

SECTION

PCS

POWER CONTROL SYSTEM

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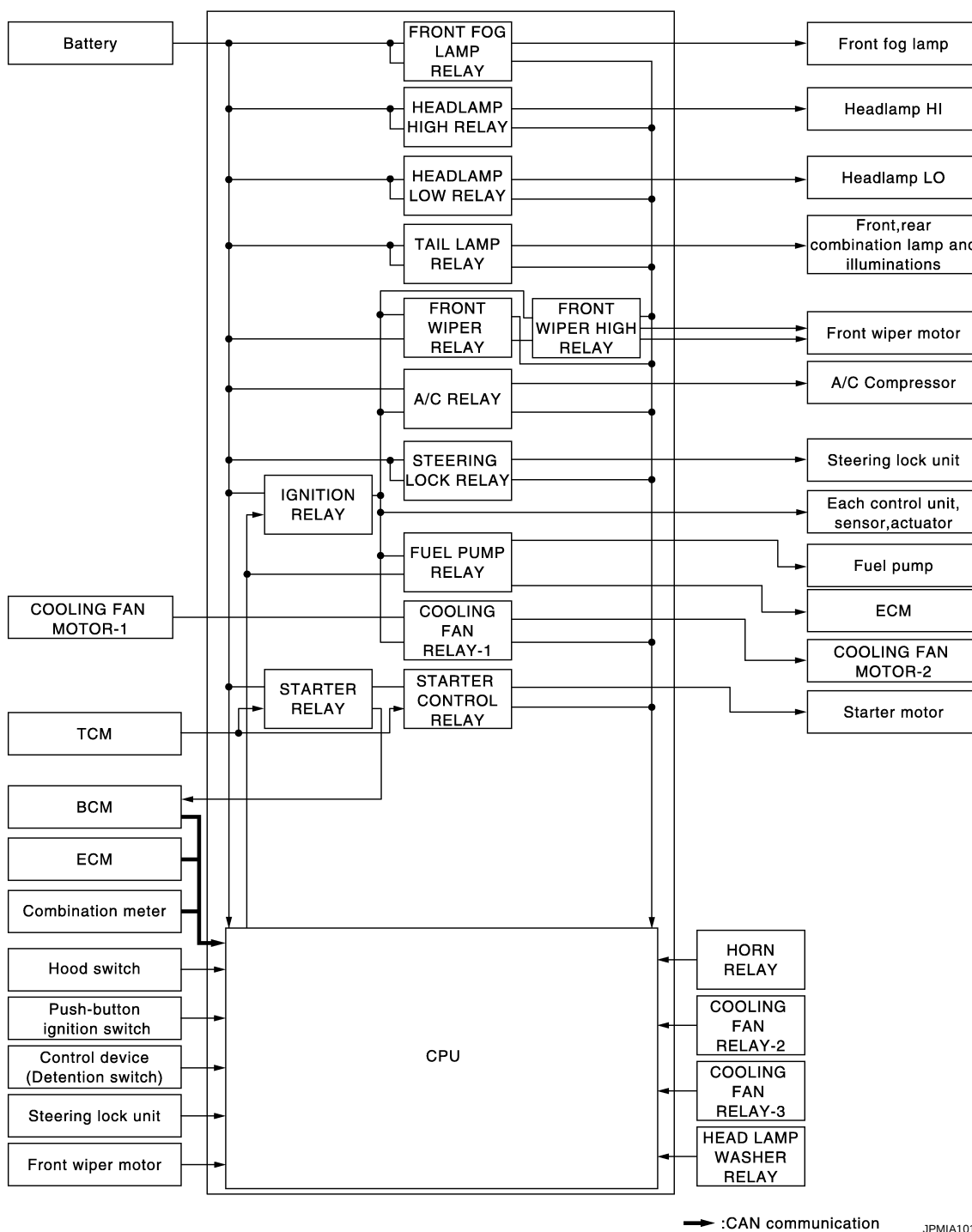
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- PCS
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- O
- P

## FUNCTION DIAGNOSIS

### RELAY CONTROL SYSTEM

#### System Diagram

INFOID:000000003773255



JPMIA1015GB

#### System Description

INFOID:000000003773256

IPDM E/R activates the internal control circuit to perform the relay ON-OFF control according to the input signals from various sensors and the request signals received from control units via CAN communication.

#### CAUTION:

IPDM E/R integrated relays cannot be removed.

# RELAY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

[IPDM E/R]

| Control relay                                                                                                                   | Input/output                                                                                                      | Transmit unit                     | Control part                                                                                                                            | Reference page                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Headlamp low relay</li> <li>Headlamp high relay</li> </ul>                               | <ul style="list-style-type: none"> <li>Low beam request signal</li> <li>High beam request signal</li> </ul>       | BCM (CAN)                         | <ul style="list-style-type: none"> <li>Headlamp low</li> <li>Headlamp high</li> </ul>                                                   | <ul style="list-style-type: none"> <li><a href="#">EXL-11</a> (Xenon headlamp)</li> <li><a href="#">EXL-200</a> (Halogen headlamp)</li> </ul>            |
| Front fog lamp relay                                                                                                            | Front fog light request signal                                                                                    | BCM (CAN)                         | Front fog lamp                                                                                                                          | <ul style="list-style-type: none"> <li><a href="#">EXL-17</a> (Xenon headlamp)</li> <li><a href="#">EXL-204</a> (Halogen headlamp)</li> </ul>            |
| Tail lamp relay                                                                                                                 | Position light request signal                                                                                     | BCM (CAN)                         | <ul style="list-style-type: none"> <li>Parking lamp</li> <li>Side marker lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> </ul> | <ul style="list-style-type: none"> <li><a href="#">EXL-21</a> (Xenon headlamp)</li> <li><a href="#">EXL-208</a> (Halogen headlamp)</li> </ul>            |
|                                                                                                                                 |                                                                                                                   |                                   | Illuminations                                                                                                                           | <a href="#">INL-12</a>                                                                                                                                   |
| <ul style="list-style-type: none"> <li>Front wiper relay</li> <li>Front wiper high relay</li> </ul>                             | Front wiper request signal                                                                                        | BCM (CAN)                         | Front wiper                                                                                                                             | <a href="#">WW-5</a>                                                                                                                                     |
|                                                                                                                                 | Front wiper auto stop signal                                                                                      | Front wiper motor                 |                                                                                                                                         |                                                                                                                                                          |
| Horn relay                                                                                                                      | <ul style="list-style-type: none"> <li>Theft warning horn request signal</li> <li>Horn reminder signal</li> </ul> | BCM (CAN)                         | <ul style="list-style-type: none"> <li>Horn (low)</li> <li>Horn (high)</li> </ul>                                                       | <a href="#">SEC-17</a>                                                                                                                                   |
| <ul style="list-style-type: none"> <li>Starter relay<sup>NOTE</sup></li> <li>Starter control relay</li> </ul>                   | Starter control relay signal                                                                                      | BCM (CAN)                         | Starter motor                                                                                                                           | <ul style="list-style-type: none"> <li><a href="#">SEC-104</a></li> <li><a href="#">SEC-102</a></li> </ul>                                               |
|                                                                                                                                 | Steering lock unit condition signal                                                                               | Steering lock unit                |                                                                                                                                         |                                                                                                                                                          |
|                                                                                                                                 | Starter relay control signal                                                                                      | TCM                               |                                                                                                                                         |                                                                                                                                                          |
| Steering lock relay                                                                                                             | Steering lock relay signal                                                                                        | BCM (CAN)                         | Steering lock unit                                                                                                                      | <a href="#">SEC-69</a>                                                                                                                                   |
|                                                                                                                                 | Steering lock unit condition signal                                                                               | Steering lock unit                |                                                                                                                                         |                                                                                                                                                          |
|                                                                                                                                 | Control device (Detention switch) signal                                                                          | Control device (Detention switch) |                                                                                                                                         |                                                                                                                                                          |
| A/C relay                                                                                                                       | A/C compressor request signal                                                                                     | ECM (CAN)                         | A/C compressor (magnet clutch)                                                                                                          | <ul style="list-style-type: none"> <li><a href="#">HAC-36</a> (Without 7-inch display)</li> <li><a href="#">HAC-154</a> (With 7-inch display)</li> </ul> |
| <ul style="list-style-type: none"> <li>Cooling fan relay-1</li> <li>Cooling fan relay-2</li> <li>Cooling fan relay-3</li> </ul> | Cooling fan speed request signal                                                                                  | ECM (CAN)                         | <ul style="list-style-type: none"> <li>Cooling fan motor-1</li> <li>Cooling fan motor-2</li> </ul>                                      | <a href="#">EC-60</a>                                                                                                                                    |
| Headlamp washer relay                                                                                                           | Headlamp washer request signal                                                                                    | BCM (CAN)                         | Headlamp washer                                                                                                                         | <a href="#">WW-10</a>                                                                                                                                    |
| Ignition relay                                                                                                                  | Ignition switch ON signal                                                                                         | BCM (CAN)                         | Ignition relay                                                                                                                          | <a href="#">PCS-17</a>                                                                                                                                   |
|                                                                                                                                 | Vehicle speed signal                                                                                              | Combination meter (CAN)           |                                                                                                                                         |                                                                                                                                                          |
|                                                                                                                                 | Push-button ignition switch signal                                                                                | Push-button ignition switch       |                                                                                                                                         |                                                                                                                                                          |

## NOTE:

BCM controls the starter relay.

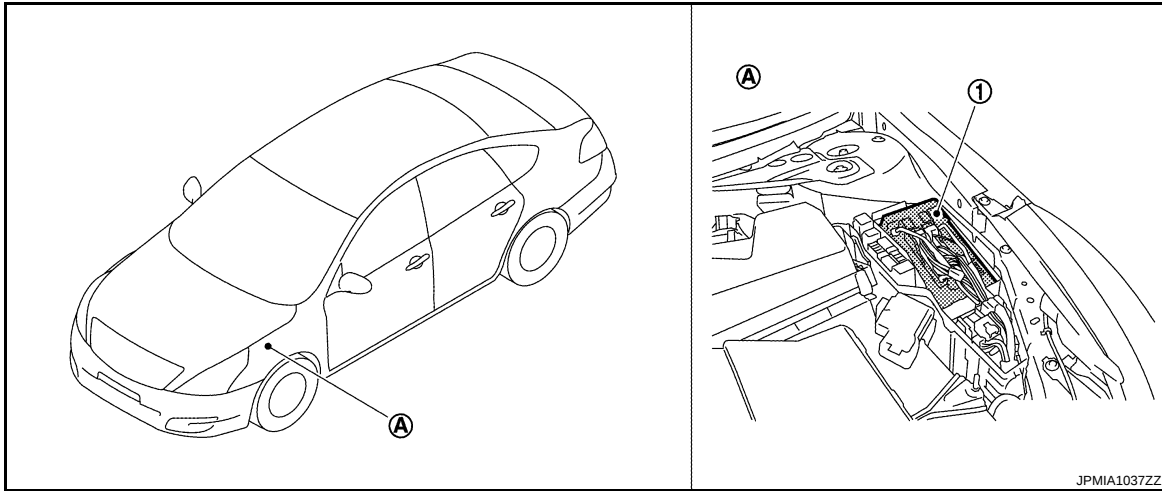
# RELAY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

[IPDM E/R]

## Component Parts Location

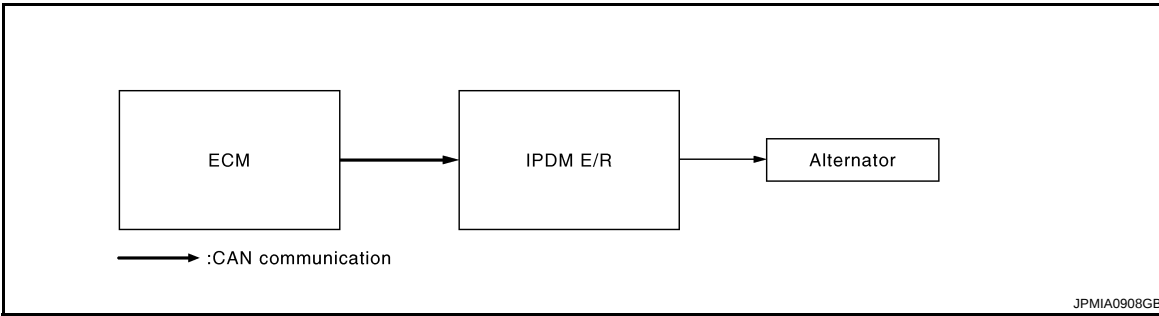
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- 1. IPDM E/R
- A. Engine room (LH)

POWER CONTROL SYSTEM

System Diagram



System Description

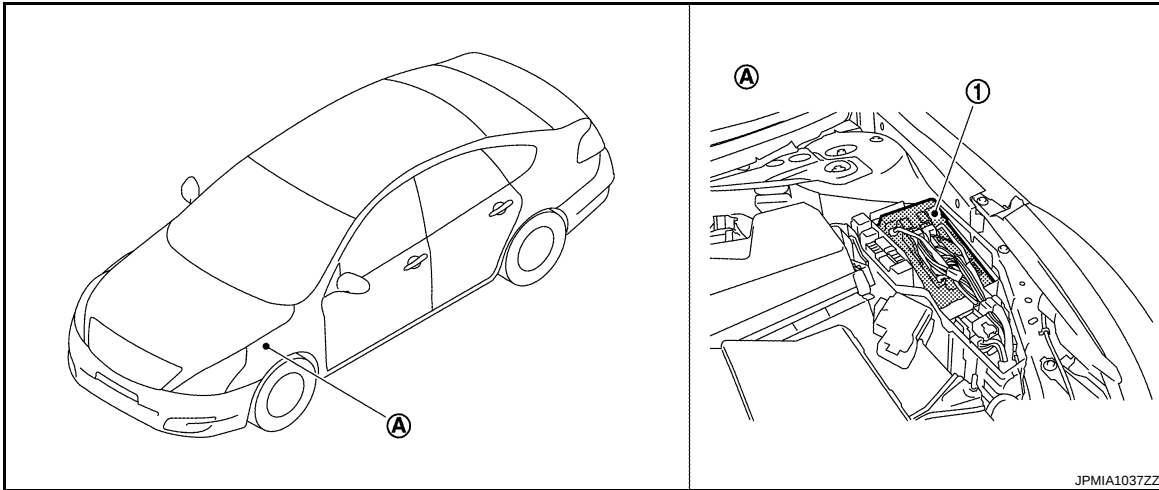
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ALTERNATOR CONTROL

IPDM E/R outputs power generation command signal (PWM signal) to the alternator according to the status of the power generation command value signal received from ECM via CAN communication. Refer to [CHG-7, "System Diagram"](#).

Component Parts Location

INFOID:0000000003773260

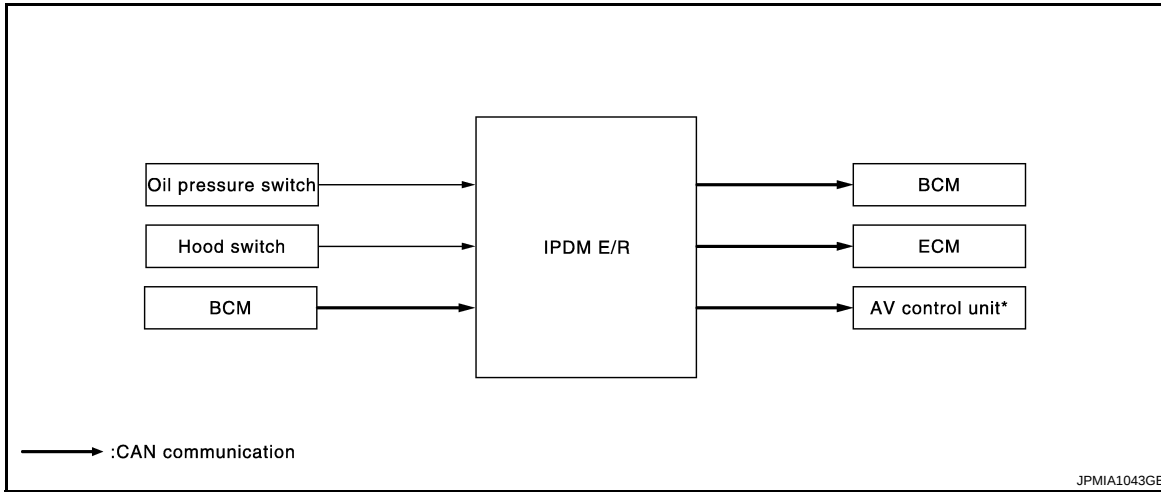


- 1. IPDM E/R
- A. Engine room (LH)

## SIGNAL BUFFER SYSTEM

### System Diagram

INFOID:000000003773261



**NOTE:**

\*: With BOSE audio system

### System Description

INFOID:000000003773262

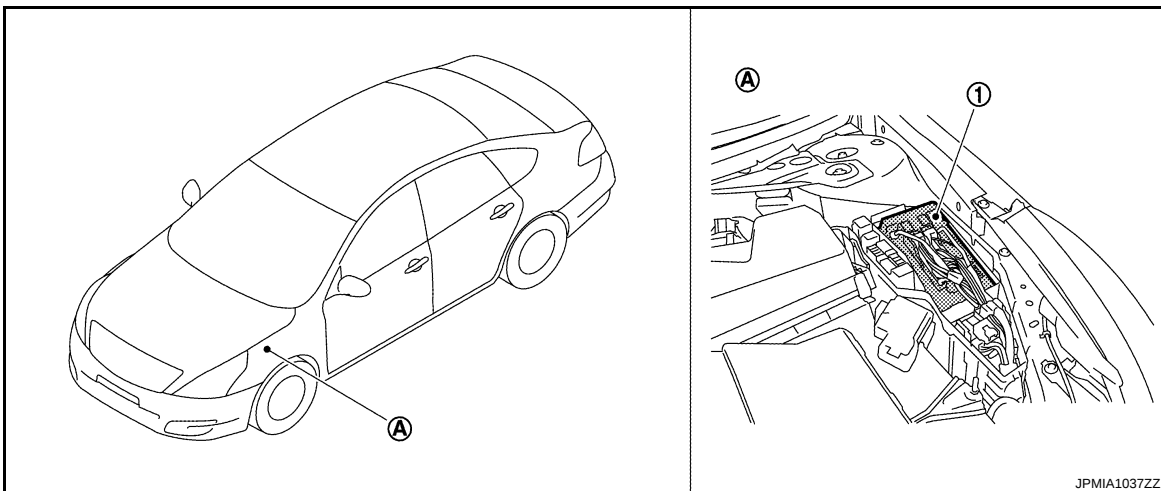
- IPDM E/R reads the status of the oil pressure switch and transmits the oil pressure switch signal to BCM via CAN communication. Refer to [MWI-22, "WARNING LAMPS/INDICATOR LAMPS : System Diagram"](#).
- IPDM E/R reads the status of the hood switch and transmits the hood switch signal to BCM via CAN communication. Refer to [SEC-17, "System Diagram"](#).
- IPDM E/R receives the rear window defogger control signal from BCM via CAN communication and transmits it to ECM and AV control unit\* via CAN communication. Refer to [DEF-4, "WITH AV CONTROL UNIT : System Diagram"](#) or [DEF-6, "WITHOUT AV CONTROL UNIT : System Diagram"](#).

**NOTE:**

\*: With BOSE audio system

### Component Parts Location

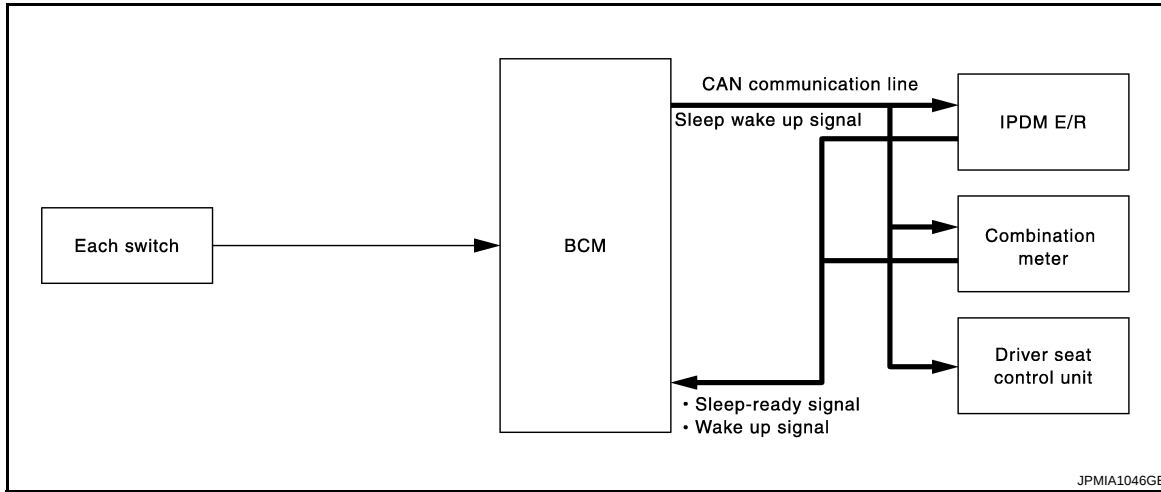
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1. IPDM E/R
- A. Engine room (LH)

## POWER CONSUMPTION CONTROL SYSTEM

### System Diagram



### System Description

INFOID:000000003773265

#### OUTLINE

- IPDM E/R incorporates a power consumption control function that reduces the power consumption according to the vehicle status.
- IPDM E/R changes its status (control mode) with the sleep wake up signal received from BCM via CAN communication.

#### Normal mode (wake-up)

- CAN communication is normally performed with other control units.
- Individual unit control by IPDM E/R is normally performed.

#### Low power consumption mode (sleep)

- Low power consumption control is active.
- CAN transmission is stopped.

#### SLEEP MODE ACTIVATION

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
- Outputting signals to actuators
- Switches or relays operating
- Output requests are being received from control units via CAN communication.
- IPDM E/R stops CAN communication and enters the low power consumption mode when it receives a sleep wake up signal (sleep) from BCM and the sleep-ready conditions are fulfilled.

#### WAKE-UP OPERATION

- IPDM E/R changes from the low power consumption mode to the normal mode when it receives a sleep wake-up signal (wake up) from BCM or any of the following conditions is fulfilled. In addition, it transmits a sleep-ready signal (not-ready) to BCM via CAN communication to report the CAN communication start.
- Ignition switch ON
- An output request is received from a control unit via CAN communication.

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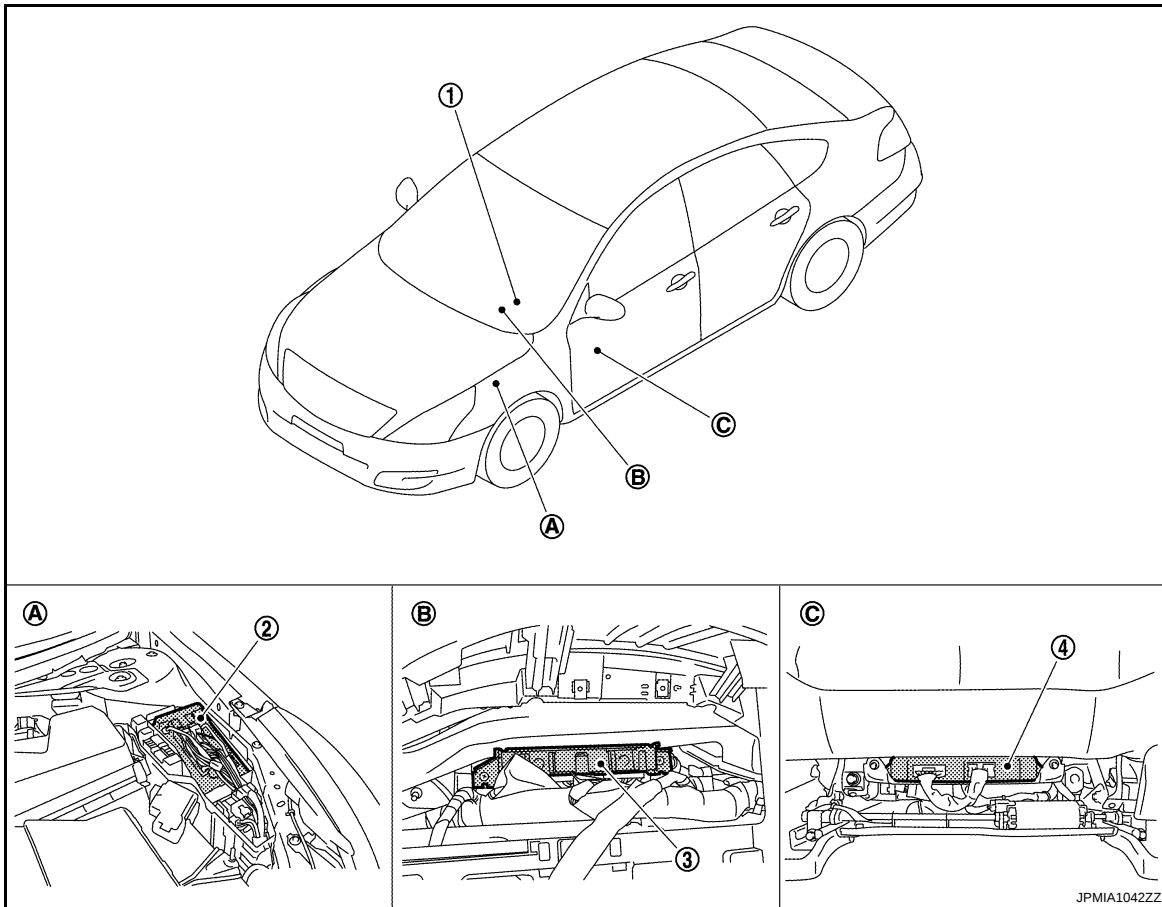
# POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

[IPDM E/R]

## Component Parts Location

INFOID:000000003857764



- 1. Combination meter
- 4. Driver seat control unit
- A. Engine room (LH)

- 2. IPDM E/R
- 3. BCM
- B. Behind of combination meter

- C. Backside of the seat cushion (driver seat)

## DIAGNOSIS SYSTEM (IPDM E/R)

### Diagnosis Description

INFOID:000000003773267

### AUTO ACTIVE TEST

#### Description

In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation.

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

#### Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

#### NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

2. Turn ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.

#### CAUTION:

**Close passenger door.**

4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

#### CAUTION:

- If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-57, "Component Function Check"](#).
- Do not start the engine.

#### Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 5 steps are repeated 3 times.

| Operation sequence | Inspection location                                                                                                                               | Operation                                                |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| A                  | Oil pressure warning lamp                                                                                                                         | Blinks continuously during operation of auto active test |
| 1                  | Front wiper                                                                                                                                       | LO for 5 seconds → HI for 5 seconds                      |
| 2                  | <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Tail lamps</li> <li>• Front fog lamps</li> </ul> | 10 seconds                                               |
| 3                  | Headlamps                                                                                                                                         | LO ⇔ HI 5 times                                          |
| 4                  | A/C compressor (magnet clutch)                                                                                                                    | ON ⇔ OFF 5 times                                         |
| 5                  | Cooling fan                                                                                                                                       | LO for 5 seconds → MID for 3 seconds → HI for 2 seconds  |

PCS

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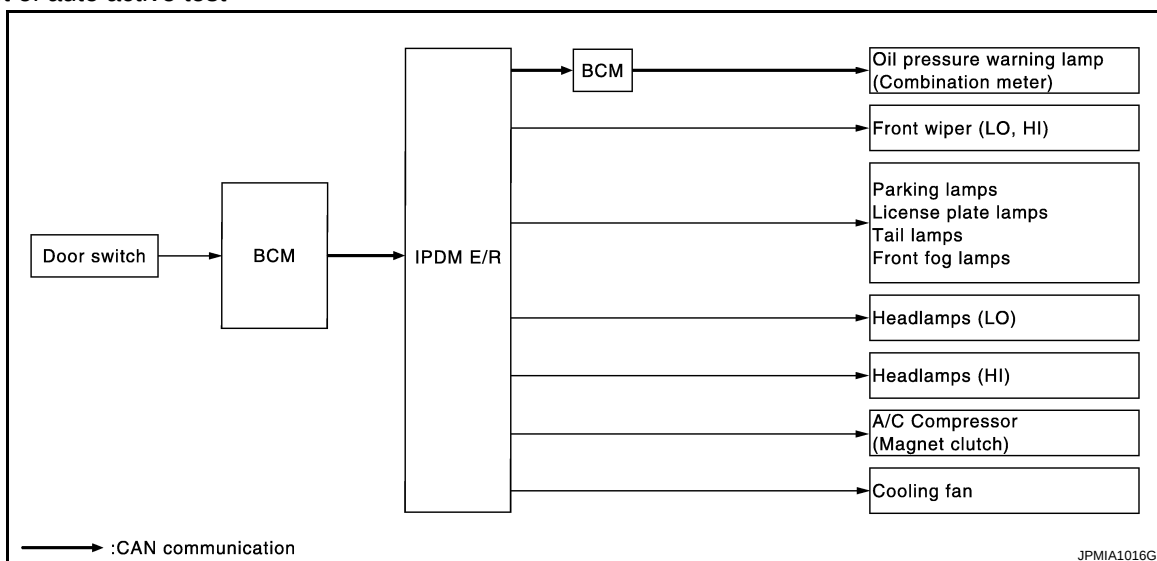
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# DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[IPDM E/R]

Concept of auto active test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

| Symptom                                                                                                                                                                                                                                              | Inspection contents                                                    | Possible cause                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Any of the following components do not operate <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Tail lamps</li> <li>• Front fog lamps</li> <li>• Headlamp (HI, LO)</li> <li>• Front wiper</li> </ul> | Perform auto active test.<br>Does the applicable system operate?       | YES                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                      |                                                                        | BCM signal input circuit                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                      |                                                                        | NO                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                      |                                                                        | <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>        |
| A/C compressor does not operate                                                                                                                                                                                                                      | Perform auto active test.<br>Does the magnet clutch operate?           | YES                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                      |                                                                        | <ul style="list-style-type: none"> <li>• A/C amp. signal input circuit</li> <li>• CAN communication signal between A/C amp. and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul> |
|                                                                                                                                                                                                                                                      |                                                                        | NO                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                      |                                                                        | <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>                                                    |
| Oil pressure warning lamp does not operate                                                                                                                                                                                                           | Perform auto active test.<br>Does the oil pressure warning lamp blink? | YES                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                      |                                                                        | <ul style="list-style-type: none"> <li>• Harness or connector between IPDM E/R and oil pressure switch</li> <li>• Oil pressure switch</li> <li>• IPDM E/R</li> </ul>                                        |
|                                                                                                                                                                                                                                                      |                                                                        | NO                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                      |                                                                        | <ul style="list-style-type: none"> <li>• CAN communication signal between IPDM E/R and BCM</li> <li>• CAN communication signal between BCM and combination meter</li> <li>• Combination meter</li> </ul>    |

# DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[IPDM E/R]

| Symptom                      | Inspection contents                                        |     | Possible cause                                                                                                                                                                                                                                             |
|------------------------------|------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cooling fan does not operate | Perform auto active test.<br>Does the cooling fan operate? | YES | <ul style="list-style-type: none"> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>                                                                                                                      |
|                              |                                                            | NO  | <ul style="list-style-type: none"> <li>Harness or connector between IPDM E/R and cooling fan motor</li> <li>Harness or connector between IPDM E/R and cooling fan relay</li> <li>Cooling fan motor</li> <li>Cooling fan relay</li> <li>IPDM E/R</li> </ul> |

## CONSULT-III Function (IPDM E/R)

INFOID:000000003773268

### APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with IPDM E/R.

| Diagnosis mode           | Description                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------|
| Ecu Identification       | Allows confirmation of IPDM E/R part number.                                            |
| Self Diagnostic Result   | Displays the diagnosis results judged by IPDM E/R.                                      |
| Data Monitor             | Displays the real-time input/output data from IPDM E/R input/output data.               |
| Active Test              | IPDM E/R can provide a drive signal to electronic components to check their operations. |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of CAN communication can be read.             |

### SELF DIAGNOSTIC RESULT

Refer to [PCS-33, "DTC Index"](#).

### DATA MONITOR

Monitor item

| Monitor Item<br>[Unit]           | MAIN SIG-<br>NALS | Description                                                                                         |
|----------------------------------|-------------------|-----------------------------------------------------------------------------------------------------|
| MOTOR FAN REQ<br>[1/2/3/4]       | ×                 | Displays the value of the cooling fan speed request signal received from ECM via CAN communication. |
| AC COMP REQ<br>[Off/On]          | ×                 | Displays the status of the A/C compressor request signal received from ECM via CAN communication.   |
| TAIL&CLR REQ<br>[Off/On]         | ×                 | Displays the status of the position light request signal received from BCM via CAN communication.   |
| HL LO REQ<br>[Off/On]            | ×                 | Displays the status of the low beam request signal received from BCM via CAN communication.         |
| HL HI REQ<br>[Off/On]            | ×                 | Displays the status of the high beam request signal received from BCM via CAN communication.        |
| FR FOG REQ<br>[Off/On]           | ×                 | Displays the status of the front fog light request signal received from BCM via CAN communication.  |
| FR WIP REQ<br>[Stop/1LOW/Low/Hi] | ×                 | Displays the status of the front wiper request signal received from BCM via CAN communication.      |
| WIP AUTO STOP<br>[STOP P/ACT P]  | ×                 | Displays the status of the front wiper auto stop signal judged by IPDM E/R.                         |
| WIP PROT<br>[Off/BLOCK]          | ×                 | Displays the status of the front wiper fail-safe operation judged by IPDM E/R.                      |
| IGN RLY1 -REQ<br>[Off/On]        |                   | Displays the status of the ignition switch ON signal received from BCM via CAN communication.       |

# DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[IPDM E/R]

| Monitor Item<br>[Unit]               | MAIN SIG-<br>NALS | Description                                                                                           |
|--------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------|
| IGN RLY<br>[Off/On]                  | ×                 | Displays the status of the ignition relay judged by IPDM E/R.                                         |
| PUSH SW<br>[Off/On]                  |                   | Displays the status of the push-button ignition switch judged by IPDM E/R.                            |
| INTER/NP SW<br>[Off/On]              |                   | Displays the status of the shift position judged by IPDM E/R.                                         |
| ST RLY CONT<br>[Off/On]              |                   | Displays the status of the starter relay status signal received from BCM via CAN communication.       |
| IHBT RLY -REQ<br>[Off/On]            |                   | Displays the status of the starter control relay signal received from BCM via CAN communication.      |
| ST/INHI RLY<br>[Off/ ST /INHI/UNKWN] |                   | Displays the status of the starter relay and starter control relay judged by IPDM E/R.                |
| DETENT SW<br>[Off/On]                |                   | Displays the status of the control device (detention switch) judged by IPDM E/R.                      |
| S/L RLY -REQ<br>[Off/On]             |                   | Displays the status of the steering lock relay signal received from BCM via CAN communication.        |
| S/L STATE<br>[LOCK/UNLOCK/UNKWN]     |                   | Displays the status of the steering lock judged by IPDM E/R.                                          |
| DTRL REQ<br>[Off]                    |                   | <b>NOTE:</b><br>The item is indicated, but not monitored.                                             |
| OIL P SW<br>[Open/Close]             |                   | Displays the status of the oil pressure switch judged by IPDM E/R.                                    |
| HOOD SW<br>[Off/On]                  |                   | Displays the status of the hood switch judged by IPDM E/R.                                            |
| HL WASHER REQ<br>[Off]               |                   | Display the status of the headlamp washer request signal received from BCM via CAN communication.     |
| THFT HRN REQ<br>[Off/On]             |                   | Displays the status of the theft warning horn request signal received from BCM via CAN communication. |
| HORN CHIRP<br>[Off/On]               |                   | Displays the status of the horn reminder signal received from BCM via CAN communication.              |
| CRNRNG LMP REQ<br>[Off]              |                   | <b>NOTE:</b><br>The item is indicated, but not monitored.                                             |

## ACTIVE TEST

Test item

| Test item        | Operation | Description                                                  |
|------------------|-----------|--------------------------------------------------------------|
| CORNERING LAMP   | Off       | <b>NOTE:</b><br>The item is indicated, but cannot be tested. |
|                  | LH        |                                                              |
|                  | RH        |                                                              |
| HORN             | On        | Operates horn relay for 20 ms.                               |
| FRONT WIPER      | Off       | OFF                                                          |
|                  | Lo        | Operates the front wiper relay.                              |
|                  | Hi        | Operates the front wiper relay and front wiper high relay.   |
| MOTOR FAN        | 1         | OFF                                                          |
|                  | 2         | Operates the cooling fan relay-1.                            |
|                  | 3         | Operates the cooling fan relay-2.                            |
|                  | 4         | Operates the cooling fan relay-2 and cooling fan relay-3.    |
| HEAD LAMP WASHER | On        | Operates the headlamp washer relay for 1 s.                  |

## DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[IPDM E/R]

| Test item      | Operation | Description                                                                               |
|----------------|-----------|-------------------------------------------------------------------------------------------|
| EXTERNAL LAMPS | Off       | OFF                                                                                       |
|                | TAIL      | Operates the tail lamp relay.                                                             |
|                | Lo        | Operates the headlamp low relay.                                                          |
|                | Hi        | Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals. |
|                | Fog       | Operates the front fog lamp relay.                                                        |

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## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000003773269

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-22, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000003773270

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                                                      | Possible cause           |
|-------|---------------------------------|----------------------------------------------------------------------------------------------|--------------------------|
| U1000 | CAN COMM CIRCUIT                | When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more | CAN communication system |

#### Diagnosis Procedure

INFOID:000000003773271

#### 1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" of IPDM E/R.

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to [GI-35, "Intermittent Incident"](#).

## B2098 IGNITION RELAY ON STUCK

< COMPONENT DIAGNOSIS >

[IPDM E/R]

### B2098 IGNITION RELAY ON STUCK

#### Description

INFOID:000000003773272

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the combination meter (Emergency OFF)
  - Press and hold the push-button ignition switch for 2 seconds or more.
  - Press the push-button ignition switch 3 times within 1.5 seconds.

#### NOTE:

The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

#### DTC Logic

INFOID:000000003773273

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                                                                                                                                     | Possible causes            |
|-------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| B2098 | IGN RELAY ON                    | The ignition relay ON is detected for 1 second at ignition switch OFF (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it) | Ignition relay malfunction |

#### Diagnosis Procedure

INFOID:000000003773274

#### 1.PERFORM SELF DIAGNOSIS

1. Turn ignition switch ON.
2. Erase "Self Diagnostic Result" of IPDM E/R.
3. Turn ignition switch OFF, and wait for 1 second or more.
4. Turn ignition switch ON. Check "Self Diagnostic Result" again.

#### Is "IGN RELAY ON" displayed?

- YES >> Replace IPDM E/R.  
NO >> Refer to [GI-35, "Intermittent Incident"](#).

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## B2099 IGNITION RELAY OFF STUCK

< COMPONENT DIAGNOSIS >

[IPDM E/R]

### B2099 IGNITION RELAY OFF STUCK

#### Description

INFOID:000000003773275

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the combination meter (Emergency OFF)
  - Press and hold the push-button ignition switch for 2 seconds or more.
  - Press the push-button ignition switch 3 times within 1.5 seconds.

#### NOTE:

The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

#### DTC Logic

INFOID:000000003773276

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                                                                                                                                     | Possible causes            |
|-------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| B2099 | IGN RELAY OFF                   | The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it) | Ignition relay malfunction |

#### NOTE:

When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the "DTC: B2099" may be detected.

#### Diagnosis Procedure

INFOID:000000003773277

#### 1.PERFORM SELF DIAGNOSIS

1. Turn ignition switch ON.
2. Erase "Self Diagnostic Result".
3. Turn ignition switch OFF.
4. Turn ignition switch ON. Check "Self Diagnostic Result" again.

#### Is "IGN RELAY OFF" displayed?

- YES >> Replace IPDM E/R.
- NO >> Refer to [GI-35, "Intermittent Incident"](#).

# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[IPDM E/R]

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000003773278

#### 1.CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

| Signal name          | Fuses and fusible link No. |
|----------------------|----------------------------|
| Battery power supply | E                          |
|                      | 50                         |
|                      | 51                         |

Is the fuse fusing?

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

NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and ground.

| Terminals |          |        | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| ( + )     |          | ( - )  |                      |
| IPDM E/R  |          |        |                      |
| Connector | Terminal | Ground | Battery voltage      |
| E9        | 1        |        |                      |

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and ground.

| IPDM E/R  |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| E10       | 12       |        | Existed    |
| E11       | 41       |        |            |

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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## ECU DIAGNOSIS

### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

#### Reference Value

INFOID:000000003773279

#### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item  | Condition                                                   |                                                                                                        | Value/Status |
|---------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------|
| MOTOR FAN REQ | Engine idle speed                                           | Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc. | 1/2/3/4      |
| AC COMP REQ   | Engine running                                              | A/C switch OFF                                                                                         | Off          |
|               |                                                             | A/C switch ON (Compressor is operating)                                                                | On           |
| TAIL&CLR REQ  | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated) |                                                                                                        | On           |
| HL LO REQ     | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch 2ND HI or AUTO (Light is illuminated)       |                                                                                                        | On           |
| HL HI REQ     | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch HI                                          |                                                                                                        | On           |
| FR FOG REQ    | Lighting switch 2ND or AUTO (Light is illuminated)          | Front fog lamp switch OFF                                                                              | Off          |
|               |                                                             | Front fog lamp switch ON                                                                               | On           |
| FR WIP REQ    | Ignition switch ON                                          | Front wiper switch OFF                                                                                 | Stop         |
|               |                                                             | Front wiper switch INT                                                                                 | 1LOW         |
|               |                                                             | Front wiper switch LO                                                                                  | Low          |
|               |                                                             | Front wiper switch HI                                                                                  | Hi           |
| WIP AUTO STOP | Ignition switch ON                                          | Front wiper stop position                                                                              | STOP P       |
|               |                                                             | Any position other than front wiper stop position                                                      | ACT P        |
| WIP PROT      | Ignition switch ON                                          | Front wiper operates normally                                                                          | Off          |
|               |                                                             | Front wiper stops at fail-safe operation                                                               | BLOCK        |
| IGN RLY1 -REQ | Ignition switch OFF or ACC                                  |                                                                                                        | Off          |
|               | Ignition switch ON                                          |                                                                                                        | On           |
| IGN RLY       | Ignition switch OFF or ACC                                  |                                                                                                        | Off          |
|               | Ignition switch ON                                          |                                                                                                        | On           |
| PUSH SW       | Release the push-button ignition switch                     |                                                                                                        | Off          |
|               | Press the push-button ignition switch                       |                                                                                                        | On           |
| INTER/NP SW   | Ignition switch ON                                          | Selector lever in any position other than P or N                                                       | Off          |
|               |                                                             | Selector lever in P or N position                                                                      | On           |
| ST RLY CONT   | Ignition switch ON                                          |                                                                                                        | Off          |
|               | At engine cranking                                          |                                                                                                        | On           |
| IHBT RLY -REQ | Ignition switch ON                                          |                                                                                                        | Off          |
|               | At engine cranking                                          |                                                                                                        | On           |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Monitor Item   | Condition                                                                                                                                                                                                             |                                                                                                                                                                    | Value/Status |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| ST/INHI RLY    | Ignition switch ON                                                                                                                                                                                                    |                                                                                                                                                                    | Off          |
|                | At engine cranking                                                                                                                                                                                                    |                                                                                                                                                                    | INHI → ST    |
|                | The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF                                  |                                                                                                                                                                    | UNKWN        |
| DETENT SW      | Ignition switch ON                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Press the selector button with selector lever in P position</li> <li>Selector lever in any position other than P</li> </ul> | Off          |
|                |                                                                                                                                                                                                                       | Release the selector button with selector lever in P position                                                                                                      | On           |
| S/L RLY -REQ   | None of the conditions below are present                                                                                                                                                                              |                                                                                                                                                                    | Off          |
|                | <ul style="list-style-type: none"> <li>Open the driver door after the ignition switch is turned OFF (for a few seconds)</li> <li>Press the push-button ignition switch when the steering lock is activated</li> </ul> |                                                                                                                                                                    | On           |
| S/L STATE      | Steering lock is activated                                                                                                                                                                                            |                                                                                                                                                                    | LOCK         |
|                | Steering lock is deactivated                                                                                                                                                                                          |                                                                                                                                                                    | UNLOCK       |
|                | [DTC: B210A] is detected                                                                                                                                                                                              |                                                                                                                                                                    | UNKWN        |
| DTRL REQ       | <b>NOTE:</b><br>The item is indicated, but not monitored.                                                                                                                                                             |                                                                                                                                                                    | Off          |
| OIL P SW       | Ignition switch OFF, ACC or engine running                                                                                                                                                                            |                                                                                                                                                                    | Open         |
|                | Ignition switch ON                                                                                                                                                                                                    |                                                                                                                                                                    | Close        |
| HOOD SW        | Close the hood                                                                                                                                                                                                        |                                                                                                                                                                    | Off          |
|                | Open the hood                                                                                                                                                                                                         |                                                                                                                                                                    | On           |
| HL WASHER REQ  | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | Headlamp washer operating                                                                                                                                                                                             |                                                                                                                                                                    | On           |
| THFT HRN REQ   | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | Horn is activated with vehicle security (theft warning) system                                                                                                                                                        |                                                                                                                                                                    | On           |
| HORN CHIRP     | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | <ul style="list-style-type: none"> <li>Door locking with Intelligent Key (horn chirp mode)</li> <li>Door locking with key fob (horn chirp mode)</li> </ul>                                                            |                                                                                                                                                                    | On           |
| CRNRNG LMP REQ | <b>NOTE:</b><br>The item is indicated, but not monitored.                                                                                                                                                             |                                                                                                                                                                    | Off          |

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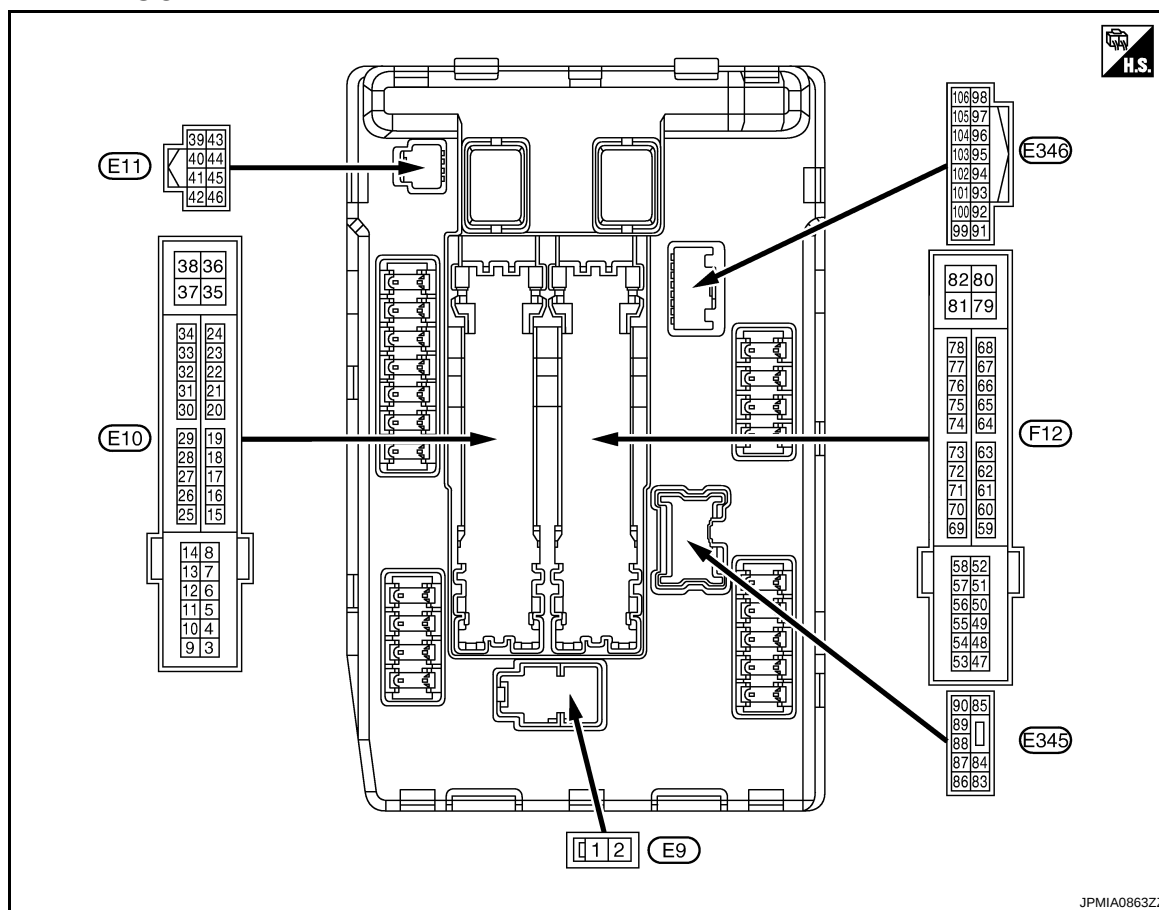
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

## TERMINAL LAYOUT



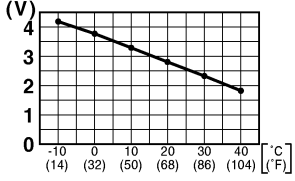
## PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description                                  |                  | Condition                                                                                                                                                         |                        | Value<br>(Approx.) |
|------------------------------|--------|----------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|
| +                            | -      | Signal name                                  | Input/<br>Output |                                                                                                                                                                   |                        |                    |
| 1<br>(R)                     | Ground | Battery power supply                         | Input            | Ignition switch OFF                                                                                                                                               |                        | Battery voltage    |
| 2<br>(L)                     | Ground | Battery power supply                         | Input            | Ignition switch OFF                                                                                                                                               |                        | Battery voltage    |
| 4<br>(LG)                    | Ground | Front wiper LO                               | Output           | Ignition<br>switch ON                                                                                                                                             | Front wiper switch OFF | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Front wiper switch LO  | Battery voltage    |
| 5<br>(Y)                     | Ground | Front wiper HI                               | Output           | Ignition<br>switch ON                                                                                                                                             | Front wiper switch OFF | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Front wiper switch HI  | Battery voltage    |
| 7<br>(GR)                    | Ground | Tail, license plate lamps &<br>illuminations | Output           | Ignition<br>switch ON                                                                                                                                             | Lighting switch OFF    | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Lighting switch 1ST    | Battery voltage    |
| 10<br>(BR)                   | Ground | ECM relay power supply                       | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                        | 0 V                |
|                              |        |                                              |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                        | Battery voltage    |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                                                                             |                                                                                                                                                   | Value<br>(Approx.)                                                                                       |
|------------------------------|--------|------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                                                                       |                                                                                                                                                   |                                                                                                          |
| 11<br>(P)                    | Ground | Steering lock unit power supply          | Output           | Ignition switch OFF                                                                                                                   | A few seconds after opening the driver door                                                                                                       | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch LOCK                                                                                                                  | Press the push-button ignition switch                                                                                                             | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch ACC or ON                                                                                                             |                                                                                                                                                   | 0 V                                                                                                      |
| 12<br>(B/W)                  | Ground | Ground                                   | —                | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |
| 13<br>(SB)                   | Ground | Fuel pump power supply                   | Output           | Approximately 1 second or more after turning the ignition switch ON                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | <ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul> |                                                                                                                                                   | Battery voltage                                                                                          |
| 15<br>(W)                    | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 16<br>(R)                    | Ground | Front wiper auto stop                    | Input            | Ignition switch ON                                                                                                                    | Front wiper stop position                                                                                                                         | 0 V                                                                                                      |
|                              |        |                                          |                  |                                                                                                                                       | Any position other than front wiper stop position                                                                                                 | Battery voltage                                                                                          |
| 17<br>(V)                    | Ground | Headlamp washer relay control            | Input            | Ignition switch ON                                                                                                                    | Headlamp washer deactivated                                                                                                                       | Battery voltage                                                                                          |
|                              |        |                                          |                  |                                                                                                                                       | Headlamp washer activated                                                                                                                         | 0 V                                                                                                      |
| 19<br>(Y)                    | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 20<br>(B)                    | Ground | Ambient sensor ground                    | Output           | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |
| 21<br>(O)                    | Ground | Ambient sensor                           | Input            | Ignition switch ON<br><b>NOTE:</b><br>Changes depending to ambient temperature                                                        |                                                                                                                                                   |  <p>JSNIA0014GB</p> |
| 22<br>(SB)                   | Ground | Refrigerant pressure sensor ground       | Output           | Engine running                                                                                                                        | <ul style="list-style-type: none"> <li>Warm-up condition</li> <li>Idle speed</li> </ul>                                                           | 0 V                                                                                                      |
| 23<br>(GR)                   | Ground | Refrigerant pressure sensor              | Output           | Engine running                                                                                                                        | <ul style="list-style-type: none"> <li>Warm-up condition</li> <li>Both A/C switch and blower fan motor switch ON (Compressor operates)</li> </ul> | 1.0 - 4.0 V                                                                                              |
| 24<br>(G)                    | Ground | Refrigerant pressure sensor power supply | Input            | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 5.0 V                                                                                                    |
| 25<br>(GR)                   | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 27<br>(W)                    | Ground | Ignition relay monitor                   | Input            | Ignition switch OFF or ACC                                                                                                            |                                                                                                                                                   | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |

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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                       |                  | Condition                                                                                                     |                                                                                                                                                       | Value<br>(Approx.) |
|------------------------------|--------|-----------------------------------|------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| +                            | —      | Signal name                       | Input/<br>Output |                                                                                                               |                                                                                                                                                       |                    |
| 28<br>(SB)                   | Ground | Push-button ignition switch       | Input            | Press the push-button ignition switch                                                                         |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Release the push-button ignition switch                                                                       |                                                                                                                                                       | Battery voltage    |
| 30<br>(BR)                   | Ground | Starter relay control             | Input            | Ignition switch ON                                                                                            | Selector lever in any position other than P or N                                                                                                      | 0 V                |
|                              |        |                                   |                  |                                                                                                               | Selector lever P or N                                                                                                                                 | Battery voltage    |
| 32<br>(V)                    | Ground | Steering lock unit condition-1    | Input            | Steering lock is activated                                                                                    |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Steering lock is deactivated                                                                                  |                                                                                                                                                       | Battery voltage    |
| 33<br>(G)                    | Ground | Steering lock unit condition-2    | Input            | Steering lock is activated                                                                                    |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Steering lock is deactivated                                                                                  |                                                                                                                                                       | 0 V                |
| 34<br>(O)                    | Ground | Cooling fan relay-3 control       | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Cooling fan at HI operation                                                                                   |                                                                                                                                                       | 0 V                |
| 35<br>(P)                    | Ground | Cooling fan relay-1 power supply  | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Cooling fan at LO operation                                                                                   |                                                                                                                                                       | 6.0 V              |
| 36<br>(G)                    | Ground | Battery power supply              | Input            | Ignition switch OFF                                                                                           |                                                                                                                                                       | Battery voltage    |
| 38<br>(GR)                   | Ground | Cooling fan relay-1 power supply  | Output           | Cooling fan not operating                                                                                     |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Cooling fan at LO operation                                                                                   |                                                                                                                                                       | 6.0 V              |
| 39<br>(P)                    | —      | CAN-L                             | Input/<br>Output | —                                                                                                             |                                                                                                                                                       | —                  |
| 40<br>(L)                    | —      | CAN-H                             | Input/<br>Output | —                                                                                                             |                                                                                                                                                       | —                  |
| 41<br>(B)                    | Ground | Ground                            | —                | Ignition switch ON                                                                                            |                                                                                                                                                       | 0 V                |
| 42<br>(SB)                   | Ground | Cooling fan relay-2 control       | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | <ul style="list-style-type: none"> <li>Cooling fan MID operating</li> <li>Cooling fan HI operating</li> </ul> |                                                                                                                                                       | 0 V                |
| 43<br>(Y)                    | Ground | Control device (Detention switch) | Input            | Ignition switch ON                                                                                            | Press the selector button (selector lever P)                                                                                                          | Battery voltage    |
|                              |        |                                   |                  |                                                                                                               | <ul style="list-style-type: none"> <li>Selector lever in any position other than P</li> <li>Release the selector button (selector lever P)</li> </ul> | 0 V                |
| 44<br>(G)                    | Ground | Horn relay control                | Input            | The horn is deactivated                                                                                       |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | The horn is activated                                                                                         |                                                                                                                                                       | 0 V                |
| 45<br>(O)                    | Ground | Horn switch                       | Input            | The horn is deactivated                                                                                       |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | The horn is activated                                                                                         |                                                                                                                                                       | 0 V                |
| 46<br>(BR)                   | Ground | Starter relay control             | Input            | Ignition switch ON                                                                                            | Selector lever in any position other than P or N                                                                                                      | 0 V                |
|                              |        |                                   |                  |                                                                                                               | Selector lever P or N                                                                                                                                 | Battery voltage    |
| 48<br>(Y/R)                  | Ground | A/C relay power supply            | Output           | Engine running                                                                                                | A/C switch OFF                                                                                                                                        | 0 V                |
|                              |        |                                   |                  |                                                                                                               | A/C switch ON (A/C compressor is operating)                                                                                                           | Battery voltage    |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

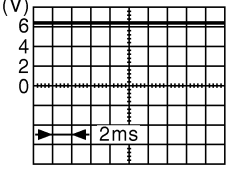
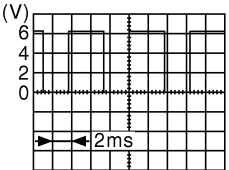
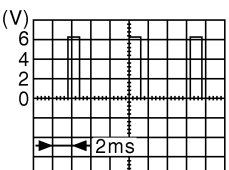
[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                                    |                  | Condition                                                                                                                                                         |                                                       | Value<br>(Approx.)                           |     |
|------------------------------|--------|------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------|-----|
| +                            | -      | Signal name                                    | Input/<br>Output |                                                                                                                                                                   |                                                       |                                              |     |
| 49<br>(R/B)                  | Ground | ECM relay power supply                         | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                                                       | 0 V                                          | A   |
|                              |        |                                                |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                                                       | Battery voltage                              | B   |
| 51<br>(LG)                   | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          | C   |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              | D   |
| 52<br>(Y/G)                  | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          | E   |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              | F   |
| 53<br>(R/W)                  | Ground | ECM relay power supply                         | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                                                       | 0 V                                          | G   |
|                              |        |                                                |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                                                       | Battery voltage                              | H   |
| 54<br>(G/W)                  | Ground | Throttle control motor re-<br>lay power supply | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                                                       | 0 V                                          | I   |
|                              |        |                                                |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                                                       | Battery voltage                              | J   |
| 55<br>(W/L)                  | Ground | ECM power supply                               | Output           | Ignition switch OFF                                                                                                                                               |                                                       | Battery voltage                              | K   |
| 56<br>(R/Y)                  | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          | L   |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              |     |
| 57<br>(O)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          |     |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              |     |
| 58<br>(Y)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          |     |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              |     |
| 69<br>(W/B)                  | Ground | ECM relay control                              | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                                                       | Battery voltage                              | PCS |
|                              |        |                                                |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                                                       | 0 - 1.5 V                                    | N   |
| 70<br>(O)                    | Ground | Throttle control motor re-<br>lay control      | Output           | Ignition switch ON → OFF                                                                                                                                          |                                                       | 0 -1.0 V<br>↓<br>Battery voltage<br>↓<br>0 V | O   |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | 0 - 1.0 V                                    | P   |
| 72<br>(R/B)                  | Ground | Starter relay control                          | Input            | Ignition<br>switch ON                                                                                                                                             | Selector lever in any posi-<br>tion other than P or N | 0 V                                          |     |
|                              |        |                                                |                  |                                                                                                                                                                   | Selector lever P or N                                 | Battery voltage                              |     |
| 74<br>(Y)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                               |                                                       | 0 V                                          |     |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                                |                                                       | Battery voltage                              |     |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

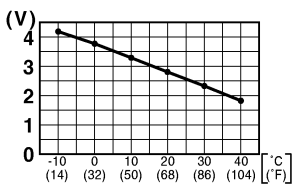
[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                     |                  | Condition                                                                                                                             |                                                                                                                                       | Value<br>(Approx.)                                                                                |
|------------------------------|--------|---------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                     | Input/<br>Output |                                                                                                                                       |                                                                                                                                       |                                                                                                   |
| 75<br>(P/L)                  | Ground | Oil pressure switch             | Input            | Ignition switch ON                                                                                                                    | Engine stopped                                                                                                                        | 0 V                                                                                               |
|                              |        |                                 |                  |                                                                                                                                       | Engine running                                                                                                                        | Battery voltage                                                                                   |
| 76<br>(SB)                   | Ground | Power generation command signal | Output           | Ignition switch ON                                                                                                                    |                                                                                                                                       |  <p>6.3 V</p>  |
|                              |        |                                 |                  | 40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"                                                                            |                                                                                                                                       |  <p>3.8 V</p>  |
|                              |        |                                 |                  | 80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"                                                                            |                                                                                                                                       |  <p>1.4 V</p> |
| 77<br>(GR)                   | Ground | Fuel pump relay control         | Output           | <ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul> |                                                                                                                                       | 0 - 1.5 V                                                                                         |
|                              |        |                                 |                  | Approximately 1 second or more after turning the ignition switch ON                                                                   |                                                                                                                                       | Battery voltage                                                                                   |
| 80<br>(B/W)                  | Ground | Starter motor                   | Output           | At engine cranking                                                                                                                    |                                                                                                                                       | Battery voltage                                                                                   |
| 83<br>(Y)                    | Ground | Headlamp LO (RH)                | Output           | Ignition switch ON                                                                                                                    | Lighting switch OFF                                                                                                                   | 0 V                                                                                               |
|                              |        |                                 |                  |                                                                                                                                       | Lighting switch 2ND                                                                                                                   | Battery voltage                                                                                   |
| 84<br>(SB)                   | Ground | Headlamp LO (LH)                | Output           | Ignition switch ON                                                                                                                    | Lighting switch OFF                                                                                                                   | 0 V                                                                                               |
|                              |        |                                 |                  |                                                                                                                                       | Lighting switch 2ND                                                                                                                   | Battery voltage                                                                                   |
| 86<br>(L)                    | Ground | Front fog lamp (RH)             | Output           | Lighting switch 2ND                                                                                                                   | <ul style="list-style-type: none"> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul> | Battery voltage                                                                                   |
|                              |        |                                 |                  |                                                                                                                                       | Front fog lamp switch OFF                                                                                                             | 0 V                                                                                               |
| 87<br>(R)                    | Ground | Front fog lamp (LH)             | Output           | Lighting switch 2ND                                                                                                                   | <ul style="list-style-type: none"> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul> | Battery voltage                                                                                   |
|                              |        |                                 |                  |                                                                                                                                       | Front fog lamp switch OFF                                                                                                             | 0 V                                                                                               |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                      |                                                                                                  | Value<br>(Approx.)                                                                                      |
|------------------------------|--------|------------------------------------------|------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                |                                                                                                  |                                                                                                         |
| 88<br>(P)                    | Ground | Washer pump power supply                 | Output           | Ignition switch ON                                                             |                                                                                                  | Battery voltage                                                                                         |
| 89<br>(W)                    | Ground | Headlamp HI (RH)                         | Output           | Ignition switch ON                                                             | • Lighting switch HI<br>• Lighting switch PASS                                                   | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 90<br>(O)                    | Ground | Headlamp HI (LH)                         | Output           | Ignition switch ON                                                             | • Lighting switch HI<br>• Lighting switch PASS                                                   | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 91<br>(O)                    | Ground | Parking lamp (RH)                        | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                              | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 92<br>(L)                    | Ground | Parking lamp (LH)                        | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                              | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 93<br>(BR)                   | Ground | Headlamp aiming motor (RH)               | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                              | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 94<br>(Y)                    | Ground | Headlamp aiming motor (LH)               | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                              | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                              | 0 V                                                                                                     |
| 99<br>(W)                    | Ground | Ambient sensor ground                    | Input            | Ignition switch ON                                                             |                                                                                                  | 0 V                                                                                                     |
| 100<br>(SB)                  | Ground | Ambient sensor                           | Output           | Ignition switch ON<br><b>NOTE:</b><br>Changes depending to ambient temperature |                                                                                                  |  <p>JSNIA0014GB</p> |
| 101<br>(GR)                  | Ground | Refrigerant pressure sensor ground       | Input            | Engine running                                                                 | • Warm-up condition<br>• Idle speed                                                              | 0 V                                                                                                     |
| 102<br>(R)                   | Ground | Refrigerant pressure sensor              | Input            | Engine running                                                                 | • Warm-up condition<br>• Both A/C switch and blower fan motor switch ON<br>(Compressor operates) | 1.0 - 4.0 V                                                                                             |
| 103<br>(P)                   | Ground | Refrigerant pressure sensor power supply | Output           | Ignition switch OFF                                                            |                                                                                                  | 0 V                                                                                                     |
|                              |        |                                          |                  | Ignition switch ON                                                             |                                                                                                  | 5.0 V                                                                                                   |
| 104<br>(LG)                  | Ground | Hood switch                              | Output           | Close the hood                                                                 |                                                                                                  | Battery voltage                                                                                         |
|                              |        |                                          |                  | Open the hood                                                                  |                                                                                                  | 0 V                                                                                                     |

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[IPDM E/R]

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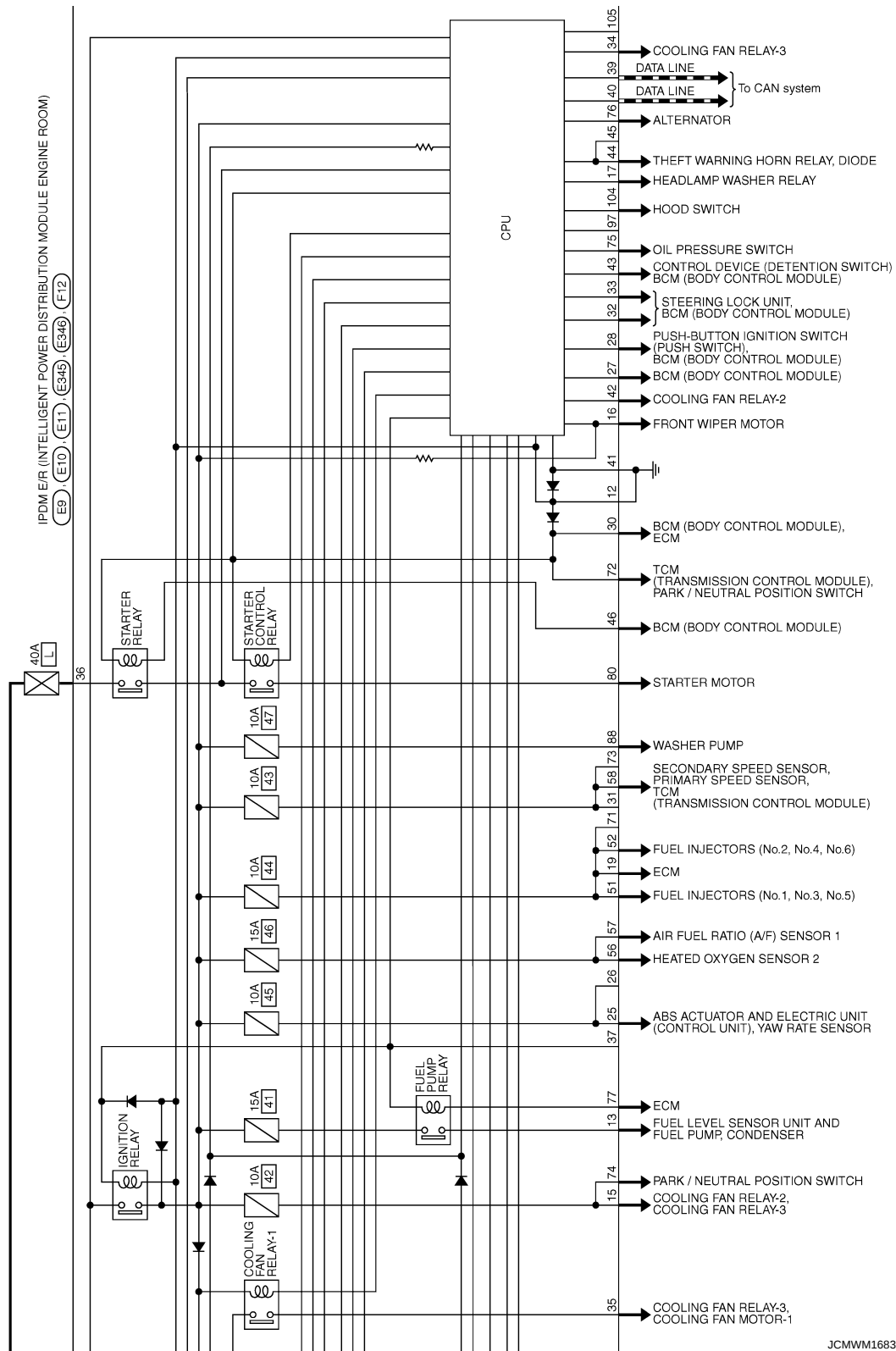


JCMWM1682G

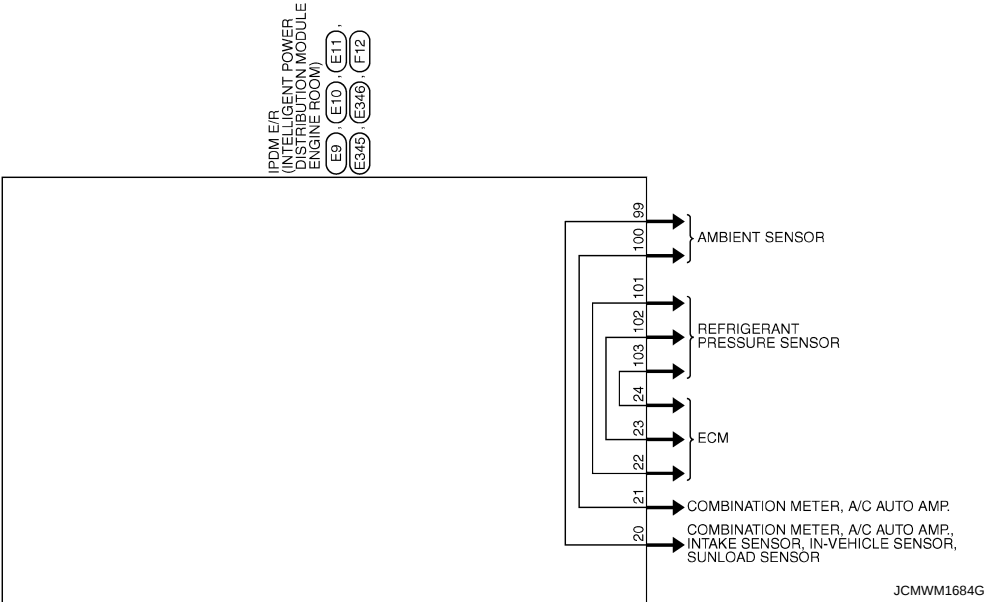
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]



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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

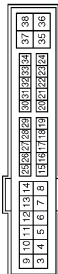
## IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E9                                                           |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | LOPE-MC                                                      |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | R             |                             |
| 2            | L             |                             |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E10                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH2DFW-CS12-M4-1V                                            |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 4            | LG            |                             |
| 5            | Y             |                             |
| 7            | GR            |                             |
| 10           | BR            |                             |
| 11           | P             |                             |
| 12           | B/W           |                             |
| 13           | SB            |                             |
| 15           | W             |                             |
| 16           | R             |                             |
| 17           | V             |                             |
| 19           | Y             |                             |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E345                                                         |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FW-CS                                                    |



# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Control part   | Fail-safe operation                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cooling fan    | <ul style="list-style-type: none"> <li>• Turns ON the cooling fan relay-2 and the cooling fan relay-3 when ignition switch is turned ON (Cooling fan operates at HI)</li> <li>• Turns OFF the cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 when the ignition switch is turned OFF (Cooling fan does not operate)</li> </ul> |
| A/C compressor | A/C relay OFF                                                                                                                                                                                                                                                                                                                                           |
| Alternator     | Outputs the power generation command signal (PWM signal) 0%                                                                                                                                                                                                                                                                                             |

If No CAN Communication Is Available With BCM

| Control part                                                                                                                                    | Fail-safe operation                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headlamp                                                                                                                                        | <ul style="list-style-type: none"> <li>• Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>• Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>• Headlamp high relay OFF</li> </ul>                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Illuminations</li> <li>• Tail lamps</li> </ul> | <ul style="list-style-type: none"> <li>• Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>• Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>                                                                                                                                                                                                                                 |
| Front wiper                                                                                                                                     | <ul style="list-style-type: none"> <li>• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>• The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul> |
| Front fog lamps                                                                                                                                 | Front fog lamp relay OFF                                                                                                                                                                                                                                                                                                                                                                                                               |
| Horn                                                                                                                                            | Horn OFF                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ignition relay                                                                                                                                  | The status just before activation of fail-safe is maintained.                                                                                                                                                                                                                                                                                                                                                                          |
| Starter motor                                                                                                                                   | Starter control relay OFF                                                                                                                                                                                                                                                                                                                                                                                                              |
| Steering lock unit                                                                                                                              | Steering lock relay OFF                                                                                                                                                                                                                                                                                                                                                                                                                |
| Headlamp washer relay                                                                                                                           | Headlamp washer relay OFF                                                                                                                                                                                                                                                                                                                                                                                                              |

## IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

| Voltage judgment            |                                     | IPDM E/R judgment         | Operation                                                                                                                                    |
|-----------------------------|-------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Ignition relay contact side | Ignition relay excitation coil side |                           |                                                                                                                                              |
| ON                          | ON                                  | Ignition relay ON normal  | —                                                                                                                                            |
| OFF                         | OFF                                 | Ignition relay OFF normal | —                                                                                                                                            |
| ON                          | OFF                                 | Ignition relay ON stuck   | <ul style="list-style-type: none"> <li>• Detects DTC "B2098: IGN RELAY ON"</li> <li>• Turns ON the tail lamp relay for 10 minutes</li> </ul> |
| OFF                         | ON                                  | Ignition relay OFF stuck  | Detects DTC "B2099: IGN RELAY OFF"                                                                                                           |

## FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[IPDM E/R]

| Ignition switch | Front wiper switch | Front wiper auto stop signal                                                     |
|-----------------|--------------------|----------------------------------------------------------------------------------|
| ON              | OFF                | The front wiper auto stop signal (stop position) cannot be input for 10 seconds. |
|                 | ON                 | The front wiper auto stop signal does not change for 10 seconds.                 |

## NOTE:

This operation status can be confirmed on the IPDM E/R “Data Monitor” that displays “BLOCK” for the item “WIP PROT” while the wiper is stopped.

## STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

## DTC Index

INFOID:000000003773282

## NOTE:

- The details of time display are as follows.
  - CRNT: A malfunction is detected now
  - PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
  - The number is 0 when is detected now
  - The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
  - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

×: Applicable

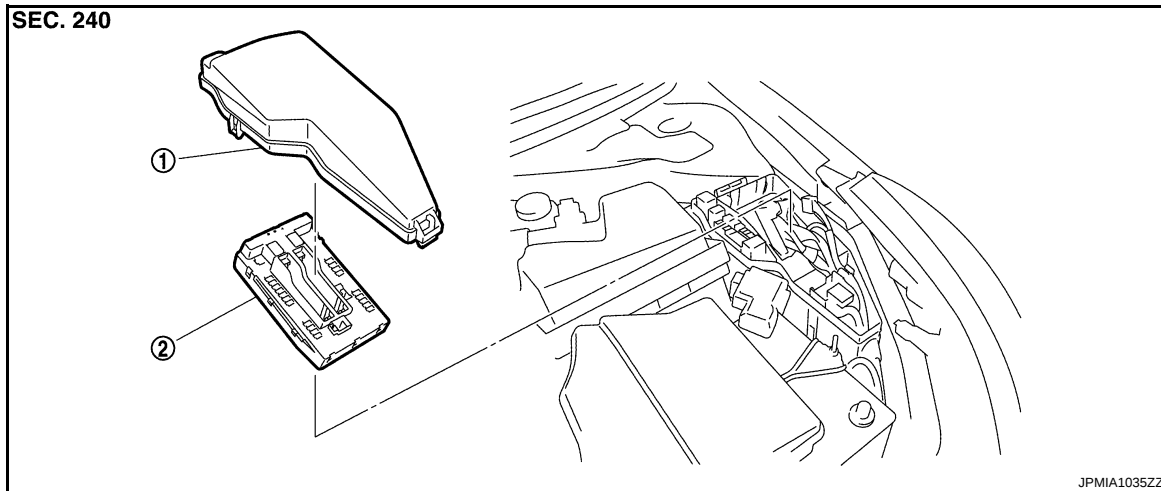
| CONSULT display                                            | Fail-safe | Refer to                |
|------------------------------------------------------------|-----------|-------------------------|
| No DTC is detected.<br>further testing<br>may be required. | —         | —                       |
| U1000: CAN COMM CIRCUIT                                    | ×         | <a href="#">PCS-16</a>  |
| B2098: IGN RELAY ON                                        | ×         | <a href="#">PCS-17</a>  |
| B2099: IGN RELAY OFF                                       | —         | <a href="#">PCS-18</a>  |
| B2108: STRG LCK RELAY ON                                   | —         | <a href="#">SEC-96</a>  |
| B2109: STRG LCK RELAY OFF                                  | —         | <a href="#">SEC-97</a>  |
| B210A: STRG LCK STATE SW                                   | —         | <a href="#">SEC-98</a>  |
| B210B: START CONT RLY ON                                   | —         | <a href="#">SEC-102</a> |
| B210C: START CONT RLY OFF                                  | —         | <a href="#">SEC-103</a> |
| B210D: STARTER RELAY ON                                    | —         | <a href="#">SEC-104</a> |
| B210E: STARTER RELAY OFF                                   | —         | <a href="#">SEC-105</a> |
| B210F: INTRLCK/PNP SW ON                                   | —         | <a href="#">SEC-107</a> |
| B2110: INTRLCK/PNP SW OFF                                  | —         | <a href="#">SEC-109</a> |

## ON-VEHICLE REPAIR

### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

#### Exploded View

INFOID:000000003773283



1. Relay box cover

2. IPDM E/R

#### Removal and Installation

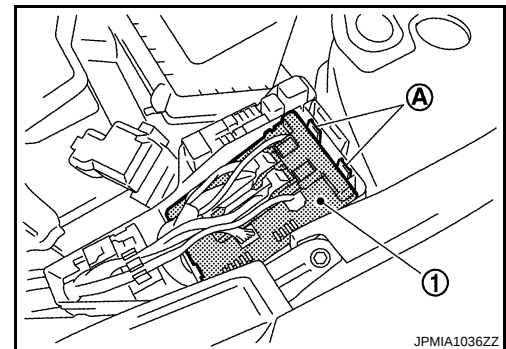
INFOID:000000003773284

#### CAUTION:

**IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.**

#### REMOVAL

1. Disconnect the battery cable from the negative terminal.
2. Remove the relay box cover.
3. Disconnect the harness connector from IPDM E/R (1).
4. Press the pawls (A) and remove the IPDM E/R from relay box.



#### INSTALLATION

Install in the reverse order of removal.

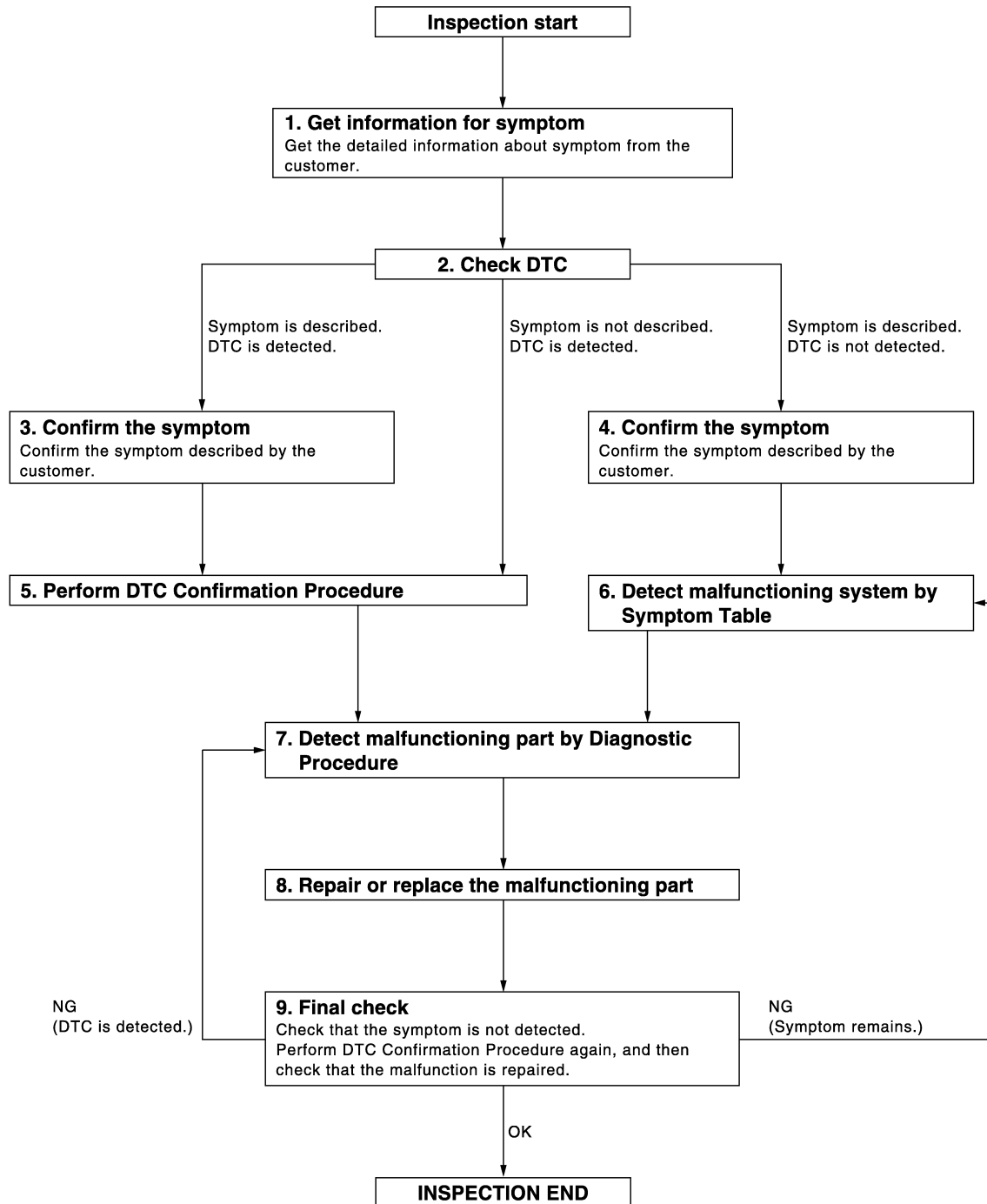
## BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORKFLOW

## Work Flow

INFOID:000000003805719

## OVERALL SEQUENCE

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

## DETAILED FLOW

JMMIA0021GB

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

## 1.GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

## 2.CHECK DTC

1. Check DTC for BCM and IPDM E/R.
2. Perform the following procedure if DTC is detected.
  - Record DTC and freeze frame data (Print them out with CONSULT-III.)
  - Erase DTC.
  - Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

Symptom is described, DTC is not detected>>GO TO 4.

Symptom is not described, DTC is detected>>GO TO 5.

## 3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR " mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the detected DTC, and then check that DTC is detected again.

At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.

If two or more DTCs are detected, refer to [PCS-104, "DTC Inspection Priority Chart"](#), and determine trouble diagnosis order.

### NOTE:

Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to [GI-35, "Intermittent Incident"](#).

## 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to [PCS-122, "Symptom Table"](#) based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7.

## 7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

### NOTE:

The Diagnostic Procedure described is based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check voltage of related BCM terminals using CONSULT-III.

### 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

### 9.FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction has been repaired securely.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.

YES (Symptom remains)>>GO TO 6.

NO >> **INSPECTION END**

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## FUNCTION DIAGNOSIS

### POWER DISTRIBUTION SYSTEM

#### System Description

INFOID:000000003805720

- PDS (POWER DISTRIBUTION SYSTEM) is the system that BCM controls with the operation of the push-button ignition switch and performs the power distribution to each power circuit. This system is used instead of the mechanical power supply changing mechanism with the operation of the conventional key cylinder.
- The push-button ignition switch can be operated when Intelligent Key is in the following condition. Refer to Engine Start Function for details.
  - Intelligent Key is in the detection area of the inside key antenna
  - Insert Intelligent Key into the key slot
  - Insert key fob into the key slot
- The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.
  - Ignition relay (built into IPDM E/R)
  - Ignition relay (inserted into fuse block)
  - ACC relay
  - Blower fan relay

#### NOTE:

- The engine switch operation changes due to the conditions of brake pedal, selector lever and vehicle speed.
- The power supply position can be confirmed with the illuminating of the indicators around the push-button ignition switch.

#### BATTERY SAVER SYSTEM

When all of the following conditions are met for 60 minutes, the battery saver system will cut off the power supply to prevent battery discharge.

- The ignition switch is in the ACC position
- All doors are closed
- Selector lever is in the P position

#### Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system will cut off the power supply when all doors are closed, the selector lever is in the P position and the ignition switch is left in the ACC position for 60 minutes. If any of the following conditions are met the battery saver system is released and the steering will change automatically to the LOCK position from the OFF position.

- Opening any door
- Operating with door key cylinder on door lock
- Operating with request switch on door lock
- Operating with Intelligent Key on door lock

Press push-button ignition switch and ignition switch will change to the ACC position from the OFF position.

#### STEERING LOCK OPERATION

Steering is locked by steering lock unit when ignition switch is in the OFF position, selector lever is in the P position and any of the following conditions are met.

- Opening door
- Closing door
- Door is locked with request switch
- Door is locked with Intelligent Key

#### PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE

The power supply position changing operation can be performed with the following operations.

#### Operation Enable Condition

- When an Intelligent Key is within the detection area of inside key antenna and when it is inserted into the key slot, the operation is as per the following.
- When starting the engine, the BCM monitors the following engine start conditions,
  - Brake pedal operating condition
  - Selector lever position
  - Vehicle speed
- Unless each start condition is fulfilled, the engine will not respond regardless of how many times the engine switch is pressed. At that time, illumination repeats the position in the order of LOCK→ACC→ON→OFF.

# POWER DISTRIBUTION SYSTEM

< FUNCTION DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Operation Condition

| Power supply position                                       | Engine start/stop condition |                                | Push-button ignition switch operation frequency                                                           |
|-------------------------------------------------------------|-----------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------|
|                                                             | Brake pedal                 | Selector lever position        |                                                                                                           |
| LOCK → ACC                                                  | Not depressed               | Any position                   | 1                                                                                                         |
| LOCK → ACC → ON                                             | Not depressed               | Any position                   | 2                                                                                                         |
| LOCK → ACC → ON → OFF                                       | Not depressed               | Any position                   | 3                                                                                                         |
| LOCK → START<br>ACC → START<br>ON → START<br>(Engine start) | Depressed                   | P or N position (*1)           | 1<br>[If the switch is pressed once, the engine starts from any power supply position (LOCK, ACC and ON)] |
| Engine is running → OFF<br>(Engine stop)                    | —                           | P position                     | 1                                                                                                         |
| Engine is running → ACC<br>(Engine stop)                    | —                           | Any position other than P (*2) | 1                                                                                                         |
| Engine stall return operation while driving                 | —                           | N position                     | 1                                                                                                         |

\*1: When the selector lever position is in the N position, the engine start condition is different according to the vehicle speed.

- At a vehicle speed of less than 4 km/h (2.5MPH), the engine can start only when the brake pedal is depressed.
- At a vehicle speed of 4 km/h (2.5MPH) or more, the engine can start even if the brake pedal is not depressed. (It is the same as "Engine stall return operation while driving".)

\*2: When the selector lever position is in any position other than the P position and when the vehicle speed is 5 km/h (3.1MPH) or more, the engine stop condition is different.

- Press and hold the push-button ignition switch for 2 seconds or more. (When the push-button ignition switch is pressed for too short a time, the operation may be invalid, so properly press and hold to prevent an incorrect operation.)
- Press the push-button ignition switch 3 times or more within 1.5 seconds. (Emergency stop operation)

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PCS

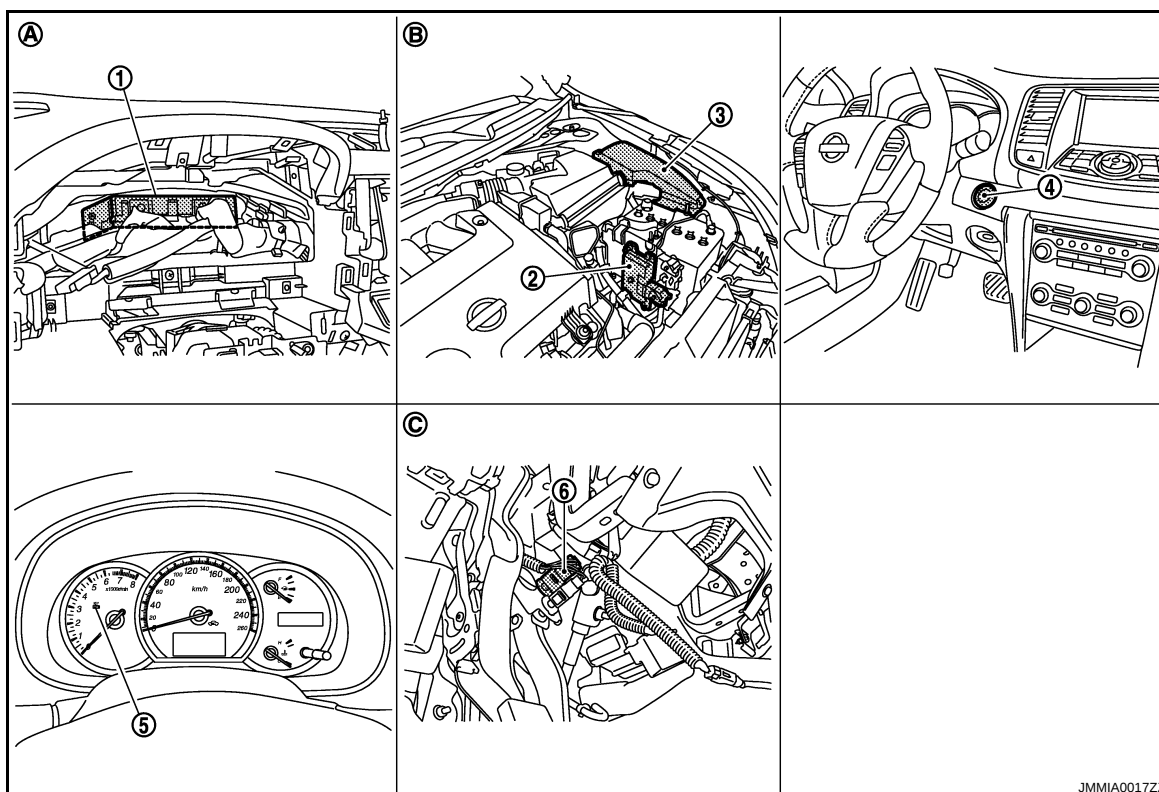
# POWER DISTRIBUTION SYSTEM

< FUNCTION DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## Component Parts Location

INFOID:000000003805721



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- |                                     |                                             |                                         |
|-------------------------------------|---------------------------------------------|-----------------------------------------|
| 1. BCM M118, M119, M121, M122, M123 | 2. TCM F23                                  | 3. IPDM E/R E10, E11, F12               |
| 4. Push button ignition switch M101 | 5. Combination meter (Key warning lamp) M34 | 6. Stop lamp switch E115                |
| A. Behind the combination meter     | B. Engine room dash panel (LH)              | C. Behind the instrument lower panel LH |

## Component Description

INFOID:000000003805722

| Component                                 | Reference              |
|-------------------------------------------|------------------------|
| IPDM E/R                                  | <a href="#">PCS-7</a>  |
| Ignition relay (built into IPDM E/R)      | <a href="#">PCS-18</a> |
| Ignition relay (inserted into fuse block) | <a href="#">PCS-49</a> |
| Accessory relay                           | <a href="#">PCS-53</a> |
| Blower relay                              | <a href="#">PCS-55</a> |
| Stop lamp switch                          | <a href="#">SEC-50</a> |
| Park/neutral position switch              | <a href="#">SEC-56</a> |
| Push-button ignition switch               | <a href="#">PCS-63</a> |

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000003839090

### APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

| Diagnosis mode           | Function Description                                                                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Support             | Changes the setting for each system function.                                                                                                           |
| Self Diagnostic Result   | Displays the diagnosis results judged by BCM.                                                                                                           |
| CAN Diag Support Monitor | Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.                                              |
| Data Monitor             | The BCM input/output signals are displayed.                                                                                                             |
| Active Test              | The signals used to activate each device are forcibly supplied from BCM.                                                                                |
| Ecu Identification       | The BCM part number is displayed.                                                                                                                       |
| Configuration            | <ul style="list-style-type: none"> <li>Read and save the vehicle specification.</li> <li>Write the vehicle specification when replacing BCM.</li> </ul> |

### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

×: Applicable item

| System                                                                                                | Sub system selection item    | Diagnosis mode |              |             |
|-------------------------------------------------------------------------------------------------------|------------------------------|----------------|--------------|-------------|
|                                                                                                       |                              | Work Support   | Data Monitor | Active Test |
| Door lock                                                                                             | DOOR LOCK                    | ×              | ×            | ×           |
| Rear window defogger                                                                                  | REAR DEFOGGER                |                | ×            | ×           |
| Warning chime                                                                                         | BUZZER                       |                | ×            | ×           |
| Interior room lamp timer                                                                              | INT LAMP                     | ×              | ×            | ×           |
| Exterior lamp                                                                                         | HEAD LAMP                    | ×              | ×            | ×           |
| Wiper and washer                                                                                      | WIPER                        | ×              | ×            | ×           |
| Turn signal and hazard warning lamps                                                                  | FLASHER                      | ×              | ×            | ×           |
| —                                                                                                     | AIR CONDITONER*              |                |              |             |
| <ul style="list-style-type: none"> <li>Intelligent Key system</li> <li>Engine start system</li> </ul> | INTELLIGENT KEY              | ×              | ×            | ×           |
| Combination switch                                                                                    | COMB SW                      |                | ×            |             |
| Body control system                                                                                   | BCM                          | ×              |              |             |
| NVIS - NATS                                                                                           | IMMU                         |                | ×            | ×           |
| Interior room lamp battery saver                                                                      | BATTERY SAVER                | ×              | ×            | ×           |
| Trunk lid opener system                                                                               | TRUNK                        |                | ×            | ×           |
| Vehicle security system                                                                               | THEFT ALM                    | ×              | ×            | ×           |
| —                                                                                                     | RETAINED PWR*                |                | ×            |             |
| Signal buffer system                                                                                  | SIGNAL BUFFER                |                | ×            | ×           |
| —                                                                                                     | TPMS (AIR PRESSURE MONITOR)* | ×              | ×            | ×           |

#### NOTE:

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

### FREEZE FRAME DATA (FFD) AND IGN COUNTER

Freeze Frame Data

## DIAGNOSIS SYSTEM (BCM)

### < FUNCTION DIAGNOSIS >

### [POWER DISTRIBUTION SYSTEM]

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

- Vehicle Speed
- Odo/Trip Meter
- Vehicle Condition (BCM detected condition)

| CONSULT screen terms | Description                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------------------|
| SLEEP>LOCK           | While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK".)             |
| SLEEP>OFF            | While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)              |
| LOCK>ACC             | While turning power supply position from "LOCK" to "ACC"                                                               |
| ACC>ON               | While turning power supply position from "ACC" to "IGN"                                                                |
| RUN>ACC              | While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.) |
| CRANK>RUN            | While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)                   |
| RUN>URGENT           | While turning power supply position from "RUN" to "ACC" (Emergency stop operation)                                     |
| ACC>OFF              | While turning power supply position from "ACC" to "OFF"                                                                |
| OFF>LOCK             | While turning power supply position from "OFF" to "LOCK"                                                               |
| OFF>ACC              | While turning power supply position from "OFF" to "ACC"                                                                |
| ON>CRANK             | While turning power supply position from "IGN" to "CRANKING"                                                           |
| OFF>SLEEP            | While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode              |
| LOCK>SLEEP           | While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode             |
| LOCK                 | Power supply position is "LOCK" (Ignition switch OFF with steering is locked.)                                         |
| OFF                  | Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)                                        |
| ACC                  | Power supply position is "ACC" (Ignition switch ACC)                                                                   |
| ON                   | Power supply position is "IGN" (Ignition switch ON with engine stopped)                                                |
| ENGINE RUN           | Power supply position is "RUN" (Ignition switch ON with engine running)                                                |
| CRANKING             | Power supply position is "CRANKING" (At engine cranking)                                                               |

#### IGN Counter

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

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

### INTELLIGENT KEY

#### INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)

INFOID:000000003839091

#### BCM CONSULT-III FUNCTION

CONSULT-III performs the following functions via CAN communication with BCM.

| Diagnosis mode    | Function Description                                                     |
|-------------------|--------------------------------------------------------------------------|
| WORK SUPPORT      | Changes the setting for each system function.                            |
| SELF-DIAG RESULTS | Displays the diagnosis results judged by BCM.                            |
| DATA MONITOR      | The BCM input/output signals are displayed.                              |
| ACTIVE TEST       | The signals used to activate each device are forcibly supplied from BCM. |

#### WORK SUPPORT

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Monitor item            | Description                                                                                                                                                                                                                                                                                                                |     |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| REMO CONT ID CONFIR     | It can be checked whether Intelligent Key ID code is registered or not in this mode.                                                                                                                                                                                                                                       | A   |
| AUTO LOCK SET           | Auto door lock time can be changed in this mode. <ul style="list-style-type: none"> <li>• MODE 1: 1 minute</li> <li>• MODE 2: 5 minutes</li> <li>• MODE 3: 30 seconds</li> <li>• MODE 4: 2 minutes</li> </ul>                                                                                                              | B   |
| LOCK/UNLOCK BY I-KEY    | Door lock/unlock function by door request switch (driver side and passenger side) mode can be changed to operate (WITH) or not operate (WITHOUT) in this mode.                                                                                                                                                             | C   |
| ENGINE START BY I-KEY   | Engine start function mode can be changed to operate (WITH) or not operate (WITHOUT) in this mode.                                                                                                                                                                                                                         | D   |
| TRUNK/GLASS HATCH OPEN  | Buzzer reminder function mode by trunk lid opener request switch can be changed to operate (WITH) or not operate (WITHOUT) in this mode.                                                                                                                                                                                   | E   |
| PANIC ALARM SET         | <b>NOTE:</b><br>This item is displayed, but cannot be used.                                                                                                                                                                                                                                                                | F   |
| PW DOWN SET             | <b>NOTE:</b><br>This item is displayed, but cannot be used.                                                                                                                                                                                                                                                                | F   |
| TRUNK OPEN DELAY        | Trunk button pressing on Intelligent Key button can be selected as per the following in this mode. <ul style="list-style-type: none"> <li>• MODE 1: Press and hold</li> <li>• MODE 2: Press twice</li> <li>• MODE 3: Press and hold, or press twice</li> </ul>                                                             | G   |
| LO-BATT OF KEY FOB WARN | Intelligent Key low battery warning mode can be changed to operate (WITH) or not operate (WITHOUT) in this mode.                                                                                                                                                                                                           | H   |
| ANTI KEY LOCK IN FUNCTI | Key reminder function mode can be changed to operate (WITH) or not operate (WITHOUT) in this mode.                                                                                                                                                                                                                         | I   |
| HAZARD ANSWER BACK      | Hazard reminder function mode can be selected from the following in this mode. <ul style="list-style-type: none"> <li>• LOCK ONLY: Door lock operation only</li> <li>• UNLOCK ONLY: Door unlock operation only</li> <li>• LOCK/UNLOCK: Lock/unlock operation</li> <li>• OFF: Non-operational</li> </ul>                    | J   |
| ANS BACK I-KEY LOCK     | Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following in this mode. <ul style="list-style-type: none"> <li>• Horn chirp: Sound horn</li> <li>• Buzzer: Sound Intelligent Key warning buzzer</li> <li>• OFF: Non-operational</li> </ul> | K   |
| ANS BACK I-KEY UNLOCK   | Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) in this mode.                                                                                                                                                                                  | L   |
| SHORT CRANKING OUTPUT   | Starter motor can operate during the times below. <ul style="list-style-type: none"> <li>• 70 msec</li> <li>• 100 msec</li> <li>• 200 msec</li> </ul>                                                                                                                                                                      | PCS |
| INSIDE ANT DIAGNOSIS    | This function allows inside key antenna self-diagnosis.                                                                                                                                                                                                                                                                    |     |
| HORN WITH KEYLESS LOCK  | Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) in this mode.                                                                                                                                                                                                    | N   |

## SELF-DIAG RESULT

Refer to [PCS-105, "DTC Index"](#).

## DATA MONITOR

| Monitor Item  | Condition                                                             |  |
|---------------|-----------------------------------------------------------------------|--|
| REQ SW -DR    | Indicates [ON/OFF] condition of door request switch (driver side).    |  |
| REQ SW -AS    | Indicates [ON/OFF] condition of door request switch (passenger side). |  |
| REQ SW -BD/TR | Indicates [ON/OFF] condition of trunk lid opener request switch.      |  |
| PUSH SW       | Indicates [ON/OFF] condition of push-button ignition switch.          |  |
| IGN RLY2 -F/B | Indicates [ON/OFF] condition of ignition relay 2.                     |  |

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

## [POWER DISTRIBUTION SYSTEM]

| Monitor Item   | Condition                                                                                                                                   |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| CLUCH SW       | <b>NOTE:</b><br>This item is displayed, but cannot be monitored.                                                                            |
| BRAKE SW 1     | Indicates [ON/OFF] condition of brake switch.                                                                                               |
| DETE/CANCL SW  | Indicates [ON/OFF] condition of the P position.                                                                                             |
| SFT PN/N SW    | Indicates [ON/OFF] condition of the P or N position.                                                                                        |
| S/L -LOCK      | Indicates [ON/OFF] condition of steering lock unit (LOCK).                                                                                  |
| S/L -UNLOCK    | Indicates [ON/OFF] condition of steering lock unit (UNLOCK).                                                                                |
| S/L RELAY -F/B | Indicates [ON/OFF] condition of steering lock relay.                                                                                        |
| UNLK SEN -DR   | Indicates [ON/OFF] condition of driver door UNLOCK status.                                                                                  |
| PUSH SW -IPDM  | Indicates [ON/OFF] condition of push-button ignition switch.                                                                                |
| IGN RLY1 -F/B  | Indicates [ON/OFF] condition of ignition relay 1.                                                                                           |
| DETE SW -IPDM  | Indicates [ON/OFF] condition of the P position.                                                                                             |
| SFT PN -IPDM   | Indicates [ON/OFF] condition of the P or N position.                                                                                        |
| SFT P -MET     | Indicates [ON/OFF] condition of the P position.                                                                                             |
| SFT N -MET     | Indicates [ON/OFF] condition of the N position.                                                                                             |
| ENGINE STATE   | Indicates [STOP/STALL/CRANK/RUN] condition of engine states.                                                                                |
| S/L LOCK-IPDM  | Indicates [ON/OFF] condition of steering lock unit (LOCK).                                                                                  |
| S/L UNLK-IPDM  | Indicates [ON/OFF] condition of steering lock unit (UNLOCK).                                                                                |
| S/L RELAY-REQ  | Indicates [ON/OFF] condition of steering lock relay.                                                                                        |
| VEH SPEED 1    | Displays the vehicle speed signal received from combination meter by numerical value [Km/h].                                                |
| VEH SPEED 2    | Displays the vehicle speed signal received from ABS, VDC or CVT by numerical value [Km/h].                                                  |
| DOOR STAT-DR   | Indicates [LOCK/READY/UNLK] condition of driver side door status.                                                                           |
| DOOR STAT-AS   | Indicates [LOCK/READY/UNLK] condition of passenger side door status.                                                                        |
| ID OK FLAG     | Indicates [SET/RESET] condition of key ID.                                                                                                  |
| PRMT ENG STRT  | Indicates [SET/RESET] condition of engine start possibility.                                                                                |
| PRMT RKE STRT  | <b>NOTE:</b><br>This item is displayed, but cannot be monitored.                                                                            |
| KEY SW -SLOT   | Indicates [ON/OFF] condition of key slot.                                                                                                   |
| TRNK/HAT MNTR  | Indicates [ON/OFF] condition of trunk lid.                                                                                                  |
| RKE-LOCK       | Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.                                                                           |
| RKE-UNLOCK     | Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.                                                                         |
| RKE-TR/BD      | Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.                                                                     |
| RKE-PANIC      | <b>NOTE:</b><br>This item is displayed, but cannot be monitored.                                                                            |
| RKE-P/W OPEN   | <b>NOTE:</b><br>This item is displayed, but cannot be monitored.                                                                            |
| RKE-MODE CHG   | Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key.                                                                    |
| RKE OPE COUN1  | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical values start changing. |
| RKE OPE COUN2  | <b>NOTE:</b><br>This item is displayed, but cannot be monitored.                                                                            |

## ACTIVE TEST

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

## [POWER DISTRIBUTION SYSTEM]

| Test item          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BATTERY SAVER      | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PW REMOTO DOWN SET | <b>NOTE:</b><br>This item is displayed, but cannot be used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OUTSIDE BUZZER     | This test is able to check Intelligent Key warning buzzer operation.<br>The Intelligent Key warning buzzer will be activated when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| INSIDE BUZZER      | This test is able to check warning chime in combination meter operation. <ul style="list-style-type: none"> <li>Take away warning chime sounds when "TAKE OUT" on CONSULT-III screen is touched.</li> <li>Key warning chime sounds when "KEY" on CONSULT-III screen is touched.</li> <li>P position warning chime sounds when "KNOB" on CONSULT-III screen is touched.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| INDICATOR          | This test is able to check warning lamp operation. <ul style="list-style-type: none"> <li>"KEY" Warning lamp illuminates when "RED ON" on CONSULT-III screen is touched.</li> <li>"KEY" Warning lamp blinks when "RED IND" on CONSULT-III screen is touched.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| INT LAMP           | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LCD                | This test is able to check meter display information <ul style="list-style-type: none"> <li>Engine start information displays when "BP N" on CONSULT-III screen is touched.</li> <li>Engine start information displays when "BP I" on CONSULT-III screen is touched.</li> <li>Key ID warning displays when "ID NG" on CONSULT-III screen is touched.</li> <li>Steering lock information displays when "ROTAT" on CONSULT-III screen is touched.</li> <li>P position warning displays when "SFT P" on CONSULT-III screen is touched.</li> <li>Intelligent Key insert information displays when "INSRT" on CONSULT-III screen is touched.</li> <li>Intelligent Key low battery warning displays when "BATT" on CONSULT-III screen is touched.</li> <li>Take away warning displays when "OUTKEY" on CONSULT-III screen is touched.</li> <li>OFF position warning displays when "LK WN" on CONSULT-III screen is touched.</li> </ul> |
| TRUNK/GLASS HATCH  | This test is able to check trunk lid opener actuator open operation.<br>This actuator opens when "OPEN" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FLASHER            | This test is able to check security hazard lamp operation.<br>The hazard lamps will be activated when "RH" or "LH" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HORN               | This test is able to check horn operation.<br>The horn will be activated when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| P RANGE            | This test is able to check control device power supply<br>Control device power is supplied when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ENGINE SW ILLUMI   | This test is able to check push-ignition switch illumination operation.<br>Push-ignition switch illumination illuminates when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LOCK INDICATOR     | This test is able to check LOCK indicator in push-ignition switch operation.<br>LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ACC INDICATOR      | This test is able to check ACC indicator in push-ignition switch operation.<br>ACC indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IGNITION ON IND    | This test is able to check ON indicator in push-ignition switch operation.<br>ON indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| KEY SLOT ILLUMI    | This test is able to check key slot illumination operation.<br>Key slot illumination illuminates when "ON" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TRUNK/BACK DOOR    | This test is able to check trunk lid opener actuator open operation.<br>This actuator opens when "OPEN" on CONSULT-III screen is touched.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### BCM

#### BCM : Description

INFOID:0000000003805725

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-22, "CAN Communication Signal Chart"](#).

#### BCM : DTC Logic

INFOID:0000000003805726

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                                                  | Possible cause           |
|-------|---------------------------------|------------------------------------------------------------------------------------------|--------------------------|
| U1000 | CAN COMM CIRCUIT                | When BCM cannot communicate CAN communication signal continuously for 2 seconds or more. | CAN communication system |

#### BCM : Diagnosis Procedure

INFOID:0000000003805727

#### 1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result".

Is "U1000: CAN COMM CIRCUIT" displayed?

YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-35, "Intermittent Incident"](#).

#### IPDM E/R

#### IPDM E/R : Description

INFOID:0000000003805728

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-22, "CAN Communication Signal Chart"](#).

#### IPDM E/R : DTC Logic

INFOID:0000000003805729

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                                                      | Possible cause           |
|-------|---------------------------------|----------------------------------------------------------------------------------------------|--------------------------|
| U1000 | CAN COMM CIRCUIT                | When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more | CAN communication system |

#### IPDM E/R : Diagnosis Procedure

INFOID:0000000003805730

#### 1.PERFORM SELF DIAGNOSTIC

## U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" of IPDM E/R.

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-35, "Intermittent Incident"](#).

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## U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### U1010 CONTROL UNIT (CAN)

#### BCM

#### BCM : DTC Logic

INFOID:0000000003805731

#### DTC DETECTION LOGIC

| DTC   | CONSULT-III display description | DTC Detection Condition                                      | Possible cause |
|-------|---------------------------------|--------------------------------------------------------------|----------------|
| U1010 | CONTROL UNIT (CAN)              | BCM detected internal CAN communication circuit malfunction. | BCM            |

#### BCM : Diagnosis Procedure

INFOID:0000000003805732

#### 1.REPLACE BCM

When DTC "U1010: CONTROL UNIT (CAN)" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-78. "Exploded View"](#).

#### BCM : Special Repair Requirement

INFOID:0000000003805733

#### 1.REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual NATS-IVIS/NVIS.

>> Work end.

# B2553 IGNITION RELAY

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2553 IGNITION RELAY

### Description

INFOID:000000003805734

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay (inserted into fuse box)
- Ignition relay (built into IPDM E/R)
- Blower relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

### DTC Logic

INFOID:000000003805735

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                                                                                                                                                    | Possible cause                                                                                                                                                                        |
|---------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B2553   | IGNITION RELAY         | BCM detects a difference of signal for 2 seconds or more between the following information. <ul style="list-style-type: none"><li>• Ignition relay (fuse block) ON/OFF operation</li><li>• Ignition relay (fuse block) feedback.</li></ul> | <ul style="list-style-type: none"><li>• Harness or connectors (ignition relay feedback circuit is open or short)</li><li>• Fuse</li><li>• Ignition relay</li><li>• IPDM E/R</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions (start the engine), and wait for at least 2 seconds.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Go to [PCS-49, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805736

#### 1.CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT-III. Refer to [PCS-120, "DTC Index"](#).

#### Is the inspection result normal?

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

#### 2.CHECK FUSE

Check that the following fuse is not fusing.

| Signal name           | Connection position | Fuse No. | Capacity |
|-----------------------|---------------------|----------|----------|
| Ignition power supply | FUSE BLOCK (J/B)    | 3        | 10A      |

#### Is the fuse fusing?

- YES >> Repair the applicable circuit. And then replace the fuse.  
NO >> GO TO 3.

#### 3.CHECK IGNITION RELAY FEEDBACK INPUT SIGNAL

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

## B2553 IGNITION RELAY

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| (+) BCM   |          | (-)    | Condition       |     | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|-----------------|-----|--------------------------|
| Connector | Terminal |        |                 |     |                          |
| M123      | 123      | Ground | Ignition switch | OFF | 0                        |
|           |          |        |                 | ON  | Battery voltage          |

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

### 4. CHECK IGNITION RELAY FEEDBACK CIRCUIT

1. Disconnect fuse block (J/B) connector.
2. Check continuity between BCM harness connector and fuse block (J/B) harness connector.

| BCM       |          | FUSE BLOCK (J/B) |          | Continuity |
|-----------|----------|------------------|----------|------------|
| Connector | Terminal | Connector        | Terminal |            |
| M123      | 123      | M1               | 2A       | Existed    |

3. Check continuity between BCM harness connector and ground.

| BCM       |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| M123      | 123      |        | Not existed |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 5. CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

# B260A IGNITION RELAY

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B260A IGNITION RELAY

### Description

INFOID:000000003805737

When the ignition switch is turned ON, the BCM activates the following relays to provide power supply to each ECU.

- Ignition relay (inserted into fuse block)
- Ignition relay (built into IPDM E/R)
- Blower fan motor relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

### DTC Logic

INFOID:000000003805738

#### DTC DETECTION LOGIC

##### NOTE:

- If DTC B260A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-46, "BCM : DTC Logic"](#).
- If DTC B260A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-48, "BCM : DTC Logic"](#).
- If DTC B260A is displayed with DTC B261A, first perform the trouble diagnosis for DTC B261A. Refer to [PCS-60, "DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                                                                                                                                                          | Possible cause                                                                                                                                    |
|---------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| B260A   | IGNITION RELAY         | BCM detects a difference of signal for 2 seconds or more between the following information. <ul style="list-style-type: none"><li>• Ignition relay (IPDM E/R) operation request</li><li>• Ignition relay feedback from IPDM E/R (CAN).</li></ul> | <ul style="list-style-type: none"><li>• Harness or connectors (Ignition relay operation circuit is open or shorted.)</li><li>• IPDM E/R</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
2. Check "Self diagnostic result" with CONSULT-III.

##### Is DTC detected?

- YES >> Go to [PCS-51, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805739

##### 1.CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT-III. Refer to [PCS-120, "DTC Index"](#).

##### Is DTC detected?

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

##### 2.CHECK IGNITION RELAY INPUT SIGNAL

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

| (+)       |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| BCM       |          |        |                          |
| Connector | Terminal |        |                          |
| M121      | 47       | Ground | Battery voltage          |

Is the inspection result normal?

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## B260A IGNITION RELAY

### < COMPONENT DIAGNOSIS >

### [POWER DISTRIBUTION SYSTEM]

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

### 3.CHECK IGNITION RELAY (IPDM E/R) CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and BCM harness connector.

| IPDM E/R  |          | BCM       |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| E10       | 27       | M121      | 47       | Existed    |

3. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R  |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| E10       | 27       |        | Not existed |

Is the inspection result normal?

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

### 4.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

# B2614 ACC RELAY

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2614 ACC RELAY

### Description

INFOID:000000003805740

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.  
BCM checks the power supply position internally.

### DTC Logic

INFOID:000000003805741

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                   | Possible cause                                                                                                                     |
|---------|------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| B2614   | ACC relay              | An immediate operation of ACC relay is requested by BCM, but there is no response for more than 1 second. | <ul style="list-style-type: none"><li>• Harness or connectors (ACC relay circuit is open or shorted)</li><li>• ACC relay</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to ACC under the following conditions, and wait for at least 1 second.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Go to [PCS-53, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805742

#### 1.CHECK ACCESSORY RELAY POWER SUPPLY

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

| (+)             | (-)    | Condition       |     | Voltage (V)<br>(Approx.) |
|-----------------|--------|-----------------|-----|--------------------------|
| Accessory relay |        |                 |     |                          |
| Terminal        |        |                 |     |                          |
| 1               | Ground | Ignition switch | OFF | 0                        |
|                 |        |                 | ACC | Battery voltage          |

#### Is the inspection result normal?

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

#### 2.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between accessory relay harness connector and BCM harness connector.

| Accessory relay | BCM       |          | Continuity |
|-----------------|-----------|----------|------------|
| Terminal        | Connector | Terminal |            |
| 1               | M122      | 95       | Existed    |

4. Check continuity between accessory relay harness connector and ground.

## B2614 ACC RELAY

### < COMPONENT DIAGNOSIS >

### [POWER DISTRIBUTION SYSTEM]

| Accessory relay | Ground | Continuity  |
|-----------------|--------|-------------|
| Terminal        |        |             |
| 1               |        | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-126, "Removal and Installation"](#).

NO >> Repair or replace harness.

### 3.CHECK ACCESSORY RELAY GROUND CIRCUIT

Check continuity between accessory relay harness connector and ground.

| Accessory relay | Ground | Continuity |
|-----------------|--------|------------|
| Terminal        |        |            |
| 2               |        | Existed    |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair accessory relay ground circuit.

### 4.CHECK ACCESSORY RELAY

Refer to [PCS-54, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace accessory relay.

### 5.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:000000003805743

### 1.CHECK ACCESSORY RELAY

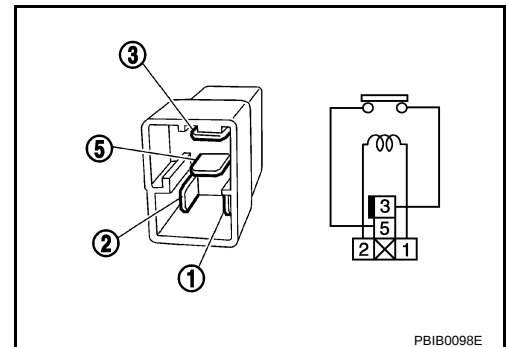
1. Turn ignition switch OFF.
2. Remove accessory relay.
3. Check the continuity between accessory relay terminals.

| Terminals | Condition                                            | Continuity  |
|-----------|------------------------------------------------------|-------------|
| 3 and 5   | 12 V direct current supply between terminals 1 and 2 | Existed     |
|           | No current supply                                    | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace accessory relay.



# B2615 BLOWER RELAY CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2615 BLOWER RELAY CIRCUIT

### Description

INFOID:000000003805744

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.  
BCM checks the power supply position internally.

### DTC Logic

INFOID:000000003805745

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                                                                                                                  | Possible cause                                                                                                                           |
|---------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| B2615   | Blower relay circuit   | BCM detects a difference of signal for 1 second or more between the following information. <ul style="list-style-type: none"><li>• Blower relay ON/OFF request</li><li>• Blower relay feedback</li></ul> | <ul style="list-style-type: none"><li>• Harness or connectors (Blower relay circuit is open or shorted)</li><li>• Blower relay</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 1 second.
  - Selector lever is in the P or N position
  - Do not depress brake pedal
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Go to [PCS-55, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805746

#### 1.CHECK BLOWER RELAY POWER SUPPLY

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

| (+)          | (-)    | Condition       |            | Voltage (V)<br>(Approx.) |
|--------------|--------|-----------------|------------|--------------------------|
| Blower relay |        |                 |            |                          |
| Terminal     |        |                 |            |                          |
| 1            | Ground | Ignition switch | OFF or ACC | 0                        |
|              |        |                 | ON         | Battery voltage          |

#### Is the inspection result normal?

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

#### 2.CHECK BLOWER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between blower relay harness connector and BCM harness connector.

| Blower relay | BCM       |          | Continuity |
|--------------|-----------|----------|------------|
| Terminal     | Connector | Terminal |            |
| 1            | M122      | 102      | Existed    |

4. Check continuity between blower relay harness connector and ground.

## B2615 BLOWER RELAY CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Blower relay | Ground | Continuity  |
|--------------|--------|-------------|
| Terminal     |        |             |
| 1            |        | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).

NO >> Repair or replace harness.

### 3.CHECK BLOWER RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between blower relay harness connector and ground.

| Blower relay | Ground | Continuity |
|--------------|--------|------------|
| Terminal     |        |            |
| 2            |        | Existed    |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair blower relay ground circuit.

### 4.CHECK BLOWER RELAY

Refer to [PCS-56, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace blower relay.

### 5.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:000000003805747

### 1.CHECK BLOWER RELAY

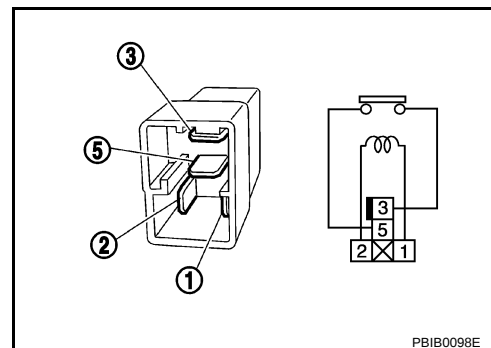
1. Turn ignition switch OFF.
2. Remove blower relay.
3. Check the continuity between blower relay terminals.

| Terminals | Condition                                            | Continuity  |
|-----------|------------------------------------------------------|-------------|
| 3 and 5   | 12 V direct current supply between terminals 1 and 2 | Existed     |
|           | No current supply                                    | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace blower relay



# B2616 IGNITION RELAY CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2616 IGNITION RELAY CIRCUIT

### Description

INFOID:000000003805748

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.  
BCM checks the power supply position internally.

### DTC Logic

INFOID:000000003805749

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                                    | Possible cause                                                                                                                                            |
|---------|------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| B2616   | Ignition relay circuit | An immediate operation of ignition relay (fuse block) is requested by BCM, but there is no response for more than 1 second | <ul style="list-style-type: none"><li>• Harness or connectors (Ignition relay circuit is open or shorted)</li><li>• Ignition relay (Fuse block)</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 1 second.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Go to [PCS-57, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805750

#### 1.CHECK IGNITION RELAY POWER SUPPLY

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

| (+)            | (-)    | Condition       |            | Voltage (V)<br>(Approx.) |
|----------------|--------|-----------------|------------|--------------------------|
| Ignition relay |        |                 |            |                          |
| Terminal       |        |                 |            |                          |
| 1              | Ground | Ignition switch | OFF or ACC | 0                        |
|                |        |                 | ON         | Battery voltage          |

#### Is the inspection result normal?

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

#### 2.CHECK IGNITION RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between ignition relay harness connector and BCM harness connector.

| Ignition relay | BCM       |          | Continuity |
|----------------|-----------|----------|------------|
| Terminal       | Connector | Terminal |            |
| 1              | M122      | 82       | Existed    |

4. Check continuity between ignition relay harness connector and ground.

## B2616 IGNITION RELAY CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Ignition relay | Ground | Continuity  |
|----------------|--------|-------------|
| Terminal       |        |             |
| 1              |        | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).

NO >> Repair or replace harness.

### 3.CHECK IGNITION RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ignition relay harness connector and ground.

| Ignition relay | Ground | Continuity |
|----------------|--------|------------|
| Terminal       |        |            |
| 2              |        | Existed    |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair ignition relay ground circuit.

### 4.CHECK IGNITION RELAY

Refer to [PCS-58, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace ignition relay.

### 5.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:000000003805751

### 1.CHECK IGNITION RELAY

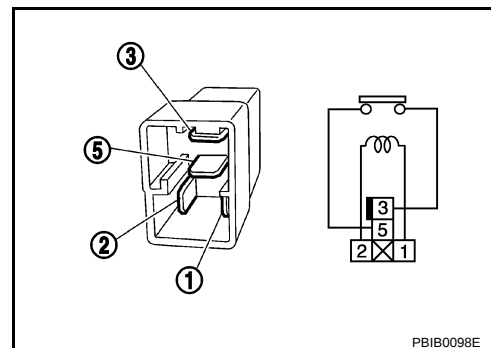
1. Turn ignition switch OFF.
2. Remove ignition relay.
3. Check the continuity between ignition relay terminals.

| Terminals | Condition                                            | Continuity  |
|-----------|------------------------------------------------------|-------------|
| 3 and 5   | 12 V direct current supply between terminals 1 and 2 | Existed     |
|           | No current supply                                    | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace Ignition relay



## B2618 BCM

## Description

INFOID:000000003805752

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.

BCM checks the power supply position internally.

## DTC Logic

INFOID:000000003805753

## DTC DETECTION LOGIC

**NOTE:**

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-46, "BCM : DTC Logic"](#).
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-48, "BCM : DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition                                                                                                  | Possible cause |
|---------|------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------|
| B2618   | BCM                    | An immediate operation of ignition relay (IPDM E/R) is requested by BCM, but there is no response for more than 1 second | BCM            |

## DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 1 second.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-59, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

## Diagnosis Procedure

INFOID:000000003805754

**1.**INSPECTION START

1. Turn ignition switch ON.
2. Select "Self diagnostic result" mode with CONSULT-III.
3. Touch "ERASE".
4. **Perform DTC Confirmation Procedure.**  
See [PCS-59, "DTC Logic"](#).

Is the 1st trip DTC B2618 displayed again?

- YES >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#)
- NO >> INSPECTION END

# B261A PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B261A PUSH-BUTTON IGNITION SWITCH

### Description

INFOID:000000003805755

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication line. IPDM E/R transmits the power supply position status via CAN communication line to BCM.

### DTC Logic

INFOID:000000003805756

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name      | DTC detecting condition                                                                                                                                                                                                                           | Possible cause                                                                                                                  |
|---------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| B261A   | PUSH-BUTTON IGNITION SWITCH | BCM detects a difference of signal for 1 second or more between the following information. <ul style="list-style-type: none"><li>Power supply position by push-button ignition switch</li><li>Power supply position from IPDM E/R (CAN)</li></ul> | <ul style="list-style-type: none"><li>Harness or connectors (Push-button ignition switch circuit is open or shorted.)</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

- Press the push-button ignition switch under the following conditions, and wait for at least 1 second.
  - Selector lever is in the P or N position.
  - Do not depress brake pedal.
- Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

YES >> Go to [PCS-60, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000003805757

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns ON.

#### Does ignition switch turn ON?

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

#### 2.CHECK IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

- Disconnect push-button ignition switch connector and BCM connector.
- Check voltage between IPDM E/R harness connector and ground.

| (+)       |          | (−)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| IPDM E/R  |          |        |                          |
| Connector | Terminal |        |                          |
| E10       | 28       | Ground | Battery voltage          |

#### Is the inspection result normal?

YES >> GO TO 3.  
NO >> Replace IPDM E/R. Refer to [PCS-34, "Removal and Installation"](#).

#### 3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (IPDM E/R)

- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and push-button ignition switch harness connector.

## B261A PUSH-BUTTON IGNITION SWITCH

### < COMPONENT DIAGNOSIS >

### [POWER DISTRIBUTION SYSTEM]

| IPDM E/R  |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| E10       | 28       | M101                        | 4        | Existed    |

3. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R  |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| E10       | 28       |        | Not existed |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 4.CHECK IGNITION SWITCH OUTPUT SIGNAL (BCM)

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

| (+)       |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| BCM       |          |        |                          |
| Connector | Terminal |        |                          |
| M122      | 89       | Ground | Battery voltage          |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).

### 5.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Disconnect BCM connector and IPDM E/R connector.
2. Check continuity between BCM harness connector and push-button ignition switch harness connector.

| BCM       |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| M122      | 89       | M101                        | 4        | Existed    |

3. Check continuity between BCM harness connector and ground.

| BCM       |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| M122      | 89       |        | Not existed |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 6.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## POWER SUPPLY AND GROUND CIRCUIT

### BCM

#### BCM : Diagnosis Procedure

INFOID:000000003805758

#### 1.CHECK FUSE AND FUSIBLE LINK

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

| Signal name          | Fuse and fusible link No. |
|----------------------|---------------------------|
| Battery power supply | I                         |
|                      | 10                        |

Is the fuse fusing?

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

NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT

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

| (+) BCM   |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| Connector | Terminal |        |                          |
| M118      | 1        | Ground | Battery voltage          |
| M119      | 11       |        |                          |
| M123      | 116      |        |                          |

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

#### 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M119      | 13       | Ground | Existed    |
|           |          |        |            |

Does continuity exist?

YES >> INSPECTION END

NO >> Repair or replace harness.

# PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH

### Description

INFOID:000000003805759

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication line. IPDM E/R transmits the power supply position status via CAN communication line to BCM.

### Component Function Check

INFOID:000000003805760

#### 1.CHECK FUNCTION

1. Select "PUSH SW" in "Data Monitor" mode with CONSULT-III.
2. Check the push-button ignition switch signal under the following condition.

| Test item | Condition                                  | Status |
|-----------|--------------------------------------------|--------|
| PUSH SW   | Push-button ignition switch is pressed     | ON     |
|           | Push-button ignition switch is not pressed | OFF    |

Is the indication normal?

- YES >> INSPECTION END  
NO >> Go to [PCS-63, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003805761

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns ON.

Does ignition switch turn ON?

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

#### 2.CHECK IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

1. Turn ignition switch ON.
2. Disconnect push-button ignition switch connector and BCM connector.
3. Check voltage between IPDM E/R harness connector and ground.

| (+)       |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| IPDM E/R  |          |        |                          |
| Connector | Terminal |        |                          |
| E10       | 28       | Ground | Battery voltage          |

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Replace IPDM E/R. Refer to [PCS-34, "Removal and Installation"](#).

#### 3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (IPDM E/R)

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and push-button ignition switch harness connector.

| IPDM E/R  |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| E10       | 28       | M101                        | 4        | Existed    |

3. Check continuity between IPDM E/R harness connector and ground.

# PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| IPDM E/R  |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| E10       | 28       |        | Not existed |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 4.CHECK IGNITION SWITCH OUTPUT SIGNAL (BCM)

1. Disconnect push-button ignition switch connector and IPDM E/R connector.
2. Check voltage between BCM harness connector and ground.

| (+)       |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------|----------|--------|--------------------------|
| BCM       |          |        |                          |
| Connector | Terminal |        |                          |
| M122      | 89       | Ground | Battery voltage          |

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace BCM. Refer to [BCS-78. "Removal and Installation"](#).

## 5.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and push-button ignition switch harness connector.

| BCM       |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| M122      | 89       | M101                        | 4        | Existed    |

3. Check continuity between BCM harness connector and ground.

| BCM       |          | Ground | Continuity  |
|-----------|----------|--------|-------------|
| Connector | Terminal |        |             |
| M122      | 89       |        | Not existed |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6.CHECK INTERMITTENT INCIDENT

Refer to [GI-35. "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:0000000003805762

## 1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

| Push-button ignition switch |   | Condition                   |             | Continuity  |
|-----------------------------|---|-----------------------------|-------------|-------------|
| Terminal                    |   |                             |             |             |
| 1                           | 4 | Push-button ignition switch | Pressed     | Existed     |
|                             |   |                             | Not pressed | Not existed |

Is the inspection result normal?

## PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to [PCS-127, "Removal and Installation"](#).

A

B

C

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O

P

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

### Description

INFOID:000000003805763

The switch that changes the power supply position.

BCM maintains the power supply position status.

BCM changes the power supply position with the operation of the push-button ignition switch.

### Component Function Check

INFOID:000000003805764

#### 1.CHECK FUNCTION

Check push-button ignition switch ("LOCK INDICATOR", "ACC INDICATOR" and "IGNITION ON IND") in Active Test Mode with CONSULT-III.

| Test item                                          |     | Description        |                     |
|----------------------------------------------------|-----|--------------------|---------------------|
| LOCK INDICATOR<br>ACC INDICATOR<br>IGNITION ON IND | ON  | Position indicator | Illuminates         |
|                                                    | OFF |                    | Does not illuminate |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [PCS-66, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003805765

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check voltage between push-button ignition switch harness connector and ground.

| (+)                         |          | (-)    | Voltage (V)<br>(Approx.) |
|-----------------------------|----------|--------|--------------------------|
| Push-button ignition switch |          |        |                          |
| Connector                   | Terminal |        |                          |
| M101                        | 8        | Ground | Battery voltage          |

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check the following.

- 10A fuse [No.9, located in fuse block (J/B)]
- Harness for open or short between push-button ignition switch and fuse

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and push-button ignition switch harness connector.

| Indicator | BCM       |          | Push-button ignition switch |          | Continuity |
|-----------|-----------|----------|-----------------------------|----------|------------|
|           | Connector | Terminal | Connector                   | Terminal |            |
| LOCK      | M123      | 134      | M101                        | 5        | Existed    |
| ACC       | M119      | 15       |                             | 6        |            |
| ON        | M122      | 93       |                             | 7        |            |

3. Check continuity between BCM harness connector and ground.

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Indicator | BCM       |          | Ground | Continuity  |
|-----------|-----------|----------|--------|-------------|
|           | Connector | Terminal |        |             |
| LOCK      | M123      | 134      |        | Not existed |
| ACC       | M119      | 15       |        |             |
| ON        | M122      | 93       |        |             |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [PCS-67, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace push-button ignition switch. Refer to [PCS-127, "Removal and Installation"](#).

## 4.CHECK INTERMITTENT INCIDENT

Refer to [GI-35, "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:0000000003805766

## 1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

| Terminal                    |     | Continuity  |
|-----------------------------|-----|-------------|
| Push-button ignition switch |     |             |
| (+)                         | (-) |             |
| 5                           | 8   | Not existed |
| 8                           | 5   | Existed     |
| 6                           | 8   | Not existed |
| 8                           | 6   | Existed     |
| 7                           | 8   | Not existed |
| 8                           | 7   | Existed     |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to [PCS-127, "Removal and Installation"](#).

**[POWER DISTRIBUTION SYSTEM]**

INFOID:0000000003845532

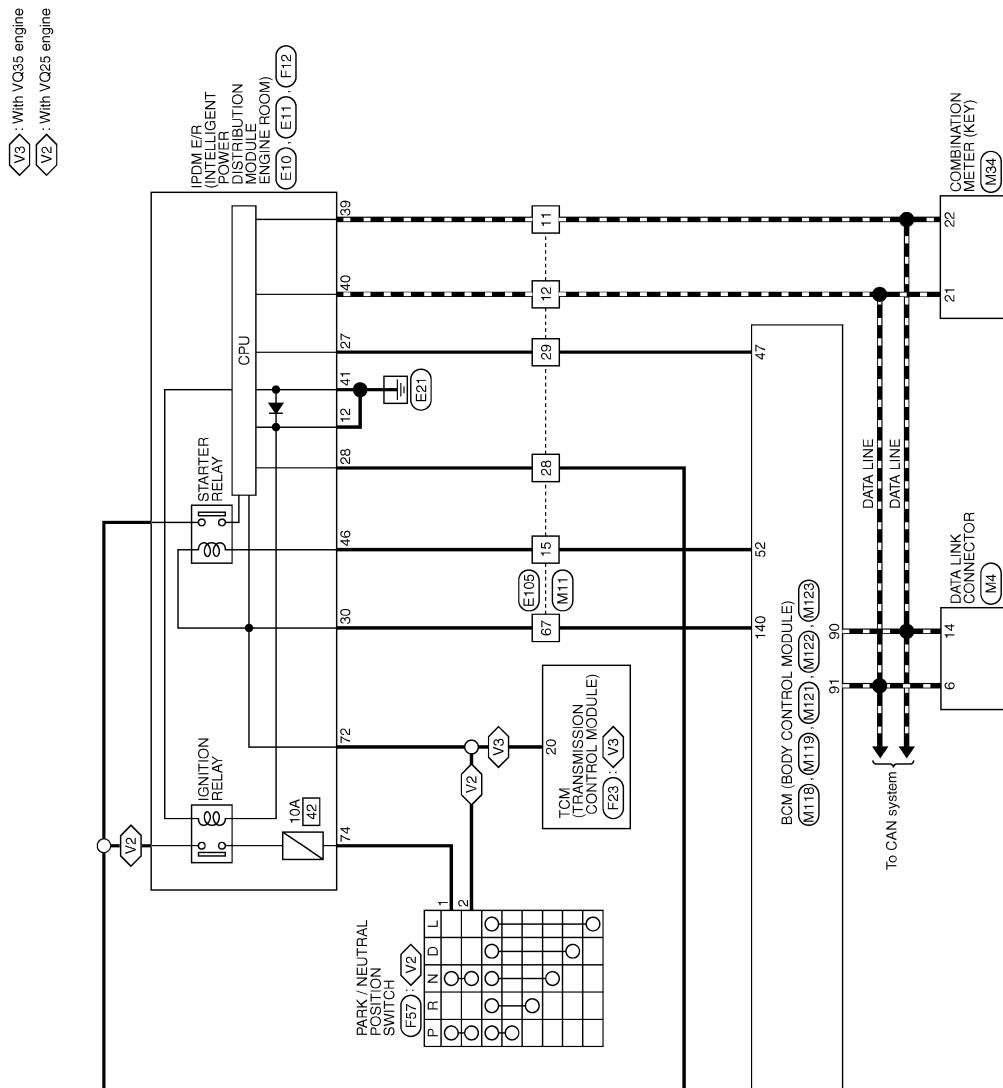


JCMWM1686G|

# POWER DISTRIBUTION SYSTEM

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]



JCMWWM1687G1

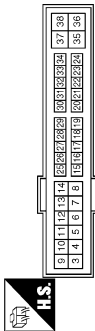
# POWER DISTRIBUTION SYSTEM

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PDS (POWER DISTRIBUTION SYSTEM)

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E10                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4-1V                                            |



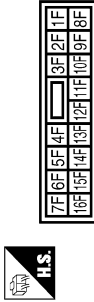
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 12           | B/W           | -                           |
| 27           | W             | -                           |
| 28           | SB            | -                           |
| 30           | BR            | -                           |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E11                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH40FW-HH                                                    |



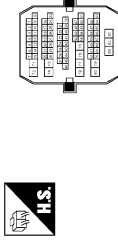
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 39           | P             | -                           |
| 40           | L             | -                           |
| 41           | B             | -                           |
| 46           | BR            | -                           |

|                |                  |
|----------------|------------------|
| Connector No.  | E103             |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | HS16FW-CS        |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 6F           | Y             | -                           |
| 8F           | R             | -                           |

|                |                |
|----------------|----------------|
| Connector No.  | E105           |
| Connector Name | WIRE TO WIRE   |
| Connector Type | TH70MM-CS10-M3 |



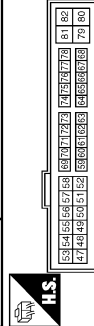
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 11           | P             | -                           |
| 12           | L             | -                           |
| 15           | BR            | -                           |
| 20           | Y             | -                           |
| 28           | SB            | -                           |
| 29           | W             | -                           |
| 67           | BR            | -                           |
| 82           | LG            | -                           |

|                |                  |
|----------------|------------------|
| Connector No.  | E15              |
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC         |



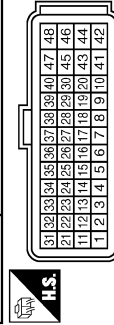
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | R             | -                           |
| 2            | LG            | -                           |
| 3            | G             | -                           |
| 4            | Y             | -                           |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | F12                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4                                               |



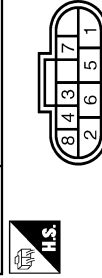
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 72           | R/B           | -                           |
| 74           | Y             | -                           |

|                |                                   |
|----------------|-----------------------------------|
| Connector No.  | F23                               |
| Connector Name | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Type | RH40FB-RZ8-L-RH                   |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 20           | R/B           | STARTER RELAY               |

|                |                                |
|----------------|--------------------------------|
| Connector No.  | F57                            |
| Connector Name | PARK / NEUTRAL POSITION SWITCH |
| Connector Type | YDX08FB-HS4                    |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | Y             | -                           |
| 2            | R/B           | -                           |

JCMWM1688G

# POWER DISTRIBUTION SYSTEM

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PDS (POWER DISTRIBUTION SYSTEM)

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



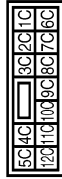
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2A           | G/O           | -                           |
| 3A           | W/L           | -                           |
| 4A           | G/Y           | -                           |
| 5A           | V/O           | -                           |
| 7A           | Y/R           | -                           |
| 8A           | W/L           | -                           |

|                |                  |
|----------------|------------------|
| Connector No.  | M2               |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS10FW-CS        |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 5B           | L             | -                           |
| 9B           | R/W           | -                           |

|                |                  |
|----------------|------------------|
| Connector No.  | M3               |
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS12FW-CS        |



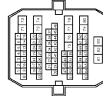
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 8C           | R/B           | -                           |
| 7C           | B/P           | -                           |

|                |                     |
|----------------|---------------------|
| Connector No.  | M4                  |
| Connector Name | DATA LINK CONNECTOR |
| Connector Type | BD16FW              |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 6            | L             | -                           |
| 14           | P             | -                           |

|                |                |
|----------------|----------------|
| Connector No.  | M11            |
| Connector Name | WIRE TO WIRE   |
| Connector Type | TH70FW-CS10-M3 |



|                |                   |
|----------------|-------------------|
| Connector No.  | M34               |
| Connector Name | COMBINATION METER |
| Connector Type | TH40FW-NH         |



|                |                             |
|----------------|-----------------------------|
| Connector No.  | M101                        |
| Connector Name | PUSH-BUTTON IGNITION SWITCH |
| Connector Type | TK08FBR                     |



|                |                           |
|----------------|---------------------------|
| Connector No.  | M118                      |
| Connector Name | ECM (BODY CONTROL MODULE) |
| Connector Type | MD03FB-LC                 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 11           | P             | -                           |
| 12           | L             | -                           |
| 15           | R             | -                           |
| 20           | Y             | -                           |
| 28           | BR            | -                           |
| 29           | BR/W          | -                           |
| 67           | R/G           | -                           |
| 82           | W/B           | -                           |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 21           | L             | CAN-H                       |
| 22           | P             | CAN-L                       |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | B             | -                           |
| 4            | BR            | -                           |
| 5            | R             | -                           |
| 6            | Y             | -                           |
| 7            | LG            | -                           |
| 8            | G/Y           | -                           |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | W/B           | BAT (F/L)                   |

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

# POWER DISTRIBUTION SYSTEM

< COMPONENT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PDS (POWER DISTRIBUTION SYSTEM)

|                |                           |
|----------------|---------------------------|
| Connector No.  | M119                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | MS16FW-CS                 |



|    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|
| 4  | 5  | 6  | 7  | 8  | 9  | 10 |    |    |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 11           | Y/R           | BAT (FUSE)                  |
| 13           | B             | GND                         |
| 15           | Y             | ACC IND                     |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M121                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FG-NH                 |



|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 47           | BR/W          | IGN RELAY /PDM E/R CONT     |
| 52           | R             | IGN RELAY /PDM E/R CONT     |

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



|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 82           | R/B           | IGN RELAY (F/B) CONT        |
| 89           | BR            | PUSH SW                     |
| 90           | P             | CAN-L                       |
| 91           | L             | CAN-H                       |
| 93           | Y             | ON IND                      |
| 95           | L             | ACC RELAY CONT              |
| 102          | Y             | BLOWER FAN MOTOR RELAY CONT |

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



|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 116          | R/W           | STOP L LOW SW               |
| 118          | O/L           | STOP L HIGH SW              |
| 122          | V/R           | ACC F/B                     |
| 123          | G/W           | IGN F/B                     |
| 134          | R             | LOCK LED                    |
| 140          | R/G           | SHIFT N/P                   |

JCMWMM1690G

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## ECU DIAGNOSIS

### BCM (BODY CONTROL MODULE)

#### Reference Value

INFOID:000000003880874

#### VALUES ON THE DIAGNOSIS TOOL

##### CONSULT-III MONITOR ITEM

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

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Monitor Item                                                                                                 | Condition                                                            | Value/Status |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------|
| DOOR SW-RL                                                                                                   | Rear LH door closed                                                  | Off          |
|                                                                                                              | Rear LH door opened                                                  | On           |
| DOOR SW-BK                                                                                                   | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| CDL LOCK SW                                                                                                  | Other than power door lock switch LOCK                               | Off          |
|                                                                                                              | Power door lock switch LOCK                                          | On           |
| CDL UNLOCK SW                                                                                                | Other than power door lock switch UNLOCK                             | Off          |
|                                                                                                              | Power door lock switch UNLOCK                                        | On           |
| KEY CYL LK-SW                                                                                                | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| KEY CYL UN-SW                                                                                                | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| KEY CYL SW-TR                                                                                                | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| HAZARD SW                                                                                                    | Hazard switch is OFF                                                 | Off          |
|                                                                                                              | Hazard switch is ON                                                  | On           |
| REAR DEF SW<br><b>NOTE:</b><br>At model with BOSE audio system this item is indicated, but is not monitored. | Rear window defogger switch is OFF                                   | Off          |
|                                                                                                              | Rear window defogger switch is ON                                    | On           |
| TR CANCEL SW                                                                                                 | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| TR/BD OPEN SW                                                                                                | Trunk lid opener switch OFF                                          | Off          |
|                                                                                                              | While the trunk lid opener switch is turned ON                       | On           |
| TRNK/HAT MNTR                                                                                                | Trunk lid closed                                                     | Off          |
|                                                                                                              | Trunk lid opened                                                     | On           |
| RKE-LOCK                                                                                                     | LOCK button of the key is not pressed                                | Off          |
|                                                                                                              | LOCK button of the key is pressed                                    | On           |
| RKE-UNLOCK                                                                                                   | UNLOCK button of the key is not pressed                              | Off          |
|                                                                                                              | UNLOCK button of the key is pressed                                  | On           |
| RKE-TR/BD                                                                                                    | TRUNK OPEN button of the key is not pressed                          | Off          |
|                                                                                                              | TRUNK OPEN button of the key is pressed                              | On           |
| RKE-PANIC                                                                                                    | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| RKE-P/W OPEN                                                                                                 | <b>NOTE:</b><br>The item is indicated, but not monitored.            | Off          |
| RKE-MODE CHG                                                                                                 | LOCK/UNLOCK button of the key is not pressed and held simultaneously | Off          |
|                                                                                                              | LOCK/UNLOCK button of the key is pressed and held simultaneously     | On           |
| OPTICAL SENSOR                                                                                               | Bright outside of the vehicle                                        | Close to 5 V |
|                                                                                                              | Dark outside of the vehicle                                          | Close to 0 V |
| REQ SW -DR                                                                                                   | Driver door request switch is not pressed                            | Off          |
|                                                                                                              | Driver door request switch is pressed                                | On           |
| REQ SW -AS                                                                                                   | Passenger door request switch is not pressed                         | Off          |
|                                                                                                              | Passenger door request switch is pressed                             | On           |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Monitor Item  | Condition                                                 | Value/Status |     |
|---------------|-----------------------------------------------------------|--------------|-----|
| REQ SW -RR    | <b>NOTE:</b><br>The item is indicated, but not monitored. | Off          | A   |
| REQ SW -RR    | <b>NOTE:</b><br>The item is indicated, but not monitored. | Off          | B   |
| REQ SW -BD/TR | Trunk lid opener request switch is not pressed            | Off          | C   |
|               | Trunk lid opener request switch is pressed                | On           |     |
| PUSH SW       | Push-button ignition switch (push switch) is not pressed  | Off          | D   |
|               | Push-button ignition switch (push switch) is pressed      | On           |     |
| IGN RLY2 -F/B | Ignition switch in OFF or ACC position                    | Off          | E   |
|               | Ignition switch in ON position                            | On           |     |
| CLUCH SW      | <b>NOTE:</b><br>The item is indicated, but not monitored. | Off          | F   |
| BRAKE SW 1    | The brake pedal is not depressed                          | On           | G   |
|               | The brake pedal is depressed                              | Off          |     |
| DETE/CANCL SW | Selector lever in P position                              | Off          | H   |
|               | Selector lever in any position other than P               | On           |     |
| SFT PN/N SW   | Selector lever in any position other than P and N         | Off          | I   |
|               | Selector lever in P or N position                         | On           |     |
| S/L -LOCK     | Steering is locked                                        | Off          | J   |
|               | Steering is unlocked                                      | On           |     |
| S/L -UNLOCK   | Steering is unlocked                                      | Off          | K   |
|               | Steering is locked                                        | On           |     |
| S/L RELAY-F/B | Ignition switch in OFF or ACC position                    | Off          | L   |
|               | Ignition switch in ON position                            | On           |     |
| UNLK SEN -DR  | Driver door is unlocked                                   | Off          | PCS |
|               | Driver door is locked                                     | On           |     |
| PUSH SW -IPDM | Push-button ignition switch (push-switch) is not pressed  | Off          | N   |
|               | Push-button ignition switch (push-switch) is pressed      | On           |     |
| IGN RLY1 -F/B | Ignition switch in OFF or ACC position                    | Off          | O   |
|               | Ignition switch in ON position                            | On           |     |
| DETE SW -IPDM | Selector lever in P position                              | Off          | P   |
|               | Selector lever in any position other than P               | On           |     |
| SFT PN -IPDM  | Selector lever in any position other than P and N         | Off          |     |
|               | Selector lever in P or N position                         | On           |     |
| SFT P -MET    | Selector lever in any position other than P               | Off          |     |
|               | Selector lever in P position                              | On           |     |
| SFT N -MET    | Selector lever in any position other than N               | Off          |     |
|               | Selector lever in N position                              | On           |     |
| ENGINE STATE  | Engine stopped                                            | Stop         |     |
|               | While the engine stalls                                   | Stall        |     |
|               | At engine cranking                                        | Crank        |     |
|               | Engine running                                            | Run          |     |
| S/L LOCK-IPDM | Steering is locked                                        | Off          |     |
|               | Steering is unlocked                                      | On           |     |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Monitor Item   | Condition                                                                                       | Value/Status                      |
|----------------|-------------------------------------------------------------------------------------------------|-----------------------------------|
| S/L UNLK-IPDM  | Steering is unlocked                                                                            | Off                               |
|                | Steering is locked                                                                              | On                                |
| S/L RELAY-REQ  | Ignition switch in OFF or ACC position                                                          | Off                               |
|                | Ignition switch in ON position                                                                  | On                                |
| VEH SPEED 1    | While driving                                                                                   | Equivalent to speedometer reading |
| VEH SPEED 2    | While driving                                                                                   | Equivalent to speedometer reading |
| DOOR STAT-DR   | Driver door is locked                                                                           | LOCK                              |
|                | Wait with selective UNLOCK operation (5 seconds)                                                | READY                             |
|                | Driver door is unlocked                                                                         | UNLOCK                            |
| DOOR STAT-AS   | Passenger door is locked                                                                        | LOCK                              |
|                | Wait with selective UNLOCK operation (5 seconds)                                                | READY                             |
|                | Passenger door is unlocked                                                                      | UNLOCK                            |
| ID OK FLAG     | Ignition switch in ACC or ON position                                                           | Reset                             |
|                | Ignition switch in OFF position                                                                 | Set                               |
| PRMT ENG STRT  | The engine start is prohibited                                                                  | Reset                             |
|                | The engine start is permitted                                                                   | Set                               |
| PRMT RKE STRT  | <b>NOTE:</b><br>The item is indicated, but not monitored.                                       | Reset                             |
| KEY SW -SLOT   | The key is not inserted into key slot                                                           | Off                               |
|                | The key is inserted into key slot                                                               | On                                |
| RKE OPE COUN1  | During the operation of the key                                                                 | Operation frequency of the key    |
| RKE OPE COUN2  | <b>NOTE:</b><br>The item is indicated, but not monitored.                                       | —                                 |
| CONFIRM ID ALL | The key ID that the key slot receives does not accord with any key ID registered to BCM.        | Yet                               |
|                | The key ID that the key slot receives accords with any key ID registered to BCM.                | Done                              |
| CONFIRM ID4    | The key ID that the key slot receives does not accord with the fourth key ID registered to BCM. | Yet                               |
|                | The key ID that the key slot receives accords with the fourth key ID registered to BCM.         | Done                              |
| CONFIRM ID3    | The key ID that the key slot receives does not accord with the third key ID registered to BCM.  | Yet                               |
|                | The key ID that the key slot receives accords with the third key ID registered to BCM.          | Done                              |
| CONFIRM ID2    | The key ID that the key slot receives does not accord with the second key ID registered to BCM. | Yet                               |
|                | The key ID that the key slot receives accords with the second key ID registered to BCM.         | Done                              |
| CONFIRM ID1    | The key ID that the key slot receives does not accord with the first key ID registered to BCM.  | Yet                               |
|                | The key ID that the key slot receives accords with the first key ID registered to BCM.          | Done                              |
| TP 4           | The ID of fourth key is not registered to BCM                                                   | Yet                               |
|                | The ID of fourth key is registered to BCM                                                       | Done                              |
| TP 3           | The ID of third key is not registered to BCM                                                    | Yet                               |
|                | The ID of third key is registered to BCM                                                        | Done                              |

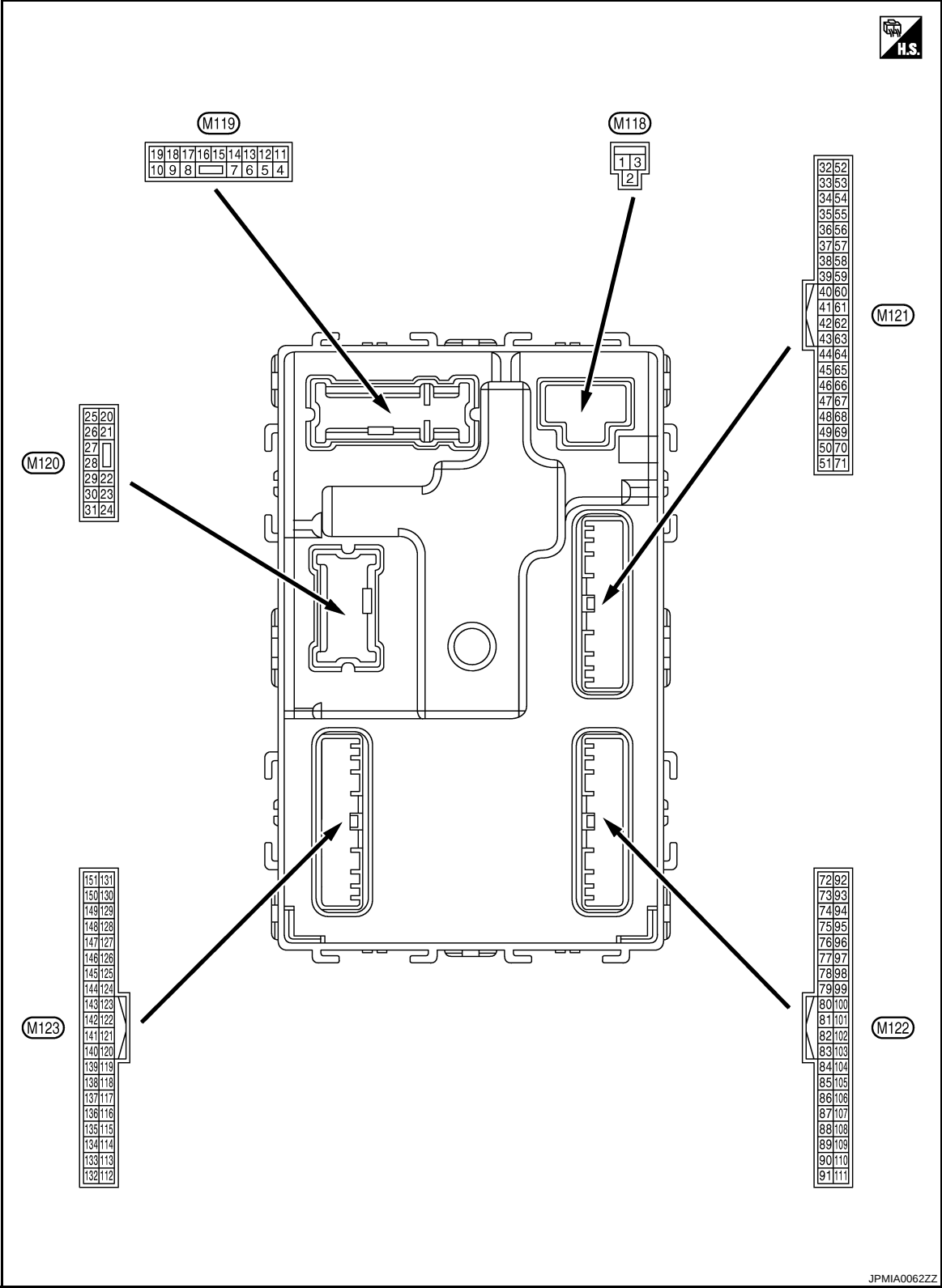
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Monitor Item | Condition                                     | Value/Status |
|--------------|-----------------------------------------------|--------------|
| TP 2         | The ID of second key is not registered to BCM | Yet          |
|              | The ID of second key is registered to BCM     | Done         |
| TP 1         | The ID of first key is not registered to BCM  | Yet          |
|              | The ID of first key is registered to BCM      | Done         |

TERMINAL LAYOUT

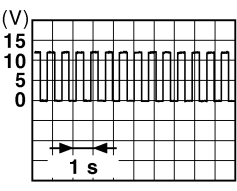


# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PHYSICAL VALUES

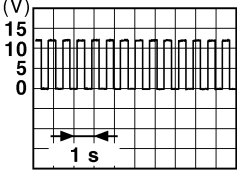
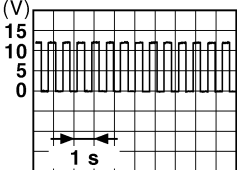
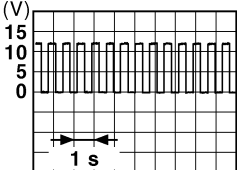
| Terminal No.<br>(Wire color) |        | Description                            |                  | Condition                                                                                           |                                               | Value<br>(Approx.)                                                                                 |
|------------------------------|--------|----------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                            | Input/<br>Output |                                                                                                     |                                               |                                                                                                    |
| 1<br>(W/B)                   | Ground | Battery power supply                   | Input            | Ignition switch OFF                                                                                 |                                               | Battery voltage                                                                                    |
| 2<br>(R/Y)                   | Ground | P/W power supply (BAT)                 | Output           | Ignition switch OFF                                                                                 |                                               | Battery voltage                                                                                    |
| 3<br>(L/W)                   | Ground | P/W power supply (IGN)                 | Output           | Ignition switch ON                                                                                  |                                               | Battery voltage                                                                                    |
| 4<br>(P/W)                   | Ground | Interior room lamp power supply        | Output           | Interior room lamp battery saver is activated.<br>(Cuts the interior room lamp power supply)        |                                               | 0 V                                                                                                |
|                              |        |                                        |                  | Interior room lamp battery saver is not activated.<br>(Outputs the interior room lamp power supply) |                                               | Battery voltage                                                                                    |
| 5<br>(G/Y)                   | Ground | Passenger door UNLOCK                  | Output           | Passenger door                                                                                      | UNLOCK (Actuator is activated)                | Battery voltage                                                                                    |
|                              |        |                                        |                  |                                                                                                     | Other than UNLOCK (Actuator is not activated) | 0 V                                                                                                |
| 7<br>(R/W)                   | Ground | Step lamp                              | Output           | Step lamp                                                                                           | ON                                            | 0 V                                                                                                |
|                              |        |                                        |                  |                                                                                                     | OFF                                           | Battery voltage                                                                                    |
| 8<br>(V)                     | Ground | All doors LOCK                         | Output           | All doors                                                                                           | LOCK (Actuator is activated)                  | Battery voltage                                                                                    |
|                              |        |                                        |                  |                                                                                                     | Other than LOCK (Actuator is not activated)   | 0 V                                                                                                |
| 9<br>(G)                     | Ground | Driver door UNLOCK                     | Output           | Driver door                                                                                         | UNLOCK (Actuator is activated)                | Battery voltage                                                                                    |
|                              |        |                                        |                  |                                                                                                     | Other than UNLOCK (Actuator is not activated) | 0 V                                                                                                |
| 10<br>(G/Y)                  | Ground | Rear RH door and rear LH door UNLOCK   | Output           | Rear RH door and rear LH door                                                                       | UNLOCK (Actuator is activated)                | Battery voltage                                                                                    |
|                              |        |                                        |                  |                                                                                                     | Other than UNLOCK (Actuator is not activated) | 0 V                                                                                                |
| 11<br>(Y/R)                  | Ground | Battery power supply                   | Input            | Ignition switch OFF                                                                                 |                                               | Battery voltage                                                                                    |
| 13<br>(B)                    | Ground | Ground                                 | —                | Ignition switch ON                                                                                  |                                               | 0 V                                                                                                |
| 15<br>(Y)                    | Ground | ACC indicator lamp                     | Output           | Ignition switch                                                                                     | OFF (LOCK indicator is not illuminated)       | Battery voltage                                                                                    |
|                              |        |                                        |                  |                                                                                                     | ACC or ON                                     | 0 V                                                                                                |
| 17<br>(G/B)                  | Ground | Turn signal RH (Front and door mirror) | Output           | Ignition switch ON                                                                                  | Turn signal switch OFF                        | 0 V                                                                                                |
|                              |        |                                        |                  |                                                                                                     | Turn signal switch RH                         |  <p>6.5 V</p> |

PKID0926E

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                               |                  | Condition             |                                                              | Value<br>(Approx.)                                                                    |
|------------------------------|--------|-------------------------------------------|------------------|-----------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------|
| +                            | -      | Signal name                               | Input/<br>Output |                       |                                                              |                                                                                       |
| 18<br>(G/Y)                  | Ground | Turn signal LH<br>(Front and door mirror) | Output           | Ignition switch<br>ON | Turn signal switch OFF                                       | 0 V                                                                                   |
|                              |        |                                           |                  |                       | Turn signal switch LH                                        |    |
| 19<br>(Y)                    | Ground | Room lamp timer control                   | Output           | Interior room lamp    | OFF                                                          | Battery voltage                                                                       |
|                              |        |                                           |                  |                       | ON                                                           | 0 V                                                                                   |
| 20<br>(G/B)                  | Ground | Turn signal RH<br>(Rear)                  | Output           | Ignition switch<br>ON | Turn signal switch OFF                                       | 0 V                                                                                   |
|                              |        |                                           |                  |                       | Turn signal switch RH                                        |    |
| 23<br>(R)                    | Ground | Trunk lid opening                         | Output           | Trunk lid             | OPEN (Trunk lid opener actuator is activated)                | Battery voltage                                                                       |
|                              |        |                                           |                  |                       | Other than OPEN (Trunk lid opener actuator is not activated) | 0 V                                                                                   |
| 24<br>(G)                    | Ground | Rear fog lamp                             | Output           | Rear fog lamp         | OFF                                                          | 0 V                                                                                   |
|                              |        |                                           |                  |                       | ON                                                           | Battery voltage                                                                       |
| 25<br>(G/Y)                  | Ground | Turn signal LH<br>(Rear)                  | Output           | Ignition switch<br>ON | Turn signal switch OFF                                       | 0 V                                                                                   |
|                              |        |                                           |                  |                       | Turn signal switch LH                                        |  |
| 30<br>(V/W)                  | Ground | Trunk room lamp                           | Output           | Trunk room lamp       | OFF                                                          | 0 V                                                                                   |
|                              |        |                                           |                  |                       | ON                                                           | Battery voltage                                                                       |

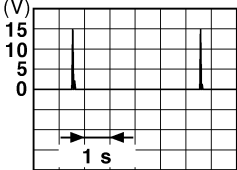
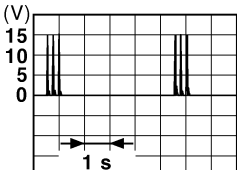
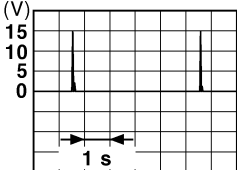
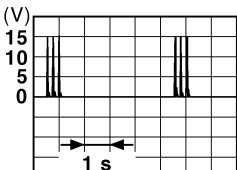
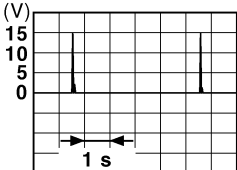
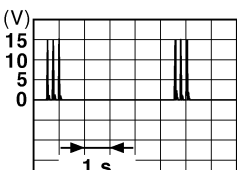
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# BCM (BODY CONTROL MODULE)

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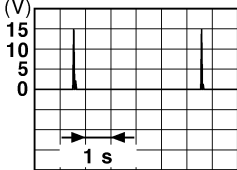
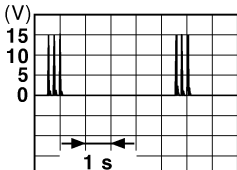
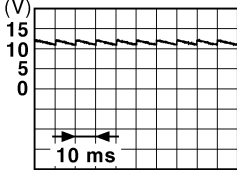
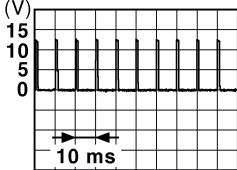
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                  |                  | Condition                                                                                   |                                                                   | Value<br>(Approx.)                                                                                       |
|------------------------------|--------|------------------------------|------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                  | Input/<br>Output |                                                                                             |                                                                   |                                                                                                          |
| 34<br>(B)                    | Ground | Trunk room antenna<br>(-)    | Output           | Ignition switch<br>OFF                                                                      | When Intelligent Key is in<br>the passenger compart-<br>ment      |  <p>JMKIA0062GB</p>   |
|                              |        |                              |                  |                                                                                             | When Intelligent Key is<br>not in the passenger<br>compartment    |  <p>JMKIA0063GB</p>   |
| 35<br>(W)                    | Ground | Trunk room antenna<br>(+)    | Output           | Ignition switch<br>OFF                                                                      | When Intelligent Key is in<br>the passenger compart-<br>ment      |  <p>JMKIA0062GB</p>  |
|                              |        |                              |                  |                                                                                             | When Intelligent Key is<br>not in the passenger<br>compartment    |  <p>JMKIA0063GB</p> |
| 38<br>(L/O)                  | Ground | Rear bumper anten-<br>na (-) | Output           | When the trunk lid<br>opener request<br>switch is operat-<br>ed with ignition<br>switch OFF | When Intelligent Key is in<br>the antenna detection<br>area       |  <p>JMKIA0062GB</p> |
|                              |        |                              |                  |                                                                                             | When Intelligent Key is<br>not in the antenna detec-<br>tion area |  <p>JMKIA0063GB</p> |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

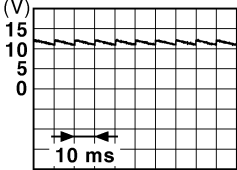
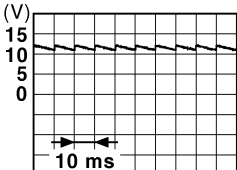
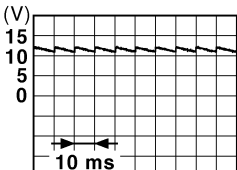
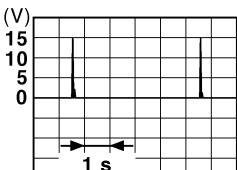
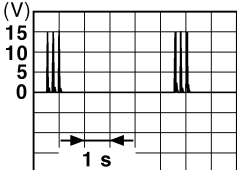
| Terminal No.<br>(Wire color) |        | Description                       |                  | Condition                                                                     |                                                           | Value<br>(Approx.)                                                                                            |
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| +                            | -      | Signal name                       | Input/<br>Output |                                                                               |                                                           |                                                                                                               |
| 39<br>(BR/W)                 | Ground | Rear bumper antenna (+)           | Output           | When the trunk lid opener request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area     | <br>JMKIA0062GB            |
|                              |        |                                   |                  |                                                                               | When Intelligent Key is not in the antenna detection area | <br>JMKIA0063GB            |
| 47<br>(BR/W)                 | Ground | Ignition relay (IPDM E/R) control | Output           | Ignition switch                                                               | OFF or ACC                                                | Battery voltage                                                                                               |
|                              |        |                                   |                  |                                                                               | ON                                                        | 0 V                                                                                                           |
| 50<br>(W)                    | Ground | Trunk room lamp switch            | Input            | Trunk room lamp switch                                                        | OFF (When trunk lid closes)                               | <br>JPMIA0011GB<br>11.8 V |
|                              |        |                                   |                  |                                                                               | ON (When trunk lid opens)                                 | 0 V                                                                                                           |
| 52<br>(R)                    | Ground | Starter relay control             | Output           | Ignition switch ON                                                            | When selector lever is in P or N position                 | Battery voltage                                                                                               |
|                              |        |                                   |                  |                                                                               | When selector lever is not in P or N position             | 0.3 V                                                                                                         |
|                              |        |                                   |                  | Ignition switch OFF                                                           |                                                           | 0 V                                                                                                           |
| 61<br>(G/R)                  | Ground | Trunk lid request switch          | Input            | Trunk lid request switch                                                      | ON (Pressed)                                              | 0 V                                                                                                           |
|                              |        |                                   |                  |                                                                               | OFF (Not pressed)                                         | <br>JPMIA0016GB<br>1.0 V |
| 64<br>(GR)                   | Ground | Request switch buzzer             | Output           | Request switch buzzer                                                         | Sounding                                                  | 0 V                                                                                                           |
|                              |        |                                   |                  |                                                                               | Not sounding                                              | Battery voltage                                                                                               |

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# BCM (BODY CONTROL MODULE)

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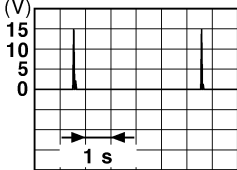
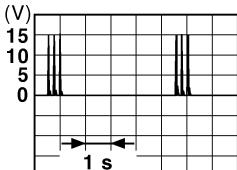
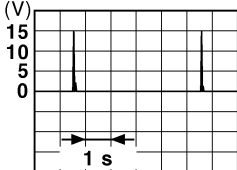
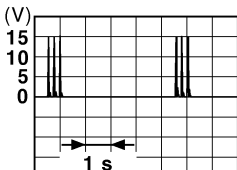
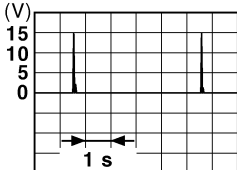
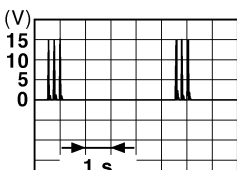
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                            |                  | Condition                  |                                                                | Value<br>(Approx.)                                                                                                    |
|------------------------------|--------|----------------------------------------|------------------|----------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                            | Input/<br>Output |                            |                                                                |                                                                                                                       |
| 67<br>(L/R)                  | Ground | Trunk lid opener<br>switch             | Input            | Trunk lid opener<br>switch | Pressed                                                        | 0 V                                                                                                                   |
|                              |        |                                        |                  |                            | Not pressed                                                    |  <p>11.8 V</p> <p>JPMIA0011GB</p>  |
| 68<br>(R/W)                  | Ground | Rear RH door<br>switch                 | Input            | Rear RH door<br>switch     | OFF (When rear RH door<br>closes)                              |  <p>11.8 V</p> <p>JPMIA0011GB</p>  |
|                              |        |                                        |                  |                            | ON (When rear RH door<br>opens)                                | 0 V                                                                                                                   |
| 69<br>(B/R)                  | Ground | Rear LH door switch                    | Input            | Rear LH door<br>switch     | OFF (When rear LH door<br>closes)                              |  <p>11.8 V</p> <p>JPMIA0011GB</p> |
|                              |        |                                        |                  |                            | ON (When rear LH door<br>opens)                                | 0 V                                                                                                                   |
| 72<br>(B/R)                  | Ground | Room antenna 2 (-)<br>(center console) | Output           | Ignition switch<br>OFF     | When Intelligent Key is in<br>the passenger compart-<br>ment   |  <p>JMKIA0062GB</p>              |
|                              |        |                                        |                  |                            | When Intelligent Key is<br>not in the passenger<br>compartment |  <p>JMKIA0063GB</p>              |

# BCM (BODY CONTROL MODULE)

## [POWER DISTRIBUTION SYSTEM]

### < ECU DIAGNOSIS >

| Terminal No.<br>(Wire color) |        | Description                            |                  | Condition                                                                                     |                                                                   | Value<br>(Approx.)                                                                                   |
|------------------------------|--------|----------------------------------------|------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                            | Input/<br>Output |                                                                                               |                                                                   |                                                                                                      |
| 73<br>(W/R)                  | Ground | Room antenna 2 (+)<br>(center console) | Output           | Ignition switch<br>OFF                                                                        | When Intelligent Key is in<br>the passenger compart-<br>ment      | <br>JMKIA0062GB   |
|                              |        |                                        |                  |                                                                                               | When Intelligent Key is<br>not in the passenger<br>compartment    | <br>JMKIA0063GB   |
| 74<br>(B/Y)                  | Ground | Passenger door an-<br>tenna (-)        | Output           | When the pas-<br>senger door re-<br>quest switch is<br>operated with ig-<br>nition switch OFF | When Intelligent Key is in<br>the antenna detec-<br>tion<br>area  | <br>JMKIA0062GB  |
|                              |        |                                        |                  |                                                                                               | When Intelligent Key is<br>not in the antenna detec-<br>tion area | <br>JMKIA0063GB |
| 75<br>(LG)                   | Ground | Passenger door an-<br>tenna (+)        | Output           | When the pas-<br>senger door re-<br>quest switch is<br>operated with ig-<br>nition switch OFF | When Intelligent Key is in<br>the antenna detec-<br>tion<br>area  | <br>JMKIA0062GB |
|                              |        |                                        |                  |                                                                                               | When Intelligent Key is<br>not in the antenna detec-<br>tion area | <br>JMKIA0063GB |

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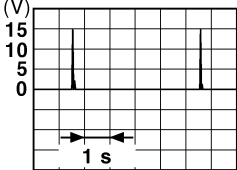
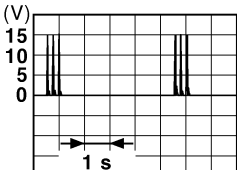
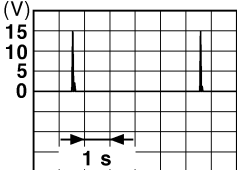
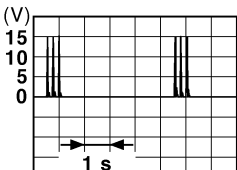
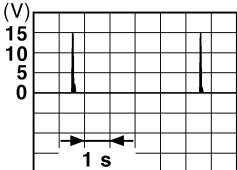
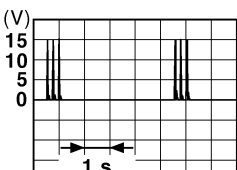
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# BCM (BODY CONTROL MODULE)

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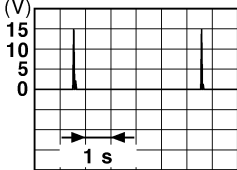
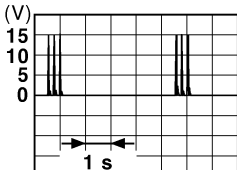
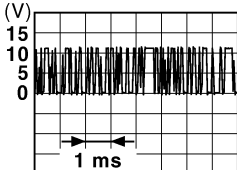
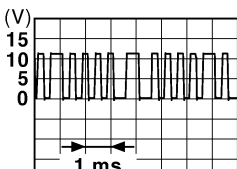
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                              |                                                                   | Value<br>(Approx.)                                                                                   |
|------------------------------|--------|------------------------------------------|------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                        |                                                                   |                                                                                                      |
| 76<br>(V)                    | Ground | Driver door antenna<br>(-)               | Output           | When the driver<br>door request<br>switch is operat-<br>ed with ignition<br>switch OFF | When Intelligent Key is in<br>the antenna detection<br>area       | <br>JMKIA0062GB   |
|                              |        |                                          |                  |                                                                                        | When Intelligent Key is<br>not in the antenna detec-<br>tion area | <br>JMKIA0063GB   |
| 77<br>(P)                    | Ground | Driver door antenna<br>(+)               | Output           | When the driver<br>door request<br>switch is operat-<br>ed with ignition<br>switch OFF | When Intelligent Key is in<br>the antenna detection<br>area       | <br>JMKIA0062GB  |
|                              |        |                                          |                  |                                                                                        | When Intelligent Key is<br>not in the antenna detec-<br>tion area | <br>JMKIA0063GB |
| 78<br>(R)                    | Ground | Room antenna 1 (-)<br>(instrument panel) | Output           | Ignition switch<br>OFF                                                                 | When Intelligent Key is in<br>the passenger compart-<br>ment      | <br>JMKIA0062GB |
|                              |        |                                          |                  |                                                                                        | When Intelligent Key is<br>not in the passenger<br>compartment    | <br>JMKIA0063GB |

# BCM (BODY CONTROL MODULE)

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[POWER DISTRIBUTION SYSTEM]

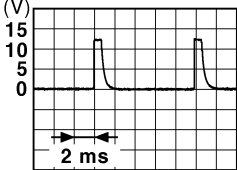
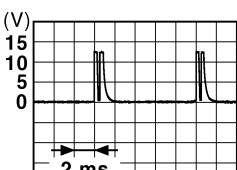
| Terminal No.<br>(Wire color) |        | Description                                           |                  | Condition              |                                                                             | Value<br>(Approx.)                                                                                   |
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| +                            | -      | Signal name                                           | Input/<br>Output |                        |                                                                             |                                                                                                      |
| 79<br>(G)                    | Ground | Room antenna 1 (+)<br>(instrument panel)              | Output           | Ignition switch<br>OFF | When Intelligent Key is in<br>the passenger compart-<br>ment                | <br>JMKIA0062GB   |
|                              |        |                                                       |                  |                        | When Intelligent Key is<br>not in the passenger<br>compartment              | <br>JMKIA0063GB   |
| 80<br>(G/O)                  | Ground | NATS antenna amp<br>(built in key slot)               | Input/<br>Output | During waiting         | Ignition switch is pressed<br>while inserting the key<br>into the key slot. | Just after pressing ignition<br>switch. Pointer of tester should<br>move.                            |
| 81<br>(O)                    | Ground | NATS antenna amp<br>(built in key slot)               | Input/<br>Output | During waiting         | Ignition switch is pressed<br>while inserting the key<br>into the key slot. | Just after pressing ignition<br>switch. Pointer of tester should<br>move.                            |
| 82<br>(R/B)                  | Ground | Ignition relay [fuse<br>block (J/B)] control          | Output           | Ignition switch        | OFF or ACC                                                                  | 0 V                                                                                                  |
|                              |        |                                                       |                  |                        | ON                                                                          | Battery voltage                                                                                      |
| 83<br>(L/O)                  | Ground | Remote keyless en-<br>try receiver commu-<br>nication | Input/<br>Output |                        | During waiting                                                              | <br>JMKIA0064GB |
|                              |        |                                                       |                  |                        | When operating either button on the key                                     | <br>JMKIA0065GB |

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# BCM (BODY CONTROL MODULE)

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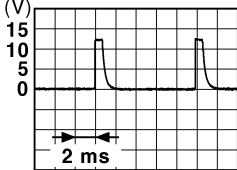
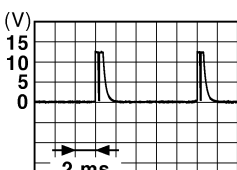
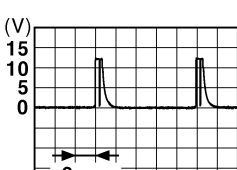
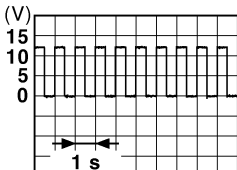
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                   |                  | Condition             |                                                                                                                                                                                                                                              | Value<br>(Approx.)                                                                                                    |
|------------------------------|--------|-------------------------------|------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                   | Input/<br>Output |                       |                                                                                                                                                                                                                                              |                                                                                                                       |
| 87<br>(R/Y)                  | Ground | Combination switch<br>INPUT 5 | Input            | Combination<br>switch | All switch OFF<br>(Wiper intermittent dial 4)                                                                                                                                                                                                |  <p>JPMIA0041GB</p> <p>1.4 V</p>   |
|                              |        |                               |                  |                       | Front fog lamp switch ON<br>(Wiper intermittent dial 4)                                                                                                                                                                                      |  <p>JPMIA0037GB</p> <p>1.3 V</p>   |
|                              |        |                               |                  |                       | Rear fog lamp switch ON<br>(Wiper intermittent dial 4)                                                                                                                                                                                       |  <p>JPMIA0142GB</p> <p>1.2 V</p>  |
|                              |        |                               |                  |                       | Any of the conditions below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul> |  <p>JPMIA0040GB</p> <p>1.3 V</p> |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

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

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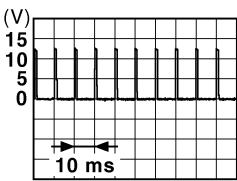
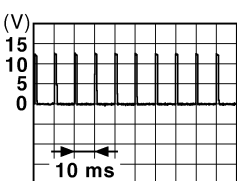
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# BCM (BODY CONTROL MODULE)

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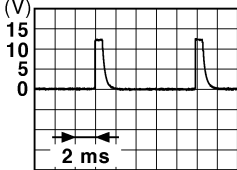
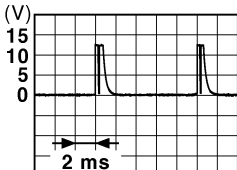
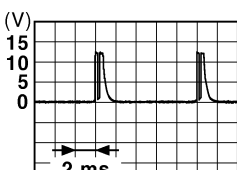
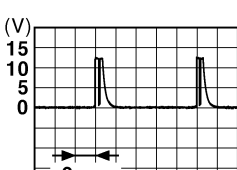
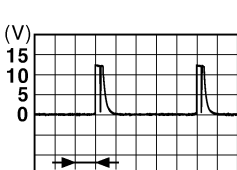
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                                    |                  | Condition                     |                                         | Value<br>(Approx.)                                                                                                   |
|------------------------------|--------|------------------------------------------------|------------------|-------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                                    | Input/<br>Output |                               |                                         |                                                                                                                      |
| 93<br>(Y)                    | Ground | ON indicator lamp                              | Output           | Ignition switch               | OFF (LOCK indicator is not illuminated) | Battery voltage                                                                                                      |
|                              |        |                                                |                  |                               | ON or ACC                               | 0 V                                                                                                                  |
| 95<br>(L)                    | Ground | ACC relay control                              | Output           | Ignition switch               | OFF                                     | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | ACC or ON                               | Battery voltage                                                                                                      |
| 96<br>(Y/R)                  | Ground | Control device (detection switch) power supply | Output           | —                             |                                         | Battery voltage                                                                                                      |
| 97<br>(L/O)                  | Ground | Steering lock condition No. 1                  | Input            | Steering lock                 | LOCK status                             | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | UNLOCK status                           | Battery voltage                                                                                                      |
| 98<br>(G/R)                  | Ground | Steering lock condition No. 2                  | Input            | Steering lock                 | LOCK status                             | Battery voltage                                                                                                      |
|                              |        |                                                |                  |                               | UNLOCK status                           | 0 V                                                                                                                  |
| 99<br>(G/B)                  | Ground | Selector lever P position switch               | Input            | Selector lever                | P position                              | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | Any position other than P               | Battery voltage                                                                                                      |
| 100<br>(P/L)                 | Ground | Passenger door request switch                  | Input            | Passenger door request switch | ON (Pressed)                            | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | OFF (Not pressed)                       |  <p>JPMA0016GB</p> <p>1.0 V</p>  |
| 101<br>(B/W)                 | Ground | Driver door request switch                     | Input            | Driver door request switch    | ON (Pressed)                            | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | OFF (Not pressed)                       |  <p>JPMA0016GB</p> <p>1.0 V</p> |
| 102<br>(Y)                   | Ground | Blower fan motor relay control                 | Output           | Ignition switch               | OFF or ACC                              | 0 V                                                                                                                  |
|                              |        |                                                |                  |                               | ON                                      | Battery voltage                                                                                                      |
| 103<br>(L/R)                 | Ground | Remote keyless entry receiver power supply     | Output           | Ignition switch OFF           |                                         | Battery voltage                                                                                                      |
| 106<br>(G/Y)                 | Ground | Steering wheel lock unit power supply          | Output           | Ignition switch               | OFF or ACC                              | Battery voltage                                                                                                      |
|                              |        |                                                |                  |                               | ON                                      | 0 V                                                                                                                  |

# BCM (BODY CONTROL MODULE)

## [POWER DISTRIBUTION SYSTEM]

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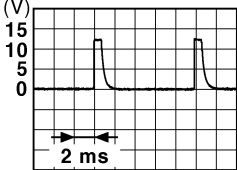
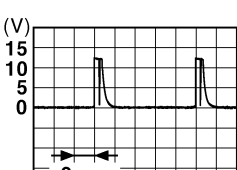
| Terminal No.<br>(Wire color) |        | Description                   |                  | Condition                                                 | Value<br>(Approx.)                                                                                 |
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| +                            | -      | Signal name                   | Input/<br>Output |                                                           |                                                                                                    |
| 107<br>(R/W)                 | Ground | Combination switch<br>INPUT 1 | Input            | Combination<br>switch<br>(Wiper intermit-<br>tent dial 4) |  <p>1.4 V</p>   |
|                              |        |                               |                  | Turn signal switch LH                                     |  <p>1.3 V</p>   |
|                              |        |                               |                  | Turn signal switch RH                                     |  <p>1.3 V</p>  |
|                              |        |                               |                  | Front wiper switch LO                                     |  <p>1.3 V</p> |
|                              |        |                               |                  | Front washer switch ON                                    |  <p>1.3 V</p> |

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# BCM (BODY CONTROL MODULE)

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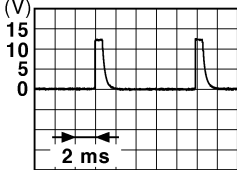
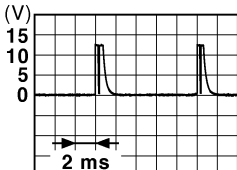
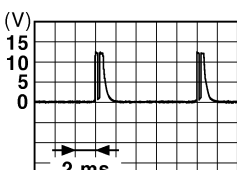
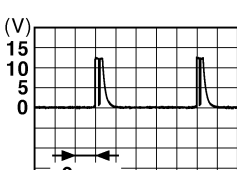
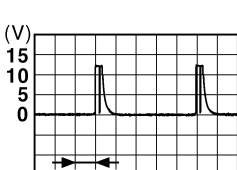
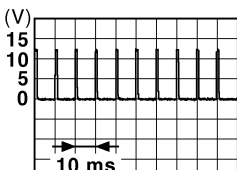
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                   |                  | Condition                                                                                                                                                                                               | Value<br>(Approx.)                                                                                                   |
|------------------------------|--------|-------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                   | Input/<br>Output |                                                                                                                                                                                                         |                                                                                                                      |
| 108<br>(P/B)                 | Ground | Combination switch<br>INPUT 4 | Input            | Combination switch                                                                                                                                                                                      |  <p>JPMA0041GB</p> <p>1.4 V</p>   |
|                              |        |                               |                  | Lighting switch AUTO<br>(Wiper intermittent dial 4)                                                                                                                                                     |  <p>JPMA0038GB</p> <p>1.3 V</p>   |
|                              |        |                               |                  | Lighting switch 1ST<br>(Wiper intermittent dial 4)                                                                                                                                                      |  <p>JPMA0036GB</p> <p>1.3 V</p>  |
|                              |        |                               |                  | Any of the conditions below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul> |  <p>JPMA0039GB</p> <p>1.3 V</p> |

# BCM (BODY CONTROL MODULE)

## [POWER DISTRIBUTION SYSTEM]

< ECU DIAGNOSIS >

| Terminal No.<br>(Wire color) |        | Description                   |                  | Condition                                                 | Value<br>(Approx.)                                                                                                                                 |
|------------------------------|--------|-------------------------------|------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                   | Input/<br>Output |                                                           |                                                                                                                                                    |
| 109<br>(R/B)                 | Ground | Combination switch<br>INPUT 2 | Input            | Combination<br>switch<br>(Wiper intermit-<br>tent dial 4) | <p>All switch OFF</p>  <p>JPMA0041GB</p> <p>1.4 V</p>           |
|                              |        |                               |                  |                                                           | <p>Lighting switch PASS</p>  <p>JPMA0037GB</p> <p>1.3 V</p>     |
|                              |        |                               |                  |                                                           | <p>Lighting switch 2ND</p>  <p>JPMA0036GB</p> <p>1.3 V</p>     |
|                              |        |                               |                  |                                                           | <p>Front wiper switch INT</p>  <p>JPMA0038GB</p> <p>1.3 V</p> |
|                              |        |                               |                  |                                                           | <p>Front wiper switch HI</p>  <p>JPMA0040GB</p> <p>1.3 V</p>  |
| 110<br>(G/O)                 | Ground | Hazard switch                 | Input            | Hazard switch                                             | <p>ON</p> <p>0 V</p>                                                                                                                               |
|                              |        |                               |                  | OFF                                                       |  <p>JPMA0012GB</p> <p>1.1 V</p>                               |

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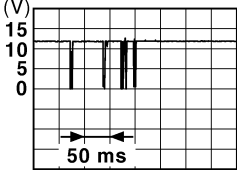
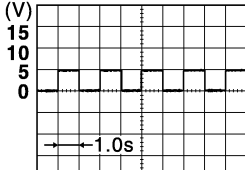
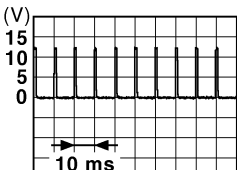
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# BCM (BODY CONTROL MODULE)

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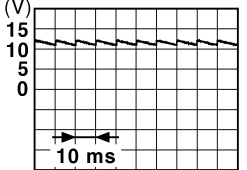
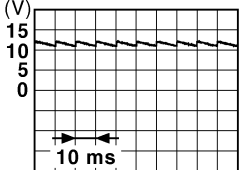
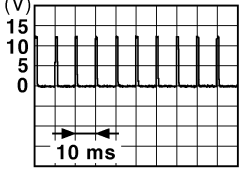
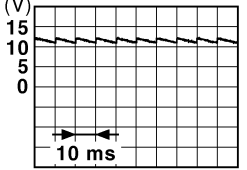
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                                                  |                  | Condition                                  |                                             | Value<br>(Approx.)                                                                                   |
|------------------------------|--------|--------------------------------------------------------------|------------------|--------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                                                  | Input/<br>Output |                                            |                                             |                                                                                                      |
| 111<br>(L/Y)                 | Ground | Steering lock unit<br>communication                          | Input/<br>Output | Steering lock                              | LOCK status                                 | Battery voltage                                                                                      |
|                              |        |                                                              |                  |                                            | LOCK or UNLOCK                              | <br>JMKIA0066GB   |
|                              |        |                                                              |                  |                                            | For 15 seconds after UN-<br>LOCK            | Battery voltage                                                                                      |
|                              |        |                                                              |                  |                                            | 15 seconds or later after<br>UNLOCK         | 0 V                                                                                                  |
| 113<br>(P/B)                 | Ground | Optical sensor                                               | Input            | Ignition switch<br>ON                      | When bright outside of<br>the vehicle       | Close to 5 V                                                                                         |
|                              |        |                                                              |                  |                                            | When dark outside of the<br>vehicle         | Close to 0 V                                                                                         |
| 115<br>(L)                   | Ground | Shock sensor                                                 | Input            | Ignition switch                            | OFF                                         | 0 V                                                                                                  |
|                              |        |                                                              |                  |                                            | ACC                                         | 5.0 V                                                                                                |
|                              |        |                                                              |                  |                                            | ON                                          | <br>JPMIA1034GB  |
|                              |        |                                                              |                  |                                            |                                             | 2.5 V                                                                                                |
| 116<br>(R/W)                 | Ground | Fuse check (Stop<br>lamp switch)                             | Input            | —                                          |                                             | Battery voltage                                                                                      |
| 118<br>(O/L)                 | Ground | Stop lamp switch                                             | Input            | Stop lamp switch                           | OFF (Brake pedal is not<br>depressed)       | 0 V                                                                                                  |
|                              |        |                                                              |                  |                                            | ON (Brake pedal is de-<br>pressed)          | Battery voltage                                                                                      |
| 119<br>(G/W)                 | Ground | Front door lock as-<br>sembly driver side<br>(unlock sensor) | Input            | Driver door                                | LOCK status (unlock sen-<br>sor switch OFF) | <br>JPMIA0012GB |
|                              |        |                                                              |                  |                                            |                                             | 1.1 V                                                                                                |
|                              |        |                                                              |                  |                                            | UNLOCK status (unlock<br>sensor switch ON)  | 0 V                                                                                                  |
| 121<br>(Y)                   | Ground | Key slot switch                                              | Input            | When the key is inserted into key slot     |                                             | Battery voltage                                                                                      |
|                              |        |                                                              |                  | When the key is not inserted into key slot |                                             | 0 V                                                                                                  |
| 122<br>(V/R)                 | Ground | ACC feedback                                                 | Input            | Ignition switch                            | OFF                                         | 0 V                                                                                                  |
|                              |        |                                                              |                  |                                            | ACC or ON                                   | Battery voltage                                                                                      |
| 123<br>(G/W)                 | Ground | IGN feedback                                                 | Input            | Ignition switch                            | OFF or ACC                                  | 0 V                                                                                                  |
|                              |        |                                                              |                  |                                            | ON                                          | Battery voltage                                                                                      |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                                            |                                  | Value<br>(Approx.)                                                                                             |
|------------------------------|--------|------------------------------------------|------------------|------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                                      |                                  |                                                                                                                |
| 124<br>(R/B)                 | Ground | Passenger door switch                    | Input            | Passenger door switch                                                                                | OFF (When passenger door closes) | <br>JPMIA0011GB<br>11.8 V   |
|                              |        |                                          |                  |                                                                                                      | ON (When passenger door opens)   | 0 V                                                                                                            |
| 128<br>(GR)                  | Ground | Door lock and unlock switch LOCK         | Input            | Door lock and unlock switch [power window main switch or front power window switch (passenger side)] | NEUTRAL position                 | <br>JPMIA0011GB<br>11.8 V   |
|                              |        |                                          |                  |                                                                                                      | LOCK position                    | 0 V                                                                                                            |
| 130*<br>(GR/W)               | Ground | Rear window defogger switch              | Input            | Ignition switch ON                                                                                   | Rear window defogger switch OFF  | <br>JPMIA0012GB<br>1.1 V   |
|                              |        |                                          |                  |                                                                                                      | Rear window defogger switch ON   | 0 V                                                                                                            |
| 131<br>(GR/R)                | Ground | Door lock and unlock switch UN-LOCK      | Input            | Door lock and unlock switch [power window main switch or front power window switch (passenger side)] | NEUTRAL position                 | <br>JPMIA0011GB<br>11.8 V |
|                              |        |                                          |                  |                                                                                                      | UNLOCK position                  | 0 V                                                                                                            |
| 133<br>(W)                   | Ground | Push-button ignition switch illumination | Output           | Push-button ignition switch illumination                                                             | ON                               | 9.5 V                                                                                                          |
|                              |        |                                          |                  |                                                                                                      | OFF                              | 0 V                                                                                                            |
| 134<br>(R)                   | Ground | LOCK indicator lamp                      | Output           | LOCK indicator lamp                                                                                  | OFF                              | Battery voltage                                                                                                |
|                              |        |                                          |                  |                                                                                                      | ON                               | 0 V                                                                                                            |
| 137<br>(P)                   | Ground | Receiver and sensor ground               | Input            | Ignition switch ON                                                                                   |                                  | 0 V                                                                                                            |
| 138<br>(V/W)                 | Ground | Receiver and sensor power supply output  | Output           | Ignition switch                                                                                      | OFF                              | 0 V                                                                                                            |
|                              |        |                                          |                  |                                                                                                      | ACC or ON                        | 5.0 V                                                                                                          |
| 140<br>(R/G)                 | Ground | Selector lever P/N position              | Input            | Selector lever                                                                                       | P or N position                  | Battery voltage                                                                                                |
|                              |        |                                          |                  |                                                                                                      | Except P and N positions         | 0 V                                                                                                            |

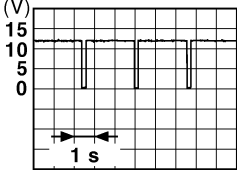
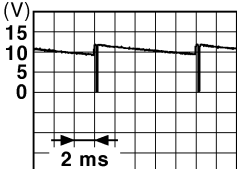
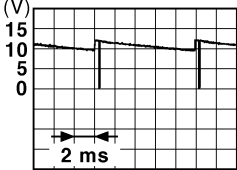
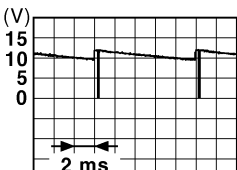
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# BCM (BODY CONTROL MODULE)

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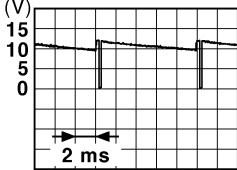
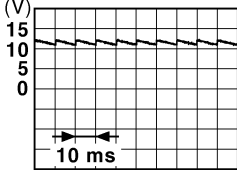
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                    |                  | Condition                                                 |                                                                                                                                                                                                                                   | Value<br>(Approx.)                                                                                                     |
|------------------------------|--------|--------------------------------|------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                    | Input/<br>Output |                                                           |                                                                                                                                                                                                                                   |                                                                                                                        |
| 141<br>(L/O)                 | Ground | Security indicator             | Output           | Security indicator                                        | ON                                                                                                                                                                                                                                | 0 V                                                                                                                    |
|                              |        |                                |                  |                                                           | Blinking                                                                                                                                                                                                                          |  <p>JPMIA0014GB</p> <p>11.3 V</p>   |
|                              |        |                                |                  |                                                           | OFF                                                                                                                                                                                                                               | Battery voltage                                                                                                        |
| 142<br>(LG/B)                | Ground | Combination switch<br>OUTPUT 5 | Output           | Combination<br>switch<br>(Wiper intermit-<br>tent dial 4) | All switch OFF                                                                                                                                                                                                                    | 0 V                                                                                                                    |
|                              |        |                                |                  |                                                           | Lighting switch 1ST                                                                                                                                                                                                               |  <p>JPMIA0031GB</p> <p>10.7 V</p>   |
|                              |        |                                |                  |                                                           | Lighting switch HI                                                                                                                                                                                                                |                                                                                                                        |
|                              |        |                                |                  |                                                           | Lighting switch 2ND                                                                                                                                                                                                               |                                                                                                                        |
|                              |        |                                |                  |                                                           | Turn signal switch RH                                                                                                                                                                                                             |                                                                                                                        |
| 143<br>(L/W)                 | Ground | Combination switch<br>OUTPUT 1 | Output           | Combination<br>switch                                     | All switch OFF<br>(Wiper intermittent dial 4)                                                                                                                                                                                     | 0 V                                                                                                                    |
|                              |        |                                |                  |                                                           | Front wiper switch HI<br>(Wiper intermittent dial 4)                                                                                                                                                                              |  <p>JPMIA0032GB</p> <p>10.7 V</p> |
|                              |        |                                |                  |                                                           | Any of the conditions be-<br>low with all switch OFF                                                                                                                                                                              |                                                                                                                        |
|                              |        |                                |                  |                                                           | <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 3</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul> |                                                                                                                        |
| 144<br>(G/B)                 | Ground | Combination switch<br>OUTPUT 2 | Output           | Combination<br>switch                                     | All switch OFF<br>(Wiper intermittent dial 4)                                                                                                                                                                                     | 0 V                                                                                                                    |
|                              |        |                                |                  |                                                           | Front washer switch ON<br>(Wiper intermittent dial 4)                                                                                                                                                                             |  <p>JPMIA0033GB</p> <p>10.7 V</p> |
|                              |        |                                |                  |                                                           | Any of the conditions be-<br>low with all switch OFF                                                                                                                                                                              |                                                                                                                        |
|                              |        |                                |                  |                                                           | <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>                                                                           |                                                                                                                        |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                     |                  | Condition                                                 |                                  | Value<br>(Approx.)                                                                                 |
|------------------------------|--------|---------------------------------|------------------|-----------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                     | Input/<br>Output |                                                           |                                  |                                                                                                    |
| 145<br>(LG/R)                | Ground | Combination switch<br>OUTPUT 3  | Output           | Combination<br>switch<br>(Wiper intermit-<br>tent dial 4) | All switch OFF                   | 0 V                                                                                                |
|                              |        |                                 |                  |                                                           | Front wiper switch INT           |  <p>10.7 V</p>  |
|                              |        |                                 |                  |                                                           | Front wiper switch LO            |                                                                                                    |
|                              |        |                                 |                  |                                                           | Lighting switch AUTO             |                                                                                                    |
|                              |        |                                 |                  |                                                           | Rear fog lamp switch ON          |                                                                                                    |
| 146<br>(G/Y)                 | Ground | Combination switch<br>OUTPUT 4  | Output           | Combination<br>switch<br>(Wiper intermit-<br>tent dial 4) | All switch OFF                   | 0 V                                                                                                |
|                              |        |                                 |                  |                                                           | Front fog lamp switch ON         |  <p>10.7 V</p>  |
|                              |        |                                 |                  |                                                           | Lighting switch 2ND              |                                                                                                    |
|                              |        |                                 |                  |                                                           | Lighting switch PASS             |                                                                                                    |
|                              |        |                                 |                  |                                                           | Turn signal switch LH            |                                                                                                    |
| 150<br>(SB)                  | Ground | Driver door switch              | Input            | Driver door switch                                        | OFF (When driver door<br>closes) |  <p>11.8 V</p> |
|                              |        |                                 |                  |                                                           | ON (When driver door<br>opens)   | 0 V                                                                                                |
| 151<br>(G/R)                 | Ground | Rear window defog-<br>ger relay | Output           | Rear window de-<br>fogger                                 | Active                           | 0 V                                                                                                |
|                              |        |                                 |                  |                                                           | Not activated                    | Battery voltage                                                                                    |

## NOTE:

\*: Without BOSE audio system

PCS

[POWER DISTRIBUTION SYSTEM]

## Wiring Diagram - BCM -

JCMWM1671G



**[POWER DISTRIBUTION SYSTEM]**

A  
B  
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N  
O  
P



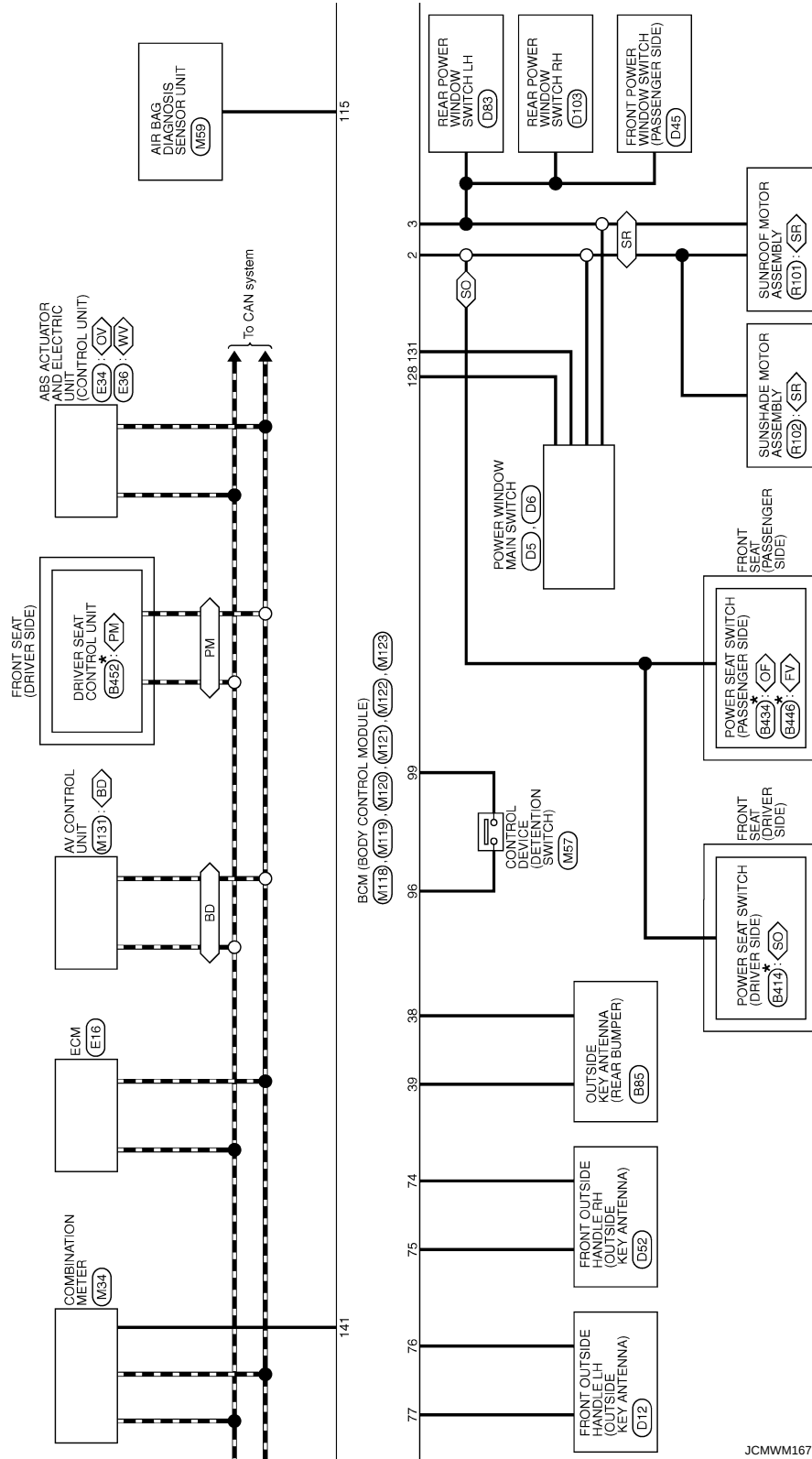
# BCM (BODY CONTROL MODULE)

## [POWER DISTRIBUTION SYSTEM]

< ECU DIAGNOSIS >

- ◁ WV ▷ : With VDC
- ◁ OV ▷ : Without VDC
- ◁ PM ▷ : With automatic drive positioner
- ◁ SO ▷ : With power seat without automatic drive positioner
- ◁ BD ▷ : With BOSE system or base audio and display system
- ◁ SR ▷ : With sunroof
- ◁ FV ▷ : With front ventilation seat
- ◁ OF ▷ : Without front ventilation seat

★ : This connector is not shown in "Harness Layout".



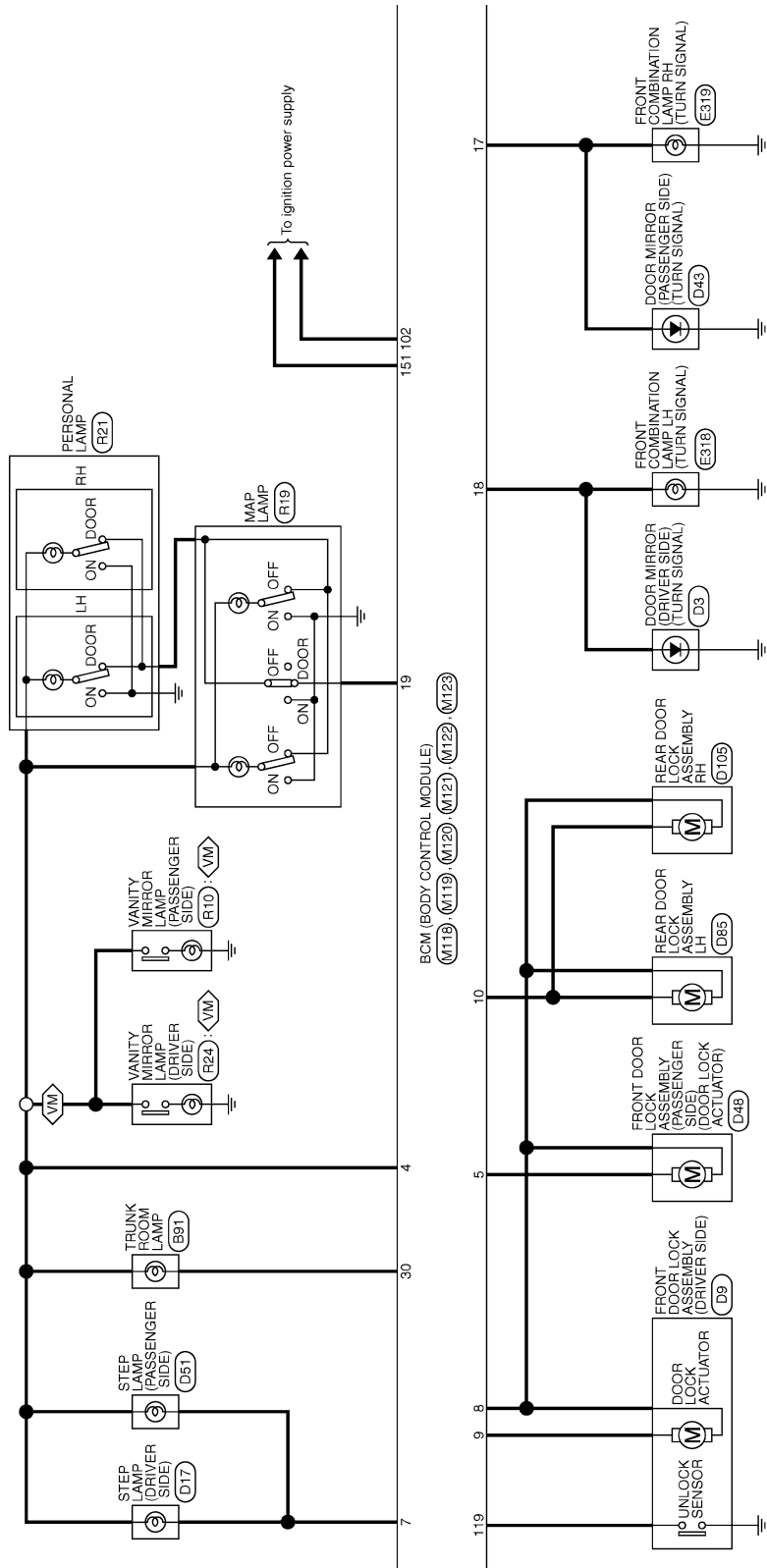
JCMWM1673G

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

◁ VM ▷ : With vanity mirror lamp



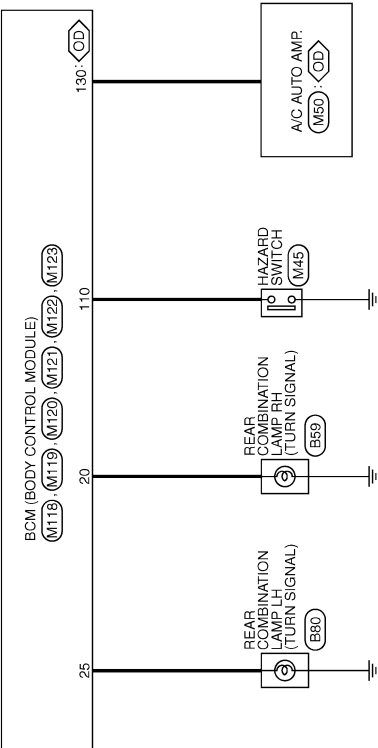
JCMWM1674GI

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

⬡OD⬡ : Without BOSE system or base audio and display system



JCMWM1675G

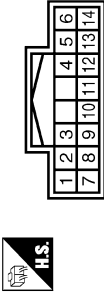
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

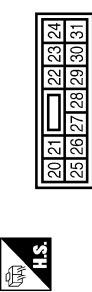
BCM (BODY CONTROL MODULE)

|                |                    |
|----------------|--------------------|
| Connector No.  | M103               |
| Connector Name | COMBINATION SWITCH |
| Connector Type | TH16FW-NH          |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 2            | G/Y           | OUTPUT 4                    |
| 5            | LG/R          | OUTPUT 3                    |
| 7            | R/G           | INPUT 3                     |
| 8            | LG/B          | OUTPUT 5                    |
| 9            | R/B           | INPUT 2                     |
| 10           | P/B           | INPUT 4                     |
| 11           | R/W           | INPUT 1                     |
| 12           | L/W           | OUTPUT 1                    |
| 13           | R/Y           | INPUT 5                     |
| 14           | G/B           | OUTPUT 2                    |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M120                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | NS12FW-CS                 |



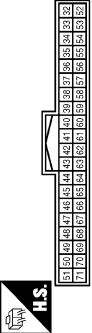
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 20           | G/B           | TURN SIGNAL RH (REAR)       |
| 23           | R             | TRUNK OPEN OUTPUT           |
| 24           | G             | REAR FOG LAMP OUTPUT        |
| 25           | G/Y           | TURN SIGNAL LH (REAR)       |
| 30           | V/W           | TRUNK LAMP OUTPUT           |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M118                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | M03FB-LC                  |



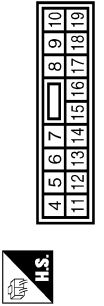
| Terminal No. | Color of Wire | Signal Name [Specification]     |
|--------------|---------------|---------------------------------|
| 1            | W/B           | BAT (F/L)                       |
| 2            | R/Y           | POWER WINDOW POWER SUPPLY (BAT) |
| 3            | L/W           | POWER WINDOW POWER SUPPLY (IGN) |

|                |                           |
|----------------|---------------------------|
| Connector No.  | M121                      |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FGY-NH                |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 34           | B             | TRUNK ANT I B               |
| 35           | W             | TRUNK ANT I A               |
| 38           | L/O           | RR BUMPER ANT B             |
| 39           | BR/W          | RR BUMPER ANT A             |
| 47           | BR/W          | IGN RELAY IPDM E/R CONT     |
| 50           | W             | TRUNK SW                    |
| 52           | R             | IGN RELAY IPDM E/R CONT     |
| 61           | G/R           | TRUNK REQUEST SW            |
| 64           | GR            | REQUEST SW BUZZER           |
| 67           | L/R           | INTERIOR TRUNK SW           |
| 68           | R/W           | REAR RH DOOR SW             |

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



| Terminal No. | Color of Wire | Signal Name [Specification]     |
|--------------|---------------|---------------------------------|
| 4            | P/W           | INTERIOR ROOM LAMP POWER SUPPLY |
| 5            | G/Y           | PASSENGER DOOR UNLOCK OUTPUT    |
| 7            | R/W           | STEP LAMP OUTPUT                |
| 8            | V             | ALL DOOR LOCK OUTPUT            |
| 9            | G             | DRIVER DOOR UNLOCK OUTPUT       |
| 10           | G/Y           | REAR DOOR UNLOCK OUTPUT         |
| 11           | Y/R           | BAT (FUSE)                      |
| 13           | B             | GND                             |
| 15           | Y             | ACC IND                         |
| 17           | G/B           | TURN SIGNAL RH (FRONT D/MIRROR) |
| 18           | G/Y           | TURN SIGNAL LH (FRONT D/MIRROR) |

|                |                 |
|----------------|-----------------|
| Connector No.  | 69              |
| Connector Name | REAR LH DOOR SW |

|    |   |                         |
|----|---|-------------------------|
| 19 | Y | ROOM LAMP TIMER CONTROL |
|----|---|-------------------------|

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PCS

# BCM (BODY CONTROL MODULE)

[POWER DISTRIBUTION SYSTEM]

< ECU DIAGNOSIS >

## BCM (BODY CONTROL MODULE)

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



|     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|
| 91  | 90  | 89  | 88  | 87  | 86  | 85  | 84  | 83  | 82  | 81  | 80  | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 |
| 111 | 110 | 109 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | 95 | 94 | 93 | 92 |

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Display contents of CONSULT | Fail-safe               | Cancellation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
|-----------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| B2013: ID DISCORD BCM-S/L   | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A |
| B2014: CHAIN OF S/L-BCM     | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | B |
| B2190: NATS ANTENNA AMP     | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| B2191: DIFFERENCE OF KEY    | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| B2192: ID DISCORD BCM-ECM   | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | C |
| B2193: CHAIN OF BCM-ECM     | Inhibit engine cranking | Erase DTC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| B2557: VEHICLE SPEED        | Inhibit steering lock   | When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | D |
| B2560: STARTER CONT RELAY   | Inhibit engine cranking | 500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>Starter control relay signal</li> <li>Starter relay status signal</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           | E |
| B2601: SHIFT POSITION       | Inhibit steering lock   | 500 ms after the following signal reception status becomes consistent <ul style="list-style-type: none"> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                  | F |
| B2602: SHIFT POSITION       | Inhibit steering lock   | 5 seconds after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h (2.5 MPH) or more</li> </ul>                                                                                                                                                                                                                                                                                                          | G |
| B2603: SHIFT POSI STATUS    | Inhibit steering lock   | 500 ms after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul>                                                                                                                                                                                                                                                                                  | H |
| B2604: PNP SW               | Inhibit steering lock   | 500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> <li>Status 1 <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> </ul> </li> <li>Status 2 <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul> </li> </ul> | I |
| B2605: PNP SW               | Inhibit steering lock   | 500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Power position: IGN</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>Interlock/PNP switch signal (CAN): OFF</li> <li>Status 2 <ul style="list-style-type: none"> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P or N position (battery voltage)</li> <li>PNP switch signal (CAN): ON</li> </ul> </li> </ul>                                                      | J |
| B2606: S/L RELAY            | Inhibit engine cranking | 500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          | K |
| B2607: S/L RELAY            | Inhibit engine cranking | 500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>Steering lock relay signal (Request signal)</li> <li>Steering lock relay signal (Condition signal)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          | L |

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Display contents of CONSULT | Fail-safe                                                                                                | Cancellation                                                                                                                                                                                                                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B2608: STARTER RELAY        | Inhibit engine cranking                                                                                  | 500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>                                                                                                                         |
| B2609: S/L STATUS           | <ul style="list-style-type: none"> <li>Inhibit engine cranking</li> <li>Inhibit steering lock</li> </ul> | When the following steering lock conditions agree <ul style="list-style-type: none"> <li>BCM steering lock control status</li> <li>Steering lock condition No. 1 signal status</li> <li>Steering lock condition No. 2 signal status</li> </ul>                                                                                    |
| B260A: IGNITION RELAY       | Inhibit engine cranking                                                                                  | 500 ms after the following conditions are fulfilled <ul style="list-style-type: none"> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>                      |
| B260F: ENG STATE SIG LOST   | Maintains the power supply position attained at the time of DTC detection                                | When any of the following conditions is fulfilled <ul style="list-style-type: none"> <li>Power position changes to ACC</li> <li>Receives engine status signal (CAN)</li> </ul>                                                                                                                                                    |
| B2612: S/L STATUS           | <ul style="list-style-type: none"> <li>Inhibit engine cranking</li> <li>Inhibit steering lock</li> </ul> | When any of the following conditions is fulfilled <ul style="list-style-type: none"> <li>Steering lock unit status signal (CAN) is received normally</li> <li>The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)</li> </ul>             |
| B2617: STARTER RELAY CIRC   | Inhibit engine cranking                                                                                  | 1 second after the starter motor relay control inside BCM becomes normal                                                                                                                                                                                                                                                          |
| B2618: BCM                  | Inhibit engine cranking                                                                                  | 1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal                                                                                                                                                                                                                                                    |
| B2619: BCM                  | Inhibit engine cranking                                                                                  | 1 second after the steering lock unit power supply output control inside BCM becomes normal                                                                                                                                                                                                                                       |
| B261E: VEHICLE TYPE         | Inhibit engine cranking                                                                                  | BCM initialization                                                                                                                                                                                                                                                                                                                |
| B26E1: ENG STATE NO RES     | Inhibit engine cranking                                                                                  | When any of the following conditions is fulfilled <ul style="list-style-type: none"> <li>Power position changes to ACC</li> <li>Receives engine status signal (CAN)</li> </ul>                                                                                                                                                    |
| B26E9: S/L STATUS           | <ul style="list-style-type: none"> <li>Inhibit engine cranking</li> <li>Inhibit steering lock</li> </ul> | When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions is fulfilled <ul style="list-style-type: none"> <li>Steering condition No. 1 signal: LOCK (0 V)</li> <li>Steering condition No. 2 signal: LOCK (Battery voltage)</li> </ul> |

## HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

### NOTE:

The blinking speed is normal while activating the hazard warning lamp.

## DTC Inspection Priority Chart

INFOID:000000003880877

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

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

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Priority | DTC                         |   |
|----------|-----------------------------|---|
| 4        | • B2013: ID DISCORD BCM-S/L | A |
|          | • B2014: CHAIN OF S/L-BCM   |   |
|          | • B2553: IGNITION RELAY     | B |
|          | • B2555: STOP LAMP          |   |
|          | • B2556: PUSH-BTN IGN SW    |   |
|          | • B2557: VEHICLE SPEED      |   |
|          | • B2560: STARTER CONT RELAY | C |
|          | • B2601: SHIFT POSITION     |   |
|          | • B2602: SHIFT POSITION     |   |
|          | • B2603: SHIFT POSI STATUS  |   |
|          | • B2604: PNP SW             | D |
|          | • B2605: PNP SW             |   |
|          | • B2606: S/L RELAY          |   |
|          | • B2607: S/L RELAY          |   |
|          | • B2608: STARTER RELAY      | E |
|          | • B2609: S/L STATUS         |   |
|          | • B260A: IGNITION RELAY     |   |
|          | • B260B: STEERING LOCK UNIT | F |
|          | • B260C: STEERING LOCK UNIT |   |
|          | • B260D: STEERING LOCK UNIT |   |
|          | • B260F: ENG STATE SIG LOST |   |
|          | • B2612: S/L STATUS         | G |
|          | • B2614: ACC RELAY CIRC     |   |
|          | • B2615: BLOWER RELAY CIRC  |   |
|          | • B2616: IGN RELAY CIRC     |   |
|          | • B2617: STARTER RELAY CIRC | H |
|          | • B2618: BCM                |   |
|          | • B2619: BCM                |   |
|          | • B261A: PUSH-BTN IGN SW    | I |
|          | • B261E: VEHICLE TYPE       |   |
|          | • B26E1: ENG STATE NO RES   |   |
|          | • B26E9: S/L STATUS         |   |
|          | • B26EA: KEY REGISTRATION   | J |
|          | • U0415: VEHICLE SPEED SIG  |   |
| 5        | • B2621: INSIDE ANTENNA     |   |
|          | • B2622: INSIDE ANTENNA     |   |
|          | • B2623: INSIDE ANTENNA     | K |

## DTC Index

INFOID:000000003880878

### NOTE:

The details of time display are as follows.

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

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data and IGN Counter, refer to [BCS-16, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

PCS

| CONSULT display                                            | Fail-safe | Freeze Frame Data | Intelligent Key warning lamp ON | Reference page         |
|------------------------------------------------------------|-----------|-------------------|---------------------------------|------------------------|
| No DTC is detected.<br>further testing<br>may be required. | —         | —                 | —                               | —                      |
| U1000: CAN COMM CIRCUIT                                    | —         | —                 | —                               | <a href="#">BCS-33</a> |
| U1010: CONTROL UNIT (CAN)                                  | —         | —                 | —                               | <a href="#">BCS-34</a> |
| U0415: VEHICLE SPEED SIG                                   | —         | —                 | —                               | <a href="#">BCS-35</a> |
| B2013: ID DISCORD BCM-S/L                                  | ×         | ×                 | —                               | <a href="#">SEC-46</a> |
| B2014: CHAIN OF S/L-BCM                                    | ×         | ×                 | —                               | <a href="#">SEC-47</a> |
| B2190: NATS ANTENNA AMP                                    | ×         | —                 | —                               | <a href="#">SEC-39</a> |
| B2191: DIFFERENCE OF KEY                                   | ×         | —                 | —                               | <a href="#">SEC-42</a> |

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| CONSULT display           | Fail-safe | Freeze Frame Data | Intelligent Key warn-<br>ing lamp ON | Reference page         |
|---------------------------|-----------|-------------------|--------------------------------------|------------------------|
| B2192: ID DISCORD BCM-ECM | ×         | —                 | —                                    | <a href="#">SEC-43</a> |
| B2193: CHAIN OF BCM-ECM   | ×         | —                 | —                                    | <a href="#">SEC-45</a> |
| B2553: IGNITION RELAY     | —         | ×                 | —                                    | <a href="#">PCS-49</a> |
| B2555: STOP LAMP          | —         | ×                 | —                                    | <a href="#">SEC-50</a> |
| B2556: PUSH-BTN IGN SW    | —         | ×                 | ×                                    | <a href="#">SEC-52</a> |
| B2557: VEHICLE SPEED      | ×         | ×                 | ×                                    | <a href="#">SEC-54</a> |
| B2560: STARTER CONT RELAY | ×         | ×                 | ×                                    | <a href="#">SEC-55</a> |
| B2562: LOW VOLTAGE        | —         | ×                 | —                                    | <a href="#">BCS-36</a> |
| B2601: SHIFT POSITION     | ×         | ×                 | ×                                    | <a href="#">SEC-56</a> |
| B2602: SHIFT POSITION     | ×         | ×                 | ×                                    | <a href="#">SEC-59</a> |
| B2603: SHIFT POSI STATUS  | ×         | ×                 | ×                                    | <a href="#">SEC-61</a> |
| B2604: PNP SW             | ×         | ×                 | ×                                    | <a href="#">SEC-64</a> |
| B2605: PNP SW             | ×         | ×                 | ×                                    | <a href="#">SEC-67</a> |
| B2606: S/L RELAY          | ×         | ×                 | ×                                    | <a href="#">SEC-69</a> |
| B2607: S/L RELAY          | ×         | ×                 | ×                                    | <a href="#">SEC-70</a> |
| B2608: STARTER RELAY      | ×         | ×                 | ×                                    | <a href="#">SEC-72</a> |
| B2609: S/L STATUS         | ×         | ×                 | ×                                    | <a href="#">SEC-74</a> |
| B260A: IGNITION RELAY     | ×         | ×                 | ×                                    | <a href="#">PCS-51</a> |
| B260B: STEERING LOCK UNIT | —         | ×                 | ×                                    | <a href="#">SEC-78</a> |
| B260C: STEERING LOCK UNIT | —         | ×                 | ×                                    | <a href="#">SEC-79</a> |
| B260D: STEERING LOCK UNIT | —         | ×                 | ×                                    | <a href="#">SEC-80</a> |
| B260F: ENG STATE SIG LOST | ×         | ×                 | ×                                    | <a href="#">SEC-81</a> |
| B2612: S/L STATUS         | ×         | ×                 | ×                                    | <a href="#">SEC-85</a> |
| B2614: ACC RELAY CIRC     | —         | ×                 | ×                                    | <a href="#">PCS-53</a> |
| B2615: BLOWER RELAY CIRC  | —         | ×                 | ×                                    | <a href="#">PCS-55</a> |
| B2616: IGN RELAY CIRC     | —         | ×                 | ×                                    | <a href="#">PCS-57</a> |
| B2617: STARTER RELAY CIRC | ×         | ×                 | ×                                    | <a href="#">SEC-89</a> |
| B2618: BCM                | ×         | ×                 | ×                                    | <a href="#">PCS-59</a> |
| B2619: BCM                | ×         | ×                 | ×                                    | <a href="#">SEC-91</a> |
| B261A: PUSH-BTN IGN SW    | —         | ×                 | ×                                    | <a href="#">SEC-92</a> |
| B261E: VEHICLE TYPE       | ×         | ×                 | × (Turn ON for 15<br>seconds)        | <a href="#">SEC-95</a> |
| B2621: INSIDE ANTENNA     | —         | ×                 | —                                    | <a href="#">DLK-50</a> |
| B2622: INSIDE ANTENNA     | —         | ×                 | —                                    | <a href="#">DLK-52</a> |
| B2623: INSIDE ANTENNA     | —         | ×                 | —                                    | <a href="#">DLK-54</a> |
| B26E1: ENG STATE NO RES   | ×         | ×                 | ×                                    | <a href="#">SEC-82</a> |
| B26E9: S/L STATUS         | ×         | ×                 | × (Turn ON for 15<br>seconds)        | <a href="#">SEC-83</a> |
| B26EA: KEY REGISTRATION   | —         | ×                 | × (Turn ON for 15<br>seconds)        | <a href="#">SEC-84</a> |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Reference Value

INFOID:000000003880879

### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item  | Condition                                                   |                                                                                                        | Value/Status |
|---------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------|
| MOTOR FAN REQ | Engine idle speed                                           | Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc. | 1/2/3/4      |
| AC COMP REQ   | Engine running                                              | A/C switch OFF                                                                                         | Off          |
|               |                                                             | A/C switch ON (Compressor is operating)                                                                | On           |
| TAIL&CLR REQ  | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated) |                                                                                                        | On           |
| HL LO REQ     | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch 2ND HI or AUTO (Light is illuminated)       |                                                                                                        | On           |
| HL HI REQ     | Lighting switch OFF                                         |                                                                                                        | Off          |
|               | Lighting switch HI                                          |                                                                                                        | On           |
| FR FOG REQ    | Lighting switch 2ND or AUTO (Light is illuminated)          | Front fog lamp switch OFF                                                                              | Off          |
|               |                                                             | Front fog lamp switch ON                                                                               | On           |
| FR WIP REQ    | Ignition switch ON                                          | Front wiper switch OFF                                                                                 | Stop         |
|               |                                                             | Front wiper switch INT                                                                                 | 1LOW         |
|               |                                                             | Front wiper switch LO                                                                                  | Low          |
|               |                                                             | Front wiper switch HI                                                                                  | Hi           |
| WIP AUTO STOP | Ignition switch ON                                          | Front wiper stop position                                                                              | STOP P       |
|               |                                                             | Any position other than front wiper stop position                                                      | ACT P        |
| WIP PROT      | Ignition switch ON                                          | Front wiper operates normally                                                                          | Off          |
|               |                                                             | Front wiper stops at fail-safe operation                                                               | BLOCK        |
| IGN RLY1 -REQ | Ignition switch OFF or ACC                                  |                                                                                                        | Off          |
|               | Ignition switch ON                                          |                                                                                                        | On           |
| IGN RLY       | Ignition switch OFF or ACC                                  |                                                                                                        | Off          |
|               | Ignition switch ON                                          |                                                                                                        | On           |
| PUSH SW       | Release the push-button ignition switch                     |                                                                                                        | Off          |
|               | Press the push-button ignition switch                       |                                                                                                        | On           |
| INTER/NP SW   | Ignition switch ON                                          | Selector lever in any position other than P or N                                                       | Off          |
|               |                                                             | Selector lever in P or N position                                                                      | On           |
| ST RLY CONT   | Ignition switch ON                                          |                                                                                                        | Off          |
|               | At engine cranking                                          |                                                                                                        | On           |
| IHBT RLY -REQ | Ignition switch ON                                          |                                                                                                        | Off          |
|               | At engine cranking                                          |                                                                                                        | On           |

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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

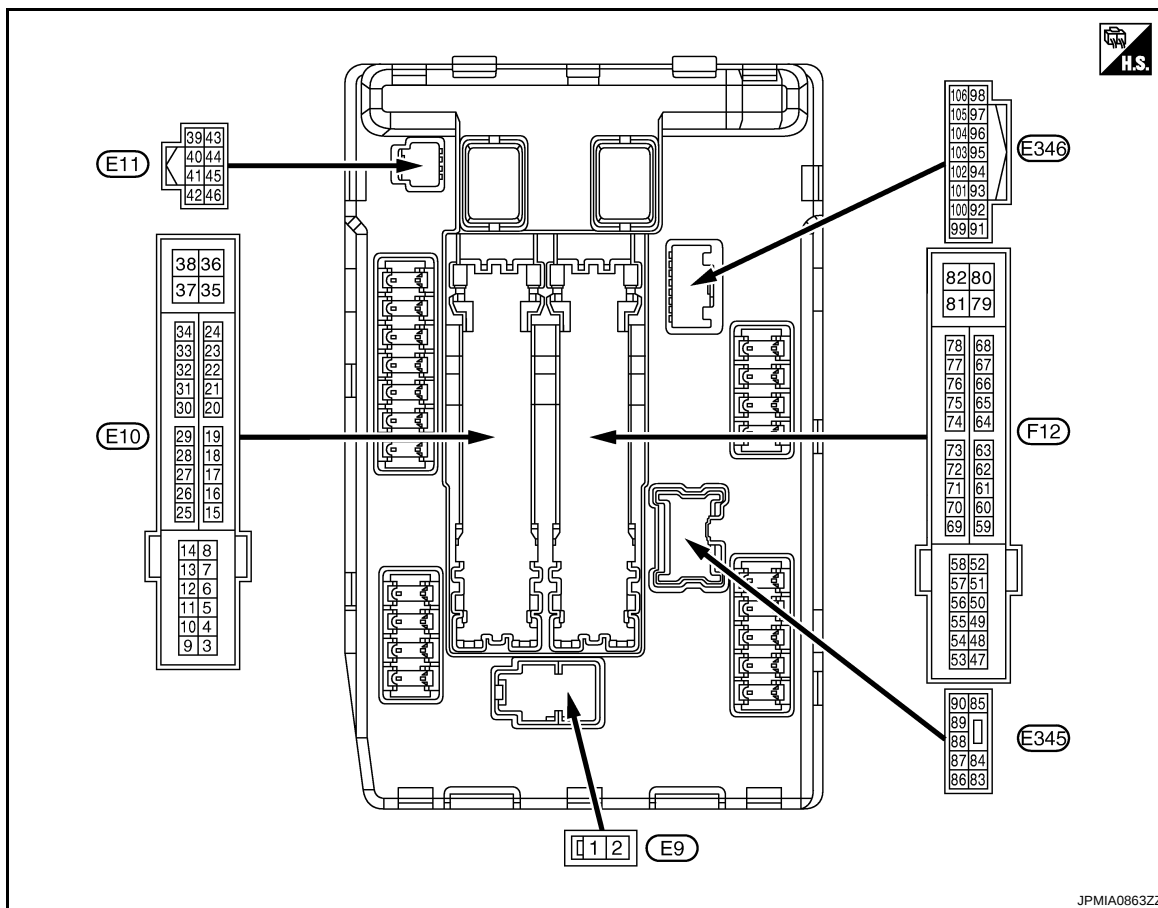
| Monitor Item   | Condition                                                                                                                                                                                                             |                                                                                                                                                                    | Value/Status |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| ST/INHI RLY    | Ignition switch ON                                                                                                                                                                                                    |                                                                                                                                                                    | Off          |
|                | At engine cranking                                                                                                                                                                                                    |                                                                                                                                                                    | INHI → ST    |
|                | The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF                                  |                                                                                                                                                                    | UNKWN        |
| DETENT SW      | Ignition switch ON                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Press the selector button with selector lever in P position</li> <li>Selector lever in any position other than P</li> </ul> | Off          |
|                | Release the selector button with selector lever in P position                                                                                                                                                         |                                                                                                                                                                    | On           |
| S/L RLY -REQ   | None of the conditions below are present                                                                                                                                                                              |                                                                                                                                                                    | Off          |
|                | <ul style="list-style-type: none"> <li>Open the driver door after the ignition switch is turned OFF (for a few seconds)</li> <li>Press the push-button ignition switch when the steering lock is activated</li> </ul> |                                                                                                                                                                    | On           |
| S/L STATE      | Steering lock is activated                                                                                                                                                                                            |                                                                                                                                                                    | LOCK         |
|                | Steering lock is deactivated                                                                                                                                                                                          |                                                                                                                                                                    | UNLOCK       |
|                | [DTC: B210A] is detected                                                                                                                                                                                              |                                                                                                                                                                    | UNKWN        |
| DTRL REQ       | <b>NOTE:</b><br>The item is indicated, but not monitored.                                                                                                                                                             |                                                                                                                                                                    | Off          |
| OIL P SW       | Ignition switch OFF, ACC or engine running                                                                                                                                                                            |                                                                                                                                                                    | Open         |
|                | Ignition switch ON                                                                                                                                                                                                    |                                                                                                                                                                    | Close        |
| HOOD SW        | Close the hood                                                                                                                                                                                                        |                                                                                                                                                                    | Off          |
|                | Open the hood                                                                                                                                                                                                         |                                                                                                                                                                    | On           |
| HL WASHER REQ  | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | Headlamp washer operating                                                                                                                                                                                             |                                                                                                                                                                    | On           |
| THFT HRN REQ   | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | Horn is activated with vehicle security (theft warning) system                                                                                                                                                        |                                                                                                                                                                    | On           |
| HORN CHIRP     | Not operating                                                                                                                                                                                                         |                                                                                                                                                                    | Off          |
|                | <ul style="list-style-type: none"> <li>Door locking with Intelligent Key (horn chirp mode)</li> <li>Door locking with key fob (horn chirp mode)</li> </ul>                                                            |                                                                                                                                                                    | On           |
| CRNRNG LMP REQ | <b>NOTE:</b><br>The item is indicated, but not monitored.                                                                                                                                                             |                                                                                                                                                                    | Off          |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## TERMINAL LAYOUT



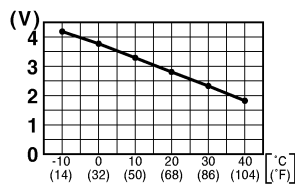
## PHYSICAL VALUES

| Terminal No.<br>(Wire color) |        | Description                                  |                  | Condition                                                                                                                                                         |                        | Value<br>(Approx.) |
|------------------------------|--------|----------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|
| +                            | -      | Signal name                                  | Input/<br>Output |                                                                                                                                                                   |                        |                    |
| 1<br>(R)                     | Ground | Battery power supply                         | Input            | Ignition switch OFF                                                                                                                                               |                        | Battery voltage    |
| 2<br>(L)                     | Ground | Battery power supply                         | Input            | Ignition switch OFF                                                                                                                                               |                        | Battery voltage    |
| 4<br>(LG)                    | Ground | Front wiper LO                               | Output           | Ignition<br>switch ON                                                                                                                                             | Front wiper switch OFF | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Front wiper switch LO  | Battery voltage    |
| 5<br>(Y)                     | Ground | Front wiper HI                               | Output           | Ignition<br>switch ON                                                                                                                                             | Front wiper switch OFF | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Front wiper switch HI  | Battery voltage    |
| 7<br>(GR)                    | Ground | Tail, license plate lamps &<br>illuminations | Output           | Ignition<br>switch ON                                                                                                                                             | Lighting switch OFF    | 0 V                |
|                              |        |                                              |                  |                                                                                                                                                                   | Lighting switch 1ST    | Battery voltage    |
| 10<br>(BR)                   | Ground | ECM relay power supply                       | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                             |                        | 0 V                |
|                              |        |                                              |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li> </ul> |                        | Battery voltage    |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                                                                             |                                                                                                                                                   | Value<br>(Approx.)                                                                                       |
|------------------------------|--------|------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                                                                       |                                                                                                                                                   |                                                                                                          |
| 11<br>(P)                    | Ground | Steering lock unit power supply          | Output           | Ignition switch OFF                                                                                                                   | A few seconds after opening the driver door                                                                                                       | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch LOCK                                                                                                                  | Press the push-button ignition switch                                                                                                             | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch ACC or ON                                                                                                             |                                                                                                                                                   | 0 V                                                                                                      |
| 12<br>(B/W)                  | Ground | Ground                                   | —                | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |
| 13<br>(SB)                   | Ground | Fuel pump power supply                   | Output           | Approximately 1 second or more after turning the ignition switch ON                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | <ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul> |                                                                                                                                                   | Battery voltage                                                                                          |
| 15<br>(W)                    | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 16<br>(R)                    | Ground | Front wiper auto stop                    | Input            | Ignition switch ON                                                                                                                    | Front wiper stop position                                                                                                                         | 0 V                                                                                                      |
|                              |        |                                          |                  |                                                                                                                                       | Any position other than front wiper stop position                                                                                                 | Battery voltage                                                                                          |
| 17<br>(V)                    | Ground | Headlamp washer relay control            | Input            | Ignition switch ON                                                                                                                    | Headlamp washer deactivated                                                                                                                       | Battery voltage                                                                                          |
|                              |        |                                          |                  |                                                                                                                                       | Headlamp washer activated                                                                                                                         | 0 V                                                                                                      |
| 19<br>(Y)                    | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 20<br>(B)                    | Ground | Ambient sensor ground                    | Output           | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |
| 21<br>(O)                    | Ground | Ambient sensor                           | Input            | Ignition switch ON<br><b>NOTE:</b><br>Changes depending to ambient temperature                                                        |                                                                                                                                                   |  <p>JSNIA0014GB</p> |
| 22<br>(SB)                   | Ground | Refrigerant pressure sensor ground       | Output           | Engine running                                                                                                                        | <ul style="list-style-type: none"> <li>Warm-up condition</li> <li>Idle speed</li> </ul>                                                           | 0 V                                                                                                      |
| 23<br>(GR)                   | Ground | Refrigerant pressure sensor              | Output           | Engine running                                                                                                                        | <ul style="list-style-type: none"> <li>Warm-up condition</li> <li>Both A/C switch and blower fan motor switch ON (Compressor operates)</li> </ul> | 1.0 - 4.0 V                                                                                              |
| 24<br>(G)                    | Ground | Refrigerant pressure sensor power supply | Input            | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 5.0 V                                                                                                    |
| 25<br>(GR)                   | Ground | Ignition relay power supply              | Output           | Ignition switch OFF                                                                                                                   |                                                                                                                                                   | 0 V                                                                                                      |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | Battery voltage                                                                                          |
| 27<br>(W)                    | Ground | Ignition relay monitor                   | Input            | Ignition switch OFF or ACC                                                                                                            |                                                                                                                                                   | Battery voltage                                                                                          |
|                              |        |                                          |                  | Ignition switch ON                                                                                                                    |                                                                                                                                                   | 0 V                                                                                                      |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                       |                  | Condition                                                                                                     |                                                                                                                                                       | Value<br>(Approx.) |
|------------------------------|--------|-----------------------------------|------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| +                            | —      | Signal name                       | Input/<br>Output |                                                                                                               |                                                                                                                                                       |                    |
| 28<br>(SB)                   | Ground | Push-button ignition switch       | Input            | Press the push-button ignition switch                                                                         |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Release the push-button ignition switch                                                                       |                                                                                                                                                       | Battery voltage    |
| 30<br>(BR)                   | Ground | Starter relay control             | Input            | Ignition switch ON                                                                                            | Selector lever in any position other than P or N                                                                                                      | 0 V                |
|                              |        |                                   |                  |                                                                                                               | Selector lever P or N                                                                                                                                 | Battery voltage    |
| 32<br>(V)                    | Ground | Steering lock unit condition-1    | Input            | Steering lock is activated                                                                                    |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Steering lock is deactivated                                                                                  |                                                                                                                                                       | Battery voltage    |
| 33<br>(G)                    | Ground | Steering lock unit condition-2    | Input            | Steering lock is activated                                                                                    |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Steering lock is deactivated                                                                                  |                                                                                                                                                       | 0 V                |
| 34<br>(O)                    | Ground | Cooling fan relay-3 control       | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Cooling fan at HI operation                                                                                   |                                                                                                                                                       | 0 V                |
| 35<br>(P)                    | Ground | Cooling fan relay-1 power supply  | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | Cooling fan at LO operation                                                                                   |                                                                                                                                                       | 6.0 V              |
| 36<br>(G)                    | Ground | Battery power supply              | Input            | Ignition switch OFF                                                                                           |                                                                                                                                                       | Battery voltage    |
| 38<br>(GR)                   | Ground | Cooling fan relay-1 power supply  | Output           | Cooling fan not operating                                                                                     |                                                                                                                                                       | 0 V                |
|                              |        |                                   |                  | Cooling fan at LO operation                                                                                   |                                                                                                                                                       | 6.0 V              |
| 39<br>(P)                    | —      | CAN-L                             | Input/<br>Output | —                                                                                                             |                                                                                                                                                       | —                  |
| 40<br>(L)                    | —      | CAN-H                             | Input/<br>Output | —                                                                                                             |                                                                                                                                                       | —                  |
| 41<br>(B)                    | Ground | Ground                            | —                | Ignition switch ON                                                                                            |                                                                                                                                                       | 0 V                |
| 42<br>(SB)                   | Ground | Cooling fan relay-2 control       | Input            | Cooling fan stopped                                                                                           |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | <ul style="list-style-type: none"> <li>Cooling fan MID operating</li> <li>Cooling fan HI operating</li> </ul> |                                                                                                                                                       | 0 V                |
| 43<br>(Y)                    | Ground | Control device (Detention switch) | Input            | Ignition switch ON                                                                                            | Press the selector button (selector lever P)                                                                                                          | Battery voltage    |
|                              |        |                                   |                  |                                                                                                               | <ul style="list-style-type: none"> <li>Selector lever in any position other than P</li> <li>Release the selector button (selector lever P)</li> </ul> | 0 V                |
| 44<br>(G)                    | Ground | Horn relay control                | Input            | The horn is deactivated                                                                                       |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | The horn is activated                                                                                         |                                                                                                                                                       | 0 V                |
| 45<br>(O)                    | Ground | Horn switch                       | Input            | The horn is deactivated                                                                                       |                                                                                                                                                       | Battery voltage    |
|                              |        |                                   |                  | The horn is activated                                                                                         |                                                                                                                                                       | 0 V                |
| 46<br>(BR)                   | Ground | Starter relay control             | Input            | Ignition switch ON                                                                                            | Selector lever in any position other than P or N                                                                                                      | 0 V                |
|                              |        |                                   |                  |                                                                                                               | Selector lever P or N                                                                                                                                 | Battery voltage    |
| 48<br>(Y/R)                  | Ground | A/C relay power supply            | Output           | Engine running                                                                                                | A/C switch OFF                                                                                                                                        | 0 V                |
|                              |        |                                   |                  |                                                                                                               | A/C switch ON (A/C compressor is operating)                                                                                                           | Battery voltage    |

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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

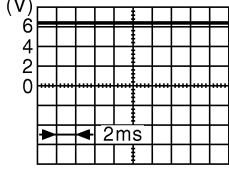
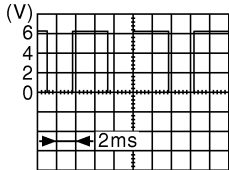
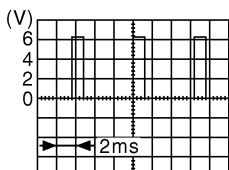
[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                                    |                  | Condition                                                                                                                                                      |                                                       | Value<br>(Approx.)                           |
|------------------------------|--------|------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------|
| +                            | −      | Signal name                                    | Input/<br>Output |                                                                                                                                                                |                                                       |                                              |
| 49<br>(R/B)                  | Ground | ECM relay power supply                         | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                          |                                                       | 0 V                                          |
|                              |        |                                                |                  | <ul style="list-style-type: none"><li>Ignition switch ON</li><li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li></ul> |                                                       | Battery voltage                              |
| 51<br>(LG)                   | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |
| 52<br>(Y/G)                  | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |
| 53<br>(R/W)                  | Ground | ECM relay power supply                         | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                          |                                                       | 0 V                                          |
|                              |        |                                                |                  | <ul style="list-style-type: none"><li>Ignition switch ON</li><li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li></ul> |                                                       | Battery voltage                              |
| 54<br>(G/W)                  | Ground | Throttle control motor re-<br>lay power supply | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                          |                                                       | 0 V                                          |
|                              |        |                                                |                  | <ul style="list-style-type: none"><li>Ignition switch ON</li><li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li></ul> |                                                       | Battery voltage                              |
| 55<br>(W/L)                  | Ground | ECM power supply                               | Output           | Ignition switch OFF                                                                                                                                            |                                                       | Battery voltage                              |
| 56<br>(R/Y)                  | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |
| 57<br>(O)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |
| 58<br>(Y)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |
| 69<br>(W/B)                  | Ground | ECM relay control                              | Output           | Ignition switch OFF<br>(More than a few seconds after turning<br>ignition switch OFF)                                                                          |                                                       | Battery voltage                              |
|                              |        |                                                |                  | <ul style="list-style-type: none"><li>Ignition switch ON</li><li>Ignition switch OFF<br/>(For a few seconds after turning igni-<br/>tion switch OFF)</li></ul> |                                                       | 0 - 1.5 V                                    |
| 70<br>(O)                    | Ground | Throttle control motor re-<br>lay control      | Output           | Ignition switch ON → OFF                                                                                                                                       |                                                       | 0 -1.0 V<br>↓<br>Battery voltage<br>↓<br>0 V |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | 0 - 1.0 V                                    |
| 72<br>(R/B)                  | Ground | Starter relay control                          | Input            | Ignition<br>switch ON                                                                                                                                          | Selector lever in any posi-<br>tion other than P or N | 0 V                                          |
|                              |        |                                                |                  |                                                                                                                                                                | Selector lever P or N                                 | Battery voltage                              |
| 74<br>(Y)                    | Ground | Ignition relay power supply                    | Output           | Ignition switch OFF                                                                                                                                            |                                                       | 0 V                                          |
|                              |        |                                                |                  | Ignition switch ON                                                                                                                                             |                                                       | Battery voltage                              |

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                     |                  | Condition                                                                                                                             |                                                                                                                                       | Value<br>(Approx.)                                                                                                   |
|------------------------------|--------|---------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                     | Input/<br>Output |                                                                                                                                       |                                                                                                                                       |                                                                                                                      |
| 75<br>(P/L)                  | Ground | Oil pressure switch             | Input            | Ignition switch ON                                                                                                                    | Engine stopped                                                                                                                        | 0 V                                                                                                                  |
|                              |        |                                 |                  |                                                                                                                                       | Engine running                                                                                                                        | Battery voltage                                                                                                      |
| 76<br>(SB)                   | Ground | Power generation command signal | Output           | Ignition switch ON                                                                                                                    |                                                                                                                                       |  <p>JPMIA0001GB</p> <p>6.3 V</p>  |
|                              |        |                                 |                  | 40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"                                                                            |                                                                                                                                       |  <p>JPMIA0002GB</p> <p>3.8 V</p>  |
|                              |        |                                 |                  | 80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"                                                                            |                                                                                                                                       |  <p>JPMIA0003GB</p> <p>1.4 V</p> |
| 77<br>(GR)                   | Ground | Fuel pump relay control         | Output           | <ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul> |                                                                                                                                       | 0 - 1.5 V                                                                                                            |
|                              |        |                                 |                  | Approximately 1 second or more after turning the ignition switch ON                                                                   |                                                                                                                                       | Battery voltage                                                                                                      |
| 80<br>(B/W)                  | Ground | Starter motor                   | Output           | At engine cranking                                                                                                                    |                                                                                                                                       | Battery voltage                                                                                                      |
| 83<br>(Y)                    | Ground | Headlamp LO (RH)                | Output           | Ignition switch ON                                                                                                                    | Lighting switch OFF                                                                                                                   | 0 V                                                                                                                  |
|                              |        |                                 |                  |                                                                                                                                       | Lighting switch 2ND                                                                                                                   | Battery voltage                                                                                                      |
| 84<br>(SB)                   | Ground | Headlamp LO (LH)                | Output           | Ignition switch ON                                                                                                                    | Lighting switch OFF                                                                                                                   | 0 V                                                                                                                  |
|                              |        |                                 |                  |                                                                                                                                       | Lighting switch 2ND                                                                                                                   | Battery voltage                                                                                                      |
| 86<br>(L)                    | Ground | Front fog lamp (RH)             | Output           | Lighting switch 2ND                                                                                                                   | <ul style="list-style-type: none"> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul> | Battery voltage                                                                                                      |
|                              |        |                                 |                  |                                                                                                                                       | Front fog lamp switch OFF                                                                                                             | 0 V                                                                                                                  |
| 87<br>(R)                    | Ground | Front fog lamp (LH)             | Output           | Lighting switch 2ND                                                                                                                   | <ul style="list-style-type: none"> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul> | Battery voltage                                                                                                      |
|                              |        |                                 |                  |                                                                                                                                       | Front fog lamp switch OFF                                                                                                             | 0 V                                                                                                                  |

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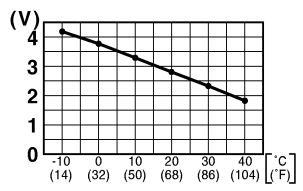
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P

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Terminal No.<br>(Wire color) |        | Description                              |                  | Condition                                                                      |                                                                                               | Value<br>(Approx.)                                                                                      |
|------------------------------|--------|------------------------------------------|------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                              | Input/<br>Output |                                                                                |                                                                                               |                                                                                                         |
| 88<br>(P)                    | Ground | Washer pump power supply                 | Output           | Ignition switch ON                                                             |                                                                                               | Battery voltage                                                                                         |
| 89<br>(W)                    | Ground | Headlamp HI (RH)                         | Output           | Ignition switch ON                                                             | • Lighting switch HI<br>• Lighting switch PASS                                                | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 90<br>(O)                    | Ground | Headlamp HI (LH)                         | Output           | Ignition switch ON                                                             | • Lighting switch HI<br>• Lighting switch PASS                                                | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 91<br>(O)                    | Ground | Parking lamp (RH)                        | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                           | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 92<br>(L)                    | Ground | Parking lamp (LH)                        | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                           | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 93<br>(BR)                   | Ground | Headlamp aiming motor (RH)               | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                           | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 94<br>(Y)                    | Ground | Headlamp aiming motor (LH)               | Output           | Ignition switch ON                                                             | Lighting switch 1ST                                                                           | Battery voltage                                                                                         |
|                              |        |                                          |                  |                                                                                | Lighting switch OFF                                                                           | 0 V                                                                                                     |
| 99<br>(W)                    | Ground | Ambient sensor ground                    | Input            | Ignition switch ON                                                             |                                                                                               | 0 V                                                                                                     |
| 100<br>(SB)                  | Ground | Ambient sensor                           | Output           | Ignition switch ON<br><b>NOTE:</b><br>Changes depending to ambient temperature |                                                                                               |  <p>JSNIA0014GB</p> |
| 101<br>(GR)                  | Ground | Refrigerant pressure sensor ground       | Input            | Engine running                                                                 | • Warm-up condition<br>• Idle speed                                                           | 0 V                                                                                                     |
| 102<br>(R)                   | Ground | Refrigerant pressure sensor              | Input            | Engine running                                                                 | • Warm-up condition<br>• Both A/C switch and blower fan motor switch ON (Compressor operates) | 1.0 - 4.0 V                                                                                             |
| 103<br>(P)                   | Ground | Refrigerant pressure sensor power supply | Output           | Ignition switch OFF                                                            |                                                                                               | 0 V                                                                                                     |
|                              |        |                                          |                  | Ignition switch ON                                                             |                                                                                               | 5.0 V                                                                                                   |
| 104<br>(LG)                  | Ground | Hood switch                              | Output           | Close the hood                                                                 |                                                                                               | Battery voltage                                                                                         |
|                              |        |                                          |                  | Open the hood                                                                  |                                                                                               | 0 V                                                                                                     |

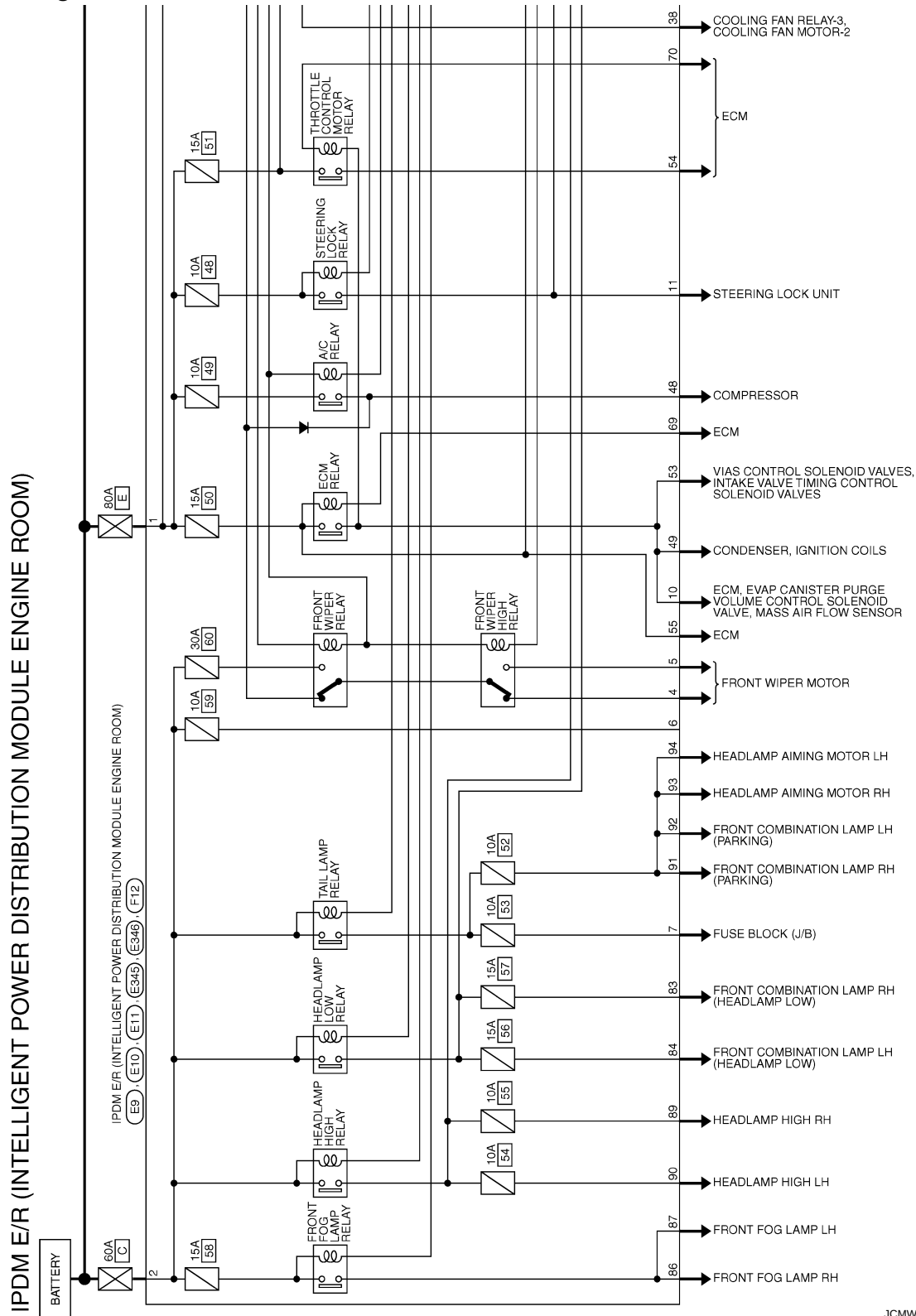
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## Wiring Diagram - IPDM E/R -

INFOID:000000003880880



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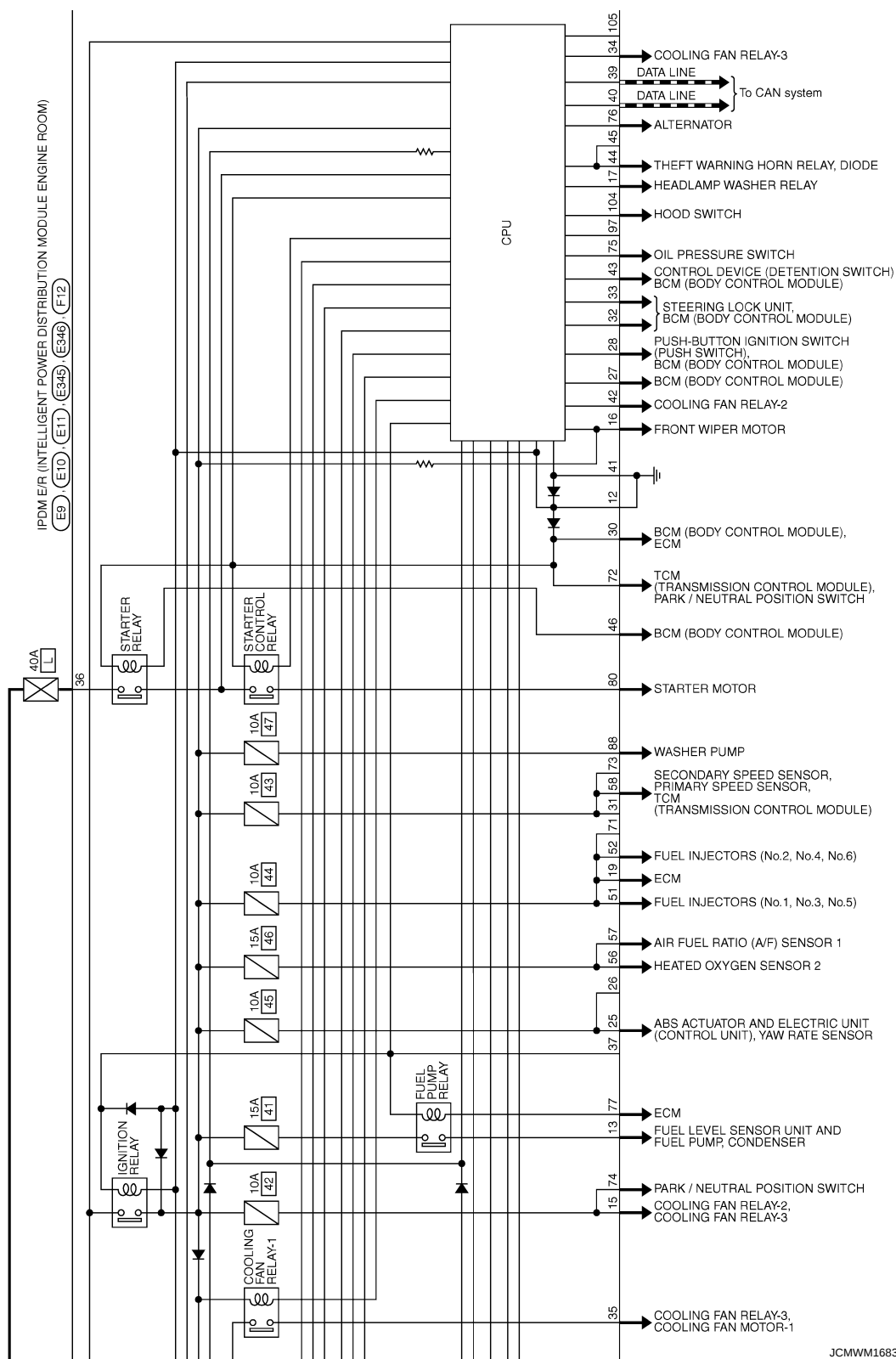
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JCMWM1682G

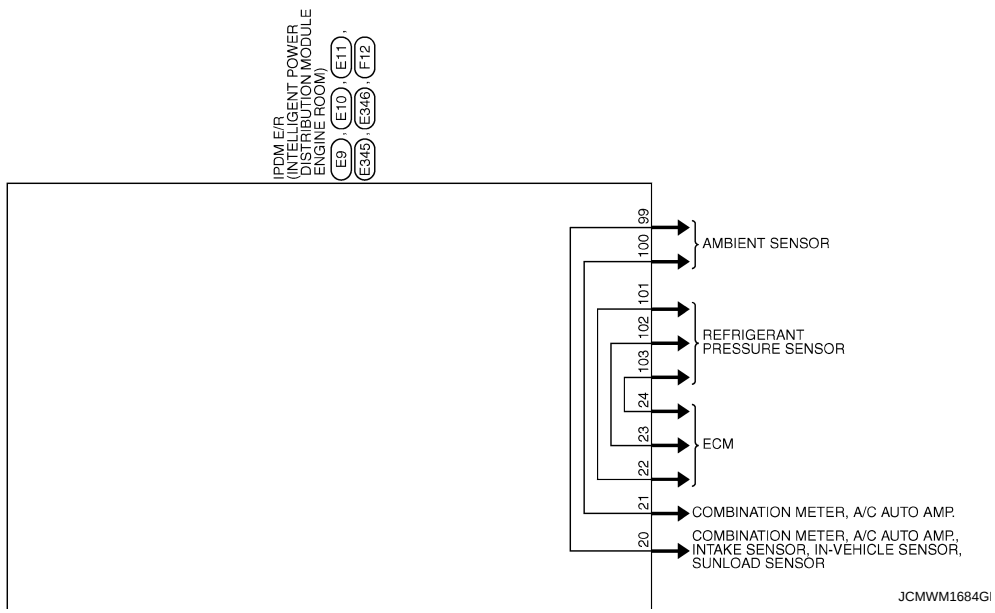
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]



JCMWM1683G



PCS

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E9                                                           |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | LO2FB-MC                                                     |



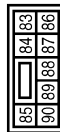
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 1            | R             | -                           |
| 2            | L             | -                           |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E10                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4-1V                                            |



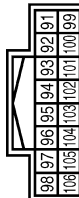
| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 4            | LG            | -                           |
| 5            | Y             | -                           |
| 7            | GR            | -                           |
| 10           | BR            | -                           |
| 11           | P             | -                           |
| 12           | B/W           | -                           |
| 13           | SB            | -                           |
| 15           | W             | -                           |
| 16           | R             | -                           |
| 17           | V             | -                           |
| 19           | Y             | -                           |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E345                                                         |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | NS08FW-CS                                                    |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 83           | Y             | -                           |
| 84           | SB            | -                           |
| 86           | L             | -                           |
| 87           | R             | -                           |
| 88           | P             | -                           |
| 89           | W             | -                           |
| 90           | O             | -                           |

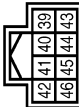
|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E346                                                         |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH18FW-NH                                                    |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 91           | O             | -                           |
| 92           | L             | -                           |
| 93           | BR            | -                           |
| 94           | Y             | -                           |
| 99           | W             | -                           |
| 100          | SB            | -                           |
| 101          | GR            | -                           |
| 102          | R             | -                           |
| 103          | P             | -                           |
| 104          | LG            | -                           |

|    |    |   |
|----|----|---|
| 20 | B  | - |
| 21 | O  | - |
| 22 | SB | - |
| 23 | GR | - |
| 24 | G  | - |
| 25 | GR | - |
| 27 | W  | - |
| 28 | SB | - |
| 30 | BR | - |
| 32 | V  | - |
| 33 | G  | - |
| 34 | O  | - |
| 35 | P  | - |
| 36 | G  | - |
| 38 | GR | - |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | E11                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH08FW-NH                                                    |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 39           | P             | -                           |
| 40           | L             | -                           |
| 41           | B             | -                           |
| 42           | SB            | -                           |
| 43           | Y             | -                           |
| 44           | G             | -                           |
| 46           | BR            | -                           |

|                |                                                              |
|----------------|--------------------------------------------------------------|
| Connector No.  | F12                                                          |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4                                               |



|    |     |   |
|----|-----|---|
| 70 | O   | - |
| 72 | R/B | - |
| 74 | Y   | - |
| 75 | P/L | - |
| 76 | SB  | - |
| 77 | GR  | - |
| 80 | B/W | - |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|--------------|---------------|-----------------------------|
| 48           | Y/R           | -                           |
| 49           | R/B           | -                           |
| 51           | LG            | -                           |
| 52           | Y/G           | -                           |
| 53           | R/W           | -                           |
| 54           | G/W           | -                           |
| 55           | W/L           | -                           |
| 56           | R/Y           | -                           |
| 57           | O             | -                           |
| 58           | Y             | -                           |
| 68           | W/B           | -                           |

## Fail-safe

### CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

JCMWM1685G

INFOID:0000000003880881

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Control part   | Fail-safe operation                                                                                                                                                                                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cooling fan    | <ul style="list-style-type: none"> <li>• Turns ON the cooling fan relay-2 and the cooling fan relay-3 when ignition switch is turned ON (Cooling fan operates at HI)</li> <li>• Turns OFF the cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 when the ignition switch is turned OFF (Cooling fan does not operate)</li> </ul> |
| A/C compressor | A/C relay OFF                                                                                                                                                                                                                                                                                                                                           |
| Alternator     | Outputs the power generation command signal (PWM signal) 0%                                                                                                                                                                                                                                                                                             |

If No CAN Communication Is Available With BCM

| Control part                                                                                                                                    | Fail-safe operation                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headlamp                                                                                                                                        | <ul style="list-style-type: none"> <li>• Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>• Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>• Headlamp high relay OFF</li> </ul>                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Illuminations</li> <li>• Tail lamps</li> </ul> | <ul style="list-style-type: none"> <li>• Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>• Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>                                                                                                                                                                                                                                 |
| Front wiper                                                                                                                                     | <ul style="list-style-type: none"> <li>• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>• The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul> |
| Front fog lamps                                                                                                                                 | Front fog lamp relay OFF                                                                                                                                                                                                                                                                                                                                                                                                               |
| Horn                                                                                                                                            | Horn OFF                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Ignition relay                                                                                                                                  | The status just before activation of fail-safe is maintained.                                                                                                                                                                                                                                                                                                                                                                          |
| Starter motor                                                                                                                                   | Starter control relay OFF                                                                                                                                                                                                                                                                                                                                                                                                              |
| Steering lock unit                                                                                                                              | Steering lock relay OFF                                                                                                                                                                                                                                                                                                                                                                                                                |
| Headlamp washer relay                                                                                                                           | Headlamp washer relay OFF                                                                                                                                                                                                                                                                                                                                                                                                              |

## IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

| Voltage judgment            |                                     | IPDM E/R judgment         | Operation                                                                                                                                    |
|-----------------------------|-------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Ignition relay contact side | Ignition relay excitation coil side |                           |                                                                                                                                              |
| ON                          | ON                                  | Ignition relay ON normal  | —                                                                                                                                            |
| OFF                         | OFF                                 | Ignition relay OFF normal | —                                                                                                                                            |
| ON                          | OFF                                 | Ignition relay ON stuck   | <ul style="list-style-type: none"> <li>• Detects DTC "B2098: IGN RELAY ON"</li> <li>• Turns ON the tail lamp relay for 10 minutes</li> </ul> |
| OFF                         | ON                                  | Ignition relay OFF stuck  | Detects DTC "B2099: IGN RELAY OFF"                                                                                                           |

## FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| Ignition switch | Front wiper switch | Front wiper auto stop signal                                                     |
|-----------------|--------------------|----------------------------------------------------------------------------------|
| ON              | OFF                | The front wiper auto stop signal (stop position) cannot be input for 10 seconds. |
|                 | ON                 | The front wiper auto stop signal does not change for 10 seconds.                 |

## NOTE:

This operation status can be confirmed on the IPDM E/R “Data Monitor” that displays “BLOCK” for the item “WIP PROT” while the wiper is stopped.

## STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

## DTC Index

INFOID:000000003880882

## NOTE:

- The details of time display are as follows.
  - CRNT: A malfunction is detected now
  - PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
  - The number is 0 when is detected now
  - The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
  - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

×: Applicable

| CONSULT display                                            | Fail-safe | Refer to                |
|------------------------------------------------------------|-----------|-------------------------|
| No DTC is detected.<br>further testing<br>may be required. | —         | —                       |
| U1000: CAN COMM CIRCUIT                                    | ×         | <a href="#">PCS-16</a>  |
| B2098: IGN RELAY ON                                        | ×         | <a href="#">PCS-17</a>  |
| B2099: IGN RELAY OFF                                       | —         | <a href="#">PCS-18</a>  |
| B2108: STRG LCK RELAY ON                                   | —         | <a href="#">SEC-96</a>  |
| B2109: STRG LCK RELAY OFF                                  | —         | <a href="#">SEC-97</a>  |
| B210A: STRG LCK STATE SW                                   | —         | <a href="#">SEC-98</a>  |
| B210B: START CONT RLY ON                                   | —         | <a href="#">SEC-102</a> |
| B210C: START CONT RLY OFF                                  | —         | <a href="#">SEC-103</a> |
| B210D: STARTER RELAY ON                                    | —         | <a href="#">SEC-104</a> |
| B210E: STARTER RELAY OFF                                   | —         | <a href="#">SEC-105</a> |
| B210F: INTRLCK/PNP SW ON                                   | —         | <a href="#">SEC-107</a> |
| B2110: INTRLCK/PNP SW OFF                                  | —         | <a href="#">SEC-109</a> |

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000003940025

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

#### **WARNING:**

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

#### Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:000000003940024

#### **NOTE:**

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Turn the push-button ignition switch to ACC position.  
(At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.

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PCS

## SYMPTOM DIAGNOSIS

## POWER DISTRIBUTION SYSTEM

## Symptom Table

INFOID:000000003805778

The engine start function, door lock function, power distribution system and NATS-IVIS/NVIS in the Intelligent Key system are closely related to each other regarding control. Narrow down the functional area in question by checking the following table to identify which function is malfunctioning. The vehicle security function can operate only when the door lock and power distribution system are operating normally. Therefore, it is easy to identify any factor unique to the vehicle security system by checking the following table.

Use the chart below to help you find the cause of the symptom. The numbers indicate the order of the inspection.

**NOTE:**

Before starting vehicle security system operation check, the following conditions must be met.

- Open front windows
- Turn ignition switch OFF
- Pull out Intelligent Key from key slot.

| NO. | Function                                           | Operation condition                                                                                                                                                                                           | Symptom                                      | Diagnostic Item | Reference page          |
|-----|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|-------------------------|
| 1   | INTELLIGENT KEY SYSTEM/<br>DOOR LOCK FUNCTION      | Lock/unlock door with door request switch.<br>(Intelligent Key is in the inside key antenna detection area)                                                                                                   | Door does not lock/unlock                    | —               | <a href="#">DLK-158</a> |
| 2   | POWER DISTRIBUTION FUNCTION                        | Press push-button ignition switch under the following conditions. <ul style="list-style-type: none"> <li>• Selector lever position is in the P or N position</li> <li>• Do not depress brake pedal</li> </ul> | Push-button ignition switch does not operate | —               | <a href="#">PCS-124</a> |
| 3   | INTELLIGENT KEY SYSTEM/<br>ENGINE START FUNCTION   | Start engine with Intelligent Key into the vehicle (Intelligent Key is in the inside key antenna detection area)                                                                                              | Engine can not start with Intelligent Key    | —               | <a href="#">SEC-193</a> |
| 4   |                                                    | Open the door after the ignition switch is turned ON to OFF                                                                                                                                                   | Steering is not locked                       | —               | <a href="#">SEC-194</a> |
| 5   | NISSAN VEHICLE IMMOBILIZER<br>SYSTEM-NATS FUNCTION | Start engine with Intelligent Key in the key slot                                                                                                                                                             | Engine can not start                         | —               | <a href="#">SEC-195</a> |
| 6   |                                                    | Open the door after the ignition switch is turned ON to OFF                                                                                                                                                   | Steering is not locked                       | —               | <a href="#">SEC-194</a> |
| 7   |                                                    | Insert Intelligent Key in the key slot                                                                                                                                                                        | Key slot indicator does not illuminate       | —               | <a href="#">SEC-196</a> |

# POWER DISTRIBUTION SYSTEM

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| NO. | Function                    | Operation condition                                                                                                                                      | Symptom                                                            | Diagnostic Item     | Reference page          |
|-----|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------|-------------------------|
| 8   | VEHICLE SECURITY SYSTEM     | Lock all doors with Intelligent Key                                                                                                                      | Vehicle security system can not be set                             | —                   | <a href="#">SEC-197</a> |
|     |                             | Lock all doors with door request switch                                                                                                                  |                                                                    | —                   | <a href="#">SEC-197</a> |
|     |                             | Lock all doors with Intelligent Key or door request switch                                                                                               | Security indicator lamp does not turn ON                           | —                   | <a href="#">SEC-196</a> |
|     |                             | In the armed phase, open the door                                                                                                                        | Vehicle security alarm does not activate                           | Horn                | <a href="#">SEC-199</a> |
|     |                             |                                                                                                                                                          |                                                                    | Hazard warning lamp |                         |
|     |                             | When alarm sounds, press Intelligent Key button                                                                                                          | Vehicle security system can not be canceled                        | —                   | <a href="#">SEC-200</a> |
|     |                             | When alarm sounds, press door request switch                                                                                                             |                                                                    | —                   | <a href="#">SEC-200</a> |
| 9   | POWER DISTRIBUTION FUNCTION | Press push-button ignition switch under the following conditions.<br>• Selector lever position is in the P or N position<br>• Do not depress brake pedal | Push-button ignition switch position indicator does not illuminate | —                   | <a href="#">PCS-125</a> |

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# PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

### Description

INFOID:000000003805779

- Before performing the diagnosis in the following table, check "Work Flow". Refer to [PCS-35. "Work Flow"](#).
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

#### Conditions of Vehicle (Operating Conditions)

- "ENGINE START BY I-KEY" in "WORK SUPPORT" is ON when setting on CONSULT-III.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

### Diagnosis Procedure

INFOID:000000003805780

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [PCS-63. "Component Function Check"](#).

Is the inspection normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts.

#### 2.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to [GI-35. "Intermittent Incident"](#).

NO >> GO TO 1.

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

### Description

INFOID:0000000003805781

- Before performing the diagnosis in the following table, check "Work Flow". Refer to [PCS-35, "Work Flow"](#).
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

### Conditions of Vehicle (Operating Conditions)

- "ENGINE START BY I-KEY" in "WORK SUPPORT" is ON when setting on CONSULT-III.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

### Diagnosis Procedure

INFOID:0000000003805782

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH INDICATOR

Check push-button ignition switch indicator.

Refer to [PCS-66, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

#### 2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-35, "Intermittent Incident"](#).

NO >> GO TO 1.

PCS

## ON-VEHICLE REPAIR

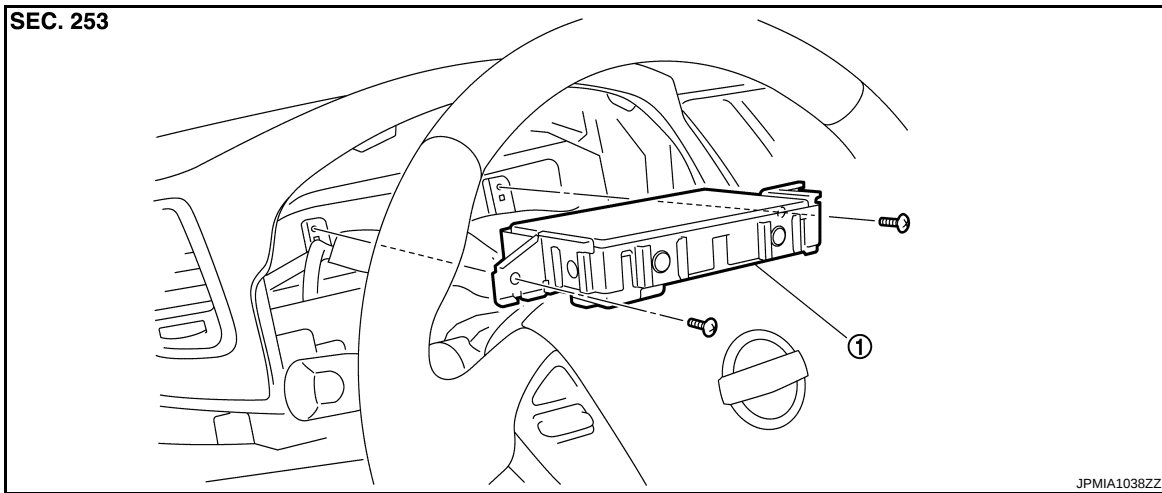
### BCM (BODY CONTROL MODULE)

#### Exploded View

INFOID:000000003839087

**CAUTION:**

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).



1. BCM

#### Removal and Installation

INFOID:000000003839088

**CAUTION:**

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).

#### REMOVAL

1. Remove combination meter. Refer to [MWI-126, "Removal and Installation"](#).
2. Remove screws.
3. Remove BCM and disconnect the connector.

#### INSTALLATION

Install in the reverse order of removal.

**CAUTION:**

- Be sure to perform "WRITE CONFIGURATION" when replacing BCM.
- Be sure to perform the system initialization (NATS) when replacing BCM. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Special Repair Requirement"](#).

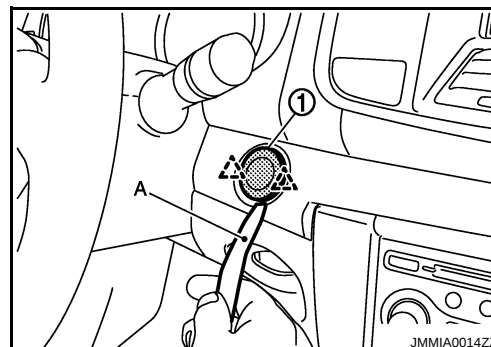
## PUSH BUTTON IGNITION SWITCH

### Removal and Installation

INFOID:000000003805786

#### REMOVAL

Remove the push-button ignition switch fixing pawl using a remover tool (A), and then remove push-button ignition switch (1).



#### INSTALLATION

Install in the reverse order of removal.

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