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

< BASIC INSPECTION >

## **BASIC INSPECTION**

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

#### **DETAILED FLOW**

## 1. OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

## 2.REPRODUCE THE MALFUNCTION INFORMATION

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

>> GO TO 3.

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

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

>> GO TO 4.

## 4. IDENTIFY MALFUNCTIONING PARTS WITH "DTC/CIRCUIT DIAGNOSIS"

Perform the diagnosis with "DTC/CIRCUIT DIAGNOSIS" of the applicable system.

>> GO TO 5.

## 5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

### 6. FINAL CHECK

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

Is the malfunctioning part repaired or replaced?

YES >> Trouble diagnosis is completed.

NO >> GO TO 3.

#### INSPECTION AND ADJUSTMENT

#### < BASIC INSPECTION >

### INSPECTION AND ADJUSTMENT

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Description INFOID:0000000010584794

When the battery negative terminal is disconnected, the initialization is necessary.

If any of the following operations are performed, the initialization is necessary as well as when the negative terminal of battery is disconnected.

- Power supply to the power window main switch or power window motor is cut off by the removal of battery terminal or if the battery fuse is blown.
- Disconnection and connection of power window main switch harness connector.
- Removal and installation of motor from regulator assembly.
- Operation of regulator assembly as an independent unit.
- Removal and installation of glass.
- Removal and installation of door glass run.

#### CAUTION:

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

- Auto-up operation
- Anti-pinch function

Refer to PWC-5, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Special Repair Requirement".

## ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Special Repair Requirement

#### INITIALIZATION PROCEDURE

- Disconnect the battery negative terminal or power window main switch connector. Reconnect it after a minute or more.
- 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 the fully closed position, keep pulling the switch for 3 seconds or more.
- Initializing procedure is completed.
- 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 (5.9 in) or for 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.

#### CAUTION:

- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- Never check with hands or other body parts because they may be pinched. Never get pinched.
- It may switch to fail-safe mode if open/close operation is performed continuously without fully closing. Perform initial setting in that situation. Refer to PWC-89, "Fail-safe".
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- 2. Anti-pinch function

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description

When the control unit replaced, the initialization in necessary.

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INFOID:0000000010584796

#### INSPECTION AND ADJUSTMENT

#### < BASIC INSPECTION >

If any of the following operations are performed, the initialization is necessary as well as when the control unit is disconnected.

- Power supply to the power window main switch or power window motor is cut off by the removal
  of battery terminal or if the battery fuse is blown.
- · Disconnection and connection of power window main switch harness connector.
- · Removal and installation of motor from regulator assembly.
- Disconnection and connection of battery negative terminal.
- · Removal and installation of glass.
- · Removal and installation of door glass run.

#### **CAUTION:**

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

- Auto-up operation
- Anti-pinch function

Refer to PWC-6, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement

#### INITIALIZATION PROCEDURE

- 1. Disconnect the battery negative terminal or power window main 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 the fully closed position, keep pulling the switch for 3 seconds or more.
- 5. Initializing procedure is completed.
- 6. 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 (5.9 in) or for 2 seconds without pinching piece of wood and stops.
- Check that glass does not rise when operating the power window main switch while lowering.

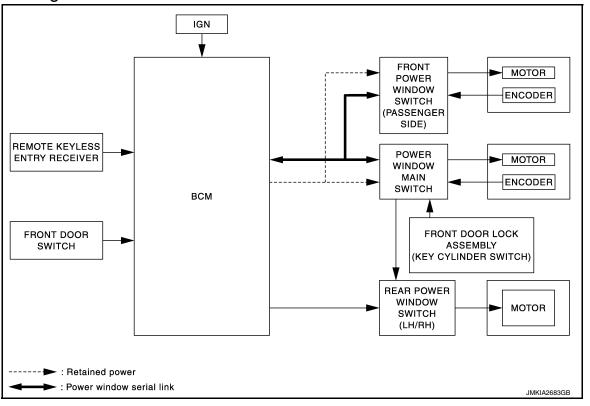
#### **CAUTION:**

- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- Never check with hands or other body parts because they may be pinched. Never get pinched.
- It may switch to fail-safe mode if open/close operation is performed continuously without fully closing. Perform initial setting in that situation. Refer to <a href="https://example.com/PWC-89">PWC-89</a>, "Fail-safe".
- Finish initial setting. Otherwise, next operation cannot be done.
- 1. Auto-up operation
- 2. Anti-pinch function

## SYSTEM DESCRIPTION

### POWER WINDOW SYSTEM

System Diagram



## System Description

INFOID:0000000010584799

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

Power window main switch opens/closes all door glass.

Front and rear power window switch opens/closes the corresponding door glass.

- AUTO UP/DOWN operation can be performed when power window main switch or front power window switch (passenger side) turns to AUTO.
- Power window serial link transmits the signals from power window main switch to front power window switch (passenger side).
- Power window lock switch can lock all power windows other than driver seat.
- If door glass receives resistance that is the specified value or more while power window of front seat is in AUTO-UP operation, power window of front seat operates in the reverse direction.
- Hold the door key cylinder to the LOCK or UNLOCK direction for 1 second or more to OPEN or CLOSE front power windows when ignition switch OFF.
- Front power windows open when pressing Intelligent Key unlock button for 3 seconds.

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

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

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#### **POWER WINDOW SYSTEM**

#### < SYSTEM DESCRIPTION >

**Retained Power 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 power window main switch shuts off when power window lock switch is ON. This inhibits each power window switch operation except the power window main switch.

#### POWER WINDOW SERIAL LINK (FRONT DRIVER SIDE & PASSENGER SIDE)

- Power window main switch, front power window switch (passenger side), and BCM transmit and receive the power window serial link.
- Power window serial link transmits the power window main switch operation signals and IGN signal to power window main switch module and front power window switch (passenger side) module.

#### ANTI-PINCH OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

- Pinch foreign matter 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 for 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 door glass for 150 mm (5.9 in) after it detects encoder pulse signal frequency change.

#### **Operation Condition**

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

#### NOTĚ:

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

#### DOOR KEY CYLINDER SWITCH OPERATION

Hold the door key cylinder to the LOCK or UNLOCK direction for 1.5 seconds or more 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 1.5 seconds or more to perform CLOSE operation of the door glass.
- Hold door key cylinder to UNLOCK position for 1.5 seconds or more to perform OPEN operation of the door glass.

#### KEYLESS POWER WINDOW DOWN OPERATION (FRONT DRIVER SIDE & PASSENGER SIDE)

Front power windows open when the unlock button on Intelligent Key is activated and kept 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 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.

Keyless power window down operation mode can be changed by "PW DOWN SET" mode in "WORK SUP-PORT". Refer to DLK-61, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### NOTE:

Use CONSULT to change settings.

MODE 1 (3 sec) / MODE 2 (OFF) / MODE 3 (5 sec)

## Component Parts Location

INFOID:0000000010584800

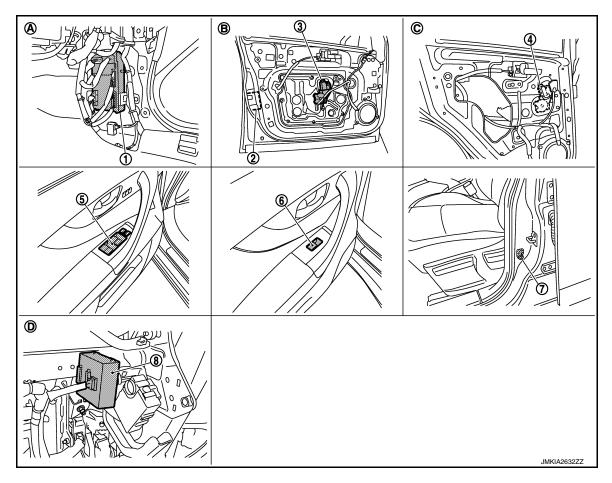
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- 1. BCM
- 4. Rear power window motor LH
- 7. Front door switch (driver side)
- A. View with dash side lower (passenger side) removed
- D. View with instrument lower panel (driver side) removed
- Front door lock assembly (driver side) (key cylinder switch)
- 5. Power window main switch
- 8. Remote keyless entry receiver
- B. View with front door finisher removed C.
- Front power window motor (driver side)
- 6. Rear power window switch LH
  - View with rear door finisher removed

## **Component Description**

INFOID:0000000010584801

Component	Function
BCM	<ul><li>Supplies power supply to power window switch.</li><li>Controls retained power.</li></ul>
Power window main switch	<ul><li>Directly controls all power window motor of all doors.</li><li>Controls anti-pinch operation of power window.</li></ul>
Front power window switch (passenger side)	<ul> <li>Controls power window motor of passenger door.</li> <li>Controls anti-pinch operation of power window.</li> </ul>
Rear power window switch	Controls power window motor of rear right and left doors.
Front power window motor	Integrates the ENCODER POWER and WINDOW MOTOR.  Starts operating with signals from power window main switch & front power window switch (passenger side).  Transmits power window motor rotation as a pulse signal to power window switch.

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## **POWER WINDOW SYSTEM**

## < SYSTEM DESCRIPTION >

Component	Function
Rear power window motor	Starts operating with signals from power window main switch & rear power window switch.
Remote keyless entry receiver	Receives lock/unlock signal from the intelligent key, and then transmits to BCM.
Front door lock assembly (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.
Front door switch (driver side/passenger side)	Front door open/close condition and transmits to BCM.

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

## **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	<del></del>
Data Monitor	The BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	<del></del>
Ecu Identification	The BCM part number is displayed.	
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>	

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

×: Applicable item

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

#### NOTE:

#### FREEZE FRAME DATA (FFD)

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

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

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description			
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected			
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected			
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*)		
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)		
	LOCK>ACC		While turning power supply position from "LOCK"* to "ACC"		
	ACC>ON		While turning power supply position from "ACC" to "IGN"		
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)		
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)		
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emergency stop operation)		
	ACC>OFF		While turning power supply position from "ACC" to "OFF"		
	OFF>LOCK	Power position status of the moment a particular DTC is detected*	While turning power supply position from "OFF" to "LOCK"*		
Vehicle Condition	OFF>ACC		While turning power supply position from "OFF" to "ACC"		
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"		
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode		
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK"*.) to low power consumption mode		
	LOCK		Power supply position is "LOCK"*		
	OFF		Power supply position is "OFF" (Ignition switch OFF)		
	ACC		Power supply position is "ACC" (Ignition switch ACC)		
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)		
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)		
	CRANKING		Power supply position is "CRANKING" (At engine cranking)		
IGN Counter	0 - 39	<ul> <li>The number of times that ignition switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON.</li> <li>The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.</li> </ul>			

#### NOTE:

- \*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.
- · Closing door
- · Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

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

#### **RETAIND PWR**

RETAIND PWR: CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000010584803

Data monitor

NOTE:

## **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

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

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

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#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT POWER WINDOW MAIN SWITCH

## POWER WINDOW MAIN SWITCH: Diagnosis Procedure

INFOID:0000000010584804

## 1. CHECK POWER SUPPLY CIRCUIT 1

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

	(+) Power window main switch		Voltage (V) (Approx.)
Connector	Terminal		(* <b>.pp</b> . <b>3</b> /11)
D8	10	Ground	Battery voltage
D9	19	Giouila	Dattery Voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between power window main switch harness connector and ground.

Power window main switch			Continuity
Connector Terminal		Ground	Continuity
D9	17		Existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 3.CHECK POWER SUPPLY CIRCUIT 2

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

В	CM	Power window main switch		Continuity	
Connector	Terminal	Connector	Terminal		
M118	2	D9	19	Existed	
IVITIO	3	D8	10	Existed	

4. Check continuity between BCM harness connector and ground.

ВСМ			Continuity	
Connector	Connector Terminal		Continuity	
M118	2	Ground	Not existed	
IVITO	3		Not existed	

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Exploded View".

NO >> Repair or replace harness.

## 4. CHECK INTERMITTENT INCIDENT

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

Refer to GI-47, "Intermittent Incident"

#### >> INSPECTION END

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

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

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## 1. CHECK POWER SUPPLY CIRCUIT 1

- Turn ignition switch OFF.
- Disconnect front power window switch (passenger side) connector.
- Check voltage between front power window switch (passenger side) harness connector and ground.

(+) Front power window switch (passenger side)		(-)	Voltage (V) (Approx.)
Connector	Connector Terminal		
D38	D38 10		Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK GROUND CIRCUIT

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

•	window switch ger side)		Continuity	
Connector Terminal		Ground		
D38	D38 11		Existed	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 3.CHECK POWER SUPPLY CIRCUIT $^{ m 2}$

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

В	BCM		window switch nger side)	Continuity
Connector	Terminal	Connector	Terminal	
M118	2	D38	10	Existed

Check continuity between BCM harness connector and ground.

В	CM		
Connector	Terminal	Ground	Continuity
M118	2		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Exploded View".

NO >> Repair or replace harness.

#### 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident"

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#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

>> INSPECTION END

#### REAR POWER WINDOW SWITCH

## REAR POWER WINDOW SWITCH: Diagnosis Procedure

INFOID:0000000010584806

## 1. CHECK POWER SUPPLY CIRCUIT 1

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

(+)  Rear power window switch			(–)	Voltage (V) (Approx.)	
Con	Connector			(πρρίολ.)	
LH	D54	1	Ground	Battery voltage	
RH	D74	· · · · · · · · · · · · · · · · · · ·	Giodila	Dattery Voltage	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2. CHECK GROUND CIRCUIT

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

Rear power window switch				Continuity	
Connector		Terminal	Ground	Continuity	
LH	D54	7	Ground	Existed	
RH	D74	ľ		LAISIEU	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 3.CHECK POWER SUPPLY CIRCUIT 2

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

В	СМ	Rear power window switch		Continuity	
Connector	Terminal	Connector		Terminal	Continuity
M110	2	LH	D54	1	Existed
IVITIO	M118 3	RH	D74	<b>I</b>	Existed

4. Check continuity between BCM harness connector and ground.

В		Continuity	
Connector	Terminal	Ground	Continuity
M118	3		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Exploded View".

NO >> Repair or replace harness.

### 4.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident"

>> INSPECTION END

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

#### < DTC/CIRCUIT DIAGNOSIS >

### REAR POWER WINDOW SWITCH

Description INFOID:0000000010584807

- BCM supplies power.
- · When power window switch is operated, corresponding power window motor is activated and rear door glass moves UP/DOWN.

### Component Function Check

## 1. CHECK REAR POWER WINDOW FUNCTION

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

#### Is the inspection result normal?

YFS >> Rear power window switch is OK.

>> Refer to PWC-17, "Diagnosis Procedure". NO

## Diagnosis Procedure

1. CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

Rear	(+) power window	switch	(-)	Condition		Voltage (V) (Approx.)									
Conn	nector	Terminal				( FF - )									
		2			UP	Battery voltage									
LH	D54	2		<u> </u>	Power window main switch (rear LH)	DOWN	0								
LH	D54	2				UP	0								
		3	3	3	3	3	3	3	3	3	3		DOWN	Battery voltage	
		2	0	•	0	0	0	•		Ground	Ground		Ground	UP	Battery voltage
DU				Power window main switch	DOWN	0									
RH	D/4	0	D74	(rear RH)		UP	0								
		3	3		DOWN	Battery voltage									

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.check rear power window switch

Check rear power window switch.

Refer to PWC-18, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window switch. Refer to PWC-119, "Removal and Installation".

## 3.CHECK HARNESS CONTINUITY

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

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

#### < DTC/CIRCUIT DIAGNOSIS >

Power windo	w main switch	Rear power window switch		Continuity	
Connector	Terminal	Connector		Terminal	Continuity
	1	LH	D54	2	
De	3	LΠ	D34	3	Eviated
D8	5	DII	D74	3	Existed
	7	RH	D74	2	

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

Power window r	nain switch		Continuity	
Connector	Terminal		Continuity	
	1	Ground		
D8	3	- Glound	Not existed	
	5			
	7	-		

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> Repair or replace harness.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident"

>> INSPECTION END

## **Component Inspection**

INFOID:0000000010584810

#### COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect rear power window switch connector.
- 3. Check rear power window switch.

Rear power v	window switch		
Teri	Terminal		Continuity
1	5	LID	
3	4	UP	
3	4	NEUTRAL	Existed
5	2	NEOTIVAL	LXISIGU
1	4	DOWN	
5	2	DOWN	

#### Is the inspection result normal?

YES >> Rear power window switch is OK.

NO >> Replace rear power window switch. Refer to <a href="PWC-119">PWC-119</a>, "Removal and Installation".

#### < DTC/CIRCUIT DIAGNOSIS >

### POWER WINDOW MOTOR

DRIVER SIDE

DRIVER SIDE: Description

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

DRIVER SIDE: Component Function Check

INFOID:0000000010584812

## 1. CHECK POWER WINDOW MOTOR CIRCUIT

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

#### Is the inspection result normal?

YES >> Front power window motor (driver side) is OK.

>> Refer to PWC-19, "DRIVER SIDE: Diagnosis Procedure". NO

### DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010584813

## 1. CHECK FRONT POWER WINDOW MOTOR INPUT SIGNAL

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

(+) Front power window motor (driver side)		(–) Condition			Voltage (V) (Approx.)
Connector	Terminal				(, pp. 6/11)
	2	Ground	Power window main switch	UP	Battery voltage
D10				DOWN	0
1	Ground	Fower window main switch	UP	0	
	ı			DOWN	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK POWER WINDOW MOTOR

Check front power window motor (driver side).

Refer to PWC-20, "DRIVER SIDE: Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace front power window motor (driver side). Refer to GW-22, "Removal and Installation".

## 3.check power window motor circuit

Turn ignition switch OFF.

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

Power windo	w main switch	Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
Dβ	8	D10	2	Existed
D8	11	010	1	LAISIEU

**PWC-19** 

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

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#### < DTC/CIRCUIT DIAGNOSIS >

Power wind	Power window main switch		Continuity
Connector	Terminal	Ground	Continuity
	8	Ground	Not existed
Do	11		NOT EXISTED

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to <a href="PWC-117">PWC-117</a>, "Removal and Installation".

NO >> Repair or replace harness.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> INSPECTION END

### **DRIVER SIDE: Component Inspection**

INFOID:0000000010584814

#### COMPONENT INSPECTION

## 1. CHECK POWER WINDOW MOTOR

- 1. Turn ignition switch OFF.
- 2. Disconnect front power window motor (driver side) connector.
- Check motor operation by connecting the battery voltage directly to front power window motor (driver side) connector.

Front power window motor (driver side) connector	Terr	Motor operation	
	(+)	(-)	Wolor operation
D10	1	2	DOWN
טוט	2	1	UP

#### Is the inspection result normal?

YES >> Front power window motor (driver side) is OK.

NO >> Replace front power window motor (driver side). Refer to <u>GW-22, "Removal and Installation"</u>.

#### PASSENGER SIDE

## PASSENGER SIDE: Description

INFOID:0000000010584815

Door glass moves UP/DOWN by receiving the signal power window main switch or front power window switch (passenger side).

## PASSENGER SIDE: Component Function Check

INFOID:0000000010584816

## ${f 1}$ . CHECK POWER WINDOW MOTOR CIRCUIT

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

#### Is the inspection result normal?

YES >> Front power window motor (passenger side) is OK.

NO >> Refer to PWC-20, "PASSENGER SIDE : Diagnosis Procedure".

### PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000010584817

## 1. CHECK FRONT POWER WINDOW MOTOR INPUT SIGNAL

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

#### < DTC/CIRCUIT DIAGNOSIS >

Front power	+) window motor ger side)	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
	2	Orași d		UP	Battery voltage
D40			Front power window switch	DOWN	0
D40 1	Ground	(passenger side)	UP	0	
			DOWN	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2. CHECK POWER WINDOW MOTOR

Check front power window motor (passenger side).

Refer to PWC-21, "PASSENGER SIDE: Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace front power window motor (passenger side). Refer to <u>GW-22, "Removal and Installation"</u>.

## 3.check power window motor circuit

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

Front power window s	Front power window switch (passenger side) Front power window motor (passenger side)		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
D38	D38 8		1	Existed
D30	9	D40	2	LXISIEU

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

Front power window s	witch (passenger side)		Continuity	
Connector	Connector Terminal		Continuity	
D38	8	Ground	Not existed	
D30	9		Not existed	

#### Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <a href="PWC-118">PWC-118</a>, "Removal and Installation".

NO >> Repair or replace harness.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> INSPECTION END

### PASSENGER SIDE : Component Inspection

#### COMPONENT INSPECTION

## 1. CHECK POWER WINDOW MOTOR

- Turn ignition switch OFF.
- Disconnect front power window motor (passenger side) connector.

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#### < DTC/CIRCUIT DIAGNOSIS >

Check motor operation by connecting the battery voltage directly to front power window motor (passenger side) connector.

Front power window motor (passen-	Terr	minal	Motor condition	
ger side) connector	(+)	(-)	Wotor condition	
D40	1	2	UP	
	2	1	DOWN	

#### Is the inspection result normal?

YES >> Front power window motor (passenger side) is OK.

NO >> Replace front power window motor (passenger side). Refer to <u>GW-22, "Removal and Installation"</u>.

#### REAR LH

### **REAR LH: Description**

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

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INFOID:0000000010584820

### **REAR LH: Component Function Check**

## 1. CHECK REAR POWER WINDOW MOTOR CURCUIT

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

#### Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Refer to PWC-22, "REAR LH: Diagnosis Procedure".

### REAR LH: Diagnosis Procedure

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## 1. CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

(+) Rear power window motor LH		(-)	Condition		Voltage (V) (Approx.)	
Connector	Terminal				(	
	D52 Ground	Ground	Rear power window switch LH	UP	Battery voltage	
DES				DOWN	0	
D32				UP	0	
				DOWN	Battery voltage	

### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

### 2.CHECK REAR POWER WINDOW MOTOR

Check rear power window motor LH.

Refer to PWC-23, "REAR LH: Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window motor LH. Refer to <u>GW-28</u>, "Removal and Installation".

## 3.CHECK POWER WINDOW MOTOR CIRCUIT

- Turn ignition switch OFF.
- Disconnect rear power window switch LH connector.

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#### < DTC/CIRCUIT DIAGNOSIS >

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

Rear power wi	ndow switch LH	Rear power window motor LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	5	D52	1	Existed
504	4	532	3	LAISTEU

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

Rear power wir		Continuity	
Connector	Ground	Continuity	
D54	5	Giodila	Not existed
	4		Not existed

#### Is the inspection result normal?

YES >> Replace rear power window switch LH. Refer to PWC-119, "Removal and Installation".

NO >> Repair or replace harness.

## 4.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> INSPECTION END

### REAR LH: Component Inspection

COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR

- Turn ignition switch OFF.
- 2. Disconnect rear power window motor LH connector.
- Check motor operation by connecting the battery voltage directly to rear power window motor LH connec-

Rear power window motor LH con-	Terr	minal	- Motor condition	
nector	(+)	(–)	Wotor condition	
	3	1	DOWN	
D52	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-28, "Removal and Installation".

#### REAR RH

#### **REAR RH**: Description

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

#### REAR RH: Component Function Check

## CHECK REAR POWER WINDOW MOTOR CIRCUIT

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

#### Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Refer to PWC-24, "REAR RH: Diagnosis Procedure". **PWC** 

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#### < DTC/CIRCUIT DIAGNOSIS >

## REAR RH: Diagnosis Procedure

INFOID:000000001058482

## 1. CHECK REAR POWER WINDOW MOTOR INPUT SIGNAL

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

	(+) Rear power window motor RH		Condition		Voltage (V) (Approx.)
Connector	Terminal				
	1	Ground Rear pov		UP	Battery voltage
D72	1		Door nower window owitch DH	DOWN	0
D72	3		Rear power window switch RH	UP	0
				DOWN	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2. CHECK REAR POWER WINDOW MOTOR

Check rear power window motor RH.

Refer to PWC-25, "REAR RH: Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear power window motor RH. Refer to <u>GW-28</u>, "Removal and Installation".

## 3.CHECK POWER WINDOW MOTOR CIRCUIT

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

Rear power wi	ndow switch RH	Rear power window motor RH		Continuity
Connector	Terminal	Connector Terminal		Continuity
D74	5	D72	1	Existed
D14	4	DIZ	3	LAISIEU

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

Rear power wi	ndow switch RH		Continuity	
Connector	Terminal	Ground	Continuity	
D74	5	Ground	Not existed	
	4		Not existed	

#### Is the inspection result normal?

YES >> Replace rear power window switch RH. Refer to PWC-119, "Removal and Installation".

NO >> Repair or replace harness.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> INSPECTION END

#### < DTC/CIRCUIT DIAGNOSIS >

## **REAR RH: Component Inspection**

INFOID:0000000010584826

#### COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR RH

- Turn ignition switch OFF.
- 2. Disconnect rear power window motor RH connector.
- Check motor operation by connecting the battery voltage directly to rear power window motor RH connector.

Rear power window motor RH con-	Terr	minal	- Motor condition	
nector	(+)	(-)	Wotor condition	
D72	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 <u>GW-28</u>, "<u>Removal and Installation</u>".

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### **DOOR SWITCH**

Description INFOID:000000010584827

Detects door open/closed condition.

## Component Function Check

INFOID:0000000010584828

## 1. CHECK FUNCTION

Check door switches ("DOOR SW-DR", "DOOR SW-AS") in "Data Monitor" mode with CONSULT.

Monitor item	Door condition	Display
DOOR SW-DR	CLOSE → OPEN	OFF → ON
DOOR SW-AS	GLOSE -> OF EN	OH -> ON

#### Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to PWC-26, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000010584829

## 1. CHECK FRONT DOOR SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect malfunction front door switch connector.
- 3. Check signal between malfunction front door switch harness connector and ground with oscilloscope.

(+) Front door s	(+) Front door switch		(-)	Voltage (V) (Approx.)	
Connector		Terminal		( tppiox.)	
Driver side	B16				
Passenger side	B216	2	Ground	(V) 15 10 5 0 10 ms	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2. CHECK DOOR SWITCH CIRCUIT

- Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and malfunction door switch harness connector.

BCM	ВСМ		Front door switch	
Connector	Terminal	Connector	Terminal	Continuity
M123	124	B216	2	Exists
WIZS	150	B16	2	LAISIS

3. Check continuity between BCM harness connector and ground.

BCM			Continuity	
Connector	Terminal	Ground	Continuity	
M123	124	Giodila	Not oviet	
IVI 123	150		Not exist	

#### **DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Exploded View".

NO >> Repair or replace harness.

## 3. CHECK FRONT DOOR SWITCH

Check front door switch.

Refer to PWC-27, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace malfunction front door switch. Refer to DLK-356, "Removal and Installation".

#### 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

#### >> INSPECTION END

## Component Inspection

1. CHECK FRONT DOOR SWITCH

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

(+) Front door switch					
		(-)	Condition	Continuity	
Connector		Terminal			
Driver side	B16	6 2		Door switch pressed	Not exist
Driver side	БІО		2	Ground part of	Door switch released
Daggangar aida	B216	2	door switch	Door switch pressed	Not exist
Passenger side	D210	2		Door switch released	Exists

#### Is the inspection result normal?

YES >> Front door switch is OK.

NO >> Replace malfunction front door switch. Refer to <u>DLK-356</u>, "Removal and Installation".

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#### < DTC/CIRCUIT DIAGNOSIS >

## **ENCODER**

### **DRIVER SIDE**

## DRIVER SIDE : Description

INFOID:0000000010584831

Detects condition of the front power window motor (driver side) operation and transmits to power window main switch as the pulse signal.

### DRIVER SIDE : Component Function Check

INFOID:0000000010584832

## 1. CHECK ENCODER

Check that driver side door glass performs AUTO open/close operation normally by power window main switch.

#### Is the inspection result normal?

YES >> Encoder is OK.

NO >> Refer to PWC-28, "DRIVER SIDE : Diagnosis Procedure".

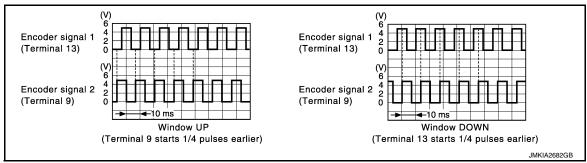
### DRIVER SIDE: Diagnosis Procedure

INFOID:0000000010584833

## 1. CHECK ENCODER SIGNAL

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

	(+) Power window main switch		Signal (Reference value)	
Connector	Terminal		(Reference value)	
D8	9	Ground	Refer to following signal	
В	13	Giodila	Refer to following signal	



#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> GO TO 2.

## 2. CHECK ENCORDER SIGNAL CIRCUIT

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

Power windo	Power window main switch		Front power window motor (driver side)	
Connector	Terminal	Connector Terminal		
	9	D10	3	Existed
	13	010	5	LAISteu

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

#### < DTC/CIRCUIT DIAGNOSIS >

Power window main switch			Continuity
Connector	Terminal	Ground	Continuity
D8	9	Giouria	Not existed
Do	13	-	Not existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## ${f 3.}$ CHECK ENCORDER POWER SUPPLY CIRCUIT 1

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

(+)			V II	
Front power window	w motor (driver side)	(–)	Voltage (V) (Approx.)	
Connector	Terminal		( )	
D10	4	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 5.

### 4. CHECK GROUND CIRCUIT 2

Turn ignition switch OFF.

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

Front power window motor (driver side)			Continuity	
Connector	Terminal	Ground	Continuity	
D10	6		Existed	

#### Is the inspection result normal?

YES >> Replace front power window motor (driver side). Refer to GW-22, "Removal and Installation".

NO >> GO TO 6.

## 5.CHECK ENCORDER POWER SUPPLY CIRCUIT ${ t 2}$

Turn ignition switch OFF.

2. Disconnect power window main switch connector.

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

Power windo	w main switch	Front power window motor (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D8	15	D10	4	Existed

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

Power window main switch			Continuity
Connector	Terminal	Ground	Continuity
D8	15		Not existed

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> Repair or replace harness.

## 6.CHECK GROUND CIRCUIT $^{2}$

Disconnect power window main switch connector.

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#### < DTC/CIRCUIT DIAGNOSIS >

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

Power window main switch		Front power window motor (driver side)		Continuity
Connector	Terminal	Connector Terminal		Continuity
D8	2	D10	6	Existed

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> Repair or replace harness.

PASSENGER SIDE

### PASSENGER SIDE: Description

INFOID:0000000010584834

Detects condition of the front power window motor (passenger side) operation and transmits to front power window switch (passenger side) as the pulse signal.

### PASSENGER SIDE: Component Function Check

INFOID:0000000010584835

#### 1.CHECK ENCODER

Check that passenger side door glass performs AUTO open/close operation normally by power window main switch or front power window switch (passenger side).

#### Is the inspection result normal?

YES >> Encoder is OK.

NO >> Refer to PWC-30, "PASSENGER SIDE : Diagnosis Procedure".

### PASSENGER SIDE: Diagnosis Procedure

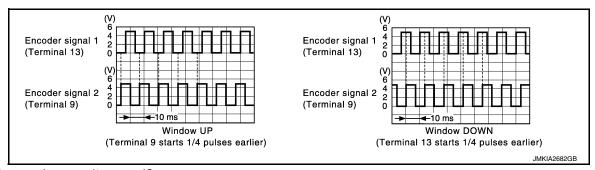
INFOID:0000000010584836

## 1. CHECK ENCODER SIGNAL

Turn ignition switch ON.

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

	+) witch (passenger side)	(–)	Signal (Reference value)	
Connector	Terminal		(Neierence value)	
D38	12	Ground	Refer to following signal	
550	15	Cround Refer to	Treater to following signal	



#### Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <a href="PWC-118">PWC-118</a>, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK ENCORDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.

#### < DTC/CIRCUIT DIAGNOSIS >

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

Front power window s	witch (passenger side)	Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D38	12	D40	5	Existed
D30	15		3	Existed

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

Front power window switch (passenger side)			Continuity
Connector	Terminal	Ground	Continuity
D38	12	Giodila	Not existed
	15	-	NOT EXISTED

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK ENCORDER POWER SUPPLY CIRCUIT $\scriptscriptstyle 1$

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

Front power window r	+) motor (passenger side)	(–)	Voltage (V) (Approx.)	
Connector	Terminal		(· 'pp' 5/11)	
D40	4	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 5.

### 4. CHECK GROUND CIRCUIT 2

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

Front power window mo		Continuity	
Connector	Terminal	Ground	Continuity
D40	6		Existed

#### Is the inspection result normal?

YES >> Replace front power window motor (passenger side). Refer to <u>GW-22, "Removal and Installation"</u>. NO >> GO TO 6.

## CHECK ENCORDER POWER SUPPLY CIRCUIT 2

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

Front power window switch (passenger side)		Front power window motor (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
D38	4	D40	4	Existed

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

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#### < DTC/CIRCUIT DIAGNOSIS >

Front power window switch (passenger side)			Continuity
Connector	Terminal	Ground	Continuity
D38	4		Not existed

#### Is the inspection result normal?

- YES >> Replace front power window switch (passenger side). Refer to <a href="PWC-118">PWC-118</a>, "Removal and Installation".
- NO >> Repair or replace harness.

## 6. CHECK GROUND CIRCUIT 2

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

Front power window s	Front power window switch (passenger side)		Front power window motor (passenger side)	
Connector	Terminal	Connector	Terminal	Continuity
D38	3	D40	6	Existed

#### Is the inspection result normal?

- YES >> Replace front power window switch (passenger side). Refer to <a href="PWC-118">PWC-118</a>, "Removal and Installation".
- NO >> Repair or replace harness.

#### DOOR KEY CYLINDER SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

### DOOR KEY CYLINDER SWITCH

Description INFOID:000000010584837

Power window main switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signals.

## Component Function Check

#### INFOID:0000000010584838

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## 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to <a href="DLK-61">DLK-61</a>, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

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

#### Is the inspection result normal?

YES >> Door key cylinder switch is OK.

NO >> Refer to PWC-33, "Diagnosis Procedure".

## Diagnosis Procedure

#### INFOID:0000000010584839

## 1. CHECK DOOR KEY CYLINDER SWITCH SIGNAL

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

(+) Front door lock assembly (driver side) (key cylinder switch)		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
D15	5	Ground	5	
טוט	6	Giouna	5	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK DOOR KEY CYLINDER SWITCH CIRCUIT

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

Power window main	Power window main switch		Front door lock assembly (driver side) (key cylinder switch)	
Connector	Terminal	Connector	Terminal	
D8	4	D15	6	Existed
	6	D13	5	LXISIEU

<sup>4.</sup> Check continuity between power window main switch harness connector and ground.

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#### DOOR KEY CYLINDER SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

Power window main switch			Continuity	
Connector	Terminal	Ground	Continuity	
	4	Ground	Not existed	
Do	6		Not existed	

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> Repair or replace harness.

## 3.CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between front door lock assembly (driver side) (key cylinder switch) harness connector and ground.

Front door lock assembly (driver s	side) (key cylinder switch)		Continuity
Connector Terminal		Ground	Continuity
D15	4		Existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK DOOR KEY CYLINDER SWITCH

Check front door lock assembly (driver side) (key cylinder switch).

Refer to PWC-34, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace front door lock assembly (driver side) (key cylinder switch). Refer to <u>DLK-340, "DOOR LOCK</u>: Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> INSPECTION END

## Component Inspection

INFOID:0000000010584840

#### COMPONENT INSPECTION

## 1. CHECK DOOR KEY CYLINDER SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect front door lock assembly (driver side) (key cylinder switch) connector.
- 3. Check front door lock assembly (driver side) (key cylinder switch).

Front door lock assembly (driver side) (key cylinder switch)		Key position	Continuity	
Connector	Terminal		Rey position	Continuity
	E		Unlock	Existed
D15	D15 6	4	Neutral / Lock	Not existed
DIS			Lock	Existed
			Neutral / Unlock	Not existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front door lock assembly (driver side) (key cylinder switch). Refer to <u>DLK-340, "DOOR LOCK : Removal and Installation"</u>.

#### **POWER WINDOW SERIAL LINK**

#### < DTC/CIRCUIT DIAGNOSIS >

# POWER WINDOW SERIAL LINK POWER WINDOW MAIN SWITCH

#### INFOID:0000000010584841

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### POWER WINDOW MAIN SWITCH: Description

Power window main switch, front power window switch (passenger side) and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch and front power window switch (passenger side).

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side).

- Front passenger side door window 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:0000000010584842

## 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

### (II) With CONSULT

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to <a href="https://docs.org/linearing/linearing/beta-12">DLK-61</a>, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

Monitor item		Condition	
CDL LOCK SW	LOCK	: ON	
CDL LOCK 3W	UNLOCK	: OFF	
CDL UNLOCK SW	LOCK	: OFF	
ODE UNLOCK 3VV	UNLOCK	: ON	

#### Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to PWC-35, "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".

## POWER WINDOW MAIN SWITCH: Diagnosis Procedure

#### INFOID:0000000010584843

## 1. CHECK POWER WINDOW SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect power window main switch connector.
- 3. Check signal between power window main switch harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- 4. Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

Power window Connector	main switch Terminal	(-)	Signal (Reference value)
D8	14	Ground	(V) 15 10 5 0 10 ms  JPMIA0013GB

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#### POWER WINDOW SERIAL LINK

#### < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace power window main switch. Refer to PWC-117, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

В	BCM Power wind		Power window main switch	
Connector	Terminal	Connector	Terminal	Continuity
M123	132	D8	14	Existed

Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M123	132		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Exploded View".

NO >> Repair or replace harness.

## FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

### FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Description

Power window main switch, front power window switch (passenger side) and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to power window main switch and front power window switch (passenger side).

Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side).

- · Front passenger side door window operation signal
- · Power window control by key cylinder switch signal
- · Power window lock switch signal
- Retained power operation signal

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Component Function Check

## 1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

#### (P) With CONSULT

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT. Refer to <a href="https://doi.org/10.1007/journal.com/">DLK-61, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</a>.

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 <u>PWC-37</u>, "FRONT <u>POWER WINDOW SWITCH (PASSENGER SIDE)</u>: <u>Diagnosis Procedure</u>".

#### **POWER WINDOW SERIAL LINK**

#### < DTC/CIRCUIT DIAGNOSIS >

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

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# 1. CHECK POWER WINDOW SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- Disconnect front power window switch (passenger side) connector.
- Check signal between front power window switch (passenger side) harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
- 4. Check that signals which are shown in the figure below can be detected during 10 seconds just after door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".

(+) Front power window sw Connector	Front power window switch (passenger side)		ont power window switch (passenger side) (–)		Signal (Reference value)
D38	16	Ground	(V) 15 10 5 0 10 ms JPMIA0013GB		

#### Is the inspection result normal?

YES >> Replace front power window switch (passenger side). Refer to <a href="PWC-118">PWC-118</a>, "Removal and Installation".

NO >> GO TO 2.

#### 2.CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

В	ВСМ		Front power window switch (passenger side)	
Connector	Terminal	Connector Terminal		Continuity
M123	132	D38	16	Existed

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M123	132		Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-93</u>, "Exploded View".

NO >> Repair or replace harness.

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< ECU DIAGNOSIS INFORMATION >

# **ECU DIAGNOSIS INFORMATION**

### **BCM (BODY CONTROL MODULE)**

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
FR WIPER III	Front wiper switch HI	On
ED WIDED LOW	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT/AUTO	Off
FR WIPER INT	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIFER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper volume dial is in a dial position 1 - 7	Wiper volume dial position
RR WIPER ON	Other than rear wiper switch ON	Off
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
RR WIFER STOP	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
TORN SIGNAL R	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
TORN SIGNAL L	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
TAIL LAWIP SW	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
HI BEAIN SW	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
HEAD LAWIP SW T	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
HEAD LAWF SW 2	Lighting switch 2ND	On
DASSING SW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
AUTU LIGHT SW	Lighting switch AUTO	On

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#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
DOOK SW-DR	Driver door opened	On
DOOD SW AS	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
DOOD SW DD	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
DOOD OW DI	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
	Back door closed	Off
DOOR SW-BK	Back door opened	On
	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
TD/DD ODEN OW	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off
DKE LOCK	LOCK button of the Intelligent Key is not pressed	Off
RKE-LOCK	LOCK button of the Intelligent Key is pressed	On
DIZE LINILOOK	UNLOCK button of the Intelligent Key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the Intelligent Key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DICE DANIC	PANIC button of the Intelligent Key is not pressed	Off
RKE-PANIC	PANIC button of the Intelligent Key is pressed	On
	UNLOCK button of the Intelligent Key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the Intelligent Key is pressed and held	On

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Monitor Item	Condition	Value/Status
RKE-MODE CHG	LOCK/UNLOCK button of the Intelligent Key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the Intelligent Key is pressed and held simultaneously	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OF HOAL SENSOR	Dark outside of the vehicle	Close to 0 V
REQ SW -DR	Driver door request switch is not pressed	Off
REQ 3W -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
NEQ OW -AO	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
NEW OW -DD/TK	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
1 0011 000	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
BRAKE SW 1	The brake pedal is depressed when No. 7 fuse is blown	Off
DRAKE SW I	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
BRAKE SW 2	The brake pedal is not depressed	Off
DIVARLE SW 2	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
DETE/O/MVOL OVV	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
01 1 1 14/14 044	Selector lever in P or N position	On
S/L -LOCK	NOTE: The item is indicated but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated but not monitored.	Off
UNLK SEN -DR	Driver door is unlocked	Off
	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
. JOH OW THE DIVI	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
ION NETT 170	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
C. I I I I I DW	Selector lever in P or N position	On

#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
SFI F-WEI	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
SELIN-MET	Selector lever in N position	On
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Selector lever is in the P position)	Reset
	Ignition switch ON	Set
DDMT ENG STDT	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
1/E)/ 0/1/ 01 0T	The Intelligent Key is not inserted into key slot	Off
KEY SW -SLOT	The Intelligent Key is inserted into key slot	On
RKE OPE COUN1	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
CONFIDM ID 4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
CONFIRM ID4	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done
CONFIDM ID2	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
CONFIRM ID3	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done

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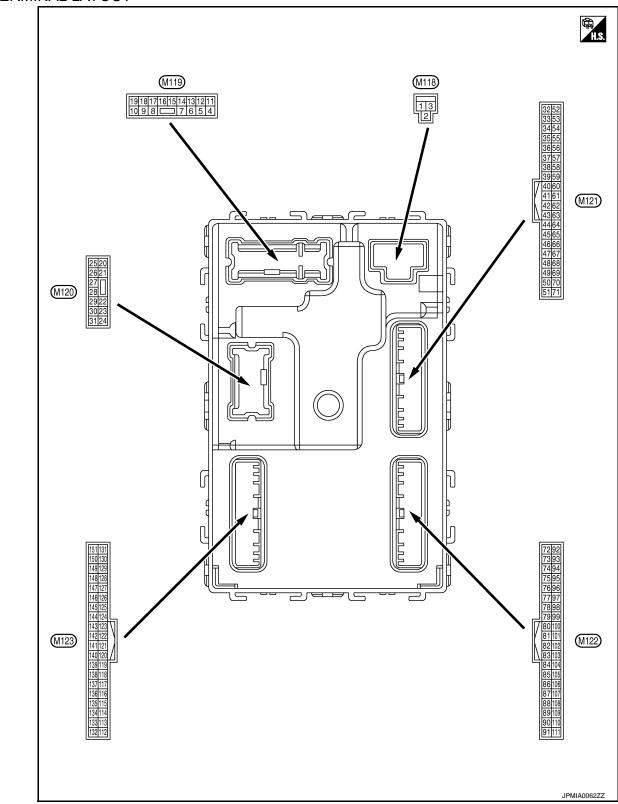
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Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONTINIUI	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
174	The ID of fourth Intelligent Key is registered to BCM	Done
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
1173	The ID of third Intelligent Key is registered to BCM	Done
TD 0	The ID of second Intelligent Key is not registered to BCM	Yet
TP 2	The ID of second Intelligent Key is registered to BCM	Done
FD 4	The ID of first Intelligent Key is not registered to BCM	Yet
TP 1	The ID of first Intelligent Key is registered to BCM	Done

#### TERMINAL LAYOUT



PHYSICAL VALUES

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	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	12 V
3 (BG)	Ground	P/W power supply (IGN)	Output	Ignition switch ON	N.	12 V
					o battery saver is activated. room lamp power supply)	0 V
4 (P)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activatior room lamp power sup-	12 V
5	Onsund	Passenger door UN-	Out-ut	December	UNLOCK (Actuator is activated)	12 V
(V)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp control	Output	Ston Jamp	ON	0 V
(Y)	Ground	Step lamp control	Output	Step lamp	OFF	12 V
8	Ground	All doors, fuel lid	Output	All doors, fuel lid	LOCK (Actuator is activated)	12 V
(V)	Giouna	LOCK	Output	Sutput All doors, ruer lid	Other than LOCK (Actuator is not activated)	0 V
9	Onsund	Driver door, fuel lid	Output Driver door, fue lid	Driver door, fuel	UNLOCK (Actuator is activated)	12 V
(G)	Ground	UNLOCK		lid	Other than UNLOCK (Actuator is not activated)	0 V
10	Cround	Rear RH door and rear LH door UN-	Cutnut	Rear RH door	UNLOCK (Actuator is activated)	12 V
(BR)	Ground	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON	N.	0 V
15 (Y)	Ground	ACC indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
(1)					ACC or ON	0 V
					Turn signal switch OFF	0 V
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s
				6.5 V		

	inal No.	Description			0 177	Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					Turn signal switch OFF	0 V
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s
				Othersthere		6.5 V
19 (SB)	Ground	Interior room lamp control	Output	(Door is unlock	amp timer is activated.	5.0 V 0 V
				Welcome light	function is activated.  Turn signal switch OFF	0 V
					Turn Signal Switch OFF	
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0
					Turn signal switch OFF	PKID0926E 6.5 V 0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
26					OFF (Stopped)	0 V
(P)	Ground	Rear wiper	Output	Rear wiper	ON (Operated)	12 V
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 11 1 s  JMKIA0062GB
(SB)	Glound	na (–)	Output	ŌFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB

	inal No.	Description				Value		
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)		
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB		
(V)	Gloulu	na (+)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB		
38	Rack door antenna ( door oper	,	When the back door opener re-		(V) 15 10 5 0 JMKIA0062GB			
(B)	Ground	nition switch OFF W	operated with ig- nition switch OFF	nition switch	nition switch OFF When Intelligent Key		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
39	Cround	Back door antenna	Output	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s  JMKIA0062GB		
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s  JMKIA0063GB		
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	12 V 0 V		

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	12 V
(LG)	Cround	Clarter relay control	Output	ON	When selector lever is not in P or N position	0 V
60	Cround	Push-button ignition	Innut	Push-button ig- nition switch	Pressed	0 V
(SB)	Ground	switch (Push switch)	Input	(Push switch)	Not pressed	12 V
					ON (Pressed)	0 V
61 (W)	Ground	Back door opener request switch	Input	Back door request switch	OFF (Not pressed)	(V) 15 10 5 0
						JPMIA0016GB 1.0 V
64	Cround	Intelligent Key warn-	Outout	Intelligent Key	Sounding	0 V
(L)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	12 V
65 (BG)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	10 5 0 10 ms JPMIA0016GB
					Not in stop position	0 V
66 (LG)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	12 V
(LO)					ON (Door open)	0 V 0 V
					Pressed	UV
67 (P)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 JPMIA0594GB 8.5 - 9.0 V
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) <sub>15</sub> 10 + 10ms JPMIA0594GB 8.5 - 9.0 V
					ON (Door open)	0 V
					ON (DOOR OPEN)	O V

	nal No.	Description				Value
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0 ***10ms JPMIA0594GB 8.5 - 9.0 V
					ON (Door open)	0 V
74	Ground	Passenger door an-	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
74 (SB) Gi	Clound	tenna (–)			When Intelligent Key is not in the antenna detection area	(V) 15 10 5 11 1 s  JMKIA0063GB
75	Ground	Passenger door antenna (+)	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
75 (BR) Gro	Giodila				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
76	Ground	Driver door antenna		When the driver	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V) Ground	(-)	Output	switch is operat-	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
77 (LG) Ground	0	und Driver door antenna (+)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
78 (Y) Ground	Room antenna (–)		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
	Glound	(Instrument panel)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
79	Ground	Room antenna (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(BR)		(Instrument panel)			When Intelligent Key is not in the passenger compartment	(V) 15 10 5 11 1 s  JMKIA0063GB
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (P)	Ground	Ignition relay [Fuse block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V 12 V
83	Ground	Remote keyless entry receiver communication	Input/ Output	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB
(GR)	Giouna			When operating of gent Key	either button on the Intelli-	(V) 15 10 5 1 ms  JMKIA006SGB

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
87	Ground	Combination switch	Input	Combination	Front fog lamp switch ON (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
(BR) Ground	INPUT 5		switch	Rear wiper switch ON (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V	
					Any of the conditions below with all switches OFF  Wiper volume dial 1  Wiper volume dial 2  Wiper volume dial 6  Wiper volume dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB

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	inal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch HI (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
					Rear washer switch ON (Wiper volume dial 4)	(V) 15 10 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF  Wiper volume dial 1  Wiper volume dial 2  Wiper volume dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
90 (P)	Ground	CAN-L	Input/ Output		_	_
91 (L)	Ground	CAN-H	Input/ Output		_	_

	inal No.	Description	II.			Value	,
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	1
					OFF	12 V	.
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s JPMIA0015GB	(
					ON	0 V	
93	Ground	ON indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage	. [
(V)			-	_	ON or ACC	0 V	
95	Ground	ACC relay control	Output	Ignition switch	OFF	0 V	
(BG)	Oround	Acc relay control	Output	ignition switch	ACC or ON	12 V	
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output		_	12 V	(
99	Ground	Selector lever P posi-	Input	Selector lever	P position	0 V	ŀ
(R)	(R) Ground tion switch	IIIput	Selector level	Any position other than P	12 V		
					ON (Pressed)	0 V	
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V	P
-					ON (Pressed)	0 V	
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 JPMIA0016GB 1.0 V	N
102		Blower fan motor re-			OFF or ACC	0 V	
(BG)	Ground	lay control	Output	Ignition switch	ON	12 V	(
103 (BR)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	- -F	12 V	F

	nal No.	Description				Value
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper volume dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

#### < ECU DIAGNOSIS INFORMATION >

Termina		Description				Value
(Wire o	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch AUTO (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0038GB
108 (R)	Ground	Combination switch Inpu	Input	ut Combination switch	Lighting switch 1ST (Wiper volume dial 4)	1.3 V  (V) 15 10 5 0  JPMIA0036GB 1.3 V
					Rear wiper switch INT (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
					Any of the conditions below with all switches OFF  Wiper volume dial 1  Wiper volume dial 5  Wiper volume dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

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	nal No.	Description				Value
+ (VVire	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	(V) 15 10 5 0 2 ms  JPMIA0041GB 1.4 V
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper volume dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V
					Front wiper switch INT/ AUTO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB
					ON	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1 V

	inal No. e color)	Description	1		On all the	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
112 (GR)	Ground	Rain sensor serial link	Input/ Output	Ignition switch ON	N	(V) 15 10 5 0  JPMIA0156GB 8.7 V
113	0	Outhelm		Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Ground	Optical sensor	Input	ON	When dark outside of the vehicle	Close to 0 V
116 (BR)	Ground	Stop lamp switch 1	Input		_	Battery voltage
		Stop lamp switch 2 (Without ICC)		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground		- Input		ON (Brake pedal is depressed)	Battery voltage
(P)	(P)	Stop lamp switch 2			OFF (Brake pedal is not debrake hold relay OFF	0 V
		(With ICC)			ON (Brake pedal is de- orake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 JPMIA0594GB 8.5 - 9.0 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121				When the Intellige	ent Key is inserted into key	12 V
(BR)	Ground	Key slot switch	Input	When the Intellige	ent Key is not inserted into	0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)				J	ON	Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0 ***10ms
						JPMIA0594GB 8.5 - 9.0 V
					ON (Door open)	0 V

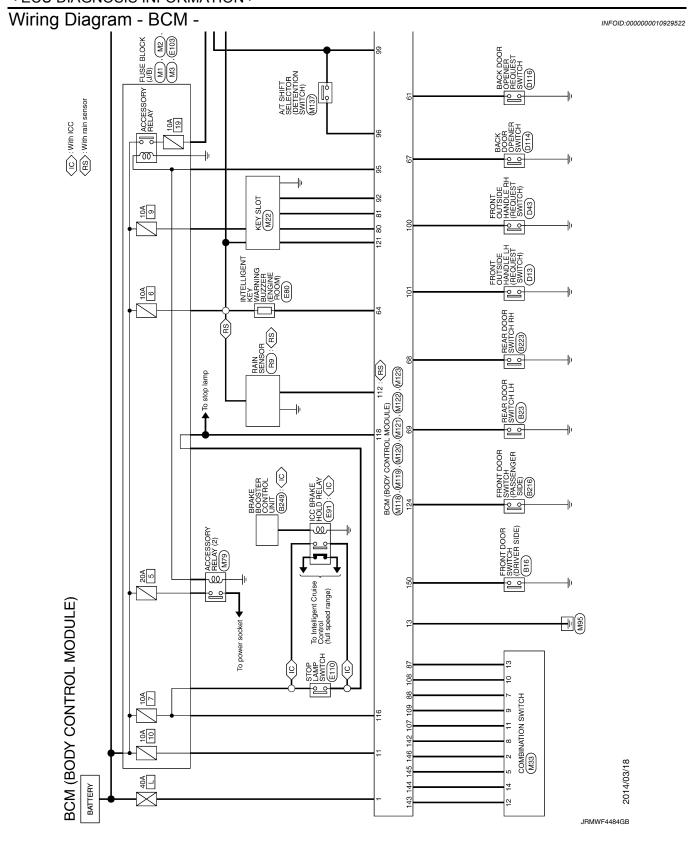
	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
132 (BG)	Ground	Power window switch communication	Input/ Output	Ignition switch Of		(V) 15 10 5 0 JPMIA0013GB 10.2 V 12 V
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage
137 (B)	Ground	Receiver and sensor ground	Input	Ignition switch Of	ON N	0 V 0 V
-		ground			OFF	0 V
138 (Y)	Ground	Sensor power supply	Output	Ignition switch	ACC or ON	5.0 V
140	Ground	Selector lever P/N	Innut	Selector lever	P or N position	12 V
(R)	Ground	position	Input	Selector level	Except P and N positions	0 V
					ON	0 V
141 (G)	Ground	Security indicator lamp	Output	Security indicator lamp	Blinking	(V) 15 10 0 1 1 s JPMIA0014GB
					OFF	12 V
					All switches OFF	0 V
					Lighting switch 1ST	/\/\
				Combination	Lighting switch HI	(V) 15
142 (BG)	Ground	Combination switch OUTPUT 5	Output	switch (Wiper volume	Lighting switch 2ND	10 5 0
(50)				dial 4)	Turn signal switch RH	2 ms JPMIA0031GB
					All switches OFF (Wiper volume dial 4)	0 V
					Front wiper switch HI (Wiper volume dial 4)	
143	Cround	Combination switch OUTPUT 1		Combination	Rear wiper switch INT (Wiper volume dial 4)	(V) 15
(P)			Output	switch	Any of the conditions below with all switches OFF  Wiper volume dial 1  Wiper volume dial 2  Wiper volume dial 3  Wiper volume dial 6  Wiper volume dial 7	10 5 0 2 ms JPMIA0032GB 10.7 V

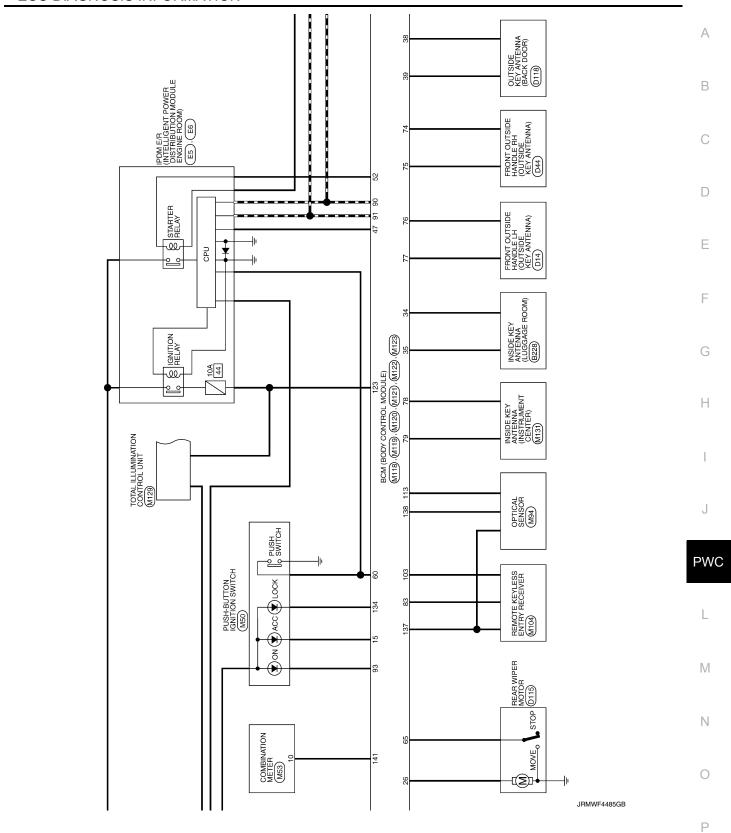
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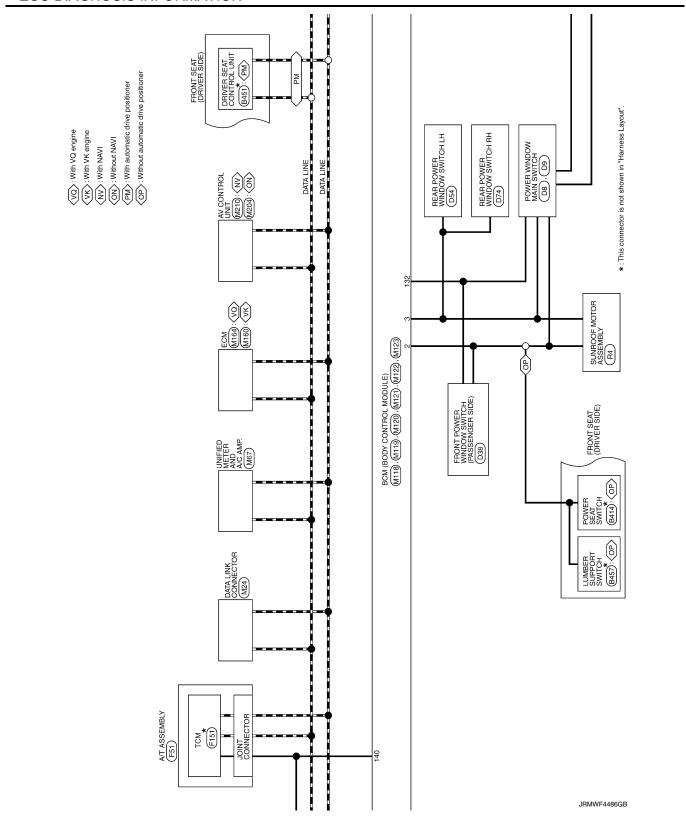
	inal No.	Description				Value	
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switches OFF (Wiper volume dial 4)	0 V	
		Combination switch			Front washer switch ON (Wiper volume dial 4)		
144	0		0.15.1	Combination	Rear wiper switch ON (Wiper volume dial 4)	(V) 15	
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper volume dial 4)	5 0	
					Any of the conditions below with all switches OFF  Wiper volume dial 1  Wiper volume dial 5	2 ms JPMIA0033GB	
					Wiper volume dial 6		
		. Combination switch		Combination switch	All switches OFF Front wiper switch INT/ AUTO	0 V	
4.45					Front wiper switch LO	10 5	
(L) Ground	OUTPUT 3	Output	(Wiper volume dial 4)	Lighting switch AUTO	0		
					All switches OFF	0 V	
					Front fog lamp switch ON		
				Combination	Lighting switch 2ND	(V) 15	
146 (SB)	Ground	Combination switch OUTPUT 4		switch (Wiper volume dial 4)	Lighting switch PASS	10 5 0	ŀ
					Turn signal switch LH	JPMIA0035GB	ľ
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) <sub>15</sub> 10 5 0  JPMIA0594GB 8.5 - 9.0 V	
					ON (Door open)	0 V	
151	Ground	Rear window defog-	Output	Rear window de-	Active	0 V	
(G)		ger relay control		fogger	Not activated	Battery voltage	

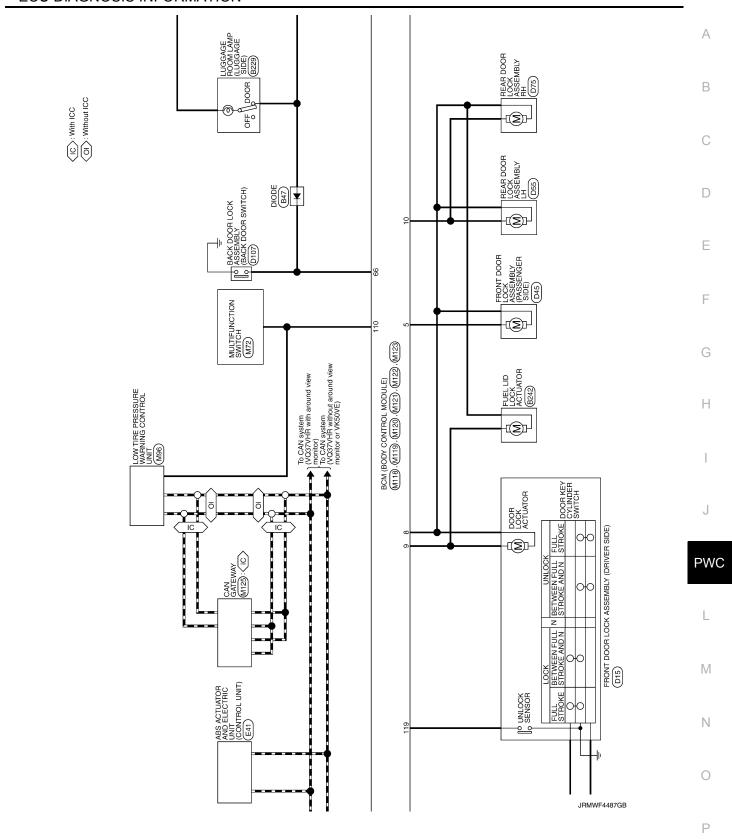
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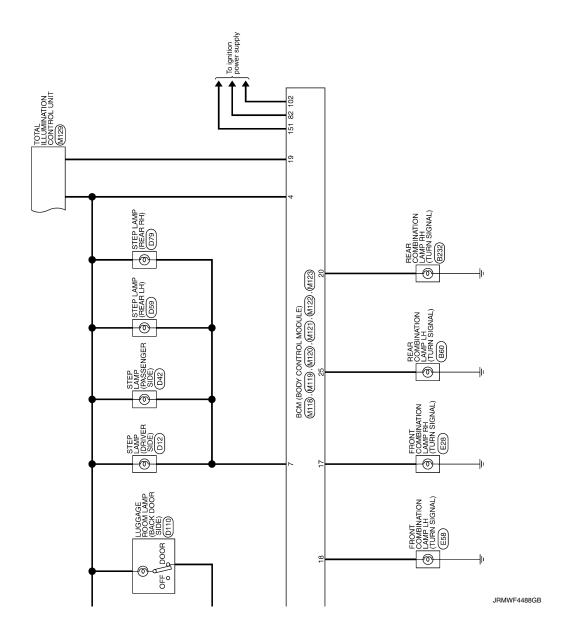
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ENERGY AVERNA)	System speciment of the system specimens of the system	В
PD44 PROZMIGY RROZMIGY  RRZZMIGY  Z 1 1	Signal Name [Specification]	С
Corrector No. D044 Corrector Name recon- Corrector Type RND	Terminal Color Of No. Wife I No. Oransctor No. Oransctor No. Oransctor No. Oransctor No. Oransctor Type Eff	D
4 SIDE)	ification]  Ification]  Ification]	Е
DM2 STEP LAMP (PASSENGER SIDE) TB02FW	Signal Name [Specification]	F
ector No.	Mire SB	G
Conne	Termin Te	Н
D15 FRONT DOOR LOOK ASSEMBLY (DRWER SDE) ED6FGY-R5  T 2 3 4 5 6	Signal Name (Specification)  Signal Name (Specification)  Signal Name (Specification)	I
	C   C   C   C   C   C   C   C   C   C	J
Connector No. Connector Name Connector Type	Terminal Color Of No. Wive   1	PV
MODULE) (REQUEST SWITCH)	BE KEY ANTENNA)  BE KEY ANTENNA)	L
DY CONTROL MODULE  D13  PROVED BY SEASON BY SE	Signal Name [Specification]	M
BCM (BODY CONTROL MODULE)  Connector Name RRANT-OLTSDE HANDLE LI-REGULEST SWITCH  Connector Type RROZFL-B  H.S.	Terminal Color Of No. Wire   No. Wire   No. Wire   Expansion   No. Wire   Province   Province   No. Wire   N	N
		0
		JRMWF4491GB

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BCM (BODY CONTROL MODULE)			
Connector No. D54	Connector No. D59	Connector No. D75	Connector No. D107
Connector Name REAR POWER WINDOW SWITCH LH	Connector Name STEP LAMP (REAR LH)	Connector Name REAR DOOR LOCK ASSEMBLY RH	Connector Name BACK DOOR LOCK ASSEMBLY
Connector Type NS08FW-CS	Connector Type TB02FW	Connector Type E06FGY-RS	Connector Type NS08FW-CS
	<b>E</b>	E SE	
234			7 2 9 5 4 8
		,	
Terminal Color Of Signal Name [Specification] No.	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire
1 W	1 L	1 6	1 L/W
$\dashv$	2 0 .	2 L -	2 L/B .
3 R			4 G -
$\dashv$			5 L -
+	Connector No. D74	Connector No. D79	- M 9
7 B	Connector Name REAR POWER WINDOW SWITCH RH	Connector Name STEP LAMP (REAR RH)	7 LG
	Connector Type NS08FW-CS	Connector Type TB02FW	┨
Connector No. D55	1	1	
Connector Name   REAR DOOR LOCK ASSEMBLY LH		修	Connector No. D110
Connector Type E06FGY-RS	H.S.	HS.	Connector Name LUGGAGE ROOM LAMP (BACK DOOR SIDE)
Į (d	2 3 4 5 1	2 1	Connector Type TK03FW
	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire	
	H	Н	
	+	2 0 -	
No. Wire Signal Name [Specification]	χ -		Terminal Color Of
> -	5 6 .		No. Wire Signal Name [Specification]
2 6 -	7 B -		1 GR -
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#### < ECU DIAGNOSIS INFORMATION >

Corrector Nume   FRONT COMBINATION LAMP RH	
Corrector Name   Estimated No.   Estimated No.   Estimated No.   Estimated No.   Estimated No.   Proteste proteste consequence of the proteste pr	
Commector No. D116  Commector Name SwittCH  Commector Name SwittCH  Terminal Color Of Signal Name (Specification)  Commector Name Out Signal Name (Specification)  Commector Name Out Signal Name (Specification)  Commector Name Out Signal Name (Specification)  Terminal Color Of Signal Name (Specification)	
BCM (BODY CONTROL MODULE)  Corrector No. 114  Corrector Name BACK DOOR OPENER SWITCH  Corrector Name REAR WIPER MOTOR  Corrector Name REAR WIPER MOTOR  Corrector Name REAR WIPER MOTOR  Corrector Type CLOMFW-17  Terminal Color Of Name (Specification)  No. Wire  2 B C Corrector Type CLOMFW-17  Terminal Color Of Name (Specification)  No. Wire  2 Corrector Type CLOMFW-17  Terminal Color Of Name (Specification)  2 Corrector Type CLOMFW-17  Terminal Color Of Name (Specification)  3 B C C C CORRECTOR COMPANIES Name (Specification)  4 B C C C C C C C C C C C C C C C C C C	
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Connector No. F151	l e	Connector Time SD10EC			(12345)	0 2 8 10	Terminal	No. Wire	ВАТТЕ	H	A O K-LINE	GR	7	8 BR CAN-L	Y STA	10 W/B GROUND		Commode Moreon Files BLOCK (18)		1	多\	S. C.	RY BACK-UP)		F	PPLY No. Wire Signal Name [Specification]	AY 1A BG	2A	3A	44 2		- × ×
Connector No.   E110	ЭL	Connector Tune MO/EM/1 C			<sub>.</sub> ه	[15]	lal	No. Wire	2 W	3 6	4 BR -	T	Connector No. F51	Connector Name A/T ASSEMBLY		Connector Type RK10FG-DGY	<b>■</b>	TIS.		0 0	la C	No. Wire	2 R BATTERY POWER SUPPLY (MEMORY BACK-UP)	7	> 0	6 Y IGNITION POWER SUPPLY	œ	8 P CAN-L	Н	7	10 B GROUND	
Connector No.   E91	e.	Connector Time MOSEGY-B-11S	7		673		Jac	No. Wire	2 B	3 6		+		ſ	Connector No. E103	Connector Name FUSF BLOCK (J/B)			H.S.	101			No. Wire Signal Name (Specification)	Н	+	3F Y	4F G	H	8F L	9F R .		
BCM (BODY CONTROL MODULE)	BUS-L	DP FL	UZ	DS RR BLS	VDC OFF SW CAN-H	BUS-H	E58	Connector Name FRONT COMBINATION LAMP LH	Connector Type RS04FB-PR						)	-	Terminal Color Of Signal Name [Specification] No. Wire		8 g		E80	Connector Name INTELLIGENT KEY WARNING BUZZER (ENGINE ROOM)	Connector Type RK03FBR		~	$\leqslant$	٦				Signal Name [Specification]	Wire

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7   V   Cornector No.   M53   Cornector No.   M53   Cornector Name   COMBINATION METER   Cornector Type   TH40FW-NH   M54   Cornector Type   TH40FW-NH   M55   Cornector Type   TH40FW-NH   M	Teg   1   Signal Name   Specification   No. Wire   Signal Name   Specification   Specification	
Corrector No. M33  Corrector Name COMBINATION SWITCH  Corrector Type THISPWANH  1 2 3 4 5 6 7 8 9 10 [11 [2 ] 3 14	Terminal Color Of   Signal Name   Specification   1	
Corrector No. MZZ Corrector Name KEY SLOT Corrector Type TH1ZFWANH  H.S. 11	Terminal Color Of Name   Specification   No. Wire   Signal Name   Specification   No. Wire   No. Wire   Signal Name   Specification   No. Wire   No. Wire	
BCM (BODY CONTROL MODULE)  Corrector Name FLISE BLOCK (J/B)  Corrector Type NSTOFW-CS  (45) (18) (18) (18) (18) (18) (18) (18) (18	Terminal Color Of Nare   Signal Name (Specification)   18   16   16   18   18   16   19   19   19   19   19   19   19	

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TERAL MODULE   Corrector No. MINTS   Corre	25 W FR TUNER (GND)	: a	. 91			Connector No. M104 Connector Name REMOTE KEYLESS ENTRY RECEIVER	Connector Type JAB04FB	1		1 2   4		Q.	T	No. Wire Signal Name [Specification]	-	2 GR SIG	4 BR BATTERY		Connector No. M118	10 15 North Marrie	30	- · }			<b>\</b>		(5)(8)		(SIG) Terminal Color Of Signal Name [Specification]	<u> </u>	2 Y POWER WINDO	3 BG	(vcc)		(RSSI)	RSSI)	RSSI
TER AND AC AMP   Corrector No.   MTZ		_		Connector Type TK03FW	6		11213		Terminal Color Of Signal Name [Specification]	1 Y POWER	d.			1		_	╗	1	<b>*</b>	1031567	23				Wire		BG RR	7	œ a	- 85	e e	GR.	H	<b>/</b>	Μ	BR -	22 V FL TUNER (RSSI)
TER AND AIC AMP.  TER AND AIC AMP.  DE POWER SUPPLY ENT SENSOR SIGNAL OND SENSOR SIGNAL OND SENSOR SIGNAL ENT SENSOR SIGNAL OND SENSOR SIGNAL ENT SENSOR SIGNAL OND SENSOR SIGNAL OND SIGNAL CANHA OND SIGNAL ENT SENSOR GROUND OND SIGNAL AIC SENSOR GROUND OND SIGNAL ENT SENSOR GROUND OND SIGNAL GROUND GROUND GROUND OND SIGNAL OND SIGNAL GROUND OND SIGNAL GROUND OND SIGNAL OND SIGNAL OND SIGNAL ENT SIGNAL GROUND OND SIGNAL				or Type TH16FW-NH		8 9	2 3		Color Of Wire											A POSSOD SELECTION OF THE POSS	The Machine Machine	OF Type IMBOZFE-IMZ-EC	Ľ		_		[ <b>7</b> ]		Color Of	- 9		- PT					
			/C AMP.	Connector Type TH32FW-NH Connect		/ <u> </u>	69 69 7			ACC POWER SUPPLY				<u> </u>			_ 	GROUND	SWITCH SIGNAL	SOR GROUND	T	- · Т	OR GROUND	SIGNAL		FACH DOOR MOTOR POWER SUPPLY	GROUND		Termin	T. C.	2	8	2				

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BCM (BODY CONTROL MODULE)										
Connector No. M119	Connector No.	or No.	M121	80	GR.	NATS ANT AMP.	141	9	SECURITY INDICATOR OUTPUT	
Camporation MODINGS MODINGS	Journal	Connector Name	G II INOW IODINOO NOON NOO	81	Μ	NATS ANT AMP.	142	BG	COMBI SW OUTPUT 5	
	3	allie o	BOIN (BOD) COINTROL MODOLE)	82	۵	IGN RELAY (F/B) CONT	143	Ь	COMBI SW OUTPUT 1	
Connector Type NS16FW-CS	Connect	Connector Type	TH40FGY-NH	83	GR.	KEYLESS ENTRY RECEIVER SIGNAL	144	ŋ	COMBI SW OUTPUT 2	
				87	æ	COMBI SW INPLIT 5	145	_	COMBI SW OUTPUT 3	
<u>4</u>	Œ			88	>	COMBLSW INPLES	146	87	COMBLSW OLITPLIT 4	
	手			06	. a	CAN-I	150	S S	DRIVER DOOR SW	
1.S.   4   5   7     8   9   10	N H	7.5		6	_	CANT	151	G	REAR WINDOW DEFOGGER RELAY CONT	
L		Ī	42	6	<u>_</u>	KEY SLOT II.I		,		
8 9 7 6 9 9 9			69 68 67 66 65 64 61 60	88	2 >	ONINO				
				92	BG	ACC RELAY CONT	Connector No.	Г	M125	
				96	æ	A/T SHIFT SELECTOR POWER SUPPLY				
Terminal Color Of Simulation	Termina	Terminal Color Of	3	66	œ	SHIP	Connecto	Connector Name	CAN GALEWAY	
No. Wire Signal Name [Specification]	No.	Wire	Signal Name [Specification]	100	O	PASSENGER DOOR REQUEST SW	Connecto	r Type	Connector Type TH12FW-NH	
4 P INT ROOM LAMP PWR SUPPLY (BAT SAVE)	34	SB	LUGGAGE ROOM ANT-	101	SB	DRIVER DOOR REQUEST SW				
5 V PASSENGER DOOR UNLOCK OUTPUT	35	۸	LUGGAGE ROOM ANT+	102	BG	BLOWER FAN MOTOR RELAY CONT	[B			
7 Y STEP LAMP OUTPUT	38	В	BACK DOOR ANT-	103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY	Ę		<u>/</u>	
8 V ALL DOOR, FUEL LID LOCK OUTPUT	38	۸	BACK DOOR ANT+	107	PC	COMBI SW INPUT 1	Ģ		2 1 5	
Ø	47	≻	IGN RELAY (IPDM E/R) CONT	108	œ	COMBI SW INPUT 4				
10 BR REAR DOOR UNLOCK OUTPUT	25	ГG	STARTER RELAY CONT	109	≻	COMBI SW INPUT 2			7 9 10 11 12	
	9	SB	ENG_START_SW	110	9	HAZARD SW				
13 B GROUND	61	Μ	TRUNK_REQUEST_SW							
15 Y ACC IND	64	٦	I-KEY WARN BUZZER (ENG ROOM)				Terminal	Color Of	Signal Name (Specification)	
17 W TURN SIGNAL RH (FRONT)	92	BG	REAR WIPER STOP POSITION	Connector No.	or No.	M123	ġ	Wire	oignai ivanie [opecincation]	
18 BG TURN SIGNAL LH (FRONT)	99	PP	BACK DOOR SW	100000	Albana	G HOOM TODAYOO AGOO NOO	1	7	CAN-H	
19 SB ROOM LAMP TIMER	29	Ь	BACK DOOR OPENER SW	COLLECT	COLLINGUIG		3	GR	BATTERY	
	89	R	REAR RH DOOR SW	Connect	or Type	Connector Type TH40FG-NH	4	_	CAN-H	
	69	œ	REAR LH DOOR SW	ַ	,		2	В	GROUND	
Connector No. M120							9	_	CAN-H	
Compositor Name BCM (BODY CONTBOL MODILE)				ŧ			7	Ь	CAN-L	
DOWN (DOD) WOOD	Connector No.	or No.	M122	Ģ	_	201 201 201 201 201	6	PI	IGNITION	
Connector Type NS12FW-CS	0	A Planne	E II COM LOGENOO AGOS MOS			21 81 MI 81 81 81 81 81 81 81 81 81 81 81 81 81	10	Ь	CAN-L	
	Connect	or Name	Connector Name   BCM (BODY COINTROL MODULE)			D 155 NG 156 HR 156 HR 156 HR 156 KR 155 HR	11	В	GROUND	
	Connect	Connector Type	TH40FB-NH				12	۵	CAN-L	
	ģ									
	匮			Termina	Terminal Color Of	Signal Name [Specification]				
02 (27)	\ -	7		5 5	2	ZINI - IVIGES GOSINES INIVG				
		1	91 90 88 87 1 83 82 81 80 78 78 77 87 87 87 87 87 87 87 87 87 87	12	5 0	KAIN SENSOR SERIAL LINK				
			110 138 108 10    1108 108 101 100 39    56 35   93 92	1 2	L 82	STOP LAMP SW 1				
Terminal Color Of				118	۵	S MA I AMP SW 2				
				119	gg	DR DOOR UNLOCK SENSOR				
>	Termina	erminal Color Of	[contraction of A leave of A	121	H	KEY SLOT SW				
25 G TURN SIGNAL LH (REAR)	<u>9</u>	Wire	ogna ivanie [opecincation]	123	Μ	IGN F/B				
Ь	74	SB	PASSENGER DOOR ANT-	124	PI	PASSENGER DOOR SW				
	75	BR	PASSENGER DOOR ANT+	132	BG	POWER WINDOW SW COMM				
	9/	>	DRIVER DOOR ANT-	134	GR.	LOCK IND				
	77	9 ;	DRIVER DOOR ANT+	137	m ;	RECEIVER/SENSOR GND				
	8 4	> {	ROOM ANT1-	138	> l	SENSOR POWER SUPPLY				
	6/	쑮	ROOM ANI 1+	140	¥	SHEINP				

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Connector No. M164	Connector Name ECM	Connector Type RH24FGY-RZ8-R-LH-Z	(A)	Terminal Color Of Signal Name [Specification]	Н	98 P ACCELERATOR PEDAL POSITION SENSOR 2 [Without Navi]	- თ	L SENSOR P	*	101 SB ASCD/ICC STEERING SWITCH	3 0	L	H	GR	_	W FUEL	BG SEN	> 0	109 G PNP SIGNAL	: >	W	۵	7 5	¥ :	121 LG EVAP CANISTER VENT CONTROL VALVE	L 0	0 00	GR POWE	H	127 B ECM GROUND	128 B ECM GROUND	
Connector No. M160	Connector Name ECM	Connector Type RH24FGY-RZ8-R-LH-Z	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal Color Of Signal Name [Specification]	ω E	99 G SENSOR POWER SUPPLY	1 0	SB /	R	105 L CAN COMMUNICATION LINE	P ACCELERA	110 P STOP LAMP SWITCH	111 V SENSOR GROUND	LG FUEL PL	GR DA	GR	G T	+	118 K POWEK SUPPLY FOR ECM (BACK-UP) 119 W SENSOR GROUND	W FUEL TA	GR POWE	В	R FUEL PUMP	128 B ECM GROUND								
Connector No. M131	Connector Name NSIDE KEY ANTENNA (NSTRUMENT CENTER)	Connector Type RK02MGY	H.S.	Terminal Color Of Signal Name [Specification]	H	2 Y		Connector No. M137	Connector Name A/T SHIFT SELECTOR					1001	0 7	7 8 9 10 11			I erminal Color Of Signal Name [Specification]	w 1	2 v	3	+		7 BG	+	Ť	╁				
BCM (BODY CONTROL MODULE) Connector No. M129	e TOTAL ILLUMINATION CONTROL UNIT	TH40FW-NH		Of Signal Name [Specification]	DDL2	TAIL LAMP SIGNAL	BAT SAN		DOOR	MOOD I AMP (ED ADMDEST BLI)	MOOD LAMP (	MAPL		PERSON		HSPL ILL			AMBIENCE LAMP BAT POWER SLIPPLY		ILL CO		MAP LAME		ROOM LAMP TIMER	NOOU AMA I GOOM	+	HSPL POW	L	HSPL POWER SUPPLY 1	FOOT LAMP (LH)	PUDDLE LAMP (RH) PUDDLE LAMP (LH)
BCM (BC Connector No.	Connector Name	Connector Type	H.S.	Terminal Color Of No. Wire	3	4 4	9	Н	+	9 BG	+	12 P	13 G	Н	$\dashv$	17 LG	+	19 X	20 21 8	$\vdash$	Н	$\dashv$	+	+	28 SB	29 GR	+	H	┝	35 V	36 L	39 B 40 BG

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M204   M204   M204   M4   M4   M4   M4   M4   M4   M4	Terminal Color No. Wire 65 V 67 B 68 R	Of Signal Name [Specification]	Connector No. R9	
No CONTROL UNIT   65   Vive   65   B	+++			
THOSPWANH   6FT   8   8   8   8   8   8   8   8   8	Ш	PARKING BRAKE SIGNAL	Connector Name RAIN SENSOR	
	П	COMPOSITE IMAGE SIGNAL GND	Connector Type AAB03FB	
	t	ŀ	1	
	T		Œ	
		MICROPHONE VCC		
Signal Name (Specification)	H	COMM (CONT->DISP)	ė.	<u>[</u>
1		CAN-L		1 2 3
Signal Name   Specification    179   R   R   R   R   R   R   R   R   R				
Signal Name (Specification)				
Signal Name   Specification    81   81   82   82   83   84   84   84   84   84   84   84		ILLUMINATION		
Wife         Organization of the properties of the p		IGNITION SIGNAL	Terminal Color Of Signal No	Complement Specification
LG	Н	Н	No. Wire	anie jopecinoationij
LG		VEHICLE SPEED SIGNAL (8-PULSE)	1 BR	+B
1.6	_	MICROPHONE SIGNAL	2 GR	SIG
SB	H	SHIELD	3 B	GROUND
CANH   90   1		COMM (DISP->CONT)		
L   CANH   91   58     SHELD   SHELD   92   58     SHELD   SHELD   94   58     SHELD   SHELD   94   58     L   TEL VOICE SIGNAL (+)   74     R   VEHICLE SPEED SIGNAL (-)   Connector No.     R   VEHICLE SPEED SIGNAL (-)   Connector No.     RG   REVERSE SIGNAL     GG   IGNITION SIGNAL     GG   IGNITION SIGNAL     GG   IGNITION SIGNAL     GG   IGNITION SIGNAL     GAME SECT SIGNAL     G	90 L	CAN-H		
SHELD				
SHELD   SHELD   SHELD	$\dashv$			
TEL VOICE SIGNAL (+)   R VEHICLE SPEED SIGNAL (-)   V PARING BRANE SIGNAL     V PARING BRANE SIGNAL     COMPECTOR SIGNAL     C IGNITION SIGNAL     C IGN				
P   TEL, VOICE SIGNAL, (-)   Connector No.				
R VEHICLE PERPEDISIONAL (G-PULSE)   Commercior Name   Els	Connector No.	R4		
V   PARKING BRAKE SIGNAL   Connector Type   RG   REVERSE SIGNAL   Connector Type   RG   Clarification   Connector Type	Connector Nam			
BG   REVERSE SIGNML   Connector Type   YEA10FGY				
S DISK ELECT SIGNAL	Connector Type			
SB DISK EJECT SIGNAL SIGNAL B AUX_GND	(			
B AUX_GND				
	Ę	-		
	ę.	c I		
104 R AUX_AUDIO_RH+ 7 8 9 10				
Connected to M240				
L C C C C C C C C C C C C C C C C C C C	F			
Connector Name AV CONTROL UNIT Terminal Color Of Signal Name (Specific	Terminal Color No. Wire	Of Signal Name [Specification]		
Connector Type TH32FW-NH 1 GR SW-BIT1	1 GR			
5 P SW-BITO		SW-BIT0		
7 BR +B	7 BR			
	Н	SPEED SENSOR (2P)		
<b>⊥</b>	$\dashv$	TIMER (+IGN)		
82 87 88	4	GROUND		

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## FAIL-SAFE CONTROL BY DTC

Fail-safe

BCM performs fail-safe control when any DTC are detected.

## **BCM (BODY CONTROL MODULE)**

#### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent  • Starter control relay signal  • Starter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent  Starter relay control signal Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilled  • Power position changes to ACC  • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

#### FAIL-SAFE CONTROL BY RAIN SENSOR MALFUNCTION

- BCM judges the rain sensor serial link error by the rain sensor serial link condition and detects the rain sensor malfunction by rain sensor malfunction signal.
- When BCM detects the rain sensor serial link error or the rain sensor malfunction while front wiper AUTO operation, BCM operates a fail-safe control.

#### NOTE:

If rain sensor malfunction is detected when ignition switch is turned OFF  $\Rightarrow$  ON and front wiper switch is INT position, BCM operates a fail-safe control.

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

#### Condition of cancellation

- 1. More than 1 minute is passed after the rear wiper stops.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

## DTC Inspection Priority Chart

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If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	B2562: LOW VOLTAGE
2	U1000: CAN COMM U1010: CONTROL UNIT(CAN)

## **BCM (BODY CONTROL MODULE)**

### < ECU DIAGNOSIS INFORMATION >

Priority	DTC	
3	B2190: NATS ANTENNA AMP     B2191: DIFFERENCE OF KEY     B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM     B2195: ANTI SCANNING	
	B2553: IGNITION RELAY     B2555: STOP LAMP     B2556: PUSH-BTN IGN SW     B2557: VEHICLE SPEED     B2560: STARTER CONT RELAY	
	B2601: SHIFT POSITION     B2602: SHIFT POSITION     B2603: SHIFT POSI STATUS     B2604: PNP/CLUTCH SW	
4	<ul><li>B2605: PNP/CLUTCH SW</li><li>B2608: STARTER RELAY</li><li>B260A: IGNITION RELAY</li></ul>	
	<ul> <li>B260F: ENG STATE SIG LOST</li> <li>B2614: BCM</li> <li>B2615: BCM</li> <li>B2616: BCM</li> </ul>	
	<ul> <li>B2617: BCM</li> <li>B2618: BCM</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261E: VEHICLE TYPE</li> </ul>	
	B26EA: KEY REGISTRATION     U0415: VEHICLE SPEED SIG	
5	<ul><li>B2621: INSIDE ANTENNA</li><li>B2623: INSIDE ANTENNA</li></ul>	
6	B26E7: TPMS CAN COMM	

DTC Index INFOID:0000000010929525

#### NOTE:

The details of time display are as follows.

- · CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to PWC-11, "COM-MON ITEM: CONSULT Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data  •Vehicle Speed  •Odo/Trip Meter  •Vehicle Condition	Intelligent Key warn- ing lamp ON	Reference
No DTC is detected. Further testing may be required.	_	_	_	_
U1000: CAN COMM	_	_	_	BCS-39
U1010: CONTROL UNIT(CAN)	_	_	_	BCS-40
U0415: VEHICLE SPEED SIG	_	_	_	BCS-41
B2190: NATS ANTENNA AMP	×	_	_	SEC-47
B2191: DIFFERENCE OF KEY	×	_	_	SEC-50
B2192: ID DISCORD BCM-ECM	×	_	_	<u>SEC-51</u>
B2193: CHAIN OF BCM-ECM	×	_	_	<u>SEC-53</u>
B2195: ANTI SCANNING	×	_	_	<u>SEC-54</u>
B2553: IGNITION RELAY	_	×	_	PCS-53
B2555: STOP LAMP	_	×	_	<u>SEC-55</u>

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**PWC-77** 2015 QX70 **Revision: 2015 February** 

# **BCM (BODY CONTROL MODULE)**

## < ECU DIAGNOSIS INFORMATION >

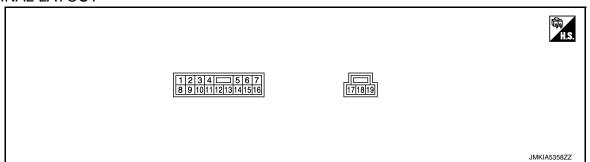
CONSULT display	Fail-safe	Freeze Frame Data  •Vehicle Speed  •Odo/Trip Meter  •Vehicle Condition	Intelligent Key warn- ing lamp ON	Reference
B2556: PUSH-BTN IGN SW	_	×	×	SEC-57
B2557: VEHICLE SPEED	×	×	×	SEC-59
B2560: STARTER CONT RELAY	×	×	×	SEC-60
B2562: LOW VOLTAGE	_	×	_	BCS-42
B2601: SHIFT POSITION	×	×	×	SEC-61
B2602: SHIFT POSITION	×	×	×	SEC-64
B2603: SHIFT POSI STATUS	×	×	×	SEC-66
B2604: PNP/CLUTCH SW	×	×	×	SEC-69
B2605: PNP/CLUTCH SW	×	×	×	SEC-71
B2608: STARTER RELAY	×	×	×	SEC-73
B260A: IGNITION RELAY	×	×	×	PCS-55
B260F: ENG STATE SIG LOST	×	×	×	SEC-75
B2614: BCM	_	×	×	PCS-57
B2615: BCM	_	×	×	PCS-59
B2616: BCM	_	×	×	PCS-61
B2617: BCM	×	×	×	SEC-77
B2618: BCM	×	×	×	PCS-63
B261A: PUSH-BTN IGN SW	_	×	×	SEC-79
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	<u>SEC-82</u>
B2621: INSIDE ANTENNA	_	×	_	DLK-101
B2623: INSIDE ANTENNA	_	×	_	DLK-103
B26E7: TPMS CAN COMM	_	_	_	BCS-43
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	<u>SEC-76</u>

## < ECU DIAGNOSIS INFORMATION >

# **POWER WINDOW MAIN SWITCH**

Reference Value

## **TERMINAL LAYOUT**



### PHYSICAL VALUES

	inal No. e color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
1 (W)	Ground	Rear power window motor LH UP signal	Output	When rear LH switch in power window main switch is in UP operation.	Battery voltage
2 (LG)	Ground	Encoder ground	_	_	0
3 (GR)	Ground	Rear power window motor LH DOWN signal	Output	When rear LH switch in power window main switch is in DOWN operation.	Battery voltage
4 (V)	Ground	Door key cylinder switch LOCK signal	Input	Key position (Neutral → Locked)	5 → 0
5 (SB)	Ground	Rear power window motor RH DOWN signal	Output	When rear RH switch in power window main switch is in DOWN operation.	Battery voltage
6 (Y)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0
7 (BR)	Ground	Rear power window motor RH UP signal	Output	When rear RH switch in power window main switch is in UP operation.	Battery voltage
8 (L)	Ground	Front driver side power window motor UP signal	Output	When front LH switch in power window main switch is in UP operation.	Battery voltage
9 (W)	Ground	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms  JMKIA0070GB
				IGN SW ON	Battery voltage
10	Ground	Rap signal	Input	Within 45 second after ignition switch is turned to OFF	Battery voltage
(O)				When driver side or passenger side door is opened during retained power operation	0

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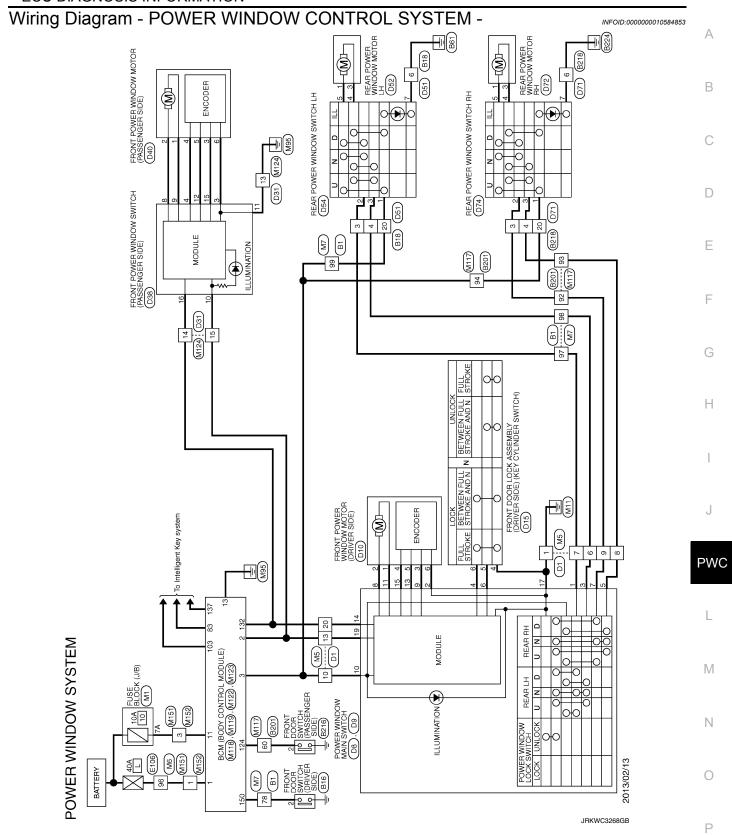
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# < ECU DIAGNOSIS INFORMATION >

<u> </u>	שוטאום	2313 INI OKWATION >			
	inal No. e color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
11 (G)	Ground	Front driver side power window motor DOWN signal	Output	When front LH switch in power window main switch is in DOWN operation.	Battery voltage
13 (P)	Ground	Encoder pulse signal 1	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB
14 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms JPMIA0013GB
15 (W)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates.	12
17 (B)	Ground	Ground	_	_	0
19 (Y)	Ground	Battery power supply	Input	_	Battery voltage



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Connector Name WIRE TO WIRE	29 8	SHIELD - Conne	Connector Name FRONT DOOR SWITCH (DRIVER SIDE)	Connector Name WII	WIRE TO WIRE
Connector Type TH80FW-CS16-TM4	П		Connector Type A03FW	Connector Type THi	TH80FW-CS16-TM4
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SB -	2.2		Connector Type NH10FW-CS10	8 W	
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	88	BR - 3	+	+	
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GR -	93	BR - 6	. B	36 L	
BG .	96		$\dashv$	37 P	
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	26		3 Р .	39 P	
	86	GR - 17	H	40 LG	- [With ICC]
SB -	66		3 BG .	40 V	- [Without ICC]
		19	9	41 SB	- [With ICC]
GR		20	H	H	- [Without ICC]
٠				42 V	- [With ICC]
SB				42 W	- [Without ICC]
0				43 B	- [Without ICC]
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Corrector No.   Corrector No.   Corrector No.   Corrector Name   Correct		Н
PETER TOOR SWITCH (PASSENGER SDE.)  A03FW  Signal Name (Specification)		I
Signal N		J
Cornector No.   B216		PWC
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**PWC-83 Revision: 2015 February** 2015 QX70

POWER WINDOW SYSTEM				-				
Connector No. D9	Connector No.	. D15	54	SHIELD		Connector No.	or No.	D40
Connector Name POWER WINDOW MAIN SWITCH	Connector Name	me FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)	52	ص <u>د</u>		Connect	Connector Name	FRONT POWER WINDOW MOTOR (PASSENGER SIDE)
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Connector No. D10	+	· ·	46	>		2	۵	
Connector Name FRONT POWER WINDOW MOTOR (DRIVER SIDE)	9	۰ .	47	œ		9	PC	
			48	ŋ				
Connector Type NS06FW-CS		١	49	SHIELD			١	
ą	Connector No.	. D31				Connector No.	- 1	D51
	Connector Name	me WIRE TO WIRE		200		Connect	Connector Name	WIRE TO WIRE
			Connector No.	1	80			
J -	Connector Type	De TH40FW-CS15	Connector Name		FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	Connect	or Type	Connector Type NH10MW-CS10
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- e					8 9 10 11 12 15 16			
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REAR POWER WINDOW SWITCH RH NS06FW.CS  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	F
Name	G
Corrector   Corr	Н
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NH10MW-CS10	J
Connector No.  Connector Name  Connector Name  Connector Type  Terminal Color Of  Termina	PWC
reation]	L
Corrector Name REAR POWER WINDOW SYSTEM Corrector Name REAR POWER WINDOW MOTOR LH Corrector Type RS06FG-DGV No. Wire Corrector Name Specification Signal Name [Specification] Terminal Color Of Signal Name [Specification]	M
Connector Name F Connector Name F Connector Name F Connector Type F 3 L Connector Name F Co	Ν
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**PWC-85 Revision: 2015 February** 2015 QX70

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73 R		0	Connector Name	DOM: OT DOM	46	GR		22	L	- [Without ICC]	
Н		3	actor regime	WINE I O WINE	47	W		22	ď	- [With ICC]	
7 9 <i>2</i>		Sonne	Connector Type	TH40MW-CS15	48	_		23	ŋ		
W 77					49	œ		54	7	- [With ICC]	Г
L		E	<b>-</b>		99	BB		54	۵	- [Without ICC]	
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82 W				26 36373839404	23	<b>&gt;</b>		56	SHIELD		_
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		20	98		2		Signal Name [Specification]	49	BG		Г
Connector No.   M1		21	┢		-	c		20	9		Т
		22	+		2	BG		20	SB		_
Connector Name FUSE BLOCK (J/B)	OCK (J/B)	23	-		m	9	- [Without Auto aircon seat]	52	>		Т
Connector Type NS06FW-M2	W2	24	╀		e	SB	- [With Auto aircon seat]	23	BG		_
		26	Ľ		4	PI		55	BR		Г
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95	_		13	В	GROUND	Connector No.	M123	Connector No.	M124
83	ტ		15	>	ACC IND	Connector Name	BCM (BODY CONTROL MODILIE)	Connector Na	Connector Name   WIRE TO WIRE
94	BG	-	17	Μ	TURN SIGNAL RH (FRONT)				
92	۸		18	BG	TURN SIGNAL LH (FRONT)	Connector Type	TH40FG-NH	Connector Type	De TH40MW-CS15
96	Ø		19	SB	ROOM LAMP TIMER			[	
97	U					1		1	
86	-					E.		Ŧ.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	97		Connector No.	l	M122	S. E.S.		S.H.S.	
			Connector Name		BCM (BODY CONTROL MODULE)		20		116 171 18 19 20 20 20 20 20 20 20 20 20 30 30 30 80 40 41 42 40 44 45 46 57 52 50 50 50 50 50 50 50 50 50 50 50 50 50
		0.00	į	Т	- CONTRACTOR				
Connector No.	TOL NO.	IMITIS	Connector Type	7	17407B-NT				
Connect	tor Name	Connector Name BCM (BODY CONTROL MODULE)	Œ			Terminal Color Of	L	Terminal Color Of	L
Connect	for Type	Connector Type M03FB-LC	手			No. Wire	Signal Name [Specification]	No.	Wire Signal Name [Specification]
			N. H.S.			112 GR	R RAIN SENSOR SERIAL LINK	e	
E	_				91 90	113 P	OPLICAL SENSOR	4	. 91
V					25 CS   10 KS   10 KS	116 BR	R STOP LAMP SW 1	2	SB .
ξ	á	73				118 P	STOP LAMP SW 2	9 9	BR .
						119 SB	B DR DOOR UNLOCK SENSOR	7	
		7	Terminal	Color Of		121 BR	R KEY SLOT SW	80	^
		]	N	Wire	Signal Name [Specification]	┢	/ IGN F/B	6	. 91
			74	SB	PASSENGER DOOR ANT-	124 LG	B PASSENGER DOOR SW	13	
Termina	Terminal Color Of	i	75	R	PASSENGER DOOR ANT+	132 BG	S.	L	. BG
g	Wire	Signal Name [Specification]	2/9	>	DRIVER DOOR ANT-	╀	L	╀	M
	*	BAT (F/L)	77	. 91	DRIVER DOOR ANT+	H	RECEIVER/SENSOR GND	H	. 9
2	>	POWER WINDOW POWER SUPPLY (BAT)	78	>	ROOM ANT1-	L		H	91
· ·	. g	+	62	H	BOOM ANT1+	140 R		+	
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Connect	tor Name	Connector Name BCM (BODY CONTROL MODULE)	63	5 5	NETLESS ENIRT RECEIVER SIGNAL	9 .		+	
			/8	ž	COMBLSW INPULS	+		+	
Connect	tor Type	Connector Type NS16FW-CS	88	>	COMBI SW INPUT 3	+	_	+	
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		11 13 15 17 18 19	92	BG	ACC RELAY CONT			-	GR -
			96	GR	A/T SHIFT SELECTOR POWER SUPPLY			38	G - [Without automatic drive positioner]
			66	æ	SHIFT P			38	R - [With automatic drive positioner]
			100	9	PASSENGER DOOR REQUEST SW			39	
Termina	Terminal Color Of	JC Signal Name (Specification)	101	SB	DRIVER DOOR REQUEST SW			40	
ġ Ž	Wire	Signal Name	102	BG	BLOWER FAN MOTOR RELAY CONT			41	
4	۵	INT ROOM LAMP PWR SUPPLY (BAT SAVE)	103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY			42 L	
2	>	PASSENGER DOOR UNLOCK OUTPUT	107	9	COMBI SW INPUT 1			43	
7	>	STEP LAMP OUTPUT	108	œ	COMBI SW INPUT 4			44	,
80	>	ALL DOOR, FUEL LID LOCK OUTPUT	109	>	COMBI SW INPUT 2			45	
6	Ø	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	110	9	HAZARD SW			46	
10	æ	REAR DOOR L						. 47	
11	ď	BAT (FUSE)						48	BR .

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#### < ECU DIAGNOSIS INFORMATION >

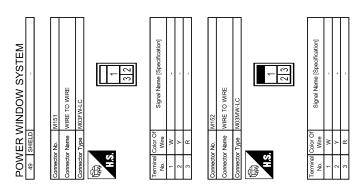
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Fail-safe

### **FAIL-SAFE CONTROL**

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

#### < ECU DIAGNOSIS INFORMATION >

Malfunction	Malfunction condition
Pulse sensor malfunction	When one pulse signal that is the specified value or more is detected continuously for the specified time or more, while door glass is being operated UP or DOWN.
Both pulse sensors mal- function	When both pulse signals are not detected continuously for the specified time or more, while door glass is being operated UP or DOWN.
Pulse direction malfunction	When a pulse signal indicating that window is moving in the opposite direction against the power window motor is detected for the specified value or more, while door glass is being operated UP or DOWN.
Glass recognition position malfunction 1	When the actual door glass position that is out of specified value is detected compared to the door glass fully closed position memorized in module, while door glass is being operated UP or DOWN.
Glass recognition position malfunction 2	When pulse count that is out of the door glass full stroke value or more is detected, while door glass is being operated UP or DOWN.

If fail-safe control, the system changes to a non-initialized condition and the following function do not operate.

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

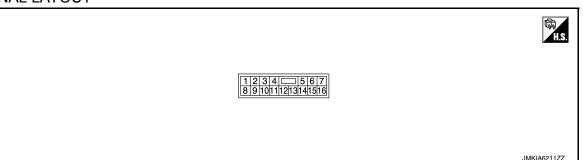
When fail-safe control is activated, perform initialization procedure to recover. If a malfunction is detected in power window switch or more, fail-safe control is activated again.

< ECU DIAGNOSIS INFORMATION >

# FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Reference Value

## **TERMINAL LAYOUT**



### PHYSICAL VALUES

	nal No. color)	Description		Condition	Voltage [V]
+	-	Signal name	Input/ Output	Condition	(Approx.)
3 (LG)	Ground	Encoder ground	_	_	0
4 (W)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	Battery voltage
8 (L)	Ground	Power window motor UP signal	Output	When power window motor is in UP operation.	Battery voltage
9 (G)	Ground	Power window motor DOWN signal	Output	When power window motor is in DOWN operation.	Battery voltage
10 (Y)	Ground	Battery power supply	Input	_	Battery voltage
11 (B)	Ground	Ground	_	_	0
12 (P)	Ground	Encoder pulse signal 1	Input	When power window motor operates.	(V) 6 4 2 0 10 ms
15 (R)	Ground	Encoder pulse signal 2	Input	When power window motor operates.	(V) 6 4 2 0 10 ms JMKIA0070GB
16 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	(V) 15 10 5 0 10 ms

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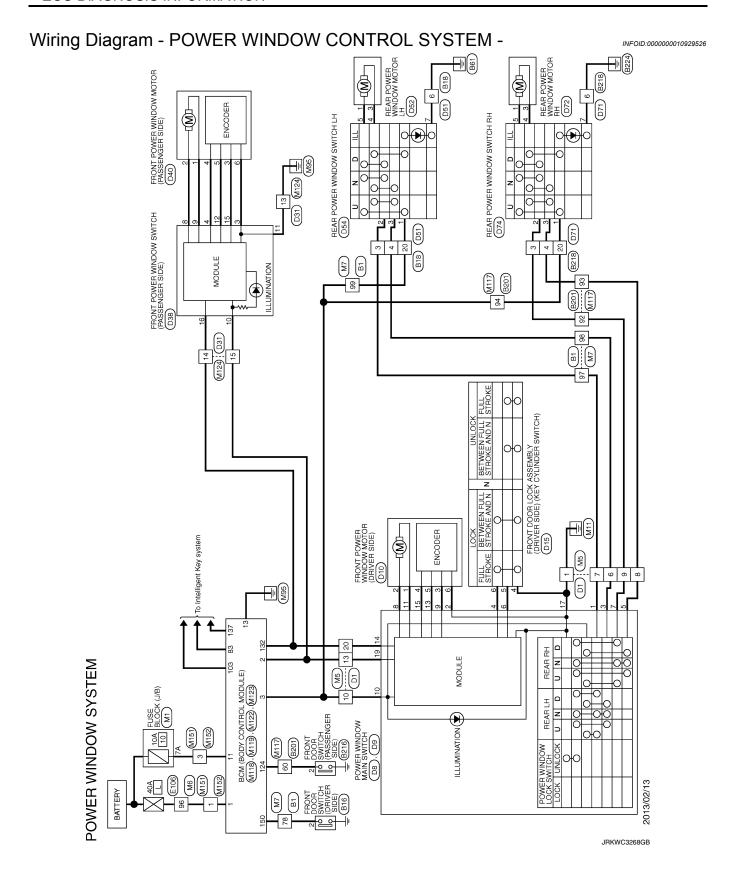
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Signal Name   Specification	F
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55   57   58   59   59   59   59   59   59   59	PWC
o wire  v.csile-TM4  Sgral Name (Specification)	L
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**PWC-93** 2015 QX70 **Revision: 2015 February** 

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**PWC-95** 2015 QX70 **Revision: 2015 February** 

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## < ECU DIAGNOSIS INFORMATION >

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POWER WINDOW SYSTEM	+	$\dashv$	_	95 V -	. 96	97 G -	- 1 86	- 9T 66	┨		Connector No M118	0	Connector Name BCM (BODY CONTROL MODULE)		Connector Type M03FB-LC	4			1.5	<u> </u>		]			ē	No. Wire	1 W BAT (F/L)	2 Y POWER WINDOW POWER SUPPLY (BAT)	3 BG POWER WINDOW POWER SUPPLY (RAP)			Connector No. M119		Connector Name BCM (BODY CONTROL MODULE)	Connector Tune Medicini Ce	٦.	ą.	至	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	) 	11 13 15 17 18 19	11			Terminal Color Of	No. Wire Signal Name [Specification]	4 P INT ROOM LAMP PWR SUPPLY (BAT SAVE)	,	V PASSENGEN DOOR	<u>-</u>  ;	>	$\dashv$	æ	11 R BAT (FUSE)	

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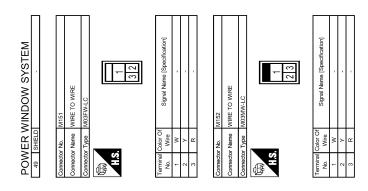
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Revision: 2015 February PWC-99 2015 QX70



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Fail-safe

### **FAIL-SAFE CONTROL**

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

## < ECU DIAGNOSIS INFORMATION >

Malfunction	Malfunction condition
Pulse sensor malfunction	When one pulse signal that is the specified value or more is detected continuously for the specified time or more, while door glass is being operated UP or DOWN.
Both pulse sensors mal- function	When both pulse signals are not detected continuously for the specified time or more, while door glass is being operated UP or DOWN.
Pulse direction malfunction	When a pulse signal indicating that window is moving in the opposite direction against the power window motor is detected for the specified value or more, while door glass is being operated UP or DOWN.
Glass recognition position malfunction 1	When the actual door glass position that is out of specified value is detected compared to the door glass fully closed position memorized in module, while door glass is being operated UP or DOWN.
Glass recognition position malfunction 2	When pulse count that is out of the door glass full stroke value or more is detected, while door glass is being operated UP or DOWN.

If fail-safe control, the system changes to a non-initialized condition and the following function do not operate.

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

When fail-safe control is activated, perform initialization procedure to recover. If a malfunction is detected in power window switch or more, fail-safe control is activated again.

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

< SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

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

## Diagnosis Procedure

INFOID:0000000010584858

# 1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to BCS-44, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS > DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE	<del></del>
Diagnosis Procedure	
	INFOID:000000010584859
1.CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT Check power window switch power supply and ground circuit.	
Refer to PWC-14, "POWER WINDOW MAIN SWITCH: Diagnosis Procedure".	
Is the inspection result normal?  YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	
2.CHECK DRIVER SIDE POWER WINDOW MOTOR	
Check driver side power window motor.  Refer to PWC-19, "DRIVER SIDE: Component Function Check".	
Is the measurement value within the specification?	
YES >> GO TO 3.  NO >> Repair or replace the malfunctioning parts.	
3. CONFIRM THE OPERATION	
Confirm the operation again.	
Is the result normal?  YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".	
NO >> GO TO 1.	
	_

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

< SYMPTOM DIAGNOSIS >

# FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE WHEN POWER WINDOW MAIN SWITCH IS OPERATED

WHEN POWER WINDOW MAIN SWITCH IS OPERATED: Diagnosis Procedure

INFOID:0000000010584860

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

Check front power window switch (passenger side) serial link circuit.

Refer to PWC-36, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED

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

1. REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

Replace front power window switch (passenger side).

Refer to PWC-118, "Removal and Installation".

>> INSPECTION END

WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW SWITCH ARE OPERATED

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

 $1.\mathsf{CHECK}$  FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIRCUIT

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

Refer to PWC-15, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK PASSENGER SIDE POWER WINDOW MOTOR CIRCUIT

Check passenger side power window motor circuit.

Refer to PWC-20, "PASSENGER SIDE: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

## REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

< SYMPTOM DIAGNOSIS >	
REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE WHEN POWER WINDOW MAIN SWITCH IS OPERATED	А
WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure	В
1. CHECK REAR POWER WINDOW SWITCH	
Check rear power window switch.  Refer to PWC-17, "Component Function Check".	С
Is the inspection result normal?	D
YES >> GO TO 2.  NO >> Repair or replace the malfunctioning parts.	
2.confirm the operation	Е
Confirm the operation again.  Is the result normal?	
YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".	F
NO >> GO TO 1. WHEN REAR POWER WINDOW SWITCH LH IS OPERATED	
WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure	G
1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT	Н
Check rear power window switch power supply and ground circuit.  Refer to PWC-16, "REAR POWER WINDOW SWITCH: Diagnosis Procedure".	ı
Is the inspection result normal?  YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	J
2.REPLACE REAR POWER WINDOW SWITCH LH	
Replace rear power window switch LH. Refer to PWC-119, "Removal and Installation".	PWC
>> INSPECTION END WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED	L
WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW	M
SWITCH LH ARE OPERATED : Diagnosis Procedure	
SWITCH LH ARE OPERATED : Diagnosis Procedure  1. CHECK REAR POWER WINDOW MOTOR LH	Ν
1. CHECK REAR POWER WINDOW MOTOR LH Check rear power window motor LH.	Ν
1. CHECK REAR POWER WINDOW MOTOR LH	N O
1.CHECK REAR POWER WINDOW MOTOR LH  Check rear power window motor LH. Refer to PWC-22, "REAR LH: Component Function Check".  Is the inspection result normal?  YES >> GO TO 2.	0
1.CHECK REAR POWER WINDOW MOTOR LH  Check rear power window motor LH. Refer to PWC-22, "REAR LH: Component Function Check".  Is the inspection result normal?  YES >> GO TO 2.	
1.CHECK REAR POWER WINDOW MOTOR LH  Check rear power window motor LH. Refer to PWC-22, "REAR LH: Component Function Check".  Is the inspection result normal?  YES >> GO TO 2.  NO >> Repair or replace the malfunctioning parts.	0

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

< SYMPTOM DIAGNOSIS >

# REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE WHEN POWER WINDOW MAIN SWITCH IS OPERATED

## WHEN POWER WINDOW MAIN SWITCH IS OPERATED: Diagnosis Procedure

INFOID:0000000010584866

## 1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to PWC-17, "Component Function Check".

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

#### WHEN REAR POWER WINDOW SWITCH RH IS OPERATED

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

INFOID:0000000010584867

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

Check rear power window switch power supply and ground circuit.

Refer to PWC-16, "REAR POWER WINDOW SWITCH: Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.REPLACE REAR POWER WINDOW SWITCH RH

Replace rear power window switch RH.

Refer to PWC-119, "Removal and Installation".

#### >> INSPECTION END

# WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED

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

## 1. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to PWC-23, "REAR RH: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.CONFIRM THE OPERATION

#### Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

#### ANTI-PINCH FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS > ANTI-PINCH FUNCTION DOES NOT OPERATE Α DRIVER SIDE DRIVER SIDE: Diagnosis Procedure INFOID:0000000010584869 В 1. PERFORM INITIALIZATION PROCEDURE Initialization procedure is executed and operation is confirmed. Refer to PWC-5, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Description". Is the inspection result normal? D YES >> INSPECTION END NO >> GO TO 2. 2.CHECK ENCODER (DRIVER SIDE) CIRCUIT Е Check encoder (driver side) circuit. Refer to PWC-28, "DRIVER SIDE: Component Function Check". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.CONFIRM THE OPERATION Confirm the operation again. Is the result normal? Н YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident". NO >> GO TO 1. PASSENGER SIDE PASSENGER SIDE: Diagnosis Procedure INFOID:0000000010584870 1. PERFORM INITIALIZATION PROCEDURE Initialization procedure is executed and operation is confirmed. Refer to PWC-5, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Descrip-**PWC** tion". Is the inspection result normal? YES >> INSPECTION END NO >> GO TO 2. 2.CHECK ENCODER (PASSENGER SIDE) CIRCUIT Check encoder (passenger side) circuit. Refer to PWC-30, "PASSENGER SIDE: Component Function Check". Is the inspection result normal? YES >> GO TO 3. N NO >> Repair or replace the malfunctioning parts. 3.CONFIRM THE OPERATION Confirm the operation again. Is the result normal?

Р

>> Check intermittent incident. Refer to GI-47. "Intermittent Incident".

YES

>> GO TO 1

NO

## AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMAL-LY

#### < SYMPTOM DIAGNOSIS >

# AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NOR-MALLY

**DRIVER SIDE** 

DRIVER SIDE : Diagnosis Procedure

INFOID:0000000010584871

## 1. PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to PWC-5, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL: Description".

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

## 2. CHECK ENCODER (DRIVER SIDE) CIRCUIT

Check encoder (driver side) circuit.

Refer to PWC-28, "DRIVER SIDE: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

#### PASSENGER SIDE

## PASSENGER SIDE : Diagnosis Procedure

INFOID:0000000010584872

# 1. PERFORM INITIALIZAITON PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to <u>PWC-5</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description".

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

# 2. CHECK ENCODER (PASSENGER SIDE) CIRCUIT

Check encoder (passenger side) circuit.

Refer to PWC-30, "PASSENGER SIDE: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

## POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE **PROPERLY**

# < SYMPTOM DIAGNOSIS > POWER WINDOW RETAINED POWER OPERATION DOES NOT OPER-Α ATE PROPERLY Diagnosis Procedure INFOID:0000000010584873 В 1. CHECK DOOR SWITCH Check door switch. Refer to PWC-26, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. D NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION Е Confirm the operation again. Is the result normal? >> Check intermittent incident. Refer to GI-47, "Intermittent Incident". YES F NO >> GO TO 1. Н J **PWC**

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## POWER WINDOW DOWN FUNCTION DOES NOT OPERATE WITH KEY CYLIN-DER OPERATION

#### < SYMPTOM DIAGNOSIS >

# POWER WINDOW DOWN FUNCTION DOES NOT OPERATE WITH KEY CYLINDER OPERATION

## Diagnosis Procedure

INFOID:0000000010584874

## 1. PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to <u>PWC-5</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description".

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

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

Check driver side door lock assembly (key cylinder switch).

Refer to PWC-33, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

NO >> GO TO 1.

# POWER WINDOW DOWN FUNCTION DOES NOT WORK WHEN OPERATING WITH INTELLIGENT KEY

## < SYMPTOM DIAGNOSIS >

POWER WINDOW DOWN FUNCTION DOES NOT WORK WHEN OPERAT-ING WITH INTELLIGENT KEY	А
Description INFOID:000000010584875	D
NOTE: Before performing the diagnosis in the following procedure, check "Work Flow". Refer to <a href="DLK-9">DLK-9</a> , "Work Flow". Diagnosis Procedure	С
1. CHECK REMOTE KEYLESS ENTRY FUNCTION	
Check remote keyless entry function.  Does door lock/unlock with Intelligent key button?  YES >> GO TO 2.  NO >> Go to DLK-259, "Diagnosis Procedure".  2.CHECK POWER WINDOW OPERATION	E
Check power window operation.	F
Does power window up/down with power window main switch?  YES >> GO TO 3.  NO >> Go to PWC-102. "Diagnosis Procedure".  3.CHECK "PW DOWN SET" SETTING IN "WORK SUPPORT"	G
Check "PW DOWN SET" setting in "WORK SUPPORT".  Refer to <u>DLK-61</u> , "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".	Н
Is the inspection result normal?  YES >> GO TO 4.  NO >> Set "PW DOWN SET" setting in "WORK SUPPORT".  4. CONFIRM THE OPERATION	I
Confirm the operation again.	J
Is the result normal?  YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".  NO >> GO TO 1.	PWC
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## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:0000000010584877

1. REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch. Refer to PWC-117, "Removal and Installation".

>> INSPECTION END

## POWER WINDOW SWITCH DOES NOT ILLUMINATE

< SYMPTOM DIAGNOSIS >		
POWER WINDOW SWITCH DOES NOT ILLUMINATE DRIVER SIDE		А
DRIVER SIDE : Diagnosis Procedure	INFOID:0000000010584878	В
1.REPLACE POWER WINDOW MAIN SWITCH		Ь
Replace power window main switch. Refer to PWC-117, "Removal and Installation".		С
>> INSPECTION END PASSENGER SIDE		D
PASSENGER SIDE : Diagnosis Procedure	INFOID:000000010584879	Е
1.REPLACE FRONT POWER WINDOW SWITCH (PASSENGER SIDE)		
Replace front power window switch (passenger side). Refer to PWC-118, "Removal and Installation".		F
>> INSPECTION END REAR LH		G
REAR LH : Diagnosis Procedure	INFOID:000000010584880	Н
1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT		
Check rear power window switch power supply and ground circuit.  Refer to <a href="PWC-17">PWC-17</a> , "Diagnosis Procedure".		I
Is the inspection result normal? YES >> GO TO 2.		
NO >> Repair or replace harness.		J
2.REPLACE REAR POWER WINDOW SWITCH LH		
Replace rear power window switch LH. Refer to PWC-119, "Removal and Installation".		PWC
>> INSPECTION END REAR RH		L
REAR RH : Diagnosis Procedure	INFOID:0000000010584881	M
1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT		
Check rear power window switch power supply and ground circuit.  Refer to PWC-17, "Diagnosis Procedure".		Ν
Is the inspection result normal?  YES >> GO TO 2.		0
NO >> Repair or replace harness.  2.REPLACE REAR POWER WINDOW SWITCH RH		
Replace rear power window switch RH. Refer to PWC-119, "Removal and Installation".		Р
>> INSPECTRION END		

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# **PRECAUTION**

## **PRECAUTIONS**

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

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

#### WARNING:

Always observe the following items for preventing accidental activation.

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

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

## Precautions for Removing Battery Terminal

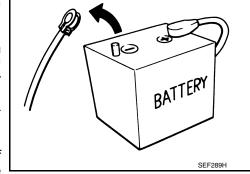
 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

#### NOTE:

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

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

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



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

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

Precautions For Xenon Headlamp Service

INFOID:0000000011014459

INFOID:0000000010929519

#### **WARNING:**

Comply with the following warnings to prevent any serious accident.

#### **PRECAUTIONS**

#### < PRECAUTION >

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector. (Turning it ON outside the lamp case may cause fire or visual impairments.)
- Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

#### **CAUTION:**

Comply with the following cautions to prevent any error and malfunction.

- Install the xenon bulb securely. (Insufficient bulb socket installation may melt the bulb, the connector, the housing, etc. by high-voltage leakage or corona discharge.)
- Never perform HID circuit inspection with a tester.
- Never touch the xenon bulb glass with hands. Never put oil and grease on it.
- Dispose of the used xenon bulb after packing it in thick vinyl without breaking it.
- Never wipe out dirt and contamination with organic solvent (thinner, gasoline, etc.).

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## **PREPARATION**

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# **PREPARATION**

## **PREPARATION**

Commercial Service Tools

INFOID:0000000010584883

	Tool name	Description
Remover tool	JMKIA3050ZZ	Removes the clips, pawls and metal clips

< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

## POWER WINDOW MAIN SWITCH

#### Removal and Installation

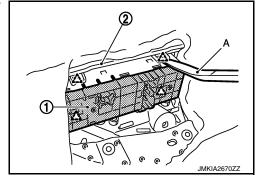
#### **REMOVAL**

- Remove the front door finisher.
   Refer to <u>INT-12</u>, "<u>Exploded View</u>" and <u>INT-12</u>, "<u>Removal and Installation</u>".
- 2. Power window main switch (1) is removed from power window main switch finisher (2) using remover tool (A).



#### **CAUTION:**

Never fold pawl of front door finisher.



#### **INSTALLATION**

Note the following items, and then install in the reverse order of removal.

#### NOTE:

If power window main switch is replaced or is removed, it is necessary to perform the initialization procedure. Refer to <a href="PWC-5">PWC-5</a>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

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< REMOVAL AND INSTALLATION >

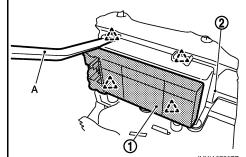
## FRONT POWER WINDOW SWITCH (PASSENGER SIDE)

#### Removal and Installation

#### INFOID:0000000010584885

#### **REMOVAL**

- Remove the front door finisher. Refer to <u>INT-12</u>, "<u>Exploded View</u>" and <u>INT-12</u>, "<u>Removal and Installation</u>".
- Front power window switch (passenger side) (1) is removed from front power window switch finisher (2) using remover tool (A).



## : Pawl

#### **CAUTION:**

Never fold pawl of front door finisher.

#### **INSTALLATION**

Note the following items, and then install in the reverse order of removal.

#### NOTE:

If front power window switch (passenger side) is replaced or is removed, it is necessary to perform the initialization procedure. Refer to <a href="PWC-5">PWC-5</a>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

### **REAR POWER WINDOW SWITCH**

#### < REMOVAL AND INSTALLATION >

## **REAR POWER WINDOW SWITCH**

### Removal and Installation

#### INFOID:0000000010584886

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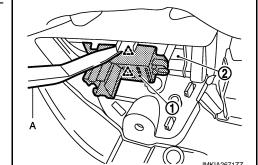
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#### **REMOVAL**

- Remove the rear door finisher.
   Refer to <u>INT-15</u>, "Exploded View" and <u>INT-15</u>, "Removal and Installation".
- 2. Rear power window switch (1) is removed from rear power window switch finisher (2) using remover tool (A).



## \_\_\_\_\_: Pawl

#### **CAUTION:**

Never fold pawl of rear door finisher.

#### **INSTALLATION**

Install in the reverse order of removal.

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