# SECTION POWER WINDOW CONTROL SYSTEM

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# < PRECAUTION >

# PRECAUTION PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "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 ignition ON or engine running, 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 ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Service Procedure Precautions for Models with a Pop-up Roll Bar

INFOID:000000008463204

#### WARNING:

Always observe the following items for preventing accidental activation.

- Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, all maintenance must be performed by a NISSAN or INFINITI dealer.
- Before removing and installing the pop-up roll bar component parts and harness, always turn the ignition switch OFF, disconnect the battery negative terminal, and wait for 3 minutes or more. (The purpose of this operation is to discharge electricity that is accumulated in the auxiliary power supply circuit in the air bag diagnosis sensor unit.)
- When repairing, removing, and installing a pop-up roll bar, always refer to SRS AIR BAG and SRS AIR BAG CONTROL warnings in the Service Manual.

#### Precaution for Battery Service

INFOID:000000008463205

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION **COMPONENT PARTS**

**Component Parts Location** 

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- Remote keyless entry receiver (front 2. 1. side) Refer to DLK-10, "DOOR LOCK **SYSTEM:** Component Parts Location"
- Front power window motor (driver 4. side)
- 7. Rear power window switch LH
- Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location"
- 5. Front door lock assembly (driver side) Refer to DLK-10, "DOOR LOCK **SYSTEM:** Component Parts Location"
- 8. Rear power window motor LH

- Power window main switch
- 6. Front door switch (driver side)
- Soft top control unit 9. Refer to RF-9, "Component Parts Location"

# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

- 10. Remote keyless entry receiver (rear side) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u>
- A. View with door finisher removed
- B. View with rear side finisher removed

# **Component Description**

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Component	Function
BCM	<ul> <li>Supplies power to power window switch.</li> <li>Controls retained power function.</li> <li>Receives key ID from remote keyless entry receiver (front side/rear side).</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 (passenger side)	<ul><li>Controls power window motor of front passenger side door.</li><li>Controls anti-pinch operation of power window.</li></ul>
Rear power window switch (LH & RH)	Controls power window motor of rear right and left window.
Front power window motor (driver side)	<ul> <li>Integrates the encoder and power window motor.</li> <li>Starts operating with signals from power window main switch.</li> <li>Outputs front power window motor (driver side) rotation as a pulse signal to power window main switch.</li> </ul>
Front power window motor (passenger side)	<ul> <li>Integrates the encoder and power window motor.</li> <li>Starts operating with signals from power window main switch and front power window switch (passenger side).</li> <li>Outputs front power window motor (passenger side) rotation as a pulse signal to front power window switch (passenger side).</li> </ul>
Rear power window motor (LH & RH)	<ul> <li>Integrates the encoder and power window motor.</li> <li>Starts operating with signals from power window main switch and rear power window switch (LH &amp; RH).</li> <li>Outputs rear power window motor (LH &amp; RH) rotation as a pulse signal to rear power window switch (LH &amp; RH).</li> </ul>
Front door lock assembly (driver side) (door key cylinder switch)	Transmits operation condition of key cylinder switch to power window.
Remote keyless entry receiver (front side/rear side)	Receives key ID signal from the Intelligent Key, and then transmits to BCM.
Soft top control unit	<ul> <li>Prohibits operation of all power windows while roof is being operated.</li> <li>Operates AUTO-DOWN of all power windows before roof is operated.</li> </ul>
Front door switch	Detects door open/close condition and transmits to BCM.

# SYSTEM

#### < SYSTEM DESCRIPTION > SYSTEM



# System Description

#### Power window system is activated by power window switch when ignition switch turns ON, or during the retained power function after ignition switch turns OFF.

- Power window main switch opens/closes all door glass.
- Front and rear power window switch can open/close the corresponding door glass.
- AUTO UP/DOWN operation can be performed when front power window switch turns to AUTO.
- Power window lock switch can lock all power windows other than driver seat.
- Power window serial link transmits the signals from power window main switch to front power window switch (passenger side) and rear power window switch (LH & RH).
- If door glass receives resistance that is the specified value or more while power window of front seat is in AUTO-UP operation, power window of front seat operates in the reverse direction.
- Hold the door key cylinder to the LOCK or UNLOCK direction for 1.5seconds or more to OPEN or CLOSE
   <sup>N</sup> from power window when ignition switch OFF.
- All power windows open when pressing Intelligent Key unlock button for 3 seconds.
- Power window serial link transmits and receives signal between soft top control unit, power window main (switch, front power window switch (passenger side), and rear power window switch (LH & RH).
- Power window system operation links with soft top system. Refer to <u>RF-14, "SOFT TOP SYSTEM : System</u> <u>Description"</u>.

#### POWER WINDOW AUTO OPERATION

- AUTO UP/DOWN operation can be performed when front power window motor 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.

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# SYSTEM

#### < SYSTEM DESCRIPTION >

• For rear power window motor, only AUTO-DOWN operation is operative.

#### POWER WINDOW SIMULTANEOUS FUNCTION

All door glass moves up (down) when driver side power window switch and front passenger side power window switch of power window main switch are simultaneously pulled (pressed) in AUTO position. **NOTE:** 

This function is adopted in consideration of convenience after all door glass is closed (open).

#### **RETAINED POWER FUNCTION**

Retained power function is an additional power supply function that enables power window system to operate for 45 seconds after ignition switch turns OFF.

**Retained Power Function Cancel Conditions** 

- Front door CLOSE (door switch OFF)  $\rightarrow$  OPEN (door switch ON).
- When ignition switch turns ON again.
- When timer times out (45 seconds).

#### POWER WINDOW LOCK FUNCTION

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.

#### POWER WINDOW SERIAL LINK

All power window switches, soft top control unit, and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to soft top control unit.

- Power window down signal
- Retained power operation signal

The signal mentioned below is transmitted from soft top control unit to power window main switch.

- Power window down signal
- Power window operation prohibition signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side) and rear power window switch (LH & RH).

- Passenger side door window and rear side window (LH & RH) operation signal
- Power window control by door key cylinder switch signal
- Retained power operation signal

Power window lock signal

The signal mentioned below is transmitted from power window main switch to BCM via soft top control unit.

- Power window control by door key cylinder switch signal
- Power window lock signal
- Door lock/unlock signal

#### ANTI-PINCH SYSTEM

- Pinch the foreign matter in the door glass during AUTO-UP operation is the anti-pinch function that lowers the door glass 150 mm (5.9 in) 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 door glass for 150 mm (5.9 in) after it detects encoder pulse signal frequency change.

#### **Operation Condition**

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

#### NOTĚ:

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

#### AUTOMATIC WINDOW ADJUSTING FUNCTION

- When the driver/passenger door(s) is opened, the window of the opened door is lowered approximately 10 mm (0.39 in).
- When the door is closed, the window is raised to the fully closed position.
- Automatic window adjusting function system (opening operation) does not operate when the following item occurs.

### SYSTEM

#### < SYSTEM DESCRIPTION >

- The window is 10 mm	(0.39 in) or more open from the fully closed position.	
DOOR KEY CYLIND	ER SWITCH POWER WINDOW FUNCTION	А
power windows when i when operating.	gnition switch is OFF. In addition, it stops when key position is moved to NEUTRAL	В
Operation Condition		
<ul> <li>Ignition switch OFF.</li> <li>Hold door key cylinde glass</li> </ul>	er to LOCK position for 1.5 seconds or more to perform CLOSE operation of the door	С
<ul> <li>Hold door key cylinde glass.</li> </ul>	r to UNLOCK position for 1.5 seconds or more to perform OPEN operation of the door	D
KEYLESS POWER W	/INDOW DOWN FUNCTION	
All power windows oper 3 seconds with the ign	n when the unlock button on Intelligent Key is activated and kept pressed for more than hition switch OFF. The windows keep opening if the unlock button is continuously	Е
The power window ope	ning stops when the following operations are performed.	
When the unlock butter	on is kept pressed more than 15 seconds.	F
<ul> <li>When the ignition switches the unlock butter</li> </ul>	tch is turned ON while the power window opening is operated.	
While retained power fu Keyless power window PORT". Refer to <u>DLK-3</u>	Inction activate, keyless power window down function cannot be operated. down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP- <u>5. "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</u> .	G
Fail-safe	INF01D:000000008463210	Н
FAIL-SAFE CONTRO	L	
Switches to fail-safe co direction of door glass. the fully closed position	ntrol when malfunction is detected in encoder signal that detects up/down speed and Switches to fail-safe control when error beyond regulation value is detected between and the actual position of the glass.	I
Error	Error condition	J

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.	PWC	
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.	L	
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.	M	

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 front power window motor.

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### < 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.

				×: Applicable item
Sustam	Sub system selection item	Diagnosis mode		
System		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*			
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid opener system	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

#### NOTE:

\*: This item is displayed, but is 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 (Odomete	r 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 "LOCK"*)	В		
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)	С		
	LOCK>ACC		While turning power supply position from "LOCK" to "ACC"			
	ACC>ON		While turning power supply position from "ACC" to "IGN"	D		
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)	- U		
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)	E		
	RUN>URGENT	-	While turning power supply position from "RUN" to "ACC" (Emer- gency stop operation)	_		
	ACC>OFF		While turning power supply position from "ACC" to "OFF"	F		
	OFF>LOCK	Power position status of	While turning power supply position from "OFF" to "LOCK"*			
Vehicle Condition	OFF>ACC	the moment a particular DTC is detected	While turning power supply position from "OFF" to "ACC"	G		
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"			
	OFF>SLEEP	-		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode	Н	
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply posi- tion is "LOCK"*) to low power consumption mode			
	LOCK		Power supply position is "LOCK"*			
	OFF		Power supply position is "OFF" (Ignition switch OFF)			
	ACC		Power supply position is "ACC" (Ignition switch ACC)	.1		
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)	Ũ		
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)	PW		
	CRANKING	-	Power supply position is "CRANKING" (At engine cranking)			
IGN Counter	0 - 39	<ul> <li>The number of times that ignition 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 ignition 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:

\*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

- 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 push-button ignition switch (push switch) is pushed at "LOCK".

#### **RETAINED PWR**

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

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#### Data monitor

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

# **PWC-11**

# **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

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 >

# ECU DIAGNOSIS INFORMATION BCM, SOFT TOP CONTROL UNIT

# List of ECU Reference

INFOID:000000008463213

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ECU	Reference	
	BCS-32, "Reference Value"	
PCM	BCS-54, "Fail-safe"	
BCM	BCS-54, "DTC Inspection Priority Chart"	
	BCS-55, "DTC Index"	
	RF-45, "Reference Value"	
	RF-54, "Fail-safe"	
Solt top control unit	RF-55, "DTC Inspection Priority Chart"	
	RF-57, "DTC Index"	

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### **POWER WINDOW MAIN SWITCH**

#### < ECU DIAGNOSIS INFORMATION >

# POWER WINDOW MAIN SWITCH

#### **Reference Value**

INFOID:000000008463214

LIIA2455E

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Term (Wire	inal No. e color)	Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output		(Approx.)
2 (W)	Ground	Encoder ground	_	_	0
4 (L)	Ground	Door key cylinder switch (driver side) LOCK signal	Input	Key position (Neutral $\rightarrow$ Locked)	$5 \rightarrow 0$
5 (R)	Ground	Front door switch (driver side) signal	Input	OFF (when driver side door closed)	(V) 15 0 10 10 10 10 10 10 10 10 10
				ON (when driver side door opened)	0
6 (R)	Ground	Door key cylinder switch (driver side) UNLOCK signal	Input	Key position (Neutral $\rightarrow$ Unlocked)	$5 \rightarrow 0$
8 (L)	Ground	Front power window motor (driver side) UP signal	Output	When front LH switch in power window main switch is in UP operation.	12
9 (G)	Ground	Encoder pulse signal 2	Input	When front power window motor (driver side) operates.	(V) 6 4 0 0 10 ms JMKIA0070GB
				Ignition switch ON	12
10	0		Input	Within 45 seconds after ignition switch is turned to OFF.	12
(V)	Ground	round Retained power signal		When driver side or passen- ger side door is opened dur- ing retained power operation.	0

# POWER WINDOW MAIN SWITCH

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output	Condition	(Approx.)
11 (LG)	Ground	Front power window motor (driver side) DOWN signal	Output	When front LH switch in power window main switch is in DOWN operation.	12
13 (Y)	Ground	Encoder pulse signal 1	Input	When front power window motor (driver side) operates.	(V) 6 2 0 10 ms JMKIA0070GB
14 (O)	Ground	Power window serial link	Input/ Output	Ignition switch ON or power window timer operating.	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10
15 (R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	12
17 (B)	Ground	Ground	_	_	0
19 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	12

# Fail-safe

INFOID:000000008463215

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#### 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 fail- P safe control.

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

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



# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

< ECU DIAGNOSIS INFORMATION >

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

#### **Reference Value**

INFOID:000000008463216

LIIA2454E

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	
3 (W)	Ground	Encoder ground	_	_	0	
4 (R)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	12	
8 (L)	Ground	Front power window mo- tor (passenger side) UP signal	Output	When front RH switch in power window main switch is in UP operation.	12	
9 (LG)	Ground	Front power window mo- tor (passenger side) DOWN signal	Output	When front RH switch in power window main switch is in DOWN operation.	12	
10 (P)	Ground	Battery power supply	Input	Ignition switch OFF	12	
11 (B)	Ground	Ground	_	_	0	
12 (Y)	Ground	Encoder pulse signal 1	Input	When front power window motor (passenger side) operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	
14 (R)	Ground	Front door switch (pas- senger side) signal	Input	OFF (when passenger side door closed)	(V) 15 10 5 0 10 ms JPMIA0011GB	
				ON (when passenger side door opened)	0	

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

#### < ECU DIAGNOSIS INFORMATION >

Termi (Wire	Terminal No. Description (Wire color)			Condition	Voltage [V]	
+	-	Signal name	Input/ Output	Condition	(Approx.)	
15 (G)	Ground	Encoder pulse signal 2	Input	When front power window motor (passenger side) operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	
16 (O)	Ground	Power window serial link	Input/ Output	Ignition switch ON or power win- dow timer operating.	(V) 15 10 5 0 10 10 10 10 JPMIA0013GB	

#### Fail-safe

INFOID:000000008463217

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#### 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.	PW			
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.	L			
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
- 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 front power window motor.

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#### **REAR POWER WINDOW SWITCH LH**

#### < ECU DIAGNOSIS INFORMATION >

# REAR POWER WINDOW SWITCH LH

#### **Reference Value**

INFOID:000000008463218

LIIA2454E

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal No. (wire color)		Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (W)	Ground	Encoder ground	_	_	0
4 (R)	Ground	Encoder power supply	Output	When ignition switch ON or pow- er window timer operates.	12
8 (L)	Ground	Rear power window mo- tor LH UP signal	Output	When rear LH switch in power window main switch is in UP operation.	12
9 (LG)	Ground	Rear power window mo- tor LH DOWN signal	Output	When rear LH switch in power window main switch is in DOWN operation.	12
10 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (Y)	Ground	Encoder pulse signal 1	Input	When rear power window motor LH operates.	(V) 6 4 2 0 10 ms JMKIA0070GB

# **REAR POWER WINDOW SWITCH LH**

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (wire color)		Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
15 (O)	Ground	Encoder pulse signal 2	Input	When rear power window motor LH operates.	(V) 6 4 2 0 10 ms JMKIA0070GB
16 (G)	Ground	Power window serial link	Input/ Output	When ignition switch ON or pow- er window timer operates.	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10

#### Fail-safe

INFOID:000000008463219

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#### 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.	PW			
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.	L			
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
- Retained power function

Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe operation of the switches witch a switch or front power window motor.

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# **REAR POWER WINDOW SWITCH RH**

#### < ECU DIAGNOSIS INFORMATION >

# REAR POWER WINDOW SWITCH RH

#### **Reference Value**

INFOID:000000008463220

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal No. (wire color)		Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (W)	Ground	Encoder ground	_	_	0
4 (R)	Ground	Encoder power supply	Output	When ignition switch ON or pow- er window timer operates.	12
8 (L)	Ground	Rear power window mo- tor RH UP signal	Output	When rear RH switch in power window main switch is in UP operation.	12
9 (LG)	Ground	Rear power window mo- tor RH DOWN signal	Output	When rear RH switch in power window main switch is in DOWN operation.	12
10 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (Y)	Ground	Encoder pulse signal 1	Input	When rear power window motor RH operates.	(V) 6 4 2 0 10 ms JMKIA0070GB

# **REAR POWER WINDOW SWITCH RH**

#### < ECU DIAGNOSIS INFORMATION >

Term (wir	ninal No. e color)	Description		Condition	Voltage [V]	A
+	-	Signal name	Input/ Output	Condition	(Approx.)	
15 (G)	Ground	Encoder pulse signal 2	Input	When rear power window motor RH operates.	(V) 6 4 2 0 10 ms JMKIA0070GB	B
16 (G)	Ground	Power window serial link	Input/ Output	When ignition switch ON or pow- er window timer operates.	(V) 15 10 5 0 10 ms JPMIA0013GB	F

### Fail-safe

INFOID:000000008463221

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#### 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.	J
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.	PW
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.	L
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
- Retained power function

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

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# WIRING DIAGRAM POWER WINDOW SYSTEM

# Wiring Diagram

INFOID:000000008463222

For connector terminal arrangements, harness layouts, and alphabets in a  $\bigcirc$  (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.



< BASIC INSPECTION >

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow	В
1.OBTAIN INFORMATION ABOUT SYMPTOM	
Interview the customer to obtain the malfunction information (conditions and environment when the malfunc- tion occurred) as much as possible when the customer brings the vehicle in.	С
>> GO TO 2. <b>2. 2.</b> REPRODUCE THE MALFUNCTION INFORMATION	D
Check the malfunction on the vehicle that the customer describes. Inspect the relation of the symptoms and the condition when the symptoms occur.	Е
>> GO TO 3. <b>3.</b> IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"	F
Use "Symptom diagnosis" from the symptom inspection result in step 2 and then identify where to start per- forming the diagnosis based on possible causes and symptoms.	G
>> GO TO 4. <b>4.</b> IDENTIFY THE MALFUNCTIONING PARTS WITH "DTC/CIRCUIT DIAGNOSIS"	Н
Perform the diagnosis with "DTC/CIRCUIT DIAGNOSIS" of the applicable system.	I
>> GO to 5. <b>5.</b> Repair or Replace the malfunctioning parts	J
Repair or replace the specified malfunctioning parts.	
>> GO TO 6. 6.FINAL CHECK	PW
Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.	L
YES >> INSPECTION END NO >> GO TO 3.	M
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# ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

< BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMI-NAL

# Description

INFOID:000000008463224

When the battery negative terminal is disconnected, the initialization is 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
- Automatic window adjusting function

# Work Procedure

INFOID:00000008463225

# **1.**SYSTEM INITIALIZATION

Perform system initialization. Refer to PWC-26, "Work Procedure".

>> GO TO 2.

2. CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to PWC-27, "Work Procedure".

>> END

# ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW SWITCH

< BASIC INSPECTION >	
ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW SWITCH	Δ
Description INFOID:00000008463226	$\square$
When the power window main switch or front power window switch (passenger side) replaced, the initialization in necessary for normal operation of power window system.	В
<ul> <li>The following specified operations can not be performed under the non-initialized condition.</li> <li>Auto-up operation</li> <li>Anti-pinch function</li> <li>Automatic window adjusting function</li> </ul>	С
Work Procedure	D
1.SYSTEM INITIALIZATION	F
Perform system initialization. Refer to PWC-26, "Work Procedure".	
>> GO TO 2. 2.CHECK ANTI-PINCH FUNCTION	F
Check anti-pinch function. Refer to PWC-27, "Work Procedure".	G
>> END	Н

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# SYSTEM INITIALIZATION

# Description

INFOID:000000008463228

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

- Disconnection and connection of battery cable from negative terminal.
- When power window main switch or front power window switch (passenger side) replaced.
- Electric power supply to power window main switch or front power window switch (passenger side) or power window motor (driver side/passenger side) is interrupted by blown fuse or disconnection and connection of the negative terminal of battery, etc.
- Disconnection and connection of power window main switch or front power window switch (passenger side) harness connector.
- Removal of power window motor (driver side/passenger side) from module assembly.
- Operation of module assembly as an independent unit.
- Removal of regulator assembly from module assembly.
- Removal and installation of glass.
- Removal and installation of weather-strip.
- 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
- Automatic window adjusting function

#### Work Procedure

INFOID:000000008463229

# **1.**STEP 1

- 1. Turn ignition switch ON.
- 2. Close roof.
- 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 2 seconds or more.
- 5. Check that AUTO-UP function operates normally.

>> GO TO 2.

# **2.**STEP 2

Check anti-pinch function. Refer to PWC-27, "Work Procedure".

>> END

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

< BASIC INSPECTION >

# CHECK ANTI-PINCH FUNCTION

# Description

If any of the following operations are performed, the initialization is necessary for normal operation of antipinch function.  ${}_{\sf B}$ 

- Disconnection and connection of battery cable from negative terminal.
- When power window main switch or front power window switch (passenger side) replaced.
- Electric power supply to power window main switch or front power window switch (passenger side) or power window motor (driver side/passenger side) is interrupted by blown fuse or disconnection and connection of the negative terminal of battery, etc.
- Disconnection and connection of power window main switch or front power window switch (passenger side) harness connector.
- Removal of power window motor (driver side/passenger 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

- 1. Fully open the door window.
- 2. Place a piece of wood near fully closed position.
- 3. Close door glass completely with AUTO-UP.
- 4. 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 or front power window switch (passenger side) 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.
- Do not check with hands and other body parts because they may be pinched. Do not get pinched.

>> END

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INFOID:000000008463230

INFOID:000000008463231

# 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:000000008463232

### **1.**CHECK POWER SUPPLY

#### 1. Turn ignition switch OFF.

2. Disconnect power window main switch connector.

3. Check voltage between power window main switch harness connector and ground.

( Power windo	+) w main switch	(-)	Co	ndition	Voltage (V) (Approx.)
Connector	Terminal				
D5	10	Ground	Ignition switch	ON	12
D6	19	Giodila	Ignition Switch	OFF	12

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

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

В	CM	Power windo	w main switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M118	2	D6	19	Existed
IVIIIO	3	D5	10	LAISIEU

4. Check continuity between BCM harness connector and ground.

B	CM		Continuity
Connector	Terminal	Ground	Continuity
M118	2	Ground	Not ovisted
WITTO	3		NOT EXISTED

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

#### **3.**CHECK GROUND CIRCUIT

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

Power window		Continuity	
Connector	Terminal	Ground	Continuity
D6	17	*	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

# POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

<ol> <li>Turn ignition switch</li> <li>Disconnect front po</li> <li>Check voltage betw</li> </ol>	OFF. ver window switcl een front power w	n (passenger sid rindow switch (p	de) connector. assenger side) harness	connector and ground.
	(+)			
Front power win	low switch (passenge	r side)	()	(Approx.)
Connector	Terr	ninal		
D45	1	0	Ground	12
s the inspection result r YES >> GO TO 3. NO >> GO TO 2. 2.CHECK POWER SU	ormal? PPLY CIRCUIT			
<ol> <li>Disconnect BCM cc</li> <li>Check continuity be ness connector.</li> </ol>	nnector. tween BCM harne	ess connector a	nd front power window	switch (passenger side) ha
BC	M	Front power	window switch (passenger si	de) Continuity
Connector	Terminal	Connec	tor Terminal	
M118	2	D45	10	Existed
Check continuity be	ween BCM harne	ss connector a	nd ground.	
Connector	BCM	minal	Ground	Continuity
		2	Ground	Not existed
s the inspection result r	ormal?	-		
YES >> Replace B( NO >> Repair or ro <b>3.</b> CHECK GROUND C Check continuity betwee	XM. Refer to <u>BCS</u> place harness. IRCUIT en front power win	-77, "Removal a	<u>Ind Installation"</u> . ssenger side) harness c	onnector and ground.
	er window switch (pa	ssenger side)		
Front now				Continuity
Front pow		Terminal	Ground	Continuity
Front pow Connector D45		Terminal 11	Ground	Existed
Front pow Connector D45 s the inspection result r YES >> INSPECTION NO >> Repair or ro REAR POWER WI REAR POWER WI CHECK FUSIBLE LII	ormal? DN END splace harness. INDOW SWIT NDOW SWIT NDOW SWIT	Terminal 11 TCH CH : Diagno	Ground sis Procedure	Existed
Front pow Connector D45 s the inspection result r YES >> INSPECTIO NO >> Repair or ro REAR POWER W REAR POWER WI CHECK FUSIBLE LII Check that the following	ormal? ON END place harness. INDOW SWI NDOW SWIT NDOW SWIT NDOW SWIT	Terminal 11 TCH CH : Diagno fusing.	Ground sis Procedure	Existed
Front pow Connector D45 Sthe inspection result r YES >> INSPECTION NO >> Repair or ro REAR POWER WI REAR POWER WI CHECK FUSIBLE LII Check that the following	ormal? N END place harness. INDOW SWIT NDOW SWIT NDOW SWIT Signal name	Terminal 11 TCH CH : Diagno fusing.	Ground sis Procedure Fusible	Existed

Is the inspection result normal?

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

#### YES >> GO TO 2.

NO >> Replace the blown fuse after repairing affected circuit.

# 2.CHECK POWER SUPPLY

1. Turn ignition switch OFF.

2. Disconnect rear power window switch connector.

3. Check voltage between rear power window switch harness connector and ground.

	(+)			Voltage (V/)
	Rear power window switcl	n	()	(Approx.)
Con	nector	Terminal		
LH	B42	10	Ground	Battery voltage
RH	B222	10	Ciouna	Dationy Voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO-1 >> Repair or replace harness between rear power window switch and fusible link L (40 A).

NO-2 >> Check circuit breaker and replace it if necessary.

# 3.CHECK GROUND CIRCUIT

#### 1. Turn ignition switch OFF.

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

	Rear power window switcl	h		Continuity
Con	nector	Terminal	Ground	Continuity
LH	B42	11	Ground	Existed
RH	B222			EXISTED

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

	TC/CIRCUIT DI	AGNOSIS >					
<b>)</b> (		OW MOTOR	२				
)F	RIVER SIDE						
)F	RIVER SIDE :	Component F	unction Ch	eck			INFOID:000000008463235
•	CHECK FUNCTI	ON					
h	eck front power w	indow motor (drive	er side) operat	ion with powe	er window m	ain switch.	
rt Y	he inspection rest	<u>ilt normal?</u> TION END					
Ň	0 >> Refer to	PWC-31, "DRIVE	<u>R SIDE : Diag</u>	nosis Proced	lure".		
F	RIVER SIDE :	Diagnosis Pro	cedure				INFOID:000000008463236
	CHECK POWER	WINDOW MOTO	R (DRIVER SI	DE) INPUT S	SIGNAL		
	Turn ignition swi	tch OFF.					
•	Disconnect front Turn ignition swi	power window mo tch ON.	otor (driver sid	e) connector.			
	Check voltage b	etween power win	dow motor (dr	iver side) har	mess connec	ctor and groui	nd.
-	(-	+)					
-	Front power window	v motor (driver side)	(—)		Condition		Voltage (V) (Approx.)
_	Connector	Terminal					
		1				NEUTRAL	0
	D26		Ground	Power window (front LH switc	main switch h)	NEUTRAI	0
		3				DOWN	12
t	he inspection resu	<u>ilt normal?</u>	I				
Y	ES >> Replace	front power windo	w motor (drive	er side). Refe	er to <u>GW-30,</u>	"Removal an	<u>d Installation"</u> .
	CHECK POWER	 WINDOW MOTO	R CIRCUIT				
	Turn ignition swi						
	Turri grillori Swi						
	Disconnect powe	er window main sv	vitch connecto	r.		and front no	
	Disconnect power Check continuity (driver side) harr	er window main sv between power v tess connector.	vitch connecto vindow main s	r. switch harnes	ss connector	and front po	wer window motor
	Disconnect power Check continuity (driver side) harr	between power v between power v bess connector.	vitch connecto window main s	r. switch harnes	ss connector	and front po	wer window motor
	Disconnect power Check continuity (driver side) harr Power win Connector	tern OFF. er window main sw between power w ness connector. ndow main switch Terminal	vitch connecto window main s From Co	or. switch harnes nt power window onnector	SS CONNECTOR v motor (driver s Termin	and front po	wer window motor  Continuity
	Disconnect power Check continuity (driver side) harr Power win Connector	ten OFF. er window main sw between power w ness connector. ndow main switch Terminal 8	vitch connecto window main s	or. switch harnes nt power windov onnector D26	SS CONNECTOR v motor (driver s Termin 1	and front po	wer window motor Continuity
	Disconnect power Check continuity (driver side) harr Power win Connector D5	between power window main sw between power with thess connector.	vitch connecto window main s	or. switch harnes nt power windov onnector D26	ss connector v motor (driver s Termin 1 3	and front po	wer window motor Continuity Existed
	Disconnect power Check continuity (driver side) harr Power win Connector D5 Check continuity	between power window main sw between power with thess connector. Terminal 8 11 between power with	vitch connecto window main s From Control Vindow main sy	or. switch harnes nt power windov onnector D26 witch harness	ss connector v motor (driver s Termin 1 3 s connector a	and front po	wer window motor Continuity Existed
	Disconnect power Check continuity (driver side) harr Power win Connector D5 Check continuity Pow	ver window main switch	vitch connecto window main s Fro Co /indow main sv	or. switch harnes nt power windov onnector D26 witch harness	ss connector v motor (driver s Termin 1 3 s connector a	and front po	wer window motor Continuity Existed
• • • •	Disconnect power Check continuity (driver side) harr Power win Connector D5 Check continuity Pow Connector	ver window main switch	vitch connecto window main s Fro Co Co vindow main sv h Terminal	or. switch harnes nt power windov onnector D26 witch harness	ss connector v motor (driver s Termin 1 3 s connector a Ground	and front po	wer window motor Continuity Existed Continuity
-	Disconnect power Check continuity (driver side) harr Power win Connector D5 Check continuity Pow Connector	ver window main switch	vitch connecto window main s From Co Co vindow main sw h Terminal 8 11	or. switch harnes nt power windov onnector D26 witch harness	ss connector v motor (driver s Termin 1 3 s connector a	and front po	wer window motor Continuity Existed Continuity ot existed

### POWER WINDOW MOTOR

#### < DTC/CIRCUIT DIAGNOSIS >

#### PASSENGER SIDE : Component Function Check

#### INFOID:000000008463237

#### 1. CHECK FUNCTION

Check front power window motor (passenger side) operation with power window main switch or front power window switch (passenger side).

#### Is the inspection result normal?

YES >> IMSPECTION END

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

#### PASSENGER SIDE : Diagnosis Procedure

INFOID:000000008463238

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

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

(+) Front power window motor (passenger side)		()	Condition	Condition	
Connector	Terminal				(Applox.)
1			MEUTRAL	0	
DEG	I	Ground	Front power window switch (passenger side)	UP	12
 	3			MEUTRAL	0
				DOWN	12

Is the inspection result normal?

YES >> Replace front power window motor (passenger side). Refer to <u>GW-30, "Removal and Installation"</u>. NO >> GO TO 2.

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

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

Front power window switch (passenger side)		Front power window r	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
D45	8	D56	1	Existed	
D45	9	030	3	LXISIEU	

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

Front power window	switch (passenger side)	Ground	Continuity	
Connector	Terminal			
D45	8	Ground	Not ovisted	
	9		NOT EXISTED	

Is the inspection result normal?

- YES >> Replace front power window switch (passenger side). Refer to <u>PWC-66, "Removal and Installa-</u> tion".
- NO >> Repair or replace harness.

REAR LH

# **POWER WINDOW MOTOR**

< D	TC/CIRCUIT D	IAGNOSIS >							-
RE	EAR LH : Cor	nponent Fu	nction C	he	ck			INFOID:000000008463235	, A
1.	CHECK FUNCT	ION							1.1
Ch LH	eck rear power \	window motor	LH operati	on ۱	with power windo	w main switc	h or rear po	wer window switch	В
<u>Is t</u> Yl	he inspection res	<u>sult normal?</u> CTION END							
N	O >> Refer to	o <u>PWC-33, "RI</u>	EAR LH : C	Diag	nosis Procedure"				С
RE	EAR LH : Dia	gnosis Proc	cedure					INFOID:00000008463240	)
1.	CHECK REAR F	POWER WIND	OW MOTO	DR I	NPUT SIGNAL				D
1. 2. 3. 4.	Turn ignition sw Disconnect rea Turn ignition sw Check voltage	vitch OFF. r power windo vitch ON. between rear p	w motor LH power wind	l co low	nnector. motor LH harnes	s connector a	and ground.		E
-	(-	+)							F
_	Rear power wi	ndow motor LH	(-)			Condition		Voltage (V) (Approx.)	
_	Connector	Terminal						0	G
		1					UP	12	
	B41		- Groun	nd	Rear power window	v switch LH	NEUTRAL	0	Н
		3			DOW		DOWN	12	
<b>2.</b> 1. 2. 3.	CHECK POWER Turn ignition sw Disconnect rea Check continuit LH harness cor	R WINDOW Mo vitch OFF. r power windo ty between rea nnector.	DTOR CIR w switch LI r power wi	CUI H cc ndo	T onnector. w switch LH harn	ess connecto	r and rear p	ower window motor	J PW
-	Rear powe	er window switch	_H		Rear power wi	ndow motor LH		<b>0</b> <i>i i</i>	L
-	Connector	Terr	ninal		Connector	Termina	al	Continuity	
	B42		8 9		B41	1		Existed	M
4.	Check continuit	ty between rea	r power wi	ndo	w switch LH harn	ess connecto	or and groun	d.	
-		Rear power wi	ndow switch I	Н				Continuity	Ν
_	Conne	ctor		Te	rminal	Groun	d	Continuity	
	B42	2			8 9			Not existed	0
Is t YI N <sup>t</sup> RE	<u>he inspection res</u> ES >> Replac O >> Repair EAR RH	<u>sult normal?</u> e rear power v or replace har	vindow swit ness.	tch I	_H. Refer to <u>PWC</u>	<u>2-66, "Remov</u>	al and Insta	llation".	Ρ
RE	AR RH : Co	mponent Fu	unction C	Che	ck			INFOID:000000008463241	1
1.	CHECK FUNCT	TION							

### POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Check rear power window motor RH operation with power window main switch or rear power window switch RH.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>PWC-34</u>, "REAR RH : Diagnosis Procedure".

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

INFOID:000000008463242

#### 1. CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

(+) Rear power window motor RH		()	Condition	Voltage (V) (Approx.)		
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	1			NEUTRAL	0	
B221	I	Ground	Rear power window switch RH	UP	12	
DZZT	3			NEUTRAL	0	
				DOWN	12	

Is the inspection result normal?

YES >> Replace rear power window motor RH. Refer to <u>GW-16, "Removal and Installation"</u>.

NO >> GO TO 2.

2. CHECK POWER WINDOW MOTOR CIRCUIT

1. Turn ignition 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 window switch RH		Rear power wi	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
B222	8 B221		1	Existed	
BZZZ	9	DZZI	3	LAISIEU	

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

Rear power wi	ndow switch RH		Continuity	
Connector	Terminal	Ground	Continuity	
B222	8	Ground	Not existed	
	9		NOT EXISTED	

Is the inspection result normal?

YES >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".

NO >> Repair or replace harness.

< DTC	/CIRCUIT DIAG	NOSIS >					
ENC DRIV	ODER CIRO 'ER SIDE	CUIT					ļ.
DRIV	ER SIDE : Co	omponent Funct	ion Cheo	ck		INF0ID:00000008463	3243
1.сн	ECK FUNCTION						E
Check switch	that driver side is operated.	door glass perform	AUTO UP	/DOWN op	peration normally	y when power window ma	ain (
YES NO	>> INSPECTIC >> Refer to <u>PV</u>	DN END VC-35, "DRIVER SID	E : Diagno	osis Proced	<u>lure"</u> .		[
DRIV	ER SIDE : Di	agnosis Proced	ure			INFOID:00000008463	3244
1.сн	ECK ENCODER	SIGNAL					E
1. Tu 2. Cł	Irn ignition switch neck signal betwe	ON. een power window m	ain switch	harness co	onnector and gro	ound using an oscilloscope	
		(+)		-		Signal	
	Power	window main switch		-	()	(Reference value)	(
	Connector	Termin	al				
	D5	13		-	Ground	Refer to following signal	ł
	( Encoder signal 1 ( Encoder signal 2 (En	(V) 4 2 (V) 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) 4 4 (V) (V) (V) (V) (V) (V) (V) (V)	es earlier)	Encoder signa Encoder signa	(V) al 1 $\begin{pmatrix} 0 \\ 2 \\ 0 \\ (V) \\ 0 \\ (V) \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	DOWN ts 1/4 pulses earlier)	P
<u>Is the i</u>	nspection result	normal?				JWINIA32100B	
YES NO	>> Replace po >> GO TO 2.	wer window main sw	vitch. Refer	to <u>PWC-6</u>	6, "Removal and	d Installation".	
2.сн	ECK ENCORDE	R SIGNAL CIRCUIT					
1. Tu 2. Di 3. Cr (dr	Irn ignition switch sconnect power v neck continuity be river side) harnes	OFF. window main switch o etween power windo ss connector.	connector a w main sw	and front p vitch harne	ower window mo ss connector an	otor (driver side) connector d front power window mot	r. tor
	Power window	w main switch		Front power (drive	window motor r side)	Continuity	(
	Connector	Terminal	Conr	nector	Terminal		
		9	_		5		

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

13

D5

D26

6

Existed

#### < DTC/CIRCUIT DIAGNOSIS >

Power windo	ow main switch	Ground	Continuity	
Connector	Terminal			
D5	9	Gibuna	Not existed	
	13		NUL EXISIEU	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

**3.**CHECK ENCORDER POWER SUPPLY

1. Connect power window main switch connector.

2. Turn ignition switch ON.

3. Check voltage between front power window motor (driver side) harness connector and ground.

( Front power window	+) v motor (driver side)	()	Voltage (V) (Approx.)	
Connector	Terminal			
D26	2	Ground	12	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

#### 4. CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Turn ignition 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 window main switch		Front power window	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
D5	15	D26	2	Existed

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

Power windo	w main switch		Continuity	
Connector	Terminal	Ground	Continuity	
D5	15		Not existed	

Is the inspection result normal?

YES >> Replace power window main switch. Refer to <u>PWC-66, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# 5. CHECK GROUND CIRCUIT 1

1. Turn ignition 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	Power window main switch		Front power window motor (driver side)	
Connector	Terminal	Connector Terminal		Continuity
D5	2	D26	4	Existed

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

**O.**CHECK GROUND CIRCUIT 2

#### < DTC/CIRCUIT DIAGNOSIS >

1. Connect power window main switch connector.

	Power window	v main switch		
	Connector	Terminal	Ground	Continuity
	D5	2	-	Existed
he ir	nspection result norma	<u>al?</u>		
es D SS	>> Replace front po >> Replace power w ENGER SIDE	wer window motor (driver /indow main switch. Refe	side). Refer to <u>GW-30, "</u> r to <u>PWC-66, "Removal a</u>	Removal and Installation". and Installation".
ASS	ENGER SIDE : C	Component Function	n Check	INF01D:0000000
.CHE	CK FUNCTION			
heck	that front passenger s	side door glass perform A	AUTO UP/DOWN operati	ion normally when front p
the in	switch (passenger si	ue) is operated.		
<u>.ne ir</u> FS	>> INSPECTION F			
10	>> Refer to <u>PWC-37</u>	Y. "PASSENGER SIDE : D	Diagnosis Procedure".	
ASS	ENGER SIDE : D	)iagnosis Procedure	2	ΙΝΕΩΙΟ:0000000
				11 012.00000000
		0		
.CHE	CK ENCODER SIGN	AL		
CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope.	AL	(passenger side) harnes	ss connector and ground u
CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fre oscilloscope. (+	AL ont power window switch	(passenger side) harnes	ss connector and ground u
.CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (+ Front power window sw Connector	AL ont power window switch .) witch (passenger side) Terminal	(passenger side) harnes	Signal (Reference value)
.CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fre oscilloscope. (+ Front power window sw Connector	AL ont power window switch -) witch (passenger side) Terminal 12	(passenger side) harnes	Signal (Reference value)
.CHE Tui Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (4 Front power window sw Connector D45	AL ont power window switch .) witch (passenger side) Terminal 12 15	(passenger side) harnes (-) Ground	Signal (Reference value) Refer to following signal
.CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (+ Front power window sw Connector D45	AL ont power window switch .) witch (passenger side) Terminal 12 15	(passenger side) harnes (–) Ground	Signal (Reference value) Refer to following signal
.CHE Tur Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (4 Front power window sw Connector D45	AL ont power window switch ont power side ont power si	(passenger side) harnes (-) Ground Encoder signal 1	ss connector and ground u Signal (Reference value) Refer to following signal
.CHE Tui Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (4 Front power window sw Connector D45 Encoder signal 1	AL ont power window switch o) witch (passenger side) Terminal 12 15 15 10 10 10 10 10 10 10 10 10 10	(passenger side) harnes (-) Ground Encoder signal 1 $\begin{pmatrix} V \\ 4 \\ 2 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	ss connector and ground of Signal (Reference value) Refer to following signal
CHE Tui Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (4 Front power window sw Connector D45 Encoder signal 1	AL ont power window switch o) witch (passenger side) Terminal 12 15 15 Window UP ignal 2 starts 1/4 pulses earlier)	(passenger side) harnes (-) Ground Encoder signal 1 Encoder signal 2 (V) Ground Encoder signal 2 (V) Ground (V) (V) (V) (V) (V) (V) (V) (V)	Signal (Reference value) Refer to following signal
CHE Tui Ch an	CK ENCODER SIGN rn ignition switch ON. eck signal between fro oscilloscope. (4 Front power window sw Connector D45 Encoder signal 1 (1) (4) Encoder signal 2 (Encoder signal 2) (Encoder signal 2	AL ont power window switch ont power window switch ont power window switch ont power window switch Terminal 12 15 15 15 Window UP ignal 2 starts 1/4 pulses earlier)	(passenger side) harnes (-) Ground Encoder signal 1 $\begin{pmatrix} V \\ 4 \\ 2 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	Signal (Reference value) Refer to following signal
CHE Tui Ch an 	CK ENCODER SIGN rn ignition switch ON. eck signal between from oscilloscope. (+ Front power window structure Connector D45 Encoder signal 1 (V) Encoder signal 2 (Encoder signal 2 Spection result normation >> Replace front po	AL ont power window switch (passenger side) Terminal 12 15 Window UP ignal 2 starts 1/4 pulses earlier) Al? wer window switch (pass	(passenger side) harnes (-) Ground Encoder signal 1 Encoder signal 2 (v) Encoder signal 2 (v) (v) (v) (v) (v) (v) (v) (v)	Signal (Reference value) Refer to following signal Refer to following signal OW DOWN Starts 1/4 pulses earlier) JMKIA5210GB

2. CHECK ENCORDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

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

#### < DTC/CIRCUIT DIAGNOSIS >

Front power window s	switch (passenger side)	Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D45	12	D56	6	Existed
D45	15	50	5	LAISIEU

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

Front power window s	indow switch (passenger side)		Continuity
Connector	Terminal	Ground	Continuity
D45	12	Ground	Not ovisted
045	15		NUL EXISIEU

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# **3.**CHECK ENCORDER POWER SUPPLY

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

(+) Front power window motor (passenger side)		()	Voltage (V) (Approx.)	
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
D56	2	Ground	12	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

#### **4.**CHECK ENCODER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

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

Front power window switch (passenger side)		Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector Terminal		Continuity
D45	4	D56	2	Existed

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

Front power window s	Front power window switch (passenger side)		Continuity
Connector	Terminal	Ground	Continuity
D45	4		Not existed

#### Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-66, "Removal and Installa-</u> tion".

NO >> Repair or replace harness.

5. CHECK GROUND CIRCUIT 1

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

#### < DTC/CIRCUIT DIAGNOSIS >

Front power window s	witch (passenger side)	Front power window	v motor (passenger si	de)
Connector	Terminal	Connector	Terminal	Continuity
D45	3	D56	4	Existed
s the inspection result r YES >> GO TO 6. NO >> Repair or re CHECK GROUND C Connect front powe Check continuity be	pormal? eplace harness. IRCUIT 2 r window switch (pas	senger side) conne	ector. enger side) harne	ss connector and ground.
Connector		Torminal	Ground	Continuity
		3		Existed
s the inspection result r	ormal?	-		
YES >> Replace fro NO >> Replace fro <u>tion"</u> . REAR LH	nt power window mo nt power window sw	tor (passenger side vitch (passenger side	). Refer to <u>GW-30</u> de). Refer to <u>PW0</u>	), "Removal and Installation" C-66, "Removal and Installa
	onent Function C	heck		INFOID:0000000846324
heck that rear door LH operated. the inspection result r YES >> INSPECTIO	I glass performs AUT normal? DN END	O DOWN operation	n normally when r	ear power window switch LH
REAR LH : Diagno	sis Procedure	nagnosis Procedure	<u>ð.</u> .	INFOID:00000000846324
	SIGNAL			
. Turn ignition switch 2. Check signal betwe	ON. en rear power windo	w switch LH harnes	ss connector and	ground with oscilloscope.
Rear pov Connector	(+) ver window switch LH Termina	al	()	Signal (Reference value)
B42	12 15		Ground	Refer to following signal
Encoder signal 1	V A A A A A A A A A A A A A	Encoder sig Encoder sig Encoder sig es earlier)	inal 1 2 0 (V) (v) (v) (v) (v) (v) (v) (v) (v) (v) (v	DOWN ts 1/4 pulses earlier) JMKIA5210GB
s the inspection result r	normal?			
YES >> Replace rea	ar power window swit	tch LH. Refer to <u>PV</u>	<u>/C-66, "Removal</u>	and Installation".

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< DTC/CIRCUIT DIAGNOSIS >

#### NO >> GO TO 2.

# 2. CHECK ENCODER SIGNAL CIRCUIT

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

Rear power v	vindow switch LH	Rear power wi	Rear power window motor LH		
Connector	Terminal	Connector	Terminal	Continuity	
B42	12	R/1	5	Existed	
D42	15	D41	6	Existed	

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

Rear power wi	ndow switch LH		Continuity
Connector	Terminal	Ground	Continuity
B/2	12 Ground	Not ovisted	
042	15		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${\it 3.}$ Check encoder power supply

1. Connect rear power window switch LH connector.

2. Turn ignition switch ON.

3. Check voltage between rear power window motor LH harness connector and ground.

(•	(+) Rear power window motor LH			
Rear power wi			Voltage (V) (Approx.)	
Connector	Terminal			
B41	2	Ground	12	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

**4.**CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect rear power window switch LH connector.

3. Check continuity between rear power window switch LH harness connector and rear power window motor LH harness connector.

Rear power wi	Rear power window switch LH		Rear power window motor LH	
Connector	Terminal	Connector Terminal		Continuity
B42	4	B41	2	Existed

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

Rear power window switch LH			Continuity
Connector	Terminal	Ground	Continuity
B42	4		Not existed

Is the inspection result normal?

YES >> Replace rear power window switch LH. Refer to <u>PWC-66, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### < DTC/CIRCUIT DIAGNOSIS >

5.CHECK GROUND CIRCUIT	1
------------------------	---

- 1. Turn ignition 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	window switch LH	Rear power wi	indow motor LH	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	(
B42	3	B41	4	Existed	

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

Rear power wind	dow switch LH		Continuity	_
Connector Terminal		Ground	Continuity	
B42	3	-	Not existed	_

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

**6.**CHECK GROUND CIRCUIT 2

1. Connect rear power window switch LH connector.

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

Rear power window switch LH			Continuity	
Connector	Terminal	Ground	Continuity	
B42	3		Existed	

Is the inspection result normal?

YES >> Replace rear power window motor LH. Refer to <u>GW-16, "Removal and Installation"</u>.

NO >> Replace rear power window switch LH. Refer to <u>PWC-66, "Removal and Installation"</u>.

#### REAR RH

# **REAR RH : Component Function Check**

# **1.**CHECK FUNCTION

Check that rear door RH glass performs AUTO DOWN operation normally when rear power window switch RH  $\Box$  is operated.

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>PWC-41, "REAR RH : Diagnosis Procedure"</u>.

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

#### **1.**CHECK ENCODER SIGNAL

1. Turn ignition switch ON.

2. Check signal between rear power window switch RH harness connector and ground with oscilloscope.

(-	+)			D
Rear power wir	ndow switch RH	(—)	Signal (Reference value)	Г
Connector	Terminal		(	
P000	12	Ground	Pofor to following signal	
DZZZ	15	Giouna	Refer to following signal	

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INFOID:000000008463250

#### < DTC/CIRCUIT DIAGNOSIS >



Is the inspection result normal?

YES >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u>. NO >> GO TO 2.

2. CHECK ENCODER SIGNAL CIRCUIT

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

Rear power w	indow switch RH	Rear power wi	ndow motor RH	Continuity
Connector	Terminal	Connector	Terminal	Continuity
<b>P</b> 222	12	B221	5	Existed
DZZZ	15	B221 5	6	LAISIEU

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

Rear power window switch RH			Continuity
Connector	Terminal	Ground	Continuity
B222	12	Ground	Not existed
DZZZ	15	_	Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${\it 3.}$ Check encoder power supply

- 1. Connect rear power window switch RH connector.
- 2. Turn ignition switch ON.

3. Check voltage between rear power window motor RH harness connector and ground.

(	+)		
Rear power window motor RH		()	(Approx.)
Connector	Terminal		
B221	2	Ground	12

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

#### 4.CHECK ENCORDER POWER SUPPLY CIRCUIT

1. Turn ignition 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.

#### < DTC/CIRCUIT DIAGNOSIS >

Connector         Terminal         Connector         Terminal         Continuity           B222         4         B221         2         Existed           Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Ground         Continuity           B222         4         Not existed         Not existed         Not existed           the inspection result normal?         YES         >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         Not existed           VO         >> Repair or replace harness.               CHECK GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window rear RH harness connector.         Continuity           Rear power window switch RH         Rear power window switch RH connector         Terminal         Continuity           B222         3         B221         4         Existed           Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Continuity           B222         3         B221         4         Existed           Check continuity between rear power window	Rear power win	dow switch RH	Rear power w	indow motor RH	Continuity
B222     4     B221     2     Existed       Check continuity between rear power window switch RH harness connector and ground.     Rear power window switch RH     Ground     Continuity       B222     4     Ground     Continuity       B222     4     Not existed       Sthe inspection result normal?     YES     >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".       NO     >> Replace rear power window switch RH connector.     Check continuity between rear power window switch RH harness connector and rear power window r       Check continuity between rear power window switch RH harness connector and rear power window r     RH harness connector.       Rear power window switch RH     Rear power window switch RH harness connector and ground.       Rear power window switch RH     Continuity       B222     3     B221     4       Connector     Terminal     Continuity       B222     3     B221     4       Existed     Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH     Ground     Continuity       B222     3     B221     4     Existed       The inspection result normal?     YES     >> Go TO 6.     Not existed       Sthe inspection result normal?     Continuity     Continuity       YES	Connector	Terminal	Connector	Terminal	Continuity
Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       4       Not existed         the inspection result normal?       YES       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         NO       >> Repair or replace harness.       Second Sec	B222	4	B221	2	Existed
Rear power window switch RH         Ground         Continuity           B222         4         Not existed           the inspection result normal?         Version of the inspection result normal?         Not existed           VES         >> Replar or replace harness.	Check continuity be	tween rear power wi	ndow switch RH har	ness connector and	ground.
Connector         Terminal         Ground         Continuity           B222         4         Not existed         Not existed           the inspection result normal?         YES         >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         NO           VO         >> Repair or replace harness.          CHECK GROUND CIRCUIT 1            Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window representation.         Rear power window switch RH         Continuity           Connector         Terminal         Connector         Continuity         Continuity           B222         3         B221         4         Existed           Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Ground         Continuity           B222         3         B221         4         Existed         Check continuity between rear power window switch RH harness connector and ground.           Rear power window switch RH         Ground         Continuity         Continuity         Not existed           the inspection result normal?         YES         >> GO TO 6.         Not existed         Not existed           VO <td>Rear pow</td> <td>ver window switch RH</td> <td></td> <td></td> <td>Continuity</td>	Rear pow	ver window switch RH			Continuity
B222       4       Not existed         a the inspection result normal?       YES       >> Repair or replace harness.         NO       >> Repair or replace harness.       PWC-66, "Removal and Installation".         NO       >> Repair or replace harness.         Just Check GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window representation.         Rear power window switch RH       Rear power window motor RH         Connector       Terminal         B222       3       B221         A       Existed         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground         Continuity       B222       3         B222       3       B21         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground         Continuity       B222       3         Sthe inspection result normal?       YES         YES       > GO TO 6.       Not existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window	Connector	Termina	al	Ground	Continuity
athe inspection result normal?         YES       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         NO       >> Repair or replace harness.         OCHECK GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window read to continuity between rear power window switch RH arness connector and rear power window read to continuity a B222         Rear power window switch RH       Rear power window motor RH         Connector       Terminal         Connector       Terminal         Ground       Continuity         Rear power window switch RH       Ground         Continuity       E22         3       Continuity         EXES       >> GO TO 6.         NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 2       Connector         Connector       Terminal         Ground       Continuity         Exested       Ground <td< td=""><td>B222</td><td>4</td><td></td><td></td><td>Not existed</td></td<>	B222	4			Not existed
YES       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window representation.         Rear power window switch RH       Rear power window motor RH         Connector       Terminal         Ground       Continuity         B222       3         B222       3         Mot existed       Not existed         the inspection result normal?         YES       > GO TO 6.         NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 2       Connector.         Check continuity between rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH	the inspection result r	ormal?			
NO       >> Repair or replace harness.        CHECK GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window representation in the importance of	YES >> Replace rea	ar power window swi	tch RH. Refer to <u>PW</u>	C-66, "Removal and	l Installation".
Or CHECK GROUND CIRCUIT 1         Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window read rear power window switch RH harness connector.         Rear power window switch RH       Rear power window motor RH         Connector       Terminal       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Continuity         Rear power window switch RH       Ground       Continuity         NO       >> Repair or replace harness.       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Continuity         Check continuity between rear power window switch RH harness conne	NO >> Repair or re	place harness.			
Turn ignition switch OFF.         Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window read rear power window switch RH         Rear power window switch RH       Rear power window motor RH         Connector       Terminal       Connector         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Existed       Continuity         Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Continuity         Rear power window switch RH       Ground       Continuity       Continuity         Connector       Terminal       Ground       Continuity         Rear power window switch RH       Ground       Continuity         YES       > GO TO 6.       NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 2       Connector.       Continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity connector         Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Continuity	CHECK GROUND C	IRCUIT 1			
Disconnect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and rear power window rear RH harness connector.         Rear power window switch RH       Rear power window motor RH       Continuity         Connector       Terminal       Connector       Terminal         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Continuity         Connector       Terminal       Ground       Continuity         Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Continuity         B222       3       Not existed       Not existed         the inspection result normal?       YES       > GO TO 6.       NO       > Repair or replace harness.         CHECK GROUND CIRCUIT 2       Connect rear power window switch RH connector.       Continuity       Continuity         Connector       Terminal       Ground       Continuity         Rear power window switch RH       Ground       Continuity         Disconnector       Terminal       Ground       Continuity         Connector       Terminal       Ground       Continuity	. Turn ignition switch	OFF.			
Check continuity between rear power window switch RH harness connector and rear power window read and rear power window motor RH         Rear power window switch RH       Rear power window motor RH       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Image: Continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       3       Image: Continuity         Connector       Terminal       Ground       Continuity         B222       3       Image: Continuity       Continuity         B222       3       Image: Context power window switch RH       Continuity         Connector       Terminal       Ground       Continuity         Connector       Terminal       Ground       Continuity         Connector       Terminal       Ground       Continuity         Conne	Disconnect rear pov	ver window switch R	H connector.		
RH harness connector.         Rear power window switch RH       Rear power window motor RH       Continuity         Gennector       Terminal       Connector       Terminal       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Ground       Continuity         B222       3       Ground       Continuity         B222       3       Order terminal       Ground       Continuity         B222       3       Order terminal       Ground       Continuity         B222       3       Not existed       Not existed         the inspection result normal?       Yes       Yes       Yes       Yes         CO       >> Repair or replace harness.       .       .       .       .         CHECK GROUND CIRCUIT 2       Connector       Continuity       .       .       .         Connector       Terminal       Ground       Continuity       .       .       .         Connector       Terminal       Ground       Continuity       .       .       .       .       .         B222       3       Ground       Cont	Check continuity be	tween rear power wi	ndow switch RH harr	ness connector and	rear power window m
Rear power window switch RH       Rear power window motor RH       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Continuity         B222       3       Ground       Continuity         B222       3       Mot existed       Not existed         the inspection result normal?       ES       > GO TO 6.       Not existed         IO       >> Repair or replace harness.       .       .         .CHECK GROUND CIRCUIT 2       Connector.       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Continuity         Existed       the inspection result normal?       Existed       Existed         the inspection result normal?       3       Existed       Existed         ES       > Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".       .         IO       >> Replace rear power	RH harness connec	tor			
Rear power window switch RH         Rear power window motor RH         Continuity           Gonnector         Terminal         Connector         Terminal         Continuity           B222         3         B221         4         Existed           Check continuity between rear power window switch RH harness connector and ground.         Existed         Continuity           Rear power window switch RH         Ground         Continuity           B222         3         Ground         Continuity           B222         3         Mot existed         Not existed           Leinspection result normal?         KES         > GO TO 6.         Not existed           VO         >> Repair or replace harness.         .         .           .CHECK GROUND CIRCUIT 2         Connector         Continuity         Continuity           Connect rear power window switch RH         Ground         Continuity           B222         3         Ground         Continuity           Rear power window switch RH         Ground         Continuity           Connector         Terminal         Ground         Continuity           B222         3         Ground         Existed           the inspection result normal?         KES         >> Replace rear power window					
Connector       Terminal       Connector       Terminal       Continuity         B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Continuity         B222       3       Ground       Continuity         B222       3       Ground       Continuity         B222       3       Not existed       Not existed         Sthe inspection result normal?       YES       >> GO TO 6.       Not existed         YES       >> GO TO 6.       Not existed       Not existed         CHECK GROUND CIRCUIT 2       Connector.       Check continuity between rear power window switch RH connector.       Continuity         Connector       Terminal       Ground       Continuity         Rear power window switch RH       Ground       Continuity         B222       3       Existed       Existed         Ite inspection result normal?       YES       >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation".</u>	Rear power win	dow switch RH	Rear power w	indow motor RH	Continuity
B222       3       B221       4       Existed         Check continuity between rear power window switch RH harness connector and ground.       Rear power window switch RH       Continuity         Rear power window switch RH       Ground       Continuity         B222       3       Order of the second	Connector	Terminal	Connector	Terminal	Continuity
Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Connector       Terminal       Ground       Continuity         B222       3       Not existed       Not existed         the inspection result normal?       (FS)       >> GO TO 6.       Not existed         VO)       >> Repair or replace harness.       .       .         .CHECK GROUND CIRCUIT 2       Connector rear power window switch RH connector.       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       3       Continuity         Existed       Existed       Existed         the inspection result normal?       (Continuity         CS       >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	B222	3	B221	4	Existed
Controdut point of the index of the intervention of the ground.         Rear power window switch RH       Ground       Continuity         B222       3       Not existed         the inspection result normal?       (ES >> GO TO 6.       Not existed         VO >> Repair or replace harness.       .       .         .CHECK GROUND CIRCUIT 2       Connector ear power window switch RH connector.       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       3       Existed         the inspection result normal?       Ground       Continuity         Check continuity between rear power window switch RH harness connector and ground.       Existed         Rear power window switch RH       Ground       Continuity         B222       3       Existed         the inspection result normal?       (ES >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation", NO         VO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation", NO	Check continuity be	tween rear power wi	ndow switch RH har	ness connector and	around
Rear power window switch RH       Continuity         Connector       Terminal       Ground       Continuity         B222       3       Not existed         the inspection result normal?       (ES >> GO TO 6.       Not existed         VO >> Repair or replace harness.       .       .         .CHECK GROUND CIRCUIT 2       Connect rear power window switch RH connector.       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       3       Ground       Continuity         Existed       Existed       Existed       Existed         the inspection result normal?       Yes and the inspection result normal?       Yes and the inspection result normal?       Yes and the inspection result normal?         Yes and the inspection result normal?       Yes and the inspection result normal?       Yes and the installation.       Yes and the installation.         Yo       >> Replace rear power window switch RH. Refer to PWC-66. "Removal and Installation".       Yes and the installation.       Yes and the installation.	Check continuity be				ground.
Connector         Terminal         Ground         Continuity           B222         3         Not existed         Not existed           athe inspection result normal?         YES         >> GO TO 6.         Not existed           YES         >> GO TO 6.         NO         >> Repair or replace harness.         Scheck GROUND CIRCUIT 2           Connect rear power window switch RH connector.         Continuity between rear power window switch RH harness connector and ground.           Rear power window switch RH         Ground         Continuity           B222         3         Ground         Continuity           B222         3         Existed         Existed           The inspection result normal?         YES         >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".           NO         >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".         NO	Rear pow	ver window switch RH			<b>0</b>
B222       3       Not existed         a the inspection result normal?       YES       >> GO TO 6.         NO       >> Repair or replace harness.       .        CHECK GROUND CIRCUIT 2       .       .        Check continuity between rear power window switch RH connector.       .       Connect rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground       Continuity         B222       3       Existed         Sthe inspection result normal?       YES       >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	Connector	Termina	al	Ground	Continuity
the inspection result normal?         YES       >> GO TO 6.         NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 2         Connect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Connector       Terminal         B222       3         the inspection result normal?         YES       >> Replace rear power window switch RH. Refer to <u>GW-16, "Removal and Installation"</u> .         NO       >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .	B222	3			Not existed
YES       >> GO TO 6.         NO       >> Repair or replace harness.         CHECK GROUND CIRCUIT 2         . Connect rear power window switch RH connector.         . Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Connector       Terminal         B222       3         the inspection result normal?         YES       >> Replace rear power window switch RH. Refer to <u>GW-16, "Removal and Installation"</u> .         NO       >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .	the inspection result r	ormal?			
NO       >> Repair or replace harness.         D.CHECK GROUND CIRCUIT 2         .       Connect rear power window switch RH connector.         .       Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH       Ground         Connector       Terminal         B222       3         Sthe inspection result normal?         YES       >> Replace rear power window switch RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	YES >> GO TO 6.				
CHECK GROUND CIRCUIT 2         Connect rear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Connector         Terminal         B222         3         Sthe inspection result normal?         YES         >> Replace rear power window switch RH. Refer to <u>GW-16, "Removal and Installation"</u> .         NO	NO >> Repair or re	place harness.			
<ul> <li>Connect rear power window switch RH connector.</li> <li>Check continuity between rear power window switch RH harness connector and ground.</li> <li>Rear power window switch RH         <ul> <li><u>Rear power window switch RH</u></li> <li><u>Connector</u></li> <li><u>Terminal</u></li> <li><u>Ground</u></li> <li><u>Existed</u></li> </ul> </li> <li>s the inspection result normal?</li> <li>YES &gt;&gt; Replace rear power window motor RH. Refer to <u>GW-16, "Removal and Installation"</u>.</li> <li>NO &gt;&gt; Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u>.</li> </ul>	CHECK GROUND C	IRCUIT 2			
Connector lear power window switch RH connector.         Check continuity between rear power window switch RH harness connector and ground.         Rear power window switch RH         Connector       Terminal         B222       3         Sthe inspection result normal?         YES       >> Replace rear power window switch RH. Refer to <u>GW-16, "Removal and Installation"</u> .         NO       >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .	Connact rear nower	window owitch DU	annactor		
Rear power window switch RH       Continuity         Connector       Terminal       Ground       Continuity         B222       3       Existed       Existed         Sthe inspection result normal?       YES       >> Replace rear power window switch RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	Chock continuity bo	twoop roor power wi	ndow switch PH bor	noss connector and	around
Rear power window switch RH       Ground       Continuity         Connector       Terminal       Ground       Existed         B222       3       Existed       Existed         s the inspection result normal?       YES       >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	. Check continuity be	tween real power wi		ness connector and	ground.
Connector       Terminal       Ground       Continuity         B222       3       Existed       Existed         s the inspection result normal?       YES       >> Replace rear power window motor RH. Refer to GW-16, "Removal and Installation".       NO         NO       >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation".	Rear pow	ver window switch RH			
B222       3       Existed         s the inspection result normal?	Connector	Termina	al	Ground	Continuity
<ul> <li><u>s the inspection result normal?</u></li> <li>YES &gt;&gt; Replace rear power window motor RH. Refer to <u>GW-16, "Removal and Installation"</u>.</li> <li>NO &gt;&gt; Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u>.</li> </ul>	B222	3			Existed
YES >> Replace rear power window motor RH. Refer to <u>GW-16, "Removal and Installation"</u> . NO >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .	the inspection result r	ormal?			
NO >> Replace rear power window motor RH. Refer to <u>GW-16, "Removal and Installation"</u> . NO >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .					e etelletie e "
NO >> Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u> .	TES >> Replace rea	ar power window mo	tor KH. Keter to $\underline{GW}$	- 16, "Removal and I	nstallation".
	NO >> Replace rea	ar power window swi	tch RH. Refer to <u>PW</u>	C-66, "Removal and	<u>installation"</u> .

#### < DTC/CIRCUIT DIAGNOSIS >

# DOOR KEY CYLINDER SWITCH

# Component Function Check

INFOID:000000008463251

# **1.**CHECK FUNCTION

- 1. Select "DOOR LOCK" of "BCM" using CONSULT.
- 2. Select "KEY CYL LK-SW", "KEY CYL UN-SW" in "DATA MONITOR" mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item		Condition
KEX CXI TK-SM	Lock	: ON
REFORE ER-SW	Neutral / Unlock	: OFF
KEX CXI LINI-SW	Unlock	: ON
REF CTE ON-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>PWC-44</u>, "Diagnosis Procedure".

#### **Diagnosis Procedure**

INFOID:000000008463252

# 1. CHECK DOOR KEY CYLINDER SWITCH SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front door lock assembly (driver side) (door key cylinder switch) connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between front door lock assembly (driver side) (door key cylinder switch) harness connector and ground.

(	+)		
Front door lock as (door key cy	Front door lock assembly (driver side) (door key cylinder switch)		Voltage (V) (Approx.)
Connector	Terminal		
 D9	5	Ground	5
	6	Cround	3

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SWITCH CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect power window main switch connector.

3. Check continuity between power window main switch harness connector and front door lock assembly (driver side) (door key cylinder switch) harness connector.

Power windo	Power window main switch		Front door lock assembly (driver side) (door key cylinder switch)		
Connector	Terminal	Connector	Terminal		
DE	4	<b>D</b> 0	6	Evisted	
00	6	60	5	EXISTED	

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

# DOOR KEY CYLINDER SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

Power windo	w main switch	4	Continuity
Connector	Terminal	Ground	
D5	4		Not existed
	6		
Is the inspection result norm	al?		
YES >> Replace power	window main switch. Refer	r to <u>PWC-66, "Removal and</u>	<u>d Installation"</u> .
<ol> <li>Turn ignition switch OFI</li> <li>Check continuity between</li> </ol>	- . front door lock assamb	ly (driver side) (deer key c	wlinder switch) harness co
nector and ground.		iy (unver side) (door key d	yinder switch) harness co
Front door lock as	sembly (driver side)		
	Terminal	Ground	Continuity
	rerminal	-	Eviated
Da	4		Existed
Is the inspection result norm			
NO >> Repair or replace	e harness		
	INDER SWITCH		
Pofor to PMC 45 "Compon	ant Inspection"		
Is the inspection result norm	ent inspection.		
YES >> Check intermitte	ent incident Refer to GI-40	"Intermittent Incident"	
NO >> Replace front de	por lock assembly (driver s	ide) (door key cylinder swi	tch).
Component Inspection	ו		INF0/D-0000000846
	•		NV 012.00000000000
<b>1.</b> CHECK DOOR KEY CYL	INDER SWITCH		
1. Turn ignition switch OFF			
2. Disconnect front door lo	ck assembly (driver side) (	door key cylinder switch) c	connector.
<ol> <li>Check front door lock a ditions</li> </ol>	ssembly (driver side) (door	key cylinder switch) termi	nais under the following co
Ter	minal	Condition	Continuity
		Unlock	Existed

	lina	Condition	Continuity
5		Unlock	Existed
	Δ	Neutral / Lock	Not existed
6	6	Lock	Existed
0		Neutral / Unlock	Not existed

#### Is the inspection result normal?

YES >> INSPECTION END

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

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#### < DTC/CIRCUIT DIAGNOSIS >

#### POWER WINDOW SERIAL LINK POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000008463254

# 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### 1. Turn ignition switch ON.

2. Check signal between power window main switch harness connector and ground using an oscilloscope.

(+) Power window Connector	main switch Terminal	()	Signal (Reference value)
D5	14	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 15 10 10 15 10 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10

#### Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
- NO >> GO TO 2.

# 2. CHECK POWER WINDOW SERIAL LINK SIGNAL

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

	(•	+)			
	Power window main switch		(—)	Voltage (V) (Approx.)	
-	Connector Terminal				
	D5	14	Ground	12	

#### Is the measurement value within the specification?

- YES >> Replace power window main switch. Refer to PWC-66. "Removal and Installation".
- NO >> GO TO 3.

# **3.**CHECK POWER WINDOW SERIAL LINK CIRCUIT

#### 1. Turn ignition switch OFF.

- 2. Disconnect soft top control unit connector.
- 3. Check continuity between soft top control unit harness connector and power window main switch harness connector.

Soft top of	Soft top control unit		Power window main switch		
Connector	Terminal	Connector	Terminal	Continuity	
B323	19	D5	14	Existed	

4. Check continuity between soft top control unit harness connector and ground.

Soft top o	control unit		Continuity	
Connector	Connector Terminal		Continuity	
B323	19		Not existed	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace soft top control unit. Refer to <u>RF-229</u>, "<u>Removal and Installation</u>".

NO >> Repair or replace harness.

### FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

INFOID:000000008463255

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#### **1.**CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### 1. Turn ignition switch ON.

 Check signal between front power window switch (passenger side) harness connector and ground using an oscilloscope.

(+	)			
Front power window sv	vitch (passenger side)	(-)	Signal (Reference value)	
Connector	Terminal			
D45	16	Ground	(V) 15 0 10 ms JPMIA0013GB	F

Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <u>PWC-66, "Removal and Installa-</u> <u>tion"</u>. NO >> GO TO 2.

NO >> GO TO 2.

2.CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.

 Disconnect power window main switch connector and front power window switch (passenger side) 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	
D5	14	D45	16	Existed	

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

Power window main switch			Continuity	_
Connector	Terminal	Ground	Continuity	Ν
D5	14		Not existed	_

Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-66. "Removal and Installation".

NO >> Repair or replace harness.

REAR POWER WINDOW SWITCH LH

# REAR POWER WINDOW SWITCH LH : Diagnosis Procedure

# 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.

 Check signal between rear power window switch LH harness connector and ground using an oscilloscope.

# PWC-47

INFOID:000000008463256

#### < DTC/CIRCUIT DIAGNOSIS >

(+) Rear power wind	(+) Rear power window switch LH		Signal (Reference value)
Connector	Terminal		
B42	16	Ground	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1

Is the inspection result normal?

YES >> Replace rear power window switch LH. Refer to <u>PWC-66, "Removal and Installation"</u>.

NO >> GO TO 2.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

Power windo	Power window main switch		Rear power window switch LH	
Connector	Terminal	Connector Terminal		Continuity
D5	14	B42	16	Existed

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

Power window main switch			Continuity	
Connector Terminal		Ground	Continuity	
D5	14		Not existed	

Is the inspection result normal?

YES >> Replace power window main switch. Refer to <u>PWC-66, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### REAR POWER WINDOW SWITCH RH

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

INFOID:000000008463257

**1.**CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

1. Turn ignition switch ON.

2. Check signal between rear power window switch RH harness connector and ground using an oscilloscope.

(+) Rear power window switch RH		(-)	Signal (Reference value)	
Connector	Terminal		(	
B222	16	Ground	(V) 15 0 0 0 10 ms JPMIA0013GB	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace rear power window switch RH. Refer to PWC-66, "Removal and Installation". NO >> GO TO 2. А 2. CHECK POWER WINDOW SERIAL LINK CIRCUIT 1. Turn ignition switch OFF. В 2. Disconnect power window main switch connector and rear power window switch RH connector. 3. Check continuity between power window main switch harness connector and rear power window switch RH harness connector. С Power window main switch Rear power window switch RH Continuity Connector Terminal Connector Terminal D D5 14 B222 16 Existed Check continuity between power window main switch harness connector and ground. 4. Е Power window main switch Continuity Connector Terminal Ground F D5 14 Not existed Is the inspection result normal? YES >> Replace power window main switch. Refer to PWC-66, "Removal and Installation". NO >> Repair or replace harness. Н PWC L Μ Ν

Check that automatic adjusting function operates normally when driver side door is opened.

>> Refer to PWC-50, "DRIVER SIDE : Diagnosis Procedure".

Front door switch (driver side)

YES

NO

YES NO

1.

2.

4.	Check continuity be	etween front doo	r switch	(driver s	side) harn	ess connector	and g	round.

Terminal

3

Front door switch (driver side)			Continuity
Connector	Terminal	Ground	Continuity
B32	3		Not existed

Disconnect front door switch (driver side) connector and power window main switch connector.

3. Check continuity between front door switch (driver side) harness connector and power window main

Connector

D5

Power window main switch

Terminal

5

#### Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

**DRIVER SIDE : Component Function Check** 

DOOR SWITCH

**1.**CHECK FUNCTION

Is the inspection result normal?

Is the inspection result normal? >> GO TO 2.

Turn ignition switch OFF.

switch harness connector.

Connector

B32

>> INSPECTION END

**DRIVER SIDE : Diagnosis Procedure** 

Refer to DLK-55, "Component Function Check".

1.CHECK FRONT DOOR SWITCH (DRIVER SIDE)

>> Repair or replace malfunctioning parts. 2.check front door switch (driver side) circuit

DRIVER SIDE

>> Replace power window main switch. Refer to PWC-66, "Removal and Installation". YES

NO >> Replace or repair harness.

#### PASSENGER SIDE

#### PASSENGER SIDE : Component Function Check

# **1.**CHECK FUNCTION

Check that automatic adjusting function operates normally when passenger side door is opened. Is the inspection result normal?

YES >> INSPECTION END

>> Refer to PWC-50, "PASSENGER SIDE : Diagnosis Procedure". NO

#### PASSENGER SIDE : Diagnosis Procedure

# **1.**CHECK FRONT DOOR SWITCH (PASSENGER SIDE)

Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts. INFOID:00000008463260

Continuity

Existed

INFOID:00000008463259

INEOID:00000008463258

INFOID:000000008463261

# **DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{2.\text{CHECK}}$ FRONT DOOR SWITCH (PASSENGER SIDE) CIRCUIT

#### 1. Turn ignition switch OFF.

- Disconnect front door switch (passenger side) connector and front power window switch (passenger side) 2. connector.
- В 3. Check continuity between front door switch (passenger side) harness connector and front power window switch (passenger side) harness connector.

Front door switch	(passenger side)	Front power window switch (passenger side)		ssenger side) Front power window switch (passenger side)		Continuity	0
Connector	Terminal	Connector	Terminal	Continuity			
B233	3	D45	14	Existed			

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

Front door switch	(passenger side)		Continuity	-
Connector	Terminal	Ground	Continuity	
B233	3	_	Not existed	-
ne inspection result norma	212			F

#### Is the inspection result normal?

>> Replace front power window switch (passenger side). Refer to PWC-66, "Removal and Installa-YES tion".

NO >> Replace or repair harness.

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# NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

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

Diagnosis Procedure

INFOID:000000008463262

**1.**CHECK DTC WITH SOFT TOP CONTROL UNIT

Check that DTC is not detected with soft top control unit.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>RF-57, "DTC Index"</u>.

2. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to <u>BCS-70, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{3}$ . Check power window main switch power supply and ground circuit

Check power window main switch power supply and ground circuit. Refer to <u>PWC-28, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

**4.**CHECK POWER WINDOW MAIN SWITCH SERIAL LINK CIRCUIT

Check power window main switch serial link circuit.

Refer to <u>PWC-46</u>, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

**5.**REPLACE POWER WINDOW MAIN SWITCH

1. Replace power window main switch. Refer to PWC-66, "Removal and Installation".

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

#### DRIVER SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS > DRIVER SIDE POWER WINDOW DOES NOT OPERATE А **Diagnosis Procedure** INFOID:000000008463263 1.CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE) CIRCUIT В Check front power window motor (driver side) circuit. Refer to PWC-31, "DRIVER SIDE : Component Function Check". С Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CONFIRM THE OPERATION D Confirm the operation again. Is the result normal? Е YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". NO >> GO TO 1. F

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# FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS >

FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED : Diagnosis Procedure

**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 <u>PWC-29. "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

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

Check front power window motor (passenger side) circuit. Refer to <u>PWC-32, "PASSENGER SIDE : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{3}$ .confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED : Diagnosis Procedure

**1.**REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Replace front power window switch (passenger side). Refer to <u>PWC-66, "Removal and Installation"</u>.

>> INSPECTION END WHEN POWER WINDOW MAIN SWITCH IS OPERATED

WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure

INFOID:000000008463266

**1.**CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) SERIAL LINK CIRCUIT

Check front power window switch (passenger side) serial link circuit. Refer to <u>PWC-47, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

Revision: 2012 October

#### REAR LH SIDE POWER WINDOW DOES NOT OPERATE < SYMPTOM DIAGNOSIS > REAR LH SIDE POWER WINDOW DOES NOT OPERATE А 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:00000008463267 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-29, "REAR POWER WINDOW SWITCH : 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-33, "REAR LH : Component Function Check". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. ${f 3.}$ CONFIRM THE OPERATION Confirm the operation again. Н Is the result normal? YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". >> GO TO 1. NO WHEN REAR POWER WINDOW SWITCH LH IS OPERATED WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure INFOID:00000008463268 **1.**REPLACE REAR POWER WINDOW SWITCH LH PWC Replace rear power window switch LH. Refer to PWC-66, "Removal and Installation". L >> INSPECTION END WHEN POWER WINDOW MAIN SWITCH IS OPERATED M WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure INFOID:000000008463269 Ν 1.CHECK REAR POWER WINDOW SWITCH LH SERIAL LINK CIRCUIT Check rear power window switch LH serial link circuit. Refer to PWC-47, "REAR POWER WINDOW SWITCH LH : Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 2. >> Repair or replace the malfunctioning parts. NO 2. CONFIRM THE OPERATION Confirm the operation again. Is the result normal? YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". NO >> GO TO 1.

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

< SYMPTOM DIAGNOSIS >

REAR RH SIDE POWER WINDOW DOES NOT OPERATE WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure

1. CHECK REAR POWER WINDOW SWITCH RH POWER SUPPLY AND GROUND CIRCUIT

Check rear power window switch RH power supply and ground circuit. Refer to <u>PWC-29, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW MOTOR RH

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1. WHEN REAR POWER WINDOW SWITCH RH IS OPERATED

# WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:000000008463271

**1.**REPLACE REAR POWER WINDOW SWITCH RH

Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u>.

>> INSPECTION END WHEN POWER WINDOW MAIN SWITCH IS OPERATED

WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure

INFOID:000000008463272

**1.**CHECK REAR POWER WINDOW SWITCH RH SERIAL LINK CIRCUIT

Check rear power window switch RH serial link circuit. Refer to <u>PWC-48, "REAR POWER WINDOW SWITCH RH : Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-

LY	
< SYMPTOM DIAGNOSIS >	
AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES	
NORMALLY	A
DRIVER SIDE	
DRIVER SIDE : Diagnosis Procedure	В
1.PERFORM INITIALIZATION PROCEDURE	С
Initialization procedure is executed and operation is confirmed.	
Is the inspection result normal?	D
YES >> INSPECTION END	D
2 CHECK ENCODER CIRCUIT (DRIVER SIDE)	F
Check encoder circuit (driver side)	
Refer to <u>PWC-35, "DRIVER SIDE : Component Function Check"</u> .	_
Is the inspection result normal?	Γ
NO >> Repair or replace the malfunctioning parts.	
3.REPLACE POWER WINDOW MAIN SWITCH	G
1. Replace power window main switch. Refer to <u>PWC-66, "Removal and Installation"</u> .	
2. Confirm the operation after replacement. Is the inspection result normal?	Н
YES >> INSPECTION END	
NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u> .	I
PASSENGER SIDE : Diagnosis Procedure	J
1.PERFORM INITIALIZATION PROCEDURE	
Initialization procedure is executed and operation is confirmed.	PWC
Is the inspection result normal?	
YES >> INSPECTION END	L
NO >> GO 102. 2 CHECK ENCODED CIDCUIT (DASSENCED SIDE)	
Check encoder circuit (passenger side)	M
Refer to <u>PWC-37, "PASSENGER SIDE : Component Function Check"</u> .	
Is the inspection result normal?	N
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	1.4
3.REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIEDE)	$\sim$
1. Replace front power window switch (passenger side). Refer to <u>PWC-66, "Removal and Installation"</u> .	0
2. Confirm the operation after replacement.	5
YES >> INSPECTION END	Р
NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u> .	

# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-

< SYMPTOM DIAGNOSIS >

REAR LH : Diagnosis Procedure

INFOID:000000008463275

INFOID:000000008463276

**1.**CHECK ENCODER (REAR LH) CIRCUIT

Check encoder (rear LH) circuit.

Refer to PWC-39, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.REPLACE REAR POWER WINDOW SWITCH LH

1. Replace rear power window switch LH. Refer to <u>PWC-66, "Removal and Installation"</u>.

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

REAR RH

**REAR RH** : Diagnosis Procedure

**1.**CHECK ENCODER (REAR RH) CIRCUIT

Check encoder (rear RH) circuit. Refer to <u>PWC-41, "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**REPLACE REAR POWER WINDOW SWITCH RH

1. Replace rear power window switch RH. Refer to <u>PWC-66, "Removal and Installation"</u>.

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

# ANTI-PINCH FUNCTION DOES NOT OPERATE NORMALLY

< SYMPTOM DIAGNOSIS >

# ANTI-PINCH FUNCTION DOES NOT OPERATE NORMALLY

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Diagnosis Procedure	~
1.CHECK POWER WINDOW AUTO OPERATION	В
Check AUTO operation when anti-pinch function does not operate.	
Is the inspection result normal?         YES       >> GO TO 2.         NO       >> Refer to <u>PWC-57, "DRIVER SIDE : Diagnosis Procedure"</u> (driver side), <u>PWC-57, "PASSENGER SIDE : Diagnosis Procedure"</u> (passenger side).         2.CONFIRM THE OPERATION	C
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u> . NO >> GO TO 1.	E
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# AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE < SYMPTOM DIAGNOSIS >

# AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE DRIVER SIDE

INFOID:000000008463278

**1.**CHECK AUTO UP OPERATION

Check AUTO operation when automatic window adjusting function does not operate.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>PWC-57, "DRIVER SIDE : Diagnosis Procedure"</u>.

2.CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check front door switch (driver side).

Refer to PWC-50, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

**3.**REPLACE POWER WINDOW MAIN SWITCH

1. Replace power window main switch. Refer to <u>PWC-66, "Removal and Installation"</u>.

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

PASSENGER SIDE

# PASSENGER SIDE : Diagnosis Procedure

INFOID:000000008463279

**1.**CHECK AUTO UP OPERATION

Check AUTO operation when automatic window adjusting function does not operate.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>PWC-57, "PASSENGER SIDE : Diagnosis Procedure"</u>.

**2.**CHECK FRONT DOOR SWITCH (PASSENGER SIDE)

Check front door switch (passenger side).

Refer to <u>PWC-50, "PASSENGER SIDE : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.Replace front power window switch (passenger side)

1. Replace front power window switch (passenger side). Refer to PWC-66. "Removal and Installation".

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

**OPERATION DOES NOT OPER-**

< SYMPTOM DIAGN	IOSIS >	
POWER WIND	OW RETAINE	D POWER

#### ATE PROPERLY **Diagnosis Procedure** INFOID:000000008463280 В 1. CHECK FRONT DOOR SWITCH Check front door switch. С Refer to DLK-55, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. D >> Repair or replace the malfunctioning parts. NO 2.REPLACE BCM Replace BCM. Refer to BCS-77, "Removal and Installation". Е 1. 2. Confirm the operation after replacement. Is the inspection result normal? F >> INSPECTION END YES NO >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".

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# DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WINDOWS

< SYMPTOM DIAGNOSIS >

# DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WIN-DOWS

Diagnosis Procedure

INFOID:000000008463281

**1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed. Refer to <u>PWC-26</u>, "Work Procedure".

Is the inspection result normal?

YES >> INSPECTION END NO >> GO TO 2.

**2.**CHECK FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE) (DOOR KEY CYLINDER SWITCH)

Check front door lock assembly (driver side) (door key cylinder switch). Refer to <u>PWC-44, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

**3.**REPLACE POWER WINDOW MAIN SWITCH

1. Replace power window main switch. Refer to PWC-66. "Removal and Installation".

2. Confirm the operation after replacement.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".

<pre>KEYLESS POWER WINDOW DOWN DOES NOT OPERATE &lt; SYMPTOM DIAGNOSIS &gt;</pre>	
KEYLESS POWER WINDOW DOWN DOES NOT OPERATE	
Diagnosis Procedure	INFOID:000000008463282
1. CHECK REMOTE KEYLESS ENTRY FUNCTION	
Check remote keyless entry function. Does door lock/unlock with Intelligent Key button? YES >> GO TO 2. NO >> Refer to DLK-20, "REMOTE KEYLESS ENTRY FUNCTION : System Description".	
Z.CHECK POWER WINDOW OPERATION	
Check power window operation. <u>Does power window up/down with power window main switch?</u> YES >> GO TO 3. NO >> Refer to <u>PWC-52. "Diagnosis Procedure"</u> . <b>3.</b> CHECK "PW DOWN SET" SETTING IN "WORK SUPPORT"	
Check "PW DOWN SET" setting in "WORK SUPPORT". Refer to <u>DLK-35</u> , <u>"INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</u> . Is the inspection result normal? YES >> GO TO 4. NO >> Set "PW DOWN SET" setting in "WORK SUPPORT". <b>4.</b> REPLACE BCM	
<ol> <li>Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.</li> <li>Confirm the operation after replacement. <u>Is the inspection result normal?</u> YES &gt;&gt; INSPECTION END NO &gt;&gt; Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.</li> </ol>	

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# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

# POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

**Diagnosis Procedure** 

INFOID:000000008463283

**1.**REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch. Refer to <u>PWC-66, "Removal and Installation"</u>.

>> INSPECTION END

#### POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE < SYMPTOM DIAGNOSIS > POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE А DRIVER SIDE DRIVER SIDE : Diagnosis Procedure INFOID:00000008463284 В 1. REPLACE POWER WINDOW MAIN SWITCH Replace power window main switch. Refer to PWC-66, "Removal and Installation". >> INSPECTION END D PASSENGER SIDE **PASSENGER SIDE : Diagnosis Procedure** INFOID:000000008463285 Е **1.**REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE) Replace front power window switch (passenger side). F Refer to PWC-66, "Removal and Installation". >> INSPECTION END REAR LH **REAR LH : Diagnosis Procedure** INFOID:000000008463286 Н **1.**REPLACE REAR POWER WINDOW SWITCH LH Replace rear power window switch LH. Refer to PWC-66, "Removal and Installation". >> INSPECTION END REAR RH **REAR RH** : Diagnosis Procedure INFOID:00000008463287 PWC 1.REPLACE REAR POWER WINDOW SWITCH RH Replace rear power window switch RH. L Refer to PWC-66, "Removal and Installation". >> INSPECTION END Μ Ν

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#### < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION POWER WINDOW MAIN SWITCH

Exploded View

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- 1. Power window main switch
- 2. Power window main switch finisher

# Removal and Installation

INFOID:000000008463289

#### REMOVAL

- 1. Remove the power window main switch finisher. Refer to <u>INT-13, "Removal and Installation"</u>.
- 2. Power window main switch (1) is removed from power window main switch finisher (2) using remover tool (A).

#### 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 or front power window switch (passenger side) is replaced or removed, it is necessary to perform initialization procedure. Refer to <u>PWC-26</u>, "Work Procedure".