# SECTION PCS
# POWER CONTROL SYSTEM

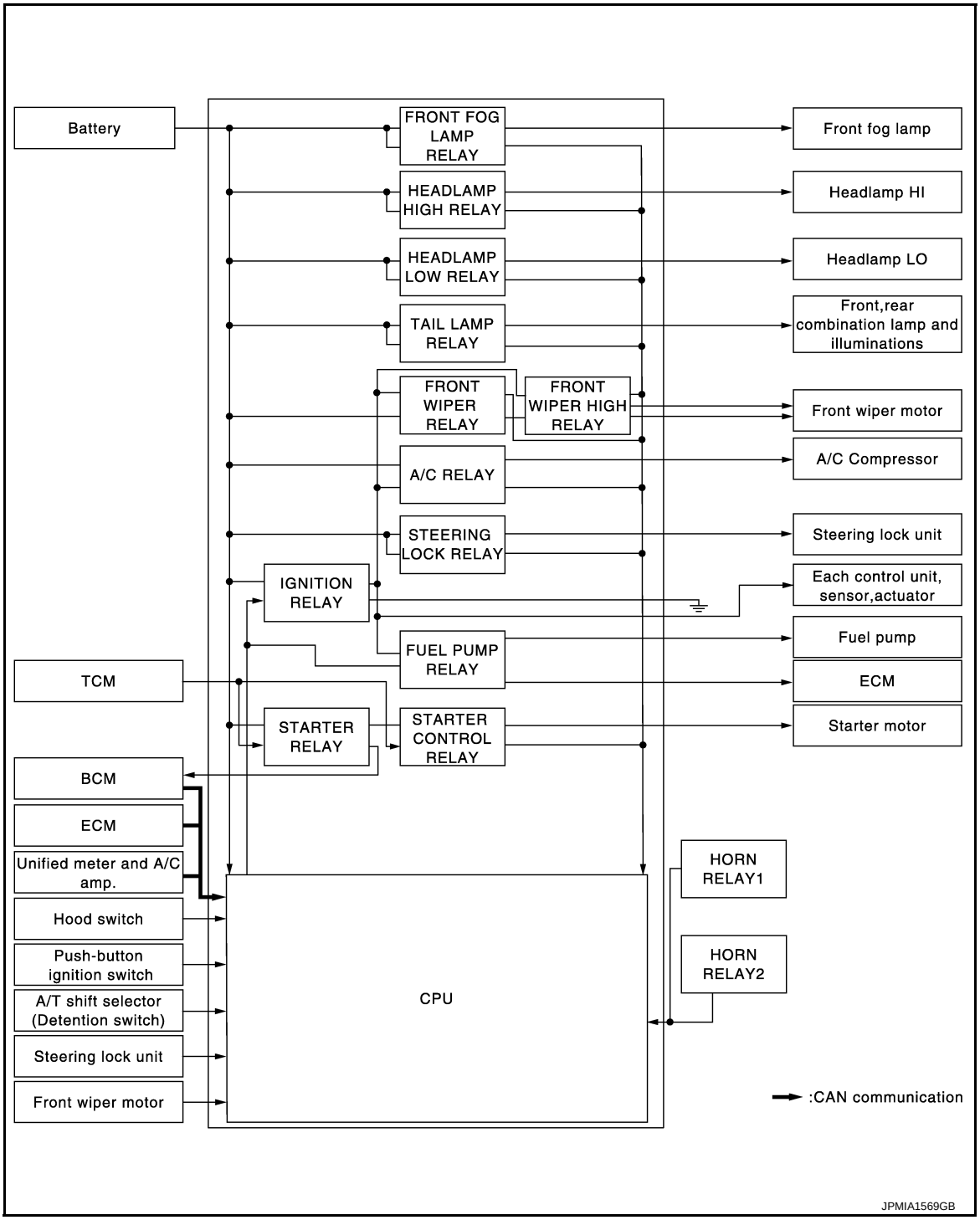
## CONTENTS

# SYSTEM DESCRIPTION

## RELAY CONTROL SYSTEM

### System Diagram

INFOID:0000000004343257




### System Description

INFOID:0000000004343258

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.**

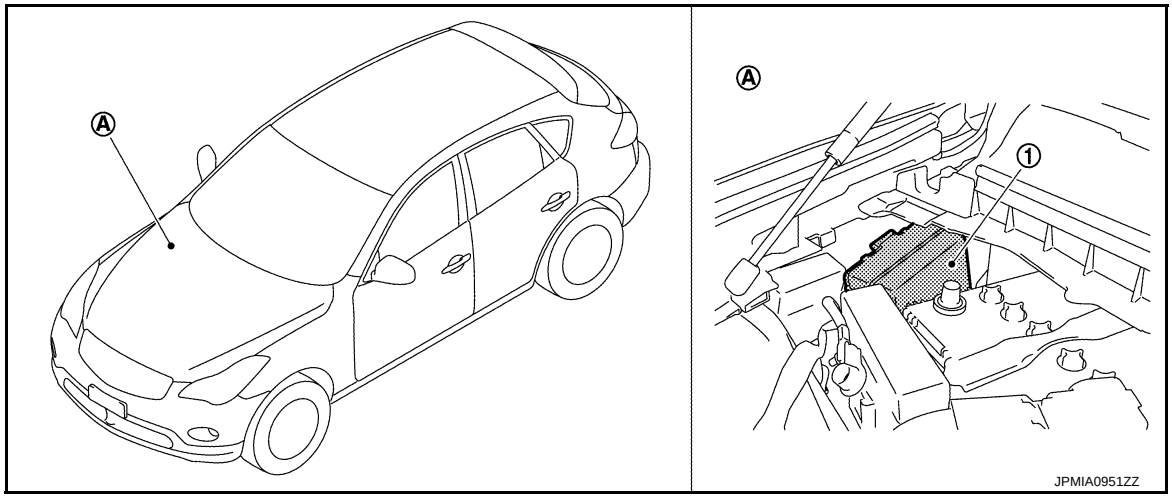
| Control relay | Input/output | Transmit unit | Control part | Reference page |
|---|---|---|---|---|
| • Headlamp low relay<br>• Headlamp high relay | • Low beam request signal<br>• High beam request signal | BCM (CAN) | • Headlamp low<br>• Headlamp high | • EXL-11 (Xenon headlamp)<br>• EXL-211 (Halogen headlamp) |
| Front fog lamp relay | Front fog light request signal | BCM (CAN) | Front fog lamp | • EXL-24 (Xenon headlamp)<br>• EXL-211 (Halogen headlamp) |
| Tail lamp relay | Position light request signal | BCM (CAN) | • Parking lamp<br>• Side marker lamp<br>• License plate lamp<br>• Tail lamp | • EXL-28 (Xenon headlamp)<br>• EXL-224 (Halogen headlamp) |
| | | | Illuminations | INL-12 |
| • Front wiper relay<br>• Front wiper high relay | Front wiper request signal | BCM (CAN) | Front wiper | WW-5 |
| | Front wiper stop position signal | Front wiper motor | | |
| • Horn relay 1<br>• Horn relay 2 | • Theft warning horn request signal<br>• Horn reminder signal | BCM (CAN) | • Horn (low)<br>• Horn (high) | SEC-19 |
| • Starter relay[NOTE]<br>• Starter control relay | Starter control relay signal | BCM (CAN) | Starter motor | SEC-105, SEC-103 |
| | Steering lock unit condition signal | Steering lock unit | | |
| | Starter relay control signal | TCM | | |
| Steering lock relay | Steering lock relay signal | BCM (CAN) | Steering lock unit | SEC-97 |
| | Steering lock unit condition signal | Steering lock unit | | |
| | A/T shift selector (Detention switch) signal | A/T shift selector (Detention switch) | | |
| A/C relay | A/C compressor request signal | ECM (CAN) | A/C compressor (magnet clutch) | HAC-51 |
| Ignition relay | Ignition switch ON signal | BCM (CAN) | Ignition relay | PCS-16 |
| | Vehicle speed signal | Unified meter and A/C amp. (CAN) | | |
| | Push-button ignition switch signal | Push-button ignition switch | | |

**NOTE:**

BCM controls the starter relay.

## Component Parts Location

INFOID:0000000004343259

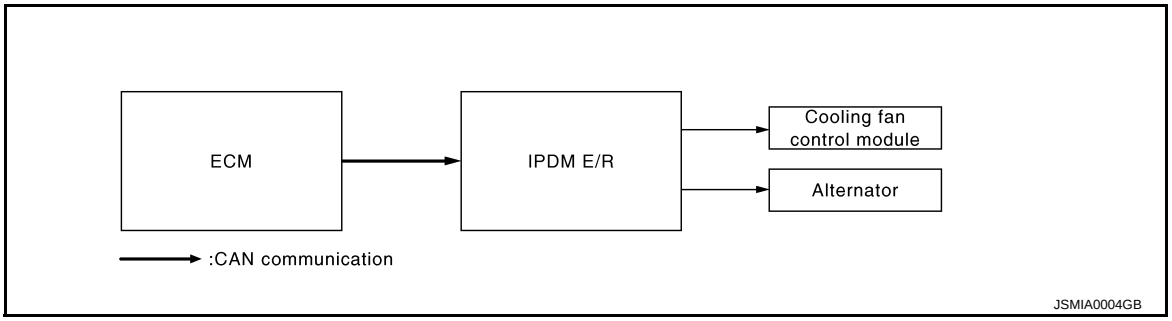


1. IPDM E/R
A. Engine room dash panel (RH)

# POWER CONTROL SYSTEM

## System Diagram

INFOID:0000000004343260




## System Description

INFOID:0000000004343261

### COOLING FAN CONTROL

IPDM E/R outputs pulse duty signal (PWM signal) to the cooling fan control module according to the status of the cooling fan speed request signal received from ECM via CAN communication. Refer to EC-69, "System Diagram".

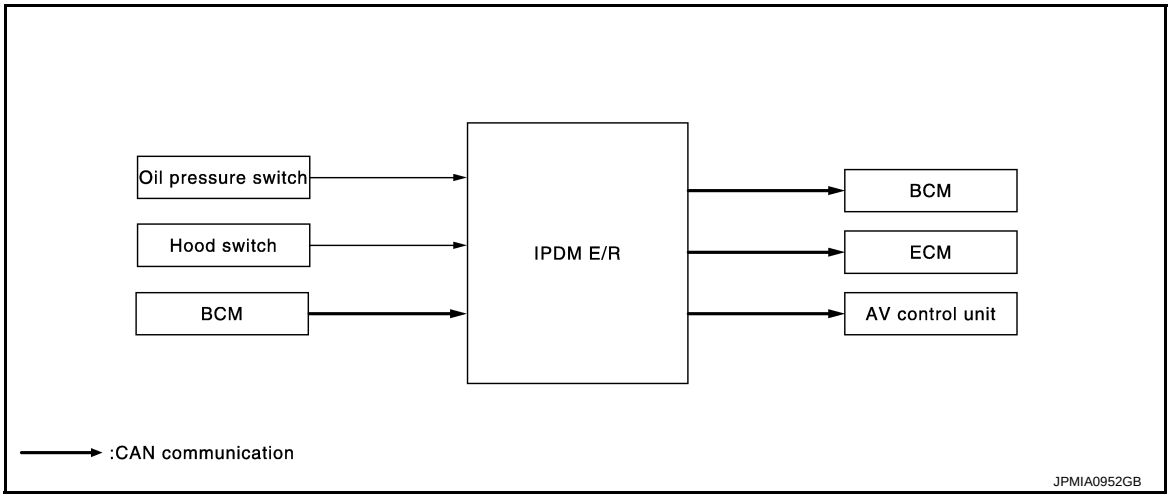
### ALTERNATOR CONTROL

IPDM E/R outputs power generation command signal (PWM signal) to the alternator according to the status of the power generation command value signal received from ECM via CAN communication. Refer to CHG-8, "System Diagram".

# SIGNAL BUFFER SYSTEM

## System Diagram

INFOID:0000000004343263




## System Description

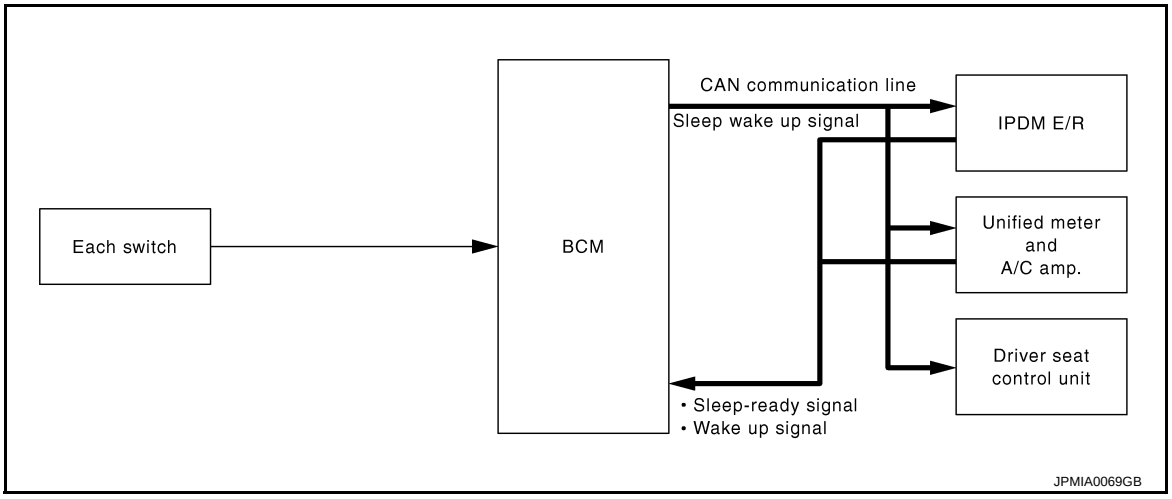
INFOID:0000000004343264

- IPDM E/R reads the status of the oil pressure switch and transmits the oil pressure switch signal to BCM via CAN communication. Refer to MWI-24, "WARNING LAMPS/INDICATOR LAMPS : System Diagram".
- IPDM E/R reads the status of the hood switch and transmits the hood switch signal to BCM via CAN communication. Refer to SEC-114, "Description".
- IPDM E/R receives the rear window defogger control signal from BCM via CAN communication and transmits it to ECM and AV control unit via CAN communication. Refer to DEF-4, "System Diagram".

# POWER CONSUMPTION CONTROL SYSTEM

## System Diagram

INFOID:0000000004711316




## System Description

INFOID:0000000004343267

### OUTLINE

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

Normal mode (wake-up)
- CAN communication is normally performed with other control units.
- Individual unit control by IPDM E/R is normally performed.

Low power consumption mode (sleep)
- Low power consumption control is active.
- CAN transmission is stopped.

### SLEEP MODE ACTIVATION

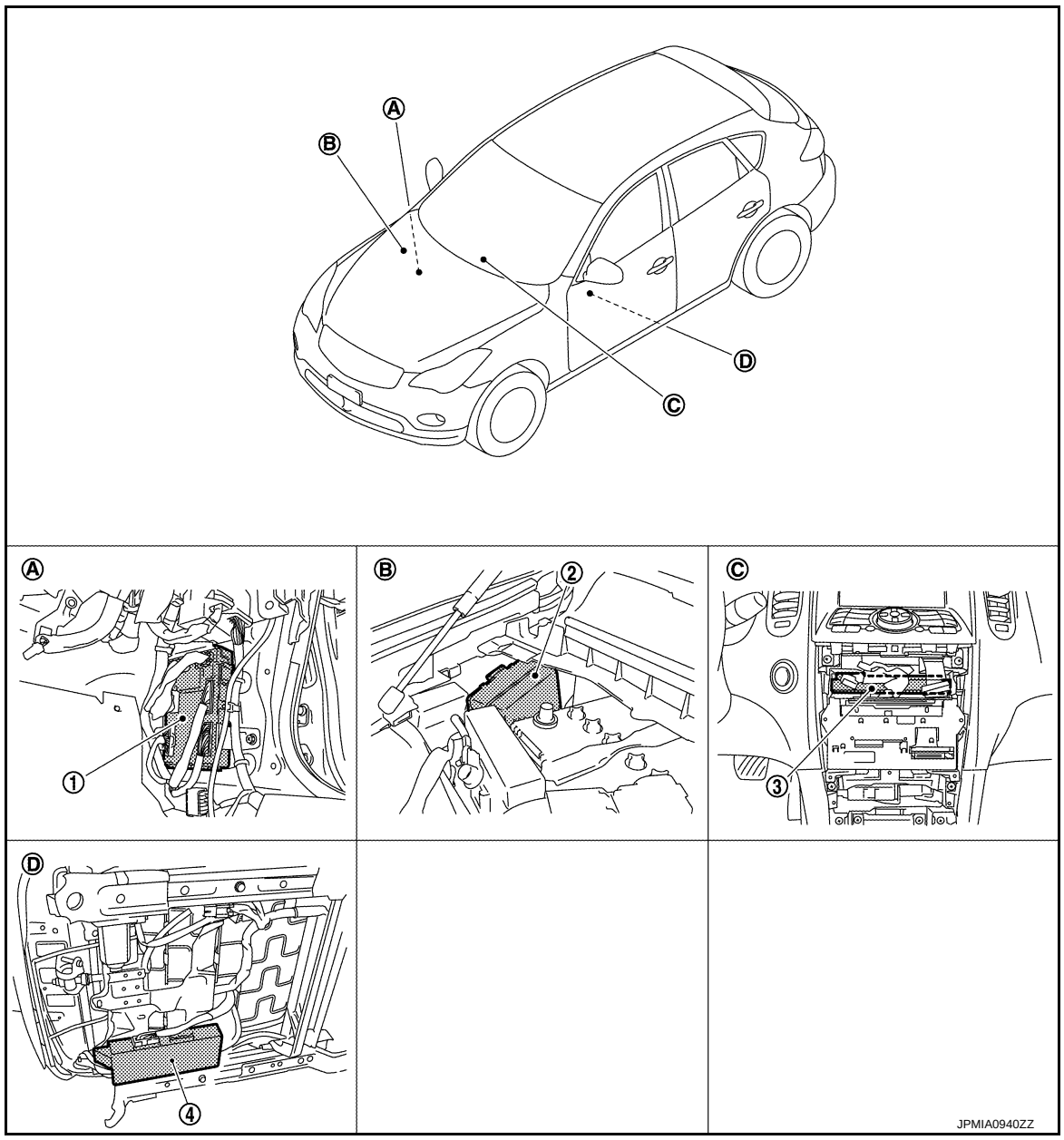
- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
  - Outputting signals to actuators
  - Switches or relays operating
  - Hood switch status is kept 50 ms or less.
  - Output requests are being received from control units via CAN communication.
- IPDM E/R stops CAN communication and enters the low power consumption mode when it receives a sleep wake up signal (sleep) from BCM and the sleep-ready conditions are fulfilled.

### WAKE-UP OPERATION

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

## Component Parts Location

INFOID:0000000004711317




1. BCM
2. IPDM E/R
3. Unified meter and A/C amp.
4. Driver seat control unit
A. Dash side lower (passenger side)
B. Engine room dash panel (RH)
C. Behind cluster lid C
D. Backside of the seat cushion (driver seat)

# DIAGNOSIS SYSTEM (IPDM E/R)

## Diagnosis Description

INFOID:0000000004343269

### AUTO ACTIVE TEST

Description

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

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

Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
   **NOTE:**
   When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF.
   **CAUTION:**
   **Close passenger door.**
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

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

**CAUTION:**

- **If auto active test mode cannot be actuated, check door switch system. Refer to DLK-66, "Component Function Check".**
- **Do not start the engine.**

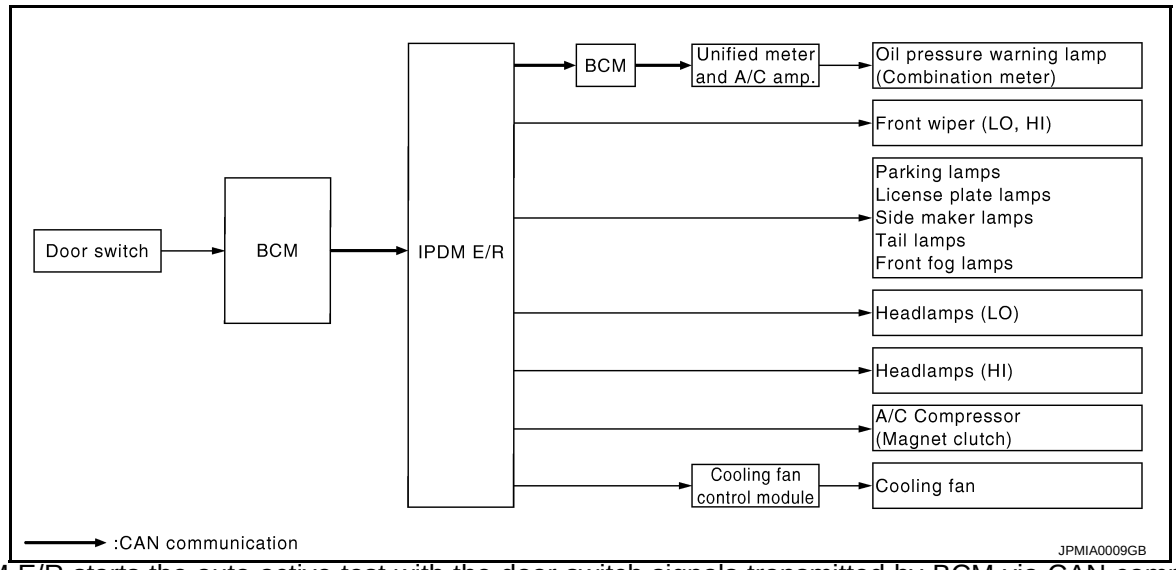
Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.

| Operation sequence | Inspection location | Operation |
|---|---|---|
| 1 | Oil pressure warning lamp | Blinks continuously during operation of auto active test |
| 2 | Front wiper | LO for 5 seconds → HI for 5 seconds |
| 3 | • Parking lamps<br>• License plate lamps<br>• Side maker lamps<br>• Tail lamps<br>• Front fog lamps | 10 seconds |
| 4 | Headlamps | • LO 10 seconds<br>• HI ON ⇔ OFF 5 times |
| 5 | A/C compressor (magnet clutch) | ON ⇔ OFF 5 times |
| 6* | Cooling fan | MID 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.

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<br>• Parking lamps<br>• License plate lamps<br>• Side maker lamps<br>• Tail lamps<br>• Front fog lamps<br>• Headlamp (HI, LO)<br>• Front wiper (HI, LO) | Perform auto active test. Does the applicable system operate? | YES | BCM signal input circuit |
| | | NO | • Lamp or motor<br>• Lamp or motor ground circuit<br>• Harness or connector between IPDM E/R and applicable system<br>• IPDM E/R |
| A/C compressor does not operate | Perform auto active test. Does the magnet clutch operate? | YES | • Unified meter and A/C amp. signal input circuit<br>• CAN communication signal between unified meter and A/C amp. and ECM<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Magnet clutch<br>• Harness or connector between IPDM E/R and magnet clutch<br>• IPDM E/R |
| Oil pressure warning lamp does not operate | Perform auto active test. Does the oil pressure warning lamp blink? | YES | • Harness or connector between IPDM E/R and oil pressure switch<br>• Oil pressure switch<br>• IPDM E/R |
| | | NO | • CAN communication signal between IPDM E/R and BCM<br>• CAN communication signal between BCM and unified meter and A/C amp.<br>• Combination meter |

| Symptom | Inspection contents | | Possible cause |
|---|---|---|---|
| Cooling fan does not operate | Perform auto active test.<br>Does the cooling fan operate? | YES | • ECM signal input circuit<br>• CAN communication signal between ECM and IPDM E/R |
| | | NO | • Cooling fan<br>• Harness or connector between cooling fan and cooling fan control module<br>• Cooling fan control module<br>• Harness or connector between IPDM E/R and cooling fan control module<br>• Cooling fan relay<br>• Harness or connector between IPDM E/R and cooling fan relay<br>• IPDM E/R |

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

INFOID:0000000004343270

### APPLICATION ITEM

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

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

### SELF DIAGNOSTIC RESULT

Refer to PCS-31, "DTC Index".

### DATA MONITOR

Monitor item

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

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|---|---|---|
| IGN RLY1 -REQ [Off/On] | | Displays the status of the ignition switch ON signal received from BCM via CAN communication. |
| IGN RLY [Off/On] | × | Displays the status of the ignition relay judged by IPDM E/R. |
| PUSH SW [Off/On] | | Displays the status of the push-button ignition switch judged by IPDM E/R. |
| INTER/NP SW [Off/On] | | Displays the status of the shift position judged by IPDM E/R. |
| ST RLY CONT [Off/On] | | Displays the status of the starter relay status signal received from BCM via CAN communication. |
| IHBT RLY -REQ [Off/On] | | Displays the status of the starter control relay signal received from BCM via CAN communication. |
| ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN] | | Displays the status of the starter relay and starter control relay judged by IPDM E/R. |
| DETENT SW [Off/On] | | Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R. |
| S/L RLY -REQ [Off/On] | | Displays the status of the steering lock relay request received from BCM via CAN communication. |
| S/L STATE [LOCK/UNLOCK/UNKWN] | | Displays the status of the steering lock judged by IPDM E/R. |
| DTRL REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| OIL P SW [Open/Close] | | Displays the status of the oil pressure switch judged by IPDM E/R. |
| HOOD SW [Off/On] | | Displays the status of the hood switch judged by IPDM E/R. |
| HL WASHER REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| THFT HRN REQ [Off/On] | | Displays the status of the theft warning horn request signal received from BCM via CAN communication. |
| HORN CHIRP [Off/On] | | Displays the status of the horn reminder signal received from BCM via CAN communication. |
| CRNRNG LMP REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |

## ACTIVE TEST

### Test item

| Test item | Operation | Description |
|---|---|---|
| CORNERING LAMP | Off | **NOTE:** The item is indicated, but cannot be tested. |
| | LH | |
| | RH | |
| HORN | On | Operates horn relay 1 and horn relay 2 for 20 ms. |
| FRONT WIPER | Off | OFF |
| | Lo | Operates the front wiper relay. |
| | Hi | Operates the front wiper relay and front wiper high relay. |
| MOTOR FAN | 1 | OFF |
| | 2 | Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module. |
| | 3 | Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module. |
| | 4 | Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module. |

| Test item | Operation | Description |
|---|---|---|
| HEAD LAMP WASHER | On | **NOTE:**<br>The item is indicated, but cannot be tested. |
| EXTERNAL LAMPS | Off | OFF |
| | TAIL | Operates the tail lamp relay. |
| | Lo | Operates the headlamp low relay. |
| | Hi | Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals. |
| | Fog | Operates the front fog lamp relay. |

# DTC/CIRCUIT DIAGNOSIS

## U1000 CAN COMM CIRCUIT

### Description

INFOID:0000000004343271

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

### DTC Logic

INFOID:0000000004343272

#### DTC DETECTION LOGIC

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

### Diagnosis Procedure

INFOID:0000000004343273

#### 1.PERFORM SELF DIAGNOSTIC

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

Is DTC “U1000” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-40, "Intermittent Incident".

# B2098 IGNITION RELAY ON STUCK

## Description

INFOID:0000000004343274

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the unified meter and A/C amp.(Emergency OFF)

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

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

## DTC Logic

INFOID:0000000004343275

### DTC DETECTION LOGIC

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

## Diagnosis Procedure

INFOID:0000000004343276

### 1.PERFORM SELF DIAGNOSIS

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

Is DTC “B2098” displayed?

YES >> Replace IPDM E/R.
NO >> Refer to GI-40, "Intermittent Incident".

# B2099 IGNITION RELAY OFF STUCK

## Description

INFOID:0000000004509161

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the unified meter and A/C amp.(Emergency OFF)

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

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

## DTC Logic

INFOID:0000000004343278

### DTC DETECTION LOGIC

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

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

## Diagnosis Procedure

INFOID:0000000004343279

### 1.PERFORM SELF DIAGNOSIS

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

Is DTC “B2099” displayed?

YES >> Replace IPDM E/R.
NO >> Refer to GI-40, "Intermittent Incident".

# POWER SUPPLY AND GROUND CIRCUIT

## Diagnosis Procedure

INFOID:0000000004343280

### 1.CHECK FUSES AND FUSIBLE LINK

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

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

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 2.

### 2.CHECK POWER SUPPLY CIRCUIT

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

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (–) | |
| IPDM E/R | | | |
| Connector | Terminal | Ground | |
| E4 | 1 | | Battery voltage |

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair the harness or connector.

### 3.CHECK GROUND CIRCUIT

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E5 | 12 | | Existed |
| E6 | 41 | | |

Does continuity exist?

YES >> INSPECTION END
NO >> Repair the harness or connector.

# ECU DIAGNOSIS INFORMATION

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

### Reference Value

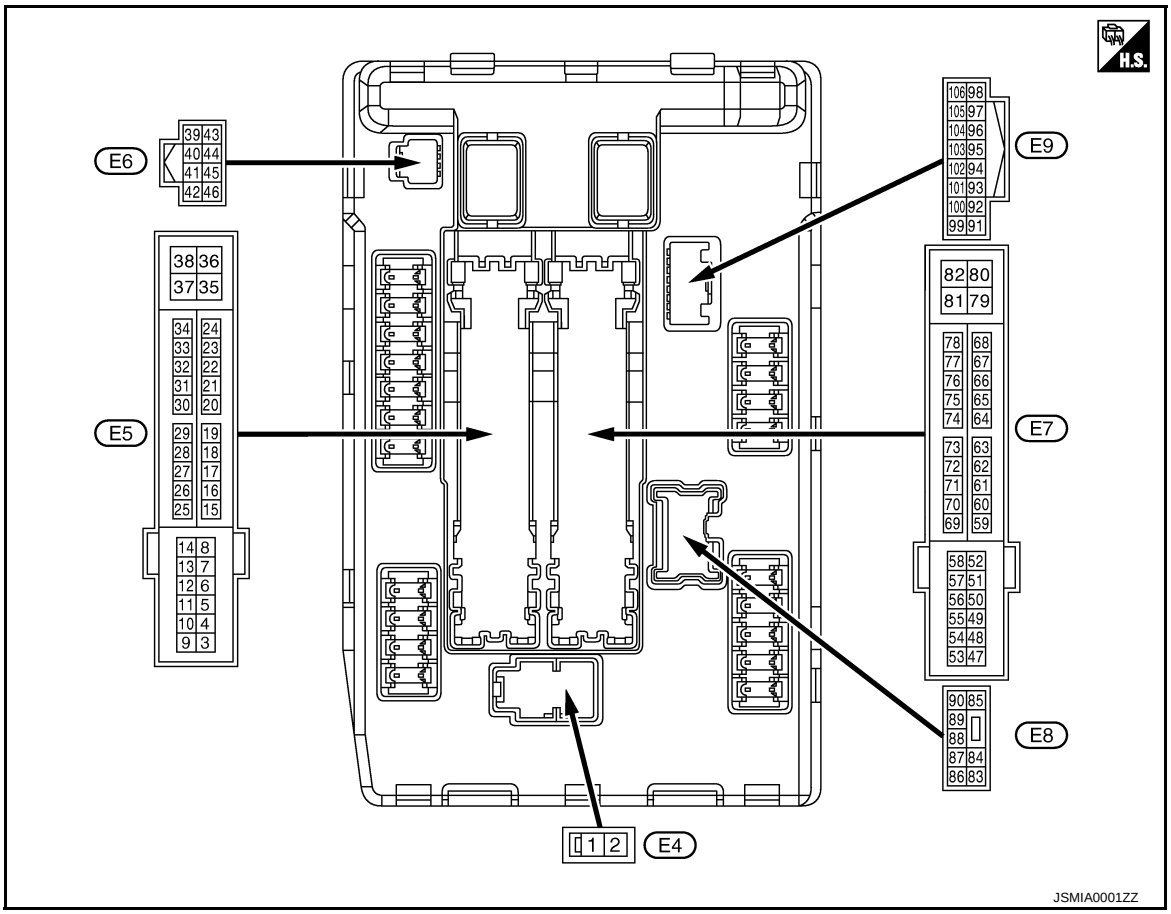
INFOID:0000000004343281

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) | On |
| FR WIP REQ | Ignition switch ON | Front wiper switch OFF | Stop |
| | | Front wiper switch INT | 1LOW |
| | | Front wiper switch LO | Low |
| | | Front wiper switch HI | Hi |
| WIP AUTO STOP | Ignition switch ON | Front wiper stop position | STOP P |
| | | Any position other than front wiper stop position | ACT P |
| WIP PROT | Ignition switch ON | Front wiper operates normally | Off |
| | | Front wiper stops at fail-safe operation | BLOCK |
| IGN RLY1 -REQ | Ignition switch OFF or ACC | | Off |
| | Ignition switch ON | | On |
| IGN RLY | Ignition switch OFF or ACC | | Off |
| | Ignition switch ON | | On |
| PUSH SW | Release the push-button ignition switch | | Off |
| | Press the push-button ignition switch | | On |
| INTER/NP SW | Ignition switch ON | Selector lever in any position other than P or N | Off |
| | | Selector lever in P or N position | On |
| ST RLY CONT | Ignition switch ON | | Off |
| | At engine cranking | | On |
| IHBT RLY -REQ | Ignition switch ON | | Off |
| | At engine cranking | | On |

| Monitor Item | Condition | | Value/Status |
|---|---|---|---|
| ST/INHI RLY | Ignition switch ON | | Off |
| | At engine cranking | | INHI ON → ST ON |
| | 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 | • Press the selector button with selector lever in P position<br>• Selector lever in any position other than P | Off |
| | Release the selector button with selector lever in P position | | On |
| S/L RLY -REQ | None of the conditions below are present | | Off |
| | • Open the driver door after the ignition switch is turned OFF (for a few seconds)<br>• Press the push-button ignition switch when the steering lock is activated | | On |
| S/L STATE | Steering lock is activated | | LOCK |
| | Steering lock is deactivated | | UNLOCK |
| | [DTC: B210A] is detected | | UNKWN |
| DTRL REQ | **NOTE:**<br>The item is indicated, but not monitored. | | Off |
| OIL P SW | Ignition switch OFF, ACC or engine running | | Open |
| | Ignition switch ON | | Close |
| HOOD SW | Close the hood | | Off |
| | Open the hood | | On |
| HL WASHER REQ | **NOTE:**<br>The item is indicated, but not monitored. | | Off |
| THFT HRN REQ | Not operation | | Off |
| | • Panic alarm is activated<br>• Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM | | On |
| HORN CHIRP | Not operating | | Off |
| | Door locking with Intelligent Key (horn chirp mode) | | On |
| CRNRNG LMP REQ | **NOTE:**<br>The item is indicated, but not monitored. | | Off |

TERMINAL LAYOUT

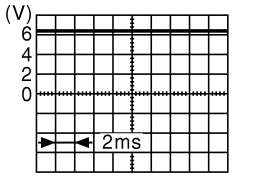
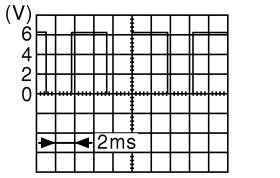
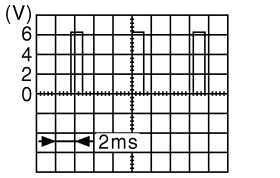



PHYSICAL VALUES

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| | | Signal name | Input/ Output | | | |
| + | – | | | | | |
| 1 (W) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 2 (L) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 4 (V) | Ground | Front wiper LO | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch LO | Battery voltage |
| 5 (L) | Ground | Front wiper HI | Output | Ignition switch ON | Front wiper switch OFF | 0 V |
| | | | | | Front wiper switch HI | Battery voltage |
| 7 (R) | Ground | Tail, license plate lamps & interior lamps | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | Lighting switch 1ST | Battery voltage |
| 11 (BR) | Ground | Steering lock unit power supply | Output | Ignition switch OFF | A few seconds after opening the driver door | Battery voltage |
| | | | | Ignition switch LOCK | Press the push-button ignition switch | Battery voltage |
| | | | | Ignition switch ACC or ON | | 0 V |
| 12 (B/W) | Ground | Ground | — | Ignition switch ON | | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| | | Signal name | Input/ Output | | | |
| + | – | | | | | |
| 13 (SB) | Ground | Fuel pump power supply | Output | Approximately 1 second or more after turning the ignition switch ON | | 0 V |
| | | | | • Approximately 1 second after turning the ignition switch ON<br>• Engine running | | Battery voltage |
| 16 (LG) | Ground | Front wiper auto stop | Input | Ignition switch ON | Front wiper stop position | 0 V |
| | | | | | Any position other than front wiper stop position | Battery voltage |
| 19 (W) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 25 (G) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 26* (R) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 27 (O) | Ground | Ignition relay monitor | Input | Ignition switch OFF or ACC | | Battery voltage |
| | | | | Ignition switch ON | | 0 V |
| 28 (L) | Ground | Push-button ignition switch | Input | Press the push-button ignition switch | | 0 V |
| | | | | Release the push-button ignition switch | | Battery voltage |
| 30 (GR) | Ground | Starter relay control | Input | Ignition switch ON | Selector lever in any position other than P or N | 0 V |
| | | | | | Selector lever P or N | Battery voltage |
| 32 (L) | Ground | Steering lock unit condition-1 | Input | Steering lock is activated | | 0 V |
| | | | | Steering lock is deactivated | | Battery voltage |
| 33 (P) | Ground | Steering lock unit condition-2 | Input | Steering lock is activated | | Battery voltage |
| | | | | Steering lock is deactivated | | 0 V |
| 36 (G) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 39 (P) | — | CAN-L | Input/ Output | — | | — |
| 40 (L) | — | CAN-H | Input/ Output | — | | — |
| 41 (B/W) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 42 (Y) | Ground | Cooling fan relay control | Input | Ignition switch OFF or ACC | | 0 V |
| | | | | Ignition switch ON | | 0.7 V |
| 43 (SB) | Ground | Control device (Detention switch) | Input | Ignition switch ON | • Press the selector button (Selector lever P)<br>• Selector lever in any position other than P | Battery voltage |
| | | | | | Release the selector button (selector lever P) | 0 V |
| 44 (W) | Ground | Horn relay control | Input | The horn is deactivated | | Battery voltage |
| | | | | The horn is activated | | 0 V |
| 45 (G) | Ground | Anti theft horn relay control | Input | The horn is deactivated | | Battery voltage |
| | | | | The horn is activated | | 0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 46 (R) | Ground | Starter relay control | Input | Ignition switch ON | Selector lever in any position other than P or N | 0 V |
| | | | | | Selector lever P or N | Battery voltage |
| 48 (L) | Ground | A/C relay power supply | Output | Engine running | A/C switch OFF | 0 V |
| | | | | | A/C switch ON (A/C compressor is operating) | Battery voltage |
| 49 (R) | Ground | ECM relay power supply | Output | Ignition switch OFF (More than a few seconds after turning ignition switch OFF) | | 0 V |
| | | | | • Ignition switch ON<br>• Ignition switch OFF (For a few seconds after turning ignition switch OFF) | | Battery voltage |
| 51 (G) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 53 (W) | Ground | ECM relay power supply | Output | Ignition switch OFF (More than a few seconds after turning ignition switch OFF) | | 0 V |
| | | | | • Ignition switch ON<br>• Ignition switch OFF (For a few seconds after turning ignition switch OFF) | | Battery voltage |
| 54 (LG) | Ground | Throttle control motor relay power supply | Output | Ignition switch OFF (More than a few seconds after turning ignition switch OFF) | | 0 V |
| | | | | • Ignition switch ON<br>• Ignition switch OFF (For a few seconds after turning ignition switch OFF) | | Battery voltage |
| 55 (BR) | Ground | ECM power supply | Output | Ignition switch OFF | | Battery voltage |
| 56 (V) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 57 (SB) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 58 (P) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 69 (W) | Ground | ECM relay control | Output | Ignition switch OFF (More than a few seconds after turning ignition switch OFF) | | Battery voltage |
| | | | | • Ignition switch ON<br>• Ignition switch OFF (For a few seconds after turning ignition switch OFF) | | 0 – 1.5 V |
| 70 (O) | Ground | Throttle control motor relay control | Output | Ignition switch ON → OFF | | 0 – 1.0 V<br>↓<br>Battery voltage<br>↓<br>0 V |
| | | | | Ignition switch ON | | 0 – 1.0 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 74 (P) | Ground | Ignition relay power supply | Output | Ignition switch OFF | | 0 V |
| | | | | Ignition switch ON | | Battery voltage |
| 75 (Y) | Ground | Oil pressure switch | Input | Ignition switch ON | Engine stopped | 0 V |
| | | | | | Engine running | Battery voltage |
| 76 (V) | Ground | Power generation command signal | Output | Ignition switch ON | |  JPMIA0001GB 6.3 V |
| | | | | 40% is set on “ACTIVE TEST”, “ALTERNATOR DUTY” of “ENGINE” | |  JPMIA0002GB 3.8 V |
| | | | | 80% is set on “ACTIVE TEST”, “ALTERNATOR DUTY” of “ENGINE” | |  JPMIA0003GB 1.4 V |
| 77 (L) | Ground | Fuel pump relay control | Output | • Approximately 1 second after turning the ignition switch ON<br>• Engine running | | 0 – 1.0 V |
| | | | | Approximately 1 second or more after turning the ignition switch ON | | Battery voltage |
| 80 (W) | Ground | Starter motor | Output | At engine cranking | | Battery voltage |
| 83 (O) | Ground | Headlamp LO (RH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | Lighting switch 2ND | Battery voltage |
| 84 (V) | Ground | Headlamp LO (LH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | Lighting switch 2ND | Battery voltage |
| 86 (W) | Ground | Front fog lamp (RH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | • Front fog lamp switch ON<br>• Daytime running light activated (Only for Canada) | Battery voltage |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 87 (L) | Ground | Front fog lamp (LH) | Output | Lighting switch 2ND | Front fog lamp switch OFF | 0 V |
| | | | | | • Front fog lamp switch ON<br>• Daytime running light activated (Only for Canada) | Battery voltage |
| 88 (GR) | Ground | Washer pump power supply | Output | Ignition switch ON | | Battery voltage |
| 89 (BR) | Ground | Headlamp HI (RH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | • Lighting switch HI<br>• Lighting switch PASS | Battery voltage |
| 90 (P) | Ground | Headlamp HI (LH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | • Lighting switch HI<br>• Lighting switch PASS | Battery voltage |
| 91 (P) | Ground | Parking lamp (RH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | Lighting switch 1ST | Battery voltage |
| 92 (O) | Ground | Parking lamp (LH) | Output | Ignition switch ON | Lighting switch OFF | 0 V |
| | | | | | Lighting switch 1ST | Battery voltage |
| 97 (V) | Ground | Cooling fan control | Output | Engine idling | | 0 – 5 V |
| 104 (LG) | Ground | Hood switch | Input | Close the hood | | Battery voltage |
| | | | | Open the hood | | 0 V |

*: Only for the models with ICC system

## Wiring Diagram - IPDM E/R -

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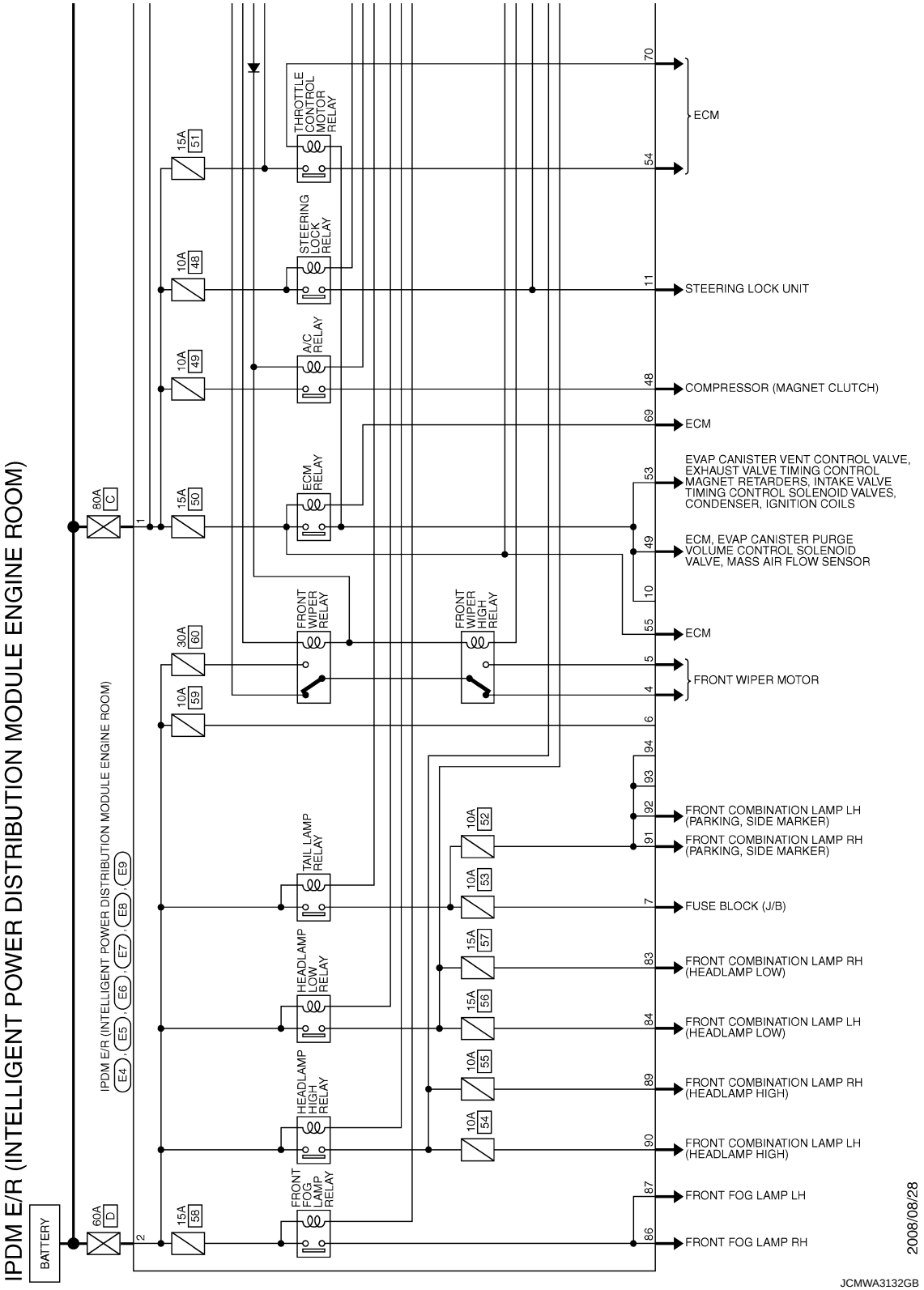
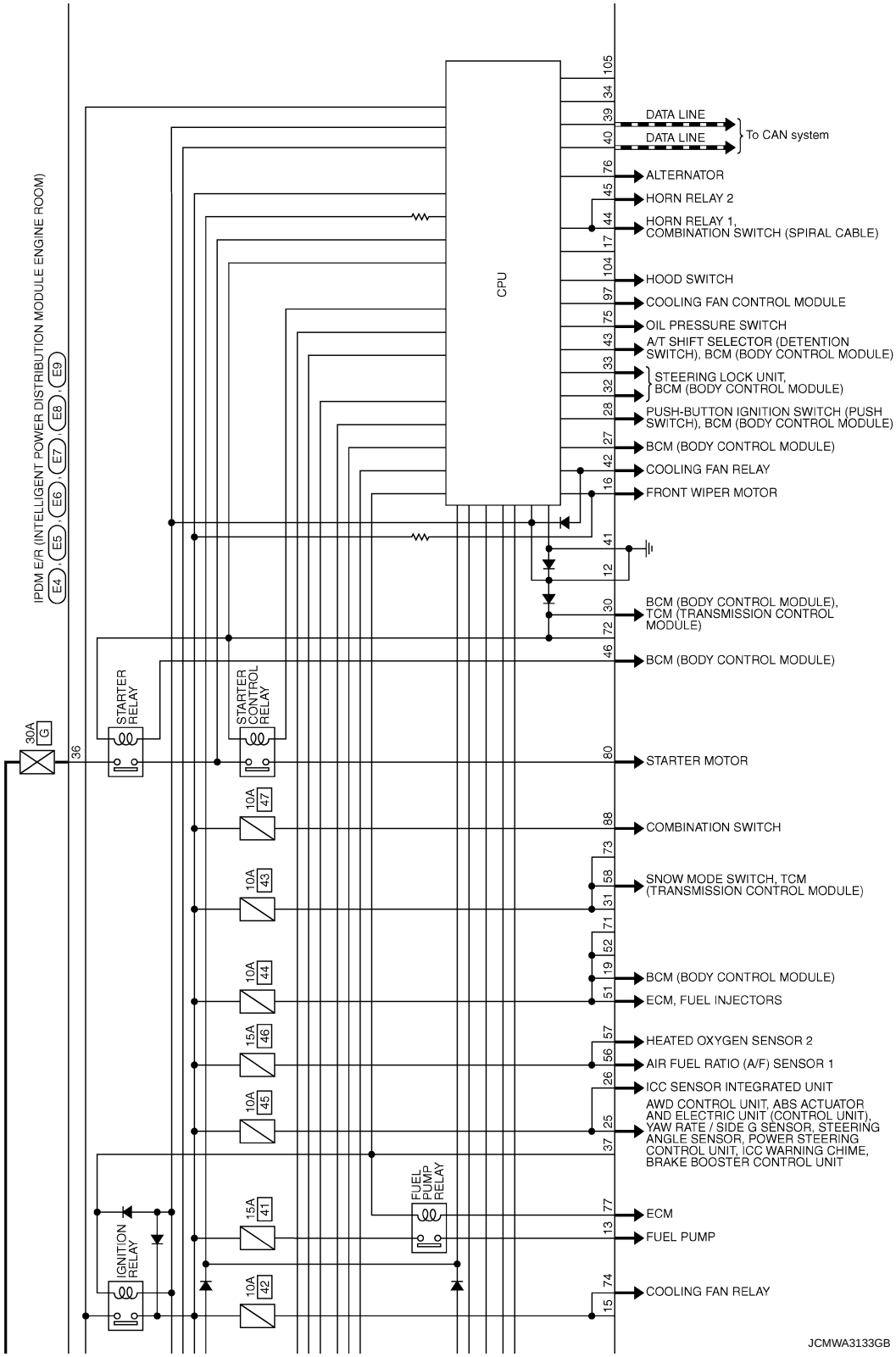
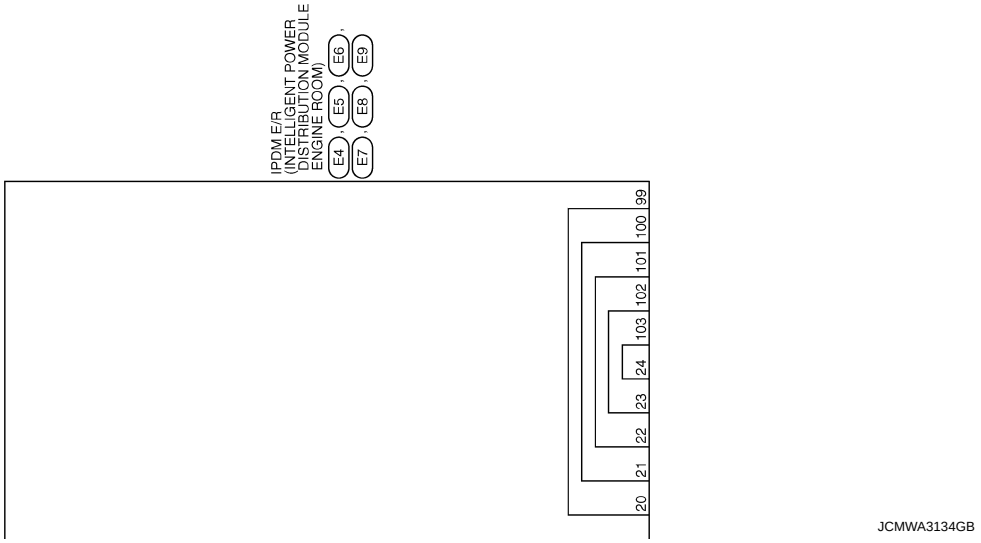
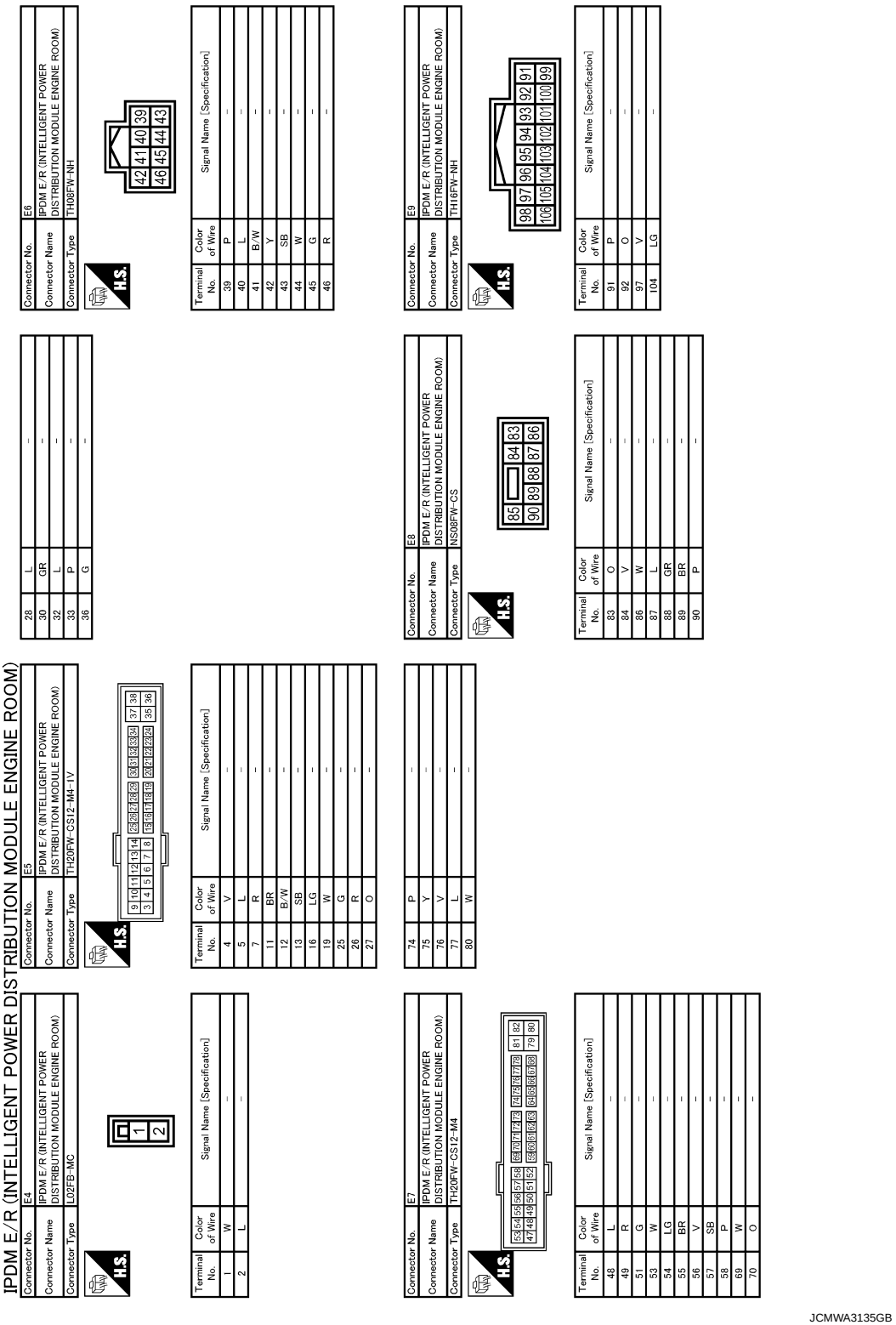



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E4, E5, E6, E7, E8, E9
CPU
105
34
39
40
DATA LINE
DATA LINE
To CAN system
76
ALTERNATOR
45
HORN RELAY 2
44
17
HORN RELAY 1, COMBINATION SWITCH (SPIRAL CABLE)
104
HOOD SWITCH
97
COOLING FAN CONTROL MODULE
75
OIL PRESSURE SWITCH
43
A/T SHIFT SELECTOR (DETENTION SWITCH), BCM (BODY CONTROL MODULE)
33
32
STEERING LOCK UNIT, BCM (BODY CONTROL MODULE)
28
PUSH-BUTTON IGNITION SWITCH (PUSH SWITCH), BCM (BODY CONTROL MODULE)
27
BCM (BODY CONTROL MODULE)
42
COOLING FAN RELAY
16
FRONT WIPER MOTOR
41
12
30
72
BCM (BODY CONTROL MODULE), TCM (TRANSMISSION CONTROL MODULE)
46
BCM (BODY CONTROL MODULE)
30A G
36
STARTER RELAY
STARTER CONTROL RELAY
80
STARTER MOTOR
10A 47
88
COMBINATION SWITCH
10A 43
73
58
31
SNOW MODE SWITCH, TCM (TRANSMISSION CONTROL MODULE)
71
52
19
BCM (BODY CONTROL MODULE)
10A 44
51
ECM, FUEL INJECTORS
15A 46
57
HEATED OXYGEN SENSOR 2
56
AIR FUEL RATIO (A/F) SENSOR 1
26
ICC SENSOR INTEGRATED UNIT
10A 45
25
37
AWD CONTROL UNIT, ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT), YAW RATE / SIDE G SENSOR, STEERING ANGLE SENSOR, POWER STEERING CONTROL UNIT, ICC WARNING CHIME, BRAKE BOOSTER CONTROL UNIT
FUEL PUMP RELAY
15A 41
77
ECM
13
FUEL PUMP
IGNITION RELAY
10A 42
74
15
COOLING FAN RELAY
JCMWA3133GB


IPDM E/R
(INTELLIGENT POWER
DISTRIBUTION MODULE
ENGINE ROOM)
E4
E5
E6
E7
E8
E9
99
100
101
102
103
24
23
22
21
20
JCMWA3134GB




JCMWA3135GB

## Fail-safe

*INFOID:0000000004343283*

### CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

| Control part | Fail-safe operation |
|---|---|
| Cooling fan | • Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON<br>• Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF |
| A/C compressor | A/C relay OFF |
| Alternator | Outputs the power generation command signal (PWM signal) 0% |

If No CAN Communication Is Available With BCM

| Control part | Fail-safe operation |
|---|---|
| Headlamp | • Turns ON the headlamp low relay when the ignition switch is turned ON<br>• Turns OFF the headlamp low relay when the ignition switch is turned OFF<br>• Headlamp high relay OFF |
| • Parking lamps<br>• License plate lamps<br>• Side maker lamps<br>• Illuminations<br>• Tail lamps | • Turns ON the tail lamp relay when the ignition switch is turned ON<br>• Turns OFF the tail lamp relay when the ignition switch is turned OFF |
| Front wiper | • 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.<br>• 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. |
| Front fog lamps | Front fog lamp relay OFF |
| Horn | Horn relay OFF |
| Ignition relay | The status just before activation of fail-safe is maintained. |
| Starter motor | Starter control relay OFF |
| Steering lock unit | Steering lock relay OFF |

## IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

| Voltage judgment | | IPDM E/R judgment | Operation |
|---|---|---|---|
| Ignition relay contact side | Ignition relay excitation coil side | | |
| ON | ON | Ignition relay ON normal | — |
| OFF | OFF | Ignition relay OFF normal | — |
| ON | OFF | Ignition relay ON stuck | • Detects DTC “B2098: IGN RELAY ON”<br>• Turns ON the tail lamp relay for 10 minutes |
| OFF | ON | Ignition relay OFF stuck | Detects DTC “B2099: IGN RELAY OFF” |

## FRONT WIPER CONTROL

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

| Ignition switch | Front wiper switch | Front wiper stop position signal |
|---|---|---|
| ON | OFF | The front wiper stop position signal (stop position) cannot be input for 10 seconds. |
| | ON | The front wiper stop position 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:0000000004343284

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

×: Applicable

| CONSULT display | Fail-safe | Reference |
|---|---|---|
| No DTC is detected. further testing may be required. | — | — |
| U1000: CAN COMM CIRCUIT | × | PCS-15 |
| B2098: IGN RELAY ON | × | PCS-16 |
| B2099: IGN RELAY OFF | — | PCS-17 |
| B2108: STRG LCK RELAY ON | — | SEC-97 |
| B2109: STRG LCK RELAY OFF | — | SEC-98 |
| B210A: STRG LCK STATE SW | — | SEC-99 |
| B210B: START CONT RLY ON | — | SEC-103 |
| B210C: START CONT RLY OFF | — | SEC-104 |
| B210D: STARTER RELAY ON | — | SEC-105 |
| B210E: STARTER RELAY OFF | — | SEC-106 |
| B210F: INTRLCK/PNP SW ON | — | SEC-108 |
| B2110: INTRLCK/PNP SW OFF | — | SEC-110 |

# PRECAUTION

## PRECAUTIONS

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

INFOID:0000000004711318

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

**WARNING:**

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

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

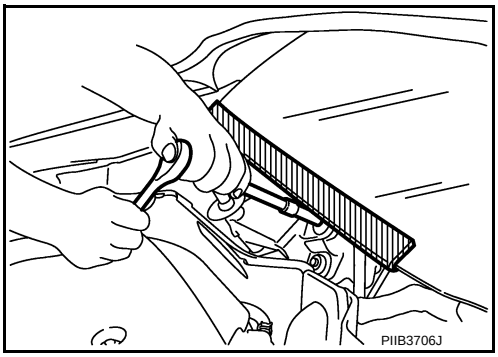
**WARNING:**

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

### Precaution for Procedure without Cowl Top Cover

INFOID:0000000004711346

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

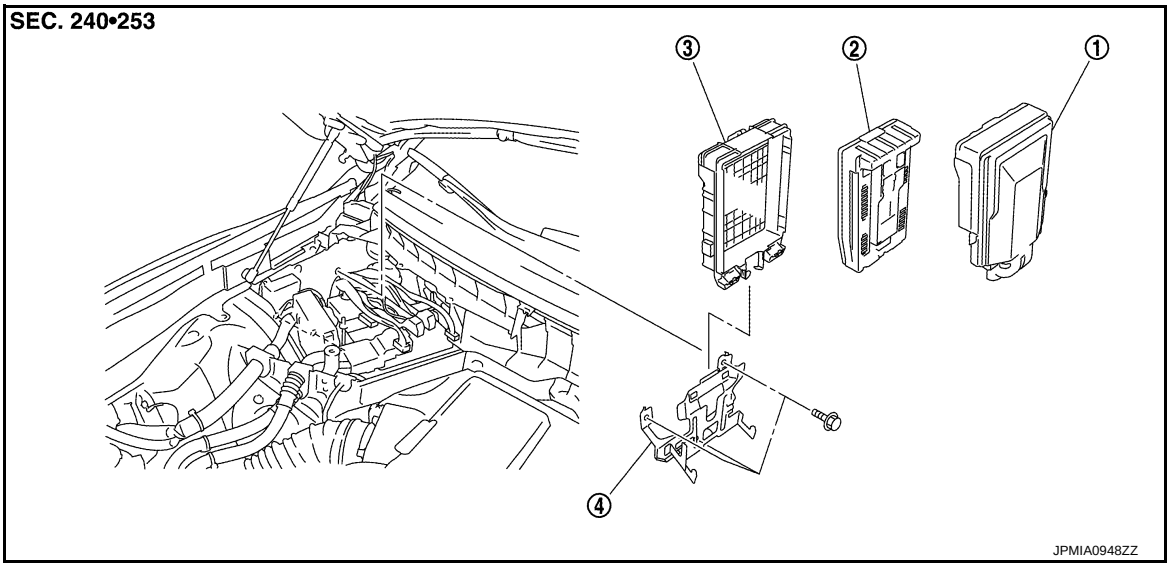


# REMOVAL AND INSTALLATION

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

### Exploded View

INFOID:0000000004343286




1. IPDM E/R cover A
2. IPDM E/R
3. IPDM E/R cover B
4. Bracket

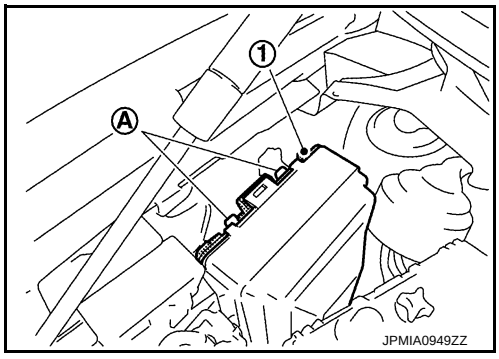
### Removal and Installation

INFOID:0000000004343287

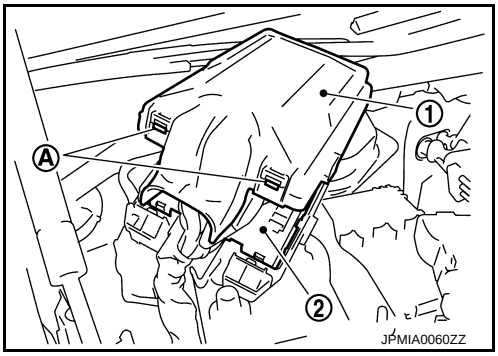
**CAUTION:**
**IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.**

REMOVAL

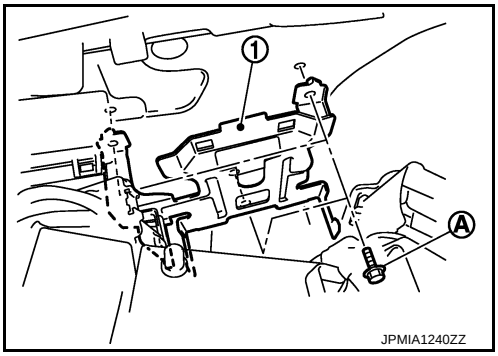
1. Disconnect the battery cable from the negative terminal.
2. Remove the cowl top cover (RH). Refer to EXT-22, "Exploded View".
3. Pull up the IPDM E/R assembly while pressing the pawls (A) on the back of the IPDM E/R cover B (1).



4. Remove the IPDM E/R cover A (1) while pressing the pawls (A) at the lower end of the IPDM E/R cover A.
5. Disconnect the harness connector and remove the IPDM E/R (2).




6. Remove the bolts (A) and remove the bracket (1) from the vehicle.




INSTALLATION

Install in the reverse order of removal.

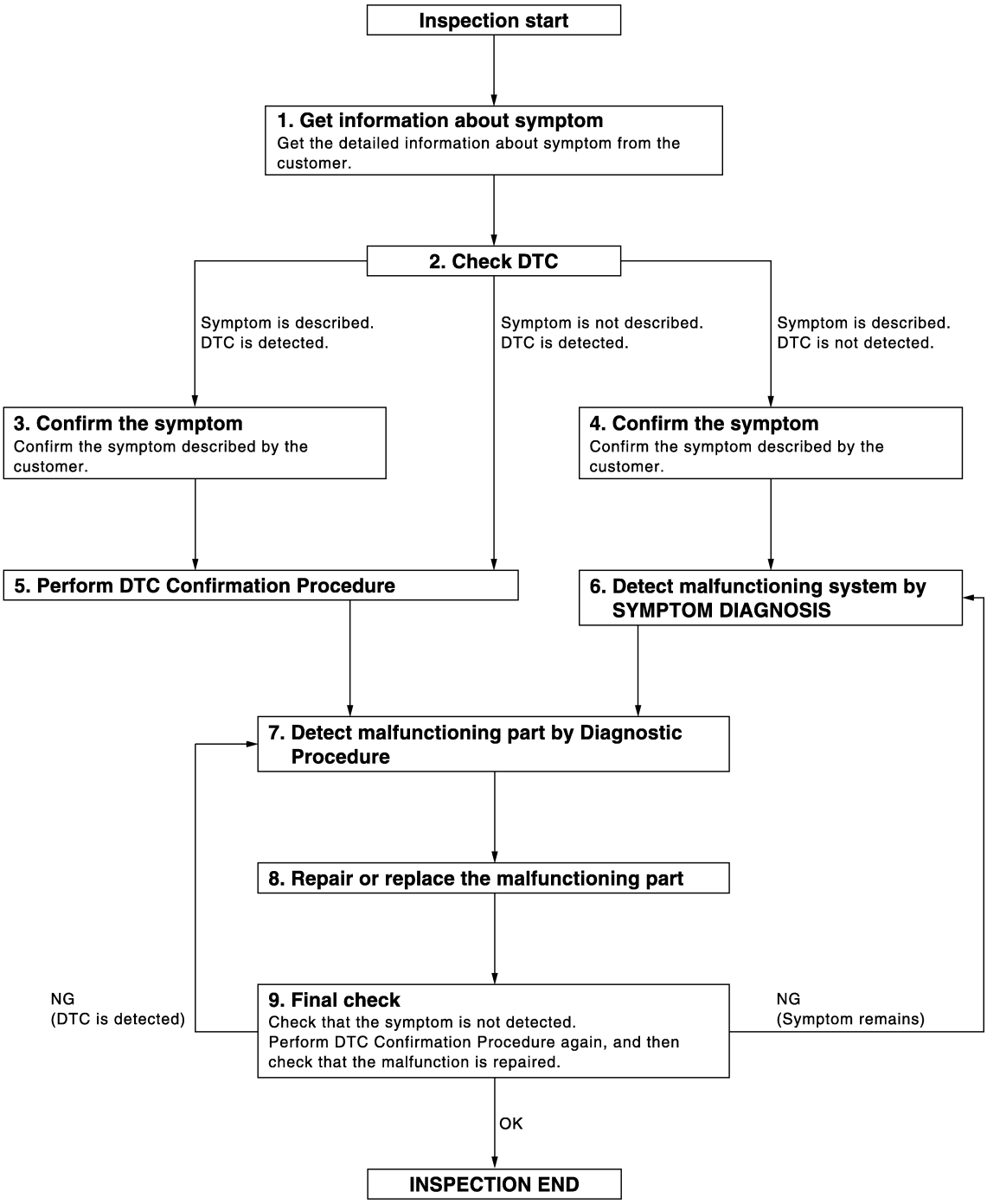
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:0000000004343288

#### OVERALL SEQUENCE




JMKIA3449GB

#### DETAILED FLOW

## 1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

## 2.CHECK DTC

1. Check DTC for BCM and IPDM E/R.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out with CONSULT-III.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

## 3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR ” mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the detected DTC, and then check that DTC is detected again.
At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to SEC-174, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

**NOTE:**
Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 7.
NO >> Refer to GI-40, "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.

>> GO TO 7.

## 7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check voltage of related BCM terminals using CONSULT-III.

## 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

## 9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction has been repaired securely.
When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.
YES (Symptom remains)>>GO TO 6.
NO >> **INSPECTION END**

# SYSTEM DESCRIPTION

## POWER DISTRIBUTION SYSTEM

### System Description

INFOID:0000000004343289

#### 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. Refer to Engine Start Function for details.
  - Intelligent Key is in the detection area of the inside key antenna
  - Insert Intelligent Key into the key slot
- The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.
  - Ignition relay (built into IPDM E/R)
  - Ignition relay (inserted into fuse block)
  - ACC relay
  - Blower 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 around the push-button ignition switch.

#### BATTERY SAVER SYSTEM

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

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

##### Reset Condition of Battery Saver System

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

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

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

#### STEERING LOCK OPERATION

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

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

#### 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 it is inserted to the key slot, 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 | |
| LOCK → ACC | — | Not depressed | 1 |
| LOCK → ACC → ON | — | Not depressed | 2 |
| LOCK → ACC → ON → OFF | — | Not depressed | 3 |
| LOCK → 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

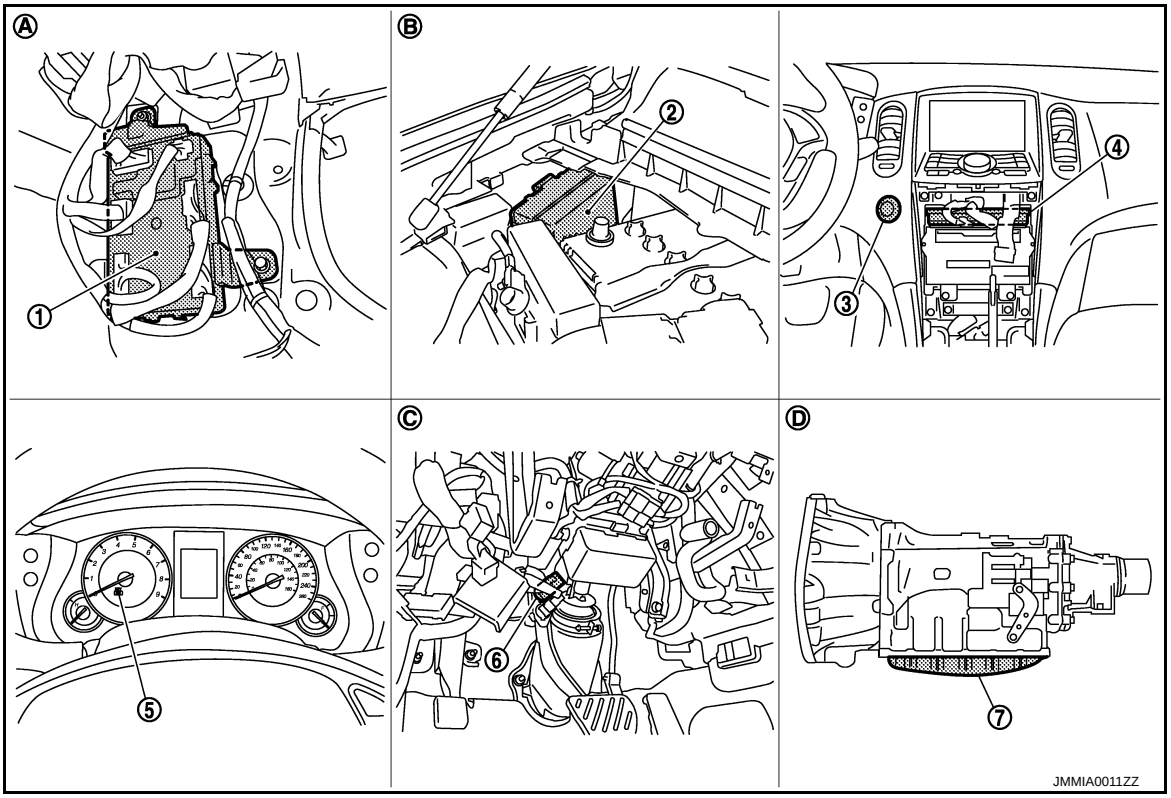
| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever position | Brake pedal operation condition | |
| Engine is running → ACC | — | — | Emergency stop operation |
| Engine stall return operation while driving | 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.

## Component Parts Location

INFOID:0000000004343290




1. BCM M118, M119, M121, M122, M123
2. IPDM E/R E5, E6, E7
3. Push-button ignition switch M50
4. Unified meter and A/C amp. M66, M67
5. Combination meter (Key warning lamp) M53
6. Stop lamp switch E110
7. TCM F151 (built into A/T assembly)

A. Dash side lower (passenger side) B. Engine room dash panel (RH) C. Behind the instrument driver lower panel

D. A/T assembly

## Component Description

INFOID:0000000004343291

| Component | Reference |
|---|---|
| IPDM E/R | PCS-6 |
| Ignition relay (Built-in IPDM E/R) | PCS-51 |
| Ignition relay (Built-in fuse block) | PCS-49 |
| Accessory relay | PCS-53 |
| Blower relay | PCS-56 |
| Stop lamp switch | SEC-52 |
| Transmission range switch | SEC-66 |
| Push-button ignition switch | PCS-66 |

# DIAGNOSIS SYSTEM (BCM)

## COMMON ITEM

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

INFOID:0000000004904548

#### APPLICATION ITEM

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

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

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

**NOTE:**

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

×: Applicable item

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

**NOTE:**

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

#### FREEZE FRAME DATA (FFD)

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

| CONSULT screen item | Indication/Unit | Description | |
|---|---|---|---|
| Vehicle Speed | km/h | Vehicle speed of the moment a particular DTC is detected | |
| Odo/Trip Meter | km | Total mileage (Odometer value) of the moment a particular DTC is detected | |
| Vehicle Condition | SLEEP>LOCK | Power position status of the moment a particular DTC is detected | While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”) |
| | SLEEP>OFF | | While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.) |
| | LOCK>ACC | | While turning power supply position from “LOCK” to “ACC” |
| | ACC>ON | | While turning power supply position from “ACC” to “IGN” |
| | RUN>ACC | | While turning power supply position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.) |
| | CRANK>RUN | | While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it) |
| | RUN>URGENT | | While turning power supply position from “RUN“ to “ACC” (Emergency stop operation) |
| | ACC>OFF | | While turning power supply position from “ACC” to “OFF” |
| | OFF>LOCK | | While turning power supply position from “OFF” to “LOCK” |
| | OFF>ACC | | While turning power supply position from “OFF” to “ACC” |
| | ON>CRANK | | While turning power supply position from “IGN” to “CRANKING” |
| | OFF>SLEEP | | While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode |
| | LOCK>SLEEP | | While turning BCM status from normal mode (Power supply position is “LOCK”.) to low power consumption mode |
| | LOCK | | Power supply position is “LOCK” (Ignition switch OFF with steering is locked.) |
| | OFF | | Power supply position is “OFF” (Ignition switch OFF with steering is unlocked.) |
| | ACC | | Power supply position is “ACC” (Ignition switch ACC) |
| | ON | | Power supply position is “IGN” (Ignition switch ON with engine stopped) |
| | ENGINE RUN | | Power supply position is “RUN” (Ignition switch ON with engine running) |
| | CRANKING | | Power supply position is “CRANKING” (At engine cranking) |
| IGN Counter | 0 - 39 | The number of times that ignition switch is turned ON after DTC is detected<br>• The number is 0 when a malfunction is detected now.<br>• The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON.<br>• The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. | |

# INTELLIGENT KEY

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

INFOID:0000000004904547

### WORK SUPPORT

| Monitor item | Description |
|---|---|
| CONFIRM KEY FOB ID | It can be checked whether Intelligent Key ID code is registered or not in this mode. |
| AUTO LOCK SET | Auto door lock time can be changed in this mode.<br>• MODE 1: 1 minute<br>• MODE 2: 5 minutes<br>• MODE 3: 30 seconds<br>• MODE 4: 2 minutes |

| Monitor item | Description |
|---|---|
| LOCK/UNLOCK BY I-KEY | Door lock/unlock function by door request switch (driver side, passenger side and back door) mode can be changed to operate (ON) or not operate (OFF) in this mode. |
| ENGINE START BY I-KEY | Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode. |
| TRUNK/GLASS HATCH OPEN | Buzzer reminder function mode by back door request switch can be changed to operate (ON) or not operate (OFF) with this mode. |
| PANIC ALARM SET | Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode.<br>• MODE 1: 0.5 sec.<br>• MODE 2: Non-operation<br>• MODE 3: 1.5 sec. |
| PW DOWN SET | Unlock button pressing time on Intelligent Key button can be selected from the following with this mode.<br>• MODE 1: 3 sec.<br>• MODE 2: Non-operation<br>• MODE 3: 5 sec. |
| TAKE OUT FROM WIN WARN | **NOTE:**<br>This item is displayed, but cannot be supported. |
| TRUNK OPEN DELAY | **NOTE:**<br>This item is displayed, but cannot be supported. |
| LO- BATT OF KEY FOB WARN | Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode. |
| ANTI KEY LOCK IN FUNCTI | Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode. |
| HAZARD ANSWER BACK | Hazard reminder function mode can be selected from the following with this mode.<br>• LOCK ONLY: Door lock operation only<br>• UNLOCK ONLY: Door unlock operation only<br>• LOCK/UNLOCK: Lock/unlock operation<br>• OFF: Non-operation |
| ANS BACK I-KEY LOCK | Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode.<br>• Horn chirp: Sound horn<br>• Buzzer: Sound Intelligent Key warning buzzer<br>• OFF: Non-operation |
| ANS BACK I-KEY UNLOCK | Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode. |
| SHORT CRANKING OUTPUT | Starter motor can operate during the times below.<br>• 70 msec.<br>• 100 msec.<br>• 200 msec. |
| INSIDE ANT DIAGNOSIS | This function allows inside key antenna self-diagnosis. |
| HORN WITH KEYLESS LOCK | Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode. |
| WELCOME LIGHT OP SET | Welcome light function mode can be changed to operate (WITH) or not operate (WITHOUT) with this mode. |
| WELCOME LIGHT SELECT | Welcome light function mode can be selected from the following with this mode.<br>• Without room lamp<br>• With room lamp<br>• Without paddle lamp<br>• With paddle lamp |

## SELF-DIAG RESULT

Refer to DLK-167, "DTC Index".

## DATA MONITOR

| Monitor Item | Condition |
|---|---|
| REQ SW -DR | Indicates [ON/OFF] condition of door request switch (driver side). |
| REQ SW -AS | Indicates [ON/OFF] condition of door request switch (passenger side). |
| REQ SW -RR | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| REQ SW -RL | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| REQ SW -BD/TR | Indicates [ON/OFF] condition of back door request switch. |
| PUSH SW | Indicates [ON/OFF] condition of push-button ignition switch. |
| IGN RLY2 -F/B | Indicates [ON/OFF] condition of ignition relay 2. |
| CLUCH SW | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| BRAKE SW 1 | Indicates [ON/OFF] condition of brake switch power supply. |
| BRAKE SW 2 | Indicates [ON/OFF] condition of brake switch. |
| DETE/CANCL SW | Indicates [ON/OFF] condition of P position. |
| SFT PN/N SW | Indicates [ON/OFF] condition of P or N position. |
| S/L -LOCK | Indicates [ON/OFF] condition of steering lock unit (LOCK). |
| S/L -UNLOCK | Indicates [ON/OFF] condition of steering lock unit (UNLOCK). |
| S/L RELAY -F/B | Indicates [ON/OFF] condition of ignition switch. |
| UNLK SEN -DR | Indicates [ON/OFF] condition of driver door UNLOCK status. |
| PUSH SW -IPDM | Indicates [ON/OFF] condition of push-button ignition switch. |
| IGN RLY1 -F/B | Indicates [ON/OFF] condition of ignition relay 1. |
| DETE SW -IPDM | Indicates [ON/OFF] condition of P position. |
| SFT PN -IPDM | Indicates [ON/OFF] condition of P or N position. |
| SFT P -MET | Indicates [ON/OFF] condition of P position. |
| SFT N -MET | Indicates [ON/OFF] condition of N position. |
| ENGINE STATE | Indicates [STOP/START/CRANK/RUN] condition of engine states. |
| S/L LOCK-IPDM | Indicates [ON/OFF] condition of steering lock unit (LOCK). |
| S/L UNLK-IPDM | Indicates [ON/OFF] condition of steering lock unit (UNLOCK). |
| S/L RELAY-REQ | Indicates [ON/OFF] condition of steering lock relay. |
| VEH SPEED 1 | Display the vehicle speed signal received from unified meter and A/C amp. by numerical value [Km/h]. |
| VEH SPEED 2 | Display the vehicle speed signal received from ABS or VDC or CVT by numerical value [Km/h]. |
| DOOR STAT-DR | Indicates [LOCK/READY/UNLOCK] condition of driver side door status. |
| DOOR STAT-AS | Indicates [LOCK/READY/UNLOCK] condition of passenger side door status. |
| ID OK FLAG | Indicates [SET/RESET] condition of key ID. |
| PRMT ENG STRT | Indicates [SET/RESET] condition of engine start possibility. |
| PRMT RKE STRT | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| KEY SW -SLOT | Indicates [ON/OFF] condition of key slot. |
| TRNK/HAT MNTR | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| RKE-LOCK | Indicates [ON/OFF] condition of LOCK signal from Intelligent Key. |
| RKE-UNLOCK | Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key. |
| RKE-TR/BD | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| RKE-PANIC | Indicates [ON/OFF] condition of PANIC button of Intelligent Key. |

| Monitor Item | Condition |
|---|---|
| RKE-P/W OPEN | Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key. |
| RKE-MODE CHG | Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key. |
| RKE OPE COUN1 | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE OPE COUN2 | **NOTE:**<br>This item is displayed, but cannot be monitored. |

## ACTIVE TEST

| Test item | Description |
|---|---|
| BATTERY SAVER | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated after “ON” on CONSULT-III screen is touched. |
| PW REMOTO DOWN SET | This test is able to check power window down operation.<br>The power window down will be activated after “ON” on CONSULT-III screen is touched. |
| INSIDE BUZZER | This test is able to check warning chime in combination meter operation.<br>• Take away warning chime sounds when “TAKE OUT” on CONSULT-III screen is touched.<br>• Key warning chime sounds when “KEY WARN” on CONSULT-III screen is touched.<br>• P position warning chime sounds when “P RNG WARN” on CONSULT-III screen is touched.<br>• ACC warning chime sounds when “ACC WARN” on CONSULT-III screen is touched. |
| OUTSIDE BUZZER | This test is able to check Intelligent Key warning buzzer operation.<br>The Intelligent Key warning buzzer will be activated after “ON” on CONSULT-III screen is touched. |
| INDICATOR | This test is able to check warning lamp operation.<br>• “KEY” Warning lamp illuminates when “KEY ON” on CONSULT-III screen is touched.<br>• “KEY” Warning lamp flashes when “KEY IND” on CONSULT-III screen is touched. |
| INT LAMP | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated after “ON” on CONSULT-III screen is touched. |
| LCD | This test is able to check meter display information<br>• Engine start information displays when “BP N” on CONSULT-III screen is touched.<br>• Engine start information displays when “BP I” on CONSULT-III screen is touched.<br>• Key ID warning displays when “ID NG” on CONSULT-III screen is touched.<br>• Steering lock information displays when “ROTAT” on CONSULT-III screen is touched.<br>• P position warning displays when “SFT P” on CONSULT-III screen is touched.<br>• Intelligent Key insert information displays when “INSRT” on CONSULT-III screen is touched.<br>• Intelligent Key low battery warning displays when “BATT” on CONSULT-III screen is touched.<br>• Take away through window warning displays when “NO KY” on CONSULT-III screen is touched.<br>• Take away warning display when “OUTKY” on CONSULT-III screen is touched.<br>• OFF position warning display when “LK WN” on CONSULT-III screen is touched. |
| TRUNK/GLASS HATCH | This test is able to check back door opener actuator open operation.<br>This actuator opens when “ON” on CONSULT-III screen is touched. |
| FLASHER | This test is able to check hazard warning lamp operation.<br>The hazard warning lamps will be activated after “ON” on CONSULT-III screen is touched. |
| HORN | This test is able to check horn operation.<br>The horn will be activated after “ON” on CONSULT-III screen is touched. |
| P RANGE | This test is able to check A/T shift selector power supply<br>A/T shift selector power is supplied when “ON” on CONSULT-III screen is touched. |
| ENGINE SW ILLUMI | This test is able to check push-ignition switch illumination operation.<br>Push-ignition switch illumination illuminates when “ON” on CONSULT-III screen is touched. |
| LOCK INDICATOR | This test is able to check LOCK indicator in push-ignition switch operation.<br>LOCK indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched; |
| ACC INDICATOR | This test is able to check ACC indicator in push-ignition switch operation.<br>Indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched. |
| IGNITION ON IND | This test is able to check ON indicator in push-ignition switch operation.<br>Indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched. |

| Test item | Description |
|---|---|
| KEY SLOT ILLUMI | This test is able to check key slot illumination operation.<br>Key slot illumination flash when “ON” on CONSULT-III screen is touched. |
| TRUNK/BACK DOOR | **NOTE:**<br>This item is displayed, but cannot be tested. |

# DTC/CIRCUIT DIAGNOSIS

## U1000 CAN COMM CIRCUIT

### Description

INFOID:0000000004343294

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

### DTC Logic

INFOID:0000000004343295

#### DTC DETECTION LOGIC

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

### Diagnosis Procedure

INFOID:0000000004343296

#### 1.PERFORM SELF DIAGNOSTIC

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

Is DTC “U1000” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-40, "Intermittent Incident".

# U1010 CONTROL UNIT (CAN)

## DTC Logic

INFOID:0000000004343297

### DTC DETECTION LOGIC

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

## Diagnosis Procedure

INFOID:0000000004343298

### 1.REPLACE BCM

When DTC “U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-85, "Exploded View".

# B2553 IGNITION RELAY

## Description

INFOID:0000000004343300

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.
- Ignition relay (inserted into fuse block)
- Ignition relay (built into IPDM E/R)
- Blower relay

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

## DTC Logic

INFOID:0000000004343301

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2553 | IGNITION RELAY | BCM detects a difference of signal for 2 seconds or more between the following information.<br>• Ignition relay (fuse block) ON/OFF operation<br>• Ignition relay (fuse block) feedback. | • Harness or connectors (ignition relay feedback circuit is open or short)<br>• BCM<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-49, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343302

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

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-31, "DTC Index".

Is the inspection result normal?

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

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

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

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

Is the inspection result normal?

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

#### 3.CHECK IGNITION RELAY FEEDBACK CIRCUIT

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

| BCM | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M123 | 123 | E5 | 19 | Existed |

3. Check continuity between BCM harness connector and ground.

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B260A IGNITION RELAY

## Description

INFOID:0000000004343303

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.
- Ignition relay (inserted into fuse block)
- Ignition relay (built into IPDM E/R)
- Blower fan motor relay

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

## DTC Logic

INFOID:0000000004343304

### DTC DETECTION LOGIC

**NOTE:**
- If DTC B260A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-47, "DTC Logic".
- If DTC B260A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to PCS-48, "DTC Logic".
- If DTC B260A is displayed with DTC B261A, first perform the trouble diagnosis for DTC B261A. Refer to PCS-63, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B260A | IGNITION RELAY | BCM detects a difference of signal for 2 second or more between the following information.<br>• Ignition relay (IPDM E/R) operation request<br>• Ignition relay feedback from IPDM E/R (CAN). | • Harness or connectors (Ignition relay operation circuit is open or shorted.)<br>• BCM<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-51, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343305

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

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-31, "DTC Index".

Is DTC detected?

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

#### 2.CHECK IGNITION RELAY INPUT SIGNAL

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

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

Is the inspection result normal?

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

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

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

| IPDM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E5 | 27 | M121 | 47 | Existed |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E5 | 27 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2614 ACC RELAY

## Description

INFOID:0000000004343306

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

## DTC Logic

INFOID:0000000004343307

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2614 | ACC relay | An immediate operation of ACC relay is requested by BCM, but there is no response for more than 1 second. | • Harness or connectors (ACC relay circuit is open or shorted)<br>• ACC relay |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-53, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343308

#### 1.CHECK ACCESSORY RELAY POWER SUPPLY

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

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

Is the inspection result normal?

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

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

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to PCS-117, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3.CHECK ACCESSORY RELAY GROUND CIRCUIT

Check continuity between accessory relay harness connector and ground.

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair accessory relay ground circuit.

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

1. Turn ignition switch ACC.
2. Check voltage between accessory relay harness connector and ground.

| (+) | (–) | Voltage (V) (Approx.) |
|---|---|---|
| Accessory | | |
| Terminal | | |
| 5 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 5.
NO >> Check continuity open or short between accessory relay and battery.

## 5.CHECK ACCESSORY RELAY

Refer to PCS-54, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace accessory relay.

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

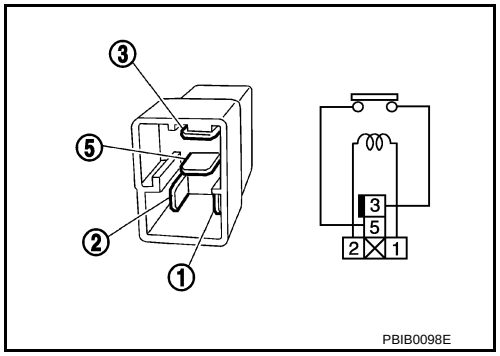
INFOID:0000000004343309

## 1.CHECK ACCESSORY RELAY

1. Turn ignition switch OFF.
2. Remove accessory relay.

3. Check the continuity between accessory relay terminals.

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




Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace accessory relay.

# B2615 BLOWER RELAY CIRCUIT

## Description

INFOID:0000000004343314

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

## DTC Logic

INFOID:0000000004343315

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2615 | Blower relay circuit | BCM detects a difference of signal for 1 second or more between the following information.<br>• Blower relay ON/OFF request<br>• Blower relay feedback | • Harness or connectors (Blower relay circuit is open or shorted)<br>• Blower relay |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-56, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343316

#### 1.CHECK BLOWER RELAY POWER SUPPLY

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

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

Is the inspection result normal?

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

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

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3.CHECK BLOWER RELAY GROUND CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair blower relay ground circuit.

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

1. Turn ignition switch ON or ACC.
2. Check voltage between blower relay harness connector and ground.

| (+) | (–) | Voltage (V) (Approx.) |
|---|---|---|
| Blower relay | | |
| Terminal | | |
| 5 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 5.
NO >> Check continuity open or short between blower relay and battery.

## 5.CHECK BLOWER RELAY

Refer to PCS-57, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace blower relay.

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

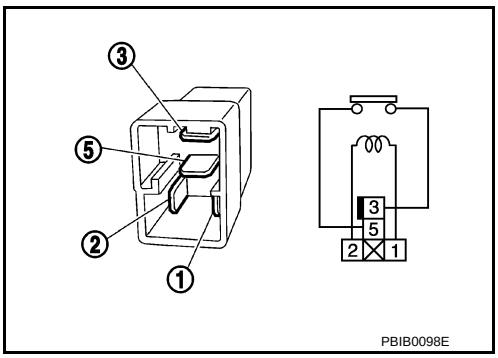
INFOID:0000000004343317

## 1.CHECK BLOWER RELAY

1. Turn ignition switch OFF.
2. Remove blower relay.

3. Check the continuity between blower relay terminals.

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




Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace blower relay.

# B2616 IGNITION RELAY CIRCUIT

## Description

INFOID:0000000004343318

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

## DTC Logic

INFOID:0000000004343319

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2616 | Ignition relay circuit | An immediate operation of ignition relay (fuse block) is requested by BCM, but there is no response for more than 1 second | • Harness or connectors (Ignition relay circuit is open or shorted)<br>• Ignition relay (Fuse block) |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-59, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343320

#### 1.CHECK IGNITION RELAY POWER SUPPLY

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

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

Is the inspection result normal?

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

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

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3. CHECK IGNITION RELAY GROUND CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair ignition relay ground circuit.

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

1. Turn ignition switch ON.
2. Check voltage between ignition relay harness connector and ground.

| (+) | (–) | Voltage (V) (Approx.) |
|---|---|---|
| Ignition relay | | |
| Terminal | | |
| 5 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 5.
NO >> Check continuity open or short between ignition relay and battery.

## 5. CHECK IGNITION RELAY

Refer to PCS-60, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace ignition relay.

## 6. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

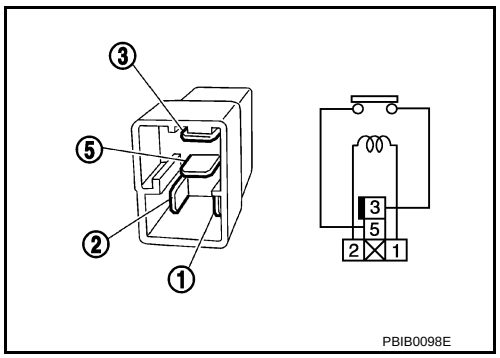
INFOID:0000000004343321

## 1. CHECK IGNITION RELAY

1. Turn ignition switch OFF.
2. Remove ignition relay.

3. Check the continuity between ignition relay terminals.

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




Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace Ignition relay.

# B2618 BCM

## Description

INFOID:0000000004343322

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

## DTC Logic

INFOID:0000000004343323

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-47, "DTC Logic".
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to PCS-48, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-62, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343324

#### 1. INSPECTION START

1. Turn ignition switch ON.
2. Select “Self diagnostic result” mode with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See PCS-62, "DTC Logic".

Is the 1st trip DTC B2618 displayed again?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation"
NO >> INSPECTION END

# B261A PUSH-BUTTON IGNITION SWITCH

## Description

INFOID:0000000004343325

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

## DTC Logic

INFOID:0000000004343326

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B261A | PUSH-BUTTON IGNITION SWITCH | BCM detects a difference of signal for 1 second or more between the following information.<br>• Power supply position by push-button ignition switch<br>• Power supply position from IPDM E/R (CAN) | • Harness or connectors (Push-button ignition switch circuit is open or shorted.)<br>• BCM<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to PCS-63, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000004343327

#### 1.CHECK BCM OUTPUT

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| IPDM E/R | | | |
| Connector | Terminal | | |
| E5 | 28 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".

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

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

| IPDM E/R | | Push-button ignition switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E5 | 28 | M50 | 4 | Existed |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E5 | 28 | | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair or replace harness or connector.

# POWER SUPPLY AND GROUND CIRCUIT
## BCM

### BCM : Diagnosis Procedure

INFOID:0000000004343328

### 1.CHECK FUSE AND FUSIBLE LINK

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

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

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 2.

### 2.CHECK POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| BCM | | | |
| Connector | Terminal | | |
| M118 | 1 | Ground | Battery voltage |
| M119 | 11 | | |

Is the measurement value normal?

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

### 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

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

Does continuity exist?

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

# PUSH-BUTTON IGNITION SWITCH

## Description

INFOID:0000000004343329

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

## Component Function Check

INFOID:0000000004343330

### 1.CHECK FUNCTION

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

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

Is the indication normal?

YES >> INSPECTION END
NO >> Go to PCS-66, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000004730976

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

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M50 | 4 | Ground | Battery voltage |

Is the inspection result normal?

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

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

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

| BCM | | Push-button ignition switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M122 | 89 | M50 | 4 | Existed |

3. Check continuity between BCM harness connector and ground.

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair or replace harness.

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

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

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M50 | 1 | | Existed |

Is the inspection result normal?

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

## 4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to PCS-67, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to PCS-118, "Removal and Installation".

## 5.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

INFOID:0000000004343332

## 1.CHECK PUSH-BUTTON IGNITION SWITCH

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

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

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace push-button ignition switch. Refer to PCS-118, "Removal and Installation".

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

## Description

INFOID:0000000004343333

The switch that changes the power supply position.
BCM maintains the power supply position status.
BCM changes the power supply position with the operation of the push-button ignition switch.

## Component Function Check

INFOID:0000000004343334

### 1.CHECK FUNCTION

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

| Test item | | Description | |
|---|---|---|---|
| LOCK INDICATOR<br>ACC INDICATOR<br>IGNITION ON IND | ON | Position indicator | Illuminate |
| | OFF | | Not illuminate |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to PCS-68, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000004730979

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

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M50 | 8 | Ground | Battery voltage |

Is the inspection normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 9, located in fuse block (J/B)].
NO-2 >> Check harness for open or short between push-button ignition switch and fuse.

### 2.CHECK BCM INPUT

1. Connect push-button ignition switch connector.
2. Disconnect BCM connector.
3. Check voltage between BCM connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| BCM | | | |
| Connector | Terminal | | |
| M119 | 15 | Ground | Battery voltage |
| M122 | 93 | | |
| M123 | 134 | | |

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> GO TO 3.

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

1. Disconnect push-button ignition switch connector.

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

| Indicator | BCM | | Push-button ignition switch | | Continuity |
|---|---|---|---|---|---|
| | Connector | Terminal | Connector | Terminal | |
| LOCK | M123 | 134 | M50 | 5 | Existed |
| ACC | M119 | 15 | | 6 | |
| ON | M122 | 93 | | 7 | |

3. Check continuity between BCM harness connector and ground.

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

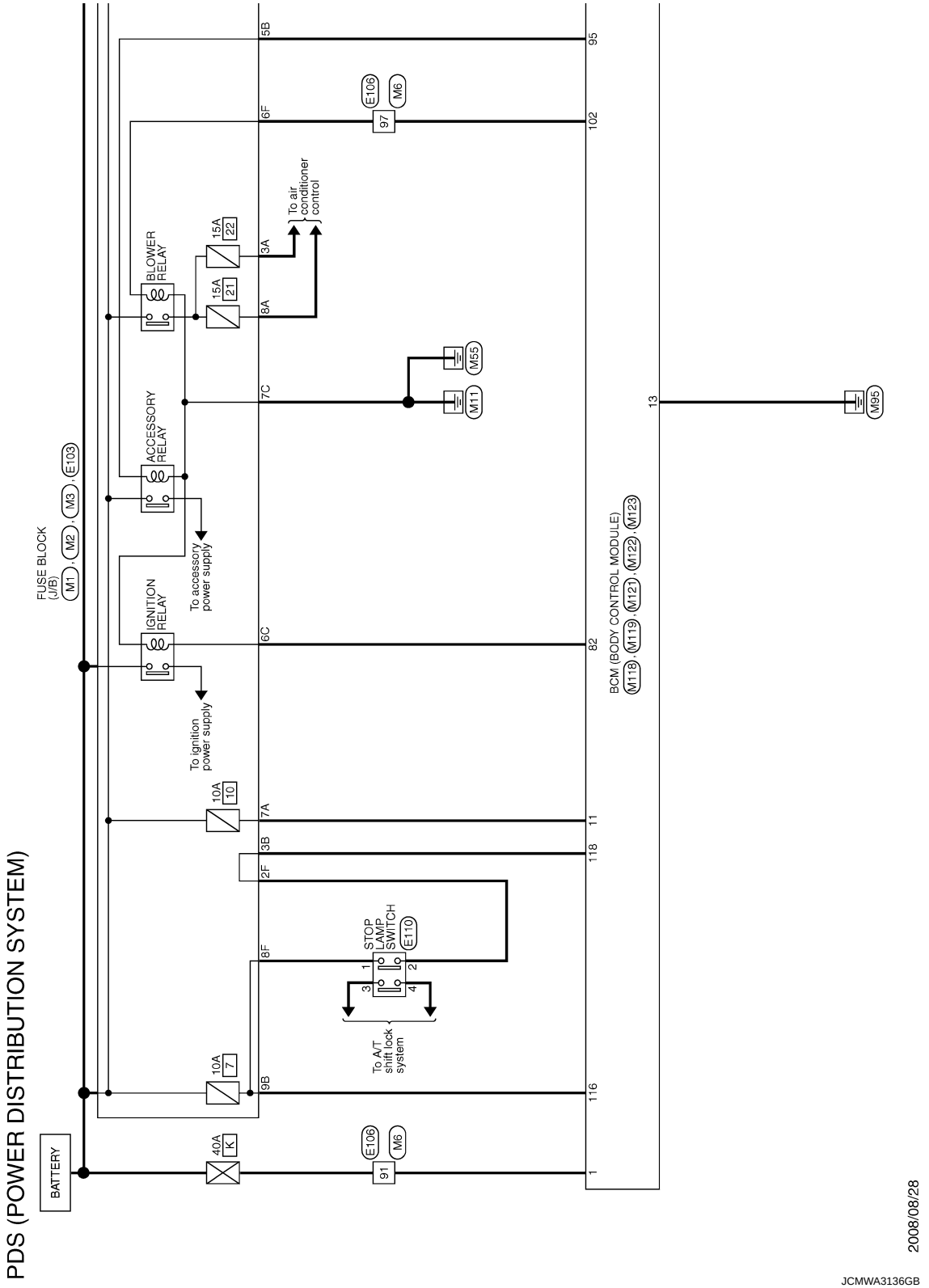
Is the inspection normal?

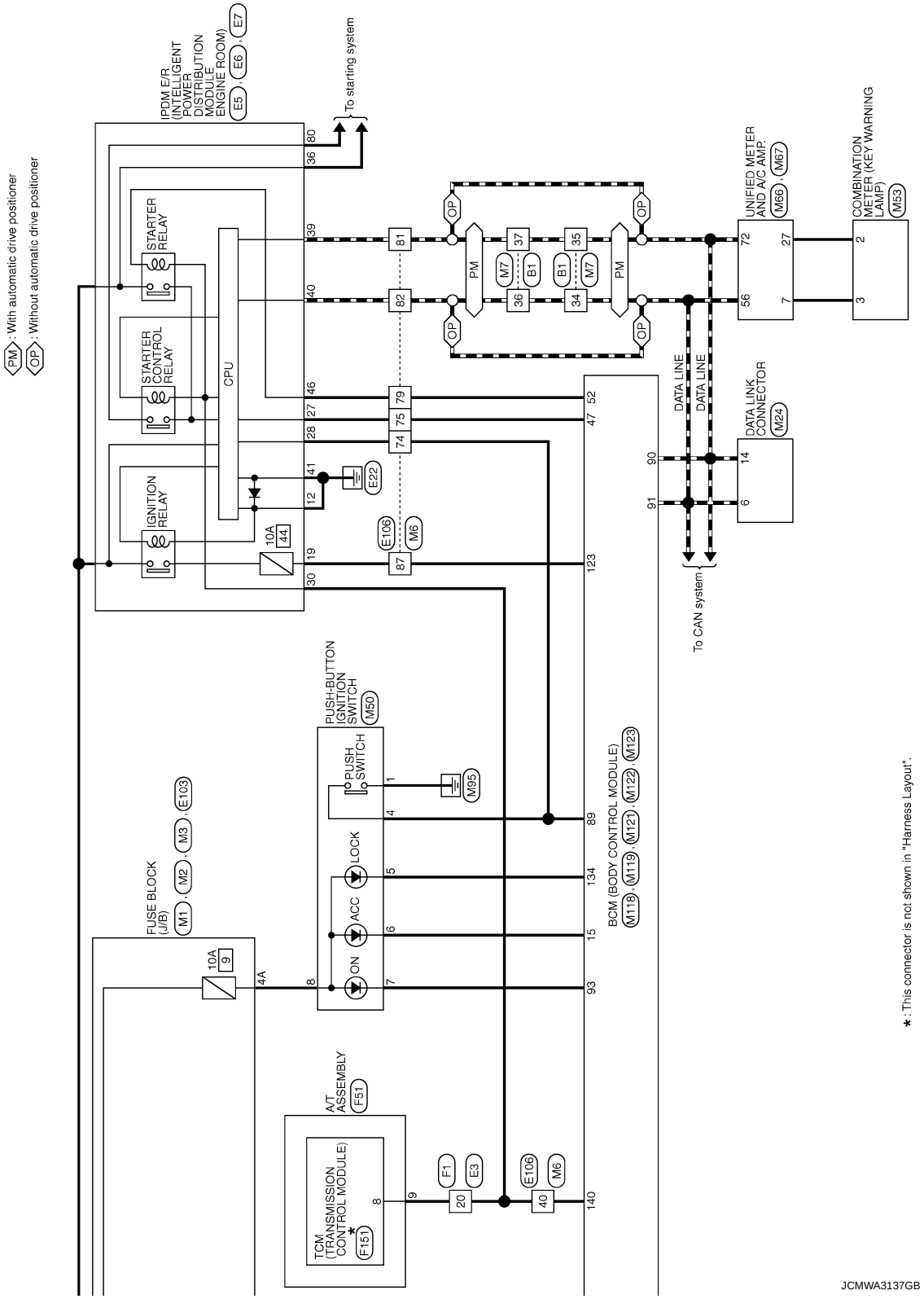
YES >> Replace push-button ignition switch. Refer to PCS-118, "Removal and Installation".
NO >> Repair or replace harness.

# POWER DISTRIBUTION SYSTEM

## Wiring Diagram - PDS (POWER DISTRIBUTION SYSTEM) -

INFOID:0000000004343337



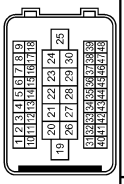

PM : With automatic drive positioner
OP : Without automatic drive positioner
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E5, E6, E7
To starting system
STARTER RELAY
STARTER CONTROL RELAY
IGNITION RELAY
CPU
10A 44
E22
E106
M6
PM
OP
M7
B1
UNIFIED METER AND A/C AMP. M66, M67
COMBINATION METER (KEY WARNING LAMP) M53
DATA LINE
DATA LINK CONNECTOR M24
To CAN system
PUSH-BUTTON IGNITION SWITCH M50
PUSH SWITCH
M95
LOCK
ACC
ON
FUSE BLOCK (J/B) M1, M2, M3, E103
10A 9
4A
BCM (BODY CONTROL MODULE) M118, M119, M121, M122, M123
A/T ASSEMBLY F51
TCM (TRANSMISSION CONTROL MODULE) F151
F1
E3
20
40
* : This connector is not shown in "Harness Layout".
JCMWA3137GB

PDS (POWER DISTRIBUTION SYSTEM)

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

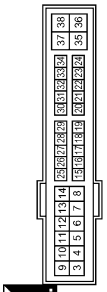
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 34 | L | – |
| 35 | P | – |
| 36 | L | – |
| 37 | P | – |

| Connector No. | E3 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | SAA36MB-RS10-SJ22 |



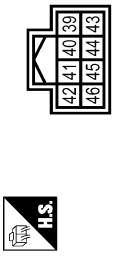
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 20 | GR | – |

| Connector No. | E5 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4-1V |



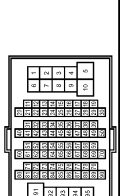
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 12 | B/W | – |
| 19 | W | – |
| 27 | O | – |
| 28 | L | – |
| 30 | GR | – |
| 36 | G | – |

| Connector No. | E6 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH08FW-NH |



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

| Connector No. | E7 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Type | TH20FW-CS12-M4 |



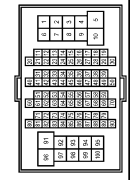
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 80 | W | – |

| Connector No. | E103 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS16FW-CS |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 2F | W | – |
| 6F | BR | – |
| 8F | L | – |

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 40 | GR | – |
| 74 | L | – |
| 75 | O | – |
| 79 | R | – |
| 81 | P | – |
| 82 | L | – |
| 87 | W | – |
| 91 | W | – |
| 97 | BR | – |

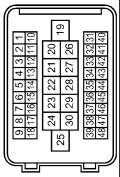
| Connector No. | E110 |
|---|---|
| Connector Name | STOP LAMP SWITCH |
| Connector Type | M04FW-LC |

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | L | – |
| 2 | W | – |
| 3 | G | – |
| 4 | BR | – |

JCMWA3138GB

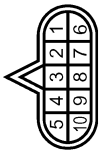
PDS (POWER DISTRIBUTION SYSTEM)

| Connector No. | F1 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | SAA36FB-RS10-SJ22 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 20 | GR | – |

| Connector No. | F51 |
|---|---|
| Connector Name | A/T ASSEMBLY |
| Connector Type | RK10FG-DGY |



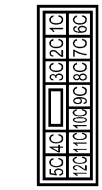
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 9 | GR | – |

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



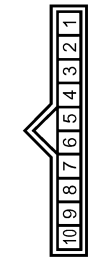
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3B | P | – |
| 5B | O | – |
| 9B | SB | – |

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 6C | R | – |
| 7C | B | – |

| Connector No. | F151 |
|---|---|
| Connector Name | TCM (TRANSMISSION CONTROL MODULE) |
| Connector Type | SP10FBGY |

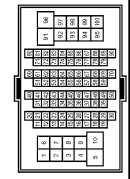


| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 8 | G | START RLY |

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

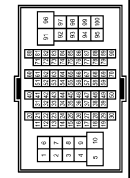
| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 3A | L | – |
| 4A | P | – |
| 7A | R | – |
| 8A | L | – |

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 40 | GR | – |
| 74 | BR | – |
| 75 | Y | – |
| 79 | SB | – |
| 81 | P | – |
| 82 | L | – |
| 87 | W | – |
| 91 | W | – |
| 97 | O | – |

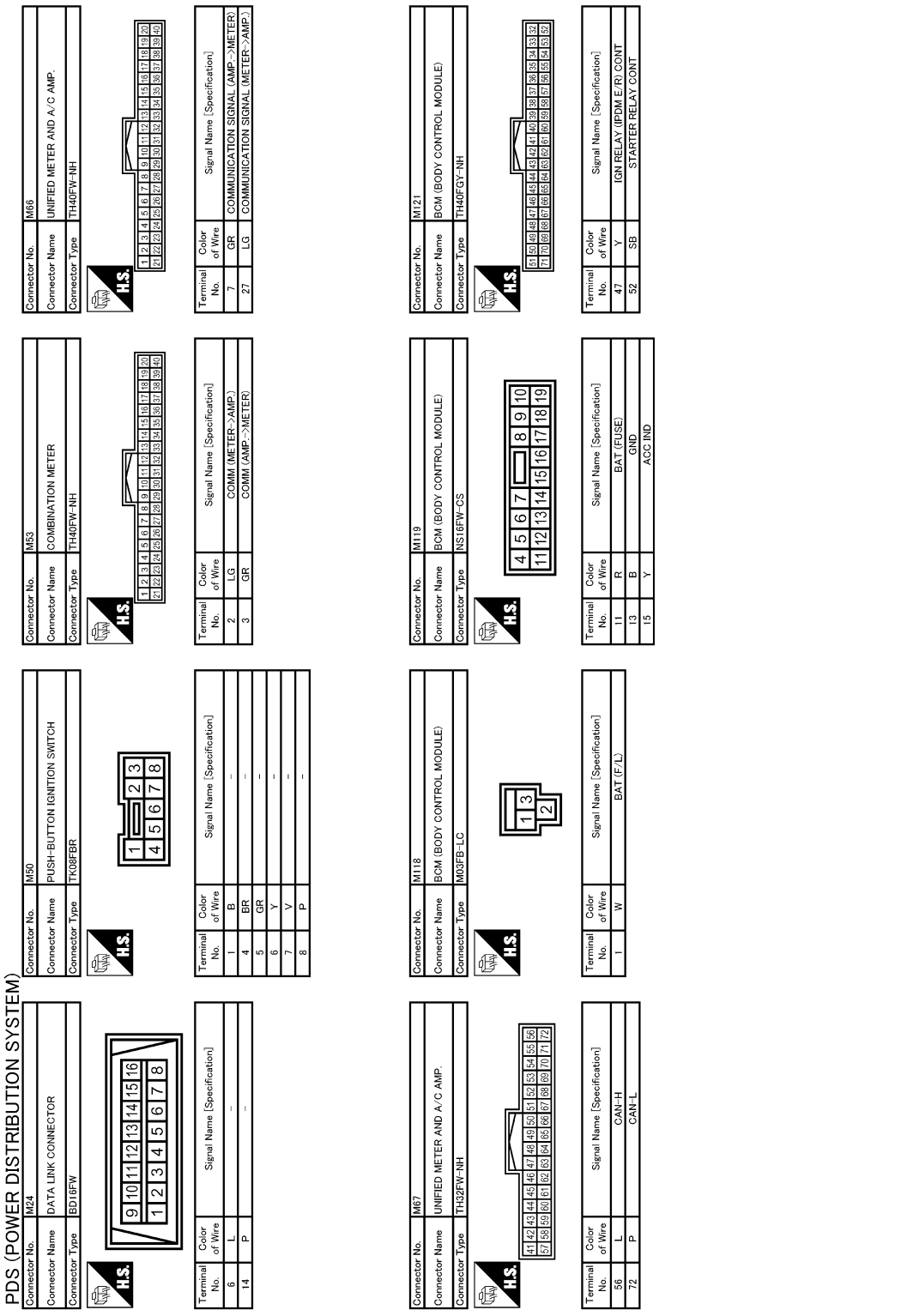
| Connector No. | M7 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 34 | L | – |
| 35 | P | – |
| 36 | L | – |
| 37 | P | – |

JCMWA3139GB

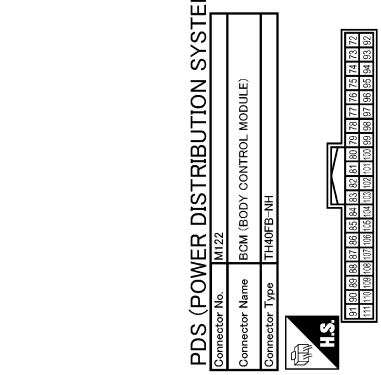
PDS (POWER DISTRIBUTION SYSTEM)




JCMWA3140GB

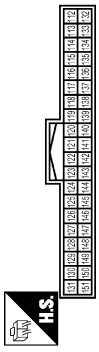
PDS (POWER DISTRIBUTION SYSTEM)

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



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

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 116 | SB | STOP LAMP SW 1 |
| 118 | P | STOP LAMP SW 2 |
| 123 | W | IGN F/B |
| 134 | GR | LOCK IND |
| 140 | GR | SHIFT N/P |

JCMWA3141GB

# ECU DIAGNOSIS INFORMATION

## BCM (BODY CONTROL MODULE)

### Reference Value

INFOID:0000000004904422

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

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

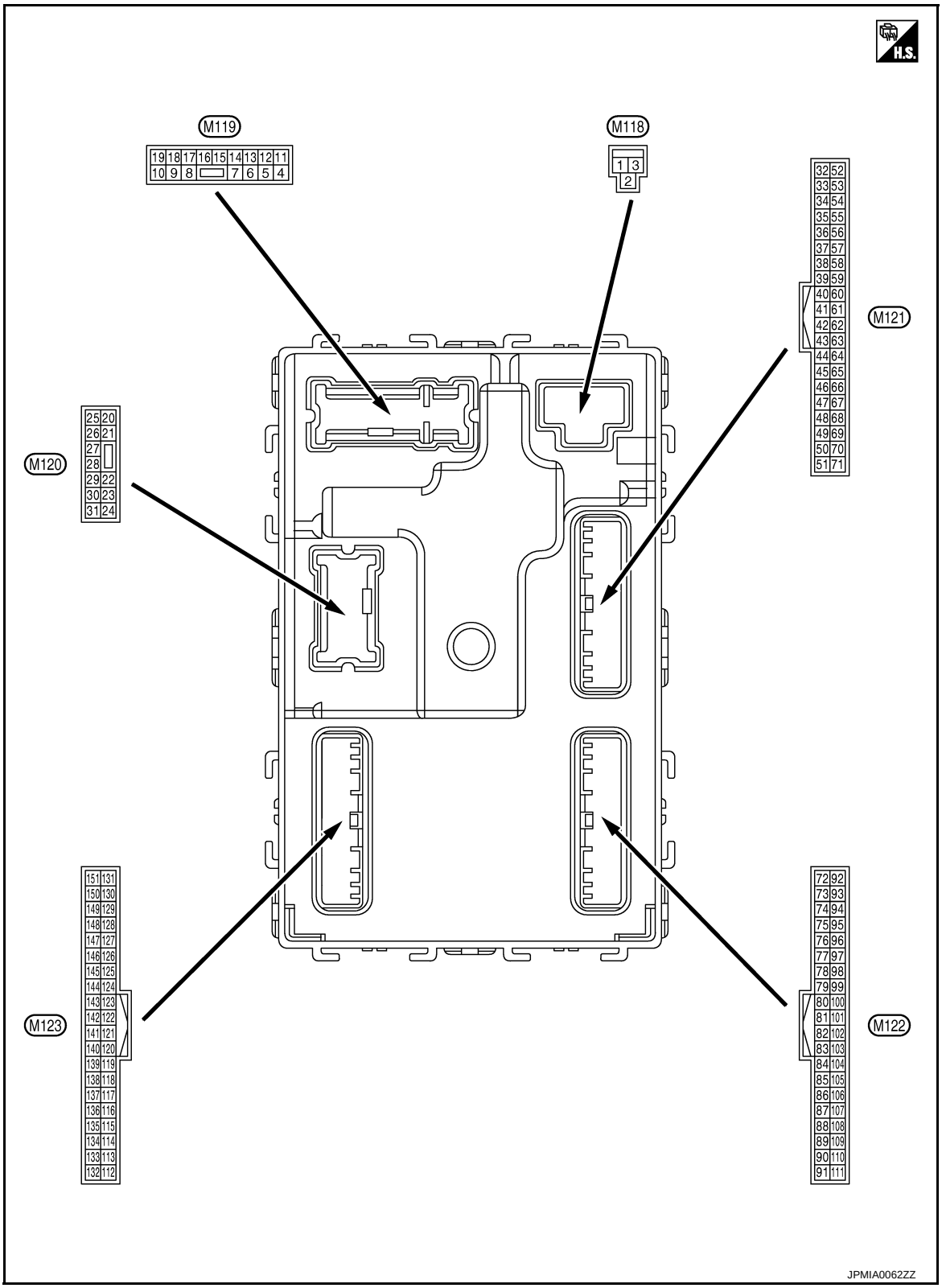
| Monitor Item | Condition | Value/Status |
|---|---|---|
| RR FOG SW | **NOTE:** The item is indicated, but not monitored. | Off |
| DOOR SW-DR | Driver door closed | Off |
| | Driver door opened | On |
| DOOR SW-AS | Passenger door closed | Off |
| | Passenger door opened | On |
| DOOR SW-RR | Rear RH door closed | Off |
| | Rear RH door opened | On |
| DOOR SW-RL | Rear LH door closed | Off |
| | Rear LH door opened | On |
| DOOR SW-BK | Back door closed | Off |
| | Back door opened | On |
| CDL LOCK SW | Other than power door lock switch LOCK | Off |
| | Power door lock switch LOCK | On |
| CDL UNLOCK SW | Other than power door lock switch UNLOCK | Off |
| | Power door lock switch UNLOCK | On |
| KEY CYL LK-SW | Other than driver door key cylinder LOCK position | Off |
| | Driver door key cylinder LOCK position | On |
| KEY CYL UN-SW | Other than driver door key cylinder UNLOCK position | Off |
| | Driver door key cylinder UNLOCK position | On |
| KEY CYL SW-TR | **NOTE:** The item is indicated, but not monitored. | Off |
| HAZARD SW | Hazard switch is OFF | Off |
| | Hazard switch is ON | On |
| REAR DEF SW | **NOTE:** The item is indicated, but not monitored. | Off |
| TR CANCEL SW | **NOTE:** The item is indicated, but not monitored. | Off |
| TR/BD OPEN SW | Back door opener switch OFF | Off |
| | While the back door opener switch is turned ON | On |
| TRNK/HAT MNTR | **NOTE:** The item is indicated, but not monitored. | Off |
| RKE-LOCK | LOCK button of the key is not pressed | Off |
| | LOCK button of the key is pressed | On |
| RKE-UNLOCK | UNLOCK button of the key is not pressed | Off |
| | UNLOCK button of the key is pressed | On |
| RKE-TR/BD | **NOTE:** The item is indicated, but not monitored. | Off |
| RKE-PANIC | PANIC button of the key is not pressed | Off |
| | PANIC button of the key is pressed | On |
| RKE-P/W OPEN | UNLOCK button of the key is not pressed | Off |
| | UNLOCK button of the key is pressed and held | On |
| RKE-MODE CHG | LOCK/UNLOCK button of the key is not pressed and held simultaneously | Off |
| | LOCK/UNLOCK button of the key is pressed and held simultaneously | On |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| OPTICAL SENSOR | Bright outside of the vehicle | Close to 5 V |
| | Dark outside of the vehicle | Close to 0 V |
| REQ SW -DR | Driver door request switch is not pressed | Off |
| | Driver door request switch is pressed | On |
| REQ SW -AS | Passenger door request switch is not pressed | Off |
| | Passenger door request switch is pressed | On |
| REQ SW -RR | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| REQ SW -RL | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| REQ SW -BD/TR | Back door request switch is not pressed | Off |
| | Back door request switch is pressed | On |
| PUSH SW | Push-button ignition switch (push switch) is not pressed | Off |
| | Push-button ignition switch (push switch) is pressed | On |
| IGN RLY2 -F/B | Ignition switch in OFF or ACC position | Off |
| | Ignition switch in ON position | On |
| ACC RLY -F/B | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| CLUCH SW | **NOTE:**<br>The item is indicated, but not monitored. | Off |
| BRAKE SW 1 | The brake pedal is depressed when No. 7 fuse is blown | Off |
| | The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal | On |
| BRAKE SW 2 | The brake pedal is not depressed | Off |
| | The brake pedal is depressed | On |
| DETE/CANCL SW | Selector lever in P position | Off |
| | Selector lever in any position other than P | On |
| SFT PN/N SW | Selector lever in any position other than P and N | Off |
| | Selector lever in P or N position | On |
| S/L -LOCK | Steering is unlocked | Off |
| | Steering is locked | On |
| S/L -UNLOCK | Steering is locked | Off |
| | Steering is unlocked | On |
| S/L RELAY-F/B | Ignition switch in OFF or ACC position | Off |
| | Ignition switch in ON position | On |
| UNLK SEN -DR | Driver door is unlocked | Off |
| | Driver door is locked | On |
| PUSH SW -IPDM | Push-button ignition switch (push-switch) is not pressed | Off |
| | Push-button ignition switch (push-switch) is pressed | On |
| IGN RLY1 -F/B | Ignition switch in OFF or ACC position | Off |
| | Ignition switch in ON position | On |
| DETE SW -IPDM | Selector lever in any position other than P | Off |
| | Selector lever in P position | On |
| SFT PN -IPDM | Selector lever in any position other than P and N | Off |
| | Selector lever in P or N position | On |

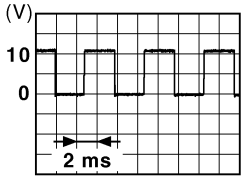
| Monitor Item | Condition | Value/Status |
|---|---|---|
| SFT P -MET | Selector lever in any position other than P | Off |
| | Selector lever in P position | On |
| SFT N -MET | Selector lever in any position other than N | Off |
| | Selector lever in N position | On |
| ENGINE STATE | Engine stopped | Stop |
| | While the engine stalls | Stall |
| | At engine cranking | Crank |
| | Engine running | Run |
| S/L LOCK-IPDM | Steering is unlocked | Off |
| | Steering is locked | On |
| S/L UNLK-IPDM | Steering is locked | Off |
| | Steering is unlocked | On |
| S/L RELAY-REQ | Steering lock system is not the LOCK condition and the changing condition from LOCK to UNLOCK. | Off |
| | Steering lock system is the LOCK condition or the changing condition from LOCK to UNLOCK. | On |
| VEH SPEED 1 | While driving | Equivalent to speedometer reading |
| VEH SPEED 2 | While driving | Equivalent to speedometer reading |
| DOOR STAT-DR | Driver door is locked | LOCK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |
| | Driver door is unlocked | UNLOCK |
| DOOR STAT-AS | Passenger door is locked | LOCK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |
| | Passenger door is unlocked | UNLOCK |
| ID OK FLAG | Steering is locked | Reset |
| | Steering is unlocked | Set |
| PRMT ENG STRT | The engine start is prohibited | Reset |
| | The engine start is permitted | Set |
| PRMT RKE STRT | **NOTE:**<br>The item is indicated, but not monitored. | Reset |
| KEY SW -SLOT | The key is not inserted into key slot | Off |
| | The key is inserted into key slot | On |
| RKE OPE COUN1 | During the operation of the key | Operation frequency of the key |
| RKE OPE COUN2 | **NOTE:**<br>The item is indicated, but not monitored. | — |
| CONFRM ID ALL | The key ID that the key slot receives does not accord with any key ID registered to BCM. | Yet |
| | The key ID that the key slot receives accords with any key ID registered to BCM. | Done |
| CONFIRM ID4 | The key ID that the key slot receives does not accord with the fourth key ID registered to BCM. | Yet |
| | The key ID that the key slot receives accords with the fourth key ID registered to BCM. | Done |
| CONFIRM ID3 | The key ID that the key slot receives does not accord with the third key ID registered to BCM. | Yet |
| | The key ID that the key slot receives accords with the third key ID registered to BCM. | Done |

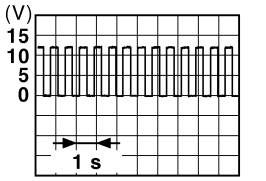
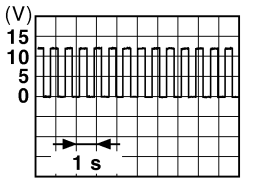
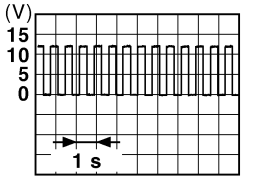
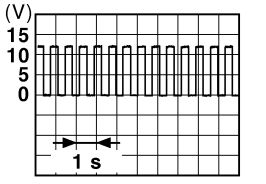
| Monitor Item | Condition | Value/Status |
|---|---|---|
| CONFIRM ID2 | The key ID that the key slot receives does not accord with the second key ID registered to BCM. | Yet |
| | The key ID that the key slot receives accords with the second key ID registered to BCM. | Done |
| CONFIRM ID1 | The key ID that the key slot receives does not accord with the first key ID registered to BCM. | Yet |
| | The key ID that the key slot receives accords with the first key ID registered to BCM. | Done |
| TP 4 | The ID of fourth key is not registered to BCM | Yet |
| | The ID of fourth key is registered to BCM | Done |
| TP 3 | The ID of third key is not registered to BCM | Yet |
| | The ID of third key is registered to BCM | Done |
| TP 2 | The ID of second key is not registered to BCM | Yet |
| | The ID of second key is registered to BCM | Done |
| TP 1 | The ID of first key is not registered to BCM | Yet |
| | The ID of first key is registered to BCM | Done |
| AIR PRESS FL | Ignition switch ON (Only when the signal from the transmitter is received) | Air pressure of front LH tire |
| AIR PRESS FR | Ignition switch ON (Only when the signal from the transmitter is received) | Air pressure of front RH tire |
| AIR PRESS RR | Ignition switch ON (Only when the signal from the transmitter is received) | Air pressure of rear RH tire |
| AIR PRESS RL | Ignition switch ON (Only when the signal from the transmitter is received) | Air pressure of rear LH tire |
| ID REGST FL1 | ID of front LH tire transmitter is registered | Done |
| | ID of front LH tire transmitter is not registered | Yet |
| ID REGST FR1 | ID of front RH tire transmitter is registered | Done |
| | ID of front RH tire transmitter is not registered | Yet |
| ID REGST RR1 | ID of rear RH tire transmitter is registered | Done |
| | ID of rear RH tire transmitter is not registered | Yet |
| ID REGST RL1 | ID of rear LH tire transmitter is registered | Done |
| | ID of rear LH tire transmitter is not registered | Yet |
| WARNING LAMP | Tire pressure indicator OFF | Off |
| | Tire pressure indicator ON | On |
| BUZZER | Tire pressure warning alarm is not sounding | Off |
| | Tire pressure warning alarm is sounding | On |

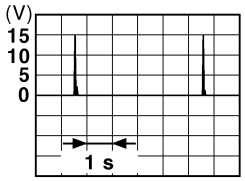
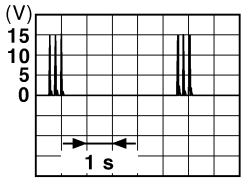
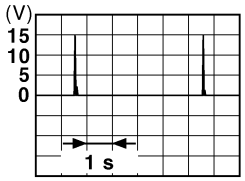
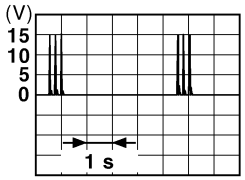
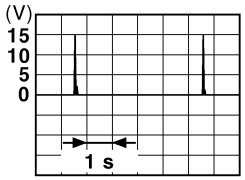
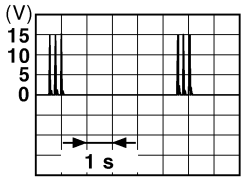
TERMINAL LAYOUT

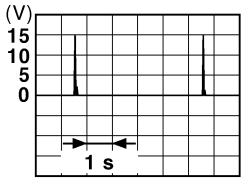
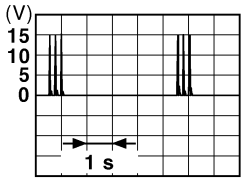
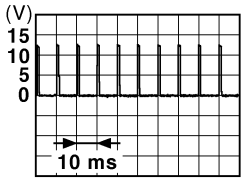
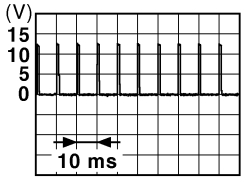


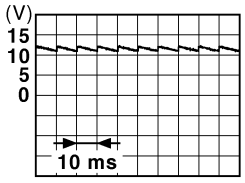
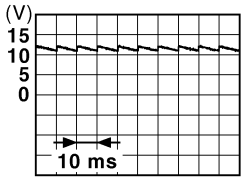
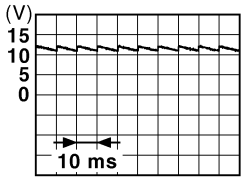
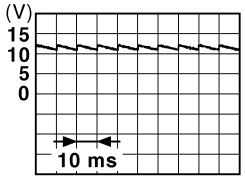

PHYSICAL VALUES

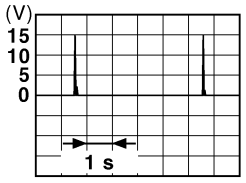
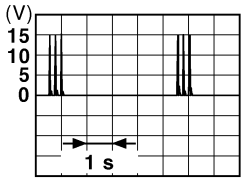
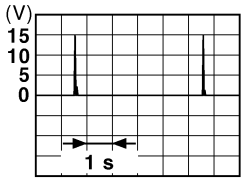
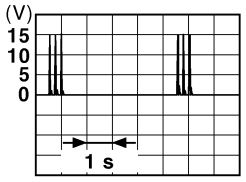
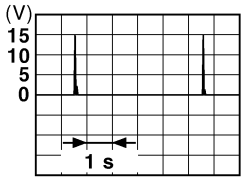
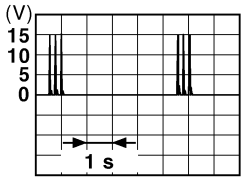
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 1 (W) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 2 (Y) | Ground | P/W power supply (BAT) | Output | Ignition switch OFF | | Battery voltage |
| 3 (O) | Ground | P/W power supply (RAP) | Output | Ignition switch ON | | Battery voltage |
| 4 (LG) | Ground | Interior room lamp power supply | Output | Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply) | | 0 V |
| | | | | Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply) | | Battery voltage |
| 5 (L) | Ground | Passenger door UNLOCK | Output | Passenger door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other than UNLOCK (Actuator is not activated) | 0 V |
| 7 (Y) | Ground | Step lamp | Output | Step lamp | ON | 0 V |
| | | | | | OFF | Battery voltage |
| 8 (V) | Ground | All doors, fuel lid LOCK | Output | All doors | LOCK (Actuator is activated) | Battery voltage |
| | | | | | Other than LOCK (Actuator is not activated) | 0 V |
| 9 (G) | Ground | Driver door, fuel lid UNLOCK | Output | Driver door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other than UNLOCK (Actuator is not activated) | 0 V |
| 10 (BR) | Ground | Rear RH door and rear LH door UNLOCK | Output | Rear RH door and rear LH door | UNLOCK (Actuator is activated) | Battery voltage |
| | | | | | Other than UNLOCK (Actuator is not activated) | 0 V |
| 11 (R) | Ground | Battery power supply | Input | Ignition switch OFF | | Battery voltage |
| 13 (B) | Ground | Ground | — | Ignition switch ON | | 0 V |
| 14 (W) | Ground | Push-button ignition switch illumination ground | Output | Tail lamp | OFF | 0 V |
| | | | | | ON | **NOTE:** When the illumination brightening/dimming level is in the neutral position   JSNIA0010GB |
| 15 (Y) | Ground | ACC indicator lamp | Output | Ignition switch | OFF or ON | Battery voltage |
| | | | | | ACC | 0 V |

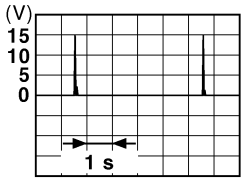
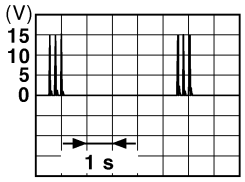
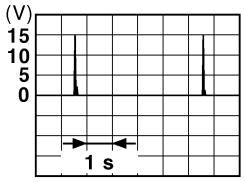
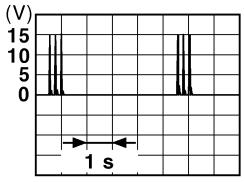
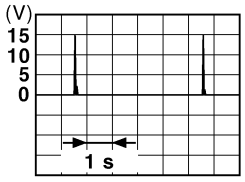
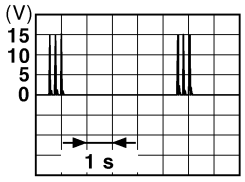
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 17 (W) | Ground | Turn signal RH (Front) | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch RH |  PKID0926E 6.5 V |
| 18 (O) | Ground | Turn signal LH (Front) | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch LH |  PKID0926E 6.5 V |
| 19 (V) | Ground | Room lamp timer control | Output | Interior room lamp | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 20 (V) | Ground | Turn signal RH (Rear) | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch RH |  PKID0926E 6.5 V |
| 23 (G) | Ground | Back door open | Output | Back door | OPEN (Back door opener actuator is activated) | Battery voltage |
| | | | | | Other than OPEN (Back door opener actuator is not activated) | 0 V |
| 25 (G) | Ground | Turn signal LH (Rear) | Output | Ignition switch ON | Turn signal switch OFF | 0 V |
| | | | | | Turn signal switch LH |  PKID0926E 6.5 V |
| 26 (G) | Ground | Rear wiper | Output | Rear wiper | OFF (Stopped) | 0 V |
| | | | | | ON (Operated) | Battery voltage |

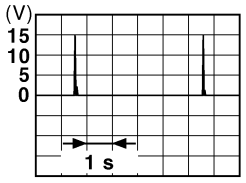
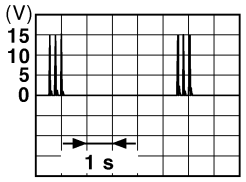
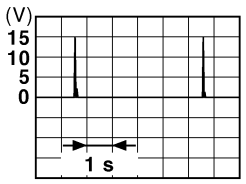
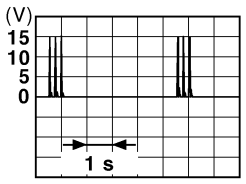
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 34 (SB) | Ground | Luggage room antenna (–) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 35 (V) | Ground | Luggage room antenna (+) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 38 (B) | Ground | Back door antenna (–) | Output | When the back door opener request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |

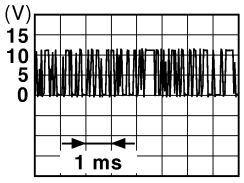
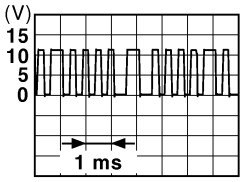
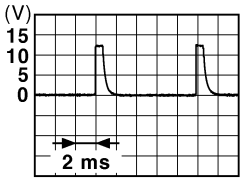
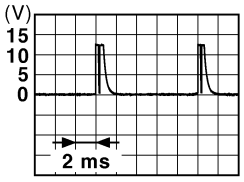
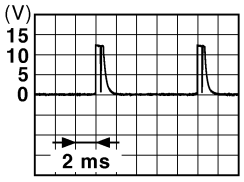
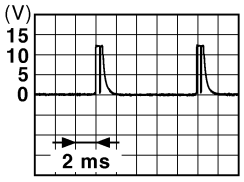
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 39 (W) | Ground | Back door antenna (+) | Output | When the back door opener request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |
| 47 (Y) | Ground | Ignition relay (IPDM E/R) control | Output | Ignition switch | OFF or ACC | Battery voltage |
| | | | | | ON | 0 V |
| 52 (SB) | Ground | Starter relay control | Output | Ignition switch ON | When selector lever is in P or N position | Battery voltage |
| | | | | | When selector lever is not in P or N position | 0 V |
| 61 (W) | Ground | Back door opener request switch | Input | Back door opener request switch | ON (Pressed) | 0 V |
| | | | | | OFF (Not pressed) |  JPMIA0016GB<br>1.0 V |
| 64 (V) | Ground | Intelligent Key warning buzzer (Engine room) | Output | Intelligent Key warning buzzer (Engine room) | Sounding | 0 V |
| | | | | | Not sounding | Battery voltage |
| 65 (O) | Ground | Rear wiper stop position | Input | Rear wiper | In stop position |  JPMIA0016GB<br>1.0 V |
| | | | | | Not in stop position | 0 V |

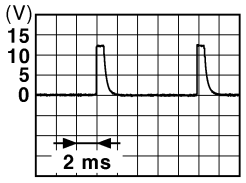
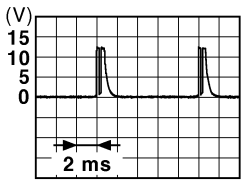
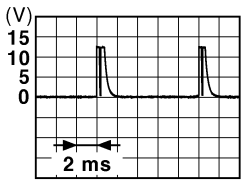
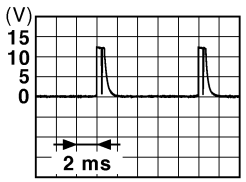
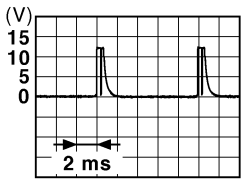
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 66 (R) | Ground | Back door switch | Input | Back door switch | OFF (Door close) |  JPMIA0011GB 11.8 V |
| | | | | | ON (Door open) | 0 V |
| 67 (G) | Ground | Back door opener switch | Input | Back door opener switch | Pressed | 0 V |
| | | | | | Not pressed |  JPMIA0011GB 11.8 V |
| 68 (BR) | Ground | Rear RH door switch | Input | Rear RH door switch | OFF (Door close) |  JPMIA0011GB 11.8 V |
| | | | | | ON (Door open) | 0 V |
| 69 (R) | Ground | Rear LH door switch | Input | Rear LH door switch | OFF (Door close) |  JPMIA0011GB 11.8 V |
| | | | | | ON (Door open) | 0 V |

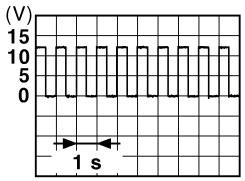
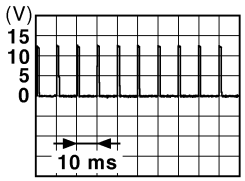
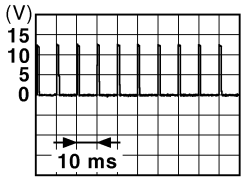
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 72 (R) | Ground | Room antenna 2 (–) (Center console) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 73 (G) | Ground | Room antenna 2 (+) (Center console) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 74 (SB) | Ground | Passenger door antenna (–) | Output | When the passenger door request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |

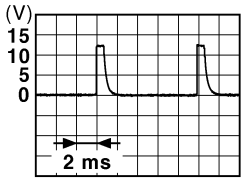
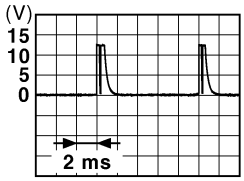
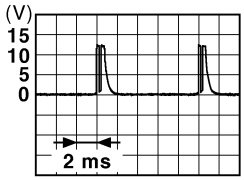
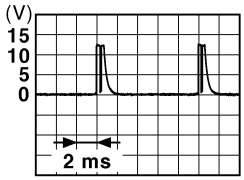
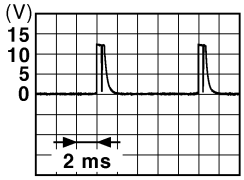
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 75 (GR) | Ground | Passenger door antenna (+) | Output | When the passenger door request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |
| 76 (V) | Ground | Driver door antenna (–) | Output | When the driver door request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |
| 77 (LG) | Ground | Driver door antenna (+) | Output | When the driver door request switch is operated with ignition switch OFF | When Intelligent Key is in the antenna detection area |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the antenna detection area |  JMKIA0063GB |

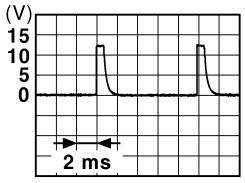
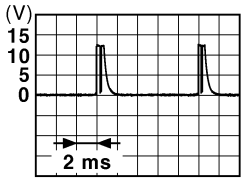
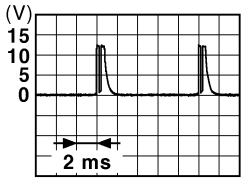
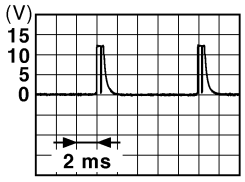
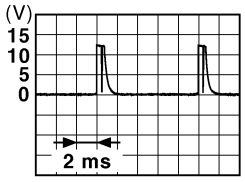
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 78 (Y) | Ground | Room antenna 1 (–) (Instrument panel) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 79 (BR) | Ground | Room antenna 1 (+) (Instrument panel) | Output | Ignition switch OFF | When Intelligent Key is in the passenger compartment |  JMKIA0062GB |
| | | | | | When Intelligent Key is not in the passenger compartment |  JMKIA0063GB |
| 80 (GR) | Ground | NATS antenna amp (Built in key slot) | Input/ Output | During waiting | Ignition switch is pressed while inserting the key into the key slot. | Just after pressing ignition switch. Pointer of tester should move. |
| 81 (W) | Ground | NATS antenna amp (Built in key slot) | Input/ Output | During waiting | Ignition switch is pressed while inserting the key into the key slot. | Just after pressing ignition switch. Pointer of tester should move. |
| 82 (R) | Ground | Ignition relay [Fuse block (J/B)] control | Output | Ignition switch | OFF or ACC | 0 V |
| | | | | | ON | Battery voltage |

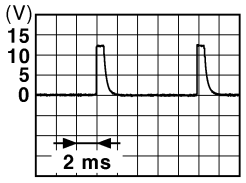
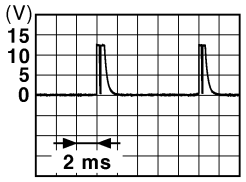
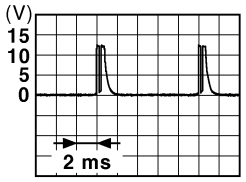
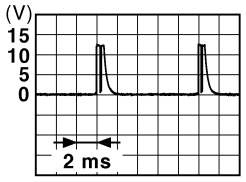
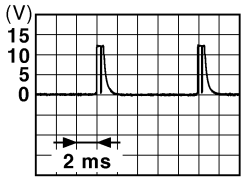
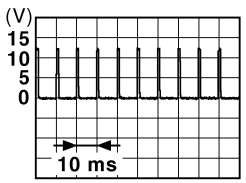
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| | | Signal name | Input/ Output | | | |
| + | – | | | | | |
| 83 (Y) | Ground | Remote keyless entry receiver communication | Input/ Output | During waiting | |  JMKIA0064GB |
| | | | | When operating either button on the key | |  JMKIA0065GB |
| 87 (BR) | Ground | Combination switch INPUT 5 | Input | Combination switch | All switches OFF (Wiper intermittent dial 4) |  JPMIA0041GB 1.4 V |
| | | | | | Front fog lamp switch ON (Wiper intermittent dial 4) |  JPMIA0037GB 1.3 V |
| | | | | | Rear wiper switch ON (Wiper intermittent dial 4) |  JPMIA0039GB 1.3 V |
| | | | | | Any of the conditions below with all switches OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 |  JPMIA0040GB 1.3 V |

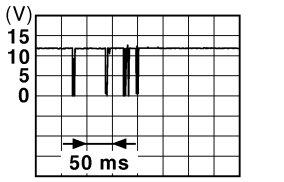
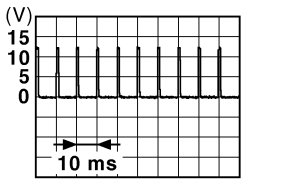
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 88 (V) | Ground | Combination switch INPUT 3 | Input | Combination switch | All switches OFF (Wiper intermittent dial 4) |  JPMIA0041GB 1.4 V |
| | | | | | Lighting switch HI (Wiper intermittent dial 4) |  JPMIA0036GB 1.3 V |
| | | | | | Lighting switch 2ND (Wiper intermittent dial 4) |  JPMIA0037GB 1.3 V |
| | | | | | Rear washer switch ON (Wiper intermittent dial 4) |  JPMIA0039GB 1.3 V |
| | | | | | Any of the conditions below with all switches OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 3 |  JPMIA0040GB 1.3 V |
| 89 (BR) | Ground | Push-button ignition switch (Push switch) | Input | Push-button ignition switch (push switch) | Pressed | 0 V |
| | | | | | Not pressed | Battery voltage |
| 90 (P) | Ground | CAN-L | Input/ Output | — | | — |
| 91 (L) | Ground | CAN-H | Input/ Output | — | | — |

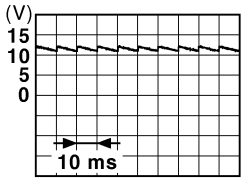
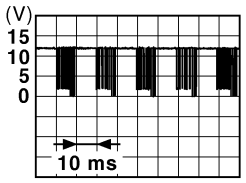
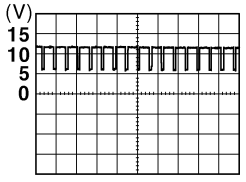
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 92 (LG) | Ground | Key slot illumination | Output | Key slot illumination | OFF | 0 V |
| | | | | | Blinking |  JPMIA0015GB 6.5 V |
| | | | | | ON | Battery voltage |
| 93 (V) | Ground | ON indicator lamp | Output | Ignition switch | OFF or ACC | Battery voltage |
| | | | | | ON | 0 V |
| 94 (Y) | Ground | Puddle lamp control | Output | Puddle lamp | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 95 (O) | Ground | ACC relay control | Output | Ignition switch | OFF | 0 V |
| | | | | | ACC or ON | Battery voltage |
| 96 (GR) | Ground | A/T shift selector (Detention switch) power supply | Output | — | | Battery voltage |
| 97 (L) | Ground | Steering lock condition No. 1 | Input | Steering lock | LOCK status | 0 V |
| | | | | | UNLOCK status | Battery voltage |
| 98 (P) | Ground | Steering lock condition No. 2 | Input | Steering lock | LOCK status | Battery voltage |
| | | | | | UNLOCK status | 0 V |
| 99 (R) | Ground | Selector lever P position switch | Input | Selector lever | P position | 0 V |
| | | | | | Any position other than P | Battery voltage |
| 100 (G) | Ground | Passenger door request switch | Input | Passenger door request switch | ON (Pressed) | 0 V |
| | | | | | OFF (Not pressed) |  JPMIA0016GB 1.0 V |
| 101 (SB) | Ground | Driver door request switch | Input | Driver door request switch | ON (Pressed) | 0 V |
| | | | | | OFF (Not pressed) |  JPMIA0016GB 1.0 V |
| 102 (O) | Ground | Blower fan motor relay control | Output | Ignition switch | OFF or ACC | 0 V |
| | | | | | ON | Battery voltage |

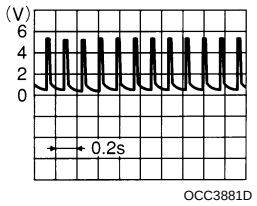
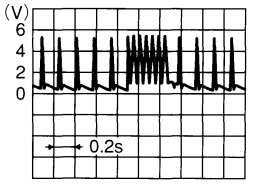
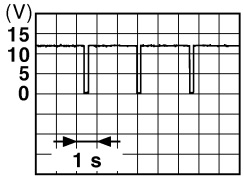
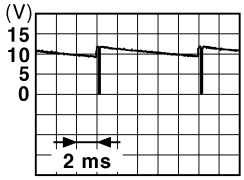
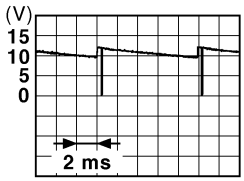
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 103 (LG) | Ground | Remote keyless entry receiver power supply | Output | Ignition switch OFF | | Battery voltage |
| 106 (W) | Ground | Steering lock unit power supply | Output | Ignition switch | OFF or ACC | Battery voltage |
| | | | | | ON | 0 V |
| 107 (LG) | Ground | Combination switch INPUT 1 | Input | Combination switch (Wiper intermittent dial 4) | All switches OFF |  JPMIA0041GB 1.4 V |
| | | | | | Turn signal switch LH |  JPMIA0037GB 1.3 V |
| | | | | | Turn signal switch RH |  JPMIA0036GB 1.3 V |
| | | | | | Front wiper switch LO |  JPMIA0038GB 1.3 V |
| | | | | | Front washer switch ON |  JPMIA0039GB 1.3 V |

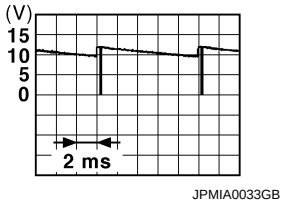
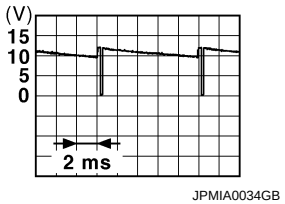
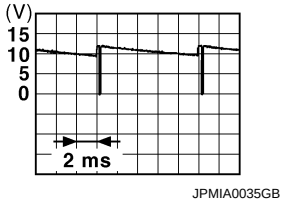
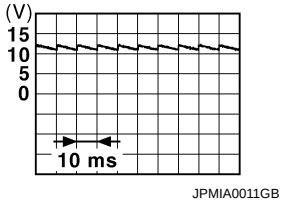
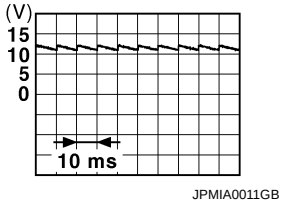
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 108 (R) | Ground | Combination switch INPUT 4 | Input | Combination switch | All switches OFF (Wiper intermittent dial 4) |  JPMIA0041GB 1.4 V |
| | | | | | Lighting switch AUTO (Wiper intermittent dial 4) |  JPMIA0038GB 1.3 V |
| | | | | | Lighting switch 1ST (Wiper intermittent dial 4) |  JPMIA0036GB 1.3 V |
| | | | | | Rear wiper switch INT (Wiper intermittent dial 4) |  JPMIA0040GB 1.3 V |
| | | | | | Any of the conditions below with all switches OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 |  JPMIA0039GB 1.3 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 109 (Y) | Ground | Combination switch INPUT 2 | Input | Combination switch (Wiper intermittent dial 4) | All switches OFF |  JPMIA0041GB<br>1.4 V |
| | | | | | Lighting switch PASS |  JPMIA0037GB<br>1.3 V |
| | | | | | Lighting switch 2ND |  JPMIA0036GB<br>1.3 V |
| | | | | | Front wiper switch INT |  JPMIA0038GB<br>1.3 V |
| | | | | | Front wiper switch HI |  JPMIA0040GB<br>1.3 V |
| 110 (G) | Ground | Hazard switch | Input | Hazard switch | ON | 0 V |
| | | | | | OFF |  JPMIA0012GB<br>1.1 V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 111 (Y) | Ground | Steering lock unit communication | Input/ Output | Steering lock | LOCK status | Battery voltage |
| | | | | | LOCK or UNLOCK |  JMKIA0066GB |
| | | | | | For 15 seconds after UNLOCK | Battery voltage |
| | | | | | 15 seconds or later after UNLOCK | 0 V |
| 113 (P) | Ground | Optical sensor | Input | Ignition switch ON | When bright outside of the vehicle | Close to 5 V |
| | | | | | When dark outside of the vehicle | Close to 0 V |
| 116 (SB) | Ground | Stop lamp switch 1 | Input | — | | Battery voltage |
| 118 (P) | Ground | Stop lamp switch 2 (Without ICC) | Input | Stop lamp switch | OFF (Brake pedal is not depressed) | 0 V |
| | | | | | ON (Brake pedal is depressed) | Battery voltage |
| | | Stop lamp switch 2 (With ICC) | | Stop lamp switch OFF (Brake pedal is not depressed) and ICC brake hold relay OFF | | 0 V |
| | | | | Stop lamp switch ON (Brake pedal is depressed) or ICC brake hold relay ON | | Battery voltage |
| 119 (SB) | Ground | Front door lock assembly driver side (Unlock sensor) | Input | Driver door | LOCK status (Unlock sensor switch OFF) |  JPMIA0012GB<br>1.1 V |
| | | | | | UNLOCK status (Unlock switch sensor ON) | 0 V |
| 121 (BR) | Ground | Key slot switch | Input | When the key is inserted into key slot | | Battery voltage |
| | | | | When the key is not inserted into key slot | | 0 V |
| 123 (W) | Ground | IGN feedback | Input | Ignition switch | OFF or ACC | 0 V |
| | | | | | ON | Battery voltage |

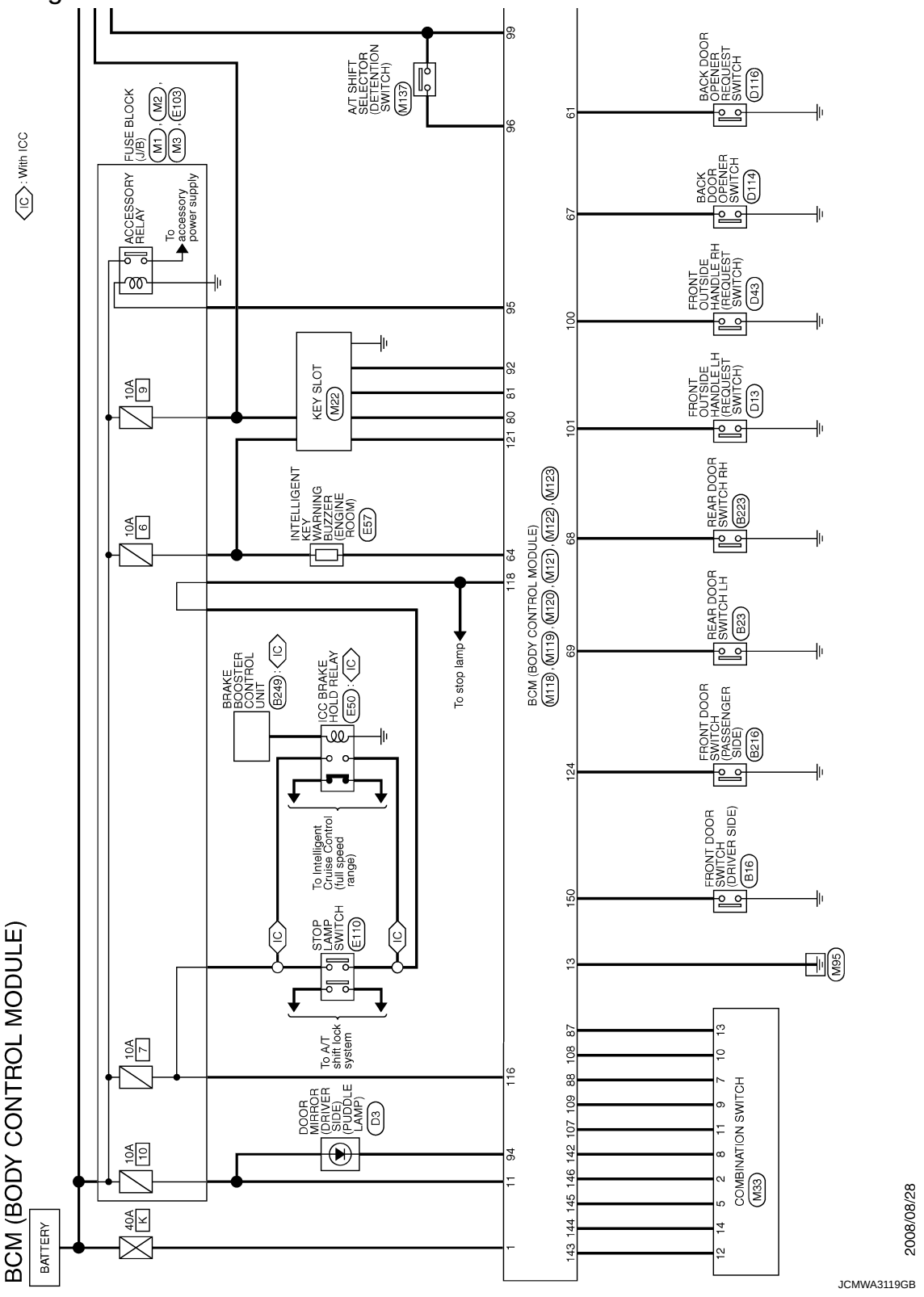
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 124 (LG) | Ground | Passenger door switch | Input | Passenger door switch | OFF (Door close) |  JPMIA0011GB<br>11.8 V |
| | | | | | ON (Door open) | 0 V |
| 132 (V) | Ground | Power window switch communication | Input/ Output | Ignition switch ON | |  JPMIA0013GB<br>10.2 V |
| | | | | Ignition switch OFF or ACC | | Battery voltage |
| 133 (W) | Ground | Push-button ignition switch illumination | Output | Push-button ignition switch illumination | ON (Tail lamps OFF) | 9.5 V |
| | | | | | ON (Tail lamps ON) | **NOTE:**<br>The pulse width of this wave is varied by the illumination brightening/dimming level.<br>  JPMIA0159GB |
| | | | | | OFF | 0 V |
| 134 (GR) | Ground | LOCK indicator lamp | Output | LOCK indicator lamp | OFF | Battery voltage |
| | | | | | ON | 0 V |
| 137 (O) | Ground | Receiver and sensor ground | Input | Ignition switch ON | | 0 V |
| 138 (Y) | Ground | Receiver and sensor power supply | Output | Ignition switch | OFF | 0 V |
| | | | | | ACC or ON | 5.0 V |

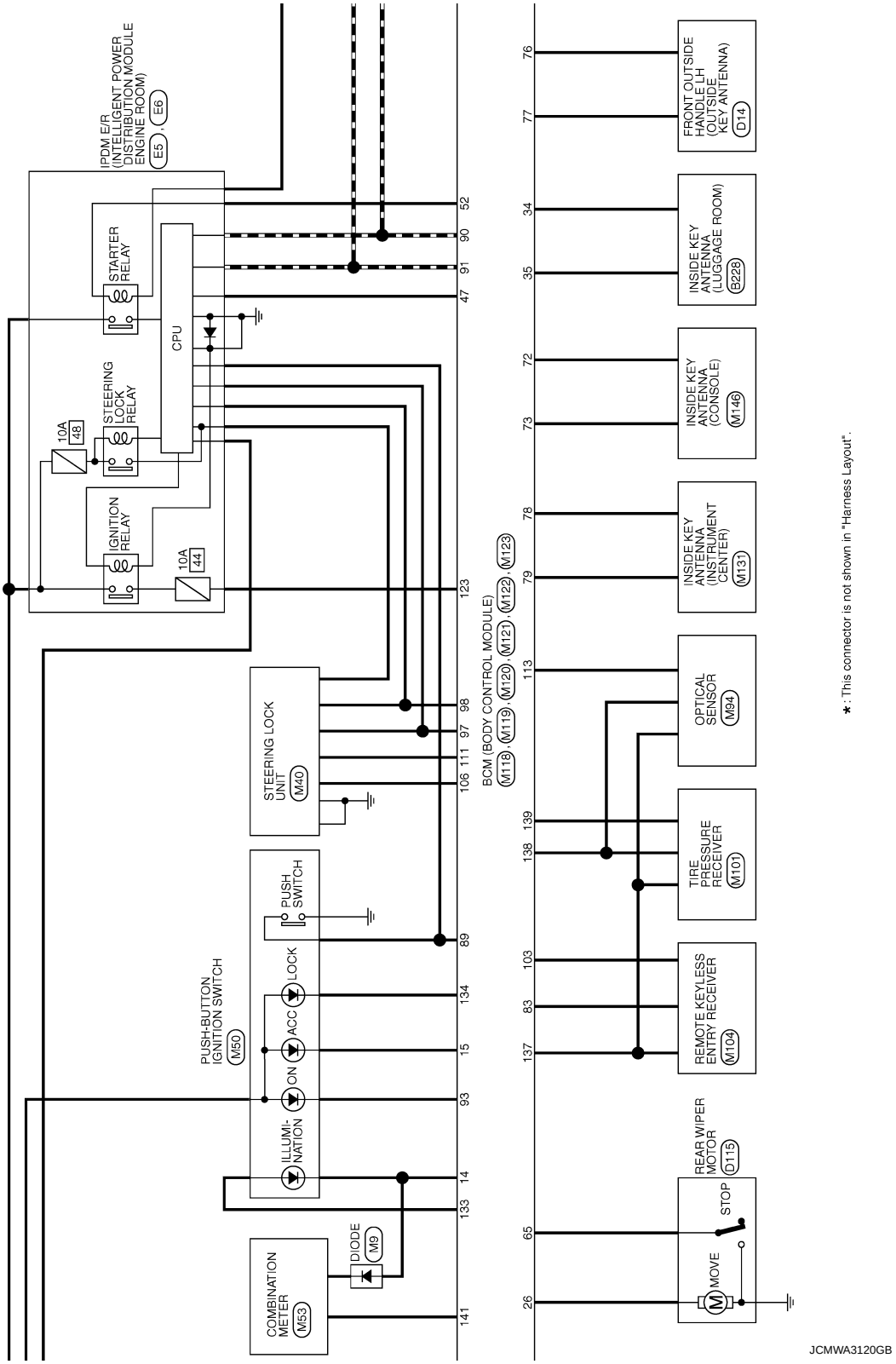
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 139 (L) | Ground | Tire pressure receiver communication | Input/ Output | Ignition switch ON | Standby state |  OCC3881D |
| | | | | | When receiving the signal from the transmitter |  OCC3880D |
| 140 (GR) | Ground | Selector lever P/N position | Input | Selector lever | P or N position | Battery voltage |
| | | | | | Except P and N positions | 0 V |
| 141 (G) | Ground | Security indicator | Output | Security indicator | ON | 0 V |
| | | | | | Blinking |  JPMIA0014GB<br>11.3 V |
| | | | | | OFF | Battery voltage |
| 142 (O) | Ground | Combination switch OUTPUT 5 | Output | Combination switch (Wiper intermittent dial 4) | All switches OFF | 0 V |
| | | | | | Lighting switch 1ST |  JPMIA0031GB<br>10.7 V |
| | | | | | Lighting switch HI | |
| | | | | | Lighting switch 2ND | |
| | | | | | Turn signal switch RH | |
| 143 (P) | Ground | Combination switch OUTPUT 1 | Output | Combination switch | All switches OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front wiper switch HI (Wiper intermittent dial 4) |  JPMIA0032GB<br>10.7 V |
| | | | | | Rear wiper switch INT (Wiper intermittent dial 4) | |
| | | | | | Any of the conditions below with all switches OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 2<br>• Wiper intermittent dial 3<br>• Wiper intermittent dial 6<br>• Wiper intermittent dial 7 | |

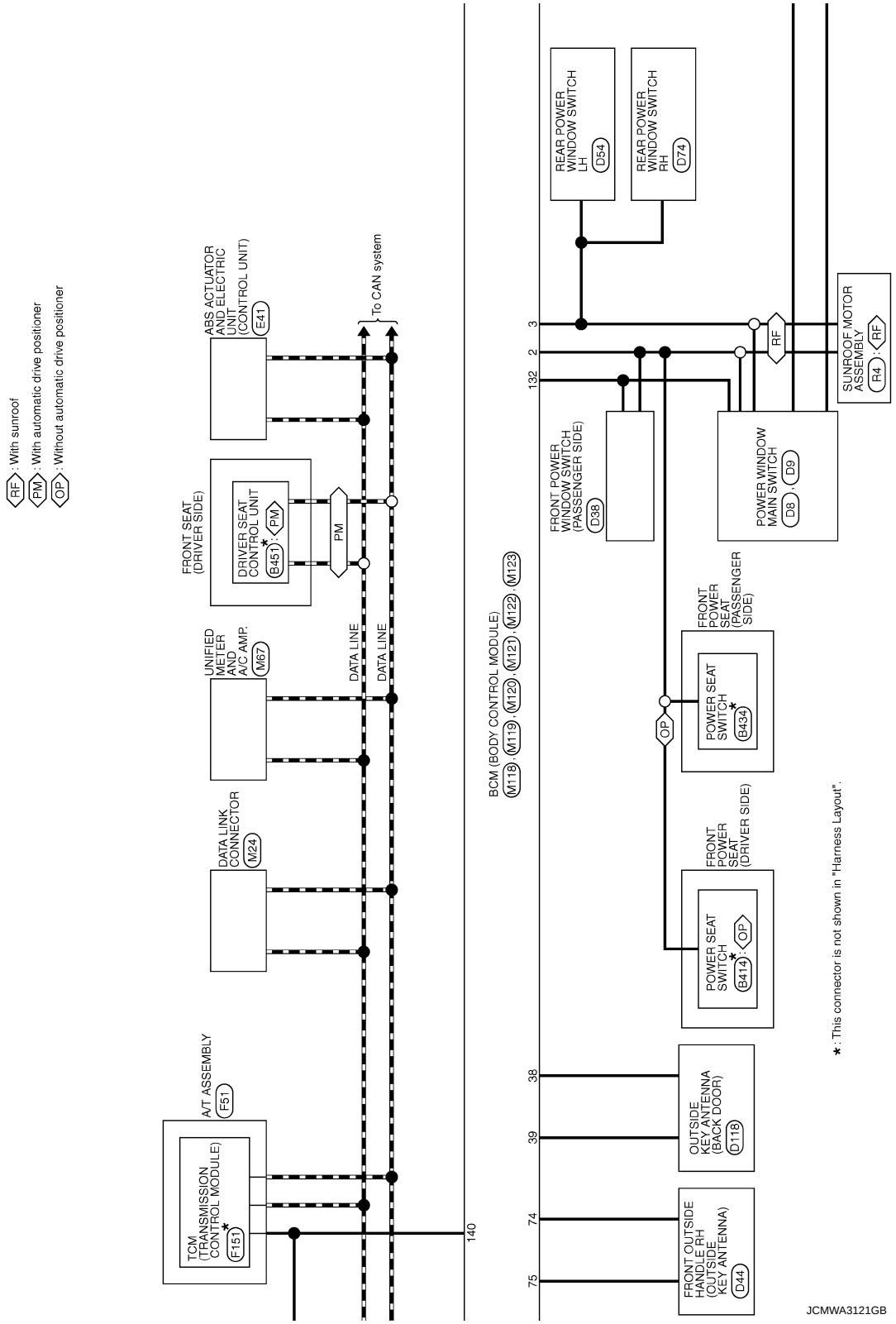
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 144 (G) | Ground | Combination switch OUTPUT 2 | Output | Combination switch | All switches OFF (Wiper intermittent dial 4) | 0 V |
| | | | | | Front washer switch ON (Wiper intermittent dial 4) |  JPMIA0033GB 10.7 V |
| | | | | | Rear wiper switch ON (Wiper intermittent dial 4) | |
| | | | | | Rear washer switch ON (Wiper intermittent dial 4) | |
| | | | | | Any of the conditions below with all switches OFF<br>• Wiper intermittent dial 1<br>• Wiper intermittent dial 5<br>• Wiper intermittent dial 6 | |
| 145 (L) | Ground | Combination switch OUTPUT 3 | Output | Combination switch (Wiper intermittent dial 4) | All switches OFF | 0 V |
| | | | | | Front wiper switch INT |  JPMIA0034GB 10.7 V |
| | | | | | Front wiper switch LO | |
| | | | | | Lighting switch AUTO | |
| 146 (SB) | Ground | Combination switch OUTPUT 4 | Output | Combination switch (Wiper intermittent dial 4) | All switches OFF | 0 V |
| | | | | | Front fog lamp switch ON |  JPMIA0035GB 10.7 V |
| | | | | | Lighting switch 2ND | |
| | | | | | Lighting switch PASS | |
| | | | | | Turn signal switch LH | |
| 149 (W) | Ground | Tire pressure warning check switch | Input | Ignition switch ON | |  JPMIA0011GB 11.8 V |
| 150 (LG) | Ground | Driver door switch | Input | Driver door switch | OFF (Door close) |  JPMIA0011GB 11.8 V |
| | | | | | ON (Door open) | 0 V |
| 151 (G) | Ground | Rear window defogger relay control | Output | Rear window defogger | Active | 0 V |
| | | | | | Not activated | Battery voltage |

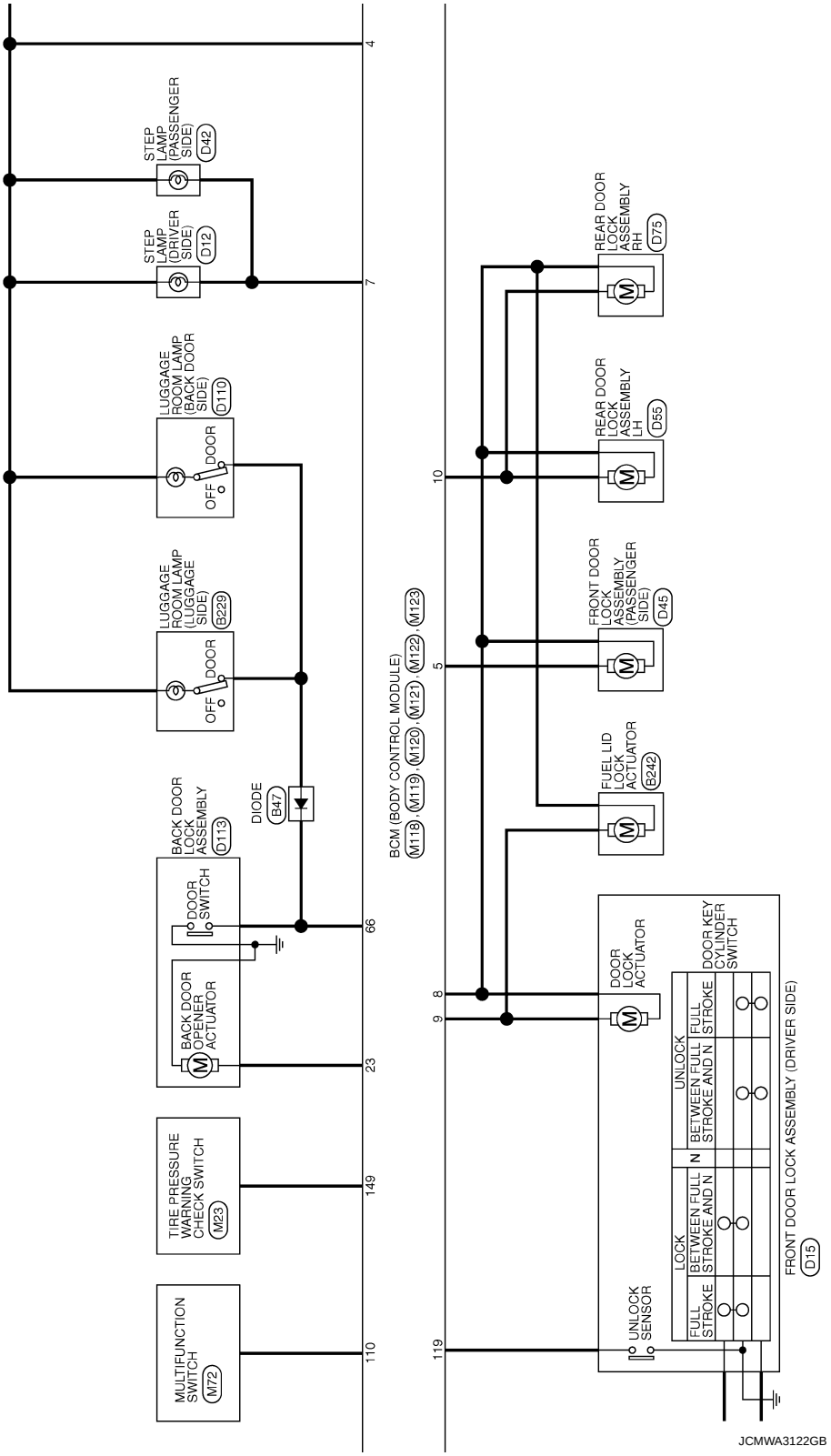
## Wiring Diagram - BCM -

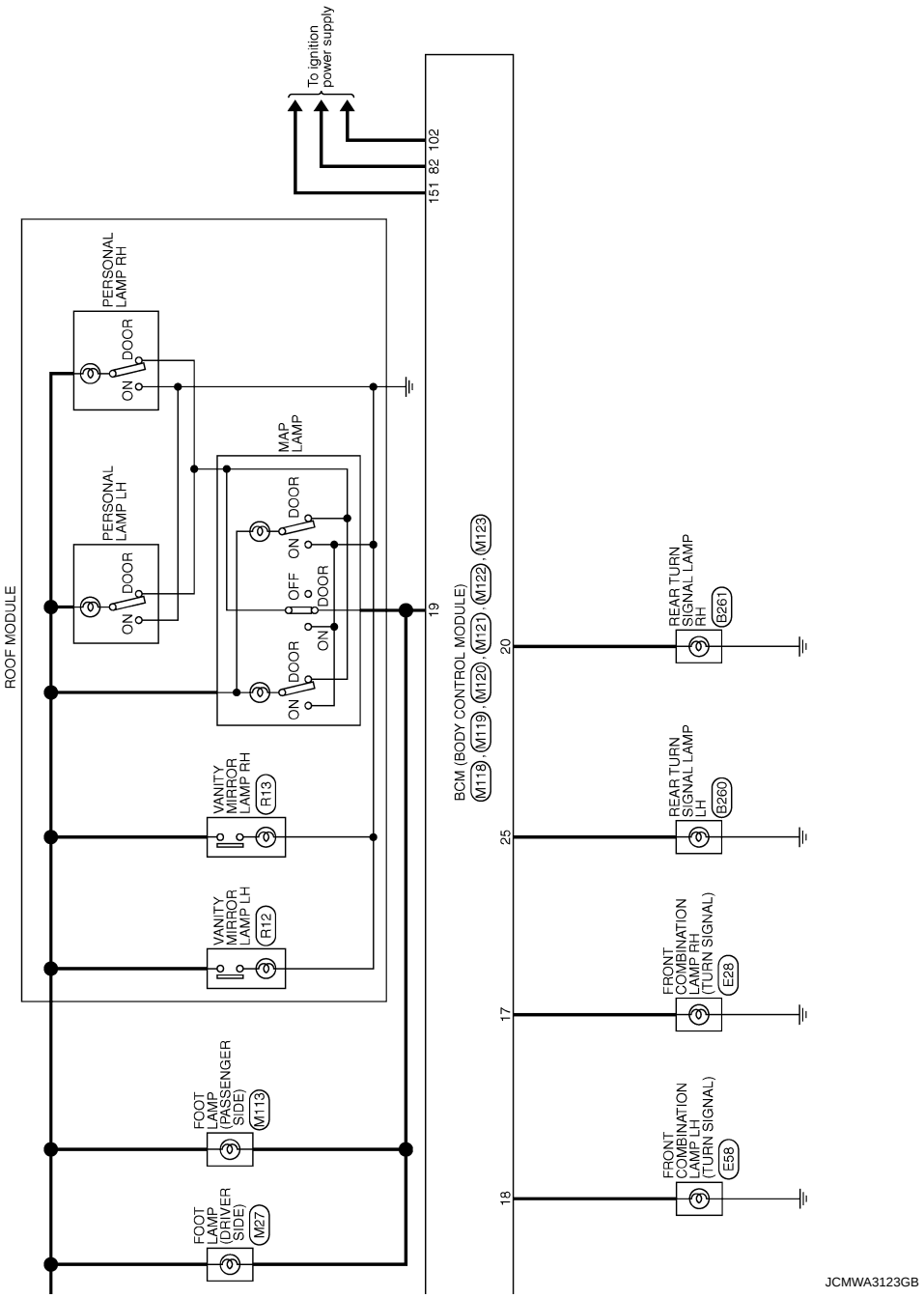
INFOID:0000000004904423

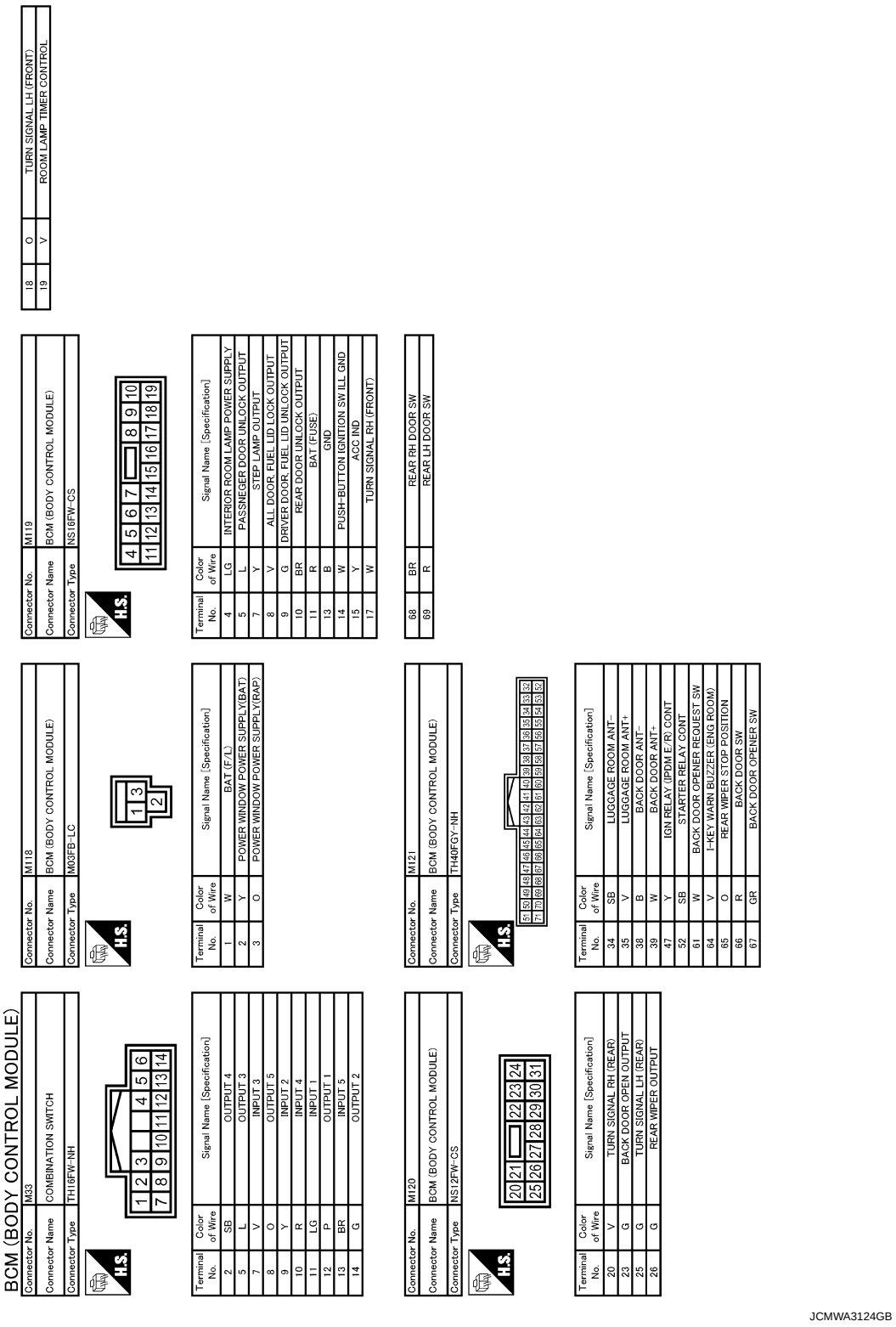



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E5, E6
STARTER RELAY
CPU
STEERING LOCK RELAY
10A 48
IGNITION RELAY
10A 44
STEERING LOCK UNIT M40
PUSH SWITCH
PUSH-BUTTON IGNITION SWITCH M50
LOCK
ACC
ON
ILLUMI-NATION
COMBINATION METER M53
DIODE M9
BCM (BODY CONTROL MODULE) M118, M119, M120, M121, M122, M123
FRONT OUTSIDE HANDLE LH (OUTSIDE KEY ANTENNA) D14
INSIDE KEY ANTENNA (LUGGAGE ROOM) B228
INSIDE KEY ANTENNA (CONSOLE) M146
INSIDE KEY ANTENNA (INSTRUMENT CENTER) M131
OPTICAL SENSOR M94
TIRE PRESSURE RECEIVER M101
REMOTE KEYLESS ENTRY RECEIVER M104
REAR WIPER MOTOR D115
STOP
MOVE
*: This connector is not shown in "Harness Layout".
JCMWA3120GB


RF : With sunroof
PM : With automatic drive positioner
OP : Without automatic drive positioner
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E41
To CAN system
FRONT SEAT (DRIVER SIDE)
DRIVER SEAT CONTROL UNIT B451 PM
PM
UNIFIED METER AND A/C AMP. M67
DATA LINE
DATA LINE
DATA LINK CONNECTOR M24
A/T ASSEMBLY F51
TCM (TRANSMISSION CONTROL MODULE) F151
140
BCM (BODY CONTROL MODULE) M118, M119, M120, M121, M122, M123
3
2
132
REAR POWER WINDOW SWITCH LH D54
REAR POWER WINDOW SWITCH RH D74
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) D38
POWER WINDOW MAIN SWITCH D8, D9
RF
SUNROOF MOTOR ASSEMBLY R4 RF
OP
FRONT POWER SEAT (PASSENGER SIDE)
POWER SEAT SWITCH B434
FRONT POWER SEAT (DRIVER SIDE)
POWER SEAT SWITCH B414 OP
38
39
74
75
OUTSIDE KEY ANTENNA (BACK DOOR) D118
FRONT OUTSIDE HANDLE RH (OUTSIDE KEY ANTENNA) D44
* : This connector is not shown in "Harness Layout".
JCMWA3121GB


STEP LAMP (PASSENGER SIDE) D42
STEP LAMP (DRIVER SIDE) D12
LUGGAGE ROOM LAMP (BACK DOOR SIDE) D110
LUGGAGE ROOM LAMP (LUGGAGE SIDE) B229
DOOR
OFF
DIODE B47
BACK DOOR LOCK ASSEMBLY D113
DOOR SWITCH
BACK DOOR OPENER ACTUATOR
TIRE PRESSURE WARNING CHECK SWITCH M23
MULTIFUNCTION SWITCH M72
4
7
66
23
149
110
BCM (BODY CONTROL MODULE) M118, M119, M120, M121, M122, M123
10
5
8
9
119
REAR DOOR LOCK ASSEMBLY RH D75
REAR DOOR LOCK ASSEMBLY LH D55
FRONT DOOR LOCK ASSEMBLY (PASSENGER SIDE) D45
FUEL LID LOCK ACTUATOR B242
DOOR LOCK ACTUATOR
DOOR KEY CYLINDER SWITCH
UNLOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
LOCK
FULL STROKE
BETWEEN FULL STROKE AND N
UNLOCK SENSOR
FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE) D15
JCMWA3122GB


To ignition power supply
151 82 102
ROOF MODULE
PERSONAL LAMP RH
PERSONAL LAMP LH
MAP LAMP
VANITY MIRROR LAMP RH R13
VANITY MIRROR LAMP LH R12
FOOT LAMP (PASSENGER SIDE) M113
FOOT LAMP (DRIVER SIDE) M27
BCM (BODY CONTROL MODULE)
M118, M119, M120, M121, M122, M123
19
20
25
17
18
REAR TURN SIGNAL LAMP RH B261
REAR TURN SIGNAL LAMP LH B260
FRONT COMBINATION LAMP RH (TURN SIGNAL) E28
FRONT COMBINATION LAMP LH (TURN SIGNAL) E58
JCMWA3123GB




JCMWA3124GB

BCM (BODY CONTROL MODULE)

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



| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 72 | R | ROOM ANT2- |
| 73 | G | ROOM ANT2+ |
| 74 | SB | PASSENGER DOOR ANT- |
| 75 | GR | PASSENGER DOOR ANT+ |
| 76 | V | DRIVER DOOR ANT- |
| 77 | LG | DRIVER DOOR ANT+ |
| 78 | Y | ROOM ANT1- |
| 79 | BR | ROOM ANT1+ |
| 80 | GR | IMMOBI ANTENNA CONTROL |
| 81 | W | IMMOBI ANTENNA SIGNAL |
| 82 | R | IGN RELAY (F/B) CONT |
| 83 | Y | KEYLESS ENTRY RECEIVER COMM |
| 87 | BR | COMBI SW INPUT 5 |
| 88 | V | COMBI SW INPUT 3 |
| 89 | BR | PUSH SW |
| 90 | P | CAN-L |
| 91 | L | CAN-H |
| 92 | LG | KEY SLOT ILL |
| 93 | V | ON IND |
| 94 | Y | PUDDLE LAMP CONT |
| 95 | O | ACC RELAY CONT |
| 96 | GR | A/T SHIFT SELECTOR POWER SUPPLY |
| 97 | L | S/L CONDITION 1 |
| 98 | P | S/L CONDITION 2 |
| 99 | R | SHIFT P |
| 100 | G | PASSENGER DOOR REQUEST SW |
| 101 | SB | DRIVER DOOR REQUEST SW |
| 102 | O | BLOWER FAN MOTOR RELAY CONT |
| 103 | LG | KEYLESS ENTRY RECEIVER POWER SUPPLY |
| 106 | W | S/L UNIT POWER SUPPLY |
| 107 | LG | COMBI SW INPUT 1 |
| 108 | R | COMBI SW INPUT 4 |
| 109 | Y | COMBI SW INPUT 2 |
| 110 | G | HAZARD SW |
| 111 | Y | S/L UNIT COMM |

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

| Terminal No. | Color of Wire | Signal Name [Specification] |
|---|---|---|
| 113 | P | OPLICAL SENSOR |
| 116 | SB | STOP LAMP SW 1 |
| 118 | P | STOP LAMP SW 2 |
| 119 | SB | DR DOOR UNLOCK SENSOR |
| 121 | BR | KEY SLOT SW |
| 123 | W | IGN F/B |
| 124 | LG | PASSENGER DOOR SW |
| 132 | V | POWER WINDOW SW COMM |
| 133 | W | PUSH-BUTTON IGNITION SW ILL POWER |
| 134 | GR | LOCK IND |
| 137 | O | RECEIVER/SENSOR GND |
| 138 | Y | RECEIVER/SENSOR POWER SUPPLY |
| 139 | L | TIRE PRESSURE RECEIVER COMM |
| 140 | GR | SHIFT N/P |
| 141 | G | SECURITY INDICATOR OUTPUT |
| 142 | O | COMBI SW OUTPUT 5 |
| 143 | P | COMBI SW OUTPUT 1 |
| 144 | G | COMBI SW OUTPUT 2 |
| 145 | L | COMBI SW OUTPUT 3 |
| 146 | SB | COMBI SW OUTPUT 4 |
| 149 | W | TIRE PRESS WARNING CHECK SW |
| 150 | LG | DRIVER DOOR SW |
| 151 | G | REAR WINDOW DEFOGGER RELAY CONT |

JCMWA3125GB

## Fail-safe

*INFOID:0000000004904424*

FAIL-SAFE CONTROL BY DTC

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

| Display contents of CONSULT | Fail-safe | Cancellation |
|---|---|---|
| B2013: ID DISCORD BCM-S/L | Inhibit engine cranking | Erase DTC |
| B2014: CHAIN OF S/L-BCM | Inhibit engine cranking | Erase DTC |
| B2190: NATS ANTENNA AMP | Inhibit engine cranking | Erase DTC |
| B2191: DIFFERENCE OF KEY | Inhibit engine cranking | Erase DTC |
| B2192: ID DISCORD BCM-ECM | Inhibit engine cranking | Erase DTC |
| B2193: CHAIN OF BCM-ECM | Inhibit engine cranking | Erase DTC |
| B2195: ANTI SCANNING | Inhibit engine cranking | Ignition switch ON → OFF |
| B2557: VEHICLE SPEED | Inhibit steering lock | When normal vehicle speed signals are received from ABS actuator and electric unit (control unit) for 500 ms |
| B2560: STARTER CONT RELAY | Inhibit engine cranking | 500 ms after the following CAN signal communication status becomes consistent<br>• Starter control relay signal<br>• Starter relay status signal |
| B2601: SHIFT POSITION | Inhibit steering lock | 500 ms after the following signal reception status becomes consistent<br>• Selector lever P position switch signal<br>• P range signal (CAN) |
| B2602: SHIFT POSITION | Inhibit steering lock | 5 seconds after the following BCM recognition conditions are fulfilled<br>• Ignition switch is in the ON position<br>• Selector lever P position switch signal: Except P position (battery voltage)<br>• Vehicle speed: 4 km/h (2.5 MPH) or more |
| B2603: SHIFT POSI STATUS | Inhibit steering lock | 500 ms after the following BCM recognition conditions are fulfilled<br>• Ignition switch is in the ON position<br>• Selector lever P position switch signal: Except P position (battery voltage)<br>• Selector lever P/N position signal: Except P and N positions (0 V) |
| B2604: PNP SW | Inhibit steering lock | 500 ms after any of the following BCM recognition conditions are fulfilled<br>• Status 1<br>- Ignition switch is in the ON position<br>- Selector lever P/N position signal: P and N position (battery voltage)<br>- P range signal or N range signal (CAN): ON<br>• Status 2<br>- Ignition switch is in the ON position<br>- Selector lever P/N position signal: Except P and N positions (0 V)<br>- P range signal and N range signal (CAN): OFF |
| B2605: PNP SW | Inhibit steering lock | 500 ms after any of the following BCM recognition conditions are fulfilled<br>• Ignition switch is in the ON position<br>- Power position: IGN<br>- Selector lever P/N position signal: Except P and N positions (0 V)<br>- Interlock/PNP switch signal (CAN): OFF<br>• Status 2<br>- Ignition switch is in the ON position<br>- Selector lever P/N position signal: P or N position (battery voltage)<br>- PNP switch signal (CAN): ON |
| B2606: S/L RELAY | Inhibit engine cranking | 500 ms after the following CAN signal communication status becomes consistent<br>• Steering lock relay signal (Request signal)<br>• Steering lock relay signal (Condition signal) |

| Display contents of CONSULT | Fail-safe | Cancellation |
|---|---|---|
| B2607: S/L RELAY | Inhibit engine cranking | 500 ms after the following CAN signal communication status becomes consistent<br>• Steering lock relay signal (Request signal)<br>• Steering lock relay signal (Condition signal) |
| B2608: STARTER RELAY | Inhibit engine cranking | 500 ms after the following signal communication status becomes consistent<br>• Starter motor relay control signal<br>• Starter relay status signal (CAN) |
| B2609: S/L STATUS | • Inhibit engine cranking<br>• Inhibit steering lock | When the following steering lock conditions agree<br>• BCM steering lock control status<br>• Steering lock condition No. 1 signal status<br>• Steering lock condition No. 2 signal status |
| B260A: IGNITION RELAY | Inhibit engine cranking | 500 ms after the following conditions are fulfilled<br>• IGN relay (IPDM E/R) control signal: OFF (Battery voltage)<br>• Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)<br>• Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal) |
| B260F: ENG STATE SIG LOST | Maintains the power supply position attained at the time of DTC detection | When any of the following conditions are fulfilled<br>• Power position changes to ACC<br>• Receives engine status signal (CAN) |
| B2612: S/L STATUS | • Inhibit engine cranking<br>• Inhibit steering lock | When any of the following conditions are fulfilled<br>• Steering lock unit status signal (CAN) is received normally<br>• The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R) |
| B2617: STARTER RELAY CIRC | Inhibit engine cranking | 1 second after the starter motor relay control inside BCM becomes normal |
| B2618: BCM | Inhibit engine cranking | 1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal |
| B2619: BCM | Inhibit engine cranking | 1 second after the steering lock unit power supply output control inside BCM becomes normal |
| B261E: VEHICLE TYPE | Inhibit engine cranking | BCM initialization |
| B26E9: S/L STATUS | • Inhibit engine cranking<br>• Inhibit steering lock | When BCM transmits the LOCK request signal to steering lock unit, and receives LOCK response signal from steering lock unit, the following conditions are fulfilled<br>• Steering condition No. 1 signal: LOCK (0 V)<br>• Steering condition No. 2 signal: LOCK (Battery voltage) |

### HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.
BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

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

### REAR WIPER MOTOR PROTECTION

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

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

## DTC Inspection Priority Chart

INFOID:0000000004904425

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

| Priority | DTC |
|---|---|
| 1 | B2562: LOW VOLTAGE |
| 2 | • U1000: CAN COMM CIRCUIT<br>• U1010: CONTROL UNIT (CAN) |
| 3 | • B2190: NATS ANTENNA AMP<br>• B2191: DIFFERENCE OF KEY<br>• B2192: ID DISCORD BCM-ECM<br>• B2193: CHAIN OF BCM-ECM<br>• B2195: ANTI SCANNING |
| 4 | • B2013: ID DISCORD BCM-S/L<br>• B2014: CHAIN OF S/L-BCM<br>• B2553: IGNITION RELAY<br>• B2555: STOP LAMP<br>• B2556: PUSH-BTN IGN SW<br>• B2557: VEHICLE SPEED<br>• B2560: STARTER CONT RELAY<br>• B2601: SHIFT POSITION<br>• B2602: SHIFT POSITION<br>• B2603: SHIFT POSI STATUS<br>• B2604: PNP SW<br>• B2605: PNP SW<br>• B2606: S/L RELAY<br>• B2607: S/L RELAY<br>• B2608: STARTER RELAY<br>• B2609: S/L STATUS<br>• B260A: IGNITION RELAY<br>• B260B: STEERING LOCK UNIT<br>• B260C: STEERING LOCK UNIT<br>• B260D: STEERING LOCK UNIT<br>• B260F: ENG STATE SIG LOST<br>• B2612: S/L STATUS<br>• B2614: ACC RELAY CIRC<br>• B2615: BLOWER RELAY CIRC<br>• B2616: IGN RELAY CIRC<br>• B2617: STARTER RELAY CIRC<br>• B2618: BCM<br>• B2619: BCM<br>• B261A: PUSH-BTN IGN SW<br>• B261E: VEHICLE TYPE<br>• B26E9: S/L STATUS<br>• B26EA: KEY REGISTRATION<br>• C1729: VHCL SPEED SIG ERR<br>• U0415: VEHICLE SPEED SIG |

| Priority | DTC |
|---|---|
| 5 | • C1704: LOW PRESSURE FL<br>• C1705: LOW PRESSURE FR<br>• C1706: LOW PRESSURE RR<br>• C1707: LOW PRESSURE RL<br>• C1708: [NO DATA] FL<br>• C1709: [NO DATA] FR<br>• C1710: [NO DATA] RR<br>• C1711: [NO DATA] RL<br>• C1712: [CHECKSUM ERR] FL<br>• C1713: [CHECKSUM ERR] FR<br>• C1714: [CHECKSUM ERR] RR<br>• C1715: [CHECKSUM ERR] RL<br>• C1716: [PRESSDATA ERR] FL<br>• C1717: [PRESSDATA ERR] FR<br>• C1718: [PRESSDATA ERR] RR<br>• C1719: [PRESSDATA ERR] RL<br>• C1720: [CODE ERR] FL<br>• C1721: [CODE ERR] FR<br>• C1722: [CODE ERR] RR<br>• C1723: [CODE ERR] RL<br>• C1724: [BATT VOLT LOW] FL<br>• C1725: [BATT VOLT LOW] FR<br>• C1726: [BATT VOLT LOW] RR<br>• C1727: [BATT VOLT LOW] RL<br>• C1734: CONTROL UNIT |
| 6 | • B2621: INSIDE ANTENNA<br>• B2622: INSIDE ANTENNA<br>• B2623: INSIDE ANTENNA |

## DTC Index

INFOID:0000000004904426

**NOTE:**
The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

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

| CONSULT display | Fail-safe | Freeze Frame Data<br>•Vehicle Speed<br>•Odo/Trip Meter<br>•Vehicle Condition | Intelligent Key warning lamp ON | Tire pressure monitor warning lamp ON | Reference page |
|---|---|---|---|---|---|
| No DTC is detected. further testing may be required. | — | — | — | — | — |
| U1000: CAN COMM CIRCUIT | — | — | — | — | BCS-37 |
| U1010: CONTROL UNIT (CAN) | — | — | — | — | BCS-38 |
| U0415: VEHICLE SPEED SIG | — | — | — | — | BCS-39 |
| B2013: ID DISCORD BCM-S/L | × | × | — | — | SEC-48 |
| B2014: CHAIN OF S/L-BCM | × | × | — | — | SEC-49 |
| B2190: NATS ANTENNA AMP | × | — | — | — | SEC-41 |
| B2191: DIFFERENCE OF KEY | × | — | — | — | SEC-44 |
| B2192: ID DISCORD BCM-ECM | × | — | — | — | SEC-45 |
| B2193: CHAIN OF BCM-ECM | × | — | — | — | SEC-46 |
| B2195: ANTI SCANNING | × | — | — | — | SEC-47 |
| B2553: IGNITION RELAY | — | × | — | — | PCS-49 |

| CONSULT display | Fail-safe | Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition | Intelligent Key warning lamp ON | Tire pressure monitor warning lamp ON | Reference page |
|---|---|---|---|---|---|
| B2555: STOP LAMP | — | × | — | — | SEC-52 |
| B2556: PUSH-BTN IGN SW | — | × | × | — | SEC-54 |
| B2557: VEHICLE SPEED | × | × | × | — | SEC-56 |
| B2560: STARTER CONT RELAY | × | × | × | — | SEC-57 |
| B2562: LOW VOLTAGE | — | × | — | — | BCS-40 |
| B2601: SHIFT POSITION | × | × | × | — | SEC-58 |
| B2602: SHIFT POSITION | × | × | × | — | SEC-61 |
| B2603: SHIFT POSI STATUS | × | × | × | — | SEC-63 |
| B2604: PNP SW | × | × | × | — | SEC-66 |
| B2605: PNP SW | × | × | × | — | SEC-68 |
| B2606: S/L RELAY | × | × | × | — | SEC-70 |
| B2607: S/L RELAY | × | × | × | — | SEC-71 |
| B2608: STARTER RELAY | × | × | × | — | SEC-73 |
| B2609: S/L STATUS | × | × | × | — | SEC-75 |
| B260A: IGNITION RELAY | × | × | × | — | PCS-51 |
| B260B: STEERING LOCK UNIT | — | × | × | — | SEC-79 |
| B260C: STEERING LOCK UNIT | — | × | × | — | SEC-80 |
| B260D: STEERING LOCK UNIT | — | × | × | — | SEC-81 |
| B260F: ENG STATE SIG LOST | × | × | × | — | SEC-82 |
| B2612: S/L STATUS | × | × | × | — | SEC-86 |
| B2614: ACC RELAY CIRC | — | × | × | — | PCS-53 |
| B2615: BLOWER RELAY CIRC | — | × | × | — | PCS-56 |
| B2616: IGN RELAY CIRC | — | × | × | — | PCS-59 |
| B2617: STARTER RELAY CIRC | × | × | × | — | SEC-90 |
| B2618: BCM | × | × | × | — | PCS-62 |
| B2619: BCM | × | × | × | — | SEC-92 |
| B261A: PUSH-BTN IGN SW | — | × | × | — | SEC-93 |
| B261E: VEHICLE TYPE | × | × | × (Turn ON for 15 seconds) | — | SEC-96 |
| B2621: INSIDE ANTENNA | — | × | — | — | DLK-59 |
| B2622: INSIDE ANTENNA | — | × | — | — | DLK-61 |
| B2623: INSIDE ANTENNA | — | × | — | — | DLK-63 |
| B26E1: ENG STATE NO RES | × | × | × | — | SEC-83 |
| B26E9: S/L STATUS | × | × | × (Turn ON for 15 seconds) | — | SEC-84 |
| B26EA: KEY REGISTRATION | — | × | × (Turn ON for 15 seconds) | — | SEC-85 |
| C1704: LOW PRESSURE FL | — | — | — | × | WT-17 |
| C1705: LOW PRESSURE FR | — | — | — | × | |
| C1706: LOW PRESSURE RR | — | — | — | × | |
| C1707: LOW PRESSURE RL | — | — | — | × | |

| CONSULT display | Fail-safe | Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition | Intelligent Key warning lamp ON | Tire pressure monitor warning lamp ON | Reference page |
|---|---|---|---|---|---|
| C1708: [NO DATA] FL | — | — | — | × | WT-19 |
| C1709: [NO DATA] FR | — | — | — | × | |
| C1710: [NO DATA] RR | — | — | — | × | |
| C1711: [NO DATA] RL | — | — | — | × | |
| C1712: [CHECKSUM ERR] FL | — | — | — | × | WT-22 |
| C1713: [CHECKSUM ERR] FR | — | — | — | × | |
| C1714: [CHECKSUM ERR] RR | — | — | — | × | |
| C1715: [CHECKSUM ERR] RL | — | — | — | × | |
| C1716: [PRESSDATA ERR] FL | — | — | — | × | WT-25 |
| C1717: [PRESSDATA ERR] FR | — | — | — | × | |
| C1718: [PRESSDATA ERR] RR | — | — | — | × | |
| C1719: [PRESSDATA ERR] RL | — | — | — | × | |
| C1720: [CODE ERR] FL | — | — | — | × | WT-27 |
| C1721: [CODE ERR] FR | — | — | — | × | |
| C1722: [CODE ERR] RR | — | — | — | × | |
| C1723: [CODE ERR] RL | — | — | — | × | |
| C1724: [BATT VOLT LOW] FL | — | — | — | × | WT-30 |
| C1725: [BATT VOLT LOW] FR | — | — | — | × | |
| C1726: [BATT VOLT LOW] RR | — | — | — | × | |
| C1727: [BATT VOLT LOW] RL | — | — | — | × | |
| C1729: VHCL SPEED SIG ERR | — | — | — | × | WT-33 |
| C1734: CONTROL UNIT | — | — | — | × | WT-34 |

# PRECAUTION

## PRECAUTIONS

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

INFOID:0000000004343347

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

**WARNING:**

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

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

**WARNING:**

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

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

INFOID:0000000004343348

**NOTE:**

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

For vehicle with steering lock unit, if the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.
If turning the steering wheel is required with the battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

#### OPERATION PROCEDURE

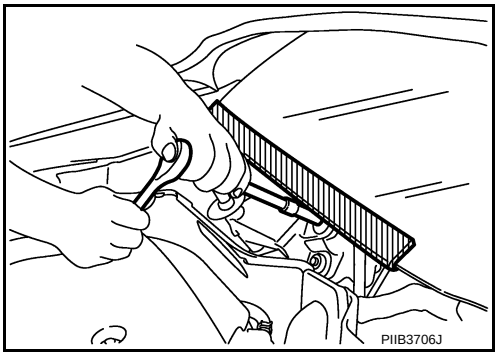
1. Connect both battery cables.
   **NOTE:**
   Supply power using jumper cables if battery is discharged.
2. Turn the push-button ignition switch to ACC position.
   (At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.

5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.

## Precaution for Procedure without Cowl Top Cover

INFOID:0000000004343349

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



# SYMPTOM DIAGNOSIS

## PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

### Description

INFOID:0000000004730980

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/NVIS 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-III.
- Intelligent Key is not inserted in key slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

### Diagnosis Procedure

INFOID:0000000004730981

#### 1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door request switch.
Refer to DLK-19, "DOOR LOCK FUNCTION : System Description".

Is the operation normal?

YES >> GO TO 2.
NO >> Check Intelligent Key system (door lock function). Refer to DLK-174, "ALL DOOR : Diagnosis Procedure".

#### 2.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on Work Support of “INTELLIGENT KEY”.
Refer to PCS-42, "INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)".

>> GO TO 3.

#### 3.PERFORM SELF-DIAGNOSTIC RESULT

Perform Self-Diagnostic Result of “BCM”.

Is DTC detected?

YES >> Refer to DLK-59, "DTC Logic" (instrument center), DLK-61, "DTC Logic" (console) or DLK-63, "DTC Logic" (trunk room).
NO >> GO TO 4.

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

Check push-button ignition switch.
Refer to PCS-66, "Component Function Check".

Is the operation normal?

YES >> GO TO 5.
NO >> Repair or replace malfunctioning parts.

#### 5.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

## Description

INFOID:0000000004343353

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

### Conditions of Vehicle (Operating Conditions)

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

## Diagnosis Procedure

INFOID:0000000004343354

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

Check push-button ignition switch indicator.
Refer to PCS-68, "Component Function Check".

Is the inspection result normal?

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

### 2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

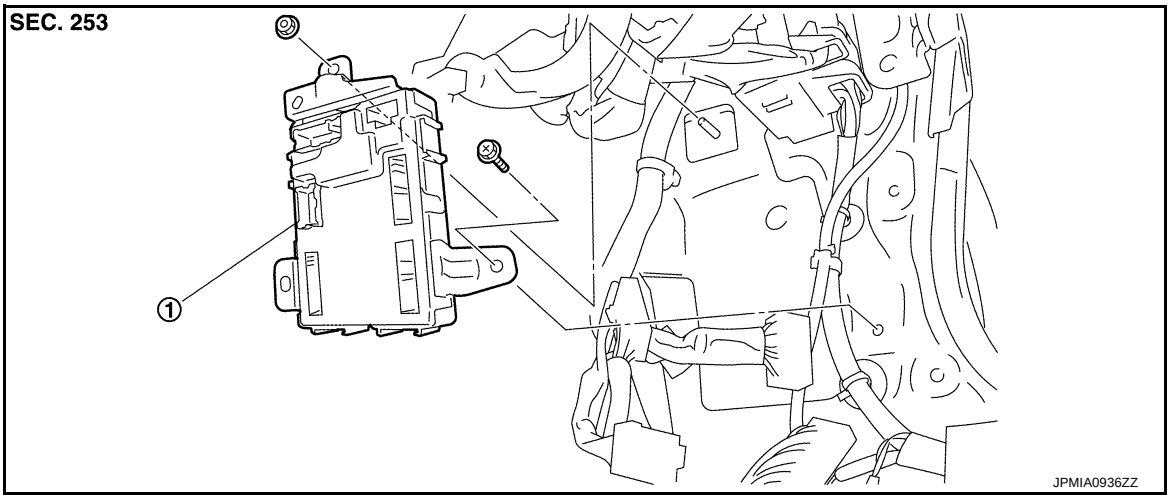
# REMOVAL AND INSTALLATION

## BCM (BODY CONTROL MODULE)

### Exploded View

INFOID:0000000004925468

**CAUTION:**
**Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to BCS-3, "CONFIGURATION (BCM) : Description".**




1. BCM

### Removal and Installation

INFOID:0000000004925469

**CAUTION:**
**Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to BCS-3, "CONFIGURATION (BCM) : Description".**

REMOVAL

1. Remove dash side finisher (passenger side). Refer to INT-20, "Exploded View".
2. Remove bolt and nut.
3. Remove BCM and disconnect the connector.

INSTALLATION

Install in the reverse order of removal.

**CAUTION:**
- **Be sure to perform "WRITE CONFIGURATION" when replacing BCM.**
- **Be sure to perform the system initialization (NATS) when replacing BCM. Refer to BCS-4, "CONFIGURATION (BCM) : Work Procedure".**

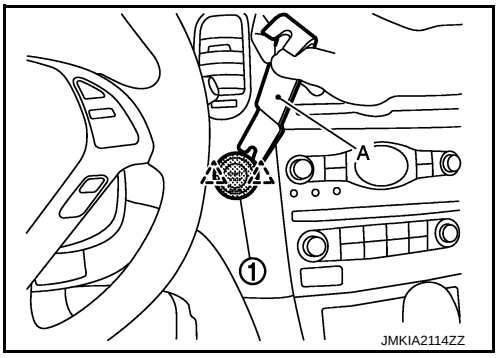
# PUSH BUTTON IGNITION SWITCH

## Removal and Installation

INFOID:0000000004343357

### REMOVAL

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




### INSTALLATION

Install in the reverse order of removal.