

SECTION **PWC**

POWER WINDOW CONTROL SYSTEM

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

CONTENTS

<p>BASIC INSPECTION 3</p> <p>DIAGNOSIS AND REPAIR WORKFLOW 3</p> <p style="padding-left: 20px;">WorkFlow3</p> <p>INSPECTION AND ADJUSTMENT 4</p> <p>ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL4</p> <p style="padding-left: 20px;">ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description4</p> <p style="padding-left: 20px;">ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement4</p> <p>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT4</p> <p style="padding-left: 20px;">ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description4</p> <p style="padding-left: 20px;">ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement4</p> <p>FUNCTION DIAGNOSIS 6</p> <p>POWER WINDOW SYSTEM 6</p> <p style="padding-left: 20px;">System Diagram6</p> <p style="padding-left: 20px;">System Description6</p> <p style="padding-left: 20px;">Component Parts Location8</p> <p style="padding-left: 20px;">Component Description9</p> <p>DIAGNOSIS SYSTEM (BCM)10</p> <p>COMMON ITEM10</p> <p style="padding-left: 20px;">COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)10</p> <p>RETAIND PWR11</p> <p style="padding-left: 20px;">RETAIND PWR : CONSULT-III Function (BCM - RETAINED PWR)11</p> <p>COMPONENT DIAGNOSIS12</p> <p>POWER SUPPLY AND GROUND CIRCUIT12</p>	<p>BCM12</p> <p style="padding-left: 20px;">BCM : Diagnosis Procedure12</p> <p>POWER WINDOW MAIN SWITCH12</p> <p style="padding-left: 20px;">POWER WINDOW MAIN SWITCH : Diagnosis Procedure12</p> <p>POWER WINDOW SUB-SWITCH14</p> <p style="padding-left: 20px;">POWER WINDOW SUB-SWITCH : Diagnosis Procedure14</p> <p>POWER WINDOW MOTOR16</p> <p>DRIVER SIDE16</p> <p style="padding-left: 20px;">DRIVER SIDE : Description16</p> <p style="padding-left: 20px;">DRIVER SIDE : Component Function Check16</p> <p style="padding-left: 20px;">DRIVER SIDE : Diagnosis Procedure16</p> <p style="padding-left: 20px;">DRIVER SIDE : Component Inspection17</p> <p>PASSENGER SIDE17</p> <p style="padding-left: 20px;">PASSENGER SIDE : Description17</p> <p style="padding-left: 20px;">PASSENGER SIDE : Component Function Check17</p> <p style="padding-left: 20px;">PASSENGER SIDE : Diagnosis Procedure18</p> <p style="padding-left: 20px;">PASSENGER SIDE : Component Inspection19</p> <p>ENCODER20</p> <p>DRIVER SIDE20</p> <p style="padding-left: 20px;">DRIVER SIDE : Description20</p> <p style="padding-left: 20px;">DRIVER SIDE : Component Function Check20</p> <p style="padding-left: 20px;">DRIVER SIDE : Diagnosis Procedure20</p> <p>PASSENGER SIDE22</p> <p style="padding-left: 20px;">PASSENGER SIDE : Description22</p> <p style="padding-left: 20px;">PASSENGER SIDE : Component Function Check22</p> <p style="padding-left: 20px;">PASSENGER SIDE : Diagnosis Procedure22</p> <p>DOOR SWITCH25</p> <p style="padding-left: 20px;">Description25</p> <p style="padding-left: 20px;">Component Function Check25</p> <p style="padding-left: 20px;">Diagnosis Procedure25</p>
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PWC

Component Inspection	26	ANTI-PINCH FUNCTION DOES NOT OPERATE	83
DOOR KEY CYLINDER SWITCH	27	DRIVER SIDE	83
Description	27	DRIVER SIDE : Diagnosis Procedure	83
Component Function Check	27	PASSENGER SIDE	83
Diagnosis Procedure	27	PASSENGER SIDE : Diagnosis Procedure	83
Component Inspection	28	AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY	84
POWER WINDOW SERIAL LINK	30	DRIVER SIDE	84
POWER WINDOW MAIN SWITCH	30	DRIVER SIDE : Diagnosis Procedure	84
POWER WINDOW MAIN SWITCH : Description ...	30	PASSENGER SIDE	84
POWER WINDOW MAIN SWITCH : Component Function Check	30	PASSENGER SIDE : Diagnosis Procedure	84
POWER WINDOW MAIN SWITCH : Diagnosis Procedure	30	POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY	85
POWER WINDOW SUB-SWITCH	31	Diagnosis Procedure	85
POWER WINDOW SUB-SWITCH : Description	31	DOES NOT OPERATE BY KEY CYLINDER SWITCH	86
POWER WINDOW SUB-SWITCH : Component Function Check	31	Diagnosis Procedure	86
POWER WINDOW SUB-SWITCH : Diagnosis Procedure	32	POWER WINDOW LOCK SWITCH DOES NOT FUNCTION	87
ECU DIAGNOSIS	34	Diagnosis Procedure	87
BCM (BODY CONTROL MODULE)	34	POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE	88
Reference Value	34	DRIVER SIDE	88
Wiring Diagram - POWER WINDOW CONTROL SYSTEM -	57	DRIVER SIDE : Diagnosis Procedure	88
Fail Safe	60	PASSENGER SIDE	88
DTC Inspection Priority Chart	62	PASSENGER SIDE : Diagnosis Procedure	88
DTC Index	64	AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE	89
POWER WINDOW MAIN SWITCH	66	DRIVER SIDE	89
Reference Value	66	DRIVER SIDE : Diagnosis Procedure	89
Wiring Diagram - POWER WINDOW CONTROL SYSTEM -	68	PASSENGER SIDE	89
Fail Safe	71	PASSENGER SIDE : Diagnosis Procedure	89
POWER WINDOW SUB-SWITCH	73	PRECAUTION	91
Reference Value	73	PRECAUTIONS	91
Wiring Diagram - POWER WINDOW CONTROL SYSTEM -	75	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	91
Fail Safe	78	Precaution for Battery Service	91
SYMPTOM DIAGNOSIS	80	ON-VEHICLE REPAIR	92
NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH	80	POWER WINDOW MAIN SWITCH	92
Diagnosis Procedure	80	Removal and Installation	92
DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE	81		
Diagnosis Procedure	81		
PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE	82		
Diagnosis Procedure	82		

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

WorkFlow

INFOID:000000001694237

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

2.REPRODUCE THE MALFUNCTION INFORMATION

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

>> GO TO 3.

3.IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

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

>> GO TO 4.

4.IDENTIFY THE MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

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

>> GO TO 5.

5.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6.

6.FINAL CHECK

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

Are the malfunctions corrected?

YES >> INSPECTION END

NO >> GO TO 3.

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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Description

INFOID:000000001693960

Initial setting is necessary when battery terminal is removed.

CAUTION:

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

- Auto-up operation
- Anti-pinch function
- Automatic window adjusting function

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement

INFOID:000000001693961

INITIALIZATION PROCEDURE

1. Disconnect battery minus 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 fully closed position, keep pulling the switch for 3 seconds or more.
5. Inspect anti-pinch function.

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window.
 2. Place a piece of wood near fully closed position.
 3. Close door glass completely with AUTO-UP.
- Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops.
 - Check that glass does not rise when operating the power window main switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed.
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to [PWC-71. "Fail Safe"](#)
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally.
- Finish initial setting. Otherwise, next operation cannot be done.

1. Auto-up operation
2. Anti-pinch function
3. Automatic window adjusting function

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000001693962

Initial setting is necessary when replacing power window main switch.

CAUTION:

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

- Auto-up operation
- Anti-pinch function
- Automatic window adjusting function

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000001693963

INITIALIZATION PROCEDURE

1. Disconnect battery minus terminal or power window main switch connector. Reconnect it after a minute or more.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

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) A
4. Continue pulling the power window switch UP (AUTO-UP operation). Even after glass stops at fully closed position, keep pulling the switch for 3 seconds or more. B
5. Inspect anti-pinch function.

CHECK ANTI-PINCH FUNCTION

1. Fully open the door window. C
2. Place a piece of wood near fully closed position.
3. Close door glass completely with AUTO-UP.
 - Check that glass lowers for approximately 150 mm or 2 seconds without pinching piece of wood and stops. D
 - Check that glass does not rise when operating the power window main switch while lowering.

CAUTION:

- Do not check with hands and other part of body because they may be pinched. Do not get pinched.
- Check that AUTO-UP operates before inspection when system initialization is performed. E
- It may switch to fail-safe mode if open/close operation is performed continuously. Perform initial setting in that situation. Refer to [PWC-71, "Fail Safe"](#)
- Perform initial setting when auto-up operation or anti-pinch function does not operate normally. F
- Finish initial setting. Otherwise, next operation cannot be done.

1. Auto-up operation G
2. Anti-pinch function H
3. Automatic window adjusting function I

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POWER WINDOW SYSTEM

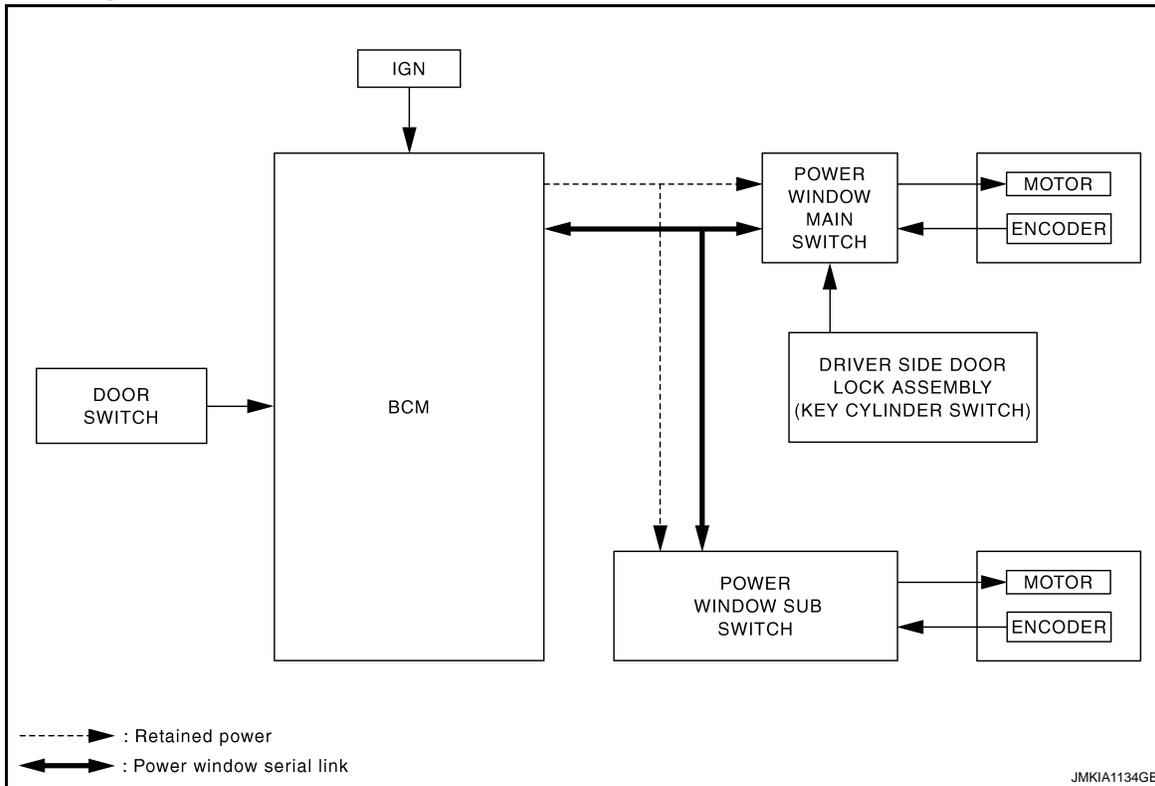
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FUNCTION DIAGNOSIS

POWER WINDOW SYSTEM

System Diagram

INFOID:000000001693964



System Description

INFOID:000000001693965

POWER WINDOW MAIN SWITCH INPUT/OUTPUT SIGNAL CHART

Item	Input signal to power window main switch	Power window main switch function	Actuator
Key cylinder switch	LOCK/UNLOCK signal (more than 1 second over)	Power window control	Each power window motor
Encoder	Encoder pulse signal		
Driver side switch	Driver side power window motor UP/DOWN signal		
Passenger side switch	Passenger side power window motor UP/DOWN signal		
BCM	RAP signal		

POWER WINDOW SUB-SWITCH INPUT/OUTPUT SIGNAL CHART

Item	Input signal to power window sub-switch	Power window sub-switch function	Actuator
Encoder	Encoder pulse signal	Power window control	Passenger side power window motor
BCM	RAP signal		
Passenger side switch	Passenger side power window motor UP/DOWN signal		

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

POWER WINDOW OPERATION

- Power window system is operable during the retained power operation timer after turning ignition switch ON and OFF. A
- Power window main switch can open/close all windows.
- Power window sub-switch can open/close the passenger side windows. B

POWER WINDOW AUTO-OPERATION

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

POWER WINDOW SERIAL LINK

Power window main switch, power window sub-switch and BCM transmit and receive the signal by power window serial link. E

The under mentioned signal is transmitted from BCM to power window main switch.

- Driver side door switch signal
- Keyless power window down signal F

The under mentioned signal is transmitted from BCM to power window sub-switch.

- Passenger side door switch signal
- Keyless power window down signal G

The under mentioned signal is transmitted from power window main switch to power window sub-switch.

- Passenger side door window operation signal
- Power window control by key cylinder switch signal H
- Retained power operation signal H
- Power window lock signal H

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. I

Retained power function cancel conditions

When BCM detects the following signal it cancels. J

- Door CLOSE (door switch OFF)→OPEN (door switch ON).
- Ignition switch is ON.
- Timer time passes. (45 seconds)

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POWER WINDOW LOCK FUNCTION

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

ANTI-PINCH FUNCTION

- Pinch the foreign material in the door glass during AUTO-UP operation is the anti-pinch function that lowers the door glass 150 mm or 2 seconds when detected. M
- 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. N
- Power window switch controls to lower the window glass for 150 mm or 2 seconds after it detects encoder pulse signal frequency change. O

OPERATION CONDITION

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

NOTE:

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

KEY CYLINDER SWITCH OPERATION

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

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >

OPERATION CONDITION

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

KEYLESS POWER WINDOW DOWN OPERATION

All 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 SUPPORT". Refer to [DLK-52. "INTELLIGENT KEY : CONSULT-III Function \(BCM - INTELLIGENT KEY\)".](#)

NOTE:

Use CONSULT-III to change settings.

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

AUTOMATIC WINDOW ADJUSTING FUNCTION

When the driver's/passenger's door(s) is opened, the window of the opened door is lowered approx. 10 mm (0.39 in).

When the door is closed, the window is raised to fully-closed positions.

Automatic window adjusting function system (opening operation) does not operate when the following.

- The window is 10 mm (0.39 in) or more open from fully-closed positions.

Automatic window adjusting function system (closing operation) does not operate when the following.

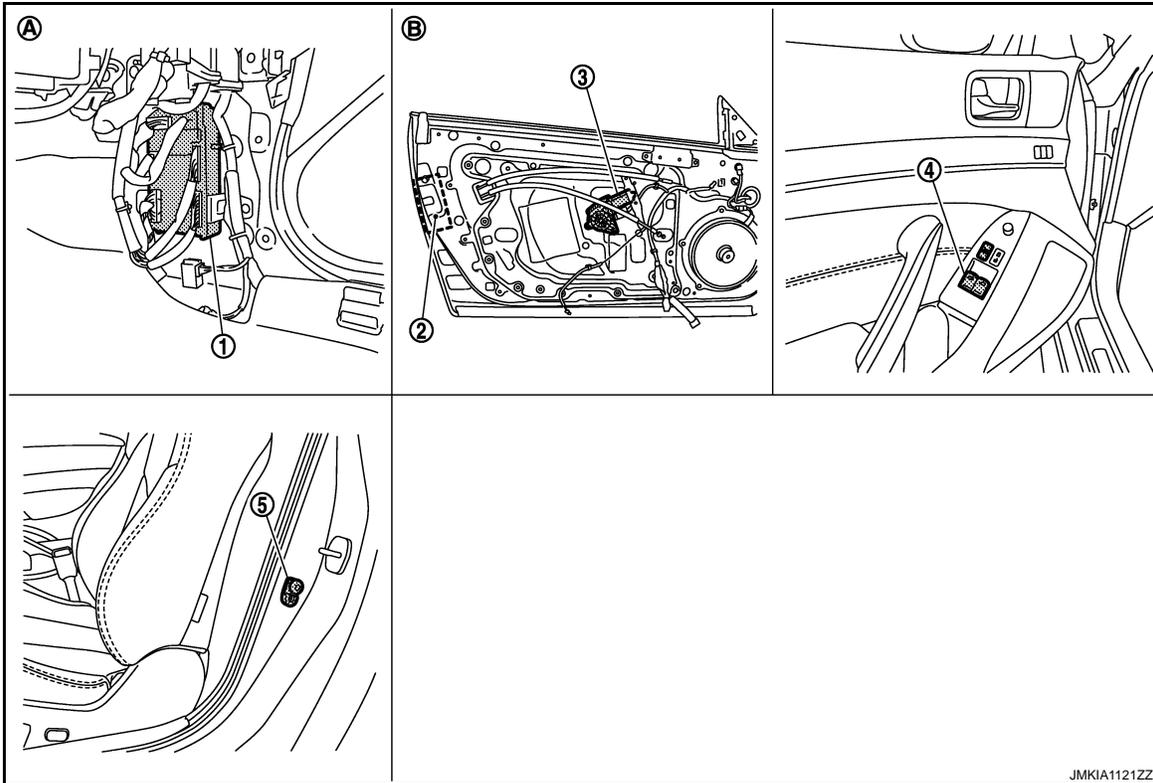
- The automatic window adjusting function system (opening operation) operation.
- The keyless power window operation.
- The power window control by the key cylinder switch operation.

Component Parts Location

INFOID:000000001693966

POWER WINDOW SYSTEM

< FUNCTION DIAGNOSIS >



- | | | |
|---|---|---------------------------------------|
| 1. BCM M118,M119,M122,M123 | 2. Driver side door lock assembly (key cylinder switch) D15 | 3. Driver side power window motor D10 |
| 4. Power window main switch D8 | 5. Driver side door switch B16 | |
| A. View with dash side lower (passenger side) | B. View with door finisher removed | |

Component Description

INFOID:000000001693967

Component	Function
BCM	<ul style="list-style-type: none"> Supplies power supply to power window switches. Controls retained power.
Power window main switch	<ul style="list-style-type: none"> Directly controls all power window motor of all doors. Controls anti-pinch operation of power window.
Power window sub-switch	<ul style="list-style-type: none"> Controls anti-pinch operation of power window. Controls power window motor of passenger door.
Power window motor	<ul style="list-style-type: none"> Integrates the ENCODER and WINDOW MOTOR. Starts operating with signals from each power window switch. Transmits power window motor rotation as a pulse signal to power window switch.
Driver side door lock assembly (key cylinder switch)	Transmits operation condition of key cylinder switch to power window main switch.
Door switch	Detects door open/close condition and transmits to BCM.

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

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DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:000000001910562

APPLICATION ITEM

CONSULT-III 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 MNTR	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	This function is not used even though it is displayed.

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.

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

*: This item is displayed, but is not used.

FREEZE FRAME DATA (FFD) AND IGN COUNTER

Freeze Frame Data

The BCM records the following condition at the moment a particular DTC is detected.

- Vehicle Speed
- Odd Trip Meter

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

- Vehicle Condition (BCM detected condition)

CONSULT screen terms	Description
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	While turning power supply position from "OFF" to "LOCK"
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" (Ignition switch OFF with steering is locked.)
OFF	Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
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

IGN counter indicates the number of times that ignition switch is turned ON after DTC is detected.

- The number is 0 when a malfunction is detected now.
- The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

RETAINED PWR

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

INFOID:000000001693969

Data monitor

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:000000001695175

1. CHECK FUSE AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	K
11		10

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connectors.
3. Check voltage between BCM harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Battery voltage
Connector	Terminal	
M118	1	
M119	11	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M119	13		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000001693972

1. CHECK POWER SUPPLY CIRCUIT

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Terminal		Voltage (V) (Approx.)
(+)	(-)	
Power window main switch connector	Terminal	Ground
D8	1	
	10	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK GROUND CIRCUIT

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

Power window main switch connector	Terminal	Ground	Continuity
D8	15		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

3.CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Power window main switch connector	Terminal	Continuity
M118	2	D8	1	Existed
	3		10	

- Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M118	2		Not existed
	3		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK BCM OUTPUT SIGNAL

- Connect BCM connector.
- Turn ignition switch ON.
- Check voltage between BCM connector and ground.

Terminals		Voltage (V) (Approx.)
(+)	(-)	
BCM connector	Terminal	Ground
M118	2	
	3	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace BCM. Refer to [BCS-79, "Exploded View"](#).

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

5.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#).

>> INSPECTION END

POWER WINDOW SUB-SWITCH

POWER WINDOW SUB-SWITCH : Diagnosis Procedure

INFOID:000000001693976

1.CHECK POWER SUPPLY CIRCUIT

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

Terminal (+)		Terminal (-)	Voltage (V) (Approx.)
Power window sub-switch	Terminal		
D38	10	Ground	Battery voltage

Is the measurement value within the specification?

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

2.CHECK GROUND CIRCUIT

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

Power window sub-switch connector	Terminal	Ground	Continuity
D38	11		Existed

Is the inspection result normal?

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

3.CHECK HARNESS CONTINUITY

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

BCM connector	Terminal	Power window sub -switch connector	Terminal	Continuity
M118	2	D38	10	Existed

4. Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M118	2		Not existed

Is the inspection result normal?

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

4.CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.
2. Check voltage between BCM harness connector and ground.

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

Terminals		Voltage (V) (Approx.)
(+)	(-)	
BCM connector	Terminal	
M118	2	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 5.

NO >> Replace BCM. Refer to [BCS-79, "Exploded View"](#).

5.CHECK INTERMITTENT INCIDENT

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END

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PWC

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

POWER WINDOW MOTOR DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000001693982

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

DRIVER SIDE : Component Function Check

INFOID:000000001693983

1.CHECK POWER WINDOW MOTOR CIRCUIT

Check driver side power window motor operation with power window main switch.

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Refer to [PWC-16. "DRIVER SIDE : Diagnosis Procedure"](#).

DRIVER SIDE : Diagnosis Procedure

INFOID:000000001693984

1.CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

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

Terminal		Power window main switch condition	Voltage (V) (Approx.)
(+)	(-)		
Driver side power window motor connector	Terminal		
D10	6	UP	Battery voltage
		DOWN	0
	3	UP	0
		DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK POWER WINDOW MOTOR

Check driver side power window motor.

Refer to [PWC-17. "DRIVER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace driver side power window motor. Refer to [GW-19. "Removal and Installation"](#).

3.CHECK HARNESS CONTINUITY

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

Power window main switch connector	Terminal	Driver side power window motor connector	Terminal	Continuity
D8	8	D10	6	Existed
	11		3	

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

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

Power window main switch connector	Terminal	Ground	Continuity
D8	8		Ground
	11		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

1. Connect power window main switch connector.
2. Turn ignition switch ON.
3. Check voltage between power window main switch connector and ground.

Terminal		Power window main switch condition	Voltage (V) (Approx.)		
(+)	(-)				
Power window main switch connector	Terminal	Driver side	Battery voltage		
D8	8			UP	0
	11			DOWN	0
				Ground	Battery voltage
		UP	0		
		DOWN	Battery voltage		

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace power window main switch. Refer to [PWC-92, "Removal and Installation"](#).

5. CHECK INTERMITTENT INCIDENT

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END

DRIVER SIDE : Component Inspection

INFOID:000000001693985

PWC

COMPONENT INSPECTION

1. CHECK DRIVER SIDE POWER WINDOW MOTOR

Check motor operation by connecting the battery voltage directly to driver side power window motor connector.

Driver side power window motor connector	Terminal		Motor operation
	(+)	(-)	
D10	3	6	DOWN
	6	3	UP

Is the inspection result normal?

YES >> Driver side power window motor is OK.

NO >> Replace driver side power window motor. Refer to [GW-19, "Removal and Installation"](#).

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:000000001693987

Door glass moves UP/DOWN by receiving the signal power window main switch or power window sub-switch .

PASSENGER SIDE : Component Function Check

INFOID:000000001693988

1. CHECK POWER WINDOW MOTOR CIRCUIT

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

Check passenger side power window motor operation with power window main switch or power window sub switch.

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Refer to [PWC-18, "PASSENGER SIDE : Diagnosis Procedure"](#).

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001693989

1. CHECK POWER WINDOW SUB-SWITCH OUTPUT SIGNAL

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

Terminal		Power window sub-switch condition	Voltage (V) (Approx.)
(+)	(-)		
Passenger side power window motor connector	Terminal		
D40	3	UP	Battery voltage
		DOWN	0
	6	UP	0
		DOWN	Battery voltage

Is the measurement value within the specification?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK PASSENGER SIDE POWER WINDOW MOTOR

Check passenger side power window motor.

Refer to [PWC-19, "PASSENGER SIDE : Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace passenger side power window motor. Refer to [GW-19, "Removal and Installation"](#).

3. CHECK HARNESS CONTINUITY

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

Power window sub-switch connector	Terminal	Passenger side power window motor connector	Terminal	Continuity
D38	9	D40	3	Existed
	8		6	

4. Check continuity between power window sub-switch connector and ground.

Power window sub-switch connector	Terminal	Ground	Continuity
D38	8	Ground	Not existed
	9		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK POWER WINDOW SUB-SWITCH OUTPUT SIGNAL

1. Connect power window sub-switch connector.

POWER WINDOW MOTOR

< COMPONENT DIAGNOSIS >

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

Terminal		Power window sub-switch condition	Voltage (V) (Approx.)
(+)	(-)		
Power window sub-switch connector	Terminal		
D38	9	UP	Battery voltage
	8	DOWN	0
		UP	0
		DOWN	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace power window sub-switch. Refer to [PWC-92. "Removal and Installation"](#).

5.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#).

>> INSPECTION END

PASSENGER SIDE : Component Inspection

INFOID:000000001693990

COMPONENT INSPECTION

1.CHECK PASSENGER SIDE POWER WINDOW MOTOR

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

Passenger side power window motor connector	Terminal		Motor condition
	(+)	(-)	
D40	3	6	DOWN
	6	3	UP

Is the inspection result normal?

YES >> Passenger side power window motor is OK.

NO >> Replace passenger side power window motor. Refer to [GW-19. "Removal and Installation"](#).

PWC

ENCODER

< COMPONENT DIAGNOSIS >

ENCODER DRIVER SIDE

DRIVER SIDE : Description

INFOID:000000001694002

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

DRIVER SIDE : Component Function Check

INFOID:000000001694003

1. CHECK ENCODER OPERATION

Check driver side door glass perform AUTO open/close operation normally when power window main switch.
Is the inspection result normal?

- YES >> Encoder operation is OK.
NO >> Refer to [PWC-20, "DRIVER SIDE : Diagnosis Procedure"](#).

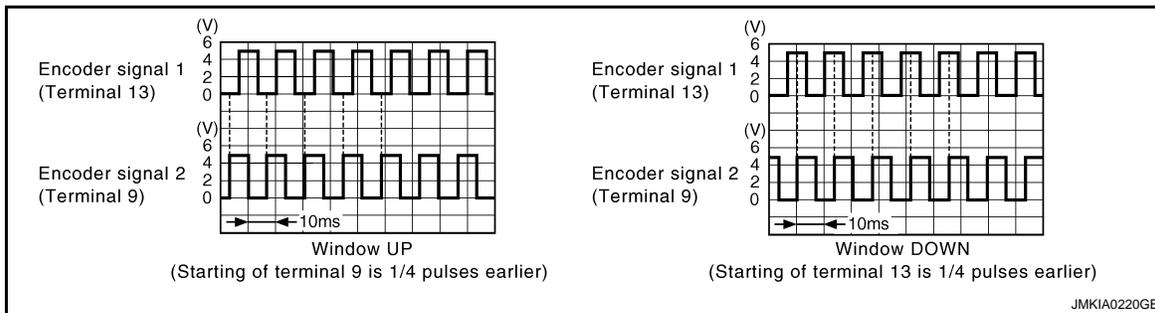
DRIVER SIDE : Diagnosis Procedure

INFOID:000000001694004

1. CHECK ENCODER OPERATION

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

Terminals		Signal (Reference value)
(+)	(-)	
Power window main switch connector	Terminal	Refer to following signal
D8	9	
	13	



Is the inspection result normal?

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

2. CHECK ENCODER SIGNAL CIRCUIT

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

Power window main switch connector	Terminal	Driver side power window motor connector	Terminal	Continuity
D8	9	D10	5	Existed
	13		2	

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

ENCODER

< COMPONENT DIAGNOSIS >

Power window main switch connector	Terminal	Ground	Continuity
D8	9		
	13		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK ENCORDER POWER SUPPLY CIRCUIT

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

Terminal		Voltage (V) (Approx.)
(+)	(-)	
Driver side power window motor connector	Terminal	
D10	4	Ground 12

Is the measurement value within the specification?

YES >> GO TO 4.

NO >> GO TO 5.

4.CHECK GROUND CIRCUIT

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

Driver side power window motor connector	Terminal	Ground	Continuity
D10	1		Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

5.CHECK HARNESS CONTINUITY 1

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

Power window main switch connector	Terminal	Driver side power window motor connector	Terminal	Continuity
D8	5	D10	4	Existed

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

Power window main switch connector	Terminal	Ground	Continuity
D8	5		Not existed

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-92. "Removal and Installation"](#).

NO >> Repair or replace harness.

6.CHECK HARNESS CONTINUITY 2

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

ENCODER

< COMPONENT DIAGNOSIS >

Power window main switch connector	Terminal	Driver side power window motor connector	Terminal	Continuity
D8	14	D10	1	Existed

Is the inspection result normal?

- YES >> Replace power window main switch. Refer to [PWC-92. "Removal and Installation"](#).
 NO >> Repair or replace harness.

7.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#).

>> INSPECTION END.

PASSENGER SIDE

PASSENGER SIDE : Description

INFOID:000000001694005

Detects condition of the passenger side power window motor operation and transmits to power window sub-switch as the pulse signal.

PASSENGER SIDE : Component Function Check

INFOID:000000001694006

1.CHECK ENCODER OPERATION

Check passenger side door glass perform AUTO open/close operation normally when power window main switch or power window sub-switch.

Is the inspection result normal?

- YES >> Encoder operation is OK.
 NO >> Refer to [PWC-22. "PASSENGER SIDE : Diagnosis Procedure"](#).

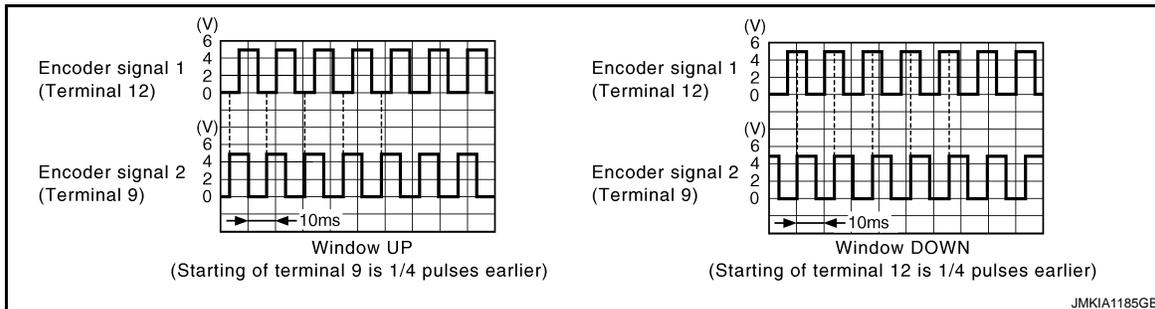
PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001694007

1.CHECK ENCODER SIGNAL

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

Terminals		Signal (Reference value)
(+)	(-)	
Power window sub-switch connector	Terminal	Refer to following signal
D38	12	
	9	



Is the inspection result normal?

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

2.CHECK ENCODER SIGNAL CIRCUIT

ENCODER

< COMPONENT DIAGNOSIS >

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

Power window sub-switch connector	Terminal	Passenger side power window motor connector	Terminal	Continuity
D38	12	D40	2	Existed
	9		1	

4. Check continuity between power window sub-switch connector and ground.

Power window sub-switch connector	Terminal	Ground	Continuity
D38	12	Ground	Not existed
	9		

Is the inspection result normal?

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

3.CHECK ENCODER POWER SUPPLY CIRCUIT

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

Terminal		Voltage (V) (Approx.)
(+)	(-)	
Passenger side power window motor connector	Terminal	12
D40	4	

Is the measurement value within the specification?

- YES >> GO TO 4.
 NO >> GO TO 5.

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between passenger side power window motor harness connector and ground.

Passenger side power window motor connector	Terminal	Ground	Continuity
D40	5	Ground	Existed

Is the inspection result normal?

- YES >> GO TO 7.
 NO >> GO TO 6.

5.CHECK HARNESS CONTINUITY 1

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

Power window sub-switch connector	Terminal	Passenger side power window motor connector	Terminal	Continuity
D38	4	D40	4	Existed

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

ENCODER

< COMPONENT DIAGNOSIS >

Power window sub-switch connector	Terminal	Ground	Continuity
D38	4		Not existed

Is the inspection result normal?

YES >> Replace power window sub-switch. Refer to [PWC-92. "Removal and Installation"](#).

NO >> Repair or replace harness.

6.CHECK HARNESS CONTINUITY 2

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

Power window sub-switch connector	Terminal	Passenger side power window motor connector	Terminal	Continuity
D38	15	D40	5	Existed

Is the inspection result normal?

YES >> Replace power window sub-switch . Refer to [PWC-92. "Removal and Installation"](#).

NO >> Repair or replace harness.

7.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#)

>> INSPECTION END.

DOOR SWITCH

< COMPONENT DIAGNOSIS >

DOOR SWITCH

Description

INFOID:000000001726453

Detects door open/close condition.

Component Function Check

INFOID:000000001726454

1. CHECK FUNCTION

With CONSULT-III

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

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

Is the inspection result normal?

YES >> Door switch is OK.

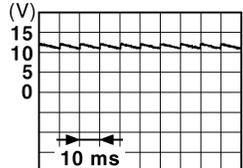
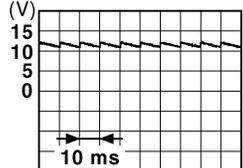
NO >> Refer to [PWC-25, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000001726455

1. CHECK DOOR SWITCH INPUT SIGNAL

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

Terminals		(-)	Door condition	Voltage (V) (Approx.)
(+)				
BCM connector	Terminal			
M123	150	Ground	OPEN	0
			CLOSE	
	OPEN		0	
	CLOSE			

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2. CHECK DOOR SWITCH CIRCUIT

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

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DOOR SWITCH

< COMPONENT DIAGNOSIS >

BCM connector	Terminal	Door switch connector	Terminal	Continuity
M123	150	B16 (Driver side)	2	Existed
	124	B216 (Passenger side)		

3. Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity	
M123	150			Not existed
	124			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness between BCM and door switch.

3.CHECK DOOR SWITCH

Refer to [PWC-26, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace malfunctioning door switch. Refer to [DLK-238, "Removal and Installation"](#).

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000001726456

1.CHECK DOOR SWITCH

1. Turn ignition switch OFF.
2. Disconnect door switch connector.
3. Check continuity between door switch terminal and ground.

Terminal		Door switch condition	Continuity
Door switch			
2	Ground part of door switch	Pressed	Not existed
		Released	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace malfunctioning door switch. Refer to [DLK-238, "Removal and Installation"](#).

DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

DOOR KEY CYLINDER SWITCH

Description

INFOID:000000001694018

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:000000001694019

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

With CONSULT-III

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to [BCS-14. "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)".](#)

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.

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

Diagnosis Procedure

INFOID:000000001694020

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between driver side door lock assembly (key cylinder switch) harness connector and ground.

Terminals		Key position	Voltage (V) (Approx.)
(+)	(-)		
Driver side door lock assembly (key cylinder switch) connector D15	6	Lock	0
		Neutral / Unlock	5
	5	Unlock	0
		Neutral / Lock	5

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 2.

2.CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

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

Power window main switch connector	Terminal	(-)	Voltage (V) (Approx.)
D8	6	Ground	5
	7		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace power window main switch. Refer to [PWC-92. "Removal and Installation".](#)

DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

3. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

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

Power window main switch connector	Terminal	Driver side door lock assembly (key cylinder switch) connector	Terminal	Continuity
D8	6	D15	6	Existed
	7		5	

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

Power window main switch connector	Terminal	Ground	Continuity
D8	6		Not existed
	7		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

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

Driver side door lock assembly (key cylinder switch) connector	Terminal	Ground	Continuity
D15	4		Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

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

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace driver side door lock assembly (key cylinder switch). Refer to [DLK-234, "OUTSIDE HANDLE : Removal and Installation"](#).

6. CHECK INTERMITTENT INCIDENT

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000001694021

COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH

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

DOOR KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

Terminal		Key position	Continuity
Driver side door lock assembly (key cylinder switch) connector			
5	4	Unlock	Existed
		Neutral / Lock	Not existed
6		Lock	Existed
		Neutral / Unlock	Not existed

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace driver side door lock assembly (key cylinder switch). Refer to [DLK-234, "OUTSIDE HAN-DLE : Removal and Installation"](#).

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POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

POWER WINDOW SERIAL LINK

POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

INFOID:000000001694023

Power window main switch, power window sub-switch, 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, power window sub-switch.

- Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to power window sub-switch.

- 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:000000001694024

1.CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

With CONSULT-III

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to [BCS-14, "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

Monitor item	Condition
CDL LOCK SW	LOCK : ON
	UNLOCK : OFF
CDL UNLOCK SW	LOCK : OFF
	UNLOCK : ON

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to [PWC-30, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

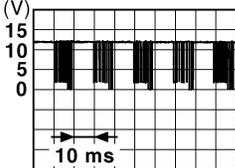
POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000001694025

1.CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

1. Door of driver side and passenger side is closed.
2. Check signal between BCM harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
3. 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".

Terminal		Signal (Reference value)
(+)		
BCM connector	Terminal	(-)
M123	132	Ground



(V)
15
10
5
0

10 ms

JPMIA0013GB

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

2.CHECK BCM OUTPUT SIGNAL

Check power window serial link ("POWER WINDOW DOWN") in "ACTIVE TEST" mode with CONSULT-III.

Test item		Description	
POWER WINDOW DOWN	ON	Driver side window and passenger side window	OPEN

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to [BCS-79. "Exploded View"](#).

3.CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

BCM connector	Terminal	Power window main switch connector	Terminal	Continuity
M123	132	D8	12	Existed

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M123	132		Not existed

Is the inspection result normal?

YES >> Replace power window main switch. Refer to [PWC-92. "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#).

>> INSPECTION END

POWER WINDOW SUB-SWITCH

POWER WINDOW SUB-SWITCH : Description

INFOID:000000001694026

Power window main switch, power window sub-switch 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, power window sub-switch.

- Keyless power window down signal

The signal mentioned below is transmitted from power window main switch to power window sub-switch.

- 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 SUB-SWITCH : Component Function Check

INFOID:000000001694027

1.CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

With CONSULT-III

Check ("CDL LOCK SW", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III. Refer to [BCS-14. "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

Monitor item	Condition
CDL LOCK SW	LOCK : ON
	UNLOCK : OFF

POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

Monitor item	Condition
CDL UNLOCK SW	LOCK : OFF
	UNLOCK : ON

Is the inspection result normal?

YES >> Power window serial link is OK.

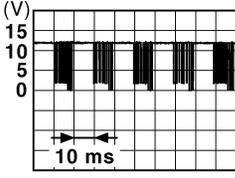
NO >> Refer to [PWC-32. "POWER WINDOW SUB-SWITCH : Diagnosis Procedure"](#).

POWER WINDOW SUB-SWITCH : Diagnosis Procedure

INFOID:000000001713388

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

1. Door of driver side and passenger side is closed.
2. Check signal between BCM harness connector and ground with oscilloscope when door lock and unlock switch (driver side and passenger side) is turned to "LOCK" or "UNLOCK".
3. 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".

Terminal		Signal (Reference value)
(+)	(-)	
BCM connector	Terminal	 <p style="text-align: right; font-size: small;">JPMA0013GB</p>
M123	132	

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK BCM OUTPUT SIGNAL

Check power window serial link ("POWER WINDOW DOWN") in "ACTIVE TEST" mode with CONSULT-III.

Test item	Description
POWER WINDOW DOWN ON	Driver side window and passenger side window OPEN

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to [BCS-79. "Exploded View"](#).

3. CHECK POWER WINDOW SERIAL LINK CIRCUIT

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

BCM connector	Terminal	Power window sub-switch connector	Terminal	Continuity
M123	132	D38	16	Existed

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
M123	132		Not existed

Is the inspection result normal?

POWER WINDOW SERIAL LINK

< COMPONENT DIAGNOSIS >

YES >> Replace power window sub-switch. Refer to [PWC-92. "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-38. "Intermittent Incident"](#).

>> INSPECTION END

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000001838127

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	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
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-RL	NOTE: The item is indicated, but not monitored.	Off

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
DOOR SW-BK	NOTE: The item is indicated, but not monitored.	Off	A
CDL LOCK SW	Other than power door lock switch LOCK	Off	B
	Power door lock switch LOCK	On	
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off	C
	Power door lock switch UNLOCK	On	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	D
	Driver door key cylinder LOCK position	On	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	D
	Driver door key cylinder UNLOCK position	On	
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off	E
HAZARD SW	Hazard switch is not pressed	Off	F
	Hazard switch is pressed	On	
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off	G
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off	G
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off	H
	Trunk lid opener cancel switch ON	On	
TR/BD OPEN SW	Trunk lid opener switch OFF	Off	I
	While the trunk lid opener switch is turned ON	On	
TRNK/HAT MNTR	Trunk lid closed	Off	I
	Trunk lid opened	On	
RKE-LOCK	LOCK button of Intelligent Key is not pressed	Off	J
	LOCK button of Intelligent Key is pressed	On	
RKE-UNLOCK	UNLOCK button of Intelligent Key is not pressed	Off	J
	UNLOCK button of Intelligent Key is pressed	On	
RKE-TR/BD	TRUNK OPEN button of Intelligent Key is not pressed	Off	L
	TRUNK OPEN button of Intelligent Key is pressed	On	
RKE-PANIC	PANIC button of Intelligent Key is not pressed	Off	M
	PANIC button of Intelligent Key is pressed	On	
RKE-P/W OPEN	UNLOCK button of Intelligent Key is not pressed	Off	M
	UNLOCK button of Intelligent Key is pressed and held	On	
RKE-MODE CHG	LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	Off	N
	LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	On	
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V	O
	Dark outside of the vehicle	Close to 0 V	
REQ SW-DR	Driver door request switch is not pressed	Off	P
	Driver door request switch is pressed	On	
REQ SW-AS	Passenger door request switch is not pressed	Off	P
	Passenger door request switch is pressed	On	
REQ SW-BD/TR	Trunk request switch is not pressed	Off	P
	Trunk request switch is pressed	On	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
ACC RLY -F/B	Ignition switch in OFF position	Off
	Ignition switch in ACC or ON position	On
CLUCH SW	The clutch pedal is not depressed	Off
	The clutch pedal is depressed	On
BRAKE SW 1	The brake pedal is not depressed	On
	The brake pedal is depressed	Off
DETE/CANCL SW	Selector lever in P position	Off
	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	Steering is locked	Off
	Steering is unlocked	On
S/L -UNLOCK	Steering is unlocked	Off
	Steering is locked	On
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
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
	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in P position	Off
	Selector lever in any position other than P	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
ENGINE STATE	Engine stopped	Stop
	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	Steering is locked	Off
	Steering is unlocked	On
S/L UNLK-IPDM	Steering is unlocked	Off
	Steering is locked	On
S/L RELAY-REQ	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
VEH SPEED 1	While driving	Equivalent to speedometer reading	A
VEH SPEED 2	While driving	Equivalent to speedometer reading	
DR DOOR STATE	Driver door is locked	LOCK	B
	Wait with selective UNLOCK operation (5 seconds)	READY	
	Driver door is unlocked	UNLK	
AR DOOR STATE	Passenger door is locked	LOCK	C
	Wait with selective UNLOCK operation (5 seconds)	READY	
	Passenger door is unlocked	UNLK	D
ID OK FLAG	Ignition switch in ACC or ON position	Reset	
	Ignition switch in OFF position	Set	E
PRMT ENG STRT	The engine start is prohibited	Reset	
	The engine start is permitted	Set	F
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset	
KEY SW -SLOT	Intelligent Key is not inserted into key slot	Off	G
	Intelligent Key is inserted into key slot	On	
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key	
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	—	H
CONFIRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet	I
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE	
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet	J
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE	
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet	PWC
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE	
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet	L
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE	M
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet	N
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE	
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet	O
	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	P
	The ID of third Intelligent Key is registered to BCM	DONE	
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet	
	The ID of second Intelligent Key is registered to BCM	DONE	
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet	
	The ID of first Intelligent Key is registered to BCM	DONE	

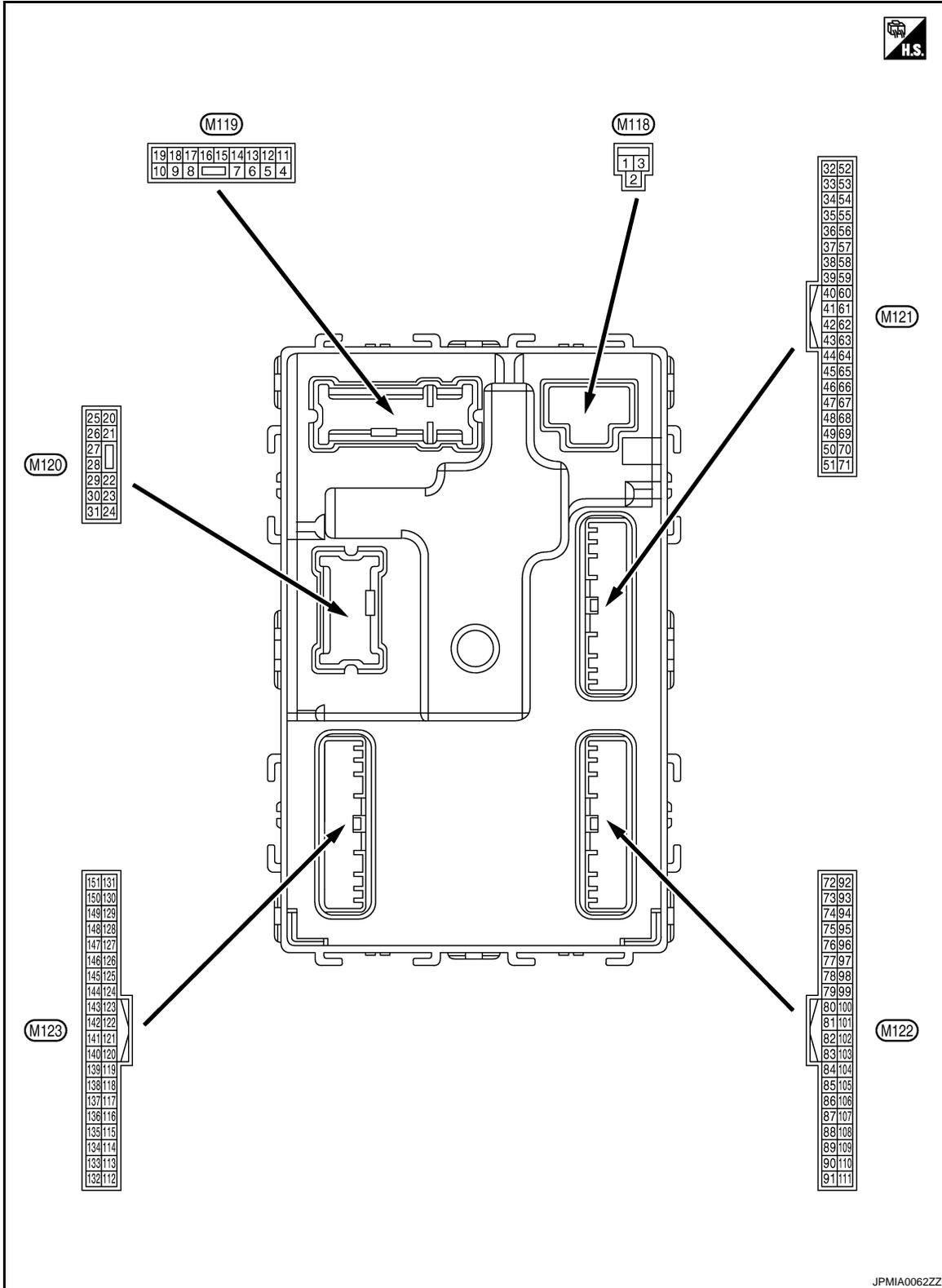
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Green
	ID of front LH tire transmitter is not registered	Red
ID REGST FR1	ID of front RH tire transmitter is registered	Green
	ID of front RH tire transmitter is not registered	Red
ID REGST RR1	ID of rear RH tire transmitter is registered	Green
	ID of rear RH tire transmitter is not registered	Red
ID REGST RL1	ID of rear LH tire transmitter is registered	Green
	ID of rear LH tire transmitter is not registered	Red
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >
 TERMINAL LAYOUT



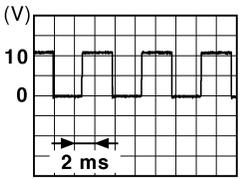
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PHYSICAL VALUES

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
4 (LG)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0 V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (P)	Ground	Passenger door UN- LOCK	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
					Other than UNLOCK (Actuator is not activated)	0 V
7 (Y)	Ground	Step lamp	Output	Step lamp	ON	0 V
					OFF	Battery voltage
8 (V)	Ground	All doors, fuel lid LOCK	Output	All doors, fuel lid	LOCK (Actuator is activated)	Battery voltage
					Other than LOCK (Actuator is not activated)	0 V
9 (G)	Ground	Driver door, fuel lid UNLOCK	Output	Driver door, fuel lid	UNLOCK (Actuator is activated)	Battery voltage
					Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	<p>NOTE: When the illumination brightening/dimming level is in the neutral position</p>  <p style="text-align: right; font-size: small;">JSNIA0010GB</p>
15 (O)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC or ON	0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
17 (V)	Ground	Turn signal (front RH)	Output	Ignition switch ON	Turn signal switch OFF
				Turn signal switch RH	0 V
					<p style="text-align: center;">6.5 V</p>
18 (G)	Ground	Turn signal (front LH)	Output	Ignition switch ON	Turn signal switch OFF
				Turn signal switch LH	0 V
					<p style="text-align: center;">6.5 V</p>
19 (V)	Ground	Room lamp timer control	Output	Interior room lamp	OFF
				Battery voltage	ON
20 (V)	Ground	Turn signal (rear RH)	Output	Ignition switch ON	Turn signal switch OFF
				Turn signal switch RH	0 V
					<p style="text-align: center;">6.5 V</p>
23 (G)	Ground	Trunk lid opening.	Output	Trunk lid	Open (Trunk lid opener ac- tuator is activated)
				Battery voltage	Close (Trunk lid opener ac- tuator is not activated)
25 (G)	Ground	Turn signal (rear LH)	Output	Ignition switch ON	Turn signal switch OFF
				Turn signal switch LH	0 V
					<p style="text-align: center;">6.5 V</p>
30 (R)	Ground	Trunk room lamp	Output	Trunk room lamp	ON
				Battery voltage	OFF

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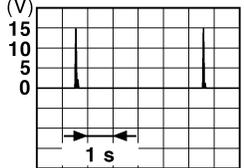
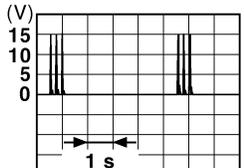
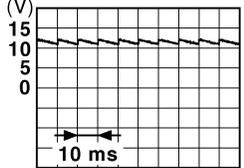
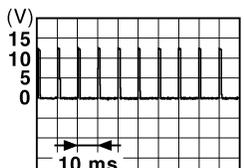
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
34 (SB)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
35 (V)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
38 (B)	Ground	Rear bumper anten- na (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

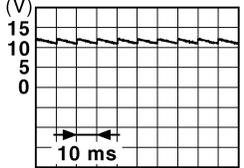
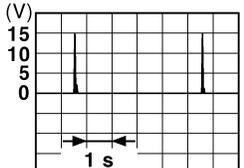
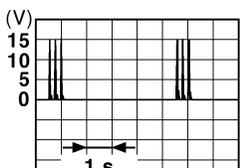
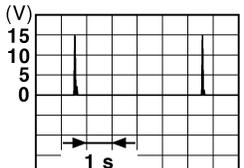
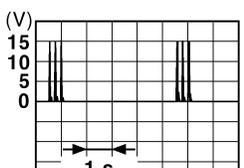
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
39 (W)	Ground	Rear bumper antenna (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When Intelligent Key is not in the antenna detection area	 <small>JMKIA0063GB</small>	
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0 V
50 (R)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (Trunk is closed)	 <small>JPMIA0011GB</small> 11.8 V
					ON (Trunk is open)	0 V
52 (SB)	Ground	Starter relay control	Output	Ignition switch OFF (M/T models)	When the clutch pedal is depressed	Battery voltage
					When the clutch pedal is not depressed	0 V
				Ignition switch ON (A/T models)	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0 V
61 (SB)	Ground	Trunk request switch	Input	Trunk request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <small>JPMIA0016GB</small> 1.0 V
64 (L)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding	0 V
					Not sounding	Battery voltage

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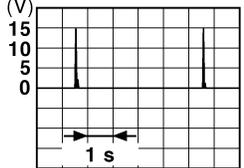
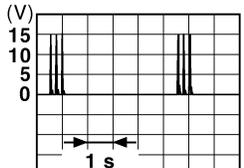
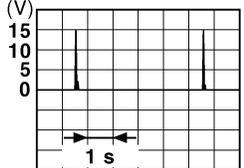
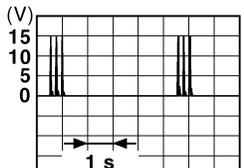
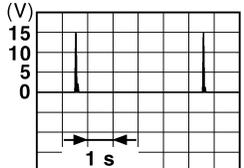
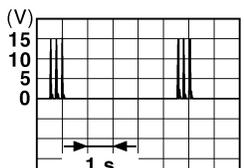
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0 V
				Not pressed	Not pressed	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p>
72 (R)	Ground	Room antenna 2 (-) (center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
73 (G)	Ground	Room antenna 2 (+) (center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
74 (SB)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When the passenger door request switch is operated with ignition switch OFF	 <small>JMKIA0063GB</small>
75 (BR)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When the passenger door request switch is operated with ignition switch OFF	 <small>JMKIA0063GB</small>
76 (V)	Ground	Driver door antenna (-)	Output	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When the driver door request switch is operated with ignition switch OFF	 <small>JMKIA0063GB</small>

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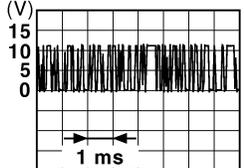
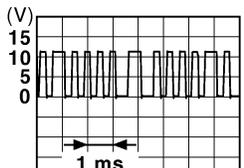
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
77 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
78 (Y)	Ground	Room antenna (-) (instrument panel)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
79 (BR)	Ground	Room antenna (+) (instrument panel)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

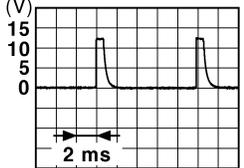
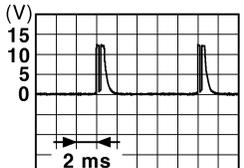
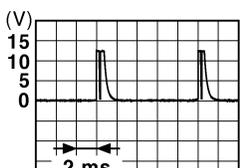
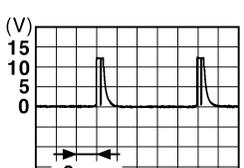
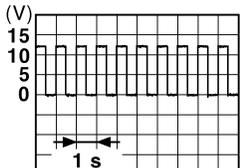
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
80 (GR)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (R)	Ground	Ignition relay [fuse block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
83 (Y)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 <p style="text-align: right; font-size: small;">JMKIA0064GB</p>
				When operating either button on Intelligent Key		 <p style="text-align: right; font-size: small;">JMKIA0065GB</p>
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Front fog lamp switch ON (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7 	 <p style="text-align: right; font-size: small;">JPMIA0040GB</p> <p style="text-align: center;">1.3 V</p>

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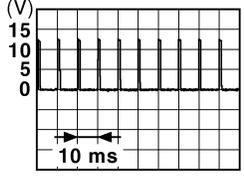
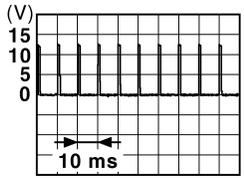
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
88 (O)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  JPMIA0041GB 1.4 V	
					Lighting switch HI (Wiper intermittent dial 4)  JPMIA0036GB 1.3 V	
					Lighting switch 2ND (Wiper intermittent dial 4)  JPMIA0037GB 1.3 V	
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3  JPMIA0040GB 1.3 V	
89 (BR)	Ground	Push-button ignition switch (push switch)	Input	Push-button igni- tion switch (push switch)	Pressed	0 V
					Not pressed	Battery voltage
90 (P)	Ground	CAN - L	Input/ Output	—	—	
91 (L)	Ground	CAN - H	Input/ Output	—	—	
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	OFF	0 V
					Blinking  JPMIA0015GB 6.5 V	
					ON	Battery voltage

BCM (BODY CONTROL MODULE)

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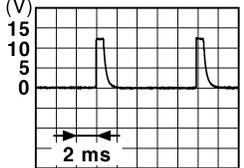
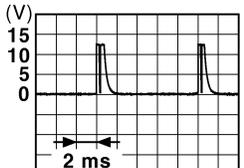
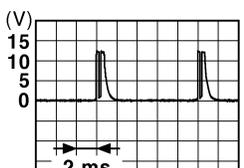
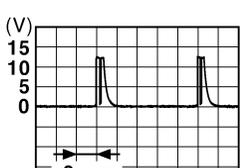
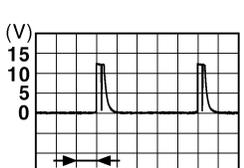
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
95 (O)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	Battery voltage
96 (Y)	Ground	A/T device (detention switch) power supply	Output	—		Battery voltage
97 (L)	Ground	Steering lock condition No. 1	Input	Steering lock	LOCK status	0 V
					UNLOCK status	Battery voltage
98 (P)	Ground	Steering lock condition No. 2	Input	Steering lock	LOCK status	Battery voltage
					UNLOCK status	0 V
99 (R)	Ground	Selector lever P position switch (Except M/T models)	Input	Selector lever	P position	0 V
					Any position other than P	Battery voltage
		ASCD clutch switch (M/T models with ICC)		ASCD clutch switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	Battery voltage
		ICC clutch switch (M/T models without ICC)		ICC clutch switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	Battery voltage
100 (Y)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
101 (P)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
102 (O)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage
106 (W)	Ground	Steering wheel lock unit power supply	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0 V

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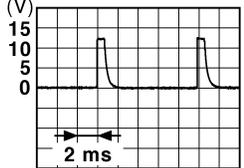
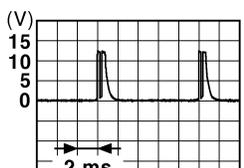
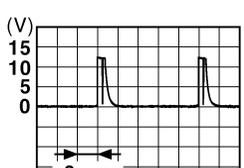
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 <p style="text-align: right;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Turn signal switch LH	 <p style="text-align: right;">JPMIA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Turn signal switch RH	 <p style="text-align: right;">JPMIA0036GB</p> <p style="text-align: center;">1.3 V</p>
					Front wiper switch LO	 <p style="text-align: right;">JPMIA0038GB</p> <p style="text-align: center;">1.3 V</p>
					Front washer switch ON	 <p style="text-align: right;">JPMIA0039GB</p> <p style="text-align: center;">1.3 V</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

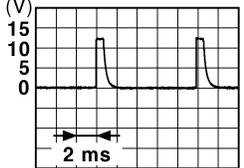
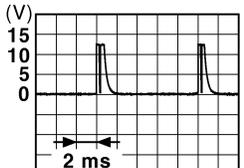
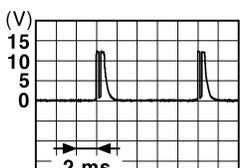
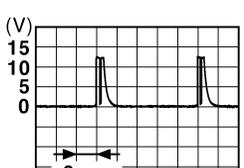
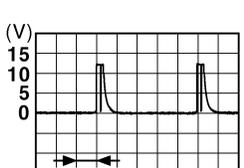
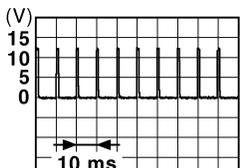
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  <p style="text-align: right;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Lighting switch AUTO (Wiper intermittent dial 4)  <p style="text-align: right;">JPMIA0038GB</p> <p style="text-align: center;">1.3 V</p>
					Lighting switch 1ST (Wiper intermittent dial 4)  <p style="text-align: right;">JPMIA0036GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6  <p style="text-align: right;">JPMIA0039GB</p> <p style="text-align: center;">1.3 V</p>

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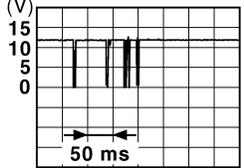
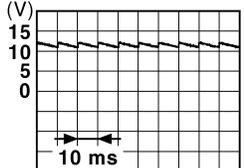
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
109 (W)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 <p style="text-align: right;">1.4 V</p>
					Lighting switch PASS	 <p style="text-align: right;">1.3 V</p>
					Lighting switch 2ND	 <p style="text-align: right;">1.3 V</p>
					Front wiper switch INT	 <p style="text-align: right;">1.3 V</p>
					Front wiper switch HI	 <p style="text-align: right;">1.3 V</p>
					Pressed	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	 <p style="text-align: right;">1.1 V</p>	
				Not pressed		

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

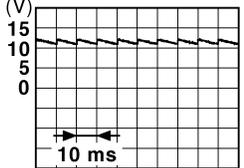
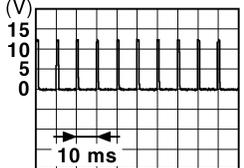
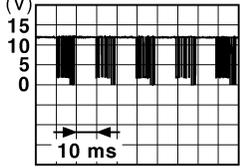
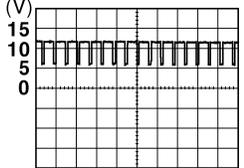
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK status	Battery voltage
					LOCK or UNLOCK	 <p style="text-align: right; font-size: small;">JMKIA0066GB</p>
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113 (P)	Ground	Optical sensor signal	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
				When dark outside of the vehicle	Close to 0 V	
114 (R)	Ground	Clutch interlock switch	Input	Clutch interlock switch	OFF (Clutch pedal is not depressed)	0 V
					ON (Clutch pedal is de- pressed)	Battery voltage
116 (SB)	Ground	Stop lamp switch 1	Input	—	Battery voltage	
118 (BR)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
					ON (Brake pedal is de- pressed)	Battery voltage
				ICC brake hold relay (With ICC)	OFF	0 V
					ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (unlock sensor)	Input	Driver door	LOCK status	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p> <p style="text-align: center;">11.8 V</p>
					UNLOCK status	0 V
					When Intelligent Key is inserted into key slot	Battery voltage
121 (SB)	Ground	Key slot switch	Input	When Intelligent Key is not inserted into key slot	0 V	
				When Intelligent Key is inserted into key slot	Battery voltage	
122 (P)	Ground	ACC feedback signal	Input	Ignition switch	OFF	0 V
				ACC or ON	Battery voltage	
123 (W)	Ground	IGN feedback signal	Input	Ignition switch	OFF or ACC	0 V
				ON	Battery voltage	

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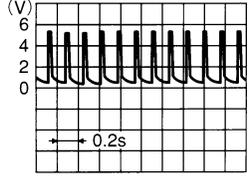
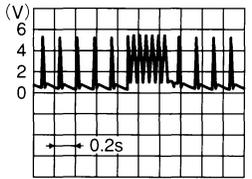
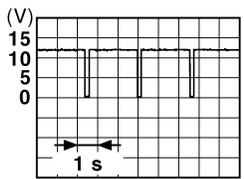
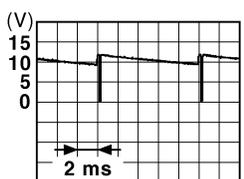
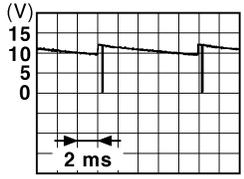
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closes)	 11.8 V
					ON (When passenger door opens)	0 V
129 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	 1.1 V
					ON	0 V
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON	 10.2 V	
				Ignition switch OFF or ACC	0 V	
133 (L)	Ground	Push-button ignition switch illumination	Output	Push-button igni- tion switch illumina- tion	ON (When tail lamps OFF)	5.5 V
					ON (When tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level. 
					OFF	0 V
134 (LG)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0 V
				OFF	Battery voltage	
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138 (V)	Ground	Receiver and sensor power supply output	Output	Ignition switch	OFF	0 V
					ACC or ON	5.0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

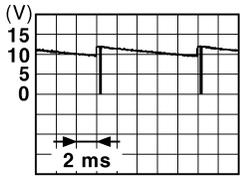
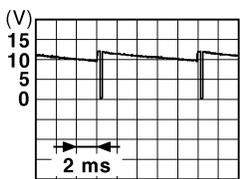
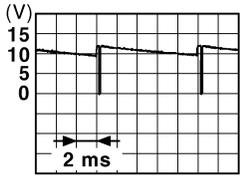
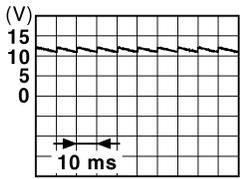
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
139 (L)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state 
					When receiving the signal from the transmitter 
140 (GR)	Ground	Selector lever P/N position signal	Input	Selector lever	P or N position: 12.0 V Except P and N positions: 0 V
141 (R)	Ground	Security indicator signal	Output	Security indicator	ON: 0 V Blinking:  11.3 V
					OFF: Battery voltage
142 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF: 0 V Lighting switch 1ST Lighting switch HI Lighting switch 2ND Turn signal switch RH  10.7 V
143 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4): 0 V Front wiper switch HI (Wiper intermittent dial 4) Any of the conditions below with all switch OFF: • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7  10.7 V

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BCM (BODY CONTROL MODULE)

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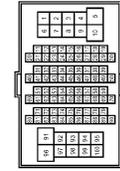
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0033GB</p>
					Any of the conditions below with all switch OFF	
					<ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6 	
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Front wiper switch INT	 <p style="text-align: right; font-size: small;">JPMIA0034GB</p>
					Front wiper switch LO	
					Lighting switch AUTO	
					10.7 V	
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Front fog lamp switch ON	 <p style="text-align: right; font-size: small;">JPMIA0035GB</p>
					Lighting switch 2ND	
					Lighting switch PASS	
					Turn signal switch LH	
					10.7 V	
149 (W)	Ground	Tire pressure warn- ing check switch	Input	—	5 V	
150 (R)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closes)	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p>
					ON (When driver door opens)	0 V
151 (G)	Ground	Rear window defog- ger relay	Output	Rear window de- fogger	Active	0 V
					Not activated	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

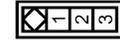
POWER WINDOW SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



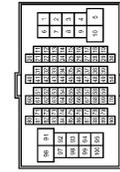
Terminal No.	71	V	-
Color of Wire			
Signal Name [Specification]			

Connector No.	B16
Connector Name	DRIVER SIDE DOOR SWITCH
Connector Type	A83FW



Terminal No.	2	V	-
Color of Wire			
Signal Name [Specification]			

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



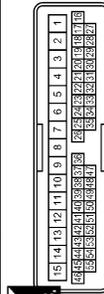
Terminal No.	97	GR	-
Color of Wire			
Signal Name [Specification]			

Connector No.	B716
Connector Name	PASSENGER SIDE DOOR SWITCH
Connector Type	A43FW



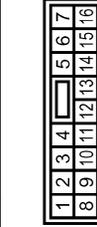
Terminal No.	2	GR	-
Color of Wire			
Signal Name [Specification]			

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	6	SB	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	13	B	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	14	V	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	15	Y	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	37	B	-
Color of Wire			
Signal Name [Specification]			

Connector No.	D8
Connector Name	POWER WINDOW MAIN SWITCH
Connector Type	MS16FW-CS



Terminal No.	1	Y	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	5	O	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	6	GR	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	7	W	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	8	L	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	9	LG	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	10	SR	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	11	BR	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	12	V	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	13	R	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	14	G	-
Color of Wire			
Signal Name [Specification]			

Terminal No.	15	B	-
Color of Wire			
Signal Name [Specification]			

Connector No.	D10
Connector Name	DRIVER SIDE POWER WINDOW MOTOR
Connector Type	FH80BFGY-Z



Terminal No.	1	G	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	2	R	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	3	BR	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	4	O	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	5	LG	-
Color of Wire			
Signal Name [Specification]			
Terminal No.	6	L	-
Color of Wire			
Signal Name [Specification]			

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

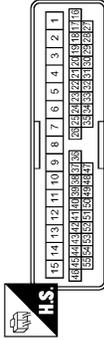
POWER WINDOW SYSTEM

Connector No.	D15
Connector Name	DRIVER SIDE DOOR LOCK ASSEMBLY
Connector Type	E0BF-GY-RS



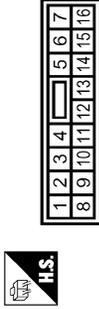
Terminal No.	Color of Wire	Signal Name [Specification]
4	B	-
5	W	-
6	GR	-

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
13	B	-
14	Y	-
15	W	-

Connector No.	D38
Connector Name	POWER WINDOW SUB-SWITCH
Connector Type	NS16FW-CS



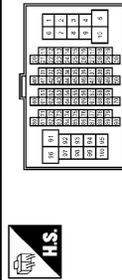
Terminal No.	Color of Wire	Signal Name [Specification]
3	G	-
4	O	-
8	L	-
9	BR	-
10	W	-
11	B	-
12	R	-
15	LG	-
16	Y	-

Connector No.	D40
Connector Name	PASSENGER SIDE POWER WINDOW MOTOR
Connector Type	FH8BF-GY-Z



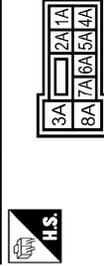
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	O	-
5	LG	-
6	L	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



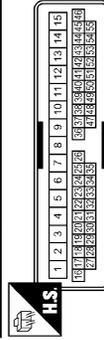
Terminal No.	Color of Wire	Signal Name [Specification]
91	W	-

Connector No.	IM1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2



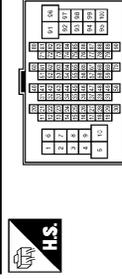
Terminal No.	Color of Wire	Signal Name [Specification]
7A	R	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
13	B	-
14	V	-
15	Y	-
37	B	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
91	W	-

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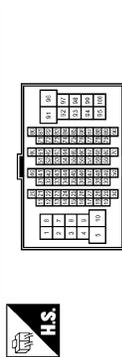
PWC

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

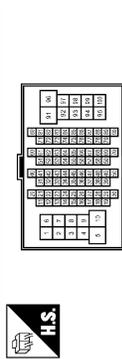
POWER WINDOW SYSTEM

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16-TM4



Terminal No.	71	R	
Color of Wire			Signal Name [Specification]

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16-TM4



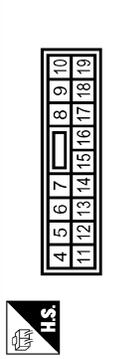
Terminal No.	97	LG	
Color of Wire			Signal Name [Specification]

Connector No.	M118
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MG3FB-LC



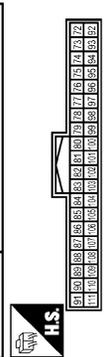
Terminal No.	1	W	
Color of Wire			Signal Name [Specification]
	2	Y	BAT (F/L)
	3	O	POWER WINDOW POWER SUPPLY(BAT)
			POWER WINDOW POWER SUPPLY(RAP)

Connector No.	M119
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS18FW-CS



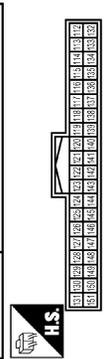
Terminal No.	11	R	
Color of Wire			Signal Name [Specification]
	13	B	BAT FUSE
			GND

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



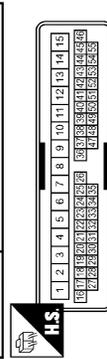
Terminal No.	83	Y	KEYLESS TUNER SIGNAL
	103	LG	KEYLESS TUNER POWER SUPPLY

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	124	LG	DOOR SW (AS)
	132	V	POWER WINDOW SERIAL LINK
	137	O	SENSOR GND
	150	R	DOOR SW (DR)

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16



Terminal No.	13	B	
Color of Wire			Signal Name [Specification]
	14	G	
	15	W	

Fail Safe

JCKWA0656GE

INFOID:000000001838129

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENA AMP	Inhibit engine cranking	Erase DTC

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
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
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> • Starter control relay signal • Starter relay status signal
B2563: HI VOLTAGE	<ul style="list-style-type: none"> • Inhibit engine cranking • Inhibit steering lock 	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit steering lock	500 ms after the following signal reception status becomes consistent <ul style="list-style-type: none"> • Selector lever P position switch signal • P range signal (CAN)
B2602: SHIFT POSITION	Inhibit steering lock	5 seconds after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Ignition switch is in the ON position • Selector lever P position switch signal: Except P position (battery voltage) • Vehicle speed: 4 /h or more
B2603: SHIFT POSI STATUS	Inhibit steering lock	500 ms after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Ignition switch is in the ON position • Selector lever P position switch signal: Except P position (battery voltage) • Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> • Status 1 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: P and N position (battery voltage) - P range signal or N range signal (CAN): ON • Status 2 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: Except P and N positions (0 V) - P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> • Ignition switch is in the ON position <ul style="list-style-type: none"> - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/PNP switch signal (CAN): OFF • Status 2 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (battery voltage) - PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> • Steering lock relay signal (Request signal) • Steering lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> • Steering lock relay signal (Request signal) • Steering lock relay signal (Condition signal)

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> • Starter motor relay control signal • Starter relay status signal (CAN)
B2609: S/L STATUS	<ul style="list-style-type: none"> • Inhibit engine cranking • Inhibit steering lock 	When the following steering lock conditions agree <ul style="list-style-type: none"> • BCM steering lock control status • Steering lock condition No. 1 signal status • Steering lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled <ul style="list-style-type: none"> • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled <ul style="list-style-type: none"> • Power position changes to ACC • Receives engine status signal (CAN)
B2612: S/L STATUS	<ul style="list-style-type: none"> • Inhibit engine cranking • Inhibit steering lock 	When any of the following conditions is fulfilled <ul style="list-style-type: none"> • Steering lock unit status signal (CAN) is received normally • The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor 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
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions is fulfilled <ul style="list-style-type: none"> • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:000000001838130

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

Priority	DTC
1	<ul style="list-style-type: none"> • B2562: LOW VOLTAGE • B2563: HI VOLTAGE
2	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	<ul style="list-style-type: none"> • B2190: NATS ANTENA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Priority	DTC	
4	<ul style="list-style-type: none"> • B2013: ID DISCORD BCM-S/L • B2014: CHAIN OF S/L-BCM • 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 SW • B2605: PNP SW • B2606: S/L RELAY • B2607: S/L RELAY • B2608: STARTER RELAY • B2609: S/L STATUS • B260A: IGNITION RELAY • B260B: STEERING LOCK UNIT • B260C: STEERING LOCK UNIT • B260D: STEERING LOCK UNIT • B260F: ENG STATE SIG LOST • B2611: ACC RELAY • B2612: S/L STATUS • B2614: ACC RELAY CIRC • B2615: BLOWER RELAY CIRC • B2616: IGN RELAY CIRC • B2617: STARTER RELAY CIRC • B2618: BCM • B2619: BCM • B261A: PUSH-BTN IGN SW • B261E: VEHICLE TYPE • B26E1: ENG STATE NO RECIV • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG 	A B C D E F G H I J
	<ul style="list-style-type: none"> • C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT 	L M N O P
	<ul style="list-style-type: none"> • B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA 	

PWC

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

DTC Index

INFOID:000000001838131

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. The details of Freeze Frame Data and IGN Counter. Refer to [BCS-13, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

CONSULT display	Fail-safe	Freeze Frame Data	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	—	BCS-33
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-34
U0415: VEHICLE SPEED SIG	—	—	—	—	BCS-35
B2013: ID DISCORD BCM-S/L	×	×	—	—	SEC-54
B2014: CHAIN OF S/L-BCM	×	×	—	—	SEC-55
B2190: NATS ANTENA AMP	×	—	—	—	SEC-46
B2191: DIFFERENCE OF KEY	×	—	—	—	SEC-49
B2192: ID DISCORD BCM-ECM	×	—	—	—	SEC-50
B2193: CHAIN OF BCM-ECM	×	—	—	—	SEC-52
B2553: IGNITION RELAY	—	×	—	—	PCS-50
B2555: STOP LAMP	—	×	—	—	SEC-58
B2556: PUSH-BTN IGN SW	—	×	×	—	SEC-60
B2557: VEHICLE SPEED	×	×	×	—	SEC-62
B2560: STARTER CONT RELAY	×	×	×	—	SEC-63
B2562: LOW VOLTAGE	—	×	—	—	BCS-36
B2563: HI VOLTAGE	×	×	×	—	BCS-37
B2601: SHIFT POSITION	×	×	×	—	SEC-64
B2602: SHIFT POSITION	×	×	×	—	SEC-67
B2603: SHIFT POSI STATUS	×	×	×	—	SEC-69
B2604: PNP SW	×	×	×	—	SEC-72
B2605: PNP SW	×	×	×	—	SEC-74
B2606: S/L RELAY	×	×	×	—	SEC-76
B2607: S/L RELAY	×	×	×	—	SEC-77
B2608: STARTER RELAY	×	×	×	—	SEC-79
B2609: S/L STATUS	×	×	×	—	SEC-81
B260A: IGNITION RELAY	×	×	×	—	PCS-52
B260B: STEERING LOCK UNIT	—	×	×	—	SEC-85
B260C: STEERING LOCK UNIT	—	×	×	—	SEC-86
B260D: STEERING LOCK UNIT	—	×	×	—	SEC-87
B260F: ENG STATE SIG LOST	×	×	×	—	SEC-88
B2611: ACC RELAY	—	×	—	—	PCS-54
B2612: S/L STATUS	×	×	×	—	SEC-90
B2614: ACC RELAY CIRC	—	×	×	—	PCS-57
B2615: BLOWER RELAY CIRC	—	×	×	—	PCS-60

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

CONSULT display	Fail-safe	Freeze Frame Data	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2616: IGN RELAY CIRC	—	×	×	—	PCS-63
B2617: STARTER RELAY CIRC	×	×	×	—	SEC-94
B2618: BCM	×	×	×	—	PCS-66
B2619: BCM	×	×	×	—	SEC-96
B261A: PUSH-BTN IGN SW	—	×	×	—	SEC-97
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	SEC-100
B2621: INSIDE ANTENNA	—	×	—	—	DLK-59
B2622: INSIDE ANTENNA	—	×	—	—	DLK-61
B2623: INSIDE ANTENNA	—	×	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	×	—	SEC-89
C1704: LOW PRESSURE FL	—	—	—	×	WT-15
C1705: LOW PRESSURE FR	—	—	—	×	WT-15
C1706: LOW PRESSURE RR	—	—	—	×	WT-15
C1707: LOW PRESSURE RL	—	—	—	×	WT-15
C1708: [NO DATA] FL	—	—	—	×	WT-17
C1709: [NO DATA] FR	—	—	—	×	WT-17
C1710: [NO DATA] RR	—	—	—	×	WT-17
C1711: [NO DATA] RL	—	—	—	×	WT-17
C1712: [CHECKSUM ERR] FL	—	—	—	×	WT-20
C1713: [CHECKSUM ERR] FR	—	—	—	×	WT-20
C1714: [CHECKSUM ERR] RR	—	—	—	×	WT-20
C1715: [CHECKSUM ERR] RL	—	—	—	×	WT-20
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-23
C1717: [PRESSDATA ERR] FR	—	—	—	×	WT-23
C1718: [PRESSDATA ERR] RR	—	—	—	×	WT-23
C1719: [PRESSDATA ERR] RL	—	—	—	×	WT-23
C1720: [CODE ERR] FL	—	—	—	×	WT-25
C1721: [CODE ERR] FR	—	—	—	×	WT-25
C1722: [CODE ERR] RR	—	—	—	×	WT-25
C1723: [CODE ERR] RL	—	—	—	×	WT-25
C1724: [BATT VOLT LOW] FL	—	—	—	×	WT-28
C1725: [BATT VOLT LOW] FR	—	—	—	×	WT-28
C1726: [BATT VOLT LOW] RR	—	—	—	×	WT-28
C1727: [BATT VOLT LOW] RL	—	—	—	×	WT-28
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-31
C1734: CONTROL UNIT	—	—	—	×	WT-32

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POWER WINDOW MAIN SWITCH

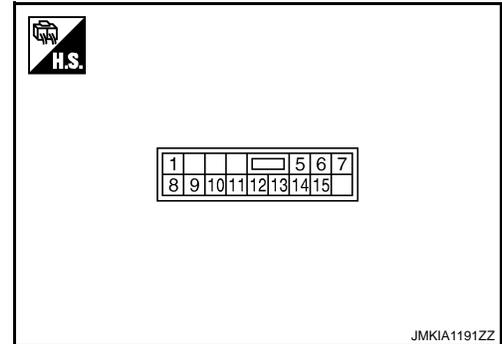
< ECU DIAGNOSIS >

POWER WINDOW MAIN SWITCH

Reference Value

INFOID:000000001694043

TERMINAL LAYOUT



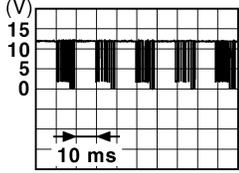
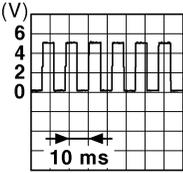
PHYSICAL VALUES

POWER WINDOW MAIN SWITCH

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
1 (Y)	Ground	Battery power supply	Input	—	Battery voltage
5 (O)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer oper- ates.	Battery voltage
6 (GR)	Ground	Door key cylinder switch LOCK signal	Input	Key position (Neutral → Locked)	5 → 0
7 (W)	Ground	Door key cylinder switch UNLOCK signal	Input	Key position (Neutral → Unlocked)	5 → 0
8 (L)	Ground	Driver side power window mo- tor UP signal	Output	Power window main switch (Driver side) is UP at operated.	Battery voltage
9 (LG)	Ground	Encoder pulse signal 2	Input	When power window mo- tor operates.	
10 (SB)	Ground	Rap signal	Input	IGN SW ON	Battery voltage
				Within 45 second after ig- nition switch is turned to OFF	Battery voltage
				When driver side or pas- senger side door is opened during retained power operation	0
11 (BR)	Ground	Driver side power window mo- tor DOWN signal	Output	Power window main switch (Driver side) is DOWN at operated.	Battery voltage

POWER WINDOW MAIN SWITCH

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
12 (V)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	 <p style="text-align: right; font-size: small;">JPMIA0013GB</p>
13 (R)	Ground	Encoder pulse signal 1	Input	When power window motor operates.	 <p style="text-align: right; font-size: small;">JMKIA0070GB</p>
14 (G)	Ground	Encoder ground	—	—	0
15 (B)	Ground	Ground	—	—	0

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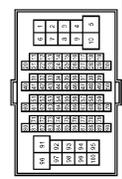
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POWER WINDOW MAIN SWITCH

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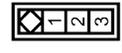
POWER WINDOW SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



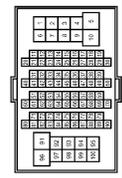
Terminal No.	Color of Wire	Signal Name [Specification]
71	V	-

Connector No.	B16
Connector Name	DRIVER SIDE DOOR SWITCH
Connector Type	A08FW



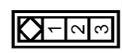
Terminal No.	Color of Wire	Signal Name [Specification]
2	V	-

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



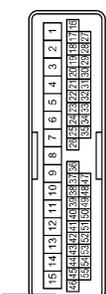
Terminal No.	Color of Wire	Signal Name [Specification]
97	GR	-

Connector No.	B216
Connector Name	PASSENGER SIDE DOOR SWITCH
Connector Type	A03FW



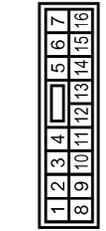
Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	-

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
6	SB	-
13	B	-
14	V	-
15	Y	-
37	B	-

Connector No.	D8
Connector Name	POWER WINDOW MAIN SWITCH
Connector Type	MS16FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
5	O	-
6	GR	-
7	W	-
8	L	-
9	LG	-
10	SR	-
11	BR	-
12	V	-
13	R	-
14	G	-

15	B
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Connector No.	D10
Connector Name	DRIVER SIDE POWER WINDOW MOTOR
Connector Type	FH80BFGY-Z



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

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POWER WINDOW MAIN SWITCH

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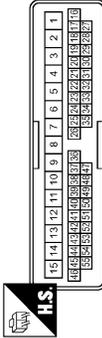
POWER WINDOW SYSTEM

Connector No.	D15
Connector Name	DRIVER SIDE DOOR LOOK ASSEMBLY
Connector Type	E08FGY-RS



Terminal No.	Color of Wire	Signal Name [Specification]
4	B	-
5	W	-
6	GR	-

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
13	B	-
14	Y	-
15	W	-

Connector No.	D38
Connector Name	POWER WINDOW SUB-SWITCH
Connector Type	NS16FW-CS



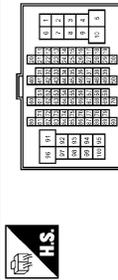
Terminal No.	Color of Wire	Signal Name [Specification]
3	G	-
4	O	-
8	L	-
9	BR	-
10	W	-
11	B	-
12	R	-
15	LG	-
16	Y	-

Connector No.	D40
Connector Name	PASSENGER SIDE POWER WINDOW MOTOR
Connector Type	FH86FGY-Z



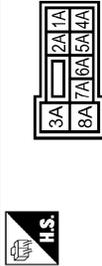
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	O	-
5	LG	-
6	L	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



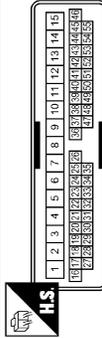
Terminal No.	Color of Wire	Signal Name [Specification]
91	W	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2



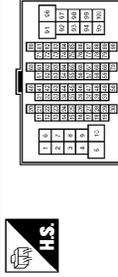
Terminal No.	Color of Wire	Signal Name [Specification]
7A	R	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
13	B	-
14	V	-
15	Y	-
37	B	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
81	W	-

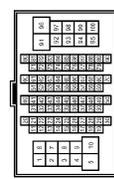
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POWER WINDOW MAIN SWITCH

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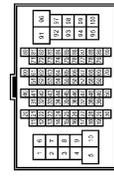
POWER WINDOW SYSTEM

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
71	R	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16-TM4



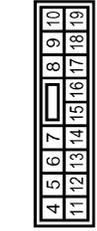
Terminal No.	Color of Wire	Signal Name [Specification]
97	LG	-

Connector No.	M118
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MG3FB-LC



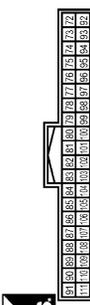
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	BAT (F/L)
2	Y	POWER WINDOW POWER SUPPLY(BAT)
3	O	POWER WINDOW POWER SUPPLY(RAP)

Connector No.	M119
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS1FBW-CS



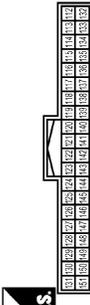
Terminal No.	Color of Wire	Signal Name [Specification]
11	R	BAT (FUSE)
13	B	GND

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



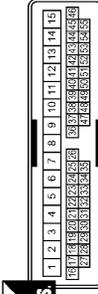
Terminal No.	Color of Wire	Signal Name [Specification]
83	Y	KEYLESS TUNER SIGNAL
103	LG	KEYLESS TUNER POWER SUPPLY

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color of Wire	Signal Name [Specification]
124	LG	DOOR SW (AS)
132	V	POWER WINDOW SERIAL LINK
137	O	SENSOR GND
150	R	DOOR SW (DR)

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MM-CS16



Terminal No.	Color of Wire	Signal Name [Specification]
13	B	-
14	G	-
15	W	-

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

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POWER WINDOW MAIN SWITCH

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Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

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

- Auto-up operation
- Anti-pinch function
- Automatic window adjusting function

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

POWER WINDOW SUB-SWITCH

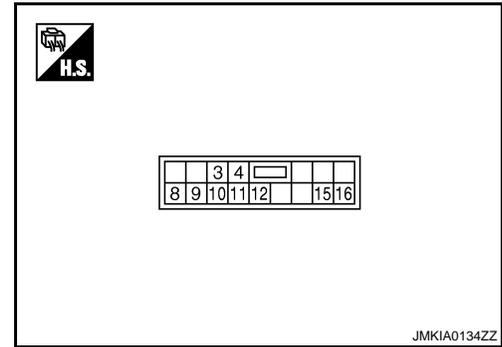
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POWER WINDOW SUB-SWITCH

Reference Value

INFOID:000000001694046

TERMINAL LAYOUT



PHYSICAL VALUES

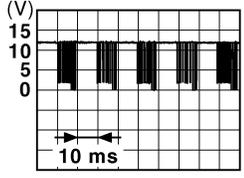
Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
3 (G)	Ground	Encoder pulse signal 2	Input	When power window motor operates.	 JMKIA0070GB
4 (O)	Ground	Encoder power supply	Output	When ignition switch ON or power window timer operates	Battery voltage
8 (L)	Ground	Power window motor UP signal	Output	When power window motor is UP at operated.	Battery voltage
9 (BR)	Ground	Power window motor DOWN signal	Output	When power window motor is DOWN at operated.	Battery voltage
10 (W)	Ground	Battery power supply	Input	—	Battery voltage
11 (B)	Ground	Ground	—	—	0
12 (R)	Ground	Encoder pulse signal 1	Input	When power window motor operates.	 JMKIA0070GB

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POWER WINDOW SUB-SWITCH

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Terminal No. (Wire color)		Description		Condition	Voltage [V] (Approx.)
+	-	Signal name	Input/ Output		
15 (LG)	Ground	Encoder ground	—	—	0
16 (Y)	Ground	Power window serial link	Input/ Output	IGN SW ON or power window timer operating.	

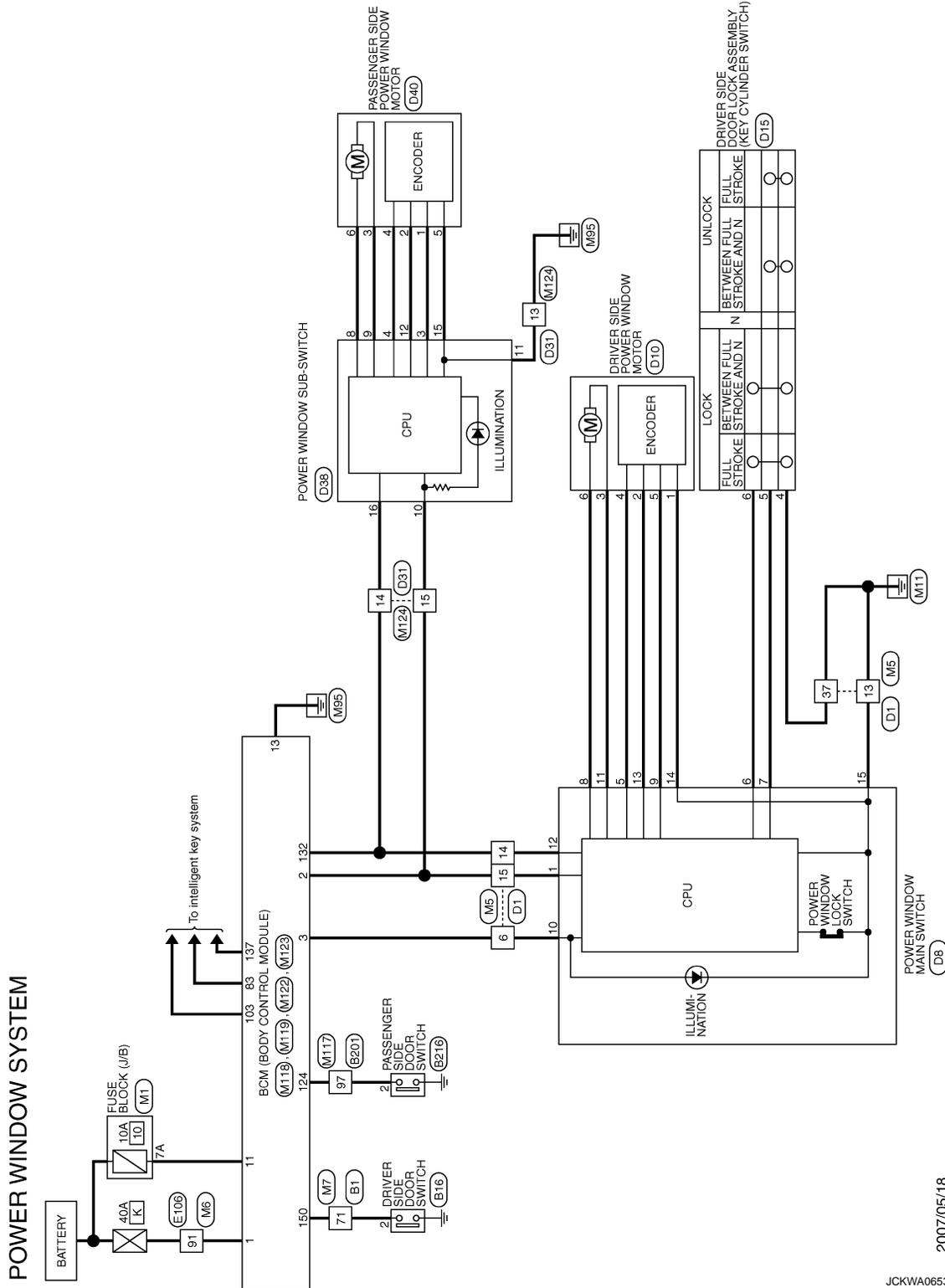
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POWER WINDOW SUB-SWITCH

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Wiring Diagram - POWER WINDOW CONTROL SYSTEM -

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POWER WINDOW SUB-SWITCH

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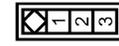
POWER WINDOW SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



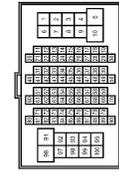
Terminal No.	71	V	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	B16
Connector Name	DRIVER SIDE DOOR SWITCH
Connector Type	A83FW



Terminal No.	2	V	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



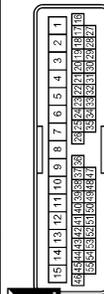
Terminal No.	97	GR	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	B716
Connector Name	PASSENGER SIDE DOOR SWITCH
Connector Type	A43FW



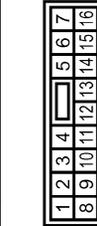
Terminal No.	2	GR	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	6	SB	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	13	B	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	14	V	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	15	Y	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	37	B	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	D8
Connector Name	POWER WINDOW MAIN SWITCH
Connector Type	MS16FW-CS



Terminal No.	1	Y	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	5	O	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	6	GR	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	7	W	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	8	L	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	9	LG	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	10	SR	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	11	BR	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	12	V	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	13	R	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	14	G	-	-
Color of Wire				
Signal Name [Specification]				

Terminal No.	15	B	-	-
Color of Wire				
Signal Name [Specification]				

Connector No.	D10
Connector Name	DRIVER SIDE POWER WINDOW MOTOR
Connector Type	FH80BFGY-Z



Terminal No.	1	G	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	2	R	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	3	BR	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	4	O	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	5	LG	-	-
Color of Wire				
Signal Name [Specification]				
Terminal No.	6	L	-	-
Color of Wire				
Signal Name [Specification]				

POWER WINDOW SUB-SWITCH

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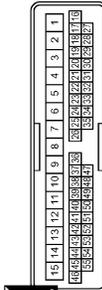
POWER WINDOW SYSTEM

Connector No.	D15
Connector Name	DRIVER SIDE DOOR LOCK ASSEMBLY
Connector Type	E08FGY-RS



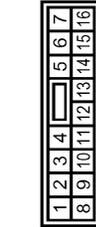
Terminal No.	Color of Wire	Signal Name [Specification]
4	B	-
5	W	-
6	GR	-

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
13	B	-
14	Y	-
15	W	-

Connector No.	D38
Connector Name	POWER WINDOW SUB-SWITCH
Connector Type	NS16FW-CS



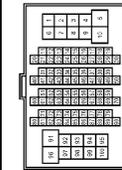
Terminal No.	Color of Wire	Signal Name [Specification]
3	G	-
4	O	-
8	L	-
9	BR	-
10	W	-
11	B	-
12	R	-
15	LG	-
16	Y	-

Connector No.	D40
Connector Name	PASSENGER SIDE POWER WINDOW MOTOR
Connector Type	FH8BFGY-Z



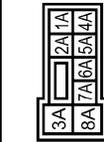
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	O	-
5	LG	-
6	L	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



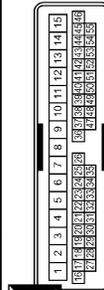
Terminal No.	Color of Wire	Signal Name [Specification]
91	W	-

Connector No.	IM1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2



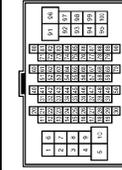
Terminal No.	Color of Wire	Signal Name [Specification]
7A	R	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
13	B	-
14	V	-
15	Y	-
37	B	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
91	W	-

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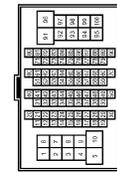
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POWER WINDOW SUB-SWITCH

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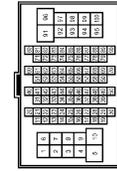
POWER WINDOW SYSTEM

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
71	R	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
97	LG	-

Connector No.	M118
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MG3FB-LC



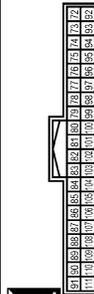
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	BAT (F/L)
2	Y	POWER WINDOW POWER SUPPLY(BAT)
3	O	POWER WINDOW POWER SUPPLY(RAP)

Connector No.	M119
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS18FW-CS



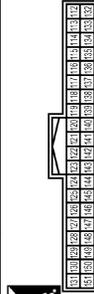
Terminal No.	Color of Wire	Signal Name [Specification]
11	R	BAT (FUSE)
13	B	GND

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



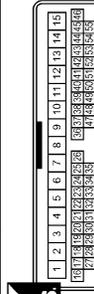
Terminal No.	Color of Wire	Signal Name [Specification]
83	Y	KEYLESS TUNER SIGNAL
103	LG	KEYLESS TUNER POWER SUPPLY

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color of Wire	Signal Name [Specification]
124	LG	DOOR SW (AS)
132	V	POWER WINDOW SERIAL LINK
137	O	SENSOR GND
150	R	DOOR SW (DR)

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS16



Terminal No.	Color of Wire	Signal Name [Specification]
13	B	-
14	G	-
15	W	-

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

JCKWA0656GE

INFOID:000000001694048

POWER WINDOW SUB-SWITCH

< ECU DIAGNOSIS >

Error	Error condition
Pulse sensor malfunction	When only one side of pulse signal is being detected for more than the specified value.
Both pulse sensors malfunction	When both pulse signals have not been detected for more than the specified value during glass open/close operation.
Pulse direction malfunction	When the pulse signal that is detected during glass open/close operation detects the opposite condition of power window motor operating direction.
Glass recognition position malfunction 1	When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value.
Glass recognition position malfunction 2	When it detects pulse count more than the value of glass full stroke during glass open/close operation.
Malfunction of not yet updated closed position of glass	When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).

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

- Auto-up operation
- Anti-pinch function
- Automatic window adjusting function

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

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PWC

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NONE OF THE POWER WINDOWS CAN BE OPERATED USING ANY SWITCH

Diagnosis Procedure

INFOID:000000001694052

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit.
Refer to [PWC-12, "BCM : Diagnosis Procedure"](#).

Is the inspection result normal?

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

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

Check power window switch power supply and ground circuit.
Refer to [PWC-12, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"](#).

Is the inspection result normal?

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

3. CHECK POWER WINDOW MAIN SWITCH SERIAL LINK CIRCUIT

Check power window serial link circuit.
Refer to [PWC-30, "POWER WINDOW MAIN SWITCH : Component Function Check"](#).

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair or replace the malfunctioning parts.

4. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).
- NO >> GO TO 1.

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000001694053

1. CHECK DRIVER SIDE POWER WINDOW MOTOR

Check driver side power window motor.

Refer to [PWC-16, "DRIVER SIDE : Component Function Check"](#).

Is the measurement value within the specification?

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-38, "Intermittent Incident"](#).

NO >> GO TO 1.

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PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000001694054

1. CHECK POWER WINDOW SUB-SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check power window sub-switch power supply and ground circuit.

Refer to [PWC-14, "POWER WINDOW SUB-SWITCH : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK POWER WINDOW SUB-SWITCH SERIAL LINK CIRCUIT

Check power window sub-switch serial link circuit.

Refer to [PWC-31, "POWER WINDOW SUB-SWITCH : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CHECK PASSENGER SIDE POWER WINDOW MOTOR CIRCUIT

Check passenger side power window motor circuit.

Refer to [PWC-17, "PASSENGER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

ANTI-PINCH FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

ANTI-PINCH FUNCTION DOES NOT OPERATE

DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:000000001694057

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-20, "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-38, "Intermittent Incident"](#).

NO >> GO TO 1.

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001694058

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-22, "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-38, "Intermittent Incident"](#).

NO >> GO TO 1.

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AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY

< SYMPTOM DIAGNOSIS >

AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATE NORMALLY

DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:000000001694061

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-20, "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-38, "Intermittent Incident"](#).
- NO >> GO TO 1.

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001694062

1.PERFORM INITIALIZAITON PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-22, "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-38, "Intermittent Incident"](#).
- NO >> GO TO 1.

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

< SYMPTOM DIAGNOSIS >

POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

Diagnosis Procedure

INFOID:000000001694065

1.CHECK DOOR SWITCH

Check door switch.

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

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DOES NOT OPERATE BY KEY CYLINDER SWITCH

< SYMPTOM DIAGNOSIS >

DOES NOT OPERATE BY KEY CYLINDER SWITCH

Diagnosis Procedure

INFOID:000000001694066

1. PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-27, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS >

POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

Diagnosis Procedure

INFOID:000000001694068

1. CHECK PASSENGER SIDE POWER WINDOW OPERATION

Check passenger side power window operation with power window main switch.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to [PWC-82, "Diagnosis Procedure"](#).

2. REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch.

>> Refer to [PWC-92, "Removal and Installation"](#).

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POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE

< SYMPTOM DIAGNOSIS >

POWER WINDOW SWITCH ILLUMINATION DOES NOT ILLUMINATE DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:000000001694069

1. REPLACE POWER WINDOW MAIN SWITCH

Replace power window main switch.

>> Refer to [PWC-92. "Removal and Installation"](#).

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001694070

1. REPLACE POWER WINDOW SUB-SWITCH

Replace power window sub-switch.

>> Refer to [PWC-92. "Removal and Installation"](#).

AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE DRIVER SIDE

DRIVER SIDE : Diagnosis Procedure

INFOID:000000001726053

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-20, "DRIVER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK POWER WINDOW SERIAL LINK (POWER WINDOW MAIN SWITCH)

Check power window serial link (power window main switch)

Refer to [PWC-30, "POWER WINDOW MAIN SWITCH : Component Function Check"](#)

Is the result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

PASSENGER SIDE

PASSENGER SIDE : Diagnosis Procedure

INFOID:000000001726093

1.PERFORM INITIALIZATION PROCEDURE

Initialization procedure is executed and operation is confirmed.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).

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-22, "PASSENGER SIDE : Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK POWER WINDOW SERIAL LINK (POWER WINDOW SUB-SWITCH)

Check power window serial link (power window sub-switch)

Refer to [PWC-31, "POWER WINDOW SUB-SWITCH : Component Function Check"](#)

Is the result normal?

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AUTOMATIC WINDOW ADJUSTING FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts

4. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-38, "Intermittent Incident"](#).

NO >> GO TO 1.

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000001728209

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 AIRBAG" and "SEAT BELT" of this Service Manual.

WARNING:

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

Precaution for Battery Service

INFOID:000000001910193

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

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POWER WINDOW MAIN SWITCH

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

POWER WINDOW MAIN SWITCH

Removal and Installation

INFOID:000000001694075

REMOVAL

1. Remove the power window main switch finisher (2).
Refer to [INT-11, "Removal and Installation"](#).
2. Power window main switch (1) is removed from power window main switch finisher (2) using flat-head screw driver (A) etc.

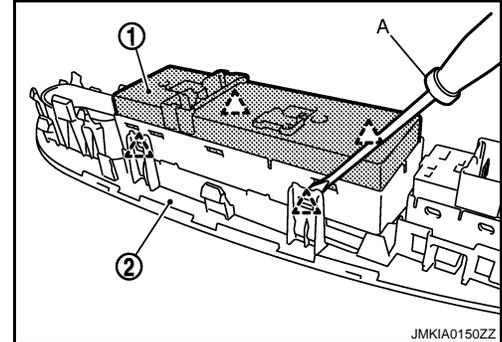
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CAUTION:

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

NOTE:

The same procedure is also performed for power window sub-switch.



INSTALLATION

Install in the reverse order of removal.

NOTE:

Power window main switch is exchanged or is detached it is necessary to do the initialization procedure.

Refer to [PWC-4, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement"](#).