

# PCS

## SECTION

### POWER CONTROL SYSTEM

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## PRECAUTION

### PRECAUTIONS

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

INFOID:0000000011154166

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

#### **WARNING:**

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

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

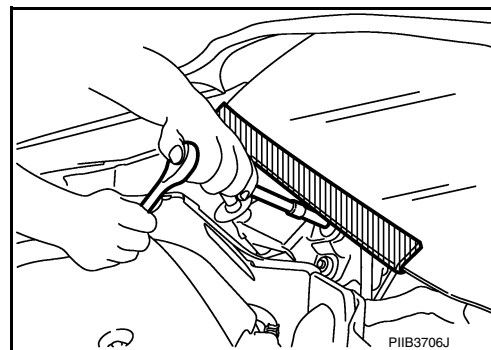
#### **WARNING:**

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

#### Procedure without Cowl Top Cover

INFOID:0000000011154167

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc. to prevent damage to the windshield.

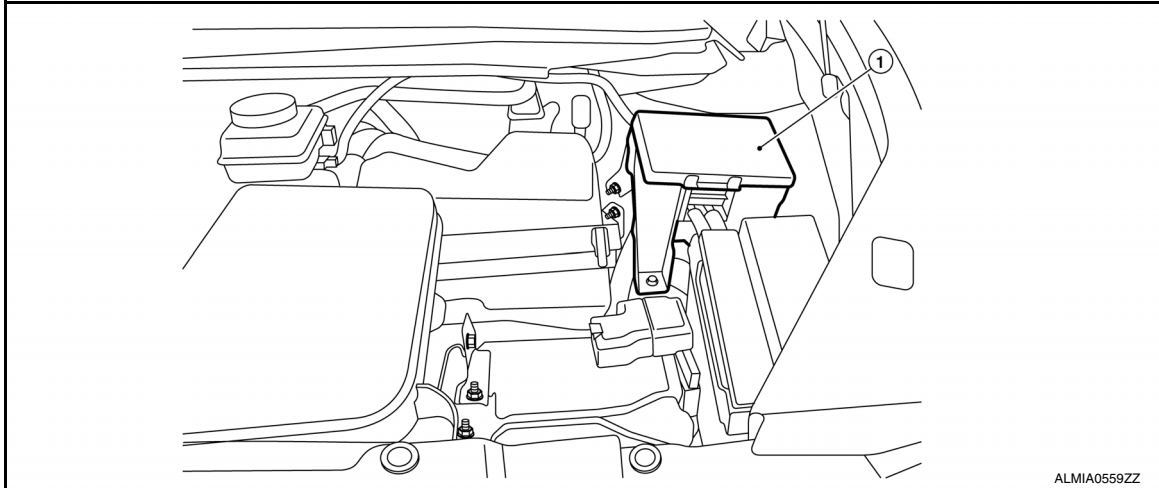


## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

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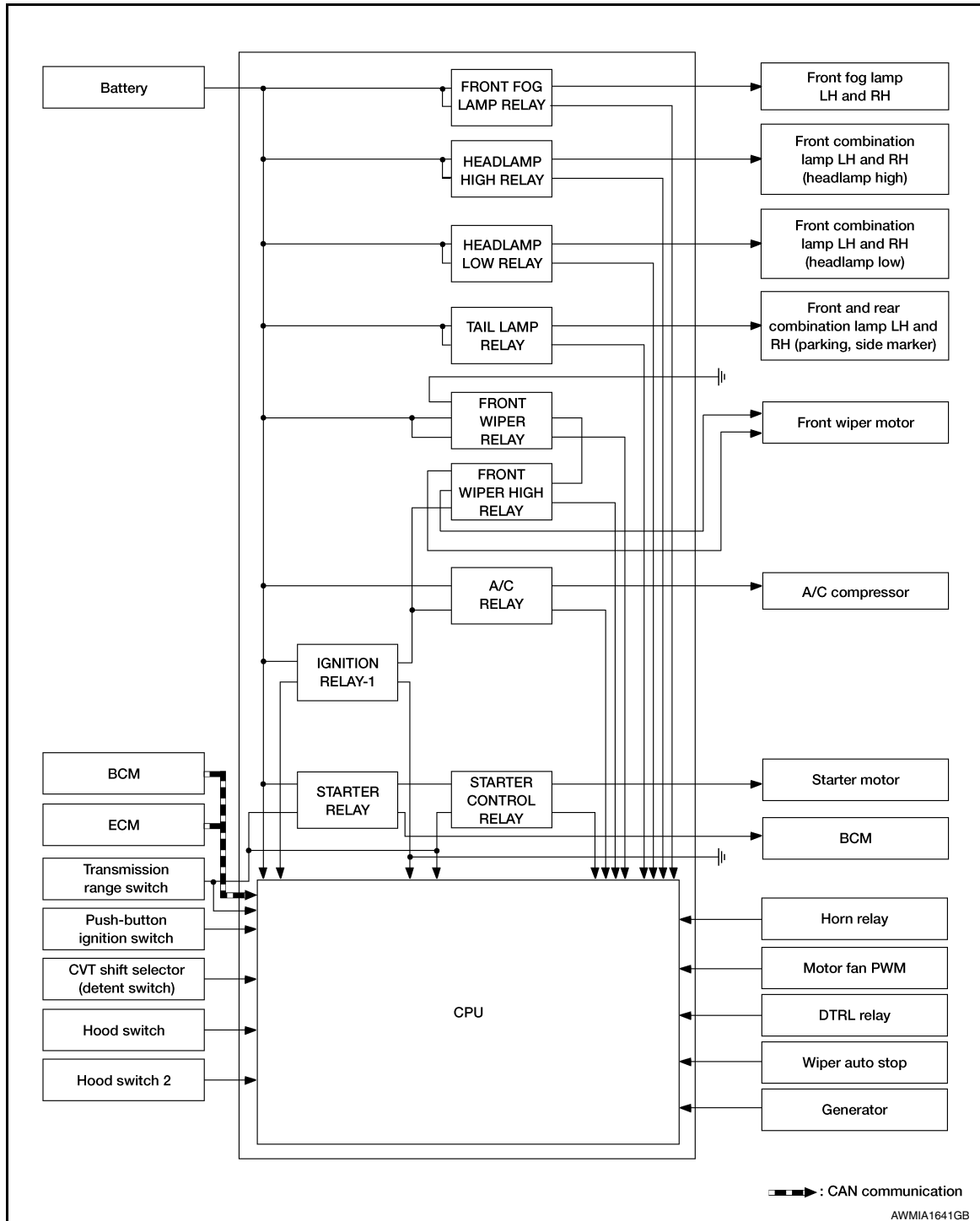
1. IPDM E/R

## SYSTEM

## RELAY CONTROL SYSTEM

## RELAY CONTROL SYSTEM : System Diagram

INFOID:0000000011154169



## RELAY CONTROL SYSTEM : System Description

INFOID:0000000011154170

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.**

# SYSTEM

## < SYSTEM DESCRIPTION >

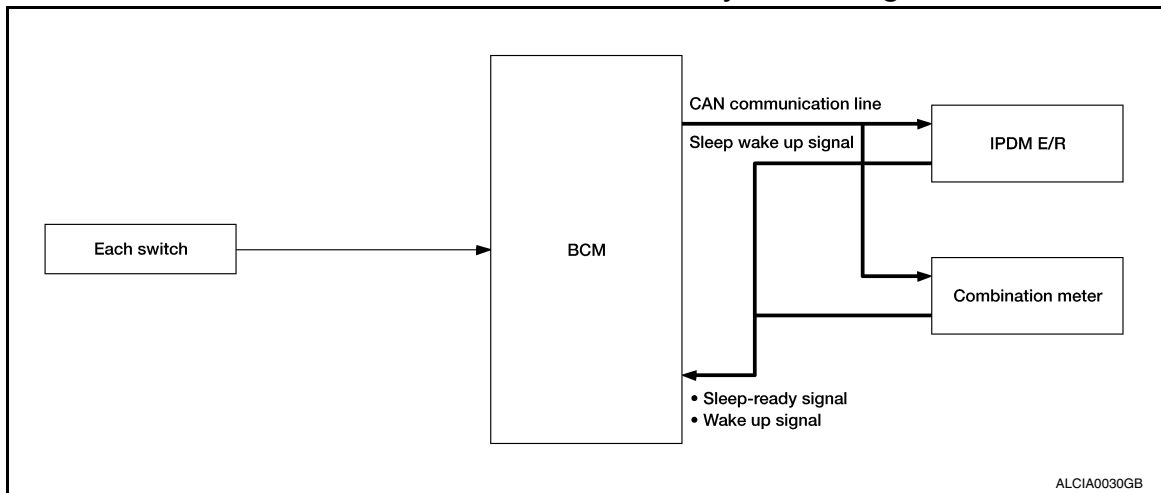
[IPDM E/R]

| Control relay                                   | Input/output                                                                     | Transmit unit                                                       | Control part                                                                | Reference page                                     |
|-------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------|
| Front fog lamp relay                            | Front fog lamp request signal                                                    | BCM (CAN)                                                           | Front fog lamp                                                              | <a href="#">EXL-119</a>                            |
| • Headlamp low relay<br>• Headlamp high relay   | • Low beam request signal<br>• High beam request signal                          | BCM (CAN)                                                           | • Headlamp low<br>• Headlamp High                                           | <a href="#">EXL-114</a><br><a href="#">EXL-112</a> |
| Tail lamp relay                                 | Position light request signal                                                    | BCM (CAN)                                                           | • Parking lamp<br>• Side marker lamp<br>• License plate lamp<br>• Tail lamp | <a href="#">EXL-121</a>                            |
| • Front wiper relay<br>• Front wiper high relay | Front wiper request signal<br>Front wiper auto stop signal                       | BCM (CAN)<br>Front wiper motor                                      | Front wiper                                                                 | <a href="#">WW-52</a>                              |
| Ignition relay-1                                | Ignition switch ON signal<br>Vehicle speed signal<br>Push-button ignition switch | BCM (CAN)<br>Combination meter (CAN)<br>Push-button ignition switch | Ignition relay-1                                                            | <a href="#">PCS-60</a>                             |
| A/C relay                                       | A/C compressor request signal                                                    | ECM (CAN)                                                           | A/C compressor                                                              | <a href="#">HAC-133</a>                            |

## POWER CONSUMPTION CONTROL SYSTEM

### POWER CONSUMPTION CONTROL SYSTEM : System Diagram

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### POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:0000000011154172

#### 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.
- Front wiper fail-safe operation
- Outputting signals to actuators

- Switches or relays operating
- Auto active test is starting
- Emergency OFF
- 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.

A

B

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.

C

D

IGNITION BATTERY SAVER LOGIC

If the ignition is ON for 30 minutes with the engine OFF, the IPDM E/R and BCM turn OFF to save the battery.

E

F

G

H

I

J

K

L

PCS

N

O

P

## DIAGNOSIS SYSTEM (IPDM E/R)

## Diagnosis Description

INFOID:0000000011154173

## 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.

- Front wiper (LO, HI)
- Front fog lamps
- Parking lamps
- Side marker lamps
- Tail lamps
- License plate lamps
- Daytime running lamps
- Headlamps (LO, HI)
- A/C compressor
- Cooling fans (LO, HI)

## Operation Procedure

**CAUTION:**

**Do not start the engine.**

**NOTE:**

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

**NOTE:**

- If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-172, "Component Function Check"](#).
  - When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.
1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
  2. Turn ignition switch OFF.
  3. Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
  4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once, and the auto active test starts.
  5. After a series of the following operations is repeated 3 times, auto active test is completed.

## Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following operation sequence is repeated 3 times.

| Operation sequence | Inspection Location                                                                                                                                                            | Operation                           |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1                  | Front wiper                                                                                                                                                                    | LO for 3 seconds → HI for 3 seconds |
| 2                  | <ul style="list-style-type: none"> <li>• Front fog lamps</li> <li>• Parking lamps</li> <li>• Side marker lamps</li> <li>• Tail lamps</li> <li>• License plate lamps</li> </ul> | 10 seconds                          |
| 3                  | Daytime running lamps                                                                                                                                                          | 10 seconds                          |
| 4                  | Headlamps                                                                                                                                                                      | LO ⇄ HI 5 times                     |
| 5                  | A/C compressor                                                                                                                                                                 | ON ⇄ OFF 5 times                    |
| 6*                 | Cooling fans                                                                                                                                                                   | LO for 5 seconds → HI for 5 seconds |

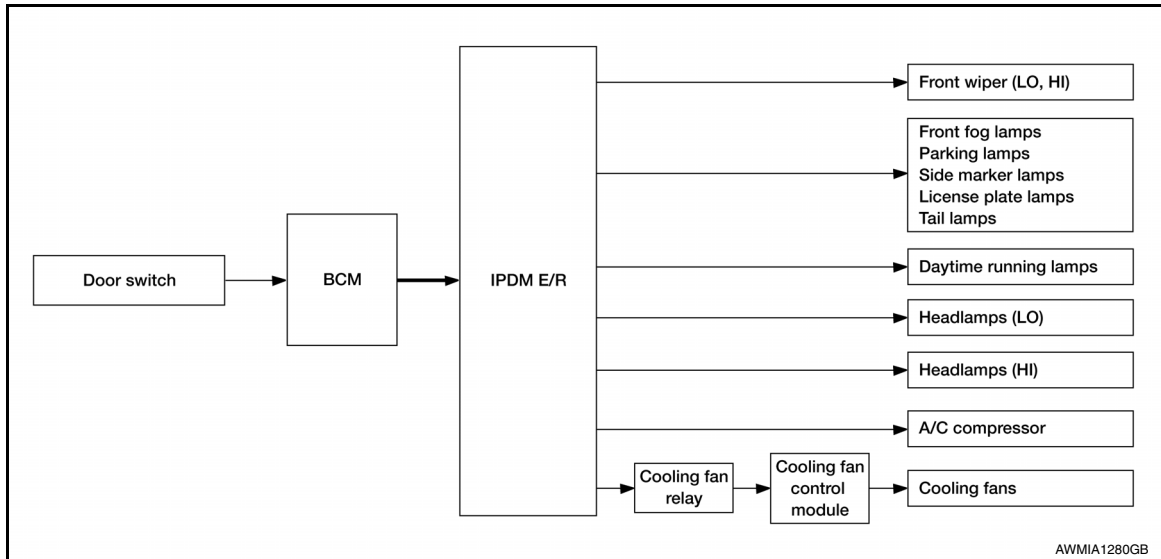
\*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

# DIAGNOSIS SYSTEM (IPDM E/R)

## < SYSTEM DESCRIPTION >

[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>• Front fog lamps</li> <li>• Parking lamps</li> <li>• Side marker lamps</li> <li>• License plate lamps</li> <li>• Tail lamps</li> <li>• Daytime running 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>                                                                                                                                                                                                           |
| Cooling fans do not operate                                                                                                                                                                                                                                                                                        | Perform auto active test.<br>Do the cooling fans 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>• Cooling fans</li> <li>• Harness or connectors between cooling fans and cooling fan control module</li> <li>• Cooling fan control module</li> <li>• Harness or connectors between cooling fan relay and cooling fan control module</li> <li>• Cooling fan relay</li> <li>• Harness or connectors between IPDM E/R and cooling fan relay</li> <li>• IPDM E/R</li> </ul> |

## CONSULT Function (IPDM E/R)

INFOID:0000000011154174

### CAUTION:

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

# DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

## APPLICATION ITEM

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

| Direct Diagnostic Mode | Description                                                                 |
|------------------------|-----------------------------------------------------------------------------|
| Ecu Identification     | The IPDM E/R part number is displayed.                                      |
| Self Diagnostic Result | The IPDM E/R self diagnostic results are displayed.                         |
| Data Monitor           | The IPDM E/R input/output data is displayed in real time.                   |
| Active Test            | The IPDM E/R activates outputs to test components.                          |
| CAN Diag Support Mntr  | The result of transmit/receive diagnosis of CAN communication is displayed. |

## ECU IDENTIFICATION

The IPDM E/R part number is displayed.

## SELF DIAGNOSTIC RESULT

Refer to [PCS-20, "DTC Index"](#).

## DATA MONITOR

| Monitor Item [Unit]           | Main Signals | Description                                                                             |
|-------------------------------|--------------|-----------------------------------------------------------------------------------------|
| RAD FAN REQ [%]               | ×            | Indicates cooling fan speed signal received from ECM on CAN communication line          |
| AC COMP REQ [On/Off]          | ×            | Indicates A/C compressor request signal received from ECM on CAN communication line     |
| TAIL&CLR REQ [On/Off]         | ×            | Indicates position light request signal received from BCM on CAN communication line     |
| HL LO REQ [On/Off]            | ×            | Indicates low beam request signal received from BCM on CAN communication line           |
| HL HI REQ [On/Off]            | ×            | Indicates high beam request signal received from BCM on CAN communication line          |
| FR FOG REQ [On/Off]           | ×            | Indicates front fog light request signal received from BCM on CAN communication line    |
| FR WIP REQ [Stop/1LOW/Low/Hi] | ×            | Indicates front wiper request signal received from BCM on CAN communication line        |
| WIP AUTO STOP [STOP P/ACT P]  | ×            | Indicates condition of front wiper auto stop signal                                     |
| WIP PROT [Off/BLOCK]          | ×            | Indicates condition of front wiper fail-safe operation                                  |
| IGN RLY1 -REQ [On/Off]        |              | Indicates ignition switch ON signal received from BCM on CAN communication line         |
| IGN RLY [On/Off]              | ×            | Indicates condition of ignition relay                                                   |
| PUSH SW [On/Off]              |              | Indicates condition of push-button ignition switch                                      |
| INTER/NP SW [On/Off]          |              | Indicates condition of CVT shift position                                               |
| ST RLY CONT [On/Off]          |              | Indicates starter relay status signal received from BCM on CAN communication line       |
| IHBT RLY -REQ [On/Off]        |              | Indicates starter control relay signal received from BCM on CAN communication line      |
| ST/INHI RLY [Off/ ST /INHI]   |              | Indicates condition of starter relay and starter control relay                          |
| DETENT SW [On/Off]            |              | Indicates condition of CVT shift selector (park position switch)                        |
| DTRL REQ [Off]                |              | Indicates daytime light request signal received from BCM on CAN communication line      |
| HOOD SW [On/Off]              |              | Indicates condition of hood switch                                                      |
| THFT HRN REQ [On/Off]         |              | Indicates theft warning horn request signal received from BCM on CAN communication line |

## DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

| Monitor Item [Unit] | Main Signals | Description                                                                |
|---------------------|--------------|----------------------------------------------------------------------------|
| HORN CHIRP [On/Off] |              | Indicates horn reminder signal received from BCM on CAN communication line |
| HOOD SW 2 [On/Off]  |              | Indicates condition of hood switch                                         |

### ACTIVE TEST

| Test item      | Description                                                              |
|----------------|--------------------------------------------------------------------------|
| HORN           | This test is able to check horn operation [On].                          |
| FRONT WIPER    | This test is able to check wiper motor operation [Hi/Lo/Off].            |
| MOTOR FAN      | This test is able to check cooling fan operation [4/3/2/1].              |
| EXTERNAL LAMPS | This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off]. |

### CAN DIAG SUPPORT MNTR

Refer to [LAN-18. "CAN Diagnostic Support Monitor"](#).

PCS

## ECU DIAGNOSIS INFORMATION

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

#### Reference Value

INFOID:0000000011154175

#### VALUES ON THE DIAGNOSIS TOOL

| Monitor Item  | Condition                                                   |                                                                                                        | Value/Status |
|---------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------|
| RAD FAN REQ   | Engine idle speed                                           | Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc. | 0 - 100 %    |
| 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<br>• Daytime running light activated (Only for Canada models)               | 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                                          | CVT selector lever in any position other than P or N                                                   | Off          |
|               |                                                             | CVT 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 INFORMATION >

[IPDM E/R]

| Monitor Item | Condition                                                                                                                                                                            |                                                                                                                                                                            | Value/Status |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| ST/INHI RLY  | Ignition switch ON                                                                                                                                                                   |                                                                                                                                                                            | Off          |
|              | At engine cranking                                                                                                                                                                   |                                                                                                                                                                            | ST →INHI     |
|              | 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 CVT selector lever in P position</li> <li>CVT selector lever in any position other than P</li> </ul> | Off          |
|              | Release the CVT selector button with CVT selector lever in P position                                                                                                                |                                                                                                                                                                            | On           |
| DTRL REQ     | DTRL OFF                                                                                                                                                                             |                                                                                                                                                                            | Off          |
|              | DTRL ON                                                                                                                                                                              |                                                                                                                                                                            | On           |
| HOOD SW      | Hood closed                                                                                                                                                                          |                                                                                                                                                                            | On           |
|              | Hood open                                                                                                                                                                            |                                                                                                                                                                            | Off          |
| THFT HRN REQ | Not operated                                                                                                                                                                         |                                                                                                                                                                            | Off          |
|              | <ul style="list-style-type: none"> <li>Panic alarm is activated</li> <li>Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM</li> </ul>                                   |                                                                                                                                                                            | On           |
| HORN CHIRP   | Not operated                                                                                                                                                                         |                                                                                                                                                                            | Off          |
|              | Door locking with Intelligent Key (horn chirp mode)                                                                                                                                  |                                                                                                                                                                            | On           |
| HOOD SW 2    | Hood closed                                                                                                                                                                          |                                                                                                                                                                            | Off          |
|              | Hood open                                                                                                                                                                            |                                                                                                                                                                            | On           |

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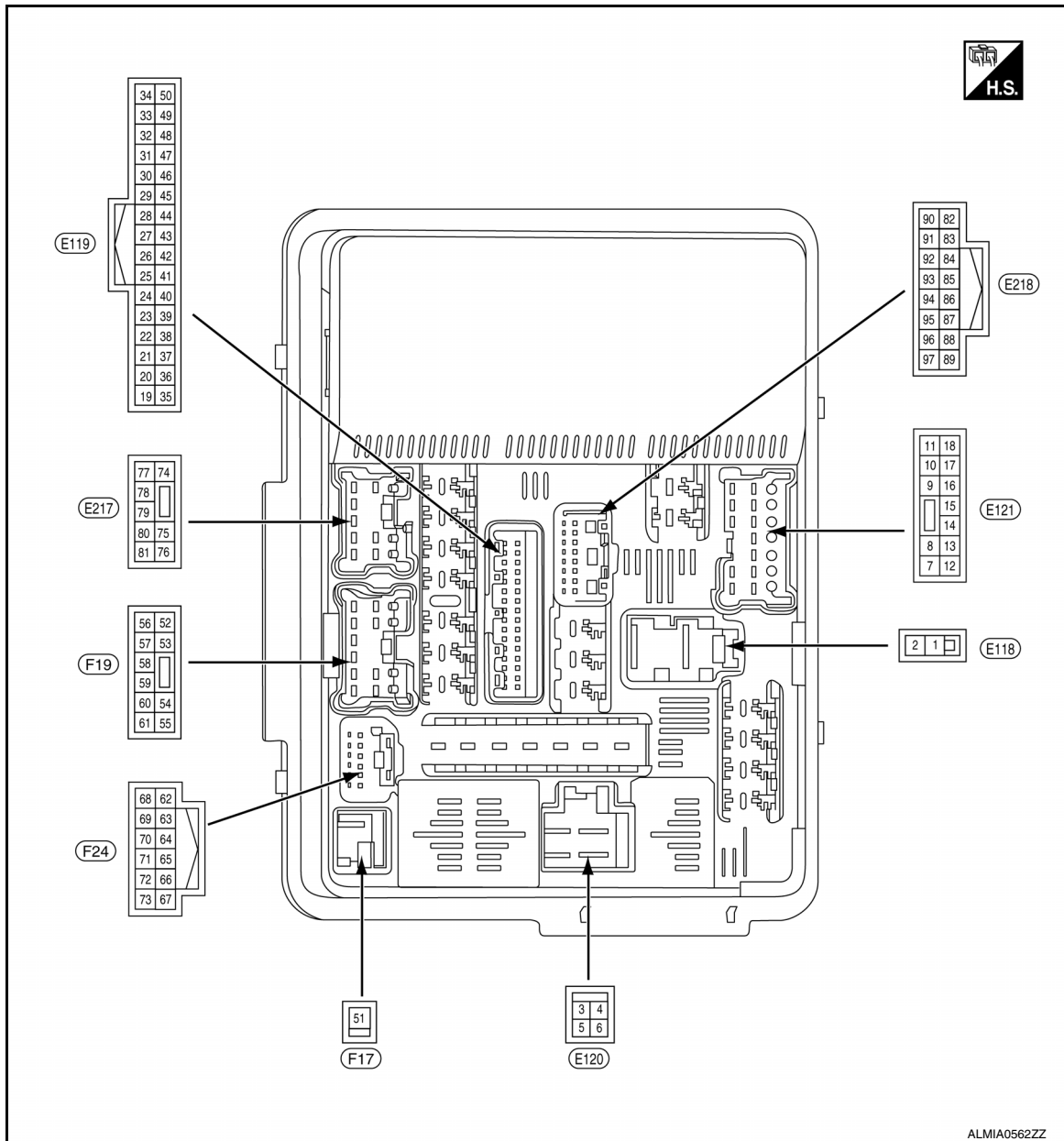
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[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 | Fusible link main            | Input            | Ignition switch OFF   |                     | Battery voltage    |
| 2<br>(L)                     | Ground | Fusible link IPDM E/R        | Input            | Ignition switch OFF   |                     | Battery voltage    |
| 3<br>(G)                     | Ground | Fusible link ignition switch | Input            | Ignition switch ON    |                     | Battery voltage    |
| 7<br>(B)                     | Ground | Ground (Power)               | —                | Ignition switch ON    |                     | 0V                 |
| 9<br>(G)                     | Ground | Tail RH                      | Output           | Ignition<br>switch ON | Lighting switch OFF | 0V                 |
|                              |        |                              |                  |                       | Lighting switch 1ST | Battery voltage    |

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                                      |                  | Condition                                                                                                                                 |                                                                                                                                                                                     | Value<br>(Approx.) |
|------------------------------|--------|--------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| +                            | —      | Signal name                                      | Input/<br>Output |                                                                                                                                           |                                                                                                                                                                                     |                    |
| 10<br>(L)                    | Ground | Tail LH                                          | Output           | Ignition<br>switch ON                                                                                                                     | Lighting switch OFF                                                                                                                                                                 | 0V                 |
|                              |        |                                                  |                  |                                                                                                                                           | Lighting switch 1ST                                                                                                                                                                 | Battery voltage    |
| 11<br>(Y)                    | Ground | Front wiper LO                                   | Output           | Ignition<br>switch ON                                                                                                                     | Front wiper switch OFF                                                                                                                                                              | 0V                 |
|                              |        |                                                  |                  |                                                                                                                                           | Front wiper switch LO                                                                                                                                                               | Battery voltage    |
| 13<br>(L)                    | Ground | ECM battery                                      | Output           | Ignition switch OFF                                                                                                                       |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | Ignition switch ON                                                                                                                        |                                                                                                                                                                                     | Battery voltage    |
| 14<br>(LG)                   | Ground | Daytime running lamps                            | Output           | Ignition switch OFF                                                                                                                       |                                                                                                                                                                                     | Battery voltage    |
| 15<br>(R)                    | Ground | Fuel pump                                        | Output           | Approximately 1 second or more after<br>turning the ignition switch ON                                                                    |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | <ul style="list-style-type: none"> <li>Approximately 1 second after turning<br/>the ignition switch ON</li> <li>Engine running</li> </ul> |                                                                                                                                                                                     | Battery voltage    |
| 18<br>(L)                    | Ground | Front wiper HI                                   | Output           | Ignition<br>switch ON                                                                                                                     | Front wiper switch OFF                                                                                                                                                              | 0V                 |
|                              |        |                                                  |                  |                                                                                                                                           | Front wiper switch HI                                                                                                                                                               | Battery voltage    |
| 19<br>(SB)                   | Ground | 4WD control unit                                 | Output           | Ignition switch OFF                                                                                                                       |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | Ignition switch ON                                                                                                                        |                                                                                                                                                                                     | Battery voltage    |
| 23<br>(LG)                   | Ground | Horn switch                                      | Input            | The horn is deactivated                                                                                                                   |                                                                                                                                                                                     | Battery voltage    |
|                              |        |                                                  |                  | The horn is activated                                                                                                                     |                                                                                                                                                                                     | 0V                 |
| 27<br>(B)                    | Ground | Fan motor relay mid                              | Input            | Ignition switch OFF or ACC                                                                                                                |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | Ignition switch ON                                                                                                                        |                                                                                                                                                                                     | 0.7V               |
| 28<br>(P)                    | —      | CAN-L                                            | Input/<br>Output | —                                                                                                                                         |                                                                                                                                                                                     | —                  |
| 29<br>(L)                    | —      | CAN-H                                            | Input/<br>Output | —                                                                                                                                         |                                                                                                                                                                                     | —                  |
| 31<br>(BG)                   | Ground | Detent switch                                    | Input            | Ignition<br>switch ON                                                                                                                     | Press the CVT selector<br>button (CVT selector lever<br>P)                                                                                                                          | Battery voltage    |
|                              |        |                                                  |                  |                                                                                                                                           | <ul style="list-style-type: none"> <li>CVT selector lever in<br/>any position other than<br/>P</li> <li>Release the CVT selec-<br/>tor button (CVT selector<br/>lever P)</li> </ul> | 0V                 |
| 33<br>(R)                    | Ground | Starter control                                  | Input            | Ignition<br>switch ON                                                                                                                     | CVT selector lever in any<br>position other than P or N                                                                                                                             | 0V                 |
|                              |        |                                                  |                  |                                                                                                                                           | CVT selector lever P or N                                                                                                                                                           | Battery voltage    |
| 34<br>(GR)                   | Ground | Wiper autostop                                   | Input            | Ignition<br>switch ON                                                                                                                     | Front wiper stop position                                                                                                                                                           | 0V                 |
|                              |        |                                                  |                  |                                                                                                                                           | Any position other than<br>front wiper stop position                                                                                                                                | Battery voltage    |
| 35<br>(BR)                   | Ground | ABS actuator and electric<br>unit (control unit) | Output           | Ignition switch OFF                                                                                                                       |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | Ignition switch ON                                                                                                                        |                                                                                                                                                                                     | Battery voltage    |
| 36<br>(W)                    | Ground | Cooling fan relay-1                              | Output           | Ignition switch OFF                                                                                                                       |                                                                                                                                                                                     | 0V                 |
|                              |        |                                                  |                  | Ignition switch ON                                                                                                                        |                                                                                                                                                                                     | Battery voltage    |

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                          |                  | Condition                                                                                                                                                         |                                                               | Value<br>(Approx.) |
|------------------------------|--------|--------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------|
| +                            | -      | Signal name                          | Input/<br>Output |                                                                                                                                                                   |                                                               |                    |
| 37<br>(W)                    | Ground | Shift N/P                            | Input            | Ignition<br>switch ON                                                                                                                                             | CVT selector lever in P or N position                         | Battery voltage    |
|                              |        |                                      |                  |                                                                                                                                                                   | CVT selector lever in any position other than P or N position | 0V                 |
| 38<br>(P)                    | Ground | Push start switch                    | Input            | Press the push-button ignition switch                                                                                                                             |                                                               | 0V                 |
|                              |        |                                      |                  | Release the push-button ignition switch                                                                                                                           |                                                               | Battery voltage    |
| 41<br>(B)                    | Ground | Ground (signal)                      | —                | Ignition switch ON                                                                                                                                                |                                                               | 0V                 |
| 43<br>(L)                    | Ground | Ignition signal*                     | Input            | Ignition switch OFF or ACC                                                                                                                                        |                                                               | 0V                 |
|                              |        |                                      |                  | Ignition switch ON                                                                                                                                                |                                                               | Battery voltage    |
| 45<br>(LG)                   | Ground | Power distribution sensor signal-E/R | —                | <ul style="list-style-type: none"> <li>Ignition switch ON (READY)</li> <li>Both A/C switch and blower motor switch ON (A/C compressor operates)</li> </ul>        |                                                               | 1.0 - 4.0V         |
| 47<br>(Y)                    | Ground | Power distribution sensor power-E/R  | —                | Ignition switch ON                                                                                                                                                |                                                               | 5V                 |
| 48<br>(V)                    | Ground | Power distribution sensor ground-E/R | —                | Ignition switch ON                                                                                                                                                |                                                               | 0V                 |
| 51<br>(W)                    | Ground | Starter motor                        | Output           | At engine cranking                                                                                                                                                |                                                               | Battery voltage    |
| 52<br>(W)                    | Ground | O2 sensor #2                         | Output           | Ignition switch OFF                                                                                                                                               |                                                               | 0V                 |
|                              |        |                                      |                  | Ignition switch ON                                                                                                                                                |                                                               | Battery voltage    |
| 53<br>(W)                    | Ground | O2 sensor #1                         | Output           | Ignition switch OFF                                                                                                                                               |                                                               | 0V                 |
|                              |        |                                      |                  | Ignition switch ON                                                                                                                                                |                                                               | Battery voltage    |
| 54<br>(L)                    | Ground | Injector #1                          | Output           | Ignition switch OFF                                                                                                                                               |                                                               | 0V                 |
|                              |        |                                      |                  | Ignition switch ON                                                                                                                                                |                                                               | Battery voltage    |
| 55<br>(W)                    | Ground | Ignition coil                        | Output           | Ignition switch OFF<br>(For a few seconds after turning ignition switch OFF)                                                                                      |                                                               | 0V                 |
|                              |        |                                      |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(More than a few seconds after turning ignition switch OFF)</li> </ul> |                                                               | Battery voltage    |
| 56<br>(SB)                   | Ground | A/C compressor                       | Output           | Engine running                                                                                                                                                    | A/C compressor OFF                                            | 0V                 |
|                              |        |                                      |                  |                                                                                                                                                                   | A/C compressor ON<br>(A/C compressor is operating)            | Battery voltage    |
| 57<br>(R)                    | Ground | Electronic throttle control          | Output           | Ignition switch OFF<br>(For a few seconds after turning ignition switch OFF)                                                                                      |                                                               | 0V                 |
|                              |        |                                      |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(More than a few seconds after turning ignition switch OFF)</li> </ul> |                                                               | Battery voltage    |
| 58<br>(GR)                   | Ground | ECM battery                          | Output           | Ignition switch OFF                                                                                                                                               |                                                               | Battery voltage    |

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                  |                  | Condition                                                                                                    |                                                               | Value<br>(Approx.)                          |
|------------------------------|--------|------------------------------|------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------|
| +                            | -      | Signal name                  | Input/<br>Output |                                                                                                              |                                                               |                                             |
| 59*1<br>(L)                  | Ground | Engine solenoid              | Output           | Ignition switch OFF<br>(For a few seconds after turning ignition switch OFF)                                 |                                                               | 0V                                          |
|                              |        |                              |                  | • Ignition switch ON<br>• Ignition switch OFF<br>(More than a few seconds after turning ignition switch OFF) |                                                               | Battery voltage                             |
| 59*2<br>(LG)                 | Ground | Engine solenoid              | Output           | Ignition switch OFF<br>(For a few seconds after turning ignition switch OFF)                                 |                                                               | 0V                                          |
|                              |        |                              |                  | • Ignition switch ON<br>• Ignition switch OFF<br>(More than a few seconds after turning ignition switch OFF) |                                                               | Battery voltage                             |
| 60<br>(LG)                   | Ground | Injector #2                  | Output           | Ignition switch OFF                                                                                          |                                                               | 0V                                          |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | Battery voltage                             |
| 61<br>(Y)                    | Ground | Transmission control module  | Output           | Ignition switch OFF                                                                                          |                                                               | 0V                                          |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | Battery voltage                             |
| 62*2<br>(W)                  | Ground | Ignition switch              | Output           | Ignition switch OFF                                                                                          |                                                               | 0V                                          |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | Battery voltage                             |
| 63<br>(L)                    | Ground | Inhibit switch               | Output           | Ignition switch OFF                                                                                          |                                                               | 0V                                          |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | Battery voltage                             |
| 64<br>(LG)                   | Ground | Start IG EGI                 | Output           | Ignition switch OFF                                                                                          |                                                               | 0V                                          |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | Battery voltage                             |
| 65<br>(G)                    | Ground | Throttle control motor relay | Output           | Ignition switch ON → OFF                                                                                     |                                                               | 0 - 1.0V<br>↓<br>Battery voltage<br>↓<br>0V |
|                              |        |                              |                  | Ignition switch ON                                                                                           |                                                               | 0 - 1.0V                                    |
| 66<br>(G)                    | Ground | N/P switch                   | Input            | Ignition switch ON                                                                                           | CVT selector lever in P or N position                         | Battery voltage                             |
|                              |        |                              |                  |                                                                                                              | CVT selector lever in any position other than P or N position | 0V                                          |
| 69<br>(W)                    | Ground | Fuel pump relay              | Output           | • Approximately 1 second after turning the ignition switch ON<br>• Engine running                            |                                                               | 0 - 1.0V                                    |
|                              |        |                              |                  | Approximately 1 second or more after turning the ignition switch ON                                          |                                                               | Battery voltage                             |

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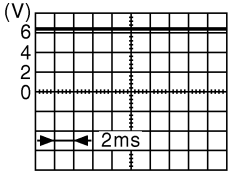
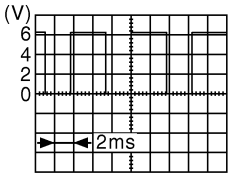
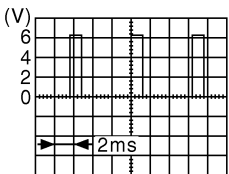
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                  |                  | Condition                                                                                                                                                         | Value<br>(Approx.)                                                                                                 |
|------------------------------|--------|------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| +                            | -      | Signal name                  | Input/<br>Output |                                                                                                                                                                   |                                                                                                                    |
| 71<br>(LG)                   | Ground | Alternator C                 | Output           | Ignition switch ON                                                                                                                                                |  <p>6.3V</p>                    |
|                              |        |                              |                  | 40% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"                                                                                                        |  <p>3.8V</p>                    |
|                              |        |                              |                  | 80% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"                                                                                                        |  <p>1.4V</p>                   |
| 72<br>(V)                    | Ground | ECM relay<br>(Self shut-off) | Output           | Ignition switch OFF<br>(For a few seconds after turning ignition switch OFF)                                                                                      | Battery voltage                                                                                                    |
|                              |        |                              |                  | <ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF<br/>(More than a few seconds after turning ignition switch OFF)</li> </ul> | 0 - 1.5V                                                                                                           |
| 74<br>(R)                    | Ground | Washer motor                 | Output           | Ignition switch ON                                                                                                                                                | Battery voltage                                                                                                    |
| 75<br>(R)                    | Ground | Headlamp LO RH               | Output           | Ignition switch ON                                                                                                                                                | Lighting switch OFF<br>0V                                                                                          |
|                              |        |                              |                  |                                                                                                                                                                   | Lighting switch 2ND<br>Battery voltage                                                                             |
| 76<br>(L)                    | Ground | Headlamp LO LH               | Output           | Ignition switch ON                                                                                                                                                | Lighting switch OFF<br>0V                                                                                          |
|                              |        |                              |                  |                                                                                                                                                                   | Lighting switch 2ND<br>Battery voltage                                                                             |
| 78<br>(W)                    | Ground | Front fog lamp RH            | Output           | Ignition switch ON                                                                                                                                                | Fog lamp switch OFF<br>0V                                                                                          |
|                              |        |                              |                  |                                                                                                                                                                   | Fog lamp switch ON<br>Battery voltage                                                                              |
| 79<br>(L)                    | Ground | Front fog lamp LH            | Output           | Ignition switch ON                                                                                                                                                | Fog lamp switch OFF<br>0V                                                                                          |
|                              |        |                              |                  |                                                                                                                                                                   | Fog lamp switch ON<br>Battery voltage                                                                              |
| 80<br>(W)                    | Ground | Headlamp HI RH               | Output           | Ignition switch ON                                                                                                                                                | <ul style="list-style-type: none"> <li>Lighting switch HI</li> <li>Lighting switch PASS</li> </ul> Battery voltage |
|                              |        |                              |                  |                                                                                                                                                                   | Lighting switch OFF<br>0V                                                                                          |
| 81<br>(G)                    | Ground | Headlamp HI LH               | Output           | Ignition switch ON                                                                                                                                                | <ul style="list-style-type: none"> <li>Lighting switch HI</li> <li>Lighting switch PASS</li> </ul> Battery voltage |
|                              |        |                              |                  |                                                                                                                                                                   | Lighting switch OFF<br>0V                                                                                          |

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

| Terminal No.<br>(Wire color) |        | Description                             |                  | Condition                                                                                                                                                       |                                    | Value<br>(Approx.) |
|------------------------------|--------|-----------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|
| +                            | -      | Signal name                             | Input/<br>Output |                                                                                                                                                                 |                                    |                    |
| 82<br>(P)                    | Ground | Power distribution sensor<br>signal-fem | —                | <ul style="list-style-type: none"> <li>Ignition switch ON (READY)</li> <li>Both A/C switch and blower motor switch ON (electric compressor operates)</li> </ul> |                                    | 1.0 - 4.0V         |
| 83<br>(G)                    | Ground | Power distribution sensor<br>power-fem  | —                | Ignition switch ON                                                                                                                                              |                                    | 5V                 |
| 85<br>(P)                    | Ground | Daytime running lamps re-<br>lay        | Output           | Ignition switch ON                                                                                                                                              | Daytime light system ac-<br>tive   | Battery voltage    |
|                              |        |                                         |                  | Ignition switch ON                                                                                                                                              | Daytime light system inac-<br>tive | 0V                 |
| 86<br>(L)                    | Ground | Power distribution sensor<br>ground-fem | —                | Ignition switch ON                                                                                                                                              |                                    | 0V                 |
| 90<br>(LG)                   | Ground | Clearance lamps                         | Output           | Ignition switch ON                                                                                                                                              | Lighting switch 1ST                | Battery voltage    |
|                              |        |                                         |                  |                                                                                                                                                                 | Lighting switch OFF                | 0V                 |
| 93<br>(V)                    | Ground | Fan motor PWM                           | Output           | Engine idling                                                                                                                                                   |                                    | 0-5V               |
| 94<br>(LG)                   | Ground | Hood switch 2                           | Input            | Ignition switch ON                                                                                                                                              | Hood closed                        | 0V                 |
|                              |        |                                         |                  |                                                                                                                                                                 | Hood open                          | Battery voltage    |
| 96<br>(R)                    | Ground | Hood switch                             | Input            | Ignition switch ON                                                                                                                                              | Hood closed                        | Battery voltage    |
|                              |        |                                         |                  |                                                                                                                                                                 | Hood open                          | 0V                 |

\*: Ignition battery saver logic turns OFF the IPDM E/R and BCM if the ignition is ON for 30 minutes with the engine OFF.

\*1: For Mexico

\*2: For USA and Canada

## Fail Safe

INFOID:0000000011154176

## 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 BCM

| Control part                                                                                                                                | Fail-safe in 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>Side marker lamps</li> <li>License plate lamps</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> |
| Horn                                                                                                                                        | Horn OFF                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Ignition relay                                                                                                                              | The status just before activation of fail-safe is maintained.                                                                                                                                                                                                                                                                                                                                                                      |

## 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.

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

## < ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

- 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.

| DTC                  | Ignition switch | Ignition relay | Tail lamp relay |
|----------------------|-----------------|----------------|-----------------|
| —                    | ON              | ON             | —               |
| —                    | OFF             | OFF            | —               |
| B2098: IGN RELAY ON  | OFF             | ON             | ON (10 minutes) |
| B2099: IGN RELAY OFF | ON              | OFF            | —               |

### NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

## 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 second activation and 20 second stop five times.

| Ignition switch | Front wiper switch | Auto stop signal                                             |
|-----------------|--------------------|--------------------------------------------------------------|
| ON              | OFF                | Front wiper stop position signal cannot be input 10 seconds. |
|                 | ON                 | The 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:0000000011154177

| CONSULT display                                      | Fail-safe | TIME <sup>NOTE</sup> |        | Refer to               |
|------------------------------------------------------|-----------|----------------------|--------|------------------------|
| No DTC is detected. Further testing may be required. | —         | —                    | —      | —                      |
| U1000: CAN COMM CIRCUIT                              | ×         | CRNT                 | 1 – 39 | <a href="#">PCS-27</a> |
| U1010: CONTROL UNIT (CAN)                            | ×         | CRNT                 | 1 – 39 | <a href="#">PCS-28</a> |
| B2098: IGN RELAY ON                                  | ×         | CRNT                 | 1 – 39 | <a href="#">PCS-29</a> |
| B2099: IGN RELAY OFF                                 | —         | CRNT                 | 1 – 39 | <a href="#">PCS-30</a> |
| B210B: INHIBIT relay ON stuck failure                | —         | CRNT                 | 1 – 39 | <a href="#">SEC-83</a> |
| B210C: INHIBIT relay OFF stuck failure               | —         | CRNT                 | 1 – 39 | <a href="#">SEC-84</a> |
| B210D: STARTER relay ON stuck failure                | —         | CRNT                 | 1 – 39 | <a href="#">SEC-86</a> |
| B210E: STARTER relay OFF stuck failure               | —         | CRNT                 | 1 – 39 | <a href="#">SEC-88</a> |
| B210F: Interlock/NP switch ON stuck failure          | —         | CRNT                 | 1 – 39 | <a href="#">SEC-90</a> |
| B2110: Interlock/NP switch OFF stuck failure         | —         | CRNT                 | 1 – 39 | <a href="#">SEC-93</a> |

### NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 - 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

[IPDM E/R]

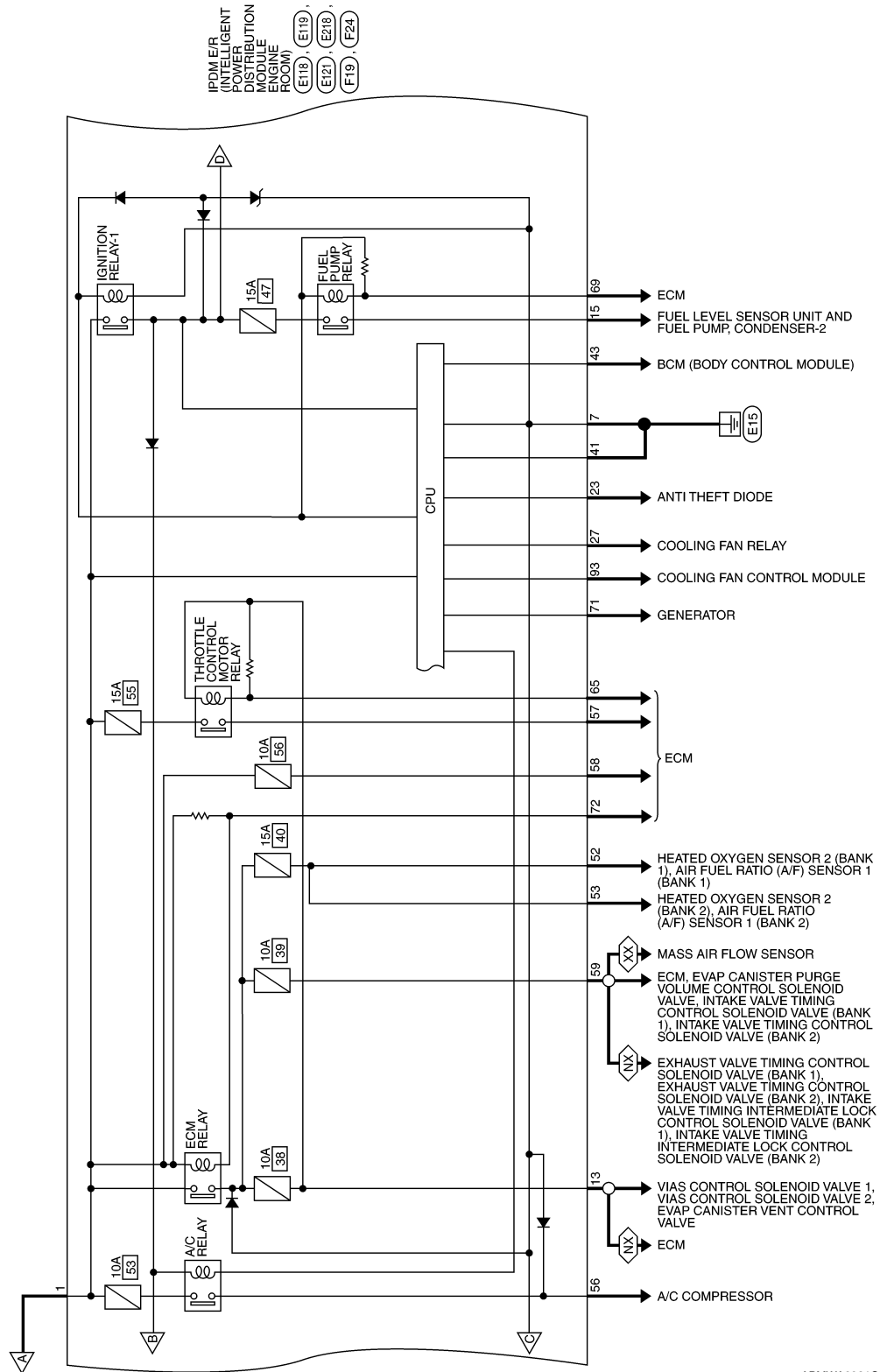
INFOID:0000000011154178

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

< WIRING DIAGRAM >

[IPDM E/R]

NX : EXCEPT FOR MEXICO  
XX : FOR MEXICO

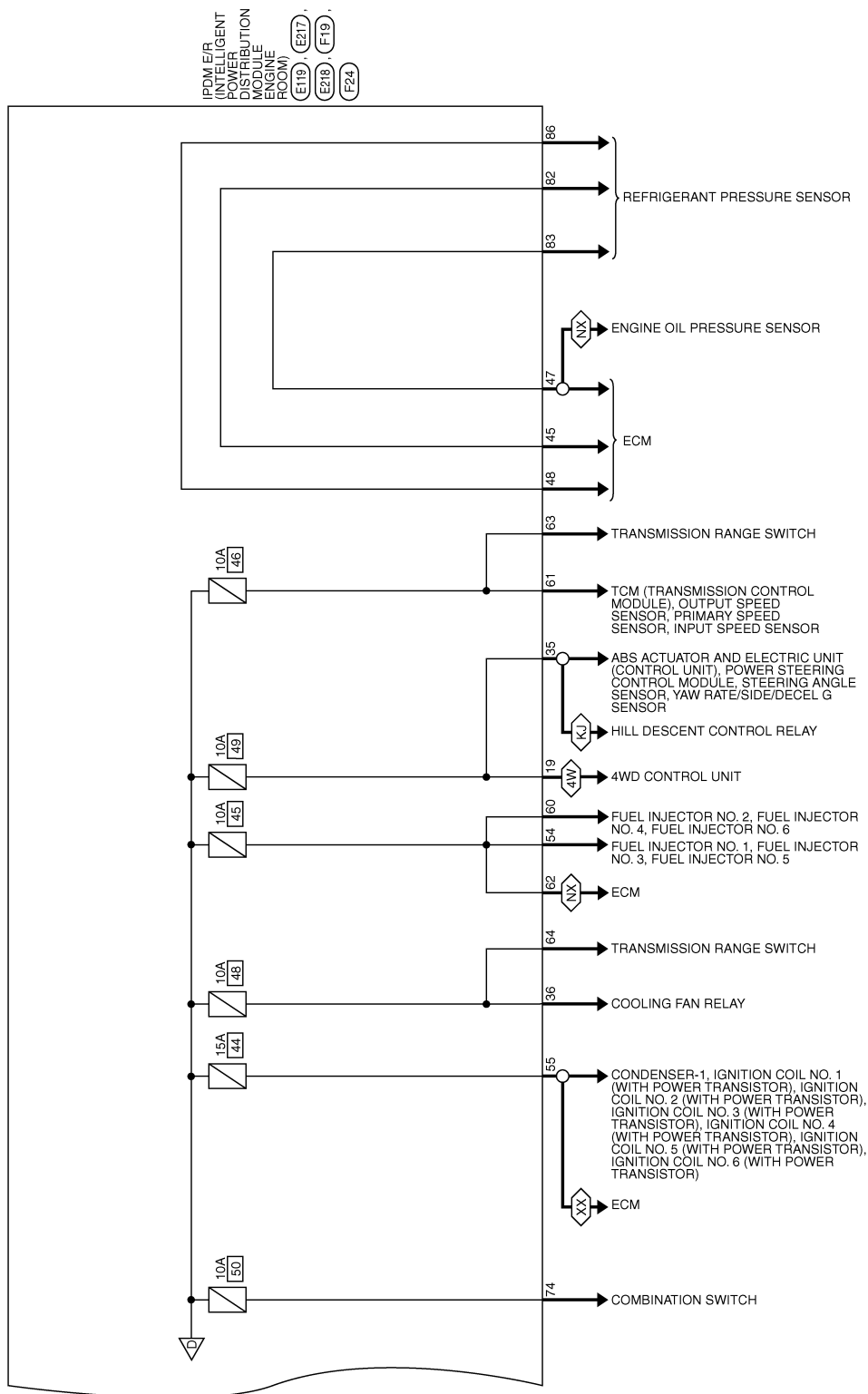


# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< WIRING DIAGRAM >

[IPDM E/R]

4W : WITH 4-WHEEL DRIVE  
KJ : WITH HILL DESCENT CONTROL  
NX : EXCEPT FOR MEXICO  
XX : FOR MEXICO



ABMWA2982GB

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

|                 |                            |
|-----------------|----------------------------|
| Connector No.   | E7                         |
| Connector Name  | FUSIBLE LINK BOX (BATTERY) |
| Connector Color | GRAY                       |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4            | R             | -           |

|                 |                            |
|-----------------|----------------------------|
| Connector No.   | E27                        |
| Connector Name  | FUSIBLE LINK BOX (BATTERY) |
| Connector Color | BROWN                      |



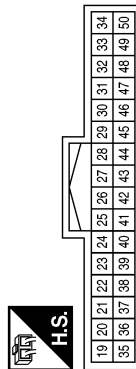
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | L             | -           |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E118                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | F/L MAIN    |
| 2            | L             | F/L USM     |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E119                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name       |
|--------------|---------------|-------------------|
| 19           | SB            | SUB ECU           |
| 20           | -             | -                 |
| 21           | -             | -                 |
| 22           | -             | -                 |
| 23           | LG            | HORN SW           |
| 24           | -             | -                 |
| 25           | -             | -                 |
| 26           | -             | -                 |
| 27           | B             | MOTOR FAN RLY MID |
| 28           | P             | CAN-L             |
| 29           | L             | CAN-H             |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 30           | -             | -               |
| 31           | BG            | DETENT SW       |
| 32           | -             | -               |
| 33           | R             | START CONT      |
| 34           | GR            | WIPER AUTOSTOP  |
| 35           | BR            | ABS ECU         |
| 36           | W             | START IG-E/R    |
| 37           | W             | CLUTCH I/L SW   |
| 38           | P             | PUSH START SW   |
| 39           | -             | -               |
| 40           | -             | -               |
| 41           | B             | GND (SIGNAL)    |
| 42           | -             | -               |
| 43           | L             | IGN SIGNAL      |
| 44           | -             | -               |
| 45           | LG            | PD SENS SIG-E/R |
| 46           | -             | -               |
| 47           | Y             | PD SENS PWR-E/R |
| 48           | V             | PD SENS GND-E/R |
| 49           | -             | -               |
| 50           | -             | -               |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E120                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | G             | F/L IGNSW   |
| 4            | -             | -           |
| 5            | -             | -           |
| 6            | -             | -           |

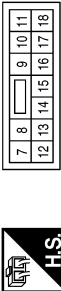
ABMIA6887GB

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E217                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



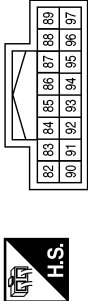
| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 74           | R             | WASH MTR       |
| 75           | R             | HEADLAMP LO RH |
| 76           | L             | HEADLAMP LO LH |
| 77           | -             | -              |
| 78           | W             | FR FOG LAMP RH |
| 79           | L             | FR FOG LAMP LH |
| 80           | W             | HEADLAMP HI RH |
| 81           | G             | HEADLAMP HI LH |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E121                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | GND (POWER) |
| 8            | -             | -           |
| 9            | G             | TAIL RH     |
| 10           | L             | TAIL LH     |
| 11           | Y             | FR WIPER LO |
| 12           | -             | -           |
| 13           | L             | ECM VB      |
| 14           | LG            | DTRL        |
| 15           | R             | FUEL PUMP   |
| 16           | -             | -           |
| 17           | -             | -           |
| 18           | L             | FR WIPER HI |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E218                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 82           | P             | PD SENS SIG-FEM |
| 83           | G             | PD SENS PWR-FEM |

| Terminal No. | Color of Wire | Signal Name     |
|--------------|---------------|-----------------|
| 84           | -             | -               |
| 85           | P             | DTRL RLY        |
| 86           | L             | PD SENS GND-FEM |
| 87           | -             | -               |
| 88           | -             | -               |
| 89           | -             | -               |
| 90           | LG            | CLEARANCE       |
| 91           | -             | -               |
| 92           | -             | -               |
| 93           | V             | MOTOR FAN PWM   |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 94           | LG            | HOODSW 2    |
| 95           | -             | -           |
| 96           | R             | HOODSW      |
| 97           | -             | -           |

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

< WIRING DIAGRAM >

[IPDM E/R]

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | F24                                                          |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |

|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 62 | 63 | 64 | 65 | 66 | 67 |
| 68 | 69 | 70 | 71 | 72 | 73 |



| Terminal No. | Color of Wire | Signal Name  |
|--------------|---------------|--------------|
| 62           | W             | ECM IGN SW   |
| 63           | L             | INHIBIT SW   |
| 64           | LG            | START IG EGI |
| 65           | G             | ETC RLY CONT |
| 66           | G             | NP SW        |
| 67           | -             | -            |
| 68           | -             | -            |
| 69           | W             | FPR          |
| 70           | -             | -            |
| 71           | LG            | ALT C        |
| 72           | V             | SSOFF        |
| 73           | -             | -            |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | F19                                                          |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |

|    |    |    |    |
|----|----|----|----|
| 52 | 53 | 54 | 55 |
| 56 | 57 | 58 | 59 |
| 60 | 61 |    |    |



| Terminal No. | Color of Wire | Signal Name                 |
|--------------|---------------|-----------------------------|
| 52           | W             | O2SENS #2                   |
| 53           | W             | O2SENS #1                   |
| 54           | L             | INJECTOR #1                 |
| 55           | W             | IGN COIL                    |
| 56           | SB            | A/C COMP                    |
| 57           | R             | ETC                         |
| 58           | GR            | ECM BAT                     |
| 59           | LG            | ENG SOL (EXCEPT FOR MEXICO) |
| 59           | L             | ENG SOL (FOR MEXICO)        |
| 60           | LG            | INJECTOR #2                 |
| 61           | Y             | AT ECU                      |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | F17                                                          |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK                                                        |

|    |
|----|
| 51 |
|----|



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 51           | W             | STARTER MOTOR |

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# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:0000000011154179

Refer to [LAN-12, "CAN COMMUNICATION SYSTEM : System Description"](#).

#### DTC Logic

INFOID:0000000011154180

#### DTC DETECTION LOGIC

| CONSULT Display             | DTC Detection Condition                                                                           | Possible Cause                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAN COMM CIRCUIT<br>[U1000] | When IPDM E/R cannot communicate with CAN communication signal continuously for 2 seconds or more | In CAN communication system, any item (or items) of the following listed below is malfunctioning. <ul style="list-style-type: none"><li>• Transmission</li><li>• Receiving (ECM)</li><li>• Receiving (BCM)</li><li>• Receiving (Combination meter)</li></ul> |

#### DTC CONFIRMATION PROCEDURE

#### Diagnosis Procedure

INFOID:0000000011154181

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.
2. Check "SELF-DIAG RESULTS" of IPDM E/R.

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-47, "Intermittent Incident"](#).

PCS

## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

### U1010 CONTROL UNIT (CAN)

#### DTC Logic

INFOID:0000000011154182

#### DTC DETECTION LOGIC

| CONSULT Display             | DTC Detection Condition                                           | Possible Cause |
|-----------------------------|-------------------------------------------------------------------|----------------|
| CAN COMM CIRCUIT<br>[U1010] | IPDM E/R detected internal CAN communication circuit malfunction. | IPDM E/R       |

#### Diagnosis Procedure

INFOID:0000000011154183

#### 1. REPLACE IPDM E/R

When DTC U1010 is detected, replace IPDM E/R.

>> Replace IPDM E/R. Refer to [PCS-32. "Removal and Installation"](#).

# B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

## B2098 IGNITION RELAY ON STUCK

### DTC Logic

INFOID:0000000011154184

### DTC DETECTION LOGIC

| CONSULT Display         | DTC Detection Condition                                                                                                                                                     | Possible Cause |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| IGN RELAY ON<br>[B2098] | 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) | IPDM E/R       |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

#### Is DTC B2098 displayed?

- YES >> Refer to [PCS-29, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000011154185

#### 1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

#### Is display history of DTC B2098 CRNT?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
NO >> Refer to [GI-47, "Intermittent Incident"](#).

PCS

## B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

### B2099 IGNITION RELAY OFF STUCK

#### DTC Logic

INFOID:0000000011154186

#### DTC DETECTION LOGIC

| CONSULT Display          | DTC Detection Condition                                                                                                                                                     | Possible Cause |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| IGN RELAY OFF<br>[B2099] | 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) | IPDM E/R       |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

##### Is DTC B2099 displayed?

- YES >> Refer to [PCS-30, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154187

##### 1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

##### Is display history of DTC B2099 CRNT?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
NO >> Refer to [GI-47, "Intermittent Incident"](#).

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:0000000011154188

Regarding Wiring Diagram information, refer to [PCS-21, "Wiring Diagram"](#).

### 1. CHECK FUSIBLE LINKS

Check that the following fusible links are not blown.

| Terminal No. | Signal name                  | Fusible link No.            |
|--------------|------------------------------|-----------------------------|
| 1            | Fusible link main            | E (80A)                     |
| 2            | Fusible link IPDM E/R        | A (250A), C (80A)           |
| 3            | Fusible link ignition switch | A (250A), B (100A), K (40A) |

Is the fusible link blown?

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

NO >> GO TO 2

### 2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connectors E118 and E120.
2. Check voltage between IPDM E/R connectors and ground.

| IPDM E/R  |          | Ground | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| Connector | Terminal |        |                      |
| E118      | 1        | —      | Battery voltage      |
|           | 2        |        |                      |
| E120      | 3        |        |                      |

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

### 3. CHECK GROUND CIRCUIT

1. Disconnect IPDM E/R connectors E119 and E121.
2. Check continuity between IPDM E/R connectors and ground.

| IPDM E/R  |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| E121      | 7        | —      | Yes        |
| E119      | 41       |        |            |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

## REMOVAL AND INSTALLATION

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

#### Removal and Installation

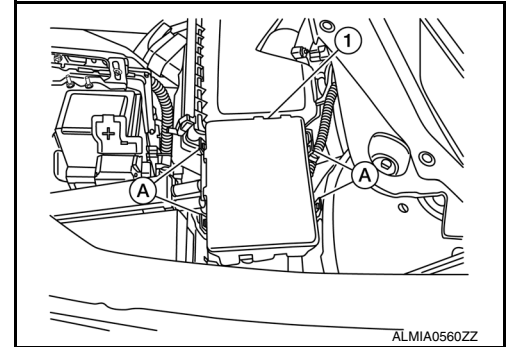
INFOID:0000000011154189

#### CAUTION:

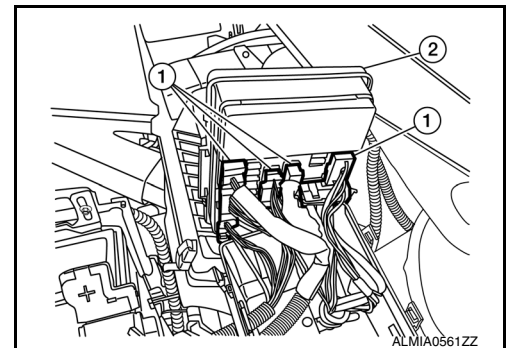
IPDM E/R integrated relays are not serviceable parts and must not be removed from the unit.

#### REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-95. "Removal and Installation"](#).
2. Release the pawls (A) and separate the IPDM E/R (1) from the case.



3. Disconnect all harness connectors (1) and remove the IPDM E/R (2).



#### INSTALLATION

Installation is in the reverse order of removal.

## PRECAUTION

### PRECAUTIONS

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

INFOID:0000000011154190

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

#### **WARNING:**

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

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

#### **WARNING:**

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

#### Precaution for Work

INFOID:0000000011154191

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

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

PCS

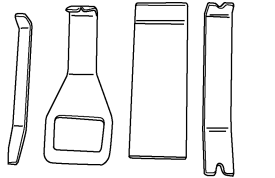
## PREPARATION

### PREPARATION

#### Special Service Tool

INFOID:0000000011154192

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

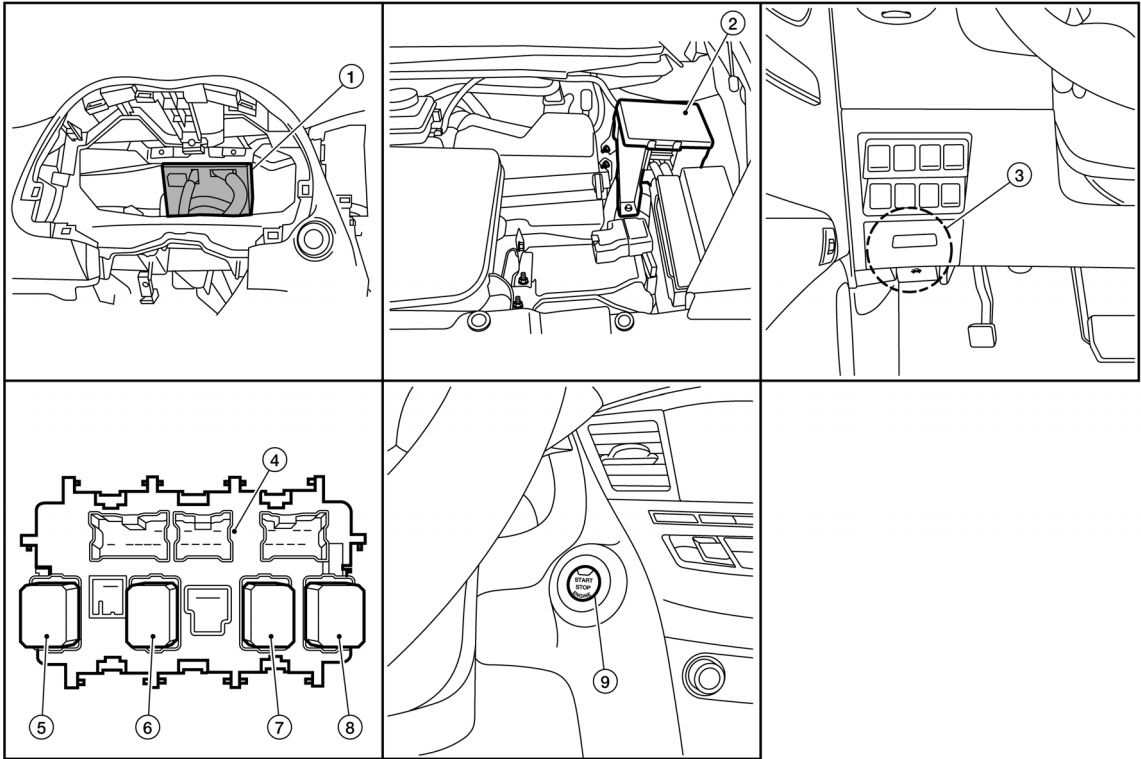
| Tool number<br>(TechMate No.)<br>Tool name                                                                                                                                                                                      | Description              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <div data-bbox="159 478 289 554"> <p>—<br/>(J-46534)<br/>Trim tool set</p> </div> <div data-bbox="659 506 932 705">  <p>AWJIA0483ZZ</p> </div> | Removing trim components |

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011154193



ALMIA0563ZZ

- |                                              |                                         |                                |
|----------------------------------------------|-----------------------------------------|--------------------------------|
| 1. BCM (view with combination meter removed) | 2. IPDM E/R (contains Ignition relay-1) | 3. Fuse block (J/B)            |
| 4. Fuse block (J/B) (back side shown)        | 5. Ignition relay-2                     | 6. Front blower motor relay    |
| 7. Rear window defogger relay                | 8. Accessory relay-1                    | 9. Push-button ignition switch |

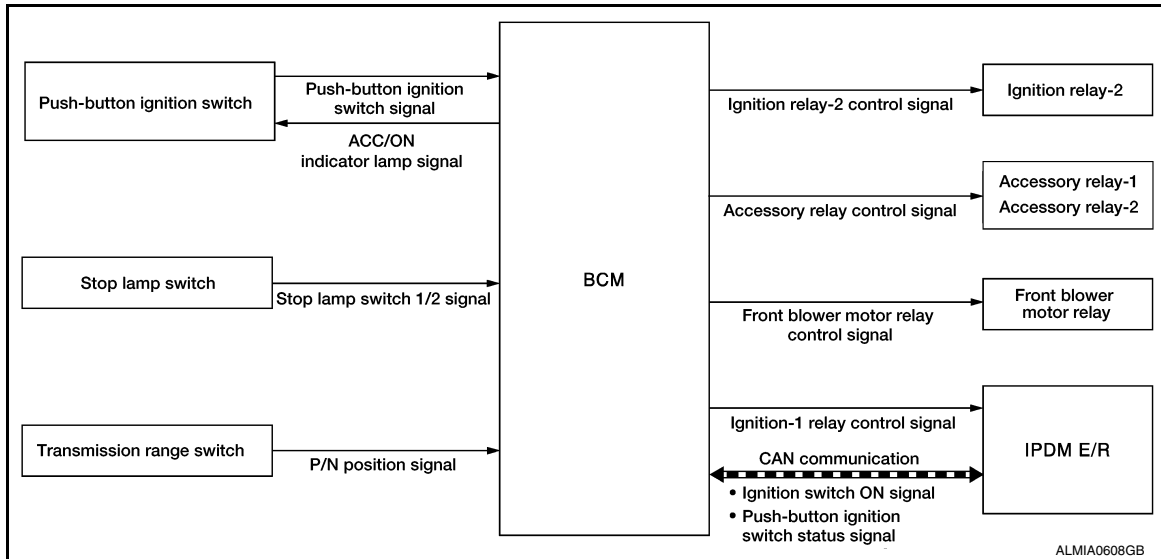
PCS

## SYSTEM

## POWER DISTRIBUTION SYSTEM

### POWER DISTRIBUTION SYSTEM : System Diagram

INFOID:0000000011154194



### POWER DISTRIBUTION SYSTEM : System Description

INFOID:0000000011154195

#### SYSTEM DESCRIPTION

- 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.
  - Intelligent Key is in the detection area of the inside key antenna.
  - Intelligent Key backside is contacted to push-button ignition switch.
- 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-1
  - Ignition relay-2
  - Accessory relay-1
  - Accessory relay-2
  - Front blower motor 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 lighting of the indicators in the push-button ignition switch.

#### BATTERY SAVER SYSTEM

When all the following conditions are met for 30 minutes, the battery saver system will cut off the power supply to prevent battery discharge.

- The ignition switch is in the ACC or ON position
- All doors are closed
- Selector lever is in the P (park) 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 P (park) position and the ignition switch is left in the ACC or ON position for 30 minutes. If any of the following conditions are met the battery saver system is released and the steering will change automatically to lock position from OFF position.

- Opening any door
- Operating door request switch on door handle
- Operating Intelligent Key

# SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

## POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

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

### NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions:
  - Brake pedal operating condition
  - Selector lever position
  - Vehicle speed

Vehicle speed: less than 4 km/h (2.5 MPH)

| Power supply position                    | Engine start/stop condition |                                 | Push-button ignition switch operation frequency |
|------------------------------------------|-----------------------------|---------------------------------|-------------------------------------------------|
|                                          | Selector lever position     | Brake pedal operation condition |                                                 |
| OFF → ACC                                | —                           | Not depressed                   | 1                                               |
| OFF → ACC → ON                           | —                           | Not depressed                   | 2                                               |
| OFF → ACC → ON → OFF                     | —                           | Not depressed                   | 3                                               |
| OFF → START<br>ACC → START<br>ON → START | P or N position             | Depressed                       | 1                                               |
| Engine is running → OFF                  | —                           | —                               | 1                                               |

Vehicle speed: 4 km/h (2.5 MPH) or more

| Power supply position                       | Engine start/stop condition |                                 | Push-button ignition switch operation frequency |
|---------------------------------------------|-----------------------------|---------------------------------|-------------------------------------------------|
|                                             | Selector lever position     | Brake pedal operation condition |                                                 |
| Engine is running → ACC                     | —                           | —                               | Emergency stop operation                        |
| Engine stall return operation while driving | N position                  | Not depressed                   | 1                                               |

Emergency stop operation

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

PCS

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:0000000011580407

#### CAUTION:

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

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Direct Diagnostic Mode | Description                                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecu Identification     | The BCM part number is displayed.                                                                                                                                        |
| Self Diagnostic Result | The BCM self diagnostic results are displayed.                                                                                                                           |
| Data Monitor           | The BCM input/output data is displayed in real time.                                                                                                                     |
| Active Test            | The BCM activates outputs to test components.                                                                                                                            |
| Work support           | The settings for BCM functions can be changed.                                                                                                                           |
| Configuration          | <ul style="list-style-type: none"> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul> |
| CAN Diag Support Mntr  | The result of transmit/receive diagnosis of CAN communication is displayed.                                                                                              |

### SYSTEM APPLICATION

BCM can perform the following functions.

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

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

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

## INTELLIGENT KEY

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

INFOID:0000000011580408

#### CAUTION:

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

## SELF DIAGNOSTIC RESULT

Refer to [BCS-52, "DTC Index"](#).

## DATA MONITOR

| Monitor Item [Unit]                 | Main | Description                                                                                            |
|-------------------------------------|------|--------------------------------------------------------------------------------------------------------|
| REQ SW -DR [On/Off]                 | ×    | Indicates condition of door request switch LH.                                                         |
| REQ SW -AS [On/Off]                 | ×    | Indicates condition of door request switch RH.                                                         |
| REQ SW -BD/TR [On/Off]              | ×    | Indicates condition of back door request switch.                                                       |
| PUSH SW [On/Off]                    |      | Indicates condition of push-button ignition switch.                                                    |
| SHFTLCK SLNID PWR SPLY [On/Off]     | ×    | Indicates condition of power supply to shiftlock solenoid.                                             |
| BRAKE SW 1 [On/Off]                 | ×    | Indicates condition of brake switch.                                                                   |
| BRAKE SW 2 [On/Off]                 |      | Indicates condition of brake switch.                                                                   |
| DETE/CANCL SW [On/Off]              | ×    | Indicates condition of P (park) position.                                                              |
| SFT PN/N SW [On/Off]                | ×    | Indicates condition of P (park) or N (neutral) position.                                               |
| UNLK SEN -DR [On/Off]               | ×    | Indicates condition of door unlock sensor.                                                             |
| PUSH SW -IPDM [On/Off]              |      | Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.   |
| IGN RLY1 -F/B [On/Off]              |      | Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line.              |
| DETE SW -IPDM [On/Off]              |      | Indicates condition of detent switch received from TCM on CAN communication line.                      |
| SFT PN -IPDM [On/Off]               |      | Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line.            |
| SFT P -MET [On/Off]                 |      | Indicates condition of P (park) position from TCM on CAN communication line.                           |
| SFT N -MET [On/Off]                 |      | Indicates condition of N (neutral) position from IPDM E/R on CAN communication line.                   |
| ENGINE STATE [STOP/START/CRANK/RUN] | ×    | Indicates condition of engine state from ECM on CAN communication line.                                |
| VEH SPEED 1 [mph/km/h]              | ×    | Indicates condition of vehicle speed signal received from ABS on CAN communication line.               |
| VEH SPEED 2 [mph/km/h]              | ×    | Indicates condition of vehicle speed signal received from combination meter on CAN communication line. |

# DIAGNOSIS SYSTEM (BCM)

## < SYSTEM DESCRIPTION >

## [POWER DISTRIBUTION SYSTEM]

| Monitor Item [Unit]             | Main | Description                                                                                                                                |
|---------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| DOOR STAT-DR [LOCK/READY/UNLK]  | ×    | Indicates condition of driver side door status.                                                                                            |
| DOOR STAT-AS [LOCK/READY/UNLK]  | ×    | Indicates condition of passenger side door status.                                                                                         |
| DOOR STAT-RR [LOCK/READY/UNLK]  | ×    | Indicates condition of rear right side door status.                                                                                        |
| DOOR STAT-RL [LOCK/READY/UNLK]  | ×    | Indicates condition of rear left side door status.                                                                                         |
| BK DOOR STATE [LOCK/READY/UNLK] | ×    | Indicates condition of back door status.                                                                                                   |
| ID OK FLAG [Set/Reset]          |      | Indicates condition of Intelligent Key ID.                                                                                                 |
| PRMT ENG STRT [Set/Reset]       |      | Indicates condition of engine start possibility.                                                                                           |
| PRMT RKE STRT [Set/Reset]       |      | Indicates condition of engine start possibility from Intelligent Key.                                                                      |
| I-KEY OK FLAG [Key ON/Key OFF]  | ×    | Indicates condition of Intelligent Key OK flag.                                                                                            |
| PRBT ENG STRT [Set/Reset]       |      | Indicates condition of engine start prohibit.                                                                                              |
| ID AUTHENT CANCEL TIMER [STOP]  |      | Indicates condition of Intelligent Key ID authentication.                                                                                  |
| ACC BATTERY SAVER [STOP]        |      | Indicates condition of battery saver.                                                                                                      |
| CRNK PRBT TMR [On/Off]          |      | Indicates condition of crank prohibit timer.                                                                                               |
| AUT CRNK TMR [On/Off]           |      | Indicates condition of automatic engine crank timer from Intelligent Key.                                                                  |
| CRNK PRBT TME [sec]             |      | Indicates condition of engine crank prohibit time.                                                                                         |
| AUT CRNK TME [sec]              |      | Indicates condition of automatic engine crank time from Intelligent Key.                                                                   |
| CRANKING TME [sec]              |      | Indicates condition of engine cranking time from Intelligent Key.                                                                          |
| DETE SW PWR [On/Off]            |      | Indicates condition of detent switch voltage.                                                                                              |
| IGN RLY3 -REQ [On/Off]          |      | Indicates condition of front blower motor relay control request.                                                                           |
| ACC RLY -REQ [On/Off]           |      | Indicates condition of accessory relay control request.                                                                                    |
| RKE OPE COUN1 [0-19]            | ×    | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE OPE COUN2 [0-19]            | ×    | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE-LOCK [On/Off]               |      | Indicates condition of lock signal from Intelligent Key.                                                                                   |
| RKE-UNLOCK [On/Off]             |      | Indicates condition of unlock signal from Intelligent Key.                                                                                 |
| RKE-TR/BD [On/Off]              |      | Indicates condition of back door open signal from Intelligent Key.                                                                         |
| RKE-PANIC [On/Off]              |      | Indicates condition of panic signal from Intelligent Key.                                                                                  |
| RKE-MODE CHG [On/Off]           |      | Indicates condition of mode change signal from Intelligent Key.                                                                            |
| RKE PBD [On/Off]                |      | Indicates condition of power back door signal from Intelligent Key.                                                                        |

## ACTIVE TEST

| Test Item                  | Description                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| INTELLIGENT KEY LINK (CAN) | This test is able to check Intelligent Key identification number [Off/ID No1/ID N02/ID No3/ID No4/ID No5]. |
| INT LAMP                   | This test is able to check interior room lamp operation [On/Off].                                          |
| FLASHER                    | This test is able to check hazard lamp operation [LH/RH/Off].                                              |
| HORN                       | This test is able to check horn operation [On].                                                            |
| BATTERY SAVER              | This test is able to check battery saver operation [On/Off].                                               |
| TRUNK/BACK DOOR            | This test is able to check back door actuator operation [Open].                                            |
| OUTSIDE BUZZER             | This test is able to check Intelligent Key warning buzzer operation [On/Off].                              |
| INSIDE BUZZER              | This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off].              |
| INDICATOR                  | This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].                  |
| IGN CONT2                  | This test is able to check ignition relay-2 control operation [On/Off].                                    |
| ENGINE SW ILLUMI           | This test is able to check push-button ignition switch START indicator operation [On/Off].                 |

# DIAGNOSIS SYSTEM (BCM)

## < SYSTEM DESCRIPTION >

## [POWER DISTRIBUTION SYSTEM]

| Test Item               | Description                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| PUSH SWITCH INDICATOR   | This test is able to check push-button ignition switch indicator operation [On/Off].                                           |
| ACC CONT                | This test is able to check accessory relay control operation [On/Off].                                                         |
| IGN CONT1               | This test is able to check ignition relay-1 control operation [On/Off].                                                        |
| ST CONT LOW             | This test is able to check starter control relay operation [On/Off].                                                           |
| IGNITION RELAY          | This test is able to check ignition relay operation [On/Off].                                                                  |
| REVERSE LAMP TEST       | This test is able to check reverse lamp illumination operation [On/Off].                                                       |
| DOOR HANDLE LAMP TEST   | This test is able to check door handle lamp illumination operation [On/Off].                                                   |
| TRUNK/LUGGAGE LAMP TEST | This test is able to check cargo lamp illumination operation [On/Off].                                                         |
| KEYFOB P/W TEST         | This test is able to check power window operation using the Intelligent Key [P/W up/down OFF/Send P/W down ON/Send P/W up ON]. |
| SHIFTLOCK SORENOID TEST | This test is able to check shift lock solenoid operation [On/Off].                                                             |

## WORK SUPPORT

| Support Item                   | Setting | Description                                                                           |
|--------------------------------|---------|---------------------------------------------------------------------------------------|
| IGN/ACC BATTERY SAVER          | On*     | Battery saver function ON.                                                            |
|                                | Off     | Battery saver function OFF.                                                           |
| REMOTE ENGINE STARTER          | On*     | Remote engine start function ON.                                                      |
|                                | Off     | Remote engine start function OFF.                                                     |
| ANSWER BACK I-KEY LOCK UNLOCK  | BUZZER  | Buzzer reminder function by door lock/unlock request switch ON.                       |
|                                | HORN    | Horn chirp reminder function by door lock request switch ON.                          |
|                                | Off*    | No reminder function by door lock/unlock request switch.                              |
|                                | INVALID | This mode is not used.                                                                |
| ANSWERBACK KEYLESS LOCK UNLOCK | On      | Buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.    |
|                                | Off*    | No buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key. |
| WELCOME LIGHT OP SET           | On*     | Door handle lamp function from request switch ON.                                     |
|                                | Off     | Door handle lamp function from request switch OFF.                                    |
| ANSWER BACK                    | On*     | Horn chirp reminder when doors are locked with Intelligent Key.                       |
|                                | Off     | No horn chirp reminder when doors are locked with Intelligent Key.                    |
| RETRACTABLE MIRROR SET         | On      | Retractable mirror set ON.                                                            |
|                                | Off*    | Retractable mirror set OFF.                                                           |
| CONFIRM KEY FOB ID             | —       | Intelligent Key ID code registration can be checked.                                  |
| LOCK/UNLOCK BY I-KEY           | On*     | Door lock/unlock function from Intelligent Key ON.                                    |
|                                | Off     | Door lock/unlock function from Intelligent Key OFF.                                   |
| ENGINE START BY I-KEY          | On*     | Engine start function from Intelligent Key ON.                                        |
|                                | Off     | Engine start function from Intelligent Key OFF.                                       |
| TRUNK/GLASS HATCH OPEN         | On*     | Buzzer reminder function by back door request switch ON.                              |
|                                | Off     | Buzzer reminder function by back door request switch OFF.                             |
| INTELLIGENT KEY LINK SET       | On      | Intelligent Key link set ON.                                                          |
|                                | Off*    | Intelligent Key link set OFF.                                                         |
| SHORT CRANKING OUTPUT          | Start   | 70 msec                                                                               |
|                                |         | 100 msec                                                                              |
|                                |         | 200 msec                                                                              |
|                                | End     | —                                                                                     |

## DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

| Support Item         | Setting |        | Description                                             |
|----------------------|---------|--------|---------------------------------------------------------|
| INSIDE ANT DIAGNOSIS | —       |        | This function allows inside key antenna self-diagnosis. |
| AUTO LOCK SET        | MODE7   | 5 min  | Auto door lock time can be set in this mode.            |
|                      | MODE6   | 4 min  |                                                         |
|                      | MODE5   | 3 min  |                                                         |
|                      | MODE4   | 2 min  |                                                         |
|                      | MODE3*  | 1 min  |                                                         |
|                      | MODE2   | 30 sec |                                                         |
|                      | MODE1   | Off    |                                                         |

\*: Initial Setting

## ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000011154198

| ECU      | Reference                                               |
|----------|---------------------------------------------------------|
| BCM      | <a href="#">BCS-30, "Reference Value"</a>               |
|          | <a href="#">BCS-50, "Fail Safe"</a>                     |
|          | <a href="#">BCS-50, "DTC Inspection Priority Chart"</a> |
|          | <a href="#">BCS-52, "DTC Index"</a>                     |
| IPDM E/R | <a href="#">PCS-12, "Reference Value"</a>               |
|          | <a href="#">PCS-19, "Fail Safe"</a>                     |
|          | <a href="#">PCS-20, "DTC Index"</a>                     |

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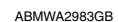
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P

**[POWER DISTRIBUTION SYSTEM]**

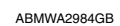
# POWER DISTRIBUTION SYSTEM

INFOID:0000000011154199



**[POWER DISTRIBUTION SYSTEM]**

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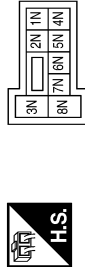
# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

## POWER DISTRIBUTION SYSTEM CONNECTORS

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



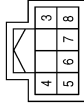
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1N           | LG            | -           |
| 2N           | BG            | -           |
| 3N           | L             | -           |
| 6N           | W             | -           |
| 7N           | L             | -           |
| 8N           | L             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M4               |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



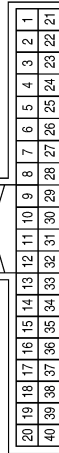
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3P           | G             | -           |
| 7P           | LG            | -           |
| 9P           | L             | -           |
| 16P          | W             | -           |

|                 |                             |
|-----------------|-----------------------------|
| Connector No.   | M17                         |
| Connector Name  | PUSH-BUTTON IGNITION SWITCH |
| Connector Color | WHITE                       |



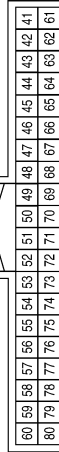
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | BG            | -           |
| 4            | B             | -           |
| 5            | R             | -           |
| 6            | W             | -           |
| 7            | P             | -           |
| 8            | G             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M18                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | GREEN                     |



| Terminal No. | Color of Wire | Signal Name    |
|--------------|---------------|----------------|
| 1            | G             | ENG START SW   |
| 25           | W             | BRAKE SW FUSE  |
| 26           | L             | SHORTING INPUT |
| 27           | G             | BRAKE SW LAMP  |
| 39           | G             | SHIFT N/P      |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M19                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |



| Terminal No. | Color of Wire | Signal Name            |
|--------------|---------------|------------------------|
| 48           | R             | HIGH SIDE START SW LED |
| 59           | P             | CAN-L                  |
| 60           | L             | CAN-H                  |
| 62           | W             | STARTER RELAY OUT      |
| 66           | W             | BLOWER FAN RELAY OUT   |
| 67           | G             | IGN ELEC RELAY OUT 2   |
| 70           | P             | IGN USM OUT 1          |

# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

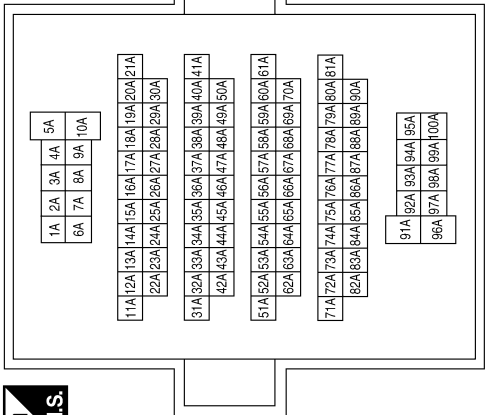
|                 |                     |
|-----------------|---------------------|
| Connector No.   | M41                 |
| Connector Name  | JOINT CONNECTOR-M18 |
| Connector Color | WHITE               |



|   |   |   |   |
|---|---|---|---|
| 4 | 3 | 2 | 1 |
|---|---|---|---|

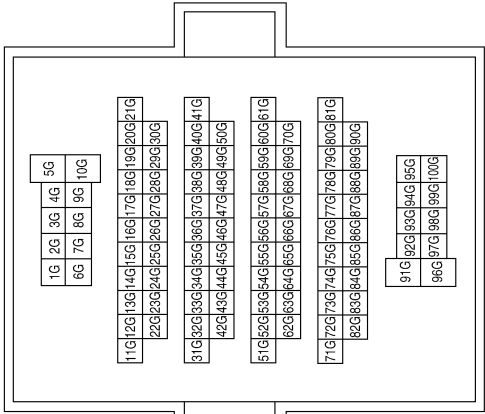
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | P             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M40          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 89A          | L             | -           |
| 90A          | P             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | M31          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3G           | P             | -           |
| 10G          | W             | -           |
| 35G          | P             | -           |
| 36G          | L             | -           |
| 44G          | G             | -           |
| 50G          | L             | -           |
| 62G          | G             | -           |
| 63G          | P             | -           |
| 64G          | W             | -           |

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PCS

# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M80                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK                     |



|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 118 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 07  | 103 | 105 |
| 128 | 127 | 126 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 |

| Terminal No. | Color of Wire | Signal Name           |
|--------------|---------------|-----------------------|
| 107          | W             | LOW SIDE START SW LED |
| 111          | P             | ACC LED               |
| 113          | L             | ACC RELAY OUT         |

|                 |                  |
|-----------------|------------------|
| Connector No.   | M68              |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | BROWN            |



|     |     |     |     |             |     |     |    |    |
|-----|-----|-----|-----|-------------|-----|-----|----|----|
| 7R  | 6R  | 5R  | 4R  | <div></div> | 3R  | 2R  | 1R |    |
| 16R | 15R | 14R | 13R | 12R         | 11R | 10R | 9R | 8R |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 6R           | Y             | -           |
| 9R           | G             | -           |
| 10R          | W             | -           |
| 13R          | GR            | -           |
| 16R          | BG            | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M43                 |
| Connector Name  | JOINT CONNECTOR-M17 |
| Connector Color | WHITE               |



|   |   |   |   |
|---|---|---|---|
| 4 | 3 | 2 | 1 |
|---|---|---|---|

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | M181                |
| Connector Name  | JOINT CONNECTOR-M36 |
| Connector Color | WHITE               |



|   |   |   |   |
|---|---|---|---|
| 4 | 3 | 2 | 1 |
|---|---|---|---|

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



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | W             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17           | L             | -           |
| 18           | P             | -           |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | M81                       |
| Connector Name  | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE                     |



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

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 131          | W             | BAT BCM FUSE  |
| 134          | B             | GND 2         |
| 139          | W             | BAT POWER F/L |
| 143          | B             | GND 1         |

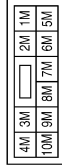
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# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

|                 |                  |
|-----------------|------------------|
| Connector No.   | E28              |
| Connector Name  | FUSE BLOCK (J/B) |
| Connector Color | WHITE            |



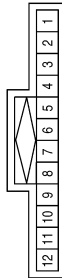
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1M           | R             | -           |
| 5M           | Y             | -           |
| 7M           | R             | -           |

|                 |                   |
|-----------------|-------------------|
| Connector No.   | E22               |
| Connector Name  | ACCESSORY RELAY-2 |
| Connector Color | BLUE              |



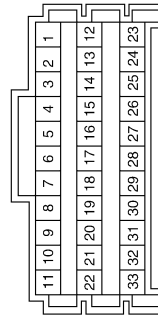
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | G             | -           |
| 2            | B             | -           |
| 3            | R             | -           |
| 5            | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | E14                 |
| Connector Name  | JOINT CONNECTOR-E05 |
| Connector Color | BLACK               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2            | W             | -           |
| 3            | W             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | E44                 |
| Connector Name  | JOINT CONNECTOR-E01 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12           | Y             | -           |
| 13           | Y             | -           |
| 14           | Y             | -           |
| 15           | GR            | -           |
| 17           | B             | -           |

|                 |                 |
|-----------------|-----------------|
| Connector No.   | E39             |
| Connector Name  | STOP LAMP RELAY |
| Connector Color | BLUE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | W             | -           |
| 2            | B             | -           |
| 3            | Y             | -           |
| 5            | R             | -           |

|                 |                  |
|-----------------|------------------|
| Connector No.   | E38              |
| Connector Name  | STOP LAMP SWITCH |
| Connector Color | WHITE            |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | Y             | -           |
| 2            | W             | -           |

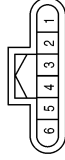
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# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

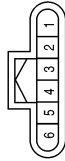
[POWER DISTRIBUTION SYSTEM]

|                 |                     |
|-----------------|---------------------|
| Connector No.   | E71                 |
| Connector Name  | JOINT CONNECTOR-E15 |
| Connector Color | BLACK               |



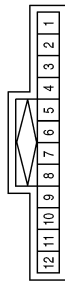
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | E70                 |
| Connector Name  | JOINT CONNECTOR-E14 |
| Connector Color | BLACK               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | E45                 |
| Connector Name  | JOINT CONNECTOR-E12 |
| Connector Color | BLUE                |



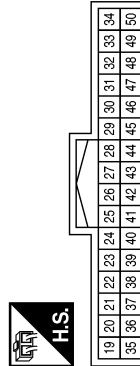
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 4            | L             | -           |
| 7            | P             | -           |
| 10           | P             | -           |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E120                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3            | G             | F/L IGNSW   |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E119                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 28           | P             | CAN-L         |
| 29           | L             | CAN-H         |
| 33           | R             | START CONT    |
| 37           | W             | CLUTCH I/L SW |
| 38           | P             | PUSH START SW |
| 41           | B             | GND (SIGNAL)  |
| 43           | L             | IGN SIGNAL    |

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E118                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | R             | F/L MAIN    |

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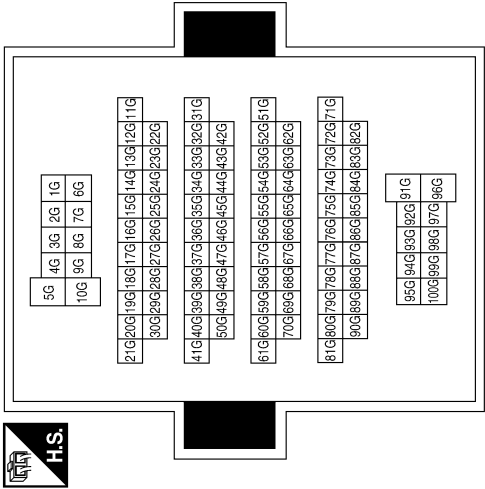
POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

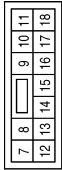
[POWER DISTRIBUTION SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3G           | P             | -           |
| 10G          | P             | -           |
| 35G          | P             | -           |
| 36G          | L             | -           |
| 44G          | W             | -           |
| 50G          | G             | -           |
| 62G          | P             | -           |
| 63G          | L             | -           |
| 64G          | R             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | E152         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |

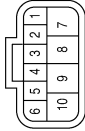


|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | E121                                                         |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |

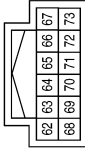


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | B             | GND (POWER) |

|                 |                           |
|-----------------|---------------------------|
| Connector No.   | F36                       |
| Connector Name  | TRANSMISSION RANGE SWITCH |
| Connector Color | BLACK                     |



|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | F24                                                          |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE                                                        |



|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Connector No.   | F17                                                          |
| Connector Name  | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK                                                        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7            | L             | -           |
| 10           | G             | -           |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 63           | L             | INHIBIT SW  |
| 66           | G             | NP SW       |

| Terminal No. | Color of Wire | Signal Name   |
|--------------|---------------|---------------|
| 51           | W             | STARTER MOTOR |

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PCS

# POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B11                 |
| Connector Name  | JOINT CONNECTOR-B09 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B12                 |
| Connector Name  | JOINT CONNECTOR-B10 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B16                 |
| Connector Name  | JOINT CONNECTOR-B11 |
| Connector Color | WHITE               |



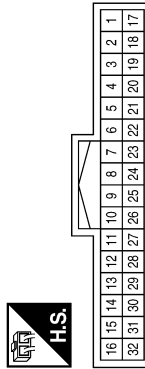
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B17                 |
| Connector Name  | JOINT CONNECTOR-B12 |
| Connector Color | WHITE               |



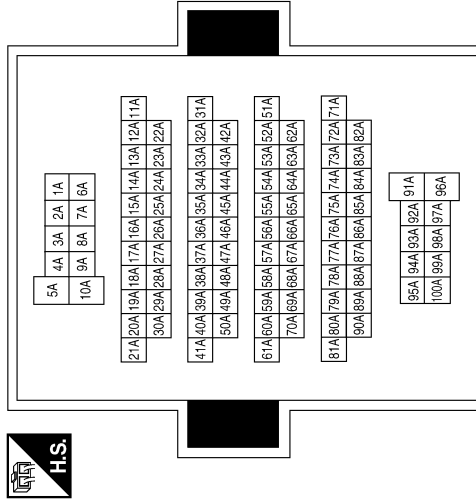
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B32          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 18           | L             | -           |
| 19           | P             | -           |

|                 |              |
|-----------------|--------------|
| Connector No.   | B69          |
| Connector Name  | WIRE TO WIRE |
| Connector Color | GRAY         |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 89A          | L             | -           |
| 90A          | P             | -           |

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POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

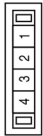
[POWER DISTRIBUTION SYSTEM]

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B103                |
| Connector Name  | JOINT CONNECTOR-B05 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | P             | -           |
| 2            | P             | -           |

|                 |                     |
|-----------------|---------------------|
| Connector No.   | B102                |
| Connector Name  | JOINT CONNECTOR-B14 |
| Connector Color | WHITE               |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1            | L             | -           |
| 2            | L             | -           |

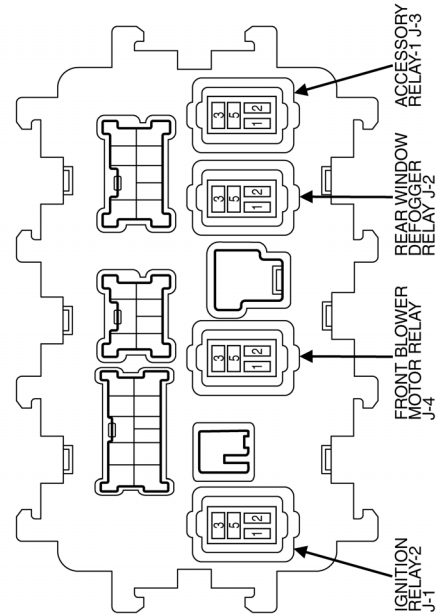
|                 |              |
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| Connector No.   | B101         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 |
|--------------|---------------|-------------|
| 17           | L             | -           |
| 18           | P             | -           |

|                 |                                        |
|-----------------|----------------------------------------|
| Connector No.   | J-1                                    |
| Connector Name  | FUSE BLOCK (J/B)<br>(IGNITION RELAY-2) |
| Connector Color | -                                      |



|                 |              |
|-----------------|--------------|
| Connector No.   | B124         |
| Connector Name  | WIRE TO WIRE |
| Connector Color | WHITE        |



|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 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 |
|--------------|---------------|-------------|
| 18           | L             | -           |
| 19           | P             | -           |

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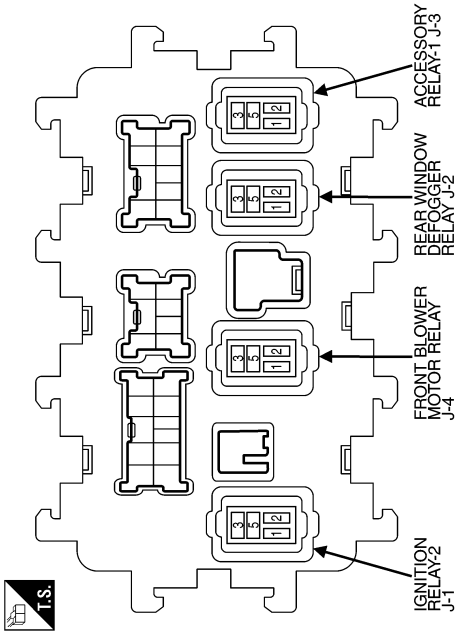
PCS

POWER DISTRIBUTION SYSTEM

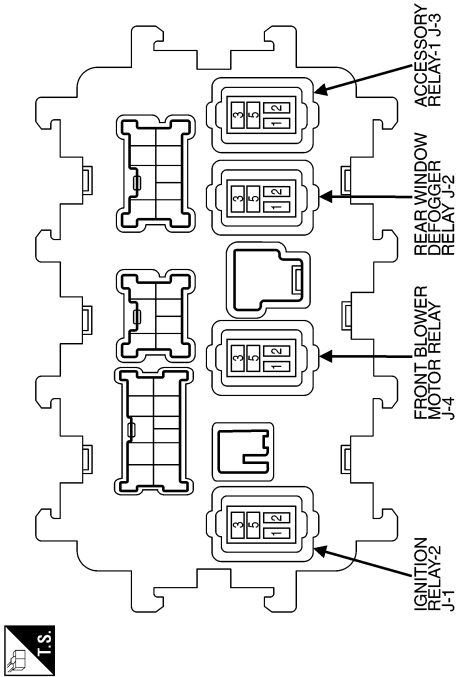
< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

|                 |                                             |
|-----------------|---------------------------------------------|
| Connector No.   | J-4                                         |
| Connector Name  | FUSE BLOCK (J/B) (FRONT BLOWER MOTOR RELAY) |
| Connector Color | -                                           |



|                 |                                      |
|-----------------|--------------------------------------|
| Connector No.   | J-3                                  |
| Connector Name  | FUSE BLOCK (J/B) (ACCESSORY RELAY-1) |
| Connector Color | -                                    |



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# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

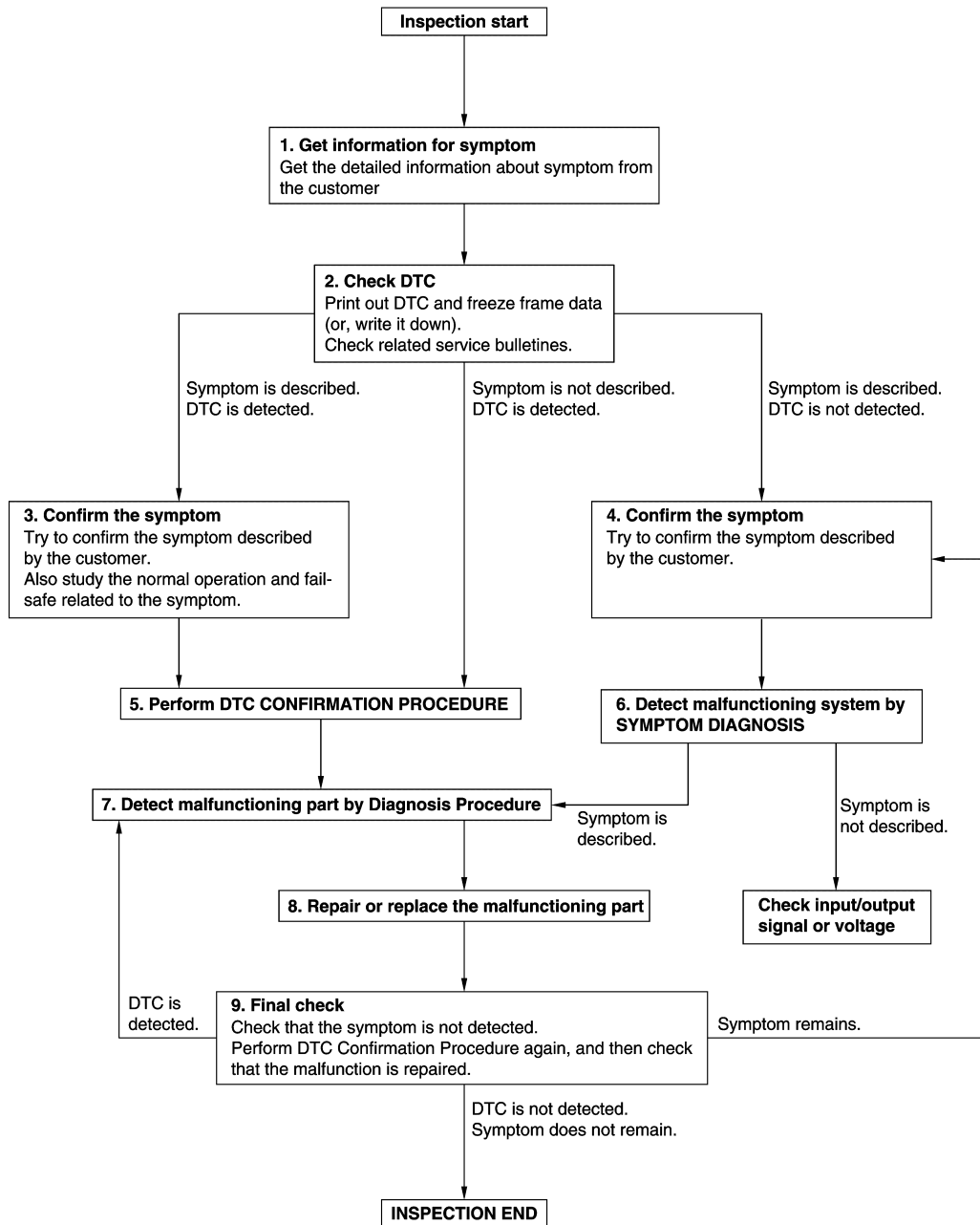
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000011154200

OVERALL SEQUENCE



DETAILED FLOW

Revision: September 2014

PCS-55

JMKIA8652GB

2015 Pathfinder

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

---

## 1.GET INFORMATION FOR SYMPTOM

---

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the component or system that is malfunctioning.

>> GO TO 2.

## 2.CHECK DTC

---

1. Check DTC.
2. Perform the following procedure if DTC is detected.
  - Record DTC and freeze frame data (Print them out using CONSULT).
  - 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

---

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

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

>> GO TO 5.

## 4.CONFIRM THE SYMPTOM

---

Try to confirm the symptom described by the customer.

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

### NOTE:

Freeze frame data is useful if the DTC is not 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 to the vehicle, and check self diagnostic results in real time.

If two or more DTCs are detected, refer to [BCS-50, "DTC Inspection Priority Chart"](#), and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to [GI-47, "Intermittent Incident"](#).

## 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

---

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

## 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

---

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Refer to [GI-47, "Intermittent Incident"](#).

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

### 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

### 9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

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

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

NO >> Inspection End.

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# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:0000000011154201

Refer to [LAN-12, "CAN COMMUNICATION SYSTEM : System Description"](#).

#### DTC Logic

INFOID:0000000011154202

#### DTC DETECTION LOGIC

##### NOTE:

U1000 can be set if a module harness was disconnected and reconnected, perhaps during a repair. Confirm that there are actual CAN diagnostic symptoms and a present DTC by performing the Self Diagnostic Result procedure.

| CONSULT Display             | DTC Detection Condition                                                                                                            | Possible cause                                                                                                                                                                                                                                                                                                            |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAN COMM CIRCUIT<br>[U1000] | When any listed module cannot communicate with CAN communication signal continuously for 2 seconds or more with ignition switch ON | In CAN communication system, any item (or items) of the following listed below is malfunctioning. <ul style="list-style-type: none"><li>• Transmission</li><li>• Receiving (ECM)</li><li>• Receiving (VDC/TCS/ABS)</li><li>• Receiving (METER/M&amp;A)</li><li>• Receiving (TCM)</li><li>• Receiving (IPDM E/R)</li></ul> |

#### Diagnosis Procedure

INFOID:0000000011154203

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.
2. Check "SELF- DIAG RESULTS".

Is "CAN COMM CIRCUIT" displayed?

- YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT Operation Manual.  
NO >> Refer to [GI-47, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:0000000011154204

### DTC DETECTION LOGIC

| CONSULT Display             | DTC Detection Condition                                           | Possible Cause |
|-----------------------------|-------------------------------------------------------------------|----------------|
| CAN COMM CIRCUIT<br>[U1010] | BCM detected internal CAN communication circuit mal-<br>function. | BCM            |

### Diagnosis Procedure

INFOID:0000000011154205

#### 1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to [BCS-80. "Removal and Installation"](#).

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## B260A IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### B260A IGNITION RELAY

#### DTC Logic

INFOID:0000000011154206

#### DTC DETECTION LOGIC

##### NOTE:

- If DTC B260A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-58, "DTC Logic"](#).
- If DTC B260A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-59, "DTC Logic"](#).
- If DTC B260A is displayed with DTC B261A, first perform the trouble diagnosis for DTC B261A. Refer to [PCS-70, "DTC Logic"](#).

| CONSULT Display           | DTC Detection Condition                                                                                                                                                                                                                    | Possible Cause                                                                                           |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| IGNITION RELAY<br>[B260A] | BCM detects a difference of signal for 2 seconds or more between the following information: <ul style="list-style-type: none"><li>• Ignition relay-1 operation request.</li><li>• Ignition relay-1 feedback from IPDM E/R (CAN).</li></ul> | <ul style="list-style-type: none"><li>• Harness or connectors</li><li>• IPDM E/R</li><li>• BCM</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON, and wait for 2 seconds or more.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

##### Is DTC B260A detected?

- YES >> Refer to [PCS-60, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154207

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

##### 1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

##### Are any DTCs detected?

- YES >> Refer to [PCS-20, "DTC Index"](#).  
NO >> GO TO 2.

##### 2. CHECK IGNITION RELAY-1 SIGNAL

Check voltage between BCM connector M19 and ground.

| BCM       |          | Ground | Condition     | Voltage<br>(Approx.) |
|-----------|----------|--------|---------------|----------------------|
| Connector | Terminal |        |               |                      |
| M19       | 70       | —      | Ignition: ON  | Battery voltage      |
|           |          |        | Ignition: OFF | 0V                   |

##### Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
NO >> GO TO 3.

##### 3. CHECK IGNITION RELAY-1 SIGNAL POWER SUPPLY

Check voltage between IPDM E/R connector E119 and ground.

## B260A IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| IPDM E/R  |          | Ground | Condition    | Voltage<br>(Approx.) |
|-----------|----------|--------|--------------|----------------------|
| Connector | Terminal |        |              |                      |
| E119      | 43       | —      | Ignition: ON | Battery voltage      |

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

### 4. CHECK IGNITION RELAY-1 SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and IPDM E/R connector E119.
3. Check continuity between BCM connector M19 and IPDM E/R connector E119.

| BCM       |          | IPDM E/R  |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M19       | 70       | E119      | 43       | Yes        |

4. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 70       | —      | No         |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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## B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### B2614 ACC RELAY CIRCUIT

#### DTC Logic

INFOID:0000000011154208

#### DTC DETECTION LOGIC

| CONSULT Display              | DTC detecting condition                                                                                                                 | Possible cause                                                                                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACC RELAY CIRCUIT<br>[B2614] | An immediate operation of accessory relay-1 and accessory relay-2 is requested by BCM, but there is no response for more than 1 second. | <ul style="list-style-type: none"><li>• Harness or connectors</li><li>• Accessory relay-1</li><li>• Accessory relay-2</li><li>• Fuse block J/B</li><li>• BCM</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch to ACC, and wait for more than 1 second.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

##### Is DTC B2614 detected?

YES >> Refer to [PCS-62, "Diagnosis Procedure"](#).

NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154209

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

##### 1. CHECK ACCESSORY RELAY-1 AND ACCESSORY RELAY-2 CONTROL SIGNAL VOLTAGE

1. Remove accessory relay-1 and disconnect accessory relay-2.
2. Check voltage between accessory relay-1 connector J-3 and ground.

| Accessory relay-1 |          | Ground | Condition     | Voltage<br>(Approx.) |
|-------------------|----------|--------|---------------|----------------------|
| Connector         | Terminal |        |               |                      |
| J-3               | 2        | —      | Ignition: OFF | 0V                   |
|                   |          |        | Ignition: ACC | Battery voltage      |

3. Check voltage between accessory relay-2 connector E22 and ground.

| Accessory relay-2 |          | Ground | Condition     | Voltage<br>(Approx.) |
|-------------------|----------|--------|---------------|----------------------|
| Connector         | Terminal |        |               |                      |
| E22               | 1        | —      | Ignition: OFF | 0V                   |
|                   |          |        | Ignition: ACC | Battery voltage      |

##### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

##### 2. CHECK ACCESSORY RELAY-1 AND ACCESSORY RELAY-2 CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M80.
3. Check continuity between accessory relay-1 connector J-3 and BCM connector M80.

| Accessory relay-1 |          | BCM       |          | Continuity |
|-------------------|----------|-----------|----------|------------|
| Connector         | Terminal | Connector | Terminal |            |
| J-3               | 2        | M80       | 113      | Yes        |

## B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

4. Check continuity between accessory relay-2 connector E22 and BCM connector M80.

| Accessory relay-2 |          | BCM       |          | Continuity |
|-------------------|----------|-----------|----------|------------|
| Connector         | Terminal | Connector | Terminal |            |
| E22               | 1        | M80       | 113      | Yes        |

5. Check continuity between BCM connector M80 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M80       | 113      | —      | No         |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

### 3. CHECK ACCESSORY RELAY-1 AND ACCESSORY RELAY-2 GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between accessory relay-1 connector J-3 and ground.

| Accessory relay-1 |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| J-3               | 1        | —      | Yes        |

3. Check continuity between accessory relay-2 connector E22 and ground.

| Accessory relay-2 |          | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector         | Terminal |        |            |
| E22               | 2        | —      | Yes        |

Is the inspection result normal?

YES >> Replace accessory relay.

NO >> Repair or replace harness or connectors.

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# B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2615 BLOWER RELAY CIRCUIT

### DTC Logic

INFOID:0000000011154211

### DTC DETECTION LOGIC

| CONSULT Display                 | DTC Detection Condition                                                                                                  | Possible Cause                                                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| BLOWER RELAY CIRCUIT<br>[B2615] | An immediate operation of front blower motor 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.</li><li>• Front blower motor relay.</li><li>• Fuse block J/B.</li><li>• BCM.</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON, and wait for more than 1 second.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is DTC B2615 detected?

- YES >> Refer to [PCS-64, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000011154212

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

#### 1. CHECK FRONT BLOWER MOTOR RELAY CONTROL SIGNAL VOLTAGE

1. Remove front blower motor relay.
2. Check voltage between front blower motor relay connector J-4 and ground.

| Front blower motor relay |          | Ground | Condition     | Voltage<br>(Approx.) |
|--------------------------|----------|--------|---------------|----------------------|
| Connector                | Terminal |        |               |                      |
| J-4                      | 2        | —      | Ignition: OFF | 0V                   |
|                          |          |        | Ignition: ON  | Battery voltage      |

#### Is the inspection result normal?

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

#### 2. CHECK FRONT BLOWER MOTOR RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19.
3. Check continuity between BCM connector M19 and front blower motor relay connector J-4.

| BCM       |          | Front blower motor relay |          | Continuity |
|-----------|----------|--------------------------|----------|------------|
| Connector | Terminal | Connector                | Terminal |            |
| M19       | 66       | J-4                      | 2        | Yes        |

4. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 66       | —      | No         |

#### Is the inspection result normal?

- YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

## B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Repair or replace harness or connectors.

### 3. CHECK FRONT BLOWER MOTOR RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between front blower motor relay connector J-4 and ground.

| Front blower motor relay |          | Ground | Continuity |
|--------------------------|----------|--------|------------|
| Connector                | Terminal |        |            |
| J-4                      | 1        | —      | Yes        |

Is the inspection result normal?

YES >> Replace front blower motor relay.

NO >> Repair or replace harness or connectors.

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# B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## B2616 IGNITION RELAY CIRCUIT

### DTC Logic

INFOID:0000000011154214

### DTC DETECTION LOGIC

| CONSULT Display                   | DTC Detection Condition                                                                                          | Possible Cause                                                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| IGNITION RELAY CIRCUIT<br>[B2616] | An immediate operation of ignition relay-2 is requested by BCM, but there is no response for more than 1 second. | <ul style="list-style-type: none"><li>• Harness or connectors.</li><li>• Ignition relay-2.</li><li>• Fuse block J/B.</li><li>• BCM.</li></ul> |

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON, and wait for more than 1 second.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is DTC B2616 detected?

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

### Diagnosis Procedure

INFOID:0000000011154215

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

#### 1. CHECK IGNITION RELAY-2 CONTROL SIGNAL VOLTAGE

1. Remove ignition relay-2.
2. Check voltage between ignition relay-2 connector J-1 and ground.

| Ignition relay-2 |          | Ground | Condition     | Voltage<br>(Approx.) |
|------------------|----------|--------|---------------|----------------------|
| Connector        | Terminal |        |               |                      |
| J-1              | 1        | —      | Ignition: OFF | 0V                   |
|                  |          |        | Ignition: ON  | Battery voltage      |

#### Is the inspection result normal?

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

#### 2. CHECK IGNITION RELAY-2 CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19.
3. Check continuity between BCM connector M19 and ignition relay-2 connector J-1.

| BCM       |          | Ignition relay-2 |          | Continuity |
|-----------|----------|------------------|----------|------------|
| Connector | Terminal | Connector        | Terminal |            |
| M19       | 67       | J-1              | 1        | Yes        |

4. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 67       | —      | No         |

#### Is the inspection result normal?

- YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

## B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Repair or replace harness or connectors.

### 3. CHECK IGNITION RELAY-2 GROUND CIRCUIT

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

| Ignition relay-2 |          | Ground | Continuity |
|------------------|----------|--------|------------|
| Connector        | Terminal |        |            |
| J-1              | 2        | —      | Yes        |

Is the inspection result normal?

YES >> Replace ignition relay-2.

NO >> Repair or replace harness or connectors.

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## B2618 BCM

## DTC Logic

INFOID:0000000011154217

## DTC DETECTION LOGIC

**NOTE:**

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-58, "DTC Logic"](#).
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-59, "DTC Logic"](#).

| CONSULT Display | DTC Detection Condition                                                                                         | Possible Cause |
|-----------------|-----------------------------------------------------------------------------------------------------------------|----------------|
| BCM<br>[B2618]  | An immediate operation of ignition relay-1 is requested by BCM, but there is no response for more than 1 second | • BCM          |

## DTC CONFIRMATION PROCEDURE

**1. PERFORM SELF DIAGNOSTIC RESULT**

1. Turn ignition switch ON, and wait for more than 1 second.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC B2618 detected?

- YES >> Refer to [PCS-68, "Diagnosis Procedure"](#).  
 NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000011154218

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

**1. PERFORM SELF DIAGNOSTIC RESULT**

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Are any DTCs detected?

- YES >> Refer to [PCS-20, "DTC Index"](#).  
 NO >> GO TO 2.

**2. CHECK IGNITION RELAY-1 SIGNAL**

Check voltage between BCM connector M19 and ground.

| BCM       |          | Ground | Condition     | Voltage<br>(Approx.) |
|-----------|----------|--------|---------------|----------------------|
| Connector | Terminal |        |               |                      |
| M19       | 70       | —      | Ignition: ON  | Battery voltage      |
|           |          |        | Ignition: OFF | 0V                   |

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
 NO >> GO TO 3.

**3. CHECK IGNITION RELAY-1 SIGNAL POWER SUPPLY**

Check voltage between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Condition    | Voltage<br>(Approx.) |
|-----------|----------|--------|--------------|----------------------|
| Connector | Terminal |        |              |                      |
| E119      | 43       | —      | Ignition: ON | Battery voltage      |

Is the inspection result normal?

## B2618 BCM

### < DTC/CIRCUIT DIAGNOSIS >

### [POWER DISTRIBUTION SYSTEM]

YES >> GO TO 4.

NO >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

#### 4. CHECK IGNITION RELAY-1 SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and IPDM E/R connector E119.
3. Check continuity between BCM connector M19 and IPDM E/R connector E119.

| BCM       |          | IPDM E/R  |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M19       | 70       | E119      | 43       | Yes        |

4. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 70       | —      | No         |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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## B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### B261A PUSH-BUTTON IGNITION SWITCH

#### DTC Logic

INFOID:0000000011154219

#### DTC DETECTION LOGIC

| CONSULT Display                       | DTC Detection Condition                                                                                                                                                                                                                                 | Possible Cause                                                                                                              |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| PUSH-BUTTONIGNITION SWITCH<br>[B261A] | 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</li><li>• Push-button ignition switch</li><li>• BCM</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON, and wait for 1 second or more.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

##### Is DTC B261A detected?

- YES >> Refer to [PCS-70. "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154220

Regarding Wiring Diagram information, refer to [PCS-44. "Wiring Diagram"](#).

##### 1. CHECK PUSH-BUTTON IGNITION SWITCH SIGNAL (PUSH-BUTTON IGNITION SWITCH)

Check voltage between push-button ignition switch connector M17 and ground.

| Push-button ignition switch |          | Ground | Voltage<br>(Approx.) |
|-----------------------------|----------|--------|----------------------|
| Connector                   | Terminal |        |                      |
| M17                         | 8        | —      | Battery voltage      |

##### Is the inspection result normal?

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

##### 2. CHECK PUSH-BUTTON IGNITION SWITCH SIGNAL (IPDM E/R)

Check voltage between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| Connector | Terminal |        |                      |
| E119      | 38       | —      | Battery voltage      |

##### Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32. "Removal and Installation"](#).  
NO >> Repair or replace harness or connectors.

##### 3. CHECK PUSH-BUTTON IGNITION SWITCH SIGNAL CIRCUIT (PUSH-BUTTON IGNITION SWITCH)

1. Disconnect push-button ignition switch connector, IPDM E/R connector E119 and BCM connector M18.
2. Check continuity between BCM connector M18 and push-button ignition switch connector M17.

## B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| BCM       |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| M18       | 1        | M17                         | 8        | Yes        |

3. Check continuity between BCM connector M18 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M18       | 1        | —      | No         |

Is the inspection result normal?

- YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).  
NO >> Repair or replace harness or connectors.

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## B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### B26F1 IGNITION RELAY

#### DTC Logic

INFOID:0000000011154221

#### DTC DETECTION LOGIC

| CONSULT Display          | DTC detecting condition                                                                                              | Possible cause                                                                                           |
|--------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| IGN RELAY OFF<br>[B26F1] | BCM transmits the ignition relay control signal, but does not receive ignition switch ON signal (CAN) from IPDM E/R. | <ul style="list-style-type: none"><li>• Harness or connectors</li><li>• BCM</li><li>• IPDM E/R</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC B26F1 detected?

- YES >> Go to [PCS-72, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154222

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

##### 1. CHECK SELF DIAGNOSTIC RESULT FOR IPDM E/R

1. Perform self diagnostic result for IPDM E/R.
2. Erase DTCs.
3. Turn ignition switch OFF.
4. Turn ignition switch ON.
5. Perform self diagnostic result for IPDM E/R.

Are any DTCs detected?

- YES >> Refer to [PCS-20, "DTC Index"](#).  
NO >> GO TO 2.

##### 2. CHECK IGNITION RELAY-1 SIGNAL

Check voltage between BCM connector M19 and ground.

| BCM       |          | Ground | Condition     | Voltage<br>(Approx.) |
|-----------|----------|--------|---------------|----------------------|
| Connector | Terminal |        |               |                      |
| M19       | 70       | —      | Ignition: ON  | Battery voltage      |
|           |          |        | Ignition: OFF | 0V                   |

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
NO >> GO TO 3.

##### 3. CHECK IGNITION RELAY-1 SIGNAL POWER SUPPLY

Check voltage between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Condition    | Voltage<br>(Approx.) |
|-----------|----------|--------|--------------|----------------------|
| Connector | Terminal |        |              |                      |
| E119      | 43       | —      | Ignition: ON | Battery voltage      |

Is the inspection result normal?

- YES >> GO TO 4.

## B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

### 4. CHECK IGNITION RELAY-1 SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and IPDM E/R connector E119.
3. Check continuity between BCM connector M19 and IPDM E/R connector E119.

| BCM       |          | IPDM E/R  |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M19       | 70       | E119      | 43       | Yes        |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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PCS

## B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

### B26F2 IGNITION RELAY

#### DTC Logic

INFOID:0000000011154223

#### DTC DETECTION LOGIC

| CONSULT Display         | DTC detecting condition                                                                                                | Possible cause                                                                                           |
|-------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| IGN RELAY ON<br>[B26F2] | BCM is not transmitting the ignition relay control signal, but receives ignition switch ON signal (CAN) from IPDM E/R. | <ul style="list-style-type: none"><li>• Harness or connectors</li><li>• BCM</li><li>• IPDM E/R</li></ul> |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC B26F2 detected?

- YES >> Go to [PCS-74, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:0000000011154224

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

##### 1. CHECK SELF DIAGNOSTIC RESULT FOR IPDM E/R

1. Perform "Self Diagnostic Result" for "IPDM E/R".
2. Erase DTCs.
3. Turn ignition switch OFF.
4. Turn ignition switch ON.
5. Perform self diagnostic result for IPDM E/R.

Are any DTCs detected?

- YES >> Refer to [PCS-20, "DTC Index"](#).  
NO >> GO TO 2.

##### 2. CHECK IGNITION RELAY-1 SIGNAL

Check voltage between BCM connector M19 and ground.

| BCM       |          | Ground | Condition     | Voltage<br>(Approx.) |
|-----------|----------|--------|---------------|----------------------|
| Connector | Terminal |        |               |                      |
| M19       | 70       | —      | Ignition: ON  | Battery voltage      |
|           |          |        | Ignition: OFF | 0V                   |

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
NO >> GO TO 3.

##### 3. CHECK IGNITION RELAY-1 SIGNAL POWER SUPPLY

Check voltage between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Condition    | Voltage<br>(Approx.) |
|-----------|----------|--------|--------------|----------------------|
| Connector | Terminal |        |              |                      |
| E119      | 43       | —      | Ignition: ON | Battery voltage      |

Is the inspection result normal?

- YES >> GO TO 4.

## B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

### 4. CHECK IGNITION RELAY-1 SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and IPDM E/R connector E119.
3. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 70       | —      | No         |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

PCS

## B26F6 BCM

## DTC Logic

INFOID:0000000011154225

## DTC DETECTION LOGIC

**NOTE:**

- If DTC B26F6 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-58, "DTC Logic"](#).
- If DTC B26F6 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-59, "DTC Logic"](#).

| CONSULT Display | DTC Detection Condition                                                                           | Possible Cause |
|-----------------|---------------------------------------------------------------------------------------------------|----------------|
| BCM<br>[B26F6]  | Ignition relay ON signal is not transmitted from IPDM E/R (CAN) when BCM turns ignition relay ON. | BCM            |

## DTC CONFIRMATION PROCEDURE

**1. PERFORM SELF DIAGNOSTIC RESULT**

1. Turn ignition switch ON.
2. Perform "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC B26F6 detected?

- YES >> Go to [PCS-76, "Diagnosis Procedure"](#).  
 NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000011154226

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

**1. CHECK SELF DIAGNOSTIC RESULT FOR IPDM E/R**

Perform "Self Diagnostic Result" for "IPDM E/R".

Are any DTCs detected?

- YES >> Refer to [PCS-20, "DTC Index"](#).  
 NO >> GO TO 2.

**2. CHECK IGNITION RELAY-1 SIGNAL**

Check voltage between BCM connector M19 and ground.

| BCM       |          | Ground | Condition     | Voltage<br>(Approx.) |
|-----------|----------|--------|---------------|----------------------|
| Connector | Terminal |        |               |                      |
| M19       | 70       | —      | Ignition: ON  | Battery voltage      |
|           |          |        | Ignition: OFF | 0V                   |

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).  
 NO >> GO TO 3.

**3. CHECK IGNITION RELAY-1 SIGNAL POWER SUPPLY**

Check voltage between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Condition    | Voltage<br>(Approx.) |
|-----------|----------|--------|--------------|----------------------|
| Connector | Terminal |        |              |                      |
| E119      | 43       | —      | Ignition: ON | Battery voltage      |

Is the inspection result normal?

- YES >> GO TO 4.

## B26F6 BCM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

### 4. CHECK IGNITION RELAY-1 SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and IPDM E/R connector E119.
3. Check continuity between BCM connector M19 and IPDM E/R connector E119.

| BCM       |          | IPDM E/R  |          | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal |            |
| M19       | 70       | E119      | 43       | Yes        |

4. Check continuity between BCM connector M19 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M19       | 70       | —      | No         |

Is the inspection result normal?

YES >> Replace BCM. Refer to [PCS-84, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

PCS

# PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH

### Component Function Check

INFOID:0000000011154227

#### 1. CHECK FUNCTION

1. Select "PUSH SW" in "Data Monitor" of "BCM" with CONSULT.
2. Check the push-button ignition switch signal under the following conditions.

| 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-78, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:0000000011154228

Regarding Wiring Diagram information, refer to [PCS-44, "Wiring Diagram"](#).

#### 1. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL (PUSH-BUTTON IGNITION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector and IPDM E/R connector E119.
3. Check voltage between push-button ignition switch connector M17 and ground.

| Push-button ignition switch |          | Ground | Voltage<br>(Approx.) |
|-----------------------------|----------|--------|----------------------|
| Connector                   | Terminal |        |                      |
| M17                         | 8        | —      | Battery voltage      |

Is the inspection result normal?

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

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

1. Disconnect BCM connector M18.
2. Check continuity between BCM connector M18 and push-button ignition switch connector M17.

| BCM       |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| M18       | 1        | M17                         | 8        | Yes        |

3. Check continuity between BCM connector M18 and ground.

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M18       | 1        | —      | No         |

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).  
NO >> Repair or replace harness or connectors.

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

Check voltage between IPDM E/R connector E119 and ground.

# PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

| IPDM E/R  |          | Ground | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| Connector | Terminal |        |                      |
| E119      | 38       | —      | Battery voltage      |

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

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

1. Disconnect BCM connector M18.
2. Check continuity between IPDM E/R connector E119 and push-button ignition switch connector M17.

| IPDM E/R  |          | Push-button ignition switch |          | Continuity |
|-----------|----------|-----------------------------|----------|------------|
| Connector | Terminal | Connector                   | Terminal |            |
| E119      | 38       | M17                         | 8        | Yes        |

3. Check continuity between IPDM E/R connector E119 and ground.

| IPDM E/R  |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| E119      | 38       | —      | No         |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-32, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

## 5. CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

Check continuity between push-button ignition switch connector M17 and ground.

| Push-button ignition switch |          | Ground | Continuity |
|-----------------------------|----------|--------|------------|
| Connector                   | Terminal |        |            |
| M17                         | 4        | —      | Yes        |

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

## 6. CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [PCS-79, "Component Inspection"](#).

Is the inspection result normal?

YES >> Refer to [GI-47, "Intermittent Incident"](#).

NO >> Replace push-button ignition switch. Refer to [PCS-85, "Removal and Installation"](#).

## Component Inspection

INFOID:0000000011154229

### 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 terminals | Condition   | Continuity |
|---------------------------------------|-------------|------------|
| 4 – 8                                 | Pressed     | Yes        |
|                                       | Not pressed | No         |

Is the inspection result normal?

YES >> Inspection End.

## PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

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NO     >> Replace push-button ignition switch. Refer to [PCS-85, "Removal and Installation"](#).

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## POWER SUPPLY AND GROUND CIRCUIT

### BCM

#### BCM : Diagnosis Procedure

INFOID:0000000011581037

Regarding Wiring Diagram information, refer to [BCS-55. "Wiring Diagram"](#).

### 1. CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse or fusible link blown?

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

NO >> GO TO 2

### 2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M81.

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

| BCM       |          | Ground | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| Connector | Terminal |        |                      |
| M81       | 131      | —      | Battery voltage      |
|           | 139      |        |                      |

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

### 3. CHECK GROUND CIRCUIT

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

| BCM       |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| M81       | 134      | —      | Yes        |
|           | 143      |        |            |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

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

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

INFOID:0000000011581039

Regarding Wiring Diagram information, refer to [PCS-21. "Wiring Diagram"](#).

### 1. CHECK FUSIBLE LINKS

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Check that the following fusible links are not blown.

| Terminal No. | Signal name                  | Fusible link No.            |
|--------------|------------------------------|-----------------------------|
| 1            | Fusible link main            | E (80A)                     |
| 2            | Fusible link IPDM E/R        | A (250A), C (80A)           |
| 3            | Fusible link ignition switch | A (250A), B (100A), K (40A) |

Is the fusible link blown?

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

NO >> GO TO 2

### 2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connectors E118 and E120.
2. Check voltage between IPDM E/R connectors and ground.

| IPDM E/R  |          | Ground | Voltage<br>(Approx.) |
|-----------|----------|--------|----------------------|
| Connector | Terminal |        |                      |
| E118      | 1        | —      | Battery voltage      |
|           | 2        |        |                      |
| E120      | 3        |        |                      |

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

### 3. CHECK GROUND CIRCUIT

1. Disconnect IPDM E/R connectors E119 and E121.
2. Check continuity between IPDM E/R connectors and ground.

| IPDM E/R  |          | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal |        |            |
| E121      | 7        | —      | Yes        |
| E119      | 41       |        |            |

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

# PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## SYMPTOM DIAGNOSIS

### PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

#### Description

INFOID:0000000011154232

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

#### NOTE:

The engine start function, door lock function, power distribution system, and NATS-IVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

#### Conditions of Vehicle (Operating Conditions)

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

#### Diagnosis Procedure

INFOID:0000000011154233

#### 1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on Work Support of “INTELLIGENT KEY”.

Refer to [BCS-21, "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#).

>> GO TO 2.

#### 2.PERFORM SELF-DIAGNOSTIC RESULT

Perform self diagnostic result.

Are any DTCs detected?

YES >> Refer to [BCS-52, "DTC Index"](#).

NO >> GO TO 3.

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

Check push-button ignition switch.

Refer to [PCS-78, "Component Function Check"](#).

Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

#### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to [GI-47, "Intermittent Incident"](#).

NO >> GO TO 1.

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## REMOVAL AND INSTALLATION

### BCM (BODY CONTROL MODULE)

#### Removal and Installation

INFOID:0000000011154234

For removal and installation of the BCM (Body Control Module), refer to [BCS-80, "Removal and Installation"](#).

# PUSH BUTTON IGNITION SWITCH

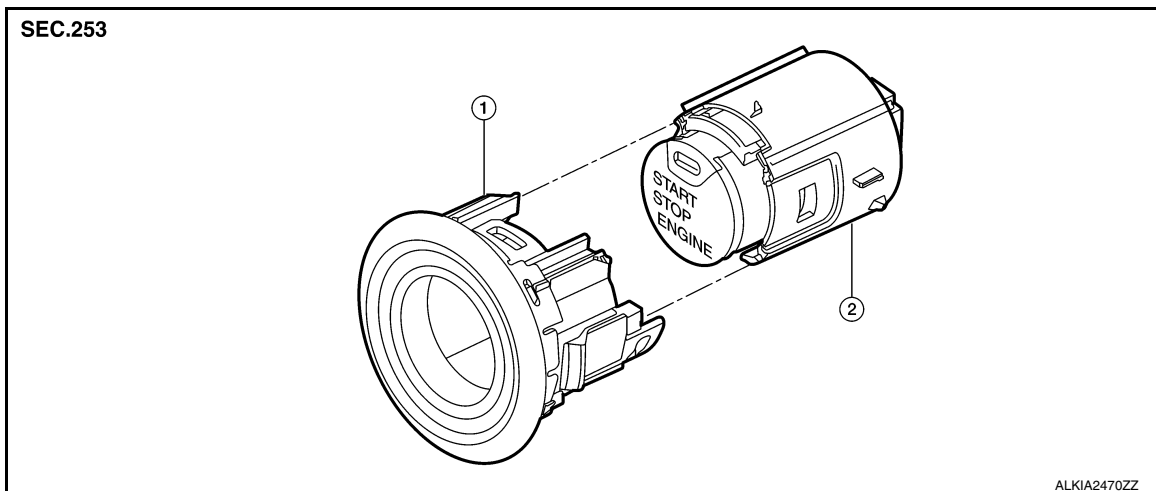
< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

## PUSH BUTTON IGNITION SWITCH

### Exploded View

INFOID:0000000011154235



1. NATS antenna amp.

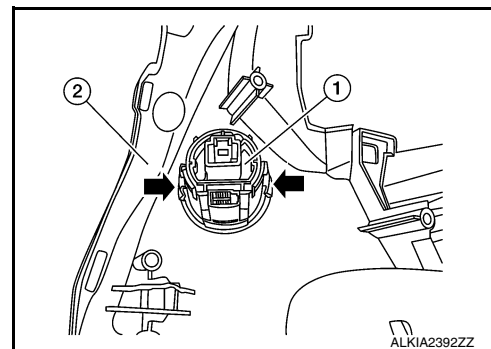
2. Push-button ignition switch

### Removal and Installation

INFOID:0000000011154236

#### REMOVAL

1. Remove the instrument lower panel LH. Refer to [IP-25. "Removal and Installation"](#).
2. Release the pawl (➡) on each side of the push-button ignition switch and NATS antenna amp. assembly (1) as shown and remove the push-button ignition switch and NATS antenna amp. assembly from the instrument pad (LH) (2).
3. Release the pawl on each side of the push-button ignition switch and NATS antenna amp. assembly using a suitable tool, then remove the push-button ignition switch from the NATS antenna amp. assembly.



#### INSTALLATION

Installation is in the reverse order of removal.

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