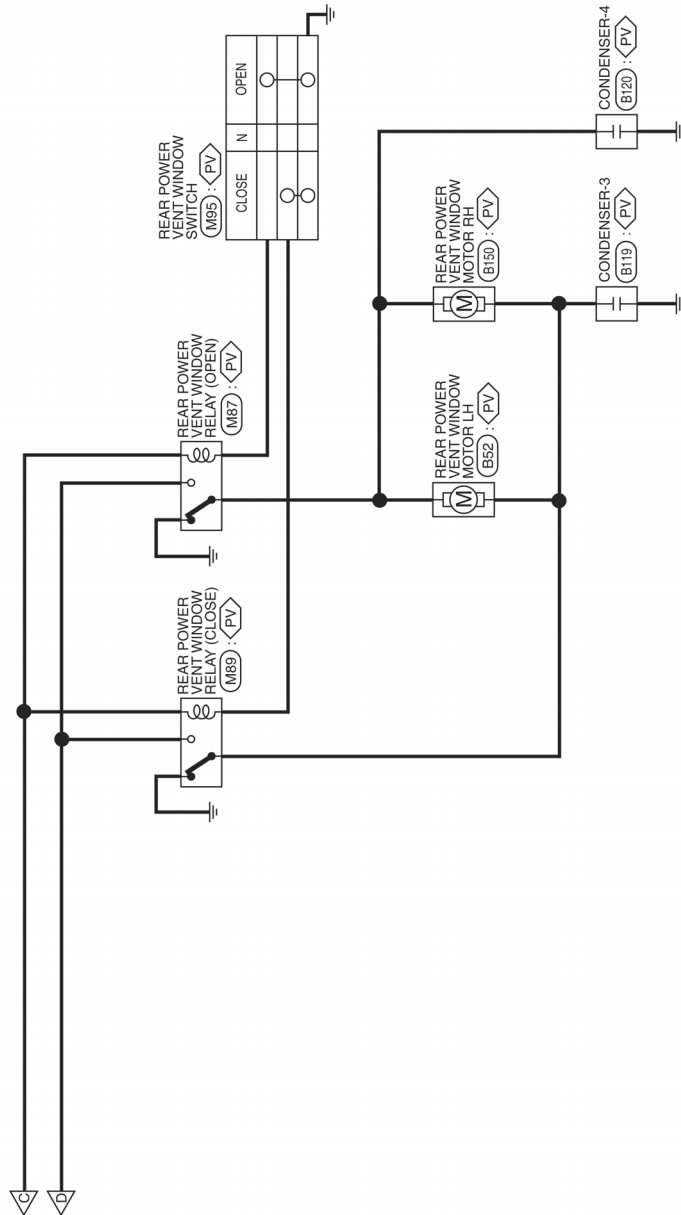


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BCM (BODY CONTROL MODULE)

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◁PV▷ WITH REAR POWER VENT WINDOWS



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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) CONNECTORS

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



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21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	BR/W	KEY RING OUTPUT
2	SB	INPUT 5
3	G/Y	INPUT 4
4	Y	INPUT 3
5	G/B	INPUT 2
6	V	INPUT 1
7	-	-
8	-	-
9	GR/R	REAR DEFOGGER SW
10	G	IVCS INPUT
11	O	ACC SW
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
14	-	-
15	L/W	TPMS MODE TRIGGER SW

Terminal No.	Color of Wire	Signal Name
16	-	-
17	-	-
18	P	KEYLESS AND AUTO LIGHT SENSOR GND
19	V/W	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G/W	KEYLESS TUNER SIGNAL
21	G	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
22	W/V	ANTI-PINCH SERIAL LINK (RX, TX)
23	G/O	SECURITY INDICATOR OUTPUT
24	-	-
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX, TX)
26	Y/L	REAR WIPER AUTO STOP SW2
27	W/R	AIRCON SW
28	L/R	BLOWER FAN SW
29	W/B	HAZARD SW
30	-	-
31	-	-
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
37	B/R	KEY SW
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

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



41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
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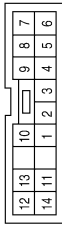
Terminal No.	Color of Wire	Signal Name
41	-	-
42	GR	GLASS HATCH SW
43	R/B	BACK DOOR SW
44	O	REAR WIPER AUTO STOP SW1
45	-	-
46	-	-
47	SB	DOOR SW (DR)
48	R/Y	DOOR SW (RL)
49	R	LUGGAGE LAMP OUTPUT
50	-	-
51	G/Y	TRAILER FLASHER OUTPUT (RIGHT)
52	G/B	TRAILER FLASHER OUTPUT (LEFT)
53	-	-
54	Y	REAR WIPER MOTOR OUTPUT 2
55	SB	REAR WIPER MOTOR OUTPUT 1

BCM (BODY CONTROL MODULE)

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Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	INPUT 1
2	O/B	INPUT 2
3	L	INPUT 3
4	R/Y	INPUT 4
5	R/G	INPUT 5
6	V	OUTPUT 1
7	G/B	OUTPUT 2
8	SB	OUTPUT 5
9	G/Y	OUTPUT 4
10	Y	OUTPUT 3
11	V/W	WASHER MOTOR
12	B	GND
13	W/R	WASHER MOTOR
14	R/L	IGN

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



Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT
57	Y/R	BAT (FUSE)
58	W/R	AUTO LIGHT SENSOR INPUT 2
59	G	DOOR UNLOCK OUTPUT (DR)
60	G/B	FLASHER OUTPUT (LEFT)
61	G/Y	FLASHER OUTPUT (RIGHT)
62	R/W	STEP LAMP OUTPUT
63	L	ROOM LAMP OUTPUT
64	-	-
65	V	DOOR LOCK OUTPUT (ALL)
66	G/Y	DOOR UNLOCK OUTPUT (OTHER)
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)

PWC

ABMIA1056GB

INFOID:000000005243149

Fail Safe

Fail-safe index

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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:000000005243224

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

DTC Index

INFOID:000000005243346

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.

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	—	—	—	BCS-33
B2013: STRG COMM 1	—	—	—	SEC-28

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
B2190: NATS ANTENNA AMP	—	—	—	SEC-31 (with I-Key), SEC-134 (without I-Key)	B
B2191: DIFFERENCE OF KEY	—	—	—	SEC-34 (with I-Key), SEC-137 (without I-Key)	C
B2192: ID DISCORD BCM-ECM	—	—	—	SEC-35 (with I-Key), SEC-138 (without I-Key)	D
B2193: CHAIN OF BCM-ECM	—	—	—	SEC-37 (with I-Key), SEC-140 (without I-Key)	E
B2552: INTELLIGENT KEY	—	—	—	SEC-39	
B2590: NATS MALFUNCTION	—	—	—	SEC-40	
C1708: [NO DATA] FL	—	—	—	WT-14	F
C1709: [NO DATA] FR	—	—	—	WT-16	
C1710: [NO DATA] RR	—	—	—	WT-16	G
C1711: [NO DATA] RL	—	—	—	WT-16	
C1712: [CHECKSUM ERR] FL	—	—	—	WT-16	
C1713: [CHECKSUM ERR] FR	—	—	—	WT-16	H
C1714: [CHECKSUM ERR] RR	—	—	—	WT-16	
C1715: [CHECKSUM ERR] RL	—	—	—	WT-16	I
C1716: [PRESSDATA ERR] FL	—	—	—	WT-18	
C1717: [PRESSDATA ERR] FR	—	—	—	WT-16	
C1718: [PRESSDATA ERR] RR	—	—	—	WT-16	J
C1719: [PRESSDATA ERR] RL	—	—	—	WT-16	
C1720: [CODE ERR] FL	—	—	—	WT-16	PWC
C1721: [CODE ERR] FR	—	—	—	WT-16	
C1722: [CODE ERR] RR	—	—	—	WT-16	
C1723: [CODE ERR] RL	—	—	—	WT-16	L
C1724: [BATT VOLT LOW] FL	—	—	—	WT-16	
C1725: [BATT VOLT LOW] FR	—	—	—	WT-16	
C1726: [BATT VOLT LOW] RR	—	—	—	WT-16	M
C1727: [BATT VOLT LOW] RL	—	—	—	WT-16	
C1729: VHCL SPEED SIG ERR	—	—	—	WT-19	N
C1735: IGN_CIRCUIT_OPEN	—	—	—	—	O

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:000000004916418

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to [BCS-34, "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-38, "Intermittent Incident"](#).

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004916419

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-38. "Intermittent Incident"](#).

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FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004916420

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-38. "Intermittent Incident"](#).

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004916421

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-38, "Intermittent Incident"](#).

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REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004916422

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-38, "Intermittent Incident"](#).

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000004916423

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-27. "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-38. "Intermittent Incident"](#).

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000004916424

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-38. "Intermittent Incident"](#).

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000004916425

1. 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-38. "Intermittent Incident"](#).

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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:000000004916426

1. 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-38, "Intermittent Incident"](#).

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:000000004916427

1. CHECK FRONT DOOR SWITCH

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-38. "Intermittent Incident"](#).

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DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:000000004916428

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

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-38. "Intermittent Incident"](#).

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000004916429

1. CHECK INTELLIGENT KEY OR KEYFOB FUNCTION

Check Intelligent Key or keyfob function.

Refer to [BCS-25. "INTELLIGENT KEY : CONSULT-III Function \(BCM - INTELLIGENT KEY\)"](#) with Intelligent Key or [BCS-20. "MULTIREMOTE ENT : CONSULT-III Function \(BCM - MULTIREMOTE ENT\)"](#) with remote keyless entry system.

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to [GI-38. "Intermittent Incident"](#).
- NO >> Replace BCM. Refer to [BCS-60. "Removal and Installation"](#).

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POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000004916430

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

Replace main power window and door lock/unlock switch.

Refer to [PWC-108. "Removal and Installation"](#).

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-38. "Intermittent Incident"](#).

REAR POWER VENT WINDOWS DO NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR POWER VENT WINDOWS DO NOT OPERATE

Diagnosis Procedure

INFOID:000000004916431

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to [BCS-34, "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

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

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

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-38, "Intermittent Incident"](#).

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000005166024

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

INFOID:000000005267183

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-III 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.

PRECAUTIONS

< PRECAUTION >

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-III.

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POWER WINDOW MAIN SWITCH

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

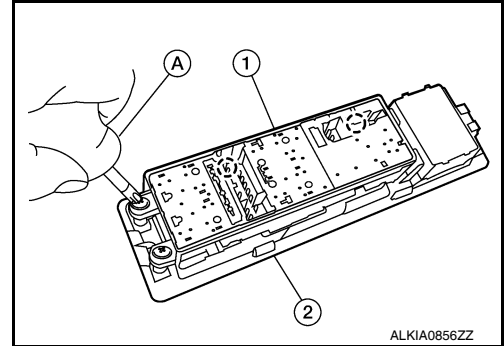
POWER WINDOW MAIN SWITCH

Removal and Installation

INFOID:000000004916433

REMOVAL

1. Remove the power window main switch finisher (2) from the door finisher LH. Refer to [INT-11. "Removal and Installation"](#).
2. Using a screwdriver (A), remove the power window main switch (1) screws, then release from the finisher (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT POWER WINDOW SWITCH

< ON-VEHICLE REPAIR >

FRONT POWER WINDOW SWITCH

Removal and Installation

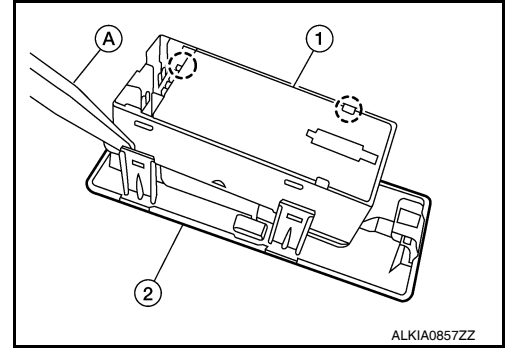
INFOID:000000004916434

REMOVAL

1. Remove the front power window switch finisher (2) from the front door finisher RH. Refer to [INT-11](#), "[Removal and Installation](#)".

○ : Pawl

2. Using a suitable tool (A), release the tabs and remove the front power window switch (1).



INSTALLATION

Installation is in the reverse order of removal.

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REAR POWER WINDOW SWITCH

< ON-VEHICLE REPAIR >

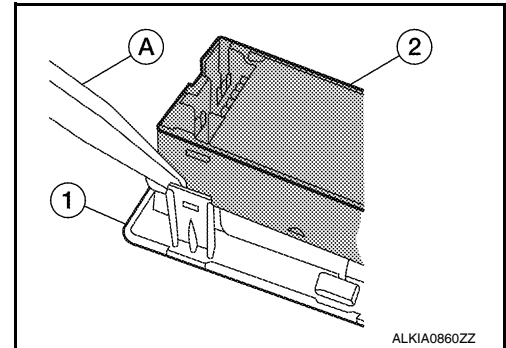
REAR POWER WINDOW SWITCH

Removal and Installation

INFOID:000000004916435

REMOVAL

1. Remove the rear power window switch finisher (1) from the rear door finisher. Refer to [INT-11, "Removal and Installation"](#).
2. Using a suitable tool (A), release the tabs and remove the rear power window switch (2).



INSTALLATION

Installation is in the reverse order of removal.

REAR POWER VENT WINDOW SWITCH

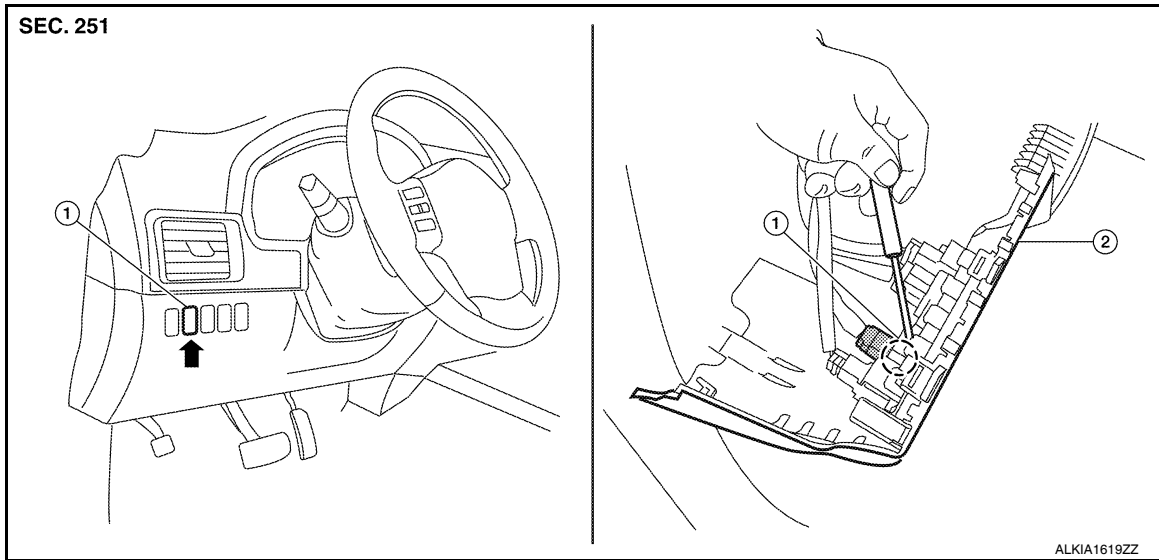
< ON-VEHICLE REPAIR >

REAR POWER VENT WINDOW SWITCH

Removal and Installation

INFOID:000000005190309

REMOVAL



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

1. Remove the instrument lower panel LH, refer to [IP-12. "Removal and Installation"](#).
2. Using a suitable tool, release the upper and lower tabs, then remove the rear power vent window switch.

INSTALLATION

Installation is in the reverse order of removal.

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PWC