

CONTENTS

BASIC INSPECTION4
DIAGNOSIS AND REPAIR WORKFLOW 4 Work Flow4
FUNCTION DIAGNOSIS5
POWER WINDOW SYSTEM5System Diagram5System Description5Component Parts Location7Component Description8
DIAGNOSIS SYSTEM (BCM)9
COMMON ITEM9 COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)9
RETAINED PWR9 RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)10
COMPONENT DIAGNOSIS11
POWER SUPPLY AND GROUND CIRCUIT11
POWER WINDOW MAIN SWITCH
FRONT POWER WINDOW SWITCH
Procedure15

REAR POWER WINDOW SWITCH
POWER WINDOW MOTOR20
DRIVER SIDE
PASSENGER SIDE
21 PASSENGER SIDE : Diagnosis Procedure21 PASSENGER SIDE : Component Inspection22
REAR LH 23 REAR LH : Description 23 REAR LH : Component Function Check 23 REAR LH : Diagnosis Procedure 23 REAR LH : Component Inspection 24
REAR RH
ENCODER27
DRIVER SIDE

D

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PASSENGER SIDE	29	Description	48
PASSENGER SIDE : Description	29	Diagnosis Procedure	
PASSENGER SIDE: Component Function Check			
	29	ECU DIAGNOSIS	50
PASSENGER SIDE : Diagnosis Procedure	29	BCM (BODY CONTROL MODULE)	50
DOOR SWITCH	22	Reference Value	
Description		Terminal Layout	
Component Function Check		Physical Values	
Diagnosis Procedure		Wiring Diagram	
Component Inspection			
Component inspection	04	POWER WINDOW MAIN SWITCH	
DOOR KEY CYLINDER SWITCH	35	Reference Value	
Description		Wiring Diagram	
Component Function Check		Fail Safe	75
Diagnosis Procedure		FRONT POWER WINDOW SWITCH	77
Component Inspection	36	Reference Value	
POWER WINDOW SERIAL LINK	38	Wiring Diagram	
TOWER WINDOW OLINAL LINK	30	Fail Safe	
POWER WINDOW MAIN SWITCH			
POWER WINDOW MAIN SWITCH: Description	38	SYMPTOM DIAGNOSIS	90
POWER WINDOW MAIN SWITCH : Component		NONE OF THE DOWER WINDOWS CAN BE	
Function Check	38	NONE OF THE POWER WINDOWS CAN BE	
POWER WINDOW MAIN SWITCH : Diagnosis		OPERATED USING ANY SWITCH	
Procedure	38	Diagnosis Procedure	90
FRONT POWER WINDOW SWITCH	30	DRIVER SIDE POWER WINDOW ALONE	
FRONT POWER WINDOW SWITCH: Descrip-	00	DOES NOT OPERATE	91
tion	. 39	Diagnosis Procedure	
FRONT POWER WINDOW SWITCH : Compo-		-	
nent Function Check	39	FRONT PASSENGER SIDE POWER WIN-	
FRONT POWER WINDOW SWITCH: Diagnosis		DOW ALONE DOES NOT OPERATE	
Procedure	40	Diagnosis Procedure	92
DOWED WINDOW LOCK CWITCH		REAR LH SIDE POWER WINDOW ALONE	
POWER WINDOW LOCK SWITCH		DOES NOT OPERATE	02
Description		Diagnosis Procedure	
Component Function Check	42		93
REAR POWER VENT WINDOW SWITCH		REAR RH SIDE POWER WINDOW ALONE	
CIRCUIT CHECK	43	DOES NOT OPERATE	94
Description	43	Diagnosis Procedure	94
Diagnosis Procedure	43	ANTI DINOU OVOTEM DOCONOT ODEDATE	
DEAD DOWED VENT WINDOW MOTOD LIL		ANTI-PINCH SYSTEM DOES NOT OPERATE	
REAR POWER VENT WINDOW MOTOR LH		NORMALLY (DRIVER SIDE)	
CIRCUIT CHECK		Diagnosis Procedure	95
Description		ANTI-PINCH SYSTEM DOES NOT OPERATE	1
Diagnosis Procedure	44	NORMALLY (PASSENGER SIDE)	
REAR POWER VENT WINDOW MOTOR RH		Diagnosis Procedure	
CIRCUIT CHECK	45	· ·	
Description		AUTO OPERATION DOES NOT OPERATE	
Diagnosis Procedure		BUT MANUAL OPERATES NORMALLY	
		(DRIVER SIDE)	
REAR POWER VENT WINDOW RELAY		Diagnosis Procedure	97
(OPEN) CHECK		AUTO OPERATION DOES NOT OPERATE	
Description		BUT MANUAL OPERATES NORMALLY	
Diagnosis Procedure	46		
REAR POWER VENT WINDOW RELAY		(PASSENGER SIDE)	
(CLOSE) CHECK	40	Diagnosis Procedure	98

POWER WINDOW RETAINED POWER OP-	Diagnosis Procedure103
ERATION DOES NOT OPERATE PROPERLY99	PRECAUTION 104
Diagnosis Procedure99	PRECAUTIONS104
DOES NOT OPERATE BY KEY CYLINDER SWITCH	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"104
KEYLESS POWER WINDOW DOWN DOES	ON-VEHICLE REPAIR105
NOT OPERATE101 Diagnosis Procedure101	POWER WINDOW MAIN SWITCH105 Removal and Installation105
POWER WINDOW LOCK SWITCH DOES NOT FUNCTION102 Diagnosis Procedure102	FRONT POWER WINDOW SWITCH106 Removal and Installation106
REAR POWER VENT WINDOWS DO NOT OPERATE103	REAR POWER WINDOW SWITCH107 Removal and Installation107

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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

${f 3.}$ 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.

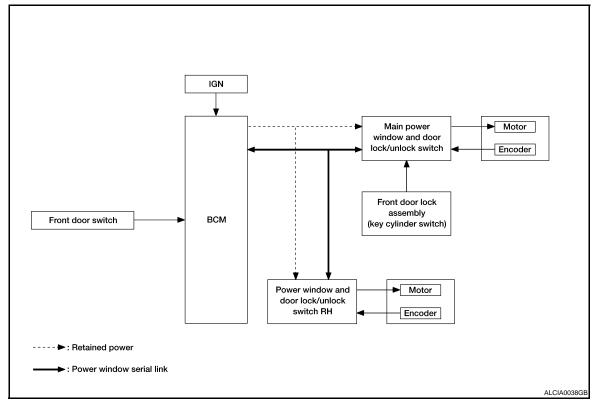
NO >> Refer to GI-37, "Intermittent Incident".

FUNCTION DIAGNOSIS

POWER WINDOW SYSTEM

System Diagram

FRONT WINDOW ANTI-PINCH SYSTEM



System Description

INFOID:0000000003708609

POWER WINDOW MAIN SWITCH INPUT/OUTPUT SIGNAL CHART

Item	Input signal to main power window and door 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)			
Encoder	Encoder pulse signal			
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal	Power window control	Front power window motor	
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal	Power window control		
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

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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.

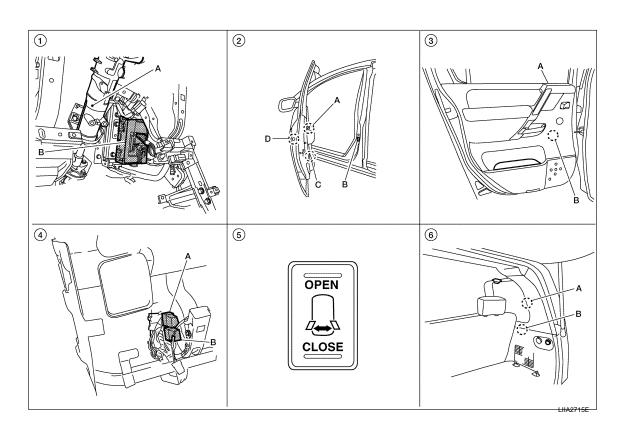
NOTE:

Use CONSULT-III to change settings.

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

Component Parts Location

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POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

- A. Steering column
 B. BCM M18, M19, M20 (view with instrument panel removed)
- 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
- A. Rear power window switch LH D203, RH D303
 B. Rear power window motor LH D204, RH D304

- A. Rear power vent window relay (CLOSE) M89
 B. Rear power vent window relay
- cylinder switch) D14

 Rear power vent window switch M95 6.

D. Front door lock assembly LH (key

A. Rear power vent window motor LH B52, RH B150 B. Condenser-3 B119 Condenser-4 B120

Component Description

(OPEN) M87

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FRONT WINDOW ANTI-PINCH SYSTEM

Component	Function
BCM	Supplies power supply to power window switch.Controls retained power.
Main power window and door lock/unlock switch	 Directly controls all power window motor of all doors. Controls anti-pinch operation of front power window LH.
Power window and door lock/unlock switch RH	 Controls front power window motor RH. Controls anti-pinch operation of front power window RH.
Rear power window switch	Controls rear power window motors LH and RH.
Front power window motor LH	 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)

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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-53, "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	 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.

Custom	Sub system selection item	Diagnosis mode		
System	Sub system selection item	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	PANIC ALARM			×

^{*:} With Intelligent Key

RETAINED PWR

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DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

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Data monitor

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

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH: Description

- 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

Main Power Window And Door Lock/Unlock Switch

${f 1}$. 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".

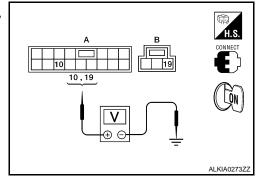
POWER WINDOW MAIN SWITCH: Diagnosis Procedure

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

1. CHECK POWER SUPPLY CIRCUIT

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

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



Is the measurement value within the specification?

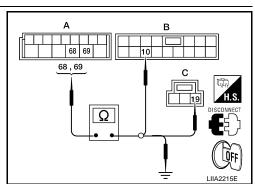
YES >> GO TO 3 NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

- Turn ignition switch OFF.
- Disconnect BCM and main power window and door lock/unlock 2. switch.
- 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
IVIZU (A)	69	D8 (C)	19	163

Check continuity between BCM connector (A) and ground.



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< COMPONENT DIAGNOSIS >

BCM connector	Terminal		Continuity	
M20 (A)	68	Ground	No	
IVIZU (A)	69		No	

Is the inspection result normal?

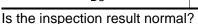
YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

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

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



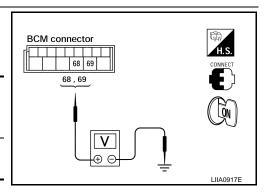
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

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.

	V 16 0 0			
(+)		(–)	Voltage (V) (Approx.)	
BCM connector	BCM connector Terminal		(
M20	68	Ground	Battery voltage	
IVIZU	69	Ground	ballery vollage	
 				

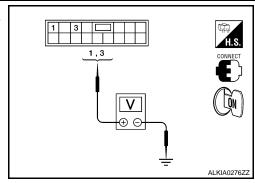


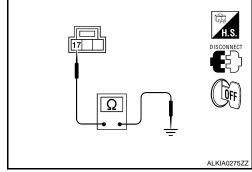
Is the measurement value within the specification?

- 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-56, "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.





< COMPONENT DIAGNOSIS >

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

Is the measurement value within the specification?

YES >> GO TO 7

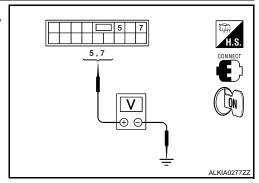
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

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

Turn ignition switch ON.

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

-	Terminal			
(+)	(+)			
Main power win- dow and door lock/unlock switch connector	Terminal	(-)	Window condition	Voltage (V) (Approx.)
	7	Ground	UP	Battery voltage
D7			DOWN	0
D1	5	Cidulia	UP	0
			DOWN	Battery voltage



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Is the measurement value within the specification?

YES >> GO TO 8

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

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

Turn ignition switch OFF.

2. 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
DI (A)	3	D203 (B)	3	163

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

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< COMPONENT DIAGNOSIS >

Main power window and door lock/unlock switch connector	Terminal	0	Continuity	
D7 (A)	1	Ground	No	
DI (A)	3		INO	

Is the inspection result normal?

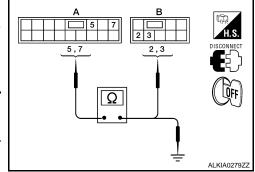
YES >> GO TO 9

NO >> Repair or replace harness.

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

- 1. Turn ignition switch OFF.
- 2. Disconnect 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
D7 (A)	7	D303 (B)	2	162



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		Continuity
D7 (A)	5	Ground	No
DI (A)	7		140

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-37, "Intermittent Incident".

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

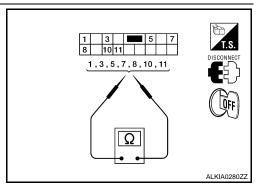
POWER WINDOW MAIN SWITCH: Component Inspection

INFOID:0000000003708617

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

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

Terr	minal	Main power window and door lock/un- lock switch condition		Continuity
10	1	Rear LH	UP	
10	7	Rear RH	UF	
1	3	Rear LH	NEUTRAL	Yes
5	7	Rear RH	NEOTRAL	165
10	3	Rear LH	DOWN	
10	5	Rear RH	DOWN	



< COMPONENT DIAGNOSIS >

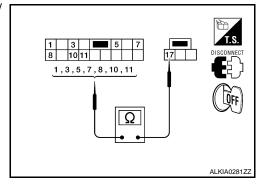
Check continuity between main power window and door lock/ unlock switch (power window lock switch). (Lock operation).

Tern	ninal	Main power window and door lock/unlock switch condition				Continuity
3		Rear LH	UP			
5		Rear RH				
1		Rear LH				
3	17		NEUTRAL	No		
5	17	Rear RH	NEOTIVAL			
7		Rear RH				
1		Rear LH	DOWN			
7		Rear RH	DOWN			

1 3 5 7 8 10 11 17 DISCONNECT Ω

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

Terr	minal	Main power window and door lock/unlock switch condition		=		Continuity
3		Rear LH	UP			
5		Rear RH	01			
1		Rear LH	NEUTRAL	Yes		
3	17	Real El I				
5	17	Rear RH				
7		real Ri				
1		Rear LH	DOWN			
7		Rear RH	DOWN			



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-105, "Removal and <a href="Installation".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH: Description

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

Power Window And Door Lock/Unlock Switch RH

${f 1}$. 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

Power Window And Door Lock/Unlock Switch RH Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

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INFOID:0000000003708619

INFOID:0000000003708620

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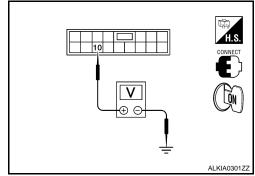
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PWC-15

< COMPONENT DIAGNOSIS >

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

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



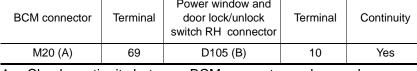
Is the measurement value within the specification?

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

2. CHECK HARNESS CONTINUITY

- Turn ignition switch OFF.
- 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	Ground	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

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

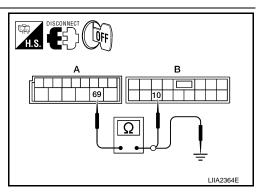
Power window and door lock/unlock switch RH	Terminal	Ground	Continuity
D105	11		Yes

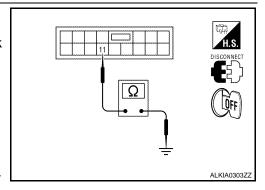
Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-106, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK BCM OUTPUT SIGNAL

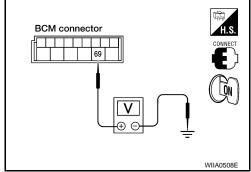




< COMPONENT DIAGNOSIS >

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

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



Is the measurement value within the specification?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-106, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-56, "Removal and Installation".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH: Description

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

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

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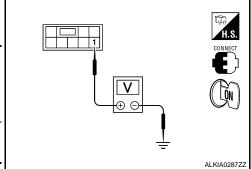
INFOID:0000000003708622

Rear Power Window Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear power window switch connector and ground.

	Terminal					
	(+)			Condition	Voltage (V)	
•	ver window connector	Terminal	(–)		(Approx.)	
LH	D203	1	Ground	Ignition switch	Battery voltage	
RH	D303	1	Ground	ON	Dattery Voltage	



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)

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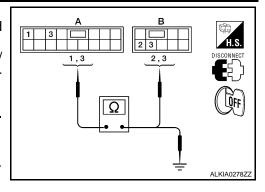
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< COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- Disconnect main power window and door lock/unlock switch and 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
DI (A)	3	D203 (D)	3	162



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

Main power window and door lock/un- lock switch connector	Terminal		Continuity
D7 (A)	1	Ground	No
<i>DT</i> (71)	3		140

Is the inspection result normal?

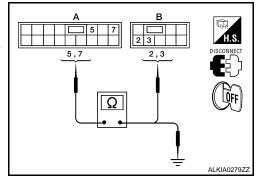
YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

NO >> Repair or replace harness.

$3. \ \mathsf{CHECK} \ \mathsf{HARNESS} \ \mathsf{CONTINUITY} \ (\mathsf{REAR} \ \mathsf{POWER} \ \mathsf{WINDOW} \ \mathsf{SWITCH} \ \mathsf{RH})$

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and 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
DI (A)	7	D303 (D)	2	163



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	0	Continuity
D7 (A)	5	Ground	No
	7		110

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

NO >> Repair or replace harness.

4. CHECK HARNESS CONTINUITY

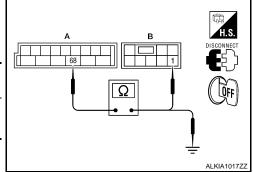
< COMPONENT DIAGNOSIS >

- 1. Disconnect BCM and rear power window switch.
- 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
IVIZO (A)	50	RH	D303 (B)	1	163

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

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



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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-37, "Intermittent Incident".

NO >> Replace rear power window switch. Refer to PWC-107, "Removal and Installation".

REAR POWER WINDOW SWITCH: Component Inspection

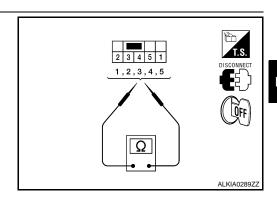
INFOID:0000000003708624

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Terr	minal	Power window switch condition	Continuity	
1	5	UP		
3	4	UF		
3	4	NEUTRAL	Yes	
5	2	NEOTIVAL	163	
1	4	DOWN		
5	2	DOWN		



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Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to PWC-107, "Removal and Installation".

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< COMPONENT DIAGNOSIS >

POWER WINDOW MOTOR

DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000003708625

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

DRIVER SIDE : Component Function Check

INFOID:0000000003708626

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

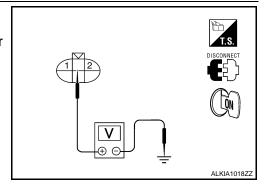
INFOID:0000000003708627

Front Power Window Motor LH Circuit Check

${f 1}$. 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.

1	erminal			
(+)			Main power win- dow and door lock/	Voltage (V)
Power window motor LH con- nector	Terminal	(–)	unlock switch con- dition	(Approx.)
	2		UP	Battery voltage
D9	2	Ground	DOWN	0
D9	1	Giodila	UP	0
			DOWN	Battery voltage



Is the measurement value within the specification?

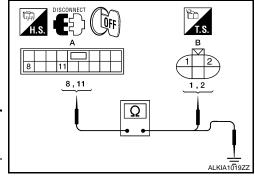
YES >> GO TO 2

NO >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "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.
- 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 win- dow motor LH con- nector	Terminal	Continuity
D7 (A)	8	D9 (B)	2	Yes
DI (A)	11	D9 (B)	1	163



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

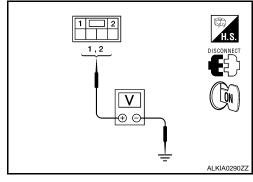
< COMPONENT DIAGNOSIS >

Main power window and o lock/unlock switch conne		_	Continuity	А
D7 (A)	8	Ground	No	
	11		140	В
Is the inspection result	normal?			
YES >> GO TO 3 NO >> Repair or	eplace harness.			С
3. CHECK POWER V	•	२		
Check front power win Refer to PWC-21, "DR		nponent Inspe	ction".	D
Is the inspection result				_
			7, "Intermittent Incident". o <u>GW-14, "Removal and In</u>	E stallation".
DRIVER SIDE : C			o <u>evv ri, rtomovarana m</u>	
DIVIVER OIDE . C		Spection		INFOID:000000003708628
COMPONENT INSP	ECTION			
1. CHECK FRONT P	OWER WINDOW	MOTOR LH		G
Does motor operate by	connecting the	oattery voltage	directly to power window n	notor?
	Term	ninal		Н
	(+)	(-)	Motor condition	on
	1	2	DOWN	
	2	1	UP	
	er window motor ont power windo		efer to <u>GW-14, "Removal a</u>	nd Installation".
PASSENGER SIE	E : Descripti	on		PW0
Door glass moves UP/ power window and doo			from main power window a	nd door lock/unlock switch or
PASSENGER SIE	E : Compone	ent Function	n Check	INFOID:000000003708630
1. CHECK POWER V	•			M
			ain power window and door	lock/unlock switch or power
window and door lock/		l?		N
Is the inspection result YES >> Front pow	normar? er window motor	RH is OK		
			Diagnosis Procedure".	0
PASSENGER SID	E : Diagnosi	s Procedure	Э	INFOID:000000003708631
Front Power Window	Motor RH Circ	uit Check		Р
1. CHECK FRONT P				

< COMPONENT DIAGNOSIS >

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

Te	rminal			
(+)			Front power window motor	Voltage (V)
Front power window motor RH connector	Terminal	(–)	RH condition	(Approx.)
	2	2 Ground	UP	Battery voltage
D104			DOWN	0
D104			UP	0
	I		DOWN	Battery voltage



Is the measurement value within the specification?

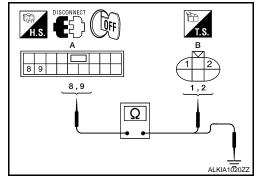
YES >> GO TO 2

NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-106, "Removal and Installation".

2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 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)	8	D104 (B)	2	Yes
D103 (A)	9	D104 (B)	1	162



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		No
	9		110

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-37, "Intermittent Incident".

NO >> Replace front power window motor RH. Refer to <u>GW-14</u>, "Removal and Installation".

PASSENGER SIDE: Component Inspection

INFOID:0000000003708632

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

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

< COMPONENT DIAGNOSIS >

Ter	minal	- Motor condition
(+)	(-)	Wotor Condition
1	2	DOWN
2	1	UP

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Is the inspection result normal?

YES >> Front power window motor RH is OK.

>> Replace front power window motor RH. Refer to <u>GW-14</u>, "Removal and Installation".

REAR LH

NO

REAR LH: Description

INFOID:0000000003708633

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:0000000003708634

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

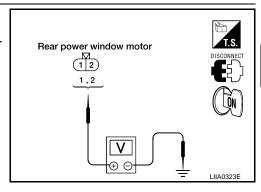
INFOID:0000000003708635

Power Window Motor Circuit Check

1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

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

Te	rminal			
(+)	(+)		Window	Voltage (V)
Rear power window motor LH connector	Terminal	(–)	condition	(Approx.)
	1	1 Ground	UP	Battery voltage
D204			DOWN	0
D20 4	2	Giodila	UP	0
	2		DOWN	Battery voltage



Is the measurement value within the specification?

YES >> GO TO 2

NO >> Check rear power window switch LH. Refer to PWC-17, "REAR POWER WINDOW SWITCH: Component Function Check".

 $2.\,$ CHECK HARNESS CONTINUITY

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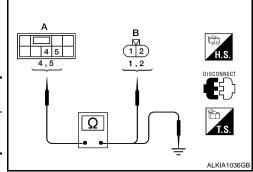
PWC-23

< COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- Disconnect rear power window switch LH.
- 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
D203 (A)	4	D204 (D)	1	163

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



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

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-37, "Intermittent Incident".

NO >> Replace rear power window motor LH. Refer to GW-17, "Removal and Installation".

REAR LH: Component Inspection

INFOID:0000000003708636

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	
(+)	(–)	Wotor conducti	
2	1	DOWN	
1	2	UP	

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-17</u>, "<u>Removal and Installation</u>".

REAR RH

REAR RH: Description

rear power window switch RH.

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

REAR RH: Component Function Check

INFOID:0000000003708638

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?

PWC-24

< COMPONENT DIAGNOSIS >

YES >> Rear power window motor RH is OK.

NO >> Refer to PWC-25, "REAR RH: Diagnosis Procedure".

REAR RH: Diagnosis Procedure

INFOID:0000000003708639

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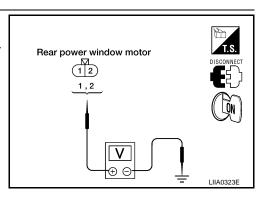
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Rear Power Window Motor RH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

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

- Turn ignition switch OFF.
- Disconnect rear power window switch RH.
- 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	D304 (B)	1	165

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

	A B M 1 2 1,2	H.S.
n		DISCONNECT
		T.S.
		ALKIA1036GB

Rear power window switch RH connector	Terminal	01	Continuity
D303 (A)	5	Ground	No
D303 (A)	4		NO

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

${f 3.}$ 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?

YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

>> Replace rear power window motor RH. Refer to GW-17, "Removal and Installation". NO

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< COMPONENT DIAGNOSIS >

REAR RH: Component Inspection

INFOID:0000000003708640

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

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

Terr	minal	Motor condition
(+)	(-)	Wotor condition
2	1	DOWN
1	2	UP

Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-17</u>, "<u>Removal and Installation</u>".

< COMPONENT DIAGNOSIS >

ENCODER

DRIVER SIDE

INFOID:0000000003708641

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DRIVER SIDE : Description

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:0000000003708642

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

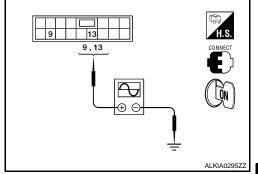
INFOID:0000000003708643

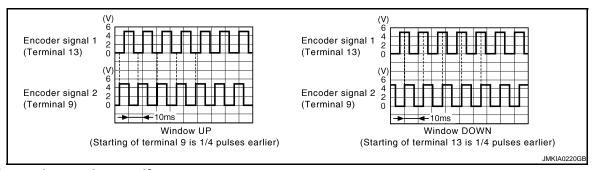
Encoder Circuit Check

1. CHECK ENCODER OPERATION

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

Т				
(+)			Signal	
Main power window and door lock/unlock switch connector	Terminal	(–)	(Reference value)	
D7	9	Ground	Refer to following signal	
D1	13	Ground	Refer to following signal	





Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

NO >> GO TO 2

2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

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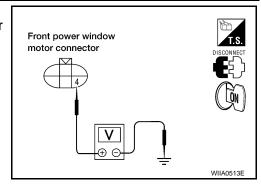
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< COMPONENT DIAGNOSIS >

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

(+)		Voltage (V)	
Front power win- dow motor LH con- nector	Terminal	(–)	(Approx.)
D9	4	Ground	10



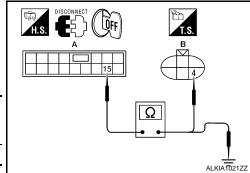
Is the measurement value within the specification?

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

3. CHECK HARNESS CONTINUITY 1

- Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch.
- 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



 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

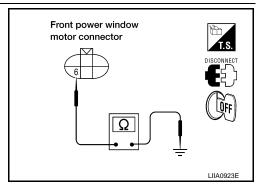
Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".
- NO >> Repair or replace harness.

4. CHECK GROUND CIRCUIT

- 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

< COMPONENT DIAGNOSIS >

- 1. Disconnect main power window and door lock/unlock switch.
- 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 win- dow motor LH con- nector	Terminal	Continuity
D7	2	D9	6	Yes

Main power window and door lock/unlock switch connector Ω LIIA0924E

Is the inspection result normal?

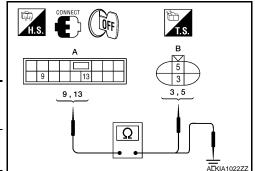
YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

NO >> Repair or replace harness.

6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect main power window and door lock/unlock switch.
- 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
<i>D1</i> (A)	13	D9 (D)	3	163



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

Main power window and door lock/unlock switch connector	Terminal	0 1	Continuity
D7 (A)	9	Ground	No
Dr (A)	13		NO

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-14, "Removal and Installation".

NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE : Description

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

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

1. CHECK ENCODER SIGNAL

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INFOID:0000000003708645

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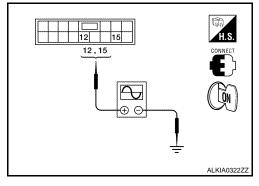
INFOID:0000000003708646

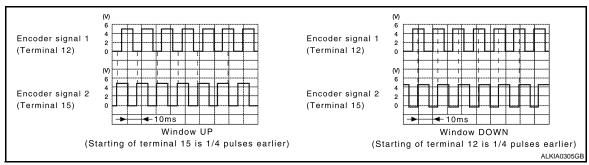
INFOID:0000000003708644

< COMPONENT DIAGNOSIS >

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

-				
(+)			Signal	
Power window and door lock/unlock switch RH connector	Terminal	(–)	(Reference value)	
D105	12	Ground	Refer to following	
D103	15	Ground	signal	





Is the inspection result normal?

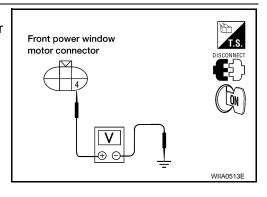
YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

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.

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



Is the measurement value within the specification?

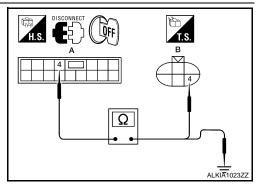
YES >> GO TO 4 NO >> GO TO 3

3. CHECK HARNESS CONTINUITY 1

- Turn ignition switch OFF.
- 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 (A)	4	D104 (B)	4	Yes

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)	4		No

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-106, "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 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

- 1. 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-106, "Removal and Installation".

NO >> Repair or replace harness.

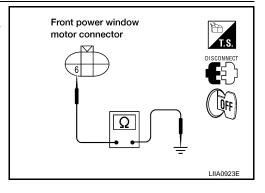
6. CHECK HARNESS CONTINUITY 3

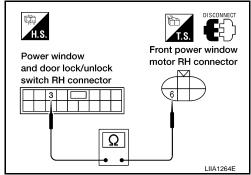
- 1. Disconnect power window and door lock/unlock switch RH.
- Check continuity between power window and door lock/unlock switch RH connector and front power window motor RH connector.

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	D 104 (B)	5	165

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
D105 (A)	15		140





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< COMPONENT DIAGNOSIS >

Is the inspection result normal?

>> Replace front power window motor RH. Refer to <u>GW-14, "Removal and Installation"</u>. >> Repair or replace harness.

NO

DOOR SWITCH

Description INFOID:0000000003708647

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

Component Function Check

1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

Check ("DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-III. Refer to <u>BCS-27</u>, "RETAINED PWR: CONSULT-III Function (BCM - RETAINED PWR)".

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

Is the inspection result normal?

YES >> Front door switch circuit is OK.

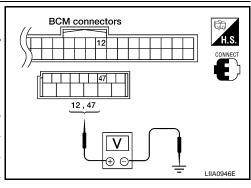
NO >> Refer to PWC-33, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK FRONT DOOR SWITCH

Check voltage between BCM connector and ground.

	Terminals					
(+)			Door condition		Voltage (V)	
BCM connector	Terminal	(–)			(Approx.)	
M18	12		Front door	OPEN	0	
WHO	12	Ground	RH		Battery voltage	
M19	47	Ciodila	Front door	OPEN	0	
IVITS	47		LH	CLOSE	Battery voltage	



Is the measurement value within the specification?

YES >> Replace BCM. Refer to BCS-56, "Removal and Installation".

NO >> GO TO 2

2. CHECK HARNESS CONTINUITY

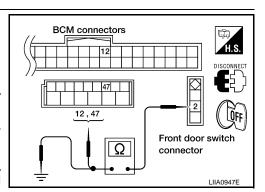
1. Turn ignition switch OFF.

Disconnect BCM and front door switch.

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	2	163

Check continuity between front door switch connector and ground.



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DOOR SWITCH

< COMPONENT DIAGNOSIS >

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

Is the inspection result normal?

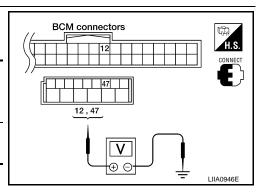
YES >> GO TO 3

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	(-)	, , ,	
M18	12	Ground	Battery voltage	
M19	47	Giodila	Dattery Voltage	



Is the measurement value within the specification?

YES >> GO TO 4

NO >> Replace BCM. Refer to BCS-56, "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-37, "Intermittent Incident".

NO >> Replace front door switch.

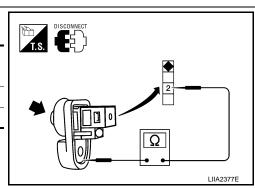
Component Inspection

INFOID:0000000003708650

1. CHECK FRONT DOOR SWITCH

Check front door switches.

Terminal		Door switch	Continuity	
Door switches		Door Switch	Continuity	
2	Ground part of	Pressed	No	
2	door switch	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:0000000003708651

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

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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 SYS-TEM" with CONSULT-III. Refer to BCS-16, "COMMON ITEM: CONSULT-III Function (BCM - COMMON) ITEM)".

Monitor item	Co	ndition	
KEY CYL LK-SW	Lock	: ON	
RET CTL LR-SW	Neutral / Unlock	: OFF	
VEV OVELIN CW	Unlock	: ON	
KEY CYL UN-SW	Neutral / Lock	: OFF	

Is the inspection result normal?

>> Key cylinder switch is OK. YES

>> Refer to <u>PWC-35</u>, "<u>Diagnosis Procedure</u>". NO

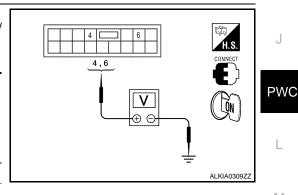
Diagnosis Procedure

INFOID:0000000003708653

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Terminals					
(+)				Voltage (V)	
Main power window and door lock/unlock switch connector	Terminal	(–) Key position		(Approx.)	
	4		Lock	0	
D7 -	т	Ground	Neutral/Unlock	5	
	6	Ground	Unlock	0	
	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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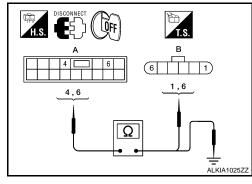
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DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- Disconnect main power window and door lock/unlock switch and front door lock assembly LH (key cylinder switch).
- 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 as- sembly LH (key cylin- der switch) connector	Terminal	Continuity
D7 (A)	4	D14 (B)	1	Yes
DT (A)	6	D14 (B)	6	162



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	0 1	Continuity	
D7 (A)	4	Ground	No	
DI (A)	6	1	INO	

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		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-37, "Intermittent Incident".

NO >> Replace front door lock assembly LH (door key cylinder switch).

Component Inspection

INFOID:0000000003708654

COMPONENT INSPECTION

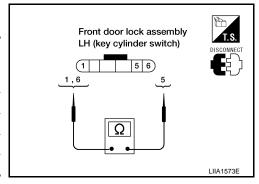
1. CHECK DOOR KEY CYLINDER SWITCH

DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

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

Terminal Front door lock assembly LH (key cylinder switch) connector			
		Key position	Continuity
6		Unlock	Yes
O	5	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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< COMPONENT DIAGNOSIS >

POWER WINDOW SERIAL LINK POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH: Description

INFOID:0000000003708655

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:0000000003708656

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	
CDL LOCK SW	UNLOCK	: OFF	
CDL UNLOCK SW	LOCK	: OFF	
CDL UNLOCK SW	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".

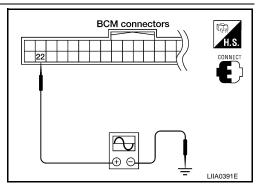
POWER WINDOW MAIN SWITCH: Diagnosis Procedure

INFOID:0000000003708657

Power Window Serial Link Check

${f 1}$. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

- 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".
- 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".



< COMPONENT DIAGNOSIS >

Terminal			0: 1	
(+)		(_)	Signal (Reference value)	
BCM connector	Terminal	(–)	,	
M18	22	Ground	(V) 15 10 5 0 10 ms PIIA1297E	

Is the inspection result normal?

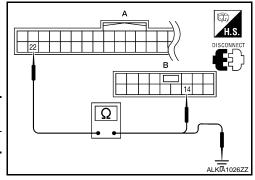
YES >> Power window serial link is OK.

NO >> GO TO 2

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. 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	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH: Description

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

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

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< 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	C	ondition	
CDL LOCK SW	LOCK	: ON	
CDL LOCK SW	UNLOCK	: OFF	
CDL UNLOCK SW	LOCK	: OFF	
CDE UNLOCK SW	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".

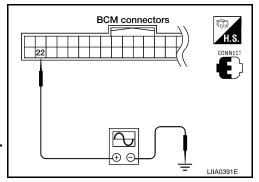
FRONT POWER WINDOW SWITCH: Diagnosis Procedure

Power Window Serial Link Check

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

- 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				
(+)		()	Signal (Reference value)	
BCM connector	Terminal	_ (_) (Reference	(13.3.3.3.3)	
M18	2	Ground	(V) 15 10 5 0 10 ms	



INFOID:0000000003708660

Is the inspection result normal?

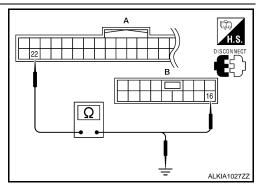
YES >> Power window serial link is OK.

NO >> GO TO 2

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 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



< COMPONENT DIAGNOSIS >

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	22	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "Removal and Installation".

NO >> Repair or replace harness.

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POWER WINDOW LOCK SWITCH

< COMPONENT DIAGNOSIS >

POWER WINDOW LOCK SWITCH

Description INFOID:000000003708661

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:0000000003708662

1. CHECK POWER WINDOW LOCK SIGNAL

Exchanges for a normal main power window and door lock/unlock switch, and operation is checked. <u>Does power window lock operate?</u>

- YES >> Replace main power window and door lock/unlock switch. Refer to PWC-105, "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:000000003708663

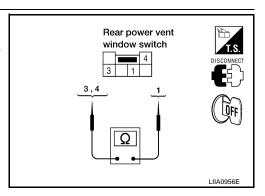
Rear power vent window motor LH and RH will be operated if rear power vent window switch is operated.

Diagnosis Procedure

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.

Tern	ninals	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.

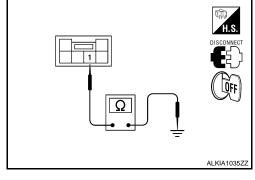
1 - Ground

: 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

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REAR POWER VENT WINDOW MOTOR LH CIRCUIT CHECK

Description INFOID:000000003708665

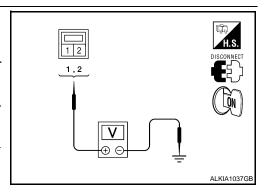
Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

Diagnosis Procedure

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



INFOID:0000000003708666

Is the inspection result normal?

YES >> Replace rear power vent window motor LH. Refer to <u>GW-20</u>, "Removal and Installation (with Rear <u>Power Vent Windows)"</u>.

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:000000003708667

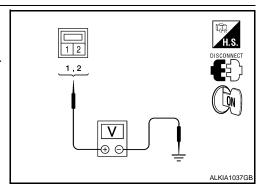
Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

Diagnosis Procedure

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.
- Check voltage between rear power vent window motor LH connector B150 terminals 1, 2 and ground.

Connector	Terminals		Condition	Voltage (V)	
Connector	(+)	(-)	Condition	(Approx.)	
	1 Grou	4	Opening	Battery voltage	
B150		Ground	Closing	0	
		Glound	Opening	0	
			Closing	Battery voltage	



Is the inspection result normal?

YES >> Replace rear power vent window motor RH. Refer to <u>GW-20, "Removal and Installation (with Rear Power Vent Windows)"</u>.

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

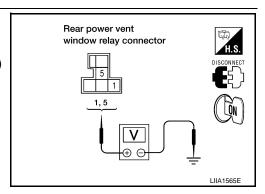
Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

Diagnosis Procedure

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	Term	ninals	Voltage (V)	
Connector	(+)	(-)	(Approx.)	
M87	1	Ground	Battery voltage	
IVIO7	5	Ground	battery voltage	



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Is the inspection result normal?

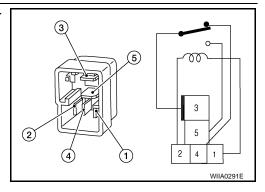
YES >> GO TO 2

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.

Term	ninals	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.

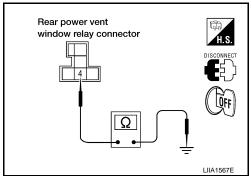
4 - Ground

: 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 >

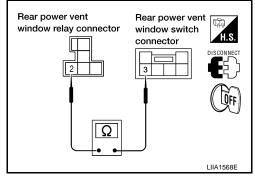
- 1. Disconnect rear power vent window switch.
- Check continuity between rear power vent window relay (OPEN) connector M87 terminal 2 and rear power vent window switch connector M95 terminal 3.

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

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REAR POWER VENT WINDOW RELAY (CLOSE) CHECK

Description INFOID:000000003708671

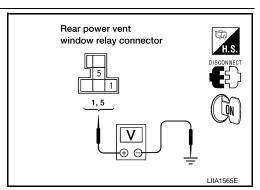
Rear power vent windows OPEN/CLOSE by receiving the signal from rear power vent window switch.

Diagnosis Procedure

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	Term	ninals	Voltage (V)	
Connector	(+)	(-)	(Approx.)	
M89	1	Ground	Battery voltage	
WIOS	5	Ground	Battery voltage	



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Is the inspection result normal?

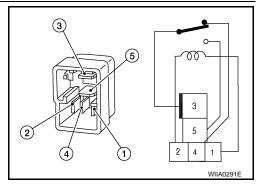
YES >> GO TO 2

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.

Tern	ninals	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.

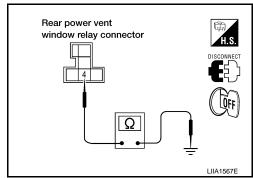
4 - Ground

: 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

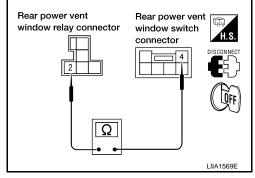
< COMPONENT DIAGNOSIS >

- 1. Disconnect rear power vent window switch.
- 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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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

AIR COND SW A/C switch OFF OFF AUT LIGHT SYS Outside of the room is dark OFF AUTO LIGHT SW Lighting switch OFF OFF AUTO LIGHT SW Lighting switch OFF OFF Lighting switch OFF OFF Lighting switch OFF OFF Lighting switch AUTO ON BACK DOOR SW Back door opened OFF CDL LOCK SW Door lock/unlock switch does not operate OFF CDL LOCK SW Press door lock/unlock switch does not operate OFF CDL UNLOCK SW Prost door lock/unlock switch does not operate OFF Press door lock/unlock switch does not operate OFF DOOR SW-AS Front door RH closed OFF Pront door LH obsed	Monitor Item	Condition	Value/Status
AC switch ON	AID COND SW	A/C switch OFF	OFF
AUTO LIGHT SYS	AIR COIND 3W	A/C switch ON	ON
AUTO LIGHT SW	ALIT LICUT CVC	Outside of the room is dark	OFF
Lighting switch AUTO	AUI LIGHT STS	Outside of the room is bright	ON
Lighting switch AUTO	ALITO LICUT CW	Lighting switch OFF	OFF
BACK DOOR SW Back door opened ON CDL LOCK SW Door lock/unlock switch does not operate OFF CDL UNLOCK SW Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW 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 opened ON Rear door LH opened ON POOR 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 OFF OFF Front washer switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF	AUTO LIGHT SW	Lighting switch AUTO	ON
CDL LOCK SW Door lock/unlock switch does not operate OFF CDL UNLOCK SW Door lock/unlock switch does not operate OFF 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 LH closed OFF Front door LH opened ON DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON ON BOOR SW-RR Rear door RH closed OFF Rear door RH opened ON ON BOOR SW-RR Engine stopped OFF Engine stopped OFF OFF Engine stopped OFF OFF Engine running ON ON FR FOG SW Front tog lamp switch OFF OFF Front tog lamp switch OFF OFF Front wiper switch OFF OFF	DACK DOOD CW	Back door closed	OFF
CDL LOCK SW 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 LH closed OFF Front door LH closed OFF DOOR SW-DR Rear door LH closed OFF Rear door LH opened ON Bear door LH opened ON Bear door RH closed OFF Rear door RH opened ON Bengine stopped OFF Engine stopped OFF Engine stopped OFF Engine running ON Front fog lamp switch OFF OFF Front washer switch OFF OFF Front washer switch ON ON FR WASHER SW Front washer switch OFF OFF Front wiper switch OFF<	BACK DOOR SW	Back door opened	ON
CDL UNLOCK SW Press door lock/unlock switch does not operate OF DOOR SW-AS Front door RH closed OFF DOOR SW-AS 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 ON ENGINE RUN Engine stopped OFF Engine stopped OFF OFF Engine running ON ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF OFF Front wiper switch OFF OFF OFF Front wi	ODL LOOK OW	Door lock/unlock switch does not operate	OFF
CDL UNLOCK SW 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 DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON ON DOOR SW-RR Rear door RH closed OFF Rear door RH closed OFF OFF Rear door RH closed ON ON ENGINE RUN Engine stopped OFF Engine stopped OFF OFF Engine truning ON ON FR FOG SW Front of glamp switch OFF OFF Front to glamp switch OFF OFF Front washer switch OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF	CDL LOCK SW	Press door lock/unlock switch to the LOCK 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 closed OFF Front door LH closed OFF DOOR SW-RL Rear door LH opened ON Bear door RH closed OFF Rear door RH closed OFF Rear door RH opened ON Bengine stopped OFF Engine running ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front washer switch OFF OFF Front wiper switch INT <td>ODL HNI OOK OW</td> <td>Door lock/unlock switch does not operate</td> <td>OFF</td>	ODL HNI OOK OW	Door lock/unlock switch does not operate	OFF
DOOR SW-AS 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 Bear 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 OFF OFF Front washer switch OFF OFF Front wiper switch OFF OFF <td>CDL UNLOCK SW</td> <td>Press door lock/unlock switch to the UNLOCK side</td> <td>ON</td>	CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	ON
BOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH opened ON DOOR SW-RL Rear door LH opened ON DOOR SW-RR Rear door LH opened ON BOOR 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 OFF OFF Front washer switch OFF OFF Front wiper switch OFF ON Front wiper switch O	DOOD OW AC	Front door RH closed	OFF
DOOR SW-DR 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 OFF OFF Front wiper stop position OFF When hazard switch is not pressed	DOOR SW-AS	Front door RH opened	ON
Front door LH opened	DOOD OW DD	Front door LH closed	OFF
DOOR SW-RL 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 OFF OFF Front wiper switch INT ON 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 OFF OFF Uighting switch OFF OFF	DOOK SW-DR	Front door LH opened	ON
Rear door LH opened ON	DOOD OW DI	Rear door LH closed	OFF
DOOR SW-RR 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 INT ON FR WIPER STOP Any position other than front wiper stop position OFF Front wiper stop position OFF HAZARD SW When hazard switch is not pressed OFF Lighting switch OFF OFF	DOOR SW-RL	Rear door LH opened	ON
Rear door RH opened	DOOD OW DD	Rear door RH closed	OFF
ENGINE RUN 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 ON FR WIPER HI Front wiper switch OFF OFF Front wiper switch OFF OFF OFF Front wiper switch INT ON ON FR WIPER STOP Any position other than front wiper stop position OFF Front wiper stop position ON OFF HAZARD SW When hazard switch is not pressed ON LIGHT SW 1ST Lighting switch OFF OFF	DOOR SW-RR	Rear door RH opened	ON
Engine running	ENGINE DUN	Engine stopped	OFF
FR FOG SW Front fog lamp switch ON ON FR WASHER SW Front washer switch OFF Front washer switch ON ON FR WIPER LOW Front wiper switch OFF Front wiper switch LO ON FR WIPER HI Front wiper switch OFF Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP When hazard switch is not pressed When hazard switch is pressed ON Lighting switch OFF	ENGINE RUN	Engine running	ON
Front fog lamp switch ON	ED EOO 014/	Front fog lamp switch OFF	OFF
FR WASHER SW Front washer switch ON FR WIPER LOW Front wiper switch OFF Front wiper switch OFF Front wiper switch OFF Front wiper switch OFF Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP When hazard switch is not pressed When hazard switch is pressed ON Lighting switch OFF	FR FOG SW	Front fog lamp switch ON	ON
Front washer switch ON FR WIPER LOW Front wiper switch LO Front wiper switch LO ON Front wiper switch LO Front wiper switch OFF Front wiper switch OFF Front wiper switch HI ON Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON FR WIPER INT Any position other than front wiper stop position Front wiper stop position ON HAZARD SW When hazard switch is not pressed When hazard switch is pressed ON Lighting switch OFF OFF	ED WACHED OW	Front washer switch OFF	OFF
FR WIPER LOW Front wiper switch LO Front wiper switch OFF Front wiper switch HI Front wiper switch HI Front wiper switch OFF Front wiper switch OFF Front wiper switch INT Any position other than front wiper stop position FR WIPER STOP Any position OFF Front wiper stop position When hazard switch is not pressed When hazard switch is pressed UIGHT SW 1ST ON OFF OFF OFF OFF OFF OFF OFF	FR WASHER SW	Front washer switch ON	ON
Front wiper switch LO FR WIPER HI Front wiper switch OFF Front wiper switch HI ON Front wiper switch OFF Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position 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 Lighting switch OFF OFF	ED WIDED LOW	Front wiper switch OFF	OFF
FR WIPER HI Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP Any position other than front wiper stop position Front wiper stop position ON HAZARD SW When hazard switch is not pressed When hazard switch is pressed ON Lighting switch OFF OFF	FR WIPER LOW	Front wiper switch LO	ON
Front wiper switch HI ON FR WIPER INT Front wiper switch OFF Front wiper switch INT ON Any position other than front wiper stop position FR WIPER STOP Any position other than front wiper stop position ON HAZARD SW When hazard switch is not pressed OFF When hazard switch is pressed ON Lighting switch OFF OFF	ED WIDED HI	Front wiper switch OFF	OFF
FR WIPER INT Front wiper switch INT ON Any position other than front wiper stop position 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 Lighting switch OFF OFF	FR WIFER HI	Front wiper switch HI	ON
Front wiper switch INT ON 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 Lighting switch OFF Front wiper stop position ON OFF OFF	ED WIDED INT	Front wiper switch OFF	OFF
FR WIPER STOP Front wiper stop position When hazard switch is not pressed When hazard switch is pressed ON Lighting switch OFF OFF	FR WIPER INT	Front wiper switch INT	ON
Front wiper stop position ON When hazard switch is not pressed OFF When hazard switch is pressed ON Lighting switch OFF OFF	ED WIDER STOR	Any position other than front wiper stop position	OFF
HAZARD SW When hazard switch is pressed ON Lighting switch OFF OFF	FR WIPER STUP	Front wiper stop position	ON
When hazard switch is pressed ON Lighting switch OFF OFF	HAZARD CW	When hazard switch is not pressed	OFF
LIGHT SW 1ST	HAZAKU SW	When hazard switch is pressed	ON
Lighting switch 1st ON	LICHT OW ACT	Lighting switch OFF	OFF
	LIGHT SW 151	Lighting switch 1st	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
IEADLAND OMA	Headlamp switch OFF	OFF	
IEADLAMP SW1	Headlamp switch 1st	ON	
	Headlamp switch OFF	OFF	
IEADLAMP SW2	Headlamp switch 1st	ON	
	High beam switch OFF	OFF	
II BEAM SW	High beam switch HI	ON	
I/L WASH SW	NOTE: The item is indicated, but not monitored	OFF	
	Ignition switch OFF or ACC	OFF	
GN ON SW	Ignition switch ON	ON	
	Ignition switch OFF or ACC	OFF	
GN SW CAN	Ignition switch ON	ON	
NT VOLUME		1 - 7	
NI VOLUME	Wiper intermittent dial is in a dial position 1 - 7		
KEY LOCK ¹	LOCK button of Intelligent Key is not pressed	OFF	
	LOCK button of Intelligent Key is pressed	ON	
KEY UNLOCK ¹	UNLOCK button of Intelligent Key is not pressed	OFF	
NET ONEOOK	UNLOCK button of Intelligent Key is pressed	ON	
EY ON SW	Mechanical key is removed from key cylinder	OFF	
LIONOW	Mechanical key is inserted to key cylinder	ON	
	LOCK button of key fob is not pressed	OFF	
EYLESS LOCK ²	LOCK button of key fob is pressed	ON	
	UNLOCK button of key fob is not pressed	OFF	
EYLESS UNLOCK ²	UNLOCK button of key fob is pressed	ON	
IL PRESS SW	Ignition switch OFF or ACC Engine running	OFF	
ALT REGO OVV	Ignition switch ON	ON	
	Other than lighting switch PASS	OFF	
ASSING SW	Lighting switch PASS	ON	
	Return to ignition switch to LOCK position	OFF	
USH SW ¹	· · · · · · · · · · · · · · · · · · ·		
	Press ignition switch	ON	
EAR DEF SW	Rear window defogger switch OFF	OFF	
	Rear window defogger switch ON	ON	
KE LOCK AND	NOTE:	OFF	
INLOCK ²	The item is indicated, but not monitored	ON	
R WASHER SW	Rear washer switch OFF	OFF	
IK WAGIILIK OW	Rear washer switch ON	ON	
D WIDED INT	Rear wiper switch OFF	OFF	
R WIPER INT	Rear wiper switch INT	ON	
B	Rear wiper switch OFF	OFF	
R WIPER ON	Rear wiper switch ON	ON	
	Rear wiper stop position	OFF	
R WIPER STOP	Other than rear wiper stop position	ON	
		OFF	
	Lighting switch OFF	()FF	

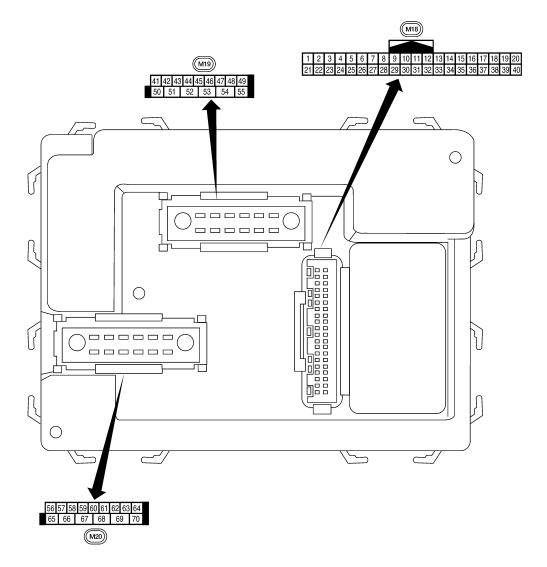
< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
TRNK OPNR SW	When back door opener switch is not pressed	OFF
TRINK OFINE SW	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
TORN SIGNAL L	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
TORN SIGNAL K	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

^{1:} With Intelligent Key

^{2:} With remote keyless entry system

Terminal Layout



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Physical Values

	100		Signal		Measuring condition	Defended
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
1	BR/W	Ignition keyhole illumi-	Output	OFF	Door is locked (SW OFF)	Battery voltage
I	DR/W	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ++5ms SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 2 0 ++5ms SKIA5291E
5	G/B	Combination switch input 2				(V)
6	V	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	\$\\\ 6\\\ 4\\\ 2\\\ 0\\\ \rightarrow \rightarrow 5\text{ms}\\\ \tag{SKIA5292E}
0	CD/D	Rear window defogger	lanut	ON	Rear window defogger switch ON	OV
9	GR/R	switch	Input	ON	Rear window defogger switch OFF	5V
10	G	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
10	G	Hazaru lampilasii	mput	OFF	OFF (other than above)	Battery voltage
11	0	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
	IV/L	TIOTI GOOT SWILLIT KIT	mput	OI F	OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
13	GK	Real door Switch RH	πραι	OFF	OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	_	5V
18	Р	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V

< ECU DIAGNOSIS >

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
19	V/W	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 → •50 ms
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 +-50 ms
		(og)			When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow 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	(V) 15 10 5 0 200 ms
23	G/O	Security indicator lamp	Output	OFF	Goes OFF \rightarrow illuminates (Every 2.4 seconds)	Battery voltage \rightarrow 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
26 Y/L	Y/L	Rear wiper auto stop switch 2	Input	ON	Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON sig-	Input	ON	A/C switch OFF	5V
		nal	· 		A/C switch ON	0V

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< ECU DIAGNOSIS >

	10/:40		Signal		Measuring condition	Deference value or waysform
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
20	П	Tront blower monitor	mpat	017	Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
	/	riazara switori	mpat	011	OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms
35	O/B	Combination switch output 2				(V)
36	R/W	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	**************************************
071	B/R	Key switch and igni-	Innut	OFF	Intelligent Key inserted	Battery voltage
37 ¹	D/K	tion knob switch	Input	OFF	Intelligent Key inserted	0V
37 ²	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted Key inserted	Battery voltage 0V
38	W/L	Ignition switch (ON)	Input	ON	-	Battery voltage
39	L	CAN-H	-	_	_	_
40	Р	CAN-L	_	_	_	_
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open Glass hatch closed	0 Battery
		Back door switch			ON (open)	0V
43	R/B	(without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	OFF (closed)	Battery voltage

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< ECU DIAGNOSIS >

_	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
44	0	Rear wiper auto stop switch 1	Input	ON	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
-1 1		TOTA GOOF SWILLITE	mput	511	OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
-1 U	17/1	Roal Gool Switch Lil	mput	511	OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
- 1 0		Jargo lamp	Cutput	511	All doors closed (OFF)	Battery voltage
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 5 0 500 ms SKIA3009J
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 500 ms
					Rise up position (rear wiper arm on stopper)	0V
		Rear wiper output circuit 2			A Position (full clockwise stop position)	0V
54	Υ		Input	ON	Forward sweep (counterclockwise direction)	0V
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Battery voltage
55	SB	Rear wiper output cir- cuit 1	Output	ON	OFF ON	0 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

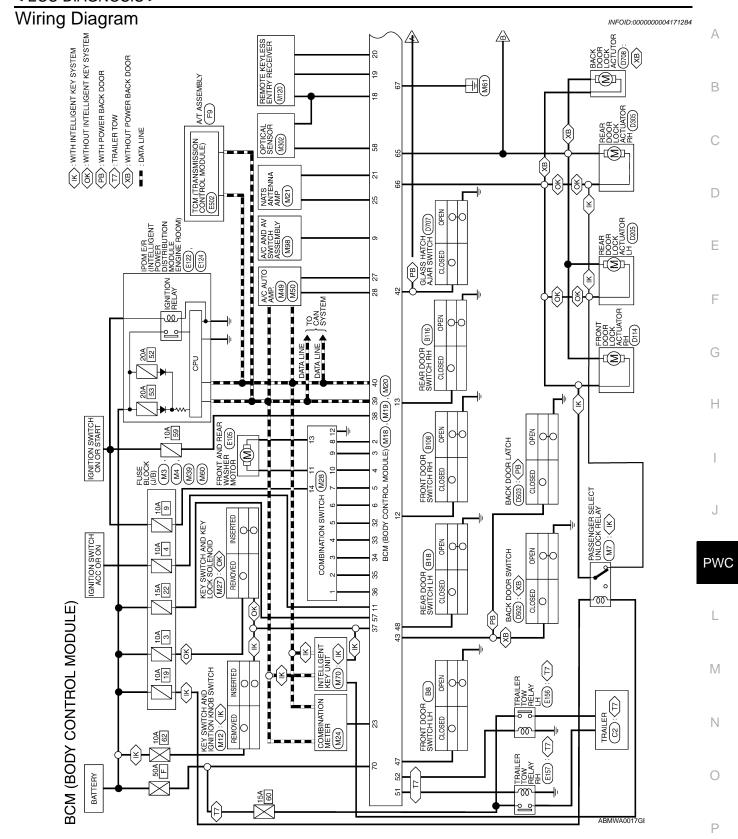
PWC-57

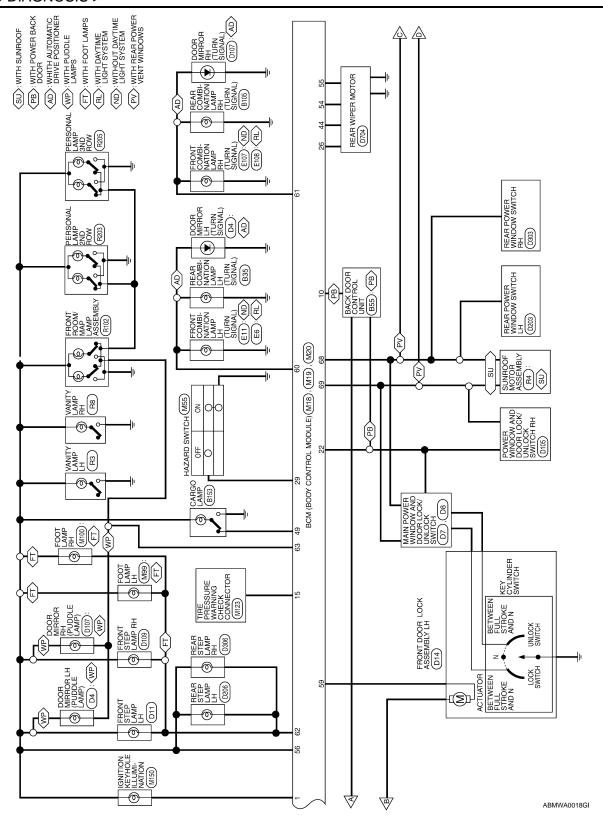
< ECU DIAGNOSIS >

	Wire		Signal		Measuring cond	dition	Reference value or waveform	
Terminal	color	Signal name	input/ output	Ignition switch	Operation	or condition	(Approx.)	
		Ontical concer	When optical sensor is illuminated		sensor is illumi-	3.1V or more		
58	W/R	Optical sensor	Input	ON	When optical s minated	ensor is not illu-	0.6V or less	
		Front door lock as-	_		OFF (neutral)		0V	
59	G	sembly LH actuator (unlock)	Output	OFF	ON (unlock)		Battery voltage	
60	G/B	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 500 ms SKIA3009J	
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms SKIA3009.	
	DAM	Otan James III and DII	Outrot	ON (any door open)		open)	0V	
62	R/W	Step lamp LH and RH	Output	OFF	OFF (all doors closed)		Battery voltage	
63		Interior room/map	Output	OFF	Any door	ON (open)	0V	
63	L	lamp	Output	OFF	switch	OFF (closed)	Battery voltage	
GE.	V	All door lock actuators	Output	OFF	OFF (neutral)		0V	
65	V	(lock)	Output	OFF	ON (lock)		Battery voltage	
		Front door lock actua-			OFF (neutral)		0V	
66	G/Y	tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	ON (unlock)		Battery voltage	
67	В	Ground	Input	ON	-	_	OV	
	<u> </u>				Ignition switch	ON	Battery voltage	
68 W/L			Within 45 seconds tion switch OFF	Within 45 seconds after ignition switch OFF		Battery voltage		
	W/L	Power window power supply (RAP)	Output	_	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	

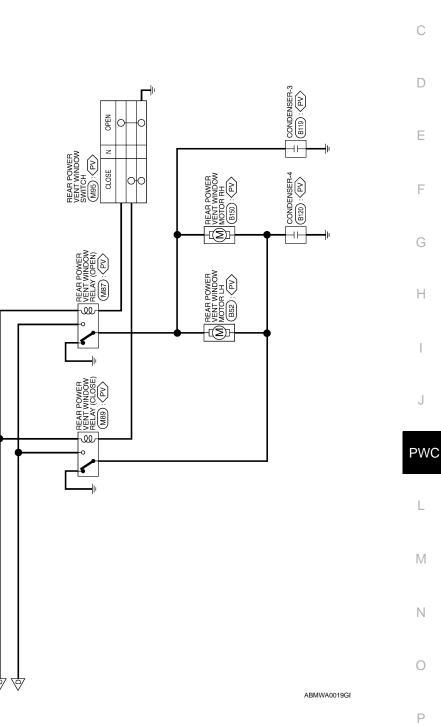
^{1:} With Intelligent Key system

^{2:} With remote keyless entry system





⟨PV⟩: WITH REAR POWER VENT WINDOWS



Α

В

Connector Name BCM (BODY CONTROL MODULE)

Connector No. M19

Signal Name

Color of Wire

Terminal No. 16 Connector Color WHITE

KEYLESS TUNER POWER SUPPLY OUTPUT

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KEYLESS AND AUTO LIGHT SENSOR GND

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17 8 IMMOBILIZER ANTENNA

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SIGNAL (CLOCK)

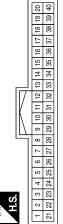
KEYLESS TUNER SIGNAL

20

BCM (BODY CONTROL MODULE) CONNECTORS

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

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



\$	ī
gg	II
æ	II
37	II
99	II
8	$\ $
8	$\ $
33	$\ $
35	
31	$\ $
၉	$\ $
53	$\ $
28	$\ $
27	$\ $
8	$\ $
22	II
24	II
33	II
ន	II
2	

Signal Name	ı	GLASS HATCH SW	BACK DOOR SW	REAR WIPER AUTO STOP SW1	ı	ı	DOOR SW (DR)	DOOR SW (RL)	LUGGAGE LAMP OUTPUT	-	TRAILER FLASHER OUTPUT (RIGHT)	TRAILER FLASHER OUTPUT (LEFT)	_	REAR WIPER MOTOR OUTPUT 2	REARR WIPER MOTOR OUTPUT 1
Color of Wire	1	GR	R/B	0	ı	ı	SB	₽⁄	В	ı	G/Y	G/B	1	>	SB
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55

IMMOBILIZER ANTENNA SIGNAL(RX,TX)

BB

SECURITY INDICATOR OUTPUT

9/0

23

24 25 26

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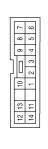
ANTI-PINCH SERIAL LINK (RX,TX)

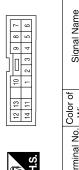
26	Y/L	REAR WIPER AUTO STOP SW2
27	W/R	AIR CON SW
28	L/R	BLOWER FAN SW
59	W/B	HAZARD SW
30	_	=
31	_	_
32	R/G	OUTPUT 5
33	R/Y	OUTPUT 4
34	L	OUTPUT 3
35	O/B	OUTPUT 2
36	R/W	OUTPUT 1
37	B/R	KEY SW
38	W/L	IGN SW
39	L	CAN-H
40	Ь	CAN-L

Signal Name	KEY RING OUTPUT	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	1	ı	REAR DEFOGGER SW	IVCS INPUT	ACC SW	DOOR SW (AS)	DOOR SW (RR)	-	TPMS MODE TRIGGER SW
Color of Wire	BR/W	SB	G/Y	\	G/B	^	1	ı	GR/R	G	0	R/L	GR	-	Γ/W
Ferminal No.	-	2	3	4	5	9	7	8	6	10	11	12	13	14	15

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M28	Connector Name COMBINATION SWITCH	WHITE
Connector No.	Connector Name	Connector Color WHITE





Terminal No. Wire 1	Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUPUT 1	OUPUT 2	OUPUT 5	OUPUT 4	OUPUT 3	WASHER MOTO	GNÐ	WASHER MOTO	NSI
Terminal No. 2 3 4 4 5 6 6 6 7 7 9 9 9 11 11 11 11 11 11 11 11 11 11 11	Color of Wire	R/W	O/B	7	R/Y	R/G	>	G/B	SB	G/Y	>	W/N	В	W/R	B/L
	Terminal No.	-	2	က	4	2	9	7	80	6	10	11	12	13	14







Signal Name	BATTERY SAVER OUTPUT	BAT (FUSE)	AUTO LIGHT SENSOR INPUT 2	DOOR UNLOCK OUTPUT (DR)	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	STEP LAMP OUTPUT	ROOM LAMP	1	DOOR LOCK OUTPUT (ALL)	DOOR UNLOCK OUTPUT (OTHER)	GND (POWER)	POWER WINDOW POWER SUPPLY (RAP)	POWER WINDOW POWER SUPPLY (BAT)	BATT (F/L)
Color of Wire	R/G	Y/R	W/R	Э	G/B	G/Y	R/W	_	1	٨	G/Y	В	M/L	W/R	M/B
Terminal No.	56	57	58	59	09	61	62	63	64	65	99	29	89	69	20

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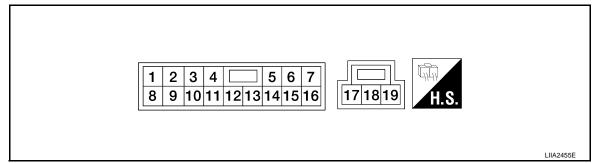
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POWER WINDOW MAIN SWITCH

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Termina (Wire c	-	Description		Condition	Voltage [V]
+	_	Signal name	Input/ Output	Conducti	(Approx.)
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 motor 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 motor operates.	(V) 6 4 2 0 10 ms

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

	Termina (Wire c	-	Description		Condition	Voltage [V]
_	+	_	Signal name	Input/ Output	Condition	(Approx.)
_					IGN SW ON	Battery voltage
	10 (W/L)	Ground	RAP signal	Input	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.	(V) 6 4 2 0 10 ms
	14 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB
_	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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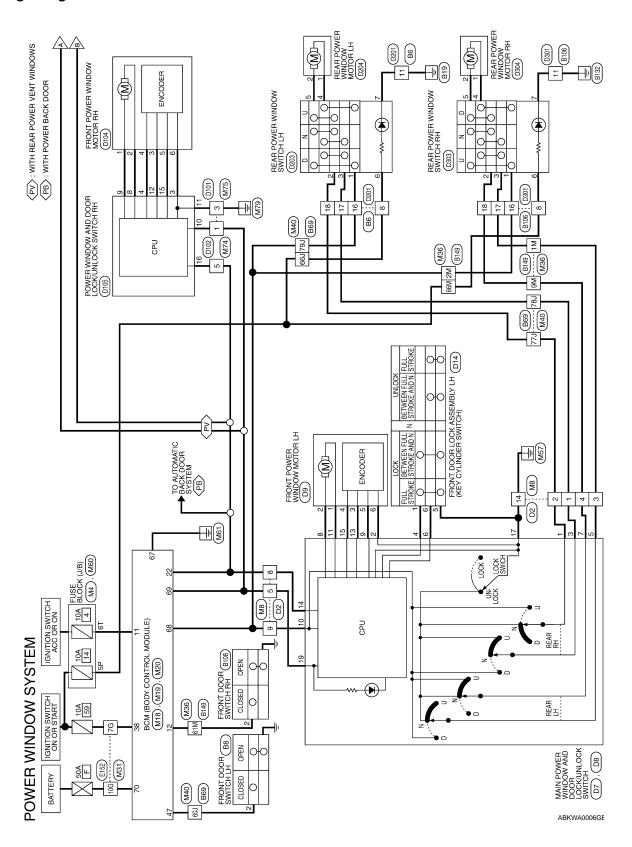
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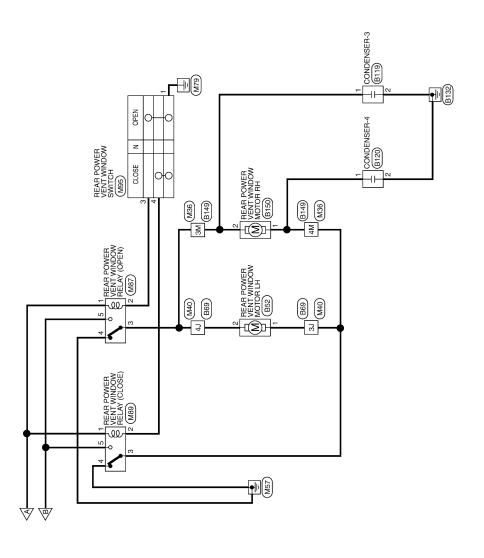
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Wiring Diagram





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ANTI-PINCH SERIAL LINK (RX, TX) DOOR SW (AS)

IGN SW

W/L

Connector Name | BCM (BODY CONTROL MODULE)

M18

Connector No.

Connector Color WHITE

POWER WINDOW SYSTEM CONNECTORS

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

ector No.	.0	Μ						
ector	ector Name FUSE BLOCK (J/B)	FÜ	뽕	BL(Š	<u>(</u>	(B)	
ctor (ector Color WHITE	W	I	щ				
	7P 6P 5P	5P 4	4P		3P	2P	1P	
	16P 15P	15P 14P 13P 12P 11P	3P 1	2P 11F	10P	10P 9P 8P	8P	
_			II				1	

Connector No. M8	Connector Name WIRE TO WIRE	Connector Color WHITE	7 6 5 4
M4	e FUSE BLOCK (J/B)	WHITE	SP (SP 4P () 3P 2P 1P SP 44P (3P (2P 1T 10P 9P 8P

H.S.	Termina	-
7P 6P 5P 4P (3P 1P 3P 1P 1P 1P 1P 1P 1P 1P 1P 1P 3P 1P 1P 1P 1P 1P 3P 1P 1P 1P 1P 3P 1P 1P 1P 1P 3P	Signal Name	1
6P 5P 4	Color of Wire	0/L
년 8	∟—	⊢

Terminal No.

5P

Signal Name

Color of Wire

Terminal No. Ξ 12 22 38

ACC SW

R/L ≷

0

Signal Name	ı	ı	I	1	1	-	1	1
Color of Wire	R/B	Ρ/Υ	٦	В	W/R	N/M	M/L	В
Terminal No.	1	2	3	4	2	8	6	14

Signal Name	-	1	-	-	1	_	1	_	
Wire	B/B	R/Υ	٦	В	W/R	N/M	M/L	В	
Terminal No.	1	2	3	4	2	8	6	14	

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

Connector Name BCM (BODY CONTROL MODULE)

M19

Connector No.

WHITE

Connector Color

Signal Name	GND (POWER)	POWER WINDOW POWER SUPPLY (RAP)	POWER WINDOW POWER SUPPLY(BAT)	BATT (F/L)
Color of Wire	В	N/L	W/R	W/B
Terminal No. Wire	29	89	69	20

DOOR SW (DR)

Signal Name

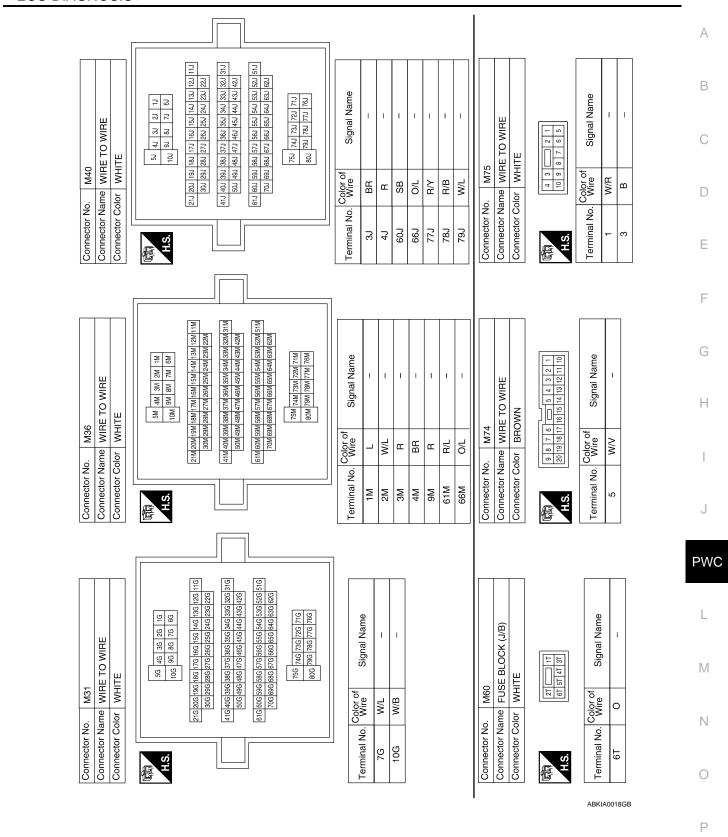
Color of Wire SB

Terminal No.

47

MODÙLE)	CK	56 57 58 59 60 61 62 63 64	Signal Name	GND (POWE	POWER WINE	POWER WINE POWER SUPPL	BATT (F/L
ΘW	lor BLACK	56 57 58 59 56 66 6	Color of Wire	В	M/L	W/R	M/B
	Connector Color	H.S.	Terminal No.	29	89	69	02

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POWER WINDOW MAIN SWITCH

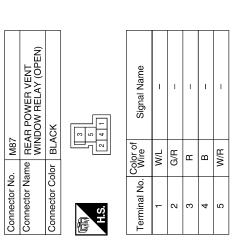
Color of Wire × M/B

Connector No. M89	M89	Connector No. M95	M95
nnector Name	Connector Name REAR POWER VENT WINDOW RELAY (CLOSE)	Connector Name	Connector Name REAR POWER VENT WINDOW SWITCH
Connector Color BLACK	BLACK	Connector Color WHITE	WHITE

WINDOW SWITCH	ІТЕ	9 1 1	Signal Name	1	I	-
Ì	lor WHITE	32	Color of Wire	В	G/R	R/G
	Connector Color	雨 H.S.	Terminal No. Wire	1	3	4

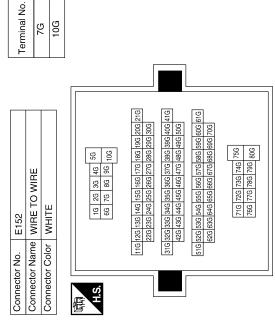
COM	REAR POWER VENT WINDOW SWITCH	WHITE	3 5 6 1 4 1	of Signal Name	I	1	-	
		olor		Color	В	G/R	B/G	
	Connector Name	Connector Color	南 H.S.	Terminal No. Wire	1	8	4	
2	REAR POWER VENT WINDOW RELAY (CLOSE)	BLACK	2 4 1	Signal Name	ı	ı	-	1
	lame RE WI	color BL		Color of Wire	M/L	R/G	BR	В
:	<u>a</u>	1,0			-	-		

Signal Name		Connector No.	. B6	
Olginal Ivalino		Connector Name WIRE TO WIRE	me WIF	E TO WIRE
1	•	Connector Color	lor WHITE	L.
ı	_			1
			ω ;	100
		H.S.	91 /1 81	15 14 13 12 11
		Terminal No. Wire	Color of Wire	Signal Name
		8	O/L	1
		+	В	I
		16	M/L	I
		17	R/B	I
		18	R/Υ	1



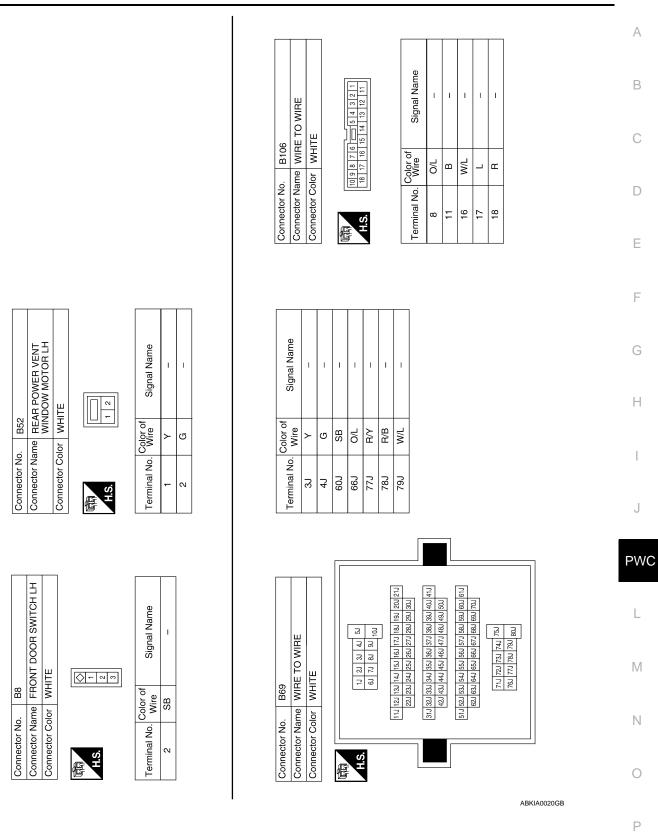
Terminal No.

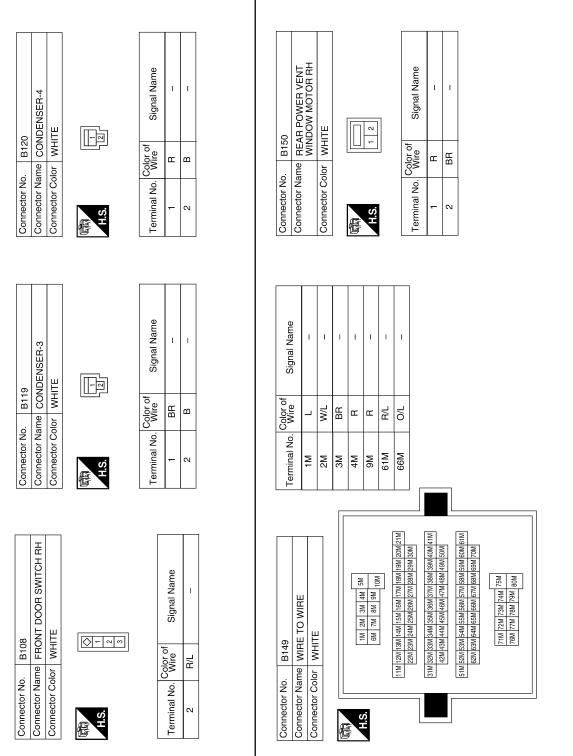
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POWER WINDOW MAIN SWITCH



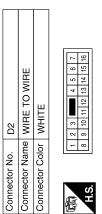


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POWER WINDOW MAIN SWITCH

Signal Name	UNLOCK	ı	1	ı	ı	ı	1	1	ANTI PINCH SERIAL LINK	I	1
Color of Wire	Œ	æ	G/R	0	M/L	G/W	1	G/Y	LG/W	BR	-
Terminal No.	9	7	8	6	10	11	12	13	14	15	16

	~			
	Connector Name AND DOOR LOCK/UNLOCK SWITCH	ІТЕ	2 3 4 5 6 7 9 10 11 12 13 14 15 16	Signal Name
<u>`</u>	MA SW	ır WF	8 9 10	color of Wire
-	ır Nam	r Colc	تتنا	0 0 0
000000	Connecto	Connector Color WHITE	引 H.S.	Terminal No. Wire



Signal Name	ı	ı	I	I	I	ı	I	_
Color of Wire	B/B	Ρ/Υ		æ	M/R	LG/W	M/L	В
Terminal No. Wire	-	2	က	4	5	8	6	14

LOCK

_

В/Υ W/B R/B

> Ŋ က 4 2

). D14	Connector Name FRONT DOOR LOCK ASSEMBLY LH	olor BLACK	
		Name FRO ASSI	Connector Color BLACK	
	Connector No.	Sonnector	Connector	

Connector No.	60
Connector Name	Connector Name FRONT POWER WINDOW MOTOR LH
Connector Color GRAY	GRAY

Connector Name Connector Color

Connector No.



Connector Name Connector Color	0 101		+ +	0 101		0 0							() () 1912		
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D8		
MA SW	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH	
×	WHITE	
	18 19	
or of ire	Signal Name	
_	CNO	



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HS	
_	

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

ABKIA0022GB

Signal Name UNLOCK LOCK Color of Wire m | m Terminal No. 5

Signal Name

Color of Wire G/W

Terminal No.

G/R

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ď≺ BB M/B

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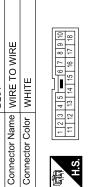
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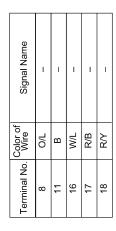
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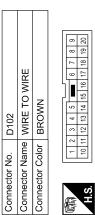
Connector No.	D104
Connector Name	Connector Name FRONT POWER WINDOW
	MOTOR RH
Connector Color	GRAY

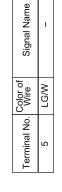
Signal Name	1	1	ı	ı	1	1
Color of Wire	ŋ	_	G/Y	G/R	G/W	W/B
erminal No.	_	2	3	4	5	9











Signal Name	ı	ı	ı	ı	ı	ı	GND	ı	ı	-	I	ANTI PINCH SERIAL LINK
Color of Wire	ı	ı	ı	_	ŋ	W/R	В	G/Y	ı	_	G/W	LG/W
Terminal No. Wire	2	9	7	8	6	10	11	12	13	14	15	16



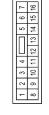
Connector No.



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Signal Name	_	_
Color of Wire	W/R	В
Terminal No.	1	3

Connector No.	D105
Connector Name	Connector Name DOOR LOCK/UNLOCK SWITCH RH
Connector Color WHITE	WHITE
	C C C



Signal Name	ı	1	_	Ī
Color of Wire	ı	ı	M/B	G/R
Terminal No.	1	2	3	4

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									1																A
VIRE	1	16 17 18	Signal Name	ı	1	ı	1	ı																	Е
Connector No. D301 Connector Name WIRE TO WIRE	WHITE	1 2 3 4 5																							C
No.	Color	1 2 3	Color of Wire	O/L	В	M/L	_	Œ	-																
Connector No.	Connector Color	所 H.S.	Terminal No.	80	=	16	17	18																	Е
																									F
OWER WINDOW	MOTOR LH GRAY		Signal Name	1	ı								REAR POWER WINDOW MOTOR RH			Signal Name	ı	I							G
D204 ame REAR F	_		Color of Wire	g	_							o. D304		-		Color of Wire	Y/B	BB							I
Connector No.	Connector Color	E.S.	Terminal No.	-	2							Connector No.	Connector Name	Connector Color	原 H.S.	Terminal No.	-	2							J
		٦		_															1						PV
POWER WINDOW	SWITCH LH WHITE	2 1 9 1 2 9 1	Signal Name	ı	ı	ı	ı	1	1	1	I		Connector Name REAR POWER WINDOW SWITCH RH	ш	5 1 6	Signal Name	ı	ı	ı	1	1	ſ	ſ	1	L
و			Color of Wire	W/L	₽¥	B/B	9	_	O/L	В	1	D303	ne REAR SWITC	or WHITE	2 3 4	Color of Wire	M/L	œ	_	Y/B	BB	O/L	В	1	
Connector No.	Connector Color	是 E	Terminal No.	-	2	8	4	2	9	7	8	Connector No.	Connector Nar	Connector Color	原.S.H	Terminal No.	-	2	е	4	2	9	7	ω	N
				_	•	•	•	•	-							,		-	-			АВ	KIAC	024GB	
																							INIE	∩ <i>I</i> D:00000000037086	76

Fail Safe

FAIL-SAFE CONTROL

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

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors mal- function	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 up- dated 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

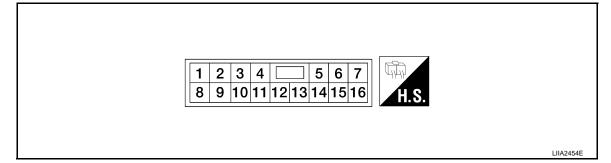
Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window switch or in motor.

< ECU DIAGNOSIS >

FRONT POWER WINDOW SWITCH

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

	nal No. color)	Description		Condition	Voltage [V]
+	_	Signal name	Input/ Output	Condition	(Approx.)
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.	(V) 6 4 2 0 10 ms JMKIA0070GB

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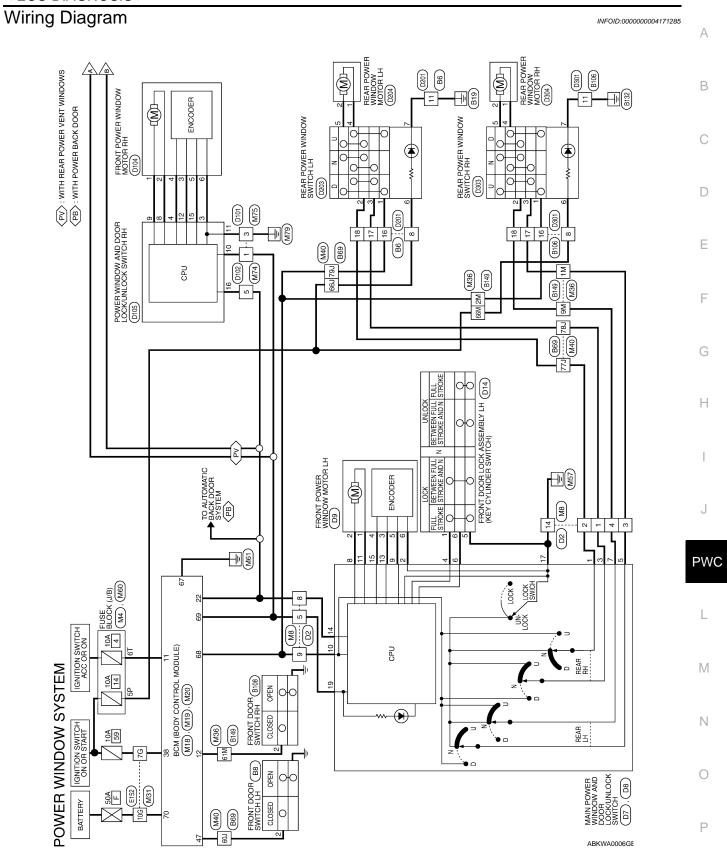
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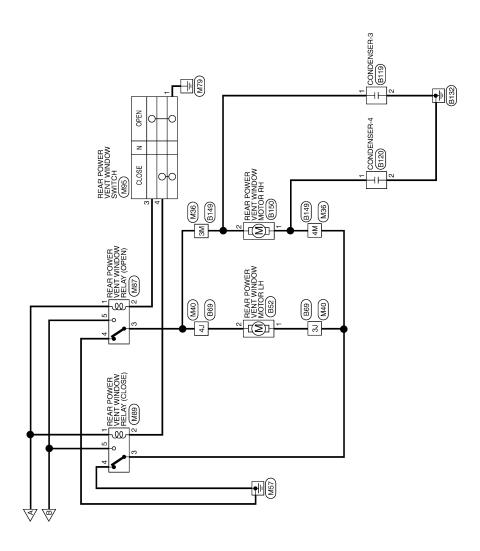
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< ECU DIAGNOSIS >

	nal No. e color)	Description		Condition	Voltage [V]
+	_	Signal name	Input/ Output	Condition	(Approx.)
15 (G/W)	3	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms
16 (LG/W)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB





ABKWA0007GE

ANTI-PINCH SERIAL LINK (RX, TX) DOOR SW (AS)

\ \ \ R/

IGN SW

W/L

POWER WINDOW SYSTEM CONNECTORS

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

	(J/B)		2P 1P	9P 8P	
M4	FUSE BLOCK (J/B)	WHITE	5P 4P 3P	4P 13P 12P 11P 10P	
	stor Name	tor Color	7P 6P	16P 15P 1	

	₽.	8P		
	2	96		
	3P	10P		
		P 12P 11P		
	5P 4P	714P 13		I
	7P 6P	6P 15F		L
l		-		
		e é	1	

Signal Na	1	
Color of Wire	0/L	
Terminal No.	5P	

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

Connector Name BCM (BODY CONTROL MODULE)

M18

Connector No.

WHITE

Connector Color



Signal Name	1 1		ı	ı	ı	-	
Color of Wire	B/B	R/Υ	Γ	В	W/R	N/M	
Terminal No. Wire	-	2	3	4	2	8	

Signal Name

Color of Wire

Terminal No. 7 12 22 38

ACC SW

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Signal Name	1	ı	I	ı	1	1	ı	ı
Color of Wire	B/B	R/Υ	Г	æ	W/R	N/M	M/L	В
Terminal No.	-	2	3	4	2	8	6	14

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

BCM (BODY CONTROL MODULE)

Connector Name

M19

Connector No.

WHITE

Connector Color





DOOR SW (DR)

Signal Name

Color of Wire SB

Terminal No. 47

ABKIA0017GB

$\overline{}$				
Signal Name	GND (POWER)	POWER WINDOW POWER SUPPLY (RAP)	POWER WINDOW POWER SUPPLY(BAT)	BATT (F/L)
Color of Wire	В	M/L	W/R	W/B
Terminal No. Wire	29	89	69	70

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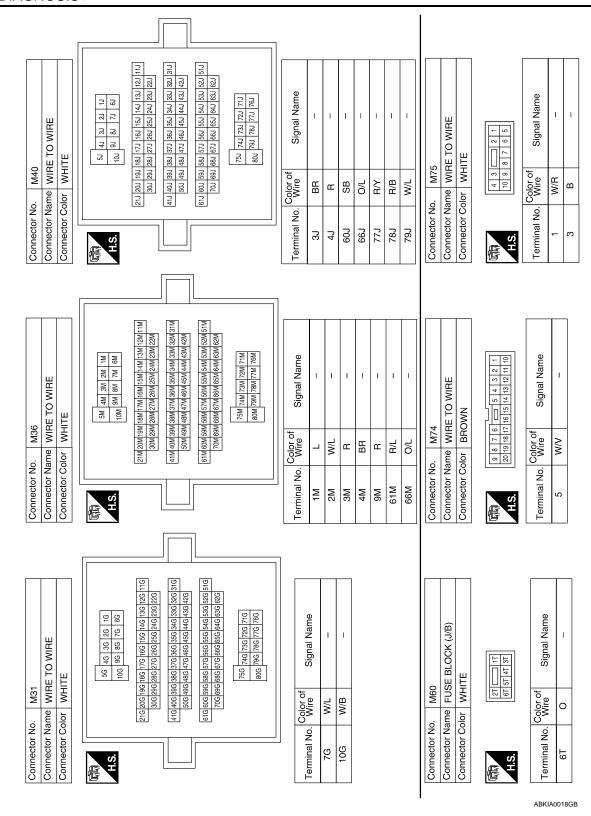
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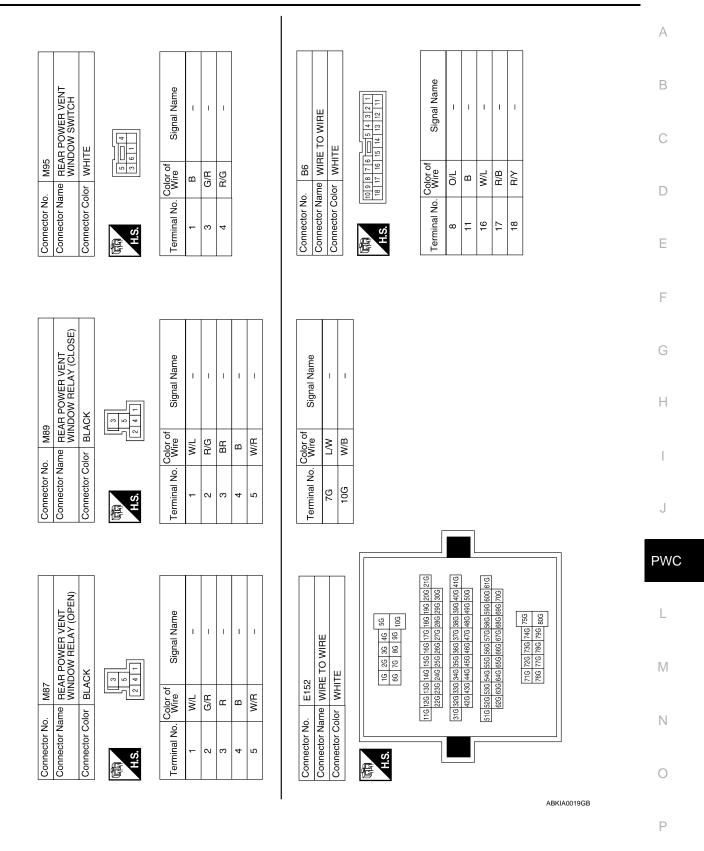
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< ECU DIAGNOSIS >



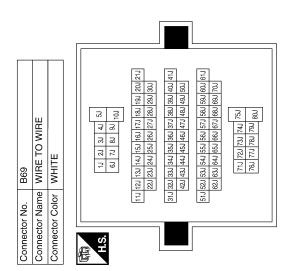
9	WIRE TO WIRE	WHITE	6 - 5 4 3 2 1	15 14 13 12 11	Signal Name	I	ı	ı	-	ı
. B106			~	18 17 16	Color of Wire	0//	ш	M/L	_	۳
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	80	Ξ	16	17	18

Connector Name REAR POWER VENT WINDOW MOTOR LH Connector Color WHITE	2 1	Signal Name	-	_	
			Color of Wire	>	g
Connector Na	Connector Color	南 H.S.	Terminal No. Wire	-	2

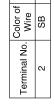
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Connector No.

Signal Name	I	I	1	I	ı	1	1
Color of Wire	>	g	SB	O/L	R/Υ	B/B	M/L
Terminal No.	જ	47	F09	ſ99	L22	787	ſ6 <i>L</i>



Connector Name FRONT DOOR SWITCH LH Signal Name Connector Color | WHITE Q-00 B8 Connector No.



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	А
	В
WHITE WHITE WHITE Signal Name B150 REAR POWER VENT WINDOW MOTOR RH WHITE Signal Name REAR POWER VENT WINDOW MOTOR RH FIRE Signal Name REAR POWER VENT WINDOW MOTOR RH WHITE	С
	D
Connector No. Connector Name Connector Color Terminal No. Connector No. Connector Name Connector Name Connector Name Terminal No. Connector Name Connector Name Connector No. Connector Name Connector No. Terminal No. Color Terminal No. Term	Е
	F
Name Name	G
Signal Name	Н
O/L	I
Connector No. B119 Connector Name CONDENSER-3 Connector Color WHITE Terminal No. Wire Signal	J
	PWC
Signal Name	L
B108	M
Connector No. B108 Connector Color WHITE 2 R/L Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Signal Nam and	N
Connector No. Connector Name Connector No. Connector No. Connector No. Connector Name Connector Color H.S.	0
ABKIA0021GB	P

Signal Name	NNFOCK	1	ı	-	1	I	1	_	ANTI PINCH SERIAL LINK	_	_
Color of Wire	В	Ж	G/R	0	M/L	G/W	1	G/Y	LG/W	BR	_
Terminal No.	9	7	8	6	10	11	12	13	14	15	16

Sig									A	S		
Color of Wire	н	Ж	G/R	0	M/L	G/W	1	G/Y	700	M (2)	BB	ı
Color of Wire 6 R		7	8	6	10	11	12	13	7 +	<u>+</u>	15	16
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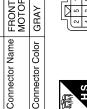
	MAIN POWER WINDOW AND DOOR LOCK/UNLOC SWITCH	WHITE	3 4	Signal Name	_	ı	-	TOCK	1	
<u>`</u>			1 2 3 8 9 10	Color of Wire	R/Y	M/B	B/B	٦	_	
	Connector Name	Connector Color	明.S.	Terminal No.	1	2	3	4	2	

	WIRE TO WIRE	WHITE	3	Signal Name	-	I	I	1	-	-	I	_
. D2		_	1 2 3 8 9 10	Color of Wire	R/B	₽Y	_	æ	W/R	LG/W	M/L	В
Connector No.	Connector Name	Connector Color	E .	Terminal No.	-	2	3	4	2	8	6	14

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

Connector Name FRC Connector Color BLA H.S. Color of Terminal No. Wire 5 B	FRONT DOOR LOCK ASSEMBLY LH	BLACK	3 4 5 6	Signal Name	ГОСК	GND
Connector Na Connector Co Connector Co H.S. 1 1 1 5		-	1 2	Color of Wire	_	В
	Connector Na	Connector Co	「所 H.S.	Terminal No.	-	5

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



	Signal Name	ı	I	I	I	I	1
30,000	Wire	G/W	G/R	G/Y	BR	0	M/B
	Terminal No.	-	2	3	4	2	9

			1				
	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH	WHITE	18 to	Signal Name	GND	ı	P-WDW BAT
_				Color of Wire	В	ı	W/R
	Connector Name	Connector Color	H.S.	Terminal No. Wire	17	18	19

ABKIA0022GB

< ECU DIAGNOSIS >

	MO			
D104	Connector Name FRONT POWER WINDOW	MOTOR RH	GRAY	
Connector No.	Connector Name		Connector Color GRAY	
			<u> </u>	

ΑΥ	3 5 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name	_	1	_	1	-	_
IIOI GRAY		Color of Wire	9	_	G/Y	G/R	G/W	W/B
COLLI ECTOL COLOR	赋 H.S.	Terminal No. Wire	1	2	3	4	5	9

I	1	1	1	1	1	
9	Т	G/Y	G/R	G/W	M/B	
l	2	3	4	9	9	

1	WIRE TO WIRE	II.	14 15 16 17 18	Signal Name	I
. D201	me WIF	lor WHITE	12 13	Color of Wire	O/L
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	8

RE TO WIRE	WHITE	14 15 16 17 18	Signal Na	-	_	_	_	-
me WIF		12 13 14 5	Color of Wire	O/L	В	M/L	R/B	R/Y
Connector Name WIRE TO WIRE	Connector Color	S.H.	Terminal No.	8	11	16	17	18

Connector No.	No.	D102	02								
Connector Name WIRE TO WIRE	Name	⋝	묎	ĭ	2	₹	Ж				
Connector Color BROWN	Color	胎	Ő	ΙŽ	_						
					١,						
TE STATE OF THE ST	1 2	3	4	5	J∥∎	ī	9	7	8	6	
SH	10 11 12 13 14 15 16 17 18 19 20	12	13	4	15	16	17	18	10	20	



Signal Name

Signal Name	ı	I	ı	ı	ı	ı	GND	I	1	-	ı	ANTI PINCH SERIAL LINK
Color of Wire	ı	ı	1	٦	ව	W/R	В	G/Y	1	-	G/W	LG/W
Terminal No.	2	9	7	80	6	10	11	12	13	14	15	16

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



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

Connector No.		D105
Connector Name		POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color		WHITE
H.S.	8 9 10 1	4 6 7 11 12 13 14 16 16
Terminal No.	Color of Wire	f Signal Name
1	ı	1
2	I	ı
3	M/B	ı
4	G/R	ı

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	BEAB POWEB WINDOW	Connector Name BEAB	BEAB POWEB WINDOW	Connector Name	ame WIRF	WIRE TO WIRE
- 1	REAR POWER WINDOW SWITCH LH	_	MOTOR LH	Connector Color	olor WHITE	i i
ctor Color WF	WHITE	Connector Color GRAY				
2	2 3 4 5 1	E SH	Ę.	。 H.S.	11 2 3 4 5 11 12 13 1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Color of Wire	f Signal Name	Color of Wire Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
M/L	ı	<u>-</u>	1	8	O/L	1
R/Y	1	2	ı	11	В	I
B/B	ı			16	M/L	I
g	ı			17	_	ı
_	1			18	æ	1
O/L	1					
В	ı					
1	ı					
ctor No. D3	D303	Connector No. D304				
ctor Name RE	REAR POWER WINDOW SWITCH RH	Connector Name REAF MOTO	REAR POWER WINDOW MOTOR RH			
ctor Color WH	WHITE	Connector Color GRAY				
	7					
~	3 4 5	H.S.				
Color of Wire	f Signal Name	Terminal No. Wire	Signal Name			
M/L	ı	1 Y/B	ı			
٣	ı	2 BR	ı			
٦	ı					
A//B	ı					
BR	ı					
O/L	ı					
В	ı					

Fail Safe

ABKIA0024GB

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.

< 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 mal- function	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 up- dated 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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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:0000000003708680

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to BCS-33, "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.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS > DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE Α Diagnosis Procedure INFOID:0000000003708681 1. CHECK FRONT POWER WINDOW MOTOR LH В Check front power window motor LH. Refer to PWC-20, "DRIVER SIDE: Component Function Check". С Is the inspection result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-37, "Intermittent Incident". D Е F Н J **PWC** L M Ν 0 Р

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000003708682

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.

${f 3.}$ 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.

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS > REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE	
Diagnosis Procedure	O00003708683
1. CHECK REAR POWER WINDOW SWITCH LH	В
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.	С
2. CHECK REAR POWER WINDOW MOTOR LH	D
Check rear power window motor LH. Refer to PWC-23, "REAR LH: Component Function Check". Is the inspection result normal? YES >> Inspection End.	E
NO >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".	F
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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:0000000003708684

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power winodw 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.

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

< SYMPTOM DIAGNOSIS >

ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE) Α Diagnosis Procedure INFOID:0000000003708685 1. CHECK DOOR WINDOW SLIDING PART В • 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. D 2. CHECK ENCODER CIRCUIT Check encoder circuit. Е Refer to PWC-27, "DRIVER SIDE: Component Function Check". Is the inspection result normal? YES >> Inspection End. F >> Check intermittent incident. Refer to GI-37, "Intermittent Incident". NO Н J **PWC** M Ν

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000003708686

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.

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (DRIVER SIDE)

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000003708687

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-37, "Intermittent Incident".

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AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000003708688

1. CHECK ENCODER

Check encoder.

Refer to PWC-29, "PASSENGER SIDE: Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

INFOID:0000000003708689

Diagnosis Procedure

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-37, "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:0000000003708690

 $\textbf{1.} \ \textbf{CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)}$

Check front door lock assembly LH (key cylinder switch). Refer to PWC-35, "Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000003708691

1. CHECK INTELLIGENT KEY OR KEYFOB FUNCTION

Check Intelligent Key or keyfob function.

Refer to <u>BCS-24</u>, "<u>INTELLIGENT KEY</u>: <u>CONSULT-III Function (BCM - INTELLIGENT KEY)</u>" with Intelligent Key or <u>DLK-261</u>, "<u>MULTIREMOTE ENT</u>: <u>CONSULT-III Function (BCM - MULTIREMOTE ENT)</u>" with remote keyless entry system.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".

NO >> Replace BCM. Refer to BCS-56, "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:0000000003708692

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

Replace main power window and door lock/unlock switch.

Refer to PWC-105, "Removal and Installation".

Is the inspection result normal?

YES >> Inspection End.

REAR POWER VENT WINDOWS DO NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR POWER VENT WINDOWS DO NOT OPERATE	٨
Diagnosis Procedure	А
1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT	В
Check BCM power supply and ground circuit. Refer to BCS-33, "Diagnosis Procedure".	
Is the inspection result normal? YES >> GO TO 2	С
NO >> Repair or replace the malfunctioning parts.	D
2. CHECK REAR POWER VENT WINDOW SWITCH	D
Check rear power vent window switch. Refer to PWC-43, "Diagnosis Procedure".	Е
Is the inspection result normal?	
YES >> GO TO 3 NO >> Repair or replace the malfunctioning parts.	F
3. CHECK REAR POWER VENT WINDOW MOTOR CIRCUIT	Г
Check rear power vent window motor circuit. Refer to PWC-44, "Diagnosis Procedure" and PWC-45, "Diagnosis Procedure".	G
Is the inspection result normal?	
YES >> GO TO 4 NO >> Repair or replace the malfunctioning parts.	Н
4. CHECK REAR POWER VENT WINDOW RELAY	
Check rear power vent window relay.	I
Refer to PWC-46 , "Diagnosis Procedure" and PWC-48 , "Diagnosis Procedure". Is the inspection result normal?	
YES >> Inspection End.	J
NO >> Check intermittent incident. Refer to GI-37, "Intermittent Incident".	

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PRECAUTIONS

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

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.

POWER WINDOW MAIN SWITCH

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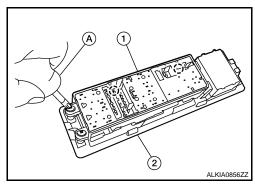
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POWER WINDOW MAIN SWITCH

Removal and Installation

REMOVAL

- 1. Remove the power window main switch finisher (2) from the door finisher LH. Refer to INT-10, "Removal and Installation".
- 2. Using a screwdriver (A), remove the power window main switch (1) screws, then release from the finisher (2).



INSTALLATION

Install in the reverse order of removal.

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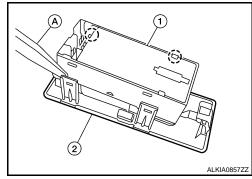
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FRONT POWER WINDOW SWITCH

Removal and Installation

REMOVAL

- 1. Remove the front power window switch finisher (2) from the front door finisher RH. Refer to INT-10. "Removal and Installation".
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- 2. Using a suitable tool (A), release the tabs and remove the front power window switch (1).



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INSTALLATION

Install in the reverse order of removal.

REAR POWER WINDOW SWITCH

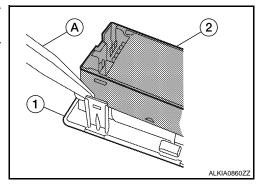
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REAR POWER WINDOW SWITCH

Removal and Installation

REMOVAL

- 1. Remove the rear power window switch finisher (1) from the rear door finisher. Refer to INT-10, "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.

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