# SECTION POWER WINDOW CONTROL SYSTEM

# CONTENTS

LH&RH FRONT WINDOW ANTI-PINCH
BASIC INSPECTION6
DIAGNOSIS AND REPAIR WORKFLOW6 Work Flow6
INSPECTION AND ADJUSTMENT
ADDITIONAL SERVICE WHEN REMOVING BAT- TERY NEGATIVE TERMINAL
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT
FUNCTION DIAGNOSIS11
POWER WINDOW SYSTEM11System Diagram11System Description11Component Parts Location14Component Description15
DIAGNOSIS SYSTEM (BCM)16
COMMON ITEM
RETAINED PWR
COMPONENT DIAGNOSIS18

POWER SUPPLY AND GROUND CIRCUIT18	F
BCM	G
POWER WINDOW MAIN SWITCH       19         POWER WINDOW MAIN SWITCH : Diagnosis       19         Procedure       19         POWER WINDOW MAIN SWITCH : Special Repair Requirement       20	H
FRONT POWER WINDOW SWITCH       20         FRONT POWER WINDOW SWITCH : Diagnosis       20         Procedure       20         FRONT POWER WINDOW SWITCH : Special       21	J
REAR POWER WINDOW SWITCH	PW
REAR POWER WINDOW SWITCH24Description24Component Function Check24Diagnosis Procedure24Component Inspection25Special Repair Requirement26	M
POWER WINDOW MOTOR27	0
DRIVER SIDE27DRIVER SIDE : Description27DRIVER SIDE : Component Function Check27DRIVER SIDE : Diagnosis Procedure27DRIVER SIDE : Component Inspection28DRIVER SIDE : Special Repair Requirement28	P
PASSENGER SIDE	

А

В

С

D

Е

PASSENGER SIDE : Component Function Check	20
PASSENGER SIDE : Diagnosis Procedure	29 20
PASSENGER SIDE : Component Inspection	
PASSENGER SIDE : Special Repair Requirement	
	30
REAR LH	21
REAR LH : Description	
REAR LH : Component Function Check	
REAR LH : Diagnosis Procedure	
REAR LH : Component Inspection	32
REAR RH	32
REAR RH : Description	32
REAR RH : Component Function Check	
REAR RH : Diagnosis Procedure	
REAR RH : Component Inspection	
ENCODER	35
DRIVER SIDE	
DRIVER SIDE : Description	35
DRIVER SIDE : Component Function Check DRIVER SIDE : Diagnosis Procedure	35
DRIVER SIDE : Diagnosis Procedule DRIVER SIDE : Special Repair Requirement	
PASSENGER SIDE	37
PASSENGER SIDE : Description	38
PASSENGER SIDE : Component Function Check	38
PASSENGER SIDE : Diagnosis Procedure	
PASSENGER SIDE : Special Repair Requirement	
	40
DOOR SWITCH	41
Description	41
Component Function Check	
Diagnosis Procedure	
Component Inspection	43
DOOR KEY CYLINDER SWITCH	44
Description	
Component Function Check	
Diagnosis Procedure	
Component Inspection	45
Special Repair Requirement	
POWER WINDOW SERIAL LINK	47
POWER WINDOW MAIN SWITCH	47
POWER WINDOW MAIN SWITCH : Description	
POWER WINDOW MAIN SWITCH : Component	
Function Check	47
POWER WINDOW MAIN SWITCH : Diagnosis	
Procedure	47
POWER WINDOW MAIN SWITCH : Special Re-	
pair Requirement	48
FRONT POWER WINDOW SWITCH	48
FRONT POWER WINDOW SWITCH : Descrip-	
tion	49

FRONT POWER WINDOW SWITCH : Diagnosis Procedure
POWER WINDOW LOCK SWITCH       51         Component Function Check       51         Component Inspection       51         Special Repair Requirement       51
ECU DIAGNOSIS 53
POWER WINDOW MAIN SWITCH53Reference Value53Wiring Diagram54Fail Safe62
FRONT POWER WINDOW SWITCH64Reference Value64Wiring Diagram65Fail Safe73
BCM (BODY CONTROL MODULE)75Reference Value75Terminal Layout80Physical Values80Wiring Diagram98Fail Safe106DTC Inspection Priority Chart108DTC Index110
SYMPTOM DIAGNOSIS112
SYMPTOM DIAGNOSIS
SYMPTOM DIAGNOSIS       112         NONE OF THE POWER WINDOWS CAN BE       112         OPERATED USING ANY SWITCH       112         Diagnosis Procedure       112         DRIVER SIDE POWER WINDOW ALONE       113
SYMPTOM DIAGNOSIS       112         NONE OF THE POWER WINDOWS CAN BE       0PERATED USING ANY SWITCH       112         Diagnosis Procedure       112         DRIVER SIDE POWER WINDOW ALONE       113         DOES NOT OPERATE       113         Diagnosis Procedure       113         DOES NOT OPERATE       113         FRONT PASSENGER SIDE POWER WIN-       114
SYMPTOM DIAGNOSIS112NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH112Diagnosis Procedure112DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE113Diagnosis Procedure113FRONT PASSENGER SIDE POWER WIN- DOW ALONE DOES NOT OPERATE114Diagnosis Procedure114REAR LH SIDE POWER WINDOW ALONE 
SYMPTOM DIAGNOSIS112NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH112Diagnosis Procedure112DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE113Diagnosis Procedure113FRONT PASSENGER SIDE POWER WIN- DOW ALONE DOES NOT OPERATE114Diagnosis Procedure114REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE115Diagnosis Procedure115REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE115REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE116

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE) Diagnosis Procedure	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (PASSENGER SIDE) Diagnosis Procedure	
POWER WINDOW RETAINED POWER OP- ERATION DOES NOT OPERATE PROPERLY	121
Diagnosis Procedure	
DOES NOT OPERATE BY KEY CYLINDER SWITCH Diagnosis Procedure	
KEYLESS POWER WINDOW DOWN DOES NOT OPERATE Diagnosis Procedure	
POWER WINDOW LOCK SWITCH DOES NOT FUNCTION Diagnosis Procedure	
PRECAUTION	125
PRECAUTIONS Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER" Precautions Necessary for Steering Wheel Rota- tion after Battery Disconnect (Early Production, With Electronic Steering Column Lock)	125
ON-VEHICLE MAINTENANCE	127
PRE-INSPECTION FOR DIAGNOSTIC	
ON-VEHICLE REPAIR	128
POWER WINDOW MAIN SWITCH Removal and Installation	
FRONT POWER WINDOW SWITCH Removal and Installation	
REAR POWER WINDOW SWITCH Removal and Installation FRONT & REAR WINDOW ANTI-PINCH	130
BASIC INSPECTION	131
DIAGNOSIS AND REPAIR WORKFLOW Work Flow	
INSPECTION AND ADJUSTMENT	134

ADDITIONAL SERVICE WHEN REMOVING BAT-	-
TERY NEGATIVE TERMINAL	А
BATTERY NEGATIVE TERMINAL : Description 134 ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Re-	В
pair Requirement134	
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT	С
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description	
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement 134	D
FUNCTION DIAGNOSIS 136	E
POWER WINDOW SYSTEM 136	
System Diagram	F
System Description	
Component Description	
DIAGNOSIS SYSTEM (BCM) 141	G
COMMON ITEM	
COMMON ITEM : Diagnosis Description141	Н
COMMON ITEM : CONSULT-III Function141	
RETAINED PWR	
RETAINED PWR)	
COMPONENT DIAGNOSIS 143	J
POWER SUPPLY AND GROUND CIRCUIT 143	
BCM	PW
BCM : Diagnosis Procedure143 BCM : Special Repair Requirement144	
POWER WINDOW MAIN SWITCH144 POWER WINDOW MAIN SWITCH : Diagnosis	L
Procedure144	M
POWER WINDOW MAIN SWITCH : Special Re- pair Requirement145	
FRONT POWER WINDOW SWITCH145	Ν
FRONT POWER WINDOW SWITCH : Diagnosis Procedure	
FRONT POWER WINDOW SWITCH : Special Repair Requirement	$\cap$
REAR POWER WINDOW SWITCH147	
REAR POWER WINDOW SWITCH : Diagnosis	Р
Procedure	
REAR POWER WINDOW SWITCH : Special Re- pair Requirement148	
POWER WINDOW MOTOR 149	
DRIVER SIDE149	
DRIVER SIDE : Description	

DRIVER SIDE : Component Function Check149 DRIVER SIDE : Diagnosis Procedure149 DRIVER SIDE : Component Inspection150 DRIVER SIDE : Special Repair Requirement150
PASSENGER SIDE
PASSENGER SIDE : Diagnosis Procedure
REAR LH       153         REAR LH : Description       153         REAR LH : Component Function Check       153         REAR LH : Diagnosis Procedure       153         REAR LH : Diagnosis Procedure       153         REAR LH : Component Inspection       154         REAR LH : Special Repair Requirement       154
REAR RH154REAR RH : Description155REAR RH : Component Function Check155REAR RH : Diagnosis Procedure155REAR RH : Component Inspection156REAR RH : Special Repair Requirement156
ENCODER 157
DRIVER SIDE
PASSENGER SIDE
160 PASSENGER SIDE : Diagnosis Procedure160 PASSENGER SIDE : Special Repair Requirement 162
REAR LH163REAR LH : Description163REAR LH : Component Function Check163REAR LH : Diagnosis Procedure163REAR LH : Special Repair Requirement165
REAR RH165REAR RH : Description166REAR RH : Component Function Check166REAR RH : Diagnosis Procedure166REAR RH : Special Repair Requirement168
DOOR SWITCH169Description169Component Function Check169Diagnosis Procedure169Component Inspection171

DOOR KEY CYLINDER SWITCH172
Description
Diagnosis Procedure
Component Inspection
Special Repair Requirement 174
POWER WINDOW SERIAL LINK
POWER WINDOW MAIN SWITCH 175
POWER WINDOW MAIN SWITCH : Description . 175
POWER WINDOW MAIN SWITCH : Component
Function Check
Procedure
POWER WINDOW MAIN SWITCH : Special Re-
pair Requirement176
FRONT POWER WINDOW SWITCH 176
FRONT POWER WINDOW SWITCH : Descrip-
tion
Procedure
FRONT POWER WINDOW SWITCH : Special
Repair Requirement 178
REAR LH
REAR LH : Description 178
REAR LH : Diagnosis Procedure 178
REAR LH : Special Repair Requirement 179
REAR RH
REAR RH : Description
REAR RH : Special Repair Requirement
POWER WINDOW LOCK SWITCH
Component Function Check
Special Repair Requirement
ECU DIAGNOSIS
POWER WINDOW MAIN SWITCH183 Reference Value
Wiring Diagram
Fail Safe
FRONT POWER WINDOW SWITCH194
Reference Value
Wiring Diagram 195
Fail Safe
REAR POWER WINDOW SWITCH
Reference Value
Wiring Diagram
Fail Safe214
BCM (BODY CONTROL MODULE)216
Reference Value
Terminal Layout
Wiring Diagram

Fail Safe    2      DTC Inspection Priority Chart    2      DTC Index    2	49
SYMPTOM DIAGNOSIS2	53
NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH	
DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE2 Diagnosis Procedure2	
FRONT PASSENGER SIDE POWER WIN- DOW ALONE DOES NOT OPERATE	
REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE2 Diagnosis Procedure2	
REAR RH SIDE POWER WINDOW ALONE         DOES NOT OPERATE         Diagnosis Procedure         2	
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)2 Diagnosis Procedure	
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)	
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (REAR LH SIDE)2 Diagnosis Procedure	
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (REAR RH SIDE)	<b>61</b>
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (PASSENGER SIDE)	

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (REAR LH SIDE) Diagnosis Procedure	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (REAR RH SIDE)	В
Diagnosis Procedure	
POWER WINDOW RETAINED POWER OP- ERATION DOES NOT OPERATE PROPERLY	D
 Diagnosis Procedure	
DOES NOT OPERATE BY KEY CYLINDER SWITCH	E 267
Diagnosis Procedure	
NOT OPERATE	
POWER WINDOW LOCK SWITCH DOES NOT FUNCTION Diagnosis Procedure	
PRECAUTION	270
PRECAUTIONS Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	
Precautions Necessary for Steering Wheel Rota- tion after Battery Disconnect (Early Production, With Electronic Steering Column Lock)	
ON-VEHICLE MAINTENANCE	272
PRE-INSPECTION FOR DIAGNOSTIC	
ON-VEHICLE REPAIR	<b>273</b> M
POWER WINDOW MAIN SWITCH	273
FRONT POWER WINDOW SWITCH	
REAR POWER WINDOW SWITCH	

С

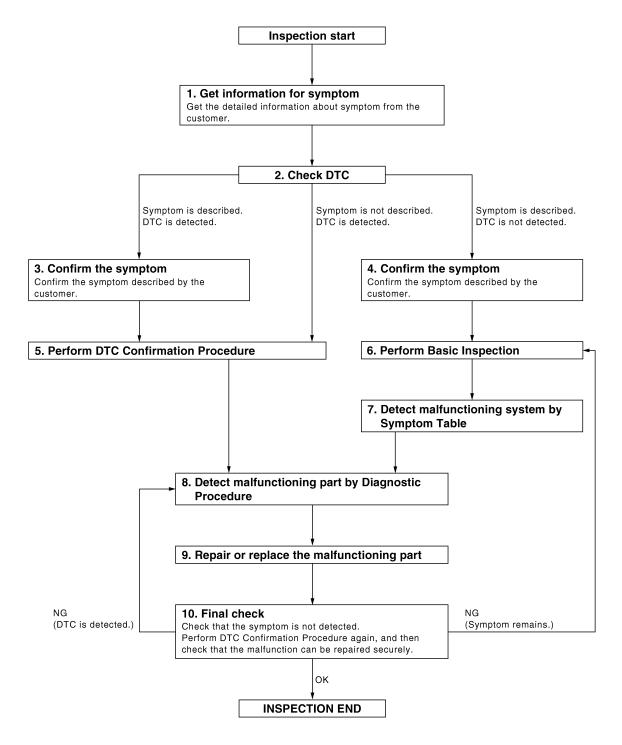
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# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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**OVERALL SEQUENCE** 



< BASIC INSPECTION >

## [LH&RH FRONT WINDOW ANTI-PINCH]

I. GET INFORMATION FOR SYMPTOM
Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).
>> GO TO 2
<b>2.</b> CHECK DTC
<ol> <li>Check DTC.</li> <li>Perform the following procedure if DTC is displayed.</li> </ol>
<ul> <li>Record DTC and freeze frame data (Print them out with CONSULT-III.)</li> </ul>
- Erase DTC.
<ul> <li>Study the relationship between the cause detected by DTC and the symptom described by the customer.</li> <li>Check related service bulletins for information.</li> </ul>
Is any symptom described and any DTC detected?
Symptom is described, DTC is displayed>>GO TO 3
Symptom is described, DTC is not displayed>>GO TO 4
Symptom is not described, DTC is displayed>>GO TO 5
3. CONFIRM THE SYMPTOM
Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.
>> GO TO 5
4. CONFIRM THE SYMPTOM
Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.
>> GO TO 6
5. PERFORM DTC CONFIRMATION PROCEDURE
Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to <u>BCS-79, "DTC Inspection Priority Chart"</u> and determine trouble
diagnosis order. NOTE:
Freeze frame data is useful if the DTC is not detected.
• Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This
simplified check procedure is an effective alternative though DTC cannot be detected during this check. If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirma-
tion Procedure.
Is DTC detected?
YES >> GO TO 8
NO >> Refer to <u>GI-39, "Intermittent Incident"</u> .
6. PERFORM BASIC INSPECTION
Perform <u>PWC-6, "Work Flow"</u> .
Inspection End>>GO TO 7
7. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE
Detect malfunctioning system based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## $\mathbf{8}$ . DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

#### NOTE:

The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

Is malfunctioning part detected?

YES >> GO TO 9

NO >> Check voltage of related BCM terminals using CONSULT-III.

9. REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- 2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
- 3. Check DTC. If DTC is displayed, erase it.

>> GO TO 10

## **10.** FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction has been repaired securely.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 8 YES (Symptom remains)>>GO TO 6 NO >> Inspection End.

< BASIC INSPECTION >	[LH&RH FRONT WINDOW ANTI-PINCH]
INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REMOVING E	
ADDITIONAL SERVICE WHEN REMOVING BA	ATTERY NEGATIVE TERMINAL : De- INFOID:00000005461359
Initial setting is necessary when battery terminal is removed.	
CAUTION: The following specified operations are not performed une • Auto-up operation • Anti-pinch function	C der the non-initialized condition.
<ul> <li>Retained power operation</li> </ul>	
ADDITIONAL SERVICE WHEN REMOVING BA cial Repair Requirement	TTERY NEGATIVE TERMINAL : Spe-
INITIALIZATION PROCEDURE	
<ol> <li>Disconnect battery negative terminal or power window more or more.</li> <li>Turn ignition switch ON.</li> </ol>	ain switch connector. Reconnect it after a minute F
3. Operate power window switch to fully open the window.	(This operation is unnecessary if the window is $$\Gamma$ _G $$\Gamma$
<ul><li>already fully open)</li><li>4. Continue pulling the power window switch UP (AUTO-UP)</li></ul>	operation). Even after glass stops at fully closed
<ul><li>position, keep pulling the switch for 4 seconds or more.</li><li>5. Inspect anti-pinch function.</li></ul>	Н
CHECK ANTI-PINCH FUNCTION	
1. Fully open the door window.	
<ol> <li>Place a piece of wood near fully closed position.</li> <li>Close door glass completely with AUTO-UP.</li> </ol>	
<ul> <li>Check that glass lowers for approximately 150 mm (5.91 i and stops.</li> </ul>	n) or 2 seconds without pinching piece of wood
Check that glass does not rise when operating the power w	indow main switch while lowering.
<ul><li>CAUTION:</li><li>Do not check with hands and other parts of the body</li></ul>	because they may be pinched. Do not get
pinched.	
<ul> <li>Check that AUTO-UP operates before inspection when</li> <li>It may switch to fail-safe mode if open/close operation i ting in that situation. Refer to <u>PWC-62</u>, "Fail Safe".</li> </ul>	s performed continuously. Perform initial set-
<ul> <li>Perform initial setting when auto-up operation or anti-p</li> <li>Finish initial setting. Otherwise, next operation cannot</li> </ul>	
<ol> <li>Auto-up operation</li> <li>Anti-pinch function</li> </ol>	M
3. Retained power operation when ignition switch is OF ADDITIONAL SERVICE WHEN REPLACING	
ADDITIONAL SERVICE WHEN REPLACING C	
	INFOID:00000005461361
Initial setting is necessary when replacing power window mai CAUTION:	n switch.
The following specified operations are not performed une • Auto-up operation • Anti-pinch function • Retained power operation	der the non-initialized condition. $\prescript{P}$
ADDITIONAL SERVICE WHEN REPLACING C	
quirement	
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**INSPECTION AND ADJUSTMENT** 

## INITIALIZATION PROCEDURE

## INSPECTION AND ADJUSTMENT

#### < BASIC INSPECTION >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

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

#### CHECK ANTI-PINCH FUNCTION

- 1. Fully open the door window.
- 2. Place a piece of wood near fully closed position.
- 3. Close door glass completely with AUTO-UP.
- Check that glass lowers for approximately 150 mm (5.91 in) or 2 seconds without pinching piece of wood and stops.
- · Check that glass does not rise when operating the power window main switch while lowering.
- CAUTION:
- Do not check with hands and other parts of the body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to <u>PWC-62, "Fail Safe"</u>.
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- 2. Anti-pinch function
- 3. Retained power operation when ignition switch is OFF.

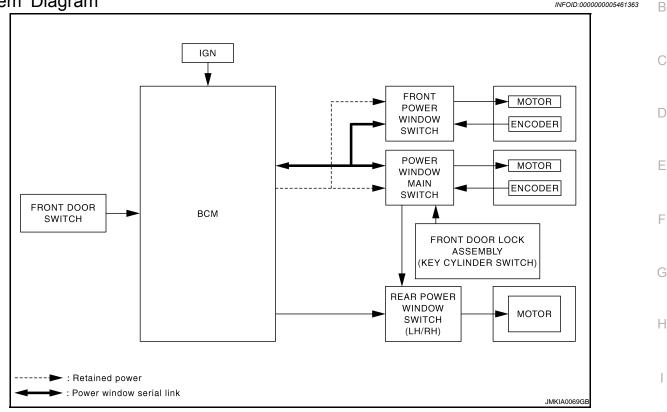
## [LH&RH FRONT WINDOW ANTI-PINCH]

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# **FUNCTION DIAGNOSIS** POWER WINDOW SYSTEM

## System Diagram



## System Description

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

Item	Input signal to power window main switch	Power window main switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1 second over)		
Encoder	Encoder pulse signal		
Power window main switch	Front power window motor (driver side) UP/DOWN signal		Front power window motor
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal	Power window control	
BCM	RAP signal		
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

FRONT POWER WINDOW SWITCH INPUT/OUTPUT SIGNAL CHART

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## POWER WINDOW SYSTEM

#### [LH&RH FRONT WINDOW ANTI-PINCH]

Item	Input signal to front power window switch	Front power window switch function	Actuator	
Front power window switch (passenger side)	Front power window motor (passen- ger side) UP/DOWN signal	Power window control	Front power window motor	
Encoder	Encoder pulse signal		(passenger side)	
BCM	RAP signal	*		

#### POWER WINDOW OPERATION

- Power window system is operable during the retained power operation timer after turning ignition switch ON and OFF.
- Power window main switch (driver side) can open/close all windows.
- Front & rear power window switch can open/close the corresponding windows.

#### POWER WINDOW AUTO-OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

- AUTO UP/DOWN operation can be performed when power window main switch & front power window switch (passenger side) 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 power window main switch shuts off when power window lock switch is ON. This inhibits power window switch operation except with the power window switch.

#### ANTI-PINCH OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm (5.91 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 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**

Hold the door key cylinder to the LOCK or UNLOCK direction for 1 second or more 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 1 second or more to perform CLOSE operation of the door glass.

## POWER WINDOW SYSTEM

#### [LH&RH FRONT WINDOW ANTI-PINCH]

 Hold door key cylinder to UNLOCK position for 1 second or more to perform OPEN operation of the door glass.

KEYLESS POWER WINDOW DOWN OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

All power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3 seconds<sup>NOTE</sup> 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 is active, keyless power window down function cannot be operated. Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to <u>BCS-25. "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)"</u>. **NOTE:** 

Use CONSULT-III to change settings.

MODE 1 (3 sec) / MODE 2 (OFF) / MODE 3 (5 sec)

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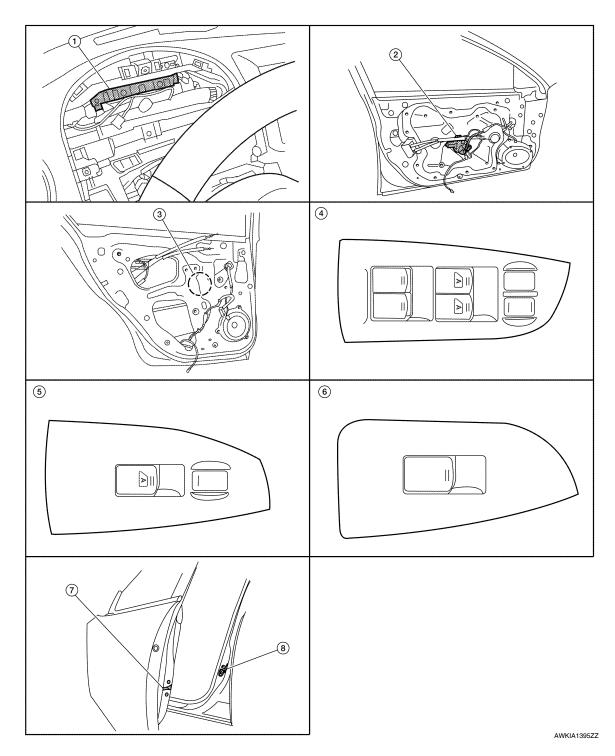
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## Component Parts Location

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- 1. BCM M16, M17, M18 (view with combination meter removed)
- 4. Main power window and door lock/ unlock switch D7, D8
- 7. Front door lock assembly LH (key cylinder switch) D10
- 2. Front power window motor LH D9 3. Front power window motor RH D104
- 5. Power window and door lock/unlock 6. switch RH D105
- 8. Front door switch LH B8 Front door switch RH B108
- Rear power window motor LH D204 Rear power window motor RH D304
- Rear power window switch LH D203 Rear power window switch RH D303

## **Component Description**

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[LH&RH FRONT WINDOW ANTI-PINCH]

Component	Function
BCM	<ul><li>Supplies power supply to power window switch.</li><li>Controls retained power.</li></ul>
Power window main switch	<ul><li>Directly controls all power window motor of all doors.</li><li>Controls anti-pinch operation of power window.</li></ul>
Front power window switch	<ul><li>Controls power window motor of passenger door.</li><li>Controls anti-pinch operation of power window.</li></ul>
Rear power window switch	Controls power window motor of rear right and left doors.
Front power window motor	<ul> <li>Integrates the ENCODER POWER and WINDOW MOTOR.</li> <li>Starts operating with signals from power window main switch &amp; front power window switch (passenger side).</li> <li>Transmits power window motor rotation as a pulse signal to power window switch.</li> </ul>
Rear power window motor	Starts operating with signals from power window main switch & rear power window switch.
Front door lock assembly (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.
Front door switch	Detects door open/close condition and transmits to BCM.

**POWER WINDOW SYSTEM** 

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# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

## **COMMON ITEM : Diagnosis Description**

#### BCM CONSULT-III FUNCTION

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 DIAGNOSTIC RESULT	Displays the diagnosis results judged by BCM.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	<ul><li>Enables to read and save the vehicle specification.</li><li>Enables to write the vehicle specification when replacing BCM.</li></ul>

#### 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.

Sustem	Sub avatam aslastian itam	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEADLAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

## COMMON ITEM : CONSULT-III Function

ECU IDENTIFICATION Displays the BCM part No.

SELF-DIAG RESULT Refer to <u>BCS-81, "DTC Index"</u>. RETAINED PWR INFOID:000000005532031

INFOID:000000005532032

## DIAGNOSIS SYSTEM (BCM) [LH&RH FRONT WINDOW ANTI-PINCH]

## <u>CENTRICTION DIAGNOSIS > [LH&RH FRONT WINDOW A</u> RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)

#### 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.	



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[LH&RH FRONT WINDOW ANTI-PINCH]

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## COMPONENT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT BCM

BCM : Diagnosis Procedure

Regarding Wiring Diagram information, refer to BCS-69, "Wiring Diagram".

## **1.** CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.	
1		Н	
11	Battery power supply	10	
24		7	

Is the fuse or fusible link blown?

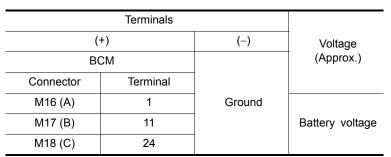
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.

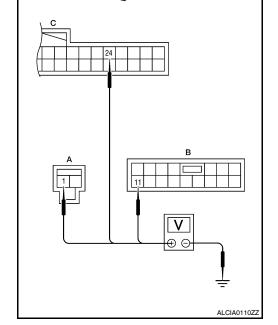
3. Check voltage between BCM harness connector and ground.



Is the measurement normal?

YES >> GO TO 3

NO >> Repair or replace harness.



## 3. CHECK GROUND CIRCUIT

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#### POWER SUPPLY AND GROUND CIRCUIT [LH&RH FRONT WINDOW ANTI-PINCH]

#### < COMPONENT DIAGNOSIS >

#### Check continuity between BCM harness connector and ground.

B	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M17	M17 13		Yes	

#### Does continuity exist?

- YES >> Inspection End.
- NO >> Repair or replace harness.

## BCM : Special Repair Requirement

## 1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-6, "CONFIGURATION (BCM) : Special Repair Requirement".

#### >> Work End. POWER WINDOW MAIN SWITCH

## POWER WINDOW MAIN SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-54, "Wiring Diagram".

## 1. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch ON.
- 2. Check voltage between main power window and door lock/ unlock switch connectors D7 (A) terminal 10 and D8 (B) terminal 19 and ground.

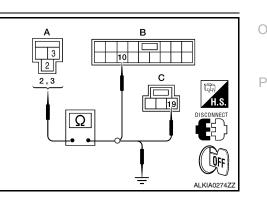
(+)	Voltage (V)		
Main power window and door lock/unlock switch connector	Terminal	(–) (Appr	(Approx.)
D7 (A)	10	Ground	Battery voltage
D8 (B)	19	Ground	Ballery voltage

#### Is the inspection result normal?

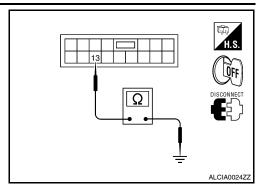
- YES >> GO TO 3
- NO >> GO TO 2

## 2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect BCM connector M16 and main power window and 2. door lock/unlock switch connectors.
- 3. Check continuity between BCM connector M16 (A) terminals 2 and 3 and main power window and door lock/unlock switch connectors D7 (B) terminal 10 and D8 (C) terminal 19.



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#### < COMPONENT DIAGNOSIS >

GROUND CIRCUI	1
[LH&RH FRON	T WINDOW ANTI-PINCH]

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M16 (A)	3	D7 (B)	10	Yes
MIC (A)	2	D8 (C)	19	165

#### 4. Check continuity between BCM connector M16 (A) terminals 2 and 3 and ground.

BCM connector	Terminal		Continuity
M16 (A)	3	Ground	No
	2		NO

Is the inspection result normal?

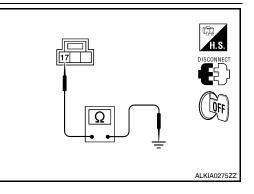
## YES >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

## **3.** CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch connector D8.
- 3. Check continuity between main power window and door lock/ unlock switch connector D8 terminal 17 and ground.

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



Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000005461373

## 1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL</u> : Special Repair Requirement" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT</u> : Special Repair Requirement".

>> End.

## FRONT POWER WINDOW SWITCH

## FRONT POWER WINDOW SWITCH : Diagnosis Procedure

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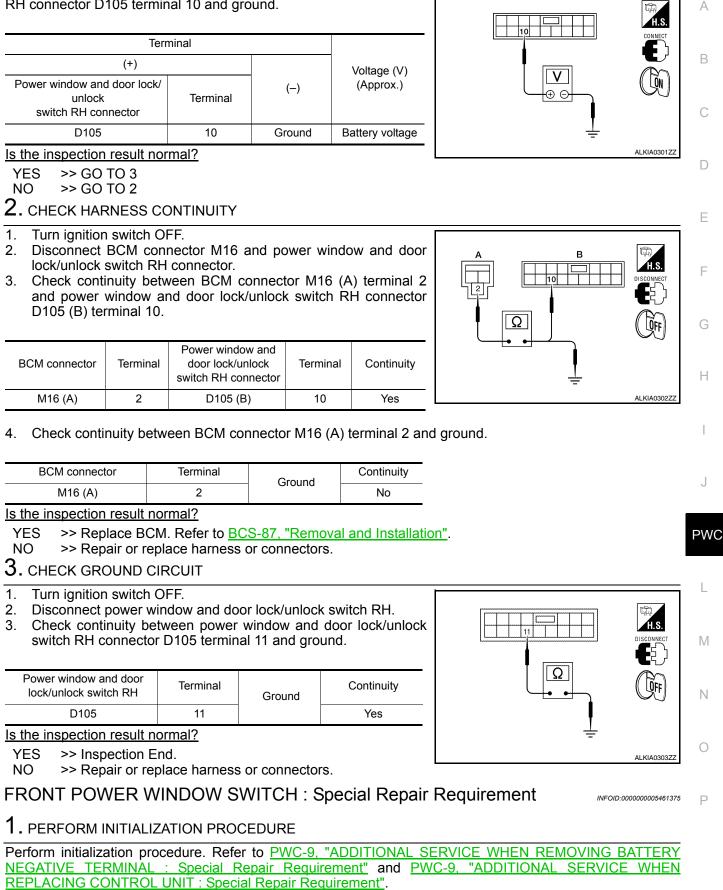
Regarding Wiring Diagram information, refer to PWC-65, "Wiring Diagram".

## 1. CHECK POWER SUPPLY CIRCUIT

[LH&RH FRONT WINDOW ANTI-PINCH]

#### < COMPONENT DIAGNOSIS >

Check voltage between power window and door lock/unlock switch RH connector D105 terminal 10 and ground.



< COMPONENT DIAGNOSIS >

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to PWC-9, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-TIVE TERMINAL : Special Repair Requirement" and PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

#### >> End. REAR POWER WINDOW SWITCH

## **REAR POWER WINDOW SWITCH : Diagnosis Procedure**

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Regarding Wiring Diagram information, refer to PWC-54, "Wiring Diagram".

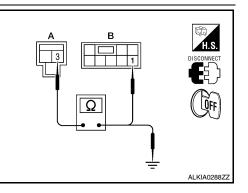
## 1. CHECK POWER SUPPLY CIRCUIT

Check vo nal 1 and		een rear po	ower wind	ow switch cor	inector termi-	Щ. Н.S.		
	Terr	minal						
	(+)			Condition Voltage (V) (Approx.)				
	ver window connector	Terminal	(-)					
LH	D203	1	Ground	Ignition switch	Rattery voltage			
RH	D303		Giounu	ON	ballery vollage			
Is the inst	pection res	ult normal?				ALKIA0287ZZ		

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

- 2. CHECK HARNESS CONTINUITY
- 1. Disconnect BCM connector M16 and rear power window switch connector.
- 2. Check continuity between BCM connector M16 (A) terminal 3 and rear power window switch connector (B) terminal 1.

BCM connector	Terminal		ver window connector	Terminal	Continuity
M16 (A)	3	LH	D203 (B)	1	Yes
M10 (A)	5	RH	D303 (B)	I	165



Check continuity between BCM connector M16 (A) terminal 3 and ground. 3.

BCM connector	Terminal	Ground	Continuity
M16 (A)	3	Ground	No

#### Is the inspection result normal?

- YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
- NO >> Repair or replace harness or connectors.
- 3. CHECK GROUND CIRCUIT

#### < COMPONENT DIAGNOSIS >

#### 1. Disconnect rear power window switch connector.

 Check continuity between rear power window switch connector terminal 7 and ground.

Rear power window switch connector	Terminal		Continuity
D203	7	Ground	No
D303	I		INU

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## REAR POWER WINDOW SWITCH : Special Repair Requirement

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: Special Repair Requirement" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: Special Repair Requirement".

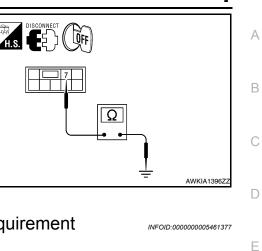
>> GO TO 2

## **2.** CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL</u> : Special Repair Requirement" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT</u> : Special Repair Requirement".

>> End.

[LH&RH FRONT WINDOW ANTI-PINCH]



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#### < COMPONENT DIAGNOSIS >

## **REAR POWER WINDOW SWITCH**

## Description

BCM supplies power.

Rear power window motor operates when rear power window switch is activated.

**Component Function Check** 

Rear Power Window Switch

CHECK REAR POWER WINDOW MOTOR FUNCTION

Check that rear power window motor operates from rear power window switch.

## Is the inspection result normal?

- >> Rear power window switch is OK. YES
- >> Refer to PWC-24, "Diagnosis Procedure". NO

Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PWC-54, "Wiring Diagram"</u>.

## 1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch. Refer to PWC-25, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 2

NO >> Replace rear power window switch. Refer to PWC-130, "Removal and Installation".

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## **2.** CHECK REAR POWER WINDOW SWITCH INPUT SIGNAL

#### 1. Turn ignition switch OFF.

- Disconnect rear power window switch connector. 2.
- Turn ignition switch ON. 3.
- Check voltage between rear power window switch connector 4. and ground.

Rear powe swi	tch		Conditio	n	Voltage (V) (Approx.)
Connector	Terminal				
	2			UP	Battery voltage
D203	2		Power window	DOWN	0V
D203	3	Ground	main switch : LH		
	5				
	2			UP	Battery voltage
D303	2		Power window	DOWN	0V
0303	3		main switch : RH	UP	0V
	5			DOWN	Battery voltage
		10			

## Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". NO

>> • For rear power window switch LH, GO TO 3

For rear power window switch RH, GO TO 4

**3.** CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

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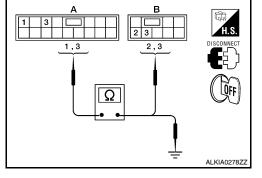
## REAR POWER WINDOW SWITCH

#### < COMPONENT DIAGNOSIS >

#### 1. Turn ignition switch OFF.

- 2. Disconnect main power window and door lock/unlock switch connector D7 and rear power window switch LH connector.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 1, 3 and rear power window switch LH connector D203 (B) terminals 2, 3.

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
DT (A)	3	D203 (B)	3	165



[LH&RH FRONT WINDOW ANTI-PINCH]

4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminals 1, 3 and ground.

Main power window and door lock/un- lock switch connector	Terminal	Continuity
	D7 (A) Ground No	
D7 (A)	3	NO

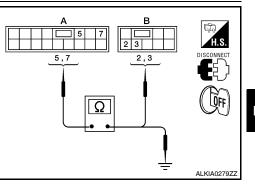
#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".
- NO >> Repair or replace harness or connectors.

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

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch connector D7 and rear power window switch RH connector.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 5, 7 and rear power window switch RH connector D303 (B) terminals 2, 3.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connec- tor	Terminal	Continuity
D7 (A)	5	D303 (B)	3	Yes
	7	D303 (D)	2	163



4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminals 5, 7 and ground.

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

#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> P<u>Installation</u>".
- NO >> Repair or replace harness or connectors.

## **Component Inspection**

#### COMPONENT INSPECTION

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## **REAR POWER WINDOW SWITCH**

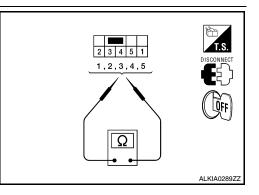
#### < COMPONENT DIAGNOSIS >

## [LH&RH FRONT WINDOW ANTI-PINCH]

## 1.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Terr	ninal	Power window switch condition	Continuity
1	5	DOWN	
3	4	BOWN	
3	4	NEUTRAL	Yes
5	2	NEOTIVE	163
1	4	UP	
5	2	UF	



Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to <u>PWC-130, "Removal and Installation"</u>.

#### Special Repair Requirement

INFOID:000000005461382

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL : Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement</u>".

>> End.

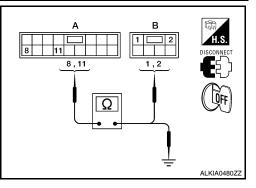
	IT DIAGN	7212 >		[LH	&RH FRONT WINDOW ANTI-PINCH]	
POWER W	/INDOV	MOTO	DR			
ORIVER SI	DE					
DRIVER SIE	DE : Des	cription			INFOID:00000005461383	
oor glass mov	ves UP/DO	WN by rec	eiving the signal f	rom main powe	er window and door lock/unlock switch.	
-		-	Function Che		INFOID:00000005461384	
CHECK PO		•				
			-	h main power w	vindow and door lock/unlock switch.	
s the inspection	-					
			tor LH is OK.	enie Deservaturel		
			/ER SIDE : Diagn	osis Procedure	-	
ORIVER SIE	DE : Diag	jnosis P	rocedure		INFOID:00000005461385	
Regarding Wirir	ng Diagram	n informati	on, refer to <u>PWC-</u>	54, "Wiring Diag	<u>gram"</u> .	
. CHECK PO	WER WIN	DOW MO	TOR			
Check front pov	ver window	/ motor LH	I. Refer to PWC-2	8, "DRIVER SI	DE : Component Inspection".	
s the inspection	n result noi	mal?				
YES >> GO NO >> Rep		rwindow	motor I H. Dofor t	$\sim CW(10)$ "Pom	oval and Installation".	
		R WINDO\	W AND DOOR LO	CK/UNLOCK S	SWITCH OUTPUT SIGNAL	
Disconnect	front powe n switch O	R WINDO\ er window N.	W AND DOOR LO	CK/UNLOCK S		
Disconnect Turn ignitio Check volta	front powe n switch O age betwee	R WINDO\ er window N. en front po	W AND DOOR LO	CK/UNLOCK S	SWITCH OUTPUT SIGNAL	
Disconnect Turn ignitio	front powe n switch O age betwee	R WINDO\ er window N. en front po	W AND DOOR LO	CK/UNLOCK S	SWITCH OUTPUT SIGNAL	
Disconnect Turn ignitio Check volta D9 termina	front powe n switch O age betwee	R WINDO\ er window N. en front po	W AND DOOR LO motor LH connect wer window motor	CK/UNLOCK S	SWITCH OUTPUT SIGNAL	F
<ol> <li>Disconnect</li> <li>Turn ignitio</li> <li>Check volta D9 terminal</li> </ol>	front powe n switch O age betwee Is 1, 2 and	R WINDO\ er window N. en front po	W AND DOOR LO	CK/UNLOCK S tor. r LH connector	SWITCH OUTPUT SIGNAL	F
Disconnect Turn ignitio Check volta D9 termina (+) Power window	front powe n switch O age betwee ls 1, 2 and Terminal	R WINDO\ er window N. en front po	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con-	CK/UNLOCK S	SWITCH OUTPUT SIGNAL	F
Disconnect Turn ignitio Check volta D9 termina	front powe n switch O age betwee Is 1, 2 and	R WINDO\ er window N. en front po ground.	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/	CK/UNLOCK S tor. r LH connector Voltage (V)	WITCH OUTPUT SIGNAL	F
Disconnect Turn ignitio Check volta D9 terminal (+) Power window motor LH con-	r front powe n switch O age betwee ls 1, 2 and Terminal	R WINDO\ er window N. en front po ground.	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con-	CK/UNLOCK S tor. r LH connector Voltage (V)	SWITCH OUTPUT SIGNAL	
Disconnect	front powe n switch O age betwee ls 1, 2 and Terminal	R WINDO er window N. en front po ground.	M AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition	Voltage (V) (Approx.)	WITCH OUTPUT SIGNAL	
Disconnect Turn ignitio Check volta D9 terminal (+) Power window motor LH con-	rerminal	R WINDO\ er window N. en front po ground.	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition	CK/UNLOCK S tor. r LH connector Voltage (V) (Approx.) Battery voltage	WITCH OUTPUT SIGNAL	
<ol> <li>Disconnect</li> <li>Turn ignitio</li> <li>Check volta D9 termina</li> <li>(+)</li> <li>Power window motor LH con- nector</li> </ol>	r front powe n switch O age betwee ls 1, 2 and Terminal	R WINDO er window N. en front po ground.	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition UP DOWN	CK/UNLOCK S tor. r LH connector Voltage (V) (Approx.) Battery voltage 0	WITCH OUTPUT SIGNAL	F
Disconnect     Turn ignitio     Check volta     D9 termina     (+)     Power window     motor LH con-     nector     D9     S the inspection	rerminal	R WINDO er window N. en front po ground. (–) Ground	M AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition UP DOWN UP DOWN	CK/UNLOCK S tor. r LH connector Voltage (V) (Approx.) Battery voltage 0 0 Battery voltage	WITCH OUTPUT SIGNAL	
Disconnect     Turn ignitio     Check volta     D9 termina     (+)     Power window     motor LH con-     nector     D9     S the inspection     YES >> Che	rerminal	R WINDO er window N. en front po ground. (–) Ground	M AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition UP DOWN UP	CK/UNLOCK S tor. r LH connector Voltage (V) (Approx.) Battery voltage 0 0 Battery voltage	WITCH OUTPUT SIGNAL	
Disconnect     Turn ignitio     Check volta     D9 termina     (+)     Power window     motor LH con-     nector     D9     S the inspection	rerminal 1 1 1 1 1 1 1 1 1 1 1 1 1	R WINDO er window N. en front po ground. (–) Ground <u>mal?</u> ttent incide	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition UP DOWN UP DOWN ent. Refer to <u>GI-38</u>	CK/UNLOCK S tor. r LH connector Voltage (V) (Approx.) Battery voltage 0 0 Battery voltage	WITCH OUTPUT SIGNAL	

#### < COMPONENT DIAGNOSIS >

## [LH&RH FRONT WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 8, 11 and front power window motor connector LH D9 (B) terminals 1, 2.

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
DT (A)	11	D9 (B)	1	163



4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminals 8, 11 and ground.

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

#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".
- NO >> Repair or replace harness or connectors.

## **DRIVER SIDE : Component Inspection**

## COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR LH

- 1. Disconnect front power window motor LH.
- 2. Check motor operation by connecting battery voltage directly to front power window motor LH.

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

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

## DRIVER SIDE : Special Repair Requirement

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INFOID:000000005461386

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u> : <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u> : <u>Special Repair Requirement</u>".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL : Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement</u>".

## **PWC-28**

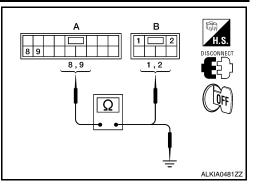
>> End. PASSENGER SIDE PASSENGER SIDE : Description Door glass moves UP/DOWN by receiving the signal from main power window and door lo power window and door lock/unlock switch RH.	INFOID:00000000546138
Door glass moves UP/DOWN by receiving the signal from main power window and door lo	INFOID:00000000546138
	ock/unlock switch o
PASSENGER SIDE : Component Function Check	INFOID:00000000546138
1. CHECK POWER WINDOW MOTOR CIRCUIT	
Check that front power window motor RH operates with main power window and door lo power window and door lock/unlock switch RH. <u>Is the inspection result normal?</u> YES >> Front power window motor RH is OK.	ock/unlock switch o
NO >> Refer to <u>PWC-29</u> , "PASSENGER SIDE : Diagnosis Procedure". PASSENGER SIDE : Diagnosis Procedure	
	INFOID:00000000546139
Regarding Wiring Diagram information, refer to <u>PWC-54, "Wiring Diagram"</u> .	
4	
Check front power window motor RH. Refer to PWC-30, "PASSENGER SIDE : Componer	nt Inspection".
Check front power window motor RH. Refer to <u>PWC-30, "PASSENGER SIDE : Componer</u> Is the inspection result normal?	nt Inspection".
Check front power window motor RH. Refer to <u>PWC-30, "PASSENGER SIDE : Componer</u> Is the inspection result normal? YES >> GO TO 2	
Check front power window motor RH. Refer to <u>PWC-30, "PASSENGER SIDE : Componer</u> <u>Is the inspection result normal?</u> YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Instal</u>	
NO >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Install</u> 2. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL	
Check front power window motor RH. Refer to <u>PWC-30, "PASSENGER SIDE : Componer</u> <u>Is the inspection result normal?</u> YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Install</u> <b>2.</b> CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL	lation".
Check front power window motor RH. Refer to <u>PWC-30</u> , " <u>PASSENGER SIDE</u> : <u>Components</u> Is the inspection result normal? YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19</u> , " <u>Removal and Install</u> 2. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector	lation".
Check front power window motor RH. Refer to <u>PWC-30</u> , " <u>PASSENGER SIDE : Componer</u> <u>Is the inspection result normal?</u> YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19</u> , " <u>Removal and Install</u> <b>2.</b> CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector D104 terminals 1, 2 and ground. <u>Terminal</u> (+) Front power window motor Voltage (V)	lation".
Check front power window motor RH. Refer to <u>PWC-30</u> , "PASSENGER SIDE : Componer Is the inspection result normal? YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19</u> , "Removal and Install 2. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector D104 terminals 1, 2 and ground.	lation".
Check front power window motor RH. Refer to <u>PWC-30</u> , "PASSENGER SIDE : Components the inspection result normal? YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19</u> , "Removal and Install <b>2.</b> CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector D104 terminals 1, 2 and ground. Terminal (+) Front power window motor RH condition Voltage (V) (Approx.) UP Battery voltage	lation".
Check front power window motor RH. Refer to <u>PWC-30</u> , "PASSENGER SIDE : Components the inspection result normal? YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19</u> , "Removal and Install 2. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector D104 terminals 1, 2 and ground.	lation".
Check front power window motor RH. Refer to <u>PWC-30. "PASSENGER SIDE : Components the inspection result normal?</u> YES >> GO TO 2 NO >> Replace front power window motor RH. Refer to <u>GW-19. "Removal and Install</u> 2. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL 1. Disconnect front power window motor RH connector. 2. Turn ignition switch ON. 3. Check voltage between front power window motor RH connector D104 terminals 1, 2 and ground. Terminal (-) Front power window motor RH connector CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL Voltage (V) (Approx.) Voltage (V) (Approx.) UP Battery voltage	lation".

#### < COMPONENT DIAGNOSIS >

## [LH&RH FRONT WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- Disconnect power window and door lock/unlock switch RH connector.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 8, 9 and front power window motor RH connector D104 (B) terminals 1, 2.

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
D 105 (A)	9	D 104 (D)	1	165



 Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 8, 9 and ground.

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity
D105 (A)	8		No
D105 (A)	9		NO

Is the inspection result normal?

- YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-129</u>, "<u>Removal and Instal-</u><u>lation</u>".
- NO >> Repair or replace harness or connectors.

## PASSENGER SIDE : Component Inspection

INFOID:000000005461391

## COMPONENT INSPECTION

- 1. CHECK FRONT POWER WINDOW MOTOR RH
- 1. Disconnect front power window motor RH.
- 2. Check motor operation by connecting battery voltage directly to front power window motor RH.

Terr	ninal	Motor condition
(+)	(-)	
1	2	DOWN
2	1	UP

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

## PASSENGER SIDE : Special Repair Requirement

INFOID:000000005461392

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL</u> : <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT</u> : <u>Special Repair Requirement</u>".

## **PWC-30**

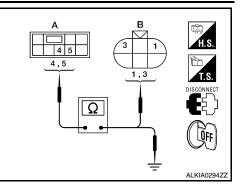
>> End. REAR LH						А	
REAR LH : De	scriptior	า			INFOID:000000005461393	В	
Door glass moves rear power window			ving the signa	al from main powe	er window and door lock/unlock switch or	C	
REAR LH : Co	mponer	nt Function	on Check		INFOID:00000005461394	0	
1. CHECK REAR	POWER	WINDOW	MOTOR LH	CIRCUIT		D	
Check that rear power window motor LH operates with main power window and door lock/unlock switch or rear							
power window swite Is the inspection re		al?				Е	
YES >> Rear p	ower wind	dow motor		ie Dreeselvrell			
			-	is Procedure"		F	
REAR LH : Dia	gnosis	FIUCEUU			INFOID:000000005461395		
Regarding Wiring I	Regarding Wiring Diagram information, refer to <u>PWC-54, "Wiring Diagram"</u> .						
	Jiagrannii	normation,			<u>grann</u> .		
1. CHECK REAR POWER WINDOW MOTOR LH							
Check rear power window motor LH. Refer to PWC-32, "REAR LH : Component Inspection".							
Is the inspection result normal? YES >> GO TO 2							
		wer windo	w motor LH.	Refer to <u>GW-24, "</u>	'Rear Door Glass Regulator".		
2. CHECK REAR	POWER	WINDOW	SWITCH OL	ITPUT SIGNAL		J	
1. Disconnect rea 2. Turn ignition s		vindow mo	tor LH conne	ector.			
3. Check voltage	between		r window mo	tor LH connector		PWC	
D204 terminal	1, 3 and (	ground.					
Те	rminal	1				L	
(+)		()	Window condition	Voltage (V) (Approx.)			
Rear power window motor LH connector	Terminal	(-)				Μ	
	3		UP	Battery voltage	ALKIA0293ZZ		
D204		Ground	DOWN UP	0		Ν	
	1		DOWN	0 Battery voltage			
Is the inspection re	sult norm	al?	20111	Sauci, Voltago		0	
YES >> Check	intermitte		. Refer to <u>GI</u>	-39, "Intermittent I	Incident".		
NO >> GO TO						Р	
3. CHECK HARNESS CONTINUITY							

#### < COMPONENT DIAGNOSIS >

## [LH&RH FRONT WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch LH connector.
- 3. Check continuity between rear power window switch LH connector D203 (A) terminals 4, 5 and rear power window motor LH connector D204 (B) terminals 1, 3.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203 (A)	5	D204 (B)	1	Yes
0200 (71)	4	D204 (D)	3	103



#### 4. Check continuity between rear power window switch LH connector D203 (A) terminals 4, 5 and ground.

Rear power window switch LH connector	Terminal		Continuity
D203 (A)	5	Ground	No
0203 (A)	4		NU

#### Is the inspection result normal?

YES >> Check rear power window switch LH. Refer to <u>PWC-24</u>, "Diagnosis Procedure".

NO >> Repair or replace harness or connectors.

## **REAR LH** : Component Inspection

INFOID:000000005461396

## COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR LH

1. Disconnect rear power window motor LH.

2. Check motor operation by connecting battery voltage directly to rear power window motor LH.

Terr	ninal	Motor condition
(+)	(–)	
3	1	UP
1	3	DOWN

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace rear power window motor LH. Refer to <u>GW-24, "Rear Door Glass Regulator"</u>.

REAR RH

## REAR RH : Description

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

## REAR RH : Component Function Check

1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

Check that rear power window motor RH operates with main power window and door lock/unlock switch or rear power window switch RH.

#### Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Refer to <u>PWC-32</u>, "REAR RH : Diagnosis Procedure".

## **REAR RH** : Diagnosis Procedure

INFOID:000000005461399

INFOID:000000005461397

INFOID:000000005461398

Regarding Wiring Diagram information, refer to PWC-54, "Wiring Diagram".

 $\mathbf{2}.$  CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

Disconnect rear power window motor RH connector.



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#### Turn ignition switch ON. Check voltage between rear power window motor RH connector D304 terminal 1, 3 and ground. Terminal Rear power (+) Voltage (V) window switch Θ⊕ (Approx.) (-) Rear power window **RH** condition Terminal motor RH connector UP Battery voltage 3 DOWN 0 D304 Ground UP 0 1 DOWN Battery voltage Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". NO >> GO TO 3

Check rear power window motor RH. Refer to PWC-33, "REAR RH : Component Inspection".

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

## 3. CHECK HARNESS CONTINUITY

#### 1. Turn ignition switch OFF.

< COMPONENT DIAGNOSIS >

Is the inspection result normal?

>> GO TO 2

YES

NO

1.

2.

3.

1. CHECK REAR POWER WINDOW MOTOR RH

- Disconnect rear power window switch RH connector. 2.
- Check continuity between rear power window switch RH con-3. nector D303 (A) terminals 4, 5 and rear power window motor RH connector D304 (B) terminals 1, 3.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303 (A)	5	D304 (B)	1	Yes
	4	D304 (D)	3	163

#### Check continuity between rear power window switch RH connector D303 (A) terminals 4, 5 and ground. 4

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

## Is the inspection result normal?

- YES >> Check rear power window switch RH. Refer to PWC-24, "Diagnosis Procedure".
- >> Repair or replace harness or connectors. NO

## REAR RH : Component Inspection

## COMPONENT INSPECTION

1.CHECK REAR POWER WINDOW MOTOR RH

ALKIA0294ZZ



INFOID:000000005461400

[LH&RH FRONT WINDOW ANTI-PINCH]

#### < COMPONENT DIAGNOSIS >

#### 1. Disconnect rear power window motor RH.

2. Check motor operation by connecting battery voltage directly to rear power window motor RH.

Terminal		Motor condition
(+)	(-)	
3	1	UP
1	3	DOWN

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace rear power window motor RH. Refer to <u>GW-24, "Rear Door Glass Regulator"</u>.

#### [LH&RH FRONT WINDOW ANTI-PINCH] < COMPONENT DIAGNOSIS > ENCODER А **DRIVER SIDE** DRIVER SIDE : Description INFOID:000000005461401 В 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:000000005461402 1. CHECK ENCODER OPERATION D Check that front door glass LH performs AUTO open/close operation normally when operating main power window and door lock/unlock switch. Is the inspection result normal? Е YES >> Encoder operation is OK. NO >> Refer to PWC-35, "DRIVER SIDE : Diagnosis Procedure". DRIVER SIDE : Diagnosis Procedure INFOID:000000005461403 Regarding Wiring Diagram information, refer to PWC-54, "Wiring Diagram". 1. CHECK ENCODER OPERATION Н Turn ignition switch ON. 1. Check signal between main power window and door lock/unlock 2. switch connector D7 terminals 9, 13 and ground with oscillo-9 13 scope. 9,13 Terminals A (+) E Æ Signal Main power window (Reference value) (-) and door lock/unlock Terminal PWC switch connector ALKIA0295Z 9 D7 Ground Refer to following signal 13 (V) 6 (V) 6 4 M Encoder signal 1 Encoder signal 1 2 2 (Terminal 13) (Terminal 13) C (V (V 6 42 2 Ν Encoder signal 2 Encoder signal 2 (Terminal 9) (Terminal 9) 10ms Window UP Window DOWN (Starting of terminal 9 is 1/4 pulses earlier) (Starting of terminal 13 is 1/4 pulses earlier) JMKIA0220G Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". Ρ NO >> GO TO 2 **2.** CHECK ENCODER POWER SUPPLY

#### < COMPONENT DIAGNOSIS >

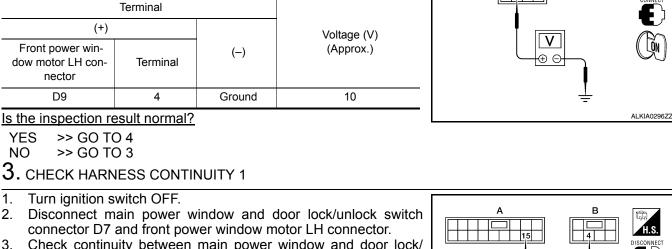
YES

NO

1.

2.

#### Check voltage between front power window motor LH connector D9 terminal 4 and ground.



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3. Check continuity between main power window and door lock unlock switch connector D7 (A) terminal 15 and front power win dow motor LH connector D9 (B) terminal 4.

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

4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminal 15 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-128, "Removal and Installation".
- NO >> Repair or replace harness or connectors.
- CHECK ENCODER GROUND CIRCUIT
- 1. Turn ignition switch OFF.
- Disconnect front power window motor LH connector. 2.
- 3. Check continuity between front power window motor LH connector D9 terminal 6 and ground.

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

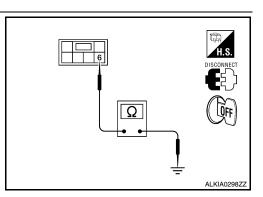
Is the inspection result normal?

YES >> GO TO 6

**Revision: November 2009** 

NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2



[LH&RH FRONT WINDOW ANTI-PINCH]

4

#### ENCODER

#### < COMPONENT DIAGNOSIS >

- 1. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminal 2 and front power window motor LH connector D9 (B) terminal 6.

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

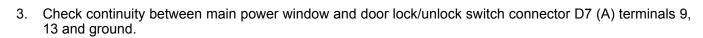
#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".
- NO >> Repair or replace harness or connectors.

#### 6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 9, 13 and front power window motor LH connector D9 (B) terminals 3, 5.

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
07 (A)	13	D9 (D)	3	res



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

#### Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

#### DRIVER SIDE : Special Repair Requirement

#### 1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

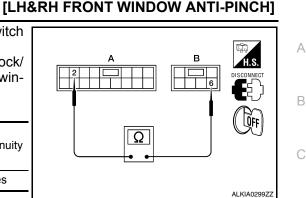
#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL</u> : Special Repair Requirement" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT</u> : Special Repair Requirement".



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#### 1.CHECK ENCODER OPERATION

lock/unlock switch RH as pulse signal.

**PASSENGER SIDE** : Description

Check that front door glass RH performs AUTO open/close operation normally when operating power window and door lock/unlock switch RH.

#### Is the inspection result normal?

< COMPONENT DIAGNOSIS >

YES >> Encoder operation is OK.

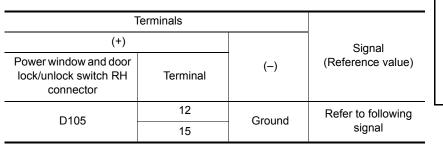
NO >> Refer to <u>PWC-38</u>, "PASSENGER SIDE : Diagnosis Procedure".

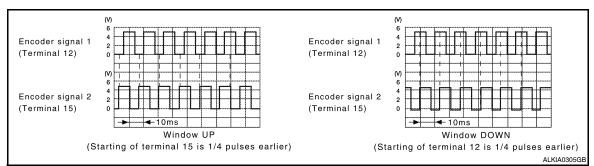
#### PASSENGER SIDE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PWC-54, "Wiring Diagram"</u>.

#### 1. CHECK ENCODER SIGNAL

- 1. Turn ignition switch ON.
- Check signal between power window and door lock/unlock switch RH connector D105 terminal 12, 15 and ground with oscilloscope.





#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 2

2. CHECK ENCODER POWER SUPPLY

12 15

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INFOID:000000005461407

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INFOID:000000005461405

Detects condition of the front power window motor RH operation and transmits to power window and door

#### < COMPONENT DIAGNOSIS >

### Check voltage between front power window motor RH connector D104 terminal 4 and ground.

(+)			Voltage (V)
Front power window motor RH connector	Terminal	()	(Approx.)
D104	4	Ground	10

Is the inspection result normal?

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

**3.** CHECK HARNESS CONTINUITY 1

- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH and front power window motor RH connectors.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 4 and front power window motor RH connector D104 (B) terminal 4.

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

4. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 4 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 <u>PWC-129</u>, "Removal and Installation".

NO >> Repair or replace harness or connectors.

#### 4. CHECK ENCODER GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH connector.
- Check continuity between front power window motor RH connector D104 terminal 6 and ground.

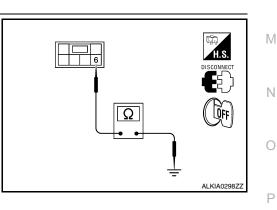
Front power window motor RH connector	Terminal	Ground	Continuity		
D104	6		Yes		

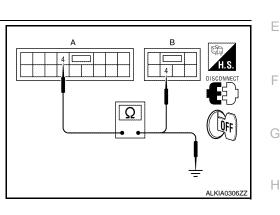
Is the inspection result normal?

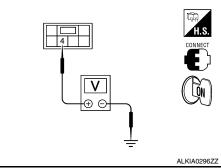
YES >> GO TO 6

NO >> GO TO 5

**5.** CHECK HARNESS CONTINUITY 2







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#### ENCODER

#### < COMPONENT DIAGNOSIS >

- Disconnect power window and door lock/unlock switch RH connector.
- 2. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 3 and front power window motor RH connector D104 (B) terminal 6.

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

# 

[LH&RH FRONT WINDOW ANTI-PINCH]

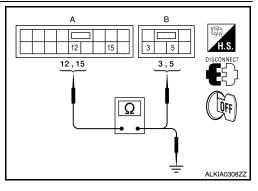
#### Is the inspection result normal?

- YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-129</u>, "<u>Removal and Instal-</u> <u>lation</u>".
- NO >> Repair or replace harness or connectors.

#### 6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect power window and door lock/unlock switch RH connector.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 12, 15 and front power window motor RH connector D104 (B) terminals 3, 5.

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



3. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 12, 15 and ground.

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity
D105 (A)	12		No
D 105 (A)	15		NO

#### Is the inspection result normal?

YES >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

#### PASSENGER SIDE : Special Repair Requirement

INFOID:000000005461408

#### **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

#### >> GO TO 2

#### 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL : Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement</u>".

>> End.

#### **DOOR SWITCH**

#### [LH&RH FRONT WINDOW ANTI-PINCH]

< COMPONENT DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]
DOOR SWITCH	
Description	INFOID:0000000546140
Detects door open/close condition.	
Component Function Check	INFOID-0000000546143
1.CHECK FUNCTION	
With CONSULT-III     Check door switches DOOR SW-DR and DOOR SW-AS in I	Data Monitor mode with CONSULT-III.
Monitor item	Condition
DOOR SW-DR	$CLOSE \to OPEN: OFF \to ON$
DOOR SW-AS	
YES >> Door switch is OK. NO >> Refer to <u>PWC-41, "Diagnosis Procedure"</u> .	
Diagnosis Procedure	INFOID:000000054614
<ol> <li>Check signal between BCM connector and ground with scope.</li> </ol>	$\begin{array}{c} \text{oscillo-} \\ \hline \\ $
	AWKIA1419Z

#### **DOOR SWITCH**

#### < COMPONENT DIAGNOSIS >

	Terminals					
(	+)			Door condi	tion	Voltage (V)
BCM connector	Terminal	()				(Approx.)
					OPEN	0
58 A: M18 Ground		Ground	Driver side		CLOSE	(V) 15 10 5 0 10 ms JPMIA0011GB
7. WTO		Cround			OPEN	0
	32		Passen		CLOSE	(V) 15 10 5 0 10 ms JPMIA0011GB
Is the inspect	tion result r	normal?				
	GO TO 4					
-	GO TO 2	TCH CIRCUIT				
		etween BCM c		and door	T	
		conne		Terminar	Continuity	<u>32,58</u> // LL (ÚFF)
M18	58	B8 (Drive	-	2	Yes	
2 Chook of	32	B108 (Passe	· ·	and group		Ω
5. Check co		tween BCM c	Junector	anu groui	IU.	
BCM con	nector	Terminal			Continuity	
	5	58	Gro	ound	No	
M18	•	32			No	
Is the inspect		normal?				
	GO TO 3	nlago hornog	hotwoo		d door owita	h
3.CHECK D	-	eplace harness	between			ii.
		ponent Inspec	tion"			
Is the inspect		· · · · · · · · · · · · · · · · · · ·				
YES >> (	GO TO 4	alfunctioning d	oor switc	h.		
	-					
		tent Incident".				

#### < COMPONENT DIAGNOSIS >

>> Inspection End.

#### **Component Inspection**

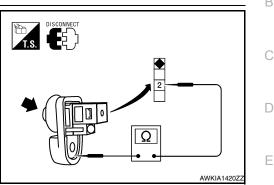
### 1. CHECK DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect door switch connector.
- 3. Check door switch.

Terr	minal	Door switch condition	Continuity	
Door switch		Door switch condition	Continuity	
2	Ground part of	Pressed	No	
2	door switch	Released	Yes	

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace malfunctioning door switch.





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INFOID:000000005461412

#### < COMPONENT DIAGNOSIS >

#### DOOR KEY CYLINDER SWITCH

#### Description

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

#### **Component Function Check**

INFOID:000000005461414

INFOID:000000005461413

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

Check KEY CYL UN-SW, KEY CYL UN-SW in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to <u>BCS-19</u>, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

Monitor item	Cc	ndition	
KEY CYL LK-SW	Lock	: ON	
KET GTL LK-SW	Neutral / Unlock	: OFF	
	Unlock	: ON	
KEY CYL UN-SW	Neutral / Lock	: OFF	

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>PWC-172</u>, "Diagnosis Procedure".

#### Diagnosis Procedure

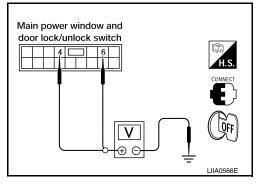
INFOID:000000005461415

Regarding Wiring Diagram information, refer to PWC-54, "Wiring Diagram".

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

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

	Terminals			
(+	(+)			
Main power window and door lock/un- lock switch connector	Terminal	()	Key position	Voltage (V) (Approx.)
	4		Lock	0
D7	4	Ground	Neutral / Unlock	5
U1	6		Unlock	0
	0		Neutral / Lock	5



Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-9</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT</u> : <u>Special Repair Requirement</u>".

NO >> GO TO 2

2.CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

#### DOOR KEY CYLINDER SWITCH

#### < COMPONENT DIAGNOSIS >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

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- 2. Disconnect main power window and door lock/unlock switch connector and front door lock assembly LH (key cylinder switch) connector.
- Check continuity between main power window and door lock/ unlock switch connector and front door lock assembly LH (key cylinder switch) connector.

Main power win- dow and door lock/unlock switch connector	Terminal	Front door lock assem- bly LH (key cylinder switch) connector	Terminal	Continuity
A <sup>.</sup> D7	4	B: D10	6	Yes
A. 01	6	D. D10	5	163

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

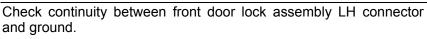
Power window main switch connector	lerminal		Continuity
A: D7	4	Ground	No
A. D1	6		NO

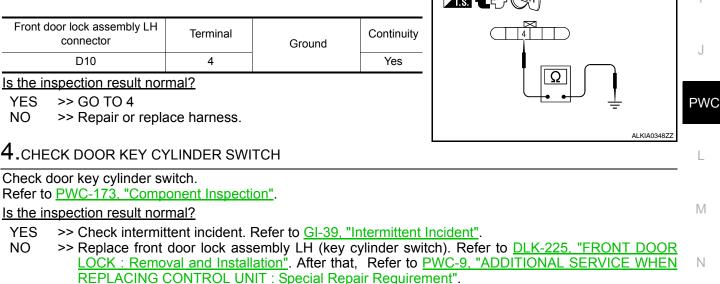
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

#### 3.check door key cylinder switch ground circuit

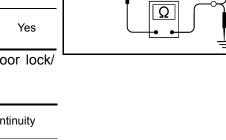




#### Component Inspection

#### COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH



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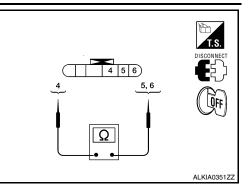
Ρ

#### DOOR KEY CYLINDER SWITCH

#### < COMPONENT DIAGNOSIS >

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

Term	inal			
Front door lock assembly LH (key cylinder switch) connector		Key position	Continuity	
5		Unlock	Yes	
5	4	Neutral / Lock	No	
6	4	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). Refer to <u>DLK-225, "FRONT DOOR</u> <u>LOCK : Removal and Installation"</u>. After that, refer to <u>PWC-174, "Special Repair Requirement"</u>.

#### Special Repair Requirement

INFOID:000000005461417

#### **1.**PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>DLK-9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

#### POWER WINDOW SERIAL LINK [LH&RH FRONT WINDOW ANTI-PINCH] < COMPONENT DIAGNOSIS > POWER WINDOW SERIAL LINK А POWER WINDOW MAIN SWITCH POWER WINDOW MAIN SWITCH : Description INFOID:000000005461418 В Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM communicate via the power window serial link. • The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH. The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH: D - Front door window RH operation Power window control by key cylinder switch - Power window lock switch - Retained accessory power operation Е POWER WINDOW MAIN SWITCH : Component Function Check INFOID:000000005461419 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to BCS-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)". Monitor item Condition LOCK : ON CDL LOCK SW Н UNLOCK : OFF LOCK : OFF CDL UNLOCK SW UNLOCK : ON Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to <u>PWC-47</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Diagnosis Procedure</u>".

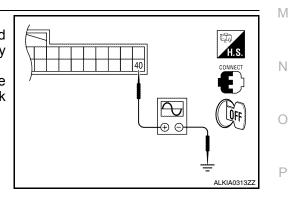
#### POWER WINDOW MAIN SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-54. "Wiring Diagram".

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

Remove Intelligent Key, and close front door LH and RH.
 Check signal between BCM connector M18 terminal 40 and

- Check signal between BCM connector M18 terminal 40 and ground with oscilloscope when door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".
   Check that signals which are shown in the figure below can be
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".



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#### **POWER WINDOW SERIAL LINK**

#### < COMPONENT DIAGNOSIS >

	Terminal		
(+)	(+)		Signal (Reference value)
BCM connector	Terminal		<pre></pre>
M18	40	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1
		10	

Is the inspection result normal?

YES >> Power window serial link is OK.

Terminal

40

BCM connector

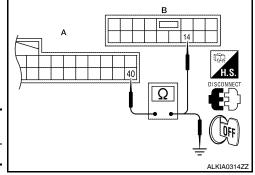
M18 (A)

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M18 and main power window and door lock/unlock switch connector D7.
- Check continuity between BCM connector M18 (A) terminal 40 and main power window and door lock/unlock switch connector D7 (B) terminal 14.

Main power window and door

D7 (B)



4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Giodila	No

#### Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".

Terminal

14

Continuity

Yes

NO >> Repair or replace harness or connectors.

#### POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000005461421

#### **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL : Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement</u>".

>> End.

#### POWER WINDOW SERIAL LINK

#### < COMPONENT DIAGNOSIS >

#### FRONT POWER WINDOW SWITCH : Description

- Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM communicate via the power window serial link.
- The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH.
- The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH:

Signal

(Reference value)

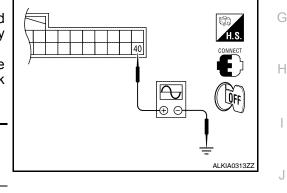
- Front door window RH operation
- Power window control by key cylinder switch
- Power window lock switch
- Retained accessory power operation

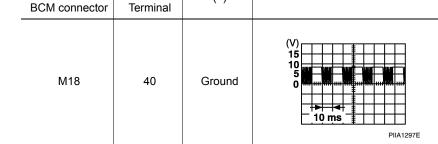
#### FRONT POWER WINDOW SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-65, "Wiring Diagram".

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

- 1. Remove Intelligent Key, and close the front door LH and RH.
- Check signal between BCM connector M18 terminal 40 and ground with oscilloscope when door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".





(-)

Is the inspection result normal?

Terminal

(+)

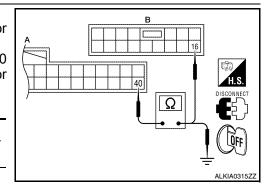
YES >> Power window serial link is OK.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

#### 1. Turn ignition switch OFF.

- Disconnect BCM connector M18 and power window and door lock/unlock switch RH connector.
- Check continuity between BCM connector M18 (A) terminal 40 and power window and door lock/unlock switch RH connector D105 (B) terminal 16.

BCM connector	Terminal	Power window and door lock/unlock switch RH con- nector	Terminal	Continuity
M18 (A)	40	D105 (B)	16	Yes



4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

#### **PWC-49**

[LH&RH FRONT WINDOW ANTI-PINCH]

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#### POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Ground	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".

NO >> Repair or replace harness or connectors.

FRONT POWER WINDOW SWITCH : Special Repair Requirement

INFOID:000000005461424

#### **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u> : <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u> : <u>Special Repair Requirement</u>".

>> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL</u> : Special Repair Requirement" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT</u> : Special Repair Requirement".

>> End.

#### POWER WINDOW LOCK SWITCH

#### Component Function Check

#### 1. CHECK POWER WINDOW LOCK

Activate the power window lock switch and verify that the front power window RH, rear power window LH and rear power window RH are inoperative.

uity

#### Is the inspection result normal?

YES >> Power window lock switch is OK.

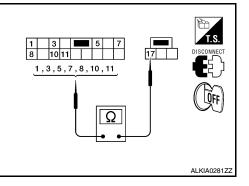
NO >> Refer to <u>PWC-51</u>, "Component Inspection".

#### Component Inspection

#### 1. CHECK POWER WINDOW LOCK SWITCH

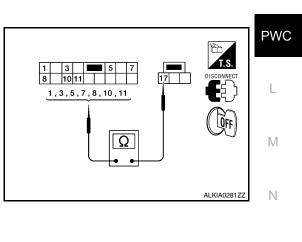
- 1. Disconnect main power window and door lock/unlock switch connectors.
- Check continuity between main power window and door lock/ unlock switch (lock operation).

Terminal		Main power window and door lock/unlock switch condition		Continu
3		Rear LH	UP	
5		Rear RH	UF	
1		Rear LH		
3	17	Real LH	NEUTRAL	No
5	17	Rear RH	NEOTIXE	NO
7		Reditit		
1		Rear LH	DOWN	
7	]	Rear RH	DOWN	



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

Terr	ninal	Main power window and door lock/unlock switch condition		Continuity
3		Rear LH	UP	
5		Rear RH	UP	
1		Rear LH		
3	17	Rear LH	NEUTRAL	Yes
5	1/	Rear RH	NLOTRAL	165
7		Real IXII		
1		Rear LH	DOWN	
7		Rear RH	BOWN	



#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".

#### Special Repair Requirement

1. PERFORM INITIALIZATION PROCEDURE

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[LH&RH FRONT WINDOW ANTI-PINCH]

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#### **POWER WINDOW LOCK SWITCH**

#### < COMPONENT DIAGNOSIS >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u> : <u>Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u> : <u>Special Repair Requirement</u>".

#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

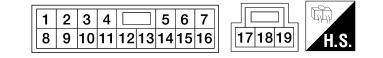
Check anti-pinch operation. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGA-<u>TIVE TERMINAL : Special Repair Requirement</u>" and <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING <u>CONTROL UNIT : Special Repair Requirement</u>".

>> End.

### ECU DIAGNOSIS POWER WINDOW MAIN SWITCH

#### **Reference Value**

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

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

Termin	nal No.	Description			Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	
1 (W)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is operated UP.	Battery voltage	
2 (GR)	Ground	Encoder ground		_	0	
3 (Y)	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 $\rightarrow$ Locked)	$5 \rightarrow 0$	
5 (SB)	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 $\rightarrow$ Unlocked)	$5 \rightarrow 0$	
7 (P)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is operated UP.	Battery voltage	
8 (L)	11	Front door power window mo- tor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage	
9 (Y)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	(V) 6 4 2 0 10 ms	

[LH&RH FRONT WINDOW ANTI-PINCH]

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#### < ECU DIAGNOSIS >

#### **POWER WINDOW MAIN SWITCH** [LH&RH FRONT WINDOW ANTI-PINCH]

Termin	al No.	Description			Veltege IV/
+	-	Signal name	Input/ Output	Condition	Voltage [V] (Approx.)
				IGN SW ON	Battery voltage
10 (V)	Ground	RAP signal	Input	Within 45 seconds after ig- nition switch is turned to OFF.	Battery voltage
(-)				When front LH or RH door is opened during retained power operation.	0
11 (LG)	8	Front door power window mo- tor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage
13 (G)	2	Encoder pulse signal 1	Input	When power window mo- tor operates.	(V) 6 2 0 10 ms JMKIA0070GB
14 (O)	Ground	Power window serial link	Input/ Output	IGN SW ON or power win- dow timer operating.	(V) 15 0 10 ms JPMIA0013GB
15 (BR)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	10
17 (B)	Ground	Ground	_	—	0
19 (D)		Battery power supply	Input	_	Battery voltage

Input

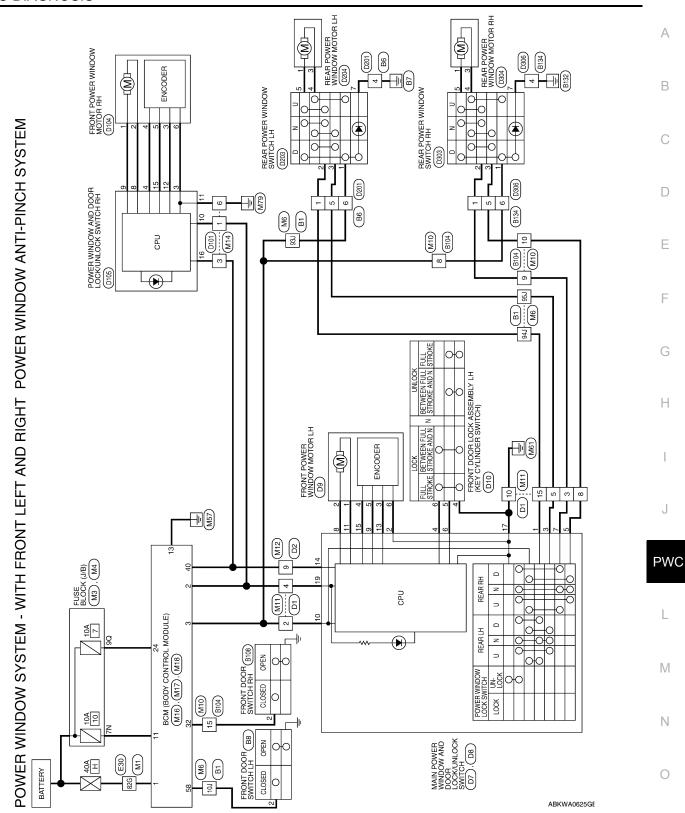
Wiring Diagram

(R)

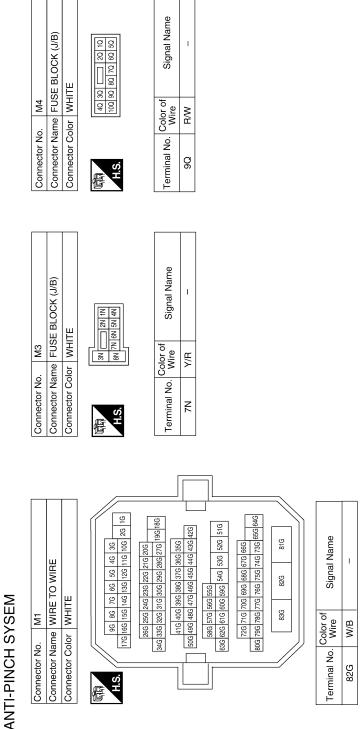
Battery power supply

INFOID:000000005461429

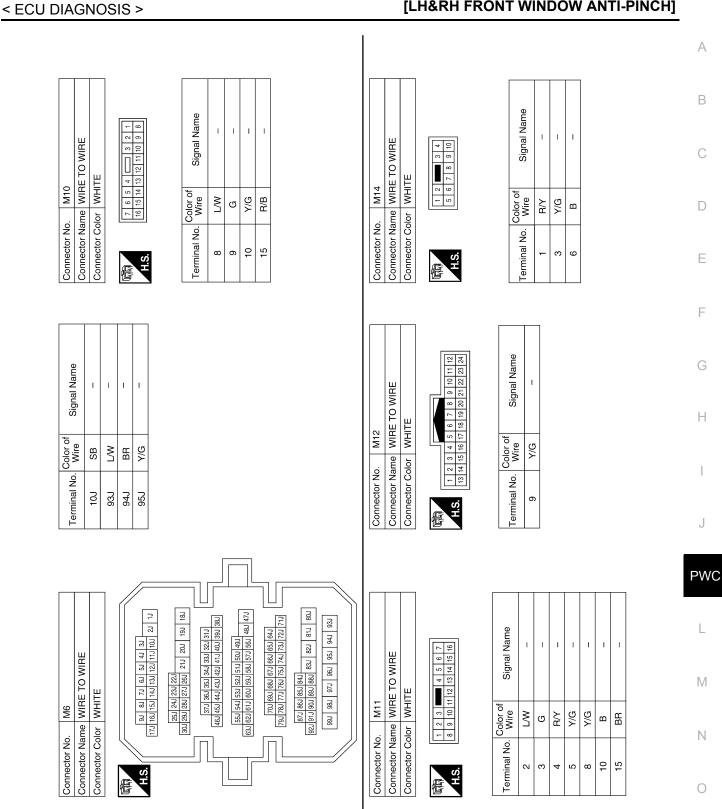
Battery voltage



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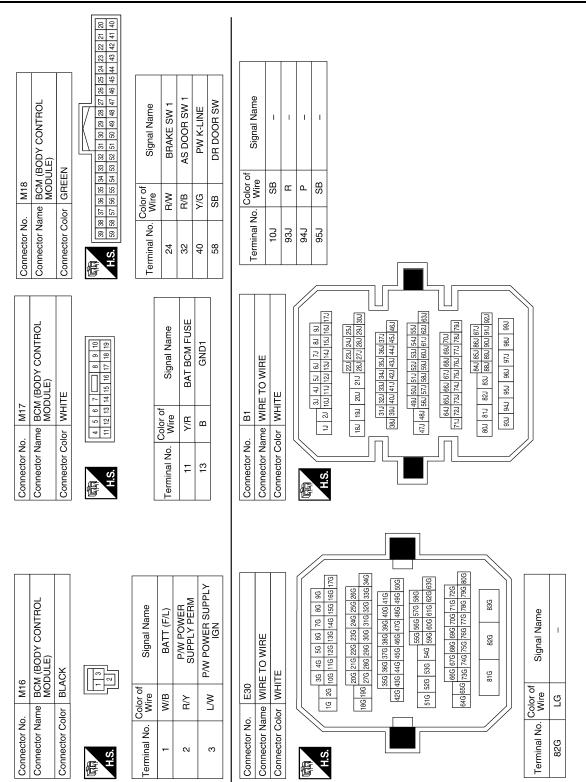
## **POWER WINDOW MAIN SWITCH**

### [LH&RH FRONT WINDOW ANTI-PINCH]

Revision: November 2009



#### POWER WINDOW MAIN SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]



ABKIA1827GB

< ECU DIAGNOSIS >	[LH&RH FRONT WINDOW ANTI-PINCH]
	Connector No.         D1           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Color         WHITE           Terminal No.         Color of (16)         Signal Name           3         P         -           10         B         -           15         W         -
	Connector No.     B134       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WHITE       Terminal No.     Color of Nrie     Signal Name       6     R     -
minector No.       nector No.       nector No.       ninal No.       6       5       6       7	Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE Connector Color WHITE 2 2 2 3 3 3 3 3 3 3

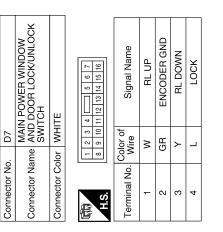
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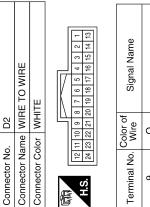
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Revision: November 2009

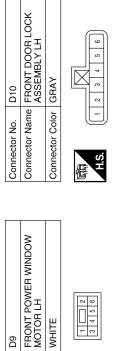
### [LH&RH FRONT WINDOW ANTI-PINCH]

Signal Name	RR DOWN	UNLOCK	RR UP	AS UP	ENCODER SIG1	IGN	AS DOWN	I	ENCODER SIG2	COM	ENCODER POWER	I
Color of Wire	SB	н	Ч	L	Y	^	ГG	Ι	U	0	BR	Ι
Terminal No.	5	9	7	8	6	10	11	12	13	14	15	16









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Connector No.

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Connector No.

Connector Name Connector Color

Connector Name Connector Color



3 4 5 6	Signal Name	I	I	I	I	-
	Color of Wire	ГG	Γ	G	BR	~
田.S.H	Terminal No. Color of Wire	-	2	e	4	5

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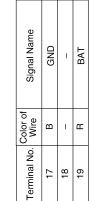
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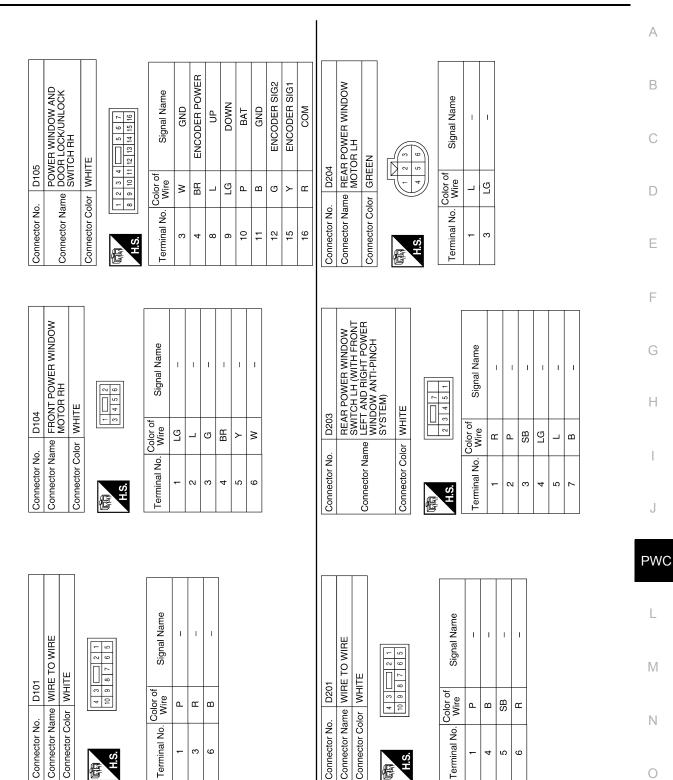
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#### POWER WINDOW MAIN SWITCH [LH&RH FRON]

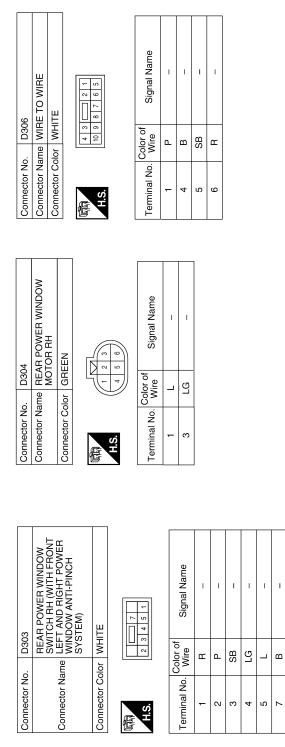
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Fail Safe

#### 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.

#### < ECU DIAGNOSIS >

#### POWER WINDOW MAIN SWITCH

#### [LH&RH FRONT WINDOW ANTI-PINCH]

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 failsafe 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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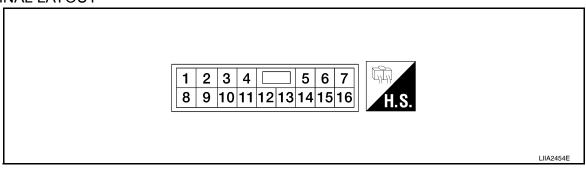
#### FRONT POWER WINDOW SWITCH

#### FRONT POWER WINDOW SWITCH

#### **Reference Value**

INFOID:000000005461431

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

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

Termi	nal No.	Description			Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (W)	Ground	Encoder ground	_	_	0
4 (BR)	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 operated UP.	Battery voltage
9 (LG)	8	Power window motor DOWN signal	Output	When power window motor is operated DOWN.	Battery voltage
10 (P)	Ground	Battery power supply	Input	_	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (G)	3	Encoder pulse signal 1	Input	When power window motor op- erates.	(V) 6 4 2 0 10 ms JMKIA0070GB

### FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

	Termi	nal No.	Description			Voltage [V]	٨
	+	-	Signal name	Input/ Output	Condition	(Approx.)	A
_	15 (Y)	3	Encoder pulse signal 2	Input	When power window motor op- erates.		B
_						10 ms	D
	16 (R)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10	E
_						JPMIA0013GB	

#### Wiring Diagram

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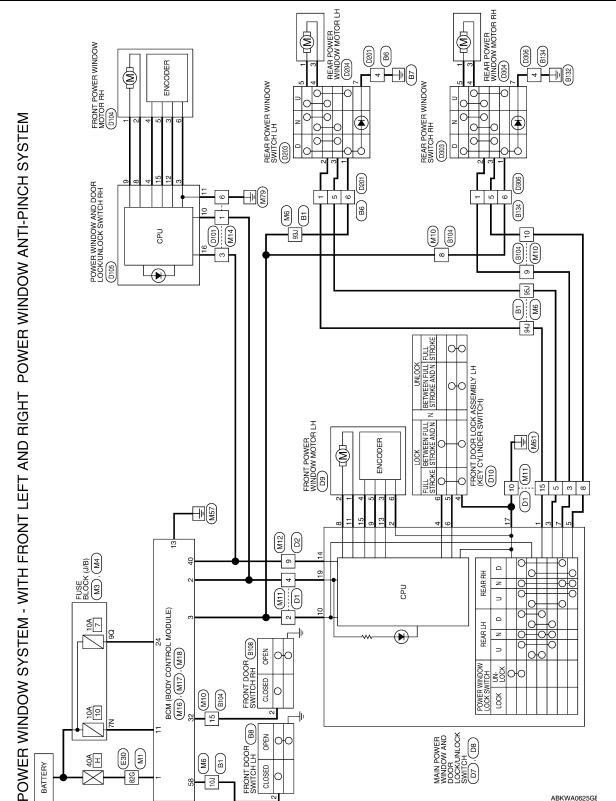
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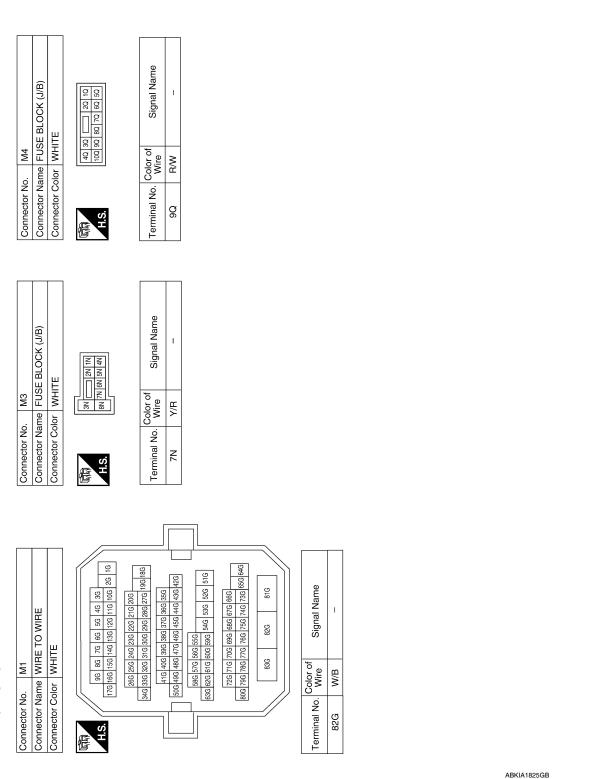
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<b>GHT POWER WINDOW</b>	
WITH FRONT LEFT AND RIGHT POWER V	
/INDOW SYSTEM CONNECTORS - W	Σ
POWER WINDOW (	<b>ANTI-PINCH SYSEN</b>



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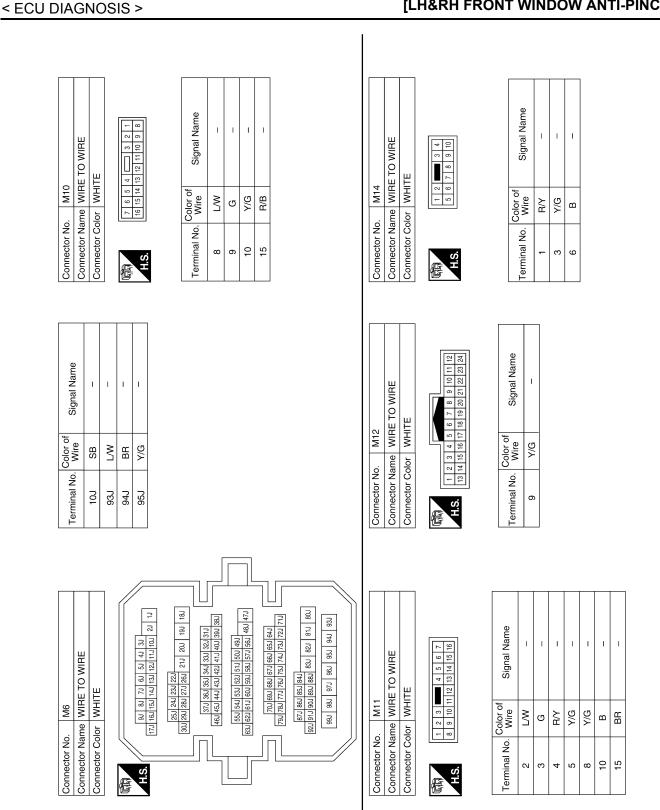
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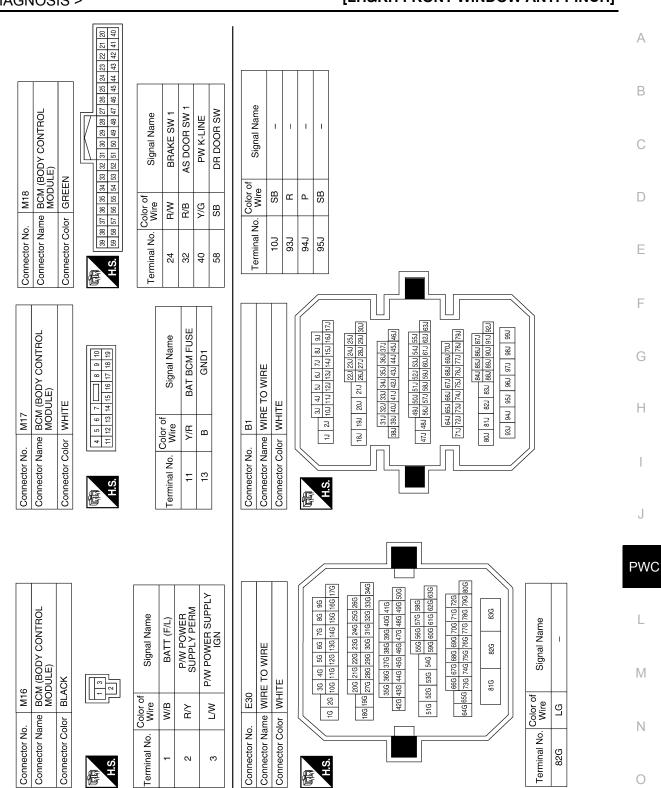
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#### FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]



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FRONT POWER WINDOW SWITCH

< ECU DIAGNOSIS >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

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**Revision: November 2009** 

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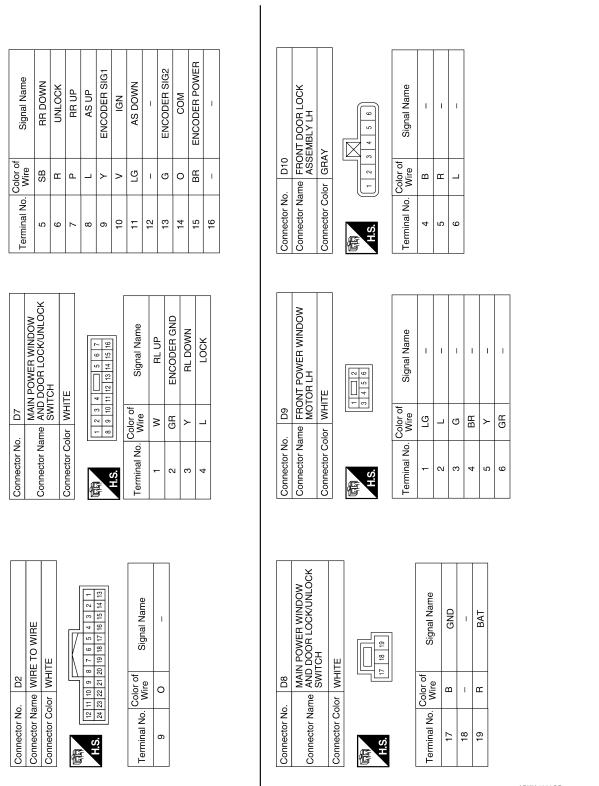
nector Name nector Color	B6	Connector No.	B8	Connector No.	. B104	
	WIRE TO WIRE WHITE	Connector Name FRONT Connector Color WHITE	Connector Name FRONT DOOR SWITCH LH Connector Color WHITE	Connector Name WIRE TO WIRE Connector Color WHITE	Ine WIRE T	TO WIRE E
H.S.	7 8 9 10	同 H.S.		同间 H.S.	1 2 3 8 9 10	4         5         6         7           11         12         13         14         15         16
Terminal No. Wire	f Signal Name			Terminal No.	Color of Wire	Signal Name
-	1	al No.	Wire Signal Name	ω	æ	I
4 B	I	2	SB -	6	٩	1
5 SB	1			10	SB	1
Connector No. B108	08	Connector No.	B134	Connector No.	. D1	
onnector Name FR	Connector Name FRONT DOOR SWITCH RH	Connector Name	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE	ame WIRE	TO WIRE
Connector Color WH	WHITE	Connector Color WHITE	· WHITE	Connector Color WHITE	olor WHIT	ш
同 H.S.		国 H.S.	1         2         3         4           5         6         7         8         9         10	日 H.S.	7         6         5         4         3           16         15         14         13         12         11         10	1 12 11 10 9 8
Color o	ה   ה	Terminal No. Co	Color of Signal Name	Terminal No.	Color of Wire	Signal Name
Terminal No. Wire	Signal Name	-	- -	2	>	1
2 GR	I	4	п	m	٩	I
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#### FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]



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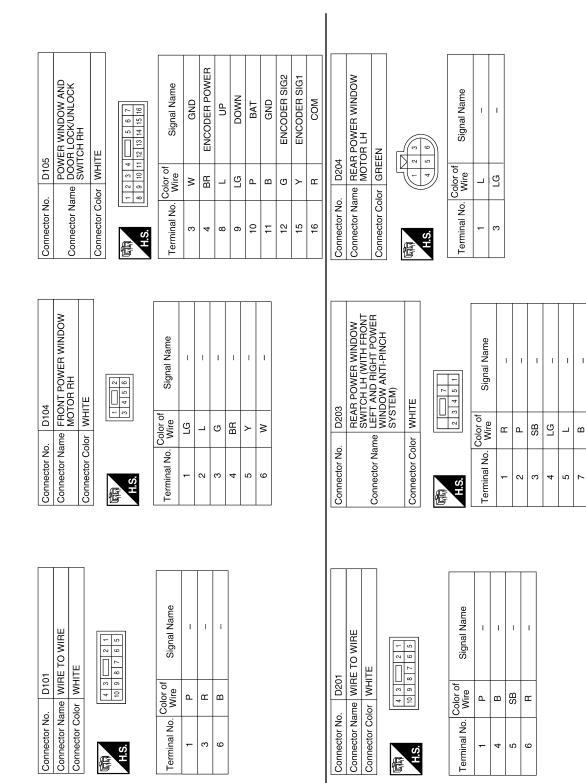
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## FRONT POWER WINDOW SWITCH

Revision: November 2009

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#### FRONT POWER WINDOW SWITCH [LH&RH FRONT WINDOW ANTI-PINCH]

		0 WIRE		<b>2</b> 1 7 6 5		Signal Name	1	I	1	I															
	D306	ne WIHE I		4 3 1 10 9 8	-	Color of Wire	۵.	В	SB	щ															
	Connector No	Connector Na		晤	ЧS	Terminal No.		4	5	9															
Connector No.     D303       REAR POWER WINDOW     REAR POWER WINDOW       Connector Name     SWITCH PRI WINTH FRONT       SYSTEM)     WINDOW ANTI-PINCH       VILIE     Image: Signal Name       1     R       2     P       3     SB       3     SB       4     L       5     L       7     B					_				1																
Connector No.     D303       REAR POWER WINDOW     REAR POWER WINDOW       Connector Name     SWITCH RH (WITH FRONT       SYSTEM)     WINDOW ANTI-PINCH       VILIE     Image: Strenge (Strenge)       Image: Strenge (Strenge)     Image: Strenge (Strenge)       Image: Strenge (Strenge (Strenge))     Image: Strenge (Strenge (Strenge))       Image: Strenge (Strenge			Z	r f		Signal Name																			
Connector No.     D303       REAR POWER WINDOW     REAR POWER WINDOW       Connector Name     SWITCH RIGHT POWER       NNDOW ANTI-PINCH     SYSTEM)       Connector Color     WHITE       Image: State of the stat	r No. D304				4 5 2	No. Color of Mire	-	- D	-																
Connector No. Connector Name Connector Color Land Connector Color Connector Color	Connecto	Connecto	Connecto	Æ	H.S.	Terminal	-	- r																	
Connector No. Connector Name Connector Color Lerminal No. Co 7							_			_					_										
Connector No. Connector Name Connector Color Lerminal No. Co 7		POWER WINDOW CH RH (WITH FRONT	and Right Power Jw Anti-Pinch	EM)		5 1		Signal Name	1	1	1	1	I	I											
Connector Na Connector Na Connector Na E Terminal No.		SWITC		SYSTI 22	- L'	0		Color of Wire	æ	٩	SB	ГG	_	в											
	Connector No.		Connector Nar			内 H.S.		Terminal No.		5	e	4	£	7											
	<u></u>						L				1	I		]	_							ABK	IA183*	1GB	

# FAIL-SAFE CONTROL

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

# FRONT POWER WINDOW SWITCH

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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 failsafe control:

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

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

# BCM (BODY CONTROL MODULE)

# **Reference Value**

## VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	_				
	Other than front wiper switch HI	OFF	С				
FR WIPER HI	Front wiper switch HI	ON					
	Other than front wiper switch LO	OFF	_				
FR WIPER LOW	Front wiper switch LO	ON	_ D				
	Front washer switch OFF	OFF					
FR WASHER SW	Front washer switch ON	ON	E				
	Other than front wiper switch INT	OFF					
FR WIPER INT	Front wiper switch INT	ON	_				
	Front wiper is not in STOP position	OFF					
FR WIPER STOP	Front wiper is in STOP position	ON					
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	G				
	Other than turn signal switch RH	OFF					
TURN SIGNAL R	Turn signal switch RH	ON					
	Other than turn signal switch LH	OFF	H				
TURN SIGNAL L	Turn signal switch LH	ON					
	Other than lighting switch 1ST and 2ND	OFF					
TAIL LAMP SW	Lighting switch 1ST or 2ND	ON					
	Other than lighting switch HI	OFF					
HI BEAM SW	Lighting switch HI	ON	J				
	Other than lighting switch 2ND	OFF					
HEAD LAMP SW 1	Lighting switch 2ND	ON	PW				
	Other than lighting switch 2ND	OFF					
HEAD LAMP SW 2	Lighting switch 2ND	ON	_				
PASSING SW	Other than lighting switch PASS	OFF	L				
PASSING SW	Lighting switch PASS	ON	_				
	Other than lighting switch AUTO	OFF					
AUTO LIGHT SW	Lighting switch AUTO	ON	- M				
	Front fog lamp switch OFF	OFF	_				
FR FOG SW	Front fog lamp switch ON	ON	Ν				
DOOR SW-DR	Driver door closed	OFF					
DOOR SW-DR	Driver door opened	ON	_				
DOOR SW-AS	Passenger door closed	OFF	0				
DOOR SW-AS	Passenger door opened	ON					
	Rear door RH closed	OFF	Р				
DOOR SW-RR	Rear door RH opened	ON	_				
	Rear door LH closed	OFF					
DOOR SW-RL	Rear door LH opened	ON					
	Other than power door lock switch LOCK	OFF					
CDL LOCK SW	Power door lock switch LOCK	ON					

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[LH&RH FRONT WINDOW ANTI-PINCH]

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# BCM (BODY CONTROL MODULE)

#### < ECU DIAGNOSIS >

# [LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
	Other than power door lock switch UNLOCK	OFF
CDL UNLOCK SW	Power door lock switch UNLOCK	ON
	Other than driver door key cylinder LOCK position	OFF
KEY CYL LK-SW	Driver door key cylinder LOCK position	ON
	Other than driver door key cylinder UNLOCK position	OFF
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	ON
	When hazard switch is not pressed	OFF
HAZARD SW	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
	Trunk lid closed	OFF
TRNK/HAT MNTR	Trunk lid opened	ON
	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed	OFF
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON
	When PANIC button of Intelligent Key is not pressed	OFF
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
RRE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
OF HOAL SENSOR	When outside of the vehicle is dark	Close to 0 V
REQ SW-DR	When front door request switch is not pressed (driver side)	OFF
REQ SW-DR	When front door request switch is pressed (driver side)	ON
REQ SW-AS	When front door request switch is not pressed (passenger side)	OFF
REQ SW-AS	When front door request switch is pressed (passenger side)	ON
	When rear door request switch is not pressed (driver side)	OFF
REQ SW-RL	When rear door request switch is pressed (driver side)	ON
	When rear door request switch is not pressed (passenger side)	OFF
REQ SW-RR	When rear door request switch is pressed (passenger side)	ON
	When trunk request switch is not pressed	OFF
REQ SW-BD/TR	When trunk request switch is pressed	ON
	When engine switch (push switch) is not pressed	OFF
PUSH SW	When engine switch (push switch) is pressed	ON
	Ignition switch OFF or ACC	OFF
IGN RLY 2-F/B	Ignition switch ON	ON

Revision: November 2009

# BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
ACC RLY-F/B	Ignition switch OFF	OFF	ŀ
ACC RLI-F/D	Ignition switch ACC or ON	ON	
	When the brake pedal is not depressed	ON	E
BRAKE SW 1	When the brake pedal is depressed	OFF	
	When selector lever is in P position	OFF	
DETE/CANCL SW	When selector lever is in any position other than P	ON	(
	When selector lever is in any position other than P or N	OFF	
SFT PN/N SW	When selector lever is in P or N position	ON	Г
*	Electronic steering column lock LOCK status	OFF	
S/L-LOCK <sup>*</sup>	Electronic steering column lock UNLOCK status	ON	
	Electronic steering column lock UNLOCK status	OFF	E
S/L-UNLOCK <sup>*</sup>	Electronic steering column lock LOCK status	ON	
	Ignition switch OFF or ACC	OFF	
S/L RELAY-F/B <sup>*</sup>	Ignition switch ON	ON	F
	Driver door UNLOCK status	OFF	
UNLK SEN-DR	Driver door LOCK status	ON	0
	When engine switch (push switch) is not pressed	OFF	
PUSH SW-IPDM	When engine switch (push switch) is pressed	ON	
	Ignition switch OFF or ACC	OFF	-
GN RLY1 F/B	Ignition switch ON	ON	
	When selector lever is in P position	OFF	
DETE SW -IPDM	When selector lever is in any position other than P	ON	
	When selector lever is in any position other than P or N	OFF	
SFT PN -IPDM	When selector lever is in P or N position	ON	L.
	When selector lever is in any position other than P	OFF	
SFT P-MET	When selector lever is in P position	ON	
	When selector lever is in any position other than N	OFF	P١
SFT N-MET	When selector lever is in N position	ON	
	Engine stopped	STOP	L
	While the engine stalls	STALL	
ENGINE STATE	At engine cranking	CRANK	
	Engine running	RUN	Ν
	Electronic steering column lock LOCK status	OFF	
S/L LOCK-IPDM <sup>*</sup>	Electronic steering column lock UNLOCK status	ON	ľ
	Electronic steering column lock UNLOCK status	OFF	
S/L UNLK-IPDM <sup>*</sup>	Electronic steering column lock LOCK status	ON	
			(
S/L RELAY-REQ <sup>*</sup>	Ignition switch OFF or ACC	OFF	
	Ignition switch ON	ON	_
VEH SPEED 1	While driving	Equivalent to speedometer reading	F
VEH SPEED 2	While driving	Equivalent to speedometer reading	
	Driver door LOCK status	LOCK	
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY	
	Driver door UNLOCK status	UNLK	

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

# [LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
	Passenger door LOCK status	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
DDMT ENC STDT	When the engine start is prohibited	RESET
PRMT ENG STRT	When the engine start is permitted	SET
	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Ke
	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
CONFRM ID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the sec- ond key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
CONFIRM ID1	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
1P 4	The ID of fourth key is registered to BCM	DONE
	The ID of third key is not registered to BCM	YET
TP 3	The ID of third key is registered to BCM	DONE
	The ID of second key is not registered to BCM	YET
TP 2	The ID of second key is registered to BCM	DONE
	The ID of first key is not registered to BCM	YET
TP 1	The ID of first key is registered to BCM	DONE
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is re- ceived)	Air pressure of rear LH tire
	When ID of front LH tire transmitter is registered	DONE
ID REGST FL1	When ID of front LH tire transmitter is not registered	YET

# **BCM (BODY CONTROL MODULE)**

#### < ECU DIAGNOSIS >

# [LH&RH FRONT WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status	
	When ID of front RH tire transmitter is registered	DONE	
ID REGST FR1	When ID of front RH tire transmitter is not registered	YET	
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE	
ID REGST RRT	When ID of rear RH tire transmitter is not registered	YET	
	When ID of rear LH tire transmitter is registered	DONE	
ID REGST RL1	When ID of rear LH tire transmitter is not registered	YET	
	Tire pressure indicator OFF	OFF	
WARNING LAMP	Tire pressure indicator ON	ON	
	Tire pressure warning alarm is not sounding	OFF	
BUZZER	Tire pressure warning alarm is sounding	ON	

\* : With electronic steering column lock

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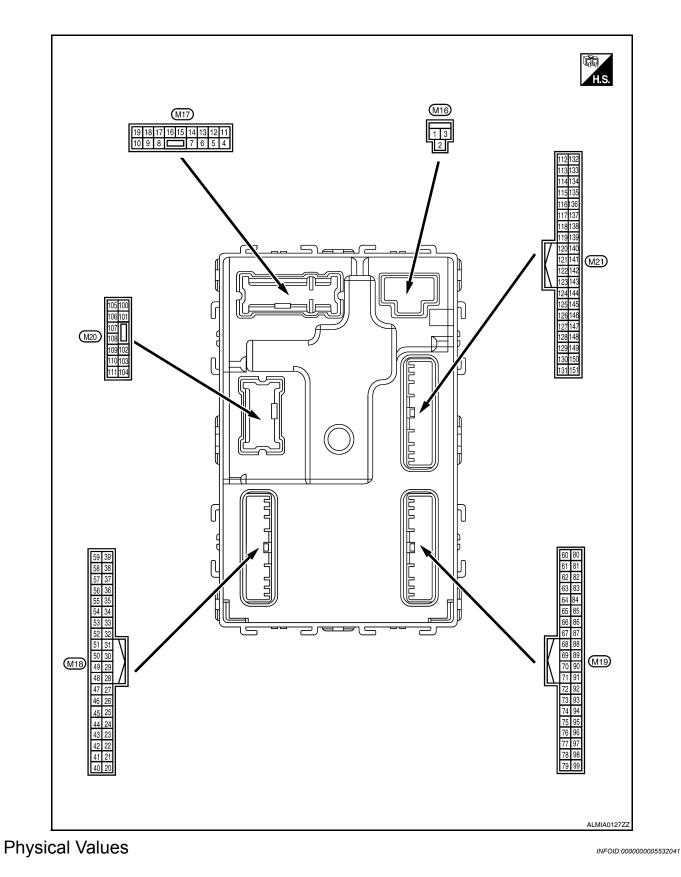
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#### BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

**Terminal Layout** 

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# BCM (BODY CONTROL MODULE)

# [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value
(vvire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFI	F	Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4	Ground	Interior room lamp	Output	After passing the ir er operation time	nterior room lamp battery sav-	٥V
(P/W)	Ground	power supply	Output	Any other time after lamp battery saver	er passing the interior room operation time	Battery voltage
5	Ground	Front door RH UN-	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
(G)	Ground	LOCK	υιραι		Other than UNLOCK (actu- ator is not activated)	0V
7	Ground	Step lamp	Output	Step lamp	ON	0V
(R/W)	Ground		Output		OFF	Battery voltage
8	Crowned		0		LOCK (actuator is activat- ed)	Battery voltage
(V)	Ground	All doors LOCK	Output	All doors	Other than LOCK (actuator is not activated)	0V
9	Ground	Front door LH UN-	Output	Front door LH	UNLOCK (actuator is activated)	Battery voltage
(L)	Ground	LOCK	Juipul		Other than UNLOCK (actu- ator is not activated)	0V
10	Ground	Rear door RH and rear door LH UN-	Output	Rear door RH	UNLOCK (actuator is activated)	Battery voltage
(G)	Ciound	LOCK	Caiput	and rear door LH	Other than UNLOCK (actu- ator is not activated)	٥V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		٥V
					OFF	0V
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms
15	One	ACC indicates laws	Quitaut	Institute constants	OFF	Battery voltage
(Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	ACC or ON	0V

	Terminal No. Description (Wire color)				Value		
	,	Signal name	Input/		Condition	(Approx.)	
(+)	(-)	eignarhaine	Output		1		
17 (G/B)	Ground	Turn signal (RH)	Output	lgnition switch ON	Turn signal switch OFF	0V (V) 15 10 5 0 1 s 0 PKID0926E 6.5 V	
					Turn signal switch OFF	0.0 V	
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V	
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage	
(Y)	Ground	control	Output	lamp	ON	0V	
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehi- cle is bright When outside of the vehi-	Close to 5V Close to 0V	
					cle is dark		
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage	
26	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is re- leased)	0V	
(O/L)	Ground		mput		ON (brake pedal is de- pressed)	Battery voltage	
27 (O)	Ground	Front door lock as- sembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 0 10 10 10 10 10 10 11.8V	
					UNLOCK status	0V	
29	Ground	Key slot switch	Input	_	ey is inserted into key slot	Battery voltage	
(Y)		- ,		When Intelligent K	ey is not inserted into key slot	0V	
30	Ground	ACC feedback signal	Input	Ignition switch	OFF	0	
(V/Y)	Cround		input		ACC or ON	Battery voltage	
31	Ground	Rear window defog-	Input	Rear window de-	OFF	0V	
(G)	Cround	ger feedback signal	input	fogger switch	ON	Battery voltage	

## BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value		
(vvire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)		
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V		
					ON (when front door RH opens)	0V		
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1V		
					ON	0V		
38 (GR/ W)	Ground	Rear window defog- ger ON signal	Input	Rear window de- fogger switch	OFF ON	5V 0V		
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON	<u> </u>	(V) 15 10 5 0 10 ms JPMIA0013GB 10.2V		
				Ignition switch OF	F or ACC	0V		
41 (W)	Ground	Engine switch (push switch) illumination	Output	Engine switch (push switch) illu- mination	ON	5.5V		
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator	OFF ON OFF	0V 0V Battery voltage		
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V		
46	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF ACC or ON	0V 5.0V		

Ρ

	inal No.	Description				Value
(VVire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
47 <sup>1</sup>	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 2 0 ••• 0.2s OCC3881D
(G/O)	Glound	er signal	Output	V fi	When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.2s OCC3880D
48		Selector lever trans-			P or N position	12.0V
(R/G)	Ground	mission range switch signal	Input	Selector lever	Except P and N positions	0V
					ON	0V
49 (L/O)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 10 10 10 10 10 10 10 10 10 10 10 10
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF Lighting switch 1ST Lighting switch high-beam Lighting switch 2ND Turn signal switch RH	0V (V) 15 10 2 ms JPMIA0031GB 10.7V
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 2 • Wiper intermittent dial 3	0V (V) 15 10 5 0 2 ms
					<ul> <li>Wiper intermittent dial 6</li> <li>Wiper intermittent dial 7</li> </ul>	JPMIA0032GB

# BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	0V
50		Combination quitch		Combination	Front washer switch ON (Wiper intermittent dial 4)	(V) 15
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wlper intermittent dial 5	10 5 0 2 ms
					Wiper intermittent dial 6	ЈРМІА0033GB 10.7V
					All switch OFF	0V
					Front wiper switch INT	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch LO	(V) 15 10 5 0
					Lighting switch AUTO	2 ms
					All switch OFF	10.7V
					Front fog lamp switch ON	
					Lighting switch 2ND	(V)
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit-	Lighting switch flash-to- pass	
				tent dial 4)	Turn signal switch LH	2 ms JPMIA0035GB 10.7V
57 <sup>1</sup> (W)	Ground	Tire pressure warn- ing check switch	Input		_	5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 10 10 ms JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage
(G/R)	Ciouna	ger relay	Caiput	fogger	Not activated	0V

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	inal No.	Description				Value
(+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
60	Ground	Front console anten-	0.404	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(B/R)	Ground	na 2 (-)	Output	ŎFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB
61		Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 10 0 1 s JMKIA0062GB	
(W/R)			OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	
62	Ground	Front outside handle	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	62 (V) Ground	RH antenna (-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

	inal No.	Description				Velue
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	Value (Approx.)
63		Front outside handle		When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 10 15 15 10 15 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15
(P)		Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 0 1 1 5 0 1 5 0 1 5 0 1 5 0 1 5 1 5	
64			When the front	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 5 10 5 0 1 5 10 5 0 1 5 10 5 0 1 5 10 5 0 1 5 10 5 0 15 10 5 0 15 10 5 0 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
64 (V)	Ground	LH antenna (-)	Output	Output door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5
65		Front outside handle		When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
65 (P)	Ground	LH antenna (+)		When Intelligent Key is not in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0063GB	

		<b>_</b>				
(Wire	iinal No. e color)	Description Signal name	Input/		Condition	Value (Approx.)
(+) 68 (G/O)	(-) Ground	NATS antenna amp (built in key slot)	Output Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 con- trol	Output	Ignition switch	OFF or ACC ON	0V Battery voltage
	71 (L/O)     Ground     Remote keyless entry receiver signal	Input/	During waiting		(V) 15 0 10 10 10 10 10 10 10 10 10 10 10 10 1	
	Ground		Output	When operating e	ither button on Intelligent Key	(V) 15 10 5 0 1 1 ms JMKIA0065GB
		Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
75 (R/Y)	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 5 0 2 ms JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3V

	inal No.	Description				\/_l	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	Value (Approx.)	ŀ
	76 (R/G) Ground Combination switch INPUT 3			All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0041GB 1.4V	E (	
		Combination switch	Input	Combination switch	Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0036GB 1.3V	F
(R/G)		INPUT 3			Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3V	
				Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3V	P	
77 <sup>2</sup>	Ground	Engine switch (push switch)	Input	Engine switch (push switch)	Pressed	0V	
(BR) 78 (P)	Ground	CAN-L	Input/ Output		Not pressed	Battery voltage	ľ
(1 ) 79 (L)	Ground	CAN-H	Input/ Output		_	_	ľ
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumina- tion	OFF Blinking	0V	F
					ON	Battery voltage	

	inal No. e color)	Description				Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
(LG)					ON	Battery voltage
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF ACC or ON	0V Battery voltage
84 (Y/R)	Ground	CVT shift selector	Output		<u> </u>	Battery voltage
85 <sup>3</sup> (L/O)	Ground	Electronic steering column lock condition No. 1	Input	Electronic steer- ing column lock	Lock status Unlock status	0V Battery voltage
a a <sup>3</sup>		Electronic steering			Lock status	Battery voltage
86 <sup>3</sup> (G/R)	Ground	column lock condition No. 2	Input	Electronic steer- ing column lock	Unlock status	0V
87	<u> </u>	Selector lever P posi-			P position	0V
(G/B)	Ground	tion switch	Input	Selector lever	Any position other than P	Battery voltage
					ON (pressed)	0V
88 (R)	Ground	Front door RH re- quest switch	Input	Front door RH re- quest switch	OFF (not pressed)	(V) 15 10 10 10 1.0V JPMIA0016GB
					ON (pressed)	0V
89 (R)	Ground	Front door LH re- quest switch	OFF (not pressed)	(V) 15 10 5 10 10 ms JPMIA0016GB 1.0V		
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V
(Y)	Cround	lay control	Caiput	-Sinton Switch	ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OF	F	Battery voltage
94 <sup>3</sup>	Ground	Steering wheel lock	Output	Ignition switch	OFF or ACC	Battery voltage
(G/Y)	Ground	unit power supply	Juiput	ignition switch	ON	0V

## BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value	^
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	А
					All switch OFF	(V) 15 10 5 2 ms JPMIA0041GB 1.4V	B C D
					Turn signal switch LH	(V) 15 10 2 ms JPMIA0037GB 1.3V	E
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3V	G H I
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V	J PWC
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3V	M

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	Terminal No. (Wire color)       Description         (+)       (-)       Signal name       Input/ Output         (+)       (-)       Signal name       Input/ Output         (+)       (-)       Input/ Output       Input/ Output		Oredition	Value		
(+)	-	Signal name			Condition	(Approx.)
				All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	
96	Ground	Combination switch	Input	Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 10 0 2 ms JPMIA0038GB 1.3V
(٣/٣)	(P/B) Ground INPUT 4		SWILCH	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3V	
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 2 ms JPMIA0039GB 1.3V

	inal No.	Description				Value	٥
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	А
					All switch OFF	(V) 15 10 2 ms JPMIA0041GB 1.4V	B C D
					Lighting switch flash-to- pass	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3V	E F G
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 2 ms JPMIA0036GB 1.3V	H
					Front wiper switch INT	(V) 15 10 2 ms JPMIA0038GB 1.3V	J PWC
					Front wiper switch HI	(V) 15 0 2 ms JPMIA0040GB 1.3V	M
					Pressed	0 V	0
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 10 10 ms JPMIA0012GB 1.1V	Ρ

	inal No. e color)	Description				Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
99 <sup>3</sup> (L/Y)		Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB	
					For 15 seconds after UN- LOCK	Battery voltage
				-	15 seconds or later after UNLOCK	0V
103	103 (V) Ground Trunk lic	Trunk lid opoping	runk lid opening. Output	out Trunk lid	Open (trunk lid opener ac- tuator is activated)	Battery voltage
(V)		frank na oponnig.	Output		Close (trunk lid opener ac- tuator is not activated)	0V
110	Ground	Trunk room lamp	Output Trunk room lamp	ON	0V	
(V/W)	Ground		Output	Traine toom lamp	OFF	Battery voltage
114	Ground	Trunk room antenna	Output	Output Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
114 (B) Gro	Ground	Trunk room antenna 1 (-)	Output		When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 1 1 1 5 0 JMKIA0063GB

	inal No.	Description				Value	Λ
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	A
115		ld Trunk room antenna 1 (+)		Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 0 1	B C D
(W)			Output		When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
118	118	Rear bumper anten- na (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 15 10 5 0 15 15 10 5 0 15 15 10 5 0 15 15 15 15 15 15 15 15 15 15 15 15 15	G H I
(L/O)	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	J PW
119 (BP)	119 (BR/ W) Ground	Rear bumper anten- na (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 1 s JMKIA0062GB	M
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 5 10 5 0 1 5 10 5 0 1 5 10 5 0 1 5 10 5 0 10 5 10 5	P

# BCM (BODY CONTROL MODULE)

# [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value
	e color)	Signal name	Input/		Condition	Value (Approx.)
(+)	(-)		Output			
127 (BR/	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage
W)	Ciouna	E/R) control	Output	Ignition switch	ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132	Ground	Starter motor relay	Output	Ignition switch	When selector lever is in P or N position and the brake is depressed	Battery voltage
(R)	Ground	control	Output	ON	When selector lever is in P or N position and the brake is not depressed	0V
140 <sup>4</sup>	Cround	Engine switch (push	المحمد	Engine switch	Pressed	0V
(L/R)	Ground	switch)	Input	(push switch)	Not pressed	Battery voltage
141 (BR)	Ground	Trunk request switch	Input	Trunk request switch	ON (pressed) OFF (not pressed)	0V
144	Ground	Request switch buzz-	Output	Request switch	Sounding	0V
(GR)	Cround	er	Supul	buzzer	Not sounding	Battery voltage
147	Ground	Trunk lid opener	Input	Trunk lid opener	Pressed	0V
(L/R)	Ciouna	switch	mput	switch	Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V

# BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

	inal No.	Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output			(Approx.)	
						(V) 15	
Ground Rear door I Hiswitch Input	Rear door LH closes) switch	10 5 0 • • •					
						JPMIA0011GB 11.8V	
					ON (when rear door LH opens)	0V	

1 : With low tire pressure monitoring system

2 : With electronic steering column lock

3 : Early production

4 : Without electronic steering column lock

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PWC

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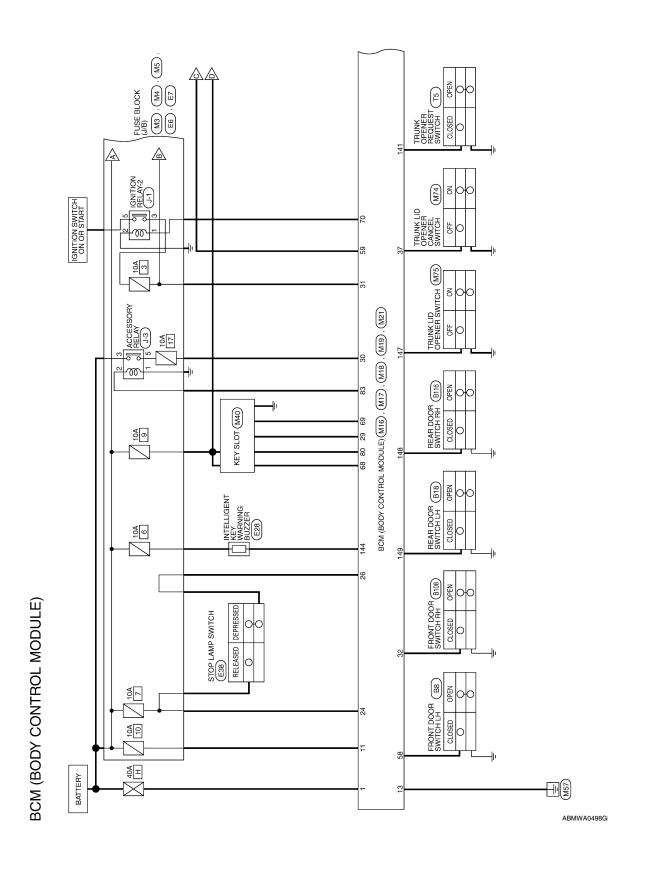
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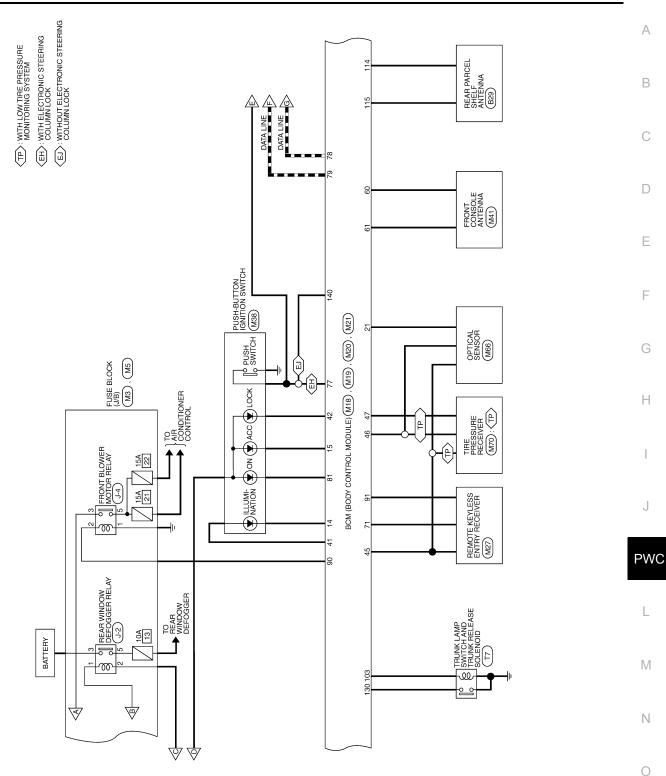
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Wiring Diagram

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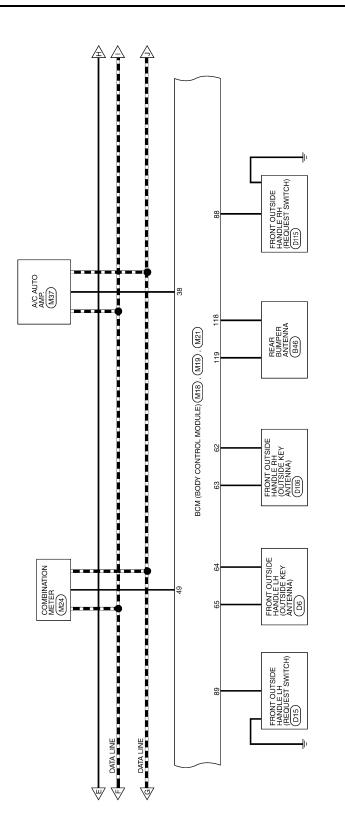


Revision: November 2009

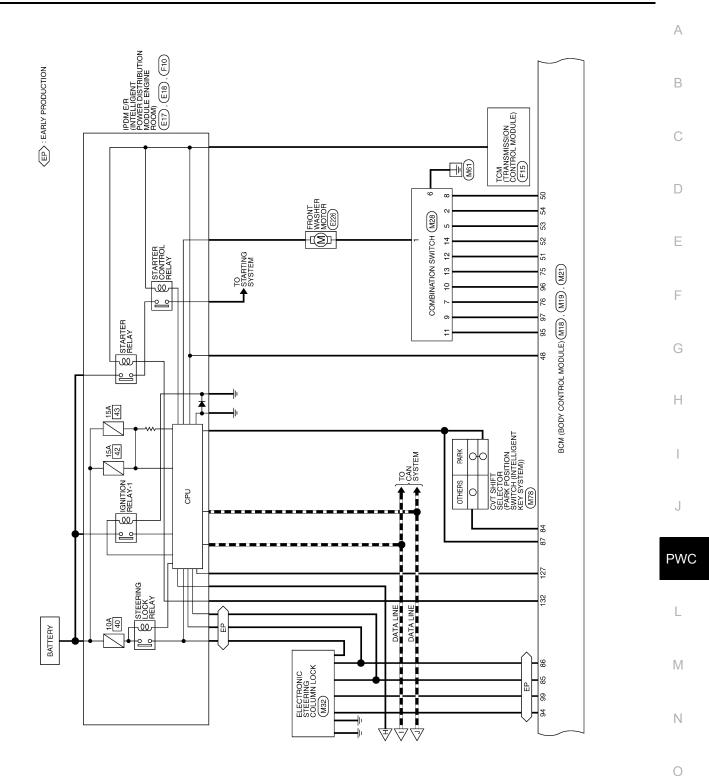


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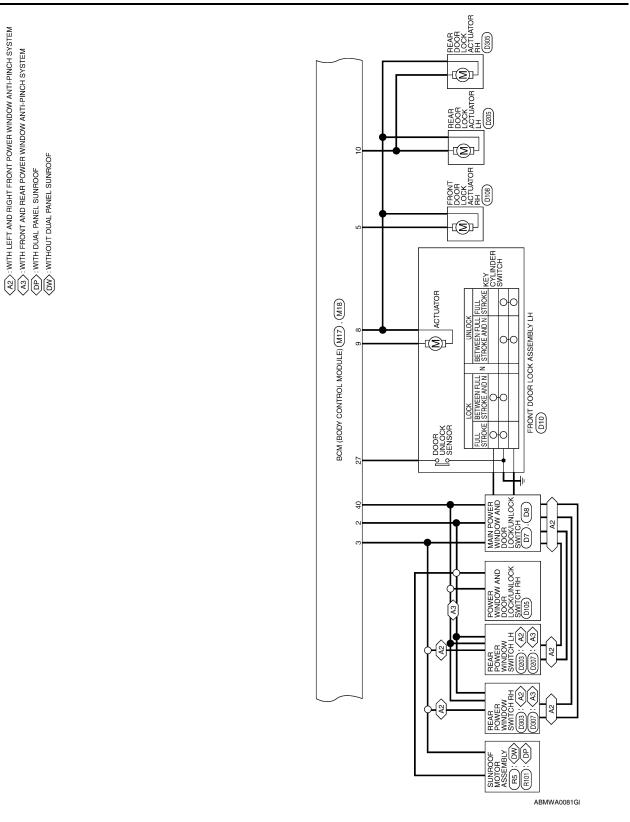
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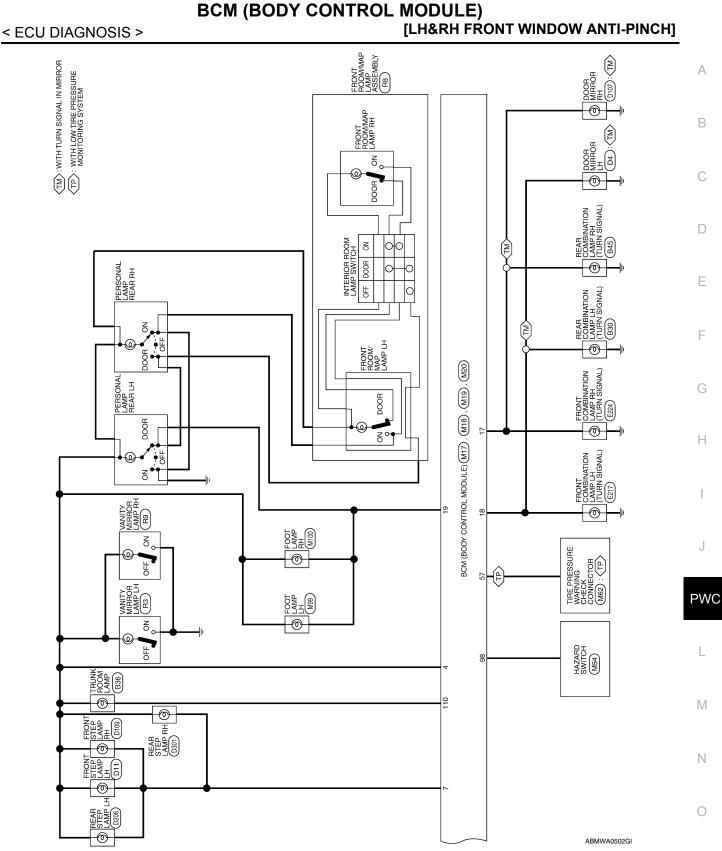


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Revision: November 2009

TORS	Connecto	Connector	Connecto	品 H.S.	Terminal I	•
CONNEC						
BCM (BODY CONTROL MODULE) CONNECTORS	9	Connector Name BCM (BODY CONTROL MODULE)	ACK		Signal Name	
CON	. M16	me BC MC	lor BL		Color of Wire	
A (BODY	Connector No.	Connector Na	Connector Color BLACK	同间 H.S.	Terminal No. Wire	
BCN						

11 12 13 14 15 16 17 18 19	of Signal Name	R/L POWER SUPPLY	DOOR UNLOCK OUTPUT AS	Ι	STEP LAMP CONT	DOOR LOCK OUTPUT ALL	DOOR UNLOCK OUTPUT (DR/FL)
11 12	Color - Wire	Р/W	U	I	R/W	>	-
H.S.	Terminal No. Color of Wire	4	5	9	2	8	6

1		
/	R/W	STEP LAMP CONT
8	>	DOOR LOCK OUTPUT ALL
თ	L	DOOR UNLOCK OUTPUT (DR/FL)
Terminal No.	Color of Wire	Signal Name
27	0	DOOR LOCK STATUS DR
28	I	I
29	٢	FOB IN SW 1
30	٨٧	ACC F/B
31	U	IGN F/B
32	R/B	AS DOOR SW 1
33	I	I
34	Ι	1
35	-	ļ
36	Ι	ļ
37	0	TRUNK CANCEL SW
38	GR/W	REAR DEFOGGER SW
39	Ι	I
40	Y/G	PW K-LINE
41	W	RING LED
42	щ	S/L LOCK LED
43	-	-
44	Ι	I



< ECU DIAGNOSIS >

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4 5 6 11 12 1	Color o Wire
H.S.	Terminal No.

	Signal Name	BATT (F/L)	P/W POWER SUPPLY PERM	P/W POWER SUPPLY
	Color of Wire	W/B	R/Y	۲W
品. H.S.	Terminal No.	-	2	e

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

			1	
	20	40		
	21	41		_
	22	42		
	26 25 24 23 22 21 20	45 44 43 42 41 40		
	24	44		
	25	45		
	26	46		
	27	47		
107	28	48		
	29	49 48		
	33 32 31 30 29	50		
	3	51		-
	32	52		
	33	53		+
	8	54		0
	35	55		
	36 35 34	56		
10	37	57		
旧.S.H	39 38	58		
偕 🥄	39	59		

Signal Name	I	A/L SIGNAL TYPE 1	I	I	BRAKE SW1	I	BRAKE SW2
Color of Wire	I	P/B	I	I	R/W	I	O/L
erminal No. Color of Wire	20	21	22	23	24	25	26

ABMIA1331GB

# **BCM (BODY CONTROL MODULE)**

[LH&RH FRONT WINDOW ANTI-PINCH]

Signal Name	DOOR UNLOCK OUTPUT (RR/RL)	BAT BCM FUSE	I	GND1	LOW SIDE PUSH LED	ACC LED	I	FR FLASHER	FL FLASHER	ROOM LAMP CONT
Color of Wire	თ	Y/R	I	в	GR/W	Y/L	Ι	G/B	G/Y	۲
Terminal No.	10	11	12	13	14	15	16	17	18	19

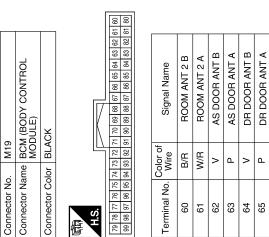
Signal Name	GND RF2 A/L	A/L POWER SUPPLY 5V	<b>RF2 TUNER SIGNAL</b>	SHIFT N/P/ NEUTRAL SW	IMMO LED (SECURITY INDICATOR)	OUTPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT4	I	I	TPMS MODE	DR DOOR SW	REAR DEFOGGER
Color of Wire	۵.	W/N	G/O	R/G	Р0	LG/B	Γ/W	G/B	LG/R	G/Y	I	I	M	SB	G/R
Terminal No.	45	46	47	48	49	50	51	52	53	54	55	56	22	58	59

# BCM (BODY CONTROL MODULE)

[LH&RH FRONT	WINDOW	

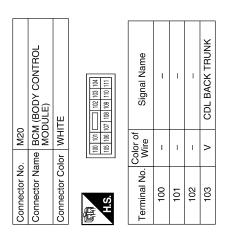
Signal Name	AT DEVICE OUT	S/L CONDITION 1	S/L CONDITION 2	SHIFT P/ASCD CANCEL SW	AS REQUEST SW	DR REQUEST SW	<b>BLOWER FAN RELAY</b>	RF POWER SUPPLY 12V	1	1	S/L POWER SUPPLY 12V	INPUT 1	INPUT 4	INPUT 2	HAZARD SW	S/L K-LINE
Color of Wire	Y/R	L/0	G/R	G/B	н	щ	≻	L/R	I	I	G/Y	R/W	P/B	R/B	G/O	Γ
Terminal No.	84	85	98	87	88	89	06	91	92	93	94	95	96	97	98	66

Signal Name	I	FOB READER CLOCK	FOB READER DATA	<b>IGN REL OUTPUT 2</b>	<b>RF1 TUNER SIGNAL</b>	Ι	-	I	INPUT 5	INPUT 3	ENG START SW	CAN-L	CAN-H	FOB SLOT ILLUMINATION	IGN ON LED	I	ACC CONT
Color of Wire	I	G/O	0	R/B	Г/О	Ι	-	I	RЛ	R/G	BR	Р	Γ	R/L	LG	Ι	Γ
Terminal No.	67	68	69	70	71	72	73	74	75	76	77	78	62	80	81	82	83



Signal Name	I	I	I	I	I	I	TRUNK LAMP CON	I
Color of Wire	I	I	I	I	I	I	ΜΛ	I
Terminal No. Wire	104	105	106	107	108	109	110	111

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**PWC-105** 

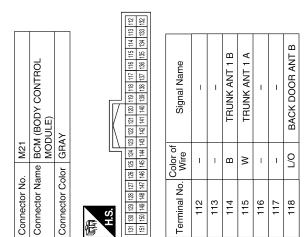
BCM (BODY CONTROL MODULE)
[LH&RH FRONT WINDOW ANTI-PINCH]

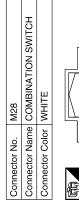
Signal Name	1				T SW W/O CL	TRUNK REQUEST SW			BUZZER			IK OPENER	RR DOOR SW	RL DOOR SW		
Signal	-	1	1	1	ENG START SW W/O ESCL	<b>TRUNK RE</b>	-	-	ZNB	1	-	BACK TRUNK OPENER	RR DO	BLL DO(	-	I
Color of Wire	I	I	I	I	BR	BR	I	I	GR	I	I	L/R	R/W	R/B	T	I
Terminal No.	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151

Signal Name	BACK DOOR ANT A	I	I	I	I	I	I	I	IGN RELAY OUTPUT	1	I	TRUNK SW	I	ST RELAY OUTPUT	I	I	I	
Color of Wire	BR/W	I	I	I	I	I	I	I	BR/W	I	Ι	Μ	I	н	Ι	I	-	
Terminal No.	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	

Signal Name	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5	OUTPUT 2	
Color of Wire	P/B	МЛ	L/W	R/Y	G/B	
Terminal No. Color of Wire	10	÷	12	13	14	

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H.S.

7 8 9 10 11 12 13 14	Signal Name	Η	OUTPUT 4	OUTPUT 3	I	<b>E TUPNI</b>	OUTPUT 5	INPUT 2
7 8 9	Color of Wire	R/L	G/Y	LG/R	В	R/G	LG/B	R/B
	Terminal No. Color of Wire	Ļ	2	5	9	7	8	6

ABMIA2102GB

INFOID:000000005532043

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L*	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM*	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

Revision: November 2009

Fail Safe



Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED*	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status has become consistent</li> <li>Starter control relay signal</li> <li>Starter relay status signal</li> </ul>
B2562: LO VOLTAGE	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock<sup>*</sup></li> </ul>	100 ms after the power supply voltage increases to more than 8.8 V
B2601: SHIFT POSITION <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>5 seconds after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h or more</li> </ul>
B2603: SHIFT POSI STATUS <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> </ul>
B2604: TRANSMISSION RANGE SWITCH <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after any of the following BCM recognition conditions is fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
B2605: TRANSMISSION RANGE SWITCH <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after any of the following BCM recognition conditions is fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Power position: IGN</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> <li>Transmission range switch signal (CAN): OFF</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: P or N position (battery voltage)</li> <li>Transmission range switch signal (CAN): ON</li> </ul>
B2606: S/L RELAY <sup>*</sup>	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status has become consistent</li> <li>Electronic steering column lock relay signal (Request signal)</li> <li>Electronic steering column lock relay signal (Condition signal)</li> </ul>

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#### N I ROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY <sup>*</sup>	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status has become consistent</li> <li>Electronic steering column lock relay signal (Request signal)</li> <li>Electronic steering column lock relay signal (Condition signal)</li> </ul>
B2608: STARTER RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following signal communication status becomes consistent</li> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>
B2609: S/L STATUS <sup>*</sup>	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock</li> </ul>	<ul> <li>When the following electronic steering column lock conditions agree</li> <li>BCM electronic steering column lock control status</li> <li>Electronic steering column lock condition No. 1 signal status</li> <li>Electronic steering column lock condition No. 2 signal status</li> </ul>
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	<ul><li>When any of the following conditions is fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>
B2612: S/L STATUS <sup>*</sup>	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock</li> </ul>	<ul> <li>When any of the following conditions is fulfilled</li> <li>Electronic steering column lock unit status signal (CAN) is received normally</li> <li>The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)</li> </ul>
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM <sup>*</sup>	Inhibit engine cranking	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>

\* : With electronic steering column lock

# DTC Inspection Priority Chart

INFOID:000000005532044

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

Priority	DTC
1	B2562: LO VOLTAGE
2	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)
3	B2190: NATS ANTENNA AMP     B2191: DIFFERENCE OF KEY     B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM

## **BCM (BODY CONTROL MODULE)**

# < ECU DIAGNOSIS >

### [LH&RH FRONT WINDOW ANTI-PINCH]

CU DIAGN	
Priority	DTC
4	<ul> <li>B2013: ID DISCORD BCM-S/L<sup>*</sup></li> <li>B2014: CHAIN OF S/L-BCM<sup>*</sup></li> <li>B2555: STOP LAMP</li> <li>B2555: FUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: TRANSMISSION RANGE SWITCH</li> <li>B2605: TRANSMISSION RANGE SWITCH</li> <li>B2606: S/L RELAY<sup>*</sup></li> <li>B2607: S/L RELAY<sup>*</sup></li> <li>B2608: STARTER RELAY</li> <li>B2609: S/L STATUS<sup>*</sup></li> <li>B2609: S/L STATUS<sup>*</sup></li> <li>B2609: STARTER RELAY</li> <li>B2609: STEERING LOCK UNIT<sup>*</sup></li> <li>B26000: STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26002: STEERING LOCK UNIT<sup>*</sup></li> <li>B26003: STEERING LOCK UNIT<sup>*</sup></li> <li>B26011: SUTERING LOCK UNIT<sup>*</sup></li> <li>B26020: STEERING LOCK UNIT<sup>*</sup></li> <li>B26020: STEERING LOCK UNIT<sup>*</sup></li> <li>B2603: STEERING LOCK UNIT<sup>*</sup></li> <li>B2604: IGNITION RELAY</li> <li>B2605: STEERING LOCK UNIT<sup>*</sup></li> <li>B2607: SI STEERING LOCK UNIT<sup>*</sup></li> <li>B2607: SI STEERING LOCK UNIT<sup>*</sup></li> <li>B2608: STEERING LOCK UNIT<sup>*</sup></li> <li>B2609: SI STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26011: GIN RELAY CIRC</li> <li>B2612: S/L STATUS<sup>*</sup></li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2615: BCM</li> <li>B2619: BCM<sup>*</sup></li> <li>B2614: PUSH-BTN IGN SW</li> <li>B2614: SPEED SIG ERR</li> <li>U9415: VEHICLE SPEED SIG</li> </ul>
5	<ul> <li>00413. VENICLE SPEED 3/G</li> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1713: [CHECKSUM ERR] FR</li> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RR</li> <li>C1716: [PRESSDATA ERR] FR</li> <li>C17171: [PRESSDATA ERR] FR</li> <li>C17171: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] FR</li> <li>C1719: [PRESSDATA ERR] FR</li> <li>C1719: [PRESSDATA ERR] FR</li> <li>C1719: [CODE ERR] FR</li> <li>C1720: [CODE ERR] FR</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] RR</li> <li>C1723: [CODE ERR] RR</li> <li>C1724: [BATT VOLT LOW] FL</li> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1726: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RL</li> </ul>
6	C1734: CONTROL UNIT     B2622: INSIDE ANTENNA     B2623: INSIDE ANTENNA

\* : With electronic steering column lock

#### DTC Index

INFOID:000000005532045

[LH&RH FRONT WINDOW ANTI-PINCH]

#### NOTE:

Details of time display

CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.

**BCM (BODY CONTROL MODULE)** 

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	—	_	BCS-36
U1010: CONTROL UNIT (CAN)	—	—	_	<u>BCS-37</u>
U0415: VEHICLE SPEED SIG	_	—	_	<u>BCS-38</u>
B2013: ID DISCORD BCM-S/L*	×	—	_	<u>SEC-39</u>
B2014: CHAIN OF S/L-BCM*	×	—	_	<u>SEC-40</u>
B2190: NATS ANTENNA AMP	×	—		<u>SEC-43</u>
B2191: DIFFERENCE OF KEY	×	—		<u>SEC-46</u>
B2192: ID DISCORD BCM-ECM	×	_	_	<u>SEC-47</u>
B2193: CHAIN OF BCM-ECM	×	—		<u>SEC-48</u>
B2553: IGNITION RELAY	_	—	_	PCS-55
B2555: STOP LAMP	_	—	_	<u>SEC-49</u>
B2556: PUSH-BTN IGN SW	_	×	_	<u>SEC-52</u>
B2557: VEHICLE SPEED	×	×	_	<u>SEC-54</u>
B2560: STARTER CONT RELAY	×	×	_	<u>SEC-55</u>
B2562: LOW VOLTAGE	—	—	_	<u>BCS-39</u>
B2601: SHIFT POSITION	×	×	—	<u>SEC-56</u>
B2602: SHIFT POSITION	×	×	—	<u>SEC-59</u>
B2603: SHIFT POSI STATUS	×	×	—	<u>SEC-62</u>
B2604: TRANSMISSION RANGE SWITCH	×	×	_	<u>SEC-65</u>
B2605: TRANSMISSION RANGE SWITCH	×	×	_	<u>SEC-67</u>
B2606: S/L RELAY <sup>*</sup>	×	×	_	<u>SEC-69</u>
B2607: S/L RELAY <sup>*</sup>	×	×	_	<u>SEC-70</u>
B2608: STARTER RELAY	×	×		<u>SEC-72</u>
B2609: S/L STATUS <sup>*</sup>	×	×	_	<u>SEC-74</u>
B260A: IGNITION RELAY	×	×	_	PCS-57
B260B: STEERING LOCK UNIT*	_	×		<u>SEC-78</u>
B260C: STEERING LOCK UNIT*	_	×	_	<u>SEC-79</u>
B260D: STEERING LOCK UNIT*	_	×	_	<u>SEC-80</u>
B260F: ENG STATE SIG LOST	×	×	_	<u>SEC-81</u>
B2612: S/L STATUS <sup>*</sup>	×	×	_	<u>SEC-83</u>
B2614: ACC RELAY CIRC	_	×	_	PCS-59

#### < ECU DIAGNOSIS >

### BCM (BODY CONTROL MODULE) [LH&RH FRONT WINDOW ANTI-PINCH]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2615: BLOWER RELAY CIRC	_	×	_	PCS-62
B2616: IGN RELAY CIRC	_	×	_	PCS-65
B2617: STARTER RELAY CIRC	×	×	—	PCS-65
B2618: BCM	×	×	_	PCS-68
B2619: BCM <sup>*</sup>	×	×	—	<u>SEC-89</u>
B261A: PUSH-BTN IGN SW	_	×		<u>SEC-90</u>
B2622: INSIDE ANTENNA	_	_	_	<u>DLK-60</u>
B2623: INSIDE ANTENNA	_	_	_	DLK-63
B26E1: ENG STATE NO RES	×	×	—	<u>SEC-82</u>
C1704: LOW PRESSURE FL	—	—	×	<u>WT-48</u>
C1705: LOW PRESSURE FR	—	—	×	<u>WT-48</u>
C1706: LOW PRESSURE RR	—	—	×	<u>WT-48</u>
C1707: LOW PRESSURE RL	—	—	×	<u>WT-48</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-14</u>
C1711: [NO DATA] RL	_	_	×	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	—	—	×	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	—	—	×	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	—	—	×	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	—	—	×	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR			×	<u>WT-18</u>
C1718: [PRESSDATA ERR] RR	—	—	×	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	—	—	×	<u>WT-18</u>
C1720: [CODE ERR] FL			×	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-16</u>
C1722: [CODE ERR] RR	—	—	×	<u>WT-16</u>
C1723: [CODE ERR] RL	_	—	×	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	—	—	×	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	—	—	×	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	—	—	×	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	—	×	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR			×	<u>WT-20</u>
C1734: CONTROL UNIT	_	—	×	<u>WT-21</u>

\* : With electronic steering column lock

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

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

# SYMPTOM DIAGNOSIS

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

**Diagnosis** Procedure

INFOID:000000005461441

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to BCS-40, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{2}$ . Check main power window and door lock/unlock switch power supply and **GROUND CIRCUIT** 

Check main power window and door lock/unlock switch power supply and ground circuit. Refer to PWC-19. "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace the malfunctioning parts.

# DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH&RH FRONT WINDOW ANTI-PINCH]

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE		
Diagnosis Procedure	~	
1. CHECK FRONT POWER WINDOW MOTOR LH	В	
Check front power window motor LH. Refer to PWC-27, "DRIVER SIDE : Component Function Check".		
Is the inspection result normal?		
YES >> Inspection End.		
NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .		
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# FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

# FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-ATE

**Diagnosis** Procedure

INFOID:000000005461443

1. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit. Refer to <u>PWC-29</u>, "PASSENGER SIDE : Component Function <u>Check"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

# REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH&RH FRONT WINDOW ANTI-PINCH]

# REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

	<b>L</b>	Λ		
Diagnosis Procedure	INFOID:000000005461444	~		
1. CHECK REAR POWER WINDOW MOTOR LH		В		
Check rear power window motor LH. Refer to PWC-31, "REAR LH : Component Function Check".				
Is the inspection result normal?				
YES >> Inspection End.		С		
NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .				
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# REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH&RH FRONT WINDOW ANTI-PINCH]

# REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

**Diagnosis** Procedure

INFOID:000000005461445

1. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH. Refer to PWC-32, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

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

< SYMPTOM DIAGNOSIS > [LH&RH FRONT WINDOW ANTI-PIN	CH]
ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SID	DE)
Diagnosis Procedure	05461446
1. PERFORM INITIALIZATION PROCEDURE	В
Perform initialization procedure. Refer to <u>PWC-9</u> , "ADDITIONAL SERVICE WHEN REPLACING CONT UNIT : Special Repair Requirement".	ROL
Is the inspection result normal?	С
YES >> Inspection End. NO >> GO TO 2	
2. CHECK ENCODER CIRCUIT	D
Check encoder circuit. Refer to PWC-35, "DRIVER SIDE : Component Function Check".	
Is the inspection result normal?	E
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .	
NO >> Repair or replace malfunctioning parts.	
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#### ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE) [LH&RH FRONT WINDOW ANTI-PINCH]

< SYMPTOM DIAGNOSIS >

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

**Diagnosis** Procedure

INFOID:000000005461447

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER CIRCUIT

Check encoder circuit. Refer to PWC-38, "PASSENGER SIDE : Component Function Check". Is the inspection result normal?

>> Check intermittent incident. Refer to GI-39, "Intermittent Incident". YES

NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL- LY (DRIVER SIDE)				
< SYMPTOM DIAGNOSIS > [LH&RH FRONT WINDOW ANTI-PINCH]				
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (DRIVER SIDE)	А			
Diagnosis Procedure	В			
1. PERFORM INITIALIZATION PROCEDURE	D			
Perform initialization procedure. Refer to <u>PWC-9</u> , "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".	С			
Is the inspection result normal? YES >> Inspection End. NO >> GO TO 2				
2. CHECK ENCODER Check encoder. Refer to <u>PWC-35</u> , " <u>DRIVER SIDE</u> : <u>Component Function Check</u> ". Is the inspection result normal?	Е			
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> Repair or replace the malfunctioning parts.	F			
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#### AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

[LH&RH FRONT WINDOW ANTI-PINCH]

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

**Diagnosis** Procedure

INFOID:000000005461449

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER

Check encoder. Refer to <u>PWC-38</u>, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning parts.

### POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

[LH&RH FRONT WINDOW ANTI-PINCH]

# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPER-ATE PROPERLY

Diagn	osis Procedure	INFOID:000000005461450	B
1. сн	ECK FRONT DOOR SWITCH		D
Check	front door switch. Refer to PWC-41, "Component Function Check".		C
<u>Is the in</u>	nspection result normal?		0
YES NO	>> Check intermittent incident. Refer to <u>GI-39. "Intermittent Incident"</u> . >> Repair or replace malfunctioning parts.		
NO	>> Repair of replace manufactioning parts.		D

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### DOES NOT OPERATE BY KEY CYLINDER SWITCH

#### < SYMPTOM DIAGNOSIS >

# [LH&RH FRONT WINDOW ANTI-PINCH]

# DOES NOT OPERATE BY KEY CYLINDER SWITCH

**Diagnosis** Procedure

INFOID:000000005461451

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

Check front door lock assembly LH (key cylinder switch). Refer to <u>PWC-44</u>, "<u>Diagnosis Procedure</u>". Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning parts.

### KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

# KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

1. CHECK INTELLIGENT KEY FUNCTION       B         Check Intelligent Key function. Refer to DLK-115, "Component Function Check".       B         Is the inspection result normal?       YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".         NO       >> Replace BCM. Refer to BCS-87, "Removal and Installation".	Diagnosis Procedure	INFOID:000000005461452	
<u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .	1. CHECK INTELLIGENT KEY FUNCTION		В
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .	Check Intelligent Key function. Refer to DLK-115, "Component Function Check".		
	Is the inspection result normal?		
			С

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#### POWER WINDOW LOCK SWITCH DOES NOT FUNCTION IAGNOSIS > [LH&RH FRONT WINDOW ANTI-PINCH]

#### < SYMPTOM DIAGNOSIS >

# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

**Diagnosis** Procedure

INFOID:000000005461453

1. CHECK POWER WINDOW LOCK SWITCH

Check power window lock switch. Refer to PWC-51, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning parts.

# < PRECAUTION > PRECAUTION

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# PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT **PRF-TENSIONER**" INFOID:000000005461454

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. D Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### WARNING:

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

Precautions Necessary for Steering Wheel Rotation after Battery Disconnect (Early Production, With Electronic Steering Column Lock) INFOID:000000005885934

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Μ Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned. Ν If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

- 1. Connect both battery cables. NOTE: Supply power using jumper cables if battery is discharged.
- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

### PRECAUTIONS

< PRECAUTION >

#### [LH&RH FRONT WINDOW ANTI-PINCH]

- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

## < ON-VEHICLE MAINTENANCE >

# [LH&RH FRONT WINDOW ANTI-PINCH]

ON-VEHICLE MAINTENANCE	
PRE-INSPECTION FOR DIAGNOSTIC	
Basic Inspection	

1.INSPECTION START	С
<ol> <li>Check the service history.</li> <li>Check the following parts.</li> <li>Fuse/circuit breaker blown.</li> <li>Poor connection, open or short circuit of harness connector.</li> <li>Battery voltage.</li> </ol>	D
Is the inspection result normal?	E
YES >> Inspection End. NO >> Repair or replace the malfunctioning parts.	

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INFOID:000000005461456

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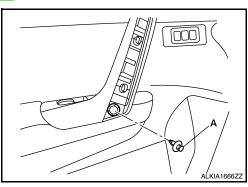
# ON-VEHICLE REPAIR

POWER WINDOW MAIN SWITCH

Removal and Installation

#### REMOVAL

- 1. Remove the front door grip cover. Refer to INT-18, "Exploded View".
- 2. Remove the power window main switch locking clip (A).



INFOID:000000005461457

3. Using a suitable tool, release the metal clip and lift the power window main switch and finisher as an assembly upward to remove it from the front door finisher.

E: Metal clip

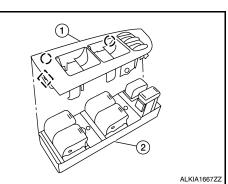
- (\_): Pawl
- 4. Disconnect the harness connector.
- Release the pawls on each side, then separate the switch finisher (1) from the power window main switch (2) and remove.
   CAUTION:

Do not fold the pawl of power window main switch finisher.

#### INSTALLATION

Installation is in the reverse order of removal. **NOTE:** 

After every switch harness disconnection, it is necessary to perform the initialization procedure. Refer to <u>PWC-</u> <u>9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".



# FRONT POWER WINDOW SWITCH

Removal and Installation

#### REMOVAL

- 1. Remove the front door grip cover. Refer to INT-18. "Exploded View".
- 2. Remove the front power window switch locking clip (A).
- <u>w"</u>.

A ALKIA1668ZZ

3. Using a suitable tool, release the metal clip and lift the front power window switch and finisher as an assembly upward to remove it from the front door finisher.

: Metal clip

(): Pawl

**CAUTION:** 

Wrap a cloth around suitable tool to protect components from damage.

- 4. Disconnect the harness connector.
- Release the pawls on each side, then separate the switch finisher (1) from the front power window switch (2) and remove. CAUTION:

Do not fold the pawl of front power window switch finisher.

#### INSTALLATION

Installation is in the reverse order of removal. **NOTE:** 

After every switch harness disconnection, it is necessary to perform the Initilization procedure. Refer to <u>PWC-</u> 9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

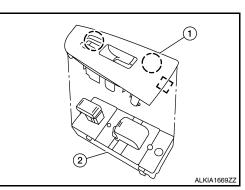
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INFOID:000000005461458

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# REAR POWER WINDOW SWITCH

### Removal and Installation

#### REMOVAL

- 1. Remove the rear door arm rest finisher (1). Refer to <u>INT-21.</u> <u>"Exploded View"</u>.
- 2. Release the pawls on each side with suitable tool (A), then separate the rear power window switch (2) from the finisher (1) and remove.

### (\_): Pawl

#### **CAUTION:**

Wrap a cloth around suitable tools to protect components from damage.

INSTALLATION

Installation is in the reverse order of removal. **NOTE:** 

After every switch harness disconnection, it is necessary to perform the initialization procedure. Refer to <u>PWC-</u> <u>9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"</u>.

#### INFOID:000000005461459

# [FRONT & REAR WINDOW ANTI-PINCH] **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

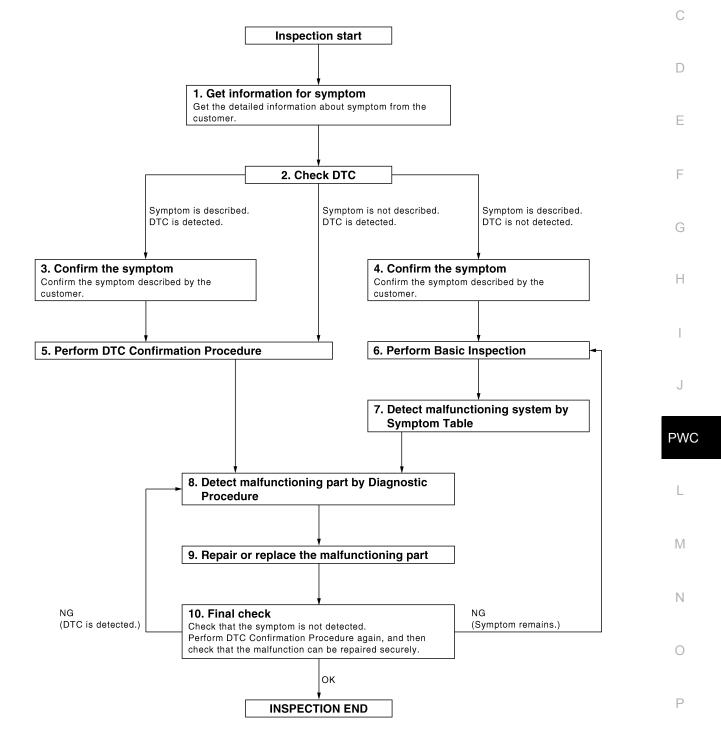
### Work Flow

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INFOID:000000005461460

#### **OVERALL SEQUENCE**



< BASIC INSPECTION >

## **1.** GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2

### 2. CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data (Print them out with CONSULT-III.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3 Symptom is described, DTC is not displayed>>GO TO 4 Symptom is not described, DTC is displayed>>GO TO 5

 $\mathbf{3.}$  CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5

**4.** CONFIRM THE SYMPTOM

Confirm the symptom described by the customer. Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6

### **5.** PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-79</u>, "<u>DTC Inspection Priority Chart</u>" and determine trouble diagnosis order.

#### NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This
  simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 8

NO >> Refer to <u>GI-39, "Intermittent Incident"</u>.

**6.** PERFORM BASIC INSPECTION

Perform PWC-131, "Work Flow".

Inspection End>>GO TO 7

7. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

DIAGNOSIS AND REPAIR WORKFLOW

		•
< BASIC INSPECTION >		

< BASIC INSPECTION >	[FRONT & REAR WINDOW ANTI-PINCH]
8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PR	OCEDURE
Inspect according to Diagnostic Procedure of the system. <b>NOTE:</b>	
The Diagnostic Procedure described based on open circuir required for the circuit check in the Diagnostic Procedure.	inspection. A short circuit inspection is also
Is malfunctioning part detected?	
YES >> GO TO 9 NO >> Check voltage of related BCM terminals using CO	NSULT-III
9. REPAIR OR REPLACE THE MALFUNCTIONING PART	
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagr ment.</li> </ol>	ostic Procedure again after repair and replace-
3. Check DTC. If DTC is displayed, erase it.	
>> GO TO 10	
10. FINAL CHECK	
When DTC was detected in step 2, perform DTC Confirma	
again, and then check that the malfunction has been repaired When symptom was described from the customer, refer to co the symptom is not detected.	
Does the symptom reappear? YES (DTC is detected)>>GO TO 8 YES (Symptom remains)>>GO TO 6	
NO >> Inspection End.	

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### INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description INFOID:000000005461461

Initial setting is necessary when battery terminal is diconnected.

#### CAUTION:

- The following specified operations are not performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function
- Retained power operation

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement INFOID:000000005461462

#### INITIALIZATION PROCEDURE

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

#### CHECK ANTI-PINCH FUNCTION

- 1. Fully open the door window.
- Place a piece of wood near fully closed position. 2
- Close door glass completely with AUTO-UP. 3.
- Check that glass lowers for approximately 150 mm (5.91 in) or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.

#### CAUTION:

- Do not check with hands and other parts of the body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-192, "Fail Safe", PWC-203, "Fail Safe" or PWC-214, "Fail Safe".
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- Anti-pinch function 2.
- Retained power operation when ignition switch is OFF. 3.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000005461463

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

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

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

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000005461464

INITIALIZATION PROCEDURE

#### < BASIC INSPECTION >

### **INSPECTION AND ADJUSTMENT**

### [FRONT & REAR WINDOW ANTI-PINCH]

	Disconnect battery negative terminal or main power window and door lock/unlock switch. Reconnect it after a minute or more.	А			
<ol> <li>Turn ignition switch ON.</li> <li>Operate power window switch to fully open the window. (This operation is unnecessary if the window is</li> </ol>					
0.	already fully open)				
	Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 4 seconds or more.	В			
5.	Inspect anti-pinch function.				
CH	ECK ANTI-PINCH FUNCTION	С			
1.	Fully open the door window.				
2.	Place a piece of wood near fully closed position.	D			
	Close door glass completely with AUTO-UP.	D			
	check that glass lowers for approximately 150 mm (5.91 in) or 2 seconds without pinching piece of wood nd stops.				
	Check that glass does not rise when operating the main power window and door lock/unlock switch while	F			
	owering.				
	UTION:				
	to not check with hands and other parts of the body because they may be pinched. Do not get				
		F			
р	inched.	F			
р • С	inched. Sheck that AUTO-UP operates before inspection when system initialization is performed.	F			
р • С • It	inched. Check that AUTO-UP operates before inspection when system initialization is performed. Check may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set-				
p • C • It ti • P	inched. heck that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192, "Fail Safe"</u> , <u>PWC-203, "Fail Safe"</u> or <u>PWC-214, "Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally.	F			
P • C • It ti • P • F	inched. heck that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192, "Fail Safe"</u> , <u>PWC-203, "Fail Safe"</u> or <u>PWC-214, "Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally. inish initial setting. Otherwise, next operation cannot be done.				
p • C • It • P • F 1.	inched. Sheck that AUTO-UP operates before inspection when system initialization is performed. The may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ing in that situation. Refer to <u>PWC-192</u> , "Fail Safe", <u>PWC-203</u> , "Fail Safe" or <u>PWC-214</u> , "Fail Safe". Perform initial setting when auto-up operation or anti-pinch function does not operate normally. Inish initial setting. Otherwise, next operation cannot be done. Auto-up operation				
p • C • It • P • F 1. 2.	inched. check that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192</u> , <u>"Fail Safe"</u> , <u>PWC-203</u> , <u>"Fail Safe"</u> or <u>PWC-214</u> , <u>"Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally. inish initial setting. Otherwise, next operation cannot be done. Auto-up operation Anti-pinch function	G			
p • C • It • P • F 1.	inched. Sheck that AUTO-UP operates before inspection when system initialization is performed. The may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ing in that situation. Refer to <u>PWC-192</u> , "Fail Safe", <u>PWC-203</u> , "Fail Safe" or <u>PWC-214</u> , "Fail Safe". Perform initial setting when auto-up operation or anti-pinch function does not operate normally. Inish initial setting. Otherwise, next operation cannot be done. Auto-up operation	G			
p • C • It • P • F 1. 2.	inched. check that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192</u> , <u>"Fail Safe"</u> , <u>PWC-203</u> , <u>"Fail Safe"</u> or <u>PWC-214</u> , <u>"Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally. inish initial setting. Otherwise, next operation cannot be done. Auto-up operation Anti-pinch function	G			
p • C • It • P • F 1. 2.	inched. check that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192</u> , <u>"Fail Safe"</u> , <u>PWC-203</u> , <u>"Fail Safe"</u> or <u>PWC-214</u> , <u>"Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally. inish initial setting. Otherwise, next operation cannot be done. Auto-up operation Anti-pinch function	G			
p • C • It • P • F 1. 2.	inched. check that AUTO-UP operates before inspection when system initialization is performed. may switch to fail-safe mode if open/close operation is performed continuously. Perform initial set- ng in that situation. Refer to <u>PWC-192</u> , <u>"Fail Safe"</u> , <u>PWC-203</u> , <u>"Fail Safe"</u> or <u>PWC-214</u> , <u>"Fail Safe"</u> . Perform initial setting when auto-up operation or anti-pinch function does not operate normally. inish initial setting. Otherwise, next operation cannot be done. Auto-up operation Anti-pinch function	G			

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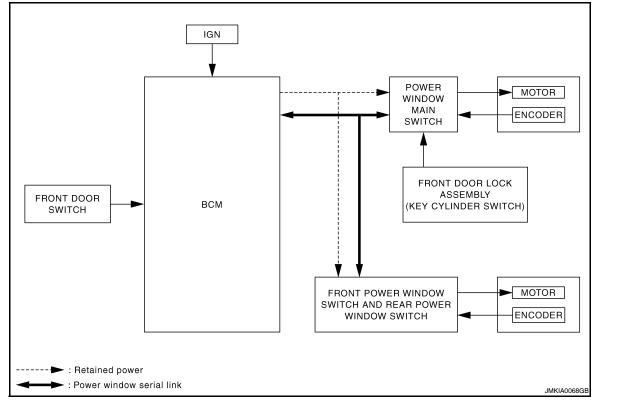
## [FRONT & REAR WINDOW ANTI-PINCH]

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# FUNCTION DIAGNOSIS POWER WINDOW SYSTEM

### System Diagram



### System Description

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

Item	n Input signal to power window main switch function		Actuator	
Key cylinder switch	LOCK/UNLOCK signal (more than 1 second over)			
Encoder	Encoder pulse signal			
Power window main switch	Front power window motor (driver side) UP/DOWN signal			
Front power window switch (passenger side)	Front power window motor (passenger side) UP/DOWN signal	1 S		
Rear power window switch	Rear power window motor UP/DOWN signal			
BCM	RAP signal			

# FRONT POWER WINDOW & REAR POWER WINDOW SWITCH INPUT/OUTPUT SIGNAL CHART

### POWER WINDOW SYSTEM

### [FRONT & REAR WINDOW ANTI-PINCH]

Item	Input signal to front power window & rear power window switchFront power window & rear pow- er window switch functionActuator				
Encoder BCM Front power window switch (passenger side) & rear power window gwitch	Encoder pulse signal RAP signal Front power window motor (passen- ger side) & rear power window motor UP/DOWN signal	P signal nt power window motor (passen- side) & rear power window motor Power window control Front power window (passenger side) & window motor		E	
and OFF. Power window ma Front & rear powe POWER WINDOW	/ OPERATION stem is operable during the retain in switch (driver side) can open/c r window switch can open/close t / AUTO-OPERATION	close all windows. he corresponding windows.		E	
<ul> <li>Encoder continues as the encoder pu</li> <li>Power window swi fully opened/close</li> </ul>	operation can be performed whe s detecting the movement of pow lse signal while power window mo tch reads the changes of encode d position. tor is operable in case encoder is	ver window motor and trans otor is operating. er signal and stops AUTO op	mits to power window switch	F	
	R OPERATION peration is an additional power su seconds even when ignition switc		ower window system to oper-	ŀ	
<ul> <li>When ignition swit</li> </ul>	E (door switch OFF)→OPEN (doo	or switch ON).			
	/ LOCK e power window main switch shut h operation except with the powe		ock switch is ON. This inhibits		
<ul><li>ers the door glass</li><li>Encoder continues as the encoder pu</li></ul>	erial in the door glass during AUT 150 mm (5.91 in) or 2 seconds w s detecting the movement of pow lse signal while power window mo	vhen detected. ver window motor and trans otor is operating.	mits to power window switch	PV	
nal if foreign mate Power window sw pulse signal freque OPERATION CONE	DITIÓN	/ glass for 150 mm or 2 sec	conds after it detects encoder	N	
<ul> <li>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)</li> <li>NOTE:</li> <li>Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.</li> </ul>					
Hold the door key of power windows whe when operating. OPERATION COND • Ignition switch OF		ition, it stops when key pos	sition is moved to NEUTRAL	F	

### POWER WINDOW SYSTEM

#### [FRONT & REAR WINDOW ANTI-PINCH]

 Hold door key cylinder to UNLOCK position for 1 second or more to perform OPEN operation of the door glass.

#### **KEYLESS POWER WINDOW DOWN FUNCTION**

All power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3 seconds<sup>NOTE</sup> 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 is active, keyless power window down function cannot be operated.

Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to <u>BCS-25, "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)"</u>. **NOTE:** 

Use CONSULT-III to change settings.

MODE 1 (3 sec) / MODE 2 (OFF) / MODE 3 (5 sec)

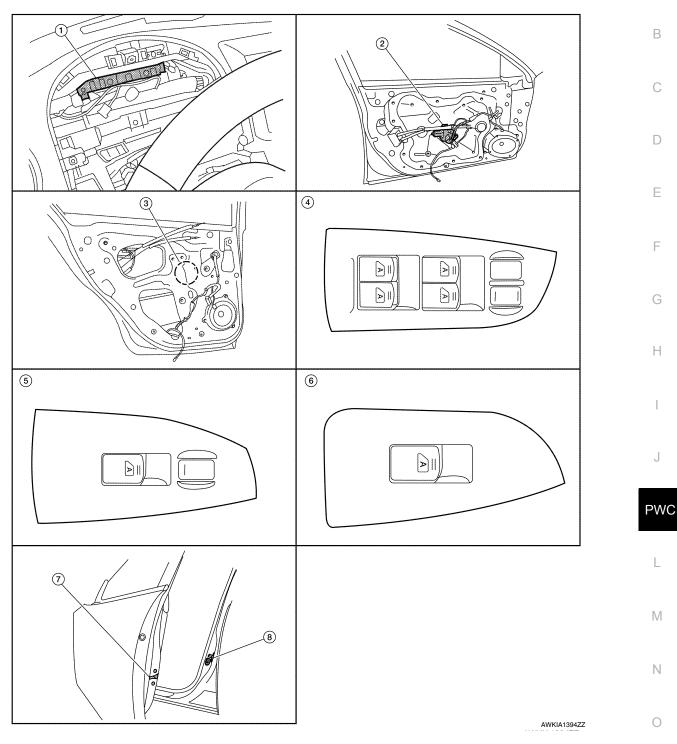
### POWER WINDOW SYSTEM

#### [FRONT & REAR WINDOW ANTI-PINCH]

### **Component Parts Location**

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А



- 1. BCM M16, M17, M18 (view with combination meter removed)
- 4. Main power window and door lock/ unlock switch D7, D8
- 7. Front door lock assembly LH (key cylinder switch) D10
- 2. Front power window motor LH D9 3. Front power window motor RH D104
- 5. Power window and door lock/unlock 6. switch RH D105
- 8. Front door switch LH B8 Front door switch RH B108
- Rear power window motor LH D204 Rear power window motor RH D304 Rear power window switch LH D207 Rear power window switch RH D307

# Component Description

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POWER WINDOW SYSTEM
[FRONT & REAR WINDOW ANTI-PINCH]

Component	Function		
BCM	<ul><li>Supplies power supply to power window switch.</li><li>Controls retained power.</li></ul>		
Power window main switch	<ul><li>Directly controls all power window motor of all doors.</li><li>Controls anti-pinch operation of power window.</li></ul>		
Front power window switch	<ul><li>Controls anti-pinch operation of power window.</li><li>Controls power window motor of passenger door.</li></ul>		
Rear power window switch	<ul><li>Controls anti-pinch operation of power window.</li><li>Controls power window motor of rear right and left doors.</li></ul>		
Power window motor	<ul> <li>Integrates the ENCODER and WINDOW MOTOR.</li> <li>Starts operating with signals from each power window switch.</li> <li>Transmits power window motor rotation as a pulse signal to power window switch.</li> </ul>		
Front door lock assembly (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.		
Front door switch	Detects door open/close condition and transmits to BCM.		

# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

### **COMMON ITEM : Diagnosis Description**

### BCM CONSULT-III FUNCTION

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 DIAGNOSTIC RESULT	ESULT Displays the diagnosis results judged by BCM.			
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.			
DATA MONITOR	MONITOR The BCM input/output signals are displayed.			
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.			
ECU IDENTIFICATION	ECU IDENTIFICATION The BCM part number is displayed.			
<ul> <li>CONFIGURATION</li> <li>Enables to read and save the vehicle specification.</li> <li>Enables to write the vehicle specification when replacing BCM.</li> </ul>		F		

#### 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	Cub system calestian item	Diagnosis mode			
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST	-
Door lock	DOOR LOCK	×	×	×	- 1
Rear window defogger	REAR DEFOGGER		×	×	_
Warning chime	BUZZER		×	×	J
Interior room lamp timer	INT LAMP	×	×	×	_
Exterior lamp	HEADLAMP	×	×	×	DIA/O
Wiper and washer	WIPER	×	×	×	PWC
Turn signal and hazard warning lamps	FLASHER	×	×	×	_
Intelligent Key system	INTELLIGENT KEY	×	×	×	L
Combination switch	COMB SW		×		_
BCM	BCM	×			_
Immobilizer	IMMU		×	×	M
Interior room lamp battery saver	BATTERY SAVER	×	×	×	_
Trunk open	TRUNK		×	×	N
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×		_
Signal buffer system	SIGNAL BUFFER		×	×	0
TPMS	AIR PRESSURE MONITOR	×	×	×	

### COMMON ITEM : CONSULT-III Function

#### ECU IDENTIFICATION Displays the BCM part No.

SELF-DIAG RESULT Refer to <u>BCS-81, "DTC Index"</u>. RETAINED PWR А

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# 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.			

< COMPONEN			SUPF	PLY AND GR	OUND CIRCUIT [FRONT & REAR WINDOW ANTI-PINCH]
			NOS	SIS	<u> </u>
					-
BCM					
BCM : Diagno	nsis Proced	duro			
DOM . Diagn		luic			INFOID:00000005532049
Regarding Wiring	n Diagram info	ormation	. refer	to <u>BCS-69, "Wirir</u>	ng Diagram".
	<u> </u>		,		
1. CHECK FUS	E AND FUSIE		<		
Check if the follo	wing BCM fus	es or fu	sible lii	nk are blown.	
Terminal No.	Signal n	ame	Fuse	and fusible link No.	
1	oighain		1 000	H	
11	Battery powe	er supply		10	
24				7	
Is the fuse or fus	ible link blowr	<u>1?</u>			
YES >> Rep NO >> GO		n fuse or	fusible	e link after repairir	ng the affected circuit.
2. CHECK POV	-	CIRCU	т		
1. Turn ignition			•		
2. Disconnect I	BCM.	CM harn	iess co	nnector and grou	
	Terminals				C
(+)	)	(-	-)	Voltage	
BC	N			(Approx.)	
Connector	Terminal				F F
M16 (A)	1	Gro	ound		•
M17 (B)	11 24			Battery voltage	в
M18 (C)					
<u>Is the measurement normal?</u> YES >> GO TO 3					
NO >> Repair or replace harness.					
					<u> </u>
					ALCIA0110ZZ
3. CHECK GRO	OUND CIRCUI	Т			

# POWER SUPPLY AND GROUND CIRCUIT

#### < COMPONENT DIAGNOSIS >

#### Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M17	13	Ť	Yes

#### Does continuity exist?

- YES >> Inspection End.
- NO >> Repair or replace harness.

### BCM : Special Repair Requirement

### 1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-6, "CONFIGURATION (BCM) : Special Repair Requirement".

#### >> Work End. POWER WINDOW MAIN SWITCH

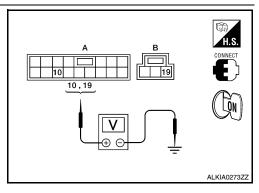
## POWER WINDOW MAIN SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-184, "Wiring Diagram".

### 1. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch ON.
- Check voltage between main power window and door lock/ unlock switch connectors D7 (A) terminal 10 and D8 (B) terminal 19 and ground.

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



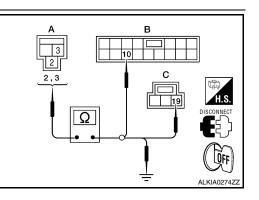
#### Is the inspection result normal?

YES >> GO TO 3

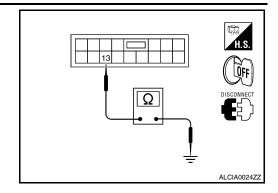
NO >> GO TO 2

# 2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M16 and main power window and door lock/unlock switch connectors.
- Check continuity between BCM connector M16 (A) terminals 2 and 3 and main power window and door lock/unlock switch connectors D7 (B) terminal 10 and D8 (C) terminal 19.



[FRONT & REAR WINDOW ANTI-PINCH]



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## POWER SUPPLY AND GROUND CIRCUIT OSIS > [FRONT & REAR WINDOW ANTI-PINCH]

#### < COMPONENT DIAGNOSIS >

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M16 (A)	3	D7 (B)	10	Yes
MIO (A)	2	D8 (C)	19	165

#### 4. Check continuity between BCM connector M16 (A) terminals 2 and 3 and ground.

BCM connector	Terminal		Continuity	
M16 (A)	3	Ground	No	
MITO (A)	2		NO	

Is the inspection result normal?	Е						
YES >> Replace BCM. Refer to <u>BCS-87. "Removal and Installation"</u> . NO >> Repair or replace harness or connectors.							
3. CHECK GROUND CIRCUIT	F						
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect main power window and door lock/unlock switch connector D8.</li> <li>Check continuity between main power window and door lock/ unlock switch connector D8 terminal 17 and ground.</li> </ol>	G						
Main power window and door lock/ unlock switch connector     Terminal     Continuity							
D8 17 Yes							
Is the inspection result normal?         YES       >> Inspection End.         NO       >> Repair or replace harness or connectors.	J						
POWER WINDOW MAIN SWITCH : Special Repair Requirement	PWC						
Perform initialization procedure. Refer to <u>PWC-134</u> , "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u> , "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".	L						
>> GO TO 2	M						
2. CHECK ANTI-PINCH OPERATION							
Check anti-pinch operation. Refer to <u>PWC-134</u> , "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u> : Special Repair Requirement" and <u>PWC-134</u> , "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u> : Special Repair Requirement".							
>> End. FRONT POWER WINDOW SWITCH	0						
FRONT POWER WINDOW SWITCH : Diagnosis Procedure	Р						
Regarding Wiring Diagram information, refer to <u>PWC-195, "Wiring Diagram"</u> .							

## 1. CHECK POWER SUPPLY CIRCUIT

В

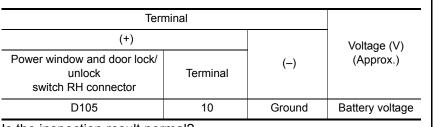
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## POWER SUPPLY AND GROUND CIRCUIT

#### < COMPONENT DIAGNOSIS >

Check voltage between power window and door lock/unlock switch RH connector D105 terminal 10 and ground.

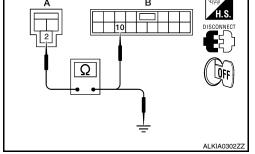


Is the inspection result normal?

YES >> GO TO 3

## 2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M16 and power window and door lock/unlock switch RH connector.
- Check continuity between BCM connector M16 (A) terminal 2 and power window and door lock/unlock switch RH connector D105 (B) terminal 10.



Ω

BCM connector	Terminal	door lock/unlock switch RH connector	Terminal	Continuity
M16 (A)	2	D105 (B)	10	Yes

Dowor window and

#### 4. Check continuity between BCM connector M16 (A) terminal 2 and ground.

BCM connector	Terminal	Ground	Continuity
M16 (A)	2	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".

NO >> Repair or replace harness or connectors.

## $\mathbf{3.}$ CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH.
- 3. Check continuity between power window and door lock/unlock switch RH connector D105 terminal 11 and ground.

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

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## FRONT POWER WINDOW SWITCH : Special Repair Requirement

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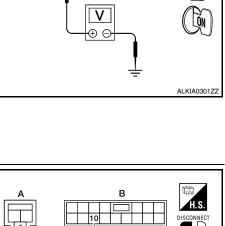
## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".



## **PWC-146**

## [FRONT & REAR WINDOW ANTI-PINCH]



## POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

>> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

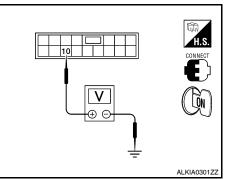
## >> End. REAR POWER WINDOW SWITCH REAR POWER WINDOW SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-184, "Wiring Diagram".

## 1. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear power window switch connector terminal 10 and ground.

(+	+)			
Rear power window switch		()	Voltage (V) (Approx.)	
Connector	Terminal		(	
D207 (LH)	10	Ground	Battery voltage	
D307 (RH)	10	Ground	Ballery Vollage	
inon oction re				



Is the inspection result normal?

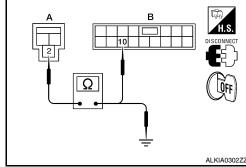
YES >> GO TO 3 NO >> GO TO 2

## NO >> GO TO 2

## $\mathbf{2}.$ CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect BCM connector M16 and rear power window switch connector.
- 3. Check continuity between BCM connector M16 (A) terminal 2 and rear power window switch connector (B) terminal 10.

BCM connector	Terminal	Rear power window switch connector	Terminal	Continuity
M16 (A)	C	D207 (LH) (B)	10	Yes
	2	D307 (RH) (B)	10	



4. Check continuity between BCM connector M16 (A) terminal 2 and ground.

M16 (A) 2 No	BCM connector Terminal	Ground	Continuity
	M16 (A) 2	Ground	No

#### Is the inspection result normal?

## YES >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

**3.** CHECK GROUND CIRCUIT

B H.S. Disconnect

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## POWER SUPPLY AND GROUND CIRCUIT

Continuity

Yes

#### < COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF.

Rear power window switch

connector

D207 (LH)

D307 (RH)

- 2. Disconnect rear power window switch connector.
- Check continuity between rear power window switch connector terminal 11 and ground.

Terminal

11

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[FRONT & REAR WINDOW ANTI-PINCH]

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## **REAR POWER WINDOW SWITCH : Special Repair Requirement**

Ground

INFOID:000000005461479

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> End.

ACING CONTROL UNIT

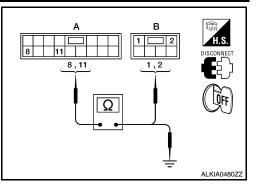
	)SIS >		Line	ONT & REAR WINDOW ANTI-PINCH]
	/ MOTO	DR		
Ξ				
: Des	cription			INFOID:0000000546148
UP/DO	WN by rec	eiving the signal f	rom main powe	er window and door lock/unlock switch.
: Com	nponent	<b>Function Che</b>	ck	INFOID:0000000546148
		FOR		
		or LH operates wit	h main power w	vindow and door lock/unlock switch.
			nosis Procedure	e".
		-		
Diag		roocdure		INFCID:0000000546148
Diagram	i informati	on, reter to <u>PWC-</u>	184, "Wiring Dia	agram".
		-		
r window	motor LH	I. Refer to <u>PWC-1</u>	<u>50, "DRIVER S</u>	IDE : Component Inspection".
	10			
esult nor	mal?			
0 2		motor LH. Refer to	o <u>GW-19, "Rem</u>	
O 2 Ice powe	er window			oval and Installation".
O 2 ice powe POWEF	er window R WINDON		CK/UNLOCK S	
O 2 Ice powe POWEF ont powe switch OI	er window R WINDOV er window N.	W AND DOOR LO motor LH connect	CK/UNLOCK S	SWITCH OUTPUT SIGNAL
O 2 Ice powe POWEF ont powe switch OI	er window R WINDOV er window N. en front po	W AND DOOR LO	CK/UNLOCK S	WITCH OUTPUT SIGNAL
O 2 Ice powe POWEF ont powe switch Ol e betwee	er window R WINDOV er window N. en front po	W AND DOOR LO motor LH connect	CK/UNLOCK S	WITCH OUTPUT SIGNAL
O 2 Ice powe POWEF ont powe switch Ol e betwee	er window R WINDOV er window N. en front po	V AND DOOR LO motor LH connect wer window motor	CK/UNLOCK S	WITCH OUTPUT SIGNAL
O 2 POWEF ont powe switch Ol betwee 1, 2 and	er window R WINDOV er window N. en front po	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/	CK/UNLOCK S for. LH connector	WITCH OUTPUT SIGNAL
O 2 POWEF ont powe switch Ol betwee 1, 2 and	er window R WINDOV er window N. en front po	W AND DOOR LO motor LH connect wer window motor Main power win-	CK/UNLOCK S or. LH connector	WITCH OUTPUT SIGNAL
O 2 Ice powe POWEF ont powe switch Ol betwee 1, 2 and minal	er window R WINDOV er window N. en front po ground.	W AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con-	CK/UNLOCK S for. LH connector	WITCH OUTPUT SIGNAL
O 2 Ince power POWEF The power Switch Ol Switch Ol	er window R WINDO er window N. en front po ground.	M AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition	CK/UNLOCK S for. LH connector Voltage (V) (Approx.)	EVAL AND INSTALLATION.
O 2 Ice powe POWEF ont powe switch Ol betwee 1, 2 and minal	er window R WINDOV er window N. en front po ground.	V AND DOOR LO motor LH connect wer window motor Main power win- dow and door lock/ unlock switch con- dition	CK/UNLOCK S for. LH connector Voltage (V) (Approx.) Battery voltage	EVAL AND INSTALLATION.
	E : Des UP/DO E : Com ER WINI ower wir esult nor power wir to <u>PWC</u> : Diag Diagram	E : Description UP/DOWN by red C : Component ER WINDOW MO <sup>-</sup> ower window moto esult normal? power window mo to <u>PWC-149</u> , "DR C Diagnosis P Diagram information	Description     UP/DOWN by receiving the signal f     Omponent Function Che     Component Function Che     R WINDOW MOTOR     ower window motor LH operates wit     esult normal?     power window motor LH is OK.     to <u>PWC-149</u> , " <u>DRIVER SIDE</u> : Diag     Diagnosis Procedure     Diagram information, refer to <u>PWC-149</u> .	Description     UP/DOWN by receiving the signal from main power     Component Function Check     ER WINDOW MOTOR     ower window motor LH operates with main power w     esult normal?     power window motor LH is OK.     to <u>PWC-149</u> , "DRIVER SIDE : Diagnosis Procedure     Diagnosis Procedure

#### < COMPONENT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 8, 11 and front power window motor connector LH D9 (B) terminals 1, 2.

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
DT (A)	11	D9 (B)	1	165



4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminals 8, 11 and ground.

Main power window and door lock/unlock switch connector	Terminal		Continuity
D7 (A)	8	Ground	No
D7 (R)	11		NU

#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".
- NO >> Repair or replace harness or connectors.

## **DRIVER SIDE : Component Inspection**

## COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR LH

- 1. Disconnect front power window motor LH.
- 2. Check motor operation by connecting battery voltage directly to front power window motor LH.

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

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front power window motor LH. Refer to <u>GW-19</u>, "Removal and Installation".

## DRIVER SIDE : Special Repair Requirement

INFOID:000000005461484

INFOID:000000005461483

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

## **PWC-150**

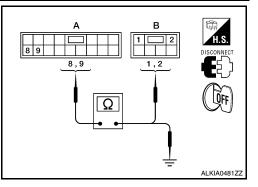
>> End. PASSENGER		IS >		[FRG	ONT & REAR WINDOW ANTI-PINCH
	SIDE				
PASSENGER S	SIDE : C	escripti	on		INFOID:0000000546148
Door glass moves L				rom main powe	er window and door lock/unlock switch o
PASSENGER S	SIDE : C	Compone	ent Functior	n Check	INFOID:0000000546148
<b>1.</b> CHECK POWE	R WINDO	W MOTOF	R CIRCUIT		
oower window and s the inspection res YES >> Front p	door lock/ sult norma ower wind	unlock swi <u>al?</u> Iow motor	itch RH. RH is OK.	vith main powe	r window and door lock/unlock switch o
PASSENGER S				-	INFOID:000000054614
1. CHECK FRONT					CER SIDE : Component Increation"
Check front power versions         s the inspection reservers         YES       >> GO TO         NO       >> Replace         CHECK FRONT         Disconnect from         Turn ignition sw         Check voltage I	window mo sult norma 2 e front pov F POWER nt power w vitch ON. between fr	otor RH. R al? wer windov WINDOW vindow mo ront power	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec	efer to <u>GW-19,</u> OUTPUT SIGN tor.	
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace CHECK FRONT Disconnect from Turn ignition sw Check voltage I D104 terminals	window mo sult norma 2 e front pov F POWER nt power w vitch ON. between fr 5 1, 2 and s	otor RH. R al? wer windov WINDOW vindow mo ront power	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec	efer to <u>GW-19,</u> OUTPUT SIGN tor.	"Removal and Installation". JAL
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace CHECK FRONT Disconnect from Disconnect from Check voltage l D104 terminals	window mo sult norma 2 e front pov F POWER nt power w vitch ON. between fr	otor RH. R al? wer windov WINDOW vindow mo ront power	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec window motor	efer to <u>GW-19.</u> OUTPUT SIGN tor. RH connector	"Removal and Installation". NAL
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace CHECK FRONT Disconnect from Turn ignition sw Check voltage I D104 terminals	window mo sult norma 2 e front pov F POWER nt power w vitch ON. between fr 5 1, 2 and s	otor RH. R al? wer windov WINDOW vindow mo ront power	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec	efer to <u>GW-19,</u> OUTPUT SIGN tor.	"Removal and Installation". NAL
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace CHECK FRONT Disconnect from Turn ignition sw Check voltage I D104 terminals Terr (+) Front power window	window mo sult norma 2 e front pov T POWER nt power w vitch ON. between fr 5 1, 2 and g minal Terminal	otor RH. R al? WINDOW vindow mo ront power ground.	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec window motor	efer to <u>GW-19.</u> OUTPUT SIGN tor. RH connector Voltage (V)	"Removal and Installation". NAL
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace <b>2.</b> CHECK FRONT 1. Disconnect from 2. Turn ignition sw 3. Check voltage la D104 terminals Terr (+) Front power window motor RH connector	window mo sult norma 2 e front pov F POWER nt power w vitch ON. between fr a 1, 2 and g	otor RH. R nl? wer window WINDOW vindow mo ront power ground.	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec window motor Front power window motor RH condition UP DOWN	efer to <u>GW-19.</u> OUTPUT SIGN tor. RH connector Voltage (V) (Approx.)	The moval and Installation".
Check front power v <u>s the inspection res</u> YES >> GO TO NO >> Replace CHECK FRONT Disconnect from Turn ignition sw Check voltage I D104 terminals Terr (+) Front power window	window mo sult norma 2 e front pov T POWER nt power w vitch ON. between fr 5 1, 2 and g minal Terminal	otor RH. R al? WINDOW vindow mo ront power ground.	Refer to <u>PWC-1</u> w motor RH. R / SWITCH RH tor RH connec window motor Front power window motor RH condition	efer to <u>GW-19,</u> OUTPUT SIGN tor. RH connector Voltage (V) (Approx.) Battery voltage	The moval and Installation".

#### < COMPONENT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- Disconnect power window and door lock/unlock switch RH connector.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 8, 9 and front power window motor RH connector D104 (B) terminals 1, 2.

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
D 105 (A)	9	D 104 (D)	1	165



 Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 8, 9 and ground.

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity
	8		No
D105 (A)	9		NO

Is the inspection result normal?

- YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-129</u>, "Removal and Installation".
- NO >> Repair or replace harness or connectors.

## PASSENGER SIDE : Component Inspection

INFOID:000000005461488

## COMPONENT INSPECTION

- 1. CHECK FRONT POWER WINDOW MOTOR RH
- 1. Disconnect front power window motor RH.
- 2. Check motor operation by connecting battery voltage directly to front power window motor RH.

Terr	ninal	Motor condition	
(+)	(-)		
1	2	DOWN	
2	1	UP	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

## PASSENGER SIDE : Special Repair Requirement

INFOID:000000005461489

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

#### 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

## **PWC-152**

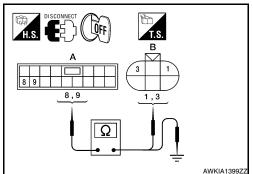
>> End. A REAR LH								
REAR LH : Description								
Door glass moves UP/DOWN by receiving the signal from main power window and door lock/unlock switch or rear power window switch LH.								
REAR LH : Component Function Check								
1. CHECK POWER WINDOW MOTOR CIRCUIT								
Check that rear power window motor LH operates with main power window and door lock/unlock switch or rear power window switch LH.       E         Is the inspection result normal?       E         YES       >> Rear power window motor LH is OK.         NO       >> Refer to PWC-153, "REAR LH : Diagnosis Procedure".         REAR LH : Diagnosis Procedure       F								
G Regarding Wiring Diagram information, refer to <u>PWC-206. "Wiring Diagram"</u> .								
1. CHECK REAR POWER WINDOW MOTOR LH								
Check rear power window motor LH. Refer to <u>PWC-154, "REAR LH : Component Inspection"</u> . <u>Is the inspection result normal?</u> VER as CO TO 2								
YES >> GO TO 2 NO >> Replace rear power window motor LH. Refer to <u>GW-24, "Rear Door Glass Regulator"</u> . <b>2.</b> CHECK REAR POWER WINDOW SWITCH LH OUTPUT SIGNAL								
<ol> <li>Disconnect rear power window motor LH connector.</li> <li>Turn ignition switch ON.</li> <li>Check voltage between rear power window motor LH connector D204 terminals 1, 3 and ground.</li> </ol>	/C							
Terminal								
(+) Condition Voltage (V)								
Rear power window motor LH connector     (-)     (Approx.)								
1 UP Battery voltage								
D204 Ground Ground UP 0								
3 DOWN Battery voltage								
Is the inspection result normal?								
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> GO TO 3								
3. CHECK HARNESS CONTINUITY								

#### < COMPONENT DIAGNOSIS >

#### 1. Turn ignition switch OFF.

- 2. Disconnect rear power window switch LH connector.
- 3. Check continuity between rear power window switch LH connector D207 (A) terminals 8, 9 and rear power window motor LH connector D204 (B) terminals 1, 3.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D207 (A)	8	D204 (B)	1	Yes
6201 (A)	9	D204 (D)	3	165



[FRONT & REAR WINDOW ANTI-PINCH]

4. Check continuity between rear power window switch LH connector D207 (A) terminals 8, 9 and ground.

Rear power window switch LH connector	Terminal		Continuity	
	8	Ground	No	
D207 (A)	9	_	No	

#### Is the inspection result normal?

YES >> Replace rear power window switch LH. Refer to <u>PWC-129</u>, "Removal and Installation".

NO >> Repair or replace harness or connectors.

## REAR LH : Component Inspection

INFOID:000000005461493

## COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR LH

- 1. Disconnect rear power window motor LH.
- 2. Check motor operation by connecting battery voltage directly to rear power window motor LH.

Terr	ninal	- Motor condition	
(+)	(-)		
3	1	DOWN	
1	3	UP	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace rear power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

## REAR LH : Special Repair Requirement

INFOID:000000005461494

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

## >> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

#### >> End. REAR RH

## PWC-154

## [FRONT & REAR WINDOW ANTI-PINCH]

	scriptior	ו			INFOID:0000000546149
Door glass moves l ear power window			ing the signal	from main powe	er window and door lock/unlock switch o
REAR RH : Co	mponer	nt Functio	on Check		INFOID:0000000546149
1. CHECK POWE	R WINDO	W MOTOF	RCIRCUIT		
ear power window s the inspection re	switch RH sult norma	1. <u>al?</u>		with main power	window and door lock/unlock switch or
YES >> Rear po NO >> Refer to				sis Procedure".	
REAR RH : Dia	ignosis	Procedu	re		INFOID:0000000546149
s the inspection res YES >> GO TO NO >> Replac CHECK REAR Disconnect rea Turn ignition sw Check voltage	vindow mo sult norma 2 e rear pov POWER V r power w vitch ON. between r	otor RH. Re al? ver window WINDOW S indow mot	efer to <u>PWC-</u> w motor RH. R SWITCH RH ( or RH connec	Refer to <u>GW-24, '</u> OUTPUT SIGNA	<u>Rear Door Glass Regulator"</u> . L
D304 terminals	1, 3 and	ground.			
Ter	minal				
(+)			Condition	Voltage (V) (Approx.)	
. ,	Terminal	(-)		( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	
Rear power window motor RH connector	reminal				
Rear power window			UP	Battery voltage	ALKIA0293ZZ
Rear power window	1 rerminai	Ground	DOWN	0	ALKIA0293ZZ
Rear power window motor RH connector		Ground	-		ALKIA0293ZZ

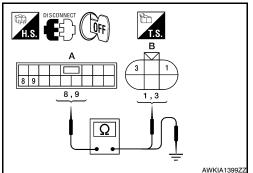
Revision: November 2009

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#### < COMPONENT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch RH connector.
- 3. Check continuity between rear power window switch RH connector D307 (A) terminals 8, 9 and rear power window motor RH connector D304 (B) terminals 1, 3.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D307 (A)	8	D304 (B)	1	Yes
D307 (A)	9	D304 (D)	3	163



[FRONT & REAR WINDOW ANTI-PINCH]

4. Check continuity between rear power window switch RH connector D307 (A) terminals 8, 9 and ground.

Rear power window switch RH connector	Terminal		Continuity
D307 (A)	8	Ground	No
	9		

#### Is the inspection result normal?

YES >> Replace rear power window switch RH. Refer to <u>PWC-129</u>, "Removal and Installation".

NO >> Repair or replace harness or connectors.

**REAR RH** : Component Inspection

INFOID:000000005461498

## COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR RH

- 1. Disconnect rear power window motor RH.
- 2. Check motor operation by connecting battery voltage directly to rear power window motor RH.

Terr	ninal	Motor condition
(+)	(-)	
3	1	DOWN
1	3	UP

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace rear power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

## **REAR RH : Special Repair Requirement**

INFOID:000000005461499

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

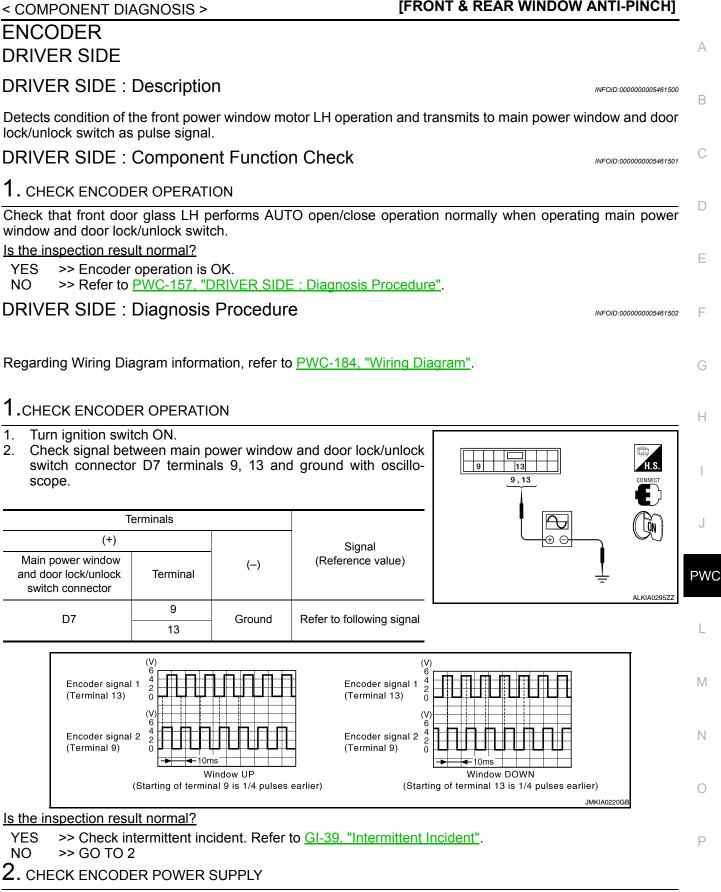
## >> GO TO 2

## 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

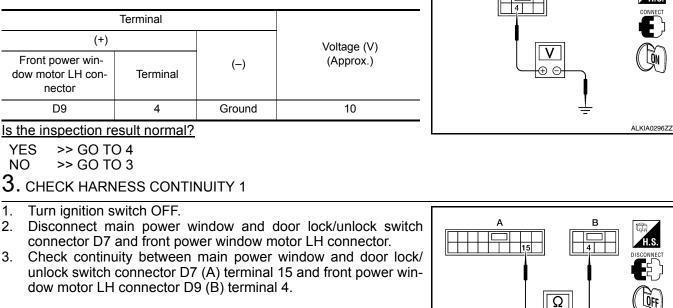
#### >> End.

## **PWC-156**



#### < COMPONENT DIAGNOSIS >

#### Check voltage between front power window motor LH connector D9 terminal 4 and ground.



**ENCODER** 

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

4. Check continuity between main power window and door lock/unlock switch connector D7 (A) terminal 15 and ground.

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

Is the inspection result normal?

1.

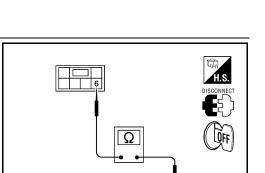
- YES >> Replace main power window and door lock/unlock switch. Refer to PWC-128, "Removal and Installation".
- NO >> Repair or replace harness or connectors.
- CHECK ENCODER GROUND CIRCUIT
- 1. Turn ignition switch OFF.
- Disconnect front power window motor LH connector. 2.
- 3. Check continuity between front power window motor LH connector D9 terminal 6 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



#### [FRONT & REAR WINDOW ANTI-PINCH]

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## ENCODER

## < COMPONENT DIAGNOSIS >

- 1. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminal 2 and front power window motor LH connector D9 (B) terminal 6.

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

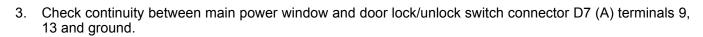
#### Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".
- NO >> Repair or replace harness or connectors.

## **Ö.** CHECK HARNESS CONTINUITY 3

- 1. Disconnect main power window and door lock/unlock switch connector D7.
- Check continuity between main power window and door lock/ unlock switch connector D7 (A) terminals 9, 13 and front power window motor LH connector D9 (B) terminals 3, 5.

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
D7 (A)	13	D9 (B)	3	165



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

#### Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

## DRIVER SIDE : Special Repair Requirement

## 1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

## >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".



## **PWC-159**

## [FRONT & REAR WINDOW ANTI-PINCH]



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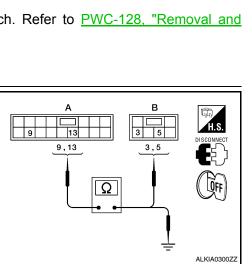
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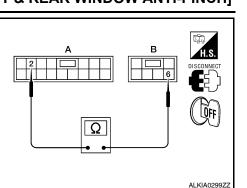
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2010 Maxima





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

**ENCODER** 

## PASSENGER SIDE : Component Function Check

## 1. CHECK ENCODER OPERATION

< COMPONENT DIAGNOSIS >

Check that front door glass RH performs 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.

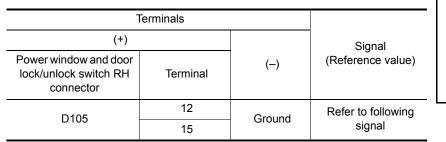
NO >> Refer to <u>PWC-160, "PASSENGER SIDE : Diagnosis Procedure"</u>.

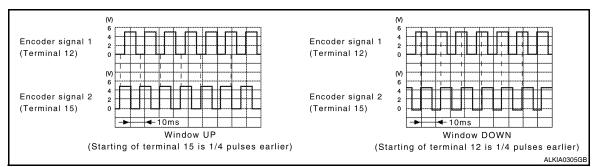
## PASSENGER SIDE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-195, "Wiring Diagram".

## 1. CHECK ENCODER SIGNAL

- 1. Turn ignition switch ON.
- Check signal between power window and door lock/unlock switch RH connector D105 terminal 12, 15 and ground with oscilloscope.





#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 2

 $\mathbf{2}$ . Check encoder power supply

12 15

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#### < COMPONENT DIAGNOSIS >

## Check voltage between front power window motor RH connector D104 terminal 4 and ground.

(+)			Voltage (V)
Front power window motor RH connector	Terminal	()	(Approx.)
D104	4	Ground	10

Is the inspection result normal?

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

**3.** CHECK HARNESS CONTINUITY 1

- 1. Turn ignition switch OFF.
- 2. Disconnect power window and door lock/unlock switch RH and front power window motor RH connectors.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 4 and front power window motor RH connector D104 (B) terminal 4.

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

4. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 4 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 <u>PWC-129</u>, "Removal and Installation".

**PWC-161** 

NO >> Repair or replace harness or connectors.

## 4. CHECK ENCODER GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor RH connector.
- Check continuity between front power window motor RH connector D104 terminal 6 and ground.

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

Is the inspection result normal?

YES >> GO TO 6

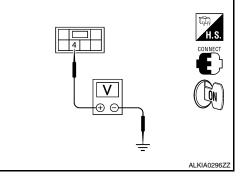
NO >> GO TO 5

**5.** CHECK HARNESS CONTINUITY 2



# ENCODER

## [FRONT & REAR WINDOW ANTI-PINCH]



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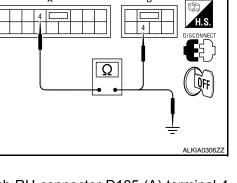
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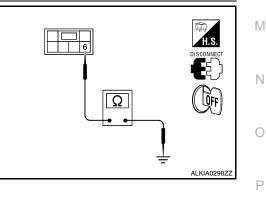
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2010 Maxima

## ENCODER

#### < COMPONENT DIAGNOSIS >

- Disconnect power window and door lock/unlock switch RH connector.
- 2. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminal 3 and front power window motor RH connector D104 (B) terminal 6.

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

# 

**IFRONT & REAR WINDOW ANTI-PINCH1** 

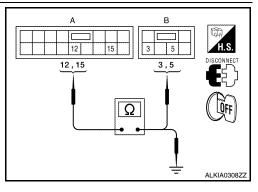
#### Is the inspection result normal?

- YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-129</u>, "<u>Removal and Instal-</u> <u>lation</u>".
- NO >> Repair or replace harness or connectors.

#### 6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect power window and door lock/unlock switch RH connector.
- Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 12, 15 and front power window motor RH connector D104 (B) terminals 3, 5.

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
D105 (A)	15	D104 (B)	5	Tes



3. Check continuity between power window and door lock/unlock switch RH connector D105 (A) terminals 12, 15 and ground.

Power window and door lock/unlock switch RH con- nector	Terminal	Ground	Continuity	
D105 (A)	12		No	
D 105 (A)	15	=	INO	

#### Is the inspection result normal?

YES >> Replace front power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

## PASSENGER SIDE : Special Repair Requirement

INFOID:000000005461507

#### **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

>> End.

## **PWC-162**

## ENCODER

## [FRONT & REAR WINDOW ANTI-PINCH]

REAR	RLH						٨
REAR	LH : Desc	ription				INFOID:000000005461508	A
	condition of the signal.	ne rear power w	vindow motor	<sup>-</sup> LH operation and tr	ansmits to rear power win	dow switch LH	В
REAR	LH : Com	ponent Fund	tion Chec	k		INFOID:000000005461509	
<b>1</b> .CHE		R OPERATION					С
power v <u>Is the in</u> YES NO	vindow switch <u>spection resu</u> >> Encoder >> Refer to <u>F</u>	LH. <u>It normal?</u> operation is OK	AR LH : Diag	AUTO open/close	operation normally when	operating rear	D
Regard	ing Wiring Dia	gram informatio	on, refer to <u>P</u>	WC-206, "Wiring Dia	agram".		F
1. сне	ECK ENCODE	R SIGNAL					
2. Che				witch LH connector scope.		H.S.	Η
	٢	Terminals					I
	(+) power window LH connector	Terminal	(-)	Signal (Reference value)			J
	D207	12 15	Ground	Refer to following signal		ALKIA0322ZZ	PWC
	Encoder signal 1 (Terminal 12)	(V) 6 4 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Encoder signal 1 (Terminal 12)	(M) 6 4 2 0 (M) 6 4 2 0 (M) 1 1 1 1 1 1 1 1 1 1 1 1 1		L
	Encoder signal 2 (Terminal 15)	6 4 2 0 		Encoder signal 2 (Terminal 15)	6 2 0 • • 10ms		M
	(5	Wind Starting of terminal 1	ow UP 5 is 1/4 pulses e	arlier) (Sta	Window DOWN arting of terminal 12 is 1/4 pulses A	earlier) ALKIA0305GB	Ν
	spection resu		nt Doforto	CI 20 "Intermittent I	noidont"		_
YES NO	>> GO TO 2			GI-39, "Intermittent I	nciuent		0
<b>2.</b> CHE	ECK ENCODE	R POWER SU	PPLY				D

< COMPONENT DIAGNOSIS >

#### < COMPONENT DIAGNOSIS >

Check voltage between rear power window motor LH connector D204 terminal 2 and ground.

(+)			Voltage (V)
Rear power window motor LH connector	Terminal	()	(Approx.)
D204	2	Ground	10

Is the inspection result normal?

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

- **3.** CHECK HARNESS CONTINUITY 1
- 1. Turn ignition switch OFF.
- Disconnect rear power window switch LH and rear power window motor LH connectors.
- Check continuity between rear power window switch LH connector D207 (A) terminal 4 and rear power window motor LH connector D204 (B) terminal 2.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D207 (A)	4	D204 (B)	2	Yes

**ENCODER** 

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#### 4. Check continuity between rear power window switch LH connector D207 (A) terminal 4 and ground.

Rear power window switch LH connector	Terminal	Ground	Continuity
D207 (A)	4		No

Is the inspection result normal?

- YES >> Replace rear power window switch LH. Refer to PWC-275, "Removal and Installation".
- NO >> Repair or replace harness or connectors.

#### **4.** CHECK ENCODER GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH connector.
- 3. Check continuity between rear power window motor LH connector D204 terminal 4 and ground.

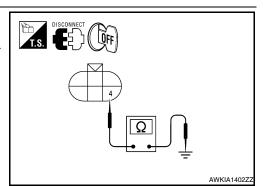


Is the inspection result normal?

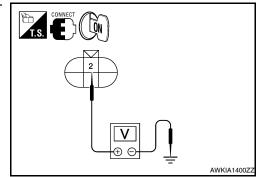
YES >> GO TO 6

NO >> GO TO 5

**5.** CHECK HARNESS CONTINUITY 2



## [FRONT & REAR WINDOW ANTI-PINCH]



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## ENCODER

#### < COMPONENT DIAGNOSIS >

- 1. Disconnect rear power window switch LH connector.
- Check continuity between rear power window switch LH connector D207 (A) terminal 3 and rear power window motor LH connector D204 (B) terminal 4.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D207 (A)	3	D204 (B)	4	Yes

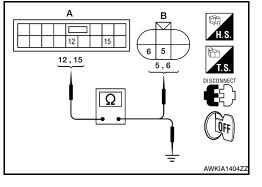
Is the inspection result normal?

- YES >> Replace rear power window switch LH. Refer to <u>PWC-</u> 275, "Removal and Installation".
- NO >> Repair or replace harness or connectors.

6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect rear power window switch LH connector.
- Check continuity between rear power window switch LH connector D207 (A) terminals 12, 15 and rear power window motor LH connector D204 (B) terminals 5, 6.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D207 (A)	12	D204 (B)	5	Yes
D207 (A)	15	D204 (B)	6	165



#### 3. Check continuity between rear power window switch LH connector D207 (A) terminals 12, 15 and ground.

Rear power window switch LH connector	Terminal	- Ground	Continuity
D207 (A)	12		No
D207 (A)	15		No

Is the inspection result normal?

YES >> Replace rear power window motor LH. Refer to <u>GW-19</u>, "Removal and Installation".

NO >> Repair or replace harness or connectors.

## REAR LH : Special Repair Requirement

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: Special Repair Requirement".

## >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> End. REAR RH

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[FRONT & REAR WINDOW ANTI-PINCH]

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## < COMPONENT DIAGNOSIS > REAR RH : Description

Detects condition of the rear power window motor RH operation and transmits to rear power window switch RH as pulse signal.

## **REAR RH : Component Function Check**

## **1.**CHECK ENCODER OPERATION

Check that rear door window motor RH performs AUTO open/close operation normally when operating rear power window switch RH.

#### Is the inspection result normal?

YES >> Encoder operation is OK.

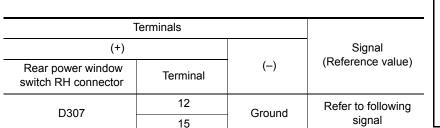
NO >> Refer to <u>PWC-166, "REAR RH : Diagnosis Procedure"</u>.

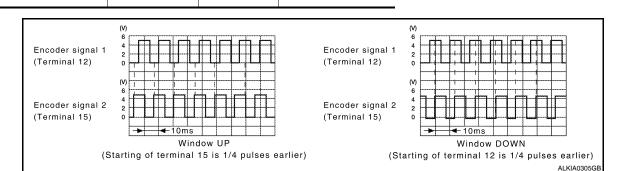
#### **REAR RH** : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-184, "Wiring Diagram".

## 1. CHECK ENCODER SIGNAL

- 1. Turn ignition switch ON.
- 2. Check signal between rear power window switch RH connector D307 terminal 12, 15 and ground with oscilloscope.





#### Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> GO TO 2

2. CHECK ENCODER POWER SUPPLY

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#### < COMPONENT DIAGNOSIS >

Check voltage between rear power window motor RH connector D304 terminal 2 and ground.

	Terminal			
(+)			Voltage (V)	
Rear power window motor RH connector	Terminal	()	(Approx.)	
D304	2	Ground	10	

Is the inspection result normal?

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

**3.** CHECK HARNESS CONTINUITY 1

- 1. Turn ignition switch OFF.
- Disconnect rear power window switch RH and rear power win-2. dow motor RH connectors.
- 3. Check continuity between rear power window switch RH connector D307 (A) terminal 4 and rear power window motor RH connector D304 (B) terminal 2.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D307 (A)	4	D304 (B)	2	Yes

#### 4. Check continuity between rear power window switch RH connector D307 (A) terminal 4 and ground.

**ENCODER** 

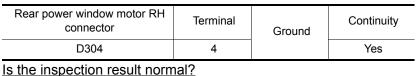
Rear power window switch RH connector	Terminal	Ground	Continuity
D307 (A)	4		No

Is the inspection result normal?

- >> Replace rear power window switch RH. Refer to PWC-129, "Removal and Installation". YES
- NO >> Repair or replace harness or connectors.

4. CHECK ENCODER GROUND CIRCUIT

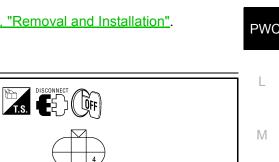
- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window motor RH connector.
- 3. Check continuity between rear power window motor RH connector D304 terminal 4 and ground.

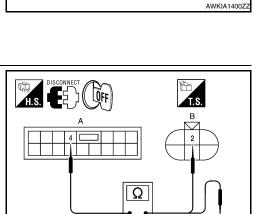


YES >> GO TO 6

NO >> GO TO 5

5. CHECK HARNESS CONTINUITY 2





[FRONT & REAR WINDOW ANTI-PINCH]

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## ENCODER

#### < COMPONENT DIAGNOSIS >

- 1. Disconnect rear power window switch RH connector.
- Check continuity between rear power window switch RH connector D307 (A) terminal 3 and rear power window motor RH connector D304 (B) terminal 4.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D307 (A)	3	D304 (B)	4	Yes

Is the inspection result normal?

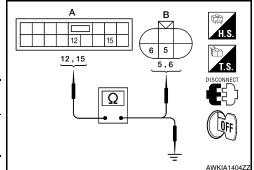
YES >> Replace rear power window switch RH. Refer to <u>PWC-</u> 275, "Removal and Installation".

NO >> Repair or replace harness or connectors.

6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect rear power window switch RH connector.
- Check continuity between rear power window switch RH connector D307 (A) terminals 12, 15 and rear power window motor RH connector D304 (B) terminals 5, 6.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
	12	D304 (B)	5	Yes
D307 (A)	15	D304 (B)	6	165



#### 3. Check continuity between rear power window switch RH connector D307 (A) terminals 12, 15 and ground.

Rear power window switch RH connector	Terminal		Continuity
D307 (A)	12	Ground	No
	15		

Is the inspection result normal?

YES >> Replace rear power window motor RH. Refer to <u>GW-19, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

## REAR RH : Special Repair Requirement

INFOID:000000005461515

**1.** PERFORM INITIALIZATION PROCEDURE

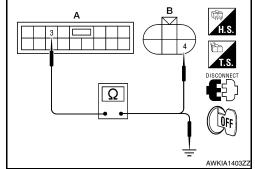
Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

#### >> GO TO 2

## $\mathbf{2}$ . CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> End.



[FRONT & REAR WINDOW ANTI-PINCH]

Revision: November 2009

## [FRONT & REAR WINDOW ANTI-PINCH]

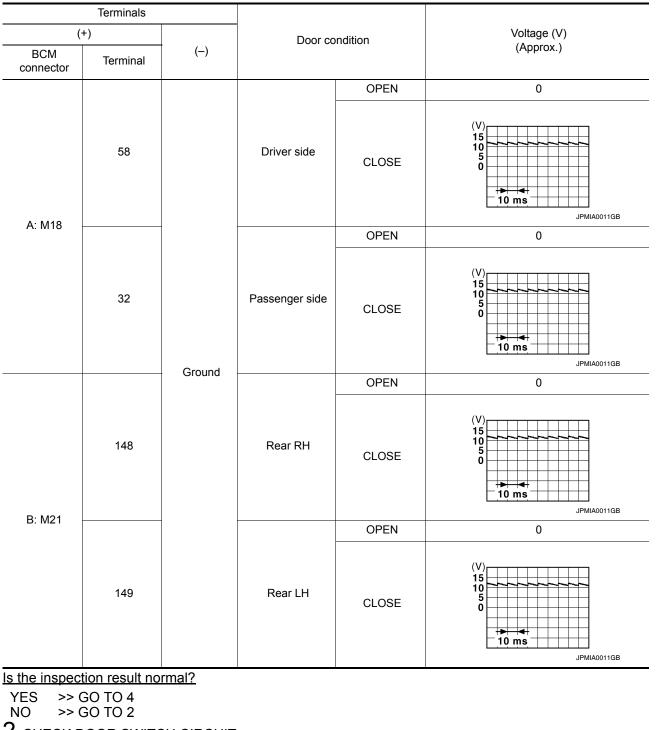
DOOR SWITCH	
Description	A INFOID:00000005461516
Detects door open/close condition.	В
Component Function Check	INFOID:00000005461517
1.CHECK FUNCTION	C
With CONSULT-III     Check door switches DOOR SW-DR, DOOR SW-AS     with CONSULT-III.	S, DOOR SW-RL, DOOR SW-RR in Data Monitor mode $\Box$
Monitor item	Condition
DOOR SW-DR	E
DOOR SW-AS	$CLOSE \rightarrow OPEN: OFF \rightarrow ON$
DOOR SW-RL	$CLOSE \to OPEN. \ OFF \to ON$
DOOR SW-RR	
Is the inspection result normal?         YES       >> Door switch is OK.         NO       >> Refer to PWC-169, "Diagnosis Procedured"	e".
Diagnosis Procedure	INFOID:00000005461518
Regarding Wiring Diagram information, refer to <u>PWC</u> <b>1.</b> CHECK DOOR SWITCH INPUT SIGNAL	5-184, "Wiring Diagram".
<ol> <li>Turn ignition switch OFF.</li> <li>Check signal between BCM connector and grou scope.</li> </ol>	
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< COMPONENT DIAGNOSIS >

## **DOOR SWITCH**

#### < COMPONENT DIAGNOSIS >

#### [FRONT & REAR WINDOW ANTI-PINCH]



2. CHECK DOOR SWITCH CIRCUIT

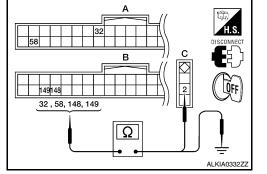
1. Disconnect BCM connector.

## DOOR SWITCH

## < COMPONENT DIAGNOSIS >

2. Check continuity between BCM connector and door switch connector.

BCM connector	Terminal	Door switch connector	Terminal	Continuity
A: M18	58	C: B8 (Driver side)		
A. MITO	32	C: B108 (Passenger side)	2	Yes
B: M21	148	C: B116 (Rear RH)	2	165
D. 1V12 1	149	C: B18 (Rear LH)		



3. Check continuity between BCM connector and ground.

BCM connector	Terminal		Continuity
A: M18	58		
	32	Ground	No
B: M21	148		INU
	149	1	

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness between BCM and door switch.

## **3.**CHECK DOOR SWITCH

Refer to <u>PWC-171, "Component Inspection"</u>.

#### Is the inspection result normal?

YES >> GO TO 4

NO >> Replace malfunctioning door switch.

**4.**CHECK INTERMITTENT INCIDENT

Refer to GI-39. "Intermittent Incident".

>> Inspection End.

## **Component Inspection**

## 1. CHECK DOOR SWITCH

1. Turn ignition switch OFF.

2. Disconnect door switch connector.

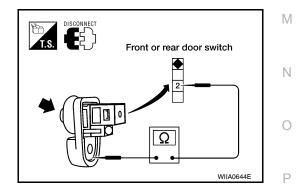
3. Check door switch.

Terminal Door switch		Door switch condition	Continuity
			Continuity
2	Ground part of	Pressed	No
2	door switch	Released	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace malfunctioning door switch.



[FRONT & REAR WINDOW ANTI-PINCH]

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#### < COMPONENT DIAGNOSIS >

## DOOR KEY CYLINDER SWITCH

#### Description

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

## **Component Function Check**

INFOID:000000005461521

INFOID:000000005461520

## 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check KEY CYL UN-SW, KEY CYL UN-SW in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to <u>BCS-19</u>, "DOOR LOCK : <u>CONSULT-III Function (BCM - DOOR LOCK)"</u>.

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

#### Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>PWC-172</u>, "Diagnosis Procedure".

#### Diagnosis Procedure

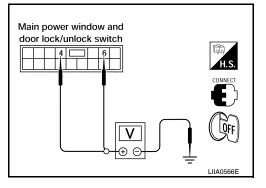
INFOID:000000005461522

Regarding Wiring Diagram information, refer to PWC-184, "Wiring Diagram".

## 1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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



Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-9</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT : Special Repair Requirement</u>".

NO >> GO TO 2

2.CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

## DOOR KEY CYLINDER SWITCH

#### < COMPONENT DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

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- 2. Disconnect main power window and door lock/unlock switch connector and front door lock assembly LH (key cylinder switch) connector.
- Check continuity between main power window and door lock/ unlock switch connector and front door lock assembly LH (key cylinder switch) connector.

Main power win- dow and door lock/unlock switch connector	Terminal	Front door lock assem- bly LH (key cylinder switch) connector	Terminal	Continuity
A <sup>.</sup> D7	4	B: D10	6	Yes
A. 01	6	D. D10	5	163

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

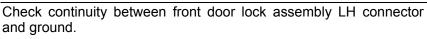
Power window main switch connector	Terminal		Continuity
A: D7	4	Ground	No
A. D1	6		NO

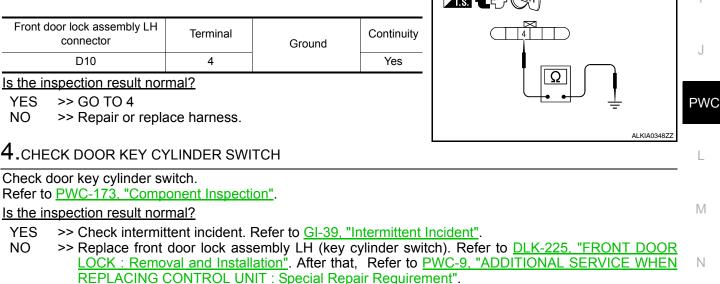
Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3.check door key cylinder switch ground circuit





## Component Inspection

## COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH

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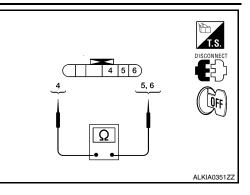
## DOOR KEY CYLINDER SWITCH

## < COMPONENT DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

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

Term	ninal			
Front door lock assembly LH (key cylinder switch) connector		Key position	Continuity	
5		Unlock	Yes	
5	4	Neutral / Lock	No	
6	4	Lock	Yes	
0		Neutral / Unlock	No	



Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-225, "FRONT DOOR</u> <u>LOCK : Removal and Installation"</u>. After that, refer to <u>PWC-174, "Special Repair Requirement"</u>.

## Special Repair Requirement

INFOID:000000005461524

**1.**PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>DLK-9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

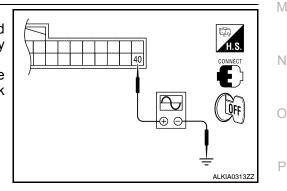
NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

#### POWER WINDOW SERIAL LINK [FRONT & REAR WINDOW ANTI-PINCH] < COMPONENT DIAGNOSIS > POWER WINDOW SERIAL LINK А POWER WINDOW MAIN SWITCH POWER WINDOW MAIN SWITCH : Description INFOID:000000005461525 В Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM communicate via the power window serial link. • The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH. The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH: D - Front door window RH operation Power window control by key cylinder switch - Power window lock switch - Retained accessory power operation Е POWER WINDOW MAIN SWITCH : Component Function Check INFOID:000000005461526 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL F Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to BCS-19, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)". Monitor item Condition LOCK : ON CDL LOCK SW Н UNLOCK : OFF LOCK : OFF CDL UNLOCK SW UNLOCK : ON Is the inspection result normal? >> Power window serial link is OK. YES >> Refer to PWC-175, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure". NO POWER WINDOW MAIN SWITCH : Diagnosis Procedure INFOID:000000005461527 PWC

Regarding Wiring Diagram information, refer to <u>PWC-184, "Wiring Diagram"</u>.

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- Remove Intelligent Key, and close front door LH and RH.
   Check signal between BCM connector M18 terminal 40 and ground with oscilloscope when door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".



#### < COMPONENT DIAGNOSIS >

Terminal				
(+)		()	Signal (Reference value)	
BCM connector	Terminal	()	<pre></pre>	
M18	40	Ground	(V) 15 10 5 0 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
1. 0				

Is the inspection result normal?

YES >> Power window serial link is OK.

Terminal

40

BCM connector

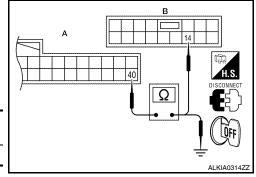
M18 (A)

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M18 and main power window and door lock/unlock switch connector D7.
- Check continuity between BCM connector M18 (A) terminal 40 and main power window and door lock/unlock switch connector D7 (B) terminal 14.

Main power window and door

D7 (B)



4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Giodila	No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".

Terminal

14

Continuity

Yes

NO >> Repair or replace harness or connectors.

## POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000005461528

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: Special Repair Requirement".

#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> End. FRONT POWER WINDOW SWITCH

#### < COMPONENT DIAGNOSIS >

## FRONT POWER WINDOW SWITCH : Description

- Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM communicate via the power window serial link.
- The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH.
- The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH:

Signal

(Reference value)

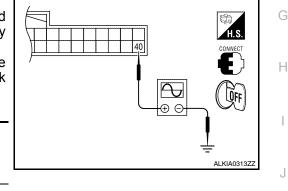
- Front door window RH operation
- Power window control by key cylinder switch
- Power window lock switch
- Retained accessory power operation

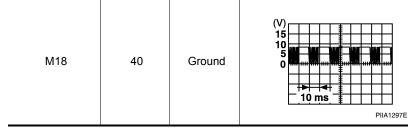
## FRONT POWER WINDOW SWITCH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to PWC-195, "Wiring Diagram".

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

- 1. Remove Intelligent Key, and close the front door LH and RH.
- Check signal between BCM connector M18 terminal 40 and ground with oscilloscope when door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".





(-)

Is the inspection result normal?

Terminal

Terminal

(+)

BCM connector

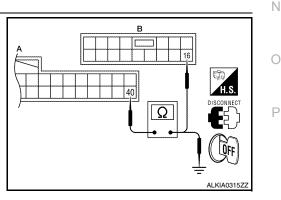
YES >> Power window serial link is OK.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

#### 1. Turn ignition switch OFF.

- Disconnect BCM connector M18 and power window and door lock/unlock switch RH connector.
- Check continuity between BCM connector M18 (A) terminal 40 and power window and door lock/unlock switch RH connector D105 (B) terminal 16.

BCM connector	Terminal	Power window and door lock/unlock switch RH con- nector	Terminal	Continuity
M18 (A)	40	D105 (B)	16	Yes



4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

## **PWC-177**

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< COMPONENT DIAGNOSIS >

BCM connector	Terminal	Ground	Continuity
M18 (A)	40	Ground	No

#### Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-128</u>, "<u>Removal and</u> <u>Installation</u>".

NO >> Repair or replace harness or connectors.

#### FRONT POWER WINDOW SWITCH : Special Repair Requirement

INFOID:000000005461531

## **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> GO TO 2

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

#### >> End. REAR LH

## REAR LH : Description

INFOID:000000005461532

- Main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window switch RH and BCM communicate via the power window serial link.
- The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
- The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH, rear power window switch LH, rear power window switch RH:
- Front door window RH operation
- Rear door window LH operation
- Rear door window RH operation
- Power window control by key cylinder switch
- Power window lock switch
- Retained accessory power operation

## **REAR LH** : Diagnosis Procedure

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Regarding Wiring Diagram information, refer to <u>PWC-184. "Wiring Diagram"</u>.

## 1. CHECK REAR POWER WINDOW SWITCH LH

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Continuity

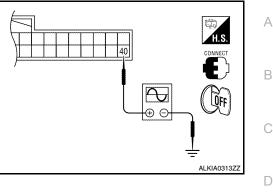
Yes

#### < COMPONENT DIAGNOSIS >

Terminal

## [FRONT & REAR WINDOW ANTI-PINCH]

- Remove Intelligent Key, and close all doors. 1.
- Check signal between BCM connector M18 terminal 40 and 2. ground with oscilloscope when door lock and unlock switch (key cvlinder switch) is turned to "LOCK" or "UNLOCK".
- 3. Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".



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			Olama I	
(+)		()	Signal (Reference value)	
BCM connector	Terminal	()		
M18	40	Ground	(V) 15 0 0 10 ms 10 ms 10 ms	

Is the inspection result normal?

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

BCM connector

M18 (A)

## 2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.

Terminal

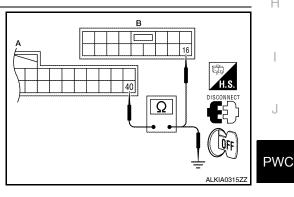
40

- 2. Disconnect BCM connector M18 and rear power window switch LH connector.
- 3. Check continuity between BCM connector M18 (A) terminal 40 and rear power window switch LH connector D207 (B) terminal 16.

Rear power window switch

LH connector

D207 (B)



4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

BCM connector	Terminal	Ground	Continuity
 M18 (A)	40	Ground	No

#### Is the inspection result normal?

YES >> Replace rear power window switch LH. Refer to PWC-128, "Removal and Installation".

Terminal

16

>> Repair or replace harness or connectors. NO

## REAR LH : Special Repair Requirement

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-134, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and PWC-134, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

#### >> GO TO 2

2. CHECK ANTI-PINCH OPERATION

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< COMPONENT DIAGNOSIS >

#### [FRONT & REAR WINDOW ANTI-PINCH]

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: Special Repair Requirement".

>> End.

## REAR RH

## **REAR RH : Description**

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- Main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window switch RH and BCM communicate via the power window serial link.
- The keyless power window down signal is transmitted from BCM to main power window and door lock/ unlock switch and power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
- The following signals are transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH, rear power window switch LH, rear power window switch RH:
- Front door window RH operation
- Rear door window LH operation
- Rear door window RH operation
- Power window control by key cylinder switch
- Power window lock switch
- Retained accessory power operation

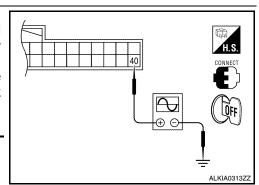
#### **REAR RH** : Diagnosis Procedure

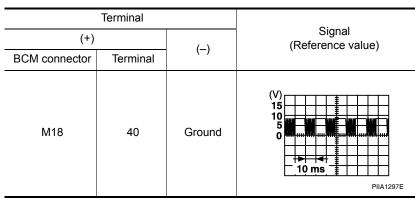
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Regarding Wiring Diagram information, refer to PWC-184, "Wiring Diagram".

## 1. CHECK REAR POWER WINDOW SWITCH RH

- 1. Remove Intelligent Key, and close all doors.
- Check signal between BCM connector M18 terminal 40 and ground with oscilloscope when door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".
- Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (key cylinder switch) is turned to "LOCK" or "UNLOCK".





Is the inspection result normal?

YES >> Power window serial link is OK.

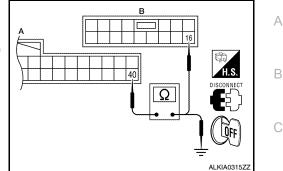
 $\mathbf{2}$ . CHECK POWER WINDOW SERIAL LINK CIRCUIT

# POWER WINDOW SERIAL LINK

#### < COMPONENT DIAGNOSIS >

# [FRONT & REAR WINDOW ANTI-PINCH]

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M18 and rear power window switch RH connector.
- Check continuity between BCM connector M18 (A) terminal 40 and rear power window switch RH connector D307 (B) terminal 16.



- BCM connectorTerminalRear power window switch<br/>RH connectorTerminalContinuityM18 (A)40D307 (B)16Yes
- 4. Check continuity between BCM connector M18 (A) terminal 40 and ground.

BCM connector	Terminal	Ground	Continuity	
M18 (A)	40	Ground	No	

Is the inspection result normal?

YES >> Replace rear power window switch RH. Refer to PWC-128. "Removal and Installation".

NO >> Repair or replace harness or connectors.

# **REAR RH : Special Repair Requirement**

# **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134, "ADDITIONAL SERVICE WHEN REMOVING BATTERY</u> <u>NEGATIVE TERMINAL : Special Repair Requirement</u> and <u>PWC-134, "ADDITIONAL SERVICE WHEN</u> <u>REPLACING CONTROL UNIT : Special Repair Requirement</u>.

## >> GO TO 2

# 2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

>> End.

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# POWER WINDOW LOCK SWITCH

# Component Function Check

# 1. CHECK POWER WINDOW LOCK

Activate the power window lock switch and verify that the front power window RH, rear power window LH and rear power window RH are inoperative.

#### Is the inspection result normal?

- YES >> Power window lock switch is OK.
- NO >> Replace the main power window and door lock/unlock switch. Refer to <u>PWC-273</u>, "<u>Removal and</u> <u>Installation</u>".

# Special Repair Requirement

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# 1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

#### >> GO TO 2

# 2. CHECK ANTI-PINCH OPERATION

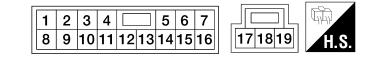
Check anti-pinch operation. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY <u>NEGATIVE TERMINAL</u>: <u>Special Repair Requirement</u>" and <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN <u>REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>".

>> End.

# ECU DIAGNOSIS POWER WINDOW MAIN SWITCH

# **Reference Value**

# TERMINAL LAYOUT



## PHYSICAL VALUES

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

Termin	al No.	Description			Voltago IV/I
+	-	Signal name	Input/ Output	Condition	Voltage [V] (Approx.)
2 (GR)	Ground	Encoder ground	_	_	0
4 (L)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral $\rightarrow$ Locked)	$5 \rightarrow 0$
6 (R)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral $\rightarrow$ Unlocked)	$5 \rightarrow 0$
8 (L)	11	Front door power window mo- tor LH UP signal	Output	When front LH switch in power window main switch is operated UP.	Battery voltage
9 (Y)	2	Encoder pulse signal 2	Input	When power window mo- tor operates.	(V) 6 2 0 10 ms
				IGN SW ON	Battery voltage
10 (V)	Ground	d RAP signal	Input	Within 45 second after ig- nition switch is turned to OFF.	Battery voltage
(-)				When front LH or RH door is opened during retained power operation.	0
11 (LG)	8	Front door power window mo- tor LH DOWN signal	Output	When front LH switch in power window main switch is operated DOWN.	Battery voltage

POWER WINDOW MAIN SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

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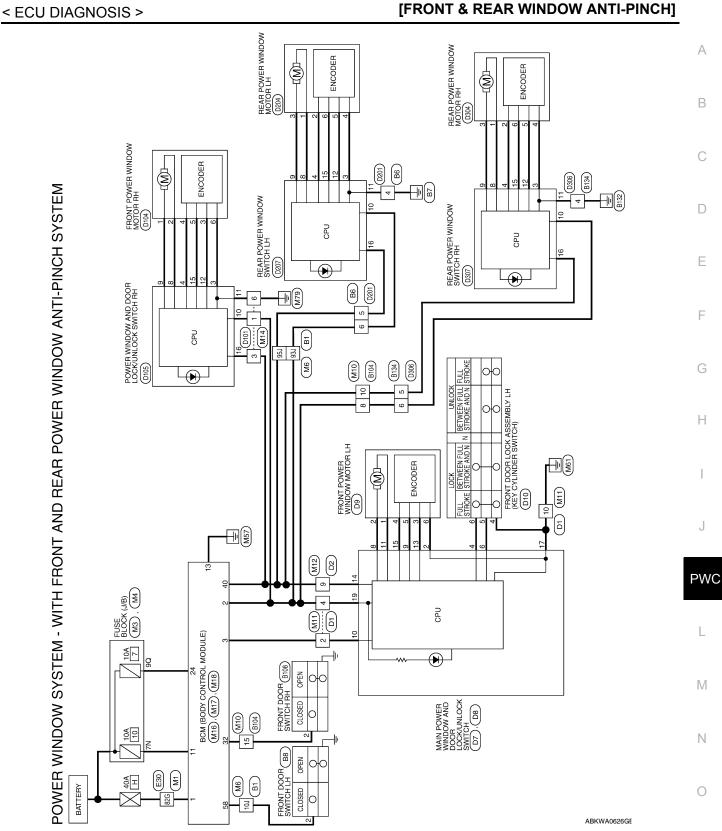
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# POWER WINDOW MAIN SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

-	Termina	I No.	Description			Voltage [V]
	+	-	Signal name	Input/ Output	Condition	(Approx.)
	13 (G)	2	Encoder pulse signal 1	Input	When power window mo- tor operates.	(V) 6 2 0 10 ms JMKIA0070GB
_	14 (O)	Ground	Power window serial link	Input/ Output	IGN SW ON or power win- dow timer operating.	(V) 15 0 10 ms JPMIA0013GB
_	15 (BR)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	10

Wiring Diagram

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**POWER WINDOW MAIN SWITCH** 

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R WINDOW ANTI-PINCH SYSTEM	Connector No. M4 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	(京) H.S.	Terminal No.     Color of Wire     Signal Name       9Ω     R/W     -				
JRS - WITH FRONT AND REAR POWE	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	(11) H.S. (11) H.S. (11) IN (11) (11) IN (11)	Terminal No.     Color of Wire     Signal Name       7N     Y/R     -				
POWER WINDOW SYSTEM CONNECTORS - WITH FRONT AND REAR POWER WINDOW ANTI-PINCH SYSTEM	Connector No. M1 Connector Name WIRE TO WIRE Connector Color WHITE	96 86 76 66 56 46 36 HLS Incol-root 126 126 126 126 126 126 126 126 126 126	24G 33G 22G 31G 32G 22G 22G 22G 27G 196 196 41G 40G 38G 38G 37G 38G 28G 28G 77G 38G 38G 50G 48G 48G 47G 48G 48G 48G 44G 42G 42G	580         570         560         550           533         820         151         593         543         594           722         716         700         880         876         656         546           800         770         786         776         776         746         656         646	83G 82G 81G	Terminal No.     Color of Wire     Signal Name       82G     W/B     -	

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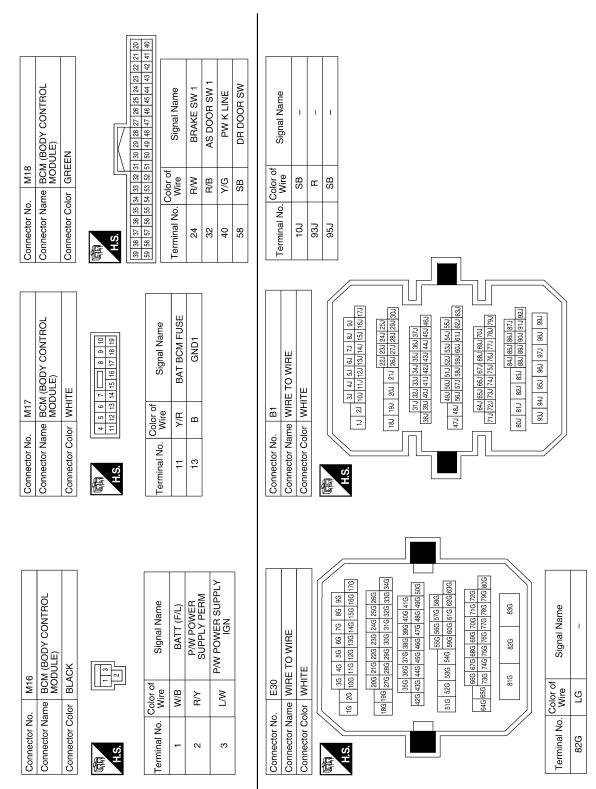
< ECU DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]	<u> </u>
Connector No.         M10           Connector Name         WIRE TO WIRE           Total         Image: Im	Connector No.     M14       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WIHTE       Mine     Image: Signal Name       Terminal No.     Color of Nrice     Signal Name       3     Y/G     Image: Signal Name       3     Y/G     Image: Signal Name	A B C D
		F
Signal Name	M12 WIRE TO WIRE WHITE WHITE Cof Signal Name G - C	G
Color of Wire SB SB Y/G		I
Terminal No.       10J       95J	Connector No. Connector Name Connector Color Terminal No. Col	J
		PW
223 324 480 324 480 324 480 329 314 329 314	Connector No.     M11       Connector Name     WIRE TO WIRE       Connector Color     WIHTE       Connector Color     WIHTE       Main     I 1       Main     I 1       Main     Signal Name       2     LW       2     LW       10     B	L
O.         M6           ame         WIRE TO W           WIRE 131         M131           173         181         133           173         181         131         131           173         181         131         131           173         181         133         133           173         181         131         131           173         181         133         133           183         533         33         333         331           183         533         331         331         331           183         133         133         133         133           183         133         133         133         133           173         732         133         133         133           193         133         133         133         133           173         733         733         133         133           173         733         733         133         134           173         733         733         134         134           173         733         733         134         134	O.         M11           ame         WIRE           ame         WIRE           ame         WIRE           ame         WIRE           ame         WIRE           B         10111	N
Connector No. M6 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE 1711 161 151 144 131 221 111 372 381 284 224 122 372 381 384 444 133 224 121 466 455 444 133 284 224 121 574 684 584 444 133 224 121 572 1881 277 1881 254 1584 584 584 584 584 584 584 584 584 584 584 584 584 584 584 584 584 584 584 584	Connector No. M11 Connector Name WIRE T Connector Color WHITE Connector Color WHITE Terminal No. Color of 4 R/Y 10 B	0
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#### POWER WINDOW MAIN SWITCH IFRONT & REAR

Revision: November 2009

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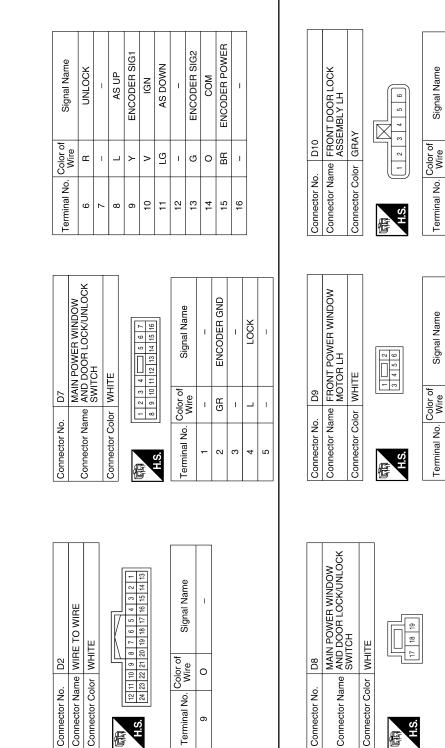
#### POWER WINDOW MAIN SWITCH [FRONT & REAR WINDOW ANTI-PINCH]



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ШШ	Signal Name	o WIRE 	
Connector No. B104 Connector Name WIRE TO WIRE Connector Color WHITE			
r No. B r Name M	Ro SB SB GR GR		
Connector No. Connector Name Connector Color	HLS. HLS. Terminal No. 8 10 15	Connector No. Connector Name Connector Color Terminal No. 2 4 10 10	
B8 FRONT DOOR SWITCH LH WHITE	a me		
LT DOOR (	Signal Name	Connector No.     B134       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WHITE       Connector Color     WHITE       Terminal No.     Color of Wire     Signal Name       5     SB     -       6     R     -	
	SB SB SB	0.     B134       ame     WIRE 1       olor     WHITE       0.     B       8     B       R     SB	
Connector No. Connector Name Connector Color	Terminal No.	Connector No. Connector Name Connector Color Terminal No. Color 5 5 2 2 1	
0   0   0		ŎŎŎ <b>Ĕ</b>	
		Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE Connector Color WHITE 3 3 1 3 2 7 8 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
Connector No. B6 Connector Name WIRE TO WIRE Connector Color WHITE		Signal Name	
0. B6 time WIRE To blor WHITE	Image: New Year of the second secon	0. B108 ame FRONT 0. WHITE 0. MHITE 0. MHITE 0. MHITE 0. MHITE	
Connector No. Connector Name Connector Color	Terminal No.	Connector No. Connector Name Connector Color Terminal No. Color 2 Gold	

Revision: November 2009



Terminal No.

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Signal Name

Terminal No.

Signal Name

Terminal No.

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Signal Name

Color of Wire

Terminal No.

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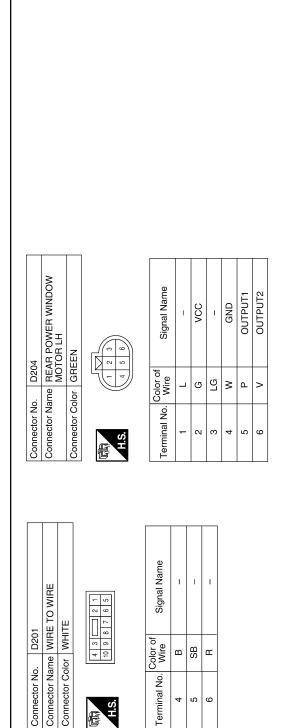
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D105	Connector Name BOOR LOCKUNLOCK SWITCH RH	WHITE	3 4 <u>5 6 7</u> 10 11 12 13 14 15 16	r of e Signal Name	GND	R ENCODER POWER	UP	DOWN	BAT	GND	ENCODER SIG2	ENCODER SIG1	COM
Connector No.	connector Name	Connector Color WHITE	H.S.	Terminal No. Wire	3 W	4 BR	8 F	6 FG	10 P	11 B	12 G	15 Y	16 R
D104	FRONT POWER WINDOW MOTOR RH WHITE		3 4 5 6	of Signal Name	I	I	I	I	I	I			
	r Name FF MC Color WI	-		No. Color of Wire	LG		σ	BR	>	×			
Connector No.	Connector Name Connector Color		际间 H.S.	Terminal No.	-	N	ო	4	5	9			
	O WIRE	•		Signal Name	1	1	1						
D101	ne WIRE T or WHITE		10 9 8 10 9 8	Color of Wire	٩	щ	в	-					
Connector No.	Connector Name WIRE TO Connector Color WHITE	£	H.S.	Terminal No. Wire	-	ო	9						



Terminal No.

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# **POWER WINDOW MAIN SWITCH** [FRONT & REAR WINDOW ANTI-PINCH]

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#### **POWER WINDOW MAIN SWITCH** [FRONT & REAR WINDOW ANTI-PINCH]

04	Connector Name REAR POWER WINDOW MOTOR RH	EEN		2 3	5 6		Signal Name	I	VCC	I	GND	OUTPUT1	OUTPUT2	
. D304	me RE MO	lor GR		Ŀ	7	)	Color of Wire	_	σ	ГG	×	٩	>	
Connector No.	Connector Na	Connector Color GREEN		प्लान भ	H.S.		Terminal No. Wire	-	2	e	4	5	9	
Signal Name		1	1	I	I									
Color of	R Mire	m	٩	>	SB									
Terminal No Color of	10	1	12	15	16									
	REAR POWER WINDOW SWITCH LH (WITH FRONT	AND REAR POWER	TEM)		ļ	4 - 5 6 7	9 10 11 12 13 14 15 16		Signal Name	I	I	I	1	
D207	REA		SYS	WHITE		2 3 4	9 10 1	lor of	Vire	≥	U		ГG	

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Connector Color

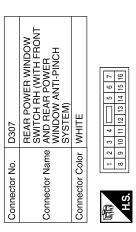
H.S.

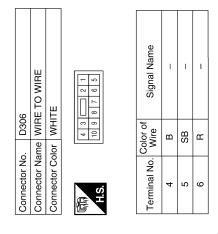
Color of Wire

Terminal No.

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Signal Name	I	I	I	I	I	I	Ι	I	Ι
Color of Wire	8	J	Ч	Ъ	œ	٩	В	>	SB
Terminal No. Wire	e	4	8	6	10	12	11	15	16





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# Fail Safe

# FAIL-SAFE CONTROL

Connector No.

Name

Connector

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

# [FRONT & REAR WINDOW ANTI-PINCH]

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 failsafe 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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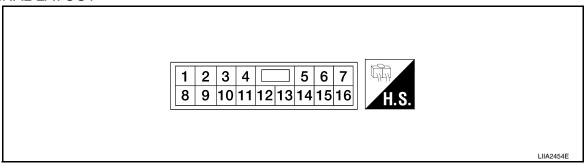
Revision: November 2009

# FRONT POWER WINDOW SWITCH

# **Reference Value**

INFOID:000000005461543

### TERMINAL LAYOUT



## PHYSICAL VALUES

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

Termi	inal No.	Description			Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (W)	Ground	Encoder ground	_	_	0
4 (BR)	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 operated UP.	Battery voltage
9 (LG)	8	Power window motor DOWN signal	Output	When power window motor is operated DOWN.	Battery voltage
10 (P)	Ground	Battery power supply	Input	_	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (G)	3	Encoder pulse signal 1	Input	When power window motor op- erates.	(V) 6 4 2 0 10 ms

## FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

Terminal No. Description Voltage [V] А Condition Input/ (Approx.) + Signal name -Output В (V 6 15 When power window motor op-2 3 Encoder pulse signal 2 Input (Y) erates. С 10 ms JMKIA0070GB D (V) 15 10 5 0 Е IGN SW ON or power window 16 Input/ Ground Power window serial link (R) Output timer operating. 10 ms F JPMIA0013GB

Wiring Diagram

< ECU DIAGNOSIS >

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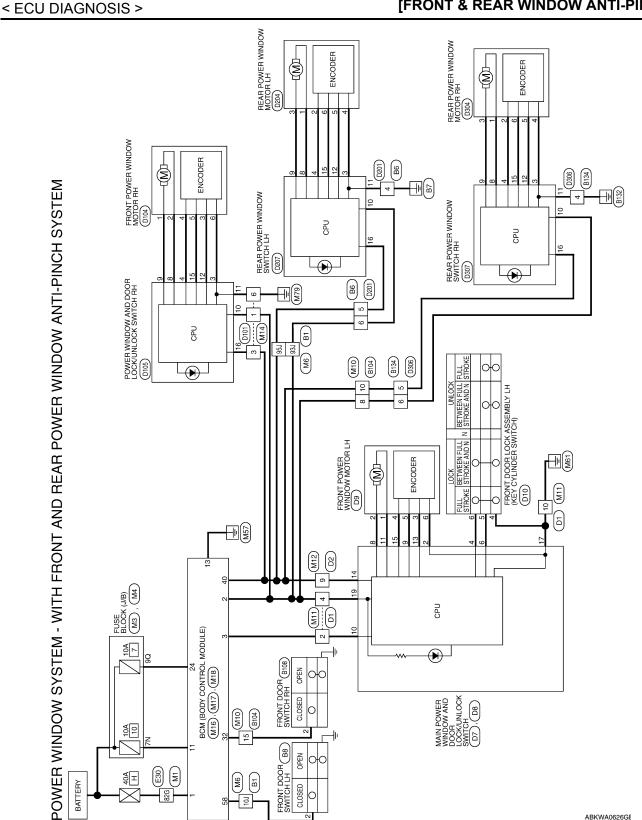
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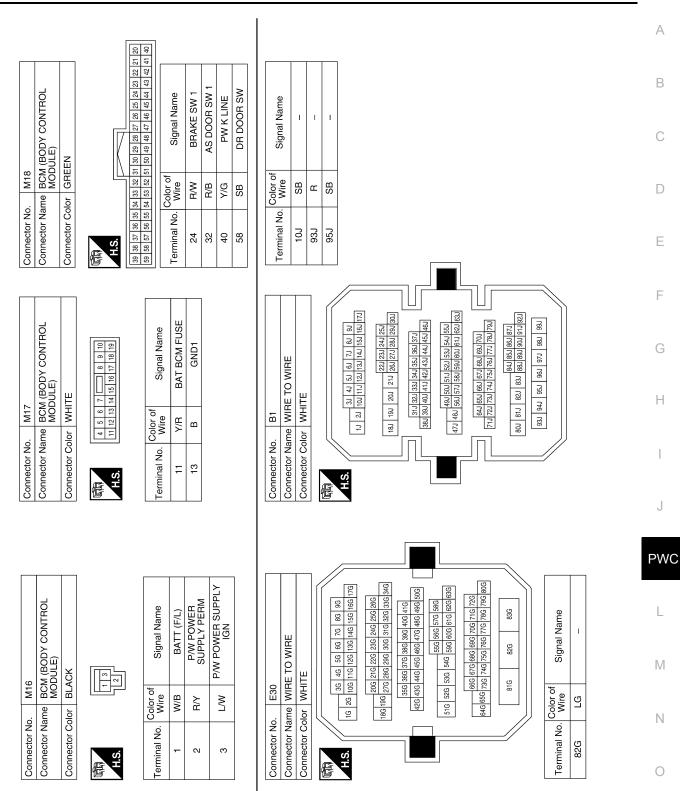
_			A
SYSTEN	Name B)		В
PINCH	M4 PLUSE BLOCK (J/B) MHITE MHITE Mire R/W Signal Name R/W -		С
V ANTI-	Image: Non-All state     M4       Image: All state     M4		D
POWER WINDOW SYSTEM CONNECTORS - WITH FRONT AND REAR POWER WINDOW ANTI-PINCH SYSTEM	Connector No.     M4       Connector Name     FUSE BLOCK (J/B)       Connector Color     WHITE       Main     Main       Mire     Signal Ni       PAW     Rite		Е
OWER			F
REAR F	OCK (J/B) Signal Name		G
IT AND			Н
H FRON			I
IS - WIT	Connector No. Connector Nam Connector Cold		J
<b>IECTOF</b>			PWC
M CONN	M1         M1           me         WIRE TO WIRE           or         WHIE TO WIRE           170         Well 16           170         166         166         166           170         166         166         166         166           170         166         166         166         166         166           170         166         156         167         166         166         166           286         2566         276         2762         216         196         166           161         416         300         296         286         276         266         266           500         416         406         406         406         406         406         406           500         416         600         266         566	a la	L
SYSTE	M1         M1           me         WIRE TO WIRE           or         WHITE           se         86         76         56         54         36           363         86         76         56         56         46         36           361         170         196         170         170         196         17           363         256         246         276         266         266         16           363         320         310         300         296         276         166         16           360         386         376         386         376         386         376         386         376           360         586         576         586         576         586         576         576         576           305         716         176         686         686         676         686         576	Signal Name	М
NDOW	Connector No. M1 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE 2560 2560 2461 756 66 56 3463 6266 1561 4461 1351 1250 2506 2496 4496 476 476 456 5565 556 556 556 556 5565 556 556 556	D. Wire W/B	Ν
VER WI	Connector No. Connector Name Connector Color 566 566 566	Terminal No. 82G	0
POV			ABKIA1832GB

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< ECU DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]
Connector No.     M10       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WHITE       Mile     1       Mile     1       Mile     1       Mile     1       Mile     1       Mile     Signal Name       B     R/Y       I     -       M     -	Connector No.     M14       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WHITE       Mine     3       Terminal No.     Color of     Signal Name       3     Y/G     -       6     B     -
Terminal No.     Color of Wire     Signal Name       10J     SB     -       93J     R/Y     -       95J     Y/G     -	Connector No.         M12           Connector Name         WIRE TO WIRE           Image: State of the state of
Connector No.         MG           Connector Name         WIRE TO WIRE           Mile         To Nine           Mile         To Nine         Sail Sail Sail Sail Sail Sail Sail Sail	

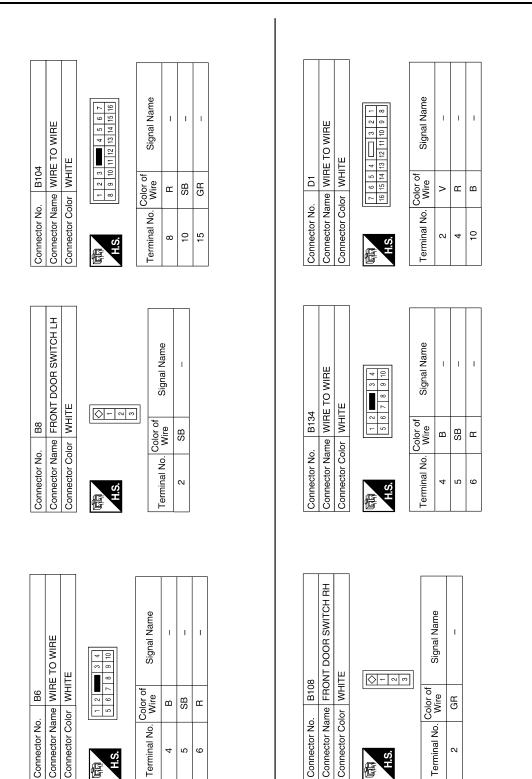
Revision: November 2009

#### FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]



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G	NC	)S	IS	>														[FRON	IT 8	R	EA	R	W	IN	DC	<b>V</b> C
	Signal Name	UNLOCK	I	AS UP	ENCODER SIG1	IGN	AS DOWN	1	ENCODER SIG2	COM	ENCODER POWER	I			FRONT DOOR LOCK ASSEMBLY LH			4 5 6	Signal Name	1	1					
	No. Wire	В	I		>	- >	ГG	1	σ	_	BB	1		<sup>^</sup> No. D10		-		1 2 3 4	No. Color of Wire		æ		-			
	Terminal No.	9	7	œ	ი	9 9	=	12	13	14	15	16		Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	4	S	9				
Connector No D7		Connector Name AND DOOR LOCK/UNLOCK	_	Connector Color WHITE	]] ר		H.S.	Terminal No Color of Sinnal Name	Wire		5 1		· · · · ·	Connector No. D9	e	Connector Color WHITE		(1) H.S.	Terminal No. Wire Signal Name	P D		і 5 6	4 BR –		GR	
Connector No D2	e	Connector Color WHITE				16 15		Terminal No Color of Signal Name	Mire	>				Connector No. D8	Connector Name AND DOOR LOCK/UNLOCK	_	Connector Color WHITE	(前) H.S.		Torminal No Color of Simol Mana	Wire		1	19 R BAI		

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# FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW

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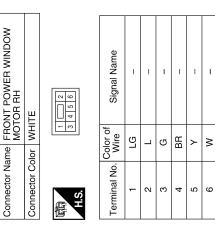
Connector No.

D104

Connector No.

# FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

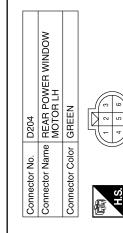
		1										
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH	ITE	4         5         6         7           11         12         13         14         15         16	Signal Name	GND	ENCODER POWER	٩U	DOWN	BAT	GND	ENCODER SIG2	ENCODER SIG1	COM
	lor WHITE	8 9 10 1	Color of Wire	×	ВВ	Γ	ГG	Ч	в	σ	Y	ж
Connector Name	Connector Color	H.S.	Terminal No.	e	4	8	6	10	1	12	15	16



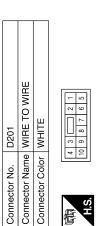
T

Connector No.	D101
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
。 H.S.H	10 9 8 7 0 5 1 10 9 8 7 0 5

Signal Name	I	I	I
Color of Wire	Ь	Я	В
Terminal No.	۰	ю	9



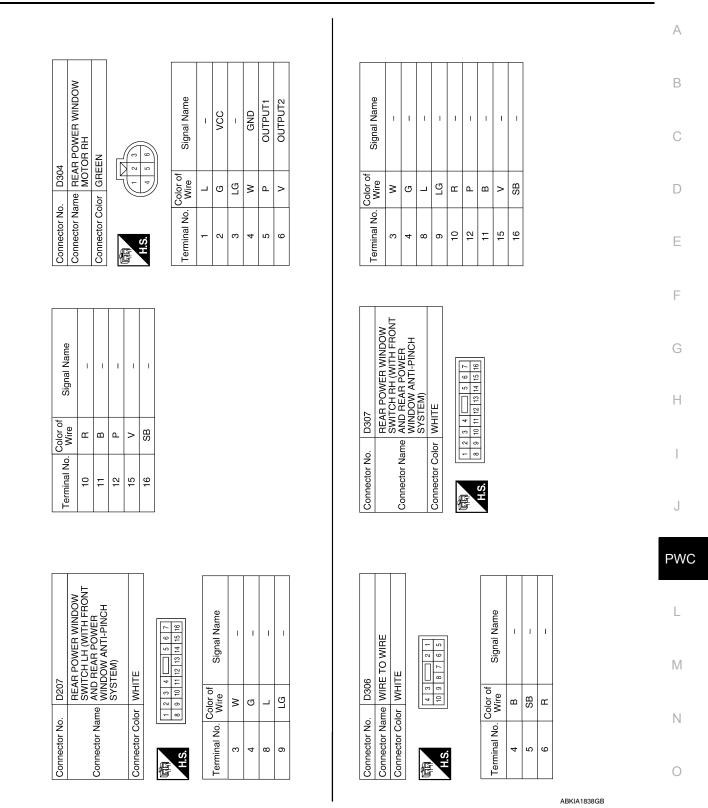
Signal Name	I	VCC	I	GND	OUTPUT1	OUTPUT2	
Color of Wire	L	σ	ГG	×	٩	٨	
Terminal No. Color of Wire	+	2	8	4	5	9	



Signal Name	I	I	I	
Color of Wire	В	SB	В	
Terminal No.	4	5	9	

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#### FRONT POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]



# Fail Safe

#### INFOID:000000005461545

#### FAIL-SAFE CONTROL

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

# FRONT POWER WINDOW SWITCH

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 failsafe 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.

# **REAR POWER WINDOW SWITCH**

# **Reference Value**

INFOID:000000005461546

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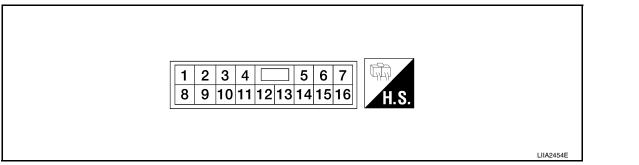
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## PHYSICAL VALUES

#### REAR POWER WINDOW SWITCH

Termi	nal No.	Description			Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	ŀ
3 (W)	Ground	Encoder ground	_	_	0	
4 (G)	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 operated UP.	Battery voltage	J
9 (LG)	8	Power window motor DOWN signal	Output	When power window motor is operated DOWN.	Battery voltage	
10 (R)	Ground	Battery power supply	Input	_	Battery voltage	P١
11 (B)	Ground	Ground	_	_	0	L
12 (P)	3	Encoder pulse signal 1	Input	When power window motor op- erates.	(V) 6 4 2 0 10 ms	N

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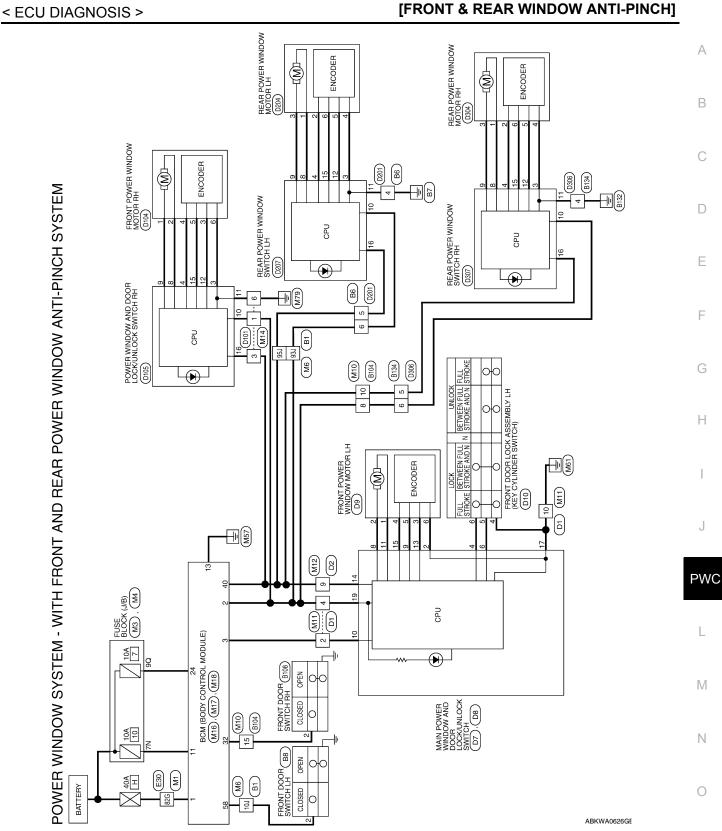
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# REAR POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

 Termi	nal No.	Description			Voltage [V]		
+	-	Signal name	Input/ Output	Condition	(Approx.)		
15 (V)	3	Encoder pulse signal 2	Input	When power window motor op- erates.	(V) 6 2 0 10 ms JMKIA0070GB		
16 (SB)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB		

Wiring Diagram

INFOID:000000005533818



**REAR POWER WINDOW SWITCH** 

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W ANTI-PINCH SYSTEM	No. M4 Name FUSE BLOCK (J/B) Color WHITE	40         30         20         10           100         90         80         70         86         50	lo. Color of Signal Name Wire					
MINDC	Connector No. Connector Name Connector Color	同 H.S.	Terminal No. 90					
POWER WINDOW SYSTEM CONNECTORS - WITH FRONT AND REAR POWER WINDOW ANTI-PINCH SYSTEM	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE		Terminal No.     Color of Wire     Signal Name       7N     Y/R     -	]				
POWER WINDOW SYSTEM CONNE	Connector No. M1 Connector Name WIRE TO WIRE Connector Color WHITE	Image: No. 1         No. 1         Sol 1	346         336         326         316         306         286         316         306         386 <td>580         5/10         560         550         510           620         620         610         600         590         510           725         716         705         886         677         666         646           800         776         776         776         776         666         646</td> <td>836 826 816</td> <td>Terminal No.     Color of Wire     Signal Name       82G     W/B     -</td> <td></td> <td></td>	580         5/10         560         550         510           620         620         610         600         590         510           725         716         705         886         677         666         646           800         776         776         776         776         666         646	836 826 816	Terminal No.     Color of Wire     Signal Name       82G     W/B     -		

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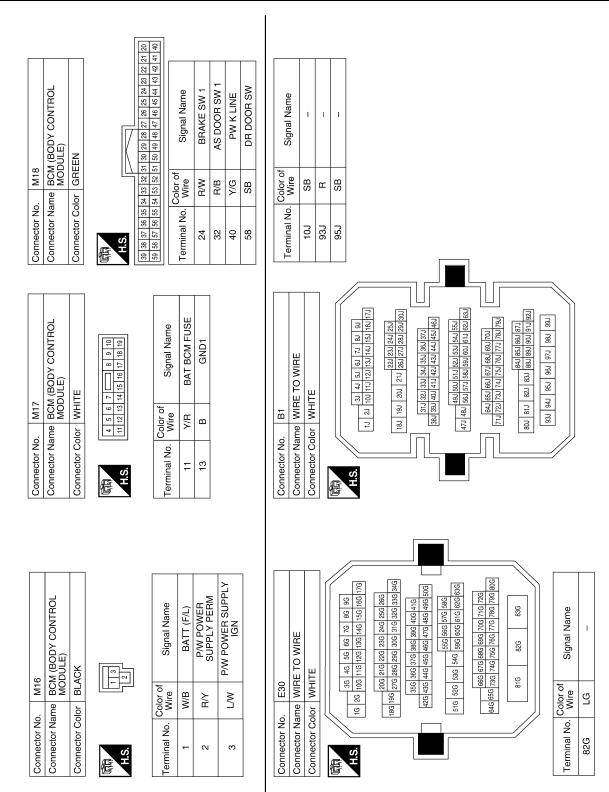
< ECU DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]	_
Connector No.     M10       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Signal Name     To Signal Name       B     R/Y     -       10     Y/G     -       15     R/B     -	Connector No.     M14       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Name     MIA       Connector Name     MIRE TO WIRE       Connector Name     MIRE TO WIRE       Connector Signal Name     Terminal No.       Mire     Signal Name       Terminal No.     V/G       Signal Name       Signal Name       Signal Name	A B C D E
Terminal No.Color of WireSignal Name10JSB-93JR/Y-95JY/G-	Connector No.     M12       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     WIRE TO WIRE       Mile     No.     No.       Mile     Signal Name       P     Signal Name       Mile     Signal Name	G H J
Connector No.         MG           Connector Name         WIRE TO WIRE           Mile         Mile         Mile           Mile         Mile         Mile           Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile         Mile         Mile         Mile           Mile         Mile         Mile	Connector Name WIRE TO WIRE	PWC L M N O

**REAR POWER WINDOW SWITCH** 

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Revision: November 2009

#### REAR POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

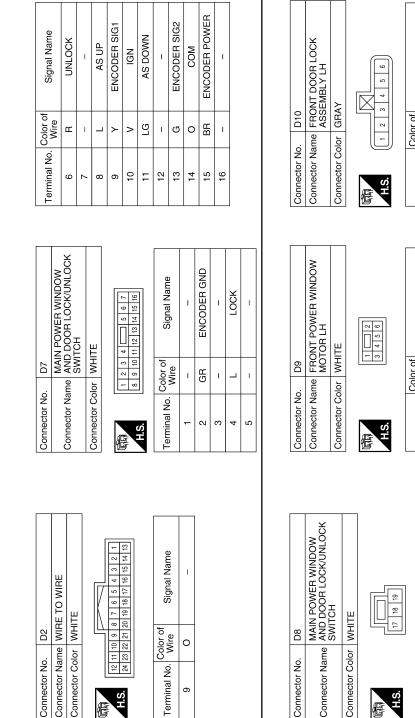


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< ECU DIAGNOSIS >		[FRONT & REAR WINDOW ANTI-PI	NCH]
Connector No. B104 Connector Name WIRE TO WIRE Connector Color WHITE	Signal Na	Connector No.         D1           Connector Name         WIRE TO WIRE           Connector Color         WHITE           Total         10         8           Terminal No.         Color of Nire         Signal Name           2         V         -           4         R         -           10         B         -	A B C D E
			F
B8 FRONT DOOR SWITCH LH WHITE	Signal Name	B134 WIRE TO WIRE WHITE B B B B C C C C C C C C C C C C C C C	G
ctor No. ctor Name ctor Color	Terminal No. Color of Wire 2 SB	Connector No. B134 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WHITE Terminal No. Color of Signal 1 5 SB SB Signal 1	J
			PW
0 WIRE	Signal Name	Connector No.     B108       Connector Name     FRONT DOOR SWITCH RH       Connector Color     WHITE       Connector Color     WHITE       Image: Signal Name     2       2     GR	L
B6 MIRE TO WHITE 1 2 ■ 3 5 6 7 8 9	Mire Color of SB B SI SB	0.     B108       ame     FRONT I       ame     FRONT I       ame     Color of       Wire     a	
nector No.		Connector No. Connector Name Connector Color Terminal No. 2 6	Ν
Conr			0
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## REAR POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

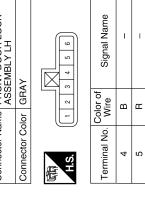
Revision: November 2009



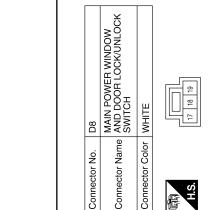
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0 0 0	Signal Name	I	1	I	I	I	1
า	Color of Wire	ГG	L	g	BR	Y	GR
H.S.	Terminal No. Color of Wire	-	2	3	4	2	9



Signal Name	GND	1	BAT	
Color of Wire	В	I	щ	
Terminal No.	17	18	19	

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D105	Connector Name DOOR LOCK/UNLOCK SWITCH RH	/HITE	4         5         6         7           111         12         13         14         15         16	of Signal Name	GND	ENCODER POWER	UP	DOWN	BAT	GND	ENCODER SIG2	ENCODER SIG1	COM
	lame D	Color M	1         2         3           8         9         10	Color Wire	≥	BR	Γ	LG	٩	B	σ	۲	œ
Connector No.	Connector N	Connector Color WHITE	日 H.S.	Terminal No. Color of Wire	e	4	8	6	10	£	12	15	16
4	Connector Name FRONT POWER WINDOW MOTOR RH	U_	3 4 5 6	Signal Name	I	I	I	I	I	I			
D104	me FRO MOT		- 6	Color of Wire	ГG	_	U	BR	≻	N			
Connector No.	Connector Nai		H.S.	Terminal No.	-	2	с	4	5	9			
	TO WIRE		<u>3</u>	Signal Name	1	1	1						
. D101				Color of Wire	٩	ж	в	-					
Connector No.	Connector Name WIRE Connector Color WHITF	Æ	H.S.	Terminal No.	-	m	9						

SND ER POWER UP OWN SMT SND SER SIG2 DER SIG2 SOM Connector No. D204 Connector Name REAR POWER WINDOW MOTOR LH

MOTOR LH	EEN		Signal Name	1	VCC	1	GND	OUTPUT1	OUTPUT2	
О М	lor GRI	- 7	Color of Wire		U	LG	×	٩	>	
	Connector Color GREEN	品. H.S.	Terminal No. Color of Wire	-	2	m	4	5	9	
X WHITE		4         3         2         1           10         9         8         7         6         5	olor of Signal Name	B	SB –					
Connector Color WHITE		品.S.H	Terminal No. Wire	4	5	9				

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# **REAR POWER WINDOW SWITCH**

[FRONT & REAR WINDOW ANTI-PINCH]

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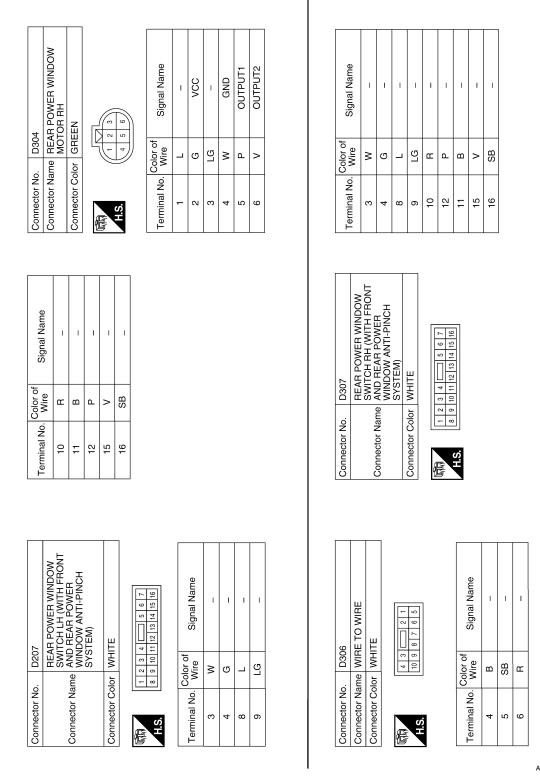
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Connector Name WIRE TO WIRE

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Connector No.

#### REAR POWER WINDOW SWITCH [FRONT & REAR WINDOW ANTI-PINCH]



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INFOID:000000005461548

# 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.

# REAR POWER WINDOW SWITCH

# [FRONT & REAR WINDOW ANTI-PINCH]

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 failsafe 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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Revision: November 2009

# BCM (BODY CONTROL MODULE)

# **Reference Value**

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
	Other than front wiper switch HI	OFF
FR WIPER HI	Front wiper switch HI	ON
	Other than front wiper switch LO	OFF
FR WIPER LOW	Front wiper switch LO	ON
	Front washer switch OFF	OFF
FR WASHER SW	Front washer switch ON	ON
	Other than front wiper switch INT	OFF
FR WIPER INT	Front wiper switch INT	ON
	Front wiper is not in STOP position	OFF
FR WIPER STOP	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
	Other than turn signal switch RH	OFF
TURN SIGNAL R	Turn signal switch RH	ON
	Other than turn signal switch LH	OFF
TURN SIGNAL L	Turn signal switch LH	ON
	Other than lighting switch 1ST and 2ND	OFF
TAIL LAMP SW	Lighting switch 1ST or 2ND	ON
	Other than lighting switch HI	OFF
HI BEAM SW	Lighting switch HI	ON
	Other than lighting switch 2ND	OFF
HEAD LAMP SW 1	Lighting switch 2ND	ON
	Other than lighting switch 2ND	OFF
HEAD LAMP SW 2	Lighting switch 2ND	ON
	Other than lighting switch PASS	OFF
PASSING SW	Lighting switch PASS	ON
	Other than lighting switch AUTO	OFF
AUTO LIGHT SW	Lighting switch AUTO	ON
	Front fog lamp switch OFF	OFF
FR FOG SW	Front fog lamp switch ON	ON
	Driver door closed	OFF
DOOR SW-DR	Driver door opened	ON
	Passenger door closed	OFF
DOOR SW-AS	Passenger door opened	ON
	Rear door RH closed	OFF
DOOR SW-RR	Rear door RH opened	ON
	Rear door LH closed	OFF
DOOR SW-RL	Rear door LH opened	ON
	Other than power door lock switch LOCK	OFF
CDL LOCK SW	Power door lock switch LOCK	ON

Revision: November 2009

INFOID:000000005533819

### < ECU DIAGNOSIS >

### [FRONT & REAR WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
	Other than power door lock switch UNLOCK	OFF
CDL UNLOCK SW	Power door lock switch UNLOCK	ON
	Other than driver door key cylinder LOCK position	OFF
KEY CYL LK-SW	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
AET OTL UN-SW	Driver door key cylinder UNLOCK position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TR CANCEL SW	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
TR/BD OPEN SW	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
	Trunk lid closed	OFF
TRNK/HAT MNTR	Trunk lid opened	ON
	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed	OFF
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON
	When PANIC button of Intelligent Key is not pressed	OFF
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON
	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
	When outside of the vehicle is bright	Close to 5 V
OPTICAL SENSOR	When outside of the vehicle is dark	Close to 0 V
	When front door request switch is not pressed (driver side)	OFF
REQ SW-DR	When front door request switch is pressed (driver side)	ON
	When front door request switch is not pressed (passenger side)	OFF
REQ SW-AS	When front door request switch is pressed (passenger side)	ON
	When rear door request switch is not pressed (driver side)	OFF
REQ SW-RL	When rear door request switch is pressed (driver side)	ON
	When rear door request switch is not pressed (passenger side)	OFF
REQ SW-RR	When rear door request switch is pressed (passenger side)	ON
	When trunk request switch is not pressed	OFF
REQ SW-BD/TR	When trunk request switch is pressed	ON
	When engine switch (push switch) is not pressed	OFF
PUSH SW	When engine switch (push switch) is pressed	ON
GN RLY 2-F/B	Ignition switch OFF or ACC	OFF

Revision: November 2009

### < ECU DIAGNOSIS >

### [FRONT & REAR WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
ACC RLY-F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
BRARE SW 1	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
DETE/CANCE SW	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
SET EIV/IN SVV	When selector lever is in P or N position	ON
0/1 L 0.0/2*	Electronic steering column lock LOCK status	OFF
S/L-LOCK <sup>*</sup>	Electronic steering column lock UNLOCK status	ON
o	Electronic steering column lock UNLOCK status	OFF
S/L-UNLOCK <sup>*</sup>	Electronic steering column lock LOCK status	ON
	Ignition switch OFF or ACC	OFF
S/L RELAY-F/B <sup>*</sup>	Ignition switch ON	ON
	Driver door UNLOCK status	OFF
UNLK SEN-DR	Driver door LOCK status	ON
	When engine switch (push switch) is not pressed	OFF
PUSH SW-IPDM	When engine switch (push switch) is pressed	ON
	Ignition switch OFF or ACC	OFF
GN RLY1 F/B	Ignition switch ON	ON
	When selector lever is in P position	OFF
DETE SW -IPDM	When selector lever is in any position other than P	ON
	When selector lever is in any position other than P or N	OFF
SFT PN -IPDM	When selector lever is in P or N position	ON
	When selector lever is in any position other than P	OFF
SFT P-MET	When selector lever is in P position	ON
	When selector lever is in any position other than N	OFF
SFT N-MET	When selector lever is in N position	ON
	Engine stopped	STOP
	While the engine stalls	STALL
ENGINE STATE	At engine cranking	CRANK
	Engine running	RUN
	Electronic steering column lock LOCK status	OFF
S/L LOCK-IPDM <sup>*</sup>	Electronic steering column lock UNLOCK status	ON
	Electronic steering column lock UNLOCK status	OFF
S/L UNLK-IPDM <sup>*</sup>	Electronic steering column lock LOCK status	ON
	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ <sup>*</sup>	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door LOCK status	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY

< ECU DIAGNOSIS >

### [FRONT & REAR WINDOW ANTI-PINCH]

Monitor Item	Condition	Value/Status
	Passenger door LOCK status	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
	Ignition switch ACC or ON	RESET
D OK FLAG	Ignition switch OFF	SET
	When the engine start is prohibited	RESET
PRMT ENG STRT	When the engine start is permitted	SET
	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
CONFRM ID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
CONFIRM ID4	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the sec- ond key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
<sup>-</sup> P 4	The ID of fourth key is not registered to BCM	YET
F <del>1</del>	The ID of fourth key is registered to BCM	DONE
-D 2	The ID of third key is not registered to BCM	YET
°P 3	The ID of third key is registered to BCM	DONE
	The ID of second key is not registered to BCM	YET
TP 2	The ID of second key is registered to BCM	DONE
	The ID of first key is not registered to BCM	YET
ГР 1	The ID of first key is registered to BCM	DONE
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
	When ID of front LH tire transmitter is registered	DONE
D REGST FL1	When ID of front LH tire transmitter is not registered	YET

### < ECU DIAGNOSIS >

## [FRONT & REAR WINDOW ANTI-PINCH]

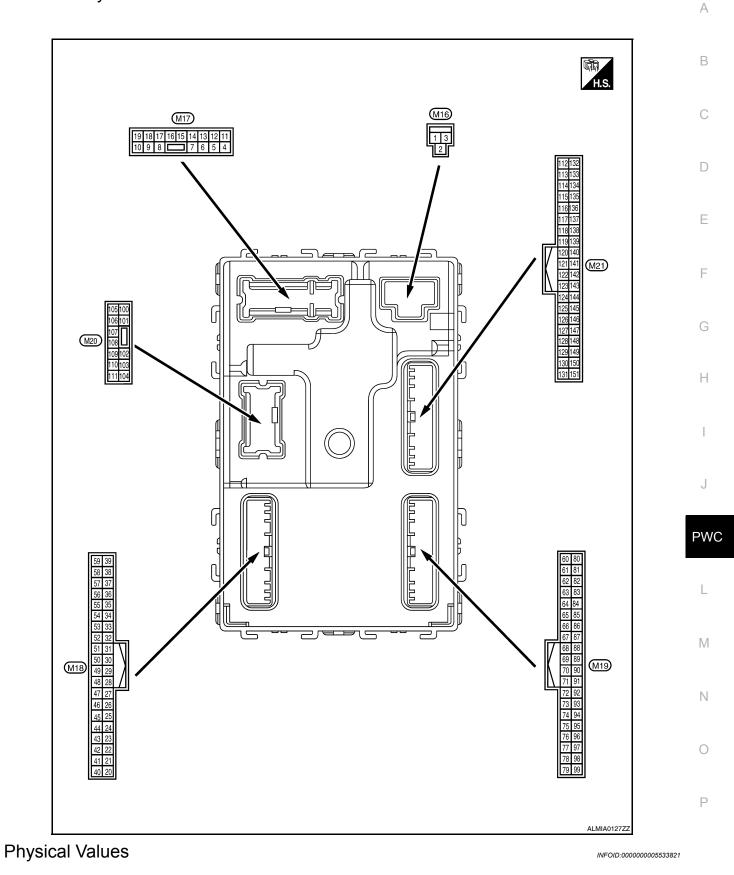
Monitor Item	Condition	Value/Status
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
ID REGOT FRI	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
ID REGOT RET	When ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
ID REGOT RET	When ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
DUZZEN	Tire pressure warning alarm is sounding	ON

\*: With electronic steering column lock

### Terminal Layout

BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

INFOID:000000005533820



	inal No.	Description				Value		
	e color)	Signal name	Input/ Output	Condition		(Approx.)		
(+)	(-)							
(W/B)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage		
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OF	F	Battery voltage		
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage		
4	Ground	Interior room lamp	Output	After passing the ir er operation time	nterior room lamp battery sav-	٥V		
(P/W)	Ground	power supply	Output	Any other time after lamp battery save	er passing the interior room roperation time	Battery voltage		
5	Oraurad	Front door RH UN-	Outrast		UNLOCK (actuator is activated)	Battery voltage		
(G)	Ground	LOCK	Output	Front door RH	Other than UNLOCK (actuator is not activated)	0V		
7	Ground	Step lamp	Output	Step lamp	ON	0V		
(R/W)	Glound	Stephanip	Output	Step lamp	OFF	Battery voltage		
8	Cround	All doors LOCK	Output	All doors	LOCK (actuator is activat- ed)	Battery voltage		
(V)	Ground	All doors LOCK	Output	All doors	Other than LOCK (actuator is not activated)	0V		
9	Oracia	Front door LH UN-			0.1.1		UNLOCK (actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	Front door LH	Other than UNLOCK (actuator is not activated)	0V		
10	Oraurad	Rear door RH and	Outrast	Rear door RH	UNLOCK (actuator is activated)	Battery voltage		
(G)	Ground	rear door LH UN- LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	0V		
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage		
13 (B)	Ground	Ground		Ignition switch ON		0V		
					OFF	0V		
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms		
15	Creation	ACC indianter large	Quitaut	Innition curitals	OFF	Battery voltage		
(Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	ACC or ON	0V		

	inal No.	Description				Value
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
17 (G/B)	Ground	Turn signal (RH)	Output	lgnition switch ON	Turn signal switch OFF	0V (V) 15 10 5 0 15 10 5 0 15 10 5 0 FKID0926E 6.5 V
					Turn signal switch OFF	0V
18 (G/Y)	Ground	Turn signal (LH)	Output	lgnition switch ON	Turn signal switch LH	(V) 15 10 5 0 15 10 10 10 10 10 10 10 10 10 10
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(Y)	Gibunu	control	Output	lamp	ON	0V
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehi- cle is bright When outside of the vehi-	Close to 5V
<b>`</b>					cle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is re- leased)	0V
(O/L)	Ground		mput		ON (brake pedal is de- pressed)	Battery voltage
27 (O)	Ground	Front door lock as- sembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					UNLOCK status	0V
29	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
(Y)				When Intelligent K	ey is not inserted into key slot	0V
30	Ground	ACC feedback signal	Input	Ignition switch	OFF	0
(V/Y)			r · · ·	<b>v</b>	ACC or ON	Battery voltage
31	Ground	Rear window defog-	Input	Rear window de-	OFF	0V
(G)	Ground	ger feedback signal	Input	fogger switch	ON	Battery voltage

	inal No. e color)	Description				Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 10 10 10 11.8 V
					ON (when front door RH opens)	0V
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 10 10 ms JPMIA0012GB 1.1V
					ON	0V
38 (GR/ W)	Ground	Rear window defog- ger ON signal	Input	Rear window de- fogger switch	OFF ON	5V 0V
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		(V) 15 10 10 10 10 10 10 10 10 10 10
				Ignition switch OF	F or ACC	0V
41		Engine switch (push	<b>.</b>	Engine switch	ON	5.5V
(W)	Ground	switch) illumination	Output	(push switch) illu- mination	OFF	0V
42				LOCK indicator	ON	0V
42 (R)	Ground	LOCK indicator lamp	Output	lamp	OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON	I	0V
46	Ground	Receiver & sensor	Output	Ignition switch	OFF	0V
(V/W)	Cround	power supply output	Suput	-gritton switch	ACC or ON	5.0V

Term	inal No.	Description				) (alua	
(Wire	e color)	Signal name	Input/			Value (Approx.)	А
(+)	(-)	olghar hame	Output				
47 <sup>1</sup>		Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 + 0.2s D D D D D D D D D D D D D	B C D
(G/O)	Ground	er signal	Output	ŎN	When receiving the signal from the transmitter	(V) 6 4 2 0 • • 0.2s OCC3860D	E
48		Selector lever trans-			P or N position	12.0V	G
(R/G)	Ground	mission range switch signal	Input	Selector lever	Except P and N positions	0V	
		-			ON	0V	Н
49 (L/O)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 10 5 0 1 1 5 JPMIA0014GB	J
					OFF	11.3V	PWC
					All switch OFF	Battery voltage	
					Lighting switch 1ST		
					Lighting switch high-beam	(V) 15	L
50		Combination switch	<b>.</b>	Combination switch	Lighting switch 2ND		
(LG/ B)	Ground	OUTPUT 5	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	10 5 0 2 ms 10.7V	M
					All switch OFF	0V	
					(Wiper intermittent dial 4) Front wiper switch HI		0
					(Wiper intermittent dial 4)	(V) 15	
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	15 10 5 0 2 ms JPMIA0032GB	Ρ

Termi	inal No.	Description				
	e color)		Input/		Condition	Value (Approx.)
(+)	(-)	Signal name	Output			(Αρριολ.)
					All switch OFF (Wiper intermittent dial 4) Front washer switch ON	0V
					(Wiper intermittent dial 4)	(V) 15
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	10 0 2 ms JPMIA0033GB 10.7V
					All switch OFF	0V
					Front wiper switch INT	
				Combination	Front wiper switch LO	(V) 15
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	io 50 2 ms JPMIA0034GB 10.7V
					All switch OFF	0V
					Front fog lamp switch ON	
				O statistics	Lighting switch 2ND	(V) 15
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit-	Lighting switch flash-to- pass	
				tent dial 4)	Turn signal switch LH	2 ms JPMIA0035GB 10.7V
57 <sup>1</sup> (W)	Ground	Tire pressure warn- ing check switch	Input		_	5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage
(G/R)	Cround	ger relay	Carpar	fogger	Not activated	OV

	inal No.	Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	А
60	Ground	Front console anten-	0.444	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(B/R)	Ground	na 2 (-)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	E
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	G H I
61 (W/R)	Ground	Center console an- tenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment		J PV
62		Front outside handle		When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 0 1 s JMKIA0062GB	M
62 (V)	Ground	RH antenna (-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15	P

	ninal No. e color)	Description			Oradition	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
63	Ground	Front outside handle	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(P)		RH antenna (+)	Gutput	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 1 1 1 1 1 1 1 1 1 1 1 1 1
64	Ground	Front outside handle	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Ground	LH antenna (-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 1 s JMKIA0063GE
65	Ground	Front outside handle	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GE
(P)	Ground	LH antenna (+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GH

Terminal No. (Wire color)		Description				Value	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
70 (R/B)	Ground	Ignition relay-2 con- trol	Output	Ignition switch	OFF or ACC ON	0V Battery voltage	
71		Remote keyless entry	Input/	During waiting		(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(L/O)	Ground	receiver signal	Output	When operating e	ither button on Intelligent Key	(V) 15 10 5 0 1 ms JMKIA0065GB	
	75 R/Y) Ground Combination switch INPUT 5				All switch OFF (Wiper intermittent dial 4)	(V) 15 10 2 ms 2 ms JPMIA0041GB 1.4V	
75 (R/Y)				nput Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3V	
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms JPMIA0040GB 1.3V	

	inal No.	Description	I			Value
(+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMA0041GB 1.4V
76	Council Combination switch		Combination	Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3V	
(R/G)	/G) Ground INPUT 3 Input Switch	SWITCH	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3V		
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 0 2 ms JPMIA0040GB 1.3V
77 <sup>2</sup> (BR)	Ground	Engine switch (push switch)	Input	Engine switch (push switch)	Pressed Not pressed	0V Battery voltage
78 (P)	Ground	CAN-L	Input/ Output			_
79 (L)	Ground	CAN-H	Input/ Output		_	_
					OFF	0V
80 (R/L)	Ground	Key slot illumination Output	Output	Key slot illumina- tion	Blinking	
					ON	6.5V Battery voltage

### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

	inal No.	Description				Value
(+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
81	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
(LG)	Sibulid		Supul	ignition switch	ON	Battery voltage
83	Ground	ACC relay control	Output	Ignition switch	OFF	0V
(L)	Cround		Output	ignition ownon	ACC or ON	Battery voltage
84 (Y/R)	Ground	CVT shift selector	Output		_	Battery voltage
85 <sup>3</sup>	0	Electronic steering	1	Electronic steer-	Lock status	0V
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage
86 <sup>3</sup>	Ground	Electronic steering column lock condition	Input	Electronic steer-	Lock status	Battery voltage
(G/R)	2.20.00	No. 2		ing column lock	Unlock status	0V
87	Ground	Selector lever P posi-	Input	Selector lever	P position	0V
(G/B)	Ground	tion switch	input		Any position other than P	Battery voltage
					ON (pressed)	0V
88 (R)	Ground	Front door RH re- quest switch	Input	Front door RH re- quest switch	OFF (not pressed)	(V) 15 10 10 10 10 10 10 10 JPMIA0016GB 1.0V
					ON (pressed)	0V
89 (R)	Ground	Front door LH re- quest switch	Input	Front door LH re- quest switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0V
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V
(Y)	Cibuid	lay control	Caipat	-gintion ownion	ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OFI	F	Battery voltage
94 <sup>3</sup>	Ground	Steering wheel lock	Outout	Ignition switch	OFF or ACC	Battery voltage
(G/Y)	Ground	unit power supply	Output	Ignition switch	ON	0V

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	inal No. e color)	Description			Condition	Value
(+)	(-)	Signal name	Input/ Output	Condition		(Approx.)
					All switch OFF	(V) 15 0 2 ms 1.4V
					Turn signal switch LH	(V) 15 0 2 ms JPMIA0037GB 1.3V
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch LO	(V) 15 10 2 ms JPMIA0038GB 1.3V
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3V

### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

	inal No.	Description				Value	А
(VVIr (+)	e color) (-)	Signal name	Input/ Output	Condition		(Approx.)	A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	B C D
96		Combination switch		Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms 	E
(P/B)	Ground	INPUT 4	Input	switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 0 2 ms JPMIA0036GB 1.3V	G H I
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 5 0 2_ms	J PW

Μ

Ν

0

Ρ

	inal No. e color)	Description	1		<b>0</b>	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 0 2 ms JPMIA0041GB 1.4V
					Lighting switch flash-to- pass	(V) 15 0 2.ms JPMIA0037GB 1.3V
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V
					Front wiper switch HI	(V) 15 10 2 ms JPMIA0040GB 1.3V
					Pressed	0 V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 10 10 10 1.1V

### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

	inal No. e color)	Description			Condition	Value	А
(+)	(-)	Signal name	Input/ Output	Condition		(Approx.)	/ \
					LOCK status	Battery voltage	В
99 <sup>3</sup> (L/Y)	Ground	Electronic steering column lock unit com- munication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB	C
					For 15 seconds after UN- LOCK	Battery voltage	E
					15 seconds or later after UNLOCK	0V	_
103	Onternal	Taugh lid an anima	Outraut	Truck lid	Open (trunk lid opener ac- tuator is activated)	Battery voltage	F
(V)	Ground	Trunk lid opening.	Output	Trunk lid	Close (trunk lid opener ac- tuator is not activated)	0V	G
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V	
(V/W)	Ground	пипктооптапр	Output	Trunk room lamp	OFF	Battery voltage	F
114		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	J
(B)	Ground	1 (-)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	PV L

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	iinal No. e color)	Description			Condition	Value
(+)	(-)	Signal name	Input/ Output	Condition		(Approx.)
115	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Giodina	1 (+)	Cutput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 5 0 1 s JMKIA0063GB
118	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(L/O)	Glouina	na (-)	Cutput	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
119 (BR/	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1
(BK/ W)	Ground	na (+)	Output	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

	inal No.	Description				Voluo
-	e color)	Signal name	Input/		Condition	Value (Approx.)
(+)	(-)		Output		0.55	
127 (BR/	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage
W)	oround	E/R) control	ouput	ignation official	ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 10 10 10 10 10 11.8V
					ON (trunk is open)	0V
132	Ground	Starter motor relay	Output	Ignition switch	When selector lever is in P or N position and the brake is depressed	Battery voltage
(R)	Ground	control	συιραι	ŌN	When selector lever is in P or N position and the brake is not depressed	0V
140 <sup>4</sup>		Engine switch (push	1	Engine switch	Pressed	0V
(L/R)	Ground	switch)	Input	(push switch)	Not pressed	Battery voltage
					ON (pressed)	0V
141 (BR)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 10 ms JPMIA0016GB 1.0V
144		Request switch buzz-		Request switch	Sounding	0V
(GR)	Ground	er	Output	buzzer	Not sounding	Battery voltage
147		Trunk lid opener		Trunk lid opener	Pressed	0V
(L/R)	Ground	switch	Input	switch	Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V

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### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

	inal No.	Description				Value
·	e color)	Signal name Input/			Condition	(Approx.)
(+)	(-)		Output			
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 50 10 ms JPMIA0011GB 11.8V
					ON (when rear door LH opens)	٥V

1 : With low tire pressure monitoring system

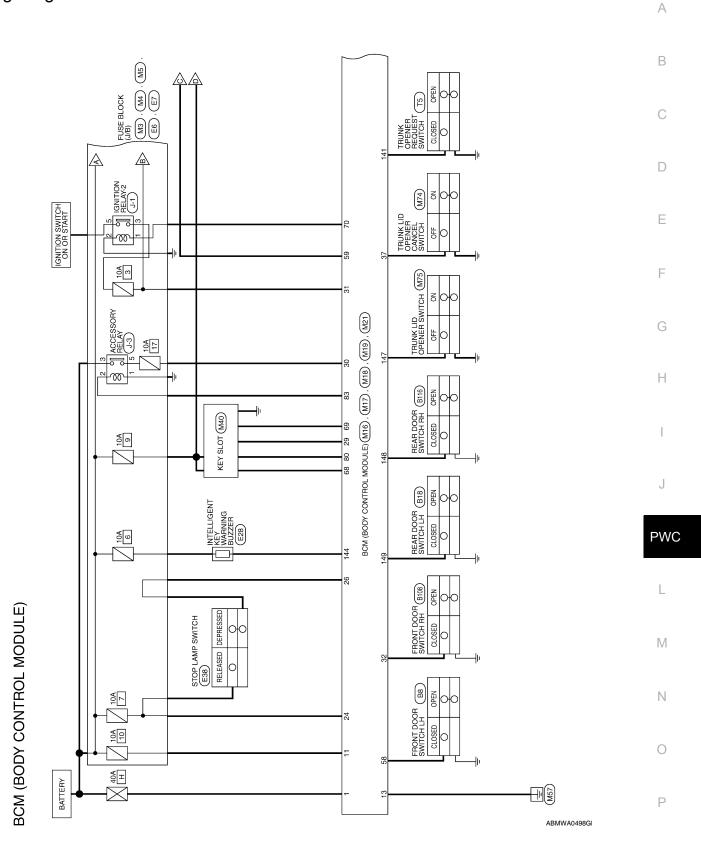
2 : With electronic steering column lock

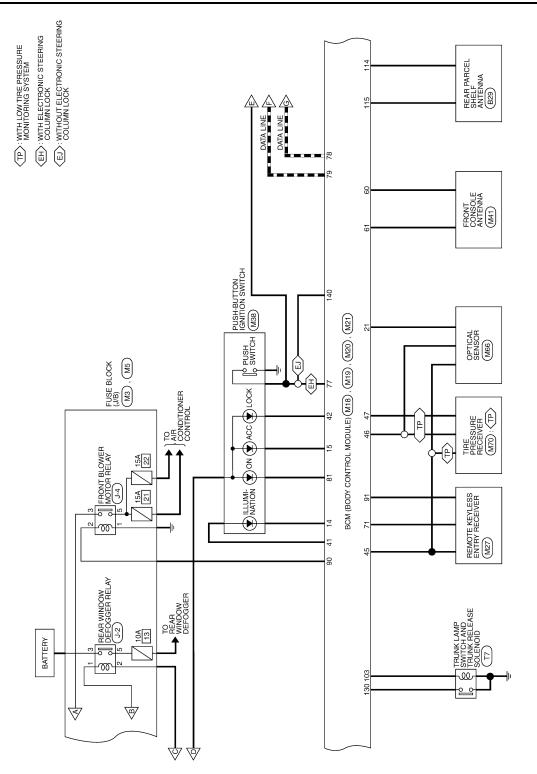
3 : Early production

4 : Without electronic steering column lock

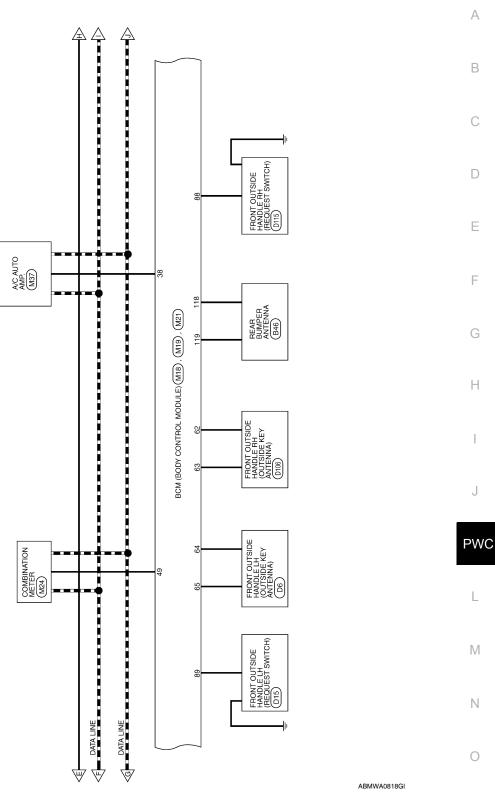
Wiring Diagram

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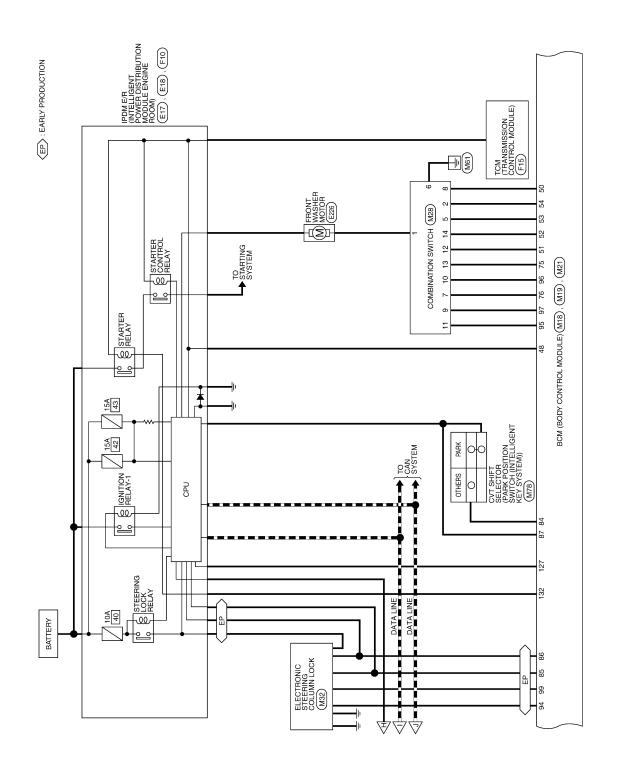




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### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

POOR LOCK ACTUATOR RH D305  $\label{eq:stem} \underbrace{\langle \underline{A3} \rangle}_{\text{S}} : \text{With Left and Right Front Power window anti-pinch system} \\ \underbrace{\langle \underline{A3} \rangle}_{\text{S}} : \text{With Front and Rear Power window anti-pinch system} \\ \underbrace{\langle \underline{DP} \rangle}_{\text{S}} : \text{With Dual Panel Sunroof} \\ \underbrace{\langle \underline{DP} \rangle}_{\text{S}} : \text{Without Dual Panel Sunroof} \\ \end{array}$ А Ð В PEAR DOOR LOCK ACTUATOR LH D205 С (S)- $\subseteq$ Pront Door Lock Actuator D108 D -13)-Ε KEY CYLINDER SWITCH F ACTUATOR M18 ΟЮ FRONT DOOR LOCK ASSEMBLY LH BETWEEN FULL BCM (BODY CONTROL MODULE) (M17), -(Z)-G 4 FULL Н NKF F DOOR UNLOCK SENSOR ю 1 ല MAIN POWER WINDOW AND DOOR LOCKUNLOCK SWITCH D7), D8 J A2 PWC OWER WINDOW AND CH RH β L Ξ A2 Μ 문 ¥3 [₽] Ν

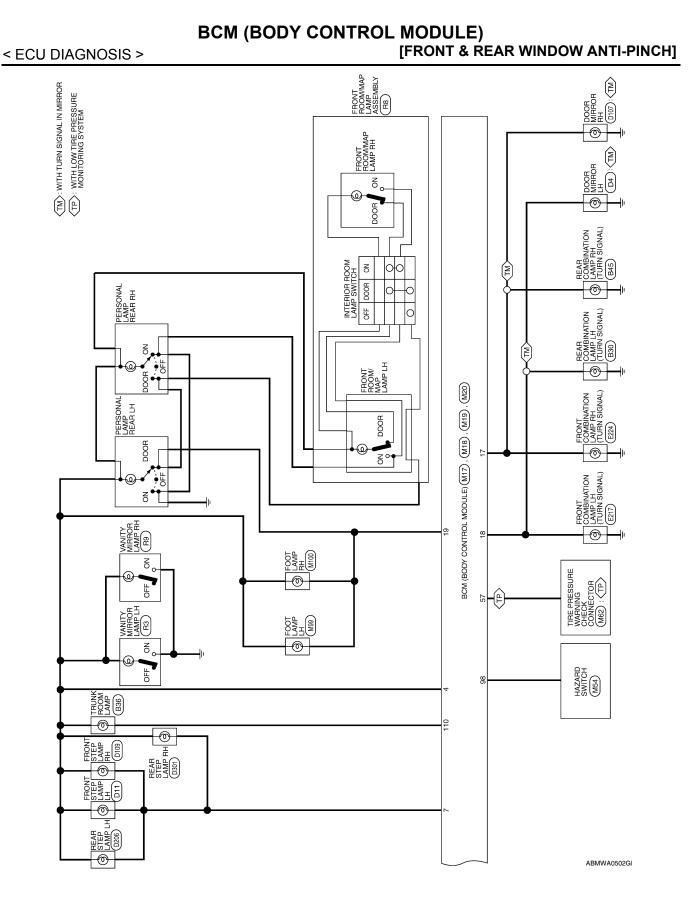
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SUNROOF MOTOR ASSEMBLY RED: DW R101: DP

ABMWA0081GI



# BCM (BODY CONTROL MODULE) CONNECTORS

M16	Connector Name BCM (BODY CONTROL MODULE)	BLACK	13
Connector No.	Connector Name	Connector Color BLACK	

	Signal Name	BATT (F/L)	P/W POWER SUI
	Color of Wire	W/B	R/Y
品.S.H	Terminal No.	-	2

Signal Name	BATT (F/L)	P/W POWER SUPPLY PERM	P/W POWER SUPPLY IGN
Color of Wire	W/B	R/Y	ΓW
Terminal No. Wire	Ļ	2	3

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

	21	4	
	22	42	
	23	43	
	24	46 45 44 43 42 4	
	25	45	
	26	46	
	30 29 28 27 26 25 24 23 22	47	
17	28	50 49 48 47	
	29	49	
IN	30	50	
	31	51	
	32	52	
	33	53	
	8	54	
	35 34 33 32 31	55	
	36	56	
<b>1</b>		57	
S.H	39 38 37	58	
喧 👅	39	59	

	21 20	41 40								
	26 25 24 23 22 21	43 42 41			A/L SIGNAL TYPE 1					
	24	53 52 51 50 49 48 47 46 45 44	Signal Name		Ϋ́Ε			<b>BRAKE SW1</b>		
	25	45	Na					S		Ō
		46	all	I	¥	I		뽀		
1	28 27	47	gn		ģ			<b>₽</b>		
/		48	Ni		S.			m		č
	30 29	49			₹					
	g	50								
	32 31	51	đ							
	33	52	2.9		P/B			R/W		-
	33	53	N	<b>'</b>	Ð		l '	2		Š
	뙁	54	0							
	36 35	55	2							
	36	56	al				_	<b>_</b>		
	37	58 57 56 55 54	Terminal No. Color of Wire	20	2	22	23	24	25	26
	38		ы							
	39	59	Ť							

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BCM (BODY CONTROL	MODULE)
	[FRONT & REAR WINDOW A

### **OW ANTI-PINCH]** Ľ

Color of Wire	თ	Y/R	I	в	GR/W	٦/٨	
Terminal No. Wire	10	11	12	13	14	15	

DOOR UNLOCK OUTPUT (RR/RL) BAT BCM FUSE

Connector Name BCM (BODY CONTROL MODULE)

M17

Connector No.

Connector Color WHITE

Signal Name

LOW SIDE PUSH LED

GND1

T

ACC LED

1

16 17 19

ROOM LAMP CONT

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FR FLASHER FL FLASHER

G/B G∕

R/L POWER SUPPLY DOOR UNLOCK OUTPUT AS

Q

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4

Signal Name

Color of Wire РN

Terminal No.

H.S.

E

I	STEP LAMP CONT	DOOR LOCK OUTPUT ALL	DOOR UNLOCK OUTPUT (DR/FL)	Signal Name	DOOR LOCK STATUS DR	1	FOB IN SW 1	ACC F/B	IGN F/B	AS DOOR SW 1	I	I	-	-	TRUNK CANCEL SW	REAR DEFOGGER SW	-	PW K-LINE
I	R/W	٧	Ч	Color of Wire	0	ı	≻	۲/Y	U	R/B	I	I	Ι	Ι	0	GR/W	Ι	γ/G
9	7	8	6	Terminal No.	27	28	29	30	31	32	33	34	35	36	37	38	39	40

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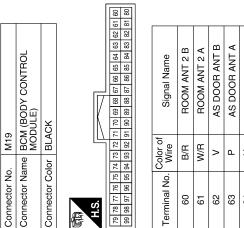
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Signal Name	AT DEVICE OUT	S/L CONDITION 1	S/L CONDITION 2	SHIFT P/ASCD CANCEL SW	AS REQUEST SW	DR REQUEST SW	<b>BLOWER FAN RELAY</b>	RF POWER SUPPLY 12V	1	I	S/L POWER SUPPLY 12V	INPUT 1	INPUT 4	INPUT 2	HAZARD SW	S/L K-LINE
Color of Wire	Y/R	L/0	G/R	G/B	В	щ	≻	L/R	I	-	G/Y	R/W	P/B	R/B	G/O	ΓΛ
Terminal No.	84	58	98	87	88	89	06	91	92	83	94	95	96	97	98	66

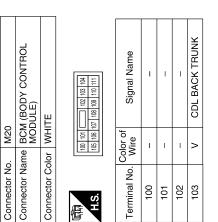
Signal Name	I	FOB READER CLOCK	FOB READER DATA	IGN REL OUTPUT 2	<b>RF1 TUNER SIGNAL</b>	I	I	I	INPUT 5	INPUT 3	ENG START SW	CAN-L	CAN-H	FOB SLOT ILLUMINATION	IGN ON LED	I	ACC CONT	
Color of Wire	I	G/O	0	R/B	Ŋ	Ι	-	I	Rγ	R/G	ВВ	Р	Γ	R/L	ГG	-	_	
Terminal No.	67	68	69	70	71	72	23	74	75	76	17	82	62	80	81	82	83	



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Signal Name	ROOM ANT 2 B	ROOM ANT 2 A	AS DOOR ANT B	AS DOOR ANT A	DR DOOR ANT B	DR DOOR ANT A	I
Color of Wire	B/R	W/R	٨	٩	٨	Ч	I
Terminal No.	60	61	62	63	64	65	66

Signal Name	I	I	I	I	I	I	TRUNK LAMP CONT	I
Color of Wire	I	I	I	I	Ι	I	W/V	-
Terminal No. Wire	104	105	106	107	108	109	110	111



ABMIA1332GB

# **BCM (BODY CONTROL MODULE)**

[FRONT & REAR WINDOW ANTI-PINCH]

Signal Name					ENG START SW W/O	TRUNK REOUEST SW			BUZZER			BACK TRUNK OPENER	RR DOOR SW	RL DOOR SW																
Color of Wire	I	I	I	I	BR	aa		I	GR	I	I	L/R	МN	R/B	I	I														
Terminal No.	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151														
Signal Name	BACK DOOR ANT A	1	I	1	1	1	1			1	TRUNK SW	1	ST RELAY OUTPUT	1	1	1	Signal Name		INPLIT 1	OUTPUT 1	INPUT 5	OUTPUT 2								
Color of Wire	BR/W	1	I	1	I	1	ı		5	1	×	1	œ	1	1	1	Color of			R	R/Y	G/B								
Terminal No.	119	120	121	122	123	124	125	126	128	129	130	131	132	133	134	135	Terminal No.		2 7	12	13	14								
5. M21	Connector Name   BCM (BODY CONTROL   MODULE)	blor GRAY				126 125 124 123 122 121 120 119 118 117 116 115 114 113 112	151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 138 137 138 132 132		Wire Signal Name	1	1	B TRUNK ANT 1 B	W TRUNK ANT 1 A	1	1	L/O BACK DOOR ANT B	5. M28	Connector Name COMBINATION SWITCH	Connector Color WHITE		5	7 8 9 10 11 12 13 14	Color of Signal Name Wire	R/L –	G/Y OUTPUT 4	LG/R OUTPUT 3	В	R/G INPUT 3	LG/B OUTPUT 5	R/B INPUT 2
Connector No.	inector Nai	Connector Color	[	佢	H.S.	130 129 128 127 1:	150 149 148 147 1		Terminal No.	112	113	114	115	116	117	118	Connector No.	onnector Na	onnector Co	電	H.S.		Terminal No.	-	2	5	6	7	8	6

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		ABMIA2102GB
ail Safe		INFOID:00000005533823

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L*	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM*	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

Revision: November 2009

**PWC-247** 

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Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED*	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	<ul><li>500 ms after the following CAN signal communication status has become consistent</li><li>Starter control relay signal</li><li>Starter relay status signal</li></ul>
B2562: LO VOLTAGE	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock<sup>*</sup></li> </ul>	100 ms after the power supply voltage increases to more than 8.8 V
B2601: SHIFT POSITION*	Inhibit electronic steering column lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION*	Inhibit electronic steering column lock	<ul> <li>5 seconds after the following BCM recognition conditions are ful- filled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h or more</li> </ul>
B2603: SHIFT POSI STATUS <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> </ul>
B2604: TRANSMISSION RANGE SWITCH <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after any of the following BCM recognition conditions is fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
B2605: TRANSMISSION RANGE SWITCH <sup>*</sup>	Inhibit electronic steering column lock	<ul> <li>500 ms after any of the following BCM recognition conditions is fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Power position: IGN</li> <li>Selector lever transmission range switch signal: Except P and N positions (0 V)</li> <li>Transmission range switch signal (CAN): OFF</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever transmission range switch signal: P or N position (battery voltage)</li> <li>Transmission range switch signal (CAN): ON</li> </ul>
B2606: S/L RELAY <sup>*</sup>	Inhibit engine cranking	<ul> <li>500 ms after the following CAN signal communication status has become consistent</li> <li>Electronic steering column lock relay signal (Request signal)</li> <li>Electronic steering column lock relay signal (Condition signal)</li> </ul>

become consistent

Fail-safe

Inhibit engine cranking

B2607: S/L RELAY <sup>*</sup>	Inhibit engine cranking	<ul> <li>Electronic steering column lock relay signal (Request signal)</li> <li>Electronic steering column lock relay signal (Condition signal)</li> </ul>	В
B2608: STARTER RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following signal communication status becomes consistent</li> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>	С
B2609: S/L STATUS <sup>*</sup>	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock</li> </ul>	<ul> <li>When the following electronic steering column lock conditions agree</li> <li>BCM electronic steering column lock control status</li> <li>Electronic steering column lock condition No. 1 signal status</li> <li>Electronic steering column lock condition No. 2 signal status</li> </ul>	D
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>	E
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	<ul><li>When any of the following conditions is fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>	F
B2612: S/L STATUS <sup>*</sup>	<ul> <li>Inhibit engine cranking</li> <li>Inhibit electronic steering column lock</li> </ul>	<ul> <li>When any of the following conditions is fulfilled</li> <li>Electronic steering column lock unit status signal (CAN) is received normally</li> <li>The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)</li> </ul>	G
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal	Ι
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal	J
B2619: BCM <sup>*</sup>	Inhibit engine cranking	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal	
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>	PW

\* : With electronic steering column lock

< ECU DIAGNOSIS >

B2607: S/L RELAY\*

Display contents of CONSULT

### DTC Inspection Priority Chart

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

Priority	DTC	N
1	B2562: LO VOLTAGE	
2	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	0
3	<ul> <li>B2190: NATS ANTENNA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> </ul>	Р

**PWC-249** 

INFOID:000000005533824

# [FRONT & REAR WINDOW ANTI-PINCH]

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Cancellation

500 ms after the following CAN signal communication status has

< ECU DIAGN	NOSIS > [FRONT & REAR WINDOW ANTI-PINCH]
Priority	DTC
4	<ul> <li>B2013: ID DISCORD BCM-S/L<sup>*</sup></li> <li>B2014: CHAIN OF S/L-BCM<sup>*</sup></li> <li>B2555: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2555: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: TRANSMISSION RANGE SWITCH</li> <li>B2605: TRANSMISSION RANGE SWITCH</li> <li>B2606: S/L RELAY<sup>*</sup></li> <li>B2607: S/L RELAY<sup>*</sup></li> <li>B2608: STARTER RELAY</li> <li>B2609: S/L STATUS<sup>*</sup></li> <li>B2609: S/L STATUS<sup>*</sup></li> <li>B2609: S/L STATUS<sup>*</sup></li> <li>B2609: STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26001: STEERING LOCK UNIT<sup>*</sup></li> <li>B26011: SIL STATUS<sup>*</sup></li> <li>B26012: S/L STATUS<sup>*</sup></li> <li>B26013: STARTER RELAY</li> <li>B26014: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B26161: SICN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM<sup>*</sup></li> <li>B2619: BCM<sup>*</sup></li> <li>B2619: BCM<sup>*</sup></li> <li>B2614: PUSH-BTIN IGN SW</li> <li>B2615: PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH</li></ul>
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RR</li> <li>C1711: [CHECKSUM ERR] FL</li> <li>C1711: [CHECKSUM ERR] FR</li> <li>C1713: [CHECKSUM ERR] RR</li> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RR</li> <li>C1716: [PRESSDATA ERR] RR</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1717: [PRESSDATA ERR] RR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1712: [CODE ERR] FR</li> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] FR</li> <li>C1723: [CODE ERR] RR</li> <li>C1724: [BATT VOLT LOW] FL</li> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1724: [CATT VOLT LOW] RR</li> <li>C1724: [CATT VOLT LOW] RR</li> <li>C1724: [CATT VOLT LOW] RL</li> <li>C1724: [CATT VOLT LOW] RL</li> </ul>
6	B2622: INSIDE ANTENNA     B2623: INSIDE ANTENNA

\* : With electronic steering column lock

### DTC Index

INFOID:000000005533825

[FRONT & REAR WINDOW ANTI-PINCH]

### NOTE:

Details of time display

• CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF  $\rightarrow$  ON again.

**BCM (BODY CONTROL MODULE)** 

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	-	_	_
U1000: CAN COMM CIRCUIT	—	—	_	BCS-36
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-37
U0415: VEHICLE SPEED SIG	—	_	_	<u>BCS-38</u>
B2013: ID DISCORD BCM-S/L*	×	_	_	<u>SEC-39</u>
B2014: CHAIN OF S/L-BCM*	×	—	_	<u>SEC-40</u>
B2190: NATS ANTENNA AMP	×	_	_	<u>SEC-43</u>
B2191: DIFFERENCE OF KEY	×	—	—	<u>SEC-46</u>
B2192: ID DISCORD BCM-ECM	×	—	_	<u>SEC-47</u>
B2193: CHAIN OF BCM-ECM	×	—	_	<u>SEC-48</u>
B2553: IGNITION RELAY			_	PCS-55
B2555: STOP LAMP				<u>SEC-49</u>
B2556: PUSH-BTN IGN SW		×		<u>SEC-52</u>
B2557: VEHICLE SPEED	×	×		<u>SEC-54</u>
B2560: STARTER CONT RELAY	×	×	_	<u>SEC-55</u>
B2562: LOW VOLTAGE	_	—	_	<u>BCS-39</u>
B2601: SHIFT POSITION	×	×	_	<u>SEC-56</u>
B2602: SHIFT POSITION	×	×	_	<u>SEC-59</u>
B2603: SHIFT POSI STATUS	×	×		<u>SEC-62</u>
B2604: TRANSMISSION RANGE SWITCH	×	×	_	<u>SEC-65</u>
B2605: TRANSMISSION RANGE SWITCH	×	×	_	<u>SEC-67</u>
B2606: S/L RELAY <sup>*</sup>	×	×	_	<u>SEC-69</u>
B2607: S/L RELAY <sup>*</sup>	×	×		<u>SEC-70</u>
B2608: STARTER RELAY	×	×	_	<u>SEC-72</u>
B2609: S/L STATUS <sup>*</sup>	×	×	_	<u>SEC-74</u>
B260A: IGNITION RELAY	×	×	_	PCS-57
B260B: STEERING LOCK UNIT*	—	×	_	<u>SEC-78</u>
B260C: STEERING LOCK UNIT*	_	×	_	<u>SEC-79</u>
B260D: STEERING LOCK UNIT*	_	×	_	<u>SEC-80</u>
B260F: ENG STATE SIG LOST	×	×	_	<u>SEC-81</u>
B2612: S/L STATUS <sup>*</sup>	×	×	_	<u>SEC-83</u>
B2614: ACC RELAY CIRC		×		PCS-59

С

### BCM (BODY CONTROL MODULE) [FRONT & REAR WINDOW ANTI-PINCH]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2615: BLOWER RELAY CIRC	_	×	_	PCS-62
B2616: IGN RELAY CIRC	_	×	_	PCS-65
B2617: STARTER RELAY CIRC	×	×	_	PCS-65
B2618: BCM	×	×		PCS-68
B2619: BCM <sup>*</sup>	×	×	_	<u>SEC-89</u>
B261A: PUSH-BTN IGN SW	_	×	_	<u>SEC-90</u>
B2622: INSIDE ANTENNA	_	_	_	DLK-60
B2623: INSIDE ANTENNA	_	_	_	DLK-63
B26E1: ENG STATE NO RES	×	×	_	<u>SEC-82</u>
C1704: LOW PRESSURE FL	_	_	×	<u>WT-48</u>
C1705: LOW PRESSURE FR	_	_	×	<u>WT-48</u>
C1706: LOW PRESSURE RR	_	_	×	<u>WT-48</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-48</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-14</u>
C1711: [NO DATA] RL		_	×	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	×	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-18</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	_	_	×	<u>WT-18</u>
C1720: [CODE ERR] FL	_	_	×	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-16</u>
C1722: [CODE ERR] RR	_	_	×	<u>WT-16</u>
C1723: [CODE ERR] RL	_	_	×	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	—	_	×	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	—	_	×	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	—	_	×	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	—	_	×	<u>WT-20</u>
C1734: CONTROL UNIT	_	_	×	<u>WT-21</u>

\* : With electronic steering column lock

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

< SYMPTOM DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]
SYMPTOM DIAGNOSIS	A
NONE OF THE POWER WINDOWS CAN SWITCH	
Diagnosis Procedure	INFOID:00000005461556
1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT	С
Check BCM power supply and ground circuit. Refer to <u>BCS-40</u> . <u>Is the inspection result normal?</u> YES >> GO TO 2 NO >> Repair or replace the malfunctioning parts.	<u>, "Diagnosis Procedure"</u> . D
2. CHECK MAIN POWER WINDOW AND DOOR LOCK	/UNLOCK SWITCH POWER SUPPLY AND $_{ ext{E}}$
Check main power window and door lock/unlock switch power"POWER WINDOW MAIN SWITCH : Diagnosis Procedure".Is the inspection result normal?YESYES>> Check intermittent incident. Refer to GI-39. "IntermNO>> Repair or replace the malfunctioning parts.	F
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## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]

## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

**Diagnosis** Procedure

INFOID:000000005461557

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH. Refer to <u>PWC-149</u>, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

## FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

[FRONT & REAR WINDOW ANTI-PINCH]

## FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-ATE

Diagnosis Procedure	61558	B
1. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT		D
Check front power window motor RH circuit. Refer to <u>PWC-151</u> , "PASSENGER SIDE : Component Functi <u>Check"</u> .	ion	С
<u>Is the inspection result normal?</u> YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .		D

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#### REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]

## REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

**Diagnosis** Procedure

INFOID:000000005461559

1. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH. Refer to PWC-31, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

	-	Δ
Diagnosis Procedure	NFOID:000000005461560	
1. CHECK REAR POWER WINDOW MOTOR RH		В
Check rear power window motor RH. Refer to PWC-32, "REAR RH : Component Function Check	<u>&lt;"</u> .	
Is the inspection result normal?		
YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> .		С
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## ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)

#### < SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

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

**Diagnosis** Procedure

INFOID:000000005461561

#### **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER CIRCUIT

Check encoder circuit. Refer to PWC-157, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

NO >> Repair or replace malfunctioning parts.

#### ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE) SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]

# <u>SYMPTOM DIAGNOSIS</u> [FRONT & REAR WINDOW ANTI-PINCH] ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)

Diagnosis Procedure	INFOID:000000005461562	В
1. PERFORM INITIALIZATION PROCEDURE		D
Perform initialization procedure. Refer to <u>PWC-9, "ADDITIONAL SERVICE WHEN REPLACIN</u> UNIT : Special Repair Requirement".	IG CONTROL	С
Is the inspection result normal? YES >> Inspection End. NO >> GO TO 2		D
2. CHECK ENCODER CIRCUIT		_
Check encoder circuit. Refer to <u>PWC-160</u> , " <u>PASSENGER SIDE</u> : <u>Component Function Check</u> ". <u>Is the inspection result normal?</u>		E
<ul> <li>YES &gt;&gt; Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.</li> <li>NO &gt;&gt; Repair or replace the malfunctioning parts.</li> </ul>		F
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### ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (REAR LH SIDE)

< SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

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

Diagnosis Procedure

INFOID:000000005461563

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER CIRCUIT

Check encoder circuit. Refer to PWC-163, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning parts.

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

< SYMPTOM DIAGNOSIS >	[FRONT & REAR WINDOW ANTI-PINCH]
ANTI-PINCH SYSTEM DOES NOT OPERA	TE NORMALLY (REAR RH SIDE)
Diagnosis Procedure	INFOID:00000005461564
1. PERFORM INITIALIZATION PROCEDURE	В
Perform initialization procedure. Refer to <u>PWC-134, "ADDITIO</u> UNIT : Special Repair Requirement".	NAL SERVICE WHEN REPLACING CONTROL
Is the inspection result normal?	C
YES >> Inspection End. NO >> GO TO 2	
2. CHECK ENCODER CIRCUIT	D
Check encoder circuit. Refer to PWC-166, "REAR RH : Comp	onent Function Check".
Is the inspection result normal?	E
YES >> Check intermittent incident. Refer to GI-39, "Interr	nittent Incident".
NO >> Repair or replace the malfunctioning parts.	
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#### AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (DRIVER SIDE)

< SYMPTOM DIAGNOSIS	>
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[FRONT & REAR WINDOW ANTI-PINCH]

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

**Diagnosis** Procedure

INFOID:000000005461565

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-9</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER

Check encoder. Refer to <u>PWC-157</u>, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL- LY (PASSENGER SIDE)	
< SYMPTOM DIAGNOSIS > [FRONT & REAR WINDOW ANTI-PINCH]	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMALLY (PASSENGER SIDE)	А
Diagnosis Procedure	D
1. PERFORM INITIALIZATION PROCEDURE	В
Perform initialization procedure. Refer to <u>PWC-9</u> , "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".	С
Is the inspection result normal? YES >> Inspection End. NO >> GO TO 2 2 CHECK ENCODED	D
2. CHECK ENCODER Check encoder. Refer to <u>PWC-160</u> , " <u>PASSENGER SIDE</u> : <u>Component Function Check</u> ". Is the inspection result normal?	Е
YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u> . NO >> Repair or replace the malfunctioning parts.	F
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#### AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (REAR LH SIDE)

< SYMPTOM DIAGNOSIS	>
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[FRONT & REAR WINDOW ANTI-PINCH]

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

**Diagnosis** Procedure

INFOID:000000005461567

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-134, "ADDITIONAL SERVICE WHEN REPLACING CONTROL</u> <u>UNIT : Special Repair Requirement"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2

2. CHECK ENCODER

Check encoder. Refer to <u>PWC-163, "REAR LH : Component Function Check"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning parts.

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL- LY (REAR RH SIDE)	
< SYMPTOM DIAGNOSIS > [FRON	T & REAR WINDOW ANTI-PINCH]
AUTO OPERATION DOES NOT OPERATE BU	JT MANUAL OPERATES
NORMALLY (REAR RH SIDE)	A
Diagnosis Procedure	INFOID:00000005461568
1. PERFORM INITIALIZATION PROCEDURE	
Perform initialization procedure. Refer to <u>PWC-134</u> , "ADDITIONAL SER" <u>UNIT : Special Repair Requirement"</u> .	VICE WHEN REPLACING CONTROL
<u>Is the inspection result normal?</u> YES >> Inspection End. NO >> GO TO 2	D
2. CHECK ENCODER	
Check encoder. Refer to PWC-166, "REAR RH : Component Function C	Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39. "Intermittent Incident".

NO >> Repair or replace the malfunctioning parts.

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#### POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

## POWER WINDOW RETAINED POWER OPERATION DOES NOT OPER-ATE PROPERLY

**Diagnosis** Procedure

INFOID:000000005461569

1. CHECK FRONT DOOR SWITCH

Check front door switch. Refer to PWC-41, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning parts.

### DOES NOT OPERATE BY KEY CYLINDER SWITCH

#### [FRONT & REAR WINDOW ANTI-PINCH] < SYMPTOM DIAGNOSIS > DOES NOT OPERATE BY KEY CYLINDER SWITCH А **Diagnosis** Procedure INFOID:000000005461570 1. CHECK FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) В Check front door lock assembly LH (key cylinder switch). Refer to PWC-172, "Diagnosis Procedure". Is the inspection result normal? С >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". YES NO >> Repair or replace malfunctioning parts. D

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## KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[FRONT & REAR WINDOW ANTI-PINCH]

### KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

**Diagnosis** Procedure

INFOID:000000005461571

1. CHECK INTELLIGENT KEY FUNCTION

Check Intelligent Key function. Refer to <u>DLK-115</u>, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-39, "Intermittent Incident"</u>.

NO >> Replace BCM. Refer to <u>BCS-87</u>, "Removal and Installation".

### POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

#### < SYMPTOM DIAGNOSIS >

## IS > [FRONT & REAR WINDOW ANTI-PINCH]

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION А **Diagnosis** Procedure INFOID:000000005461572 1. CHECK POWER WINDOW LOCK SWITCH В Check power window lock switch. Refer to PWC-51, "Component Function Check". Is the inspection result normal? С YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident". NO >> Repair or replace malfunctioning parts. D Ε F Н J PWC L Μ Ν Ο Ρ

## PRECAUTION PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TENSIONER" INFOID:000000005461573

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 Man-

#### ual. WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### WARNING:

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

Precautions Necessary for Steering Wheel Rotation after Battery Disconnect (Early Production, With Electronic Steering Column Lock) INFOID:000000005885935

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.
- This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

- 1. Connect both battery cables. NOTE: Supply power using jumper cables if battery is discharged.
- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

#### PRECAUTIONS

< PRECAUTION >

#### [FRONT & REAR WINDOW ANTI-PINCH]

- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering A wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

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## ON-VEHICLE MAINTENANCE PRE-INSPECTION FOR DIAGNOSTIC

**Basic Inspection** 

**BASIC INSPECTION** 

**1**.INSPECTION START

1. Check the service history.

2. Check the following parts.

• Fuse/circuit breaker blown.

• Poor connection, open or short circuit of harness connector.

• Battery voltage.

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace the malfunctioning parts.

INFOID:000000005461575

#### POWER WINDOW MAIN SWITCH [FRONT & REAR WINDOW ANTI-PINCH]

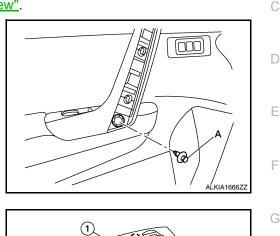
## ON-VEHICLE REPAIR

POWER WINDOW MAIN SWITCH

Removal and Installation

#### REMOVAL

- 1. Remove the front door grip cover. Refer to INT-18. "Exploded View".
- 2. Remove the power window main switch locking clip (A).



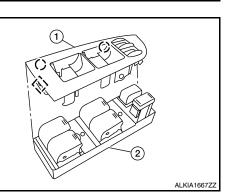
- Using a suitable tool, release the metal clip and lift the power window main switch and finisher as an assembly upward to remove it from the front door finisher.
  - : Metal clip
  - (): Pawl
- 4. Disconnect the harness connector.
- 5. Release the pawls on each side, then separate the switch finisher (1) from the power window main switch (2) and remove. CAUTION:

Do not fold the pawl of power window main switch finisher.

#### INSTALLATION

Installation is in the reverse order of removal. **NOTE:** 

After every switch harness disconnection, it is necessary to perform the initialization procedure. Refer to <u>PWC-</u> 134, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".





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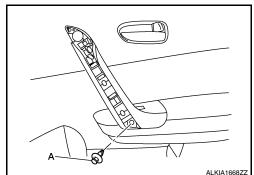
INFOID:000000005461576

## FRONT POWER WINDOW SWITCH

Removal and Installation

#### REMOVAL

- 1. Using a suitable tool, remove the front door grip cover. Refer to <u>INT-18</u>, "Exploded View".
- 2. Remove the front power window switch locking clip (A).



 Using a suitable tool, release the metal clip and lift the front power window switch and finisher as an assembly upward to remove it from the front door finisher.

[]: Metal clip

(): Pawl

#### **CAUTION:**

Wrap a cloth around suitable tools to protect components from damage.

- 4. Disconnect the harness connector.
- 5. Release the pawls on each side, then separate the switch finisher (1) from the front power window switch (2) and remove. CAUTION:

#### Do not fold the pawl of front power window switch finisher.

#### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

After every switch harness disconnection, it is necessary to perform the Initilization procedure Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

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## REAR POWER WINDOW SWITCH

#### Removal and Installation

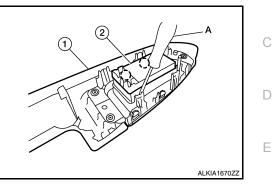
#### REMOVAL

- 1. Remove the rear door arm rest finisher (1), then disconnect the harness connector. Refer to <u>INT-21, "Exploded View"</u>.
- 2. Release the pawls on each side with suitable tool (A), then separate the rear power window switch (2) from the finisher (1) and remove.

#### (\_): Pawl

#### **CAUTION:**

Wrap a cloth around suitable tools to protect components from damage.



#### INSTALLATION

Installation is in the reverse order of removal. **NOTE:** 

After every switch harness disconnection, it is necessary to perform the initialization procedure. Refer to <u>PWC-134</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

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**REAR POWER WINDOW SWITCH** 

#### E REPAIR >