

# SECTION **BCS**

## BODY CONTROL SYSTEM

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

## BASIC INSPECTION

### INSPECTION AND ADJUSTMENT

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000004231645

##### BEFORE REPLACEMENT

When replacing BCM, save or print current vehicle specification with CONSULT-III configuration before replacement.

##### NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.

##### AFTER REPLACEMENT

##### CAUTION:

- When replacing BCM, you must perform "WRITE CONFIGURATION" with CONSULT-III.
- Complete the procedure of "WRITE CONFIGURATION" in order.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- When replacing BCM, perform the system initialization (NATS).

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000004231646

#### 1. SAVING VEHICLE SPECIFICATION

##### CONSULT-III Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-3, "CONFIGURATION \(BCM\) : Description"](#).

##### NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.

>> GO TO 2.

#### 2. REPLACE BCM

Replace BCM. Refer to [BCS-67, "Exploded View"](#).

>> GO TO 3.

#### 3. WRITING VEHICLE SPECIFICATION

##### CONSULT-III Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [BCS-4, "CONFIGURATION \(BCM\) : Special Repair Requirement"](#).

>> GO TO 4.

#### 4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> WORK END

#### CONFIGURATION (BCM)

#### CONFIGURATION (BCM) : Description

INFOID:000000004231647

Vehicle specification needs to be written with CONSULT-III because it is not written after replacing BCM.

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# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

Configuration has three functions as follows

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"><li>• Reads the vehicle configuration of current BCM.</li><li>• Saves the read vehicle configuration.</li></ul>
WRITE CONFIGURATION - Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION - Config file	Writes the vehicle configuration with saved data.

### NOTE:

Manual setting item: Items which need selection by vehicle specifications

Automatic setting item: Items which are written in automatically (Setting can not be changed)

### CAUTION:

- When replacing BCM, you must perform "WRITE CONFIGURATION" with CONSULT-III.
- Complete the procedure of "WRITE CONFIGURATION" in order.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "WRITE CONFIGURATION" except for new BCM.

## CONFIGURATION (BCM) : Special Repair Requirement

INFOID:000000004231648

### 1. WRITING MODE SELECTION

ⓅCONSULT-III Configuration  
Select "CONFIGURATION" of BCM.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

### 2. PERFORM "WRITE CONFIGURATION - CONFIG FILE"

ⓅCONSULT-III Configuration  
Perform "WRITE CONFIGURATION - Config file".

>> WORK END

### 3. PERFORM "WRITE CONFIGURATION - MANUAL SELECTION"

- ⓅCONSULT-III Configuration
1. Select "WRITE CONFIGURATION - Manual selection".
  2. Identify the correct model and configuration list. Refer to [BCS-4, "CONFIGURATION \(BCM\) : Configuration list"](#).
  3. Confirm and/or change setting value for each item.
  4. Select "Setting change".

### CAUTION:

**Make sure to select "Setting change" 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 can not be memorized.**

5. When "COMMAND FINISHED", select "END".

>> GO TO 4.

### 4. OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> WORK END

## CONFIGURATION (BCM) : Configuration list

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EXCEPT FOR MEXICO, WITHOUT I-KEY

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

MANUAL SETTING ITEM		NOTE
Items	Setting value	
KEYLESS ENTRY	WITH	—
I-KEY	WITHOUT	—
TK/BD OPEN LGIC	MODE2	—
DTRL	MODE1/MODE3	<ul style="list-style-type: none"> <li>• MODE1: Except for Canada</li> <li>• MODE3: For Canada</li> </ul>

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
TIRE PRESSURE	MODE2	—
DISPLAY STYLE	MODE1	—
REAR WIPER	WITH	—
RR WIPER GND	MODE2	—
SPEED SIGNAL	MODE2	—
WAKUP SLP LOG	MODE1	—
BUCKLE SW	MODE2	—
THEFT ALARM	WITH	—
SEAT BLT WARN	WITH	—
TPMS	WITH	—

## EXCEPT FOR MEXICO, WITH I-KEY

MANUAL SETTING ITEM		NOTE
Items	Setting value	
KEYLESS ENTRY	WITHOUT	—
I-KEY	WITH	—
TK/BD OPEN LGIC	MODE3	—
DTRL	MODE1/MODE3	<ul style="list-style-type: none"> <li>• MODE1: Except for Canada</li> <li>• MODE3: For Canada</li> </ul>

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
TIRE PRESSURE	MODE2	—
DISPLAY STYLE	MODE1	—
REAR WIPER	WITH	—
RR WIPER GND	MODE2	—
SPEED SIGNAL	MODE2	—
WAKUP SLP LOG	MODE1	—
BUCKLE SW	MODE2	—
THEFT ALARM	WITH	—
SEAT BLT WARN	WITH	—
TPMS	WITH	—

## FOR MEXICO

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

MANUAL SETTING ITEM		NOTE
Items	Setting value	
KEYLESS ENTRY	WITHOUT	—

AUTO SETTING ITEM		NOTE
Items	Setting value	
TIRE PRESSURE	MODE2	—
DISPLAY STYLE	MODE1	—
REAR WIPER	WITH	—
RR WIPER GND	MODE2	—
SPEED SIGNAL	MODE2	—
WAKUP SLP LOG	MODE1	—
BUCKLE SW	MODE2	—
THEFT ALARM	WITH	—
I-KEY	WITH	—
TK/BD OPEN LGIC	MODE3	—
DTRL	MODE1	—
SEAT BLT WARN	WITHOUT	—
TPMS	WITHOUT	—

# BODY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

### BODY CONTROL SYSTEM

#### System Description

INFOID:000000004231650

#### 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-III and allows for various settings to be changed.

#### BCM FUNCTION LIST

System	Reference page
Combination switch reading system	<a href="#">BCS-9. "System Diagram"</a>
Signal buffer system	<a href="#">BCS-13. "System Diagram"</a>
Power consumption control system	<a href="#">BCS-14. "System Diagram"</a>
Headlamp system	<ul style="list-style-type: none"> <li>• <a href="#">EXL-8. "System Diagram"</a> (Xenon type headlamp)</li> <li>• <a href="#">EXL-136. "System Diagram"</a> (Halogen type headlamp)</li> </ul>
Daytime running light system	<a href="#">EXL-138. "System Diagram"</a>
Front fog lamp system	<ul style="list-style-type: none"> <li>• <a href="#">EXL-10. "System Diagram"</a> (Xenon type headlamp)</li> <li>• <a href="#">EXL-141. "System Diagram"</a> (Halogen type headlamp)</li> </ul>
Turn signal and hazard warning lamp system	<ul style="list-style-type: none"> <li>• <a href="#">EXL-12. "System Diagram"</a> (Xenon type headlamp)</li> <li>• <a href="#">EXL-143. "System Diagram"</a> (Halogen type headlamp)</li> </ul>
Parking, license plate and tail lamps system	<ul style="list-style-type: none"> <li>• <a href="#">EXL-14. "System Diagram"</a> (Xenon type headlamp)</li> <li>• <a href="#">EXL-145. "System Diagram"</a> (Halogen type headlamp)</li> </ul>
Exterior lamp battery saver system	<ul style="list-style-type: none"> <li>• <a href="#">EXL-16. "System Diagram"</a> (Xenon type headlamp)</li> <li>• <a href="#">EXL-147. "System Diagram"</a> (Halogen type headlamp)</li> </ul>
Interior room lamp control system	<a href="#">INL-5. "System Diagram"</a>
Luggage room lamp	
Interior room lamp battery saver system	<a href="#">INL-9. "System Diagram"</a>
Front wiper and washer system	<a href="#">WW-5. "System Diagram"</a>
Rear wiper and washer system	<a href="#">WW-10. "System Diagram"</a>
Warning chime system	<a href="#">WCS-5. "WARNING CHIME SYSTEM : System Diagram"</a>
Manual air conditioner system	<a href="#">HAC-9. "System Diagram"</a>
Door lock system	<ul style="list-style-type: none"> <li>• <a href="#">DLK-15. "System Diagram"</a> (With Intelligent Key system)</li> <li>• <a href="#">DLK-276. "System Diagram"</a> (Without Intelligent Key system)</li> </ul>
Back door opener function	<ul style="list-style-type: none"> <li>• <a href="#">DLK-39. "System Diagram"</a> (With Intelligent Key system)</li> <li>• <a href="#">DLK-286. "System Diagram"</a> (Without Intelligent Key system)</li> </ul>
Nissan vehicle immobilizer system-NATS (NVIS)	<ul style="list-style-type: none"> <li>• <a href="#">SEC-15. "System Diagram"</a> (With Intelligent Key system)</li> <li>• <a href="#">SEC-155. "System Diagram"</a> (Without Intelligent Key system)</li> </ul>
Vehicle security (theft warning) system	<ul style="list-style-type: none"> <li>• <a href="#">SEC-20. "System Diagram"</a> (With Intelligent Key system)</li> <li>• <a href="#">SEC-159. "System Diagram"</a> (Without Intelligent Key system)</li> </ul>
Panic alarm system	<ul style="list-style-type: none"> <li>• <a href="#">DLK-27. "REMOTE KEYLESS ENTRY FUNCTION : System Diagram"</a> (With Intelligent Key system)</li> <li>• <a href="#">DLK-281. "System Diagram"</a> (Without Intelligent Key system)</li> </ul>
Rear window defogger system	<a href="#">DEF-4. "System Diagram"</a>
Remote keyless entry system (Without Intelligent Key system)	<a href="#">DLK-281. "System Diagram"</a>

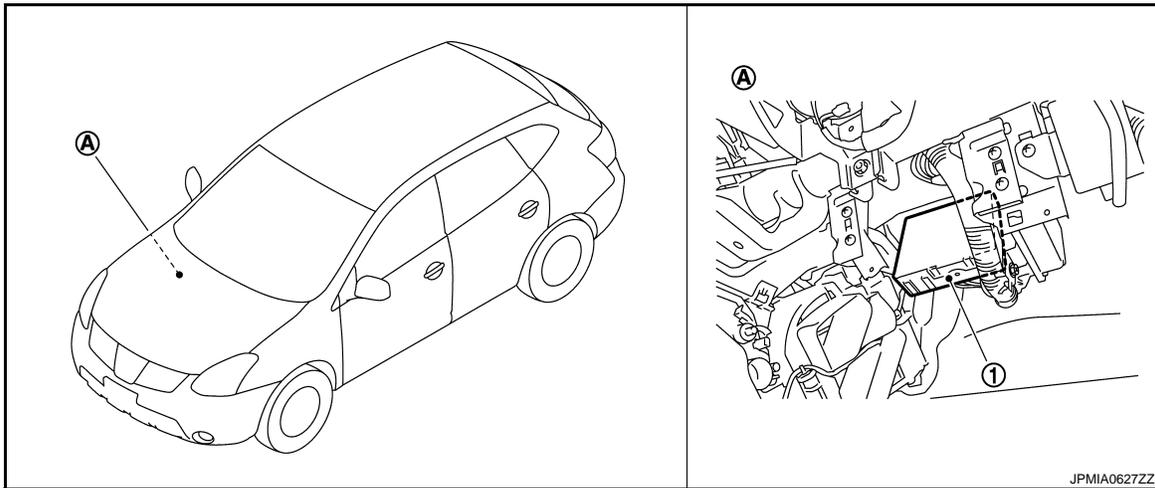
# BODY CONTROL SYSTEM

## < FUNCTION DIAGNOSIS >

System		Reference page
Intelligent Key system	Door lock system	<a href="#">DLK-20, "INTELLIGENT KEY SYSTEM : System Diagram"</a>
	Remote keyless entry system	
	Key reminder	
	Warning function	
Power window system		<a href="#">PWC-7, "System Diagram"</a>
Retained accessory power (RAP) system		<a href="#">PWC-7, "System Description"</a>
Tire pressure monitor system (TPMS) - AIR PRESSURE MONITOR		<a href="#">WT-8, "System Diagram"</a>

## Component Parts Location

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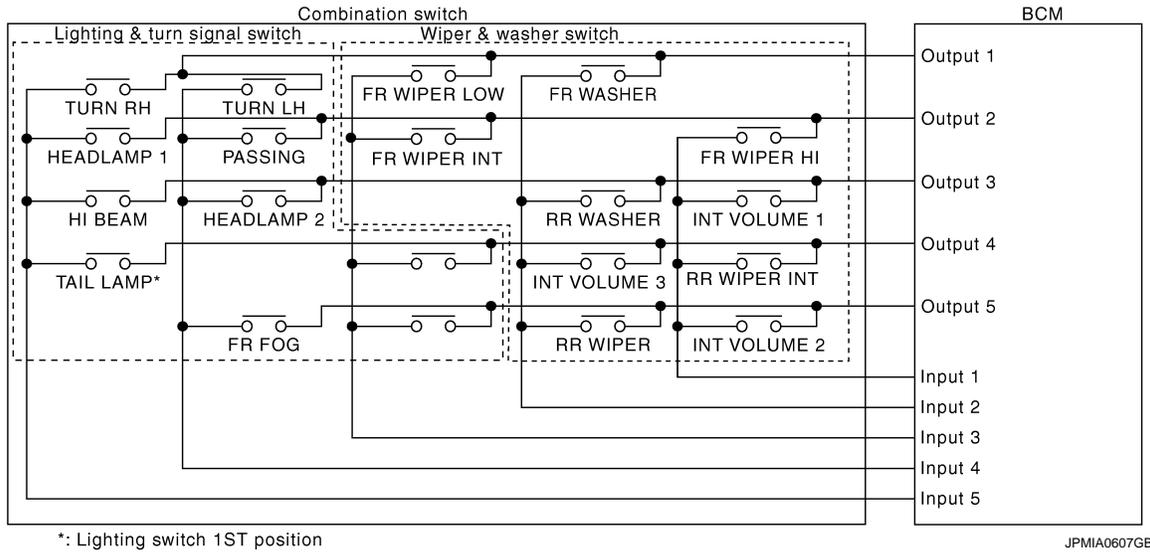
- 1. BCM
- A. Over the glove box

# COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

## COMBINATION SWITCH READING SYSTEM

### System Diagram



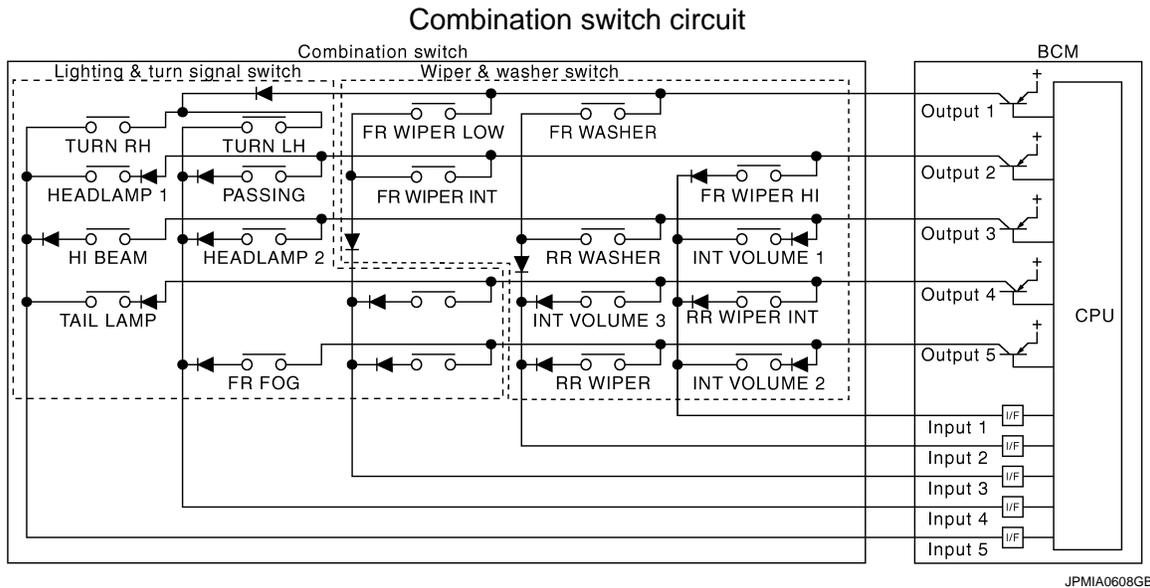
### System Description

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#### 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). It reads a maximum of 20 switch status.

#### COMBINATION SWITCH MATRIX



Combination switch INPUT-OUTPUT system list

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	RR WASHER	—	HEADLAMP 2	HI BEAM

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# COMBINATION SWITCH READING SYSTEM

## < FUNCTION DIAGNOSIS >

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 4	RR WIPER INT	INT VOLUME 3	—	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	RR WIPER	—	FR FOG	—

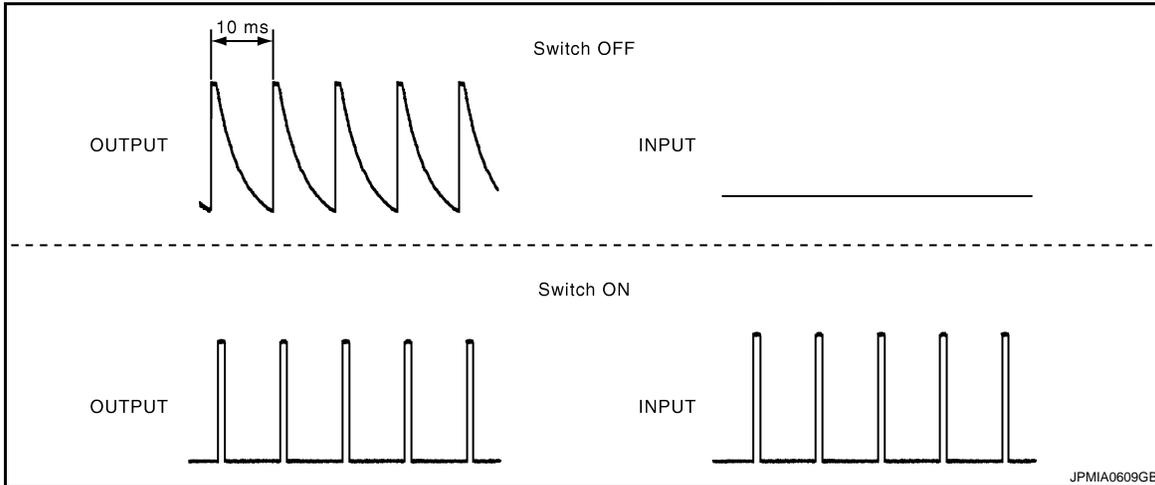
### NOTE:

Headlamp has a dual system switch.

## COMBINATION SWITCH READING FUNCTION

### Description

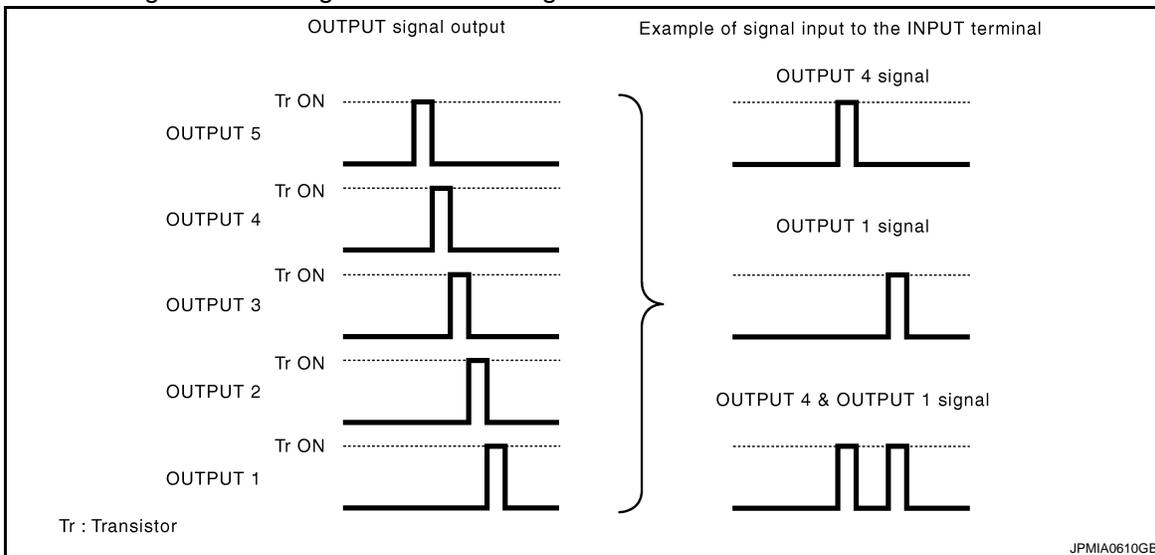
- BCM reads the status of the combination switch at 10 ms interval normally.



### NOTE:

BCM reads the status of the combination switch at 65 ms interval 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 5 → 4 → 3 → 2 → 1, 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

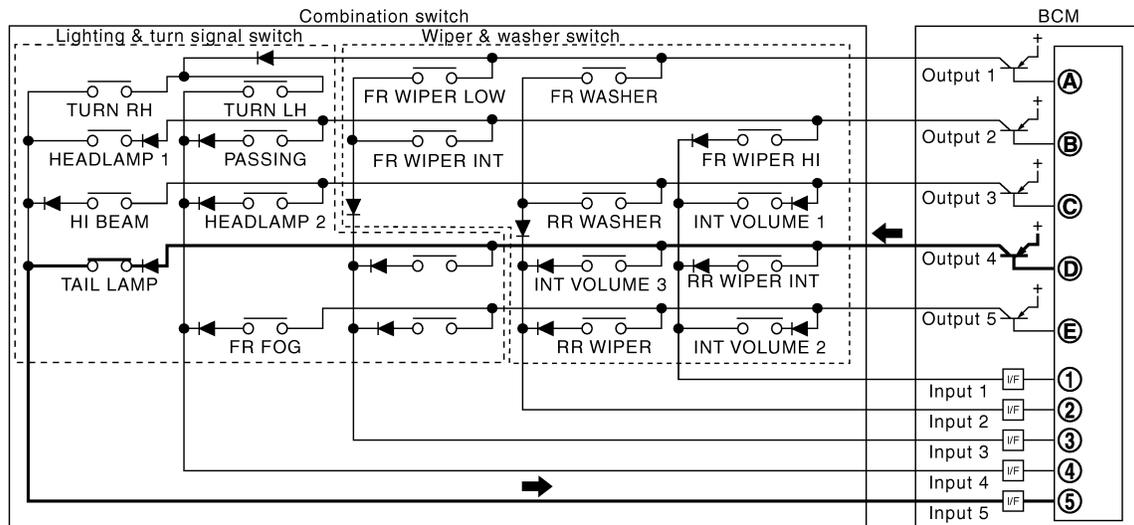
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

Example 1: When a switch (TAIL LAMP switch) is turned ON

# COMBINATION SWITCH READING SYSTEM

## < FUNCTION DIAGNOSIS >

- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.

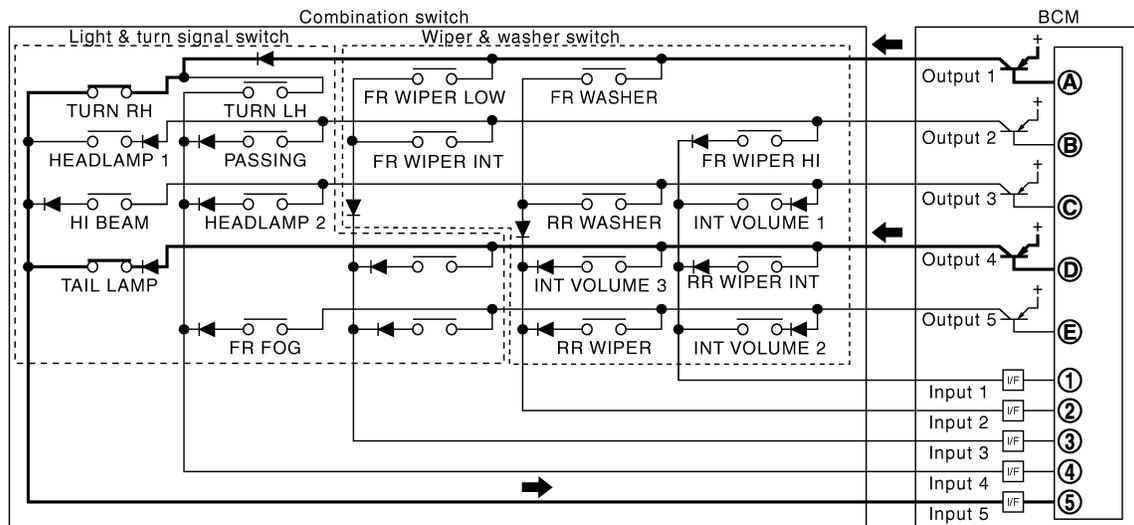


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- BCM detects the combination switch status signal "5D" when the signal of OUTPUT 4 is input to INPUT 5.
- BCM judges that the TAIL LAMP switch is ON when the signal "5D" is detected.

Example 2: When some switches (TURN RH switch, TAIL LAMP switch) are turned ON

- The circuits between OUTPUT 1 and INPUT 5 and between OUTPUT 4 and INPUT 5 are formed when the TURN RH switch and TAIL LAMP switch are turned ON.



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- BCM detects the combination switch status signal "5AD" when the signals of OUTPUT 1 and OUTPUT 4 are input to INPUT 5.
- BCM judges that the TURN RH switch and TAIL LAMP switch are ON when the signal "5AD" is detected.

## WIPER INTERMITTENT DIAL POSITION

BCM judges the lighting the wiper intermittent dial 1 - 7 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	ON
2	ON	ON	OFF
3	ON	OFF	OFF
4	OFF	OFF	OFF
5	OFF	OFF	ON

# COMBINATION SWITCH READING SYSTEM

## < FUNCTION DIAGNOSIS >

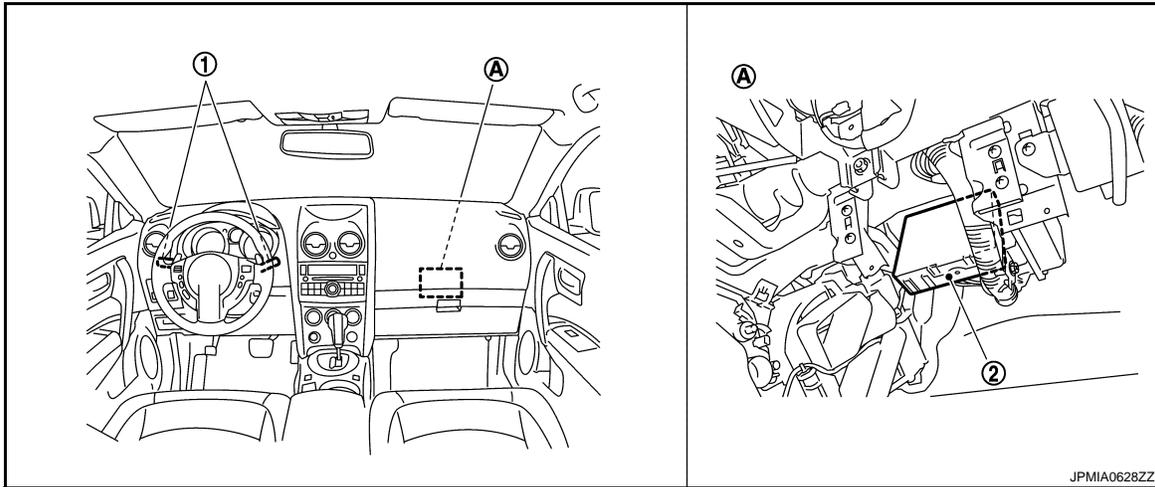
Wiper intermittent dial position	Switch status		
	INT VOLUME 1	INT VOLUME 2	INT VOLUME 3
6	OFF	ON	ON
7	OFF	ON	OFF

### NOTE:

For details of wiper volume dial position, refer to [WW-5. "System Diagram"](#).

## Component Parts Location

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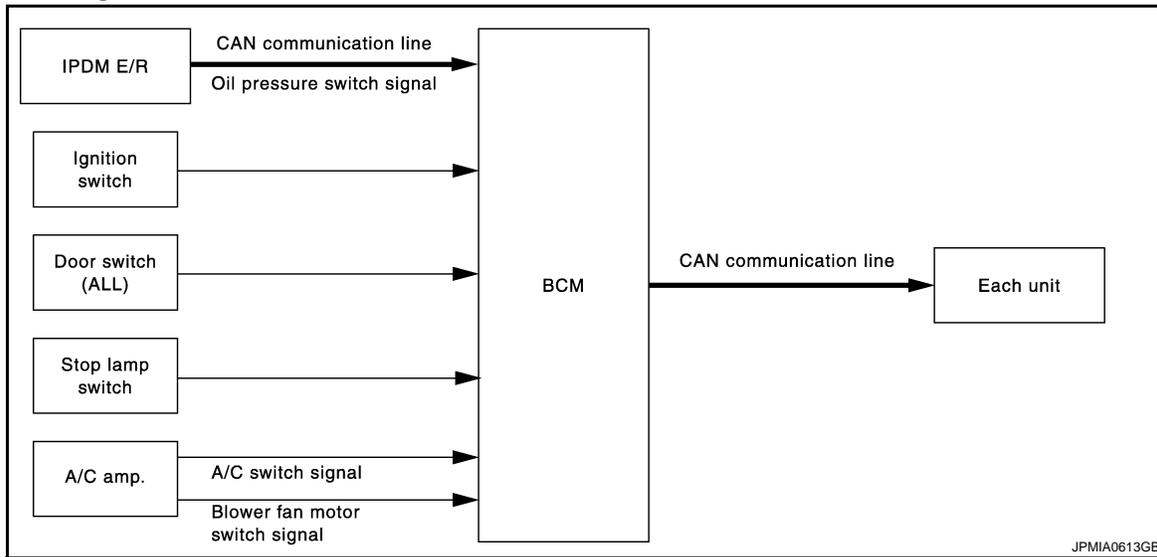
- 1. Combination switch
- 2. BCM
- A. Over the glove box

# SIGNAL BUFFER SYSTEM

< FUNCTION DIAGNOSIS >

## SIGNAL BUFFER SYSTEM

### System Diagram



### System Description

INFOID:000000004231656

#### OUTLINE

BCM has the signal transmission function that outputs/transmits each input/received signal to each unit.

#### SIGNAL TRANSMISSION FUNCTION LIST

Signal name	Input	Output	Description
Ignition switch ON signal	Ignition switch	IPDM E/R (CAN)	Inputs the ignition switch signal and transmits it with CAN communication.
Door switch signal	Any door switch	<ul style="list-style-type: none"> <li>Combination meter (CAN)</li> <li>IPDM E/R (CAN)</li> <li>Intelligent Key unit (CAN)</li> </ul>	Inputs the door switch signal and transmits it with CAN communication.
Stop lamp switch signal	Stop lamp switch	TCM (CAN)	Inputs the stop lamp switch signal and transmits it with CAN communication.
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pressure switch signal with CAN communication.
A/C switch signal	A/C amp.	ECM (CAN)	Inputs the A/C switch signal and transmits it with CAN communication.
Blower fan motor switch signal			Inputs the Blower fan motor switch signal and transmits it with CAN communication.

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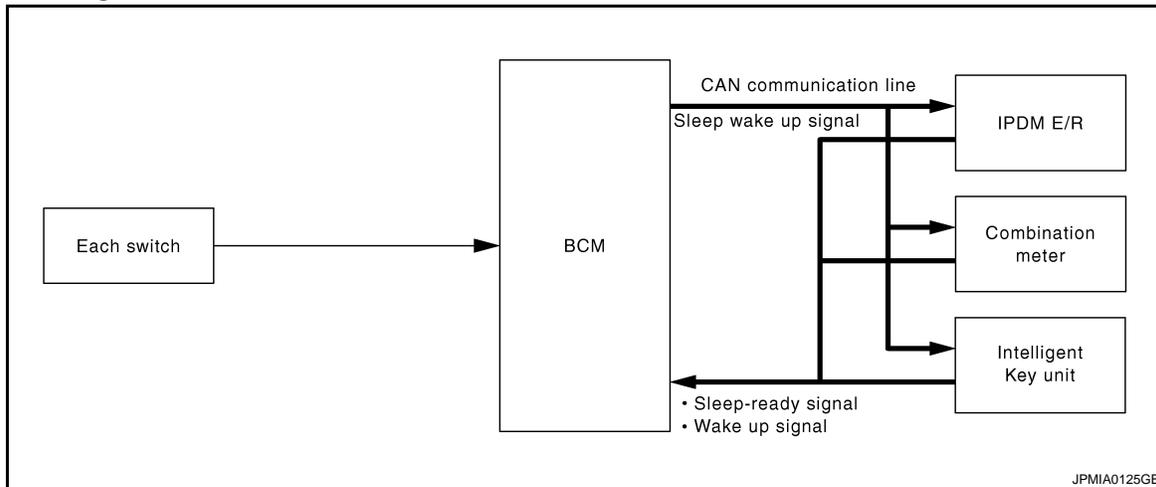
# POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## POWER CONSUMPTION CONTROL SYSTEM

### System Diagram

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### System Description

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#### OUTLINE

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

#### Normal mode (wake-up)

- CAN communication is normally performed with other units
- Each control with BCM is operating properly

#### CAN communication sleep mode (CAN sleep)

- CAN transmission is stopped
- Control with BCM only 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 65 ms interval.

#### SLEEP OPERATION

- BCM receives the sleep-ready signal (ready) from IPDM E/R, combination meter and Intelligent Key unit with CAN communication.
- BCM transmits the sleep wake up signal (sleep) 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 perform the low power consumption control when all of the BCM sleep conditions are fulfilled with CAN sleep condition.

# POWER CONSUMPTION CONTROL SYSTEM

## < FUNCTION DIAGNOSIS >

### Sleep condition

CAN sleep condition	BCM sleep condition	A
<ul style="list-style-type: none"> <li>• Receiving the sleep-ready signal (ready) from all units</li> <li>• Key switch status: No change</li> <li>• Ignition switch: OFF</li> <li>• Door switch status: No change</li> <li>• Door lock status: No change</li> <li>• Hazard warning lamp: Not operation</li> <li>• Exterior lamp: OFF</li> <li>• Warning lamp: Not operation (Except security indicator)</li> <li>• Warning chime: Not operation</li> <li>• Remote keyless entry receiver: Not receiving</li> <li>• Intelligent key unit communication: No operation request (CAN)</li> <li>• CONSULT-III communication status: Not communication</li> <li>• Vehicle security system alarm: Not operation</li> <li>• Stop lamp switch: OFF</li> </ul>	<p>The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)</p>	<p>B</p> <p>C</p> <p>D</p> <p>E</p>

### 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. Combination meter and Intelligent Key unit transmit wake up signals to BCM with CAN communication to convey the start of CAN communication.

### Wake-up condition

BCM wake-up condition	F
<ul style="list-style-type: none"> <li>• Receiving the sleep-ready signal (Not-ready) from any unit</li> <li>• Key switch: OFF → ON, ON → OFF</li> <li>• Ignition switch: OFF → ACC or ON</li> <li>• Any door switch: OFF → ON, ON → OFF</li> <li>• Central door lock switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK</li> <li>• Key cylinder switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK</li> <li>• Hazard switch: OFF → ON</li> <li>• Lighting switch: OFF → 1ST or PASS</li> <li>• Remote keyless entry receiver: Receiving</li> <li>• Intelligent key unit communication: Receiving operation request (CAN)</li> <li>• CONSULT-III communication status: Receiving</li> <li>• Stop lamp switch: ON (Depress brake pedal)</li> <li>• Back door opener switch OFF → ON</li> </ul>	<p>G</p> <p>H</p> <p>I</p> <p>J</p> <p>K</p>

BCS

N

O

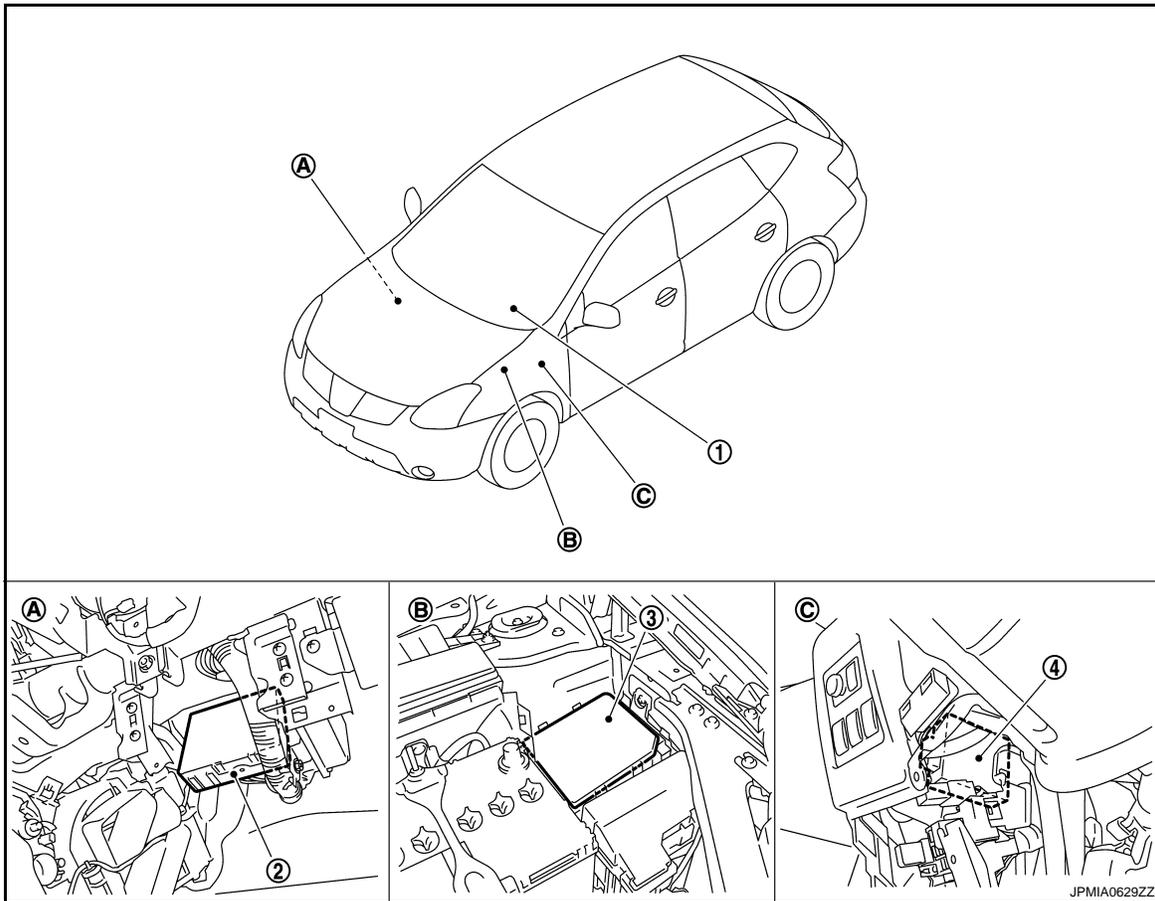
P

# POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## Component Parts Location

INFOID:000000004231659



- 1. Combination meter
- 4. Intelligent Key unit
- A. Over the glove box

- 2. BCM
- B. Engine room (LH)

- 3. IPDM E/R
- C. Over the instrument lower panel (driver side)

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000004231660

#### APPLICATION ITEM

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to <a href="#">BCS-63, "DTC Index"</a> .
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	<ul style="list-style-type: none"> <li>Read and save the vehicle specification.</li> <li>Write the vehicle specification when replacing BCM.</li> </ul>
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

x: Applicable item

System	CONSULT-III sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	x	x	x
Rear window defogger	REAR DEFOGGER		x	x
Warning chime	BUZZER		x	x
Interior room lamp control	INT LAMP	x	x	x
Remote keyless entry system	MULTI REMOTE ENT	x	x	x
Exterior lamp	HEAD LAMP	x	x	x
Wiper and washer	WIPER	x	x	x
Turn signal and hazard warning lamps	FLASHER		x	x
Air conditioner	AIR CONDITONER		x	
Intelligent Key system	INTELLIGENT KEY		x	
Combination switch	COMB SW		x	
—	BCM	x		
Immobilizer	IMMU		x	x
Interior room lamp battery saver	BATTERY SAVER	x	x	x
Back door open	TRUNK		x	x
Vehicle security system	THEFT ALM	x	x	x
RAP system	RETAINED PWR	x	x	x
Signal buffer system	SIGNAL BUFFER		x	x
—	FUEL LID*			
TPMS	TPMS (AIR PRESSURE MONITOR)	x	x	x
Panic alarm system	PANIC ALARM			x

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

### DOOR LOCK

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000004538065

### BCM CONSULT-III FUNCTION

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function
DATA MONITOR	The BCM input/output signals are displayed
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM

### DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position
PUSH SW <sup>*1</sup>	Indicates [ON/OFF] condition of ignition knob switch
KEY ON SW	Indicates [ON/OFF] condition of key switch
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side)
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side)
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch
KEYLESS LOCK <sup>*2</sup>	Indicates [ON/OFF] condition of lock signal from key fob
KEYLESS UNLOCK <sup>*2</sup>	Indicates [ON/OFF] condition of unlock signal from key fob
I-KEY LOCK <sup>*1</sup>	Indicates [ON/OFF] condition of lock signal from Intelligent Key
I-KEY UNLOCK <sup>*1</sup>	Indicates [ON/OFF] condition of unlock signal from Intelligent Key
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from key cylinder
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from key cylinder

\*1: For the Intelligent Key equipped vehicle.

\*2: For the multi remote control system equipped vehicle.

### ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock operation [ALL LCK/ALL ULK/DR UNLK/OTR ULK]

### WORK SUPPORT

Test item	Description
DOOR LOCK-UNLOCK SET	Select unlock mode can be changed in this mode. Selects ON-OFF of select unlock mode
ANTI-LOCK OUT SET	Key reminder door mode can be changed in this mode. Selects ON-OFF of Key reminder door mode
AUTOMATIC DOOR LOCK SELECT	The automatic door lock function mode can be selected as per the following item in this Mode. <ul style="list-style-type: none"><li>VH SPD: All doors are locked when vehicle speed is more than 5 MPH (10km/h)</li><li>P RANGE: All doors are locked when shifting the selector lever from the P position to other than the P position</li></ul>

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Test item	Description
AUTOMATIC DOOR UNLOCK SELECT	The automatic door unlock function mode can be selected as per the following item in this Mode. <ul style="list-style-type: none"> <li>• MODE 1: All doors are unlocked when the power supply position is changed from ON to OFF</li> <li>• MODE 2: All doors are unlocked when shifting the selector lever from any position to other than the P to P positions</li> <li>• MODE 4: Driver side door is unlocked when the power supply position is changed from ON to OFF</li> <li>• MODE 5: Driver side door is unlocked when shifting the selector lever from any position to other than the P to P positions</li> </ul>
AUTOMATIC DOOR LOCK/UNLOCK SET	The automatic door lock/unlock function can be changed to operate (ON) or not operate (OFF) in this mode.

## REAR WINDOW DEFOGGER

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

INFOID:000000004538086

#### Data monitor

Monitor Item	Description
REAR DEF SW	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.

#### ACTIVE TEST

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation.

## BUZZER

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

INFOID:000000004538087

#### CONSULT-III FUNCTION (BCM – BUZZER)

Test item	Diagnosis mode	Description
Buzzer	Data Monitor	Displays BCM input data in real time.
	Active Test	Operation of electrical loads can be checked by sending driving signal to them.

#### DATA MONITOR

Display item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged by ignition power supply input.
KEY ON SW [On/Off]	Key switch status.
DOOR SW -DR [On/Off]	Front door switch (driver side) status judged by BCM.
LIGHT SW 1ST [On/Off]	Lighting switch status judged by the lighting switch signal read with combination switch reading function.
BUCKLE SW [On/Off]	Seat belt buckle switch (driver side) status judged by BCM.

#### ACTIVE TEST

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# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

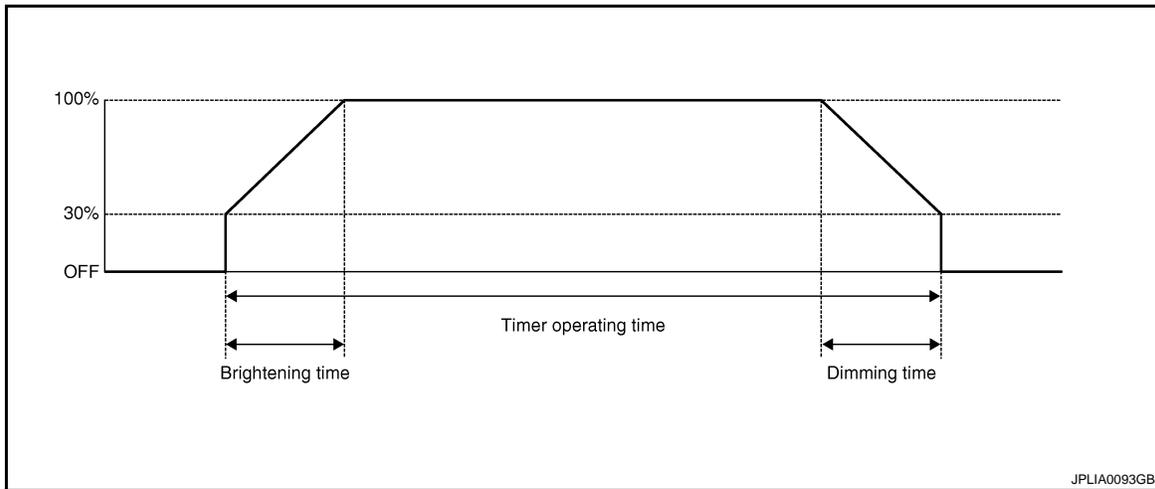
Display item	Description
LIGHT WARN ALM	The light reminder warning chime operation can be checked by operating the relevant function (On/Off).
IGN KEY WARN ALM	The key warning chime operation can be checked by operating the relevant function (On/Off).
SEAT BELT WARN TEST	The seat belt reminder warning chime operation can be checked by operating the relevant function (On/Off). The seat belt warning chime operation can be checked by operating the relevant function (On/Off).

## INT LAMP

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

INFOID:000000004538083

### WORK SUPPORT



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Service item	Setting item	Setting
SET I/L D-UNLCK INTCON	On*	With the interior room lamp timer function
	Off	Without the interior room lamp timer function
ROOM LAMP ON TIME SET	MODE 1	0.5 sec.
	MODE 2*	1 sec.
	MODE 3	2 sec.
	MODE 4	3 sec.
	MODE 5	4 sec.
	MODE 6	5 sec.
	MODE 7	0 sec.
		Sets the interior room lamp gradual brightening time.
ROOM LAMP OFF TIME SET	MODE 1	0.5 sec.
	MODE 2*	1 sec.
	MODE 3	2 sec.
	MODE 4	3 sec.
	MODE 5	4 sec.
	MODE 6	5 sec.
	MODE 7	0 sec.
		Sets the interior room lamp gradual dimming time.

\*: Factory setting

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
KEY ON SW [On/Off]	The switch status input from key switch
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
BACK DOOR SW [On/Off]	The switch status input from back door switch
KEY CYL LK-SW [On/Off]	Lock switch status input from key cylinder switch
KEY CYL UN-SW [On/Off]	Unlock switch status input from key cylinder switch
CDL LOCK SW [On/Off]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [On/Off]	Unlock switch status input from door lock and unlock switch
I-KEY LOCK [On/Off]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK [On/Off]	Unlock signal status received from Intelligent Key unit by CAN communication
KEYLESS LOCK [On/Off]	Lock signal status received from remote keyless entry receiver
KEYLESS UNLOCK [On/Off]	Unlock signal status received from remote keyless entry receiver

## ACTIVE TEST

Test item	Operation	Description
INT LAMP	On	Outputs the interior room lamp control signal to turn the interior room lamps ON. [Map lamp, room lamp (when applicable lamps switch is in DOOR position.)]
	Off	Stops the interior room lamp control signal to turn the interior room lamps OFF.
IGN ILLUM	On	Outputs the ignition keyhole illumination control signal to turn ignition keyhole illumination ON.
	Off	Stops the ignition keyhole illumination control signal to turn ignition keyhole illumination OFF.
STEP LAMP TEST	On	<b>NOTE:</b> The item is indicated, but not operate.
	Off	
LUGGAGE LAMP TEST	On	Outputs the luggage room lamp control signal to turn luggage room lamp ON.
	Off	Stops the luggage room lamp control signal to turn luggage room lamp OFF.

## MULTIREMOTE ENT

## MULTIREMOTE ENT : CONSULT-III Function (BCM - MULTIREMOTE ENT)

INFOID:000000004538091

## BCM CONSULT-III FUNCTION

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

### DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
KEYLESS PANIC	Indicates [ON/OFF] condition of panic alarm signal from key fob.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
RKE LOCK AND UNLOCK	Indicates [ON/OFF] condition of lock and unlock signal from keyfob.
MEMORY 1	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 2	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 3	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 4	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 5	Indicates [ON/OFF] condition of remote controller ID code registration.

### ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock operation [ALL LOCK/ALL UNLOCK/DR UNLOCK OTHER UNLOCK].
FLASHER	This test is able to check flasher operation [LH/RH/OFF].
HORN	This test is able to check horn operation [ON/OFF].

### WORK SUPPORT

Test item	Description
HAZARD LAMP SET	Answer back function (hazard) mode can be changed in this mode. For the detail of the setting.
HORN CHIRP SET	Answer back function (horn) mode can be changed in this mode. For the detail of the setting.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Test item	Description
AUTO LOCK SET	Auto door lock time can be changed in this mode. <ul style="list-style-type: none"> <li>• MODE 1: 1 minute</li> <li>• MODE 2: 2 minutes</li> <li>• MODE 3: 3 minutes</li> <li>• MODE 4: 4 minutes</li> <li>• MODE 5: 5 minutes</li> </ul>
PANIC ALRM SET	Panic alarm operation mode can be changed in this mode.

## HEADLAMP

### HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)

INFOID:000000004538073

## WORK SUPPORT

Service item	Setting item	Setting
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
	Off	Without the exterior lamp battery saver function
ILL DELAY SET	MODE 1	<b>NOTE:</b> The item is indicated, but not operate
	MODE 2	
	MODE 3	
	MODE 4	
	MODE 5	
	MODE 6	
	MODE 7	
	MODE 8	

\*: Factory setting

## DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
ACC SW [On/Off]	Ignition switch (ACC) status judged from ACC signal (ACC power supply)
HI BEAM SW [On/Off]	Each switch status that BCM judges from the combination switch reading function
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
LIGHT SW 1ST [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
AUTO LIGHT SW [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)

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# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
BACK DOOR SW [On/Off]	The switch status input from back door switch
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
ENGINE RUNNING [On/Off]	The engine status received from ECM with CAN communication
PKB SW [On/Off]	The parking brake switch status received from combination meter with CAN communication
CARGO LAMP SW [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored
OPTICAL SENSOR [V]	

## ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	Off	Stops the tail lamp request signal transmission.
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	Lo	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP	On	Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	Off	Stops the front fog lights request signal transmission.
DAYTIME RUNNING LIGHT	On	<b>NOTE:</b> The item indicated, but not operate
	Off	

## WIPER

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

INFOID:000000004538085

## WORK SUPPORT

Service item	Setting item	Description
WIPER SPEED SETTING	On*	With vehicle speed (Front wiper intermittent time linked with the vehicle speed and wiper intermittent dial position)
	Off	Without vehicle speed (Front wiper intermittent time linked with the wiper intermittent dial position)

\*:Factory setting

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch ON status judged from ignition power supply.
IGN SW CAN [On/Off]	Ignition switch ON status received from IPDM E/R with CAN communication.
FR WIPER HI [On/Off]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	
INT VOLUME [1 – 7]	
FR WIPER STOP [On/Off]	Front wiper motor (stop position) status received from IPDM E/R with CAN communication.
VEHICLE SPEED [km/h]	The value of the vehicle speed signal received from combination meter with CAN communication.
RR WIPER ON [On/Off]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
RR WIPER STOP [On/Off]	Rear wiper motor (stop position) status input from the rear wiper motor.
H/L WASH SW [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.

## ACTIVE TEST

Test item	Operation	Description
FR WIPER	Hi	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.
	Lo	Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operate the front wiper LO operation.
	INT	Transmits the front wiper request signal (INT) to IPDM E/R with CAN communication to operate the front wiper INT operation.
	Off	Stops transmitting the front wiper request signal to stop the front wiper operation.
RR WIPER	On	Outputs the voltage to operate the rear wiper motor.
	Off	Stops the voltage to stop.

## AIR CONDITIONER

### AIR CONDITIONER : CONSULT-III Function

INFOID:000000004538088

## DATA MONITOR

### Display Item List

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Contents
IGN SW [On/Off]	Displays [ignition switch position (On)/OFF, ACC position (Off)] status as judged from ignition switch signal.
FAN ON SIG [On/Off]	Displays [FAN (On)/FAN (Off)] status as judged from blower fan motor switch signal.
AIR COND SW [On/Off]	Displays [COMP (On)/COMP (Off)] status as judged from air conditioner switch signal.

## FLASHER

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

INFOID:000000004538082

#### DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
HAZARD SW [On/Off]	The switch status input from the hazard switch
TURN SIGNAL R [On/Off]	Each switch condition that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
BRAKE SW [On/Off]	The switch status input from the stop lamp switch

#### ACTIVE TEST

Test item	Operation	Description
FLASHER	RH	Outputs the voltage to turn the right side turn signal lamps ON.
	LH	Outputs the voltage to turn the left side turn signal lamps ON.
	Off	Stops the voltage to turn the turn signal lamps OFF.

## INTELLIGENT KEY

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

INFOID:000000004538066

#### BCM CONSULT-III FUNCTION

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

Diagnosis mode	Function Description
DATA MONITOR	The BCM input/output signals are displayed

#### DATA MONITOR

Monitor Item	Condition
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch
I-KEY LOCK	Indicates [ON/OFF] condition of lock signal from Intelligent Key
I-KEY UNLOCK	Indicates [ON/OFF] condition of unlock signal from Intelligent Key
I-KEY TRUNK	This item is indicated, but not monitored
I-KEY PW DWN	This item is indicated, but not monitored
I-KEY PANIC	Indicates [ON/OFF] condition of panic alarm

## COMB SW

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000004231671

### DATA MONITOR

Monitor item [UNIT]	Description
TURN SIGNAL R [Off/On]	Displays the status of "TURN RH" switch in combination switch judged by the combination switch reading function.
TURN SIGNAL L [Off/On]	Displays the status of the "TURN LH" switch in combination switch judged by the combination switch reading function.
HI BEAM SW [Off/On]	Displays the status of "HI BEAM" switch in combination switch judged by the combination switch reading function.
HEAD LAMP SW 1 [Off/On]	Displays the status of "HEADLAMP 1" switch in combination switch judged by the combination switch reading function.
HEAD LAMP SW 2 [Off/On]	Displays the status of "HEADLAMP 2" switch in combination switch judged by the combination switch reading function.
LIGHT SW 1ST [Off/On]	Displays the status of "TAIL LAMP" switch in combination switch judged by the combination switch reading function.
PASSING SW [Off/On]	Displays the status of "PASSING" switch in combination switch judged by the combination switch reading function.
AUTO LIGHT SW [Off/On]	<b>NOTE:</b> The item is indicated, but not monitored.
FR FOG SW [Off/On]	Displays the status of "FR FOG" switch in combination switch judged by the combination switch reading function.
RR FOG SW [Off/On]	<b>NOTE:</b> The item is indicated, but not monitored.
FR WIPER HI [Off/On]	Displays the status of "FR WIPER HI" switch in combination switch judged by the combination switch reading function.
FR WIPER LOW [Off/On]	Displays the status of "FR WIPER LOW" switch in combination switch judged by the combination switch reading function.
FR WIPER INT [Off/On]	Displays the status of "FR WIPER INT" switch in combination switch judged by the combination switch reading function.
FR WASHER SW [Off/On]	Displays the status of "FR WASHER" switch in combination switch judged by the combination switch reading function.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by the combination switch reading function.
RR WIPER ON [Off/On]	Displays the status of "RR WIPER" switch in combination switch judged by the combination switch reading function.
RR WIPER INT [Off/On]	Displays the status of "RR WIPER INT" switch in combination switch judged by the combination switch reading function.
RR WASHER SW [Off/On]	Displays the status of "RR WASHER" switch in combination switch judged by the combination switch reading function.

### BCM

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

INFOID:000000004231672

### WORK SUPPORT

Item	Description
RESET SETTING VALUE	Return a value set with WORK SUPPORT of each system to a default value in factory shipment.

### IMMU

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000004538069

### APPLICATION ITEM

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

Diagnosis mode	Function Description
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

### DATA MONITOR

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.

### ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator operation [ON/OFF].

## BATTERY SAVER

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

INFOID:000000004538084

### WORK SUPPORT

Service item	Setting item	Setting	
ROOM LAMP TIMER SET	MODE 1*	30 min.	Sets the interior room lamp battery saver timer operating time.
	MODE 2	60 min.	

\*: Factory setting

### DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
KEY ON SW [On/Off]	The switch status input from key switch
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
BACK DOOR SW [On/Off]	The switch status input from back door switch
KEY CYL LK-SW [On/Off]	Lock switch status input from key cylinder switch
KEY CYL UN-SW [On/Off]	Unlock switch status input from key cylinder switch
CDL LOCK SW [On/Off]	Lock switch status input from door lock and unlock switch

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
CDL UNLOCK SW [On/Off]	Unlock switch status input from door lock and unlock switch
I-KEY LOCK [On/Off]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK [On/Off]	Unlock signal status received from Intelligent Key unit by CAN communication
KEYLESS LOCK [On/Off]	Lock signal status received from remote keyless entry receiver
KEYLESS UNLOCK [On/Off]	Unlock signal status received from remote keyless entry receiver

## ACTIVE TEST

Test item	Operation	Description
BATTERY SAVER	Off	Cuts the interior room lamp power supply to turn interior room lamps OFF.
	On	Outputs the interior room lamp power supply to turn interior room lamps ON.*

\*: Each lamp switch is in ON position.

## TRUNK

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

INFOID:000000004538067

#### APPLICATION ITEM

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

Diagnosis mode	Function Description
DATA MONITOR	The BCM input/output signals are displayed
ACTIVE TEST	The signals used to activate each device are forcibly supplied from Intelligent Key unit

## DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position
I-KEY TRUNK	This item is indicated, but not monitored
TRNK OPNR SW	Indicates [ON/OFF] condition of back door opener switch
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h]

## ACTIVE TEST

Test item	Description
TRUNK/BACK DOOR	This test is able to check back door opener operation [ON/OFF]

## THEFT ALM

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

INFOID:000000004538070

#### APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Diagnosis mode	Function Description
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

### DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYLESS LOCK* <sup>2</sup>	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK* <sup>2</sup>	Indicates [ON/OFF] condition of unlock signal from key fob.
I-KEY LOCK* <sup>1</sup>	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK* <sup>1</sup>	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.
TRUNK OPNR SW	Indicates [ON/OFF] condition of back door opener switch.
TRUNK CYL SW	<b>NOTE:</b> The item is indicated, but not monitored.
TRNK OPNR MNTR	<b>NOTE:</b> The item is indicated, but not monitored.
HOOD SW	Indicates [ON/OFF] condition of hood switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of key cylinder switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.

\*1: For vehicle equipped with Intelligent Key.

\*2: For the vehicle equipped with remote key less entry system.

### ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator operation [ON/OFF].
VEHICLE SECURITY HORN	This test is able to check horn operation [ON].
HEAD LAMP(HI)	This test is able to check head lamp (HI) operation [ON/OFF].

### WORK SUPPORT

Test item	Description
SECURITY ALARM SET	Vehicle security function mode can be changed in this mode. <ul style="list-style-type: none"> <li>• ON: Vehicle security function is ON.</li> <li>• OFF: Vehicle security function is OFF.</li> </ul>
THEFT ALM TRG	The switch which triggered vehicle security system is recorded. This mode can be able to confirm and erase the record of vehicle security system.

### RETAINED PWR

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000004538072

Data monitor

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

## SIGNAL BUFFER

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

INFOID:000000004231678

DATA MONITOR

Monitor item [UNIT]	Description
OIL PRESS SW [Off/On]	Displays the status of oil pressure switch received from IPDM E/R with CAN communication.

ACTIVE TEST

Test item	Operation	Description
OIL PRESSURE SW	On	Transmits the oil pressure switch signal with CAN communication to illuminate the oil pressure warning lamp in the combination meter.
	Off	Stops the oil pressure switch signal transmission.

## AIR PRESSURE MONITOR

## AIR PRESSURE MONITOR : Diagnosis Description

INFOID:000000004538089

### DESCRIPTION

During driving, the TPMS receives the signal transmitted from the transmitter installed in each wheel, when the tire pressure becomes low. The control unit (BCM) of this system has pressure judgment and trouble diagnosis functions.

When the TPMS detects low inflation pressure or another unusual symptom, the low tire pressure warning lamps in the combination meter comes on.

### SELF DIAGNOSTIC PROCEDURE (WITH CONSULT-III)

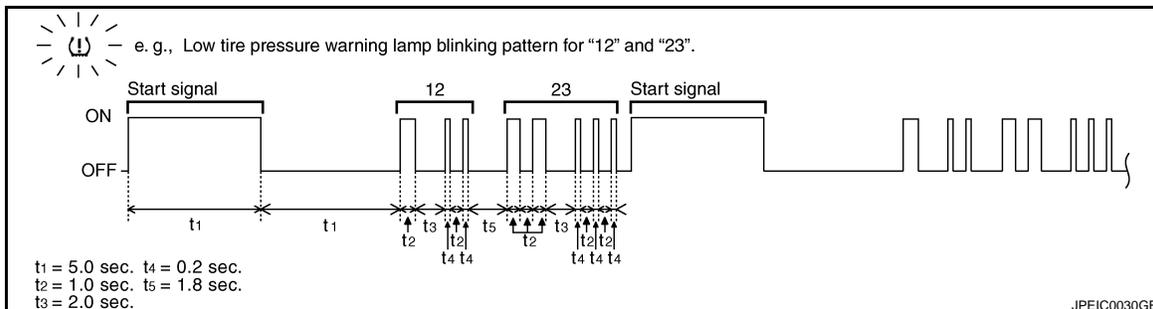
 With CONSULT-III

Touch "SELF-DIAG RESULT" display shows malfunction experienced since the last erasing operation. Refer to [WT-60, "DTC Index"](#).

### SELF DIAGNOSTIC PROCEDURE (WITHOUT CONSULT-III)

 Without CONSULT-III

To start the self-diagnostic results mode, ground terminal of the tire pressure warning check connector. The malfunction location is indicated by the low tire pressure warning lamp blinking.



### NOTE:

When the low tire pressure warning lamp blinks 5 Hz and continues repeating it, the system is normal.

## DIAGNOSIS SYSTEM (BCM)

### < FUNCTION DIAGNOSIS >

Blinking pattern	Items	Diagnostic items detected when...	Check item
15	Tire pressure value (Front LH)	Front LH tire pressure drops to 182.7 kPa (1.9 kg/cm <sup>2</sup> , 26 psi) or less. [NOTE]	-
16	Tire pressure value (Front RH)	Front RH tire pressure drops to 182.7 kPa (1.9 kg/cm <sup>2</sup> , 26 psi) or less. [NOTE]	
17	Tire pressure value (Rear RH)	Rear RH tire pressure drops to 182.7 kPa (1.9 kg/cm <sup>2</sup> , 26 psi) or less. [NOTE]	
18	Tire pressure value (Rear LH)	Rear LH tire pressure drops to 182.7 kPa (1.9 kg/cm <sup>2</sup> , 26 psi) or less. [NOTE]	
21	Transmitter no data (Front LH)	Data from front LH transmitter can not be receive.	<a href="#">WT-17</a>
22	Transmitter no data (Front RH)	Data from front RH transmitter can not be receive.	
23	Transmitter no data (Rear RH)	Data from Rear RH transmitter can not be receive.	
24	Transmitter no data (Rear LH)	Data from Rear LH transmitter can not be receive.	
31	Transmitter checksum error (Front LH)	Checksum data from front LH transmitter is malfunctioning.	<a href="#">WT-20</a>
32	Transmitter checksum error (Front RH)	Checksum data from front RH transmitter is malfunctioning.	
33	Transmitter checksum error (Rear RH)	Checksum data from rear RH transmitter is malfunctioning.	
34	Transmitter checksum error (Rear LH)	Checksum data from rear RH transmitter is malfunctioning.	
35	Transmitter pressure data error (Front LH)	Air pressure data from front LH transmitter is malfunction.	<a href="#">WT-23</a>
36	Transmitter pressure data error (Front RH)	Air pressure data from front RH transmitter is malfunction.	
37	Transmitter pressure data error (Rear RH)	Air pressure data from rear RH transmitter is malfunction.	
38	Transmitter pressure data error (Rear LH)	Air pressure data from rear LH transmitter is malfunction.	
41	Transmitter function code error (Front LH)	Function code data from front LH transmitter is malfunction.	<a href="#">WT-25</a>
42	Transmitter function code error (Front RH)	Function code data from front RH transmitter is malfunction.	
43	Transmitter function code error (Rear RH)	Function code data from rear RH transmitter is malfunction.	
44	Transmitter function code error (Rear LH)	Function code data from rear LH transmitter is malfunction.	
45	Transmitter battery voltage low (Front LH)	Battery voltage of front LH transmitter drops.	<a href="#">WT-28</a>
46	Transmitter battery voltage low (Front RH)	Battery voltage of front RH transmitter drops.	
47	Transmitter battery voltage low (Rear RH)	Battery voltage of rear RH transmitter drops.	
48	Transmitter battery voltage low (Rear LH)	Battery voltage of rear LH transmitter drops.	
52	Vehicle speed signal error	Speed signal is not detected.	<a href="#">WT-31</a>
54	Ignition line	BCM ignition line is malfunction.	<a href="#">BCS-36</a>
No blinking	Tire pressure warning check switch	Tire pressure warning switch circuit is open.	-

NOTE: Standard air pressure is for 230 kPa (2.3 kg/cm<sup>2</sup>, 33 psi) vehicles

### ERASE SELF-DIAGNOSIS

 With CONSULT-III

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

1. Perform applicable inspection of malfunctioning item and then repair or replace.
2. Turn ignition switch "ON" and select "SELF-DIAG RESULTS" mode for "AIR PRESSURE MONITOR" with CONSULT-III.
3. Touch "ERASE" on CONSULT-III screen to erase memory.

### ⊗ Without CONSULT-III

- In order to make it easier to find the cause of hard-to-duplicate malfunctions, malfunction information is stored into the control unit as necessary during use by the user. This memory is not erased no matter how many times the ignition switch is turned "ON" and "OFF".
- However, this information is erased by turning ignition switch "OFF" after performing self-diagnostic or by erasing the memory using the CONSULT-III.

## AIR PRESSURE MONITOR : CONSULT-III Function (BCM - AIR PRESSURE MONITOR)

INFOID:000000004538090

### WORK SUPPORT MODE

#### ID Read

The registered ID number is displayed.

#### ID Regist

Refer to [WT-5, "ID REGISTRATION PROCEDURE : Special Repair Requirement"](#).

### SELF-DIAG RESULTS MODE

#### Operation Procedure

Refer to [WT-60, "DTC Index"](#).

### DATA MONITOR MODE

Screen of data monitor mode is displayed.

#### NOTE:

When malfunction is detected, CONSULT-III perform REAL-TIME DIAGNOSIS. Also, any malfunction detected while in this mode will be displayed at real time.

#### Display item list

Monitor	Condition	Specification
VEHICLE SPEED	Drive vehicle	Vehicle speed (km/h or MPH)
AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RL	<ul style="list-style-type: none"> <li>• Drive vehicle for a few minutes.</li> <li>or</li> <li>• Ignition switch ON and transmitter activation tool is transmitting activation signals.</li> </ul>	Tire pressure (kPa or Psi)
ID REGST FL ID REGST FR ID REGST RR ID REGST RL	Ignition switch ON	Registration ID: Done No registration: Yet
WARNING LAMP		Low tire pressure warning lamp ON: On Low tire pressure warning lamp OFF: Off
BUZZER		Buzzer in combination meter ON: On Buzzer in combination meter OFF: Off

#### NOTE:

Before performing the self-diagnosis, be sure to register the ID, or erase the actual malfunction location may be different from that displayed on CONSULT-III.

### ACTIVE TEST MODE

#### NOTE:

Before performing the self-diagnosis, be sure to register the ID, or erase the actual malfunction may be different from that displayed on CONSULT-III.

### TEST ITEM LIST

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Test item	Content
WARNING LAMP	This test is able to check to check that the low tire pressure warning lamp turns on.
ID REGIST WARNING	This test is able to check to check that the buzzer sounds or the low tire pressure warning lamp turns on.
FLAT TIRE WARNING	This test is able to check to check that the buzzer sounds.
HORN	This test is able to check to check that the horn sounds.
FLASHER	This test is able to check to check that each turn signal lamp turns on.
RUNFLAT TIRE W/L	<b>NOTE:</b> This item is displayed, but cannot be use this item.

## PANIC ALARM

### PANIC ALARM : CONSULT-III Function (BCM - PANIC ALARM)

INFOID:000000004538068

#### APPLICATION ITEM

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

Diagnosis mode	Function Description
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM

#### ACTIVE TEST

Test item	Description
HEAD LAMP (HI)	This test is able to check head lamp (hi) operation [ON/OFF]
PANIC ALARM	This test is able to check panic alarm operation [ON/OFF]

# U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000004231682

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.  
CAN Communication Signal Chart. Refer to [LAN-24, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000004231683

#### DTC DETECTION LOGIC

DTC	DTC Detection Condition	Possible cause
U1000: CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

#### Diagnosis Procedure

INFOID:000000004231684

#### 1. PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

- YES >> Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-41, "Intermittent Incident"](#).

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# C1735 IGN CIRCUIT OPEN

< COMPONENT DIAGNOSIS >

## C1735 IGN CIRCUIT OPEN

### DTC Logic

INFOID:000000004231685

### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
C1735	IGN CIRCUIT OPEN	Detected following signals are different for 2 seconds; <ul style="list-style-type: none"> <li>Ignition switch ON signal inputted from ignition switch</li> <li>Ignition relay status signal received from IPDM E/R with CAN communication</li> </ul>	<ul style="list-style-type: none"> <li>Harness or connector (Ignition power supply circuit)</li> <li>BCM</li> <li>IPDM E/R</li> </ul>

#### NOTE:

BCM may detect that ignition switch is OFF when IGN power supply voltage is low.

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION

- Erase DTC.
- Turn the ignition switch OFF.
- Perform the "Self Diagnostic Result" of CONSULT-III, when passed 2 seconds or more after the ignition switch is turned ON.

Is any DTC detected?

- YES >> Refer to [BCS-36, "Diagnosis Procedure"](#).  
 NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000004231686

#### 1. CHECK BCM IGNITION POWER SUPPLY CIRCUIT

Check BCM ignition power supply circuit. Refer to [BCS-37, "Diagnosis Procedure"](#).

Is the circuit normal?

- YES >> GO TO 2  
 NO >> Repair the malfunctioning part.

#### 2. CHECK IPDM E/R POWER SUPPLY CIRCUIT

Check IPDM E/R power supply circuit. Refer to [PCS-15, "Diagnosis Procedure"](#).

Is the circuit normal?

- YES >> GO TO 3.  
 NO >> Repair the malfunctioning part.

#### 3. CHECK IPDM E/R IGNITION RELAY STATUS

##### ⓅCONSULT-III DATA MONITOR

- Select "IGN RLY" of IPDM E/R data monitor item.
- With operating the ignition switch, check the monitor status.

Monitor item	Condition	Monitor status
IGN RLY	OFF	Off
	ON	On

Is the item status normal?

- YES >> Replace BCM. Refer to [BCS-67, "Exploded View"](#).  
 NO >> Replace IPDM E/R. Refer to [PCS-28, "Exploded View"](#).

# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000004231687

#### 1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not fusing.

Signal name	Fuses and fusible link No.
Battery power supply	10
	J
ACC power supply	20
Ignition power supply	1

Is the fuse fusing?

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

NO >> GO TO 2.

#### 2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		(-)	Ignition switch position		
(+)			OFF	ACC	ON
BCM					
Connector	Terminal	Ground			
M67	70		Battery voltage	Battery voltage	Battery voltage
	57				
M65	11		Approx. 0 V	Battery voltage	Battery voltage
	38		Approx. 0 V	Approx. 0 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

#### 3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and the ground.

BCM		Ground	Continuity
Connector	Terminal		Existed
M67	67		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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# COMBINATION SWITCH OUTPUT CIRCUIT

< COMPONENT DIAGNOSIS >

## COMBINATION SWITCH OUTPUT CIRCUIT

### Diagnosis Procedure

INFOID:000000004231688

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M65	36	M27	1	Existed
OUTPUT 2		35		2	
OUTPUT 3		34		3	
OUTPUT 4		33		4	
OUTPUT 5		32		5	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

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

Check for continuity between BCM harness connector and the ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
OUTPUT 1	M65	36	Ground	Not existed
OUTPUT 2		35		
OUTPUT 3		34		
OUTPUT 4		33		
OUTPUT 5		32		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 3.

#### 3. CHECK BCM OUTPUT VOLTAGE

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

System	Terminals		Voltage (Approx.)
	(+)	(-)	
	BCM		
	Connector	Terminal	
OUTPUT 1	M65	36	Ground
OUTPUT 2		35	
OUTPUT 3		34	
OUTPUT 4		33	
OUTPUT 5		32	

Is the measurement value normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to [BCS-67. "Exploded View"](#).

# COMBINATION SWITCH OUTPUT CIRCUIT

< COMPONENT DIAGNOSIS >

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## 4.CHECK COMBINATION SWITCH

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Check combination switch. Refer to [BCS-42. "Description"](#).

Is the check result normal?

- YES >> Replace BCM. Refer to [BCS-67. "Exploded View"](#).
- NO >> Replace the combination switch (applicable parts).

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**BCS**

# COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

## COMBINATION SWITCH INPUT CIRCUIT

### Diagnosis Procedure

INFOID:000000004231689

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M65	6	M27	6	Existed
INPUT 2		5		7	
INPUT 3		4		10	
INPUT 4		3		9	
INPUT 5		2		8	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

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

Check for continuity between BCM harness connector and the ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
INPUT 1	M65	6	Ground	Not existed
INPUT 2		5		
INPUT 3		4		
INPUT 4		3		
INPUT 5		2		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 3.

#### 3. CHECK BCM INPUT SIGNAL

1. Connect BCM and combination switch connectors.
2. Turn ON any switch in the system that is malfunction.
3. Check voltage between BCM harness connector and the ground.

System	Terminals		Voltage (Approx.)
	(+)	(-)	
	BCM		
	Connector	Terminal	
INPUT 1	M65	6	Ground
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	

Is the measurement value normal?

Yes >> Replace BCM. Refer to [BCS-67. "Exploded View"](#).

# COMBINATION SWITCH INPUT CIRCUIT

## < COMPONENT DIAGNOSIS >

---

No >> GO TO 4.

### 4.CHECK COMBINATION SWITCH

---

Check combination switch. Refer to [BCS-42, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-67, "Exploded View"](#).

NO >> Replace the combination switch (applicable parts).

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BCS

# COMBINATION SWITCH

< COMPONENT DIAGNOSIS >

## COMBINATION SWITCH

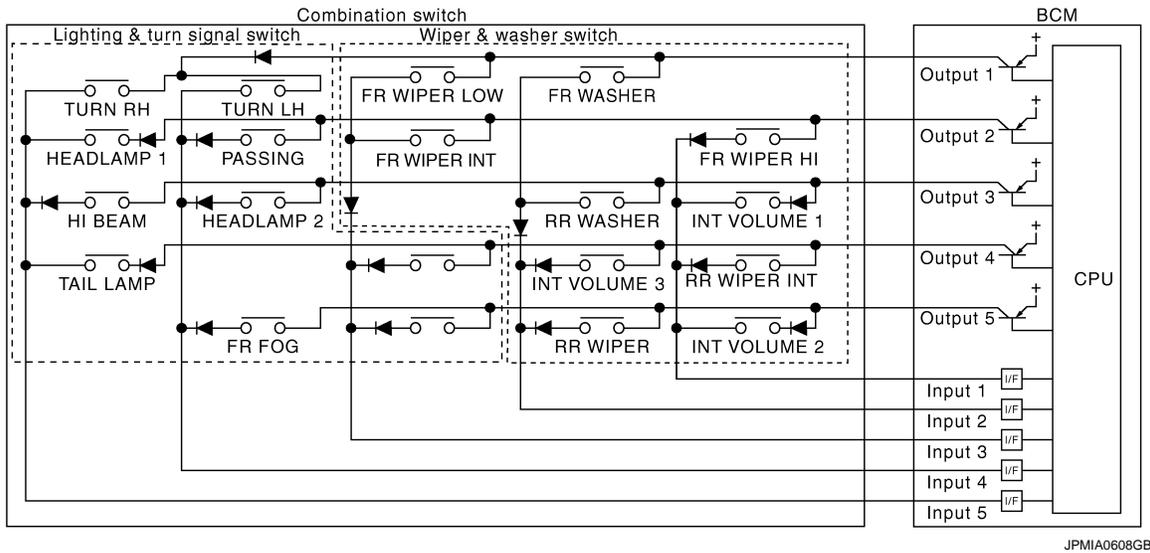
### Description

INFOID:000000004231690

### COMBINATION SWITCH MATRIX

Combination switch consists of INPUT circuit and OUTPUT circuit.

Combination switch circuit



Combination switch OUTPUT-INPUT system list

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	RR WASHER	—	HEADLAMP 2	HI BEAM
OUTPUT 4	RR WIPER INT	INT VOLUME 3	—	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	RR WIPER	—	FR FOG	—

#### NOTE:

Headlamp has a dual system switch.

### Diagnosis Procedure

INFOID:000000004231691

#### 1. CHECK LIGHT & TURN SIGNAL SWITCH

Check operation with normal light & turn signal switch installed.

Does it operate normally?

- YES >> Replace the light & turn signal switch.
- NO >> GO TO 2.

#### 2. CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

- YES >> Replace the wiper & washer switch.
- NO >> GO TO 3.

#### 3. CHECK SWITCH BASE (SPIRAL CABLE)

Check operation with normal switch base (spiral cable) installed.

Does it operate normally?

- YES >> Replace the switch base (spiral cable).
- NO >> Combination switch is normal.

## BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

### ECU DIAGNOSIS

#### BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000004231692

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	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
DOOR SW-DR	Driver's door closed	Off
	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
KEYLESS LOCK	"LOCK" button of key fob is not pressed	Off
	"LOCK" button of key fob is pressed	On
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
	"UNLOCK" button of key fob is pressed	On
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off
	"LOCK" button of Intelligent Key or door request switch are pressed	On
I-KEY UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off
	"UNLOCK" button of Intelligent Key or door request switch are pressed	On
ACC ON SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1ST	On

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## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS TRUNK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TRNK OPN MNTR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of key fob is pressed and held simultaneously	On
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed and held	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
AUTO LIGHT SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
ENGINE RUN	Engine stopped	Off
	Engine running	On
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
CARGO LAMP SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
OPTICAL SENSOR	<b>NOTE:</b> The item is indicated, but not monitored.	0 V
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
FR WIPER INT	Front wiper switch OFF	Off	A
	Front wiper switch INT	On	
FR WASHER SW	Front washer switch OFF	Off	B
	Front washer switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
FR WIPER STOP	Any position other than front wiper stop position	Off	C
	Front wiper stop position	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	D
RR WIPER ON	Rear wiper switch OFF	Off	
	Rear wiper switch ON	On	
RR WIPER INT	Rear wiper switch OFF	Off	E
	Rear wiper switch INT	On	
RR WASHER SW	Rear washer switch OFF	Off	F
	Rear washer switch ON	On	
RR WIPER STOP	Rear wiper stop position	Off	
	Other than rear wiper stop position	On	G
RR WIPER STP2	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
H/L WASH SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	H
HAZARD SW	Hazard switch OFF	Off	
	Hazard switch ON	On	I
BRAKE SW	Brake pedal is not depressed	Off	
	Brake pedal is depressed	On	J
FAN ON SIG	Blower fan motor switch OFF	Off	
	Blower fan motor switch ON (other than OFF)	On	
AIR COND SW	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	Off	K
	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	On	L
I-KEY TRUNK	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
I-KEY PW DWN	UNLOCK button of Intelligent Key is not pressed	Off	BCS
	UNLOCK button of Intelligent Key is pressed and held	On	
I-KEY PANIC	PANIC button of Intelligent Key is not pressed	Off	
	PANIC button of Intelligent Key is pressed	On	N
PUSH SW	Return to ignition switch to "LOCK" position	Off	
	Press ignition switch	On	O
TRNK OPNR SW	When back door opener switch is not pressed	Off	
	When back door opener switch is pressed	On	
TRUNK CYL SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	P
HOOD SW	Close the hood	Off	
	<b>NOTE:</b> Vehicles of except for Mexico are OFF-fixed Open the hood	On	

## BCM (BODY CONTROL MODULE)

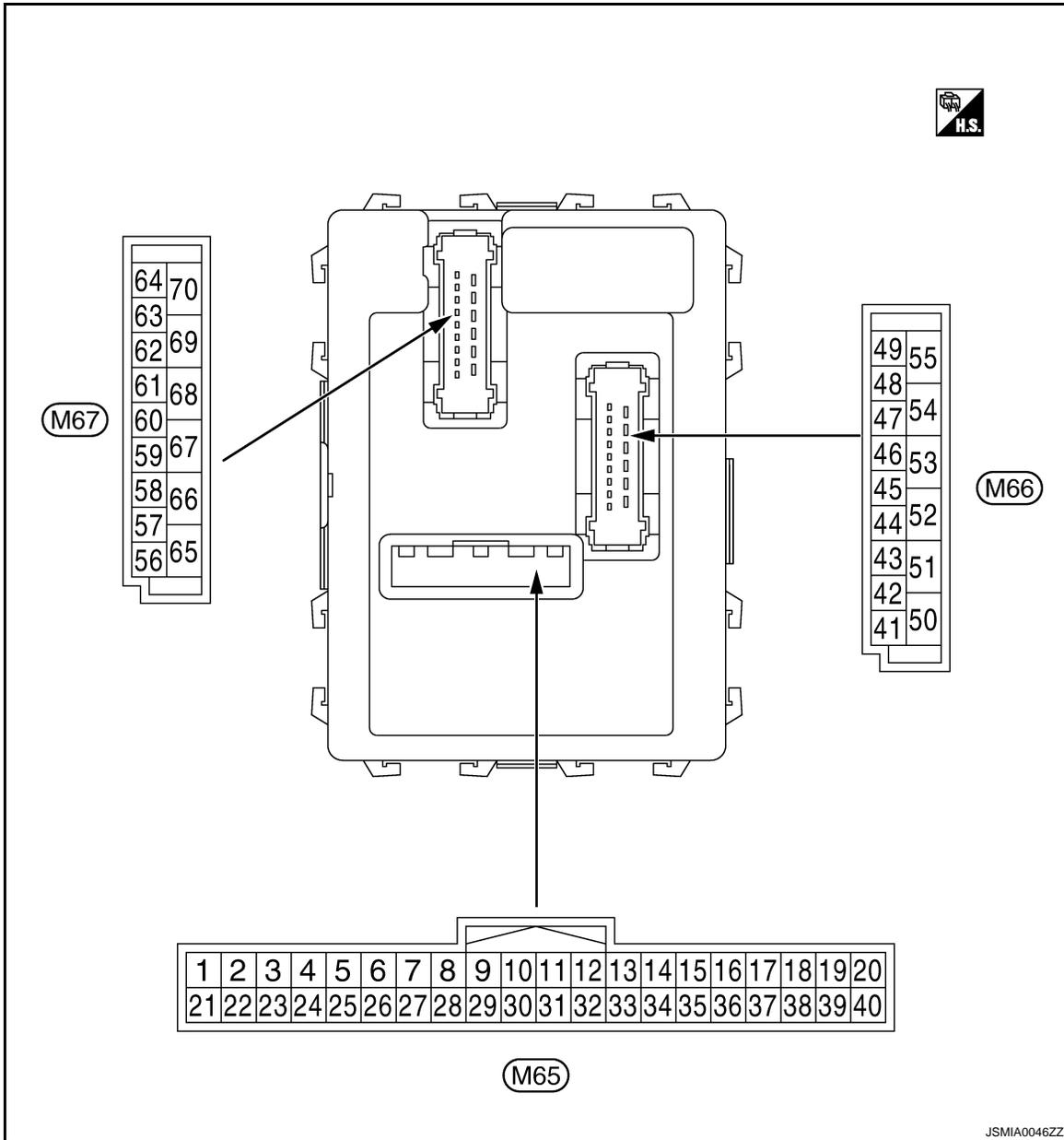
### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
OIL PRESS SW	<ul style="list-style-type: none"> <li>• Ignition switch OFF or ACC</li> <li>• Engine running</li> </ul>	Off
	Ignition switch ON	On
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## TERMINAL LAYOUT



### PHYSICAL VALUES

**CAUTION:**

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT-III. Refer to [BCS-27, "COMB SW : CONSULT-III Function \(BCM - COMB SW\)"](#).
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to [BCS-9, "System Diagram"](#).

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output	Ignition key hole illumination	OFF	Battery voltage
1 (V)	Ground	Ignition key hole illumination control	Output		ON	

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
2 (G)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch RH	
					Lighting switch HI	
					Lighting switch 1ST	
				Lighting switch 2ND	 2.0 V	
3 (Y)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch LH	
					Lighting switch PASS	
					Lighting switch 2ND	
				Front fog lamp switch ON	 0.8 V	
4 (W)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Front wiper switch LO	
					Front wiper switch MIST	
					Front wiper switch INT	

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

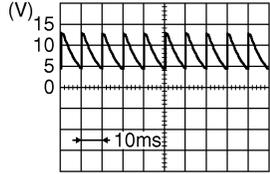
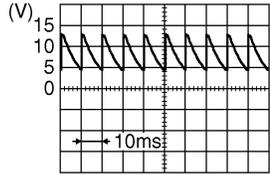
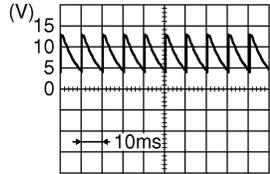
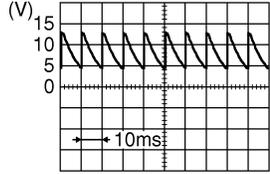
Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
+	-	Signal name	Input/ Output				
5 (R)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch (Wiper intermittent dial 4)		
					Rear washer ON (Wiper intermittent dial 4)		
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>		1.0 V
					Rear wiper switch ON (Wiper intermittent dial 4)		0.8 V
6 (P)	Ground	Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
					Front wiper switch HI (Wiper intermittent dial 4)		
					Rear wiper switch INT (Wiper intermittent dial 4)		
					Wiper intermittent dial 3 (All switch OFF)		1.0 V
				Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>		0.8 V	

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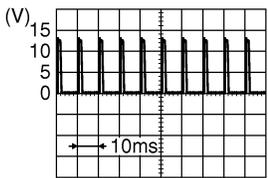
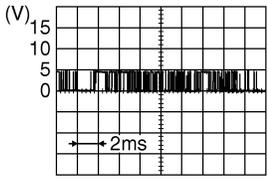
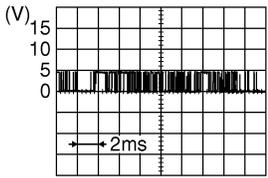
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
7 (L)	Ground	Door key cylinder switch UNLOCK signal	Input	Door key cylinder switch	NEUTRAL position	 <p style="text-align: right; font-size: small;">JPMIA0587GB</p> <p style="text-align: center;">8.0 - 8.5 V</p>
					UNLOCK position	0 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylinder switch	NEUTRAL position	 <p style="text-align: right; font-size: small;">JPMIA0587GB</p> <p style="text-align: center;">8.0 - 8.5 V</p>
					LOCK position	0 V
9 (R)	Ground	Stop lamp switch	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
					ON (Brake pedal is de- pressed)	Battery voltage
10 (SB)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	Battery voltage
					Pressed	0 V
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch OFF	0 V	
				Ignition switch ACC or ON	Battery voltage	
12 (P)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 <p style="text-align: right; font-size: small;">JPMIA0586GB</p> <p style="text-align: center;">7.5 - 8.0 V</p>
					ON (When passenger door opened)	0 V
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	 <p style="text-align: right; font-size: small;">JPMIA0587GB</p> <p style="text-align: center;">8.0 - 8.5 V</p>
					ON (When rear door RH opened)	0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

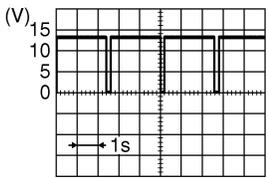
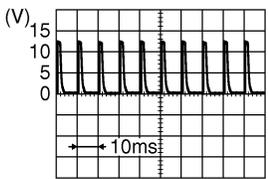
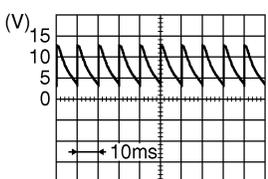
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
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15* (O)	Ground	Tire pressure warning check switch	Input	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JPMIA0588GB</p> <p style="text-align: center;">1.5 V</p>	
18* (O)	Ground	Remote keyless entry receiver ground	Input	Ignition switch ON	0 V	
19* (V)	Ground	Remote keyless entry receiver power supply	Input	Without Intelligent Key system	At any condition	5 V
				With Intelligent Key system	<ul style="list-style-type: none"> <li>• Ignition switch OFF</li> <li>• For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V
					3 seconds or later after ignition switch OFF to ON	5 V
20* (GR)	Ground	Remote keyless entry receiver signal	Input	Without Intelligent Key system	At any condition	 <p style="text-align: right; font-size: small;">JPMIA0589GB</p> <p><b>NOTE:</b> The wave form changes according to signal-receiving condition.</p>
				With Intelligent Key system	<ul style="list-style-type: none"> <li>• Ignition switch OFF</li> <li>• For 3 seconds after ignition switch OFF to ON</li> </ul>	0 V
					3 seconds or later after ignition switch OFF to ON	 <p style="text-align: right; font-size: small;">JPMIA0589GB</p> <p><b>NOTE:</b> The wave form changes according to signal-receiving condition.</p>
21 (G)	Ground	Immobilizer antenna signal (Clock)	Input/ Output	Ignition switch OFF	Battery voltage	

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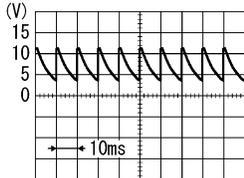
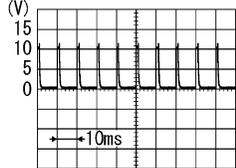
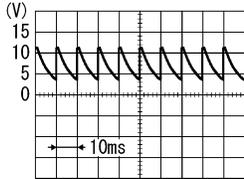
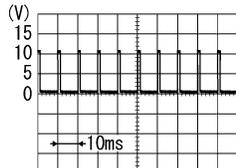
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
23 (B)	Ground	Security indicator signal	Input	Security indica- tor	ON	0 V
					Blinking (Ignition switch OFF)	 <p style="text-align: right; font-size: small;">JPMIA0590GB</p>
					OFF	Battery voltage
25 (BR)	Ground	Immobilizer anten- na signal (Rx, Tx)	Input/ Output	Ignition switch OFF		Battery voltage
27 (Y)	Ground	A/C switch	Input	Ignition switch ON	A/C switch OFF	 <p style="text-align: right; font-size: small;">JPMIA0591GB</p>
					A/C switch ON	0 V
28 (LG)	Ground	Blower fan switch	Input	Ignition switch ON	Blower fan switch OFF	 <p style="text-align: right; font-size: small;">JPMIA0592GB</p>
					Blower fan switch ON	0 V
29 (W)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
					ON	0 V
30 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	Battery voltage
					Pressed	0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

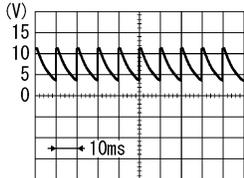
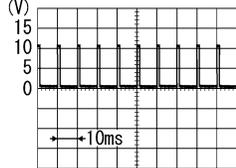
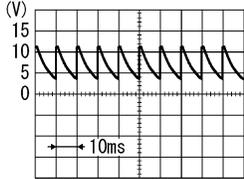
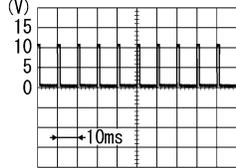
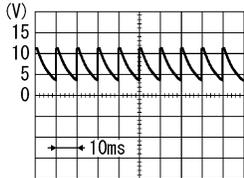
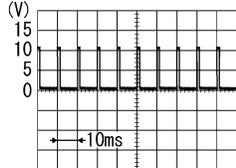
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)
					Front fog lamp switch ON (Wiper intermittent dial 4)
					Rear wiper switch ON (Wiper intermittent dial 4)
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>
					 <p style="text-align: center;">7.2 V</p>
					 <p style="text-align: center;">1.0 V</p>
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)
					Lighting switch 1ST (Wiper intermittent dial 4)
					Rear wiper switch INT (Wiper intermittent dial 4)
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>
					 <p style="text-align: center;">7.2 V</p>
					 <p style="text-align: center;">1.2 V</p>

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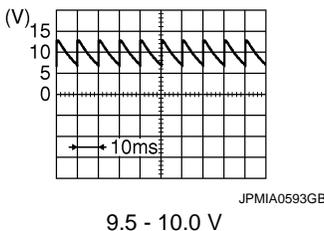
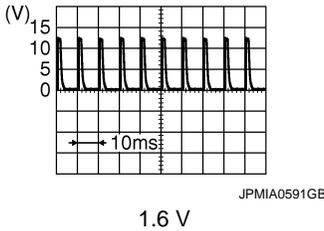
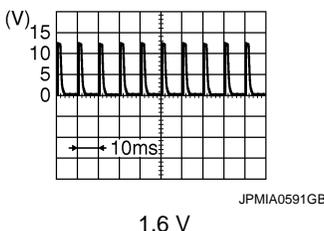
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.2 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 3</li> </ul>						
35 (B)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.2 V</p>
					Lighting switch 2ND	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch PASS	
					Front wiper switch INT	
Front wiper switch HI						
36 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.2 V</p>
					Turn signal switch RH	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Turn signal switch LH	
					Front wiper switch LO (Front wiper switch MIST)	
Front washer switch ON						

# BCM (BODY CONTROL MODULE)

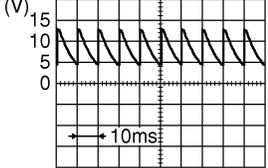
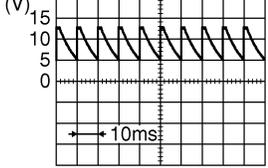
## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
37 (LG)	Ground	Key switch	Input	Insert mechanical key into ignition key cylinder	Battery voltage
				Remove mechanical key from ignition key cylinder	0 V
38 (G)	Ground	Ignition switch ON	Input	Ignition switch OFF or ACC	0 V
				Ignition switch ON or START	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output	—	—
40 (P)	Ground	CAN-L	Input/ Output	—	—
43 (V)	Ground	Back door switch	Input	Back door switch OFF (When back door closed)	 9.5 - 10.0 V
				Back door switch ON (When back door opened)	0 V
44 (B)	Ground	Rear wiper auto stop	Input	Ignition switch ON Rear wiper stop position	0 V
				Any position other than rear wiper stop position	Battery voltage
45 (P)	Ground	Door lock and unlock switch LOCK signal	Input	Door lock and unlock switch NEUTRAL position	 1.6 V
				Door lock and unlock switch LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK signal	Input	Door lock and unlock switch NEUTRAL position	 1.6 V
				Door lock and unlock switch UNLOCK position	0 V

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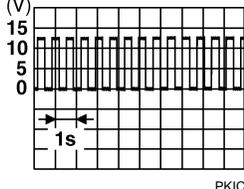
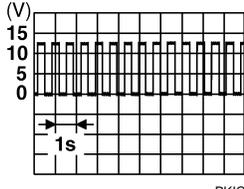
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 8.0 - 8.5 V
					ON (When driver door opened)	0 V
48 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	 8.5 - 9.0 V
					ON (When rear door LH opened)	0 V
49 (L)	Ground	Back door lamp control	Output	Back door lamp switch DOOR position	Back door is closed (Back door lamp turns OFF)	Battery voltage
					Back door is opened (Back door lamp turns ON)	0 V
53 (V)	Ground	Back door open	Output	Back door opener switch	Not pressed (Back door actuator is activated)	0 V
					Pressed (Back door actuator is activated)	Battery voltage
55 (SB)	Ground	Rear wiper motor	Output	Ignition switch ON	Rear wiper switch OFF	0 V
					Rear wiper switch ON	Battery voltage
56 (Y)	Ground	Interior room lamp power supply	Output	Ignition switch OFF	After passing the interior room lamp battery saver operation time	0 V
					Any other time after passing the interior room lamp battery saver operation time	Battery voltage
57 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
59 (L)	Ground	Driver door UN-LOCK	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
					Other than UNLOCK (Actuator is not activated)	0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch LH	 6.0 V
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch RH	 6.0 V
63 (R)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF Battery voltage
				ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activat- ed) Battery voltage
				Other then LOCK (Actua- tor is not activated)	0 V
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is acti- vated) Battery voltage
				Other then UNLOCK (Ac- tuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON	0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON	Battery voltage
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF	Battery voltage
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF	Battery voltage

\*: Except for Mexico

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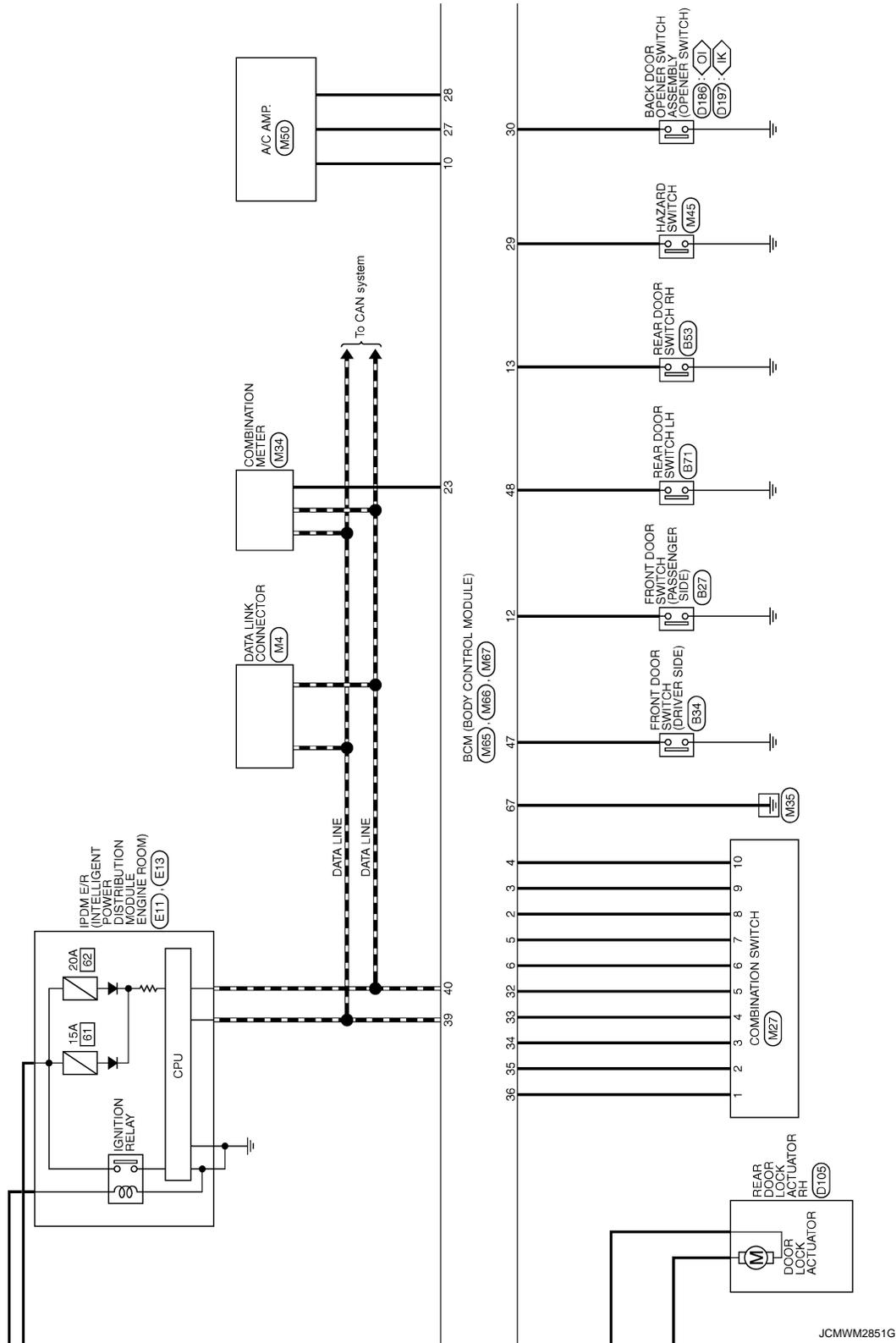
BCS



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

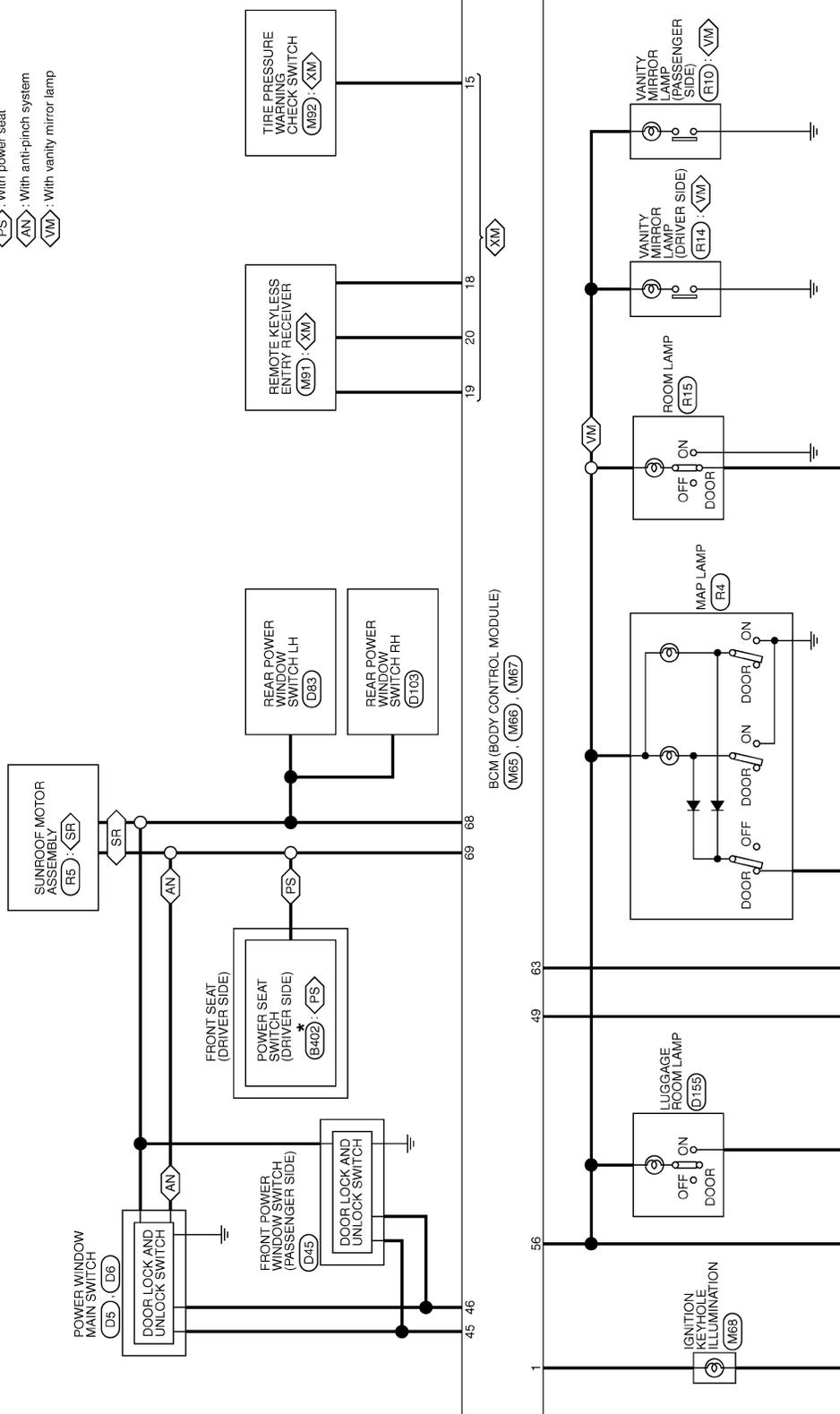
IK : With Intelligent Key  
OI : Without Intelligent Key



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

- <XM> : Except for Mexico
- <SR> : With sunroof
- <PS> : With power seat
- <AN> : With anti-pinch system
- <VM> : With vanity mirror lamp

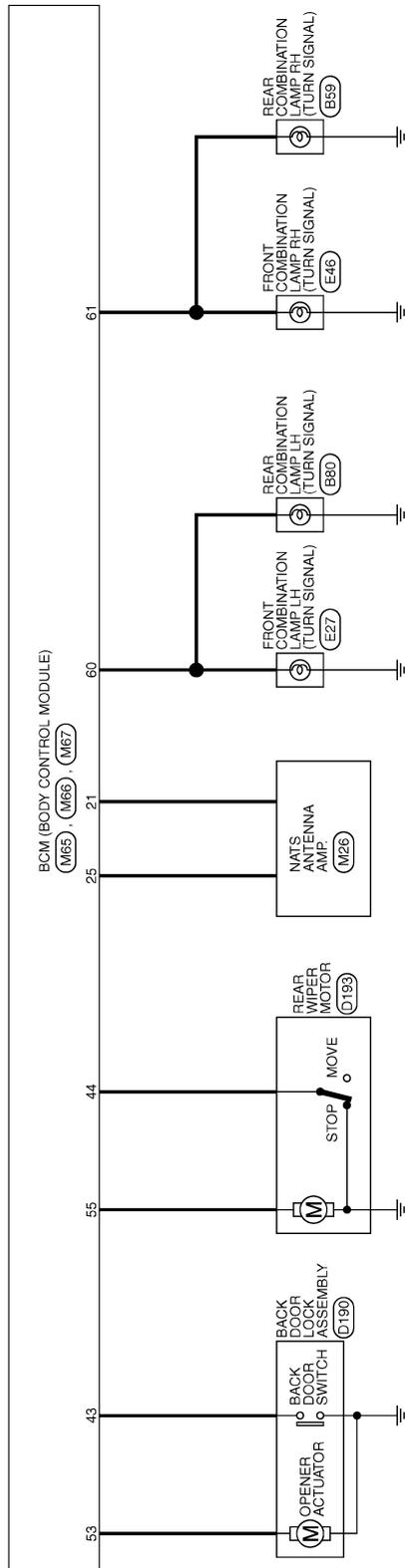


\*: This connector is not shown in "Harness Layout".

JCMWM2852G

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >



JCMWM2853GI

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**BCS**

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## BCM (BODY CONTROL MODULE)

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TK16FW



12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55													
14	11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55

Terminal No.	Color of Wire	Signal Name [Specification]
1	V	INPUT 1
2	B	INPUT 2
3	L	INPUT 3
4	GR	INPUT 4
5	BR	INPUT 5
6	P	OUTPUT 1
7	R	OUTPUT 2
8	G	OUTPUT 5
9	Y	OUTPUT 4
10	W	OUTPUT 3

Connector No.	M67
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA08FB-FHA6-SA



56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
65	66	67	68	69	70									

Terminal No.	Color of Wire	Signal Name [Specification]
56	Y	BATTERY/SAVEROUTPUT
57	G	BAT FUSE
58	L	D/L UNLOCK DR
59	BR	FLASHER OUT PUT (LEFT)
60	GR	FLASHER OUT PUT (RIGHT)
61	GR	ROOMLAMPOUTPUT
62	R	D/L LOCK ALL
63	V	D/L UNLOCK OTHER
64	G	GND
65	B	POWER WDM OUTPUT(GAP)
66	L	POWER WDM OUTPUT(BAT)
67	P	
68		
69		
70		

Terminal No.	Color of Wire	Signal Name [Specification]
12	P	DR SW AS
13	LG	DR SW RR
14	O	TPMS MODE TRIGGER SW
15	O	KEYLESS TUNER SEUS GND
16	V	KEYLESS TUNER POWER
17	GR	KEYLESS TUNER SIGNAL
18	GR	IMMOBI ANT(CLOCK)
19	G	SECURITY IN0 OUT PUT
20	B	IMMOBI ANT(RX, TX)
21	BR	AIRCORN SW
22	Y	BLOWER FAN SW
23	LG	HAZARD SW
24	W	BACK DOOR OPEN SW
25	G	OUTPUT 4
26	GR	OUTPUT 5
27	GR	OUTPUT 4
28	L	OUTPUT 3
29	B	OUTPUT 2
30	V	OUTPUT 1
31	W	KEY SW
32	LG	IGN
33	G	CAN-H
34	L	CAN-L

Connector No.	M66
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA08FW-FHA6-SA



41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
50	51	52	53	54	55									

Terminal No.	Color of Wire	Signal Name [Specification]
43	V	BACK DOOR SW
44	B	RR WIP AUTO STOP
45	P	CDL LOCK SW
46	BR	CDL UNLOCK SW
47	W	DR SW DR
48	GR	DR SW RL
49	L	LUGGAGE LAMP OUTPUT
50	V	BACK DOOR PEPPER OUTPUT
51	SB	RR WIP WTR OUT

## Fail-safe

### REAR WIPER MOTOR PROTECTION

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

Condition of cancellation

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

1. Pass more than 1 minute after the rear wiper stop.
2. Turn the rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

### HIGH FLASHER OPERATION

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

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

#### NOTE:

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

### DTC Inspection Priority Chart

INFOID:000000004231695

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

Priority	DTC
1	U1000: CAN COMM CIRCUIT
2	C1735: IGN CIRCUIT OPEN
3	<ul style="list-style-type: none"> <li>• C1704: LOW PRESSURE FL</li> <li>• C1705: LOW PRESSURE FR</li> <li>• C1706: LOW PRESSURE RR</li> <li>• C1707: LOW PRESSURE RL</li> <li>• C1708: [NO DATA] FL</li> <li>• C1709: [NO DATA] FR</li> <li>• C1710: [NO DATA] RR</li> <li>• C1711: [NO DATA] RL</li> <li>• C1712: [CHECKSUM ERR] FL</li> <li>• C1713: [CHECKSUM ERR] FR</li> <li>• C1714: [CHECKSUM ERR] RR</li> <li>• C1715: [CHECKSUM ERR] RL</li> <li>• C1716: [PRESS DATA ERR] FL</li> <li>• C1717: [PRESS DATA ERR] FR</li> <li>• C1718: [PRESS DATA ERR] RR</li> <li>• C1719: [PRESS DATA ERR] RL</li> <li>• C1720: [CODE ERR] FL</li> <li>• C1721: [CODE ERR] FR</li> <li>• C1722: [CODE ERR] RR</li> <li>• C1723: [CODE ERR] RL</li> <li>• C1724: [BATT VOLT LOW] FL</li> <li>• C1725: [BATT VOLT LOW] FR</li> <li>• C1726: [BATT VOLT LOW] RR</li> <li>• C1727: [BATT VOLT LOW] RL</li> <li>• C1729: VHCL SPEED SIG ERR</li> </ul>

### DTC Index

INFOID:000000004231696

#### NOTE:

- Details of time display
- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM CIRCUIT	—	<a href="#">BCS-35</a>

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

CONSULT display	Tire pressure monitor warning lamp ON	Reference
C1704: LOW PRESSURE FL	×	<a href="#">WT-15</a>
C1705: LOW PRESSURE FR	×	
C1706: LOW PRESSURE RR	×	
C1707: LOW PRESSURE RL	×	
C1708: [NO DATA] FL	×	<a href="#">WT-17</a>
C1709: [NO DATA] FR	×	
C1710: [NO DATA] RR	×	
C1711: [NO DATA] RL	×	
C1712: [CHECKSUM ERR] FL	×	<a href="#">WT-20</a>
C1713: [CHECKSUM ERR] FR	×	
C1714: [CHECKSUM ERR] RR	×	
C1715: [CHECKSUM ERR] RL	×	
C1716: [PRESS DATA ERR] FL	×	<a href="#">WT-23</a>
C1717: [PRESS DATA ERR] FR	×	
C1718: [PRESS DATA ERR] RR	×	
C1719: [PRESS DATA ERR] RL	×	
C1720: [CODE ERR] FL	×	<a href="#">WT-25</a>
C1721: [CODE ERR] FR	×	
C1722: [CODE ERR] RR	×	
C1723: [CODE ERR] RL	×	
C1724: [BATT VOLT LOW] FL	—	<a href="#">WT-28</a>
C1725: [BATT VOLT LOW] FR	—	
C1726: [BATT VOLT LOW] RR	—	
C1727: [BATT VOLT LOW] RL	—	
C1729: VHCL SPEED SIG ERR	×	<a href="#">WT-31</a>
C1735: IGN CIRCUIT OPEN	—	<a href="#">BCS-36</a>

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000004449218

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

#### **WARNING:**

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

### FOR MEXICO

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

INFOID:000000004449219

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

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIRBAG".
- 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.

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BCS

# COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### COMBINATION SWITCH SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000004231699

1. Perform "Data Monitor" of CONSULT-III to check for any malfunctioning item.
2. Check the malfunction combinations.

Malfunction item: x

Data monitor item															Malfunction combination	
TURN SIGNAL R	TURN SIGNAL L	HI BEAM SW	HEAD LAMP SW 1	HEAD LAMP SW 2	TAIL LAMP SW	PASSING SW	FR FOG SW	FR WIPER HI	FR WIPER LOW	FR WIPER INT	FR WASHER SW	INT VOLUME	RR WIPER ON	RR WIPER INT		RR WASHER SW
x	x								x		x					A
			x			x		x		x						B
		x		x								x			x	C
					x							x		x		D
							x					x	x			E
								x				x		x		F
										x	x	x	x		x	G
									x	x						H
	x			x		x	x									I
x		x	x		x											J
If only one item is detected or the item is not applicable to the combinations A to J															K	
All Items															L	

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 "OUTPUT 1" circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-38, "Diagnosis Procedure"</a> .
B	Combination switch "OUTPUT 2" circuit	
C	Combination switch "OUTPUT 3" circuit	
D	Combination switch "OUTPUT 4" circuit	
E	Combination switch "OUTPUT 5" circuit	
F	Combination switch "INPUT 1" circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-40, "Diagnosis Procedure"</a> .
G	Combination switch "INPUT 2" circuit	
H	Combination switch "INPUT 3" circuit	
I	Combination switch "INPUT 4" circuit	
J	Combination switch "INPUT 5" circuit	
K	Combination switch	Inspect the combination switch. Refer to <a href="#">BCS-42, "Description"</a> .
L	BCM	Replace BCM.

# BCM (BODY CONTROL MODULE)

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

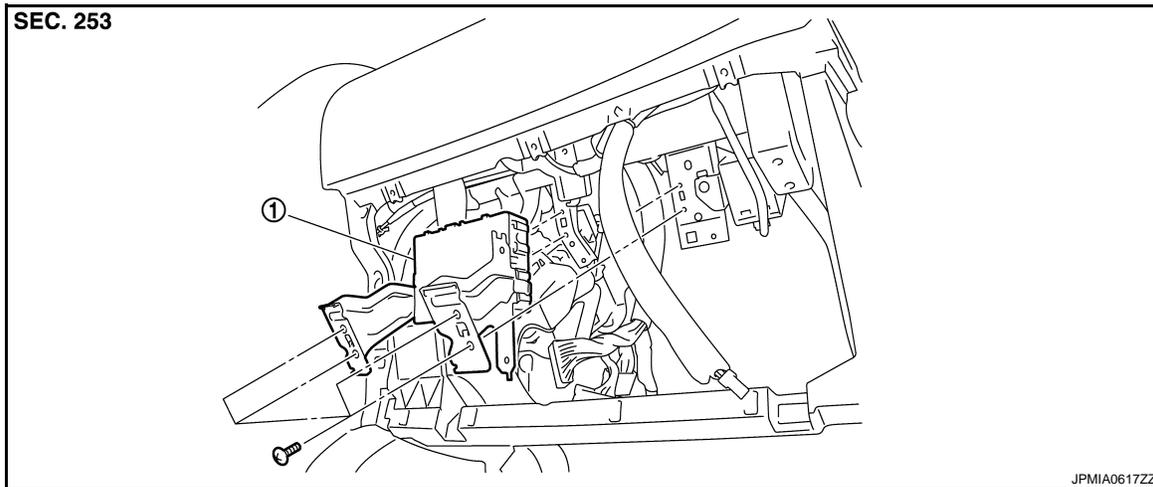
### BCM (BODY CONTROL MODULE)

Exploded View

INFOID:000000004231700

**CAUTION:**

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



1. BCM

### Removal and Installation

INFOID:000000004231701

**CAUTION:**

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

#### REMOVAL

1. Remove the glove box assembly. Refer to [IP-12, "Exploded View"](#).
2. Remove the BCM bracket mounting screws.
3. Remove the BCM and disconnect the connector.

#### INSTALLATION

Install in the reverse order of removal.

**CAUTION:**

- Be sure to perform "WRITE CONFIGURATION" when replacing BCM.
- Be sure to perform the system initialization (NATS) when replacing BCM.

Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

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BCS

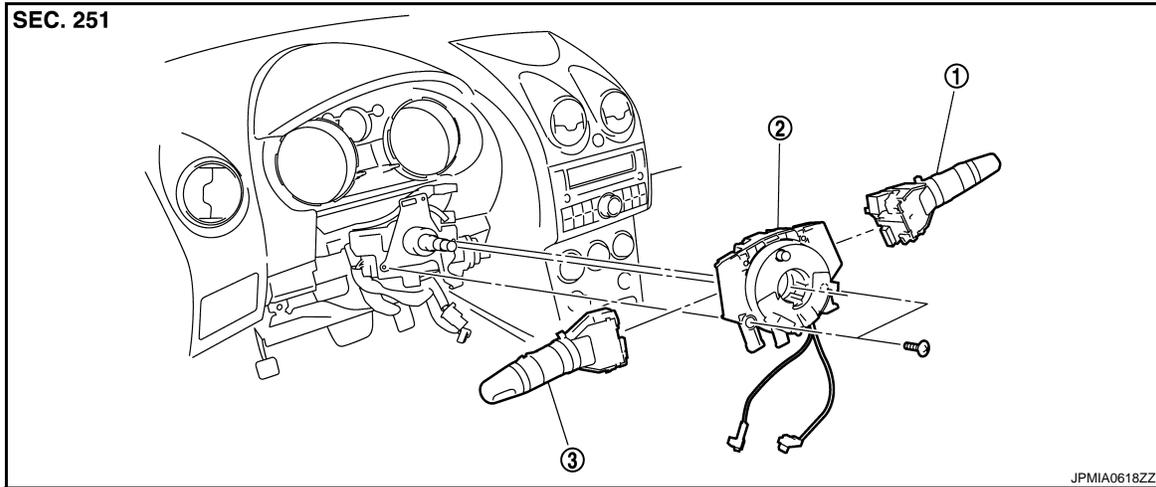
# COMBINATION SWITCH

< ON-VEHICLE REPAIR >

## COMBINATION SWITCH

Exploded View

INFOID:000000004231702



1. Wiper & washer switch

2. Switch base (Spiral cable)

3. Light & turn signal switch

### Removal and Installation

INFOID:000000004231703

Refer to the spiral cable removal and installation [SR-8, "Exploded View"](#).