# SECTION BCS
# BODY CONTROL SYSTEM

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# PRECAUTION

## PRECAUTIONS

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

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

**WARNING:**

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

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

**WARNING:**

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

# PREPARATION

## PREPARATION

### Special Service Tool

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

| Tool number<br>(TechMate No.)<br>Tool name | Description |
|---|---|
| —<br>(J-50190)<br>Signal Tech II<br><br>ALEIA0131ZZ | • Activate and display TPMS transmitter IDs<br>• Display tire pressure reported by the TPMS transmitter<br>• Read TPMS DTCs<br>• Register TPMS transmitter IDs<br>• Check Intelligent Key relative signal strength<br>• Confirm vehicle Intelligent Key antenna signal strength<br>• Compatible with future sensors<br>• Equipped with a display |

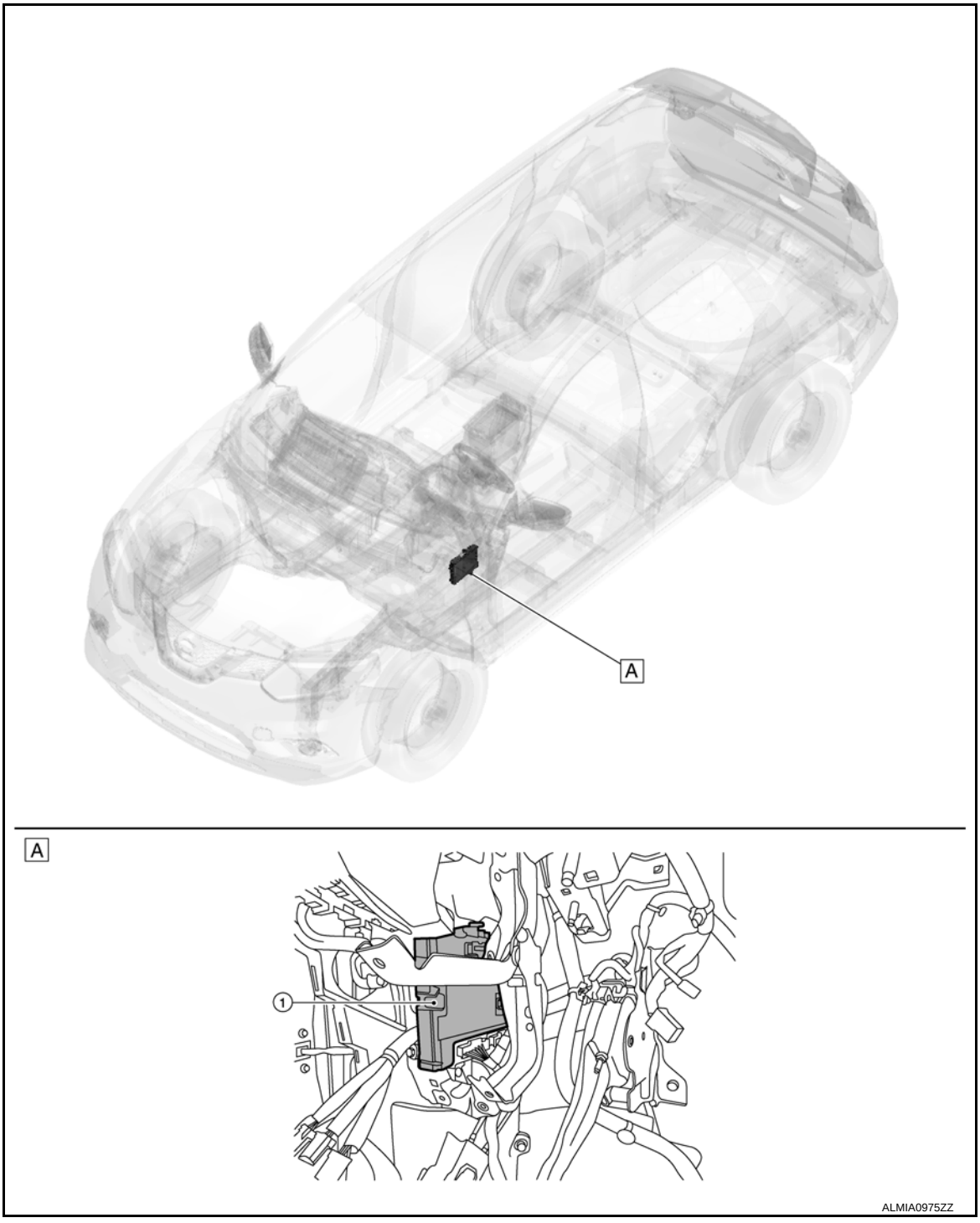
# SYSTEM DESCRIPTION

## COMPONENT PARTS

### BODY CONTROL SYSTEM

#### BODY CONTROL SYSTEM : Component Parts Location

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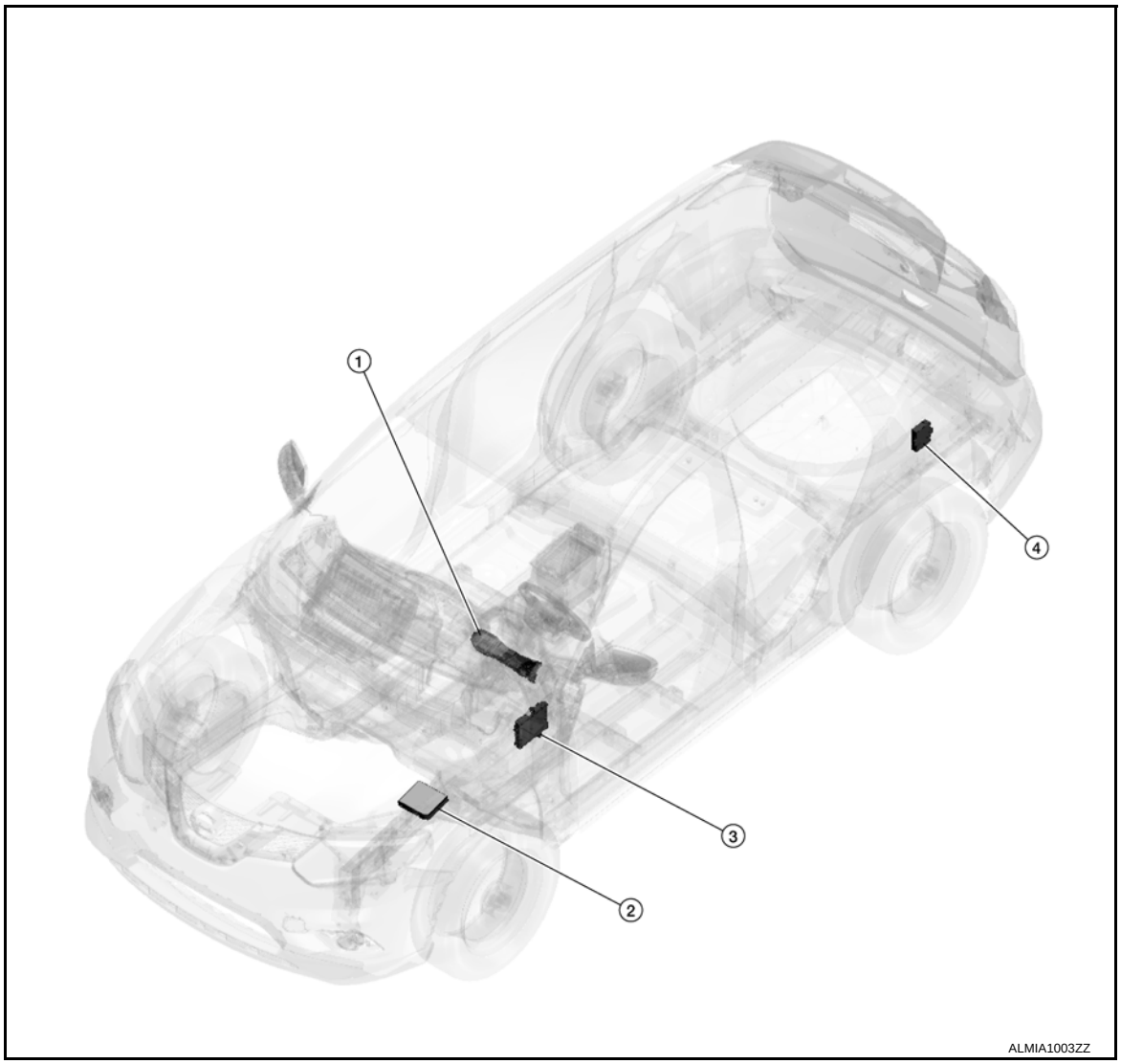



A. Behind instrument panel (LH)
1. BCM

## POWER CONSUMPTION CONTROL SYSTEM

# POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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1. Combination meter
   Refer to MWI-5, "METER SYSTEM : Component Parts Location".
2. IPDM E/R
   Refer to PCS-6, "Component Parts Location".
3. BCM
   Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location".
4. Automatic back door control module
   Refer to DLK-15, "AUTOMATIC BACK DOOR SYSTEM : Component Parts Location".

# SYSTEM

## BODY CONTROL SYSTEM

### BODY CONTROL SYSTEM : System Description

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#### OUTLINE

- BCM (body control module) controls various electrical components. It receives the information required from CAN communication and the signals received from each switch and sensor.
- BCM has a combination switch reading function for reading the status of combination switches (light, turn signal, wiper and washer) in addition to functions for controlling the operation of various electrical components. It also has a signal transmission function for other systems, and a power consumption control function that reduces the power consumption with the ignition switch OFF.
- BCM is equipped with a diagnosis function that operates with CONSULT and allows for various settings to be changed.

#### BCM FUNCTION LIST

| System | Refer to |
|---|---|
| Combination switch reading system | BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description" |
| Signal buffer system | BCS-12, "SIGNAL BUFFER SYSTEM : System Description" |
| Power consumption control system | BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description" |
| Headlamp system | • EXL-12, "HEADLAMP SYSTEM : System Description" (halogen headlamp)<br>• EXL-139, "HEADLAMP SYSTEM : System Description" (LED headlamp) |
| Auto light system | • EXL-13, "AUTO LIGHT SYSTEM : System Description" (halogen headlamp)<br>• EXL-140, "AUTO LIGHT SYSTEM : System Description" (LED headlamp) |
| Daytime light system | • EXL-14, "DAYTIME RUNNING LIGHT SYSTEM : System Description" (halogen headlamp)<br>• EXL-142, "DAYTIME RUNNING LIGHT SYSTEM : System Description" (LED headlamp) |
| Turn signal and hazard warning lamps system | • EXL-15, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (halogen headlamp)<br>• EXL-143, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" (LED headlamp) |
| Parking, license plate and tail lamps system | • EXL-15, "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description" (halogen headlamp)<br>• EXL-144, "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description" (LED headlamp) |
| Front fog lamp system | • EXL-17, "FRONT FOG LAMP SYSTEM : System Description" (halogen headlamp)<br>• EXL-145, "FRONT FOG LAMP SYSTEM : System Description" (LED headlamp) |
| Exterior lamp battery saver system | • EXL-18, "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description" (halogen headlamp)<br>• EXL-146, "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description" (LED headlamp) |
| Interior room lamp control system | INL-7, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description" |
| Interior room lamp battery saver system | INL-9, "INTERIOR ROOM LAMP BATTERY SAVER SYSTEM : System Description" |
| Front wiper and washer system | WW-8, "FRONT WIPER AND WASHER SYSTEM : System Description" |

| System | | Refer to |
|---|---|---|
| Rear wiper and washer system | | WW-10, "REAR WIPER AND WASHER SYSTEM : System Description" |
| Warning chime system | | WCS-5, "WARNING CHIME SYSTEM : System Description" |
| Door lock system | | DLK-25, "System Description" |
| Back door open system | | DLK-40, "System Description" |
| Nissan vehicle immobilizer system (NVIS) | | SEC-12, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description" |
| Vehicle security system | | SEC-14, "VEHICLE SECURITY SYSTEM : System Description" |
| Panic alarm | | |
| Rear window defogger system | | DEF-8, "System Description" |
| Power window system | | PWC-9, "System Description" |
| Moonroof system | | RF-7, "MOONROOF : System Description" |
| Intelligent Key system/engine start system | Door lock function | DLK-28, "DOOR LOCK FUNCTION : System Description" |
| | Back door open function | DLK-30, "BACK DOOR OPEN FUNCTION : System Description" |
| | Warning function | DLK-34, "WARNING FUNCTION : System Description" |
| | Engine start function | DLK-37, "REMOTE ENGINE START FUNCTION : System Description" |
| RAP (retained accessory power) system | | BCS-26, "RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)" |
| TPMS (tire pressure monitoring system) | | WT-9, "System Description" |

## BODY CONTROL SYSTEM : Fail-safe

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### FAIL-SAFE CONTROL BY DTC

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

| Display contents of CONSULT | Fail-safe |
|---|---|
| B2192: ID DISCORD BCM-ECM* | Inhibit setting the vehicle to READY |
| B2193: CHAIN OF BCM-ECM* | Inhibit setting the vehicle to READY |
| B2195: ANTI-SCANNING | Inhibit setting the vehicle to READY |
| B2198: NATS ANTENNA AMP | Inhibit setting the vehicle to READY |
| B261E: VEHICLE TYPE | Inhibit setting the vehicle to READY |
| B26F1: IGN RELAY OFF | Inhibit setting the vehicle to READY |
| B26F2: IGN RELAY ON | Inhibit setting the vehicle to READY |

**NOTE:**

*: “ECM” is indicated on CONSULT display, however this means HPCM.

### REAR WIPER MOTOR PROTECTION

Enable Condition

BCM detects the rear wiper stop position according to the rear wiper autostop switch signal. When the rear wiper autostop switch signal does not change for more than 5 seconds while the rear wiper is ON, the BCM disables the rear wiper battery power supply to protect the rear wiper motor.

Cancellation Condition

1. More than 1 minute has passed since receiving the rear wiper autostop switch signal.
2. Rear wiper switch is turned OFF.
3. Rear wiper switch or rear washer switch is turned ON.

### FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

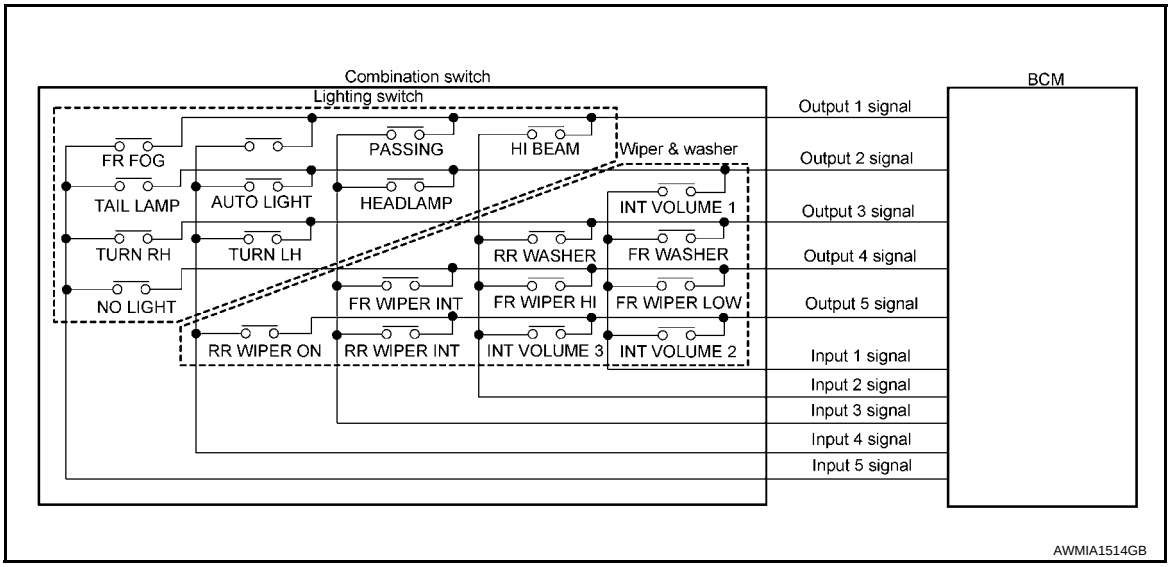
If the BCM power supply voltage drops below 9.0 volts, the BCM maintains combination switch reading status at the level it was before the BCM power supply voltage dropped below 9.0 volts. When the BCM power supply voltage returns to a level above 9.0 volts, the combination switch reading function returns to normal operation.

# COMBINATION SWITCH READING SYSTEM

## COMBINATION SWITCH READING SYSTEM : System Description

INFOID:0000000014622356

### SYSTEM DIAGRAM

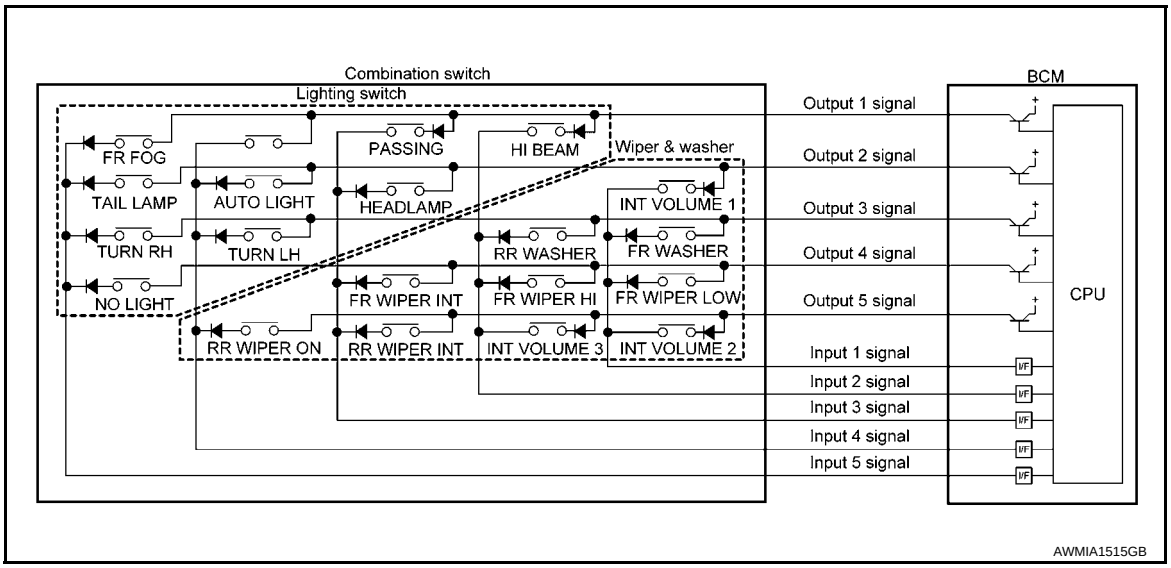



### OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM has a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5) and reads a maximum of 20 switch states.

### COMBINATION SWITCH MATRIX

Combination switch circuit




Combination switch INPUT-OUTPUT system list

| System | INPUT 1 | INPUT 2 | INPUT 3 | INPUT 4 | INPUT 5 |
|---|---|---|---|---|---|
| OUTPUT 1 | — | HI BEAM | PASSING | — | FR FOG |
| OUTPUT 2 | INT VOLUME 1 | — | HEADLAMP | AUTO LIGHT | TAIL LAMP |

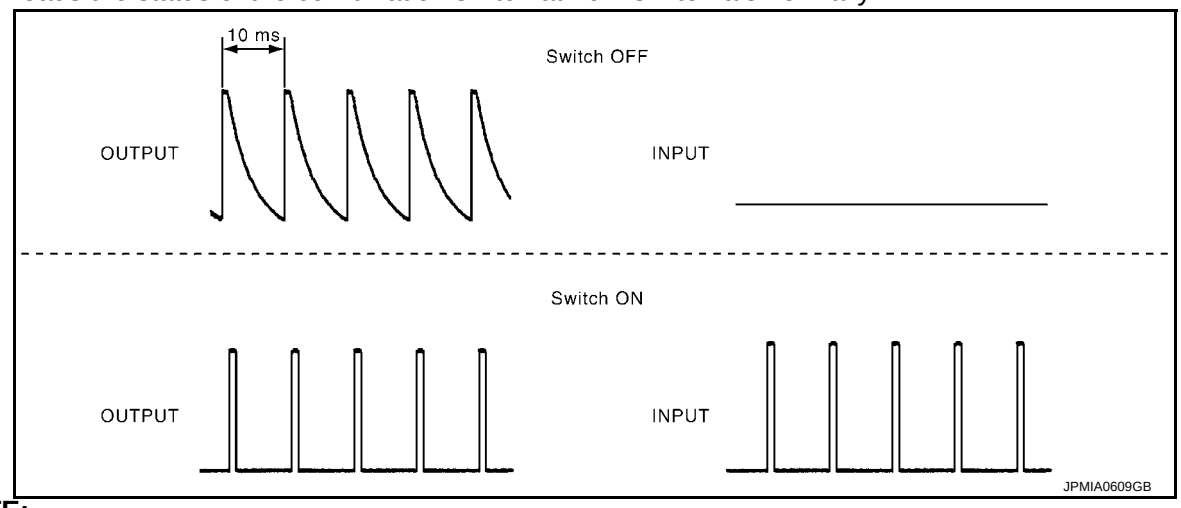
< SYSTEM DESCRIPTION >

| System | INPUT 1 | INPUT 2 | INPUT 3 | INPUT 4 | INPUT 5 |
|---|---|---|---|---|---|
| OUTPUT 3 | FR WASHER | RR WASHER | — | TURN LH | TURN RH |
| OUTPUT 4 | FR WIPER LOW | FR WIPER HI | FR WIPER INT | — | NO LIGHT |
| OUTPUT 5 | INT VOLUME 2 | INT VOLUME 3 | RR WIPER INT | RR WIPER ON | — |

## COMBINATION SWITCH READING FUNCTION

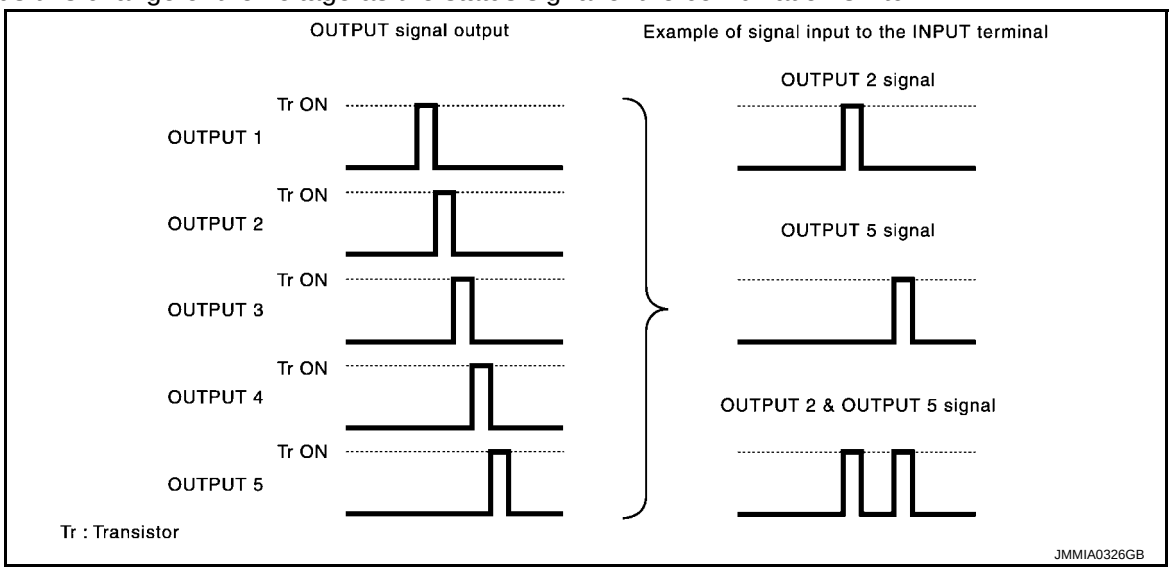
Description

- BCM reads the status of the combination switch at 10 ms intervals normally.




**NOTE:**
BCM reads the status of the combination switch at 60 ms intervals when BCM is controlled at low power consumption control mode.

- BCM operates as follows and judges the status of the combination switch.
- It operates the transistor on OUTPUT side in the following order: OUTPUT 1 → 2 → 3 → 4 → 5, and outputs voltage waveform.
- The voltage waveform of OUTPUT corresponding to the formed circuit is input into the interface on INPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

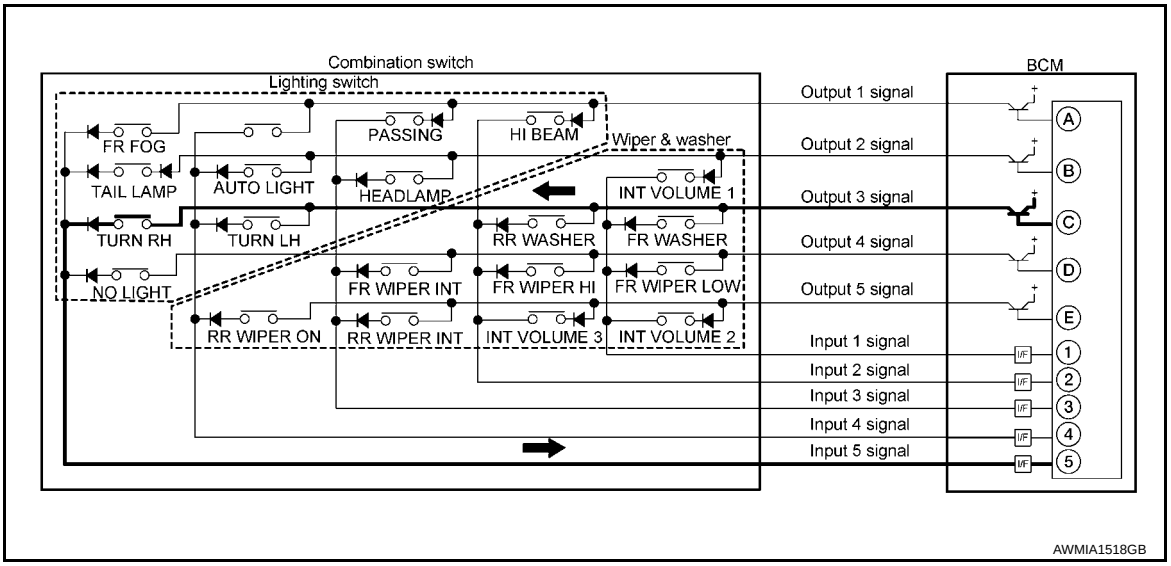



Operation Example

In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to “1 - 5” and OUTPUT 1 - 5 to “A - E”.

Example 1: When a switch (TURN RH) is turned ON

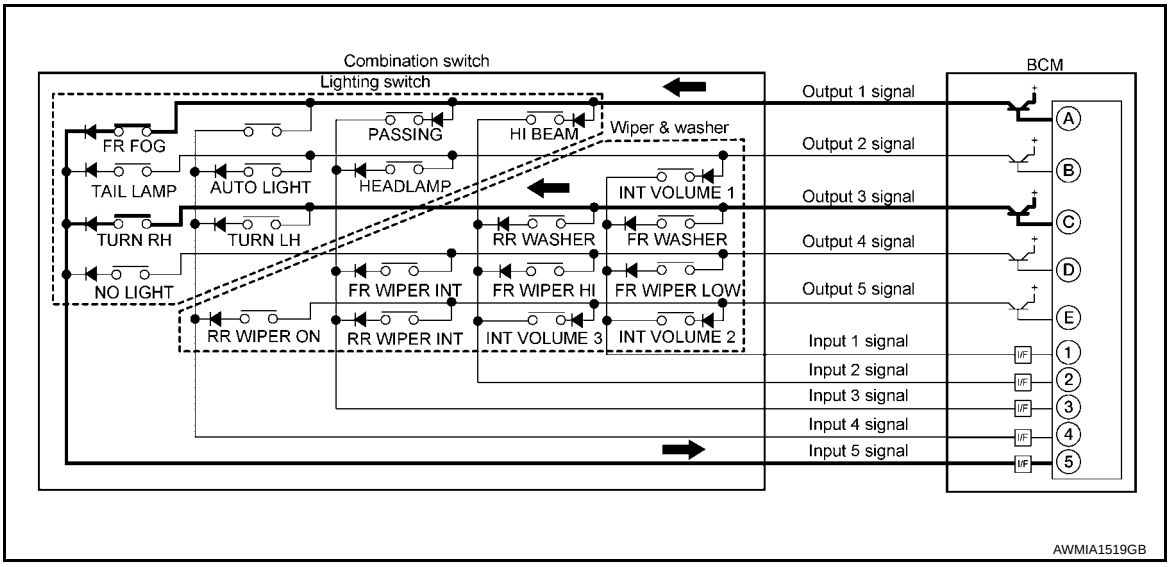
- The circuit between OUTPUT 3 and INPUT 5 is formed when the TURN RH switch is turned ON.




- BCM detects the combination switch status signal “5C” when the signal of OUTPUT 3 is input to INPUT 5.
- BCM judges that the TURN RH switch is ON when the signal “5C” is detected.

Example 2: When some switches (FR FOG, TURN RH) are turned ON

- The circuits between OUTPUT 1 and INPUT 5 and between OUTPUT 3 and INPUT 5 are formed when the FR FOG switch and TURN RH switch are turned ON.




- BCM detects the combination switch status signal “5AC” when the signals of OUTPUT 1 and OUTPUT 3 are input to INPUT 5.
- BCM judges that the FR FOG switch and TURN RH switch are ON when the signal “5AC” is detected.

## WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

BCM judges the wiper intermittent dial 1 - 5 by the status of INT VOLUME 1, 2, and 3 switches.

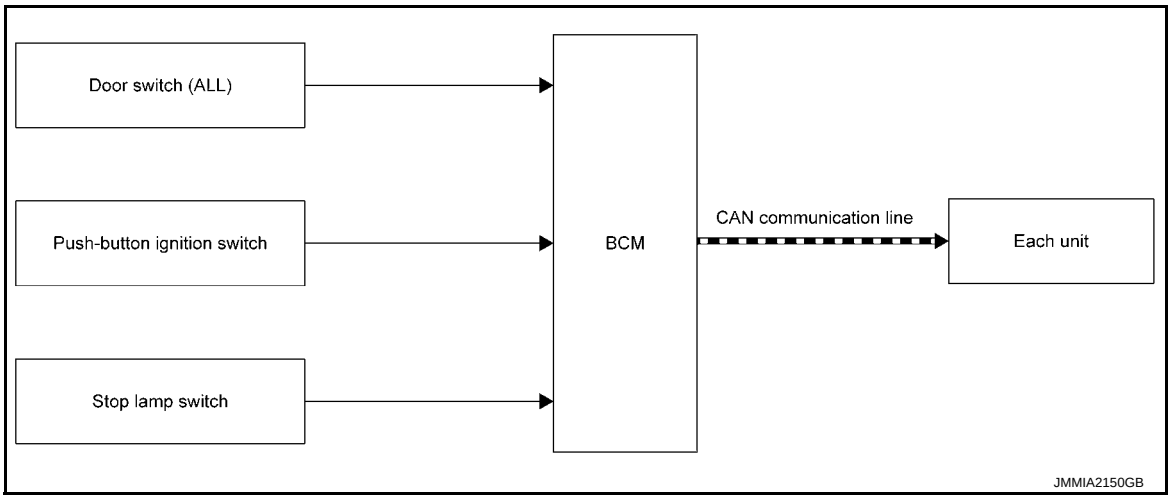
| Wiper intermittent dial position | Switch status | | |
|---|---|---|---|
| | INT VOLUME 1 | INT VOLUME 2 | INT VOLUME 3 |
| 1 | ON | ON | OFF |
| 2 | ON | OFF | OFF |
| 3 | OFF | OFF | OFF |
| 4 | OFF | OFF | ON |
| 5 | OFF | ON | ON |

# SIGNAL BUFFER SYSTEM

## SIGNAL BUFFER SYSTEM : System Description

INFOID:0000000015243488

### SYSTEM DIAGRAM




### OUTLINE

BCM performs the signal transmission function that outputs input signals to each unit.

### Signal transmission function list

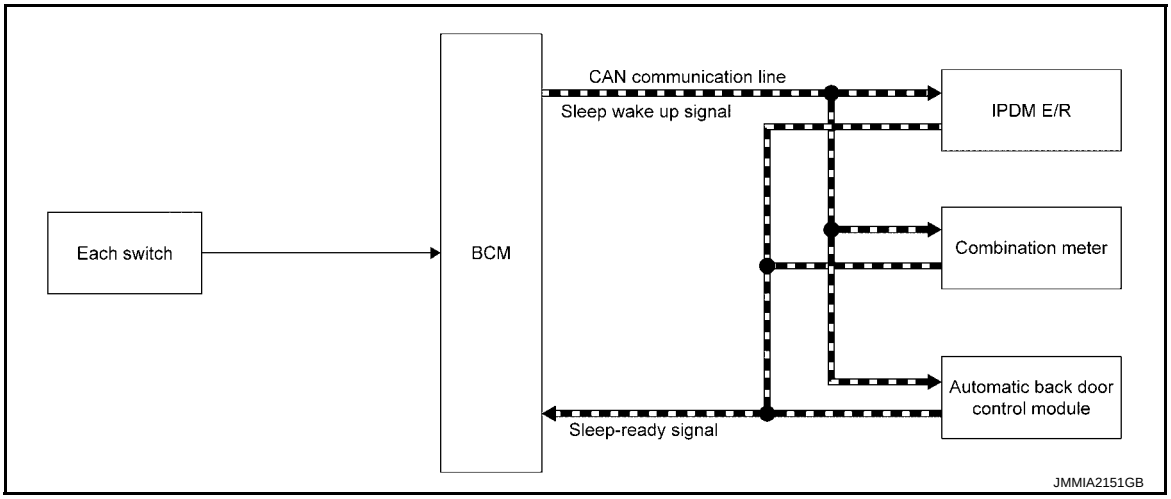
| Signal name | Input | Output | Description |
|---|---|---|---|
| Ignition switch ON signal | Push-button ignition switch | • ABS actuator and electric unit (control unit) (CAN)<br>• IPDM E/R (CAN) | Inputs the push-button ignition switch signal and transmits the ignition switch status judged by BCM via CAN communication. |
| Door switch signal | Any door switch | • Around view monitor control unit (CAN)<br>• Combination meter (CAN) | Inputs the door switch signal and transmits it via CAN communication. |
| Stop lamp switch signal | Stop lamp switch | • ABS actuator and electric unit (control unit) (CAN)<br>• Chassis control module (CAN)<br>• Hydraulic brake booster unit (CAN)<br>• Approaching vehicle sound for pedestrians (VSP) control unit (CAN)<br>• TCM (CAN)<br>• 4WD control unit (CAN) | Inputs the stop lamp switch signal and transmits it via CAN communication. |

# POWER CONSUMPTION CONTROL SYSTEM

# POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:0000000015243489

## SYSTEM DIAGRAM




## OUTLINE

- BCM incorporates a power saving control function that reduces the power consumption according to vehicle status.
- BCM switches the status (control mode) to power saving control function. It performs the sleep request for each unit (IPDM E/R, combination meter and automatic back door control module) that operates with the ignition switch OFF.

Normal mode (wake-up)
- CAN communication is normally performed
- BCM control is operating properly

CAN communication sleep mode (CAN sleep)
- CAN transmission is stopped
- Only BCM is operating

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

## LOW POWER CONSUMPTION CONTROL WITH BCM

BCM reduces the power consumption with the following operation in the low power consumption mode.
- The reading interval of the each switches changes from 10 ms interval to 60 ms interval.

### Sleep mode activation

- BCM receives the sleep-ready signal from IPDM E/R, combination meter and automatic back door control module via CAN communication.
- BCM transmits the sleep wake up signal to each unit when all of the CAN sleep conditions are fulfilled.
- Each unit stops the transmission of CAN communication with the sleep wake up signal. BCM is in CAN communication sleep mode.
- BCM is in the low power consumption mode and performs the low power consumption control when all of the BCM sleep conditions are fulfilled.

Sleep condition

| CAN sleep condition | BCM sleep condition |
|---|---|
| Receiving the sleep-ready signal (ready) from all units | • Push-button ignition switch (push switch): No change 2 seconds<br>• Warning chime: Not operation<br>• Intelligent Key warning buzzer: Not operation<br>• Stop lamp switch: OFF<br>• Turn signal indicator lamp: Not operation<br>• Exterior lamp: OFF<br>• Door lock status: No change<br>• Meter display signal: Non-transmission<br>• Door switch status: No change 2 seconds<br>• Back door opener switch status: No change 2 seconds<br>• Rear window defogger: OFF<br>• RAP system: OFF<br>• CONSULT communication status: Not communication |

## Wake-up operation

- BCM transmits sleep wake up signal (wake up) to each unit when any condition listed below is established, and then goes into normal mode from low power consumption mode.
- Each unit starts transmissions with CAN communication by receiving sleep wake up signals.

Wake-up condition

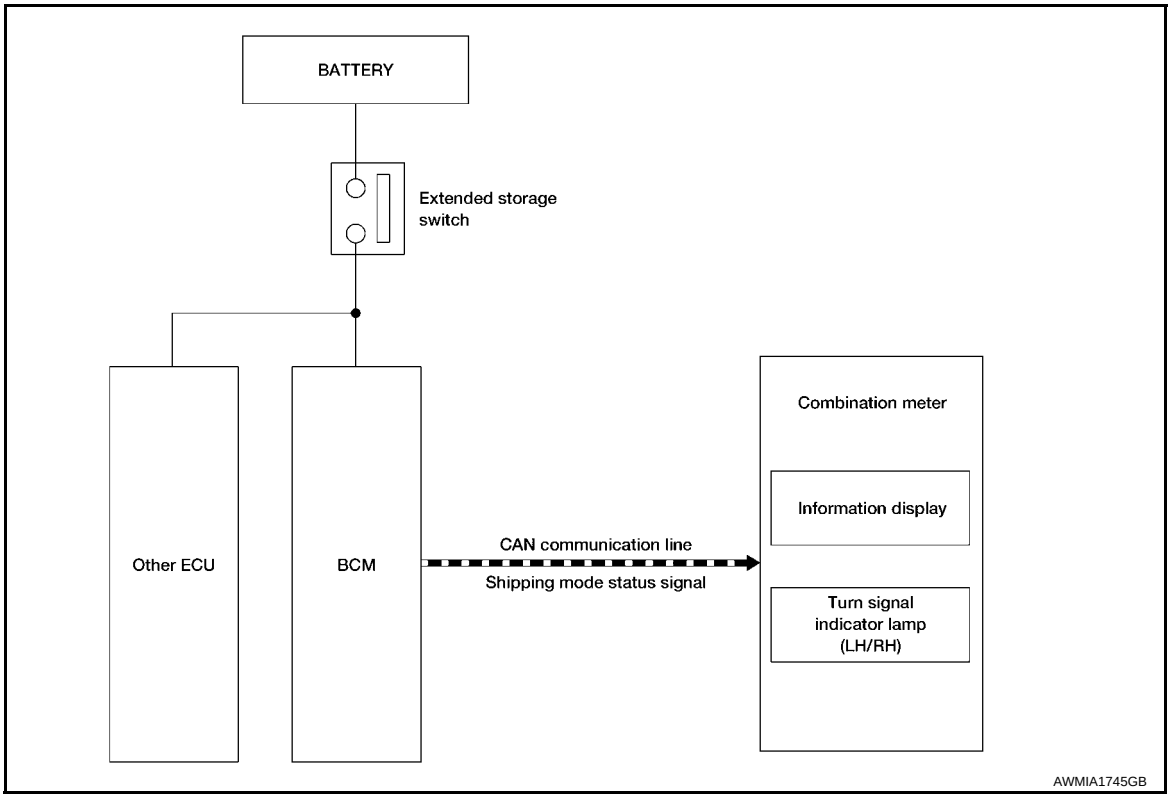
| Wake-up condition |
|---|
| • Receiving the sleep-ready signal (Not-ready) from any units<br>• Push-button ignition switch (push switch): OFF→ ON<br>• Hazard switch: OFF → ON, ON → OFF<br>• HI BEAM switch: OFF → ON, ON → OFF<br>• PASSING switch: OFF → ON, ON → OFF<br>• HEADLAMP switch: OFF → ON, ON → OFF<br>• TAIL LAMP switch: OFF → ON<br>• FR FOG switch: OFF → ON, ON → OFF<br>• Driver door switch: OFF → ON, ON → OFF<br>• Passenger door switch: OFF → ON, ON → OFF<br>• Rear RH door switch: OFF → ON, ON → OFF<br>• Rear LH door switch: OFF → ON, ON → OFF<br>• Back door switch: OFF → ON, ON → OFF<br>• Driver door request switch: OFF → ON<br>• Passenger door request switch: OFF → ON<br>• Back door opener switch: OFF → ON<br>• Back door opener request switch: OFF → ON<br>• Stop lamp switch: OFF → ON<br>• Front door lock assembly (driver side) (unlock sensor): OFF → ON, ON → OFF<br>• Remote keyless entry receiver communication: Receiving<br>• Door lock and unlock switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK |

# SHIPPING MODE CONTROL SYSTEM

# SHIPPING MODE CONTROL SYSTEM : System Description

INFOID:0000000014622359

## SYSTEM DIAGRAM




## DESCRIPTION

- BCM switches the status (shipping mode or normal mode) by itself according to the extended storage fuse switch condition, and transmits shipping mode status signal to combination meter and each unit via CAN communication.
- When shipping mode function operates, each control unit does not detect DTCs.
- BCM control functions are limited in shipping mode. Refer to BCS-72, "Description".
- The combination meter displays extended storage fuse warning message* on the information display, and turns the turn signal indicator lamp (LH/RH) ON, when BCM is in shipping mode.

*: When shipping mode function operates, “SHIPPING MODE ON PUSH STORAGE FUSE” is displayed.

# DIAGNOSIS SYSTEM (BCM)

## COMMON ITEM

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

INFOID:0000000014622360

#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

#### SYSTEM APPLICATION

BCM can perform the following functions.

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

## DOOR LOCK

### DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:0000000014622361

#### SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

## DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| REQ SW-DR [On/Off] | Indicates condition of door request switch LH. |
| REQ SW-AS [On/Off] | Indicates condition of door request switch RH. |
| REQ SW-BD/TR [On/Off] | Indicates condition of back door request switch. |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| DOOR SW-BK [On/Off] | Indicates condition of back door switch. |
| CDL LOCK SW [On/Off] | Indicates condition of lock signal from door lock and unlock switch. |
| CDL UNLOCK SW [On/Off] | Indicates condition of unlock signal from door lock and unlock switch. |
| KEY CYL LK-SW [On/Off] | Indicates condition of lock signal from door key cylinder switch. |
| KEY CYL UN-SW [On/Off] | Indicates condition of unlock signal from door key cylinder switch. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| DOOR LOCK | This test is able to check door lock operation [ALL LOCK/ALL UNLK]. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| DOOR LOCK-UNLOCK SET | On* | Automatic door locks function ON. |
| | Off | Automatic door locks function OFF. |
| AUTO UNLOCK TYPE | MODE2 | Driver door only unlocks automatically. |
| | MODE1* | All doors unlock automatically. |
| AUTO LOCK FUNCTION | MODE3 | This mode is not used. |
| | MODE2 | Doors lock automatically when shifted out of P (park). |
| | MODE1* | Doors lock automatically when vehicle speed reaches 24 km/h (15 mph). |
| | Off | — |
| AUTO UNLOCK FUNCTION | MODE3 | This mode is not used. |
| | MODE2 | Doors unlock automatically when shifted into P (park). |
| | MODE1* | Doors unlock automatically when ignition is switched from ON to OFF. |
| | Off | — |
| SIGNATURE LIGHT SETTING | On* | Signature light mode function is ON. |
| | Off | Signature light mode function if OFF. |

*: Initial setting

# REAR DEFOGGER

## REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:0000000014622362

## DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| REAR DEFOGGER | This test is able to check rear window defogger operation [Off/On]. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| SET R-DEF TIMER | MODE3 | **NOTE:**<br>Do not use this function. |
| | MODE2 | |
| | MODE1* | |

*: Initial setting

# BUZZER

## BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000014622363

### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH -SW [On/Off] | Indicates condition of push-button ignition switch. |
| VEH SPEED 1 [km/h] | Indicates vehicle speed signal received from ABS on CAN communication line. |
| TAIL LAMP SW [On/Off] | Indicates condition of combination switch. |
| FR FOG SW [On/Off] | Indicates condition of front fog lamp switch. |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| CDL LOCK SW [On/Off] | Indicates condition of lock signal from door lock and unlock switch. |

### ACTIVE TEST

| Test Item | Description |
|---|---|
| SEAT BELT WARN TEST | This test is able to check seat belt warning chime operation [On/Off]. |
| LIGHT WARN ALM | This test is able to check light warning chime operation [On/Off]. |
| REVERSE WARNING | This test is able to check reverse warning chime operation [On/Off]. |

# INT LAMP

## INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:0000000014622364

### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| REQ SW -DR [On/Off] | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | Indicates condition of door request switch RH. |
| PUSH -SW [On/Off] | Indicates condition of push-button ignition switch. |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| DOOR SW-BK [On/Off] | Indicates condition of back door switch. |
| CDL LOCK SW [On/Off] | Indicates condition of lock signal from door lock and unlock switch. |
| CDL UNLOCK SW [On/Off] | Indicates condition of unlock signal from door lock and unlock switch. |
| KEY CYL LK-SW [On/Off] | Indicates condition of lock signal from door key cylinder switch. |
| KEY CYL UN-SW [On/Off] | Indicates condition of unlock signal from door key cylinder switch. |

| Monitor Item [Unit] | Description |
|---|---|
| RKE-LOCK [On/Off] | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | Indicates condition of unlock signal from Intelligent Key. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| INT LAMP | This test is able to check interior room lamp operation [On/Off]. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| SET I/L D-UNLCK INTCON | On | Interior room lamp timer function ON. |
| | Off* | Interior room lamp timer function OFF. |
| FOG LAMP OVERRIDE | On | Fog lamp override function ON. |
| | Off* | Fog lamp override function OFF. |

*: Initial setting

# HEADLAMP

## HEADLAMP : CONSULT Function (BCM - HEADLAMP)

INFOID:0000000014622365

### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |
| ENGINE STATE [STOP/STALL/CRANK/ RUN] | Indicates engine status received from ECM on CAN communication line. |
| VEH SPEED 1 [km/h] | Indicates vehicle speed signal received from ABS on CAN communication line. |
| TURN SIGNAL R [On/Off] | Indicates condition of combination switch. |
| TURN SIGNAL L [On/Off] | |
| TAIL LAMP SW [On/Off] | |
| HI BEAM SW [On/Off] | |
| HEAD LAMP SW [On/Off] | |
| LIGHT OFF SW [On/Off] | |
| PASSING SW [On/Off] | |
| AUTO LIGHT SW [On/Off] | |
| FR FOG SW [On/Off] | |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| DOOR SW-BK [On/Off] | Indicates condition of back door switch. |
| OPTI SEN (DTCT) [V] | Indicates outside brightness voltage signal from optical sensor. |
| OPTI SEN (FILT) [V] | Indicates outside brightness voltage signal from optical sensor filtered by BCM. |

### ACTIVE TEST

| Test Item | Description |
|---|---|
| FR FOG LAMP | This test is able to check front fog lamp operation [On/Off]. |
| STOP LAMP 1 | This test is able to check rear combination lamp stop lamp operation [On/Off]. |

< SYSTEM DESCRIPTION >

| Test Item | Description |
|---|---|
| STOP LAMP 3 | This test is able to check high-mounted stop lamp operation [On/Off]. |
| DAYTIME RUNNING LIGHT | This test is able to check daytime running light operation [On/Off]. |
| ILL DIM SIGNAL | This test is able to check illumination dimmer signal [On/Off]. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| TWILIGHT ON | MODE2* | Autolamp function ON. |
| | MODE1 | Autolamp function OFF. |
| CUSTOM A/LIGHT SETTING | MODE4 | Less sensitive than normal setting (turns ON later). |
| | MODE3 | More sensitive than MODE2. |
| | MODE2 | More sensitive than normal setting (turns ON earlier). |
| | MODE1* | Normal setting. |
| ILL DELAY SET | MODE 8 | Autolamp delay timer. |
| | MODE 7 | |
| | MODE 6 | |
| | MODE 4 | |
| | MODE 5 | |
| | MODE 3 | |
| | MODE 2 | |
| | MODE 1* | |
| WIPER LINK | MODE1 | Without wiper linked auto light function |
| | MODE2 | With wiper LO and HI |
| | MODE3* | With wiper INT, LO and HI |
| | MODE4 | **NOTE:**<br>This item cannot be used |

*: Initial setting

# WIPER

## WIPER : CONSULT Function (BCM - WIPER)

INFOID:0000000014622366

### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |
| VEH SPEED 1 [km/h] | Indicates vehicle speed signal received from ABS on CAN communication line. |
| FR WIPER HI [On/Off] | Indicates condition of wiper operation of combination switch. |
| FR WIPER LOW [On/Off] | |
| FR WASHER SW [On/Off] | |
| FR WIPER INT [On/Off] | |
| FR WIPER STOP [On/Off] | Indicates front wiper auto stop signal received from IPDM E/R on CAN communication line. |
| INT VOLUME [1 – 7] | Indicates condition of intermittent wiper operation of combination switch. |
| RR WIPER ON [On/Off] | Indicates condition of rear wiper operation of combination switch. |
| RR WIPER INT [On/Off] | |
| RR WASHER SW [On/Off] | |
| RR WIPER STOP [On/Off] | Indicates rear wiper motor auto stop input from rear wiper motor. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| FR WIPER | This test is able to check front wiper operation [Hi/Lo/INT/Off]. |
| RR WIPER | This test is able to check rear wiper operation [On/Off]. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| WIPER SPEED SETTING | On | Front wiper intermittent time linked with vehicle speed and wiper intermittent dial position. |
| | Off* | Front wiper intermittent time is not linked with vehicle speed and wiper intermittent dial position. |
| FR RR DRIP | On* | Front wiper drop wipe and rear wiper drop wipe operation ON |
| | Off | Front wiper drop wipe and rear wiper drop wipe operation OFF |
| REAR WIPER LINK WITH REVERSE SETTING | On* | Rear wiper operation linked with reverse ON |
| | Off | Rear wiper operation linked with reverse OFF |

*: Initial Setting

# FLASHER

## FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000014622367

## DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| REQ SW -DR [On/Off] | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | Indicates condition of door request switch RH. |
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |
| TURN SIGNAL R [On/Off] | Indicates condition of turn signal function of combination switch. |
| TURN SIGNAL L [On/Off] | |
| HAZARD SW [On/Off] | Indicates condition of hazard switch. |
| RKE-LOCK [On/Off] | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | Indicates condition of unlock signal from Intelligent Key. |
| RKE-PANIC [On/Off] | Indicates condition of panic alarm signal from Intelligent Key. |

## WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| 3-TIME FLASHER SETTING | On* | 3-time flasher setting ON. |
| | Off | 3-time flasher setting OFF. |

*: Initial setting

# INTELLIGENT KEY

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

INFOID:0000000014622368

### SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

### DATA MONITOR

| Monitor Item [Unit] | Main | Description |
|---|---|---|
| REQ SW -DR [On/Off] | × | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | × | Indicates condition of door request switch RH. |
| REQ SW -BD/TR [On/Off] | × | Indicates condition of back door request switch. |
| PUSH SW [On/Off] | | Indicates condition of push-button ignition switch. |
| BRAKE SW 1 [On/Off] | × | Indicates condition of brake pedal position switch. |
| BRAKE SW 2 [On/Off] | | Indicates condition of stop lamp switch. |
| DETE/CANCL SW [On/Off] | × | Indicates condition of park position switch. |
| PUSH SW -IPDM [On/Off] | | Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line. |
| IGN RLY1 -F/B [On/Off] | | Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line. |
| NEUTRAL SW -IPDM [On/Off] | | Indicates condition of transmission range switch received from IPDM E/R on CAN communication line. |
| SFT PN -IPDM [On/Off] | | Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line. |
| STARTER RELAY -IPDM [On/Off] | | Indicates condition of starter relay received from IPDM E/R on CAN communication line. |
| ENGINE STATE [STOP/START/CRANK/RUN] | × | Indicates condition of engine state from ECM on CAN communication line. |
| ST/INH RELAY - IPDM [On/Off] | | Indicates condition of starter relay and starter control relay status signal from IPDM E/R. |
| REVERSE SIGNAL -IPDM [On/Off] | | Indicates condition of transmission range switch received from IPDM E/R on CAN communication line. |
| CRANKING PERMIT -ECM [PERMIT] | | Indicates condition of engine start possibility from ECM on CAN communication line. |
| STARTER CUT RELAY -ECM [On/Off] | | Indicates condition of starter cut relay from ECM on CAN communication line. |
| VEH SPEED 1 [mph/km/h] | × | Indicates condition of vehicle speed signal received from ABS on CAN communication line. |
| VEH SPEED 2 [mph/km/h] | × | Indicates condition of vehicle speed signal received from combination meter on CAN communication line. |
| IGN REQ -IPDM [On/Off] | | Indicates condition of ignition request from IPDM E/R on CAN communication line. |
| STARTER REQ -IPDM [On/Off] | | Indicates condition of starter request received from IPDM E/R on CAN communication line. |
| DOOR STAT -DR [LOCK/READY/UNLK] | × | Indicates condition of driver side door status. |
| DOOR STAT -AS [LOCK/READY/UNLK] | × | Indicates condition of passenger side door status. |
| DOOR STAT -RR [LOCK/READY/UNLK] | × | Indicates condition of rear right side door status. |
| DOOR STAT -RL [LOCK/READY/UNLK] | × | Indicates condition of rear left side door status. |
| ID OK FLAG [Set/Reset] | | Indicates condition of Intelligent Key ID. |
| PRMT ENG STRT [Set/Reset] | | Indicates condition of engine start possibility. |
| I-KEY OK FLAG [Key ON/Key OFF] | × | Indicates condition of Intelligent Key OK flag. |
| PRBT ENG STRT [Set/Reset] | | Indicates condition of engine start prohibit. |
| ID AUTHENT CANCEL TIMER [STOP] | | Indicates condition of Intelligent Key ID authentication. |
| CRNK PRBT TMR [On/Off] | | Indicates condition of crank prohibit timer. |
| AUT CRANK TMR [On/Off] | | Indicates condition of automatic engine crank timer from Intelligent Key. |
| CRNK PRBT TME [sec] | | Indicates condition of engine crank prohibit time. |
| AUT CRANK TMR [sec] | | Indicates condition of automatic engine crank time from Intelligent Key. |
| CRANKING TME [sec] | | Indicates condition of engine cranking time from Intelligent Key. |

| Monitor Item [Unit] | Main | Description |
|---|---|---|
| RKE OPE COUN1 [0-19] | × | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE-LOCK [On/Off] | | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | | Indicates condition of unlock signal from Intelligent Key. |
| RKE-PANIC [On/Off] | | Indicates condition of panic signal from Intelligent Key. |
| RKE-MODE CHG [On/Off] | | Indicates condition of mode change signal from Intelligent Key. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| OUTSIDE BUZZER | This test is able to check Intelligent Key warning buzzer operation [On/Off]. |
| INSIDE BUZZER | This test is able to check combination meter warning chime operation [Buzzer 1/Buzzer 2/Buzzer 3/Off]. |
| INDICATOR | This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off]. |
| ENGINE SW ILLUMI | This test is able to check push-button ignition switch START indicator operation [On/Off]. |
| FLASHER | This test is able to check flasher operation [LH/RH/Off]. |
| HORN | This test is able to check horn operation [On]. |
| ENGINE START REQUEST | This test is able to check that BCM is sending starter request signal to IPDM E/R via CAN communication [MODE 1/MODE 2/MODE 3/Off]. |
| STARTER CUT RELAY | This test is able to check starter control relay operation [On/Off]. |
| AUTO ACC 2 | This test is able to check that BCM is sending ACC power to audio unit or AV control unit [On/Off]. |
| AUTO ACC 1 | This test is able to check that BCM is controlling accessory relay-1 [Off/MODE 1/MODE 2/MODE 3]. |
| TRUNK LUGGAGE LAMP TEST | This test is able to check luggage room lamp test operation [On/Off]. |

## WORK SUPPORT

| Support Item | Setting | | Description |
|---|---|---|---|
| INSIDE ANT DIAGNOSIS | — | | This function allows inside key antenna self-diagnosis. |
| LOCK/UNLOCK BY I-KEY | On* | | Door lock/unlock by I-Key ON. |
| | Off | | Door lock/unlock by I-Key OFF. |
| ENGINE START BY I-KEY | On* | | Engine start with I-Key enabled. |
| | Off | | Engine start with I-Key disabled. |
| AUTO LOCK SET | Mode 1 | OFF | Auto door lock operation time can be changed in this mode. |
| | Mode 2 | 30 sec. | |
| | Mode 3* | 1 min. | |
| | Mode 4 | 2 min. | |
| | Mode 5 | 3 min. | |
| | Mode 6 | 4 min. | |
| | Mode 7 | 5 min. | |
| IGN/ACC BATTERY SAVER | On* | | Battery saver system ON. |
| | Off | | Battery saver system OFF. |
| ANSWER BACK | On* | | Buzzer or horn reminder for door request switch and I-Key ON. |
| | Off | | Buzzer or horn reminder for door request switch and I-Key OFF. |

| Support Item | Setting | Description |
|---|---|---|
| ANSWER BACK I-KEY LOCK UNLOCK | BUZZER | I-Key buzzer reminder for door request switch. |
| | HORN | Horn sound for door request switch. |
| | Off | Reminder for door request switch OFF. |
| | INVALID | Not used. |
| ANSWER BACK KEYLESS LOCK UNLOCK | On* | Horn and hazard lamp reminder for I-Key ON. |
| | Off | Hazard lamp reminder for I-Key ON. |

## COMB SW

### COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000014622369

#### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| FR WIPER HI [On/Off] | Indicates condition of wiper operation of combination switch. |
| FR WIPER LOW [On/Off] | |
| FR WASHER SW [On/Off] | |
| FR WIPER INT [On/Off] | |
| INT VOLUME [1 - 7] | Indicates condition of intermittent wiper operation of combination switch. |
| RR WIPER ON [On/Off] | Indicates condition of rear wiper operation of combination switch. |
| RR WIPER INT [On/Off] | |
| RR WASHER SW [On/Off] | |
| TURN SIGNAL R [On/Off] | Indicates condition of right turn signal operation of combination switch. |
| TURN SIGNAL L [On/Off] | Indicates condition of left turn signal operation of combination switch. |
| TAIL LAMP SW [On/Off] | Indicates condition of tail lamp switch operation of combination switch. |
| HI BEAM SW [On/Off] | Indicates condition of Hi beam switch operation of combination switch. |
| HEAD LAMP SW [On/Off] | Indicates condition of head lamp switch operation of combination switch. |
| LIGHT OFF SW [On/Off] | Indicates condition of no light switch operation of combination switch. |
| PASSING SW [On/Off] | Indicates condition of passing switch operation of combination switch. |
| AUTO LIGHT SW [On/Off] | Indicates condition of auto light switch operation of combination switch. |
| FR FOG SW [On/Off] | Indicates condition of front fog lamp switch operation of combination switch. |

## BCM

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

INFOID:0000000014622370

#### ECU IDENTIFICATION

The BCM part number is displayed.

#### SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

#### WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| RESET SETTING VALUE | Reset | Returns BCM to initial value in factory shipment. |
| | Cancel | Cancels the reset function. |
| AUTO ACC FNCTN (AUDIO/ NAVI SET AFTER IGN OFF) | On | Switches operation of audio system from continuous to non-continuous after ignition is OFF. |
| | Off | |

#### CONFIGURATION

Refer to BCS-59, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-23, "CAN Diagnostic Support Monitor".

## IMMU

### IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000014622371

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |

ACTIVE TEST

| Test Item | Description |
|---|---|
| THEFT IND | This test is able to check security indicator operation [On/Off]. |

## BATTERY SAVER

### BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000014622372

DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| REQ SW -DR [On/Off] | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | Indicates condition of door request switch RH. |
| PUSH SW [On/Off] | Indicates condition push-button ignition switch. |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| DOOR SW-BK [On/Off] | Indicates condition of back door switch. |
| CDL LOCK SW [On/Off] | Indicates condition of lock signal from door lock and unlock switch. |
| CDL UNLOCK SW [On/Off] | Indicates condition of unlock signal from door lock and unlock switch. |
| KEY CYL LK-SW [On/Off] | Indicates condition of lock signal from door key cylinder switch. |
| KEY CYL UN-SW [On/Off] | Indicates condition of unlock signal from door key cylinder switch. |
| RKE-LOCK [On/Off] | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | Indicates condition of unlock signal from Intelligent Key. |

ACTIVE TEST

| Test item | Description |
|---|---|
| BATTERY SAVER | This test is able to check battery saver operation [On/Off]. |

## TRUNK

### TRUNK : CONSULT Function (BCM - TRUNK)

INFOID:0000000014622373

DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |
| STARTER CUT RELAY [On/Off] | Indicates condition of starter cut relay. |
| DETECTION SENSOR (BK) [On/Off] | Indicates condition of hands free sensor. |
| VEH SPEED 1 [km/h] | Indicates vehicle speed signal received from ABS on CAN communication line. |
| BACK DOOR OPENER SW [On/Off] | Indicates condition of back door opener switch. |

# THEFT ALM

## THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:0000000014622374

### DATA MONITOR

| Monitored Item | Description |
|---|---|
| REQ SW -DR [On/Off] | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | Indicates condition of door request switch RH. |
| REQ SW-BD/TR [On/Off] | Indicates condition of back door request switch. |
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| DOOR SW-BK [On/Off] | Indicates condition of back door switch. |
| CDL LOCK SW [On/Off] | Indicates condition of lock signal from door lock and unlock switch. |
| CDL UNLOCK SW [On/Off] | Indicates condition of unlock signal from door lock and unlock switch. |
| KEY CYL LK-SW [On/Off] | Indicates condition of lock signal from door key cylinder switch. |
| KEY CYL UN-SW [On/Off] | Indicates condition of unlock signal from door key cylinder switch. |
| RKE-LOCK [On/Off] | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | Indicates condition of unlock signal from Intelligent Key. |

### ACTIVE TEST

| Test Item | Description |
|---|---|
| VEHICLE SECURITY HORN | This test is able to check vehicle security horn operation [On]. |
| HEADLAMP(HI) | This test is able to check vehicle security lamp operation [On]. |

### WORK SUPPORT

| Support Item | Setting | Description |
|---|---|---|
| SECURITY ALARM SET | On | Security alarm ON. |
| | Off | Security alarm OFF. |

# RETAINED PWR

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

INFOID:0000000014622375

### DATA MONITOR

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

## SIGNAL BUFFER

### SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:0000000014622376

#### DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| PUSH SW [On/Off] | Indicates condition of the push-button ignition switch. |

#### ACTIVE TEST

| Test Item | Description |
|---|---|
| BRAKE SW | This test is able to check stop lamp switch operation [On/Off]. |

# ECU DIAGNOSIS INFORMATION

## BCM

### Reference Value

INFOID:0000000014622378

**NOTE:**
The Signal Tech II Tool [– (J-50190)] can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS sensor IDs
- Display tire pressure reported by the TPMS sensor
- Read TPMS DTCs
- Register TPMS sensor IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength

VALUES ON THE DIAGNOSIS TOOL

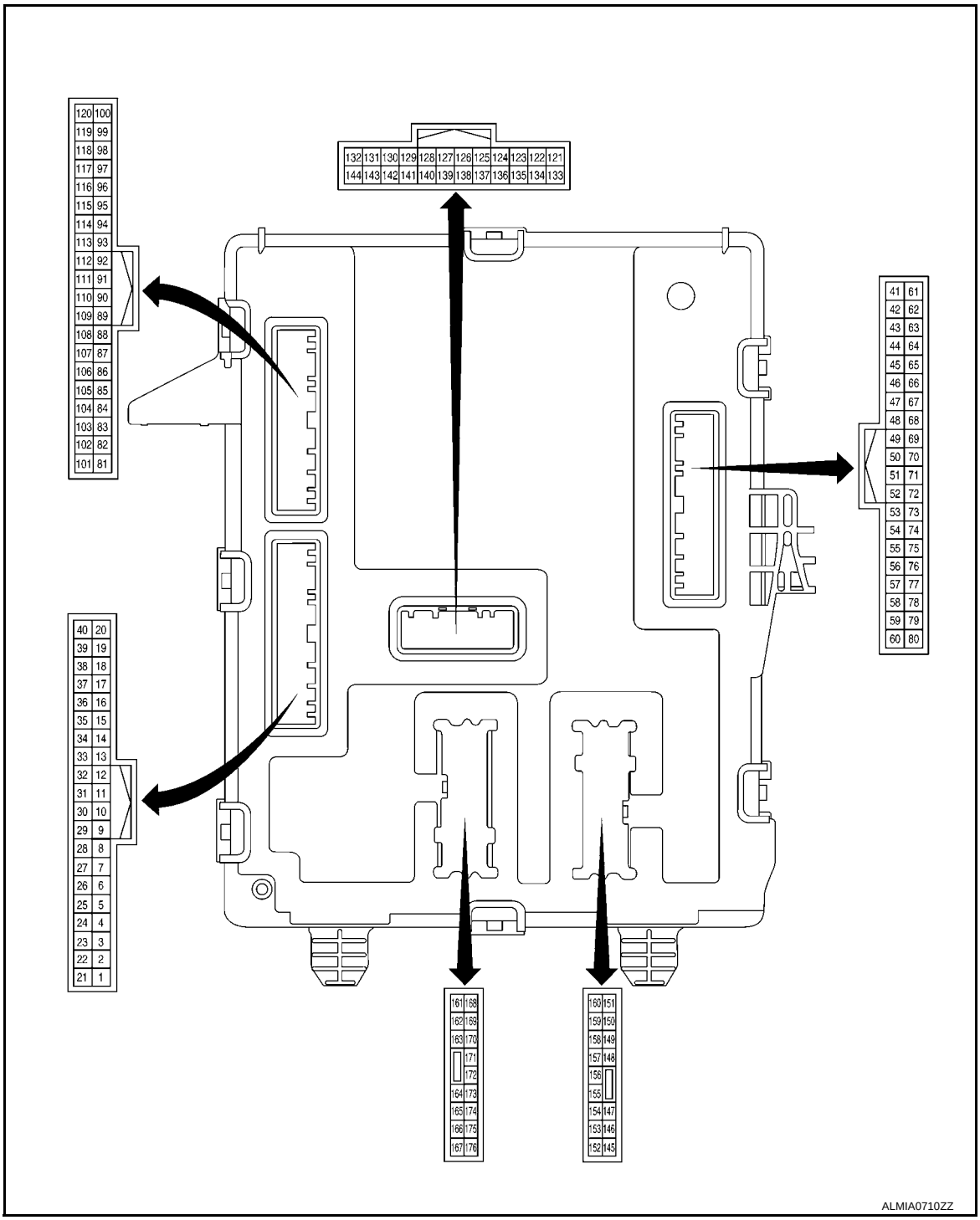
| Monitor Item | Condition | Value/Status |
|---|---|---|
| AUT CRANK TMR | When the remote engine start timer is OFF. | Off |
| | When the remote engine start timer is ON. | On |
| AUT CRANK TMR | Remote engine start timer duration. | sec |
| AUTO LIGHT SW | Lighting switch OFF | Off |
| | Lighting switch AUTO | On |
| BACK DOOR OPENER SW | Back door opener switch OFF | Off |
| | Back door opener switch pressed | On |
| BRAKE SW 1 | Brake pedal released | On |
| | Brake pedal depressed | Off |
| BRAKE SW 2 | Brake pedal released | Off |
| | Brake pedal depressed | On |
| BUZZER | Buzzer in combination meter OFF | Off |
| | Buzzer in combination meter ON | On |
| CDL LOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the LOCK side | On |
| CDL UNLOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the UNLOCK side | On |
| CRANKING PERMIT - ECM | When engine start is permitted | PERMIT |
| CRANKING TME | Engine start timer duration. | sec |
| CRNK PRBT TME | Engine start prohibit timer duration. | sec |
| CRNK PRBT TMR | When the engine start prohibit timer is OFF. | Off |
| | When the engine start prohibit timer is ON. | On |
| DETE/CANCL SW | When selector lever is in P position | Off |
| | When selector lever is in any position other than P | On |
| DETECTION SENSOR (BK) | Hands free sensor is not detected. | Off |
| | Hands free sensor is detected. | On |
| DOOR STAT-AS | Passenger door LOCK status | LOCK |
| | Passenger door UNLOCK status | UNLK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |

| Monitor Item | Condition | Value/Status |
|---|---|---|
| DOOR STAT-DR | Driver door LOCK status | LOCK |
| | Driver door UNLOCK status | UNLK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |
| DOOR STAT-RL | Rear left door LOCK status | LOCK |
| | Rear left door UNLOCK status | UNLK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |
| DOOR STAT-RR | Rear right door LOCK status | LOCK |
| | Rear right door UNLOCK status | UNLK |
| | Wait with selective UNLOCK operation (5 seconds) | READY |
| DOOR SW-AS | Front door RH closed | Off |
| | Front door RH opened | On |
| DOOR SW-BK | Back door closed | Off |
| | Back door opened | On |
| DOOR SW-DR | Front door LH closed | Off |
| | Front door LH opened | On |
| DOOR SW-RL | Rear door LH closed | Off |
| | Rear door LH opened | On |
| DOOR SW-RR | Rear door RH closed | Off |
| | Rear door RH opened | On |
| ENGINE STATE | Engine stopped | STOP |
| | While the engine stalls | STALL |
| | At engine cranking | CRANK |
| | Engine running | RUN |
| FAN ON SIG | Blower motor fan switch OFF | Off |
| | Blower motor fan switch ON | On |
| FR FOG SW | Front fog lamp switch OFF | Off |
| | Front fog lamp switch ON | On |
| FR WASHER SW | Front washer switch OFF | Off |
| | Front washer switch ON | On |
| FR WIPER LOW | Front wiper switch OFF | Off |
| | Front wiper switch LO | On |
| FR WIPER HI | Front wiper switch OFF | Off |
| | Front wiper switch HI | On |
| FR WIPER INT | Front wiper switch OFF | Off |
| | Front wiper switch INT | On |
| FR WIPER STOP | Any position other than front wiper stop position | Off |
| | Front wiper stop position | On |
| HAZARD SW | When hazard switch is not pressed | Off |
| | When hazard switch is pressed | On |
| HEAD LAMP SW | Headlamp switch OFF | Off |
| | Headlamp switch ON | On |
| HI BEAM SW | High beam switch OFF | Off |
| | High beam switch HI | On |

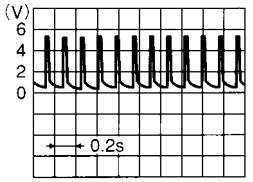
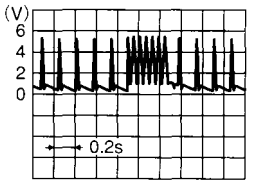
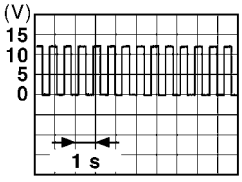
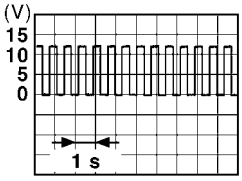
| Monitor Item | Condition | Value/Status |
|---|---|---|
| ID OK FLAG | Ignition switch ON | Reset |
| | Ignition switch OFF | Set |
| IGN REQ -IPDM | Ignition switch OFF | Off |
| | Ignition switch ON | On |
| IGN RLY1 F/B | Ignition switch OFF | Off |
| | Ignition switch ON | On |
| INT VOLUME | Wiper intermittent dial is in a dial position 1 - 7 | 1 - 7 |
| I-KEY OK FLAG | I-Key OFF | Key OFF |
| | I-Key ON | Key ON |
| KEY CYL LK-SW | Door key cylinder LOCK position | Off |
| | Door key cylinder other than LOCK position | On |
| KEY CYL UN-SW | Door key cylinder UNLOCK position | Off |
| | Door key cylinder other than UNLOCK position | On |
| LIGHT OFF SW | Headlamp switch ON | Off |
| | Headlamp switch OFF | On |
| NEUTRAL SW-IPDM | Selector lever N (Neutral) position | Off |
| | Selector lever any position except N (Neutral) | On |
| OPTI SEN (DTCT) | Bright outside of the vehicle | Close to 5V |
| | Dark outside of the vehicle | Close to 0V |
| OPTI SEN (FILT) | Bright outside of the vehicle | Close to 5V |
| | Dark outside of the vehicle | Close to 0V |
| PASSING SW | Other than lighting switch PASS | Off |
| | Lighting switch PASS | On |
| PRBT ENG STRT | When the engine start is prohibited | Reset |
| | When the engine start is permitted | Set |
| PRMT ENG STRT | When the engine start is prohibited | Reset |
| | When the engine start is permitted | Set |
| PUSH SW | Return ignition switch to LOCK position | Off |
| | Press ignition switch | On |
| PUSH SW-IPDM | When engine switch (push switch) is not pressed | Off |
| | When engine switch (push switch) is pressed | On |
| REQ SW-AS | When passenger door request switch is not pressed | Off |
| | When passenger door request switch is pressed | On |
| REQ SW-BD/TR | When back door request switch is not pressed | Off |
| | When back door request switch is pressed | On |
| REQ SW-DR | When driver door request switch is not pressed | Off |
| | When driver door request switch is pressed | On |
| REVERSE SIGNAL - IPDM | Selector lever R (Reverse) position | Off |
| | Selector lever any position except R (Reverse) | On |
| RKE-LOCK | When LOCK button of Intelligent Key is not pressed | Off |
| | When LOCK button of Intelligent Key is pressed | On |
| RKE-MODE CHG | When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously | Off |
| | When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously | On |

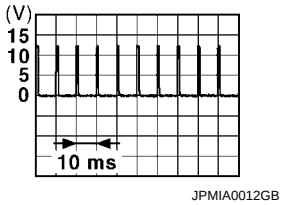
| Monitor Item | Condition | Value/Status |
|---|---|---|
| RKE OPE COUN1 | Operation frequency of Intelligent Key | 0-19 |
| RKE-PANIC | When PANIC button of Intelligent Key is not pressed | Off |
| | When PANIC button of Intelligent Key is pressed | On |
| RKE-UNLOCK | When UNLOCK button of Intelligent Key is not pressed | Off |
| | When UNLOCK button of Intelligent Key is pressed | On |
| RR WASHER SW | Rear washer switch OFF | Off |
| | Rear washer switch ON | On |
| RR WIPER INT | Rear wiper switch OFF | Off |
| | Rear wiper switch INT | On |
| RR WIPER ON | Rear wiper switch OFF | Off |
| | Rear wiper switch ON | On |
| RR WIPER STOP | Any position other than rear wiper stop position | Off |
| | Rear wiper stop position | On |
| SFT PN -IPDM | When selector lever is in any position other than P or N | Off |
| | When selector lever is in P or N position | On |
| STARTER CUT RELAY | Other than engine cranking | Off |
| | At engine cranking | On |
| STARTER CUT RELAY - ECM | Starter cut relay OFF | Off |
| | Starter cut relay ON | On |
| STARTER RELAY -IPDM | Starter relay OFF | Off |
| | Starter relay ON | On |
| STARTER REQ -IPDM | Starter OFF | Off |
| | Starter ON | On |
| ST/INH RELAY - IPDM | Starter and starter control relay OFF | Off |
| | Starter and starter control relay ON | On |
| TAIL LAMP SW | Lighting switch OFF | Off |
| | Lighting switch ON | On |
| TURN SIGNAL L | Turn signal switch OFF | Off |
| | Turn signal switch LH | On |
| TURN SIGNAL R | Turn signal switch OFF | Off |
| | Turn signal switch RH | On |
| VEH SPEED 1 | While driving, equivalent to speedometer reading | mph, km/h |
| VEH SPEED 2 | While driving, equivalent to speedometer reading | mph, km/h |

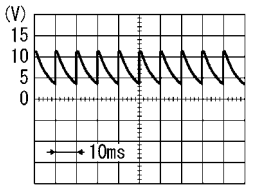
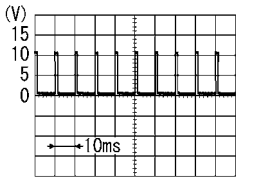
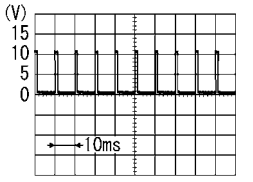
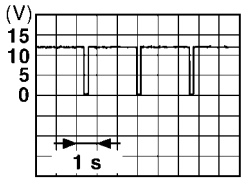
TERMINAL LAYOUT

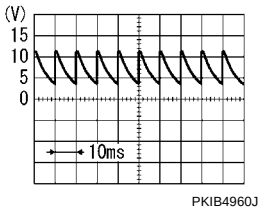
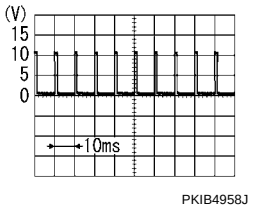
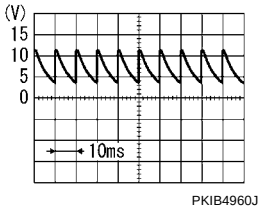
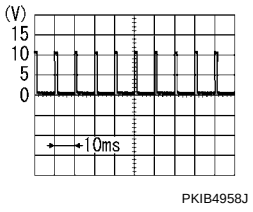
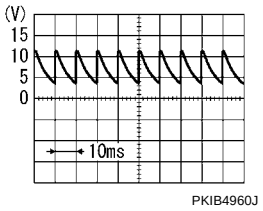
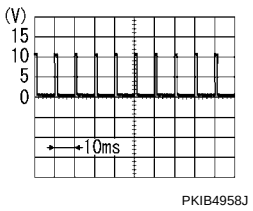


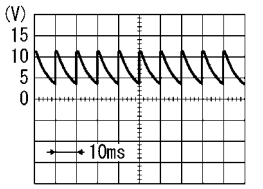
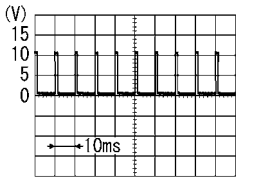
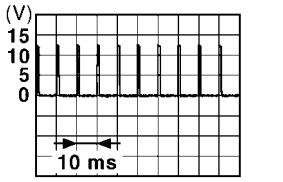
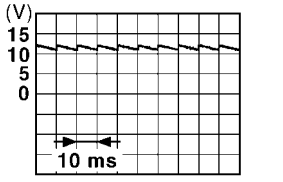

PHYSICAL VALUES

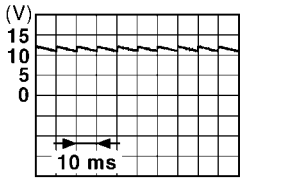
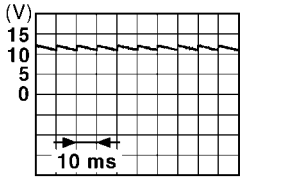
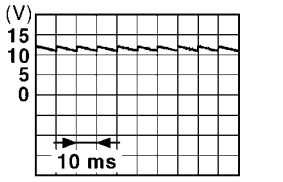
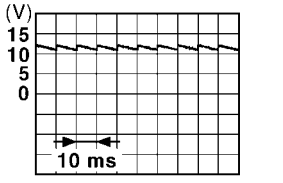
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 1 (L) | Ground | Remote keyless entry receiver signal | Input/ Output | Push-button ignition switch ON | Standby state |  OCC3881D |
| | | | | | When receiving the signal from the transmitter |  OCC3880D |
| 2 (LA/G) | Ground | Door mirror LH turn signal lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch LH |  PKID0926E<br>6.5 V |
| 3 (LA/Y) | Ground | Door mirror RH turn signal lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch RH |  PKID0926E<br>6.5 V |
| 4 (P) | Ground | Room lamp relay control | Output | Push-button ignition switch OFF | Interior room lamp battery saver operation timed out | Battery voltage |
| | | | | | Any time prior to interior room lamp battery saver operation timed out | 0V |
| 5 (R) | Ground | CAN low | Input/ Output | — | | — |
| 6 (L) | Ground | CAN high | Input/ Output | — | | — |
| 8 (L) | Ground | CAN high | Input/ Output | — | | — |

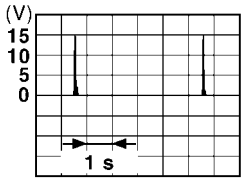
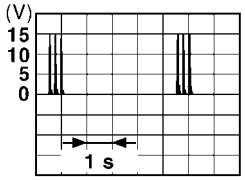
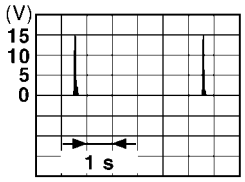
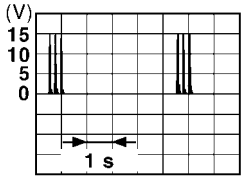
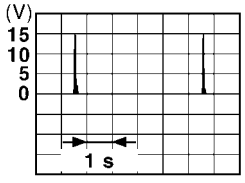
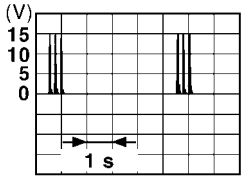
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 9 (R) | Ground | CAN low | Input/ Output | — | | — |
| 10 (BG) | Ground | Main power window and door lock/unlock switch lock signal | Input | Main power window and door lock/unlock switch (door lock/unlock switch) | Lock | Battery voltage |
| | | | | | Unlock | 0V |
| 11 (Y) | Ground | Hazard switch | Input | Hazard switch | Pressed | 0 V |
| | | | | | Released | <br>JPMIA0012GB<br>1.1V |
| 12 (W) | Ground | Auto light power supply 5V | Output | Push-button ignition switch | OFF | 0V |
| | | | | | ON | 5V |
| 17 (L) | Ground | CVT shift selector park position switch power | Output | Selector lever | P position | 0V |
| | | | | | Except P position | Battery voltage |
| 19 (LG) | Ground | Auto light signal | Input | Push-button ignition switch ON | Outside of vehicle is bright | Close to 5V |
| | | | | | Outside of vehicle is dark | Close to 0V |
| 23 (G) | Ground | Power window relay control | Output | Push-button ignition switch | OFF | Battery voltage |
| | | | | | ON | 0V |
| 24 (LA/R) | Ground | Rear window defogger relay control | Output | Rear window defogger | Not activated | Battery voltage |
| | | | | | Activated | 0V |
| 25 (BR) | Ground | Accessory relay-1 control | Output | Push-button ignition switch | OFF | Battery voltage |
| | | | | | ON | 0V |
| 27 (Y) | Ground | Ignition relay-2 control | Output | Push-button ignition switch | OFF | Battery voltage |
| | | | | | ON | 0V |
| 28 (LA/W) | Ground | Front blower motor relay control | Output | Push-button ignition switch | OFF | Battery voltage |
| | | | | | ON | 0V |
| 30 (V) | Ground | Auto light reference ground | Output | Push-button ignition switch | ON | 0V |

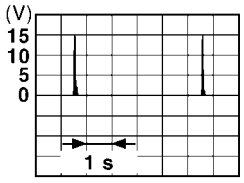
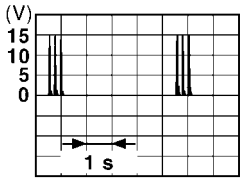
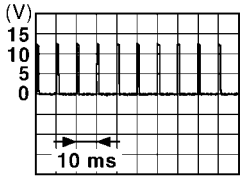
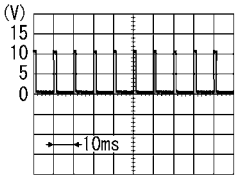
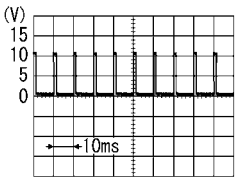
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| | | Signal name | Input/ Output | | | |
| (+) | (-) | | | | | |
| 33 (LG) | Ground | Combination switch output 5 | Output | Combination switch (Wiper intermittent dial 1) | OFF |  PKIB4960J<br>7.0 – 8.0V |
| | | | | | INT VOLUME 2 |  PKIB4958J<br>1.2V |
| | | | | | INT VOLUME 3 | |
| | | | | | RR WIPER INT | |
| | | | | | RR WIPER ON | |
| 34 (Y) | Ground | Combination switch input 5 | Input | Combination switch (Wiper intermittent dial 1) | OFF | 0V |
| | | | | | FR FOG |  PKIB4958J<br>1.0V |
| | | | | | TAIL LAMP | |
| | | | | | TURN RH | |
| | | | | | NO LIGHT | |
| 35 (BG) | Ground | Security indicator | Output | Security indicator | ON | 0V |
| | | | | | Blinking |  JPMIA0014GB<br>11.3V |
| | | | | | OFF | Battery voltage |

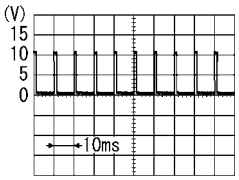
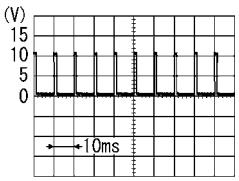
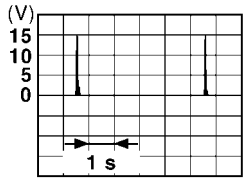
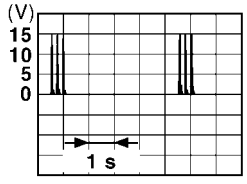
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 36 (G) | Ground | Combination switch output 3 | Output | Combination switch (Wiper intermittent dial 1) | OFF |  PKIB4960J 7.0 – 8.0V |
| | | | | | FR WASHER<br>RR WASHER<br>TURN LH<br>TURN RH |  PKIB4958J 1.2V |
| 37 (GR) | Ground | Combination switch output 4 | Output | Combination switch (Wiper intermittent dial 1) | OFF |  PKIB4960J 7.0 – 8.0V |
| | | | | | FR WIPER LOW<br>FR WIPER HI<br>FR WIPER INT<br>NO LIGHT |  PKIB4958J 1.2V |
| 38 (V) | Ground | Combination switch output 1 | Output | Combination switch (Wiper intermittent dial 1) | OFF |  PKIB4960J 7.0 – 8.0V |
| | | | | | HI BEAM<br>PASSING<br>FR FOG |  PKIB4958J 1.2V |

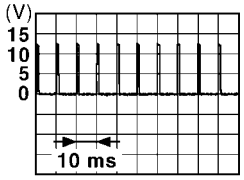
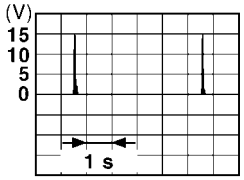
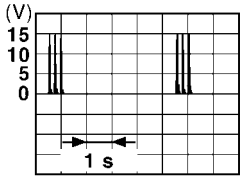
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 39 (W) | Ground | Combination switch output 2 | Output | Combination switch (Wiper intermittent dial 4) | OFF |  PKIB4960J<br>7.0 – 8.0V |
| | | | | | INT VOLUME 1<br>HEADLAMP<br>AUTO LIGHT<br>TAIL LAMP |  PKIB4958J<br>1.2V |
| 40 (SB) | Ground | Main power window and door lock/unlock switch unlock signal | Input | Main power window and door lock/unlock switch (door lock/unlock switch) | Unlock | Battery voltage |
| | | | | | Lock | 0V |
| 46 (R) | Ground | Back door request switch | Input | Back door opener switch (request switch) | ON (pressed) | 0V |
| | | | | | OFF (released) |  JPMIA0016GB<br>1.0V |
| 49 (G) | Ground | Hands free sensor signal | Input | Hands free sensor | Hold hand up to detection area | 0.0 – 0.5V |
| | | | | | Except above | Battery voltage |
| 50 (W) | Ground | Right rear door switch | Input | Rear door switch RH | OFF (door closed) |  JPMIA0011GB<br>11.8V |
| | | | | | ON (door open) | 0V |

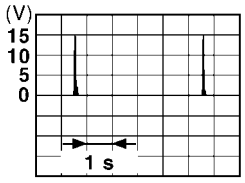
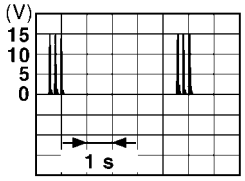
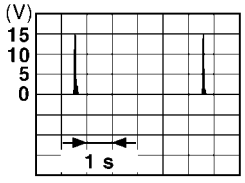
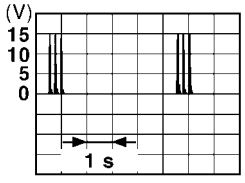
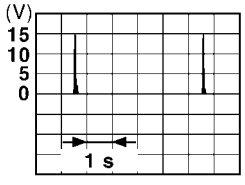
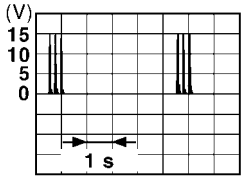
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 51 (LG) | Ground | Back door switch | Input | Back door lock assembly (door ajar switch) | OFF (door closed) |  JPMIA0011GB 11.8V |
| | | | | | ON (door open) | 0V |
| 52 (R) | Ground | Left rear door switch | Input | Rear door switch LH | OFF (door closed) |  JPMIA0011GB 11.8V |
| | | | | | ON (door open) | 0V |
| 53 (SB) | Ground | Passenger door switch | Input | Front door switch RH | OFF (door closed) |  JPMIA0011GB 11.8 V |
| | | | | | ON (door open) | 0V |
| 55 (LA/G) | Ground | Rear wiper autostop switch | Input | Push-button ignition switch ON | Rear wiper stop position | Battery voltage |
| | | | | | Any position other than rear wiper stop | 0V |
| 56 (Y) | Ground | Back door open switch | Input | Back door opener switch | Switch released | Battery voltage |
| | | | | | Switch pressed | 0V |
| 57 (SB) | Ground | Driver door switch | Input | Front door switch LH | OFF (door closed) |  JPMIA0011GB 11.8V |
| | | | | | ON (door open) | 0V |
| 60 (L) | Ground | CAN high | Input/ Output | — | | — |

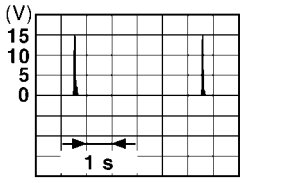
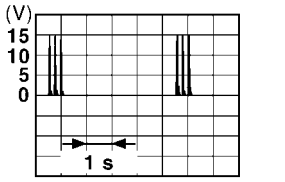
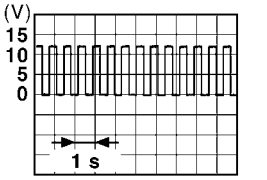
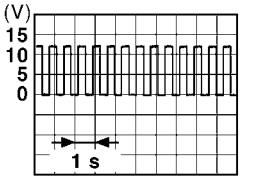
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 61 (V) | Ground | Outside key antenna (rear bumper) B | Output | Back door request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 62 (Y) | Ground | Inside key antenna (console) B | Output | Push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 63 (L) | Ground | Inside key antenna (console) A | Output | Push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |

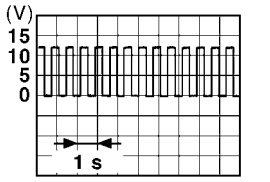
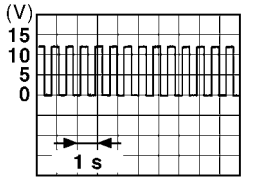
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 64 (LG) | Ground | Outside key antenna (rear bumper) A | Output | Back door request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 77 (V) | Ground | Shift lock relay-control | Output | Brake pedal | Released | Battery voltage |
| | | | | | Depressed | 0V |
| 79 (LA/W) | Ground | High-mounted stop lamp output | Output | Brake pedal | Released | 0V |
| | | | | | Depressed | Battery voltage |
| 80 (P) | Ground | CAN low | Input/ Output | — | | — |
| 82 (W) | Ground | Passenger request switch | Input | Front outside handle assembly RH request switch | ON (pressed) | 0V |
| | | | | | OFF (released) |  JPMIA0016GB<br>1.0V |
| 84 (BR) | Ground | Combination switch input 2 | Input | Combination switch (Wiper intermittent dial 1) | OFF | 0V |
| | | | | | HI BEAM |  PKIB4958J<br>1.0V |
| | | | | | RR WASHER | |
| | | | | | FR WIPER HI | |
| | | | | | INT VOLUME 3 | |
| 85 (SB) | Ground | Combination switch input 1 | Input | Combination switch (Wiper intermittent dial 1) | OFF | 0V |
| | | | | | INT VOLUME 1 |  PKIB4958J<br>1.0V |
| | | | | | FR WASHER | |
| | | | | | FR WIPER LOW | |
| | | | | | INT VOLUME 2 | |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 86 (P) | Ground | Combination switch input 3 | Input | Combination switch (Wiper intermittent dial 1) | OFF | 0V |
| | | | | | PASSING<br>HEADLAMP<br>FR WIPER INT<br>RR WIPER INT | <br>PKIB4958J<br>1.0V |
| 87 (BG) | Ground | Combination switch input 4 | Input | Combination switch (Wiper intermittent dial 1) | OFF | 0V |
| | | | | | AUTO LIGHT<br>TURN LH<br>RR WIPER ON | <br>PKIB4958J<br>1.0V |
| 88 (W) | Ground | Start switch backlight LED | Output | Push-button ignition switch illumination | ON | 5.5V |
| | | | | | OFF | 0V |
| 89 (Y) | Ground | Push-button ignition switch | Input | Push-button ignition switch | Pressed | 0V |
| | | | | | Not pressed | Battery voltage |
| 92 (BR) | Ground | Front door lock assembly LH key cylinder switch lock signal | Input | Key cylinder switch | OFF (neutral) | Battery voltage |
| | | | | | ON (lock) | 0V |
| 93 (P) | Ground | Front door lock assembly LH key cylinder switch unlock signal | Input | Key cylinder switch | OFF (neutral) | Battery voltage |
| | | | | | ON (unlock) | 0V |
| 94 (G) | Ground | CVT shift selector park position switch signal | Input | Selector lever | P position | 0V |
| | | | | | Except P position | Battery voltage |
| 95 (V) | Ground | Shorting input | Input | Push-button ignition switch | OFF | Battery voltage |
| 100 (V) | Ground | Outside key antenna (driver side) A | Output | Front outside handle assembly LH request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area | <br>JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area | <br>JMKIA0063GB |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 104 (R) | Ground | Front door lock assembly LH knob switch unlock signal | Input | Door lock knob | OFF (lock) | Battery voltage |
| | | | | | ON (unlock) | 0V |
| 105 (Y) | Ground | Driver request switch | Input | Front outside handle assembly LH request switch | ON (pressed) | 0V |
| | | | | | OFF (released) |  JPMIA0016GB<br>1.0V |
| 106 (W) | Ground | Audio unit/AV control unit accessory power supply | Input | Push-button ignition switch | ON | Battery voltage |
| 110 (BG) | Ground | Dimmer signal output (MR output) | Output | Push-button ignition switch ON | Either of the following conditions<br>• Lighting switch OFF<br>• The area around the vehicle is bright (Shine a light on the optical sensor) | 0V |
| | | | | | The area around the vehicle is dark (Block the light from the optical sensor) | Battery voltage |
| 114 (Y) | Ground | NATS antenna amp. B | Output | During waiting | Intelligent Key backside is contacted to push-button ignition switch, turn ignition switch ON. | Just after pressing push-button ignition switch. Pointer of analog volt meter should move. |
| 115 (W) | Ground | NATS antenna amp. A | Output | During waiting | Intelligent Key backside is contacted to push-button ignition switch, turn ignition switch ON. | Just after pressing push-button ignition switch. Pointer of analog volt meter should move. |
| 116 (BG) | Ground | Inside key antenna (instrument center) B | Output | Push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 117 (GR) | Ground | Inside key antenna (instrument center) A | Output | Push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 118 (SB) | Ground | Outside key antenna (passenger side) B | Output | Front outside handle assembly RH request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 119 (P) | Ground | Outside key antenna (passenger side) A | Output | Front outside handle assembly RH request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 120 (BR) | Ground | Outside key antenna (driver side) B | Output | Front outside handle assembly LH request switch operated with push-button ignition switch OFF | Intelligent Key in antenna detection area |  JMKIA0062GB |
| | | | | | Intelligent Key not in antenna detection area |  JMKIA0063GB |
| 125 (LG) | Ground | Stop lamp switch signal | Input | Brake pedal | Released | 0V |
| | | | | | Depressed | Battery voltage |
| 126 (W) | Ground | Brake pedal position switch signal | Input | Brake pedal | Released | 0V |
| | | | | | Depressed | Battery voltage |
| 132 (Y) | Ground | Intelligent Key warning buzzer output | Output | Intelligent Key warning buzzer | Sounding | 0V |
| | | | | | Not sounding | Battery voltage |
| 135 (BR) | Ground | Front combination lamp LH turn signal lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch LH |  PKID0926E<br>6.5 V |
| 136 (GR) | Ground | Front combination lamp RH turn signal lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch RH |  PKID0926E<br>6.5 V |
| 139 (G) | Ground | Starter cut relay control | Output | Push-button ignition switch | OFF | Battery voltage |
| | | | | | ON | 0V |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 145 (LA/V) | Ground | Back door lock assembly opener motor open | Output | Back door opener switch pressed | Open (motor activated) | Battery voltage |
| | | | | Back door opener switch released | Closed (motor not activated) | 0V |
| 147 (LA/R) | Ground | Rear wiper output | Output | Rear wiper | OFF | 0V |
| | | | | | ON | Battery voltage |
| 148 (W) | Ground | Rear door lock actuator LH and RH actuator unlock | Output | Main power window and door lock/unlock switch (door lock/unlock switch) | Unlock (actuator activated) | Battery voltage |
| | | | | | Lock (actuator not activated) | 0V |
| 149 (L) | Ground | Rear door lock actuator LH and RH actuator lock | Output | Main power window and door lock/unlock switch (door lock/unlock switch) | Lock (actuator activated) | Battery voltage |
| | | | | | Unlock (actuator not activated) | 0V |
| 151 (R) | Ground | Luggage lamp control (pwm) | Output | Room lamp relay | OFF | Battery voltage |
| | | | | | ON | 0V |
| 153 (LA/W) | Ground | Rear combination lamp RH stop lamp output | Output | Brake pedal | Released | 0V |
| | | | | | Depressed | Battery voltage |
| 157 (GR) | Ground | Rear combination lamp LH turn signal/hazard lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch LH |  PKID0926E 6.5 V |
| 158 (LA/Y) | Ground | Rear combination lamp LH stop lamp output | Output | Brake pedal | Released | 0V |
| | | | | | Depressed | Battery voltage |
| 160 (P) | Ground | Rear combination lamp RH turn signal/hazard lamp output | Output | Push-button ignition switch ON | Turn signal switch OFF | 0V |
| | | | | | Turn signal switch RH |  PKID0926E 6.5 V |
| 161 (W) | Ground | BCM power supply | Input | Push-button ignition switch | OFF | Battery voltage |

| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| (+) | (-) | Signal name | Input/ Output | | | |
| 162 (SB) | Ground | Interior lamp control (pwm) | Output | Map lamp and/or personal lamp 2nd row | OFF | Battery voltage |
| | | | | | DOOR | 0V |
| 163 (L) | Ground | Front door lock actuator RH actuator unlock | Output | Main power window and door lock/unlock switch (door lock/unlock switch) | Unlock (actuator activated) | Battery voltage |
| | | | | | Lock (actuator not activated) | 0V |
| 165 (V) | Ground | Front door lock actuator LH and RH actuator lock | Output | Main power window and door lock/unlock switch (door lock/unlock switch) | Lock (actuator activated) | Battery voltage |
| | | | | | Unlock (actuator not activated) | 0V |
| 167 (LA/V) | Ground | Power door lock battery power supply | Input | Push-button ignition switch | OFF | Battery voltage |
| 168 (BG) | Ground | Turn signal/hazard battery power supply | Input | Push-button ignition switch | OFF | Battery voltage |
| 169 (GR) | Ground | Stop lamp battery power supply | Input | Push-button ignition switch | OFF | Battery voltage |
| 170 (B) | Ground | Ground1 | Input | Push-button ignition switch | ON | 0V |
| 171 (B) | Ground | Ground2 | Input | Push-button ignition switch | ON | 0V |
| 172 (G) | Ground | Front door lock assembly LH actuator unlock | Output | Main power window and door lock/unlock switch (door lock/unlock switch) | Unlock (actuator activated) | Battery voltage |
| | | | | | Lock (actuator not activated) | 0V |
| 175 (R) | Ground | Power door lock2 battery power supply | Input | Push-button ignition switch | OFF | Battery voltage |
| 176 (LG) | Ground | Rear wiper battery power supply | Input | Push-button ignition switch | OFF | Battery voltage |

## Fail-safe

INFOID:0000000015243487

### FAIL-SAFE CONTROL BY DTC

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

| Display contents of CONSULT | Fail-safe |
|---|---|
| B2192: ID DISCORD BCM-ECM* | Inhibit setting the vehicle to READY |
| B2193: CHAIN OF BCM-ECM* | Inhibit setting the vehicle to READY |
| B2195: ANTI-SCANNING | Inhibit setting the vehicle to READY |
| B2198: NATS ANTENNA AMP | Inhibit setting the vehicle to READY |
| B261E: VEHICLE TYPE | Inhibit setting the vehicle to READY |
| B26F1: IGN RELAY OFF | Inhibit setting the vehicle to READY |
| B26F2: IGN RELAY ON | Inhibit setting the vehicle to READY |

**NOTE:**

*: “ECM” is indicated on CONSULT display, however this means HPCM.

## REAR WIPER MOTOR PROTECTION

Enable Condition

BCM detects the rear wiper stop position according to the rear wiper autostop switch signal. When the rear wiper autostop switch signal does not change for more than 5 seconds while the rear wiper is ON, the BCM disables the rear wiper battery power supply to protect the rear wiper motor.

Cancellation Condition

1. More than 1 minute has passed since receiving the rear wiper autostop switch signal.
2. Rear wiper switch is turned OFF.
3. Rear wiper switch or rear washer switch is turned ON.

## FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If the BCM power supply voltage drops below 9.0 volts, the BCM maintains combination switch reading status at the level it was before the BCM power supply voltage dropped below 9.0 volts. When the BCM power supply voltage returns to a level above 9.0 volts, the combination switch reading function returns to normal operation.

# DTC Inspection Priority Chart

INFOID:0000000014622380

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 | • B2192: ID DISCORD BCM-ECM*<br>• B2193: CHAIN OF BCM-ECM*<br>• B2195: ANTI-SCANNING<br>• B2198: NATS ANTENNA AMP |
| 4 | • B2556: ENG START SW<br>• B2557: VEHICLE SPEED<br>• B2602: SHIFT P DIAG<br>• B2604: SHIFT PN DIAG CAN<br>• B2608: STARTER RELAY<br>• B260F: ECM CAN COMM<br>• B261A: ENGINE SW<br>• B261B: BCM<br>• B261E: FUEL MIS CONFIG<br>• B26F1: IGNITION RELAY OFF STUCK FAIL<br>• B26F2: IGNITION RELAY ON STUCK FAIL<br>• B26FC: KEYFOB MISS REGISTRATION<br>• B26FE: HOOD SWITCH<br>• B27D1: ST CUT RELAY OFF STUCK FAIL<br>• B27D2: ST CUT RELAY ON STUCK FAIL<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>• C1716: [PRESS DATA ERR] FL<br>• C1717: [PRESS DATA ERR] FR<br>• C1718: [PRESS DATA ERR] RR<br>• C1719: [PRESS DATA ERR] RL<br>• C1730: FLAT TIRE FL<br>• C1731: FLAT TIRE FR<br>• C1732: FLAT TIRE RR<br>• C1733: FLAT TIRE RL<br>• C1734: CONTROL UNIT<br>• C1735: IGN CIRCUIT OPEN<br>• C1765: WHEEL TOP DATA FAIL FL<br>• C1766: WHEEL TOP DATA FAIL FR<br>• C1767: WHEEL TOP DATA FAIL RR<br>• C1768: WHEEL TOP DATA FAIL RL<br>• C1769: CONFIG SETTING<br>• C1770: G SENSOR FAIL FL<br>• C1771: G SENSOR FAIL FR<br>• C1772: G SENSOR FAIL RR<br>• C1773: G SENSOR FAIL RL |
| 6 | • B2621: INSIDE ANTENNA 1<br>• B2622: INSIDE ANTENNA 2 |

## DTC Index

INFOID:0000000014622381

**NOTE:**

Details of time display are as follows:

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

| CONSULT display | Fail-safe | Freeze Frame Data | Key system malfunction | Security indicator lamp ON | Reference page |
|---|---|---|---|---|---|
| No DTC is detected.<br>Further testing may be required. | — | — | — | — | — |
| U1000: CAN COMM CIRCUIT | — | — | — | — | BCS-62, "DTC Description" |
| U1010: CONTROL UNIT (CAN) | — | — | — | — | BCS-63, "DTC Description" |
| U0415: VEHICLE SPEED SIG | — | — | × | — | BCS-64, "DTC Description" |
| B2192: ID DISCORD BCM-ECM | × | — | — | × | SEC-68, "DTC Description" |
| B2193: CHAIN OF BCM-ECM | × | — | — | × | SEC-70, "DTC Description" |
| B2195: ANTI-SCANNING | × | — | — | × | SEC-72, "DTC Description" |
| B2198: IMMOBI ANT NG | × | — | — | × | SEC-74, "DTC Description" |
| B2556: ENG START SW | — | × | × | — | SEC-76, "DTC Description" |

| CONSULT display | Fail-safe | Freeze Frame Data | Key system malfunction | Security indicator lamp ON | Reference page |
|---|---|---|---|---|---|
| B2557: VEHICLE SPEED | — | × | × | — | SEC-78, "DTC Description" |
| B2562: LOW VOLTAGE | — | × | — | — | BCS-65, "DTC Description" |
| B2602: SHIFT P DIAG | — | × | × | — | SEC-80, "DTC Description" |
| B2604: SHIFT PN DIAG CAN | — | × | × | — | SEC-83, "DTC Description" |
| B2608: STARTER RELAY | × | × | × | — | SEC-86, "DTC Description" |
| B260F: ECM CAN COMM | × | × | × | — | SEC-87, "DTC Description" |
| B261A: PUSH-BTN IGN SW | — | × | × | — | PCS-82, "DTC Description" |
| B261B: BCM | — | — | — | — | DLK-179, "DTC Description" |
| B261E: FUEL MIS CONFIG | × | — | — | — | SEC-89, "DTC Description" |
| B2621: INSIDE ANTENNA 1 | — | × | × | — | DLK-180, "DTC Description" |
| B2622: INSIDE ANTENNA 2 | — | × | × | — | DLK-183, "DTC Description" |
| B26F1: IGNITION RELAY OFF STUCK FAIL | × | × | × | — | PCS-85, "DTC Description" |
| B26F2: IGNITION RELAY ON STUCK FAIL | × | × | × | — | PCS-87, "DTC Description" |
| B26FC: KEYFOB MISS REGISTRATION | — | × | × | — | SEC-91, "DTC Description" |
| B26FE: HOOD SWITCH | — | — | — | — | DLK-186, "DTC Description" |
| B27D1: ST CUT RELAY OFF STUCK FAIL | — | × | × | — | SEC-92, "DTC Description" |
| B27D2: ST CUT RELAY ON STUCK FAIL | — | × | × | — | SEC-95, "DTC Description" |
| C1704: LOW PRESSURE FL | — | — | — | — | WT-29, "DTC Description" |
| C1705: LOW PRESSURE FR | — | — | — | — | |
| C1706: LOW PRESSURE RR | — | — | — | — | |
| C1707: LOW PRESSURE RL | — | — | — | — | |
| C1708: [NO DATA] FL | — | — | — | — | WT-31, "DTC Description" |
| C1709: [NO DATA] FR | — | — | — | — | |
| C1710: [NO DATA] RR | — | — | — | — | |
| C1711: [NO DATA] RL | — | — | — | — | |
| C1716: [PRESS DATA ERR] FL | — | — | — | — | WT-34, "DTC Description" |
| C1717: [PRESS DATA ERR] FR | — | — | — | — | |
| C1718: [PRESS DATA ERR] RR | — | — | — | — | |
| C1719: [PRESS DATA ERR] RL | — | — | — | — | |
| C1729: VHCL SPEED SIG ERR | — | — | — | — | WT-36, "DTC Description" |

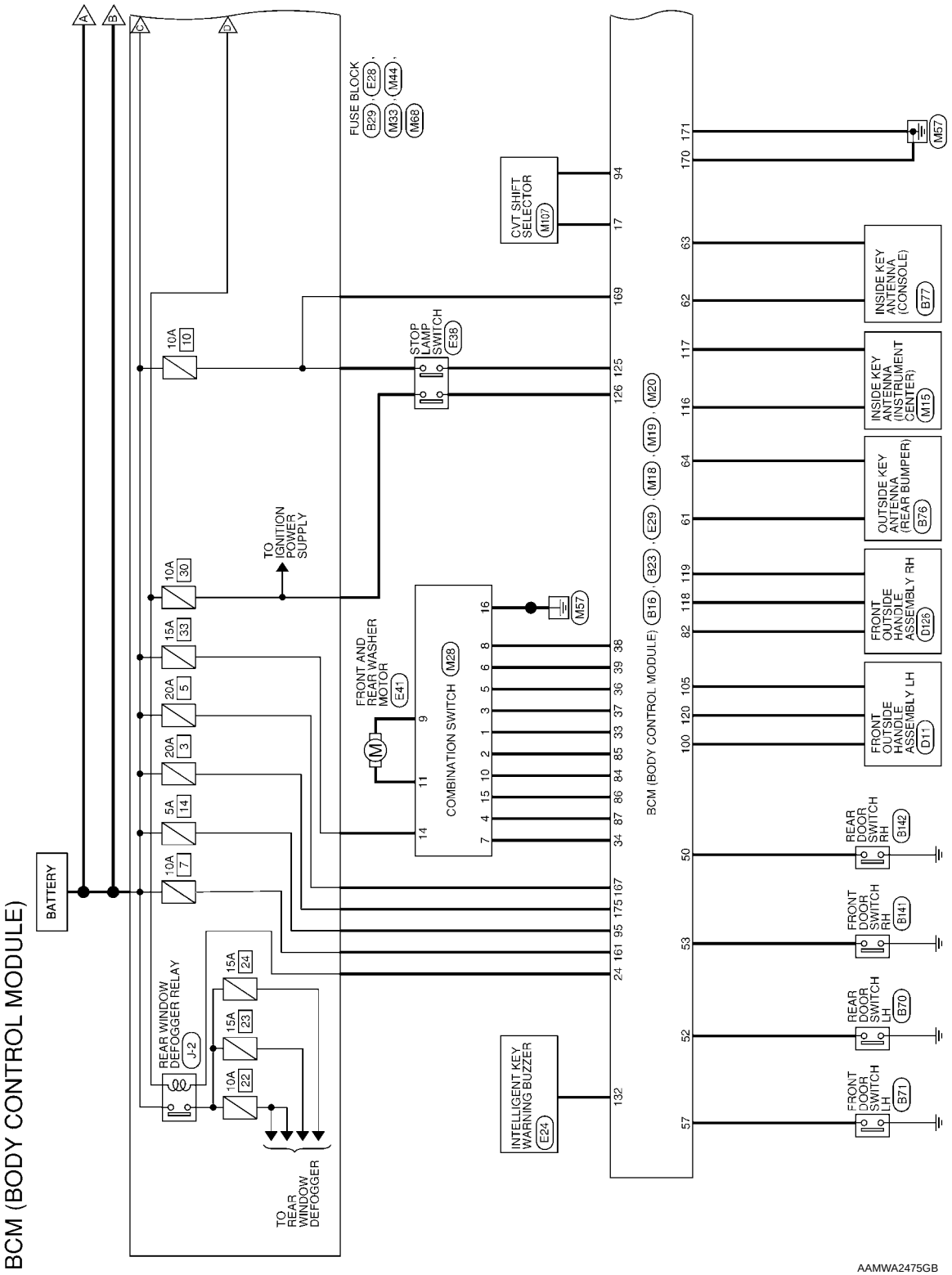
| CONSULT display | Fail-safe | Freeze Frame Data | Key system malfunction | Security indicator lamp ON | Reference page |
|---|---|---|---|---|---|
| C1730: FLAT TIRE FL | — | — | — | — | WT-37, "DTC Description" |
| C1731: FLAT TIRE FR | — | — | — | — | |
| C1732: FLAT TIRE RR | — | — | — | — | |
| C1733: FLAT TIRE RL | — | — | — | — | |
| C1734: CONTROL UNIT | — | — | — | — | WT-39, "DTC Description" |
| C1735: IGN CIRCUIT OPEN | — | — | — | — | WT-41, "DTC Logic" |
| C1765: WHEEL TOP DATA FAIL FL | — | — | — | — | WT-43, "DTC Description" |
| C1766: WHEEL TOP DATA FAIL FR | — | — | — | — | |
| C1767: WHEEL TOP DATA FAIL RR | — | — | — | — | |
| C1768: WHEEL TOP DATA FAIL RL | — | — | — | — | |
| C1769: CONFIG SETTING | — | — | — | — | WT-45, "DTC Description" |
| C1770: G SENSOR FAIL FL | — | — | — | — | WT-47, "DTC Description" |
| C1771: G SENSOR FAIL FR | — | — | — | — | |
| C1772: G SENSOR FAIL RR | — | — | — | — | |
| C1773: G SENSOR FAIL RL | — | — | — | — | |

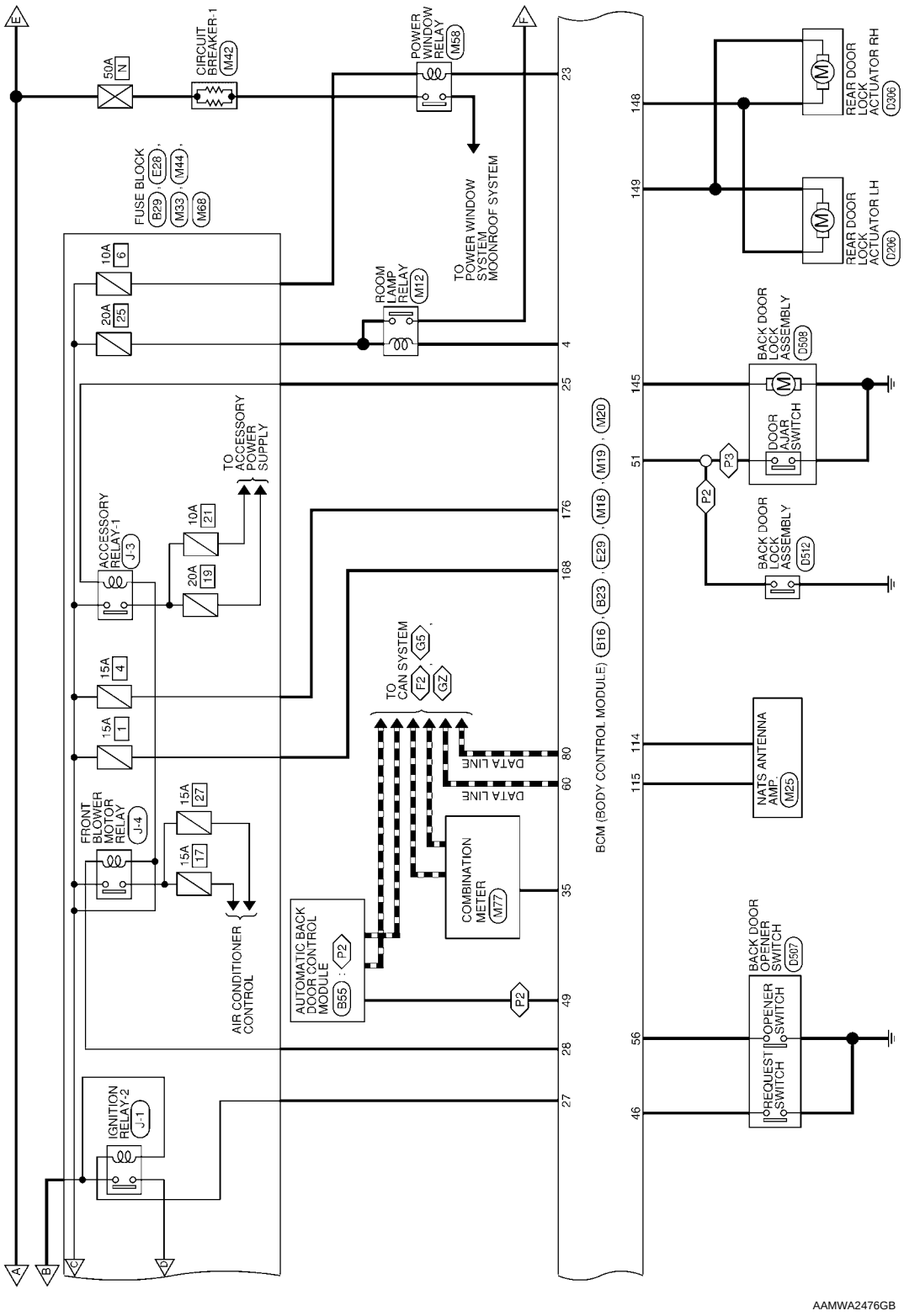
# WIRING DIAGRAM

## BCM

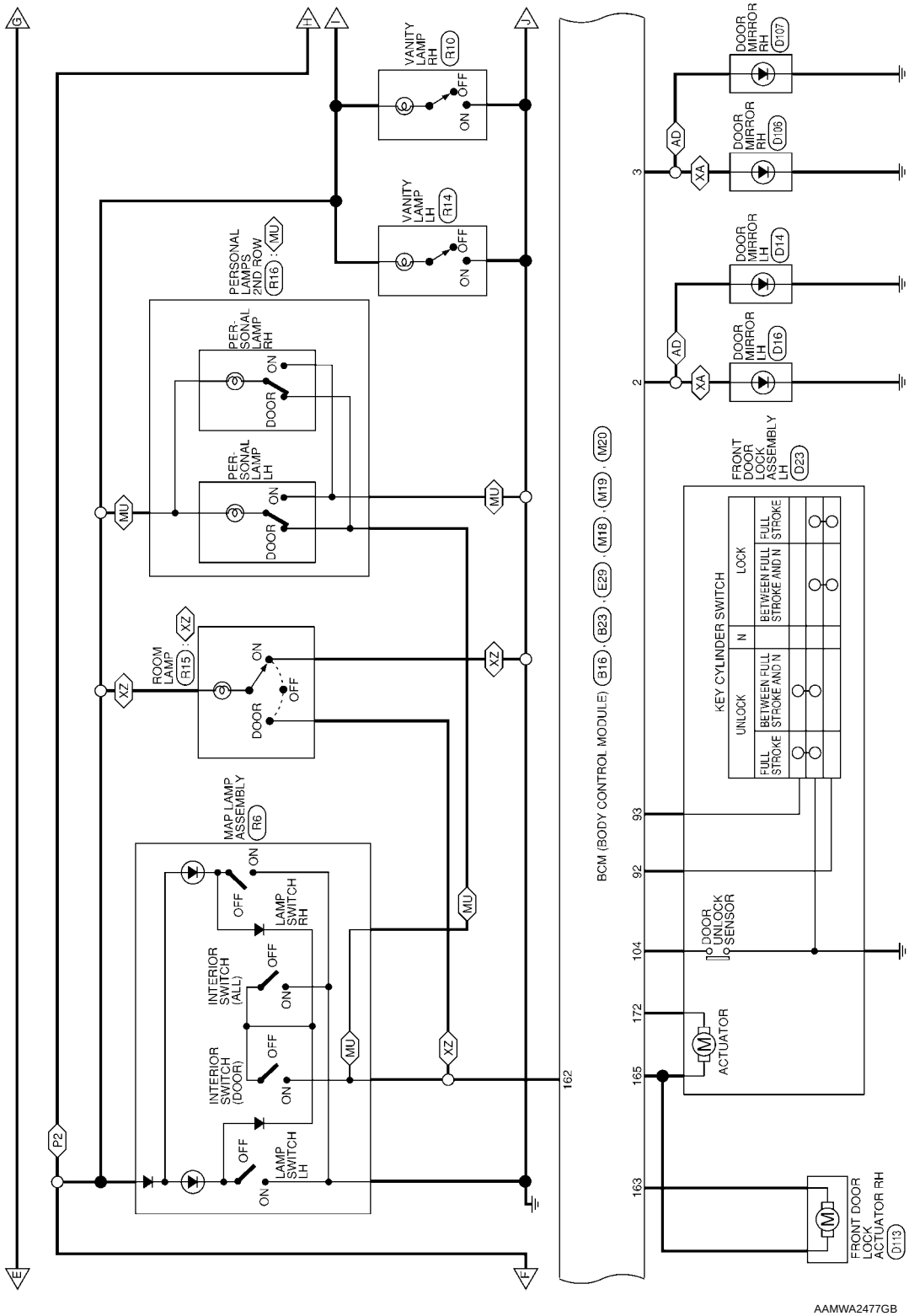
### Wiring Diagram

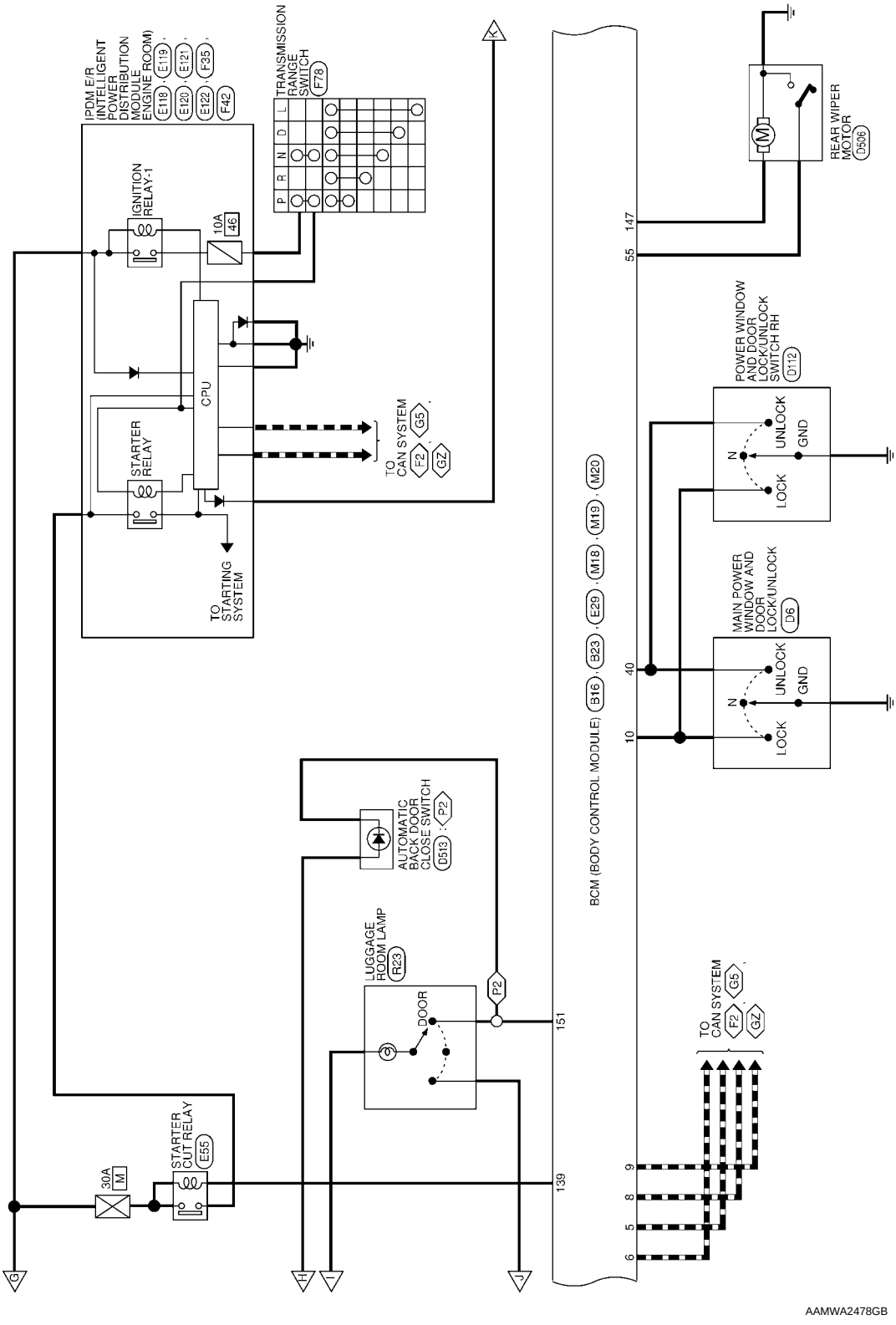
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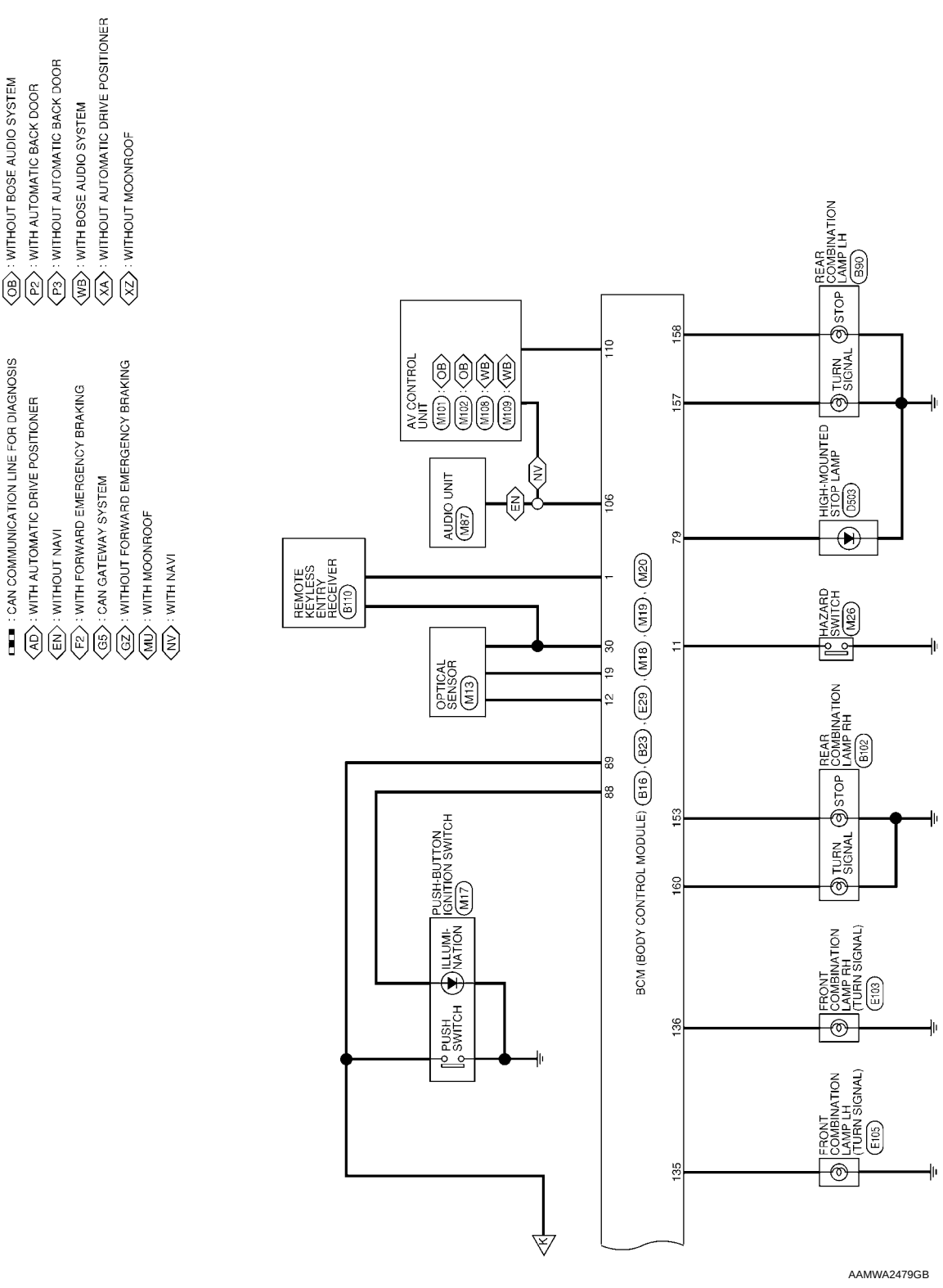





AAMWA2476GB


VANITY LAMP RH R10
VANITY LAMP LH R14
PERSONAL LAMPS 2ND ROW R16 : MU
PER-SONAL LAMP RH
PER-SONAL LAMP LH
ON
OFF
DOOR
ROOM LAMP R15 : XZ
MAP LAMP ASSEMBLY R6
LAMP SWITCH RH
LAMP SWITCH LH
INTERIOR SWITCH (ALL)
INTERIOR SWITCH (DOOR)
BCM (BODY CONTROL MODULE) B16 · B23 · E29 · M18 · M19 · M20
DOOR MIRROR RH D107
DOOR MIRROR RH D106
DOOR MIRROR LH D14
DOOR MIRROR LH D16
FRONT DOOR LOCK ASSEMBLY LH D23
KEY CYLINDER SWITCH
UNLOCK
LOCK
N
FULL STROKE
BETWEEN FULL STROKE AND N
DOOR UNLOCK SENSOR
ACTUATOR
FRONT DOOR LOCK ACTUATOR RH D113
AD
XA
MU
XZ
P2
AAMWA2477GB

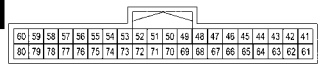

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E118, E119, E120, E121, E122, F35, F42
IGNITION RELAY-1
10A 46
STARTER RELAY
CPU
TO STARTING SYSTEM
TO CAN SYSTEM G5, F2, GZ
TRANSMISSION RANGE SWITCH F78
P R N D L
REAR WIPER MOTOR D506
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D112
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK D6
UNLOCK GND LOCK N
BCM (BODY CONTROL MODULE) B16, B23, E29, M18, M19, M20
147 55 40 10 151 139 9 8 5 6
AUTOMATIC BACK DOOR CLOSE SWITCH D513 P2
LUGGAGE ROOM LAMP R23
DOOR
30A M
STARTER CUT RELAY E55
G H I J
AAMWA2478GB


: CAN COMMUNICATION LINE FOR DIAGNOSIS
AD : WITH AUTOMATIC DRIVE POSITIONER
EN : WITHOUT NAVI
F2 : WITH FORWARD EMERGENCY BRAKING
G5 : CAN GATEWAY SYSTEM
GZ : WITHOUT FORWARD EMERGENCY BRAKING
MU : WITH MOONROOF
NV : WITH NAVI
OB : WITHOUT BOSE AUDIO SYSTEM
P2 : WITH AUTOMATIC BACK DOOR
P3 : WITHOUT AUTOMATIC BACK DOOR
WB : WITH BOSE AUDIO SYSTEM
XA : WITHOUT AUTOMATIC DRIVE POSITIONER
XZ : WITHOUT MOONROOF
REMOTE KEYLESS ENTRY RECEIVER B110
AUDIO UNIT M87
AV CONTROL UNIT M101 OB M102 OB M108 WB M109 WB
EN
NV
OPTICAL SENSOR M13
PUSH-BUTTON IGNITION SWITCH M17
ILLUMI-NATION
PUSH SWITCH
BCM (BODY CONTROL MODULE) B16 B23 E29 M18 M19 M20
1 106 110
30 19 12
89 88
11 79 157 158
153 160
136
135
HAZARD SWITCH M26
HIGH-MOUNTED STOP LAMP D503
REAR COMBINATION LAMP LH B90
REAR COMBINATION LAMP RH B102
FRONT COMBINATION LAMP RH (TURN SIGNAL) E103
FRONT COMBINATION LAMP LH (TURN SIGNAL) E105
STOP
TURN SIGNAL
K
AAMWA2479GB

# BCM (BODY CONTROL MODULE) CONNECTORS

| Connector No. | B16 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FG-NH |
| Connector Color | GREEN |

H.S.

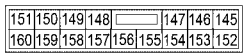



| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 41 | – | – |
| 42 | – | – |
| 43 | – | – |
| 44 | – | – |
| 45 | – | – |
| 46 | R | SES BACKDOOR BUTTON SW |
| 47 | – | – |
| 48 | – | – |
| 49 | G | NO TOUCH TGATE SENSOR |
| 50 | W | RR DOOR SW |
| 51 | LG | TGATE SW |
| 52 | R | RL DOOR SW |
| 53 | SB | AS DOOR2 SW |
| 54 | – | – |
| 55 | LA/G | RR AUTOSTOP SW |
| 56 | Y | TGATE OPENER SW |
| 57 | SB | DR DOOR2 SW |
| 58 | – | – |
| 59 | – | – |
| 60 | L | CAN-H |
| 61 | V | SES EXT REAR ANTENNA B |
| 62 | Y | SES INT MIDDLE ANTENNA B |
| 63 | L | SES INT MIDDLE ANTENNA A |
| 64 | LG | SES EXT REAR ANTENNA A |
| 65 | – | – |
| 66 | – | – |
| 67 | – | – |
| 68 | – | – |
| 69 | – | – |
| 70 | – | – |
| 71 | – | – |
| 72 | – | – |
| 73 | – | – |
| 74 | – | – |
| 75 | – | – |
| 76 | – | – |
| 77 | – | – |
| 78 | – | – |
| 79 | LA/W | STOP LAMP3 |
| 80 | P | CAN-L |

AAMIA5570GB

| Connector No. | B23 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | NS16FGY-CS |
| Connector Color | GRAY |

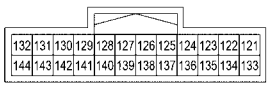
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 145 | LA/V | TGATE OPENER |
| 146 | – | – |
| 147 | LA/R | RR WIPER |
| 148 | W | RR UNLOCK B |
| 149 | L | RR LOCK B |
| 150 | – | – |
| 151 | R | PWM ROOMLAMP 5 |
| 152 | – | – |
| 153 | LA/W | STOP LAMP1 |
| 154 | – | – |
| 155 | – | – |
| 156 | – | – |
| 157 | GR | DI RR LEFT B |
| 158 | LA/Y | STOP LAMP2 NISSAN EUR |
| 159 | – | – |
| 160 | P | DI RR RIGHT B |

| Connector No. | E29 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH24FB-NH |
| Connector Color | BLACK |

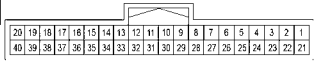
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 121 | – | – |
| 122 | – | – |
| 123 | – | – |
| 124 | – | – |
| 125 | LG | BRAKE SW2 |
| 126 | W | BRAKE SW1 |
| 127 | – | – |
| 128 | – | – |
| 129 | – | – |
| 130 | – | – |
| 131 | – | – |
| 132 | Y | BUZZER (WITH I-KEY) |
| 133 | – | – |
| 134 | – | – |
| 135 | BR | DI FR LEFT E |
| 136 | GR | DI FR RIGHT E |
| 137 | – | – |
| 138 | – | – |
| 139 | G | STCUT RL |
| 140 | – | – |
| 141 | – | – |
| 142 | – | – |
| 143 | – | – |
| 144 | – | – |

| Connector No. | M18 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FGY-NH |
| Connector Color | GRAY |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | L | LIN 3 D |
| 2 | LA/G | DI FR LEFT D |
| 3 | LA/Y | DI FR RIGHT D |
| 4 | P | SPARE4 RL N |
| 5 | R | CAN-L |
| 6 | L | CAN-H |
| 7 | – | – |
| 8 | L | CAN-H |
| 9 | R | CAN-L |
| 10 | BG | DOORLOCK SW |
| 11 | Y | HAZARD SW D |
| 12 | W | PWR AUTOLIGHT SENSOR |
| 13 | – | – |
| 14 | – | – |
| 15 | – | – |
| 16 | – | – |
| 17 | L | PWR ATDVC |
| 18 | – | – |
| 19 | LG | AUTOLIGHT SENSOR |
| 20 | – | – |
| 21 | – | – |
| 22 | – | – |
| 23 | G | WL AUTHORIZATION RL |
| 24 | LA/R | DEFROSTER RL D |
| 25 | BR | BAT TEMP1 RL |
| 26 | – | – |
| 27 | Y | IGN1 RL |
| 28 | LA/W | IGN2 RL |
| 29 | – | – |
| 30 | V | GND AUTOLIGHT SENSOR |
| 31 | – | – |
| 32 | – | – |
| 33 | LG | CSW 5 |
| 34 | Y | CSW 5 |
| 35 | BG | SECURITY LED |
| 36 | G | CSW 3 |
| 37 | GR | CSW 4 |
| 38 | V | CSW 1 |
| 39 | W | CSW 2 |
| 40 | SB | DOORUNLOCK SW |

BCM (BODY CONTROL MODULE) CONNECTORS

| Connector No. | M19 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | TH40FB-NH |
| Connector Color | BLACK |

H.S.

| 99 | 98 | 97 | 96 | 95 | 94 | 93 | 92 | 91 | 90 | 89 | 88 | 87 | 86 | 85 | 84 | 83 | 82 | 81 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 119 | 118 | 117 | 116 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 107 | 106 | 105 | 104 | 103 | 102 | 101 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 81 | – | – |
| 82 | W | SES FR HANDLE BUTTON SW |
| 83 | – | – |
| 84 | BR | CSW 2 |
| 85 | SB | CSW 1 |
| 86 | P | CSW 3 |
| 87 | BG | CSW 4 |
| 88 | W | START SW BACKLIGHT LED |
| 89 | Y | START WO ESCL SW |
| 90 | – | – |
| 91 | – | – |
| 92 | BR | KEY CYLINDER LOCK SW |
| 93 | P | KEY CYLINDER UNLOCK SW |
| 94 | G | AT LOCKED IN PARK SW |
| 95 | V | SHORTING PIN |
| 96 | – | – |
| 97 | – | – |
| 98 | – | – |
| 99 | – | – |
| 100 | V | SES EXT DR ANTENNA A |
| 101 | – | – |
| 102 | – | – |
| 103 | – | – |
| 104 | R | DR KNOB SW |
| 105 | Y | SES DR HANDLE BUTTON SW |
| 106 | W | AUTO ACC2 |
| 107 | – | – |
| 108 | – | – |
| 109 | – | – |
| 110 | BG | MR OUTPUT |
| 111 | – | – |
| 112 | – | – |
| 113 | – | – |
| 114 | Y | IMMOBILIZER KAZASHI B |
| 115 | W | IMMOBILIZER KAZASHI A |
| 116 | BG | SES INT FRONT ANTENNA B |
| 117 | GR | SES INT FRONT ANTENNA A |
| 118 | SB | SES EXT AS ANTENNA B |
| 119 | P | SES EXT AS ANTENNA A |
| 120 | BR | SES EXT DR ANTENNA B |

| Connector No. | M20 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Type | NS16FBR-CS |
| Connector Color | BROWN |

H.S.

| 167 | 166 | 165 | 164 | | 163 | 162 | 161 |
|---|---|---|---|---|---|---|---|
| 176 | 175 | 174 | 173 | 172 | 171 | 170 | 169 | 168 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 161 | W | PWR ECU |
| 162 | SB | PWM ROOMLAMP 1 |
| 163 | L | AS LOCK OR UNLOCK D |
| 164 | – | – |
| 165 | V | DR OR FR LOCK D |
| 166 | – | – |
| 167 | LAV | PWR DOORLOCK1 |
| 168 | BG | PWR FLASHERS |
| 169 | GR | PWR STOP LAMP |
| 170 | B | GND1 |
| 171 | B | GND2 |
| 172 | G | FR OR DR UNLOCK D |
| 173 | – | – |
| 174 | – | – |
| 175 | R | PWR DOORLOCK2 |
| 176 | LG | PWR WIPER |

| Connector No. | M28 |
|---|---|
| Connector Name | COMBINATION SWITCH |
| Connector Type | TH16FW-NH |
| Connector Color | WHITE |

H.S.

| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|
| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | LG | CSW 5 |
| 2 | SB | CSW 1 |
| 3 | GR | CSW 4 |
| 4 | BG | CSW 4 |
| 5 | G | CSW 3 |
| 6 | W | CSW 2 |
| 7 | Y | CSW 5 |
| 8 | V | CSW 1 |
| 9 | G | RR WASH MOTOR |
| 10 | BR | CSW 2 |
| 11 | Y | FR WASH MOTOR |
| 12 | – | – |
| 13 | – | – |
| 14 | LG | IGNITION |
| 15 | P | CSW 3 |
| 16 | GR | GROUND |

AAMIA5571GB

# BASIC INSPECTION

## INSPECTION AND ADJUSTMENT

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description

INFOID:0000000014622383

BEFORE REPLACEMENT

When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement. Refer to BCS-58, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".

**NOTE:**

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

AFTER REPLACEMENT

**CAUTION:**

- **When replacing BCM, you must perform “After Replace ECU” with CONSULT.**
- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**
- **When replacing BCM, perform “Configuration” of CAN gateway.**

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure

INFOID:0000000014622384

#### 1. SAVING VEHICLE SPECIFICATION (BCM)

CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

**NOTE:**

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

>> GO TO 2.

#### 2. REPLACE BCM

Replace BCM. Refer to BCS-73, "Removal and Installation".

>> GO TO 3.

#### 3. WRITING VEHICLE SPECIFICATION (BCM)

CONSULT

1. Enter “Re/Programming, Configuration”.
2. If “Before Replace ECU” operation was performed, automatically an “Operation Log Selection” screen will be displayed. Select the applicable file from the “Saved Data List” and press “Confirm” to write vehicle specification. Refer to BCS-59, "CONFIGURATION (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select “After Replace ECU” or “Manual Configuration” to write vehicle specification. Refer to BCS-59, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

#### 4. REGISTER INTELLIGENT KEYS

For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> GO TO 5.

## 5. INITIALIZE TPMS

Perform TPMS initialization. Refer to WT-24, "Work Procedure".

>> Work End.

# CONFIGURATION (BCM)

## CONFIGURATION (BCM) : Description

INFOID:0000000014622385

Vehicle specification needs to be written with CONSULT because it is not written after replacing BCM. Configuration has three functions as follows:

| Function | Description |
|---|---|
| "Before Replace ECU" | • Reads the vehicle configuration of current BCM.<br>• Saves the read vehicle configuration. |
| "After Replace ECU" | Writes the vehicle configuration with manual selection. |
| "Select Saved Data List" | Writes the vehicle configuration with saved data. |

**CAUTION:**

- **When replacing BCM, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new BCM.**

## CONFIGURATION (BCM) : Work Procedure

INFOID:0000000014622386

### 1. WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of BCM.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

### 2. PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

### 3. PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT

1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to BCS-60, "CONFIGURATION (BCM) : Configuration List".
3. Confirm and/or change setting value for each item.
   **CAUTION:**
   **Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.**
4. Select “Next”.
   **CAUTION:**
   **Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model cannot be memorized.**

5. When "Completed", select "End".

>> GO TO 4.

## 4. OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Work End.

## CONFIGURATION (BCM) : Configuration List

INFOID:0000000014622387

**CAUTION:**

- **Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.**
- **The “setting value” of this vehicle is as follows: Never select any other value then the setting value shown below. (If there is only 1 item in “setting value” that means that item is the only choice for this certain vehicle.)**

| SETTING ITEM | | NOTE |
|---|---|---|
| Items | Setting value | |
| DONGLE | WITH ⇔ WITHOUT | • WITH: With dongle (Canada)<br>• WITHOUT: Without dongle (USA) |
| CAN ERR DETECT ABD | WITH ⇔ WITHOUT | • WITH: With automatic back door system<br>• WITHOUT: Without automatic back door system |
| CAN ERR DETECT TELEMATICS | WITH ⇔ WITHOUT | • WITH: With telematics<br>• WITHOUT: Without telematics |
| Key Fob Type | ENST/LCK/UNLCK/BD/ALRM ⇔ ENST/LCK/UNLCK/ALRM | • ENST/LCK/UNLCK/BD/ALRM: 5 button (with automatic back door)<br>• ENST/LCK/UNLCK/ALRM: 4 button (without automatic back door) |

⇔: Items which confirm vehicle specifications

# SHIPPING MODE CANCEL OPERATION

## Work Procedure

INFOID:0000000014622388

### 1.SHIPPING MODE CANCEL OPERATION

1. Turn ignition switch OFF.
2. Push in (switch on) the extended storage fuse switch. Refer to PG-123, "How To Check".
3. Turn ignition switch ON.
4. Turn ignition switch OFF and wait at least 2 seconds.

>> GO TO 2.

### 2.SHIPPING MODE CANCEL CHECK

1. Turn ignition switch ON.
2. Check that extended storage fuse warning message is not displayed on information display.

>> Work End.

# DTC/CIRCUIT DIAGNOSIS

## U1000 CAN COMM CIRCUIT

### DTC Description

INFOID:0000000015243492

#### Description

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 vehicles are equipped with many electronic control units 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-44, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

#### DTC DETECTION LOGIC

| DTC No. | CONSULT screen terms (Trouble diagnosis content) | DTC Detection Condition | |
|---|---|---|---|
| U1000 | CAN COMM CIRCUIT (CAN communication circuit) | Diagnosis condition | When ignition switch is ON. |
| | | Signal (terminal) | — |
| | | Threshold | — |
| | | Diagnosis delay time | 2 seconds or more |

#### POSSIBLE CAUSE

CAN communication system

#### FAIL-SAFE

—

#### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION PROCEDURE

Ⓔ CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” mode of “BCM”.

Is DTC U1000 detected?

YES >> Refer to BCS-62, "Diagnosis Procedure".
NO–1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO–2 >> Confirmation after repair: Inspection End.

### Diagnosis Procedure

INFOID:0000000015243493

#### 1. CHECK CAN COMMUNICATION

Check CAN communication. Refer to LAN-26, "Trouble Diagnosis Flow Chart".

Is DTC U1000 displayed?

YES >> Repair or replace the malfunctioning part.
NO >> Check intermittent incident. Refer to GI-54, "Intermittent Incident".

# U1010 CONTROL UNIT (CAN)

## DTC Description

INFOID:0000000015243494

### DTC DETECTION LOGIC

| DTC No. | CONSULT screen terms (Trouble diagnosis content) | DTC Detection Condition | |
|---|---|---|---|
| U1010 | CONTROL UNIT(CAN) (Control unit) | Diagnosis condition | When ignition switch is ON. |
| | | Signal (terminal) | — |
| | | Threshold | — |
| | | Diagnosis delay time | 2 seconds or more |

### POSSIBLE CAUSE

- BCM

### FAIL-SAFE

—

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “BCM”.

Is DTC U1010 detected?

YES >> Refer to BCS-63, "Diagnosis Procedure".
NO–1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO–2 >> Confirmation after repair: Inspection End.

## Diagnosis Procedure

INFOID:0000000015243495

#### 1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-73, "Removal and Installation".

# U0415 VEHICLE SPEED SIG

## DTC Description

INFOID:0000000015243498

### DTC DETECTION LOGIC

| DTC No. | CONSULT screen terms (Trouble diagnosis content) | DTC Detection Condition | |
|---|---|---|---|
| U0415 | VDC CAN CIR2 (Vehicle speed) | Diagnosis condition | When ignition switch is ON. |
| | | Signal (terminal) | — |
| | | Threshold | — |
| | | Diagnosis delay time | 2 seconds or more |

### POSSIBLE CAUSE

- ABS actuator and electric unit (control unit)
- BCM

### FAIL-SAFE

—

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION PROCEDURE

CONSULT

1. Erase the DTC.
2. Turn ignition switch OFF.
3. Perform “Self Diagnostic Result” mode of “BCM”, after the ignition switch has been turned ON for 2 seconds or more.

Is DTC U0415 detected?

YES >> Refer to BCS-64, "Diagnosis Procedure".
NO–1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO–2 >> Confirmation after repair: Inspection End.

## Diagnosis Procedure

INFOID:0000000015243499

#### 1. SELF DIAGNOSTIC RESULT

CONSULT

1. Turn ignition switch ON.
2. Select “Self-Diagnostic Result” mode of “ABS”.
3. Check DTC.

Is any DTC detected?

YES >> Repair or replace the malfunctioning part.
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation".

# B2562 LOW VOLTAGE

## DTC Description

INFOID:0000000015243496

### DTC DETECTION LOGIC

| DTC No. | CONSULT screen terms (Trouble diagnosis content) | DTC Detection Condition | |
|---|---|---|---|
| B2562 | LOW VOLTAGE (Low voltage) | Diagnosis condition | When ignition switch is ON. |
| | | Signal (terminal) | BCM power circuit (terminal 139 and 131 and ground) |
| | | Threshold | Less than 8.8V |
| | | Diagnosis delay time | 120 seconds or more |

### POSSIBLE CAUSE

- Harness or connector (power supply circuit)
- BCM

### FAIL-SAFE

—

### DTC CONFIRMATION PROCEDURE

#### 1.DTC CONFIRMATION PROCEDURE

CONSULT

1. Erase DTC.
2. Turn ignition switch OFF.
3. Perform the “Self Diagnostic Result” mode of “BCM”, after the ignition switch is turned ON for 120 seconds or more.

Is DTC B2562 detected?

YES >> Refer to BCS-65, "Diagnosis Procedure".
NO–1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO–2 >> Confirmation after repair: Inspection End.

## Diagnosis Procedure

INFOID:0000000015243497

#### 1.CHECK POWER SUPPLY CIRCUIT

Check BCM power supply circuit. Refer to BCS-66, "Diagnosis Procedure".

Is the circuit normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair the malfunctioning part.

# POWER SUPPLY AND GROUND CIRCUIT

## Diagnosis Procedure

INFOID:0000000014622399

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

### 1. CHECK FUSE

Check that the following fuses are not blown.

| Terminal No. | Signal name | Fuse No. |
|---|---|---|
| 161 | BCM power supply | 7 (10A) |
| 167 | Power door lock battery power supply | 5 (20A) |
| 168 | Turn signal/hazard battery power supply | 1 (15A) |
| 169 | Stop lamp battery power supply | 10 (10A) |
| 175 | Power door lock2 battery power supply | 3 (20A) |
| 176 | Rear wiper battery power supply | 4 (15A) |

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

### 2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M20.
2. Check voltage between BCM connector M20 and ground.

| BCM | | Ground | Voltage (Approx.) |
|---|---|---|---|
| Connector | Terminal | | |
| M20 | 161 | — | Battery voltage |
| | 167 | | |
| | 168 | | |
| | 169 | | |
| | 175 | | |
| | 176 | | |

Is the inspection result normal?

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

### 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M20 | 170 | — | Yes |
| | 171 | | |

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

# COMBINATION SWITCH INPUT CIRCUIT

## Diagnosis Procedure

INFOID:0000000014622400

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

### 1. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect BCM connector M18 and combination switch connector.
3. Check continuity between BCM connector M18 and combination switch connector M28.

| Combination switch signal | BCM | | Combination switch | | Continuity |
|---|---|---|---|---|---|
| | Connector | Terminal | Connector | Terminal | |
| INPUT 1 | M18 | 38 | M28 | 8 | Yes |
| INPUT 2 | | 39 | | 6 | |
| INPUT 3 | | 36 | | 5 | |
| INPUT 4 | | 37 | | 3 | |
| INPUT 5 | | 33 | | 1 | |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

### 2. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check continuity between BCM connector M18 and ground.

| Combination switch signal | BCM | | Ground | Continuity |
|---|---|---|---|---|
| | Connector | Terminal | | |
| INPUT 1 | M18 | 38 | Ground | No |
| INPUT 2 | | 39 | | |
| INPUT 3 | | 36 | | |
| INPUT 4 | | 37 | | |
| INPUT 5 | | 33 | | |

Is the inspection result normal?

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

### 3. CHECK BCM OUTPUT VOLTAGE

1. Connect BCM connector M18 and combination switch connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M18 and ground.

| Combination switch signal | BCM | | Ground | Voltage |
|---|---|---|---|---|
| | Connector | Terminal | | |
| INPUT 1 | M18 | 38 | — | Refer to BCS-28, "Reference Value". |
| INPUT 2 | | 39 | | |
| INPUT 3 | | 36 | | |
| INPUT 4 | | 37 | | |
| INPUT 5 | | 33 | | |

Is the inspection result normal?

YES >> Replace the combination switch. Refer to BCS-74, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation".

# COMBINATION SWITCH OUTPUT CIRCUIT

## Diagnosis Procedure

INFOID:0000000014622401

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

### 1. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and combination switch connector.
3. Check continuity between BCM connector M19 and combination switch connector M28.

| Combination switch signal | BCM | | Combination switch | | Continuity |
|---|---|---|---|---|---|
| | Connector | Terminal | Connector | Terminal | |
| OUTPUT 1 | M19 | 85 | M28 | 2 | Yes |
| OUTPUT 2 | | 84 | | 10 | |
| OUTPUT 3 | | 86 | | 15 | |
| OUTPUT 4 | | 87 | | 4 | |
| OUTPUT 5 | | 34 | | 7 | |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

### 2. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check continuity between BCM connector M19 and ground.

| Combination switch signal | BCM | | | Continuity |
|---|---|---|---|---|
| | Connector | Terminal | | |
| OUTPUT 1 | M19 | 85 | Ground | No |
| OUTPUT 2 | | 84 | | |
| OUTPUT 3 | | 86 | | |
| OUTPUT 4 | | 87 | | |
| OUTPUT 5 | | 34 | | |

Is the inspection result normal?

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

### 3. CHECK BCM INPUT VOLTAGE

1. Connect BCM connector M19 and combination switch connector.
2. Turn ignition switch ON.
3. Check voltage between BCM connector M19 and ground.

| Combination switch signal | BCM | | Ground | Voltage |
|---|---|---|---|---|
| | Connector | Terminal | | |
| OUTPUT 1 | M19 | 85 | — | Refer to BCS-28, "Reference Value". |
| OUTPUT 2 | | 84 | | |
| OUTPUT 3 | | 86 | | |
| OUTPUT 4 | | 87 | | |
| OUTPUT 5 | | 34 | | |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Replace the combination switch. Refer to BCS-74, "Removal and Installation".

# SYMPTOM DIAGNOSIS

## COMBINATION SWITCH SYSTEM SYMPTOMS

### Symptom Table

INFOID:0000000014622402

1. Perform the data monitor of CONSULT to check for any malfunctioning item.
2. Check the malfunction combinations.

Malfunction item: ×

| Malfunction combination | Data monitor item | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FR WIPER HI | FR WIPER LOW | FR WASHER SW | FR WIPER INT | INT VOLUME | RR WIPER ON | RR WIPER INT | RR WASHER SW | TURN SIGNAL R | TURN SIGNAL L | TAIL LAMP SW | HI BEAM SW | HEAD LAMP SW | LIGHT OFF SW | PASSING SW | AUTO LIGHT SW | FR FOG SW |
| A | | | | | | | | | | | | × | | | × | | × |
| B | | | | | × | | | | | | × | | × | | | × | |
| C | | | × | | | | | × | × | × | | | | | | | |
| D | × | × | | × | | | | | | | | | | × | | | |
| E | | | | | × | × | × | | | | | | | | | | |
| F | | × | × | | × | | | | | | | | | | | | |
| G | × | | | | × | | | × | | | | × | | | | | |
| H | | | | × | | | × | | | | | | × | | × | | |
| I | | | | | | × | | | | × | | | | | | × | |
| J | | | | | | | | | × | | × | | | × | | | × |
| K | All Items | | | | | | | | | | | | | | | | |
| L | If only one item is detected or the item is not applicable to the combinations A to K | | | | | | | | | | | | | | | | |

3. Identify the malfunctioning part from the agreed combination and repair or replace the part.

| Malfunction combination | Malfunctioning part | Repair or replace |
|---|---|---|
| A | Combination switch INPUT 1 circuit | Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-67, "Diagnosis Procedure". |
| B | Combination switch INPUT 2 circuit | |
| C | Combination switch INPUT 3 circuit | |
| D | Combination switch INPUT 4 circuit | |
| E | Combination switch INPUT 5 circuit | |
| F | Combination switch OUTPUT 1 circuit | Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to BCS-69, "Diagnosis Procedure". |
| G | Combination switch OUTPUT 2 circuit | |
| H | Combination switch OUTPUT 3 circuit | |
| I | Combination switch OUTPUT 4 circuit | |
| J | Combination switch OUTPUT 5 circuit | |
| K | BCM | Replace BCM. Refer to BCS-73, "Removal and Installation". |
| L | Combination switch | Replace the combination switch. Refer to BCS-74, "Removal and Installation". |

# NORMAL OPERATING CONDITION

## Description

INFOID:0000000014622403

### SHIPPING MODE

- Shipping mode inhibits battery power consumption during transportation or storage of the vehicle. Vehicle is set to shipping mode before being shipped from the factory.
- When ignition switch is OFF, BCM operates shipping mode.
- BCM control function is limited in shipping mode. Remote keyless entry function is not operated during the shipping mode.
- For shipping mode cancel operation, refer to BCS-61, "Work Procedure".

**NOTE:**
Do not cancel shipping mode during storage of the vehicle. Always cancel shipping mode before delivery of the vehicle to customer.

# REMOVAL AND INSTALLATION

## BCM (BODY CONTROL MODULE)

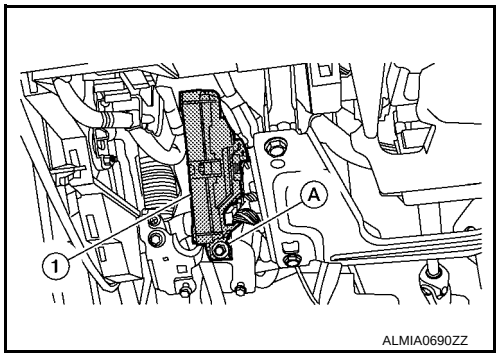
### Removal and Installation

INFOID:0000000014622404

**CAUTION:**
**Before replacing the BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-58, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description".**

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-128, "Battery Disconnect".
2. Remove the front kicking plate (LH). Refer to IP-14, "Exploded View".
3. Remove the dash side finisher (LH). Refer to IP-14, "Exploded View".
4. Remove the instrument lower panel LH. Refer to IP-22, "Removal and Installation".
5. Disconnect the fuse box and the harness connectors.
6. Remove the bolt (A), then pull out the BCM (1).




7. Disconnect the harness connectors from the BCM and remove.

INSTALLATION

Installation is in the reverse order of removal.

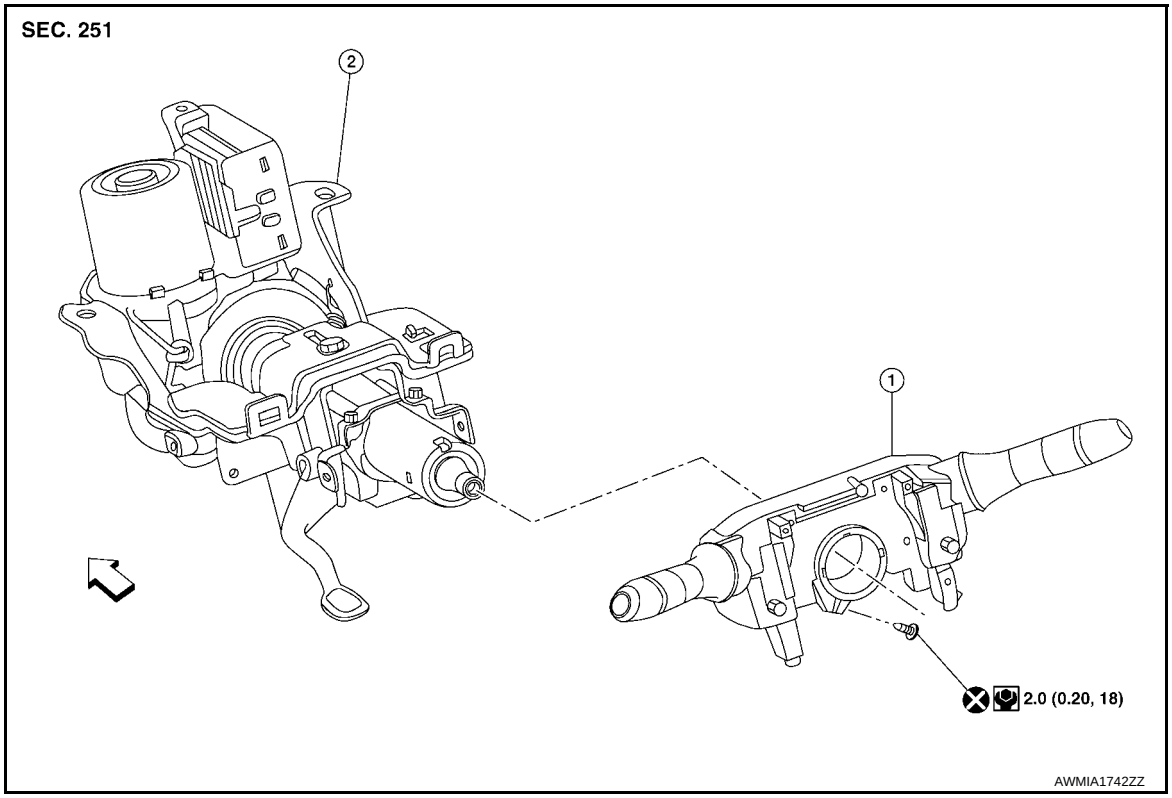
**CAUTION:**

- **When replacing BCM, perform “WRITE CONFIGURATION” Refer to BCS-59, "CONFIGURATION (BCM) : Description".**
- **When replacing BCM, perform the system initialization (NATS). Refer to BCS-58, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description".**
- **When replacing BCM, if new BCM does not come with Intelligent keys attached, all existing Intelligent keys must be re-registered. Refer to the CONSULT immobilizer mode and follow the on screen instructions.**

# COMBINATION SWITCH

## Exploded View

INFOID:0000000014622405




1. Combination switch
2. Steering column

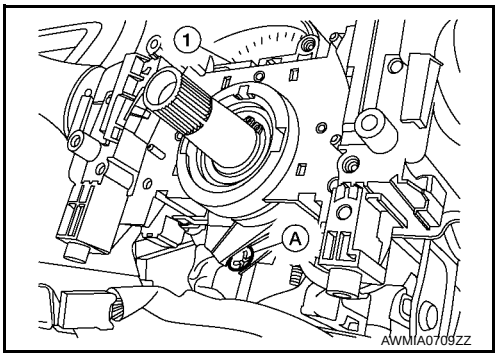
⇦ Front

## Removal and Installation

INFOID:0000000014622406

### REMOVAL

1. Remove the steering angle sensor. Refer to BRC-208, "Removal and Installation".
2. Disconnect harness connector from combination switch.
3. Remove screw (A) and combination switch (1).




### INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:**

**Do not reuse screw securing combination switch.**