

PWC

SECTION

POWER WINDOW CONTROL SYSTEM

CONTENTS

PRECAUTION	4	ECU DIAGNOSIS INFORMATION	13
PRECAUTIONS	4	BCM (BODY CONTROL MODULE)	13
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	4	List of ECU Reference	13
SYSTEM DESCRIPTION	5	POWER WINDOW MAIN SWITCH	14
COMPONENT PARTS	5	Reference Value	14
Component Parts Location	5	Fail Safe	15
Component Description	6	WIRING DIAGRAM	16
SYSTEM	7	POWER WINDOW SYSTEM	16
POWER WINDOW SYSTEM	7	Wiring Diagram	16
POWER WINDOW SYSTEM : System Diagram.....	7	BASIC INSPECTION	17
POWER WINDOW SYSTEM : System Description	7	DIAGNOSIS AND REPAIR WORK FLOW	17
Fail Safe	8	WorkFlow	17
DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)	9	ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL	18
COMMON ITEM	9	Description	18
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)	9	Work Procedure	18
RETAIND PWR	10	ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT	19
RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)	10	Description	19
DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)	11	Work Procedure	19
COMMON ITEM	11	SYSTEM INITIALIZATION	20
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)	11	Description	20
RETAIND PWR	11	Work Procedure	20
RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)	11	CHECK ANTI-PINCH FUNCTION	21
		Description	21
		Work Procedure	21
		DTC/CIRCUIT DIAGNOSIS	22
		POWER SUPPLY AND GROUND CIRCUIT	22
		POWER WINDOW MAIN SWITCH	22

A

B

C

D

E

F

G

H

I

J

PWC

L

M

N

O

P

POWER WINDOW MAIN SWITCH : Diagnosis Procedure	22	WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED : Diagnosis Procedure	38
FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	23	WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED	38
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure	23	WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED : Diagnosis Procedure	38
REAR POWER WINDOW SWITCH	23	WHEN POWER WINDOW MAIN SWITCH IS OPERATED	38
REAR POWER WINDOW SWITCH : Diagnosis Procedure	23	WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure	39
FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	25	REAR LH SIDE POWER WINDOW DOES NOT OPERATE	40
Component Function Check	25	WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED	40
Diagnosis Procedure	25	WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED : Diagnosis Procedure	40
Component Inspection	26	WHEN REAR POWER WINDOW SWITCH LH IS OPERATED	40
REAR POWER WINDOW SWITCH	27	WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure	40
Component Function Check	27	WHEN POWER WINDOW MAIN SWITCH IS OPERATED	40
Diagnosis Procedure	27	WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure	41
Component Inspection	28	REAR RH SIDE POWER WINDOW DOES NOT OPERATE	42
POWER WINDOW MOTOR	29	WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED	42
DRIVER SIDE	29	WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure	42
DRIVER SIDE : Component Function Check	29	WHEN REAR POWER WINDOW SWITCH RH IS OPERATED	42
DRIVER SIDE : Diagnosis Procedure	29	WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure	42
PASSENGER SIDE	29	WHEN POWER WINDOW MAIN SWITCH IS OPERATED	42
PASSENGER SIDE : Component Function Check	30	WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure	43
PASSENGER SIDE : Diagnosis Procedure	30	AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY (DRIVER SIDE)	44
REAR LH	30	Diagnosis Procedure	44
REAR LH : Component Function Check	30	ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (DRIVER SIDE)	45
REAR LH : Diagnosis Procedure	31		
REAR RH	31		
REAR RH : Component Function Check	31		
REAR RH : Diagnosis Procedure	32		
ENCODER CIRCUIT	33		
Component Function Check	33		
Diagnosis Procedure	33		
SYMPTOM DIAGNOSIS	36		
NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH	36		
Diagnosis Procedure	36		
DRIVER SIDE POWER WINDOW DOES NOT OPERATE	37		
Diagnosis Procedure	37		
FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE	38		
WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED	38		

Diagnosis Procedure	45	POWER WINDOW LOCK SWITCH DOES NOT FUNCTION	47	A
POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY	46	Diagnosis Procedure	47	
Diagnosis Procedure	46	REMOVAL AND INSTALLATION	48	B
		POWER WINDOW MAIN SWITCH	48	C
		Removal and Installation	48	
				D
				E
				F
				G
				H
				I
				J
				PWC
				L
				M
				N
				O
				P

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000007827573

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.

COMPONENT PARTS

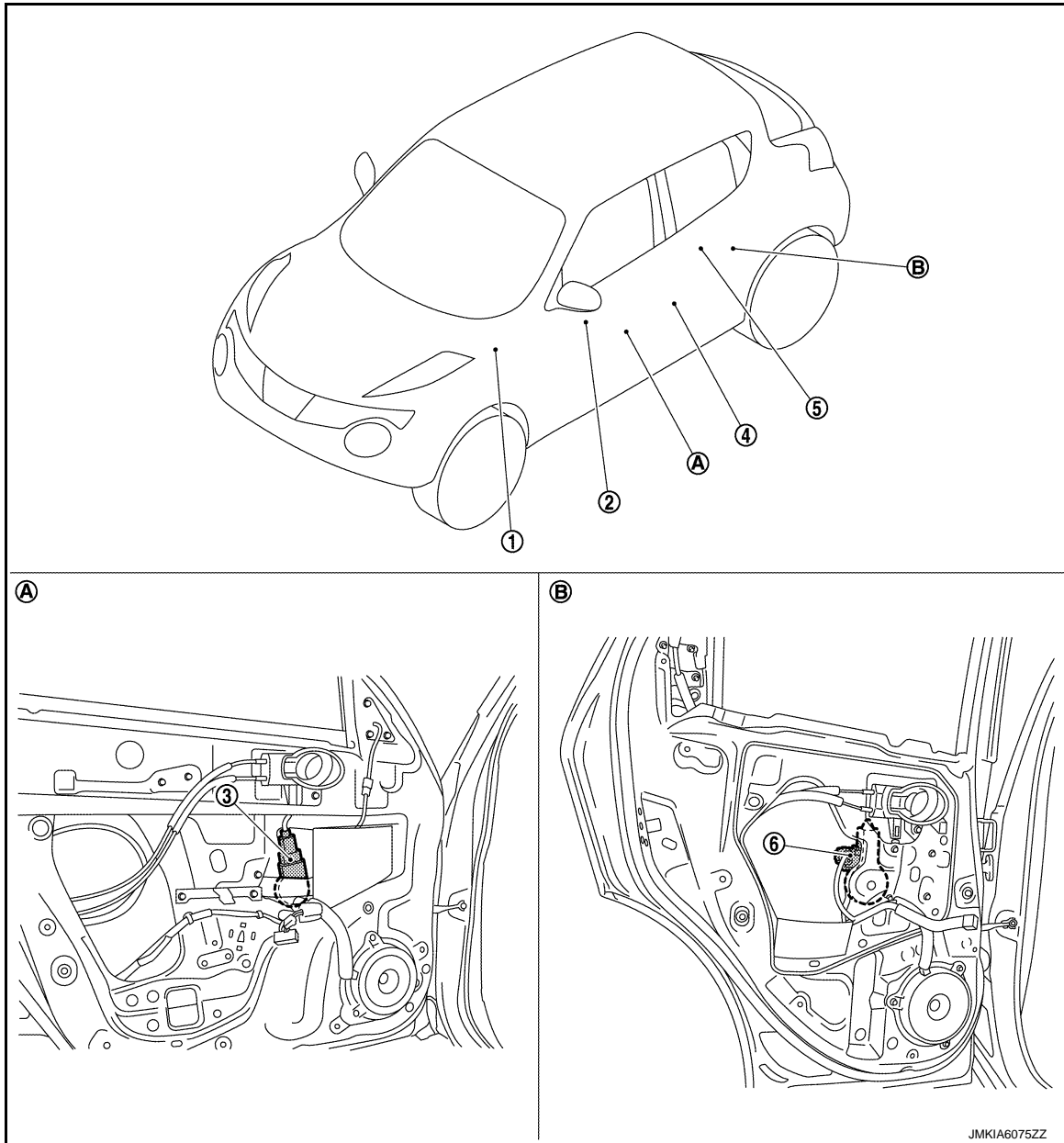
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000007579868



- | | | |
|---|---|---|
| 1. BCM
Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" (with Intelligent Key) or BCS-83, "BODY CONTROL SYSTEM : Component Parts Location" (without Intelligent Key) | 2. Power window main switch | 3. Front power window motor (driver side) |
| 4. Front door switch (driver side) | 5. Rear power window switch LH | 6. Rear power window motor LH |
| A. View with front door finisher removed | B. View with rear door finisher removed | |

COMPONENT PARTS

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000007579869

Component parts	Description
BCM	<ul style="list-style-type: none">Supplies power supply to power window switch.Controls retained power.
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.
Front power window switch (passenger side)	Controls power window motor of front passenger side door.
Rear power window switch (LH & RH)	Controls power window motor of rear door (LH & RH).
Front power window motor (driver side)	<ul style="list-style-type: none">Integrates the encoder and power window motor.Operates with signals from power window main switch.Transmits front power window motor (driver side) rotation as a pulse signal to power window main switch.
Front power window motor (passenger side)	Operates with signals from power window main switch and front power window switch (passenger side).
Rear power window motor (LH & RH)	Operates with signals from power window main switch and rear power window switch (LH & RH).
Encoder	Detects condition of the front power window motor (driver side) operation and transmits to power window main switch as pulse signal.
Front door switch	Detects door open/close condition and transmits to BCM.

SYSTEM

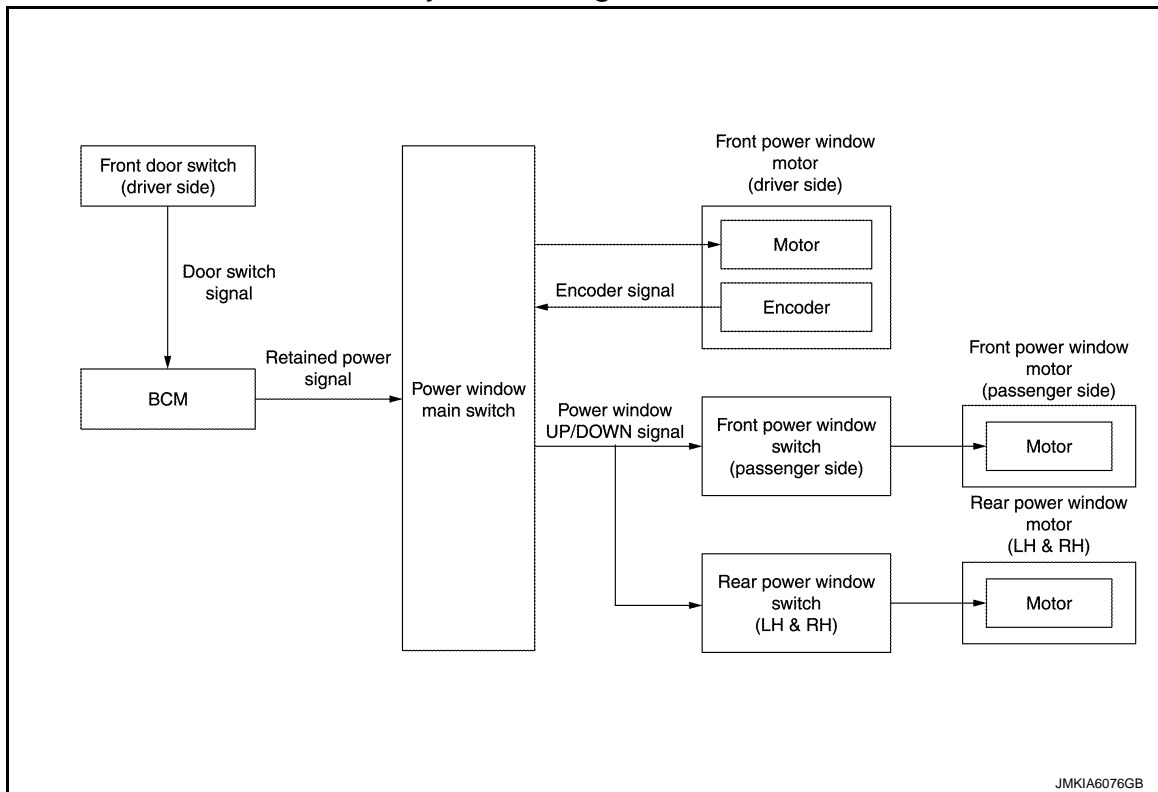
< SYSTEM DESCRIPTION >

SYSTEM

POWER WINDOW SYSTEM

POWER WINDOW SYSTEM : System Diagram

INFOID:000000007579870



POWER WINDOW SYSTEM : System Description

INFOID:000000007579871

- Power window system is activated by power window switch when ignition switch turns ON, or during the retained power operation after ignition switch turns OFF.
- Power window main switch opens/closes all door glass.
- Front and rear power window switch opens/closes the corresponding door glass.
- AUTO UP/DOWN operation can be performed when power window main switch turns to AUTO.
- Power window lock switch can lock all power windows other than driver seat.
- If door glass receives resistance that is the specified value or more while power window of driver seat is in AUTO-UP operation, power window of driver seat operates in the reverse direction.

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 (FRONT DRIVER SIDE)

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

Retained Power Cancel Conditions

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

POWER WINDOW LOCK

PWC

SYSTEM

< SYSTEM DESCRIPTION >

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

Fail Safe

INFOID:0000000007835518

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).

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007827563

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 conditioning system	AIR CONDITONER		×	×
<ul style="list-style-type: none"> Intelligent Key system Engine start 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	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

NOTE:

*: For models with automatic A/C, this diagnosis mode 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) (WITH INTELLIGENT KEY SYSTEM)

< 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 position status of the moment a particular DTC is detected	While turning BCM status from low power consumption mode to normal mode (Power position is "LOCK"*.)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power position is "OFF".)
	LOCK>ACC		While turning power position from "LOCK"* to "ACC"
	ACC>ON		While turning power position from "ACC" to "IGN"
	RUN>ACC		While turning power position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power position from "CRANKING" to "RUN" (From cranking up the engine to run it)
	RUN>URGENT		While turning power position from "RUN" to "ACC" (Emergency stop operation)
	ACC>OFF		While turning power position from "ACC" to "OFF"
	OFF>LOCK		While turning power position from "OFF" to "LOCK"*
	OFF>ACC		While turning power position from "OFF" to "ACC"
	ON>CRANK		While turning power position from "IGN" to "CRANKING"
	OFF>SLEEP		While turning BCM status from normal mode (Power position is "OFF".) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power position is "LOCK"*.) to low power consumption mode
	LOCK		Power position is "LOCK"*
	OFF		Power position is "OFF" (Ignition switch OFF)
	ACC		Power position is "ACC" (Ignition switch ACC)
	ON		Power position is "IGN" (Ignition switch ON with engine stopped)
	ENGINE RUN		Power position is "RUN" (Ignition switch ON with engine running)
	CRANKING		Power position is "CRANKING" (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected <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 ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

NOTE:

*: Power position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position (A/T models and CVT models), 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 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)

INFOID:0000000007579874

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.

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007827564

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 control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioning system	AIR CONDITONER		×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
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		×	×
Panic alarm	PANIC ALARM			×
TPMS	AIR PRESSUE MONITOR	×	×	×

RETAIND PWR

RETAIND PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000007579876

DATA MONITOR

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< 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.

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000007579877

ECU		Reference
BCM	With Intelligent Key	BCS-35, "Reference Value"
		BCS-56, "Fail-safe"
		BCS-57, "DTC Inspection Priority Chart"
		BCS-58, "DTC Index"
	Without Intelligent Key	BCS-108, "Reference Value"
		BCS-121, "Fail-safe"
		BCS-122, "DTC Inspection Priority Chart"
		BCS-122, "DTC Index"

PWC

POWER WINDOW MAIN SWITCH

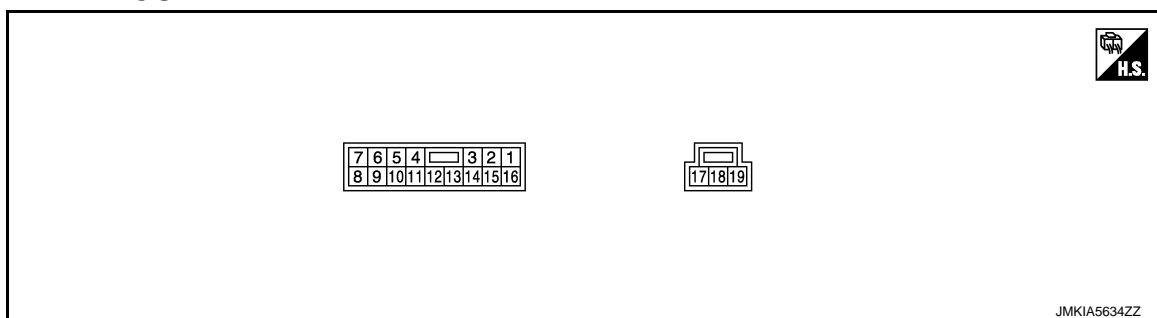
< ECU DIAGNOSIS INFORMATION >

POWER WINDOW MAIN SWITCH

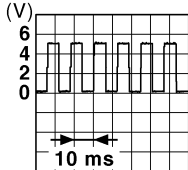
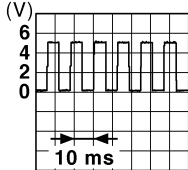
Reference Value

INFOID:000000007579878

TERMINAL LAYOUT



PHYSICAL VALUES

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 in DOWN operation.	9 – 16
4 (P)	Ground	Encoder pulse signal 2	Input	When front power window motor (driver side) operates.	 JMKIA0070GB
5 (W)	Ground	Encoder pulse signal 1	Input	When front power window motor (driver side) operates.	 JMKIA0070GB
6 (BR)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is in DOWN operation.	9 – 16
7 (LG)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is in UP operation.	9 – 16
8 (BG)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is in DOWN operation.	9 – 16
9 (G)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is in UP operation.	9 – 16
10 (L)	Ground	Ignition switch power supply	Input	Ignition switch ON	9 – 16
				Other than above	0 – 1

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Voltage (V)
+	-	Signal name	Input/ Output		
12 (LG)	Ground	Encoder ground	—	—	0 – 1
14 (G)	Ground	Encoder power supply	Output	Ignition 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 in UP operation.	9 – 16
17 (R)	Ground	Front power window motor (driver side) UP signal	Output	When front LH switch in power window main switch is in UP operation.	9 – 16
18 (P)	Ground	Battery power supply	Input	Ignition 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 in DOWN operation.	9 – 16

Fail Safe

INFOID:000000007579879

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).

A
B
C
D
E
F
G
H
I
J
PWC
L
M
N
O
P

< WIRING DIAGRAM >

POWER WINDOW SYSTEM

INFOID:0000000007579880

POWER WINDOW SYSTEM

Legend:

- IK : With Intelligent Key
- OI : Without Intelligent Key

Key:

- ★1 70: IK 68: IK 65: OI 67: IK 70: OI 69: IK 66: OI
- ★2 67: IK 47: IK 44: OI
- ★3 69: IK 66: OI

Wiring Diagram:

The diagram illustrates the electrical connections for the power window system, including the battery, BCM (Body Control Module), front and rear door switches, power window main switch, and front and rear power window motors.

Components and Connections:

- BATTERY:** Connected to the ignition switch (ON or START) and the 40A fuse (G).
- BCM (BODY CONTROL MODULE):** Receives signals from the front door switch (driver side) and the front door switch (passenger side). It controls the front power window motor (driver side) and the front power window motor (passenger side).
- FRONT DOOR SWITCH (DRIVER SIDE):** Controls the front power window motor (driver side).
- FRONT DOOR SWITCH (PASSENGER SIDE):** Controls the front power window motor (passenger side).
- POWER WINDOW MAIN SWITCH:** Controls the front and rear power window motors.
- FRONT POWER WINDOW MOTOR (DRIVER SIDE):** Controlled by the BCM and the front door switch (driver side).
- FRONT POWER WINDOW MOTOR (PASSENGER SIDE):** Controlled by the BCM and the front door switch (passenger side).
- REAR POWER WINDOW MOTOR LH:** Controlled by the BCM and the rear door switch (LH).
- REAR POWER WINDOW MOTOR RH:** Controlled by the BCM and the rear door switch (RH).

Wiring Details:

- The battery is connected to the 40A fuse (G) and the 10A fuse (9).
- The 10A fuse (9) is connected to the 38 pin of the BCM.
- The 40A fuse (G) is connected to the 57 pin of the BCM.
- The BCM is connected to the front door switch (driver side) and the front door switch (passenger side).
- The front door switch (driver side) is connected to the front power window motor (driver side).
- The front door switch (passenger side) is connected to the front power window motor (passenger side).
- The power window main switch is connected to the front and rear power window motors.
- The rear power window motor LH is connected to the BCM and the rear door switch (LH).
- The rear power window motor RH is connected to the BCM and the rear door switch (RH).

2010/08/30

JCKWA3413GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

WorkFlow

INFOID:000000007579881

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 "DTC/CIRCUIT DIAGNOSIS"

Perform the diagnosis with "DTC/CIRCUIT 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.

A
B
C
D
E
F
G
H
I
J
PWC
L
M
N
O
P

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

Description

INFOID:000000007579882

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

Work Procedure

INFOID:000000007579883

1.SYSTEM INITIALIZATION

Perform system initialization. Refer to [PWC-20. "Work Procedure"](#).

>> GO TO 2.

2.CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to [PWC-21. "Work Procedure"](#).

>> END

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

Description

INFOID:000000007579884

When the control unit 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:000000007579885

1.SYSTEM INITIALIZATION

Perform system initialization. Refer to [PWC-20. "Work Procedure"](#).

>> GO TO 2.

2.CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to [PWC-21. "Work Procedure"](#).

>> END

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

SYSTEM INITIALIZATION

< BASIC INSPECTION >

SYSTEM INITIALIZATION

Description

INFOID:000000007579886

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 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 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:000000007579887

1.STEP 1

1. Turn ignition 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-21. "Work Procedure"](#).

>> END

CHECK ANTI-PINCH FUNCTION

< BASIC INSPECTION >

CHECK ANTI-PINCH FUNCTION

Description

INFOID:000000007579888

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

- Disconnection and connection of 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 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:000000007579889

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 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

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:000000007579890

1. CHECK POWER WINDOW MAIN SWITCH 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.

(+)		(-)	Condition		Voltage (V)
Power window main switch					
Connector	Terminal				
D35	10	Ground	Ignition 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. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and power window main switch harness connector.

BCM		Power window main switch		Continuity
Connector	Terminal	Connector	Terminal	
M69 (M66)	68 (67)	D35	10	Existed
	69 (66)	D36	18	

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69 (M66)	68 (67)		Not existed
	69 (66)		

(): Without Intelligent Key

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-80. "Removal and Installation"](#) (with Intelligent Key) or [BCS-141. "Removal and Installation"](#) (without Intelligent Key).

NO >> Repair or replace harness.

3. CHECK POWER WINDOW MAIN SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. 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.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

FRONT POWER WINDOW SWITCH (PASSENGER SIDE) : Diagnosis Procedure

INFOID:000000007579891

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

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

(+)		(-)	Voltage (V)
Front power window switch (passenger side)			
Connector	Terminal		
D10	1	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 ignition 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 (M66)	68 (67)	D10	1	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69 (M66)	68 (67)		Not existed

(): Without Intelligent Key

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-80, "Removal and Installation"](#) (with Intelligent Key) or [BCS-141, "Removal and Installation"](#) (without Intelligent Key).

NO >> Repair or replace harness.

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000007579892

1.CHECK REAR POWER WINDOW SWITCH POWER SUPPLY

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

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition 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 (M66)	68 (67)	LH	D63	1	Existed
		RH	D43		

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69 (M66)	68 (67)		Not existed

(): Without Intelligent Key

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-80, "Removal and Installation"](#) (with Intelligent Key) or [BCS-141, "Removal and Installation"](#) (without Intelligent Key).

NO >> Repair or replace harness.

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Component Function Check

INFOID:000000007579893

1. CHECK FUNCTION

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PWC-25, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000007579894

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

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

(+) Front power window switch (passenger side)		(-)	Condition		Voltage (V)
Connector	Terminal				
D10	2	Ground	Power window main switch (passenger side)	NEUTRAL	0 – 1
				UP	9 – 16
	3			NEUTRAL	0 – 1
				DOWN	9 – 16

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

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

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

PWC

Front power window switch (passenger side)		Power window main switch		Continuity
Connector	Terminal	Connector	Terminal	
D10	2	D35	16	Existed
	3		2	

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

Front power window switch (passenger side)		Ground	Continuity
Connector	Terminal		
D10	2		Not existed
	3		

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-48, "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-26, "Component Inspection"](#).

Is the inspection result normal?

FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 4.
NO >> Replace front power window switch (passenger side).

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-43, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:0000000007579895

1.CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

1. Turn ignition 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			
1	5	UP	Existed
3	4		
2	5	NEUTRAL	
3	4		
1	4	DOWN	
2	5		

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front power window switch (passenger side).

REAR POWER WINDOW SWITCH

< DTC/CIRCUIT DIAGNOSIS >

REAR POWER WINDOW SWITCH

Component Function Check

INFOID:000000007579896

1. CHECK FUNCTION

Check rear power window motor operation with rear power window switch.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PWC-27, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000007579897

1. CHECK REAR POWER WINDOW SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK REAR POWER WINDOW SWITCH CIRCUIT

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

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

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

A
B
C
D
E
F
G
H
I
J
PWC
L
M
N
O
P

REAR POWER WINDOW SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Rear power window switch			Ground	Continuity
Connector		Terminal		
LH	D63	2		Not existed
		3		
RH	D43	2		
		3		

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-48, "Removal and Installation"](#).

NO >> Repair or replace harness.

3.CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to [PWC-28, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window switch.

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-43, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000007579898

1.CHECK REAR POWER WINDOW SWITCH

1. Turn ignition 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		
2	5	NEUTRAL	
3	4		
1	4	DOWN	
2	5		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace rear power window switch.

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Component Function Check

INFOID:000000007579899

1. CHECK FUNCTION

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PWC-29. "DRIVER SIDE : Diagnosis Procedure"](#).

DRIVER SIDE : Diagnosis Procedure

INFOID:000000007579900

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

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

(+) Front power window motor (driver side)		(-)	Condition		Voltage (V)
Connector	Terminal				
D37	2	Ground	Power window main switch (driver 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 (driver side).

NO >> GO TO 2.

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

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

Front power window motor (driver side)		Power window main switch		Continuity
Connector	Terminal	Connector	Terminal	
D37	2	D35	17	Existed
	3		19	

4. Check continuity between front power window motor (driver side) harness connector and ground.

Front power window motor (driver side)		Ground	Continuity
Connector	Terminal		
D37	2		Not existed
	3		

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-48. "Removal and Installation"](#).

NO >> Repair or replace harness.

PASSENGER SIDE

A
B
C
D
E
F
G
H
I
J
PWC
L
M
N
O
P

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

PASSENGER SIDE : Component Function Check

INFOID:000000007579901

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 >> INSPECTION END

NO >> Refer to [PWC-30, "PASSENGER SIDE : Diagnosis Procedure"](#).

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000007579902

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.

(+)		(-)	Condition		Voltage (V)
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).

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 motor (passenger side) harness connector and front power window switch (passenger side) harness connector.

Front power window motor (passenger side)		Front power window switch (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
D16	1	D10	5	Existed
	3		4	

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

Front power window motor (passenger side)		Ground	Continuity
Connector	Terminal		
D16	1		Not existed
	3		

Is the inspection result normal?

YES >> Replace front power window switch (passenger side).

NO >> Repair or replace harness.

REAR LH

REAR LH : Component Function Check

INFOID:000000007579903

1.CHECK FUNCTION

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PWC-31, "REAR LH : Diagnosis Procedure"](#).

REAR LH : Diagnosis Procedure

INFOID:000000007579904

1. CHECK REAR POWER WINDOW MOTOR LH INPUT SIGNAL

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

(+) Rear power window motor LH		(-)	Condition		Voltage (V)
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.

NO >> GO TO 2.

2. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

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

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

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

Rear power window motor LH		Ground	Continuity
Connector	Terminal		
D67	1		Not existed
	3		

Is the inspection result normal?

YES >> Replace rear power window switch LH.

NO >> Repair or replace harness.

REAR RH

REAR RH : Component Function Check

INFOID:000000007579905

1. CHECK FUNCTION

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

POWER WINDOW MOTOR

< DTC/CIRCUIT DIAGNOSIS >

NO >> Refer to [PWC-32. "REAR RH : Diagnosis Procedure"](#).

REAR RH : Diagnosis Procedure

INFOID:000000007579906

1.CHECK REAR POWER WINDOW MOTOR RH 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.

(+)		(-)	Condition		Voltage (V)
Rear power window motor RH					
Connector	Terminal				
D47	1	Ground	Rear power window switch RH	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.

NO >> GO TO 2.

2.CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

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

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

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

Rear power window motor RH		Ground	Continuity
Connector	Terminal		
D47	1		Not existed
	3		

Is the inspection result normal?

YES >> Replace rear power window switch RH.

NO >> Repair or replace harness.

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

ENCODER CIRCUIT

Component Function Check

INFOID:000000007579907

1.CHECK FUNCTION

Check that front driver side door glass perform AUTO UP/DOWN operation normally when power window main switch is operated.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PWC-33, "Diagnosis Procedure"](#).

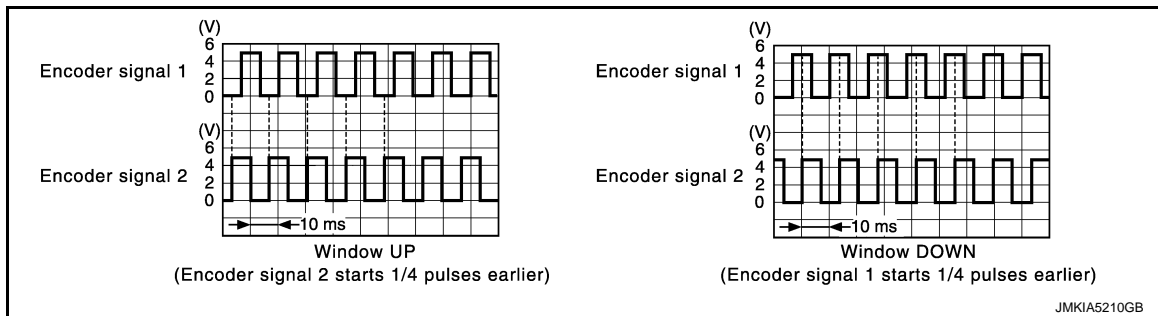
Diagnosis Procedure

INFOID:000000007579908

1.CHECK ENCODER PULSE SIGNAL

1. Turn ignition 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		
D35	4	Ground	Refer to the following signal
	5		



Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-48, "Removal and Installation"](#).

NO >> GO TO 2.

2.CHECK ENCODER SIGNAL CIRCUIT

1. Turn ignition 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		Not existed
	5		

Is the inspection result normal?

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

3.CHECK ENCODER 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.

(+)		(-)	Voltage (V)
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 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 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. Refer to [PWC-48, "Removal and Installation"](#).
NO >> Repair or replace harness.

5.CHECK ENCODER 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 window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
D35	12	D37	6	Existed

4. 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 >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK ENCODER GROUND CIRCUIT 2

1. Connect power window main switch connector.

ENCODER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Power window main switch		Ground	Continuity
Connector	Terminal		
D35	12		Existed

Is the inspection result normal?

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

NO >> Replace power window main switch. Refer to [PWC-48. "Removal and Installation"](#).

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

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:000000007579909

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to the following.

- With Intelligent Key: Refer to [BCS-73, "Diagnosis Procedure"](#).
- Without Intelligent Key: Refer to [BCS-134, "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-22, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

DRIVER SIDE POWER WINDOW DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000007579910

1.CHECK FRONT POWER WINDOW MOTOR (DRIVER SIDE)

Check front power window motor (driver side).

Refer to [PWC-29, "DRIVER SIDE : Component Function Check"](#).

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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

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:000000007579911

1.CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to [PWC-25, "Component Function Check"](#).

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-30, "PASSENGER SIDE : 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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

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

INFOID:000000007579912

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-23, "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-25, "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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

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:000000007579913

1.CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Check front power window switch (passenger side).

Refer to [PWC-25. "Component Function Check"](#).

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 [GI-43. "Intermittent Incident"](#).

NO >> GO TO 1.

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

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:000000007579914

1.CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-27, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to [PWC-30, "REAR LH : 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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure

INFOID:000000007579915

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-23, "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-27, "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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

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:000000007579916

1.CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.

Refer to [PWC-27, "Component Function Check"](#).

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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

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:000000007579917

1.CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-27, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to [PWC-31, "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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED

WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure

INFOID:000000007579918

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-23, "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-27, "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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

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:000000007579919

1.CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.

Refer to [PWC-27, "Component Function Check"](#).

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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

A

B

C

D

E

F

G

H

I

J

PWC

L

M

N

O

P

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:000000007579920

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-20, "Work Procedure"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK ENCODER CIRCUIT

Check encoder circuit.

Refer to [PWC-33, "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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000007579921

1.CHECK POWER WINDOW AUTO OPERATION

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to [PWC-44, "Diagnosis Procedure"](#).

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:000000007579922

1.CHECK FRONT DOOR SWITCH

Check front door switch. Refer to the following.

- With Intelligent Key: Refer to [DLK-71, "Component Function Check"](#).
- Without Intelligent Key: Refer to [DLK-201, "Component Function Check"](#).

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 [GI-43, "Intermittent Incident"](#).

NO >> GO TO 1.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000007579923

1. REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch.

>> Refer to [PWC-48. "Removal and Installation"](#).

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

PWC

POWER WINDOW MAIN SWITCH

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION


POWER WINDOW MAIN SWITCH

Removal and Installation

INFOID:000000007579924

REMOVAL

1. Remove power window main switch finisher. Refer to [INT-12. "Removal and Installation"](#).
2. Remove power window main switch (1) from power window main switch finisher (2) using flat-head screw driver (A).

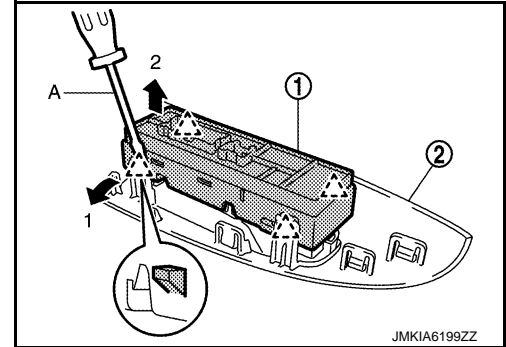
 : Pawl

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-20. "Work Procedure"](#).