

SECTION **PWC**

POWER WINDOW CONTROL SYSTEM

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PRECAUTIONS

< PRECAUTION >

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Precaution for Technicians Using Medical Electric

INFOID:000000007071866

OPERATION PROHIBITION

WARNING:

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

NORMAL CHARGE PRECAUTION

WARNING:

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

Precaution at telematics system operation

WARNING:

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

Precaution at intelligent key system operation

WARNING:

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

Point to Be Checked Before Starting Maintenance Work

INFOID:000000007079431

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

NOTE:

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

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

INFOID:000000006923038

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS

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< PRECAUTION >

system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precaution for Removing 12V Battery

INFOID:000000006931585

When removing the 12V battery, turn ON/OFF the power switch and check that the charging status indicator does not blink. The 12V battery must be removed within one hour after checking the indicator lamp.

NOTE:

- The automatic 12V battery charge control may start even when the power switch is in OFF state.
- The automatic 12V battery charge control does not start within approximately one hour when the power switch is turned ON/OFF.

COMPONENT PARTS

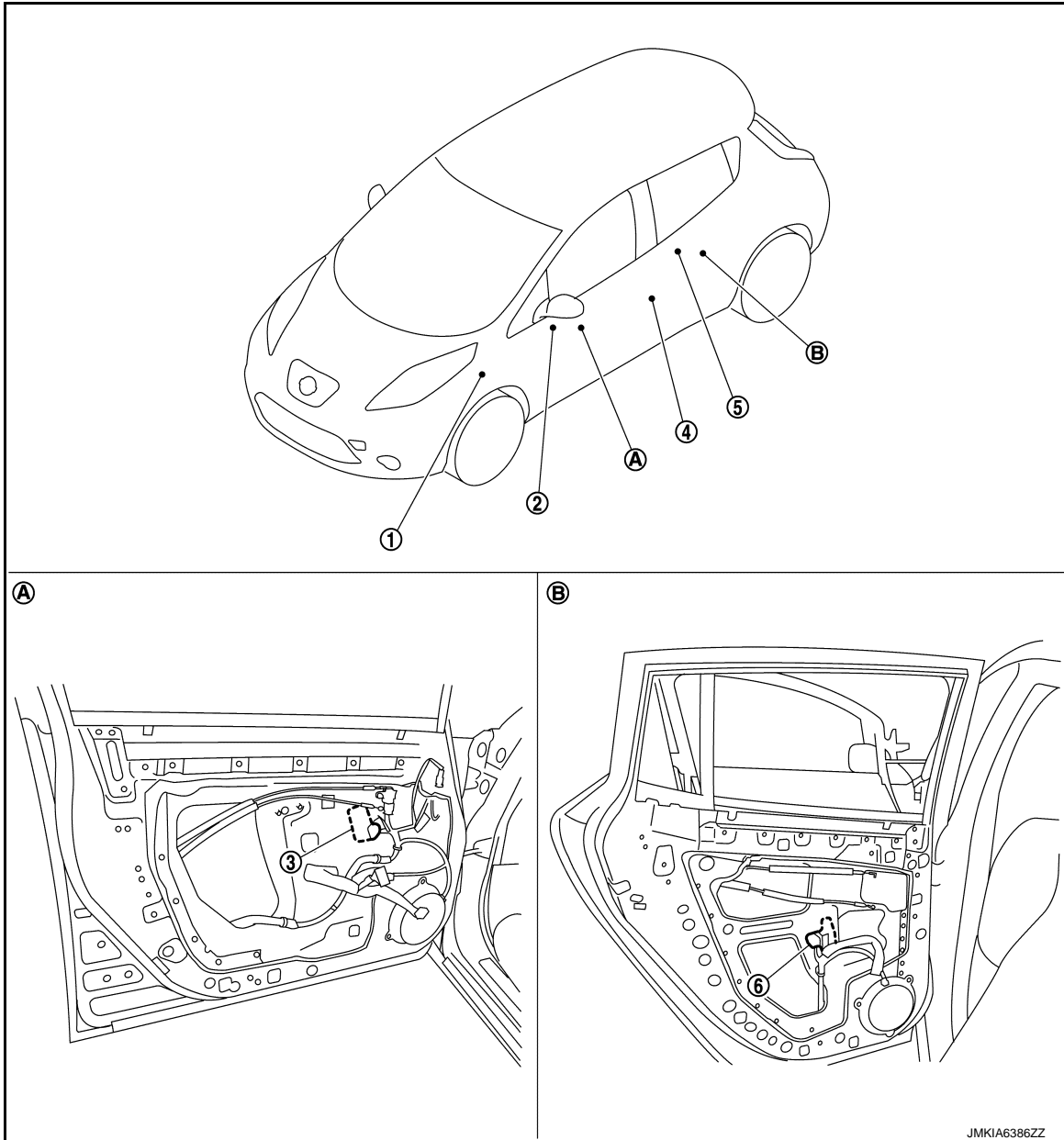
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000006825042



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

No.	Component parts	Function
1.	BCM	<ul style="list-style-type: none"> Supplies power supply to power window switch Controls retained power Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location
2.	Power window main switch	<ul style="list-style-type: none"> Directly controls all power window motor of all doors Controls anti-pinch operation of power window

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component parts	Function
3.	Front power window motor (driver side)	<ul style="list-style-type: none">• Integrates the encoder and power window motor• Starts operating with signals from power window main switch• Transmits front power window motor (driver side) rotation as a pulse signal to power window main switch
4.	Front door switch (driver side)	Inputs door open/close condition to BCM
5.	Rear power window switch LH	Controls power window motor of rear door LH
6.	Rear power window motor LH	Starts operating with signals from power window main switch & rear power window switch LH

SYSTEM

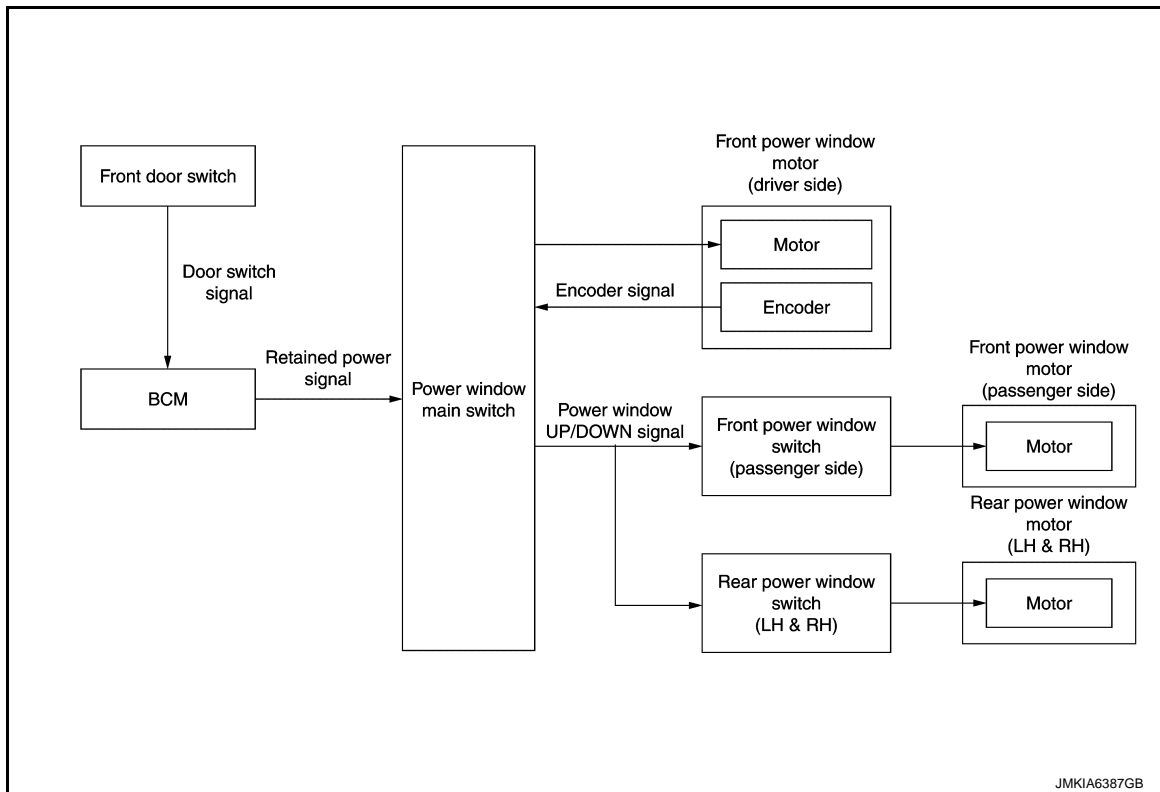
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SYSTEM

System Description

INFOID:000000006825043

SYSTEM DIAGRAM



POWER WINDOW OPERATION

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

POWER WINDOW AUTO-OPERATION (FRONT DRIVER SIDE)

- AUTO UP/DOWN operation can be performed when power window main switch turns to AUTO.
- Encoder continues detecting the movement of power window motor and transmits to power window switch as the encoder pulse signal while power window motor is operating.
- Power window switch reads the changes of encoder signal and stops AUTO operation when door glass is at fully opened/closed position.
- Power window motor is operable in case encoder is malfunctioning.

RETAINED POWER OPERATION

Retained power operation is an additional power supply function that enables power window system to operate for 45 seconds even when power switch is turned OFF.

RETAINED POWER CANCEL CONDITIONS

- Front door CLOSE (door switch OFF) → OPEN (door switch ON).
- When power switch is ON again.
- When timer time passes. (45 seconds)

POWER WINDOW LOCK

Ground circuit inside power window main switch shuts off when power window lock switch is ON. This inhibits power window switch operation except with the power window main switch.

ANTI-PINCH SYSTEM (FRONT DRIVER SIDE)

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

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

OPERATION CONDITION

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

NOTE:

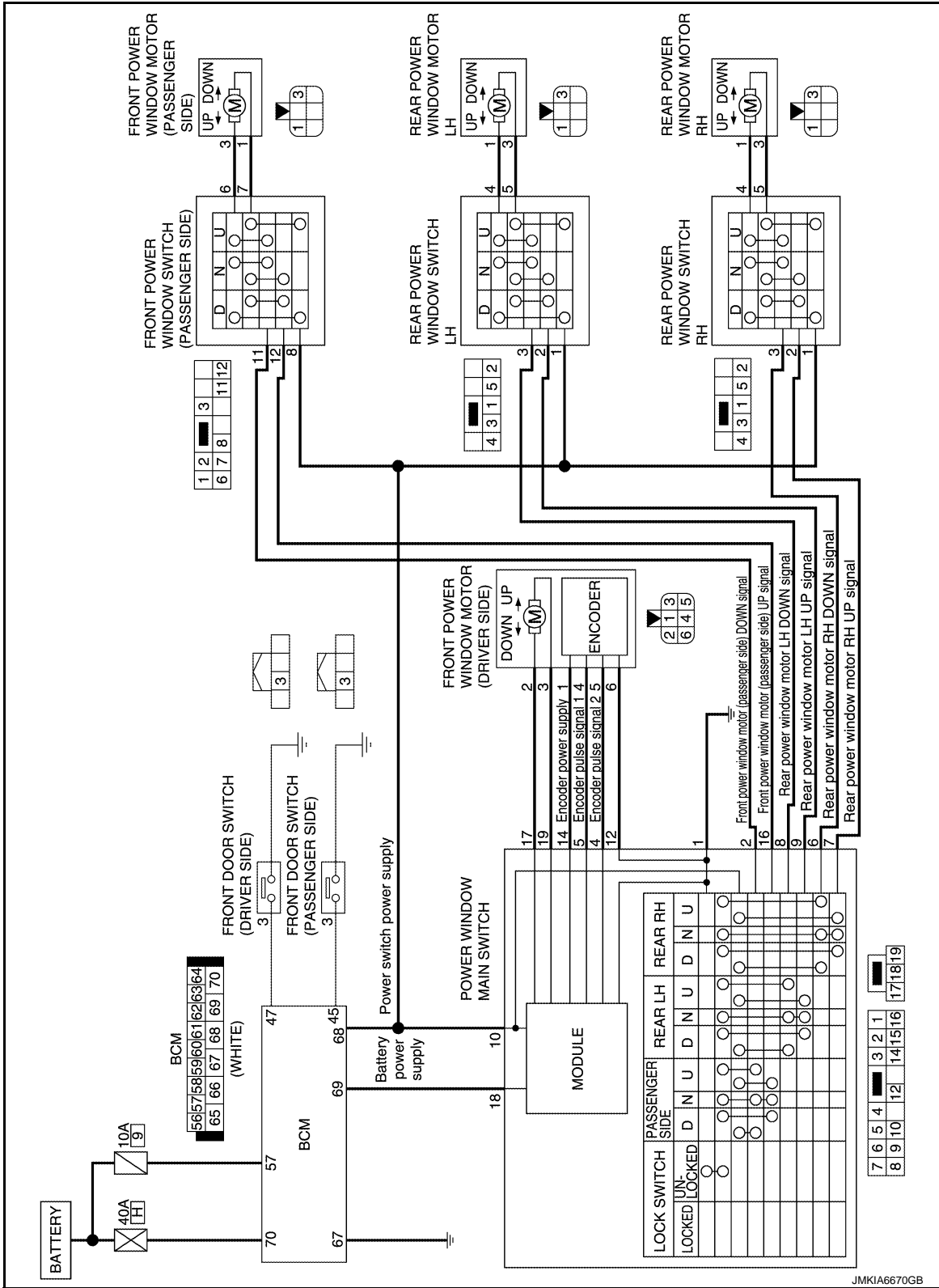
Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.

SYSTEM

< SYSTEM DESCRIPTION >

Schematic

INFOID:000000006893884



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Fail Safe

INFOID:000000006825044

FAIL-SAFE CONTROL

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

SYSTEM

< SYSTEM DESCRIPTION >

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.

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

- Auto-up operation
- Anti-pinch function

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007017015

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 style="list-style-type: none"> Read and save the vehicle specification. Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
—	AIR CONDITONER*		×	×
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

*: This item is displayed, but not used.

FREEZE FRAME DATA (FFD)

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power supply position status of the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (LOCK)]
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (OFF)]
	LOCK>ACC		While turning power supply position from OFF (LOCK) to ACC
	ACC>ON		While turning power supply position from ACC to ON
	RUN>ACC		While turning power supply position from READY (RUN) to ACC (Except emergency stop operation)
	CRANK>RUN		While turning power supply position from READY (CRANK) to READY (RUN)
	RUN>URGENT		While turning power supply position from READY (RUN) to ACC (Emergency stop operation)
	ACC>OFF		While turning power supply position from ACC to OFF (OFF)
	OFF>LOCK		While turning power supply position from OFF (OFF) to OFF (LOCK)
	OFF>ACC		While turning power supply position from OFF (OFF) to ACC
	ON>CRANK		While turning power supply position from ON to READY (CRANK)
	OFF>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (OFF)] to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (LOCK)] to low power consumption mode
	LOCK		Power supply position is OFF (LOCK)
	OFF		Power supply position is OFF (OFF)
	ACC		Power supply position is ACC
	ON		Power supply position is ON
	ENGINE RUN		Power supply position is READY (RUN)
CRANKING	Power supply position is READY (CRANK)		
IGN Counter	0 - 39	<p>The number of times that power switch is turned ON after DTC is detected</p> <ul style="list-style-type: none"> • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever power switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

NOTE:

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

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

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

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

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

RETAINED PWR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000006952200

DATA MONITOR

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

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BCM

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM

List of ECU Reference

INFOID:000000006825045

ECU	Reference
BCM	BCS-32, "Reference Value"
	BCS-52, "Fail-safe"
	BCS-53, "DTC Inspection Priority Chart"
	BCS-54, "DTC Index"

POWER WINDOW MAIN SWITCH

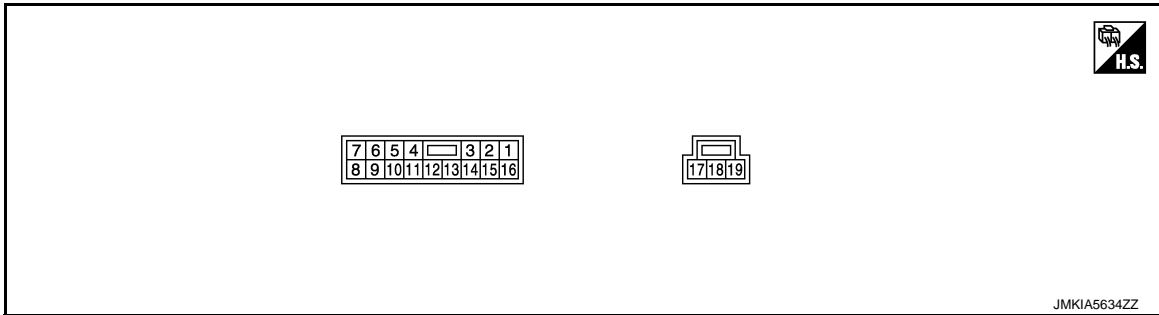
< ECU DIAGNOSIS INFORMATION >

POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000006825046

TERMINAL LAYOUT



PHYSICAL VALUES

POWER WINDOW MAIN SWITCH

Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0 – 1
2 (SB)	Ground	Front power window motor (passenger side) DOWN signal	Output	When front RH switch in power window main switch is DOWN at operated.	9 – 16
4 (W)	Ground	Encoder pulse signal 2	Input	When front power window motor (driver side) operates.	 JMkia0070GB
5 (Y)	Ground	Encoder pulse signal 1	Input	When front power window motor (driver side) operates.	 JMkia0070GB
6 (Y)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is DOWN at operated.	9 – 16
7 (LG)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is UP at operated.	9 – 16
8 (BR)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is DOWN at operated.	9 – 16
9 (P)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is UP at operated.	9 – 16

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POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS INFORMATION >

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

Fail Safe

INFOID:000000006825047

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 malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.

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

- Auto-up operation
- Anti-pinch function

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

POWER WINDOW SYSTEM

< WIRING DIAGRAM >

WIRING DIAGRAM

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Wiring Diagram

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POWER WINDOW SYSTEM

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POWER WINDOW SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16



Terminal No.	Color of Wire	Signal Name [Specification]
6	R	-
7	BR	-
10	W	-
11	LG	-
12	P	-
13	V	-
14	Y	-
15	W	-
16	L	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16



Terminal No.	Color of Wire	Signal Name [Specification]
4	V	-
7	V	-
8	P	-
9	GR	-
10	SB	-
11	V	-
12	LG	-
13	V	-
14	GR	-
15	L	-
16	G	-

Connector No.	B10
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA08FB-FHA6-SA

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



Terminal No.	Color of Wire	Signal Name [Specification]
43	Y	BACK DOOR SW
44	LG	REAR WIPER STOP POSITION
45	BR	PASSENGER DOOR SW
46	R	REAR RH DOOR SW
47	SB	DRIVER DOOR SW
48	W	REAR LH DOOR SW
49	L	LUGGAGE LAMP OUTPUT
51	P	BACK DOOR REG SW
53	GR	BK DOOR OPEN OUTPUT
54	P	REAR WIPER OUTPUT
55	GR	PASS. RR DOOR UNLK OUTPUT

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TK10FW-NSS

10	9	8	7	6	5	4	3	2	1
18	17	16	15	14	13	12	11		



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	P	-
11	G	-
12	R	-
14	W	-
15	Y	-
16	L	-

Connector No.	B17
Connector Name	WIRE TO WIRE
Connector Type	TK10FW-NSS

10	9	8	7	6	5	4	3	2	1
18	17	16	15	14	13	12	11		



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	LG	-
11	GR	-
12	V	-
14	L	-
15	V	-
16	GR	-

Connector No.	B48
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH

3



Terminal No.	3
Color of Wire	SB
Signal Name [Specification]	-

Connector No.	B49
Connector Name	FRONT DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH

3



Terminal No.	3
Color of Wire	BR
Signal Name [Specification]	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Type	TH04FW-CS15



15	14	13	12	11	10	9	8	7	6	5	4	3	2	1			
18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	R	-
3	Y	-
4	V	-
10	BR	-
11	Y	-
12	B	-
13	W	-
14	SB	-
15	R	-
24	Y	-
25	BR	-
26	SHIELD	-
36	B	-
37	P	-
38	Y	-
39	LG	-
44	V	-
45	W	-
46	BG	-

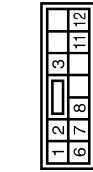
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POWER WINDOW SYSTEM

< WIRING DIAGRAM >

POWER WINDOW SYSTEM

Connector No.	D10
Connector Name	FRONT POWER WINDOW SWITCH (PASSENGER SIDE)
Connector Type	NS12FW-CS



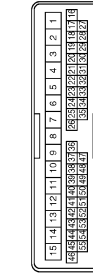
Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	BR	-
3	B	-
4	Y	-
5	R	-
6	R	-
7	SB	-
8	W	-
9	W	-
10	W	-
11	SB	-
12	W	-

Connector No.	D16
Connector Name	FRONT POWER WINDOW MOTOR (PASSENGER SIDE)
Connector Type	RS06FG



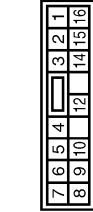
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
3	Y	-

Connector No.	D22
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	V	-
3	SB	-
4	Y	-
5	R	-
6	R	-
7	SB	-
8	W	-
9	W	-
10	W	-
11	W	-
12	SB	-
13	B	-
14	V	-
15	R	-
24	R	-
25	G	-
26	SHIELD	-
37	LG	-
38	V	-
39	P	-
40	Y	-
41	GR	-
42	V	-
43	L	-
44	L	-
45	LG	-
46	BR	-
47	G	-
48	L	-
49	R	-
50	BR	-

Connector No.	D35
Connector Name	POWER WINDOW MAIN SWITCH
Connector Type	NS18FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	SB	-
3	Y	-
4	W	-
5	Y	-
6	Y	-
7	LG	-
8	BR	-
9	P	-
10	V	-
12	R	-
14	G	-
15	BR	-
16	W	-

Connector No.	D36
Connector Name	POWER WINDOW MAIN SWITCH
Connector Type	NS03FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
17	R	-
18	R	-
19	GR	-

Connector No.	D37
Connector Name	FRONT POWER WINDOW MOTOR (DRIVER SIDE)
Connector Type	RS06FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	GR	-
4	Y	-
5	W	-
6	R	-

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	P	-
11	G	-
12	V	-
14	LG	-
15	Y	-
16	L	-

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POWER WINDOW SYSTEM

< WIRING DIAGRAM >

POWER WINDOW SYSTEM

Connector No.	D43
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Type	NS08FW-CS



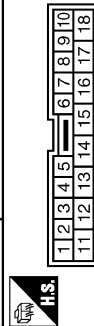
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	
2	LG	
3	Y	
4	G	
5	R	

Connector No.	D47
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Type	RS08FG



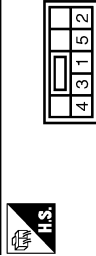
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	
3	R	

Connector No.	D61
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NSB



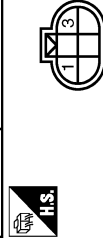
Terminal No.	Color of Wire	Signal Name [Specification]
1	V	
2	LG	
11	G	
12	V	
14	L	
15	BR	
18	Y	

Connector No.	D63
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Type	NS08FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	
2	BR	
3	Y	
4	G	
5	R	

Connector No.	D67
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Type	RS08FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	
3	R	

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80MM-CS (B-TM4)



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	
2	R	
3	GR	
4	LG	
6	W	
7	V	
8	P	
9	G	
10	R	
11	O	
12	W	
13	B	
14	Y	
15	BR	
16	LG	
17	L	
19	G	
20	V	
21	P	
22	LG	
23	GR	
24	L	
25	R	
26	SB	
27	B	
28	BR	
30	W	
31	V	
32	LG	
33	O	
34	L	
35	BR	
38	SB	
39	GR	
40	Y	
41	R	
42	W	
43	SB	

44	GR	
45	G	
46	P	
47	LG	
48	V	
49	G	
50	L	
51	W	
54	P	
55	O	
56	Y	
57	P	
58	LG	
60	LG	
61	GR	
62	BR	
64	R	
65	Y	
66	G	
67	V	
68	W	
69	SB	
71	Y	
72	L	
73	R	
74	L	
75	V	
76	P	
80	O	
81	L	
82	SB	
83	G	
84	BR	
85	LG	
86	GR	
88	B	
89	W	
90	SHIELD	
91	Y	
92	BR	
93	W	
94	R	
95	V	
96	P	
97	G	
98	SB	
99	O	

POWER WINDOW SYSTEM

< WIRING DIAGRAM >

POWER WINDOW SYSTEM

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	G	-
3	LG	-
4	V	-
10	BR	-
11	Y	-
12	B	-
13	W	-
14	SB	-
15	L	-
24	Y	-
25	BR	-
26	SHIELD	-
36	B	-
37	P	-
38	Y	-
39	LG	-
44	L	-
45	LG	-
46	BR	-

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Terminal No.	Color of Wire	Signal Name [Specification]
1	P	-
2	L	-

3	G	-
4	V	-
7	BR	-
8	Y	-
9	LG	-
10	Y	-
11	W	-
12	SB	-
13	B	-
14	L	-
15	R	-
24	R	-
25	G	-
26	SHIELD	-
37	LG	-
38	V	-
39	P	-
40	Y	-
41	B	-
42	P	-
43	L	-
44	L	-
45	LG	-
46	BR	-
47	W	-
48	GR	-
49	R	-
50	BR	-

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	NS18FW-CS

7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name [Specification]
6	V	-
7	P	-
10	W	-
11	LG	-
12	GR	-
13	W	-
14	X	-
15	LG	-

16	L	-
----	---	---

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS18FW-CS



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name [Specification]
4	BR	-
7	V	-
8	P	-
9	L	-
10	V	-
11	V	-
12	R	-
13	BR	-
14	Y	-
15	L	-
16	G	-

Connector No.	M89
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA08FW-FHA6-SA



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

Terminal No.	Color of Wire	Signal Name [Specification]
56	P	INT ROOM LAMP PWR SPPLY
57	P	BAT (FUSE)
59	LG	PASS DOOR UNLK OUTPUT
60	V	TURN SIG LH OUTPUT
61	W	TURN SIG RH OUTPUT
63	BR	INT ROOM LAMP CONT
65	V	ALL DOOR LOCK OUTPUT
66	G	DR DOOR UNLK OUTPUT

67	B	GND
68	L	PWR PWR SPPLY (ON)
69	P	PWR PWR SPPLY (BAT)
70	Y	BAT (F/L)

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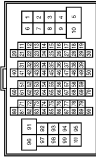


POWER WINDOW SYSTEM

< WIRING DIAGRAM >

POWER WINDOW SYSTEM

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FM-CS(B-TM4)



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	
2	V	
3	GR	
4	LG	
6	W	
7	V	
8	P	
9	SB	
10	L	
11	LG	
12	W	
13	R	
14	Y	
15	R	
16	GR	
17	BR	
19	G	
20	G	
21	P	
22	LG	
23	GR	
24	L	
25	V	
26	W	
27	L	
28	V	
29	W	
30	W	
31	SB	
32	LG	
33	V	
34	L	
35	SB	
38	LG	
39	GR	
40	Y	
41	R	
42	W	
43	SB	

44	GR	
45	P	
46	R	
47	W	
48	L	
49	G	
50	L	
51	L	
54	W	
55	G	
56	BR	
57	P	
58	R	
60	Y	
61	GR	
62	SB	
64	G	
65	V	
66	P	
67	Y	
68	P	
69	BR	
71	Y	
72	L	
73	G	
74	L	
75	V	
76	R	
80	W	
81	L	
82	SB	
83	R	
84	BR	
85	R	
86	GR	
88	R	
89	W	
90	SHIELD	
91	Y	
92	BR	
93	W	
94	P	
95	V	
96	P	
97	G	
98	R	
99	LG	

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

WorkFlow

INFOID:000000006825049

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

2.REPRODUCE THE MALFUNCTION INFORMATION

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

>> GO TO 3.

3.IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

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

>> GO TO 4.

4.IDENTIFY THE MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

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

>> GO TO 5.

5.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

6.FINAL CHECK

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

Are the malfunctions corrected?

YES >> INSPECTION END

NO >> GO TO 3.

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ADDITIONAL SERVICE WHEN REMOVING 12V BATTERY NEGATIVE TERMINAL

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REMOVING 12V BATTERY NEGATIVE TERMINAL

Description

INFOID:000000006825050

When the 12V 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

Work Procedure

INFOID:000000006825051

1.SYSTEM INITIALIZATION

Perform system initialization. Refer to [PWC-28. "Work Procedure"](#).

>> GO TO 2.

2.CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to [PWC-29. "Work Procedure"](#).

>> END

ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW MAIN SWITCH

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING POWER WINDOW MAIN SWITCH

Description

INFOID:000000006825052

When the power window main switch replaced, 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

Work Procedure

INFOID:000000006825053

1.SYSTEM INITIALIZATION

Perform system initialization. Refer to [PWC-28. "Work Procedure"](#).

>> GO TO 2.

2.CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to [PWC-29. "Work Procedure"](#).

>> END

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SYSTEM INITIALIZATION

< BASIC INSPECTION >

SYSTEM INITIALIZATION

Description

INFOID:000000006825054

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

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

CAUTION:

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

- **Auto-up operation**
- **Anti-pinch function**

Work Procedure

INFOID:000000006825055

1. STEP 1

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

>> GO TO 2.

2. STEP 2

Check anti-pinch function. Refer to [PWC-29. "Work Procedure"](#).

>> END

CHECK ANTI-PINCH FUNCTION

< BASIC INSPECTION >

CHECK ANTI-PINCH FUNCTION

Description

INFOID:000000006825056

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

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

Work Procedure

INFOID:000000006825057

1.CHECK ANTI-PINCH FUNCTION

- Fully open the door window.
- Place a piece of wood near fully closed position.
- Close door glass completely with AUTO-UP.
- Check the following conditions
 - Check that glass lowers for approximately 150 mm (5.9 in) without pinching piece of wood and stops.
 - Check that glass does not rise not when operating the power window main switch while lowering.

CAUTION:

- **Perform initial setting when AUTO-UP operation or anti-pinch function does not operate normally.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **To prevent injury, do not check with hands and other body parts because they may be pinched. Do not get pinched.**

>> END

PWC

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:000000006825058

1. CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY

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

(+)		(-)	Condition		Voltage (V) (Approx.)
Power window main switch Connector	Terminal				
D35	10	Ground	Power switch	ON	9 – 16
D36	18			OFF	

Is the inspection result normal?

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

2. CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY CIRCUIT

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

BCM		Power window main switch		Continuity
Connector	Terminal	Connector	Terminal	
M69	68	D35	10	Existed
	69	D36	18	

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69	68		Not existed
	69		

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-76. "Removal and Installation"](#).
NO >> Repair or replace harness.

3. CHECK POWER WINDOW MAIN SWITCH GROUND CIRCUIT

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

Power window main switch		Ground	Continuity
Connector	Terminal		
D35	1		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

INFOID:000000006825059

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

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

(+)		(-)	Voltage (V) (Approx.)
Front power window switch (passenger side)			
Connector	Terminal		
D10	8	Ground	9 – 16

Is the inspection result normal?

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

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

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

BCM		Front power window switch (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
M69	68	D10	8	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69	68		Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-76, "Removal and Installation"](#).
NO >> Repair or replace harness.

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000006825060

1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY

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

(+)		(-)	Voltage (V) (Approx.)	
Rear power window switch				
Connector	Terminal			
LH	D63	1	Ground	9 – 16
RH	D43			

Is the inspection result normal?

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

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY CIRCUIT

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

BCM		Rear power window switch		Continuity
Connector	Terminal	Connector	Terminal	
M69	68	LH	D63	1
		RH	D43	

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69	68		Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-76. "Removal and Installation"](#).
- NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Diagnosis Procedure

INFOID:000000006825061

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

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

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

Is the inspection result normal?

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

2. CHECK FRONT WINDOW SWITCH (PASSENGER SIDE) CIRCUIT

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

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

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

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

Is the inspection result normal?

- YES >> Replace power window main switch. Refer to [PWC-56, "Removal and Installation"](#).
NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).
Refer to [PWC-34, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Replace front power window switch (passenger side). Refer to [PWC-56, "Removal and Installation"](#).

4. CHECK INTERMITTENT INCIDENT

Refer to [GI-51, "Intermittent Incident"](#).

>> INSPECTION END

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

Component Inspection

INFOID:000000006825062

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

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

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front power window switch (passenger side). Refer to [PWC-56, "Removal and Installation"](#).

REAR POWER WINDOW SWITCH

< DTC/CIRCUIT DIAGNOSIS >

REAR POWER WINDOW SWITCH

Diagnosis Procedure

INFOID:000000006825063

1. CHECK REAR POWER WINDOW SWITCH INPUT SIGNAL

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

(+)		Terminal	(-)	Condition	Voltage (V) (Approx.)	
Rear power window switch						
Connector						
LH	D63	2	Ground	Power window main switch (rear LH)	NEUTRAL	0 – 1
		3			UP	9 – 16
					Power window main switch (rear RH)	NEUTRAL
		2				DOWN
RH	D43			3		NEUTRAL
		2				UP
						NEUTRAL
		3				DOWN

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK REAR POWER WINDOW SWITCH CIRCUIT

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

Power window main switch		Rear power window switch			Continuity
Connector	Terminal	Connector	Terminal		
D35	9	LH	D63	2	Existed
	8			3	
	7	RH	D43	2	
	6			3	

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

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

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-56, "Removal and Installation"](#).

NO >> Repair or replace harness.

3. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

REAR POWER WINDOW SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Refer to [PWC-36. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window switch. Refer to [PWC-56. "Removal and Installation"](#).

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-51. "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000006825064

1.CHECK REAR POWER WINDOW SWITCH

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

Rear power window switch		Condition	Continuity
Terminal			
1	5	UP	Existed
3	4		
3	4	NEUTRAL	
2	5		
1	4	DOWN	
2	5		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace rear power window switch. Refer to [PWC-56. "Removal and Installation"](#).

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:000000006825065

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

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

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

Is the inspection result normal?

- YES >> Replace front power window motor (driver side). Refer to [GW-21, "Removal and Installation"](#).
 NO >> GO TO 2.

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

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

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

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

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

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Repair or replace harness.

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000006825066

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

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

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

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

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

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

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

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

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

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Repair or replace harness.

REAR LH

REAR LH : Diagnosis Procedure

INFOID:000000006825067

1. CHECK REAR POWER WINDOW MOTOR LH INPUT SIGNAL

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

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

Is the inspection result normal?

- YES >> Replace rear power window motor LH. Refer to [GW-21, "Removal and Installation"](#).
 NO >> GO TO 2.

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

2.CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

1. Turn power 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 window switch LH		Rear power window motor LH		Continuity
Connector	Terminal	Connector	Terminal	
D63	4	D67	1	Existed
	5		3	

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

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

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Repair or replace harness.

REAR RH

REAR RH : Diagnosis Procedure

INFOID:000000006825068

1.CHECK REAR POWER WINDOW MOTOR RH INPUT SIGNAL

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

(+)		(-)	Condition	Voltage (V) (Approx.)
Connector	Terminal			
D47	1	Ground	NEUTRAL	0 – 1
			DOWN	9 – 16
	3		NEUTRAL	0 – 1
			UP	9 – 16

Is the inspection result normal?

- YES >> Replace rear power window motor RH. Refer to [GW-25, "Removal and Installation"](#).
 NO >> GO TO 2.

2.CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

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

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

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

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

Rear power window switch RH		Ground	Continuity
Connector	Terminal		
D43	4		Not existed
	5		

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Repair or replace harness.

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

ENCODER CIRCUIT

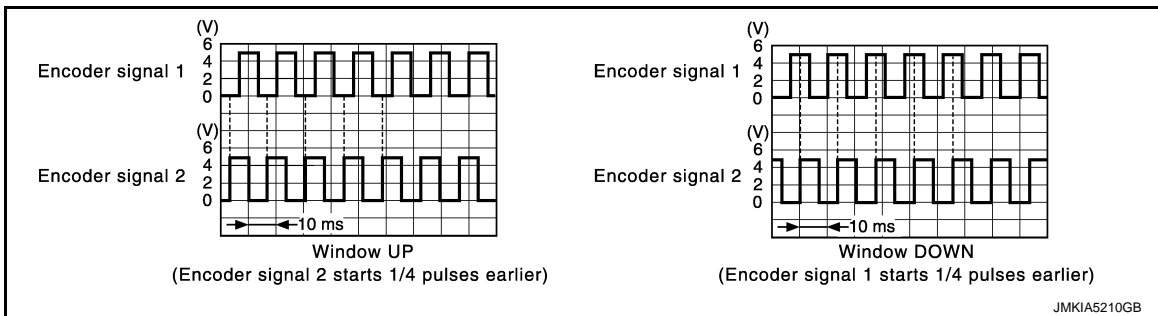
Diagnosis Procedure

INFOID:000000006825069

1. CHECK ENCODER PULSE SIGNAL

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

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



Is the inspection result normal?

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

2. CHECK ENCODER SIGNAL CIRCUIT

1. Turn power switch OFF.
2. Disconnect power window main switch connector and front power window motor (driver side) connector.
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 motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D35	4	D37	5	Existed
	5		4	

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

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

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK ENCODER POWER SUPPLY

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

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK ENCODER POWER SUPPLY CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace power window main switch.

NO >> Repair or replace harness.

5. CHECK ENCODER GROUND CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

6. CHECK ENCODER GROUND CIRCUIT

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

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

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

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

Is the inspection result normal?

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

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

7.CHECK INTERMITTENT INCIDENT

Refer to [GI-51, "Intermittent Incident"](#).

>> INSPECTION END

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POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

Diagnosis Procedure

INFOID:000000006825070

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.

Refer to [BCS-70, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

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

Check power window main switch power supply and ground circuit.

Refer to [PWC-30, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

DRIVER SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000006825071

1. CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).

Refer to [PWC-37, "DRIVER SIDE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

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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

INFOID:000000006825072

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to [PWC-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK FRONT POWER WINDOW MOTOR (PASSENGER SIDE)

Check front power window motor (passenger side).

Refer to [PWC-37, "PASSENGER SIDE : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

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

INFOID:000000006825073

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIR- CUIT

Check front power window switch (passenger side) power supply and ground circuit.

Refer to [PWC-31, "FRONT POWER WINDOW SWITCH \(PASSENGER SIDE\) : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to [PWC-33, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure

INFOID:000000006825074

1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to [PWC-33. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51. "Intermittent Incident"](#).

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PWC

REAR LH SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR LH SIDE POWER WINDOW DOES NOT OPERATE

WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED

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

INFOID:000000006825075

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-35, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to [PWC-38, "REAR LH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure

INFOID:000000006825076

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-31, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-35, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

REAR LH SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure

INFOID:000000006825077

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-35. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51. "Intermittent Incident"](#).

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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

INFOID:000000006825078

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-35, "Diagnosis Procedure"](#).

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-39, "REAR RH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:000000006825079

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 [PWC-31, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-35, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

WHEN POWER WINDOW MAIN SWITCH IS OPERATED

REAR RH SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure

INFOID:000000006825080

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-35. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51. "Intermittent Incident"](#).

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PWC

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000006825081

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-28, "Work Procedure"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to [PWC-41, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000006825082

1. CHECK POWER WINDOW AUTO OPERATION

Check AUTO operation when anti-pinch function does not operate.
Refer to [PWC-52, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

2. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

- YES >> INSPECTION END
- NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

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POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000006825083

1. REPLACE POWER WINDOW MAIN SWITCH

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

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:000000006825597

1. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to [DLK-92, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE BCM

• Replace BCM. Refer to [BCS-76, "Removal and Installation"](#).

• Confirm the operation after replacement.

Is the result normal?

YES >> INSPECTION END

NO >> Check intermittent incident. Refer to [GI-51, "Intermittent Incident"](#).

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POWER WINDOW MAIN SWITCH

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION


POWER WINDOW MAIN SWITCH

Removal and Installation

INFOID:000000006825084

REMOVAL

1. Remove power window main switch finisher. Refer to [JNT-13, "Removal and Installation"](#).
2. Remove power window main switch (1) from power window main switch finisher (2) using flat-head screw driver (A).

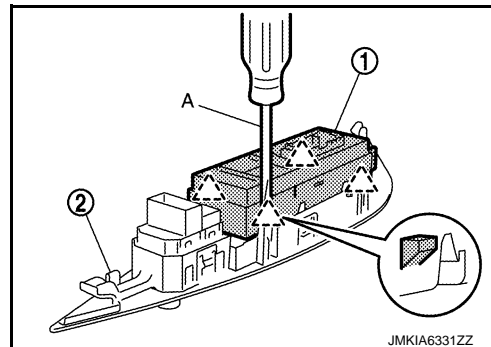
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CAUTION:

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

NOTE:

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



INSTALLATION

Install in the reverse order of removal.

NOTE:

If power window main switch is replaced or is removed, it is necessary to perform the initialization procedure. Refer to [PWC-28, "Work Procedure"](#).