SECTION PWC

POWER WINDOW CONTROL SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010481306

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

WARNING:

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

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

WARNING:

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

Precaution for Work

INFOID:0000000010481307

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

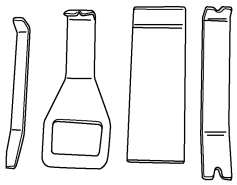
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000010481308

The actual shapes of the tools may differ from those illustrated here.

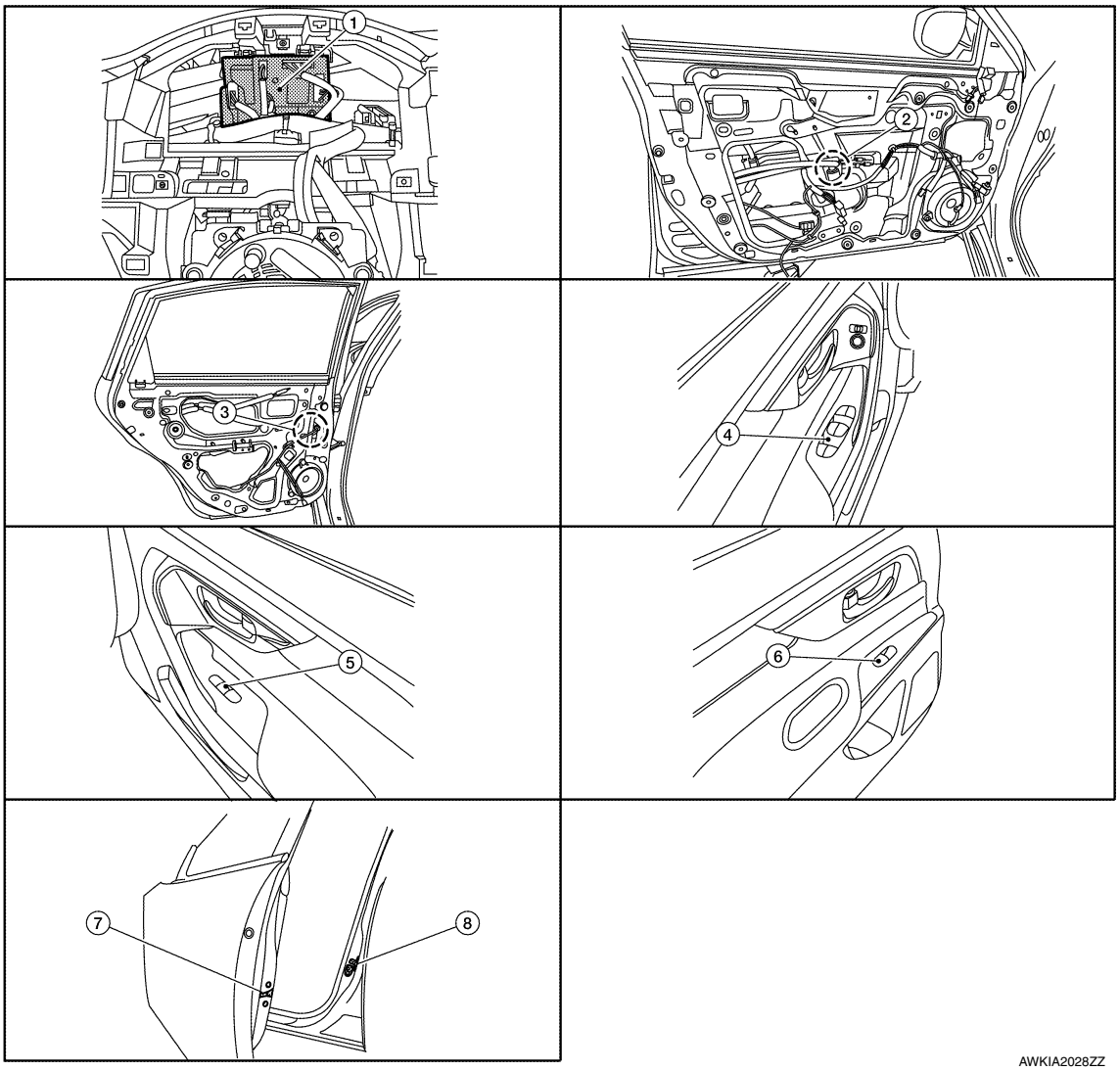
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010481309



AWKIA2028ZZ

1. BCM (view with combination meter removed)
2. Front power window motor LH (RH similar)
3. Rear power window motor LH (RH similar)
4. Main power window and door lock/ unlock switch
5. Power window and door lock/unlock switch RH
6. Rear power window switch LH (RH similar)
7. Front door lock assembly LH (key cylinder switch)
8. Front door switch LH (RH similar)

Component Description

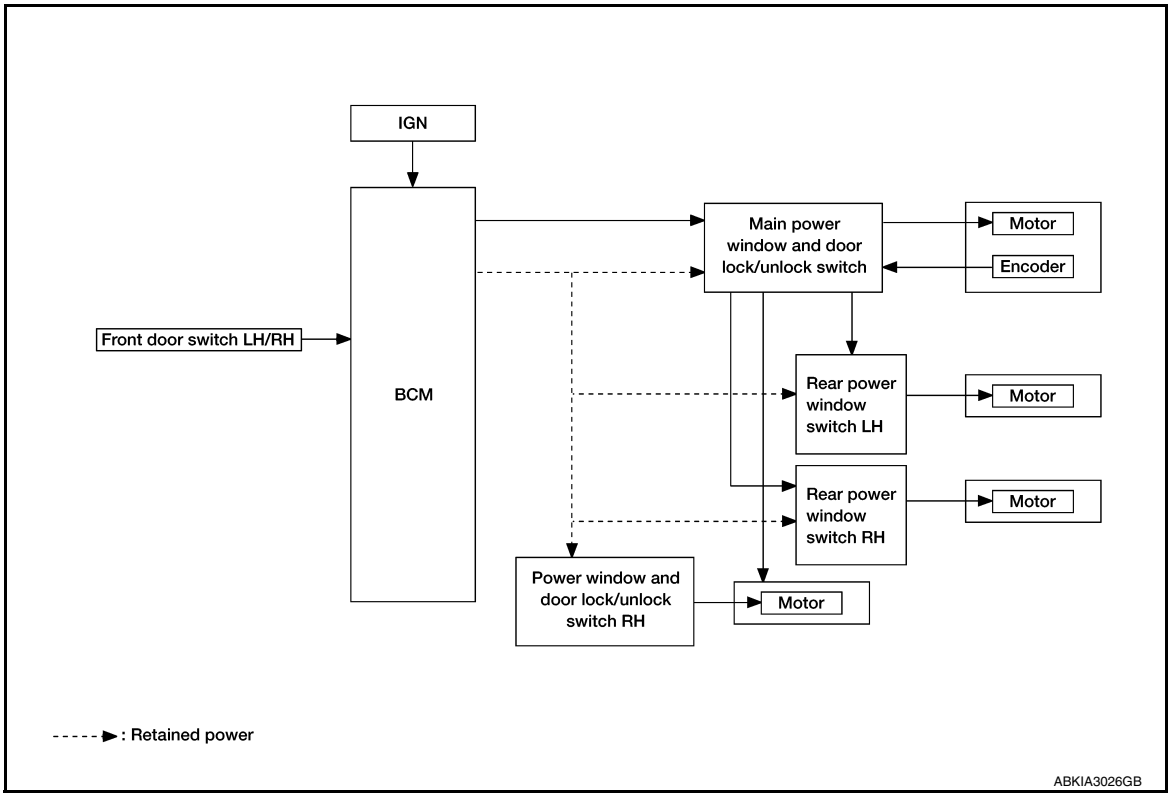
INFOID:0000000010481310

Component	Function
BCM	• Supplies power to power window switches. • Controls retained power.
Front power window motor LH	• Integrates the ENCODER POWER and WINDOW MOTOR. • Starts operating with signals from main power window and door lock/unlock switch. • Transmits power window motor rotation as a pulse signal to main power window and door lock/unlock switch.
Front power window motor RH	Starts operating with signals from main power window and door lock/unlock switch and power window and door lock/unlock switch RH.
Main power window and door lock/unlock switch	• Directly controls all power window motor of all doors. • Controls anti-pinch operation of front power window LH.
Power window and door lock/unlock switch RH	• Controls front power window motor RH.
Rear power window switch	• Controls rear power window motors LH and RH.
Rear power window motor	Starts operating with signals from main power window and door lock/unlock switch and rear power window switch.
Front door switch LH or RH	Detects door open/close condition and transmits to BCM.

SYSTEM

System Diagram

INFOID:0000000010481311



System Description

INFOID:0000000010481312

INPUT/OUTPUT SIGNAL CHART

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator
Encoder	Encoder pulse signal	Power window control	Front power window motor
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal		
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal		
BCM	RAP signal		
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

POWER WINDOW OPERATION

- Power window system is activated by the power window switch when the ignition switch is in the ON position or during the retained power operation after ignition switch is turned OFF.
- Main power window and door lock/unlock switch can open/close all windows.
- Front & rear power window switches can open/close the corresponding windows.
- Power window lock switch can lock all power windows other than driver seat.
- If door glass receives resistance that is more than the specified value and the power window is in the AUTO-UP operation (Front LH), power window will move in the reverse direction (Anti-Pinch Function).

POWER WINDOW AUTO-OPERATION (FRONT LH)

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch turns to AUTO.

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

RETAINED POWER OPERATION

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

Retained power function cancel conditions:
- Front door CLOSE (door switch OFF)→OPEN (door switch ON).
- When ignition switch is ON.
- When timer time passes. (45 seconds)
- AUTO function does not operate if encoder is malfunctioning.

POWER WINDOW LOCK FUNCTION

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

ANTI-PINCH OPERATION (FRONT LH)

- Pinch foreign material in the door glass during AUTO-UP operation, and it is the anti-pinch function that lowers the door glass 150mm. (5.9 in.) or 2 seconds when detected.
- Encoder continues detecting the movement of power window motor and transmits to main power window and door lock/unlock switch as the encoder pulse signal while power window motor is operating.
- Resistance is applied to the power window motor rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window switch controls to lower the window glass for 150 mm. (5.9 in.) or 2 seconds after it detects encoder pulse signal frequency change.

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

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

KEYLESS POWER WINDOW DOWN FUNCTION

All power windows open when the unlock button on Intelligent Key is activated and pressed for more than 3 seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously pressed. The power window opening stops when the following operations are performed:
- When the unlock button is pressed for more than 15 seconds.
- When the ignition switch is turned ON while the power window opening is operated.
- When the unlock button is released.

While retained power operation activate, keyless power window down function cannot be operated.

Fail-safe

INFOID:0000000010481313

FAIL-SAFE CONTROL

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

Malfunction	Malfunction 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.

Malfunction	Malfunction condition
Glass recognition position malfunction 2	When it detects pulse count more that the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more that the specified value (approximately 10 strokes).

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
- Retained power function

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

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000011009026

CAUTION:
After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000011009027

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000010481316

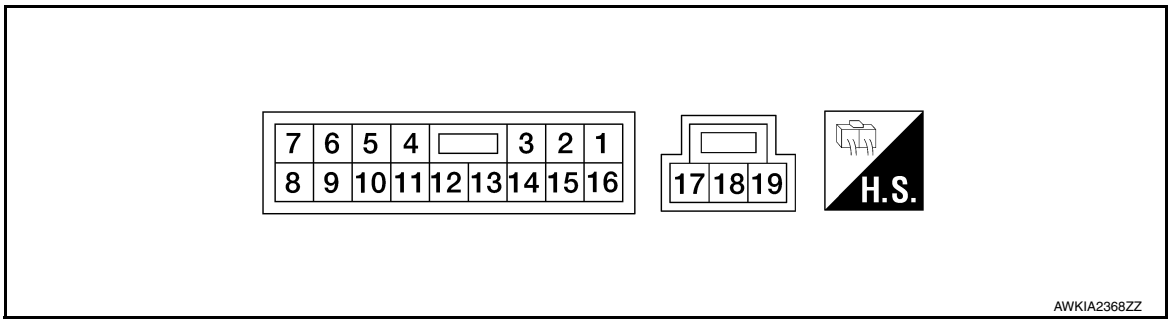
ECU	Reference
BCM	BCS-32, "Reference Value"
	BCS-51, "Fail Safe"
	BCS-52, "DTC Inspection Priority Chart"
	BCS-53, "DTC Index"

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

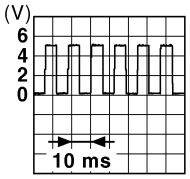
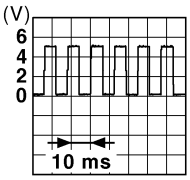
Reference Value

INFOID:0000000010481317

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Voltage (Approx.)
+	-	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0
2 (L)	16 (BR)	Front power window motor RH DOWN signal	Output	When the front RH switch on the main power window and door lock/ unlock switch is operated in the DOWN position.	Battery voltage
4 (BG)	12 (B)	Encoder pulse signal 2	Input	When power window motor operates.	 JMKIA0070GB
5 (R)	12 (B)	Encoder pulse signal 1	Input	When power window motor operates.	 JMKIA0070GB
6 (SB)	Ground	Rear power window motor RH DOWN signal	Output	When the rear RH switch on the main power window and door lock/ unlock switch is operated in the DOWN position.	Battery voltage
7 (V)	Ground	Rear power window motor RH UP signal	Output	When the rear RH switch on the main power window and door lock/ unlock switch is operated in the UP position.	Battery voltage
8 (L)	Ground	Rear power window motor LH DOWN signal	Output	When the rear LH switch on the main power window and door lock/ unlock switch is operated in the DOWN position.	Battery voltage

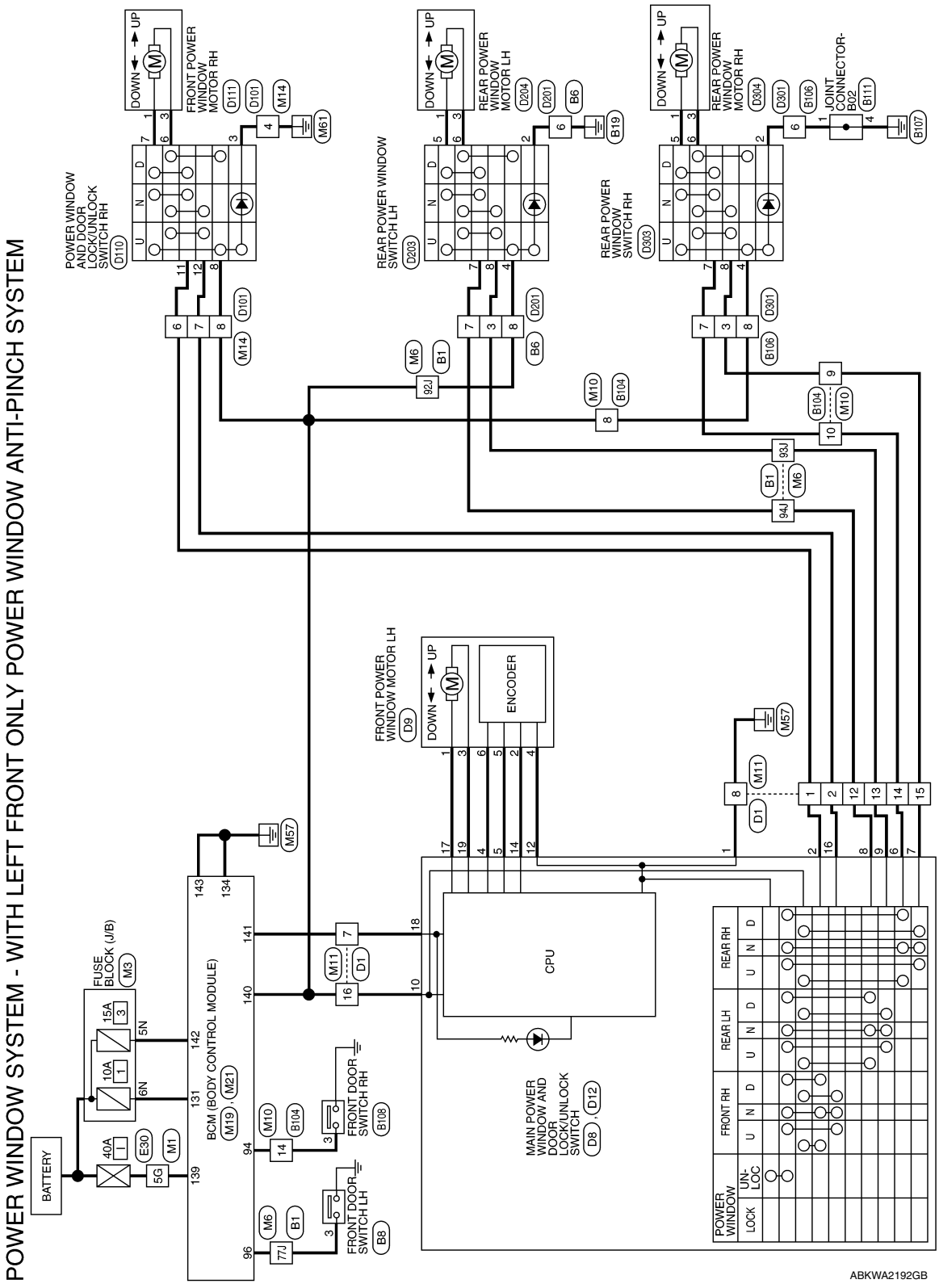
Terminal No. (Wire color)		Description		Condition	Voltage (Approx.)
+	-	Signal name	Input/ Output		
9 (Y)	Ground	Rear power window motor LH UP signal	Output	When the rear LH switch on the main power window and door lock/ unlock switch is operated in the UP position.	Battery voltage
10 (BR)	Ground	RAP signal	Input	IGN SW ON	Battery voltage
				Within 45 second after ignition switch is turned to OFF.	Battery voltage
				When driver side or passenger side door is opened during retained power operation.	0
12 (B)	Ground	Encoder ground	—	—	0
14 (P)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	10
16 (BR)	2 (L)	Front power window motor RH UP signal	Output	When the front RH switch on the main power window and door lock/ unlock switch is operated in the UP position.	Battery voltage
17 (W)	19 (R)	Front power window motor LH UP signal	Output	When the front LH switch on the main power window and door lock/ unlock switch is operated in the UP position.	Battery voltage
18 (LG)	Ground	Battery power supply	Input	—	Battery voltage
19 (R)	17 (W)	Front power window motor LH DOWN signal	Output	When the front LH switch on the main power window and door lock/ unlock switch is operated in the DOWN position.	Battery voltage

WIRING DIAGRAM

POWER WINDOW SYSTEM

Wiring Diagram - With Left Front Only Power Window Anti- Pinch

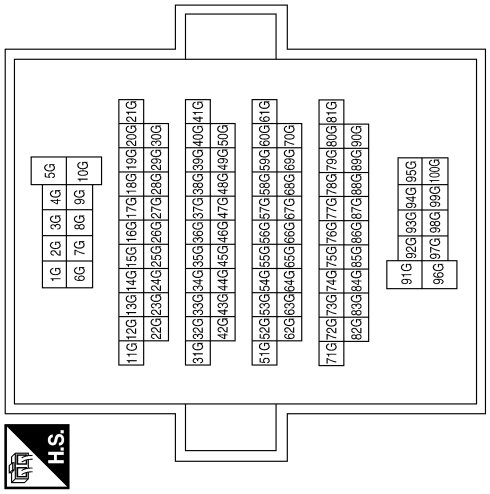
INFOID:0000000010481318



POWER WINDOW SYSTEM CONNECTORS - WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

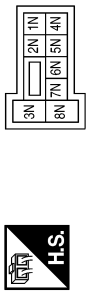
H.S.



Terminal No.	Color of Wire	Signal Name
5G	W	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

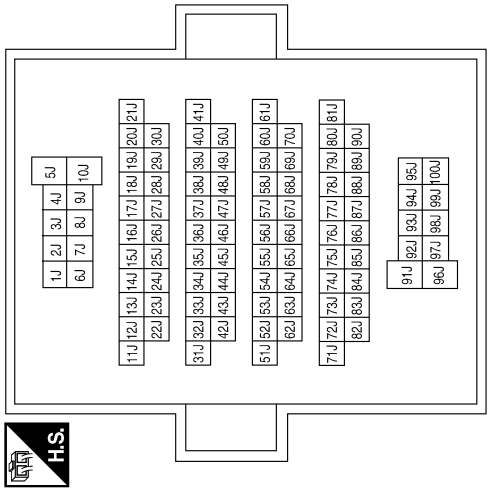
H.S.



Terminal No.	Color of Wire	Signal Name
5N	BR	–
6N	W	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
77J	BR	–
92J	LG	–
93J	Y	–
94J	SB	–

ABKIA3689GB

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
8	LG	–
9	V	–
10	BR	–
14	SB	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	V	–
7	V	–
8	B	–
12	SB	–
13	Y	–
14	BR	–
15	V	–
16	LG	–

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
4	GR	–
6	Y	–
7	V	–
8	LG	–

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

92	91	90	89	88	87	86	85	84	83	82	81
104	103	102	101	100	99	98	97	96	95	94	93

Terminal No.	Color of Wire	Signal Name
94	SB	AS DOOR SW
96	BR	DR DOOR SW

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

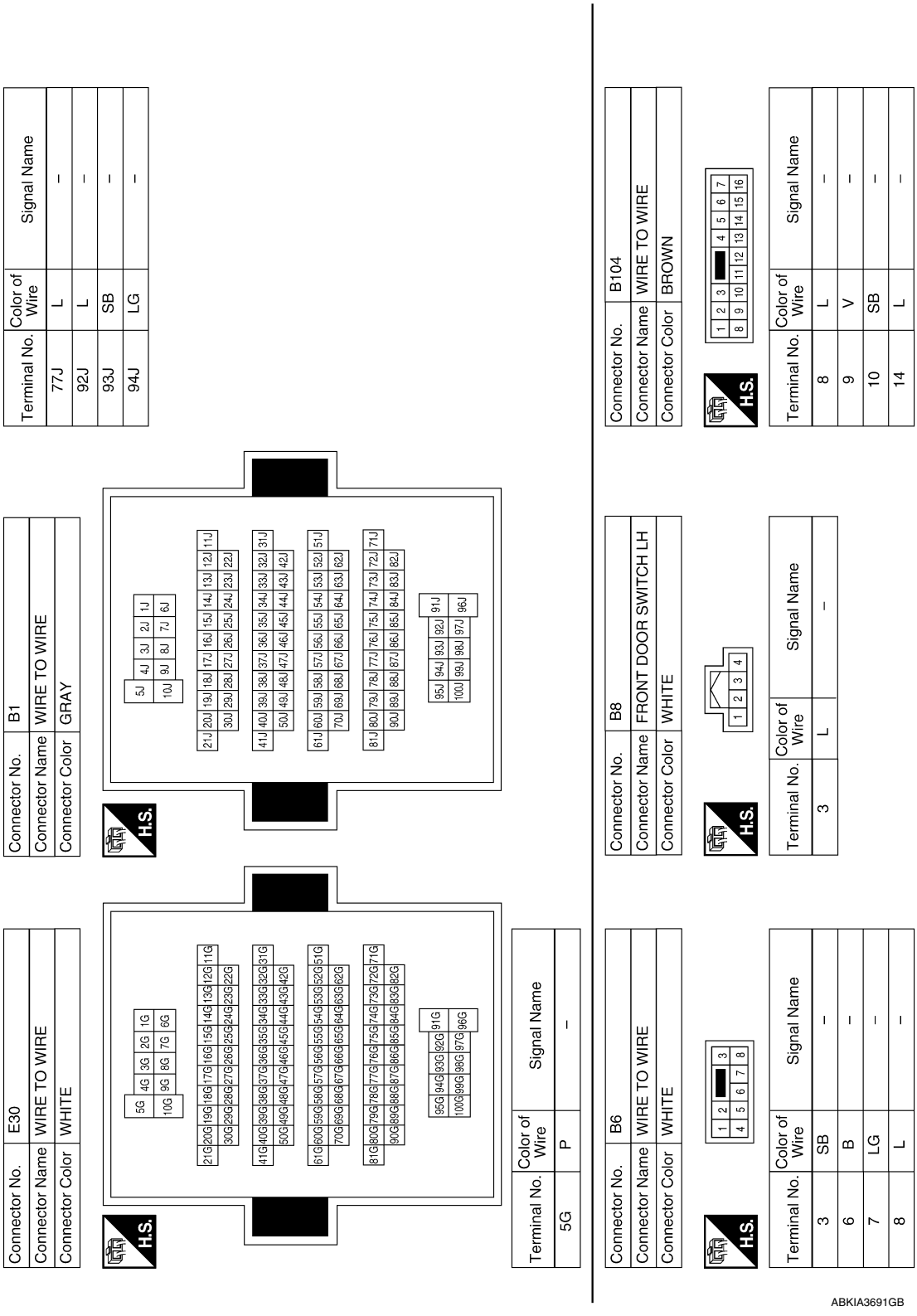
H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138

Terminal No.	Color of Wire	Signal Name
131	W	BAT BCM FUSE
134	B	GND2
139	W	BAT POWER F/L

Terminal No.	Color of Wire	Signal Name
140	LG	P/W POWER SUPPLY IGN
141	V	P/W POWER SUPPLY BAT
142	BR	BAT FRONT DOOR
143	B	GND1

ABKIA3690GB


Connector No. E30
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
5G P –
Connector No. B1
Connector Name WIRE TO WIRE
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
77J L –
92J L –
93J SB –
94J LG –
Connector No. B6
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
3 SB –
6 B –
7 LG –
8 L –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
3 L –
Connector No. B104
Connector Name WIRE TO WIRE
Connector Color BROWN
H.S.
Terminal No. Color of Wire Signal Name
8 L –
9 V –
10 SB –
14 L –
ABKIA3691GB

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	SB	–
8	L	–

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	L	–

Connector No.	B111
Connector Name	JOINT CONNECTOR-B02
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
4	B	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	BR	–
7	LG	–
8	B	–
12	L	–
13	Y	–
14	SB	–
15	V	–
16	BR	–

Connector No.	D8
Connector Name	MAIN POWER WINDOW DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

17	18	19

Terminal No.	Color of Wire	Signal Name
17	W	DR UP
18	LG	BAT
19	R	DR DN

Connector No.	D9
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	W	M2
2	P	VCC (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
3	R	M1
4	B	GND (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
5	R	PLS A
6	BG	PLS B

AAKIA2235GB

Connector No.	D12
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	L	AS DN
3	–	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3		2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
4	B	–
6	L	–
7	LG	–
8	SB	–

Terminal No.	Color of Wire	Signal Name
4	BG	ENCODER SIG 2
5	R	ENCODER SIG 1
6	SB	RR DN
7	V	RR UP
8	L	RL DN
9	Y	RL UP
10	BR	IGN
11	–	–
12	B	ENCODER GND
13	–	–
14	P	ENCODER +
15	–	–
16	BR	AS UP

Connector No.	D110
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	WHITE

H.S.

1	2		3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
3	B	–

Connector No.	D111
Connector Name	FRONT POWER WINDOW MOTOR RH (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	GREEN

H.S.

1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	Y	–
3	V	–

Terminal No.	Color of Wire	Signal Name
6	V	–
7	Y	–
8	SB	–
11	L	–
12	LG	–

AAKIA2236GB

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	BR	–
8	Y	–

Connector No.	D203
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	Y	–
5	L	–
6	LG	–
7	BR	–
8	V	–

Connector No.	D204
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	BR	–
8	Y	–

Connector No.	D303
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	Y	–
5	L	–
6	LG	–
7	BR	–
8	V	–

Connector No.	D304
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–

ABKIA4836GB

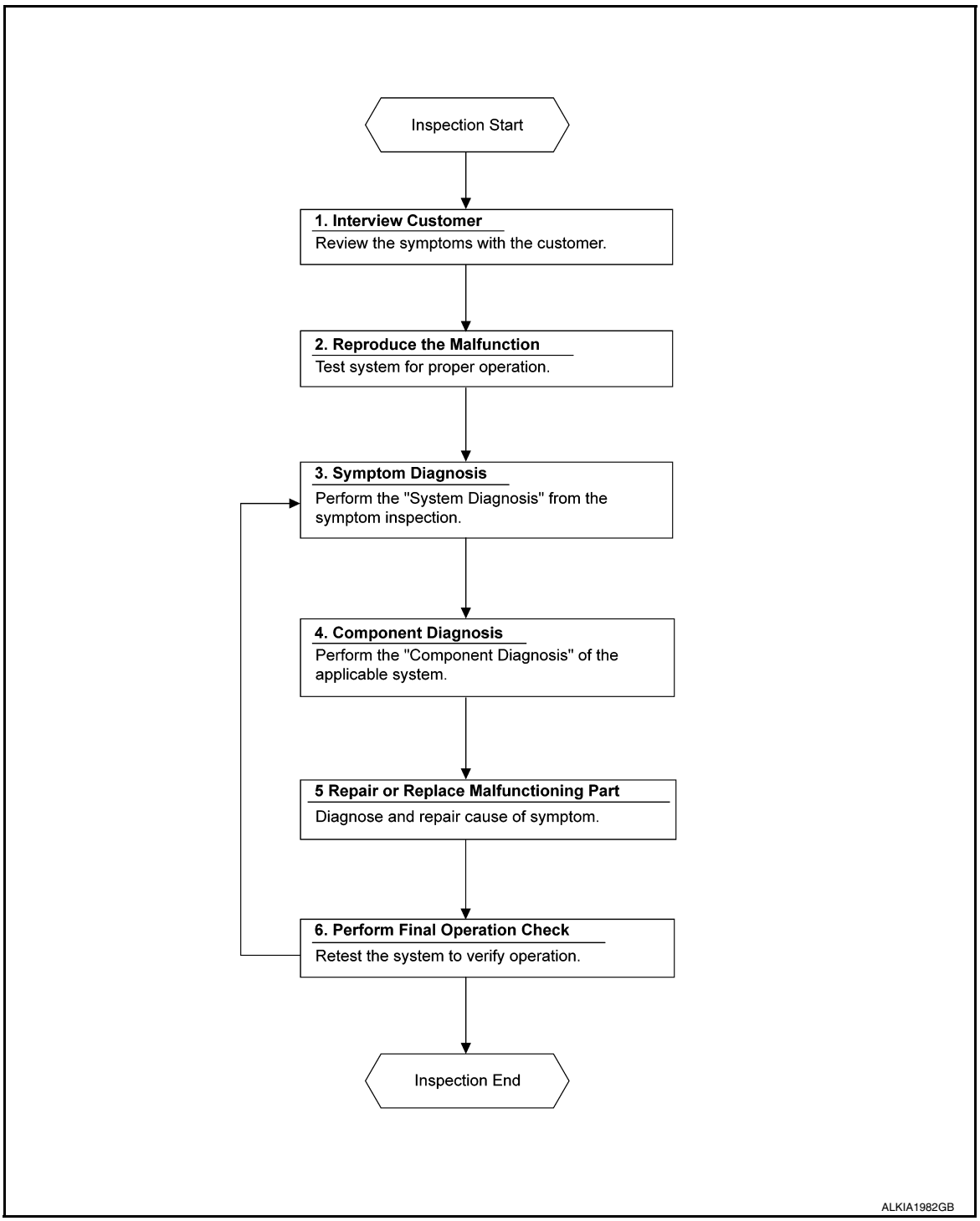
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010481319

OVERALL SEQUENCE



DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2.

2. CONFIRM THE SYMPTOM

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. PERFORM THE COMPONENT DIAGNOSIS OF THE OF THE APPLICABLE SYSTEM

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.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000010481320

Initial setting is necessary when battery terminal is disconnected.

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:0000000010481321

INITIALIZATION PROCEDURE

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

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.

- Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-11, "Fail-safe".**
- **Perform initial setting when auto-up operation or anti-pinch function does not operate normally.**
- **Finish initial setting. Otherwise, next operation cannot be done.**

1. **Auto-up operation**
2. **Anti-pinch function**
3. **Retained power operation when ignition switch is OFF.**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000010481322

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

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000010481323

INITIALIZATION PROCEDURE

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

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.

- Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-11, "Fail-safe".**
- **Perform initial setting when auto-up operation or anti-pinch function does not operate normally.**
- **Finish initial setting. Otherwise, next operation cannot be done.**

1. **Auto-up operation**
2. **Anti-pinch function**
3. **Retained power operation when ignition switch is OFF.**

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000011009037

Regarding Wiring Diagram information, refer to BCS-56, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Terminal No.	Signal name	Fuse and fusible link No.
139	Fusible link battery power	I (40A)
131	BCM battery fuse	1 (10A)

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M21.
2. Check voltage between BCM connector M21 terminals 131, 139 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M21	131	—	Battery voltage
	139		

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M21 terminals 134, 143 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	134	—	Yes
	143		

Is the inspection result normal?

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

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:0000000010481325

- BCM supplies power.
- It operates each power window motor via corresponding power window switch and makes window move up/down when main power window and door lock/unlock switch is operated.

POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:0000000010481326

Main Power Window And Door Lock/unlock Switch

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

Check power window motor operation with main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.
NO >> Refer to PWC-30, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:0000000010481327

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Main Power Window And Door Lock/unlock Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connectors D8, D12 and ground.

Terminal			Voltage (Approx.)
(+)		(–)	
Main power window and door lock/unlock switch	Terminal		
D12	10	Ground	Battery voltage
D8	18		

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM, main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
3. Check continuity between BCM connector and main power window and door lock/unlock switch connectors.

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M21	140	D12	10	Yes
	141	D8	18	

4. Check continuity between BCM connector M21 and ground.

BCM connector	Terminal	Ground	Continuity
M21	140		No
	141		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D8	1		Yes

Is the inspection result normal?

YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5.
YES >> Check main power window and door lock/unlock switch output signal (rear power window switch RH) GO TO 6.
YES >> Check main power window and door lock/unlock switch output signal (front power window switch LH) GO TO 7.
YES >> Check main power window and door lock/unlock switch output signal (front power window switch RH) GO TO 8.
NO >> Repair or replace the harness or connectors.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M21 and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
BCM connector	Terminal		
M21	140	Ground	Battery voltage
	141		

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH LH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch D12 and ground.

Terminal			Window switch position (rear LH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D12	8	Ground	UP	Battery voltage
			DOWN	0
	9		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

6. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH RH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch D12 and ground.

Terminal			Window switch position (rear RH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D12	6	Ground	UP	Battery voltage
			DOWN	0
	7		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

7. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (FRONT POWER WINDOW SWITCH LH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch D8 and ground.

Terminal			Window switch position (front LH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D8	17	Ground	UP	Battery voltage
			DOWN	0
	19		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

8. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (FRONT POWER WINDOW SWITCH RH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch D12 and ground.

Terminal			Window switch position (front RH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D12	2	Ground	UP	Battery voltage
			DOWN	0
	16		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:0000000010481328

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

1. Check main power window and door lock/unlock switch D12.

Terminal		Main power window and door lock/unlock switch condition		Continuity
10	8	Rear LH	UP	Yes
10	6	Rear RH		
10	2	Front RH		
8	9	Rear LH	NEUTRAL	
6	7	Rear RH		
2	16	Front RH		
10	9	Rear LH	DOWN	
10	7	Rear RH		
10	16	Front RH		
1	12	-		

2. Check continuity between main power window and door lock/unlock switch D12 (power window lock switch) (Lock operation).

Terminal		Main power window and door lock/unlock switch condition		Continuity
9	1	Rear LH	UP	No
7		Rear RH		
16		Front RH		
8		Rear LH	NEUTRAL	
9				
7		Rear RH		
6				
2		Front RH		
16				
8		Rear LH	DOWN	
6		Rear RH		
2		Front RH		

3. Check continuity between main power window and door lock/unlock switch D12 (power window lock switch) (Unlock operation).

Terminal		Main power window and door lock/unlock switch condition		Continuity
9	1	Rear LH	UP	Yes
7		Rear RH		
16		Front RH		
8		Rear LH	NEUTRAL	
9				
7		Rear RH		
6				
2		Front RH		
16				
8		Rear LH	DOWN	
6		Rear RH		
2		Front RH		

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:0000000010481329

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to PWC-30, "POWER WINDOW MAIN SWITCH : Component Function Check".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:0000000010481330

- BCM supplies power.
- Front power window motor RH will be operated if power window and door lock/unlock switch RH is operated.

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000010481331

Power Window And Door Lock/unlock Switch RH

1. CHECK POWER WINDOW MOTOR FUNCTION

Check front power window motor operation with power window and door lock/unlock switch RH.

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.
NO >> Refer to PWC-35, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure".

FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000010481332

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Power Window And Door Lock/Unlock Switch RH Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT (POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH)

1. Turn ignition switch ON.
2. Check voltage between power window and door lock/unlock switch RH connector D110 and ground.

Terminal			Voltage (Approx.)
(+)		(–)	
Power window and door lock/unlock switch RH connector	Terminal		
D110	8	Ground	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
3. Check continuity between BCM connector M21 and power window and door lock/unlock switch RH connector D110.

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M21	140	D110	8	Yes

4. Check continuity between BCM connector M21 and ground.

BCM connector	Terminal	Ground	Continuity
M21	140		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

3. CHECK HARNESS CONTINUITY (POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and power window and door lock/unlock switch RH.
3. Check continuity between main power window and door lock/unlock switch connector D12 and power window and door lock/unlock switch RH connector D110.

Main power window and door lock/unlock switch connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
D12	2	D110	11	Yes
	16		12	

4. Check continuity between main power window and door lock/unlock switch connector D12 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D12	2		No
	16		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M21 and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
BCM connector	Terminal		
M21	140	Ground	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

5. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Check power window and door lock/unlock switch RH.
Refer to PWC-36, "FRONT POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-69, "Removal and Installation".

FRONT POWER WINDOW SWITCH : Component Inspection

INFOID:0000000010481333

COMPONENT INSPECTION

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

Check power window and door lock/unlock switch RH D110.

Terminal		Power window switch condition	Continuity
8	7	UP	Yes
12	6		
12	6	NEUTRAL	
7	11		
8	6	DOWN	
7	11		

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH is OK.
NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-70, "Removal and Installation".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

INFOID:0000000010481334

- BCM supplies power.
- Rear power window motor will be operated if rear power window switch is operated. Rear power window switch.

REAR POWER WINDOW SWITCH : Component Function Check

INFOID:0000000010481335

Rear Power Window Switch

1. CHECK REAR POWER WINDOW MOTOR FUNCTION

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

Is the inspection result normal?

YES >> Rear power window switch power supply and ground circuit are OK.
NO >> Refer to PWC-37, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000010481336

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Rear Power Window Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between rear power window switch connector and ground.

Terminal				Condition	Voltage (Approx.)
(+)			(–)		
Rear power window switch connector		Terminal			
LH	D203	4	Ground	Ignition switch ON	Battery voltage
RH	D303				

Is the inspection result normal?

YES >> GO TO 2 (Rear power window switch LH).
YES >> GO TO 3 (Rear power window switch RH).
NO >> GO TO 4.

2. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch LH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch LH connector.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D12	8	D203	7	Yes
	9		8	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D12	8		No
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

3. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch RH.
3. Check continuity between main power window and door lock/unlock switch connector and rear power window switch RH connector.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D12	6	D303	7	Yes
	7		8	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D12	6		No
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

4. CHECK HARNESS CONTINUITY

1. Disconnect BCM, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
2. Check continuity between BCM connector and rear power window switch connector.

BCM connector	Terminal	Rear power window switch connector		Terminal	Continuity
M21	140	LH	D203	4	Yes
		RH	D303		

3. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M21	140		No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Repair or replace harness or connectors.

5. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-38, "REAR POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window switch. Refer to PWC-71, "Removal and Installation".

REAR POWER WINDOW SWITCH : Component Inspection

INFOID:0000000010481337

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Terminal		Power window switch condition	Continuity
4	5	UP	Yes
8	6		
8	6	NEUTRAL	
5	7		
4	6	DOWN	
5	7		

Is the inspection result normal?

YES >> Rear power window switch is OK.
NO >> Replace rear power window switch. Refer to PWC-71, "Removal and Installation".

POWER WINDOW MOTOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000010481338

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

DRIVER SIDE : Component Function Check

INFOID:0000000010481339

1. CHECK FRONT POWER WINDOW MOTOR LH CIRCUIT

Check front power window motor LH operation with the main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Refer to PWC-39, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010481340

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Front Power Window Motor LH Circuit Check

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front power window motor LH.
3. Turn ignition switch ON.
4. Check voltage between front power window motor LH connector D9 and ground.

Terminal			Main power window and door lock/unlock switch condition	Voltage (Approx.)
(+)		(–)		
Front power window motor LH connector	Terminal			
D9	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch connector D8 and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D8	17	D9	1	Yes
	19		3	

4. Check continuity between main power window and door lock/unlock switch connector D8 and ground.

Main power window and door lock/unlock switch connector	Terminal		Continuity
D8	17	Ground	No
	19		

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-40, "DRIVER SIDE : Special Repair Requirement".
NO >> Repair or replace harness.

3. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.
Refer to PWC-40, "DRIVER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-40, "DRIVER SIDE : Special Repair Requirement".

DRIVER SIDE : Component Inspection

INFOID:0000000010481341

COMPONENT INSPECTION

1.CHECK FRONT POWER WINDOW MOTOR LH

Check motor operation by connecting the battery voltage directly to power window motor D9.

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

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Replace front power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-40, "DRIVER SIDE : Special Repair Requirement".

DRIVER SIDE : Special Repair Requirement

INFOID:0000000010481342

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Refer to PWC-39, "DRIVER SIDE : Component Function Check".

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000010481343

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

PASSENGER SIDE : Component Function Check

INFOID:0000000010481344

1. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH operation with main power window and door lock/unlock switch or power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Front power window motor RH is OK.
NO >> Refer to PWC-41, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000010481345

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Front Power Window Motor RH Circuit Check

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

1. Turn ignition switch OFF.
2. Disconnect front power window motor RH.
3. Turn ignition switch ON.
4. Check voltage between front power window motor RH connector D111 and ground.

Terminal			Front power window motor RH condition	Voltage (V) (Approx.)
(+)		(–)		
Front power window motor RH connector	Terminal			
D111	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window and door lock/unlock switch RH.
3. Check continuity between power window and door lock/unlock switch RH connector D110 and front power window motor RH connector D111.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D110	7	D111	1	Yes
	6		3	

4. Check continuity between power window and door lock/unlock switch connector D110 and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D110	7	Ground	No
	6		

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-69, "Removal and Installation".
NO >> Repair or replace the harness or connectors.

3. CHECK FRONT POWER WINDOW MOTOR RH

Check front power window motor RH.
Refer to PWC-42, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front power window motor RH. Refer to GW-16, "Removal and Installation - Front Regulator".

PASSENGER SIDE : Component Inspection

INFOID:0000000010481346

COMPONENT INSPECTION

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

Check motor operation by connecting the battery voltage directly to front power window motor RH D111.

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

Is the inspection result normal?

YES >> Power window motor is OK.
NO >> Replace front power window motor RH. Refer to GW-16, "Removal and Installation - Front Regulator".

REAR LH

REAR LH : Description

INFOID:0000000010481347

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

REAR LH : Component Function Check

INFOID:0000000010481348

1. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

Check rear power window motor LH operation with main power window and door lock/unlock switch or rear power window switch LH.

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Refer to PWC-42, "REAR LH : Diagnosis Procedure"

REAR LH : Diagnosis Procedure

INFOID:0000000010481349

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Rear Power Window Motor LH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH LH OUTPUT SIGNAL

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

Terminal			Window condition	Voltage (Approx.)
(+)		(–)		
Rear power window motor LH connector	Terminal			
D204	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH.
3. Check continuity between rear power window switch LH connector D203 and rear power window motor LH connector D204.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203	5	D204	1	Yes
	6		3	

4. Check continuity between rear power window switch LH connector D203 and ground.

Rear power window switch LH connector	Terminal	Ground	Continuity
D203	5		No
	6		

Is the inspection result normal?

YES >> Check rear power window switch LH. Refer to PWC-43, "REAR LH : Component Inspection".
NO >> Repair or replace the harness or connectors.

3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-43, "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window motor LH. Refer to GW-25, "Removal and Installation".

REAR LH : Component Inspection

INFOID:0000000010481350

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

Check motor operation by connecting the battery voltage directly to rear power window motor LH D204.

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

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Replace rear power window motor LH. Refer to GW-25, "Removal and Installation".

REAR RH

REAR RH : Description

INFOID:0000000010481351

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

REAR RH : Component Function Check

INFOID:0000000010481352

1. CHECK POWER WINDOW MOTOR CIRCUIT

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

Is the inspection result normal?

YES >> Power window motor is OK.
NO >> Refer to PWC-44, "REAR RH : Diagnosis Procedure".

REAR RH : Diagnosis Procedure

INFOID:0000000010481353

Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Rear Power Window Motor RH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

Terminal			Rear power window switch RH condition	Voltage (Approx.)
(+)		(–)		
Rear power window motor RH connector	Terminal			
D304	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH.
3. Check continuity between rear power window switch RH connector D303 and rear power window motor RH connector D304.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303	5	D304	1	Yes
	6		3	

4. Check continuity between rear power window switch RH connector D303 and ground.

Rear power window switch RH connector	Terminal		Continuity
D303	5	Ground	No
	6		

Is the inspection result normal?

YES >> Check rear power window switch RH. Refer to PWC-45, "REAR RH : Component Inspection".
NO >> Repair or replace harness or connectors.

3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-45, "REAR RH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window motor RH. Refer to GW-25, "Removal and Installation".

REAR RH : Component Inspection

INFOID:0000000010481354

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

Check motor operation by connecting the battery voltage directly to rear power window motor RH D304.

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

Is the inspection result normal?

YES >> Power window motor is OK.
NO >> Replace rear power window motor RH. Refer to GW-25, "Removal and Installation".

ENCODER
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000010481355

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

DRIVER SIDE : Component Function Check

INFOID:0000000010481356

1. CHECK ENCODER OPERATION

Check front door glass LH perform AUTO open/close operation normally with main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Encoder operation is OK.
NO >> Refer to PWC-46, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010481357

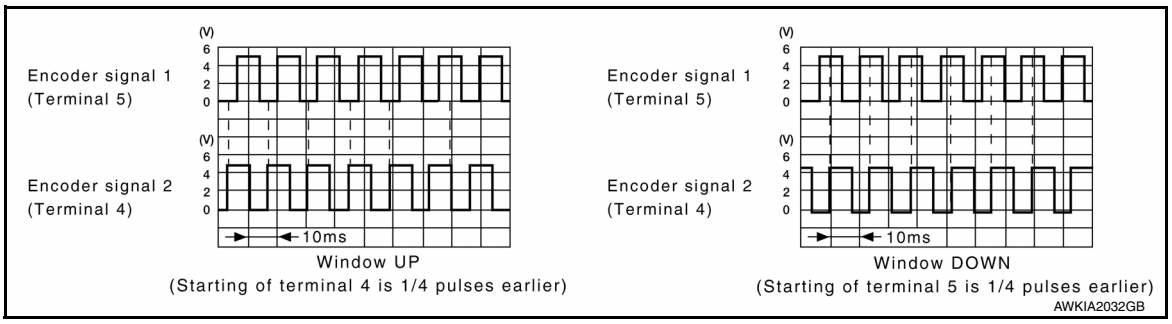
Regarding Wiring Diagram information, refer to PWC-18, "Wiring Diagram - With Left Front Only Power Window Anti- Pinch".

Encoder Circuit Check

1. CHECK ENCODER OPERATION

1. Connect front power window motor LH.
2. Turn ignition switch ON.
3. Check signal between main power window and door lock/unlock switch connector D12 and ground with oscilloscope.

Terminals			Signal (Reference value)
(+)		(–)	
Main power window and door lock/unlock switch connector	Terminal		
D12	4	Ground	Refer to following signal
	5		



Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 2.

2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between front power window motor LH connector D9 and ground.

Terminal			Voltage (Approx.)
(+)		(–)	
Front power window motor LH connector	Terminal		
D9	2	Ground	10

Is the inspection result normal?

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

3. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and front power window motor LH.
3. Check continuity between main power window and door lock/unlock switch connector D12 and front power window motor connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D12	14	D9	2	Yes

4. Check continuity between main power window and door lock/unlock switch connector D12 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D12	14		No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-48, "DRIVER SIDE : Special Repair Requirement".
NO >> Repair or replace harness or connectors.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor LH.
3. Check continuity between front power window motor LH connector D9 and ground.

Front power window motor LH connector	Terminal	Ground	Continuity
D9	4		Yes

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5. CHECK HARNESS CONTINUITY 2

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector D12 and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D12	12	D9	4	Yes

Is the inspection result normal?

YES >> Check main power window and door lock/unlock switch. Refer to PWC-33, "POWER WINDOW MAIN SWITCH : Component Inspection".
NO >> Repair or replace the harness or connectors.

6. CHECK HARNESS CONTINUITY 3

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window D12 and door lock/unlock switch connector and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D12	4	D9	6	Yes
	5		5	

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

Main power window and door lock/unlock switch connector	Terminal		Continuity
D12	4	Ground	No
	5		

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-48, "DRIVER SIDE : Special Repair Requirement".
NO >> Repair or replace harness or connectors.

DRIVER SIDE : Special Repair Requirement

INFOID:0000000010481358

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

DOOR SWITCH

Description

INFOID:0000000011009028

Detects door open/close condition.

Component Function Check

INFOID:0000000011009029

1.CHECK FUNCTION

With CONSULT

Check door switches “DOOR SW-DR”, “DOOR SW-AS”, “DOOR SW-RL”, “DOOR SW-RR” in “Data Monitor”.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	
DOOR SW-RL	
DOOR SW-RR	

Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to PWC-49, "Diagnosis Procedure".

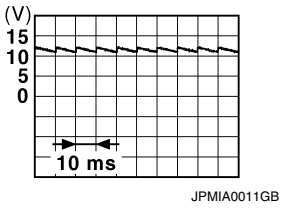
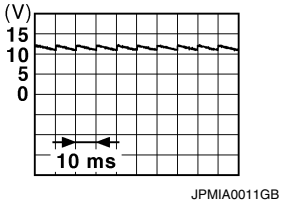
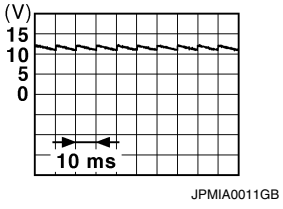
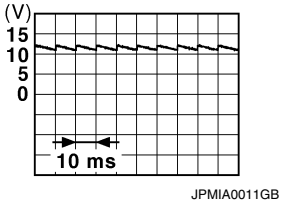
Diagnosis Procedure

INFOID:0000000011009030

Regarding Wiring Diagram information, refer to DLK-51, "Wiring Diagram".

1.CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check signal between BCM connector and ground with oscilloscope.

Terminals			Door condition		Voltage (V) (Approx.)
(+)		(–)			
BCM connector	Terminal				
M19	96	Ground	Front door switch LH	OPEN	0
				CLOSE	 JPMIA0011GB
	94		Front door switch RH	OPEN	0
				CLOSE	 JPMIA0011GB
	93		Rear door switch RH	OPEN	0
				CLOSE	 JPMIA0011GB
	82		Rear door switch LH	OPEN	0
				CLOSE	 JPMIA0011GB

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2. CHECK DOOR SWITCH CIRCUIT

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

BCM connector	Terminal	Door switch connector	Terminal	Continuity
M19	96	Front door switch LH	Ground part of door switch	Yes
	94	Front door switch RH		
	93	Rear door switch RH		
	82	Rear door switch LH		

3. Check continuity between BCM connector and ground.

BCM connector	Terminal		Continuity
M19	96	Ground	No
	94		
	93		
	82		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness between BCM and door switch.

3.CHECK DOOR SWITCH

Refer to PWC-51, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace malfunctioning door switch. Refer to DLK-219, "Removal and Installation".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-44, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000011009031

1.CHECK DOOR SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace malfunctioning door switch. Refer to DLK-219, "Removal and Installation".

KEY CYLINDER SWITCH

Description

INFOID:0000000011009032

For vehicles equipped with LH and RH anti-pinch system, the main power window and door lock/unlock switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signal.

For vehicles equipped with LH anti-pinch system only, the front door lock assembly LH (key cylinder switch) transmits the LOCK or UNLOCK signal directly to the BCM.

Component Function Check

INFOID:0000000011009033

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check “KEY CYL UN-SW”, “KEY CYL UN-SW” in “Data Monitor” for “POWER DOOR LOCK SYSTEM” with CONSULT. Refer to DLK-81, "Work Flow".

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> With LH and RH anti-pinch, refer to PWC-52, "Diagnosis Procedure (With LH and RH Anti-Pinch)".
NO >> With LH anti-pinch only, refer to PWC-53, "Diagnosis Procedure (With LH Anti-Pinch Only)".

Diagnosis Procedure (With LH and RH Anti-Pinch)

INFOID:0000000011009034

Regarding Wiring Diagram information, refer to DLK-51, "Wiring Diagram".

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Terminals			Key position	Voltage (V) (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	3	Ground	Lock	0
			Neutral / Unlock	5
	15		Unlock	0
			Neutral / Lock	5

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation".
NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect main power window and door lock/unlock switch connector and front door lock assembly LH connector.
3. Check continuity between main power window and door lock/unlock switch connector and front door lock assembly LH connector.

Main power window and door lock/unlock switch connector	Terminal	Front door lock assembly LH connector	Terminal	Continuity
D7	3	D14	6	Yes
	15		5	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	3		No
	15		

Is the inspection result normal?

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

3.CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between front door lock assembly LH connector and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
D14	4		Yes

Is the inspection result normal?

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

4.CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.
Refer to PWC-54, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front door lock assembly LH. Refer to DLK-203, "FRONT DOOR LOCK : Removal and Installation".

Diagnosis Procedure (With LH Anti-Pinch Only)

INFOID:0000000011009035

Regarding Wiring Diagram information, refer to DLK-51, "Wiring Diagram".

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between BCM connector and ground.

Terminals			Key position	Voltage (V) (Approx.)
(+)		(–)		
BCM connector	Terminal			
M18	74	Ground	Lock	0
			Neutral / Unlock	5
M17	24		Unlock	0
			Neutral / Lock	5

Is the inspection result normal?

YES >> Replace front door lock assembly LH. Refer to PWC-69, "Removal and Installation".
NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH connector.
3. Check continuity between front door lock assembly LH connector and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
D14	4		Yes

Is the inspection result normal?

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

3.CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Disconnect BCM connector M18 and M17.
2. Check continuity between front door lock assembly LH connector and BCM connector M18 or M17.

Front door lock assembly LH connector	Terminal	BCM connector	Terminal	Continuity
D14	5	M17	24	Yes
	6	M18	74	

3. Check continuity between front door lock assembly LH connector and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
D14	5		No
	6		

Is the inspection result normal?

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

4.CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.
Refer to PWC-54, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front door lock assembly LH. Refer to DLK-203, "FRONT DOOR LOCK : Removal and Installation".

Component Inspection

INFOID:0000000011009036

COMPONENT INSPECTION

1.CHECK DOOR KEY CYLINDER SWITCH

Check front door lock assembly LH.

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Replace front door lock assembly LH. Refer to DLK-203, "FRONT DOOR LOCK : Removal and Installation".

POWER WINDOW LOCK SWITCH

Description

INFOID:0000000010481363

Ground circuit of main power window and door lock/unlock switch shuts off if power window lock switch of main power window and door lock/unlock switch is operated. This inhibits all operation, except for the main switch.

Component Function Check

INFOID:0000000010481364

1. CHECK POWER WINDOW LOCK SIGNAL

Exchanges for a normal main power window and door lock/unlock switch, and operation is checked.

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-69, "Removal and Installation". After that, refer to PWC-56, "Special Repair Requirement".
NO >> Check condition of harness and connector.

Special Repair Requirement

INFOID:0000000010481365

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

SYMPTOM DIAGNOSIS

POWER WINDOWS DO NOT OPERATE WITH ANY POWER WINDOW SWITCHES

Diagnosis Procedure

INFOID:0000000010481366

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to BCS-75, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-33, "POWER WINDOW MAIN SWITCH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check main power window and door lock/unlock switch power supply and ground circuit.
Refer to PWC-30, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481367

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.
Refer to PWC-39, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481368

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

Check power window and door lock/unlock switch RH.
Refer to PWC-34, "FRONT POWER WINDOW SWITCH : 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 RH CIRCUIT

Check front power window motor RH circuit.
Refer to PWC-41, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481369

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.
Refer to PWC-36, "REAR POWER WINDOW SWITCH : 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-42, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481370

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.
Refer to PWC-36, "REAR POWER WINDOW SWITCH : 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-41, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481371

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder.
Refer to PWC-46, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481372

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK DOOR WINDOW SLIDING PART

- A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK ENCODER CIRCUIT

Check encoder circuit.
Refer to PWC-46, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000010481373

1. CHECK FRONT DOOR SWITCH

Check front door switch.
Refer to DLK-100, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:0000000010481374

1.REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Replace main power window and door lock/unlock switch.
Refer to PWC-69, "Removal and Installation". After that, PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

>> Inspection End.

DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WINDOWS

Diagnosis Procedure

INFOID:0000000010481375

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is performed and operation is confirmed.
Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 2.

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

Check front door lock assembly LH (door key cylinder switch).
Refer to PWC-56, "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 inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 1.

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481376

1.CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to DLK-144, "Component Function Check".

2.CHECK POWER WINDOW OPERATION

Check power window operation.

In the inspection result normal?

YES >> GO TO 3.
NO >> Refer to PWC-39, "DRIVER SIDE : Diagnosis Procedure".

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 1.

PERIODIC MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000010481377

BASIC INSPECTION

1.INSPECTION START

1. Check the service history.
2. Check the following parts.

- Fuse/circuit breaker blown.
- Poor connection, open or short circuit of harness connector.
- Battery voltage.

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace the malfunctioning parts.

REMOVAL AND INSTALLATION

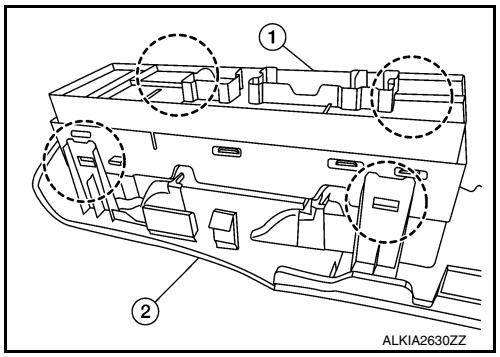
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Removal and Installation

INFOID:0000000010481378

REMOVAL

1. Remove the front door pull handle outer finisher using a suitable tool.
2. Release the pawls using a suitable tool and lift the main power window and door lock/unlock switch and finisher as an assembly by starting at the rear, then pull upward and remove.
3. Disconnect the harness connector from the main power window and door lock/unlock switch.
4. Release the four pawls (two on each side) using a suitable tool, then separate the main power window and door lock/unlock switch (1) from the main power window and door lock switch finisher (2).
   ◌: Pawl
   CAUTION:
   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

When the main power window and door lock/unlock switch is disconnected from the harness connector it is necessary to perform the initialization procedure. Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Removal and Installation

INFOID:0000000010481379

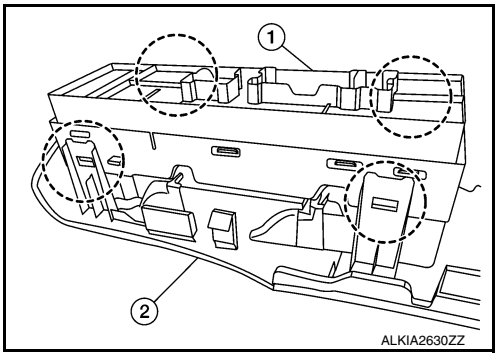
REMOVAL

1. Remove the front door pull handle outer finisher using a suitable tool.
2. Release the pawls using a suitable tool and lift the power window switch and door lock/unlock switch RH finisher as an assembly by starting at the rear, then pull upward and remove.
3. Disconnect the harness connector from the power window and door lock/unlock switch RH.
4. Release the four pawls (two on each side) using a suitable tool, then separate the power window and door lock/unlock switch RH (1) from the power window and door lock/unlock switch RH finisher (2).

   ◌: Pawl

   CAUTION:

   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.

REAR POWER WINDOW SWITCH

Removal and Installation

INFOID:0000000010481380

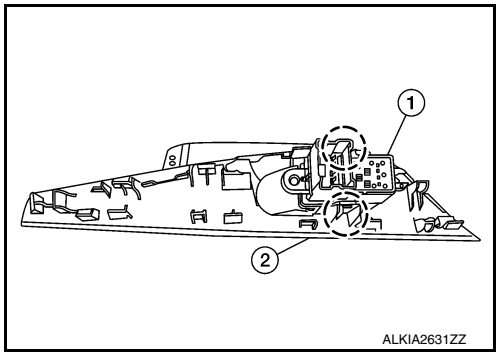
REMOVAL

1. Release the pawls using a suitable tool and lift the rear power window switch and finisher as an assembly by starting at the rear, then pull upward and remove
2. Disconnect the harness connector from the rear power window switch.
3. Release the pawl (one on each side) using a suitable tool, then separate the rear power window switch (1) from the rear power switch finisher (2).

   ◌: Pawl

   CAUTION:

   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010481381

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

WARNING:

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

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

WARNING:

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

Precaution for Work

INFOID:0000000010481382

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

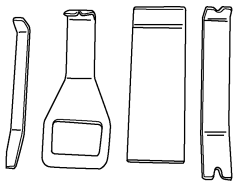
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000010481383

The actual shapes of the tools may differ from those illustrated here.

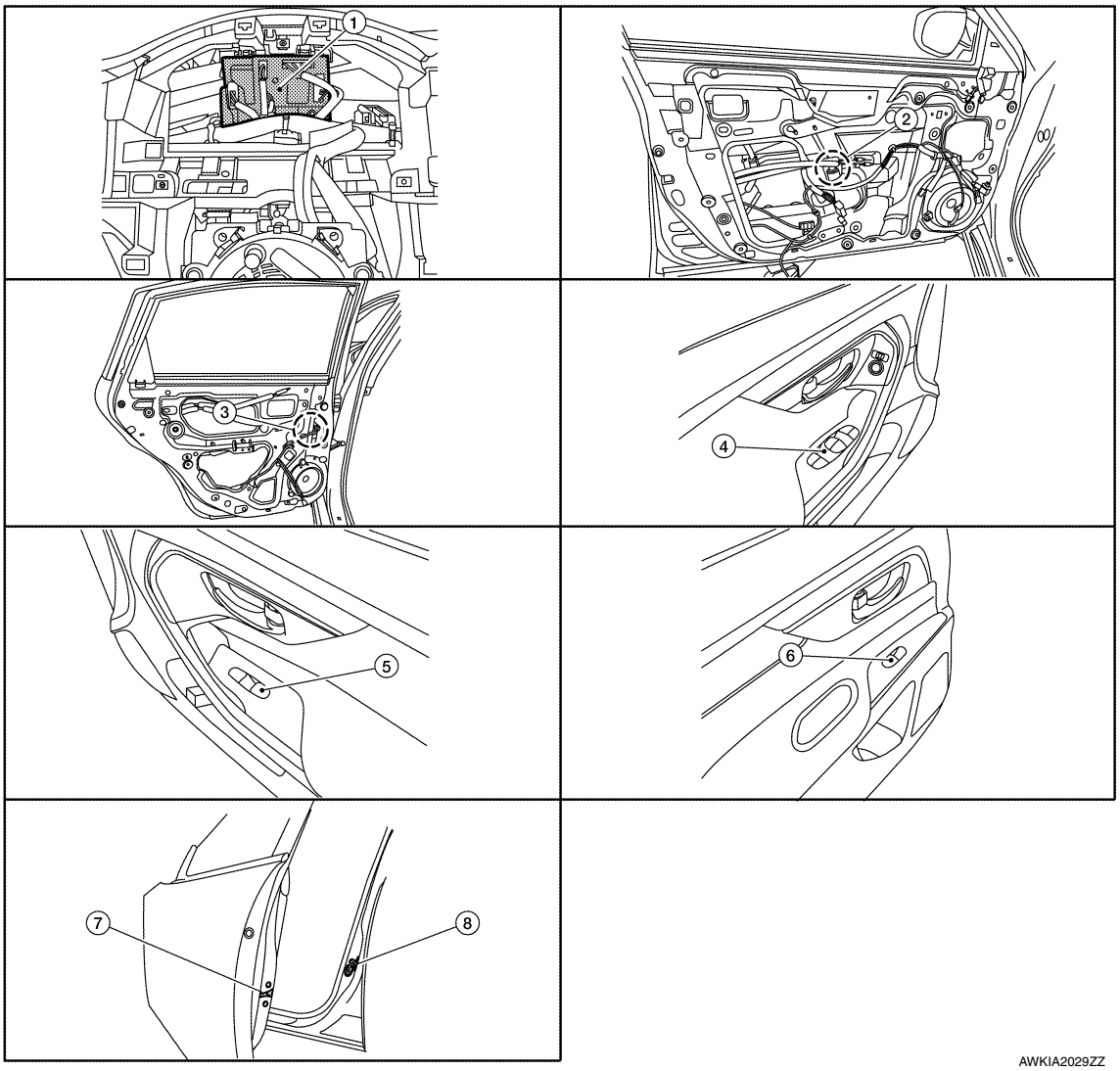
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010481384



AWKIA2029ZZ

1. BCM (view with combination meter removed)
2. Front power window motor LH (RH similar)
3. Rear power window motor LH (RH similar)
4. Main power window and door lock/unlock switch
5. Power window and door lock/unlock switch RH
6. Rear power window switch LH (RH similar)
7. Front door lock assembly LH (key cylinder switch)
8. Front door switch LH (RH similar)

Component Description

INFOID:0000000010481385

FRONT WINDOW ANTI-PINCH SYSTEM

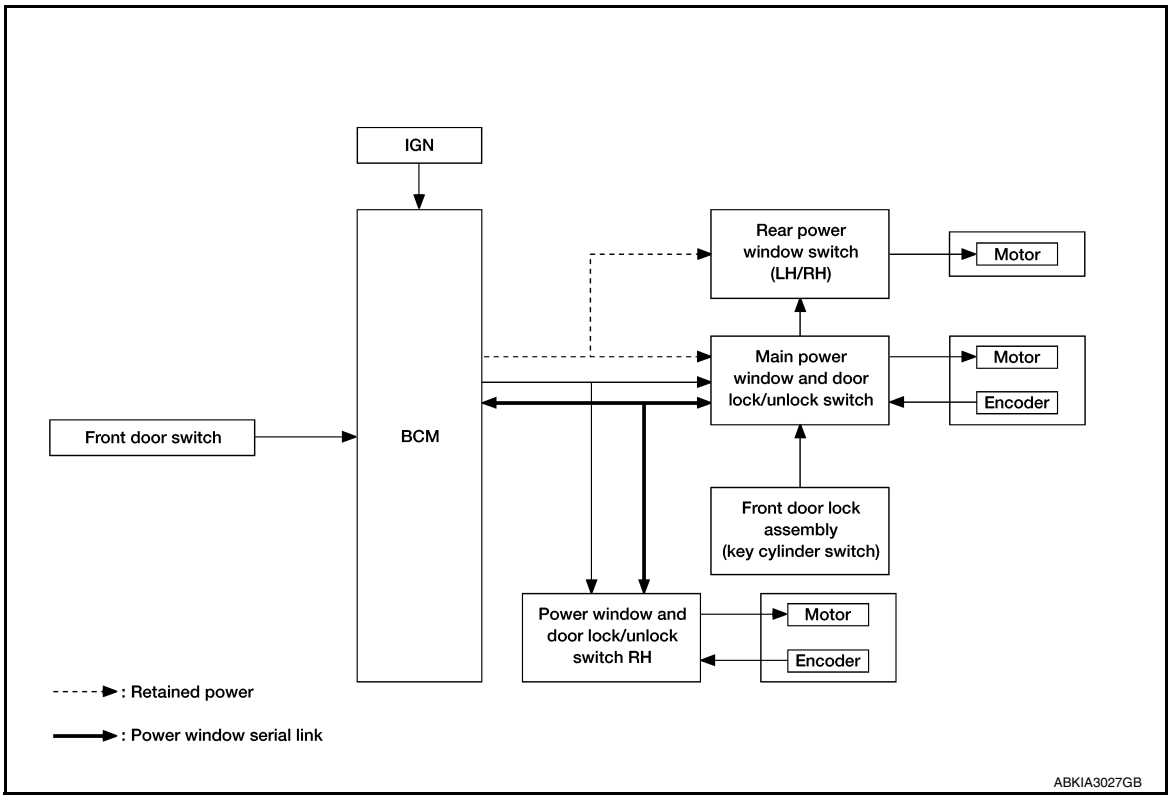
Component	Function
BCM	• Supplies power to power window switches. • Controls retained power.
Front power window motor LH	• Integrates the ENCODER POWER and WINDOW MOTOR. • Starts operating with signals from main power window and door lock/unlock switch. • Transmits power window motor rotation as a pulse signal to main power window and door lock/unlock switch.
Front power window motor RH	• Integrates the ENCODER POWER and WINDOW MOTOR. • Starts operating with signals from main power window and door lock/unlock switch & power window and door lock/unlock switch RH. • Transmits power window motor rotation as a pulse signal to main power window and door lock/unlock switch.
Main power window and door lock/unlock switch	• Directly controls all power window motor of all doors. • Controls anti-pinch operation of front power window LH.
Power window and door lock/unlock switch RH	• Controls front power window motor RH. • Controls anti-pinch operation of front power window RH.
Rear power window switch	• Controls rear power window motors LH and RH.
Rear power window motor	Starts operating with signals from main power window and door lock/unlock switch & rear power window switch.
Front door lock assembly LH (key cylinder switch)	Transmits operation condition of key cylinder switch to main power window and door lock/unlock switch.
Front door switch LH or RH	Detects door open/close condition and transmits to BCM.

SYSTEM

System Diagram

INFOID:0000000010481386

FRONT WINDOW ANTI-PINCH SYSTEM



System Description

INFOID:0000000010481387

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
INPUT/OUTPUT SIGNAL CHART

Item	Input signal to main power window and door lock/unlock switch	Main power window and door lock/unlock switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1 seconds over)	Power window control	Front power window motor
Encoder	Encoder pulse signal		
Main power window and door lock/unlock switch	Front power window motor LH UP/ DOWN signal		
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal		
BCM	RAP signal		
Rear power window switch	Rear power window motor UP/DOWN signal		Rear power window motor

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
INPUT/OUTPUT SIGNAL CHART

Item	Input signal to front power window switch	Front power window switch RH function	Actuator
Power window and door lock/unlock switch RH	Front power window motor RH UP/ DOWN signal	Power window control	Front power window motor RH
Encoder	Encoder pulse signal		
BCM	RAP signal		

POWER WINDOW OPERATION

- Power window system activated by the power window switch when the ignition switch is in the ON position or during the retained power operation after ignition switch turns OFF.
- Main power window and door lock/unlock switch can open/close all windows.
- Front & rear power window switch can open/close the corresponding windows.
- If door glass receives resistance that is more than the specified value and the power window is in the AUTO-UP operation (Front LH & RH), power window will move in the reverse direction (Anti-Pinch Function).

POWER WINDOW AUTO-OPERATION (FRONT LH & RH)

- AUTO UP/DOWN operation can be performed when main power window and door lock/unlock switch & power window and door lock/unlock switch RH 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.
- AUTO function does not operate if encoder is malfunctioning.

RETAINED POWER OPERATION

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

Retained power function cancel conditions
- Front door CLOSE (door switch OFF)→OPEN (door switch ON).
- When ignition switch is ON.
- When timer time passes. (45 seconds)

POWER WINDOW LOCK FUNCTION

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

ANTI-PINCH OPERATION (FRONT LH & RH)

- 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.) or 2 seconds when detected.
- Encoder continues detecting the movement of power window motor and transmits to power window switch as the encoder pulse signal while power window motor is operating.
- Resistance is applied to the power window motor rotation that changes the frequency of encoder pulse signal if foreign material is trapped in the door glass.
- Power window switch controls to lower the window glass for 150 mm (5.9 in.) or 2 seconds after it detects encoder pulse signal frequency change.

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

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

KEY CYLINDER SWITCH OPERATION

Hold the door key cylinder to the LOCK or UNLOCK direction for more than 1 second to OPEN or CLOSE front power windows when ignition switch is OFF. In addition, it stops when key position is moved to NEUTRAL when operating.

OPERATION CONDITION
- Ignition switch OFF

- Hold door key cylinder to LOCK position for more than 1 second to perform CLOSE operation of the door glass.
- Hold door key cylinder to UNLOCK position for more than 1 second to perform OPEN operation of the door glass.

KEYLESS POWER WINDOW DOWN OPERATION (FRONT LH & RH)

Front power windows open when the unlock button on Intelligent Key is activated and kept pressed for more than 3(NOTE) seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously pressed.

The power window opening stops when the following operations are performed:

- When the unlock button is kept pressed more than 15 seconds.
- When the ignition switch is turned ON while the power window opening is operated.
- When the unlock button is released.

While retained power operation activate, keyless power window down function cannot be operated.

Fail-safe

INFOID:0000000010481388

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 an error beyond the regulation value is detected between the fully closed position and the actual position of the glass.

Malfunction	Malfunction 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 that the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more that the specified value (approximately 10 strokes).

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
- Retained power function

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

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000011009038

CAUTION:
After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000011009039

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

List of ECU Reference

INFOID:0000000010481391

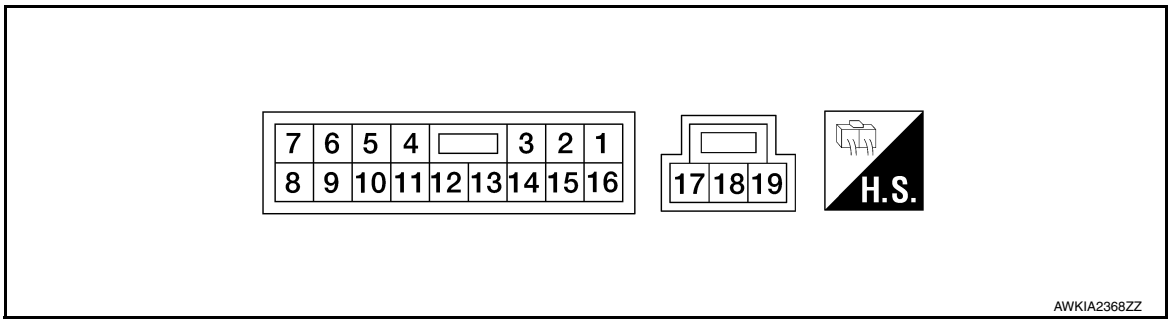
ECU	Reference
BCM	BCS-32, "Reference Value"
	BCS-51, "Fail Safe"
	BCS-52, "DTC Inspection Priority Chart"
	BCS-53, "DTC Index"

MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

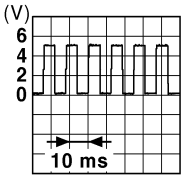
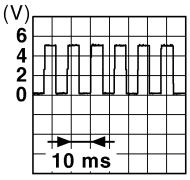
Reference Value

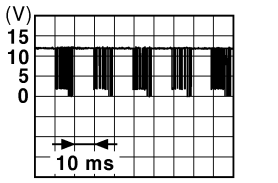
INFOID:0000000010481392

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No.		Description		Condition	Voltage (Approx.)
+	-	Signal name	Input/ Output		
1 (B)	Ground	Ground	—	—	0
3 (P)	Ground	Door key cylinder switch LH LOCK signal	Input	Key position (Neutral/Unlocked → Locked)	5 → 0
4 (BG)	12 (P)	Encoder pulse signal 2	Input	When power window motor operates.	 JMKIA0070GB
5 (R)	12 (P)	Encoder pulse signal 1	Input	When power window motor operates.	 JMKIA0070GB
6 (SB)	Ground	Rear power window motor RH DOWN signal	Output	When the rear RH switch on the main power window and door lock/unlock switch is operated in the DOWN position.	Battery voltage
7 (V)	Ground	Rear power window motor RH UP signal	Output	When the rear RH switch on the main power window and door lock/unlock switch is operated in the UP position.	Battery voltage
8 (L)	Ground	Rear power window motor LH DOWN signal	Output	When the rear LH switch on the main power window and door lock/unlock switch is operated in the DOWN position.	Battery voltage
9 (Y)	Ground	Rear power window motor LH UP signal	Output	When the rear LH switch on the main power window and door lock/unlock switch is operated in the UP position.	Battery voltage

Terminal No.		Description		Condition	Voltage (Approx.)
+	-	Signal name	Input/ Output		
10 (BR)	Ground	RAP signal	Input	IGN SW ON	Battery voltage
				Within 45 second after ignition switch is turned to OFF.	Battery voltage
				When front LH or RH door is opened during retained power operation.	0
11 (P)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 JPMIA0013GB
12 (P)	Ground	Encoder ground	—	—	0
14 (LG)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	10
15 (G)	Ground	Door key cylinder switch LH UNLOCK signal	Input	Key position (Neutral/Locked → Unlocked)	5 → 0
17 (W)	19 (R)	Front door power window motor LH UP signal	Output	When the front LH switch on the main power window and door lock/unlock switch is operated in the UP position.	Battery voltage
18 (LG)	Ground	Battery power supply	Input	—	Battery voltage
19 (R)	17 (W)	Front door power window motor LH DOWN signal	Output	When the front LH switch on the main power window and door lock/unlock switch is operated in the DOWN position.	Battery voltage

Fail Safe

INFOID:0000000010481393

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.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

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

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

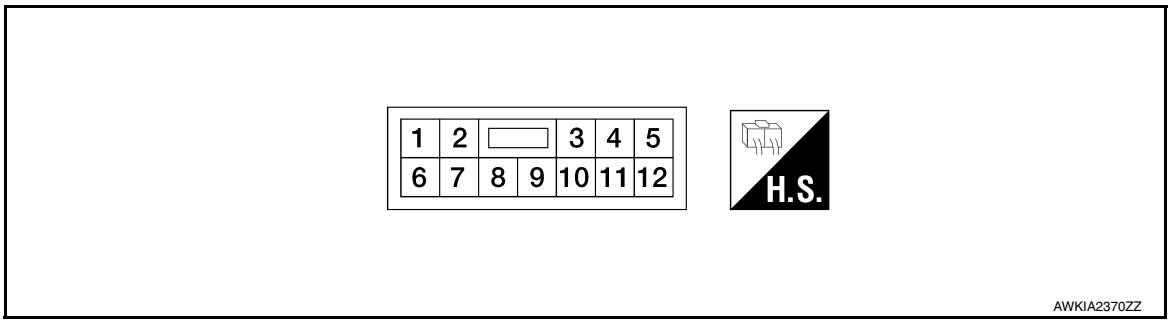
Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window switch or in motor.

POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

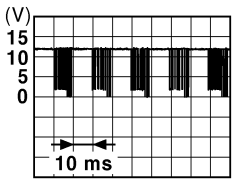
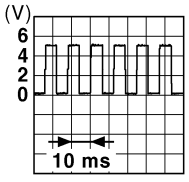
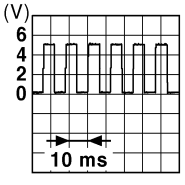
Reference Value

INFOID:0000000010481394

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No.		Description		Condition	Voltage (Approx.)
+	-	Signal name	Input/ Output		
3 (P)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 JPMIA0013GB
4 (BG)	Ground	Encoder ground	—	—	0
5 (W)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	10
7 (B)	Ground	Ground	—	—	0
8 (LG)	Ground	Battery power supply	Input	—	Battery voltage
9 (LG)	4 (BG)	Encoder pulse signal 1	Input	When power window motor operates.	 JMKIA0070GB
10 (G)	4 (BG)	Encoder pulse signal 2	Input	When power window motor operates.	 JMKIA0070GB
11 (R)	12 (P)	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage
12 (P)	11 (R)	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage

Fail Safe

INFOID:0000000010481395

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.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

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

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

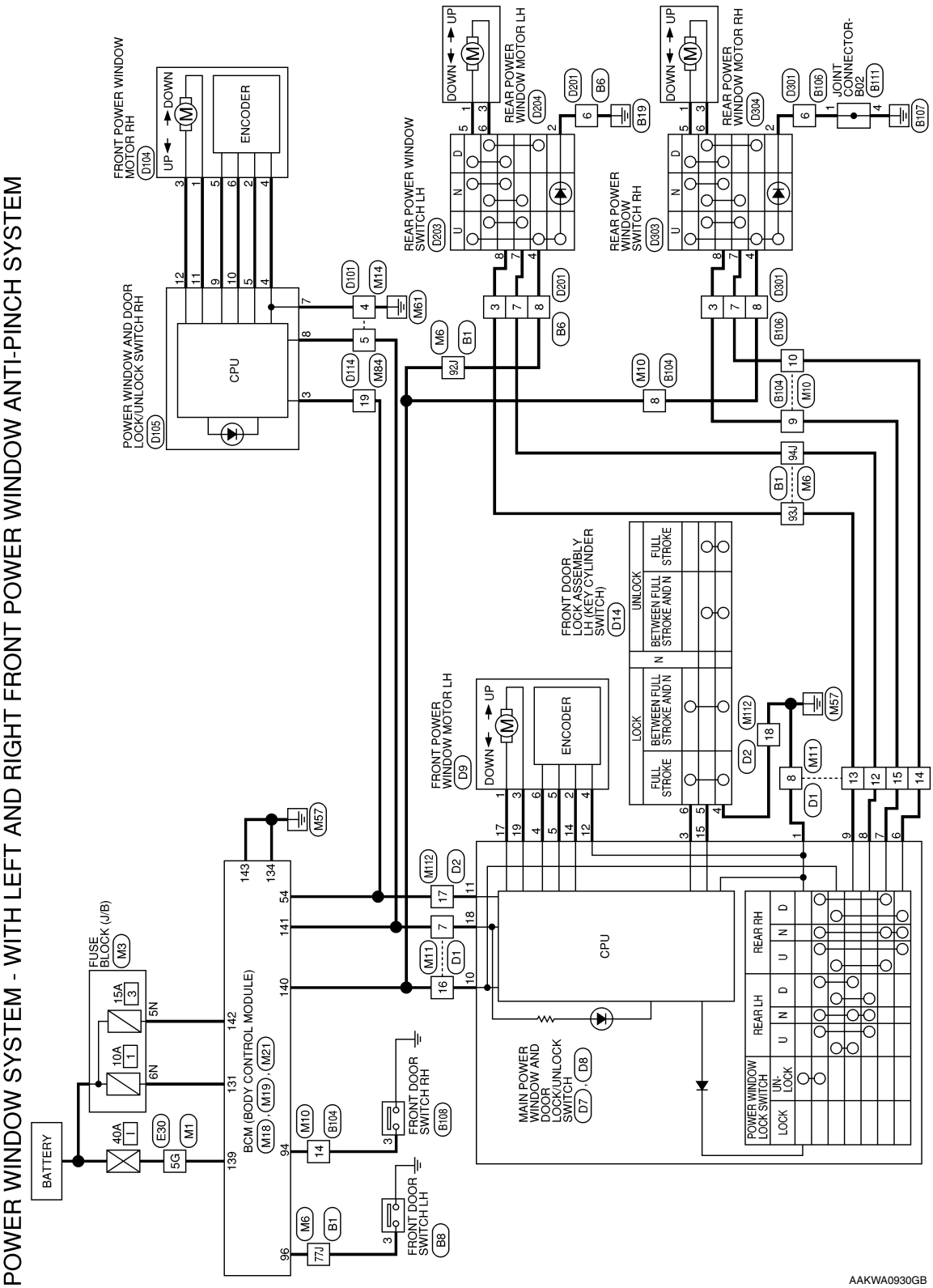
Perform initial operation to recover when switched to fail-safe mode. However, it switches back to fail-safe control when malfunction is found in power window switch or in motor.

WIRING DIAGRAM

POWER WINDOW SYSTEM

Wiring Diagram - With Left And Right Front Power Window Anti-Pinch

INFOID:0000000010481396



POWER WINDOW SYSTEM CONNECTORS - WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1G	2G	3G	4G	5G
6G	7G	8G	9G	10G

11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
22G	23G	24G	25G	26G	27G	28G	29G	30G		

31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G		

51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		

71G	72G	73G	74G	75G	76G	77G	79G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
5G	W	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

3N		2N	1N
7N	6N	5N	4N
8N			

Terminal No.	Color of Wire	Signal Name
5N	BR	–
6N	W	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		

31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		

51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		

71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		

91J	92J	93J	94J	95J
96J	97J	98J	99J	100J

Terminal No.	Color of Wire	Signal Name
77J	BR	–
92J	LG	–
93J	Y	–
94J	SB	–

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
8	LG	–
9	V	–
10	BR	–
14	SB	–

ABKIA3682GB

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	V	–
8	B	–
12	SB	–
13	Y	–
14	BR	–
15	V	–
16	LG	–

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
4	GR	–
5	L	–

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

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
54	P	PW LIN

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

92	91	90	89	88	87	86	85	84	83	82	81
104	103	102	101	100	99	98	97	96	95	94	93

Terminal No.	Color of Wire	Signal Name
94	SB	AS DOOR SW
96	BR	DR DOOR SW

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138

Terminal No.	Color of Wire	Signal Name
131	W	BAT BCM FUSE
134	B	GND2
139	W	BAT POWER F/L
140	LG	P/W POWER SUPPLY IGN
141	V	P/W POWER SUPPLY BAT
142	BR	BAT FRONT DOOR
143	B	GND1

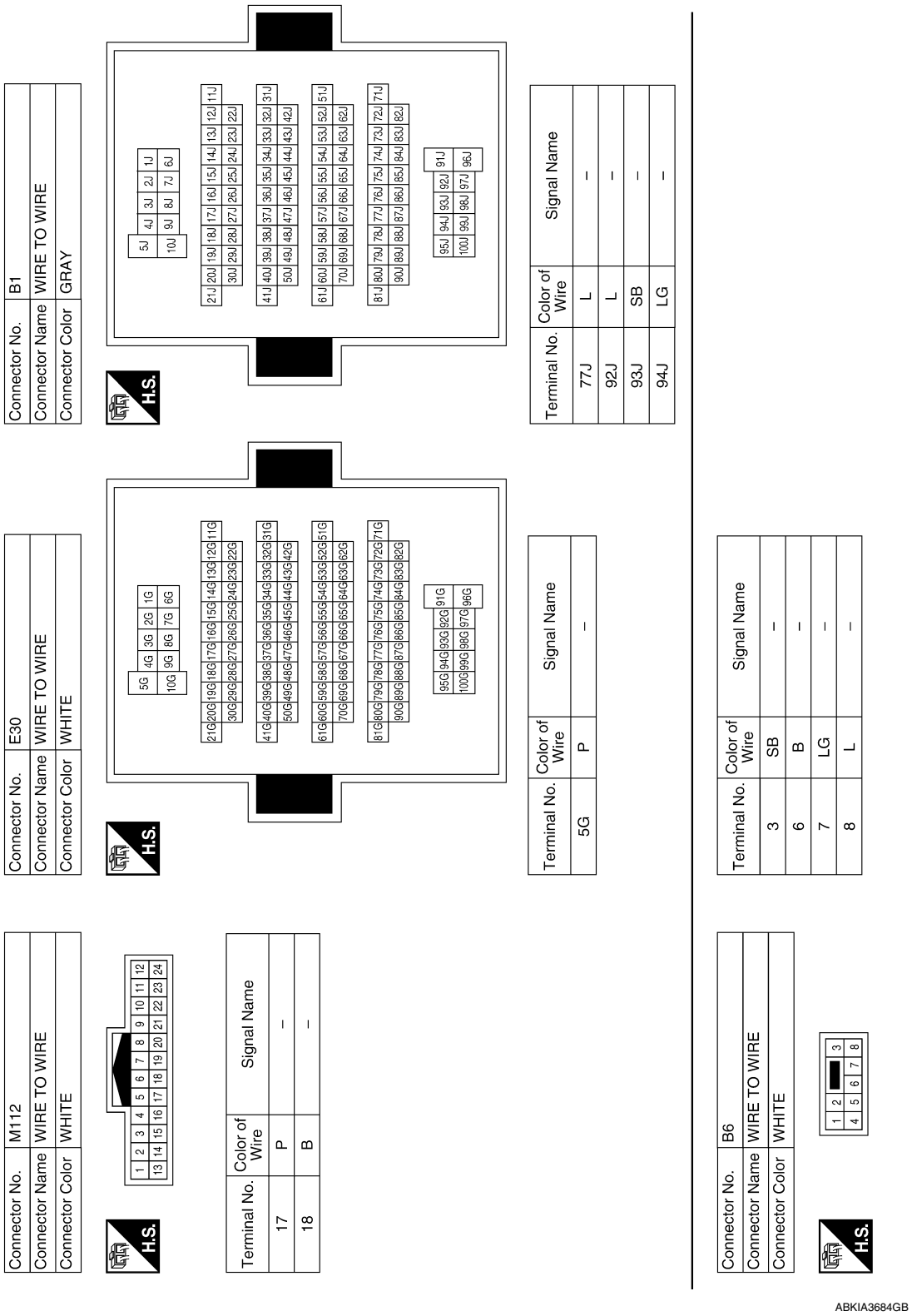
Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
19	P	–

ABKIA4846GB


Connector No. B1
Connector Name WIRE TO WIRE
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
77J L –
92J L –
93J SB –
94J LG –
Connector No. E30
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
5G P –
Connector No. M112
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
17 P –
18 B –
Connector No. B6
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
3 SB –
6 B –
7 LG –
8 L –
ABKIA3684GB

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
8	L	–
9	V	–
10	SB	–
14	L	–

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	SB	–
8	L	–

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–

Connector No.	B111
Connector Name	JOINT CONNECTOR-B02
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
4	B	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	LG	–
8	B	–
12	L	–
13	Y	–
14	SB	–
15	V	–
16	BR	–

ABKIA3685GB

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
17	P	–
18	B	–

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	–	–
3	P	KEYCYLINDER LOCK
4	BG	ENCODER SIG2
5	R	ENCODER SIG1

Terminal No.	Color of Wire	Signal Name
6	SB	RR DN
7	V	RR UP
8	L	RL DN
9	Y	RL UP
10	BR	IGN
11	P	COM
12	P	ENCODER GND
13	–	–
14	LG	ENCODER +
15	G	KEYCYLINDER UNLOCK
16	–	–

Connector No.	D8
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
17	W	DR UP
18	LG	BAT
19	R	DR DN

Connector No.	D9
Connector Name	FRONT POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	M2
2	LG	VCC (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
3	R	M1
4	P	GND (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
5	R	PLS A
6	BG	PLS B

AAKIA2233GB

Connector No.	D14
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	G	–
6	P	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	LG	–

Connector No.	D104
Connector Name	FRONT POWER WINDOW MOTOR RH (WITH LEFT AND RIGHT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	M2
2	W	VCC
3	P	M1
4	BG	GND
5	LG	PLS A
6	G	PLS B

Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT AND RIGHT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	–	–
3	P	COM
4	BG	ENCODER GND
5	W	ENCODER +
6	–	–
7	B	GND
8	LG	BAT
9	LG	ENCODER SGN1
10	G	ENCODER SGN2
11	R	AS UP
12	P	AS DN

Connector No.	D114
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
19	P	–

AAKIA2234GB

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	BR	–
8	Y	–

Connector No.	D203
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	Y	–
5	L	–
6	LG	–
7	BR	–
8	V	–

Connector No.	D204
Connector Name	REAR POWER WINDOW MOTOR LH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	V	–
6	B	–
7	BR	–
8	Y	–

Connector No.	D303
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	Y	–
5	L	–
6	LG	–
7	BR	–
8	V	–

Connector No.	D304
Connector Name	REAR POWER WINDOW MOTOR RH
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	LG	–

ABKIA4828GB

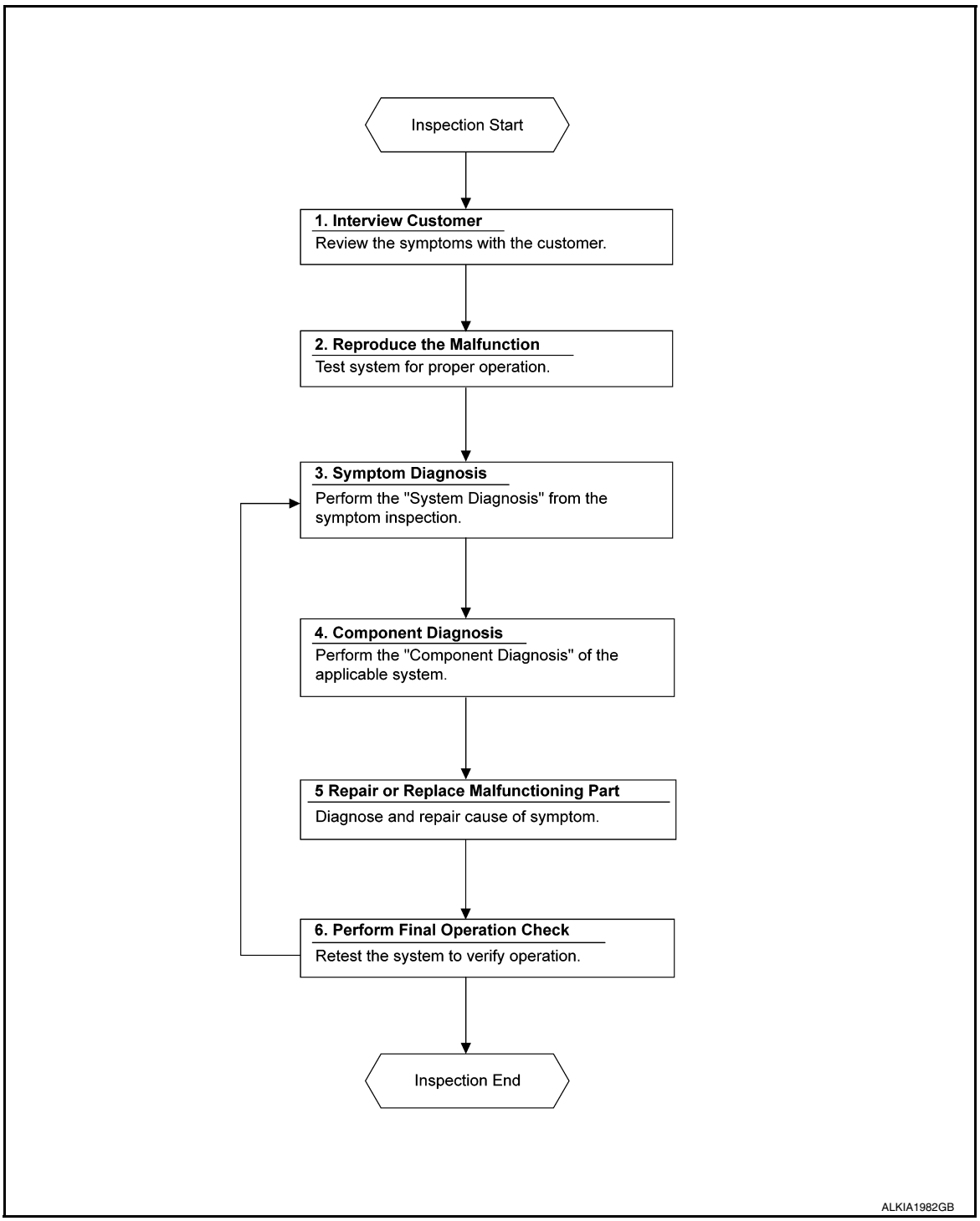
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010481397

OVERALL SEQUENCE



DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2.

2. CONFIRM THE SYMPTOM

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. PERFORM THE COMPONENT DIAGNOSIS OF THE OF THE APPLICABLE SYSTEM

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.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:0000000010481398

Initial setting is necessary when battery terminal is disconnected.

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:0000000010481399

INITIALIZATION PROCEDURE

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

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.

- Check that glass lowers for approximately 150 mm (5.91 in.)or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-83, "Fail Safe".**
- **Perform initial setting when auto-up operation or anti-pinch function does not operate normally.**
- **Finish initial setting. Otherwise, next operation cannot be done.**

1. **Auto-up operation**
2. **Anti-pinch function**
3. **Retained power operation when ignition switch is OFF.**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000010481400

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

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000010481401

INITIALIZATION PROCEDURE

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

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.

- Check that glass lowers for approximately 150 mm (5.91 in.) or 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the main power window and door lock/unlock switch while lowering.

CAUTION:

- **Do not check with hands and other part of body because they may be pinched. Do not get pinched.**
- **Check that AUTO-UP operates before inspection when system initialization is performed.**
- **It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to PWC-83, "Fail Safe".**
- **Perform initial setting when auto-up operation or anti-pinch function does not operate normally.**
- **Finish initial setting. Otherwise, next operation cannot be done.**

1. **Auto-up operation**
2. **Anti-pinch function**
3. **Retained power operation when ignition switch is OFF.**

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000011009040

Regarding Wiring Diagram information, refer to BCS-56, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Terminal No.	Signal name	Fuse and fusible link No.
139	Fusible link battery power	I (40A)
131	BCM battery fuse	1 (10A)

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M21.
2. Check voltage between BCM connector M21 terminals 131, 139 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M21	131	—	Battery voltage
	139		

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M21 terminals 134, 143 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	134	—	Yes
	143		

Is the inspection result normal?

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

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:0000000010481403

- BCM supplies power.
- It operates each power window motor via corresponding power window switch and makes window move up/down when main power window and door lock/unlock switch is operated.

POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:0000000010481404

Main Power Window And Door Lock/unlock Switch

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION

Check power window motor operation with main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK.
NO >> Refer to PWC-100, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:0000000010481405

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Main Power Window And Door Lock/unlock Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

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

Terminal			Voltage (Approx.)
(+)		(–)	
Main power window and door lock/unlock switch connector	Terminal		
D7	10	Ground	Battery voltage
D8	18		

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM, main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.
3. Check continuity between BCM connector and main power window and door lock/unlock switch connectors.

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M21	140	D7	10	Yes
	141	D8	18	

4. Check continuity between BCM connector M21 and ground.

BCM connector	Terminal	Ground	Continuity
M21	140		No
	141		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch.
3. Check continuity between main power window and door lock/unlock switch connector D7 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	1		Yes

Is the inspection result normal?

YES >> Check main power window and door lock/unlock switch output signal (rear power window switch LH) GO TO 5.
YES >> Check main power window and door lock/unlock switch output signal (rear power window switch RH) GO TO 6.
YES >> Check main power window and door lock/unlock switch output signal (front power window switch LH) GO TO 7.
NO >> Repair or replace the harness and connectors.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M21 and ground.

Terminals			Voltage (Approx.)
(+)		(–)	
BCM connector	Terminal		
M21	140	Ground	Battery voltage
	141		

Is the measurement value within the specification?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

5. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH LH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch connector D7 and ground.

Terminal			Window switch position (rear LH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	8	Ground	UP	Battery voltage
			DOWN	0
	9		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

6. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (REAR POWER WINDOW SWITCH RH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch connector D7 and ground.

Terminal			Window switch position (rear RH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	7	Ground	UP	Battery voltage
			DOWN	0
	6		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation".

7. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL (FRONT POWER WINDOW SWITCH LH)

1. Connect main power window and door lock/unlock switch.
2. Turn ignition switch ON.
3. Check voltage between main power window and door lock/unlock switch connector D7 and ground.

Terminal			Window switch position (front LH)	Voltage (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	17	Ground	UP	Battery voltage
			DOWN	0
	19		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation".

POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:0000000010481406

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

1. Check main power window and door lock/unlock switch D7.

Terminal		Main power window and door lock/unlock switch condition		Continuity
10	8	Rear LH	UP	Yes
10	7	Rear RH		
8	9	Rear LH	NEUTRAL	
6	7	Rear RH		
10	9	Rear LH	DOWN	
10	6	Rear RH		
1	12	-		

2. Check continuity between main power window and door lock/unlock switch D7 (power window lock switch). (Lock operation).

Terminal		Main power window and door lock/unlock switch condition		Continuity
9	1	Rear LH	UP	No
6		Rear RH		
8		Rear LH	NEUTRAL	
9				
7		Rear RH		
6				
8		Rear LH	DOWN	
7		Rear RH		

3. Check continuity between main power window and door lock/unlock switch D7 (power window lock switch). (Unlock operation).

Terminal		Main power window and door lock/unlock switch condition		Continuity
9	1	Rear LH	UP	Yes
6		Rear RH		
8		Rear LH	NEUTRAL	
9				
6		Rear RH		
7				
8		Rear LH	DOWN	
7		Rear RH		

Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.
NO >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:0000000010481407

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Refer to PWC-108, "DRIVER SIDE : Component Function Check".

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:0000000010481408

- BCM supplies power.
- Front power window motor RH will be operated if power window and door lock/unlock switch RH is operated.

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000010481409

Power Window And Door Lock/unlock Switch RH

1. CHECK FRONT POWER WINDOW MOTOR RH FUNCTION

Check front power window motor RH operation with power window and door lock/unlock switch RH.

Is the inspection result normal?

YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK.
NO >> Refer to PWC-104, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure".

FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000010481410

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Power Window And Door Lock/unlock Switch RH Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

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

Terminal			Voltage (Approx.)
(+)		(–)	
Power window and door lock/unlock switch RH connector	Terminal		
D105	8	Ground	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and power window and door lock/unlock switch RH.
3. Check continuity between BCM connector M21 and power window and door lock/unlock switch RH connector D105.

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M21	141	D105	8	Yes

4. Check continuity between BCM connector M21 and ground.

BCM connector	Terminal	Ground	Continuity
M21	141		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

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

Power window and door lock/unlock switch RH	Terminal	Ground	Continuity
D105	7		Yes

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

NO >> Repair or replace the harness or connectors.

4. CHECK BCM OUTPUT SIGNAL

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M21 and ground.

Terminals			Voltage (Approx.)
(+)		(-)	
BCM connector	Terminal		
M21	141	Ground	Battery voltage

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

FRONT POWER WINDOW SWITCH : Special Repair Requirement

INFOID:0000000010481411

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Refer to PWC-104, "FRONT POWER WINDOW SWITCH : Component Function Check".

REAR POWER WINDOW SWITCH

REAR POWER WINDOW SWITCH : Description

INFOID:0000000010481412

- BCM supplies power.
- Rear power window motor will be operated if rear power window switch is operated. Rear power window switch.

REAR POWER WINDOW SWITCH : Component Function Check

INFOID:0000000010481413

Rear Power Window Switch

1. CHECK REAR POWER WINDOW MOTOR FUNCTION

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

Is the inspection result normal?

YES >> Rear power window switch power supply and ground circuit are OK.
NO >> Refer to PWC-105, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:0000000010481414

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Rear Power Window Switch Power Supply Circuit Check

1. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear power window switch connector and ground.

Terminal				Condition	Voltage (Approx.)
(+)			(–)		
Rear power window switch connector		Terminal			
LH	D203	4	Ground	Ignition switch ON	Battery voltage
RH	D303				

Is the inspection result normal?

YES >> GO TO 2 (Rear power window switch LH).
YES >> GO TO 3 (Rear power window switch RH).
NO >> GO TO 4.

2. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch LH.
3. Check continuity between main power window and door lock/unlock switch connector D7 and rear power window switch LH connector D203.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch LH connector	Terminal	Continuity
D7	8	D203	7	Yes
	9		8	

4. Check continuity between main power window and door lock/unlock switch connector D7 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	8	Ground	No
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

3. CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH)

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and rear power window switch RH.
3. Check continuity between main power window and door lock/unlock switch connector D7 and rear power window switch RH connector D303.

Main power window and door lock/unlock switch connector	Terminal	Rear power window switch RH connector	Terminal	Continuity
D7	6	D303	7	Yes
	7		8	

4. Check continuity between main power window and door lock/unlock switch connector D7 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	6	Ground	No
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

4. CHECK HARNESS CONTINUITY

1. Disconnect BCM and rear power window switch.

2. Check continuity between BCM connector and rear power window switch connector.

BCM connector	Terminal	Rear power window switch connector		Terminal	Continuity
M21	140	LH	D203	4	Yes
		RH	D303		

3. Check continuity between BCM connector M21 and ground.

BCM connector	Terminal	Ground	Continuity
M21	140		No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Repair or replace the harness or connectors.

5. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.
Refer to PWC-107, "REAR POWER WINDOW SWITCH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window switch. Refer to PWC-147, "Removal and Installation".

REAR POWER WINDOW SWITCH : Component Inspection

INFOID:0000000010481415

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH D203.

Terminal		Power window switch condition	Continuity
4	5	UP	Yes
8	6		
8	6	NEUTRAL	
5	7		
6	4	DOWN	
5	7		

Is the inspection result normal?

YES >> Rear power window switch LH is OK.
NO >> Replace rear power window switch. Refer to PWC-147, "Removal and Installation".

2. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH D303.

Terminal		Power window switch condition	Continuity
4	5	UP	Yes
7	6		
7	6	NEUTRAL	
5	8		
6	4	DOWN	
5	8		

Is the inspection result normal?

YES >> Rear power window switch RH is OK.
NO >> Replace rear power window switch. Refer to PWC-147, "Removal and Installation".

POWER WINDOW MOTOR
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000010481416

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

DRIVER SIDE : Component Function Check

INFOID:0000000010481417

1. CHECK POWER WINDOW MOTOR CIRCUIT

Check front power window motor LH operation with operating main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Refer to PWC-108, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010481418

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Front Power Window Motor LH Circuit Check

1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL

1. Disconnect front power window motor LH.
2. Turn ignition switch ON.
3. Check voltage between front power window motor LH connector D9 and ground.

Terminal			Main power window and door lock/unlock switch condition	Voltage (Approx.)
(+)		(–)		
Power window motor LH connector	Terminal			
D9	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and front power window motor LH.
3. Check continuity between main power window and door lock/unlock switch connector D8 and front power window motor connector LH D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D8	17	D9	1	Yes
	19		3	

4. Check continuity between main power window and door lock/unlock switch connector D8 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D8	17		No
	19		

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-109, "DRIVER SIDE : Special Repair Requirement".
NO >> Repair or replace the harness or connectors.

3. CHECK POWER WINDOW MOTOR

Check front power window motor LH.
Refer to PWC-109, "DRIVER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-109, "DRIVER SIDE : Special Repair Requirement".

DRIVER SIDE : Component Inspection

INFOID:0000000010481419

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR LH

Check motor operation by connecting the battery voltage directly to power window motor D9.

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

Is the inspection result normal?

YES >> Front power window motor LH is OK.
NO >> Replace front power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-109, "DRIVER SIDE : Special Repair Requirement".

DRIVER SIDE : Special Repair Requirement

INFOID:0000000010481420

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to PWC-115, "DRIVER SIDE : Component Function Check".

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000010481421

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

PASSENGER SIDE : Component Function Check

INFOID:0000000010481422

1. CHECK POWER WINDOW MOTOR CIRCUIT

Check power window motor operation with operating main power window and door lock/unlock switch or power window and door lock/unlock switch RH.

Is the inspection result normal?

YES >> Front power window motor RH is OK.
NO >> Refer to PWC-110, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000010481423

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Front Power Window Motor RH Circuit Check

1. CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front power window motor RH.
3. Turn ignition switch ON.
4. Check voltage between front power window motor RH connector D104 and ground.

Terminal			Front power window motor RH condition	Voltage (Approx.)
(+)		(–)		
Front power window motor RH connector	Terminal			
D104	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the inspection result normal?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect power window and door lock/unlock switch RH.
3. Check continuity between power window and door lock/unlock switch RH connector D105 and front power window motor RH connector D104.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	11	D104	1	Yes
	12		3	

4. Check continuity between power window and door lock/unlock switch RH connector D105 and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105	11	Ground	No
	12		

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-146, "Removal and Installation". After that, refer to PWC-111, "PASSENGER SIDE : Special Repair Requirement".
NO >> Repair or replace harness or connectors.

3. CHECK FRONT POWER WINDOW MOTOR RH

Check front power window motor RH.
Refer to PWC-111, "PASSENGER SIDE : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front power window motor RH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-111, "PASSENGER SIDE : Special Repair Requirement".

PASSENGER SIDE : Component Inspection

INFOID:0000000010481424

COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

Check motor operation by connecting the battery voltage directly to front power window motor RH D104.

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

Is the inspection result normal?

YES >> Front power window motor RH is OK.
NO >> Replace front power window motor RH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-111, "PASSENGER SIDE : Special Repair Requirement".

PASSENGER SIDE : Special Repair Requirement

INFOID:0000000010481425

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to PWC-117, "PASSENGER SIDE : Component Function Check".

REAR LH

REAR LH : Description

INFOID:0000000010481426

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

REAR LH : Component Function Check

INFOID:0000000010481427

1. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

Check rear power window motor LH operation with main power window and door lock/unlock switch or rear power window switch LH.

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Refer to PWC-112, "REAR LH : Diagnosis Procedure"

REAR LH : Diagnosis Procedure

INFOID:0000000010481428

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Power Window Motor Circuit Check

1. CHECK REAR POWER WINDOW SWITCH OUTPUT 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 connector D204 and ground.

Terminal			Window condition	Voltage (Approx.)
(+)		(–)		
Rear power window motor LH connector	Terminal			
D204	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch LH.
3. Check continuity between rear power window switch LH connector D203 and rear power window motor LH connector D204.

Rear power window switch LH connector	Terminal	Rear power window motor LH connector	Terminal	Continuity
D203	5	D204	1	Yes
	6		3	

4. Check continuity between rear power window switch LH connector D203 and ground.

Rear power window switch LH connector	Terminal	Ground	Continuity
D203	5		No
	6		

Is the inspection result normal?

YES >> Check rear power window switch LH. Refer to PWC-107, "REAR POWER WINDOW SWITCH : Component Inspection".
NO >> Repair or replace the harness or connectors.

3. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.
Refer to PWC-113, "REAR LH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window motor LH. Refer to GW-25, "Removal and Installation".

REAR LH : Component Inspection

INFOID:0000000010481429

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR LH

Check motor operation by connecting the battery voltage directly to rear power window motor LH D204.

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

Is the inspection result normal?

YES >> Rear power window motor LH is OK.
NO >> Replace rear power window motor LH. Refer to GW-25, "Removal and Installation".

REAR RH

REAR RH : Description

INFOID:0000000010481430

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

REAR RH : Component Function Check

INFOID:0000000010481431

1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

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

Is the inspection result normal?

YES >> Rear power window motor RH is OK.
NO >> Refer to PWC-113, "REAR RH : Diagnosis Procedure".

REAR RH : Diagnosis Procedure

INFOID:0000000010481432

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Rear Power Window Motor RH Circuit Check

1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

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

Terminal			Rear power window switch RH condition	Voltage (Approx.)
(+)		(–)		
Rear power window motor RH connector	Terminal			
D304	1	Ground	UP	Battery voltage
			DOWN	0
	3		UP	0
			DOWN	Battery voltage

Is the measurement value within the specification?

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

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect rear power window switch RH.
3. Check continuity between rear power window switch RH connector D303 and rear power window motor RH connector D304.

Rear power window switch RH connector	Terminal	Rear power window motor RH connector	Terminal	Continuity
D303	5	D304	1	Yes
	6		3	

4. Check continuity between rear power window switch RH connector D303 and ground.

Rear power window switch RH connector	Terminal	Ground	Continuity
D303	5		No
	6		

Is the inspection result normal?

YES >> Check rear power window switch RH. Refer to PWC-107, "REAR POWER WINDOW SWITCH : Component Inspection".
NO >> Repair or replace the harness or connectors.

3. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.
Refer to PWC-114, "REAR RH : Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace rear power window motor RH. Refer to GW-25, "Removal and Installation".

REAR RH : Component Inspection

INFOID:0000000010481433

COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

Check motor operation by connecting the battery voltage directly to rear power window motor RH D304.

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

Is the inspection result normal?

YES >> Rear power window motor RH is OK.
NO >> Replace rear power window motor RH. Refer to GW-25, "Removal and Installation".

ENCODER
DRIVER SIDE

DRIVER SIDE : Description

INFOID:0000000010481434

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

DRIVER SIDE : Component Function Check

INFOID:0000000010481435

1. CHECK ENCODER OPERATION

Check front door glass LH perform AUTO open/close operation normally when operating main power window and door lock/unlock switch.

Is the inspection result normal?

YES >> Encoder operation is OK.
NO >> Refer to PWC-115, "DRIVER SIDE : Diagnosis Procedure".

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010481436

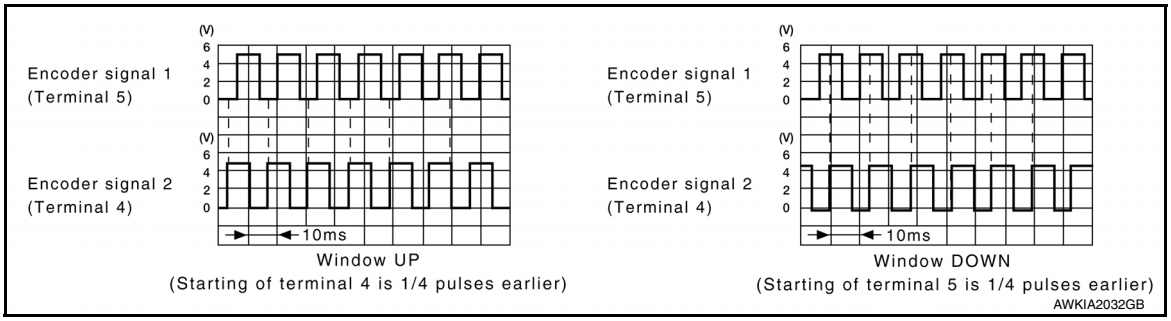
Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Encoder Circuit Check

1. CHECK ENCODER OPERATION

1. Turn ignition switch ON.
2. Check signal between main power window and door lock/unlock switch connector D7 and ground with oscilloscope.

Terminals			Signal (Reference value)
(+)		(–)	
Main power window and door lock/unlock switch connector	Terminal		
D7	4	Ground	Refer to following signal
	5		



Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 2.

2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between front power window motor LH connector D9 and ground.

Terminal			Voltage (Approx.)
(+)		(–)	
Front power window motor LH connector	Terminal		
D9	2	Ground	10

Is the measurement value within the specification?

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

3. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch and front power window motor LH.
3. Check continuity between main power window and door lock/unlock switch connector D7 and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	14	D9	2	Yes

4. Check continuity between main power window and door lock/unlock switch connector D7 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	14		No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
NO >> Repair or replace the harness or connectors.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front power window motor LH.
3. Check continuity between front power window motor LH connector D9 and ground.

Front power window motor LH connector	Terminal	Ground	Continuity
D9	4		Yes

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5. CHECK HARNESS CONTINUITY 2

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector D7 and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	12	D9	4	Yes

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
NO >> Repair or replace the harness or connectors.

6. CHECK HARNESS CONTINUITY 3

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector D7 and front power window motor LH connector D9.

Main power window and door lock/unlock switch connector	Terminal	Front power window motor LH connector	Terminal	Continuity
D7	5	D9	5	Yes
	4		6	

3. Check continuity between main power window and door lock/unlock switch connector D7 and ground.

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	5		No
	4		

Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

NO >> Repair or replace the harness or connectors.

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:0000000010481437

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

PASSENGER SIDE : Component Function Check

INFOID:0000000010481438

1. CHECK ENCODER OPERATION

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

Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to PWC-117, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

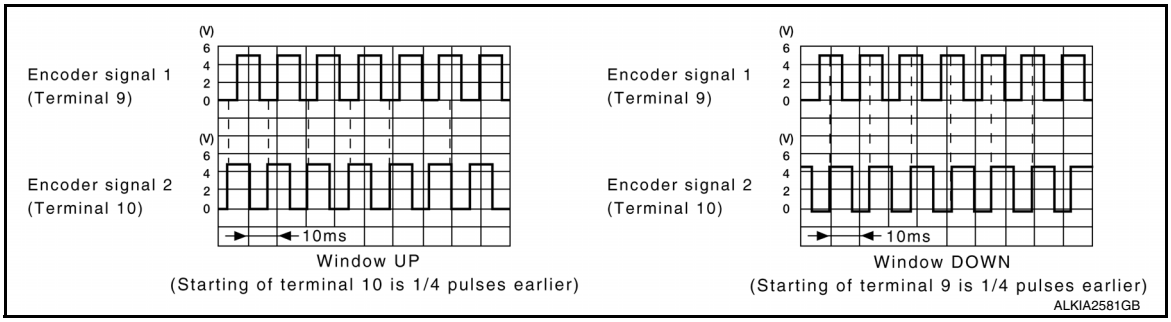
INFOID:0000000010481439

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

1. CHECK ENCODER SIGNAL

1. Connect front power window motor RH.
2. Turn ignition switch ON.
3. Check signal between power window and door lock/unlock switch RH connector D105 and ground with oscilloscope.

Terminals			Signal (Reference value)
(+)		(–)	
Power window and door lock/unlock switch RH connector	Terminal		
D105	9	Ground	Refer to following signal
	10		



Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 2.

2. CHECK FRONT POWER WINDOW MOTOR RH POWER SUPPLY

1. Turn ignition switch ON.
2. Check voltage between front power window motor RH connector D105 and ground.

Terminal			Voltage (Approx.)
(+)		(–)	
Front power window motor RH connector	Terminal		
D105	5	Ground	10

Is the inspection result normal?

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

3. CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.
2. Disconnect power window and door lock/unlock switch RH and front power window motor RH.
3. Check continuity between power window and door lock/unlock switch RH connector D105 and front power window motor RH connector D104.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	5	D104	2	Yes

4. Check continuity between power window and door lock/unlock switch RH connector D105 and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105	5		No

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-146, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
NO >> Repair or replace the harness or connectors.

4. CHECK GROUND CIRCUIT

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

Front power window motor RH connector	Terminal	Ground	Continuity
D104	4		Yes

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5. CHECK HARNESS CONTINUITY 2

1. Disconnect power window and door lock/unlock switch RH.
2. Check continuity between power window and door lock/unlock switch RH connector D105 and front power window motor RH connector D104.

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

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-146, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

NO >> Repair or replace the harness or connectors.

6. CHECK HARNESS CONTINUITY 3

1. Disconnect power window and door lock/unlock switch RH.
2. Check continuity between power window and door lock/unlock switch RH connector D105 and front power window motor RH connector D104.

Power window and door lock/unlock switch RH connector	Terminal	Front power window motor RH connector	Terminal	Continuity
D105	9	D104	5	Yes
	10		6	

3. Check continuity between power window and door lock/unlock switch RH connector D105 and ground.

Power window and door lock/unlock switch RH connector	Terminal	Ground	Continuity
D105	9	Ground	No
	10		

Is the inspection result normal?

YES >> Replace front power window motor RH. Refer to GW-16, "Removal and Installation - Front Regulator". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

NO >> Repair or replace the harness or connectors.

DOOR SWITCH

Description

INFOID:0000000011009041

Detects door open/close condition.

Component Function Check

INFOID:0000000011009042

1.CHECK FUNCTION

With CONSULT

Check door switches “DOOR SW-DR”, “DOOR SW-AS”, “DOOR SW-RL”, “DOOR SW-RR” in “Data Monitor”.

Monitor item	Condition
DOOR SW-DR	CLOSE → OPEN: OFF → ON
DOOR SW-AS	
DOOR SW-RL	
DOOR SW-RR	

Is the inspection result normal?

YES >> Door switch is OK.
NO >> Refer to PWC-120, "Diagnosis Procedure".

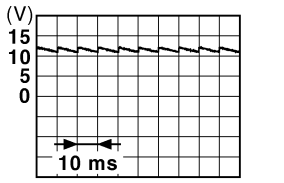
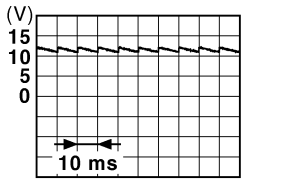
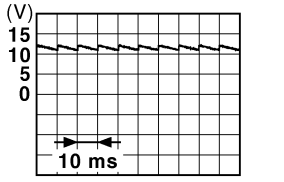
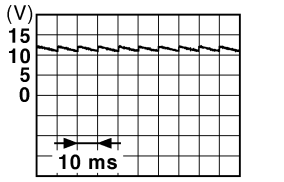
Diagnosis Procedure

INFOID:0000000011009043

Regarding Wiring Diagram information, refer to DLK-51, "Wiring Diagram".

1.CHECK DOOR SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Check signal between BCM connector and ground with oscilloscope.

Terminals (+) BCM connector	Terminals (+) Terminal	Terminals (–)	Door condition		Voltage (V) (Approx.)
M19	96	Ground	Front door switch LH	OPEN	0
				CLOSE	 JPMIA0011GB
	94		Front door switch RH	OPEN	0
				CLOSE	 JPMIA0011GB
	93		Rear door switch RH	OPEN	0
				CLOSE	 JPMIA0011GB
	82		Rear door switch LH	OPEN	0
				CLOSE	 JPMIA0011GB

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2. CHECK DOOR SWITCH CIRCUIT

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

BCM connector	Terminal	Door switch connector	Terminal	Continuity
M19	96	Front door switch LH	Ground part of door switch	Yes
	94	Front door switch RH		
	93	Rear door switch RH		
	82	Rear door switch LH		

3. Check continuity between BCM connector and ground.

BCM connector	Terminal		Continuity
M19	96	Ground	No
	94		
	93		
	82		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness between BCM and door switch.

3.CHECK DOOR SWITCH

Refer to PWC-122, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace malfunctioning door switch. Refer to DLK-219, "Removal and Installation".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-44, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000011009044

1.CHECK DOOR SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace malfunctioning door switch. Refer to DLK-219, "Removal and Installation".

KEY CYLINDER SWITCH

Description

INFOID:0000000011009045

For vehicles equipped with LH and RH anti-pinch system, the main power window and door lock/unlock switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signal.

For vehicles equipped with LH anti-pinch system only, the front door lock assembly LH (key cylinder switch) transmits the LOCK or UNLOCK signal directly to the BCM.

Component Function Check

INFOID:0000000011009046

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check “KEY CYL UN-SW”, “KEY CYL UN-SW” in “Data Monitor” for “POWER DOOR LOCK SYSTEM” with CONSULT. Refer to DLK-81, "Work Flow".

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> With LH and RH anti-pinch, refer to PWC-123, "Diagnosis Procedure (With LH and RH Anti-Pinch)".
NO >> With LH anti-pinch only, refer to PWC-53, "Diagnosis Procedure (With LH Anti-Pinch Only)".

Diagnosis Procedure (With LH and RH Anti-Pinch)

INFOID:0000000011009047

Regarding Wiring Diagram information, refer to DLK-51, "Wiring Diagram".

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Terminals			Key position	Voltage (V) (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	3	Ground	Lock	0
			Neutral / Unlock	5
	15		Unlock	0
			Neutral / Lock	5

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation".
NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect main power window and door lock/unlock switch connector and front door lock assembly LH connector.
3. Check continuity between main power window and door lock/unlock switch connector and front door lock assembly LH connector.

Main power window and door lock/unlock switch connector	Terminal	Front door lock assembly LH connector	Terminal	Continuity
D7	3	D14	6	Yes
	15		5	

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

Main power window and door lock/unlock switch connector	Terminal	Ground	Continuity
D7	3		No
	15		

Is the inspection result normal?

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

3.CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between front door lock assembly LH connector and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
D14	4		Yes

Is the inspection result normal?

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

4.CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.
Refer to PWC-124, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace front door lock assembly LH. Refer to DLK-203, "FRONT DOOR LOCK : Removal and Installation".

Component Inspection

INFOID:0000000011009049

COMPONENT INSPECTION

1.CHECK DOOR KEY CYLINDER SWITCH

Check front door lock assembly LH.

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH. Refer to DLK-203, "FRONT DOOR LOCK : Removal and Installation".

POWER WINDOW SERIAL LINK
POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:0000000010481449

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.
The signal mentioned below is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH
- Keyless power window down signal

The signal mentioned below is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH
- Front door window RH operation signal
- Power window control by key cylinder switch signal
- Power window lock switch signal
- Retained power operation signal

POWER WINDOW MAIN SWITCH : Component Function Check

INFOID:0000000010481450

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

Check (“CDL LOCK SW ”, “CDL UNLOCK SW”) in “Data Monitor” for “POWER DOOR LOCK SYSTEM” with CONSULT. Refer to BCS-16, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

Monitor item	Condition	
CDL LOCK SW	LOCK	: ON
	UNLOCK	: OFF
CDL UNLOCK SW	LOCK	: OFF
	UNLOCK	: ON

Is the inspection result normal?

YES >> Power window serial link is OK.
NO >> Refer to PWC-126, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

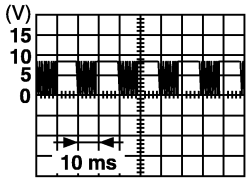
INFOID:0000000010481451

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Power Window Serial Link Check

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

1. Remove Intelligent Key, and close front door LH and RH.
2. Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to “LOCK” or “UNLOCK”.
3. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to “LOCK” or “UNLOCK”.

Terminal			Signal (Reference value)
(+)		(–)	
BCM connector	Terminal		
M18	54	Ground	

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Is the inspection result normal?

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

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and main power window and door lock/unlock switch.
3. Check continuity between BCM connector M18 and main power window and door lock/unlock switch connector D7.

BCM connector	Terminal	Main power window and door lock/unlock switch connector	Terminal	Continuity
M18	54	D7	11	Yes

4. Check continuity between BCM connector M18 and ground.

BCM connector	Terminal	Ground	Continuity
M18	54		No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".
NO >> Repair or replace harness or connectors.

FRONT POWER WINDOW SWITCH

FRONT POWER WINDOW SWITCH : Description

INFOID:0000000010481452

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.
The signal mentioned below is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH

- Keyless power window down signal

The signal mentioned below is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH

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

FRONT POWER WINDOW SWITCH : Component Function Check

INFOID:0000000010481453

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

Check (“CDL LOCK SW ”, “CDL UNLOCK SW”) in “Data Monitor” for “POWER DOOR LOCK SYSTEM” with CONSULT. Refer to BCS-16, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)".

Monitor item	Condition	
CDL LOCK SW	LOCK	: ON
	UNLOCK	: OFF
CDL UNLOCK SW	LOCK	: OFF
	UNLOCK	: ON

Is the inspection result normal?

YES >> Power window serial link is OK.
NO >> Refer to PWC-128, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure".

FRONT POWER WINDOW SWITCH : Diagnosis Procedure

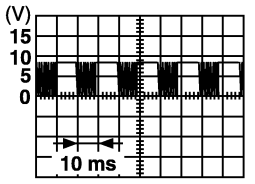
INFOID:0000000010481454

Regarding Wiring Diagram information, refer to PWC-87, "Wiring Diagram - With Left And Right Front Power Window Anti-Pinch".

Power Window Serial Link Check

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

1. Remove Intelligent Key, and close the front door LH and RH.
2. Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to “LOCK” or “UNLOCK”.
3. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to “LOCK” or “UNLOCK”.

Terminal			Signal (Reference value)
(+)		(–)	
BCM connector	Terminal		
M18	54	Ground	

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Is the inspection result normal?

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

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check continuity between BCM connector M18 and power window and door lock/unlock switch RH connector D105.

BCM connector	Terminal	Power window and door lock/unlock switch RH connector	Terminal	Continuity
M18	54	D105	3	Yes

4. Check continuity between BCM connector M18 and ground.

BCM connector	Terminal	Ground	Continuity
M18	54		No

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

NO >> Repair or replace the harness or connectors.

POWER WINDOW LOCK SWITCH

Description

INFOID:0000000010481455

Ground circuit of main power window and door lock/unlock switch shuts off if power window lock switch of main power window and door lock/unlock switch is operated. This inhibits all operation, except for the main switch.

Component Function Check

INFOID:0000000010481456

1. CHECK POWER WINDOW LOCK SIGNAL

Main power window and door lock/unlock switch operation (window lock signal) is checked.

Does power window lock operate?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-145, "Removal and Installation". After that, refer to PWC-130, "Special Repair Requirement".
NO >> Check condition of harness and connector.

Special Repair Requirement

INFOID:0000000010481457

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".

SYMPTOM DIAGNOSIS

POWER WINDOWS DO NOT OPERATE WITH ANY POWER WINDOW SWITCHES

Diagnosis Procedure

INFOID:0000000010481458

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to BCS-75, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Check main power window and door lock/unlock switch.
Refer to PWC-102, "POWER WINDOW MAIN SWITCH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window switch main power supply and ground circuit.
Refer to PWC-100, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the malfunctioning parts.

4. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH SERIAL CIRCUIT

Check main power window and door lock/unlock switch serial circuit.
Refer to PWC-126, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481459

1. CHECK FRONT POWER WINDOW MOTOR LH

Check front power window motor LH.
Refer to PWC-108, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481460

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

Check power window and door lock/unlock switch RH.
Refer to PWC-104, "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH SERIAL LINK CIRCUIT

Check power window and door lock/unlock switch RH serial link circuit.
Refer to PWC-127, "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit.
Refer to PWC-110, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481461

1. CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH.
Refer to PWC-105, "REAR POWER WINDOW SWITCH : 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-111, "REAR LH : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481462

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH.
Refer to PWC-105, "REAR POWER WINDOW SWITCH : 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-113, "REAR RH : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481463

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK DOOR WINDOW SLIDING PART

- A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK ENCODER CIRCUIT

Check encoder circuit.
Refer to PWC-115, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481464

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK DOOR WINDOW SLIDING PART

- A foreign material adheres to window glass or glass run rubber.
- Glass run rubber wear or deformation.
- Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

3. CHECK ENCODER CIRCUIT

Check encoder circuit.
Refer to PWC-117, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481465

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder.
Refer to PWC-115, "DRIVER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

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

Diagnosis Procedure

INFOID:0000000010481466

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder.
Refer to PWC-117, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:0000000010481467

1. CHECK FRONT DOOR SWITCH

Check front door switch.
Refer to DLK-100, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Repair or replace the malfunctioning parts.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:0000000010481468

1. REPLACE MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Replace main power window and door lock/unlock switch.
Refer to PWC-145, "Removal and Installation". After that, PWC-103, "POWER WINDOW MAIN SWITCH : Special Repair Requirement".

>> Inspection End.

DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WINDOWS

Diagnosis Procedure

INFOID:0000000010481469

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is performed and operation is confirmed.
Refer to PWC-97, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 2.

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

Check front door lock assembly LH (key cylinder switch).
Refer to PWC-123, "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 inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> GO TO 1.

KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:0000000010481470

1. CHECK INTELLIGENT KEY FUNCTION

Check Intelligent Key function.
Refer to DLK-146, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-44, "Intermittent Incident".
NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

PERIODIC MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000010481471

BASIC INSPECTION

1. INSPECTION START

1. Check the service history.
2. Check the following parts.

- Fuse/circuit breaker blown.
- Poor connection, open or short circuit of harness connector.
- Battery voltage.

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace the malfunctioning parts.

REMOVAL AND INSTALLATION

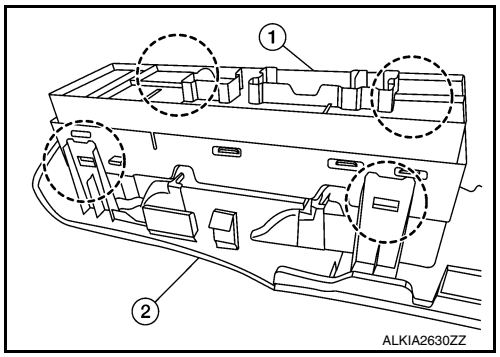
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

Removal and Installation

INFOID:0000000010481472

REMOVAL

1. Remove the front door pull handle outer finisher using a suitable tool.
2. Release the pawls using a suitable tool and lift the main power window and door lock/unlock switch and finisher as an assembly by starting at the rear, then pull upward and remove.
3. Disconnect the harness connector from the main power window and door lock/unlock switch.
4. Release the four pawls (two on each side) using a suitable tool, then separate the main power window and door lock/unlock switch (1) from the main power window and door lock switch finisher (2).
   ◌: Pawl
   CAUTION:
   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

When the main power window and door lock/unlock switch is disconnected from the harness connector it is necessary to perform the initialization procedure. Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

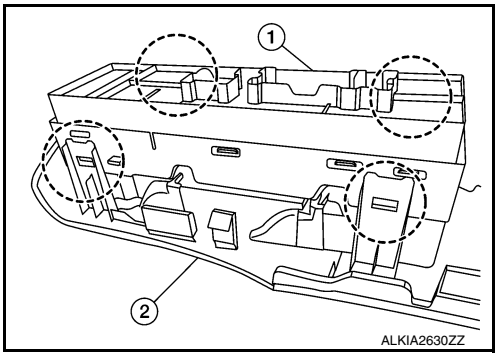
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

Removal and Installation

INFOID:0000000010481473

REMOVAL

1. Remove the front door pull handle outer finisher using a suitable tool.
2. Release the pawls using a suitable tool and lift the power window and door lock/unlock switch RH and finisher as an assembly by starting at the rear, then pull upward and remove.
3. Disconnect the harness connector from the power window and door lock/unlock switch RH.
4. Release the four pawls (two on each side) using a suitable tool, then separate the power window and door lock/unlock switch RH (1) from the power window and door lock switch RH finisher (2).
   ◌: Pawl
   CAUTION:
   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

When the main power window and door lock/unlock switch is disconnected from the harness connector it is necessary to perform the initialization procedure. Refer to PWC-27, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

REAR POWER WINDOW SWITCH

Removal and Installation

INFOID:0000000010481474

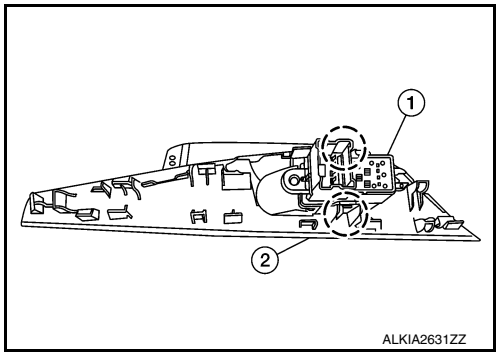
REMOVAL

1. Release the pawls using a suitable tool and lift the rear power window switch and finisher as an assembly by starting at the rear, then pull upward and remove
2. Disconnect the harness connector from the rear power window switch.
3. Release the pawl (one on each side) using a suitable tool, then separate the rear power window switch (1) from the rear power switch finisher (2).

   ◌: Pawl

   CAUTION:

   Do not bend back the pawls on the switch finisher too far or breakage may occur.



INSTALLATION

Installation is in the reverse order of removal.