# SECTION POWER WINDOW CONTROL SYSTEM

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| POWER WINDOW MOTOR       103         DRIVER SIDE       103         DRIVER SIDE       105         DRIVER SIDE       103         DRIVER SIDE       103         DRIVER SIDE       104         DRIVER SIDE       103         DRIVER SIDE       104         DRIVER SIDE       105         DRIVER SIDE       104         DRIVER SIDE       106         PASSENGER SIDE       104         PASSENGER SIDE       106         REAR LH       106         REAR LH       106         REAR LH       106         REAR LH       106         REAR RH       106 <td><b>3 3 3 3 3 3 3 3 4 4 4 5 5 6 6 6 6 6 6 7 7 8 8 8 8 9</b></td>  | <b>3 3 3 3 3 3 3 3 4 4 4 5 5 6 6 6 6 6 6 7 7 8 8 8 8 9</b>   |

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### < PRECAUTION >

### PRECAUTION PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

### WARNING:

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

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

### WARNING:

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

### Precaution for Work

INFOID:000000012549678

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

### PREPARATION

### PREPARATION

### **Special Service Tool**

INFOID:000000012549679

| The actual shape of the tools may | y differ from those illustrated here. |
|-----------------------------------|---------------------------------------|
|-----------------------------------|---------------------------------------|

| Tool number<br>(TechMate No.)<br>Tool name |             | Description              | C |
|--|-------------|--------------------------|---|
| <br>(J-46534)<br>Trim tool set             | AWJIA0483ZZ | Removing trim components | E |
|  |             |                          |   |

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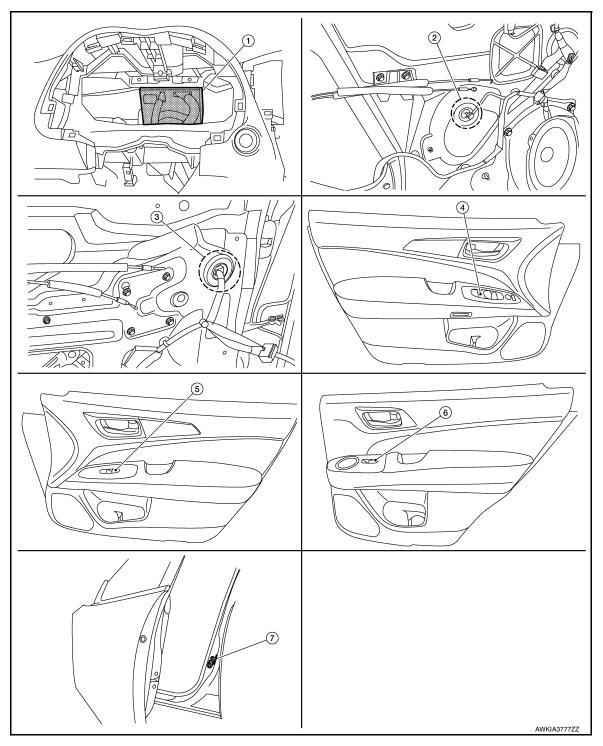
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## < SYSTEM DESCRIPTION > SYSTEM DESCRIPTION COMPONENT PARTS

### Component Parts Location

INFOID:000000012549680



- 1. BCM (view with the combination meter removed)
- 4. Main power window and door lock/ unlock switch
- 7. Front door switch LH (RH similar)
- Front power window motor LH (RH 3. similar) (view with front door finisher removed)
- 5. Power window and door lock/unlock 6. switch RH
- Rear power window motor LH (RH similar) (view with rear door finisher removed)
- Rear power window switch LH (RH similar)



### **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

### **Component Description**

А

| Component  | Function  |  |  |  |
|--|---|--|--|--|
| ВСМ  | <ul><li>Supplies power to the window switches.</li><li>Controls retained power.</li></ul>   |  |  |  |
| Main power window and door lock/un-<br>lock switch | Directly controls all power window motors.  |  |  |  |
| Power window and door lock/unlock switch RH        | Controls power window motor of passenger door.  |  |  |  |
| Rear power window switch                           | Controls right and left power window motors for the rear doors.   |  |  |  |
| Power window motor                                 | <ul> <li>Integrates the ENCODER and WINDOW MOTOR.</li> <li>Starts operating with signals from each power window switch.</li> <li>Transmits power window motor rotation as a pulse signal to power window s</li> </ul> |  |  |  |
| Front door switch LH/RH                            | Detects door open/close condition and transmits it to the BCM.  |  |  |  |

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**Revision: November 2015** 

[LH FRONT ONLY AUTO DOWN]

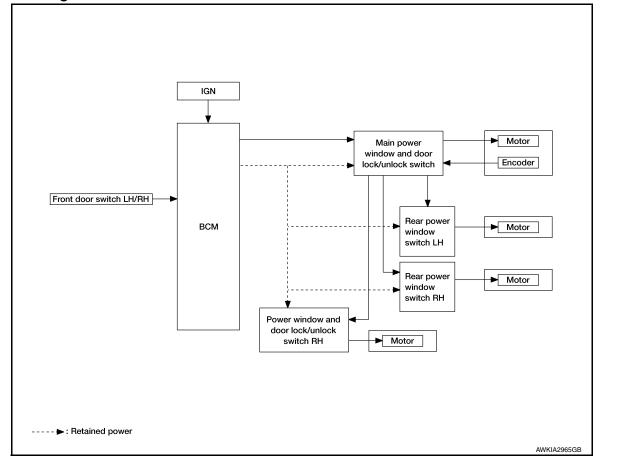
### < SYSTEM DESCRIPTION >

### [LH FRONT ONLY AUTO DOWN]

INFOID:000000012549682

### SYSTEM

System Diagram



### System Description

INFOID:000000012549683

### POWER WINDOW OPERATION

- Power window system is activated by the power window switch when the ignition switch is in the ON position or during the retained power operation after ignition switch turns OFF.
- Power window main switch can open/close door glass.
- Front and rear power window switch can open/close the corresponding door glass.
- · Power window lock switch can lock all power windows other than driver seat.
- All power windows open when pressing Intelligent Key unlock button for 3 seconds.
- Power window serial link transmits the signals from power window main switch to each power window switch.

### POWER WINDOW AUTO-OPERATION

- AUTO-DOWN operation can be performed when the front power window motor LH turns to AUTO.
- Encoder continues detecting the movement of power window motor and output the encoder pulse signal to power window switch while power window motor is operating.
- Power window motor is operable in case encoder is malfunctioning.
- AUTO-DOWN function does not operate if encoder is malfunctioning.

### RETAINED POWER OPERATION

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

**Retained Power Function Cancel Conditions** 

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

### **PWC-10**

### SYSTEM

### < SYSTEM DESCRIPTION >

### POWER WINDOW LOCK FUNCTION

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

### **KEYLESS POWER WINDOW DOWN FUNCTION**

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

• When the unlock button is pressed for more than 15 seconds.

• When the ignition switch is turned ON while the power window opening is operated.

• When the unlock button is released.

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

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### DIAGNOSIS SYSTEM (BCM)

### < SYSTEM DESCRIPTION >

### DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000012927027

### **CAUTION:**

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

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

### SYSTEM APPLICATION

BCM can perform the following functions.

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

Revision: November 2015

### **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

### [LH FRONT ONLY AUTO DOWN]

|                      |                      |                    |                        | Direct [     | Diagnosti   | c Mode       |               |                       |   |
|----------------------|----------------------|--------------------|------------------------|--------------|-------------|--------------|---------------|-----------------------|---|
| System               | Sub System           | ECU Identification | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr | B |
| Signal buffer system | SIGNAL BUFFER        |                    |                        | ×            | ×           |              |               |                       | - |
| TPMS                 | AIR PRESSURE MONITOR |                    | ×                      | ×            | ×           |              |               |                       | D |

### RETAINED PWR

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

INFOID:000000012927028

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### CAUTION:

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

### DATA MONITOR

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

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### ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

### List of ECU Reference

INFOID:000000012549687

| ECU | Reference                               |
|-----|---|
|     | BCS-31, "Reference Value"               |
| ВСМ | BCS-50, "Fail Safe"                     |
|     | BCS-51, "DTC Inspection Priority Chart" |
|     | BCS-52, "DTC Index"                     |

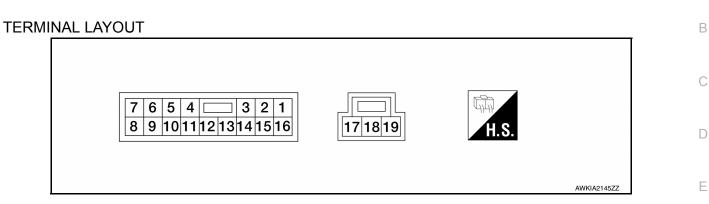
### POWER WINDOW MAIN SWITCH TION > [LH FRONT ONLY AUTO DOWN]

### < ECU DIAGNOSIS INFORMATION >

### POWER WINDOW MAIN SWITCH

### **Reference Value**

INFOID:000000012549688



### PHYSICAL VALUES

### MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

| Terminal No.<br>(Wire color) |        | Description                                |                  | Condition   | Voltage                                    |
|------------------------------|--------|--|------------------|---|--|
| +                            | -      | Signal name                                | Input/<br>Output | Condition   | (Approx.)                                  |
| 1<br>(B)                     | Ground | Ground                                     | _                | _   | 0  |
| 2<br>(Y)                     | 16     | Front power window motor<br>RH DOWN signal | Output           | When front RH switch in power window main switch is operated DOWN.      | Battery voltage                            |
| 4<br>(SB)                    | 12     | Encoder pulse signal 2                     | Input            | When power window mo-<br>tor operates.                                  | (V)<br>6<br>2<br>0<br>10 ms<br>JMKIA0070GB |
| 5<br>(Y)                     | 12     | Encoder pulse signal 1                     | Input            | When power window mo-<br>tor operates.                                  | (V)<br>4 2<br>0<br>10 ms<br>JMKIA0070GB    |
| 6<br>(L)                     | Ground | Rear power window motor RH<br>DOWN signal  | Output           | When rear RH switch in<br>power window main switch<br>is operated DOWN. | Battery voltage                            |
| 7<br>(V)                     | Ground | Rear power window motor RH<br>UP signal    | Output           | When rear RH switch in power window main switch is operated UP.         | Battery voltage                            |
| 8<br>(LG)                    | Ground | Rear power window motor LH<br>DOWN signal  | Output           | When rear LH switch in<br>power window main switch<br>is operated DOWN. | Battery voltage                            |

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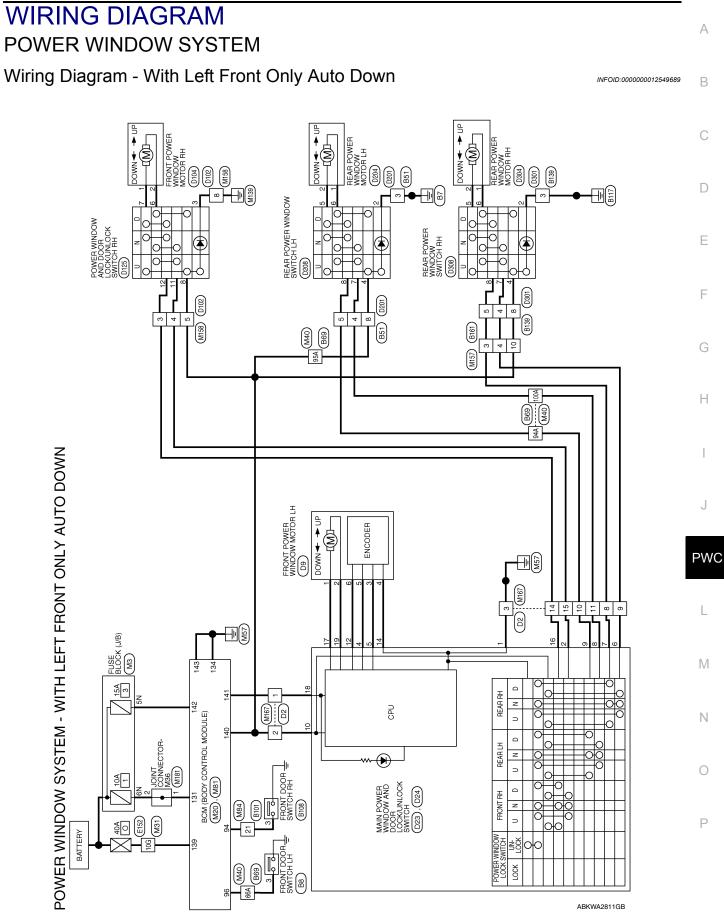
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### **POWER WINDOW MAIN SWITCH**

### < ECU DIAGNOSIS INFORMATION >

### [LH FRONT ONLY AUTO DOWN]

|            | nal No.<br>color) | Description  |                  | Condition  | Voltage         |
|------------|-------------------|--|------------------|--|-----------------|
| +          | -                 | Signal name  | Input/<br>Output | Condition  | (Approx.)       |
| 9<br>(SB)  | Ground            | Rear power window motor LH<br>UP signal                | Output           | When rear LH switch in power window main switch is operated UP.    | Battery voltage |
|            |                   |  |                  | IGN SW ON  | Battery voltage |
| 10         | Ground            | RAP signal   | Input            | Within 45 second after ig-<br>nition switch is turned to<br>OFF.   | Battery voltage |
| (BR)       |                   | When driver side or pas-<br>senger side door is opened |                  | senger side door is opened during retained power op-               | 0               |
| 12<br>(BR) | Ground            | Encoder ground   |                  | _  | 0               |
| 14<br>(LG) | Ground            | Encoder power supply                                   | Output           | When ignition switch ON or power window timer oper-<br>ates.       | 10              |
| 16<br>(R)  | 2                 | Front power window motor<br>RH UP signal               | Output           | When front RH switch in power window main switch is operated UP.   | Battery voltage |
| 17<br>(Y)  | 19                | Front power window motor LH<br>UP signal               | Output           | When front LH switch in power window main switch is operated UP.   | Battery voltage |
| 18<br>(Y)  | Ground            | Battery power supply                                   | Input            | _  | Battery voltage |
| 19<br>(L)  | 17                | Front power window motor LH<br>DOWN signal             | Output           | When front LH switch in power window main switch is operated DOWN. | Battery voltage |



# POWER WINDOW SYSTEM CONNECTORS - WITH LEFT FRONT ONLY AUTO DOWN

< WIRING DIAGRAM >

M31

Connector No.

Connector No. M20 Connector Name BCM (BODY CONTROL MODULE)

GRAY

Connector Color



|                | Signal Name      | 1  | I          |
|----------------|------------------|----|------------|
| 8N 7N 6N 5N 4N | Color of<br>Wire | 7  | M          |
| H.S.           | Terminal No.     | 5N | <b>N</b> 9 |

| _    |    |         | _ |   |
|------|----|---------|---|---|
|      | 81 | 93      |   |   |
|      | 82 | 94      |   |   |
|      | 8  | 95      |   |   |
|      | 84 | 96      |   |   |
| 7    | 85 | 97      |   |   |
|      | 86 | 98      |   |   |
| I IN | 87 | 66      |   |   |
|      | 88 | 100     |   |   |
|      | 88 | 101     |   | ŀ |
|      | 6  | 102     |   |   |
|      | 91 | 103 102 |   |   |
|      | 92 | 104     |   | ┝ |
| L    | _  |         |   |   |

H.S. E

| Signal Name      | AS DOOR SW | DR DOOR SW |  |
|------------------|------------|------------|--|
| Color of<br>Wire | g          | BG         |  |
| Terminal No.     | 64         | 96         |  |

|                |                 |                                   |                                |  |   |  |   | וו |                  |
|----------------|-----------------|-----------------------------------|--------------------------------|--|---|--|---|----|------------------|
| WIRE TO WIRE   | WHITE           | 1G 2G 3G 4G 5G<br>6G 7G 8G 9G 10C | 5G 16G 17G 18<br>5G 26G 27G 28 | 31G 32C 33G 34G 35G 36C 37G 38G 39G 40C 41G<br>42C 43C 43G 44G 45G 45G 47G 48G 49G 50G | 51 G 52 G 53 G 54 G 55 G 56 G 57 G 58 G 59 G 60 G 61 G 62 G 65 G 66 G 67 G 68 G 69 G 70 G | 71G72G73G74G75G76G77G78G79G80G81G<br>82G83G84G85G86G87G88G89G90G | 910 926 936 946 956<br>966 976 986 996 1005 |    | Signal Name      |
| -              | -               |                                   | 11G12G1:                       | 31G 32G 3<br>42G 4   | 51G 52G 5<br>62G 6  | 71G72G7  |   |    | Color of<br>Wire |
| Connector Name | Connector Color | 品<br>H.S.                         |                                |  |   |  |   |    | Terminal No.     |

ABKIA4757GB

### **POWER WINDOW SYSTEM**

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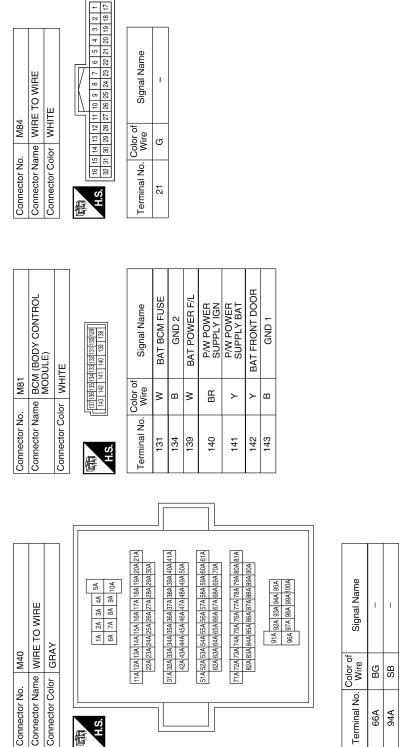
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### [LH FRONT ONLY AUTO DOWN]

H.S.H. E

< WIRING DIAGRAM >





Signal Name

I.

| Signal Name      | 1   | I   | I   | I    |
|------------------|-----|-----|-----|------|
| Color of<br>Wire | BG  | SB  | BR  | ГG   |
| Terminal No.     | 66A | 94A | 95A | 100A |

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|    |    | 7  |
|    | ~≀ | 9  |
|    | -  | 2  |
|    |    | Ċ  |
|    | E  | Ĕ  |

| Signal Name       | - | I | – (WITH LEFT<br>FRONT ONLY<br>AUTO DOWN) | - |
|-------------------|---|---|--|---|
| Color of<br>Wire  | щ | ≻ | BR                                       | В |
| Terminal No. Wire | в | 4 | 5  | 8 |

Signal Name

Color of Wire

Terminal No.

1 | 1 | 1

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ВВ

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m |>

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LG SB

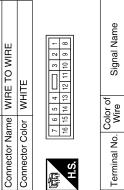
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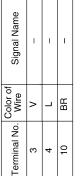
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品. H.S.









| Signal Name      | I | I |
|------------------|---|---|
| Color of<br>Wire | Μ | M |
| Terminal No.     | F | 2 |

ABKIA4759GB

### < WIRING DIAGRAM >

Connector Name WIRE TO WIRE

M167

Connector No.

Connector Color WHITE

M157

Connector No.

| Connector No. B51<br>Connector Name WIRE TO WIRE<br>Connector Color WHITE        | Image: Normal No.     Signal Name       3     B       3     B       4     Y       5     SB       6     -   |  |
|--|--|--|
| Connector No. B8<br>Connector Name FRONT DOOR SWITCH LH<br>Connector Color WHITE | Terminal No. Color of Signal Name  |  |
| Connector No. E152<br>Connector Name WIRE TO WIRE<br>Connector Color WHITE       | SG         46         36         46         36         46           100         96         10         76         66           100         96         10         76         66           100         96         10         76         66           100         96         10         76         66           100         96         86         77         66           100         96         86         76         66           100         96         86         76         66           100         96         86         76         86           100         96         86         76         86           100         96         86         76         86           100         96         86         76         86           100         96         86         76         86           100         96         86         76         86           100         96         86         76         86           100         96         96         76         96           100         96         96         76         96< | Terminal No. Color of Signal Name<br>10G P – – |

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| Connector No. B69<br>Connector Name wither TO wither   | Terminal No.   | Color of<br>Wire | Signal Name   | Connector No. B101<br>Connector Name WIBE TO WIBE  |
|--|--|------------------|---|--|
|  | 66A  | _                | 1   |  |
| _  | 94A  | SB               | 1   | _  |
|  | 95A  | BR               | 1   |  |
| 5A 44 3A 24 1A   | 100A   | ~                | 1   |  |
| 10A         9A         8A         7A           10A         9A         8A         7A           20A         29A         28A         7A         58A         25A         < |  |                  |   | 1     2     3     4     5     6     7     8     9     101     11     13     14     15     16       1     1     1     1     1     1     1     1     1     15     16       1     1     1     1     1     1     1     1     1     15     16       1     1     1     1     1     1     1     1     16     16       1     1     1     1     1     1     1     1     15     16       1     1     1     1     1     1     1     1     1     16     16       1     1     1     1     1     1     1     1     16     16       21     LG     -     -     -     -     -     - |
| Connector No. R108   | Connector No   | B130             |   | Connector No. B161   |
| e z  | Connector Name WIRE TO WIRE<br>Connector Color WHITE | ame WIRE         | TO WIRE<br>E  | e -  |
| (前<br>H.S  | H.S.   | 5     4          | 3         2         1           8         7         6 | 「山子」<br>H.S.<br>H.S.   |
| Terminal No. Color of Signal Name  | Terminal No.   | Color of<br>Wire | Signal Name   | Terminal No. Color of Signal Name  |
| 3 LG –   | ε  | в                | 1   |  |
|  | 4 N  | ≻ <sup>BS</sup>  | I I   | 4 Y – 10 BR –  |
|  | ω  | BR               | 1   |  |
|  |  |                  |   |  |

### POWER WINDOW SYSTEM

### < WIRING DIAGRAM >

ABKIA4761GB

|   |                  |   |    |   |   |    |    |              |    |    |  |                   | MAIN POWER WINDOW<br>AND DOOR<br>LOCK/UNLOCK SWITCH | ITE                                    |             |                 | 17 18 19    |         |                          |                      |                 | MOTOR DR UP | B+            | MOTOR DR DOWN |
|---|------------------|---|----|---|---|----|----|--------------|----|----|--|-------------------|---|--|-------------|-----------------|-------------|---------|--------------------------|----------------------|-----------------|-------------|---------------|---------------|
|   |                  |   |    |   |   |    |    |              |    |    |  | Connector No. D24 | Connector Name ANI<br>LOC                           | Connector Color WHITE                  | _           |                 | H.S.        |         |                          | Terminal No Color of | Mire NU. Wire   |             | 18 Y          | 10            |
|   |                  |   |    |   |   |    |    |              |    |    |  | Cor               | Cor   | Cor                                    |             | F               |             |         |                          | Tar                  | ō<br>-          |             |               |               |
|   | Signal Name      | 1 | 1  | 1 | I | 1  | 1  |              |    |    |  | Signal Name       | ENCODER SIG-1<br>(DLP)                              | MOTOR RR DOWN                          | MOTOR RR UP | MOTOR RL DOWN   | MOTOR RL UP | IGN     | I                        | ENCODER GND          | I               | ENCODER +   | 1             |               |
|   | Color of<br>Wire | ~ | _  | ≻ | Ъ | SB | ВВ | -            |    |    |  | Color of          | ~ wire  | _                                      | >           | ГG              | SB          | ВВ      | I                        | BR                   | I               | ГG          | 1             | T             |
| R. H.S.                                   | Terminal No.     | - | 2  | e | 4 | 5  | 9  |              |    |    |  | Terminal No       | 5   | 9                                      | 7           | 8               | 6           | 10      | 11                       | 12                   | 13              | 14          | 15            |               |
|   |                  |   |    |   |   |    |    |              |    |    |  |                   |   |  |             |                 |             |         |                          |                      |                 |             |               |               |
| 7 6 5 4 3 2 1<br>16 15 14 13 12 11 10 9 8 | Signal Name      | 1 | I  | I | I | 1  | I  | 1            | I  | 1  |  | 8                 | MAIN POWER WINDOW<br>AND DOOR<br>LOCK/UNLOCK        | SWITCH (WITH LEFT<br>FRONT ONI Y ALITO | DOWN)       | IITE            |             | 4 3 2 1 | 8 9 10 11 12 13 14 15 16 | Signal Mamo          | olyliai ivairie | GND         | MOTOR AS DOWN |               |
| 7 6 5<br>16 15 14                         | Color of<br>Wire | ٢ | BR | в | > | L  | SB | ГG           | н  | ≻  |  | ). D23            |   |  |             | olor WHITE      |             | 7 6 5   | 8 9 10                   | Color of             | Wire            | в           | ٢             |               |
| 品.S.H                                     | Terminal No.     | - | 5  | e | ø | 6  | 10 | <del>.</del> | 14 | 15 |  | Connector No.     | Constant Monto                                      |  |             | Connector Color | (           | E       | H.S.                     | Terminal No          |                 | -           | 2             | c             |



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MOTOR DR DOWN

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MOTOR AS UP

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ENCODER SIG-2 (ULP)

SB L

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ABKIA6404GB

### **POWER WINDOW SYSTEM**

< WIRING DIAGRAM >

Connector Name FRONT POWER WINDOW MOTOR LH

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Connector No.

Connector Name WIRE TO WIRE

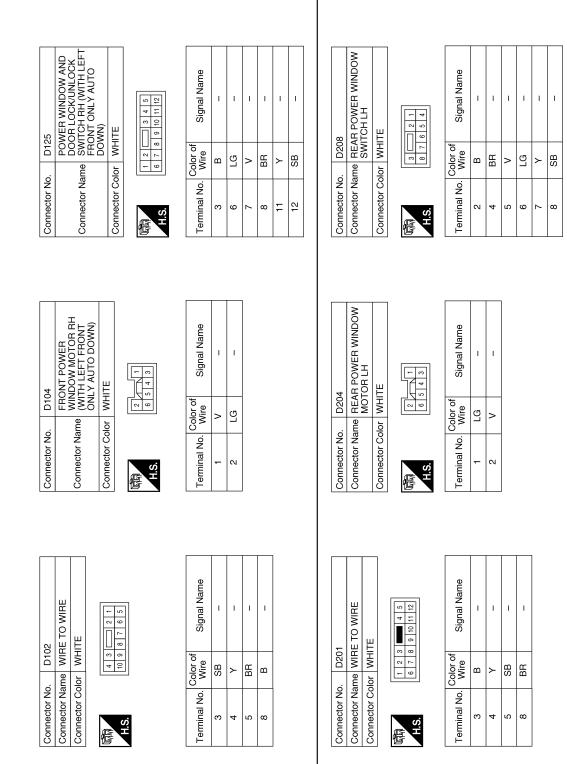
D2

Connector No.

Connector Color WHITE

Connector Color WHITE

### [LH FRONT ONLY AUTO DOWN]



ABKIA6400GB

### < WIRING DIAGRAM >

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|   | Connector No.         | lo. D308         | æ   |
|---|-----------------------|------------------|---|
| M | Connector N           | lame REA<br>SWI  | Connector Name REAR POWER WINDOW<br>SWITCH RH |
|   | Connector Color WHITE | color WH         | TE  |
|   | 同<br>H.S.             |                  | 3   |
|   | Terminal No. Wire     | Color of<br>Wire | Signal Name                                   |
|   | N                     | в                | I   |
|   | 4                     | BR               | 1   |
|   | 5                     | >                | I   |
|   | 9                     | ГG               | 1   |

| Connector No.         |                  | D304 |  |
|-----------------------|------------------|------|--|
| Connector Ne          | ame              | MOT  | Connector Name REAR POWER WINDOW<br>MOTOR RH |
| Connector Color WHITE | olor             | -IHM | TE   |
| 际<br>H.S.             |                  |      |  |
| Terminal No.          | Color of<br>Wire | r of | Signal Name                                  |
| -                     | LG               | (5   | I  |
| 2                     | >                |      | Ι  |
|                       |                  |      |  |

| Connector No.         | ). D301          | -            |
|-----------------------|------------------|--------------|
| Connector Name        | ame WIR          | WIRE TO WIRE |
| Connector Color WHITE | olor WHI         | TE           |
|                       | -                |              |
| E                     |                  | 3            |
| H.S.                  | 6 7              | 8 9 10 11 12 |
|                       |                  |              |
| Terminal No.          | Color of<br>Wire | Signal Name  |
| ო                     | В                | I            |
| 4                     | ۲                | I            |
| 5                     | SB               | I            |
| ω                     | BR               | I            |

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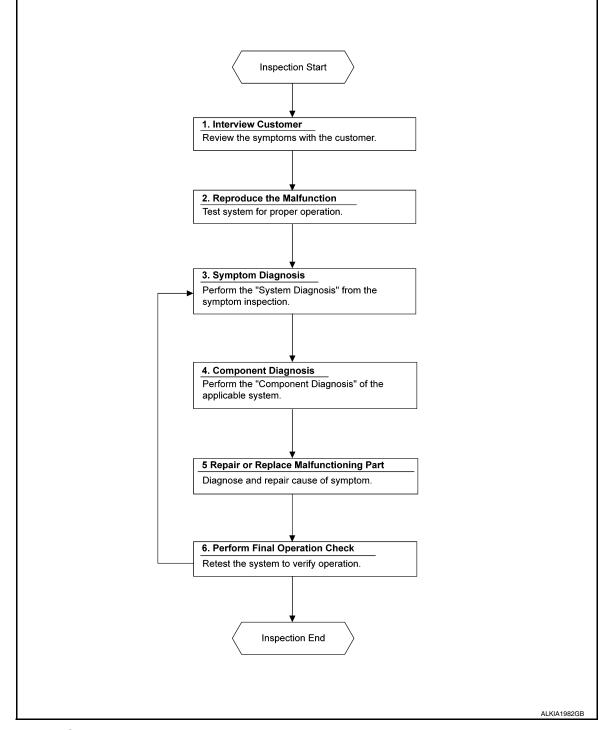
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### BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

### Work Flow

INFOID:000000012549690

**OVERALL SEQUENCE** 



### DETAILED FLOW

### 1. OBTAIN INFORMATION ABOUT SYMPTOM

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

### **DIAGNOSIS AND REPAIR WORKFLOW**

### < BASIC INSPECTION >

### [LH FRONT ONLY AUTO DOWN]

| >> GO TO 2.  | F  |
|--|----|
| 2. CONFIRM THE SYMPTOM   |    |
| Check the malfunction on the vehicle that the customer describes.<br>Inspect the relation of the symptoms and the condition when the symptoms occur.                     | E  |
| inspect the relation of the symptoms and the condition when the symptoms occur.  |    |
| >> GO TO 3.  | C  |
| <b>3.</b> IDENTIFY THE MALFUNCTIONING SYSTEM WITH SYMPTOM DIAGNOSIS  |    |
| Use Symptom diagnosis from the symptom inspection result in step 2 and then identify where to start perform-<br>ing the diagnosis based on possible causes and symptoms. |    |
| >> GO TO 4.  | F  |
| 4. PERFORM THE COMPONENT DIAGNOSIS OF THE OF THE APPLICABLE SYSTEM   |    |
| Perform the diagnosis with Component diagnosis of the applicable system.   |    |
|  | F  |
| >> GO TO 5.  |    |
| 5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS  | C  |
| Repair or replace the specified malfunctioning parts.  | 0  |
|  |    |
| >> GO TO 6.  | ŀ  |
| 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.           | I  |
| Are the malfunctions corrected?  |    |
| YES >> Inspection End.<br>NO >> GO TO 3.   | L. |
|  |    |
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### DTC/CIRCUIT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT BCM

**BCM** : Diagnosis Procedure

INFOID:000000012927034

Regarding Wiring Diagram information, refer to BCS-55, "Wiring Diagram".

### **1.** CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse or fusible link blown?

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

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M81.

2. Check voltage between BCM connector M81 terminals 131, 139 and ground.

| B         | СМ       | Ground | Voltage         |
|-----------|----------|--------|-----------------|
| Connector | Terminal | Ground | (Approx.)       |
| <br>M81   | 131      |        | Pottony voltago |
| IVIO I    | 139      |        | Battery voltage |

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

### **3.** CHECK GROUND CIRCUIT

Check continuity between BCM connector M81 terminals 134, 143 and ground.

| B         | CM       | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal | Ground | Continuity |
| <br>M81   | 134      |        | Yes        |
|           | 143      | —      | 165        |

### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

### POWER WINDOW MAIN SWITCH

### POWER WINDOW MAIN SWITCH : Description

BCM supplies power.

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

INFOID:000000012549692

|  | PO  | WER SU        | PPLY AND GROU   | ND CIRCUI        | т          |  |
|--|---|---------------|---|------------------|------------|--|
| < DTC/CIRCU  | IT DIAGNOSIS                                | \$ >          |   | [LH FRC          | ONT ONLY   | AUTO DOWN]                             |
| POWER WI   | NDOW MAI                                    | N SWITC       | CH : Component Fu   | nction Chec      | k          | INFOID:000000012549693                 |
| Main Power W   | /indow And Do                               | oor Lock/u    | nlock Switch  |                  |            |  |
| 4  |   |               | D DOOR LOCK/UNLOCH  | SWITCH FUN       | ICTION     |  |
|  |   |               | n main power window and   |                  |            |  |
| s the inspection   | n result normal                             | <u>?</u>      |   |                  |            |  |
|  |   |               | lock/unlock switch powe   |                  |            | are OK.                                |
| POWER WI   | NDOW MAI                                    | N SWITC       | CH : Diagnosis Proc   | edure            |            | INFOID:000000012549694                 |
| Main Power W   | /indow And Do                               | oor Lock/u    | fer to <u>PWC-17, "Wiring D</u><br>nlock Switch Power Su                      |                  |            | nly Auto Down".                        |
| 1. Turn ignitio  | WER SUPPLY<br>n switch ON.<br>age between r |               | window and door lock  | /unlock switch   | connectors | D23, D24 and                           |
| ground.  | 0   |               |   |                  |            | ,                                      |
|  |   | Те            | rminal  |                  |            |  |
|  |   | (+)           | 1   | $\left( \right)$ |            | Voltage<br>(Approx.)                   |
| Main power wind  | dow and door lock/                          | unlock switch | Terminal  | ()               |            | (• • • • • • • • • • • • • • • • • • • |
|  | D23   |               | 10  | Ground           | Ba         | ttery voltage                          |
|  | D24   |               | 18  | 0.00             |            |  |
| <u>ls the inspectio</u><br>YES >> GC<br>NO >> GC<br><b>2.</b> CHECK HA | ) TO 3.                                     |               |   |                  |            |  |
| <ol> <li>Disconnect<br/>switch RH,</li> </ol>                          | rear power win                              | dow switch    | v and door lock/unlock s<br>LH and rear power wind<br>ector and main power wi | ow switch RH.    |            |  |
| BCM<br>connector   | Terminal                                    | Main power    | window and door lock/unlock   | switch connector | Terminal   | Continuity                             |
| M81  | 140   |               | D23   |                  | 10         | Yes                                    |
|  | 141   |               | D24   |                  | 18         |  |
| 4. Check cont  | tinuity between                             | BCM conne     | ector M81 and ground.   |                  |            |  |
| BC   | CM connector                                |               | Terminal  |                  |            | Continuity                             |
|  | M81   |               | 140   | Ground           | 1          | No                                     |
|  | <u> </u>                                    |               | 141   |                  |            |  |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect main power window and door lock/unlock switch.

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between main power window and door lock/unlock switch connector D23 and ground.

| Main power window and door lock/unlock switch connector | Terminal | Ground | Continuity |
|---|----------|--------|------------|
| D23   | 1        | Ground | Yes        |

Is the inspection result normal?

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

1. Connect BCM.

2. Turn ignition switch ON.

3. Check voltage between BCM connector M81 and ground.

| Tei           | minals   |        |                      |
|---------------|----------|--------|----------------------|
| (+)           |          | ()     | Voltage<br>(Approx.) |
| BCM connector | Terminal | (-)    | ( ++)                |
| M81           | 140      | Ground | Battery voltage      |
| INO I         | 141      | Ground | Dattery voltage      |

Is the inspection result normal?

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

NO >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

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

1. Connect main power window and door lock/unlock switch.

2. Turn ignition switch ON.

3. Check voltage between main power window and door lock/unlock switch D23 and ground.

| Terr  | ninal    |        |                    |                 |
|---|----------|--------|--------------------|-----------------|
| (+)   |          |        | Window switch      | Voltage         |
| Main power window and door lock/<br>unlock switch connector | Terminal | (–)    | position (rear LH) | (Approx.)       |
|   | 9        |        | UP                 | Battery voltage |
| D23   | 9        | Ground | DOWN               | 0               |
| 623   | 0        | Ground | UP                 | 0               |
|   | 8        |        | DOWN               | Battery voltage |

Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61, "Removal and Instal-</u> lation".

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

- 1. Connect main power window and door lock/unlock switch.
- 2. Turn ignition switch ON.
- 3. Check voltage between main power window and door lock/unlock switch D23 and ground.

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[LH FRONT ONLY AUTO DOWN]

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| Te  | erminal  |          |                    |                 | А   |
|---|----------|----------|--------------------|-----------------|-----|
| (+)   |          |          | Window switch      | Voltage         |     |
| Main power window and door lock/unlock switch connector | Terminal | (-)      | position (rear RH) | (Approx.)       | В   |
|   | 7        |          | UP                 | Battery voltage | -   |
| Doo   | 1        | Oraciand | DOWN               | 0               | -   |
| D23   | 0        | Ground   | UP                 | 0               | - C |
|   | 6        |          | DOWN               | Battery voltage | -   |

Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61. "Removal and Instal-</u> lation".

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

1. Connect main power window and door lock/unlock switch.

2. Turn ignition switch ON.

3. Check voltage between main power window and door lock/unlock switch D24 and ground.

| Tern  | ninal    |        |                     |                 |  |
|---|----------|--------|---------------------|-----------------|--|
| (+)   |          |        | Window switch       | Voltage         |  |
| Main power window and door lock/<br>unlock switch connector | Terminal | (-)    | position (front LH) | (Approx.)       |  |
|   | 17       |        | UP                  | Battery voltage |  |
| D24   | 17       | Ground | DOWN                | 0               |  |
| D24   | 10       | Ground | UP                  | 0               |  |
|   | 19       | -      | DOWN                | Battery voltage |  |

### Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61, "Removal and Instal-</u><u>lation"</u>.

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

1. Connect main power window and door lock/unlock switch.

2. Turn ignition switch ON.

3. Check voltage between main power window and door lock/unlock switch D23 and ground.

| Те  | rminal   |            |                     |                 |  |
|---|----------|------------|---------------------|-----------------|--|
| (+)   |          |            | Window switch       | Voltage         |  |
| Main power window and door lock/unlock switch connector | Terminal | (-)        | position (front RH) | (Approx.)       |  |
|   | 16       |            | UP                  | Battery voltage |  |
| D00   | 16       | Ground     | DOWN                | 0               |  |
| D23   | 2        | - Ground - | UP                  | 0               |  |
|   | 2        |            | DOWN                | Battery voltage |  |

### Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61, "Removal and Instal-</u> lation".

### POWER SUPPLY AND GROUND CIRCUIT DSIS > [LH FRONT ONLY AUTO DOWN]

### < DTC/CIRCUIT DIAGNOSIS >

### POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:000000012549695

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

### 1. Check main power window and door lock/unlock switch D23.

| Terr | minal | Main power window and do | or lock/unlock switch condition | Continuity |
|------|-------|--------------------------|---------------------------------|------------|
| 10   | 9     | Rear LH                  |                                 |            |
| 10   | 7     | Rear RH                  | UP                              |            |
| 10   | 16    | Front RH                 |                                 |            |
| 8    | 9     | Rear LH                  |                                 |            |
| 6    | 7     | Rear RH                  | NEUTRAL                         | Vee        |
| 2    | 16    | Front RH                 |                                 | Yes        |
| 10   | 8     | Rear LH                  |                                 |            |
| 10   | 6     | Rear RH                  | DOWN                            |            |
| 10   | 2     | Front RH                 |                                 |            |
| 1    | 12    |                          | -                               |            |

2. Check continuity between main power window and door lock/unlock switch D23 (power window lock switch) (Lock operation).

| Term | inal | Main power window and door | r lock/unlock switch condition | Continuity |
|------|------|----------------------------|--------------------------------|------------|
| 8    |      | Rear LH                    |                                |            |
| 6    | -    | Rear RH                    | UP                             |            |
| 2    |      | Front RH                   |                                |            |
| 8    | -    | Rear LH                    |                                |            |
| 9    |      |                            |                                |            |
| 7    | 1    | Rear RH                    | NEUTRAL                        | No         |
| 6    | I    |                            | NEUTRAL                        | NO         |
| 2    | -    | Front RH                   |                                |            |
| 16   |      |                            |                                |            |
| 9    | -    | Rear LH                    |                                |            |
| 7    |      | Rear RH                    | DOWN                           |            |
| 16   |      | Front RH                   |                                |            |

3. Check continuity between main power window and door lock/unlock switch D23 (power window lock switch) (Unlock operation).

### POWER SUPPLY AND GROUND CIRCUIT < DTC/CIRCUIT DIAGNOSIS > [LH FRONT ONLY AUTO DOWN]

|   | al  | Main power window and door  | lock/unlock switch condition   | Continuity   |
|---|---|---|--|--|
| 8   |   | Rear LH   |  |  |
| 6   |   | Rear RH   | UP   |  |
| 2   |   | Front RH  |  |  |
| 8   |   | Rear LH   |  |  |
| 9   |   |   |  |  |
| 7   | 1   | Rear RH   | NEUTRAL  | Yes  |
| 6   | 1   |   | NEUTKAL  | tes  |
| 2   |   | Front RH  |  |  |
| 16  |   |   |  |  |
| 9   |   | Rear LH   |  |  |
| 7   |   | Rear RH   | DOWN   |  |
| 16  |   | Front RH  |  |  |
| the inspection re   | sult normal?  |   |  |  |
| NO >> Replac<br><u>lation"</u> .<br>RONT POWI   |   | window and door lock/unloc<br>W SWITCH  | x switch. Refer to <u>PWC-</u>   | 61, "Removal and Instal  |
| RONT POWE   | ER WINDOV   | V SWITCH : Descript   | ion  | INFOID:0000000125496   |
| BCM supplies po   |   |   |  |  |
| -   |   | V SWITCH : Compon   |  | •  |
| RONT POWE   | ER WINDOV   | V SWITCH : Compon   |  | k switch RH is operatec  |
| RONT POWE   | ER WINDOV   | V SWITCH : Compon   |  | •  |
| RONT POWE   | ER WINDOV<br>nd Door Lock/<br>ER WINDOW M   | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION   | ent Function Checl   | K INFOID:0000000125496   |
| RONT POWE<br>Power Window A<br>CHECK POWE<br>Check front power  | R WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor   | V SWITCH : Compon   | ent Function Checl   | K INFOID:0000000125496   |
| Power Window A<br>CHECK POWE<br>Check front power<br>the inspection re<br>YES >> Power  | R WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor<br>sult normal?<br>window and do  | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION   | ent Function Check   | switch RH.   |
| Power Window A<br>CHECK POWE<br>Check front power<br><u>s the inspection re</u><br>YES >> Power<br>NO >> Refer t  | ER WINDOV<br>nd Door Lock<br>R WINDOW M<br>window motor<br>sult normal?<br>window and do<br>to PWC-33. "FF  | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo   | ent Function Check   | switch RH.   |
| Power Window A<br>CHECK POWE<br>Check front power<br><u>s the inspection re</u><br>YES >> Power<br>NO >> Refer t<br>FRONT POWE  | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33, "FF<br>ER WINDOV   | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>por lock/unlock switch RH p  | ent Function Check   | switch RH.<br>circuit are OK.<br>cedure".  |
| RONT POWE<br>ower Window A<br>. CHECK POWE<br>Check front power<br>s the inspection re<br>YES >> Power<br>NO >> Refer to<br>RONT POWE   | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33. "FF<br>ER WINDOV   | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>oor lock/unlock switch RH p<br>CONT POWER WINDOW S<br>V SWITCH : Diagnos   | ent Function Check   | switch RH.<br>circuit are OK.<br>cedure".<br>INFOID:0000000125496  |
| RONT POWE<br>ower Window A<br>. CHECK POWE<br>Check front power<br>the inspection re<br>YES >> Power<br>NO >> Refer t<br>RONT POWE<br>Regarding Wiring I  | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to <u>PWC-33</u> , "FF<br>ER WINDOV<br>Diagram informant<br>nd Door Lock/                                       | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>oor lock/unlock switch RH p<br>RONT POWER WINDOW S<br>V SWITCH : Diagnos   | ent Function Check<br>w and door lock/unlock s<br>ower supply and ground<br><u>SWITCH : Diagnosis Proc</u><br>is Procedure<br>ring Diagram - With Left<br>r Supply Circuit Check | Switch RH.<br>circuit are OK.<br><u>cedure"</u> .<br>INFOID:0000000125496<br>Front Only Auto Down"                               |
| RONT POWE<br>ower Window A<br>. CHECK POWE<br>check front power<br>the inspection re<br>YES >> Power<br>NO >> Refer t<br>RONT POWE<br>egarding Wiring I<br>ower Window A<br>. CHECK POWE<br>. Turn ignition sy      | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33. "FF<br>ER WINDOV<br>Diagram informand<br>nd Door Lock/<br>R SUPPLY CIF<br>witch ON.                  | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>por lock/unlock switch RH p<br>RONT POWER WINDOW S<br>V SWITCH : Diagnos<br>ation, refer to <u>PWC-17. "Wi</u>   | ent Function Check   | Switch RH.<br>circuit are OK.<br>cedure".<br>INFOID:0000000125496<br>Front Only Auto Down"<br>OCK SWITCH RH)                     |
| RONT POWE<br>ower Window A<br>. CHECK POWE<br>check front power<br>the inspection re<br>YES >> Power<br>NO >> Refer t<br>RONT POWE<br>egarding Wiring I<br>ower Window A<br>. CHECK POWE<br>. Turn ignition sy      | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33. "FF<br>ER WINDOV<br>Diagram informand<br>nd Door Lock/<br>R SUPPLY CIF<br>witch ON.                  | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>oor lock/unlock switch RH p<br>RONT POWER WINDOW S<br>V SWITCH : Diagnos<br>ation, refer to <u>PWC-17, "Wi</u><br>/Unlock Switch RH Powe<br>RCUIT (POWER WINDOW                                | ent Function Check   | Switch RH.<br>circuit are OK.<br>cedure".<br>INFOID:0000000125496<br>Front Only Auto Down"<br>OCK SWITCH RH)                     |
| Power Window A<br>Power Window A<br>CHECK POWE<br>Check front power<br>S the inspection re<br>YES >> Power<br>NO >> Refer t<br>FRONT POWE<br>Regarding Wiring I<br>Power Window A<br>CHECK POWE<br>Turn ignition sy | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33. "FF<br>ER WINDOV<br>Diagram informand<br>nd Door Lock/<br>R SUPPLY CIF<br>witch ON.                  | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>por lock/unlock switch RH p<br>RONT POWER WINDOW S<br>V SWITCH : Diagnos<br>ation, refer to <u>PWC-17, "Wi</u><br>/Unlock Switch RH Powe<br>RCUIT (POWER WINDOW<br>r window and door lock/unlo | ent Function Check   | Switch RH.<br>circuit are OK.<br>cedure".<br>INFOID:0000000125496<br>Front Only Auto Down"<br>OCK SWITCH RH)                     |
| Power Window A<br>CHECK POWE<br>Check front power<br>S the inspection re<br>YES >> Power<br>NO >> Refer to<br>FRONT POWE<br>Regarding Wiring I<br>Power Window A<br>CHECK POWE<br>Check voltage<br>Power window a   | ER WINDOV<br>nd Door Lock/<br>R WINDOW M<br>window motor of<br>sult normal?<br>window and do<br>to PWC-33. "FF<br>ER WINDOV<br>Diagram informand<br>nd Door Lock/<br>ER SUPPLY CIF<br>witch ON.<br>between powe | V SWITCH : Compon<br>/unlock Switch RH<br>OTOR FUNCTION<br>operation with power windo<br>por lock/unlock switch RH p<br>RONT POWER WINDOW S<br>V SWITCH : Diagnos<br>ation, refer to <u>PWC-17, "Wi</u><br>/Unlock Switch RH Powe<br>RCUIT (POWER WINDOW<br>r window and door lock/unlo | ent Function Check   | Switch RH.<br>circuit are OK.<br>cedure".<br>INFOID:0000000125496<br>Front Only Auto Down"<br>OCK SWITCH RH)<br>D125 and ground. |

Is the inspection result normal?

YES >> GO TO 3.

### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

### 2. CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.

 Check continuity between BCM connector M81 and power window and door lock/unlock switch RH connector D125.

| BCM connector | Terminal | Power window and door lock/unlock switch RH connector | Terminal | Continuity |
|---------------|----------|---|----------|------------|
| M81           | 140      | D125  | 8        | Yes        |

4. Check continuity between BCM connector M81 and ground.

| BCM connector | Terminal | Terminal Ground |    |
|---------------|----------|-----------------|----|
| M81           | 140      | Gibana          | No |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

 $\mathbf{3.}$  CHECK HARNESS CONTINUITY (POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH)

- 1. Turn ignition switch OFF.
- 2. Disconnect main power window and door lock/unlock switch and power window and door lock/unlock switch RH.
- 3. Check continuity between main power window and door lock/unlock switch connector D23 and power window and door lock/unlock switch RH connector D125.

| Main power window and door lock/unlock switch connector | Terminal | Power window and door lock/<br>unlock switch RH connector | Terminal | Continuity |
|---|----------|---|----------|------------|
| D23   | 2        | D125  | 11       | Yes        |
|   | 16       | D125  | 12       | 165        |

4. Check continuity between main power window and door lock/unlock switch connector D23 and ground.

| Main power window and door lock/unlock switch connector | Terminal |        | Continuity |
|---|----------|--------|------------|
| <br>D23   | 2        | Ground | No         |
| D23   | 16       | -      | No         |

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace the harness or connectors.

**4.** CHECK BCM OUTPUT SIGNAL

1. Connect BCM.

2. Turn ignition switch ON.

3. Check voltage between BCM connector M81 and ground.

| Tern          |          |                      |                 |  |
|---------------|----------|----------------------|-----------------|--|
| (+)           | ()       | Voltage<br>(Approx.) |                 |  |
| BCM connector | Terminal | - (-)                |                 |  |
| M81           | 140      | Ground               | Battery voltage |  |

Is the inspection result normal?

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

NO >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

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

Check power window and door lock/unlock switch RH.

### POWER SUPPLY AND GROUND CIRCUIT [LH FRONT ONLY AUTO DOWN] < DTC/CIRCUIT DIAGNOSIS > Refer to PWC-35, "FRONT POWER WINDOW SWITCH : Component Inspection". А Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident". NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-62, "Removal and Installation". В FRONT POWER WINDOW SWITCH : Component Inspection INFOID:000000012549699 COMPONENT INSPECTION 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH Check power window and door lock/unlock switch RH D125. D Terminal Power window switch condition Continuity Е 7 8 UP 6 11 11 6 NEUTRAL Yes 7 12 8 6 DOWN 7 12 Is the inspection result normal? YES >> Power window and door lock/unlock switch RH is OK. Н NO >> Replace power window and door lock/unlock switch RH. Refer to PWC-62. "Removal and Installation". REAR POWER WINDOW SWITCH REAR POWER WINDOW SWITCH : Description INEOID-000000012549700 BCM supplies power. Rear power window motor will be operated if rear power window switch is operated. Rear power window switch. REAR POWER WINDOW SWITCH : Component Function Check INFOID:000000012549701 PWC Rear Power Window Switch CHECK REAR POWER WINDOW MOTOR FUNCTION Check rear power window motor operation with rear power window switch. Is the inspection result normal? M YES >> Rear power window switch power supply and ground circuit are OK. >> Refer to PWC-35, "REAR POWER WINDOW SWITCH : Diagnosis Procedure". NO REAR POWER WINDOW SWITCH : Diagnosis Procedure Ν INFOID:000000012549702 Regarding Wiring Diagram information, refer to PWC-17, "Wiring Diagram - With Left Front Only Auto Down". Rear Power Window Switch Power Supply Circuit Check Ρ CHECK POWER SUPPLY CIRCUIT 1. Turn ignition switch ON.

2. Check voltage between rear power window switch connector and ground.

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

|    | Terminal                           |     |              |                    |                      |
|----|------------------------------------|-----|--------------|--------------------|----------------------|
|    | (+)                                |     | Terminal (–) | Condition          | Voltage<br>(Approx.) |
|    | Rear power window switch connector |     |              |                    |                      |
| LH | D208                               | 4   | Ground       | Ignition switch ON | Patton voltago       |
| RH | D308                               | - 4 | Ground       | Ignition switch ON | Battery voltage      |

Is the inspection result normal?

YES >> GO TO 2 (Rear power window switch LH).

YES >> GO TO 3 (Rear power window switch RH).

NO >> GO TO 4.

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

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

| Main power window and door lock/<br>unlock switch connector | Terminal | Rear power window switch<br>LH connector | Terminal | Continuity |
|---|----------|--|----------|------------|
| <br>D23   | 8        | 0208                                     | 7        | Yes        |
| D23   | 9        | D208                                     | 8        |            |

### 4. Check continuity between main power window and door lock/unlock switch connector D23 and ground.

| Main power window and door lock/unlock<br>switch connector | Terminal |        | Continuity |
|--|----------|--------|------------|
| D23  | 8        | Ground | No         |
|  | 9        |        | INO        |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the harness or connectors.

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

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

| Main power window and door lock/<br>unlock switch connector | Terminal | Rear power window switch<br>RH connector | Terminal | Continuity |  |
|---|----------|--|----------|------------|--|
| D23 -   | 6        | D308                                     | 7        | Yes        |  |
|   | 7        | D300                                     | 8        | 165        |  |

4. Check continuity between main power window and door lock/unlock switch connector D23 and ground.

| Main power window and door lock/un-<br>lock switch connector | Terminal |        | Continuity |
|--|----------|--------|------------|
| D23 -  | 6        | Ground | No         |
|  | 7        | _      | NO         |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the harness or connectors.

**4.** CHECK HARNESS CONTINUITY

#### POWER SUPPLY AND GROUND CIRCUIT [LH FRONT ONLY AUTO DOWN]

#### < DTC/CIRCUIT DIAGNOSIS >

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

| BCM<br>connector | Terminal            | Rear power window switch connector |      | Terminal | Continuity | В |
|------------------|---------------------|------------------------------------|------|----------|------------|---|
|                  | 140                 | LH                                 | D208 | 4        | Yes        |   |
| IVIO I           | 140                 | RH                                 | D308 | 4        | Tes        | С |
| 3 Check cont     | tinuity between BCM | connector and aro                  | und  | L        | <u> </u>   |   |

| BCM connector                 | Terminal                             | Cround                   | Continuity   |
|-------------------------------|--------------------------------------|--------------------------|--------------|
| M81                           | 140                                  | Ground                   | No           |
| the inspection result normal? |                                      |                          |              |
|                               | er to <u>BCS-81, "Removal and</u>    | Installation".           |              |
| NO >> Repair or replace ha    |                                      |                          |              |
| . CHECK REAR POWER WI         | NDOW SWITCH                          |                          |              |
| heck rear power window switc  | h.                                   |                          |              |
| efer to PWC-37, "REAR POW     | ER WINDOW SWITCH : Co                | omponent Inspection".    |              |
| the inspection result normal? |                                      |                          |              |
|                               | ncident. Refer to <u>GI-47, "Int</u> |                          |              |
| NO >> Replace rear power      | window switch. Refer to P            | NC-63, "Removal and Inst | stallation". |
|                               | V SWITCH : Compon                    |                          |              |

#### COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

| Terr        | minal          | Power window switch condition | Continuity |     |
|-------------|----------------|-------------------------------|------------|-----|
| 4           | 5              |                               |            |     |
| 7           | 6              | UP                            |            | PWC |
| 7           | 6              | NEUTRAL                       | Vee        |     |
| 8           | 5              | NEUTRAL                       | Yes        | 1   |
| 8           | 5              | DOWN                          | _          |     |
| 4           | 6              | DOWN                          |            |     |
| nspection r | result normal? |                               |            | M   |

Is the inspection result normal?

YES >> Rear power window switch is OK.

>> Replace rear power window switch. Refer to PWC-63, "Removal and Installation". NO

А

Ρ

< DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW MOTOR DRIVER SIDE

**DRIVER SIDE : Description** 

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

DRIVER SIDE : Component Function Check

**1.** CHECK FRONT POWER WINDOW MOTOR LH CIRCUIT

Check front power window motor LH operation with the main power window and door lock/unlock switch. <u>Is the inspection result normal?</u>

YES >> Front power window motor LH is OK.

NO >> Refer to <u>PWC-38. "DRIVER SIDE : Diagnosis Procedure"</u>.

**DRIVER SIDE : Diagnosis Procedure** 

INFOID:000000012549706

Regarding Wiring Diagram information, refer to PWC-17, "Wiring Diagram - With Left Front Only Auto Down".

## Front Power Window Motor LH Circuit Check

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

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

|  | Terminal |        |   |                 |  |
|--|----------|--------|---|-----------------|--|
| (+)                                      |          |        | Main power window and<br>door lock/unlock switch con- | Voltage         |  |
| Front power window motor<br>LH connector |          |        | dition  | (Approx.)       |  |
|  | 4        |        | UP  | Battery voltage |  |
| D9 -                                     | I        | Ground | DOWN  | 0               |  |
|  | 0        | Giouna | UP  | 0               |  |
|  | 2        |        | DOWN  | Battery voltage |  |

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect main power window and door lock/unlock switch.

3. Check continuity between main power window and door lock/unlock switch connector D24 and front power window motor LH connector D9.

| Main power window and door lock/un-<br>lock switch<br>connector | Terminal | Front power window motor LH connector | Terminal | Continuity |
|---|----------|---------------------------------------|----------|------------|
| D24   | 19       | D9                                    | 2        | Yes        |
|   | 17       | 55                                    | 1        | 163        |

4. Check continuity between main power window and door lock/unlock switch connector D24 and ground.

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#### < DTC/CIRCUIT DIAGNOSIS >

| Main power window and door lock/un-<br>lock switch connector  | Terminal                        |                                | Continuity                |
|---|---------------------------------|--------------------------------|---------------------------|
| D24   | 19                              | Ground                         | No                        |
| 024   | 17                              |                                | NO                        |
| <u>s the inspection result normal?</u><br>YES >> Replace main power wi<br><u>lation"</u> .<br>NO >> Repair or replace harne |                                 | ck switch. Refer to <u>PWC</u> | -61, "Removal and Instal  |
| <b>3.</b> CHECK FRONT POWER WIND  |                                 |                                |                           |
| Check front power window motor LH<br>Refer to <u>PWC-39, "DRIVER SIDE :</u>   |                                 |                                |                           |
| Is the inspection result normal?  |                                 |                                |                           |
| YES >> Check intermittent incid<br>NO >> Replace front power win  |                                 |                                | notaliation"              |
|   |                                 |                                | <u>Installation</u> .     |
| DRIVER SIDE : Component   | Inspection                      |                                | INFOID:00000001254970     |
| COMPONENT INSPECTION  |                                 |                                |                           |
| 1. CHECK FRONT POWER WIND   | OW MOTOR LH                     |                                |                           |
| Check motor operation by connectir  |                                 | ectly to power window m        | notor D9.                 |
|   | <u> </u>                        |                                |                           |
| Terminal  |                                 | Motor                          | condition                 |
| (+)   | (-)                             |                                |                           |
| 2   | 2                               | UP<br>DOWN                     |                           |
| Is the inspection result normal?  | I                               |                                | OWN                       |
| YES >> Front power window mo<br>NO >> Replace front power win<br>PASSENGER SIDE   |                                 | GW-18, "Removal and            | nstallation".             |
| PASSENGER SIDE : Descri   | ption                           |                                | INFOID:00000001254970     |
| Door glass moves UP/DOWN by repower window and door lock/unlock   |                                 | ain power window and o         | door lock/unlock switch o |
| PASSENGER SIDE : Comp   | onent Function Che              | ck                             | INFOID:00000001254970     |
| 1. CHECK FRONT POWER WIND   | OW MOTOR RH CIRCU               | IT                             |                           |
| Check front power window motor RI window and door lock/unlock switch  |                                 | ver window and door lo         | ck/unlock switch or powe  |
| Is the inspection result normal?  |                                 |                                |                           |
| YES >> Front power window mo<br>NO >> Refer to <u>PWC-39</u> , "PAS   |                                 | sis Procedure".                |                           |
| PASSENGER SIDE : Diagno   | osis Procedure                  |                                | INFOID:00000001254971     |
| -   |                                 |                                |                           |
| Regarding Wiring Diagram informat   | on, refer to <u>PWC-17, "Wi</u> | ring Diagram - With Lef        | t Front Only Auto Down".  |
|   |                                 |                                |                           |
| Front Power Window Motor RH (   | Circuit Check                   |                                |                           |

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

1. Turn ignition switch OFF.

#### < DTC/CIRCUIT DIAGNOSIS >

#### 2. Disconnect front power window motor RH.

3. Turn ignition switch ON.

4. Check voltage between front power window motor RH connector D104 and ground.

| Te  | erminal |        | Voltage (V)  |                          |
|---|---------|--------|--------------|--------------------------|
| (+)<br>Front power window motor RH<br>connector |         |        |              | Front power window motor |
|   |         | (-)    | RH condition | (Approx.)                |
|   | 1       | Ground | UP           | Battery voltage          |
| D104  | I       |        | DOWN         | 0                        |
| D104  | 2       | Ground | UP           | 0                        |
|   | 2       |        | DOWN         | Battery voltage          |

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect power window and door lock/unlock switch RH.

 Check continuity between power window and door lock/unlock switch RH connector D125 and front power window motor RH connector D104.

| Power window and door lock/un-<br>lock switch RH connector | Terminal | Front power window motor RH connector | Terminal | Continuity |
|--|----------|---------------------------------------|----------|------------|
| D125   | 6        | D104                                  | 2        | Yes        |
| 0123   | 7        |                                       | 1        | 163        |

4. Check continuity between power window and door lock/unlock switch connector D125 and ground.

| Power window and door lock/unlock switch RH connector | Terminal |        | Continuity |
|---|----------|--------|------------|
| <br>D125  | 6        | Ground | No         |
| 0125  | 7        |        | No         |

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to <u>PWC-62</u>, "<u>Removal and Installa-</u> tion".

NO >> Repair or replace the harness or connectors.

3. CHECK FRONT POWER WINDOW MOTOR RH

#### Check front power window motor RH.

Refer to <u>PWC-40</u>, "PASSENGER SIDE : Component Inspection".

#### Is the inspection result normal?

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

NO >> Replace front power window motor RH. Refer to <u>GW-14, "Removal and Installation"</u>.

## PASSENGER SIDE : Component Inspection

INFOID:000000012549711

COMPONENT INSPECTION

#### COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

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

## < DTC/CIRCUIT DIAGNOSIS >

[LH FRONT ONLY AUTO DOWN]

|  |  |   | MOTOF  | condition   |
|--|--|---|--|---|
| (+)  |  | (-)   | Motor condition  |   |
| 1  |  | 2   |  | UP  |
| 2  |  | 1   | D  | NMC   |
| the inspection result normal<br>YES >> Power window mo<br>NO >> Replace front pow<br>REAR LH   | otor is OK.  | r RH. Refer to <u>GW</u>                        | -14, "Removal and  | nstallation".                                       |
| EAR LH : Description   |  |   |  | INFOID:00000001254971                               |
| oor glass moves UP/DOWN<br>ear power window switch LH.   |  | signal from main                                | power window and c   | loor lock/unlock switch o                           |
| EAR LH : Component   | Function Ch  | eck   |  | INFOID:00000001254971                               |
| . CHECK REAR POWER W   | INDOW MOTOR  | R LH CIRCUIT                                    |  |   |
| heck rear power window mo<br>ower window switch LH.  | otor LH operation  | n with main power                               | window and door lo   | ock/unlock switch or rea                            |
| the inspection result normal   | ?  |   |  |   |
| YES >> Rear power windo  | ow motor LH is C   |   |  |   |
| NO >> Refer to <u>PWC-41</u> ,   |  | agnosis Procedure                               | <u> </u>   |   |
| REAR LH : Diagnosis P  | rocedure   |   |  | INFOID:00000001254971                               |
| egarding Wiring Diagram information information in the second | ormation, refer to   |   | Diagram - With Lef   | <u>Front Only Auto Down"</u> .                      |
| legarding Wiring Diagram info  | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.   | ck<br>H LH OUTPUT SI                            | GNAL   |   |
| Regarding Wiring Diagram info<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power with<br>Turn ignition switch ON.<br>Check voltage between re   | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.   | ck<br>H LH OUTPUT SI                            | GNAL   |   |
| Regarding Wiring Diagram info<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power with<br>Turn ignition switch ON.<br>Check voltage between re   | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.<br>ear power window                                   | ck<br>H LH OUTPUT SI                            | GNAL   |   |
| egarding Wiring Diagram info<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power wit<br>Turn ignition switch ON.<br>Check voltage between re   | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.<br>ear power window                                   | ck<br>H LH OUTPUT SI<br>w motor LH conne        | GNAL<br>ctor D204 and groun<br>Window<br>condition               | ld.<br>Voltage<br>(Approx.)                         |
| egarding Wiring Diagram info<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power wi<br>Turn ignition switch ON.<br>Check voltage between re<br>(+)<br>Rear power window motor LH   | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.<br>ear power window                                   | ck<br>H LH OUTPUT SI<br>w motor LH conne        | GNAL<br>ctor D204 and groun<br>Window                            | rd.<br>Voltage<br>(Approx.)<br>Battery voltage      |
| egarding Wiring Diagram info<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power wi<br>Turn ignition switch ON.<br>Check voltage between re<br>(+)<br>Rear power window motor LH   | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.<br>ear power window<br>Terminal<br>Terminal<br>2      | ck<br>H LH OUTPUT SI<br>w motor LH conne        | GNAL<br>ctor D204 and groun<br>Window<br>condition<br>UP         | ld.<br>Voltage<br>(Approx.)                         |
| egarding Wiring Diagram infe<br>ear Power Window Motor<br>CHECK REAR POWER W<br>Turn ignition switch OFF.<br>Disconnect rear power with<br>Turn ignition switch ON.<br>Check voltage between re<br>(+)<br>Rear power window motor LH<br>connector  | ormation, refer to<br>LH Circuit Che<br>/INDOW SWITC<br>ndow motor LH.<br>ear power window<br>Terminal<br>Terminal<br>2<br>1 | ck<br>H LH OUTPUT SI<br>w motor LH conne<br>(-) | GNAL<br>ctor D204 and groun<br>Window<br>condition<br>UP<br>DOWN | rd.<br>Voltage<br>(Approx.)<br>Battery voltage<br>0 |

#### < DTC/CIRCUIT DIAGNOSIS >

| Rear power window switch LH connector | Terminal | Rear power window motor LH connector | Terminal | Continuity |
|---------------------------------------|----------|--------------------------------------|----------|------------|
| D208                                  | 6        | D204                                 | 1        | Yes        |
| 5200                                  | 5        | 0204                                 | 2        | 100        |

#### 4. Check continuity between rear power window switch LH connector D208 and ground.

| Rear power window switch LH connector | Terminal |        | Continuity |
|---------------------------------------|----------|--------|------------|
| <br>D208                              | 6        | Ground | No         |
| 0200                                  | 5        |        | NO         |

#### Is the inspection result normal?

YES >> Check rear power window switch LH. Refer to <u>PWC-37, "REAR POWER WINDOW SWITCH :</u> <u>Component Inspection"</u>.

#### NO >> Repair or replace the harness or connectors.

## $\mathbf{3.}$ CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to PWC-42, "REAR LH : Component Inspection".

#### Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".
- NO >> Replace rear power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

## **REAR LH** : Component Inspection

#### COMPONENT INSPECTION

## 1. CHECK REAR POWER WINDOW MOTOR LH

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

| Terminal |     | Motor condition |
|----------|-----|-----------------|
| (+)      | (-) |                 |
| 2        | 1   | UP              |
| 1        | 2   | DOWN            |

#### Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

#### REAR RH

## REAR RH : Description

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

## **REAR RH : Component Function Check**

## **1.** CHECK POWER WINDOW MOTOR CIRCUIT

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

#### Is the inspection result normal?

- YES >> Power window motor is OK.
- NO >> Refer to PWC-42, "REAR RH : Diagnosis Procedure".

## **REAR RH : Diagnosis Procedure**

INFOID:000000012549718

INFOID:000000012549716

INFOID:000000012549717

INFOID:000000012549715

#### < DTC/CIRCUIT DIAGNOSIS >

Regarding Wiring Diagram information, refer to PWC-17, "Wiring Diagram - With Left Front Only Auto Down".

## Rear Power Window Motor RH Circuit Check

## 1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect rear power window motor RH.

3. Turn ignition switch ON.

4. Check voltage between rear power window motor RH connector D304 and ground.

| Т                                    | erminal  |        |                           |                 |   |                   |  |
|--------------------------------------|----------|--------|---------------------------|-----------------|---|-------------------|--|
| (+)                                  |          |        | Rear power window Voltage | -               |   |                   |  |
| Rear power window motor RH connector | Terminal | (-)    | switch RH condition       | (Approx.)       |   | ndition (Approx.) |  |
|                                      | 0        |        | UP                        | Battery voltage | _ |                   |  |
|                                      | 2        | Ground | DOWN                      | 0               |   |                   |  |
| D304 -                               | D304     | Ground | UP                        | 0               |   |                   |  |
|                                      | I        |        | DOWN                      | Battery voltage | _ |                   |  |

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect rear power window switch RH.

3. Check continuity between rear power window switch RH connector D308 and rear power window motor RH connector D304.

| Rear power window switch RH connector | Terminal | Rear power window motor RH connector | Terminal | Continuity | J   |
|---------------------------------------|----------|--------------------------------------|----------|------------|-----|
| D308                                  | 5        | D304                                 | 2        | Yes        |     |
|                                       | 6        | D304                                 | 1        | 163        | PW( |

4. Check continuity between rear power window switch RH connector D308 and ground.

| Rear power window switch RH connector | Terminal |        | Continuity | L |
|---------------------------------------|----------|--------|------------|---|
| <br>D308                              | 5        | Ground | No         |   |
| 5308                                  | 6        |        | NO         |   |

Is the inspection result normal?

YES >> Check rear power window switch RH. Refer to <u>PWC-37, "REAR POWER WINDOW SWITCH :</u> <u>Component Inspection"</u>.

NO >> Repair or replace harness or connectors.

**3.** CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH.

Refer to PWC-43, "REAR RH : Component Inspection".

Is the inspection result normal?

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

NO >> Replace rear power window motor RH. Refer to <u>GW-19</u>, "Removal and Installation".

**REAR RH** : Component Inspection

## COMPONENT INSPECTION

1. CHECK REAR POWER WINDOW MOTOR RH

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

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#### < DTC/CIRCUIT DIAGNOSIS >

| Ter | minal | Motor condition |
|-----|-------|-----------------|
| (+) | (-)   |                 |
| 1   | 2     | DOWN            |
| 2   | 1     | UP              |

Is the inspection result normal?

YES >> Power window motor is OK.

NO >> Replace rear power window motor RH. Refer to <u>GW-19</u>, "Removal and Installation".

#### < DTC/CIRCUIT DIAGNOSIS > ENCODER А DRIVER SIDE DRIVER SIDE : Description INFOID:000000012549720 В Detects condition of the front power window motor LH operation and transmits to main power window and door lock/unlock switch as pulse signal. **DRIVER SIDE : Component Function Check** INFOID:000000012549721 1. CHECK ENCODER OPERATION D Check front door glass LH perform AUTO DOWN operation normally with main power window and door lock/ unlock switch. Is the inspection result normal? Ε YES >> Encoder operation is OK. NO >> Refer to PWC-45, "DRIVER SIDE : Diagnosis Procedure". DRIVER SIDE : Diagnosis Procedure INFOID:000000012549722 Regarding Wiring Diagram information, refer to PWC-17, "Wiring Diagram - With Left Front Only Auto Down". Encoder Circuit Check Н 1. CHECK ENCODER OPERATION 1. Connect front power window motor LH. Turn ignition switch ON. 2. Check signal between main power window and door lock/unlock switch connector D23 and ground with 3. oscilloscope. J Terminals (+)Signal Signal name (Reference value) (-) Main power window and door lock/un-Terminal PWC lock switch connector 5 Encoder signal 1 D23 Refer to following signal Ground Encoder signal 2 4 (V) 6 (V) 42 Encoder signal 1 Encoder signal 1 M (V)(V Encoder signal 2 Encoder signal 2 ò Ν Window UP Window DOWN (Encoder signal 2 starts 1/4 pulses earlier) (Encoder signal 1 starts 1/4 pulses earlier) JMKIA5210GB

Is the inspection result normal?

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

NO >> GO TO 2.

## 2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

1. Turn ignition switch ON.

Check voltage between front power window motor LH connector D9 and ground. 2.

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## ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

| Termina                               | N/ 14    |                      |    |
|---------------------------------------|----------|----------------------|----|
| (+)                                   | (-)      | Voltage<br>(Approx.) |    |
| Front power window motor LH connector | Terminal | ()                   |    |
| D9                                    | 4        | Ground               | 10 |

Is the inspection result normal?

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

**3.** CHECK HARNESS CONTINUITY 1

1. Turn ignition switch OFF.

- 2. Disconnect main power window and door lock/unlock switch and front power window motor LH.
- 3. Check continuity between main power window and door lock/unlock switch connector D23 and front power window motor connector D9.

| Main power window and door lock/<br>unlock switch connector | Terminal | Front power window motor LH<br>connector | Terminal | Continuity |
|---|----------|--|----------|------------|
| D23   | 14       | D9                                       | 4        | Yes        |

4. Check continuity between main power window and door lock/unlock switch connector D23 and ground.

| Main power window and door lock/unlock switch connector | Terminal | Ground | Continuity |
|---|----------|--------|------------|
| D23   | 14       | Cround | No         |

#### Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61</u>, "<u>Removal and Instal-</u> lation".

NO >> Repair or replace harness or connectors.

## **4.** CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect front power window motor LH.

3. Check continuity between front power window motor LH connector D9 and ground.

| Front power window motor LH connector | Terminal | Ground | Continuity |  |
|---------------------------------------|----------|--------|------------|--|
| D9                                    | 6        | Ground | Yes        |  |

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

## **5.** CHECK HARNESS CONTINUITY 2

1. Disconnect main power window and door lock/unlock switch.

 Check continuity between main power window and door lock/unlock switch connector D23 and front power window motor LH connector D9.

| Main power window and door lock/un-<br>lock switch connector | Terminal | Front power window motor LH<br>connector | Terminal | Continuity |
|--|----------|--|----------|------------|
| D23  | 12       | D9                                       | 6        | Yes        |

#### Is the inspection result normal?

- YES >> Check main power window and door lock/unlock switch. Refer to <u>PWC-32, "POWER WINDOW</u> <u>MAIN SWITCH : Component Inspection"</u>.
- NO >> Repair or replace the harness or connectors.

## **6.** CHECK HARNESS CONTINUITY 3

1. Disconnect main power window and door lock/unlock switch.

2. Check continuity between main power window D23 and door lock/unlock switch connector and front power window motor LH connector D9.

## ENCODER

## < DTC/CIRCUIT DIAGNOSIS >

## [LH FRONT ONLY AUTO DOWN]

| Main power window and door lock/unlock switch connector         | Terminal                         | Front power window motor<br>LH connector | Terminal          | Continuity      |
|---|----------------------------------|--|-------------------|-----------------|
| D22   | 5                                | DO                                       | 3                 | Vee             |
| D23   | 4                                | - D9                                     | 5                 | – Yes           |
| 3. Check continuity between main                                | power window                     | and door lock/unlock sw                  | vitch connector [ | D23 and ground. |
| Main power window and door lock/unlock switch connector         | < Tern                           |  |                   | Continuity      |
| D23   |                                  | 5 Grou<br>4                              | und               | No              |
| s the inspection result normal?                                 |                                  |  | l                 |                 |
| YES >> Replace front power win<br>NO >> Repair or replace harne | ndow motor LH<br>ess or connecto | . Refer to <u>GW-14, "Rem</u><br>rs.     | oval and Installa | <u>tion"</u> .  |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |
|   |                                  |  |                   |                 |

## < DTC/CIRCUIT DIAGNOSIS >

## DOOR SWITCH

## Component Function Check

INFOID:000000012549723

[LH FRONT ONLY AUTO DOWN]

## **1**.CHECK FUNCTION

1. Select DOOR LOCK of BCM using CONSULT.

2. Select DOOR SW-DR, DOOR SW-AS in DATA MONITOR mode.

3. Check that the function operates normally according to the following conditions.

| Monitor item                   | Con                         | dition | Status |
|--------------------------------|-----------------------------|--------|--------|
|                                | DOOR SW-DR Driver side door | Open   | On     |
| DOOK SW-DIX                    |                             | Closed | Off    |
| DOOR SW-AS Passenger side door | Open                        | On     |        |
|                                | Closed                      | Off    |        |

Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to <u>PWC-48</u>, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:000000012549724

Regarding Wiring Diagram information, refer to PWC-17, "Wiring Diagram - With Left Front Only Auto Down".

## 1. CHECK DOOR SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect malfunctioning door switch connector.
- 3. Check signal between malfunctioning door switch harness connector and ground using oscilloscope.

|                | (+)<br>Door switch |          |        |   |  |
|----------------|--------------------|----------|--------|---|--|
|                |                    |          | (—)    | Signal<br>(Reference value)                               |  |
| Conne          | ctor               | Terminal |        | (((((((((((((((((((((((((((((((((((((((                   |  |
| Driver side    | B8                 |          |        |   |  |
| Passenger side | B108               | 3        | Ground | (V)<br>15<br>10<br>0<br>10<br>ms<br>JPMIA0011GB<br>11.8 V |  |

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2. CHECK DOOR SWITCH CIRCUIT

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

|                | Door switch |          | B                          | BCM |            |  |
|----------------|-------------|----------|----------------------------|-----|------------|--|
| Conr           | nector      | Terminal | Terminal Connector Termina |     | Continuity |  |
| Driver side    | B8          | 2        | MOO                        | 96  | Vaa        |  |
| Passenger side | B108        | 3        | M20                        | 94  | Yes        |  |

3. Check continuity between door switch harness connector and ground.

## **DOOR SWITCH**

## < DTC/CIRCUIT DIAGNOSIS >

## [LH FRONT ONLY AUTO DOWN]

|                           | Door switch                |                             |                      | Continuity             |
|---------------------------|----------------------------|-----------------------------|----------------------|------------------------|
| Coni                      | nector                     | Terminal                    | Ground               | Continuity             |
| Driver side               | B8                         | 3                           | Ground               | No                     |
| Passenger side            | B108                       | 5                           |                      | INO                    |
| Is the inspection result  | normal?                    |                             |                      |                        |
|                           | CM. Refer to <u>BCS-81</u> | . "Removal and Insta        | allation".           |                        |
| · ·                       | eplace harness.            |                             |                      |                        |
| 3.CHECK DOOR SWI          | ITCH                       |                             |                      |                        |
| Refer to PWC-49, "Con     | nponent Inspection".       |                             |                      |                        |
| Is the inspection result  | normal?                    |                             |                      |                        |
| YES >> GO TO 4.           |                            |                             |                      |                        |
| NO >> Replace m           | alfunctioning door sw      | itch. Refer to <u>DLK-2</u> | 84, "Removal and Ins | tallation".            |
| <b>4.</b> CHECK INTERMITT | FENT INCIDENT              |                             |                      |                        |
| Refer to GI-47, "Intermi  | ittent Incident".          |                             |                      |                        |
|                           |                            |                             |                      |                        |
| >> Inspection             | End.                       |                             |                      |                        |
| Component Inspe           | ction                      |                             |                      | INFOID:000000012549725 |
|                           |                            |                             |                      |                        |
| <b>1.</b> CHECK DOOR SWI  | ITCH                       |                             |                      |                        |
| 1. Turn ignition switch   | n OFF.                     |                             |                      |                        |
| 2. Disconnect malfun      | ctioning door switch o     |                             |                      |                        |
| 3. Check continuity be    | etween door switch te      | erminals.                   |                      |                        |
| Doo                       | or switch                  | _                           |                      |                        |
| Те                        | erminal                    | C                           | ondition             | Continuity             |
| ·                         |                            |                             |                      |                        |

Door switch

Pressed

Released

Is the inspection result normal?

YES >> Inspection End.

3

NO >> Replace malfunction door switch. Refer to <u>DLK-284, "Removal and Installation"</u>.

Ground contact is part of the

switch.

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No

Yes

#### < DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW LOCK SWITCH

## Description

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

## Component Function Check

INFOID:000000012549727

INFOID:000000012549726

## 1. CHECK POWER WINDOW LOCK SIGNAL

Exchange for a normal main power window and door lock/unlock switch, and check operation. Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-61, "Removal and Instal-</u><u>lation"</u>.
- NO >> Check condition of harness and connector.

| POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH           < SYMPTOM DIAGNOSIS >   [LH FRONT ONLY AUTO DOWN]   |    |
|--|----|
| SYMPTOM DIAGNOSIS  | Δ  |
| POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH   | AB |
| Diagnosis Procedure  |    |
| 1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT   | С  |
| Check BCM power supply and ground circuit.<br>BCS-81, "Removal and Installation".  | 6  |
| <u>Is the inspection result normal?</u><br>YES >> GO TO 2.   | D  |
| NO >> Repair or replace the malfunctioning parts.<br>2.CHECK POWER WINDOW MAIN SWITCH POWER SUPPLY AND GROUND CIRCUIT  | E  |
| Check power window switch power supply and ground circuit.<br>Refer to <u>PWC-29, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure"</u> .<br>Is the inspection result normal? | F  |
| YES >> GO TO 3.<br>NO >> Repair or replace the malfunctioning parts.   | G  |
| 3.CONFIRM THE OPERATION  |    |
| Confirm the operation again.<br><u>Is the inspection result normal?</u><br>YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u> .              | Н  |
| NO >> GO TO 1.   | I  |

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## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE [LH FRONT ONLY AUTO DOWN]

< SYMPTOM DIAGNOSIS >

## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000012549729

1. CHECK DRIVER SIDE POWER WINDOW MOTOR

Check driver side power window motor. Refer to <u>PWC-38, "DRIVER SIDE : Component Function Check"</u>.

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 inspection result normal?

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

| FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE  |    |
|---|----|
| < SYMPTOM DIAGNOSIS > [LH FRONT ONLY AUTO DOWN]   |    |
| FRONT PASSENGER SIDE POWER WINDOW DOES NOT OPERATE<br>WHEN POWER WINDOW MAIN SWITCH IS OPERATED   | k. |
| WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure   |    |
| 1. CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH  |    |
| Check power window and door lock/unlock switch RH circuit.<br>Refer to <u>PWC-33, "FRONT POWER WINDOW SWITCH : Component Function Check"</u> .            |    |
| <u>Is the inspection result normal?</u><br>YES >> GO TO 2.  | )  |
| NO >> Repair or replace the malfunctioning parts.   |    |
| 2.CONFIRM THE OPERATION   |    |
| Confirm the operation again. <u>Is the inspection result normal?</u>  |    |
| YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u> .  |    |
| NO >> GO TO 1.<br>WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED   |    |
| WHEN FRONT POWER WINDOW SWITCH (PASSENGER SIDE) IS OPERATED : $^{ m G}$   | ì  |
| Diagnosis Procedure   |    |
| 1.REPLACE POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH   | I  |
| Replace power window and door lock/unlock switch RH.<br>Refer to <u>PWC-62, "Removal and Installation"</u> .  |    |
| >> Inspection End.<br>WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW J<br>SWITCH ARE OPERATED  |    |
| WHEN BOTH POWER WINDOW MAIN SWITCH AND FRONT POWER WINDOW<br>SWITCH ARE OPERATED : Diagnosis Procedure  | VC |
| 1. CHECK FRONT POWER WINDOW SWITCH (PASSENGER SIDE) POWER SUPPLY AND GROUND CIRCUIT   |    |
| Check power window and door lock/unlock switch RH power supply and ground circuit.<br>Refer to PWC-33, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure". | 1  |
| Is the inspection result normal?  |    |
| YES >> GO TO 2.<br>NO >> Repair or replace the malfunctioning parts.  |    |
| 2. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT  |    |
| Check front power window motor RH circuit. O<br>Refer to <u>PWC-39, "PASSENGER SIDE : Diagnosis Procedure"</u> .  | )  |
| Is the inspection result normal?  |    |
| YES >> GO TO 3.<br>NO >> Repair or replace the malfunctioning parts.  |    |
| 3. CONFIRM THE OPERATION  |    |
| Confirm the operation again.  |    |
| <u>Is the inspection result normal?</u><br>YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident</u> ".                           |    |
| NO $>>$ GO TO 1.  |    |

## REAR LH SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH FRONT ONLY AUTO DOWN]

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

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

INFOID:000000012549733

**1.**CHECK REAR POWER WINDOW SWITCH LH CIRCUIT

Check rear power window switch LH circuit. Refer to <u>PWC-35</u>, "REAR POWER WINDOW SWITCH : 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 inspection result normal?

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

NO >> GO TO 1.

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED

WHEN REAR POWER WINDOW SWITCH LH IS OPERATED : Diagnosis Procedure

INFOID:000000012549734

**1**.REPLACE REAR POWER WINDOW SWITCH LH

Replace rear power window switch LH. Refer to <u>PWC-63</u>, "Removal and Installation".

>> Inspection End. WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH LH ARE OPERATED

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

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

Check rear power window switch power supply and ground circuit. Refer to <u>PWC-35</u>, "REAR POWER WINDOW SWITCH : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH. Refer to <u>PWC-41, "REAR LH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

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

| REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE<br>< SYMPTOM DIAGNOSIS > [LH FRONT ONLY AUTO DOWN]   |
|---|
| REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE<br>WHEN POWER WINDOW MAIN SWITCH IS OPERATED   |
| WHEN POWER WINDOW MAIN SWITCH IS OPERATED : Diagnosis Procedure   |
| 1.CHECK REAR POWER WINDOW SWITCH RH CIRCUIT   |
| Check rear power window switch RH circuit.<br>Refer to <u>PWC-35</u> , "REAR POWER WINDOW SWITCH : Component Function Check".<br><u>Is the inspection result normal?</u><br>YES >> GO TO 2. |
| NO >> Repair or replace the malfunctioning parts.<br>2.CONFIRM THE OPERATION  |
| Confirm the operation again.<br>Is the inspection result normal?  |
| YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u> .  |
| WHEN REAR POWER WINDOW SWITCH RH IS OPERATED  |
| WHEN REAR POWER WINDOW SWITCH RH IS OPERATED : Diagnosis Procedure  |
| 1.REPLACE REAR POWER WINDOW SWITCH RH   |
| Replace rear power window switch RH.<br>Refer to <u>PWC-63, "Removal and Installation"</u> .  |
| >> Inspection End.<br>WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW<br>SWITCH RH ARE OPERATED  |
| WHEN BOTH POWER WINDOW MAIN SWITCH AND REAR POWER WINDOW SWITCH RH ARE OPERATED : Diagnosis Procedure   |
| 1. CHECK REAR POWER WINDOW SWITCH POWER SUPPLY AND GROUND CIRCUIT   |
| Check rear power window switch power supply and ground circuit.<br>Refer to <u>PWC-35, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u> .   |
| <u>Is the inspection result normal?</u><br>YES >> GO TO 2.  |
| NO >> Repair or replace the malfunctioning parts.   |
| 2.CHECK REAR POWER WINDOW MOTOR RH  |
| Check rear power window motor RH.<br>Refer to <u>PWC-42, "REAR RH : Component Function Check"</u> .   |
| Is the inspection result normal?  |
| YES >> GO TO 3.<br>NO >> Repair or replace the malfunctioning parts.  |
| 3.CONFIRM THE OPERATION   |
| Confirm the operation again.<br><u>Is the inspection result normal?</u><br>YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u> .                             |
| NO >> GO TO 1.  |

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

< SYMPTOM DIAGNOSIS >

[LH FRONT ONLY AUTO DOWN]

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

DRIVER SIDE : Diagnosis Procedure

INFOID:000000012549739

1.CHECK ENCODER (DRIVER SIDE) CIRCUIT

Check encoder (driver side) circuit. Refer to <u>PWC-45, "DRIVER SIDE : Component Function Check"</u>.

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 inspection result normal?

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

## POWER WINDOW RETAINED POWER FUNCTION DOES NOT OPERATE NOR-MALLY

| < SYMPTOM DIAGNOSIS > | [LH FRONT ONLY AUTO DOWN]       |
|-----------------------|---------------------------------|
| POWER WINDOW RETAINED | POWER FUNCTION DOES NOT OPERATE |

## NORMALLY

| Diagnosis Procedure  | INFOID:000000012549740 | В |
|--|------------------------|---|
| 1. CHECK DOOR SWITCH   |                        | D |
| Check door switch.<br>Refer to <u>PWC-48, "Component_Function_Check"</u> .                             |                        | С |
| Is the inspection result normal?   |                        |   |
| YES >> GO TO 2.<br>NO >> Repair or replace the malfunctioning parts.                                   |                        | D |
| 2.CONFIRM THE OPERATION  |                        |   |
| Confirm the operation again.<br>Is the inspection result normal?                                       |                        | Ε |
| YES >> Check intermittent incident. Refer to <u>GI-47. "Intermittent Incident"</u> .<br>NO >> GO TO 1. |                        | F |
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## KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## KEYLESS POWER WINDOW DOWN DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000012549742

[LH FRONT ONLY AUTO DOWN]

1. CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>DLK-236</u>, "Diagnosis Procedure".

2. CHECK POWER WINDOW OPERATION

Check power window operation.

In the inspection result normal?

YES >> GO TO 3.

NO >> Refer to <u>PWC-29</u>, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

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

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION < SYMPTOM DIAGNOSIS > [LH FRONT ONLY AUTO DOWN]

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

|  |                        | Λ |
|--|------------------------|---|
| Diagnosis Procedure  | INFOID:000000012549743 | ~ |
| 1.REPLACE POWER WINDOW MAIN SWITCH   |                        | В |
| Replace power window main switch. Refer to <u>PWC-61, "Removal and Installation"</u> . |                        |   |
| >> Inspection End.   |                        | С |

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| POWER WINDOW SWITCH DOES NOT ILLUMINATE<br>< SYMPTOM DIAGNOSIS > [LH FRONT ONL                               | Y AUTO DOWN]           |
|--|------------------------|
| POWER WINDOW SWITCH DOES NOT ILLUMINATE<br>DRIVER SIDE   |                        |
| DRIVER SIDE : Diagnosis Procedure  | INFOID:000000012549744 |
| 1.REPLACE POWER WINDOW MAIN SWITCH   |                        |
| Replace power window main switch.<br>Refer to <u>PWC-61, "Removal and Installation"</u> .                    |                        |
| >> Inspection End.<br>PASSENGER SIDE   |                        |
| PASSENGER SIDE : Diagnosis Procedure   | INFOID:000000012549745 |
| 1.REPLACE POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH  |                        |
| Replace power window and door lock/unlock switch RH.<br>Refer to <u>PWC-62, "Removal and Installation"</u> . |                        |
| >> Inspection End.<br>REAR LH  |                        |
| REAR LH : Diagnosis Procedure  | INFOID:000000012549746 |
| 1.REPLACE REAR POWER WINDOW SWITCH LH  |                        |
| Replace rear power window switch LH.<br>Refer to <u>PWC-63, "Removal and Installation"</u> .                 |                        |
| >> Inspection End.<br>REAR RH  |                        |
| REAR RH : Diagnosis Procedure  | INFOID:000000012549747 |
| 1.REPLACE REAR POWER WINDOW SWITCH RH  |                        |
| Replace rear power window switch RH.<br>Refer to <u>PWC-63, "Removal and Installation"</u> .                 |                        |
| >> Inspection End.   |                        |
|  |                        |
|  |                        |
|  |                        |
|  |                        |
|  |                        |

## MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH < REMOVAL AND INSTALLATION > [LH FRONT ONLY AUTO DOWN]

## REMOVAL AND INSTALLATION MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

## Removal and Installation

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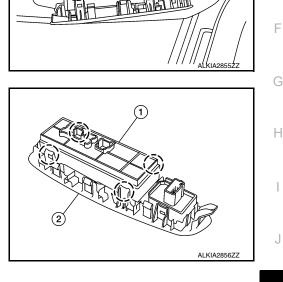
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INFOID:000000012549748

## REMOVAL

- 1. Remove the main power window and door lock/unlock switch from the front door finisher using a suitable C tool.
- Disconnect the harness connectors (A) from the main power window and door lock/unlock switch (1) and harness connector (B) from the mirror control switch (2).

Release the pawls, then separate the main power window and door lock/unlock switch (1) from the switch finisher (2).
 (<sup>-</sup>): Pawl



#### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

When the main power window and door lock/unlock switch is removed or replaced, it is necessary to perform the initialization procedure. Refer to <u>PWC-26</u>, "Work Flow".

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# POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH < REMOVAL AND INSTALLATION > [LH FRONT ONLY AUTO DOWN]

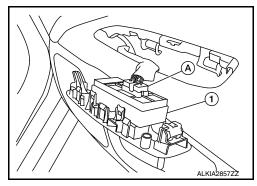
## POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

## Removal and Installation

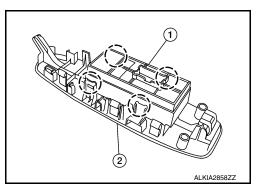
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#### REMOVAL

- 1. Remove the power window and door lock/unlock switch (RH) from the front door finisher using a suitable tool.
- 2. Disconnect the harness connector (A) from the power window and door lock/unlock switch (RH) (1).



 Release four pawls, then separate power window and door lock/ unlock switch (RH) (1) from switch finisher (2).
 (<sup>-</sup>): Pawl



INSTALLATION Installation is in the reverse order of removal.

## REAR POWER WINDOW SWITCH

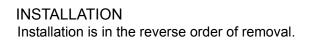
## Removal and Installation

## REMOVAL

- 1. Remove the rear door cup holder mat.
- Remove the rear power window switch finisher screw (A) and the rear power window switch finisher (1) from the rear door finisher using a suitable tool.

3. Disconnect the harness connector (A) from the rear power window switch (1).

Release the two pawls, then separate the rear power window switch (1) from the switch finisher (2).
 (<sup>-</sup>): Pawl



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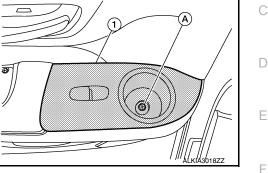
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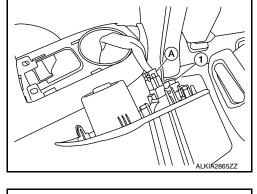
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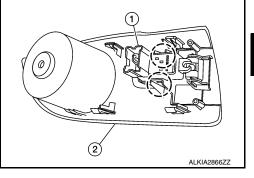
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## PRECAUTION PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

#### WARNING:

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

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

#### WARNING:

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

## Precaution for Work

INFOID:000000012549752

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

## PREPARATION

## PREPARATION

## Special Service Tool

INFOID:000000012549753

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

| Tool number<br>(TechMate No.)<br>Tool name |             | Description              | C |
|--|-------------|--------------------------|---|
| <br>(J-46534)<br>Trim tool set             |             | Removing trim components | E |
|  | AWJIA0483ZZ |                          | F |

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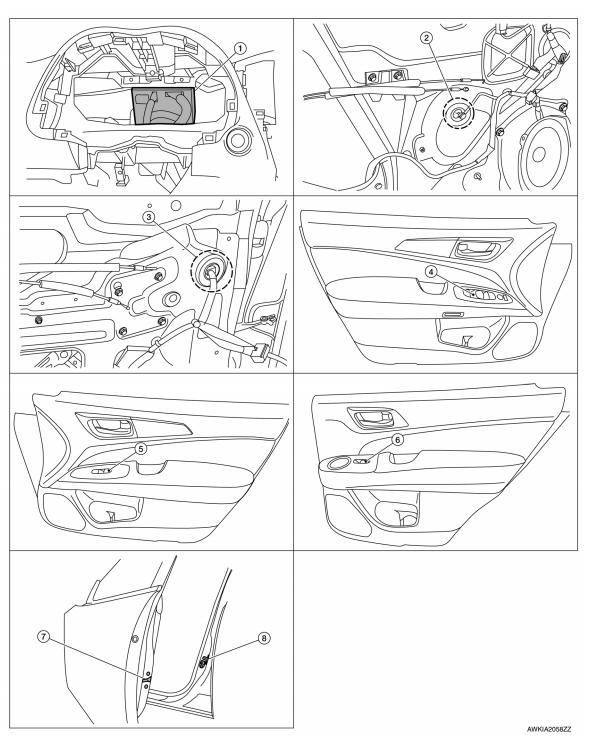
[LH & RH FRONT AUTO UP/DOWN]

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## SYSTEM DESCRIPTION COMPONENT PARTS

## Component Parts Location

INFOID:000000012549754



- 1. BCM (view with the combination meter removed)
- Front power window motor LH (RH 3. similar) (view with front door finisher removed)
- Rear power window motor LH (RH similar) (view with rear door finisher removed)

## **COMPONENT PARTS**

## < SYSTEM DESCRIPTION >

**Component Description** 

- 4. Main power window and door lock/ unlock switch
- 7. Front door lock assembly LH (key cylinder switch)
- 5. Power window and door lock/unlock 6. switch RH
- 8. Front door switch LH (RH similar)

. Rear power window switch LH (RH similar)

[LH & RH FRONT AUTO UP/DOWN]

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INFOID:000000012549755

| Component  | Function  |  |  |  |  |  |
|--|---|--|--|--|--|--|
| ВСМ  | <ul><li>Supplies power to the window switches.</li><li>Controls retained power.</li></ul>   |  |  |  |  |  |
| Main power window and door lock/un-<br>lock switch       | Directly controls all power window motors.  |  |  |  |  |  |
| Power window and door lock/unlock switch RH              | Controls power window motor of passenger door.  |  |  |  |  |  |
| Rear power window switch                                 | Controls right and left power window motors for the rear doors.   |  |  |  |  |  |
| Power window motor                                       | <ul> <li>Integrates the CPU and WINDOW MOTOR.</li> <li>Starts operating with signals from each power window switch.</li> <li>Transmits power window motor rotation as a pulse signal to power window switch.</li> <li>Controls anti-pinch operation for front windows LH and RH.</li> </ul> |  |  |  |  |  |
| Front door lock assembly (door key cyl-<br>inder switch) | Transmits operation condition of door key cylinder switch to power window main switch.  |  |  |  |  |  |
| Front door switch LH/RH                                  | Detects door open/close condition and transmits it to the BCM.  |  |  |  |  |  |

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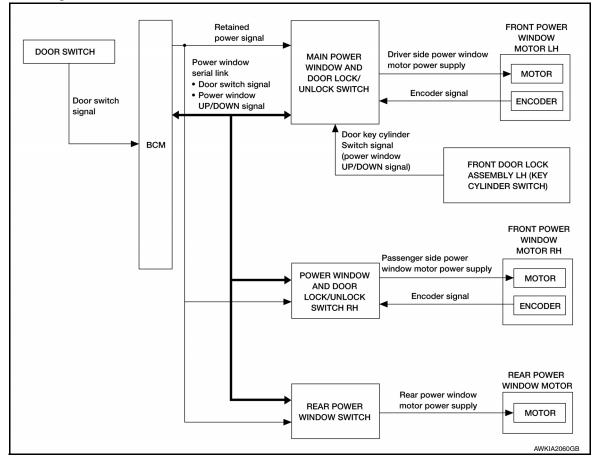
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## < SYSTEM DESCRIPTION >

INFOID:000000012549756

## SYSTEM

System Diagram



## System Description

INFOID:000000012549757

## POWER WINDOW OPERATION

- Power window system is activated by the power window switch when the ignition switch is in the ON position or during the retained power operation after ignition switch turns OFF.
- · Power window main switch can open/close door glass.
- Front and rear power window switch can open/close the corresponding door glass.
- Power window lock switch can lock all power windows other than driver seat.
- All power windows open when pressing Intelligent Key unlock button for 3 seconds.
- If door glass receives resistance that is more than the specified value and the power window is in the AUTO-UP operation, power window will move in the reverse direction (Anti-Pinch Function).

## POWER WINDOW AUTO-OPERATION

- AUTO-UP/DOWN operation can be performed when front power window motor turns to AUTO.
- Power window switch reads the changes of the CPU signal and stops AUTO operation when door glass is at fully opened/closed position.
- Power window motor is operable in case of CPU malfunctioning.
- AUTO function does not operate if the CPU is malfunctioning.

## POWER WINDOW SERIAL LINK

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

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

- Keyless power window down signal.
- Door switch signal.

## SYSTEM

## < SYSTEM DESCRIPTION >

| <ul><li>The signal mentioned below is transmitted from power window main switch to front power window switch (passenger side).</li><li>Front passenger side door window operation signal.</li></ul>   | A  |
|---|----|
| <ul> <li>Retained power operation signal.</li> </ul>  |    |
| RETAINED POWER OPERATION  | В  |
| • Retained power operation is an additional power supply function that enables power window system to oper-<br>ate during the 45 seconds even when ignition switch is turned OFF.   |    |
| Retained Power Function Cancel Conditions<br>• Front door CLOSE (door switch OFF)→OPEN (door switch ON).<br>• When ignition switch is ON again.   | С  |
| <ul> <li>When timer time passes. (45 seconds)</li> </ul>  | D  |
| POWER WINDOW LOCK FUNCTION<br>Ground circuit inside power window main switch shuts off when power window lock switch is ON. This inhibits<br>power window switch operation except with the power window main switch.  | E  |
| ANTI-PINCH OPERATION  |    |
| <ul> <li>Pinch foreign material in the door glass during Auto-Up operation, and it is the anti-pinch that lowers the door glass 150 mm (5.9 in) or 2 seconds when detected.</li> <li>CPU continues detecting the movement of power window motor and transmits to the power window switch</li> </ul>   | F  |
| <ul><li>as the CPU signal while power window motor is operating.</li><li>Resistance is applied to the power window motor rotation that changes the frequency of CPU signal if for-<br/>eign material is trapped in the door glass.</li></ul>  | G  |
| <ul> <li>Power window switch controls to lower the door glass for 150 mm (5.9 in) or 2 seconds after it detects CPU pulse signal frequency change.</li> </ul>   | Н  |
| Operation Condition<br>When front door glass AUTO-UP operation is performed (anti-pinch function does not operate just before the<br>door glass closes and is fully closed)<br><b>NOTE:</b>   | I  |
| Depending on environment and driving conditions, if a similar impact or load is applied to the door glass, it may lower.  |    |
| DOOR KEY CYLINDER SWITCH OPERATION  | J  |
| 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 N (NEUTRAL) when operating.   | PW |
| Operation Condition   |    |
| <ul> <li>Ignition switch OFF.</li> <li>Hold door key cylinder to LOCK position for 1 second or more to perform CLOSE operation of the door glass.</li> </ul>  | L  |
| <ul> <li>Hold door key cylinder to UNLOCK position for 1 second or more to perform OPEN operation of the door glass.</li> </ul>   | M  |
| KEYLESS POWER WINDOW DOWN FUNCTION  |    |
| All power windows open when the unlock button on Intelligent Key is activated and pressed for more than 3 seconds with the ignition switch OFF. The windows keep opening if the unlock button is continuously pressed. The power window opening stops when the following operations are performed.<br>• When the unlock button is pressed for more than 15 seconds. | Ν  |
| <ul> <li>When the ignition switch is turned ON while the power window opening is operated.</li> <li>When the unlock button is released.</li> </ul>  | 0  |
| While retained power operation activate, keyless power window down function cannot be operated.   | ſ  |
| Fail-safe   | Р  |

## FAIL-SAFE CONTROL

Window system switches to fail-safe control when a malfunction is detected in the CPU during UP and DOWN operation. Switches to fail-safe control when an error beyond the regulation value is detected between the fully closed position and the actual position of the glass.

## SYSTEM

## < SYSTEM DESCRIPTION >

| Malfunction   | Malfunction condition  |  |  |  |
|---|--|--|--|--|
| Pulse sensor malfunction  | When only one side of pulse signal is being detected for more than the specified value.  |  |  |  |
| Both pulse sensors mal-<br>function                             | When both pulse signals have not been detected for more than the specified value during glass open/close operation.  |  |  |  |
| Pulse direction malfunc-<br>tion                                | When the pulse signal that is detected during glass open/close operation detects the opposite con-<br>dition of power window motor operating direction.  |  |  |  |
| Glass recognition position malfunction 1                        | When it detects the error between glass fully closed position in power window switch memory and actual fully closed position during glass open/close operation is more than the specified value. |  |  |  |
| Glass recognition position malfunction 2                        | When it detects pulse count more that the value of glass full stroke during glass open/close opera-<br>tion.   |  |  |  |
| Malfunction of not yet up-<br>dated closed position of<br>glass | When glass open/close operation is continuously performed without fully closing more that the spec-<br>ified value (approximately 10 strokes).   |  |  |  |

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

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

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

| DIAGNOSIS SYSTEM (BCM)                                    |   |   |  |  |  |  |  |  |
|---|---|---|--|--|--|--|--|--|
| < SYSTEM DESCRIPTIC                                       | < SYSTEM DESCRIPTION > [LH & RH FRONT AUTO UP/DOWN]   |   |  |  |  |  |  |  |
| DIAGNOSIS SYST  | EM (BCM)  | А |  |  |  |  |  |  |
| COMMON ITEM   | COMMON ITEM   |   |  |  |  |  |  |  |
| COMMON ITEM : CO  | ONSULT Function (BCM - COMMON ITEM)   | В |  |  |  |  |  |  |
| be cycled OFF $\rightarrow$ ON (for                       | CONSULT vehicle interface (VI) from the data link connector, the ignition must $r$ at least 5 seconds) $\rightarrow$ OFF. If this step is not performed, the BCM may not go ally causing a discharged battery and no-start condition. | С |  |  |  |  |  |  |
|   | llowing functions via CAN communication with BCM.   | D |  |  |  |  |  |  |
| Direct Diagnostic Mode                                    | Description   | Ε |  |  |  |  |  |  |
| ECU Identification  | The BCM part number is displayed.   |   |  |  |  |  |  |  |
| Self Diagnostic Result                                    | The BCM self diagnostic results are displayed.  |   |  |  |  |  |  |  |
| Data Monitor  | Data Monitor     The BCM input/output data is displayed in real time.   |   |  |  |  |  |  |  |
| Active Test The BCM activates outputs to test components. |   |   |  |  |  |  |  |  |
| Work support  | The settings for BCM functions can be changed.  | G |  |  |  |  |  |  |
| Configuration   | <ul><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing BCM.</li></ul>   | 9 |  |  |  |  |  |  |
| CAN Diag Support Mntr                                     | The result of transmit/receive diagnosis of CAN communication is displayed.   | Н |  |  |  |  |  |  |
| SYSTEM APPLICATION  |   |   |  |  |  |  |  |  |

BCM can perform the following functions.

|                                      | Sub System      | Direct Diagnostic Mode |                        |              |             |              |               |                       |          |
|--------------------------------------|-----------------|------------------------|------------------------|--------------|-------------|--------------|---------------|-----------------------|----------|
| System                               |                 | ECU Identification     | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr | J<br>PW0 |
| Door lock                            | DOOR LOCK       |                        | ×                      | ×            | ×           | ×            |               |                       | L        |
| Rear window defogger                 | REAR DEFOGGER   |                        |                        | ×            | ×           | ×            |               |                       | _        |
| Warning chime                        | BUZZER          |                        |                        | ×            | ×           |              |               |                       | M        |
| Interior room lamp timer             | INT LAMP        |                        |                        | ×            | ×           | ×            |               |                       | -        |
| Exterior lamp                        | HEADLAMP        |                        |                        | ×            | ×           | ×            |               |                       | -        |
| Wiper and washer                     | WIPER           |                        |                        | ×            | ×           | ×            |               |                       | N        |
| Turn signal and hazard warning lamps | FLASHER         |                        |                        | ×            | ×           | ×            |               |                       | -        |
| Air conditioner                      | AIR CONDITIONER |                        |                        | ×            |             |              |               |                       | 0        |
| Intelligent Key system               | INTELLIGENT KEY |                        | ×                      | ×            | ×           | ×            |               |                       |          |
| Combination switch                   | COMB SW         |                        |                        | ×            |             |              |               |                       | -        |
| BCM                                  | BCM             | ×                      | ×                      |              |             | ×            | ×             | ×                     | Ρ        |
| Immobilizer                          | IMMU            |                        | ×                      | ×            | ×           |              |               |                       | -        |
| Interior room lamp battery saver     | BATTERY SAVER   |                        |                        | ×            | ×           |              |               |                       | -        |
| Back door open                       | TRUNK           |                        |                        | ×            |             |              |               |                       | _        |
| Vehicle security system              | THEFT ALM       |                        |                        | ×            | ×           | ×            |               |                       | _        |
| RAP system                           | RETAINED PWR    |                        |                        | ×            |             |              |               |                       | -        |

Revision: November 2015

## 

< SYSTEM DESCRIPTION >

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

## RETAINED PWR

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

INFOID:000000012927039

#### **CAUTION:**

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

#### DATA MONITOR

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

BCM (BODY CONTROL MODULE) ATION > [LH & RH FRONT AUTO UP/DOWN]

# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

# List of ECU Reference

INFOID:000000012549761

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| ECU | J | Reference                               | _   |
|-----|---|---|-----|
|     |   | BCS-31, "Reference Value"               | _ ( |
|     | _ | BCS-50. "Fail Safe"                     |     |
| BCM |   | BCS-51, "DTC Inspection Priority Chart" |     |
|     | _ | BCS-52, "DTC Index"                     |     |

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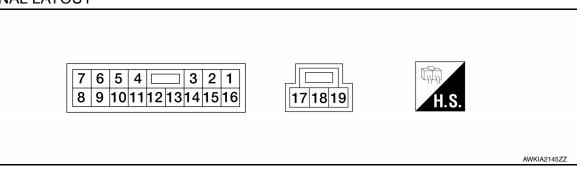
# < ECU DIAGNOSIS INFORMATION >

# POWER WINDOW MAIN SWITCH

# **Reference Value**

INFOID:000000012549762





# PHYSICAL VALUES

## MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

| Termin    | al No. | Description                               |        |   | Voltage   |
|-----------|--------|---|--------|---|---|
| +         | -      | Signal name Input/ Condition<br>Output    |        | Condition   | (Approx.)                                       |
| 1<br>(B)  | Ground | Ground                                    | _      | _   | 0   |
| 3<br>(BR) | Ground | Door key cylinder switch<br>LOCK signal   | Input  | Key position (Neutral $\rightarrow$ Locked)                             | $5 \rightarrow 0$                               |
| 4<br>(SB) | 12     | Encoder pulse signal 2                    | Input  | When power window mo-<br>tor operates.                                  | (V)<br>6<br>4<br>2<br>0<br>10 ms<br>JMKIA0070GB |
| 5<br>(Y)  | 12     | Encoder pulse signal 1                    | Input  | When power window mo-<br>tor operates.                                  | (V)<br>6<br>4<br>2<br>0<br>10 ms                |
| 6<br>(L)  | Ground | Rear power window motor RH<br>DOWN signal | Output | When rear RH switch in<br>power window main switch<br>is operated DOWN. | Battery voltage                                 |
| 7<br>(V)  | Ground | Rear power window motor RH<br>UP signal   | Output | When rear RH switch in<br>power window main switch<br>is operated UP.   | Battery voltage                                 |
| 8<br>(LG) | Ground | Rear power window motor LH<br>DOWN signal | Output | When rear LH switch in power window main switch is operated DOWN.       | Battery voltage                                 |
| 9<br>(SB) | Ground | Rear power window motor LH<br>UP signal   | Output | When rear LH switch in<br>power window main switch<br>is operated UP.   | Battery voltage                                 |

# POWER WINDOW MAIN SWITCH

#### < ECU DIAGNOSIS INFORMATION >

#### [LH & RH FRONT AUTO UP/DOWN]

| Terminal   | No.    | Description                                       |                  | Voltage   |  |  |
|------------|--------|---|------------------|---|--|--|
| +          | -      | Signal name                                       | Input/<br>Output | Condition   | (Approx.)  |  |
|            |        |   |                  | IGN SW ON   | Battery voltage  |  |
| 10<br>(BR) | Ground | RAP signal  | Input            | Within 45 second after ig-<br>nition switch is turned to<br>OFF.          | Battery voltage  |  |
| ()         |        |   |                  | When front LH or RH door<br>is opened during retained<br>power operation. | 0  |  |
| 11<br>(Y)  | Ground | Power window serial link                          | Input/<br>Output | IGN SW ON or power win-<br>dow timer operating.                           | (V)<br>15<br>0<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 |  |
| 12<br>(BR) | Ground | Encoder ground                                    |                  | —   | 0  |  |
| 14<br>(LG) | Ground | Encoder power supply                              | Output           | When ignition switch ON or power window timer oper-<br>ates.              | 10   |  |
| 15<br>(SB) | Ground | Door key cylinder switch UN-<br>LOCK signal       | Input            | Key position (Neutral $\rightarrow$ Unlocked)                             | $5 \rightarrow 0$  |  |
| 17<br>(Y)  | 19     | Front door power window mo-<br>tor LH UP signal   | Output           | When front LH switch in power window main switch is operated UP.          | Battery voltage  |  |
| 18<br>(Y)  |        | Battery power supply                              | Input            | _   | Battery voltage  |  |
| 19<br>(L)  | 17     | Front door power window mo-<br>tor LH DOWN signal | Output           | When front LH switch in power window main switch is operated DOWN.        | Battery voltage  |  |

# Fail Safe

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## FAIL-SAFE CONTROL

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

| Error   | Error condition  |
|---|--|
| Pulse sensor malfunction  | When only one side of pulse signal is being detected for more than the specified value.  |
| Both pulse sensors mal-<br>function                             | 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 up-<br>dated closed position of<br>glass | When glass open/close operation is continuously performed without fully closing more than the specified value (approximately 10 strokes).  |

# POWER WINDOW MAIN SWITCH

#### < ECU DIAGNOSIS INFORMATION >

#### [LH & RH FRONT AUTO UP/DOWN]

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

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

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

#### FRONT POWER WINDOW SWITCH ATION > [LH & RH FRONT AUTO UP/DOWN]

# < ECU DIAGNOSIS INFORMATION >

# FRONT POWER WINDOW SWITCH

# Reference Value

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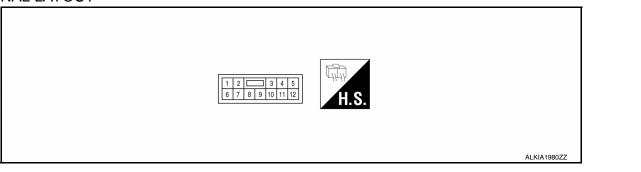
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# TERMINAL LAYOUT



# PHYSICAL VALUES

#### POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

| Term      | inal No. | Description              |                  |  | Voltage  |
|-----------|----------|--------------------------|------------------|--|--|
| +         | -        | Signal name              | Input/<br>Output | Condition  | (Approx.)  |
| 3<br>(Y)  | Ground   | Power window serial link | Input/<br>Output | IGN SW ON or power window timer operating.             | (V)<br>15<br>0<br>5<br>0<br>10 ms<br>JPMIA0013GB |
| 4<br>(LG) | Ground   | Encoder ground           |                  | _  | 0  |
| 5<br>(BG) | Ground   | Encoder power supply     | Output           | When ignition switch ON or power window timer operates | 10   |
| 7<br>(B)  | Ground   | Ground                   | _                | _  | 0  |
| 8<br>(BR) | Ground   | Battery power supply     | Input            | _  | Battery voltage                                  |
| 9<br>(V)  | 4        | Encoder pulse signal 1   | Input            | When power window motor op-<br>erates.                 | (V)<br>6<br>2<br>0<br>10 ms<br>JMKIA0070GB       |
| 10<br>(W) | 4        | Encoder pulse signal 2   | Input            | When power window motor op-<br>erates.                 | (V)<br>6<br>4<br>2<br>0<br>10 ms<br>JMKIA0070GB  |

Revision: November 2015

# FRONT POWER WINDOW SWITCH

#### < ECU DIAGNOSIS INFORMATION >

| Termi      | nal No. | Description                       |                  |  | Voltage         |
|------------|---------|-----------------------------------|------------------|--|-----------------|
| +          | -       | Signal name                       | Input/<br>Output | Condition                                    | (Approx.)       |
| 11<br>(L)  | 12      | Power window motor<br>UP signal   | Output           | When power window motor is UP at operated.   | Battery voltage |
| 12<br>(BR) | 11      | Power window motor<br>DOWN signal | Output           | When power window motor is DOWN at operated. | Battery voltage |

# Fail Safe

INFOID:000000012549765

#### FAIL-SAFE CONTROL

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

| Error   | Error condition  |
|---|--|
| Pulse sensor malfunction  | When only one side of pulse signal is being detected for more than the specified value.  |
| Both pulse sensors mal-<br>function                             | 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 up-<br>dated closed position of<br>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 failsafe control.

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- Retained power function

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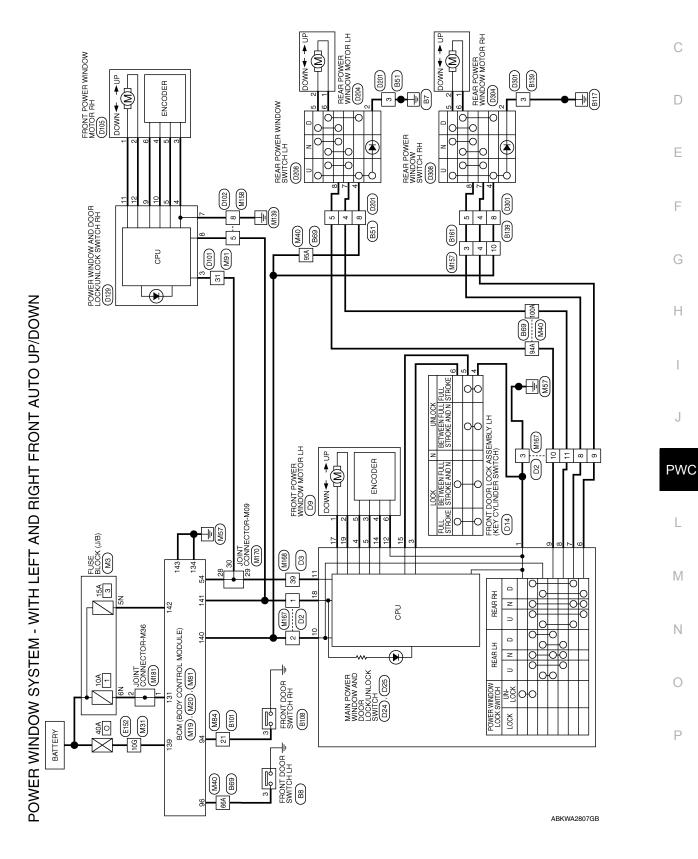
# WIRING DIAGRAM

POWER WINDOW SYSTEM

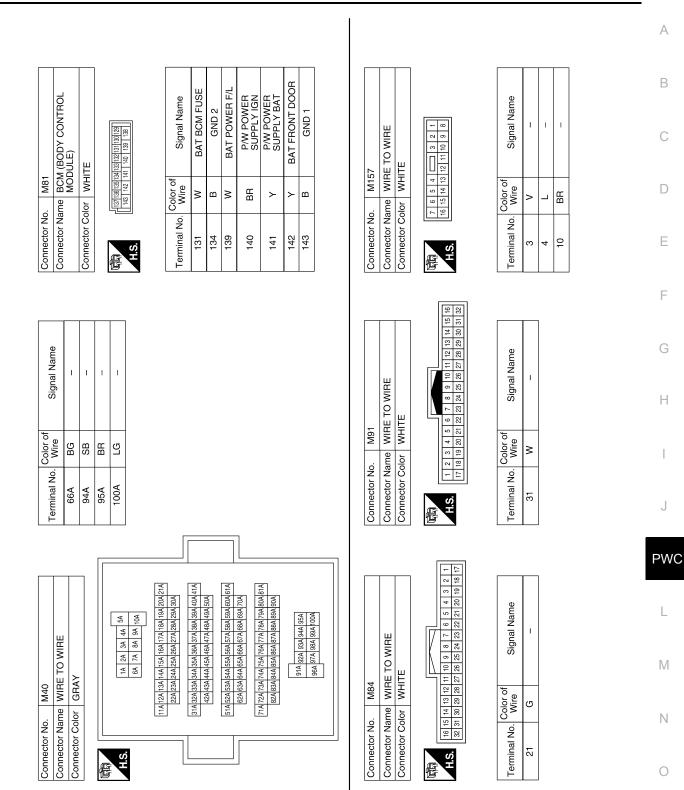
Wiring Diagram - With Left & Right Front Auto Up/Down

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| DOWN           Io.         M20           Iame         BCM (BODY CONTROL           MoDULE)         Color           Cara         Color  | Signal Name<br>AS DOOR SW<br>DR DOOR SW |   |
|---|---|---|
| DOWN<br>lame BCM (E<br>MODU<br>Color GRAY<br>ag 81 90 88 80<br>MODU   | . Color of<br>Wire<br>G<br>BG           |   |
| AUTO UP/DO<br>Connector No.<br>Connector Name<br>Connector Color  | Terminal No.<br>94<br>96                |   |
| T FRONT   |   |   |
| EFT AND RIGHT FF<br>M19<br>BCM (BODY CONTROL<br>MODULE)<br>BLACK<br>BLACK   | Signal Name<br>PW LIN/COM               | Signal Name   |
| TH LEFT /<br>No. M19<br>Name BCM (B<br>MODUL<br>Color BLACK   |   | Wire of Wire of Wire  |
| S - WITH L<br>Connector No.<br>Connector Name<br>Connector Color  | 1   N   4                               | Terminal No.<br>10G   |
|   |   |   |
| POWER WINDOW SYSTEM CONNECTORS - WITH LEFT AND RIGHT FRONT AUTO UP/DOWN         Connector No.       M3         Connector Name       BCM (BODY CONTROL         Connector Color       BLACK         Minetian       M0         Minetian       M0 | Signal Name                             | M31         M31           ne         WIRE TO WIRE         M           nr         WHITE         M           nr         WHITE         16         253         361         45         56           16         75         353         415         56         105 |
| INDOW S<br>No. M3<br>Name FUSE E<br>Color WHITE   | Io. Color of<br>W ∀                     | No.<br>Name WIRE T<br>Color WHITE 7<br>116/261/361/46<br>516/262536346<br>516/262536346<br>516/26253646<br>516/26253646<br>516/261/361/46<br>516/261/361/46<br>516/261/361/46   |
| OWER WIND<br>Connector No.<br>Connector Name<br>Connector Color   | Terminal No.<br>5N<br>6N                | Connector No.<br>Connector Name<br>310<br>310<br>310<br>310   |
| <u>م</u>  |   | ABKIA4749GB   |



ABKIA4750GB

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# POWER WINDOW SYSTEM

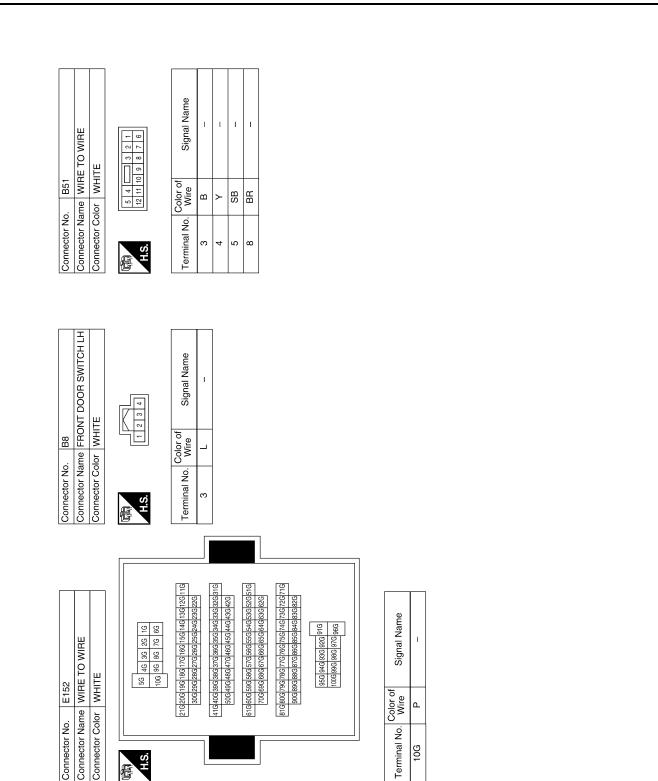
#### < WIRING DIAGRAM >

# [LH & RH FRONT AUTO UP/DOWN]

| 28 W - 1  | Color of Signal Name Terminal No. Wire Signal Name Wire - 28 W  | S<br>H.S<br>2 3 4 5 6 7 8 9 10 11 12 11 16 17 18 19 20<br>2 23 24 25 28 27 28 23 4 35 4 3 2 3<br>2 23 24 25 28 27 28 22 4 23 5<br>2 23 24 25 28 27 28 22 4 23 5<br>2 23 24 25 28 27 28 22 4 23 5<br>2 23 24 25 28 27 28 22 4 23 5<br>2 23 24 25 28 27 28 22 4 23 5<br>2 23 24 25 28 27 28 23 34 35 45 7<br>2 23 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 22 4 25 5<br>2 24 25 28 27 28 28 28 27 28 27 28 22 4 25 5<br>2 24 25 28 27 28 28 28 27 28 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 27 28 28 27 28 28 27 28 27 28 28 28 27 28 28 28 27 28 28 27 28 28 27 28 28 27 28 28 27 28 28 28 27 28 28 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28  | WIRE TO WIRE ONNECTOR-M09 Connector Name JOINT CONNECTOR-M09 WHITE Connector Color WHITE   | BI<br>Signal Name | Terminal No. Write<br>8 V<br>10 SB<br>11 2G<br>11 LG<br>11 LG | Connector No.       M167         Connector Name       WIRE TO WIRE         Connector Name       WIRE TO WIRE         Connector Name       Wire       Signal Name         Terminal No.       Color of       Signal Name         Connector No.       M170       Connector Name       JOINT CONNECTOR         Connector Name       JOINT CONNECTOR       Connector Name       JOINT CONNECTOR         Connector Name       JOINT CONNECTOR       Connector Name       JOINT CONNECTOR         Connector Name       JOINT CONNECTOR       M170       Connector Name       JOINT CONNECTOR         Connector No.       M170       Connector Name       JOINT CONNECTOR       Connector Name       JOINT CONNECTOR         Connector No.       M170       Connector Name       JOINT CONNECTOR       Connector Name       Joint Reve         Connector Name       Joint Color       Wire       Signal Name       Signal Name         Connector Name       Joint Color       Wire       Signal Name       Signal Name         Connector Color       WHITE       Signal Name       Signal Name       Signal Name | or No. M158<br>or Color WHITE<br>1 2 9 10<br>1 2 9 10<br>1 2 9 10<br>1 10<br>Color of Signal Name<br>V Color of Signal Name<br>V RIGHT FRONT<br>AUTO UP/DOWN)<br>B AUTO UP/DOWN)<br>B AUTO UP/DOWN)<br>B AUTO UP/DOWN)<br>AUTO UP/DOWN<br>0 Nire<br>0 No. M168<br>0 NHITE<br>0 Color of Signal Name<br>1 2 2 2 2 2 2 3 3 3 1 3 2 3 2 3 3 3 3 3 |
|---|---|---|--|-------------------|--|--|--|
| WIRE TO WIRE         Connector Name JOINT CONNECTOR-M09           WHITE         Connector Color         WHITE           Connector Color         WHITE         Connector Color           11110         11110         11110         11110           12         11110         11110         11111           12         11110         11110         11111           12         11110         11110         11111           12         11110         11111         11111           12         11110         111110         111111           12         11110         111110         111111           12         11110         111110         111111           12         11110         111110         111111           11110         111110         111111         111111           11110         111110         111111         111111           11110         111110         1111111         1111111           11110         1111110         11111111         11111111           11110         1111110         1111111111         111111111           11110         1111111110         11111111111         111111111111111111111           1111111111   | WIRE TO WIRE         Connector Name JOINT CONNECTOR-M09           WHITE         Connector Color         WHITE           Connector Same Joint Connector Color         WHITE         Connector Color           T         E         E         E         E           T         E         E         E         E         E           T         E         E         E         E         E         E           T         E <td>WIRE TO WIRE Connector Name JOINT CONNECTOR-M09 WHITE WHITE</td> <td></td> <td>81</td> <td>Connector No. M1</td> <td></td> <td></td>   | WIRE TO WIRE Connector Name JOINT CONNECTOR-M09 WHITE WHITE   |  | 81                | Connector No. M1   |  |  |
| M168     Connector No.     M170       WIRE TO WIRE     WIRE TO WIRE     Connector No.     M181       WHITE     Connector Name JOINT CONNECT Ame JOINT CONNECT No.     M181       WHITE     Connector Name JOINT CONNECT No.     M181       Onnector Color     WHITE     Connector Color       MITE     M110     NITE       MITE     M111     Connector Color       MITE     M111     M111       MIRE     M111  | M168       M168         WIRE TO WIRE       WIRE TO WIRE         WHITE       Connector No.       M170         WHITE       Connector Name JOINT CONNECTOR-M09         Connector Name JOINT CONNECTOR-M09       Connector Name JOINT CONNECTOR-M09         M11       Zaina Jaina Jain | M168     Connector No.     M170       WIRE TO WIRE     Connector Name JOINT CONNECTOR-M09       WHITE     Connector Color   | M168 Connector No. M170  |                   |  | Color of<br>Wire<br>BR<br>B  | Color of Wire B  |
| Incol     Signal Name       V     - (WITH LEFT AND<br>WIGHT FRONT)       B     - (WITH FRONT)       Connector Name<br>WITE       MIB       Connector Name<br>WITE       Missing (Might Mame<br>MITE       Missing (Might Mame       Mis   | Nice     Signal Name       Y     - (WITH LEFT AND<br>MICH       Y     - (WITH LEFT AND<br>MICH       W     - (WITH LEFT AND<br>MICH       M168     - (MICH LEFT AND<br>MICH       M168     - (MITH LEFT AND<br>MICH       M168     - (MITH LEFT AND<br>MICH       M168     - (MITH LEFT AND<br>MICH       M169     - (MITH LEFT AND<br>MICH       M170     - (MITH LEFT AND<br>MICH       M170     - (MITH LEFT AND<br>MICH       M171     - (MITH LEFT AND   | Or of<br>lire     Signal Name       Y     - (WITH LEFT AND<br>Wire       M168     - (M170<br>Connector No.       M170     - (MITE<br>Connector Noir  | or of<br>ire     Signal Name  <  | 1                 |  | 9<br>9   | 5 6 7 8 9  |
| i 7 18 9 10         i 7 18 9 10           i 1 10         i 100           i 100  | <ul> <li> <ul> <li></li></ul></li></ul>   | Image: Signal Name     Image: Signal Name       V     - (WITH LEFT AND       M168     - (MITH LEFT AND       M170     - (MITH LEFT AND       MITE     - (MITH LEFT AND       MITE     - (MITH LEFT AND  | 1     1 <td>1 1</td> <td></td> <td>1 2 3 4 5 6</td> <td>2</td> | 1 1               |  | 1 2 3 4 5 6  | 2  |
| Image: Signal Name     Image: Signal Name       Image: Signal Name     Image: Signal Name       Image: Non-With EFT AND     Image: Signal Name       Image: Non-With EFT AND | 2       1       2       1       2       1       2       1       2       1       2       1       2       1       2       1       2       1       2       1   | 2     3     3     1     1     2     1     1     2     1     1     2     1 <td>Prof     1     2     1     2     1     2     1     1     2     1</td> <td>1</td> <td></td> <td>_</td> <td></td> | Prof     1     2     1     2     1     2     1     1     2     1   | 1                 |  | _  |  |
| WHITE     Comector Color     WHITE       Image: Signal Name     Image: Signal Name       Image: Signal Name     Image: Signal Name       Image: Non-Color     Image: Non-Color  | WHIE     Connector Color     WHIE       2-     0       2-     0       2-     0       0     0       1     1       1  | WHTE     Connector Color     WHTE       2     1     2     1       1     1     1       1 <td< td=""><td>WHITE Connector Color WHITE</td><td></td><td>Terminal No. Wire</td><td></td><td></td></td<>  | WHITE Connector Color WHITE  |                   | Terminal No. Wire  |  |  |

[LH & RH FRONT AUTO UP/DOWN]

< WIRING DIAGRAM >



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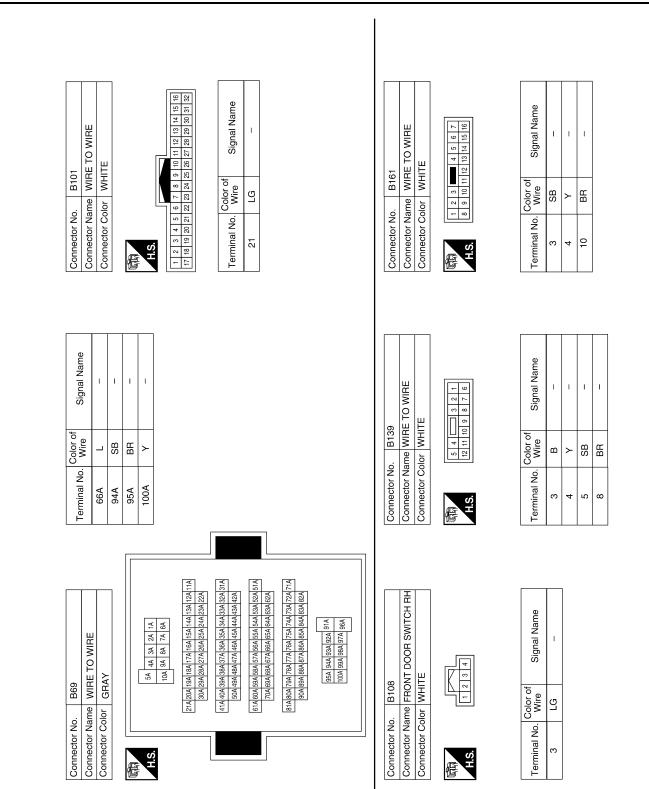
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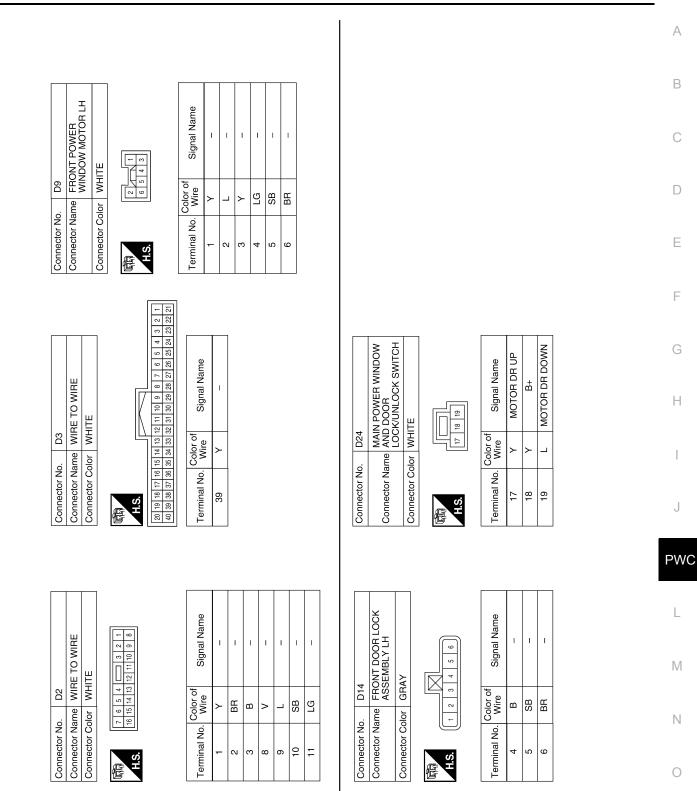
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#### < WIRING DIAGRAM >

# [LH & RH FRONT AUTO UP/DOWN]

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# [LH & RH FRONT AUTO UP/DOWN]

**Revision: November 2015** 

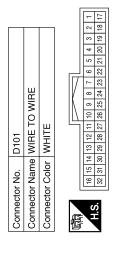
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## < WIRING DIAGRAM >

# [LH & RH FRONT AUTO UP/DOWN]



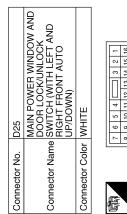
| Signal Name      | I  |  |
|------------------|----|--|
| Color of<br>Wire | Y  |  |
| Terminal No.     | 31 |  |

| 1         2         3         4         5           6         7         8         9         10         11         12 | of Signal Name   | 1 | I | COM | ENCODER | ENCODER + | I | GND | BAT | ENCODER SIG1 | ENCODER SIG2 | MOTOR UP | MOTOR DOWN |
|--|------------------|---|---|-----|---------|-----------|---|-----|-----|--------------|--------------|----------|------------|
|  | Color of<br>Wire | ı | I | ≻   | ГG      | BG        | I | m   | BR  | ٨            | Ν            | Γ        | BR         |
| 品.S.H  | Terminal No.     | - | 2 | ო   | 4       | 5         | 9 | 7   | 8   | 6            | 10           | 11       | 12         |

| Signal Name      | ENCODER SIG-1 (DLP) | MOTOR RR DOWN | MOTOR RR UP | MOTOR RL DOWN | MOTOR RL UP | IGN | COM | ENCODER GND | I  | ENCODER + | UNLOCK CDL | I  |  |
|------------------|---------------------|---------------|-------------|---------------|-------------|-----|-----|-------------|----|-----------|------------|----|--|
| Color of<br>Wire | ٢                   | _             | >           | ГG            | SB          | BR  | Y   | BR          | Ι  | ГG        | SB         | I  |  |
| Terminal No.     | 5                   | 9             | 7           | 8             | 6           | 10  | 11  | 12          | 13 | 14        | 15         | 16 |  |

| Connector No. D105  |
|---|
| FRONT POWER WINDOW<br>MOTOR RH (WITH LEFT AND<br>RIGHT FRONT AUTO<br>UP/DOWN) |
| Connector Color WHITE   |
|   |

| Signal Name                | I | I  | I  | I | I  | I |  |
|----------------------------|---|----|----|---|----|---|--|
| Color of<br>Wire           | L | BR | ГG | M | BG | > |  |
| Terminal No. Color of Wire | ٢ | 2  | e  | 4 | 5  | 9 |  |



| 7         6         5         4         3         2         1           8         9         10         11         12         13         14         15         16 | Signal Name      | GND | I | KEY CYL LOCK |
|--|------------------|-----|---|--------------|
| 7 6 8 9  | Color of<br>Wire | В   | I | ВВ           |
| 园<br>H.S.  | Terminal No.     | -   | 2 | e            |

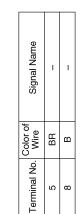
| Connector No.               | D102         |
|-----------------------------|--------------|
| Connector Name WIRE TO WIRE | WIRE TO WIRE |
| Connector Color WHITE       | WHITE        |
|                             |              |
| E E                         | 4 3 3 2 1    |
| ЗН                          | 10 9 8 7 6 5 |
|                             |              |

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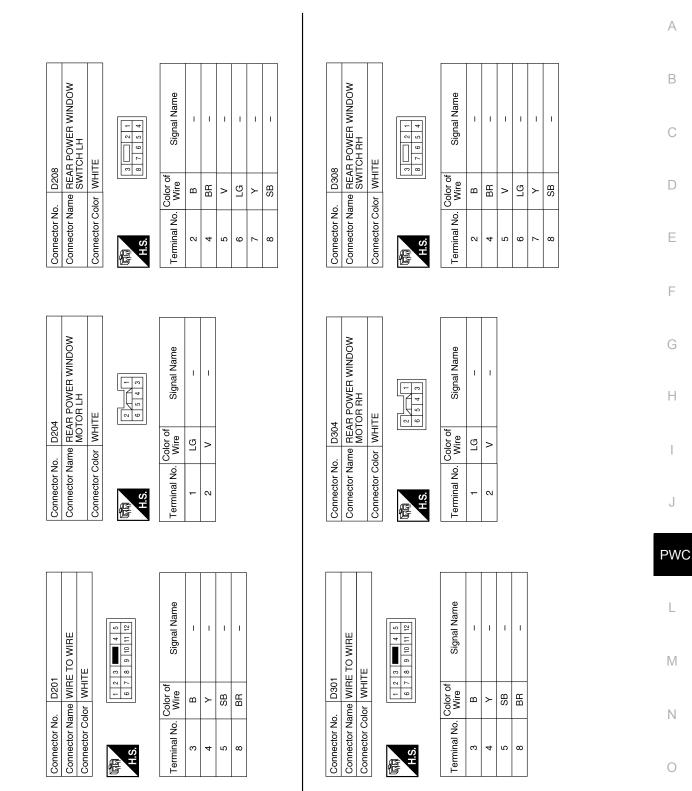
ENCODER SIG-2 (ULP)

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#### < WIRING DIAGRAM >

# [LH & RH FRONT AUTO UP/DOWN]

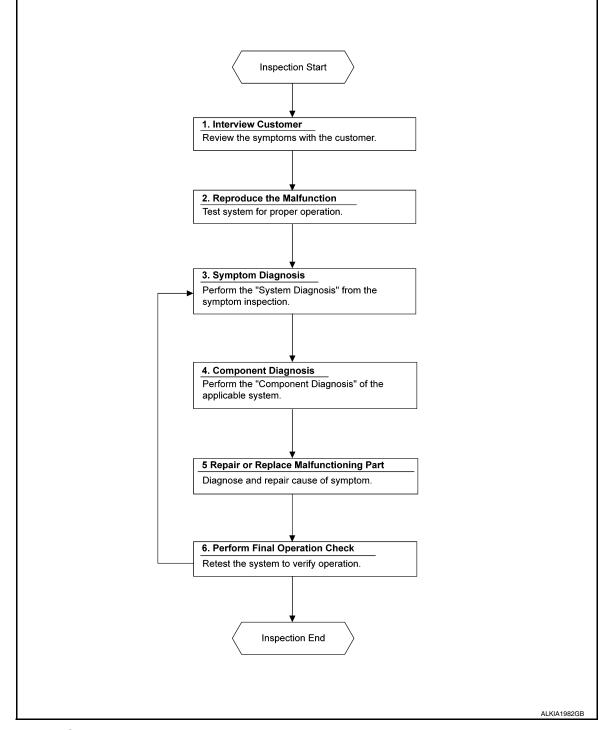
Revision: November 2015

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

# Work Flow

INFOID:000000012549767

**OVERALL SEQUENCE** 



# DETAILED FLOW

# 1. OBTAIN INFORMATION ABOUT SYMPTOM

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

# DIAGNOSIS AND REPAIR WORKFLOW

#### < BASIC INSPECTION >

# [LH & RH FRONT AUTO UP/DOWN]

| >> GO TO 2.  | А         |
|--|-----------|
| <b>2.</b> CONFIRM THE SYMPTOM  | $\square$ |
| Check the malfunction on the vehicle that the customer describes.<br>Inspect the relation of the symptoms and the condition when the symptoms occur.                     | В         |
| >> GO TO 3.<br><b>3.</b> IDENTIFY THE MALFUNCTIONING SYSTEM WITH SYMPTOM DIAGNOSIS   | С         |
| Use Symptom diagnosis from the symptom inspection result in step 2 and then identify where to start perform-<br>ing the diagnosis based on possible causes and symptoms. | D         |
| >> GO TO 4.<br><b>4.</b> PERFORM THE COMPONENT DIAGNOSIS OF THE OF THE APPLICABLE SYSTEM   | E         |
| Perform the diagnosis with Component diagnosis of the applicable system.   | F         |
| 5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS  | G         |
| Repair or replace the specified malfunctioning parts.  |           |
| >> GO TO 6.<br><b>6.</b> FINAL CHECK   | Η         |
| Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.           | I         |
| Are the malfunctions corrected?<br>YES >> Inspection End.<br>NO >> GO TO 3.  | J         |
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#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL [LH & RH FRONT AUTO UP/DOWN]

< BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMI-NAL

# Description

INFOID:000000012549768

When the negative battery terminal is disconnected, the initialization is necessary for normal operation of power window system.

## **CAUTION:**

- The following specified operations can not be performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function

Work Procedure

INFOID:000000012549769

# **1.**SYSTEM INITIALIZATION

Perform system initialization. Refer to PWC-92, "Work Procedure".

>> GO TO 2.

2. CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to PWC-93, "Work Procedure".

>> Inspection End.

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT < BASIC INSPECTION > [LH & RH FRONT AUTO UP/DOWN]

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

# Description

INFOID:000000012549770

INFOID:000000012549771

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| When the negative battery terminal is disconnected, the initialization is necessary for norma | l operation of |
|---|----------------|
| power window system.  | -              |
| CAUTION:  |                |

| The following specified operations can not be performed under the non-initialized condition. |  |
|--|--|
| Auto-up operation  |  |
| Anti-pinch function  |  |
|  |  |

# Work Procedure

**1.**SYSTEM INITIALIZATION

 Perform system initialization. Refer to <u>PWC-92, "Work Procedure"</u>.

# >> GO TO 2. 2.CHECK ANTI-PINCH FUNCTION

Check anti-pinch function. Refer to PWC-93, "Work Procedure".

>> Inspection End.

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# SYSTEM INITIALIZATION

# Description

INFOID:000000012549772

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

- When control unit replaced.
- Electric power supply to power window switch or motor is interrupted by blown fuse or disconnection and connection of the negative battery terminal.
- · Removal and installation of regulator assembly.
- Power supply to the power window main switch or power window motor is cut off by the removal of battery terminal or if the battery fuse is blown.
- Disconnection and connection of power window main switch harness connector.
- Removal and installation of motor from regulator assembly.
- Operation of regulator assembly as an independent unit.
- Removal and installation of door glass.
- · Removal and installation of door glass run.
- The following specified operations can not be performed under the non-initialized condition.
- Auto-up operation
- Anti-pinch function

## Work Procedure

INFOID:000000012549773

# **1.**STEP 1

- 1. Disconnect battery negative terminal or power main switch connector. Reconnect it after a minute or more.
- 2. Turn ignition switch ON.
- 3. Operate the power window switch to fully open the window. (This operation is not necessary if the window is already fully open).
- 4. Continue pulling the power window switch UP (AUTO-UP operation). Even after the glass stops at fully closed position, keep pulling the switch for 4 seconds or more.
- 5. Retest the AUTO-UP function operation.

#### >> GO TO 2.

# 2.STEP 2

Check anti-pinch function. Refer to PWC-93, "Work Procedure".

>> Inspection End.

# CHECK ANTI-PINCH FUNCTION

# Description

[LH & RH FRONT AUTO UP/DOWN]

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| If any of the following operations are performed, the initialization is necessary for normal operation of power window system.<br>• When control unit is replaced.  | В  |
|---|----|
| <ul> <li>Electric power supply to power window switch or motor is interrupted by blown fuse or disconnection and connection of the negative battery terminal.</li> <li>Removal and installation of regulator assembly.</li> </ul>   | С  |
| <ul> <li>Power supply to the power window main switch or power window motor is cut off by the removal of battery terminal or if the battery fuse is blown.</li> <li>Disconnection and connection of power window main switch harness connector.</li> </ul>  | D  |
| <ul> <li>Removal and installation of motor from regulator assembly.</li> <li>Operation of regulator assembly as an independent unit.</li> <li>Removal and installation of door glass.</li> <li>Removal and installation of door glass run.</li> </ul>   | E  |
| <ul> <li>The following specified operations can not be performed under the non-initialized condition.</li> <li>Auto-up operation</li> <li>Anti-pinch function</li> </ul>  | F  |
| Work Procedure  | 0  |
| 1. CHECK ANTI-PINCH FUNCTION  | G  |
| <ul> <li>Fully open the door window.</li> <li>Place a piece of wood near fully closed position.</li> <li>Close door glass completely with AUTO-UP.</li> <li>Check the following conditions</li> </ul>   | Н  |
| <ul> <li>Check that glass lowers for approximately 150 mm (5.91 in.) without pinching piece of wood and stops.</li> <li>Check that glass does not rise not when operating the power window main switch while lowering.</li> <li>CAUTION:</li> </ul>   | I  |
| <ul> <li>Perform initial setting when AUTO-UP operation or anti-pinch function does not operate normally.</li> <li>Check that AUTO-UP operates before inspection when system initialization is performed.</li> <li>Do not check with hands and other body parts because they may be pinched. Do not get pinched.</li> </ul> | J  |
| >> Inspection End.  | ΡW |

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# [LH & RH FRONT AUTO UP/DOWN]

# DTC/CIRCUIT DIAGNOSIS POWER SUPPLY AND GROUND CIRCUIT BCM

BCM : Diagnosis Procedure

INFOID:000000012927040

Regarding Wiring Diagram information, refer to BCS-55, "Wiring Diagram".

# **1.** CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse or fusible link blown?

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

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M81.

2. Check voltage between BCM connector M81 terminals 131, 139 and ground.

| B         | CM       | Ground |                 |  |
|-----------|----------|--------|-----------------|--|
| Connector | Terminal | Ground | (Approx.)       |  |
| <br>M81   | 131      |        | Pottony voltago |  |
|           | 139      |        | Battery voltage |  |

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# **3.** CHECK GROUND CIRCUIT

Check continuity between BCM connector M81 terminals 134, 143 and ground.

| B         | CM       | Ground | Continuity |  |
|-----------|----------|--------|------------|--|
| Connector | Terminal | Ground | Continuity |  |
| <br>M81   | 134      |        | Yes        |  |
|           | 143      | —      | 165        |  |

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## POWER WINDOW MAIN SWITCH

# POWER WINDOW MAIN SWITCH : Description

BCM supplies power.

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

INFOID:000000012549777

#### POWER SUPPLY AND GROUND CIRCUIT [LH & RH FRONT AUTO UP/DOWN] < DTC/CIRCUIT DIAGNOSIS > POWER WINDOW MAIN SWITCH : Component Function Check INFOID:000000012549778 А Main Power Window And Door Lock/unlock Switch **1.** CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH FUNCTION Check power window motor operation with main power window and door lock/unlock switch. Is the inspection result normal? YES >> Main power window and door lock/unlock switch power supply and ground circuit are OK. >> Refer to PWC-95, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure". NO POWER WINDOW MAIN SWITCH : Diagnosis Procedure INFOID:000000012549779 D Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto Up/ Е Down". Main Power Window And Door Lock/unlock Switch Power Supply Circuit Check F CHECK POWER SUPPLY CIRCUIT 1. Turn ignition switch ON. Check voltage between main power window and door lock/unlock switch connectors and ground. 2. Terminal Voltage Н (+)(Approx.) (-) Main power window and door lock/un-Terminal lock switch connector D25 10 Ground Battery voltage D24 18 Is the inspection result normal? YES >> GO TO 3. NO >> GO TO 2.

2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect BCM, main power window and door lock/unlock switch, power window and door lock/unlock switch RH, rear power window switch LH and rear power window switch RH.

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

| BCM connector | Terminal | Main power window and door lock/unlock switch connector | Terminal | Continuity | IVI |
|---------------|----------|---|----------|------------|-----|
| M81           | 140      | D25   | 10       | Ves        |     |
| M81           | 141      | D24   | 18       | Yes        | Ν   |

4. Check continuity between BCM connector M81 and ground.

| BCM connector | Terminal |        | Continuity | 0 |
|---------------|----------|--------|------------|---|
| M81           | 140      | Ground | No         |   |
| WOT           | 141      |        | NO         | _ |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect main power window and door lock/unlock switch.

3. Check continuity between main power window and door lock/unlock switch connector D25 and ground.

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#### < DTC/CIRCUIT DIAGNOSIS >

| Main power window and door lock/unlock switch connector | Terminal | Ground | Continuity |
|---|----------|--------|------------|
| D25   | 1        | Ground | Yes        |

Is the inspection result normal?

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

1. Connect BCM.

2. Turn ignition switch ON.

3. Check voltage between BCM connector M81 and ground.

| (+)           |          | (_)      | Voltage<br>(Approx.) |  |
|---------------|----------|----------|----------------------|--|
| BCM connector | Terminal | ()       | (********)           |  |
| <br>M91       | 140      | - Ground | Pattony voltage      |  |
| M81           | 141      |          | Battery voltage      |  |

#### Is the measurement value within the specification?

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

NO >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

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

- 1. Connect main power window and door lock/unlock switch.
- 2. Turn ignition switch ON.
- 3. Check voltage between main power window and door lock/unlock switch connector D25 and ground.

| Terminal  |          |          |                    |                 |
|---|----------|----------|--------------------|-----------------|
| (+)   |          |          | Window switch      | Voltage         |
| Main power window and door lock/unlock switch connector | Terminal | (-)      | position (rear LH) | (Approx.)       |
| D25   | 9        | - Ground | UP                 | Battery voltage |
|   |          |          | DOWN               | 0               |
|   |          |          | UP                 | 0               |
|   | 8        |          | DOWN               | Battery voltage |

#### Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.
- NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-98</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Special Repair</u> <u>Requirement</u>".

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

- 1. Connect main power window and door lock/unlock switch.
- 2. Turn ignition switch ON.
- 3. Check voltage between main power window and door lock/unlock switch connector D25 and ground.

#### < DTC/CIRCUIT DIAGNOSIS >

| [LH & RH FRONT AUTO UP/DOWN] |
|------------------------------|

| Terminal  |          |        |                    |                 | /   |
|---|----------|--------|--------------------|-----------------|-----|
| (+)   |          |        | Window switch      | Voltage         |     |
| Main power window and door lock/unlock switch connector | Terminal | (-)    | position (rear RH) | (Approx.)       | E   |
| D25   | 7        |        | UP                 | Battery voltage | -   |
|   |          |        | DOWN               | 0               | _   |
|   | 0        | Ground | UP                 | 0               | - ( |
|   | 6        |        | DOWN               | Battery voltage | -   |

Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-98</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Special Repair</u> <u>Requirement</u>".

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

- 1. Connect main power window and door lock/unlock switch.
- 2. Turn ignition switch ON.
- 3. Check voltage between main power window and door lock/unlock switch connector D24 and ground.

| Te  | Terminal |        |                     |                 |   |
|---|----------|--------|---------------------|-----------------|---|
| (+)   |          |        | Window switch       | Voltage         | F |
| Main power window and door lock/unlock switch connector | Terminal | (-)    | position (front LH) | (Approx.)       |   |
|   | 17       | Ground | UP                  | Battery voltage | I |
| D24   |          |        | DOWN                | 0               |   |
| D24   |          |        | UP                  | 0               |   |
|   | 19       |        | DOWN                | Battery voltage | J |

#### Is the inspection result normal?

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

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-98</u>, "<u>POWER WINDOW MAIN SWITCH</u> : <u>Special Repair</u> <u>Requirement</u>".

## POWER WINDOW MAIN SWITCH : Component Inspection

INFOID:000000012549780

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

1. Check main power window and door lock/unlock switch D25.

| Ter | minal | Main power window and | Continuity | N   |   |
|-----|-------|-----------------------|------------|-----|---|
| 10  | 9     | Rear LH               |            |     | _ |
| 10  | 7     | Rear RH               | UP UP      |     |   |
| 8   | 9     | Rear LH               | NEUTRAL    |     |   |
| 6   | 7     | Rear RH               | NEUTRAL    | Yes |   |
| 10  | 8     | Rear LH               | DOWN       |     |   |
| 10  | 6     | Rear RH               | DOWN       |     |   |
| 1   | 12    |                       | -          |     |   |

2. Check continuity between main power window and door lock/unlock switch D25 (power window lock switch). (Lock operation).

ock switch.

# POWER SUPPLY AND GROUND CIRCUIT < DTC/CIRCUIT DIAGNOSIS > [LH & RH FRONT AUTO UP/DOWN]

| Terminal |   | Main power window and doo | Continuity |    |
|----------|---|---------------------------|------------|----|
| 8        |   | Rear LH                   | UP         |    |
| 6        |   | Rear RH                   | UP         |    |
| 8        |   | Deerlill                  |            |    |
| 9        |   | Rear LH                   |            | No |
| 7        | 1 | Rear RH                   | NEUTRAL    |    |
| 6        |   |                           |            |    |
| 9        |   | Rear                      | DOWN       |    |
| 7        |   | Rear RH                   | DOWN       |    |

3. Check continuity between main power window and door lock/unlock switch D25 (power window lock switch). (Unlock operation).

| Terr | minal | Main power window and do | Continuity |     |
|------|-------|--------------------------|------------|-----|
| 8    |       | Rear LH                  | UP         |     |
| 6    |       | Rear RH                  | - UP       |     |
| 8    |       | Rear LH                  |            |     |
| 9    | 1     |                          | NEUTRAL    | Yes |
| 7    |       | Rear RH                  |            |     |
| 6    |       | Real RH                  |            |     |
| 9    |       | Rear LH                  | DOWN       |     |
| 7    |       | Rear RH                  | DOWN       |     |

#### Is the inspection result normal?

YES >> Main power window and door lock/unlock switch is OK.

NO >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>. "Removal and <u>Installation"</u>. After that, refer to <u>PWC-98</u>. "POWER WINDOW MAIN SWITCH : Special Repair <u>Requirement"</u>.

# POWER WINDOW MAIN SWITCH : Special Repair Requirement

INFOID:000000012549781

# **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-92, "Work Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-93, "Work Procedure"</u>.

Is the inspection result normal?

YES >> Inspection end.

NO >> Refer to <u>PWC-110, "DRIVER SIDE : Component Function Check"</u>. FRONT POWER WINDOW SWITCH

# FRONT POWER WINDOW SWITCH : Description

• BCM supplies power.

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

INFOID:000000012549782

#### POWER SUPPLY AND GROUND CIRCUIT [LH & RH FRONT AUTO UP/DOWN] < DTC/CIRCUIT DIAGNOSIS > FRONT POWER WINDOW SWITCH : Component Function Check INFOID:000000012549783 А Power Window And Door Lock/unlock Switch RH CHECK FRONT POWER WINDOW MOTOR RH FUNCTION Check front power window motor RH operation with power window and door lock/unlock switch RH. Is the inspection result normal? YES >> Power window and door lock/unlock switch RH power supply and ground circuit are OK. >> Refer to PWC-99, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure". NO FRONT POWER WINDOW SWITCH : Diagnosis Procedure INFOID:000000012549784 D Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto Up/ Е Down". Power Window And Door Lock/unlock Switch RH Power Supply Circuit Check F CHECK POWER SUPPLY CIRCUIT Check voltage between power window and door lock/unlock switch RH connector D129 and ground. Terminal (+) Voltage (Approx.) Н (-) Power window and door lock/unlock Terminal switch RH connector D129 Ground Battery voltage 8 Is the inspection result normal? YES >> GO TO 3. NO >> GO TO 2. 2. CHECK HARNESS CONTINUITY 1. Turn ignition switch OFF. 2. Disconnect BCM and power window and door lock/unlock switch RH. PWC Check continuity between BCM connector M81 and power window and door lock/unlock switch RH con-3 nector D129.

| M81 141 D129 8 Yes | <br>BCM connector | Terminal | Power window and door lock/un-<br>lock switch RH connector | Terminal | Continuity | L |
|--------------------|-------------------|----------|--|----------|------------|---|
|                    | <br>M81           | 141      | D129   | 8        | Yes        | Ν |

4. Check continuity between BCM connector M81 and ground.

| BCM connector | Terminal | Ground | Continuity | Ν |
|---------------|----------|--------|------------|---|
| M81           | 141      | Ground | No         |   |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect power window and door lock/unlock switch RH.

3. Check continuity between power window and door lock/unlock switch RH connector D129 and ground.

| Power window and door lock/unlock switch RH | Terminal | Ground | Continuity |
|---|----------|--------|------------|
| D129  | 7        | Croana | Yes        |

Is the inspection result normal?

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#### < DTC/CIRCUIT DIAGNOSIS >

- YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.
- NO >> Repair or replace the harness or connectors.

**4.** CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM.
- 2. Turn ignition switch ON.

3. Check voltage between BCM connector M81 and ground.

|               | Terminals |        |                      |
|---------------|-----------|--------|----------------------|
| (+)           | (+)       |        | Voltage<br>(Approx.) |
| BCM connector | Terminal  | - (-)  |                      |
| M81           | 141       | Ground | Battery voltage      |

Is the inspection result normal?

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

NO >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

# FRONT POWER WINDOW SWITCH : Special Repair Requirement

INFOID:000000012549785

# **1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to PWC-92, "Work Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation.

Refer to <u>PWC-93</u>, "Work Procedure".

Is the inspection result normal?

YES >> Inspection end.

NO >> Refer to <u>PWC-112</u>, "PASSENGER SIDE : Component Function Check".

## REAR POWER WINDOW SWITCH

# REAR POWER WINDOW SWITCH : Description

• BCM supplies power.

• Rear power window motor will be operated if rear power window switch is operated. Rear power window switch.

REAR POWER WINDOW SWITCH : Component Function Check

Rear Power Window Switch

**1.** CHECK REAR POWER WINDOW MOTOR FUNCTION

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

Is the inspection result normal?

YES >> Rear power window switch power supply and ground circuit are OK.

NO >> Refer to <u>PWC-100, "REAR POWER WINDOW SWITCH : Diagnosis Procedure"</u>.

REAR POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000012549788

INFOID:000000012549786

INFOID:000000012549787

Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down</u>".

Rear Power Window Switch Power Supply Circuit Check

Revision: November 2015

**PWC-100** 

2016 Pathfinder

| - |    |      |    |       |      |          |
|---|----|------|----|-------|------|----------|
|   | [L | .H & | RH | FRONT | AUTO | UP/DOWN] |

#### < DTC/CIRCUIT DIAGNOSIS >

# [LH & RH FRONT AUTO UP/DOWN]

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#### 1. CHECK POWER SUPPLY CIRCUIT Check voltage between rear power window switch connector and ground. Terminal Voltage (+)Condition (Approx.) (-) Rear power window Terminal switch connector LH D208 4 Ground Ignition switch ON Battery voltage RH D308 Is the inspection result normal? YES >> GO TO 2 (Rear power window switch LH). YES >> GO TO 3 (Rear power window switch RH). NO >> GO TO 4. **2.** CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH LH) Turn ignition switch OFF. 1. Disconnect main power window and door lock/unlock switch and rear power window switch LH. 2. Check continuity between main power window and door lock/unlock switch connector D25 and rear power 3. window switch LH connector D208. Main power window and door lock/ Rear power window switch LH Terminal Terminal Continuity unlock switch connector connector 7 8 D25 D208 Yes 9 8 Check continuity between main power window and door lock/unlock switch connector D25 and ground. Main power window and door lock/unlock switch connector Terminal Continuity 8 Ground D25 No 9 Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace the harness or connectors. **3.** CHECK HARNESS CONTINUITY (REAR POWER WINDOW SWITCH RH) 1. Turn ignition switch OFF. 2. Disconnect main power window and door lock/unlock switch and rear power window switch RH. 3. Check continuity between main power window and door lock/unlock switch connector D25 and rear power window switch RH connector D308. Main power window and door lock/ Rear power window switch RH Terminal Terminal Continuity unlock switch connector connector 7 6 D308 D25 Yes 7 8 Check continuity between main power window and door lock/unlock switch connector D25 and ground. 4 Continuity Main power window and door lock/unlock switch connector Terminal 6 Ground D25 No 7 Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace the harness or connectors. 4. CHECK HARNESS CONTINUITY

#### < DTC/CIRCUIT DIAGNOSIS >

1. Disconnect BCM and rear power window switch.

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

| BCM connector | Terminal | Rear power windo | ow switch connector | Terminal | Continuity |
|---------------|----------|------------------|---------------------|----------|------------|
| M81           | 140      | LH               | D208                | 4        | Yes        |
|               | 140      | RH               | D308                | 4        | res        |

3. Check continuity between BCM connector M81 and ground.

| BCM connector | Terminal | Ground | Continuity |
|---------------|----------|--------|------------|
| M81           | 140      | Cround | No         |

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connectors.

#### **5.** CHECK REAR POWER WINDOW SWITCH

Check rear power window switch.

Refer to PWC-102, "REAR POWER WINDOW SWITCH : Component Inspection".

#### Is the inspection result normal?

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

NO >> Replace rear power window switch. Refer to <u>PWC-138</u>, "Removal and Installation".

# **REAR POWER WINDOW SWITCH : Component Inspection**

INFOID:000000012549789

# COMPONENT INSPECTION

# **1.**CHECK REAR POWER WINDOW SWITCH LH

Check rear power window switch LH D208.

| Terr | minal | Power window switch condition | Continuity |
|------|-------|-------------------------------|------------|
| 4    | 5     | UP                            |            |
| 7    | 6     | 0r                            |            |
| 7    | 6     | NEUTRAL                       | Yes        |
| 8    | 5     | NEOTIAL                       | 165        |
| 4    | 6     | DOWN                          |            |
| 5    | 8     | Bown                          |            |

#### Is the inspection result normal?

YES >> Rear power window switch LH is OK.

NO >> Replace rear power window switch. Refer to <u>PWC-138</u>, "Removal and Installation".

## 2. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH D308.

| Terr | ninal | Power window switch condition | Continuity |
|------|-------|-------------------------------|------------|
| 4    | 5     | UP                            |            |
| 7    | 6     | UF UF                         |            |
| 7    | 6     | NEUTRAL                       | Yes        |
| 8    | 5     | NEO INAL                      | 163        |
| 4    | 6     | DOWN                          | 1          |
| 5    | 8     | Down                          |            |

Is the inspection result normal?

YES >> Rear power window switch RH is OK.

NO >> Replace rear power window switch. Refer to PWC-138, "Removal and Installation".

| < DTC/CIRCUIT DIAGNOSIS >       [LH & RH FRONT AUTO UP/DOW         POWER WINDOW MOTOR       DRIVER SIDE         DRIVER SIDE       Description         Door glass moves UP/DOWN by receiving the signal from power window main switch.       DRIVER SIDE : Component Function Check         DRIVER SIDE : Component Function Check       Information check         1. CHECK POWER WINDOW MOTOR CIRCUIT       Check front power window motor LH operation with operating main power window and door lock/unkeswitch.         Is the inspection result normal?       YES         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure       Information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check       1         0 UFOR WINDOW MOTOR LH Circuit Check       1   | /N]        |
|---|------------|
| DRIVER SIDE       DRIVER SIDE : Description       Des |            |
| Door glass moves UP/DOWN by receiving the signal from power window main switch.         DRIVER SIDE : Component Function Check         1. CHECK POWER WINDOW MOTOR CIRCUIT         Check front power window motor LH operation with operating main power window and door lock/unleswitch.         Is the inspection result normal?         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure         Merodocommentation, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  |            |
| Door glass moves UP/DOWN by receiving the signal from power window main switch.         DRIVER SIDE : Component Function Check         1. CHECK POWER WINDOW MOTOR CIRCUIT         Check front power window motor LH operation with operating main power window and door lock/unleswitch.         Is the inspection result normal?         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure         Merodocommentation, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  | 540700     |
| DRIVER SIDE : Component Function Check       INFORMATION OF CIRCUIT         1. CHECK POWER WINDOW MOTOR CIRCUIT       Check front power window motor LH operation with operating main power window and door lock/unless witch.         Is the inspection result normal?       YES >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure       INFORMATION OF CIRCUIT         Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  | 549790     |
| 1. CHECK POWER WINDOW MOTOR CIRCUIT         Check front power window motor LH operation with operating main power window and door lock/unloswitch.         Is the inspection result normal?         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure         Megarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto Powen".         Front Power Window Motor LH Circuit Check  |            |
| Check front power window motor LH operation with operating main power window and door lock/unloswitch.          Is the inspection result normal?         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure         MFORD.000000125         Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  | 549791     |
| switch.<br>Is the inspection result normal?<br>YES >> Front power window motor LH is OK.<br>NO >> Refer to <u>PWC-103</u> , "DRIVER SIDE : Diagnosis Procedure".<br>DRIVER SIDE : Diagnosis Procedure<br>Regarding Wiring Diagram information, refer to <u>PWC-79</u> , "Wiring Diagram - With Left & Right Front Auto I<br><u>Down</u> ".<br>Front Power Window Motor LH Circuit Check   |            |
| Is the inspection result normal?         YES       >> Front power window motor LH is OK.         NO       >> Refer to PWC-103, "DRIVER SIDE : Diagnosis Procedure".         DRIVER SIDE : Diagnosis Procedure         Import Processory (Section 1)         Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  | ock        |
| YES >> Front power window motor LH is OK.<br>NO >> Refer to <u>PWC-103</u> , " <u>DRIVER SIDE : Diagnosis Procedure</u> ".<br>DRIVER SIDE : Diagnosis Procedure<br>Regarding Wiring Diagram information, refer to <u>PWC-79</u> , " <u>Wiring Diagram - With Left &amp; Right Front Auto I</u><br><u>Down</u> ".<br>Front Power Window Motor LH Circuit Check   |            |
| DRIVER SIDE : Diagnosis Procedure         Regarding Wiring Diagram information, refer to PWC-79, "Wiring Diagram - With Left & Right Front Auto I Down".         Front Power Window Motor LH Circuit Check  |            |
| Regarding Wiring Diagram information, refer to <u>PWC-79, "Wiring Diagram - With Left &amp; Right Front Auto I Down"</u> .<br>Front Power Window Motor LH Circuit Check   |            |
| Down".<br>Front Power Window Motor LH Circuit Check   | 549792     |
| Down".<br>Front Power Window Motor LH Circuit Check   |            |
|   | <u>Up/</u> |
|   |            |
|   |            |
| 1. CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH OUTPUT SIGNAL  |            |
| <ol> <li>Disconnect front power window motor LH.</li> <li>Turn ignition switch ON.</li> </ol>   |            |
| 3. Check voltage between front power window motor LH connector D9 and ground.   |            |
| Terminal  | —          |
| (+) Main power window and door Voltage  |            |
| Power window motor LH Terminal (-) lock/unlock switch condition (Approx.)   |            |
| UP Battery voltage  | P          |
| D9 Ground DOWN 0  |            |
| 2 UP 0  |            |
| DOWN Battery voltage  |            |
| Is the inspection result normal?  |            |
| YES >> GO TO 3.<br>NO >> GO TO 2.   |            |
| 2. CHECK HARNESS CONTINUITY   |            |
| 1. Turn ignition switch OFF.  |            |
| 2. Disconnect main power window and door lock/unlock switch and front power window motor LH.  |            |
| <ol> <li>Check continuity between main power window and door lock/unlock switch connector D24 and fr<br/>power window motor connector LH D9.</li> </ol>   | ont        |

| Main power window and door lock/<br>unlock switch connector | Terminal | Front power window motor LH connector | Terminal | Continuity | Ρ |
|---|----------|---------------------------------------|----------|------------|---|
| <br>D24   | 17       | - D9                                  | 1        | Yes        |   |
| D24   | 19       | 9                                     | 2        | 165        |   |

4. Check continuity between main power window and door lock/unlock switch connector D24 and ground.

#### < DTC/CIRCUIT DIAGNOSIS >

| Main power window and door lock/unlock switch connector | Terminal |        | Continuity |
|---|----------|--------|------------|
| <br>D24   | 17       | Ground | No         |
| D24   | 19       | -      | NO         |

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and</u> <u>Installation</u>". After that, refer to <u>PWC-92</u>, "<u>Work Procedure</u>".

NO >> Repair or replace the harness or connectors.

 $\mathbf{3}$ . Check power window motor

Check front power window motor LH.

Refer to <u>PWC-104, "DRIVER SIDE : Component Inspection"</u>.

#### Is the inspection result normal?

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

NO >> Replace power window motor LH. Refer to <u>GW-14, "Removal and Installation"</u>. After that, refer to <u>PWC-92, "Work Procedure"</u>.

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

# COMPONENT INSPECTION

#### 1. CHECK FRONT POWER WINDOW MOTOR LH

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

| Terr | ninal | Motor condition |
|------|-------|-----------------|
| (+)  | (-)   |                 |
| 2    | 1     | DOWN            |
| 1    | 2     | UP              |

#### Is the inspection result normal?

YES >> Front power window motor LH is OK.

NO >> Replace front power window motor LH. Refer to <u>GW-14, "Removal and Installation"</u>. After that, refer to <u>PWC-92, "Work Procedure"</u>.

## DRIVER SIDE : Special Repair Requirement

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.

Refer to <u>PWC-92, "Work Procedure"</u>.

#### Is the inspection result normal?

- YES >> GO TO 2
- NO >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to <u>PWC-93, "Work Procedure"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>PWC-110, "DRIVER SIDE : Component Function Check"</u>. PASSENGER SIDE

## **PASSENGER SIDE : Description**

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

#### **PWC-104**

INFOID:000000012549794

INFOID:000000012549793

INFOID:000000012549795

| <ul> <li>CHECK POWER WINDOW MOTOR CIRCUIT</li> <li>Check power window motor operation with operating main power window and door lock/unlock switch power window and door lock/unlock switch RH.</li> <li>Is the inspection result normal?</li> <li>YES &gt;&gt; Front power window motor RH is OK.</li> <li>NO &gt;&gt; Refer to <u>PWC-105</u>, "PASSENGER SIDE : Diagnosis Procedure".</li> </ul>  | DTC/CIRCUIT DIAGNOSIS  | >   | _  | [LH &           | RH FRONT      | AUTO UP/DOWN]          |               |                      |
|--|--|---|--|-----------------|---------------|------------------------|---------------|----------------------|
| Check power window motor operation with operating main power window and door lock/unlock switch H.         Sthe inspection result normal?         YES       >> Front power window motor RH is OK.         NO       >> Refer to PWC-105. "PASSENGER SIDE : Diagnosis Procedure".         PASSENGER SIDE : Diagnosis Procedure   | ASSENGER SIDE : Co   | mponent Fun   | ction Check  |                 |               | INFOID:000000012549796 |               |                      |
| heck power window motor operation with operating main power window and door lock/unlock switch RH.         ithe inspection result normal?         YES       >> Front power window motor RH is OK.         NO       >> Refer to PWC-105 "PASSENGER SIDE : Diagnosis Procedure".         ASSENGER SIDE : Diagnosis Procedure   | . CHECK POWER WINDOW   | MOTOR CIRCU   | ІТ   |                 |               |                        |               |                      |
| egarding Wiring Diagram information, refer to <u>PWC-79, "Wiring Diagram - With Left &amp; Right Front Auto U</u><br>own".<br>ront Power Window Motor RH Circuit Check<br>• CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL<br>Turn ignition switch OFF.<br>Disconnect front power window motor RH.<br>Turn ignition switch ON.<br>Check voltage between front power window motor RH connector D105 and ground.<br>Terminal<br>(-)<br>Front power window motor RH connector D105 and ground.<br>Voltage<br>(Approx.)<br>Front power window motor RH connector D105<br>D105<br>1<br>D105<br>1<br>Creation Contended for the connector Terminal<br>Continuity Detween power window and door lock/unlock switch RH.<br>Check continuity between power window and door lock/unlock switch RH connector D129 and front power<br>window motor RH connector D105.<br>Power window and door lock/unlock switch RH.<br>Check continuity between power window and door lock/unlock switch RH connector D129 and ground.   | heck power window motor o<br>ower window and door lock/ur<br>the inspection result normal?<br>YES >> Front power window  | peration with op<br>nlock switch RH.<br>:<br>w motor RH is Of | erating main po  |                 |               | ck/unlock switch or    |               |                      |
| Wm".         ont Power Window Motor RH Circuit Check         . CHECK FRONT POWER WINDOW SWITCH RH OUTPUT SIGNAL         Turn ignition switch OFF.         Disconnect front power window motor RH.         Turn ignition switch ON.         Check voltage between front power window motor RH connector D105 and ground.         Image: the inspection result connector intervention in the inspection result normal?         Etc >> GO TO 3.         Image: the inspection switch OFF.         Disconnect result normal?         Etc >> GO TO 3.         Image: the inspection result normal?         Etc >> GO TO 3.         Image: the inspection result normal?         Etc >> GO TO 3.         Image: the inspection result normal?         Etc >> GO TO 2.         CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect power window and door lock/unlock switch RH.         Check continuity between power window and door lock/unlock switch RH.         Check continuity between power window and door lock/unlock switch RH.         Disconnect power window and door lock/unlock switch RH.         Check continuity between power window and door lock/unlock switch RH connector D129 and front power window motor RH connector D129 and ground.         Power window and door lock/un-       Image: the inspector         Iminor | ASSENGER SIDE : Dia  | agnosis Proce   | edure  |                 |               | INFOID:000000012549797 |               |                      |
| Disconnect front power window motor RH.<br>Turn ignition switch ON.<br>Check voltage between front power window motor RH connector D105 and ground.<br>Terminal       Voltage<br>(Approx.)         Terminal       Voltage<br>(Approx.)         Terminal       Voltage<br>(Approx.)         D105       Voltage<br>(Approx.)         UP       Battery voltage         D00N       0         D105       UP       Battery voltage         D0WN       0         CHECK HARNESS CONTINUITY         Turi ignition switch OFF.       Disconnect power window and door lock/unlock switch RH.<br>Check continuity between power window and door lock/unlock switch RH connector D129 and front power window motor RH<br>connector       Terminal       Front power window motor RH<br>connector       Terminal       Continuity <th <="" colspan="2" td=""><td>own".<br/>ont Power Window Motor F<br/>. CHECK FRONT POWER W</td><td>RH Circuit Chec</td><td>k</td><td></td><td>With Left &amp; R</td><td>light Front Auto Up/</td></th>  | <td>own".<br/>ont Power Window Motor F<br/>. CHECK FRONT POWER W</td> <td>RH Circuit Chec</td> <td>k</td> <td></td> <td>With Left &amp; R</td> <td>light Front Auto Up/</td> |   | own".<br>ont Power Window Motor F<br>. CHECK FRONT POWER W | RH Circuit Chec | k             |                        | With Left & R | light Front Auto Up/ |
| (+)       Front power window motor RH connector       Terminal       (-)       Front power window motor RH connector       Voltage (Approx.)         Pront power window motor RH connector       Terminal       (-)       UP       Battery voltage         D105       1       Ground       UP       0       0         D105       2       00WN       0       0         D105       GO TO 3.       0       0       0       0         IO       > GO TO 2.       CHECK HARNESS CONTINUITY       Turn ignition switch OFF.       Disconnect power window and door lock/unlock switch RH.       Check continuity between power window and door lock/unlock switch RH.       Check continuity between power window and door lock/unlock switch RH.       Continuity         D129       11       D105       1       Yes         D129       12       D105       1       Yes         Check continuity between power window and door lock/unlock switch RH conn  | Disconnect front power win<br>Turn ignition switch ON.   |   | motor RH conn  | ector D105 a    | and ground.   |                        |               |                      |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $   | Те   | erminal   |  | - Frent and a   |               |                        |               |                      |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $   |  | Torminal  | - (-)  |                 |               | •                      |               |                      |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $   |  |   |  | U               | P             | Battery voltage        |               |                      |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $   | D105   | 1   | - Ground -   | DOWN            |               | 0                      |               |                      |
| the inspection result normal?         YES       >> GO TO 3.         NO       >> GO TO 2.         • CHECK HARNESS CONTINUITY         Turn ignition switch OFF.         Disconnect power window and door lock/unlock switch RH.         Check continuity between power window and door lock/unlock switch RH connector D129 and front power window motor RH connector D105.         Power window and door lock/un-       Terminal         Power window and door lock/un-       Terminal         D129       11         D105       1         Yes         Check continuity between power window and door lock/unlock switch RH connector D129 and ground.   | Dioo   | 2   |  |                 |               |                        |               |                      |
| POWER WINDOW and door lock/unick       Terminal       Front power window motor RH connector D129 and front power window motor RH connector D105.         Power window and door lock/unick       Terminal       Front power window motor RH connector D129 and front power window motor RH connector D105.         Power window and door lock/unick       Terminal       Front power window motor RH connector D105.         Power window and door lock/unick       Terminal       Front power window motor RH connector D129 and front power window motor RH connector         D129       11       D105       1       Yes         Check continuity between power window and door lock/unick switch RH connector D129 and ground.       Terminal       Continuity   | the inspection result normal?  |   |  | DO              | WN            | Battery voltage        |               |                      |
| lock switch RH connector     Iterminal     connector     Iterminal     Continuity       D129     11     D105     1     Yes       Check continuity between power window and door lock/unlock switch RH connector D129 and ground.   | <ul> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK HARNESS CONTIL<br/>Turn ignition switch OFF.<br/>Disconnect power window<br/>Check continuity between p</li> </ul>              | and door lock/unl   |  | ck switch RF    | l connector D | 129 and front power    |               |                      |
| D129     D105     Yes       12     12     2       Check continuity between power window and door lock/unlock switch RH connector D129 and ground.     Yes  |  | Terminal  | -  |                 | Terminal      | Continuity             |               |                      |
| Check continuity between power window and door lock/unlock switch RH connector D129 and ground.  | D129   |   | D105   |                 |               | Yes                    |               |                      |
| Power window and door lock/unlock switch RH connector Terminal Continuity  | Check continuity between   |   | d door lock/unic   | ck switch Rł    |               | 129 and ground.        |               |                      |
| our and a second s   | Power window and door lock/unlock  | switch RH connector   | Terminal   |                 |               | Continuity             |               |                      |
| 11 Ground  |  |   |  | Gro             | ound          |                        |               |                      |
| D129 No  | D129   |   | 12   |                 |               | No                     |               |                      |

NO >> Repair or replace harness or connectors.

< DTC/CIRCUIT DIAGNOSIS >

[LH & RH FRONT AUTO UP/DOWN]

 $\overline{\mathbf{3.}}$  check front power window motor RH

Check front power window motor RH. Refer to PWC-106, "PASSENGER SIDE : Component Inspection".

#### Is the inspection result normal?

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

>> Replace front power window motor RH. Refer to GW-14, "Removal and Installation". After that, NO refer to PWC-93, "Work Procedure".

## PASSENGER SIDE : Component Inspection

#### COMPONENT INSPECTION

1. CHECK FRONT POWER WINDOW MOTOR RH

Check motor operation by connecting the battery voltage directly to front power window motor RH D105.

| Terminal |     | Motor condition |  |
|----------|-----|-----------------|--|
| (+)      | (-) |                 |  |
| 1        | 2   | UP              |  |
| 2        | 1   | DOWN            |  |

Is the inspection result normal?

YES >> Front power window motor RH is OK.

NO >> Replace front power window motor RH. Refer to GW-14, "Removal and Installation". After that, refer to PWC-92, "Work Procedure".

#### PASSENGER SIDE : Special Repair Requirement

INFOID:000000012549799

INFOID:000000012549798

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-92, "Work Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

2. CHECK ANTI-PINCH OPERATION

Check anti-pinch operation. Refer to PWC-93, "Work Procedure".

Is the inspection result normal?

YES >> Inspection End.

>> Refer to PWC-112, "PASSENGER SIDE : Component Function Check". NO REAR LH

## **REAR LH** : Description

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

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

INFOID:000000012549801

INFOID:000000012549800

## 1. CHECK REAR POWER WINDOW MOTOR LH CIRCUIT

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

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Refer to PWC-107, "REAR LH : Diagnosis Procedure"

## **PWC-106**

#### < DTC/CIRCUIT DIAGNOSIS >

# REAR LH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PWC-79, "Wiring Diagram - With Left & Right Front Auto Up/</u> <u>Down"</u>.

Power Window Motor Circuit Check

# 1. CHECK REAR POWER WINDOW SWITCH OUTPUT SIGNAL

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

| Terminal   |          |                | 1. <i>1</i> . 1     |                       |
|--|----------|----------------|---------------------|-----------------------|
| (+)  |          |                | Window<br>condition | Voltage<br>(Approx.)  |
| Rear power window motor LH connector   | Terminal | (-)            |                     |                       |
|  | 2        |                | UP                  | Battery voltage       |
| D204   | 2        | Cround         | DOWN                | 0                     |
| D204   |          | Ground         | UP                  | 0                     |
|  | I        |                | DOWN                | Battery voltage       |
| Is the measurement value within the s<br>YES >> GO TO 3.<br>NO >> GO TO 2.<br>2. CHECK HARNESS CONTINUITY  |          |                |                     |                       |
| <ol> <li>Turn ignition switch OFF.</li> <li>Disconnect rear power window sv</li> <li>Check continuity between rear p<br/>LH connector D204.</li> </ol> |          | switch LH conr | nector D208 and re  | ear power window moto |

| Rear power window switch LH connector | Terminal | Rear power window motor LH connector | Terminal | Continuity | P١  |
|---------------------------------------|----------|--------------------------------------|----------|------------|-----|
| D208                                  | 5        | D204                                 | 2        | Yes        |     |
| 0200                                  | 6        | 0204                                 | 1        |            |     |
| Charle continuity between rear no     |          | wawitab LLL connector D200 and an    | a a al   |            | - I |

## 4. Check continuity between rear power window switch LH connector D208 and ground.

| Rear power window switch LH connector | Terminal |        | Continuity |   |
|---------------------------------------|----------|--------|------------|---|
| <br>D208                              | 5        | Ground | No         | M |
| 5200                                  | 6        |        | 110        |   |

#### Is the inspection result normal?

- YES >> Check rear power window switch LH. Refer to <u>PWC-102, "REAR POWER WINDOW SWITCH :</u> <u>Component Inspection"</u>.
- NO >> Repair or replace the harness or connectors.

**3.** CHECK REAR POWER WINDOW MOTOR LH

Check rear power window motor LH.

Refer to PWC-107, "REAR LH : Component Inspection".

## Is the inspection result normal?

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

NO >> Replace rear power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>.

# **REAR LH : Component Inspection**

INFOID:000000012549803

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COMPONENT INSPECTION

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#### < DTC/CIRCUIT DIAGNOSIS >

# 1. CHECK REAR POWER WINDOW MOTOR LH

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

| Terminal |     | Motor condition |  |
|----------|-----|-----------------|--|
| (+)      | (-) |                 |  |
| 1        | 2   | DOWN            |  |
| 2        | 1   | UP              |  |

Is the inspection result normal?

YES >> Rear power window motor LH is OK.

NO >> Replace rear power window motor LH. Refer to <u>GW-19, "Removal and Installation"</u>. REAR RH

# **REAR RH** : Description

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

REAR RH : Component Function Check

1. CHECK REAR POWER WINDOW MOTOR RH CIRCUIT

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

Is the inspection result normal?

YES >> Rear power window motor RH is OK.

NO >> Refer to <u>PWC-108</u>, "REAR RH : Diagnosis Procedure".

## **REAR RH** : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down</u>".

#### Rear Power Window Motor RH Circuit Check

# 1. CHECK REAR POWER WINDOW SWITCH RH OUTPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect rear power window motor RH.

3. Turn ignition switch ON.

4. Check voltage between rear power window motor RH connector D304 and ground.

| Terminal                                    |   |        | _  |   |
|---|---|--------|--|---|
| (+)   |   | ()     | Rear power window<br>switch RH condition | Voltage<br>(Approx.)                    |
| Rear power window motor RH connector Termin |   |        |  | ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) |
|   | 2 | Ground | UP                                       | Battery voltage                         |
| D304  | 2 |        | DOWN                                     | 0                                       |
| 0304  | 4 | Giouna | UP                                       | 0                                       |
|   | 1 |        | DOWN                                     | Battery voltage                         |

Is the measurement value within the specification?

YES >> GO TO 3.

NO >> GO TO 2.

2. Disconnect rear power window switch RH.

INFOID:000000012549806

INFOID:000000012549804

## **POWER WINDOW MOTOR**

#### < DTC/CIRCUIT DIAGNOSIS >

# [LH & RH FRONT AUTO UP/DOWN]

| connector                                  | Terminal                                | Rear power window m<br>nector    | notor RH con-       | Termina    | al Continuit        |  |
|--|---|----------------------------------|---------------------|------------|---------------------|--|
| D308                                       | 5                                       | D304                             | D304                |            | 2 Yes               |  |
|  | 6                                       |                                  |                     | 1          |                     |  |
| Check continuity between                   | rear power                              | window switch RH con             | nector D308         | and groui  | nd.                 |  |
| Rear power window switch RH of             | connector                               | Terminal                         |                     |            | Continuity          |  |
| D308                                       |   | 5                                | Ground              |            | No                  |  |
| 2000                                       |   | 6                                |                     |            |                     |  |
| the inspection result normal               |   |                                  |                     |            |                     |  |
| YES >> Check rear power<br>Component Inspe |   | itch RH. Refer to <u>PWC</u>     | <u>C-102, "REAF</u> | R POWEF    | <u>R WINDOW SWI</u> |  |
| NO >> Repair or replace                    |   | or connectors.                   |                     |            |                     |  |
| <b>3.</b> CHECK REAR POWER W               |   |                                  |                     |            |                     |  |
| Check rear power window mo                 |   |                                  |                     |            |                     |  |
| Refer to <u>PWC-109, "REAR RH</u>          | <u>I : Compone</u>                      | nt Inspection".                  |                     |            |                     |  |
| s the inspection result normal             | ?                                       |                                  |                     |            |                     |  |
| YES >> Check intermitten                   | t incident. Re                          | efer to <u>GI-47, "Intermitt</u> | ent Incident".      |            |                     |  |
| NO >> Replace rear pow                     | er window m                             | otor RH. Refer to <u>GW-</u>     | <u>-19, "Remova</u> | I and Inst | <u>allation"</u> .  |  |
| REAR RH : Component                        | t Inspectio                             | n                                |                     |            | INFOID:000000       |  |
|  | N.I.                                    |                                  |                     |            |                     |  |
|  |   |                                  |                     |            |                     |  |
| .CHECK REAR POWER W                        |   |                                  |                     |            |                     |  |
| Check motor operation by con               | necting the t                           | pattery voltage directly         | to rear powe        | r window   | motor RH D304.      |  |
|  | erminal                                 |                                  |                     |            |                     |  |
| Те   | , i i i i i i i i i i i i i i i i i i i |                                  |                     |            |                     |  |
| Te<br>(+)                                  |   | (-)                              |                     | Motor cor  | ndition             |  |
|  |   | (–)<br>2                         |                     | Motor cor  |                     |  |

#### < DTC/CIRCUIT DIAGNOSIS > ENCODER

## DRIVER SIDE

## **DRIVER SIDE : Description**

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

DRIVER SIDE : Component Function Check

## 1. CHECK ENCODER OPERATION

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

#### Is the inspection result normal?

- YES >> Encoder operation is OK.
- NO >> Refer to <u>PWC-110. "DRIVER SIDE : Diagnosis Procedure"</u>.

## DRIVER SIDE : Diagnosis Procedure

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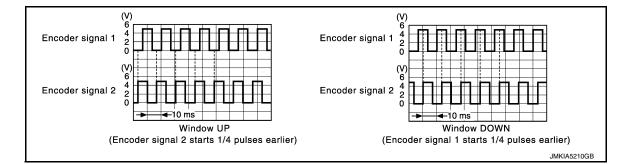
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Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down"</u>.

#### Encoder Circuit Check

- 1. CHECK ENCODER OPERATION
- 1. Turn ignition switch ON.
- 2. Check signal between main power window and door lock/unlock switch connector D25 and ground with oscilloscope.

|                  | Terminals   |          |        |                           |  |
|------------------|---|----------|--------|---------------------------|--|
| Signal name      | (+)   |          |        | Signal                    |  |
|                  | Main power window and door lock/unlock switch connector | Terminal | ()     | (Reference value)         |  |
| Encoder signal 1 | D25   | 5        | Ground | Refer to following signal |  |
| Encoder signal 2 |   | 4        | Giouna |                           |  |



#### Is the inspection result normal?

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

NO >> GO TO 2.

## 2. CHECK FRONT POWER WINDOW MOTOR LH POWER SUPPLY

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

#### < DTC/CIRCUIT DIAGNOSIS >

| YES       >> GO TO 4.         NO       >> GO TO 3.         Image: Construct the example of the examp   | rerminal 4 n connector D and er to PWC-1  | otor LH.<br>tor D25 and fron<br>Continuity<br>Yes<br>D25 and ground.<br>Continuity<br>No |
|---|---|--|
| Terminal       Terminal         D9       4       Ground         Sthe measurement value within the specification?         YES       >> GO TO 4.         NO       >> GO TO 3.         CHECK HARNESS CONTINUITY 1         Turn ignition switch OFF.         Disconnect main power window and door lock/unlock switch and front power window motor LH connector D9.         Main power window and door lock/         Terminal       Front power window motor LH connector D9.         Main power window and door lock/       Terminal         D25       14       D9         Check continuity between main power window and door lock/unlock switch connector       Terminal         D25       14       D9         Check continuity between main power window and door lock/unlock switch       Grout         Main power window and door lock/unlock switch connector       Terminal         D25       14       D9         Check continuity between main power window and door lock/unlock switch. Refinitialiation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors.         CHECK GROUND CIRCUIT       Turn ignition switch OFF.         Disconnect front power window motor LH.       Check continuity between front power window motor LH connector D9 and         Front power wind  | ver window m<br>witch connec<br>Terminal<br>4<br>n connector D<br>ind<br>er to PWC-13 | otor LH.<br>tor D25 and from<br>Continuity<br>Yes<br>D25 and ground.<br>Continuity<br>No |
| s the measurement value within the specification?         YES       >> GO TO 4.         NO       >> GO TO 3.         3. CHECK HARNESS CONTINUITY 1         1. Turn ignition switch OFF.         2. Disconnect main power window and door lock/unlock switch and front power window motor LH connector D9.         Main power window and door lock/         Terminal       Front power window motor LH connector D9.         Main power window and door lock/       Terminal         D25       14       D9         I. Check continuity between main power window and door lock/unlock switch       Grout         D25       14       D9         I. Check continuity between main power window and door lock/unlock switch       Grout         D25       14       D9         I. Check continuity between main power window and door lock/unlock switch.       Grout         D25       14       Grout         D25       14       Grout         D25       14       Grout         Sthe inspection result normal?       YER >> Replace main power window and door lock/unlock switch.         NO       >> Repair or replace the harness or connectors.         I. CHECK GROUND CIRCUIT       .         I. Turn ignition switch OFF.       .         Disconnect front power window motor LH   | ver window m<br>witch connec<br>Terminal<br>4<br>n connector D<br>ind<br>er to PWC-13 | otor LH.<br>tor D25 and fron<br>Continuity<br>Yes<br>D25 and ground.<br>Continuity<br>No |
| NO       >> GO TO 3.         3. CHECK HARNESS CONTINUITY 1         1. Turn ignition switch OFF.         2. Disconnect main power window and door lock/unlock switch and front power.         3. Check continuity between main power window and door lock/unlock spower window motor LH connector D9.         Main power window and door lock/<br>unlock switch connector       Terminal         Front power window and door lock/<br>unlock switch connector       Terminal         D25       14       D9         4. Check continuity between main power window and door lock/unlock switch       Main power window and door lock/unlock switch connector         Main power window and door lock/unlock switch connector       Terminal       Grout         4. Check continuity between main power window and door lock/unlock switch.       Reference         Main power window and door lock/unlock switch connector       Terminal       Grout         D25       14       D9       Grout         S the inspection result normal?       YES       >> Replace main power window and door lock/unlock switch.       Reference         YES       >> Repair or replace the harness or connectors.       4. CHECK GROUND CIRCUIT       Intrin ignition switch OFF.         2. Disconnect front power window motor LH connector       Terminal       Ground       Ground         D9       6       Ground       Sthe inspection   | rerminal 4 n connector D and er to PWC-1  | tor D25 and fron<br>Continuity<br>Yes<br>025 and ground.<br>Continuity<br>No             |
| Image: Second State Sta | rerminal 4 n connector D and er to PWC-1  | tor D25 and fron<br>Continuity<br>Yes<br>025 and ground.<br>Continuity<br>No             |
| unlock switch connector       reminal       connector         D25       14       D9         A. Check continuity between main power window and door lock/unlock switch         Main power window and door lock/unlock switch connector       Terminal         D25       14         Bast the inspection result normal?         YES       >> Replace main power window and door lock/unlock switch. Refulation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors.         I. CHECK GROUND CIRCUIT         . Turn ignition switch OFF.         Disconnect front power window motor LH.         B. Check continuity between front power window motor LH connector D9 and         Front power window motor LH connector         D9       6         Sthe inspection result normal?         YES       >> GO TO 6.  | 4<br>In connector D<br>and<br>er to <u>PWC-1</u>                                      | Yes<br>025 and ground.<br>Continuity<br>No   |
| <ul> <li>4. Check continuity between main power window and door lock/unlock switc</li> <li>Main power window and door lock/unlock switch connector Terminal Ground</li> <li>D25</li> <li>14</li> <li>Ground</li> <li>S the inspection result normal?</li> <li>YES &gt;&gt; Replace main power window and door lock/unlock switch. Refulation". After that, refer to PWC-92, "Work Procedure".</li> <li>NO &gt;&gt; Repair or replace the harness or connectors.</li> <li>4. CHECK GROUND CIRCUIT</li> <li>1. Turn ignition switch OFF.</li> <li>2. Disconnect front power window motor LH.</li> <li>3. Check continuity between front power window motor LH connector D9 and Front power window motor LH connector D9 and Ground</li> <li>S the inspection result normal?</li> <li>YES &gt;&gt; GO TO 6.</li> </ul>   | n connector D<br>Ind  | D25 and ground.<br>Continuity<br>No  |
| Main power window and door lock/unlock switch connector       Terminal       Grout         D25       14         s the inspection result normal?         YES       >> Replace main power window and door lock/unlock switch. Refulation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors.         4. CHECK GROUND CIRCUIT         1. Turn ignition switch OFF.         2. Disconnect front power window motor LH.         3. Check continuity between front power window motor LH connector D9 and         Front power window motor LH connector         D9       6         s the inspection result normal?         YES       >> GO TO 6.  | er to <u>PWC-1</u>  | Continuity<br>No   |
| D25       14         S the inspection result normal?         YES       >> Replace main power window and door lock/unlock switch. Refunct Installation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors. <b>1</b> . CHECK GROUND CIRCUIT         Image: The second s  | er to <u>PWC-1</u> ;  | No   |
| D25       14         S the inspection result normal?         YES       >> Replace main power window and door lock/unlock switch. Refunct Installation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors. <b>1</b> . CHECK GROUND CIRCUIT         I. Turn ignition switch OFF.         2. Disconnect front power window motor LH.         3. Check continuity between front power window motor LH connector D9 and         Front power window motor LH connector         D9       6         S the inspection result normal?         YES       >> GO TO 6.   | er to <u>PWC-1</u> ;  |  |
| YES       >> Replace main power window and door lock/unlock switch. Refulation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors.         4. CHECK GROUND CIRCUIT         1. Turn ignition switch OFF.         2. Disconnect front power window motor LH.         3. Check continuity between front power window motor LH connector D9 and         Front power window motor LH connector         D9       6         s the inspection result normal?         YES       >> GO TO 6.  |   | 36, "Removal and   |
| Installation". After that, refer to PWC-92, "Work Procedure".         NO       >> Repair or replace the harness or connectors.         • CHECK GROUND CIRCUIT         • Turn ignition switch OFF.         • Disconnect front power window motor LH.         • Check continuity between front power window motor LH connector D9 and         Front power window motor LH connector         Terminal         09       6         S the inspection result normal?         YES       >> GO TO 6.   |   | 36, "Removal and   |
| D9     6       s the inspection result normal?       YES  |   |  |
| D9     6       s the inspection result normal?       YES     >> GO TO 6.  |   | Continuity   |
| YES >> GO TO 6.   |   | Yes  |
| <ol> <li>CHECK HARNESS CONTINUITY 2</li> <li>Disconnect main power window and door lock/unlock switch.</li> <li>Check continuity between main power window and door lock/unlock s power window motor LH connector D9.</li> </ol>  | witch connec  | tor D25 and fron   |
| Main power window and door lock/un-<br>lock switch connector  | Terminal  | Continuity   |
| D25 12 D9   | 6   | Yes  |
| s the inspection result normal?   |   | 1  |
| <ul> <li>YES &gt;&gt; Replace main power window and door lock/unlock switch. Refairstallation". After that, refer to <u>PWC-92, "Work Procedure"</u>.</li> <li>NO &gt;&gt; Repair or replace the harness or connectors.</li> <li>CHECK HARNESS CONTINUITY 3</li> </ul>  | er to <u>PWC-13</u>   | 36, "Removal and   |

1. Disconnect main power window and door lock/unlock switch.

#### < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between main power window and door lock/unlock switch connector D25 and front power window motor LH connector D9.

| Main power window and door lock/un-<br>lock switch connector | Terminal | Front power window motor LH<br>connector | Terminal | Continuity |
|--|----------|--|----------|------------|
| D25  | 5        | - D9                                     | 3        | Yes        |
|  | 4        | 53                                       | 5        | 163        |

3. Check continuity between main power window and door lock/unlock switch connector D25 and ground.

| Main power window and door lock/unlock switch connector | Terminal |        | Continuity |
|---|----------|--------|------------|
| <br>D25   | 5        | Ground | No         |
| 625   | 4        |        | INO        |

#### Is the inspection result normal?

YES >> Replace front power window motor LH. Refer to <u>GW-14, "Removal and Installation"</u>. After that, refer to <u>PWC-92, "Work Procedure"</u>.

NO >> Repair or replace the harness or connectors.

#### PASSENGER SIDE

### PASSENGER SIDE : Description

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

#### PASSENGER SIDE : Component Function Check

#### **1.**CHECK ENCODER OPERATION

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

#### Is the inspection result normal?

YES >> Encoder operation is OK.

NO >> Refer to <u>PWC-112, "PASSENGER SIDE : Diagnosis Procedure"</u>.

#### PASSENGER SIDE : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down</u>".

## 1. CHECK ENCODER SIGNAL

- 1. Connect front power window motor RH.
- 2. Turn ignition switch ON.
- 3. Check signal between power window and door lock/unlock switch RH connector D129 and ground with oscilloscope.

|                  | Terminal  | S        |        |                           |
|------------------|---|----------|--------|---------------------------|
| Signal name      | (+)   |          |        | Signal                    |
|                  | Power window and door lock/unlock switch RH connector | Terminal | (-)    | (Reference value)         |
| Encoder signal 1 | D129  | 9        | Ground | Refer to following signal |
| Encoder signal 2 | D129  | 10       | Ground | Refer to following signal |

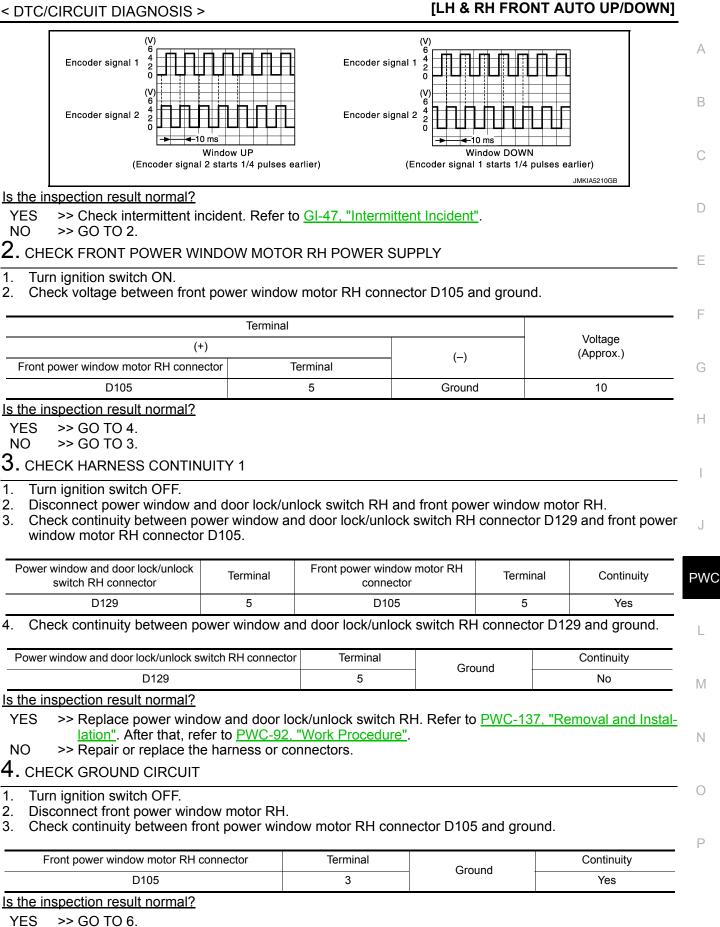
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[LH & RH FRONT AUTO UP/DOWN]

#### < DTC/CIRCUIT DIAGNOSIS >



NO >> GO TO 5.

#### < DTC/CIRCUIT DIAGNOSIS >

## 5. CHECK HARNESS CONTINUITY 2

- 1. Disconnect power window and door lock/unlock switch RH.
- 2. Check continuity between power window and door lock/unlock switch RH connector D129 and front power window motor RH connector D105.

| Power window and door lock/unlock switch RH connector | Terminal | Front power window motor RH connector | Terminal | Continuity |
|---|----------|---------------------------------------|----------|------------|
| D129  | 4        | D105                                  | 3        | Yes        |

Is the inspection result normal?

YES >> Replace power window and door lock/unlock switch RH. Refer to PWC-137, "Removal and Installation". After that, refer to PWC-92, "Work Procedure". NO

>> Repair or replace the harness or connectors.

6. CHECK HARNESS CONTINUITY 3

- 1. Disconnect power window and door lock/unlock switch RH.
- Check continuity between power window and door lock/unlock switch RH connector D129 and front power 2. window motor RH connector D105.

| Power window and door lock/unlock switch RH connector | Terminal | Front power window motor RH connector | Terminal | Continuity |
|---|----------|---------------------------------------|----------|------------|
| D129  | 9        | D105                                  | 6        | Yes        |
|   | 10       | B105                                  | 4        | 165        |

#### Check continuity between power window and door lock/unlock switch RH connector D129 and ground. 3.

| Power window and door lock/unlock switch RH connector | Terminal |        | Continuity |
|---|----------|--------|------------|
| D129  | 9        | Ground | No         |
|   | 10       | -      | INO        |

Is the inspection result normal?

>> Replace front power window motor RH. Refer to GW-14, "Removal and Installation". After that, YES refer to PWC-92, "Work Procedure".

NO >> Repair or replace the harness or connectors.

#### [LH & RH FR

< DTC/CIRCUIT DIAGNOSIS >

## DOOR SWITCH

| Component F | unction | Check |
|-------------|---------|-------|
|-------------|---------|-------|

## **1**.CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select DOOR SW-DR, DOOR SW-AS in DATA MONITOR mode.

3. Check that the function operates normally according to the following conditions.

| Monitor item | Con                 | Status |     |  |
|--------------|---------------------|--------|-----|--|
| DOOR SW-DR   | Driver side door    | Open   | On  |  |
| DOOR SW-DR   | Driver side door    | Closed | Off |  |
|              | Dessenar side desr  | Open   | On  |  |
| DOOR SW-AS   | Passenger side door | Closed | Off |  |

Is the inspection result normal?

- YES >> Door switch is OK.
- NO >> Refer to <u>PWC-115, "Diagnosis Procedure"</u>.

#### **Diagnosis** Procedure

Regarding Wiring Diagram information, refer to <u>PWC-79, "Wiring Diagram - With Left & Right Front Auto Up/</u> <u>Down"</u>.

### 1. CHECK DOOR SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect malfunctioning door switch connector.
- 3. Check signal between malfunctioning door switch harness connector and ground using oscilloscope.

|                | (+)<br>Door switch |          | (-)    | Signal<br>(Reference value)                                 | PWC |
|----------------|--------------------|----------|--------|---|-----|
| Connec         | ctor               | Terminal | -      | (Reference value)   |     |
| Driver side    | B8                 |          |        |   | -   |
| Passenger side | B108               | 3        | Ground | (V)<br>15<br>10<br>5<br>0<br>10 ms<br>JPMIA0011GB<br>11.8 V | M   |

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK DOOR SWITCH CIRCUIT

#### 1. Disconnect BCM connector.

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

| Door switch    |        |          | BC        | СМ       | Continuity |
|----------------|--------|----------|-----------|----------|------------|
| Conr           | nector | Terminal | Connector | Terminal | Continuity |
| Driver side    | B8     | 2        | M20       | 96       | Yes        |
| Passenger side | B108   | 3        | IVI20     | 94       | 165        |

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## **DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### 3. Check continuity between door switch harness connector and ground.

| Door switch    |      |          |        | Continuity |
|----------------|------|----------|--------|------------|
| Connector      |      | Terminal | Ground | Continuity |
| Driver side    | B8   | 3        | Giouna | No         |
| Passenger side | B108 | 5        |        | NO         |

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### **3.**CHECK DOOR SWITCH

Refer to PWC-116. "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace malfunctioning door switch. Refer to <u>DLK-284, "Removal and Installation"</u>.

**4.**CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

#### Component Inspection

INFOID:000000012549816

## 1. CHECK DOOR SWITCH

1. Turn ignition switch OFF.

2. Disconnect malfunctioning door switch connector.

3. Check continuity between door switch terminals.

| Door switch |                               | Condition   |           | Continuity |  |
|-------------|-------------------------------|-------------|-----------|------------|--|
|             | Terminal                      |             | Condition |            |  |
| 2           | Ground contact is part of the | Door switch | Pressed   | No         |  |
| 5           | switch.                       | Door Switch | Released  | Yes        |  |

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace malfunction door switch. Refer to <u>DLK-284, "Removal and Installation"</u>.

#### POWER WINDOW LOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW LOCK SWITCH

#### Description

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

#### Component Function Check

1. CHECK POWER WINDOW LOCK SIGNAL

Exchange for a normal main power window and door lock/unlock switch, and check operation.
 <u>Does power window lock operate?</u>
 YES >> Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and Installation</u>". After that, refer to <u>PWC-117</u>, "<u>Special Repair Requirement</u>".

NO >> Check condition of harness and connector.

#### Special Repair Requirement

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-90, "Work Procedure"</u>.

Is the inspection result normal?

YES >> Inspection end.

NO >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.

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< DTC/CIRCUIT DIAGNOSIS >

## POWER WINDOW SERIAL LINK

#### POWER WINDOW MAIN SWITCH

POWER WINDOW MAIN SWITCH : Description

Main power window and door lock/unlock switch, power window and door lock/unlock switch RH and BCM transmit and receive the signal by power window serial link.

The signal mentioned below is transmitted from BCM to main power window and door lock/unlock switch and power window and door lock/unlock switch RH

Keyless power window down signal

The signal mentioned below is transmitted from main power window and door lock/unlock switch to power window and door lock/unlock switch RH

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

POWER WINDOW MAIN SWITCH : Component Function Check

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1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

Check ("CDL LOCK SW ", "CDL UNLOCK SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT. Refer to <u>BCS-16, "DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)"</u>.

| Monitor item  | (      | Condition |  |
|---------------|--------|-----------|--|
| CDL LOCK SW   | LOCK   | : ON      |  |
| ODE LOOK SW   | UNLOCK | : OFF     |  |
| CDL UNLOCK SW | LOCK   | : OFF     |  |
| CDE UNEOCK SW | UNLOCK | : ON      |  |

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to <u>PWC-118</u>, "POWER WINDOW MAIN SWITCH : Diagnosis Procedure".

#### POWER WINDOW MAIN SWITCH : Diagnosis Procedure

INFOID:000000012549822

Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down</u>".

Power Window Serial Link Check

1. CHECK POWER WINDOW SWITCH OUTPUT SIGNAL

- 1. Remove Intelligent Key, and close front door LH and RH.
- 2. Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
- 3. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".

## POWER WINDOW SERIAL LINK

#### < DTC/CIRCUIT DIAGNOSIS >

[LH & RH FRONT AUTO UP/DOWN]

|  | Terminal   |   |   | Cianal                                  |                         |
|--|--|---|---|---|-------------------------|
| (+)  |  | (-)   | Signal<br>(Reference value)   |   |                         |
| BCM connector  | Terminal   | ( /   | ``````````````````````````````````````  |   |                         |
| M81  | 54   | Ground  | (V)<br>15<br>0<br>0<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 |   |                         |
| Is the inspection result r   | normal?  |   |   |   |                         |
| YES >> Power wind NO >> GO TO 2.   | ow serial link is  | OK.   |   |   |                         |
| 2. CHECK POWER WI  |  |   |   |   |                         |
| 1. Turn ignition switch  |  |   |   |   |                         |
| 2. Disconnect BCM an   | nd main power v  |   | ock/unlock switch.<br>nain power window ar  | nd door lock/ur                         | nlock switch con-       |
| BCM connector  | Terminal   | •   | and door lock/unlock  | Terminal                                | Continuity              |
| <br>M81  | 54   |   | )25   | 11                                      | Yes                     |
| BCM connector<br>M81   |  | Terminal 54   | Ground  |   | ontinuity<br>No         |
| Installation"  | ain power wind<br>. After that, refe<br>place harness o<br>WINDOW S      | r to <u>PWC-92, "Wor</u><br>or connectors.<br>WITCH |   | r to <u>PWC-136</u>                     |                         |
| Main power window and<br>transmit and receive the<br>The signal mentioned be<br>power window and door<br>• Keyless power window                            | e signal by powe<br>elow is transmit<br>lock/unlock swi<br>v down signal | r window serial lin<br>ted from BCM to n<br>tch RH  | k.<br>nain power window a   | nd door lock/u                          | nlock switch and        |
| The signal mentioned be<br>dow and door lock/unloo<br>• Front door window RH<br>• Power window control<br>• Retained power opera<br>• Power window lock sw | ck switch RH<br>I operation sign<br>by key cylinder<br>ition signal      | al  | er window and door lo   | ock/unlock swit                         | ch to power win-        |
| FRONT POWER V  | 0  | VITCH : Comp  | onent Function (  | Check                                   | INFOID:000000012549824  |
| 1. CHECK POWER WI  |  | OOR LOCK/UNLO                                       | CK SWITCH RH OU   | TPUT SIGNAL                             |                         |
| Check ("CDL LOCK SW<br>TEM" with CONSULT. R  | / ", "CDL UNLO<br>Refer to <u>BCS-16.</u>                                | CK SW") in "DATA<br>"DOOR LOCK : C                  | MONITOR" mode fo  | r <sup>«</sup> POWER DO<br>BCM - DOOR L | OR LOCK SYS-<br>_OCK)". |

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

#### < DTC/CIRCUIT DIAGNOSIS >

| Monitor item  |        | Condition |  |
|---------------|--------|-----------|--|
| CDL LOCK SW   | LOCK   | : ON      |  |
| CDE LOCK SW   | UNLOCK | : OFF     |  |
| CDL UNLOCK SW | LOCK   | : OFF     |  |
| CDE UNLOCK SW | UNLOCK | : ON      |  |

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> Refer to <u>PWC-120</u>, "FRONT POWER WINDOW SWITCH : Diagnosis Procedure".

#### FRONT POWER WINDOW SWITCH : Diagnosis Procedure

INFOID:000000012549825

Regarding Wiring Diagram information, refer to <u>PWC-79</u>, "Wiring Diagram - With Left & Right Front Auto Up/ <u>Down</u>".

Power Window Serial Link Check

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

- 1. Remove Intelligent Key, and close the front door LH and RH.
- 2. Check signal between BCM connector and ground with oscilloscope when door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".
- 3. Check that signals which are shown in the figure below can be detected during 10 second just after door lock and unlock switch (LH and RH) is turned to "LOCK" or "UNLOCK".

|               | Terminal |        |  |
|---------------|----------|--------|--|
| (+)           | (+)      |        | Signal<br>(Reference value)  |
| BCM connector | Terminal | ()     | (  |
| M81           | 54       | Ground | (V)<br>15<br>10<br>0<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 |

Is the inspection result normal?

YES >> Power window serial link is OK.

NO >> GO TO 2.

2. CHECK POWER WINDOW SERIAL LINK CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM.

 Check continuity between BCM connector M81 and power window and door lock/unlock switch RH connector D129.

|   | BCM connector | Terminal | Power window and door lock/unlock switch RH connector | Terminal | Continuity |
|---|---------------|----------|---|----------|------------|
| _ | M81           | 54       | D129  | 3        | Yes        |

#### 4. Check continuity between BCM connector M81 and ground.

| BCM connector | Terminal | Ground | Continuity |
|---------------|----------|--------|------------|
| M81           | 54       | Cround | No         |

Is the inspection result normal?

## POWER WINDOW SERIAL LINK

| < DTC/ | CIRCUIT DIAGNOSIS >  | [LH & RH FRONT AUTO UP/DOWN]           |     |
|--------|--|--|-----|
| YES    | >> Replace power window and door lock/unlock switch RH.<br><u>lation</u> ". After that, refer to <u>PWC-92, "Work Procedure"</u> . | Refer to PWC-137, "Removal and Instal- | Λ   |
| NO     | >> Repair or replace the harness or connectors.  |  | А   |
|        |  |  | В   |
|        |  |  |     |
|        |  |  | С   |
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|        |  |  | D   |
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|        |  |  | Ε   |
|        |  |  | F   |
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|        |  | F                                      | ÞW  |
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|        |  |  | R # |
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#### POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

#### < SYMPTOM DIAGNOSIS >

[LH & RH FRONT AUTO UP/DOWN]

## SYMPTOM DIAGNOSIS

# POWER WINDOWS DO NOT OPERATE WITH POWER WINDOW MAIN SWITCH

Diagnosis Procedure

INFOID:000000012549826

1. CHECK BCM POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to <u>BCS-74</u>, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

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

Check main power window and door lock/unlock switch.

Refer to <u>PWC-97</u>, "POWER WINDOW MAIN SWITCH : Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

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

Check power window switch main power supply and ground circuit. Refer to <u>PWC-95, "POWER WINDOW MAIN SWITCH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

**4.** CHECK MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH SERIAL CIRCUIT

Check main power window and door lock/unlock switch serial circuit. Refer to <u>PWC-118</u>, "POWER WINDOW MAIN SWITCH : Component Function Check".

Is the inspection result normal?

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

NO >> Repair or replace the malfunctioning parts.

# DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [LH & RH FRONT AUTO UP/DOWN]

## DRIVER SIDE POWER WINDOW ALONE DOES NOT OPERATE

|   |                        | Δ |
|---|------------------------|---|
| Diagnosis Procedure   | INFOID:000000012549827 | ~ |
| 1. CHECK FRONT POWER WINDOW MOTOR LH  |                        | В |
| Check front power window motor LH.<br>Refer to <u>PWC-103, "DRIVER SIDE : Component Function Check"</u> .                       |                        |   |
| <u>Is the inspection result normal?</u><br>YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u> . |                        | С |
| NO >> Repair or replace the malfunctioning parts.   |                        | D |
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#### FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPERATE [LH & RH FRONT AUTO UP/DOWN]

< SYMPTOM DIAGNOSIS >

## FRONT PASSENGER SIDE POWER WINDOW ALONE DOES NOT OPER-ATE

**Diagnosis** Procedure

INFOID:000000012549828

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

Check power window and door lock/unlock switch RH. Refer to PWC-99, "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

 $\mathbf{2}.$  CHECK POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH SERIAL LINK CIRCUIT

Check power window and door lock/unlock switch RH serial link circuit. Refer to PWC-119. "FRONT POWER WINDOW SWITCH : Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CHECK FRONT POWER WINDOW MOTOR RH CIRCUIT

Check front power window motor RH circuit. Refer to PWC-105, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".
- NO >> Repair or replace the malfunctioning parts.

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

| < SYMPTOM DIAGNOSIS >       | [LH & RH FRONT AUTO UP/DOWN] |
|-----------------------------|------------------------------|
| REAR LH SIDE POWER WINDOW A | LONE DOES NOT OPERATE        |

#### А **Diagnosis** Procedure INFOID:000000012549829 1. CHECK REAR POWER WINDOW SWITCH LH В Check rear power window switch LH. Refer to PWC-100, "REAR POWER WINDOW SWITCH : Component Function Check". С Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. **2.** CHECK REAR POWER WINDOW MOTOR LH D Check rear power window motor LH. Refer to PWC-106, "REAR LH : Component Function Check". Е Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident". NO >> Repair or replace the malfunctioning parts. F

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

< SYMPTOM DIAGNOSIS >

## REAR RH SIDE POWER WINDOW ALONE DOES NOT OPERATE

Diagnosis Procedure

INFOID:000000012549830

[LH & RH FRONT AUTO UP/DOWN]

1. CHECK REAR POWER WINDOW SWITCH RH

Check rear power window switch RH. Refer to <u>PWC-100, "REAR POWER WINDOW SWITCH : Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR POWER WINDOW MOTOR RH

Check rear power window motor RH. Refer to <u>PWC-108, "REAR RH : Component Function Check"</u>.

Is the inspection result normal?

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

NO >> Repair or replace the malfunctioning parts.

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

| < SYMPTOM DIAGNOSIS >  | [LH & RH FRONT AUTO UP/DOWN] |
|--|------------------------------|
| ANTI-PINCH SYSTEM DOES NOT OPERATE N   | IORMALLY (DRIVER SIDE)       |
| Diagnosis Procedure  | INFOID:000000012549831       |
| 1. PERFORM INITIALIZATION PROCEDURE  |                              |
| Perform initialization procedure.<br>Refer to <u>PWC-92, "Work Procedure"</u> .<br><u>Is the inspection result normal?</u>   |                              |
| YES >> GO TO 2.<br>NO >> Repair or replace the malfunctioning parts.<br><b>2.</b> CHECK DOOR WINDOW SLIDING PART   |                              |
| <ul> <li>A foreign material adheres to window glass or glass run rubber.</li> <li>Glass run rubber wear or deformation.</li> <li>Sash is tilted too much or not enough.</li> <li>Is the inspection result normal?</li> </ul> |                              |
| YES >> GO TO 3.<br>NO >> Repair or replace the malfunctioning parts.<br><b>3.</b> CHECK ENCODER CIRCUIT  |                              |
| Check encoder circuit.<br>Refer to <u>PWC-110, "DRIVER SIDE : Component Function Check"</u> .<br><u>Is the inspection result normal?</u>   |                              |
| YES >> Check intermittent incident. Refer to <u>GI-47, "Intermittent I</u><br>NO >> Repair or replace the malfunctioning parts.  | ncident".                    |
|  |                              |

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#### ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE) [LH & RH FRONT AUTO UP/DOWN]

< SYMPTOM DIAGNOSIS >

## ANTI-PINCH SYSTEM DOES NOT OPERATE NORMALLY (PASSENGER SIDE)

**Diagnosis** Procedure

INFOID:000000012549832

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to PWC-92, "Work Procedure".

Is the inspection result normal?

YES >> GO TO 2. NO

>> Repair or replace the malfunctioning parts.

2. CHECK DOOR WINDOW SLIDING PART

· A foreign material adheres to window glass or glass run rubber.

· Glass run rubber wear or deformation.

Sash is tilted too much or not enough.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CHECK ENCODER CIRCUIT

Check encoder circuit. Refer to PWC-112, "PASSENGER SIDE : Component Function Check".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".
- >> Repair or replace the malfunctioning parts. NO

| AUTO OPERATION DOES NOT OPERATE BUT MA<br>LY (DRIVER SIDE)   | ANUAI    | OPERATE    | ES NORMAL-             |   |
|--|----------|------------|------------------------|---|
| < SYMPTOM DIAGNOSIS >  | [LH &    | RH FRONT A | UTO UP/DOWN]           |   |
| AUTO OPERATION DOES NOT OPERATE<br>NORMALLY (DRIVER SIDE)  | BUT      | MANUAL     | OPERATES               | A |
| Diagnosis Procedure  |          |            | INFOID:000000012549833 | В |
| 1. PERFORM INITIALIZATION PROCEDURE  |          |            |                        |   |
| Perform initialization procedure.<br>Refer to <u>PWC-92, "Work Procedure"</u> .  |          |            |                        | С |
| Is the inspection result normal?<br>YES >> GO TO 2.<br>NO >> Repair or replace the malfunctioning parts.<br>2. CHECK ENCODER                     |          |            |                        | D |
| Check encoder.<br>Refer to <u>PWC-110, "DRIVER SIDE : Component Function Check"</u> .  |          |            |                        | E |
| Is the inspection result normal?YES>> Check intermittent incident. Refer to GI-47, "IntermittentNO>> Repair or replace the malfunctioning parts. | Incident | <u></u> .  |                        | F |

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#### AUTO OPERATION DOES NOT OPERATE BUT MANUAL OPERATES NORMAL-LY (PASSENGER SIDE)

< SYMPTOM DIAGNOSIS >

[LH & RH FRONT AUTO UP/DOWN]

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

**Diagnosis** Procedure

INFOID:000000012549834

**1.** PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure. Refer to <u>PWC-92, "Work Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK ENCODER

Check encoder. Refer to <u>PWC-112</u>, "<u>PASSENGER SIDE</u> : Component Function Check".

Is the inspection result normal?

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

NO >> Repair or replace the malfunctioning parts.

# POWER WINDOW RETAINED POWER OPERATION DOES NOT OPERATE PROPERLY

| < SYMPTOM DIAGNOSIS >       | [LH & RH FRONT AUTO UP/DOWN] |
|-----------------------------|------------------------------|
| POWER WINDOW RETAINED POWER | OPERATION DOES NOT OPER-     |
| ATE PROPERLY                |                              |

| Diagnosis Procedure  | INFOID:000000012549835 | D |
|--|------------------------|---|
| 1. CHECK FRONT DOOR SWITCH   |                        | D |
| Check front door switch.<br>Refer to <u>PWC-115, "Component Function Check"</u> .  |                        | С |
| Is the inspection result normal?   |                        |   |
| <ul> <li>YES &gt;&gt; Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.</li> <li>NO &gt;&gt; Repair or replace the malfunctioning parts.</li> </ul> |                        | D |

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### DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WINDOWS

< SYMPTOM DIAGNOSIS >

[LH & RH FRONT AUTO UP/DOWN]

## DOOR KEY CYLINDER SWITCH DOES NOT OPERATE POWER WIN-DOWS

**Diagnosis** Procedure

INFOID:000000012549836

**1.**PERFORM INITIALIZATION PROCEDURE

Initialization procedure is performed and operation is confirmed. Refer to <u>PWC-92, "Work Procedure"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2.

 $2. {\sf CHECK FRONT DOOR LOCK ASSEMBLY LH (DOOR KEY CYLINDER SWITCH)}$ 

Check front door lock assembly LH (door key cylinder switch). Refer to <u>DLK-189, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

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

NO >> GO TO 1.

### **KEYLESS POWER WINDOW DOWN DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

## [LH & RH FRONT AUTO UP/DOWN] **KEYLESS POWER WINDOW DOWN DOES NOT OPERATE**

#### А **Diagnosis** Procedure INFOID:000000012549837 1. CHECK INTELLIGENT KEY FUNCTION В Check Intelligent Key function. Refer to DLK-201, "Component Function Check". С Is the inspection result normal? >> Check intermittent incident. Refer to GI-47, "Intermittent Incident". YES NO >> Replace BCM. Refer to BCS-81, "Removal and Installation". D

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#### POWER WINDOW LOCK SWITCH DOES NOT FUNCTION DIAGNOSIS > [LH & RH FRONT AUTO UP/DOWN]

#### < SYMPTOM DIAGNOSIS >

## POWER WINDOW LOCK SWITCH DOES NOT FUNCTION

**Diagnosis** Procedure

INFOID:000000012549838

1. Replace main power window and door lock/unlock switch

Replace main power window and door lock/unlock switch. Refer to <u>PWC-136</u>, "<u>Removal and Installation</u>". After that, <u>PWC-92</u>, "<u>Work Procedure</u>".

>> INSPECTION END

| POWER WINDOW SWITCH DOES NOT ILLUMINATE<br>< SYMPTOM DIAGNOSIS > [LH & RH FRONT AUT  | O UP/DOWN]             |
|--|------------------------|
| POWER WINDOW SWITCH DOES NOT ILLUMINATE<br>DRIVER SIDE   |                        |
| DRIVER SIDE : Diagnosis Procedure  | INFOID:000000012549839 |
| 1.REPLACE POWER WINDOW MAIN SWITCH   |                        |
| Replace power window main switch.<br>Refer to <u>PWC-136</u> , "Removal and Installation". After that, refer to <u>PWC-92</u> , "Work Procedure".                    |                        |
| >> Inspection End. PASSENGER SIDE  |                        |
| PASSENGER SIDE : Diagnosis Procedure   | INFOID:000000012549840 |
| 1.REPLACE POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH  |                        |
| Replace power window and door lock/unlock switch RH.<br>Refer to <u>PWC-137, "Removal and Installation"</u> . After that, refer to <u>PWC-92, "Work Procedure"</u> . |                        |
| >> Inspection End.<br>REAR LH  |                        |
| REAR LH : Diagnosis Procedure  | INFOID:000000012549841 |
| 1.REPLACE REAR POWER WINDOW SWITCH LH  |                        |
| Replace rear power window switch LH.<br>Refer to <u>PWC-138, "Removal and Installation"</u> .  |                        |
| >> Inspection End.<br>REAR RH  |                        |
| REAR RH : Diagnosis Procedure  | INFOID:000000012549842 |
| 1.REPLACE REAR POWER WINDOW SWITCH RH  |                        |
| Replace rear power window switch RH.<br>Refer to <u>PWC-138, "Removal and Installation"</u> .  |                        |
| >> Inspection End.   |                        |
|  |                        |
|  |                        |
|  |                        |
|  |                        |
|  |                        |

## MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH < REMOVAL AND INSTALLATION > [LH & RH FRONT AUTO UP/DOWN]

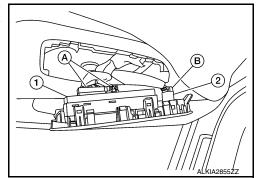
# REMOVAL AND INSTALLATION MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH

### Removal and Installation

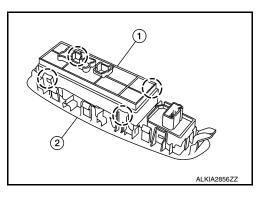
INFOID:000000012549843

#### REMOVAL

- 1. Remove the main power window and door lock/unlock switch from the front door finisher using a suitable tool.
- Disconnect the harness connectors (A) from the main power window and door lock/unlock switch (1) and harness connector (B) from the mirror control switch (2).



Release the pawls, then separate the main power window and door lock/unlock switch (1) from the switch finisher (2).
 (\_): Pawl



#### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

When the main power window and door lock/unlock switch is removed or replaced, it is necessary to perform the initialization procedure. Refer to <u>PWC-92</u>, "<u>Description</u>".

#### POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH [LH & RH FRONT AUTO UP/DOWN] < REMOVAL AND INSTALLATION >

## POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH

#### Removal and Installation

#### REMOVAL

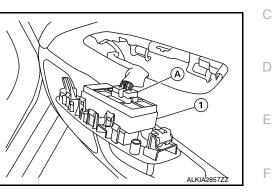
- Remove the power window and door lock/unlock switch (RH) from the front door finisher using a suitable 1. tool.
- 2. Disconnect the harness connector (A) from the power window and door lock/unlock switch (RH) (1).

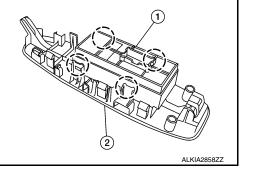
3. Release four pawls, then separate power window and door lock/ unlock switch (RH) (1) from switch finisher (2). (): Pawl

**INSTALLATION** 

Installation is in the reverse order of removal. NOTE:

When the power window and door lock/unlock switch (RH) is removed or replaced, it is necessary to perform WC the initialization procedure. Refer to PWC-92. "Description".





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#### < REMOVAL AND INSTALLATION >

# REAR POWER WINDOW SWITCH

Removal and Installation

#### REMOVAL

- 1. Remove the rear door cup holder mat.
- 2. Remove the rear power window switch finisher screw (A) and the rear power window switch finisher (1) from the rear door finisher using a suitable tool.

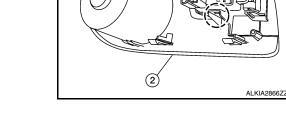
3. Disconnect the harness connector (A) from the rear power window switch (1).

Release the two pawls, then separate the rear power window switch (1) from the switch finisher (2).
 (<sup>-</sup>): Pawl

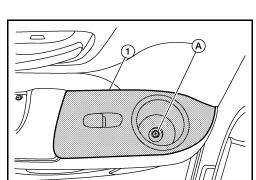
**INSTALLATION** 

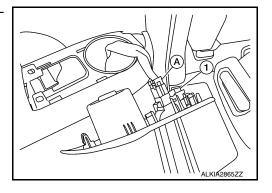
Installation is in the reverse order of removal.

**PWC-138** 



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INFOID:000000012549845