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### **PRECAUTIONS**

### < PRECAUTION >

# **PRECAUTION**

### **PRECAUTIONS**

Precaution for Technicians Using Medical Electric

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### OPERATION PROHIBITION

#### WARNING:

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

### NORMAL CHARGE PRECAUTION

#### **WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by on board charger at normal charge operation may effect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not enter the vehicle compartment (including luggage room) during normal charge operation.

### PRECAUTION AT TELEMATICS SYSTEM OPERATION

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

#### WARNING:

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

### Point to Be Checked Before Starting Maintenance Work

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work. NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" INFOID:0000000006923038

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

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### **PRECAUTIONS**

### < PRECAUTION >

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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the power switch ON, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the power switch OFF, disconnect the 12V battery, and wait at least 3 minutes before performing any service.

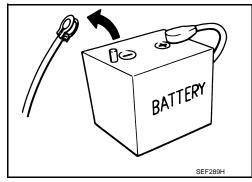
### Precautions for Removing Battery Terminal

 When removing the 12V battery terminal, turn OFF the power switch and wait at least 5 minutes.

#### NOTE:

ECU may be active for several minutes after the power switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- Always disconnect the battery terminal within 60 minutes after turning OFF the power switch. Even when the power switch is OFF, the 12V battery automatic charge control may automatically start after a lapse of 60 minutes from power switch OFF.
- Disconnect 12V battery terminal according to the following steps.



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### **WORK PROCEDURE**

Check that EVSE is not connected.

#### NOTE

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

- 2. Turn the power switch OFF  $\rightarrow$  ON  $\rightarrow$  OFF. Get out of the vehicle. Close all doors (including back door).
- 3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

- 4. Remove 12V battery terminal within 60 minutes after turning the power switch OFF  $\rightarrow$  ON  $\rightarrow$  OFF. CAUTION:
  - After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.
  - After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.

NOTE:

Once the power switch is turned ON  $\rightarrow$  OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

### **PRECAUTIONS**

### < PRECAUTION >

• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the power switch.

### NOTE:

If the power switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

• After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

#### NOTE

The removal of 12V battery may cause a DTC detection error.

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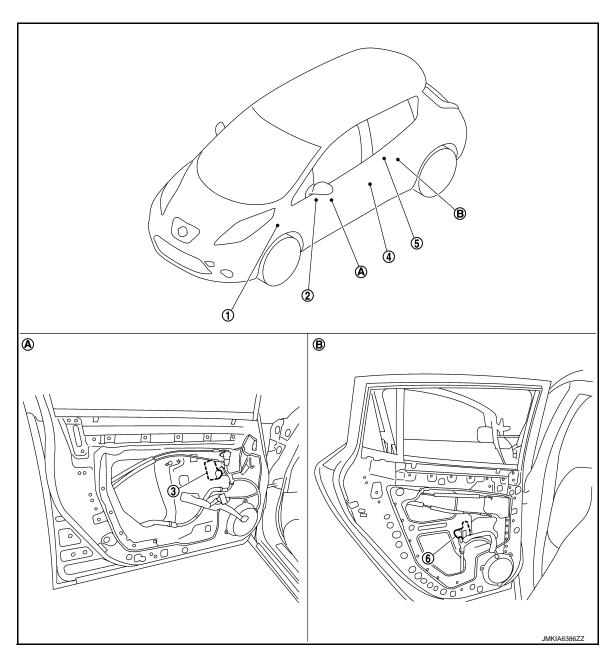
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# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

# Component Parts Location

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A. View with front door finisher removed B. View with rear door finisher removed

No.	Component parts	Function	
1.	BCM	Supplies power supply to power window switch     Controls retained power     Refer to BCS-6, "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location	
2.	Power window main switch	Refer to PWC-7, "Power Window Main Switch"	
3.	Front power window motor (driver side)	Refer to PWC-7, "Power Window Motor"	

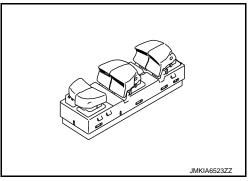
### **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

No.	Component parts	Function		
4.	Front door switch (driver side)	Inputs door open/close condition to BCM     Refer to <u>DLK-13</u> , " <u>Component Parts Location</u> " for detailed installation location		
5.	Rear power window switch LH	Refer to PWC-7, "Power Window Switch"		
6.	Rear power window motor LH	Refer to PWC-7, "Power Window Motor"		

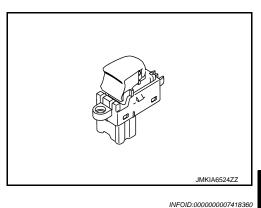
### Power Window Main Switch

- Power window main switch controls all power windows.
- Power window main switch integrates UP/DOWN switch, power window lock switch, and door lock/unlock switch.
- Power window main switch controls power window lock function. AUTO UP/DOWN function, and anti-pinch function.



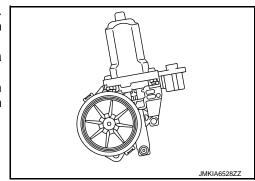
### **Power Window Switch**

- Each power window switch transmits UP/DOWN signal to each motor.
- Each power window switch transmits UP/DOWN signal from power window main switch to each motor.



### **Power Window Motor**

- Integrates the encoder and power window motor (front driver side).
- Starts operation according to signals from power window main switch (front driver side).
- Transmits front power window motor (driver side) rotation as a pulse signal to power window main switch.
- Excepting power window motor for driver door, starts operation according to signals from power window main switch or each power window switches.



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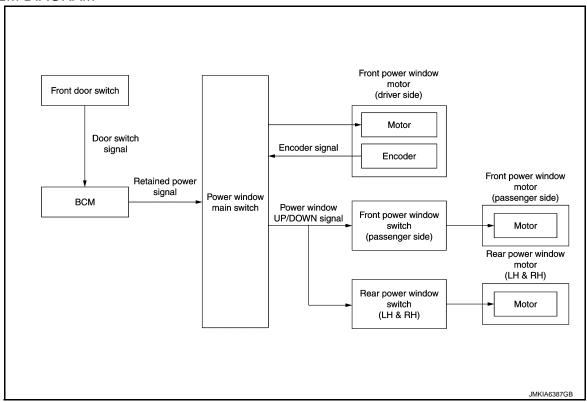
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### SYSTEM

### System Description

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### SYSTEM DIAGRAM



#### POWER WINDOW OPERATION

- Power window main switch can open/close all windows.
- Front & rear power window switch can open/close the corresponding windows.

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

- AUTO UP/DOWN operation can be performed when power window main switch 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 for 45 seconds even when power switch is turned OFF.

### RETAINED POWER CANCEL CONDITIONS

- Front door CLOSE (door switch OFF) → OPEN (door switch ON).
- When power switch is ON again.
- 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 main switch.

### ANTI-PINCH SYSTEM (FRONT DRIVER SIDE)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150 mm (5.9 in) when detected.
- Encoder continues detecting the movement of front power window motor (driver side) and transmits to power window main switch as the encoder pulse signal while front power window motor (driver side) is operating.

### **SYSTEM**

### < SYSTEM DESCRIPTION >

- Resistance is applied to the front power window motor (driver side) rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window main switch controls to lower the window glass for 150 mm (5.9 in) after it detects encoder pulse signal frequency change.

### **OPERATION CONDITION**

• When front door glass (driver side) 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.

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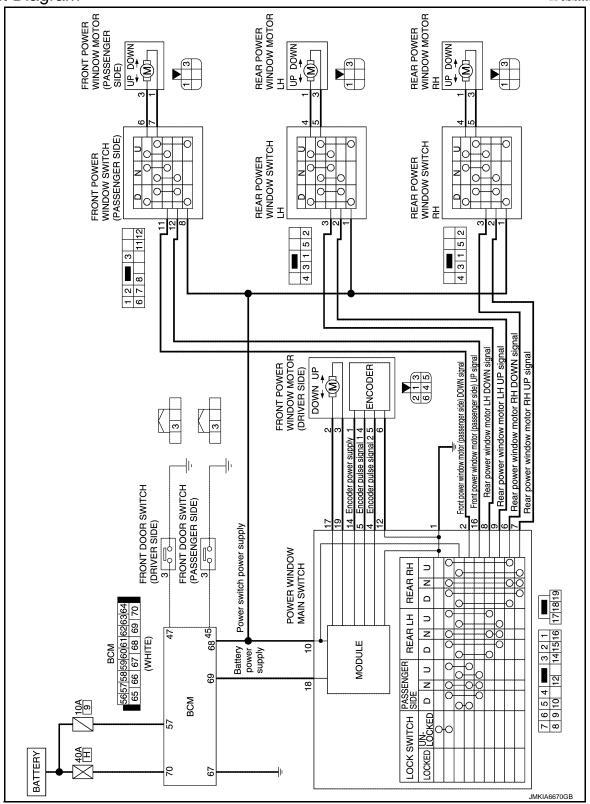
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Fail Safe

### **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.

### **SYSTEM**

### < SYSTEM DESCRIPTION >

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.

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

- Auto-up operation
- Anti-pinch function

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 main switch or front power window motor (driver side).

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### **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

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### APPLICATION ITEM

CONSULT 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 Monitor	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>Read and save the vehicle specification.</li> <li>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.

x: Applicable item

Curata	Cub system calcution item	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	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
_	AIR CONDITONER*		×	×
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	всм	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	warning alarm THEFT ALM		×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

<sup>\*:</sup> This item is displayed, but not used.

### FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description A			
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected			
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected			
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (LOCK)]	В	
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (OFF)]	С	
	LOCK>ACC		While turning power supply position from OFF (LOCK) to ACC		
	ACC>ON		While turning power supply position from ACC to ON	D	
	RUN>ACC		While turning power supply position from READY (RUN) to ACC (Except emergency stop operation)		
	CRANK>RUN		While turning power supply position from READY (CRANK) to READY (RUN)	Е	
	RUN>URGENT	Power supply position status of the moment a particular DTC is detected*	While turning power supply position from READY (RUN) to ACC (Emergency stop operation)	— F — G	
	ACC>OFF		While turning power supply position from ACC to OFF (OFF)		
Vehicle Condition	OFF>LOCK		While turning power supply position from OFF (OFF) to OFF (LOCK)		
	OFF>ACC		While turning power supply position from OFF (OFF) to ACC		
	ON>CRANK		While turning power supply position from ON to READY (CRANK)		
	OFF>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (OFF)] to low power consumption mode	Н	
	LOCK>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (LOCK)] to low power consumption mode	I	
	LOCK		Power supply position is OFF (LOCK)		
	OFF		Power supply position is OFF (OFF)		
	ACC		Power supply position is ACC	J	
	ON		Power supply position is ON		
	ENGINE RUN		Power supply position is READY (RUN)	PW	
	CRANKING		Power supply position is READY (CRANK)		
IGN Counter	0 - 39	<ul> <li>The number of times that power switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever power switch OFF → ON.</li> <li>The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.</li> </ul>			

### NOTE:

\*: Refer to the following for details of the power supply position.

- OFF (OFF, LOCK): Power switch OFF
- ACC: Power switch ACC
- ON: Power switch ON
- · READY (CRANK): Shifting to vehicle condition READY (Transmitting the READY signal from BCM to VCM)
- READY (RUN): Vehicle condition READY

Power supply position shifts to "OFF (LOCK)" from "OFF (OFF)", when power switch is in the OFF position, shift position is in the P position, and any of the following conditions are met.

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- · Closing door
- · Opening door
- · Door is locked using door request switch
- · Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the power switch (push switch) is pushed at "OFF (LOCK)".

### **RETAIND PWR**

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

# RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)

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### **DATA MONITOR**

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

# **ECU DIAGNOSIS INFORMATION**

# **BCM**

# List of ECU Reference

ECU	Reference
	BCS-33, "Reference Value"
BCM	BCS-53, "Fail-safe"
DCIVI	BCS-54, "DTC Inspection Priority Chart"
	BCS-55, "DTC Index"

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### PWC

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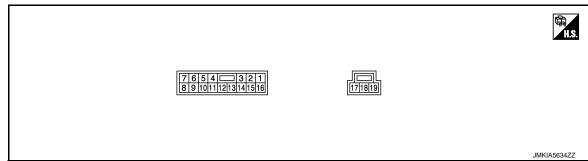
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### **POWER WINDOW MAIN SWITCH**

# POWER WINDOW MAIN SWITCH

Reference Value

### **TERMINAL LAYOUT**



### PHYSICAL VALUES

### POWER WINDOW MAIN SWITCH

	Terminal No. (Wire color) Description		Condition	Voltage (V)		
+	-	Signal name	Input/ Output	Condition	voltage (v)	
1 (B)	Ground	Ground		_	0 – 1	
2 (SB)	Ground	Front power window motor (passenger side) DOWN signal	Output	When front RH switch in power window main switch is DOWN at operated.	9 – 16	
4 (W)	Ground	Encoder pulse signal 2	Input	When front power window motor (driver side) operates.	(V) 6 4 2 0 10 ms  JMKIA0070GB	
5 (Y)	Ground	Encoder pulse signal 1	Input	When front power window motor (driver side) operates.	(V) 6 4 2 0 10 ms	
6 (Y)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is DOWN at operated.	9 – 16	
7 (LG)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is UP at operated.	9 – 16	
8 (BR)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is DOWN at operated.	9 – 16	
9 (P)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is UP at operated.	9 – 16	

### **POWER WINDOW MAIN SWITCH**

### < ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output	Condition	vollage (v)
10	Ground	Power switch power supply	Input	Power switch ON	9 – 16
(V)	Giodila	Fower switch power supply	input	Other than above	0 – 1
12 (R)	Ground	Encoder ground	_	_	0 – 1
14 (G)	Ground	Encoder power supply	Output	Power switch ON	9 – 16
16 (W)	Ground	Front power window motor (passenger side) UP signal	Output	When front RH switch in power window main switch is UP at operated.	9 – 16
17 (R)	Ground	Front power window motor (driver side) UP signal	Output	When front LH switch in power window main switch is UP at operated.	9 – 16
18 (R)	Ground	Battery power supply	Input	Power switch OFF	9 – 16
19 (GR)	Ground	Front power window motor (driver side) DOWN signal	Output	When front LH switch in power window main switch is DOWN at operated.	9 – 16

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.

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.

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

- Auto-up operation
- Anti-pinch 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 main switch or front power window motor (driver side).

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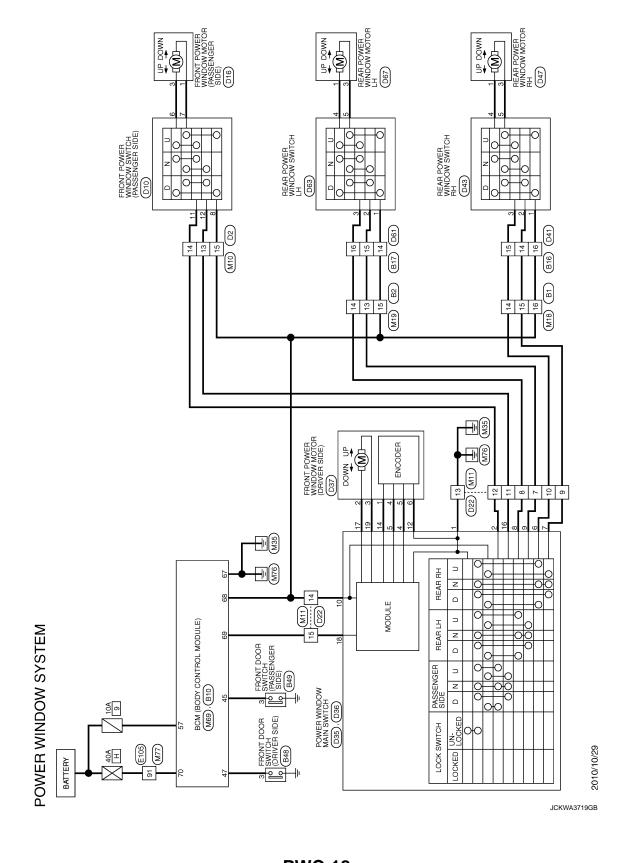
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# **WIRING DIAGRAM**

# POWER WINDOW SYSTEM

Wiring Diagram



	А
Signal Name   Specification   Specification   Signal Name   Specification   Specification   Signal Name   Specification   Signal Name   Specification   Specification   Signal Name   Specification   Specif	В
Paragraphic	С
Colonector No.   Connector No.   Connector No.   Connector No.   Connector No.   Connector Type   Connecto	D
offication] office side (Ger side)	Е
8 8 Name (Special Name (Specia	F
	G
Connector Name   Conn	Н
Signal Name   Specification	I
A (800Y CO)	J
16   G   Connector No.   Bi0   Connector No.   Connector Name   BOM   Connector Type   FEA   Connector Type   FEA   Connector No.   Connecto	PWC
	L
WIRE CS Signal Name [Specification]	M
NSI GRAWN   NSI	Ν
Connector Name   Connector Type   Conn	0
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**PWC-19** 2011 LEAF Revision: 2014 June

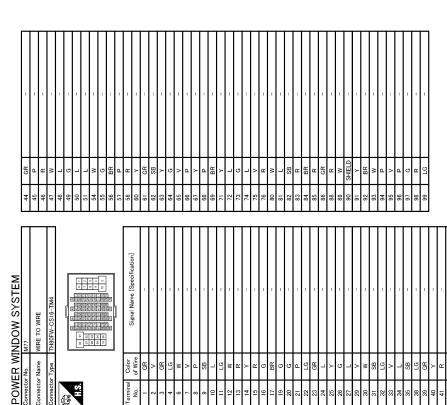
POWER WINDOW SYSTEM	Connector No.   D22	Connector No.   D35	Connector No. D37 Connector Name FROM POWER WINDOW MOTOR (DRIVER SIDE) Connector Type RS06FG  H.S.
of of	Manual Name   Signal Name   C   Manual Name	Color   Signal Name   Color   Signal Name   Color   Color	Terminal   Color   Signal Name [Specification]
Connector No. D16 Connector Name record Ponce (Medical Machine) Connector Type RSOBFG  Machine HSS HSS HSS HSS HSS HSS HSS HSS HSS HS	11 W	9 BR	Connector No. D41 Connector Name WIRE TO WIRE Connector Type TK10MW-NS8  M.S.  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Terminal Color No. of Wire Signal Name [Specification] 1 R - 3 Y -	41 GR		Terminal Color   Signal Name [Specification]   No. of Wire   Signal Name [Specification]   1

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44   45   45   46   47   47   47   47   47   47   47	D
	_
eoification)	Е
WRE TO WRE THEOMY-CS16-TM4  THEOMY-CS16-	F
	G
Commetter No.   Commetter No.   Commetter No.   Commetter No.   Color   Colo	Н
	11
Signal Name [Specification]	I
Signal Name [Specification]  DBS  REAR POWER WINDOW SWITCH LH  NSGEW-CS  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	J
Color   Colo	PWC
	L
TTCH RH   TTCH	
Signal Name [Specification]   Sign	M
NDOW SYSTEM   144   15   16   17   18   19   19   19   19   19   19   19	N
Connector Name   REAR POWER WINDOW SWT	0
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PC	POWER Connector No.	POWER WINDOW SYSTEM  Sonnector No.   M10	-	۵	-	M 01	-	29 F.G	PASS DOOR UNLK OUTPUT	П
J	actor Nam	Connector Name WIRE TO WIRE	2	٦	-	11 LG	_	۸ 09	TURN SIG LH OUTPUT	
3	ector Mail	III WINE IO WINE	ဗ	9	-	12 GR	-	W 19	TURN SIG RH OUTPUT	
Conn	actor Typ.	Connector Type TH40MW-CS15	4	>	-	13 W	_	63 BR	INT ROOM LAMP CONT	
ģ	•		7	BR	-	14 Y	-	A 59	ALL DOOR LOCK OUTPUT	
達			8	Υ.	-	15 LG	_	99 9	DR DOOR UNLK OUTPUT	
9	HS.	C C C C C C C C C C C C C C C C C C C	6	ΓG	1	16 L	-	67 B	GND	
		2 3 4 5 6 7 8 8 10 11 12 13 14 15	01	>	-			7 89	PW PWR SPLY (ON)	7
	161.	1/6/1/1/8/1/9/2012/1/22/23/24/25/26 36/37/38/39/40/4/1/4/24/34/4/54/6	Ξ	×	_			G 69	PW PWR SPLY (BAT)	٦
	ا		12	SB	-	Connector No. M19		70 Y	BAT (F/L)	٦
		Y	13	ш.		Connector Name WIRE TO WIRE	WIRE			
	- 1		4 ;	- -	-	Т				
S		of Wire Signal Name [Specification]	2 2	40		2000	50	_		
	t		25							
2	H	- 9	56	SHELD	-	\ \tag{\tag{\tag{\tag{\tag{\tag{\tag{				
e	H	T	37	57	-	7 6 5	4 3 2 1			
4			38	>	1	F	19 19 11 10			
10	$\vdash$	BR -	39	۵	1	П	0 01 11 71 01			
=	_		40	>	-					
12	H	- 1	41	8	-					
13	┞		45	۵	1	Terminal Color				
14	L	SB	43	7	-		Signal Name [Specification]			
15	H		44	_	-	4 BR	-			
24	Ł		45	57	1	۷ /	-			
25	┝	BR	46	HH.	1	В 8	1			
56	T	Q	47	М	1	1 6	1			
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39	Н	LG –	53	>	-	13 BR	_			
44	Н					14 Y	_			
45	Н	T				15 L	_			
46	Н	BR -	Connector No.	or No.	M18	16 G	_			
52	$\dashv$	В –	Connects	Connector Name	WIRE TO WIRE					
53		٧			Т			_		
			Connect	Connector Type	NS16FW-CS	Connector No. M69				
Conn	Connector No	Min	45			Connector Name BCM (BO	BCM (BODY CONTROL MODULE)			
8	2		E			Connector Time	EE ADDEM_EUAS_SA			
Conn	ector Nan	Connector Name WIRE TO WIRE	2	<u> </u>		٦.	11 No 3A	_		
Cong	Connector Type	TH40MW-CS15		13	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ß				
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Œ	•			I		<b>→</b> 56 57	58 59 60 61 62 63 64			
HS	Ĺ.					65 66	œ			
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Terminal	_	Signal Name [Specification]					
	2	27 28 29 30 31 32 33 30 31 35	NO.	ot wire						
			. 6	>	1	Terminal Color				
			7	۵	-	of Wire	Signal Name [Specification]			
Terminal	inal Color	olor Sional Name [Snecification]	œ	۵	-	۵	INT ROOM LAMP PWR SPLY			
ž	). of V.		6	В	_	Н	BAT (FUSE)			

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**PWC-23** Revision: 2014 June 2011 LEAF

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### **DIAGNOSIS AND REPAIR WORK FLOW**

< BASIC INSPECTION >

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

WorkFlow (INFOID:0000000006825048

### **DETAILED FLOW**

### 1. OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

# 2.REPRODUCE THE MALFUNCTION INFORMATION

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

>> GO TO 3.

# ${f 3.}$ IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

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

>> GO TO 4.

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

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

>> GO TO 5.

### REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

### 6. FINAL CHECK

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

Are the malfunctions corrected?

YES >> INSPECTION END

NO >> GO TO 3.

### ADDITIONAL SERVICE WHEN REMOVING 12V BATTERY NEGATIVE TERMI-NAL

# < BASIC INSPECTION > ADDITIONAL SERVICE WHEN REMOVING 12V BATTERY NEGATIVE Α **TERMINAL** Description INFOID:0000000006825050 В When the 12V battery negative terminal is disconnected, the initialization is necessary for normal operation of power window system. **CAUTION:** C The following specified operations can not be performed under the non-initialized condition. Auto-up operation Anti-pinch function D Work Procedure INFOID:0000000006825051 1. SYSTEM INITIALIZATION Е Perform system initialization. Refer to PWC-27, "Work Procedure". F >> GO TO 2. 2. CHECK ANTI-PINCH FUNCTION Check anti-pinch function. Refer to PWC-28, "Work Procedure". >> END Н J **PWC**

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**PWC-25** Revision: 2014 June 2011 LEAF

### ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW MAIN SWITCH

< BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW MAIN SWITCH

Description INFOID:0000000006825052

When the power window main switch replaced, the initialization in necessary for normal operation of power window system.

### **CAUTION:**

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

- Auto-up operation
- Anti-pinch function

Work Procedure

# 1.SYSTEM INITIALIZATION

Perform system initialization. Refer to PWC-27, "Work Procedure".

>> GO TO 2.

# 2. CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to PWC-28, "Work Procedure".

>> END

### SYSTEM INITIALIZATION

### < BASIC INSPECTION >

### SYSTEM INITIALIZATION

Description INFOID:000000006825054

If any of the following operations are performed, the initialization is necessary for normal operation of power window system.

- Disconnection and connection of 12V battery cable from negative terminal.
- When power window main switch replaced.
- Electric power supply to power window main switch or power window motor (driver side) is interrupted by blown fuse or disconnection and connection of the negative terminal of 12V battery, etc.
- Disconnection and connection of power window main switch harness connector.
- Removal of power window motor (driver side) from regulator assembly.
- Operation of regulator assembly as an independent unit.
- · Removal and installation of glass.
- · Removal and installation of door glass run.

#### CAUTION:

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

- Auto-up operation
- Anti-pinch function

Work Procedure

INFOID:0000000006825055

### **1.**STEP 1

- Turn power switch ON.
- 2. Operate power window switch to fully open the window. (This operation is unnecessary if the window is already fully open)
- 3. Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 2 seconds or more.
- Check that AUTO-UP function operates normally.

>> GO TO 2.

### 2.STEP 2

Check anti-pinch function. Refer to PWC-28, "Work Procedure".

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Revision: 2014 June PWC-27 2011 LEAF

### **CHECK ANTI-PINCH FUNCTION**

### < BASIC INSPECTION >

### **CHECK ANTI-PINCH FUNCTION**

Description INFOID:000000006825056

If any of the following operations are performed, the initialization is necessary for normal operation of antipinch function.

- Disconnection and connection of 12V battery cable from negative terminal.
- When power window main switch replaced.
- Electric power supply to power window main switch or power window motor (driver side) is interrupted by blown fuse or disconnection and connection of the negative terminal of 12V battery, etc.
- Disconnection and connection of power window main switch harness connector.
- Removal of power window motor (driver side) from regulator assembly.
- Operation of regulator assembly as an independent unit.
- · Removal and installation of glass.
- Removal and installation of door glass run.

Work Procedure

# 1. CHECK ANTI-PINCH FUNCTION

- Fully open the door window.
- Place a piece of wood near fully closed position.
- · Close door glass completely with AUTO-UP.
- · Check the following conditions
- Check that glass lowers for approximately 150 mm (5.9 in) without pinching piece of wood and stops.
- Check that glass does not rise not when operating the power window main switch while lowering. CAUTION:
  - Perform initial setting when AUTO-UP operation or anti-pinch function does not operate normally.
  - Check that AUTO-UP operates before inspection when system initialization is performed.
  - To prevent injury, do not check with hands and other body parts because they may be pinched. Do not get pinched.

>> END

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT POWER WINDOW MAIN SWITCH

# POWER WINDOW MAIN SWITCH: Diagnosis Procedure

#### INFOID:0000000006825058

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# 1. CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY

- 1. Turn power switch OFF.
- 2. Disconnect power window main switch connector.
- 3. Check voltage between power window main switch harness connector and ground.

(+) Power window r	nain switch	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - 7
D35	10	Ground	Power switch	ON	9 – 16
D36	18	Ground	Fower Switch	OFF	9 – 10

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY CIRCUIT

Disconnect BCM connector.

2. Check continuity between BCM harness connector and power window main switch harness connector.

В	СМ	Power windo	w main switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M69	68	D35	10	Existed
MOS	69	D36	18	LAISIGU

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M69	68	Ground	Not existed
MOS	69		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".

NO >> Repair or replace harness.

### 3.CHECK POWER WINDOW MAIN SWITCH GROUND CIRCUIT

Check continuity between power window main switch harness connector and ground.

Power windo	w main switch		Continuity	
Connector	Connector Terminal		Continuity	
D35	1		Existed	

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

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### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Diagnosis Procedure

INFOID:0000000006825059

# 1.check front power window switch (passenger side) power supply

- 1. Turn power switch OFF.
- 2. Disconnect front power window switch (passenger side) connector.
- 3. Turn power switch ON.
- 4. Check voltage between front power window switch (passenger side) harness connector and ground.

	+) witch (passenger side)	(-)	Voltage (V) (Approx.)
Connector	Terminal		(, 44, 2, 1)
D10	8	Ground	9 – 16

### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

# 2.CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect BCM connector.
- Check continuity between BCM harness connector and front power window switch (passenger side) harness connector.

BCM		Front power window s	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M69	68	D10	8	Existed

4. Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector Terminal		Ground	Continuity
M69	68		Not existed

### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".

NO >> Repair or replace harness.

### REAR POWER WINDOW SWITCH

# REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000006825060

# 1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY

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

(+)				\/alka == (\) (\)	
Rear power window switch			(-)	Voltage (V) (Approx.)	
Connector Terminal		Terminal		(11 - /	
LH	LH D63		Ground	9 – 16	
RH	D43		Giodila	9 – 10	

### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{2.}$ CHECK REAR POWER WINDOW SWITCH POWER SUPPLY CIRCUIT

- 1. Turn power switch OFF.
- Disconnect BCM connector. 2.
- 3. Check continuity between BCM harness connector and rear power window switch harness connector.

В	СМ	Rear power window switch				Continuity
Connector	Terminal	Connector		Terminal	Continuity	
M69	68	LH	D63	1	Existed	
WIOS	00	RH	D43	<b>1</b>	Existed	

4. Check continuity between BCM harness connector and ground.

ВСМ			Continuity
Connector	Connector Terminal		Continuity
M69	68		Not existed

### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".

NO >> Repair or replace harness.

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### FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

### Diagnosis Procedure

INFOID:0000000006825061

# 1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) INPUT SIGNAL

- 1. Turn power switch OFF.
- 2. Disconnect front power window switch (passenger side) connector.
- 3. Turn power switch ON.
- 4. Check voltage between front power window switch (passenger side) harness connector and ground.

(+) Front power window switch (passenger side)		(-)	Condition		Voltage (V) (Approx.)
Connector Terminal					(, (pp. 6))
	11			NEUTRAL	0 – 1
D10	11	- Ground	Power window main switch (passenger side)	DOWN	9 – 16
סוט	12			NEUTRAL	0 – 1
				UP	9 – 16

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.check front window switch (passenger side) circuit

- 1. Turn power switch OFF.
- Disconnect power window main switch connector.
- 3. Check continuity between power window main switch harness connector and front power window switch (passenger side) harness connector.

Power windo	Power window main switch		Front power window switch (passenger side)		
Connector	Terminal	Connector	Terminal	Continuity	
D35	2	D10	11	Existed	
D33	16		12	LAISIEU	

4. Check continuity between power window main switch harness connector and ground.

Power wind	Power window main switch		Continuity
Connector	Terminal	Ground	Continuity
D35	2	Ground	Not existed
D33	16		Not existed

### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-55, "Removal and Installation".

NO >> Repair or replace harness.

# 3.check front power window switch (passenger side)

Check front power window switch (passenger side).

Refer to PWC-33, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace front power window switch (passenger side). Refer to <a href="PWC-55">PWC-55</a>, "Removal and Installation".

### 4. CHECK INTERMITTENT INCIDENT

Refer to GI-51, "Intermittent Incident".

### >> INSPECTION END

### FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

### < DTC/CIRCUIT DIAGNOSIS >

### Component Inspection

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# ${\bf 1.} {\sf CHECK} \; {\sf FRONT} \; {\sf POWER} \; {\sf WINDOW} \; {\sf SWITCH} \; ({\sf PASSENGER} \; {\sf SIDE})$

- 1. Turn power switch OFF.
- 2. Disconnect front power window switch (passenger side) connector.
- 3. Check front power window switch (passenger side) terminals under the following conditions.

Front power window s	switch (passenger side)	Condition	Continuity	
Teri	Terminal		Communy	
8	7	UP		
11	6	- OF		
11	6	- NEUTRAL	Existed	
12	7	NEUTRAL	Existed	
8	6	DOWN		
12	7	DOWN		

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front power window switch (passenger side). Refer to <a href="PWC-55">PWC-55</a>, "Removal and Installation".

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Revision: 2014 June PWC-33 2011 LEAF

### **REAR POWER WINDOW SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

# **REAR POWER WINDOW SWITCH**

# Diagnosis Procedure

INFOID:0000000006825063

# 1. CHECK REAR POWER WINDOW SWITCH INPUT SIGNAL

- 1. Turn power switch OFF.
- Disconnect rear power window switch connector.
- 3. Turn power switch ON.
- 4. Check voltage between rear power window switch harness connector and ground.

Rear	(+) Rear power window switch		(-) Condi		lition	Voltage (V) (Approx.)
Conr	nector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		2				0 – 1
LH	Dea	D63 Power window main switch		UP	9 – 16	
LH	D63			(rear LH)	NEUTRAL	0 – 1
		3	Cround		DOWN	9 – 16
		2	Ground	Power window main switch (rear RH)	NEUTRAL	0 – 1
	D.10				UP	9 – 16
RH	D43	3			NEUTRAL	0 – 1
		3			DOWN	9 – 16

### Is the inspection result normal?

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

# 2. CHECK REAR POWER WINDOW SWITCH CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect power window main switch connector.
- 3. Check continuity between power window main switch harness connector and rear power window switch harness connector.

Power windo	w main switch	Rear power window switch			Continuity	
Connector	Terminal	Connector		Terminal	Continuity	
	9	LH	D63	2		
D35	8	LΠ	D63	3	Existed	
D33	7	DH	D42	2	Existed	
	6 RH	КП	D43	3		

4. Check continuity between power window main switch harness connector and ground.

Power windo	Power window main switch		Continuity
Connector	Terminal		Continuity
	9	Ground	
D35	8	Ground	Not existed
DSS	7		Not existed
	6		

### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-55, "Removal and Installation".

NO >> Repair or replace harness.

# 3. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

### **REAR POWER WINDOW SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

Refer to PWC-35, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window switch. Refer to <a href="PWC-55">PWC-55</a>, "Removal and Installation".

# 4. CHECK INTERMITTENT INCIDENT

Refer to GI-51, "Intermittent Incident".

### >> INSPECTION END

### Component Inspection

#### INFOID:0000000006825064

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# 1.CHECK REAR POWER WINDOW SWITCH

- 1. Turn power switch OFF.
- 2. Disconnect rear power window switch connector.
- 3. Check rear power window switch terminals under the following conditions.

Rear power	Rear power window switch  Terminal		Continuity
Ter			Continuity
1	5	- UP	
3	4		
3	4	- NEUTRAL	Existed
2	5	NEOTIVAL	LXISIEU
1	4	- DOWN	
2	5	DOWN	

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace rear power window switch. Refer to PWC-55, "Removal and Installation".

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### **POWER WINDOW MOTOR**

### < DTC/CIRCUIT DIAGNOSIS >

# POWER WINDOW MOTOR

### **DRIVER SIDE**

### DRIVER SIDE: Diagnosis Procedure

INFOID:0000000006825065

# ${f 1.}$ CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE) INPUT SIGNAL

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

(+) Front power window motor (driver side)		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				, , ,
D37	2	- Ground	Power window main switch	NEUTRAL	0 – 1
				UP	9 – 16
	3			NEUTRAL	0 – 1
				DOWN	9 – 16

### Is the inspection result normal?

YES >> Replace front power window motor (driver side). Refer to GW-21, "Removal and Installation".

NO >> GO TO 2.

# 2.CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE) CIRCUIT

- Turn power switch OFF.
- 2. Disconnect power window main switch connector.
- Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D36	17	D37	2	Existed
	19	D37	3	

4. Check continuity between power window main switch harness connector and ground.

Power windo	w main switch		Continuity
Connector	Terminal Ground		Continuity
D36	17	Ground	Not existed
	19		Not existed

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

PASSENGER SIDE

# PASSENGER SIDE: Diagnosis Procedure

INFOID:0000000006825066

# 1. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) INPUT SIGNAL

- Turn power switch OFF.
- 2. Disconnect front power window motor (passenger side) connector.
- 3. Turn power switch ON.
- 4. Check voltage between front power window motor (passenger side) harness connector and ground.

#### POWER WINDOW MOTOR

#### < DTC/CIRCUIT DIAGNOSIS >

(+) Front power window motor (passenger side)		(-)	Condi	Condition	
Connector	Terminal				(Approx.)
	3	Ground	Front power window switch (passenger side)	NEUTRAL	0 – 1
D4.0				UP	9 – 16
D16				NEUTRAL	0 – 1
				DOWN	9 – 16

#### Is the inspection result normal?

YES >> Replace front power window motor (passenger side). Refer to <u>GW-21, "Removal and Installation"</u>. NO >> GO TO 2.

# 2.CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) CIRCUIT

- Turn power switch OFF.
- Disconnect front power window switch (passenger side) connector.
- Check continuity between front power window switch (passenger side) harness connector and front power window motor (passenger side) harness connector.

Front power window s	switch (passenger side)	Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector Terminal		Continuity
D10	6	D16	3	Existed
	7	D10	1	LAISIEG

4. Check continuity between front power window switch (passenger side) harness connector and ground.

Front power window s	witch (passenger side)		Continuity	
Connector	Connector Terminal		Continuity	
D10	6	Ground	Not existed	
210	7		Not existed	

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

REAR LH

## REAR LH: Diagnosis Procedure

# 1. CHECK REAR POWER WINDOW MOTOR LH INPUT SIGNAL

- Turn power switch OFF.
- 2. Disconnect rear power window motor LH connector.
- 3. Turn power switch ON.
- 4. Check voltage between rear power window motor LH harness connector and ground.

(+) Rear power window motor LH		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - )
	1			NEUTRAL	0 – 1
D67	3	Ground	Rear power win- dow switch LH	DOWN	9 – 16
D67				NEUTRAL	0 – 1
	3			UP	9 – 16

#### Is the inspection result normal?

YES >> Replace rear power window motor LH. Refer to <u>GW-21, "Removal and Installation"</u>.

NO >> GO TO 2.

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#### **POWER WINDOW MOTOR**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{2}$ .check rear power window motor LH circuit

- Turn power switch OFF.
- 2. Disconnect rear power window switch LH connector.
- Check continuity between rear power window switch LH harness connector and rear power window motor LH harness connector.

Rear power wi	ndow switch LH	Rear power window motor LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D63	4	D67	1	Existed
5	5	507	3	LAISIGU

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

Rear power wi	Rear power window switch LH		Continuity	
Connector	Terminal	Ground	Continuity	
D63	4	Ground	Not existed	
D03	5	-	Not existed	

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

REAR RH

# REAR RH: Diagnosis Procedure

INFOID:0000000006825068

# 1. CHECK REAR POWER WINDOW MOTOR RH INPUT SIGNAL

- 1. Turn power switch OFF.
- 2. Disconnect rear power window motor RH connector.
- 3. Turn power switch ON.
- 4. Check voltage between rear power window motor RH harness connector and ground.

(+) Rear power window motor RH		(-)	Condit	Condition	
Connector	Terminal				(Approx.)
	1	Ground	Rear power window switch RH	NEUTRAL	0 – 1
D47	D47 3			DOWN	9 – 16
D47				NEUTRAL	0 – 1
				UP	9 – 16

#### Is the inspection result normal?

YES >> Replace rear power window motor RH. Refer to GW-25, "Removal and Installation".

NO >> GO TO 2.

# 2.check rear power window motor RH circuit

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

Rear power wi	ndow switch RH	Rear power window motor RH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D43	4	D47	1	Existed
D43	5	D41	3	LXISIEU

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

#### **POWER WINDOW MOTOR**

#### < DTC/CIRCUIT DIAGNOSIS >

Rear power v	Rear power window switch RH		Continuity
Connector	Terminal	Ground	Continuity
D43	4	Ground	Not existed
D43	5	-	NOI EXISIEU

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

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#### **ENCODER CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### **ENCODER CIRCUIT**

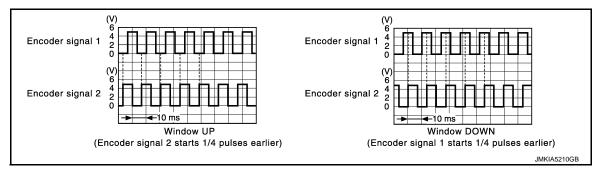
### Diagnosis Procedure

#### INFOID:0000000006825069

# 1. CHECK ENCODER PULSE SIGNAL

- 1. Turn power switch ON.
- Check signal between power window main switch harness connector and ground with oscilloscope.

(+) Power window main switch		(-)	Signal (Reference value)	
Connector	Terminal		(11010101100 141140)	
D35	4	Ground	Refer to following signal	
D35	5	Giouna	Refer to following signal	



#### Is the inspection result normal?

YES >> GO TO 7. NO >> GO TO 2.

# 2. CHECK ENCODER SIGNAL CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect power window main switch connector and front power window motor (driver side) connector.
- Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power windo	w main switch	Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D35	4	D37	5	Existed
D33	5	D31	4	LXISIGU

4. Check continuity between power window main switch harness connector and ground.

Power window main switch			Continuity	
Connector	Connector Terminal		Continuity	
D35	4	Ground	Not existed	
	5		Not existed	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3. CHECK ENCODER POWER SUPPLY

- 1. Connect power window main switch connector.
- 2. Turn power switch ON.
- 3. Check voltage between front power window motor (driver side) harness connector and ground.

#### **ENCODER CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

(+)		(-)	Voltage (V) (Approx.)
Front power window motor (driver side)			
Connector	Terminal		(11 /
D37	1	Ground	9 – 16

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

# 4. CHECK ENCODER POWER SUPPLY CIRCUIT

- Turn power switch OFF.
- 2. Disconnect power window main switch connector.
- 3. Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power windo	w main switch	tch Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D35	14	D37	1	Existed

Check continuity between power window main switch harness connector and ground.

Power window main switch			Continuity
Connector	Terminal	Ground	Continuity
D35	14		Not existed

#### Is the inspection result normal?

YES >> Replace power window main switch.

NO >> Repair or replace harness.

# 5. CHECK ENCODER GROUND CIRCUIT

- Turn power switch OFF.
- Check continuity between front power window motor (driver side) harness connector and ground.

Front power window motor (driver side)			Continuity
Connector	Terminal	Ground	Continuity
D37	6		Existed

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

#### 6.CHECK ENCODER GROUND CIRCUIT

- Disconnect power window main switch connector.
- Check continuity between power window main switch harness connector and front power window motor (driver side) harness connector.

Power windo	w main switch	Front power window	w motor (driver side)	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D35	12	D37	6	Existed

Check continuity between power window main switch harness connector and ground.

Power window main switch			Continuity
Connector	Terminal	Ground	Continuity
D35	12		Not existed

#### Is the inspection result normal?

>> Replace front power window motor (driver side). YES

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#### **ENCODER CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

7.CHECK INTERMITTENT INCIDENT

Refer to GI-51, "Intermittent Incident".

>> INSPECTION END

#### POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

< SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

# POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

Diagnosis Procedure

# 1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to BCS-71, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window main switch power supply and ground circuit.

Refer to PWC-29, "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

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#### DRIVER SIDE POWER WINDOW DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

### DRIVER SIDE POWER WINDOW DOES NOT OPERATE

## Diagnosis Procedure

INFOID:0000000006825071

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).

Refer to PWC-36, "DRIVER SIDE: Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

#### FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

#### FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE Α WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED В WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED: Diagnosis Procedure INFOID:0000000006825072 1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) Check front power window switch (passenger side). Refer to PWC-32, "Diagnosis Procedure". D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. Е 2.CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE) Check front power window motor (passenger side). F Refer to PWC-36, "PASSENGER SIDE: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.REPLACE POWER WINDOW MAIN SWITCH · Replace power window main switch. · Confirm the operation after replacement. Is the result normal? >> INSPECTION END YES >> Check intermittent incident. Refer to GI-51, "Intermittent Incident". WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED: Diagnosis Procedure **PWC** ${f 1}$ .CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIR-**CUIT** Check front power window switch (passenger side) power supply and ground circuit. Refer to PWC-30, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Diagnosis Procedure". Is the inspection result normal? M YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.check front power window switch (passenger side) Check front power window switch (passenger side). Refer to PWC-32, "Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. $oldsymbol{3}.$ REPLACE POWER WINDOW MAIN SWITCH Replace power window main switch. · Confirm the operation after replacement. Is the result normal? YES >> INSPECTION END >> Check intermittent incident. Refer to GI-51, "Intermittent Incident". WHEN POWER WINDOW MAIN SWITCH IS OPERATED

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#### FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# WHEN POWER WINDOW MAIN SWITCH IS OPERATED: Diagnosis Procedure

INFOID:0000000006825074

# 1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to PWC-32, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

REAR LH SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS > REAR LH SIDE POWER WINDOW DOES NOT OPERATE Α WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED В WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED: Diagnosis Procedure INFOID:0000000006825075 1. CHECK REAR POWER WINDOW SWITCH LH Check rear power window switch LH. Refer to PWC-34, "Diagnosis Procedure". D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. Е 2.CHECK REAR POWER WINDOW MOTOR LH Check rear power window motor LH. F Refer to PWC-37, "REAR LH: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.REPLACE POWER WINDOW MAIN SWITCH Replace power window main switch. Confirm the operation after replacement. Is the result normal? YES >> INSPECTION END >> Check intermittent incident. Refer to GI-51, "Intermittent Incident". WHEN REAR POWER WINDOW SWITCH LH IS OPERATED WHEN REAR POWER WINDOW SWITCH LH IS OPERATED: Diagnosis Procedure INFOID:0000000006825076 **PWC**  ${f 1}$  .CHECK REAR POWER WINDOW SWITCH LH POWER SUPPLY AND GROUND CIRCUIT Check rear power window switch LH power supply and ground circuit. Refer to PWC-30, "REAR POWER WINDOW SWITCH: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. M 2.check rear power window switch LH  $\,$ Check rear power window switch LH. Refer to PWC-34, "Diagnosis Procedure". N Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

>> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

#### REAR LH SIDE POWER WINDOW DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# WHEN POWER WINDOW MAIN SWITCH IS OPERATED: Diagnosis Procedure

INFOID:0000000006825077

# 1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to PWC-34, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

REAR RH SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS > REAR RH SIDE POWER WINDOW DOES NOT OPERATE Α WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED В WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED: Diagnosis Procedure INFOID:0000000006825078 1. CHECK REAR POWER WINDOW SWITCH RH Check rear power window switch RH. Refer to PWC-34, "Diagnosis Procedure". D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. Е 2.check rear power window motor RH Check rear power window motor RH. F Refer to PWC-38, "REAR RH: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.REPLACE POWER WINDOW MAIN SWITCH Replace power window main switch. Confirm the operation after replacement. Is the result normal? YES >> INSPECTION END >> Check intermittent incident. Refer to GI-51, "Intermittent Incident". WHEN REAR POWER WINDOW SWITCH RH IS OPERATED WHEN REAR POWER WINDOW SWITCH RH IS OPERATED: Diagnosis Procedure **PWC**  ${f 1}$  .CHECK REAR POWER WINDOW SWITCH RH POWER SUPPLY AND GROUND CIRCUIT Check rear power winodw switch RH power supply and ground circuit. Refer to PWC-30, "REAR POWER WINDOW SWITCH: Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. M 2.CHECK REAR POWER WINDOW SWITCH RH Check rear power window switch RH. Refer to PWC-34, "Diagnosis Procedure". N Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

>> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

#### REAR RH SIDE POWER WINDOW DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# WHEN POWER WINDOW MAIN SWITCH IS OPERATED: Diagnosis Procedure

INFOID:0000000006825080

# 1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to PWC-34, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

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

#### < SYMPTOM DIAGNOSIS >

# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NOR-MALLY (DRIVER SIDE)

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# Diagnosis Procedure

# 1. PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <a href="PWC-27">PWC-27</a>, "Work Procedure".

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

# 2. CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to PWC-40, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

### 3.REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

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

#### < SYMPTOM DIAGNOSIS >

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

# Diagnosis Procedure

INFOID:0000000006825082

# 1. CHECK POWER WINDOW AUTO OPERATION

Check AUTO operation when anti-pinch function does not operate.

Refer to PWC-51, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

# 2. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

#### POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

# Diagnosis Procedure

INFOID:0000000006825083

## 1. REPLACE POWER WINDOW MAIN SWITCH

- Replace power window main switch.
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

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# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

#### < SYMPTOM DIAGNOSIS >

# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

### Diagnosis Procedure

INFOID:0000000006825597

## 1. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to DLK-97, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.REPLACE BCM

- Replace BCM. Refer to BCS-77, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to GI-51, "Intermittent Incident".

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#### **POWER WINDOW MAIN SWITCH**

< REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION

### POWER WINDOW MAIN SWITCH

#### Removal and Installation

#### **REMOVAL**

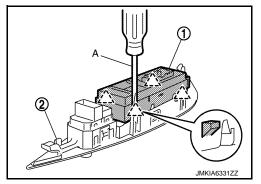
- 1. Remove power window main switch finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove power window main switch (1) from power window main switch finisher (2) using flat-head screw driver (A).



#### **CAUTION:**

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

The same procedure is also performed for front power window switch (passenger side) and rear power window switch (LH & RH).



#### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

If power window main switch is replaced or is removed, it is necessary to perform the initialization procedure. Refer to PWC-27, "Work Procedure".

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