

# SECTION BCS

## BODY CONTROL SYSTEM

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&lt; BASIC INSPECTION &gt;

## BASIC INSPECTION

### INSPECTION AND ADJUSTMENT

#### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

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

INFOID:000000006161307

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

Configuration has three functions as follows

- READ CONFIGURATION is the function to read (extract) vehicle configuration of current BCM.
- WRITE CONFIGURATION - Manual selection is the function to select and write vehicle configuration on BCM manually.
- WRITE CONFIGURATION - Config file is the function to write vehicle configuration with the data extracted from current BCM.

##### 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 will occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

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

INFOID:000000006161308

##### 1. SAVING VEHICLE SPECIFICATION

Perform "READ CONFIGURATION" with CONSULT-III to save or print current vehicle specification.

>> GO TO 2

##### 2. REPLACE BCM

Replace BCM. Refer to [BCS-53. "Removal and Installation"](#).

>> GO TO 3

##### 3. WRITING VEHICLE SPECIFICATION

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" with CONSULT-III to write vehicle specification. Refer to [BCS-3. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

>> GO TO 4

##### 4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

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>> WORK END  
CONFIGURATION

##### CONFIGURATION : Description

INFOID:000000006161309

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

Configuration has three functions as follows

- READ CONFIGURATION is the function to read (extract) vehicle configuration of current BCM.
- WRITE CONFIGURATION - Manual selection is the function to select and write vehicle configuration on BCM manually.
- WRITE CONFIGURATION - Config file is the function to write vehicle configuration with the data extracted from current BCM.

##### CAUTION:

## &lt; BASIC INSPECTION &gt;

- 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 will occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

## CONFIGURATION : Special Repair Requirement

INFOID:0000000006161310

## 1. WRITING VEHICLE SPECIFICATION

Perform "WRITE CONFIGURATION" with CONSULT-III.

When writing saved data&gt;&gt;GO TO 2

When writing manually&gt;&gt;GO TO 3

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

Perform "WRITE CONFIGURATION - Config file" with CONSULT-III.

&gt;&gt; WORK END

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

For "WRITE CONFIGURATION - Manual selection", using the following flow chart, identify the correct model and configuration list.

Confirm and/or change setting value for each item according to the configuration list.

Depending on CONSULT-III software version being used, some or all of the write configuration items shown in the following configuration lists may be displayed. If an item does not display on the CONSULT-III "WRITE CONFIGURATION - Manual selection" screen, then it is an auto setting item and it cannot be manually set or changed.

MANUAL SETTING ITEM	
Items	Setting value
KEYLESS ENTRY	WITH↔WITHOUT
AUTO LIGHT	WITH↔WITHOUT
DTRL	WITH↔WITHOUT
DISPLAY STYLE	MODE1↔MODE2↔MODE3↔MODE4
THEFT ALARM	WITH↔WITHOUT

**NOTE:**Confirm vehicle model. Refer to [GI-20, "Model Variation"](#).

&gt;&gt; Work End.

# SYSTEM DESCRIPTION

## BODY CONTROL SYSTEM

### System Description

INFOID:000000006161311

#### OUTLINE

- BCM (body control module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.
- BCM has combination switch reading function for reading the operation status of combination switches (light, turn signal, wiper and washer) in addition to a function for controlling the operation of various electrical components. It also has the signal transmission function as the passed point of signal and the power consumption control function that reduces the power consumption with the ignition switch OFF.
- BCM is equipped with the diagnosis function that performs the diagnosis with CONSULT-III and various settings.

#### BCM control function list

System	Refer to
Combination switch reading system	<a href="#">BCS-7, "System Diagram"</a>
Signal buffer system	<a href="#">BCS-12, "System Diagram"</a>
Power consumption control system	<a href="#">BCS-13, "System Diagram"</a>
Auto light system (if equipped)	<a href="#">EXL-9, "System Diagram"</a>
Turn signal and hazard warning lamp system	<a href="#">EXL-14, "System Diagram"</a>
Headlamp system	<a href="#">EXL-7, "System Diagram"</a>
Front fog lamp system (if equipped)	<a href="#">EXL-13, "System Diagram"</a>
Daytime running light system (Canada models)	<a href="#">EXL-11, "System Diagram"</a>
Interior room lamp control system	<a href="#">INL-6, "System Diagram"</a>
Step lamp system (if equipped)	<a href="#">INL-6, "System Diagram"</a>
Interior room lamp battery saver system	<a href="#">INL-10, "System Diagram"</a>
Front wiper and washer system	<a href="#">WW-4, "System Diagram"</a>
Warning chime system	<a href="#">WCS-4, "WARNING CHIME SYSTEM : System Diagram"</a>
Door lock system (if equipped)	<a href="#">DLK-12, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"</a>
(NATS) Nissan anti-theft system (if equipped)	<a href="#">SEC-8, "System Diagram"</a>
Vehicle security system (if equipped)	<a href="#">SEC-11, "System Diagram"</a>
Rear window defogger system (if equipped)	<a href="#">DEF-5, "System Diagram"</a>
Remote keyless entry system (if equipped)	<a href="#">DLK-14, "REMOTE KEYLESS ENTRY : System Diagram"</a>
Power window system (if equipped)	<a href="#">PWC-6, "System Diagram"</a>
RAP (retained accessory power) system	<a href="#">BCS-24, "RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)"</a>
TPMS (tire pressure monitoring system)	<a href="#">WT-8, "System Diagram"</a>

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# BODY CONTROL SYSTEM

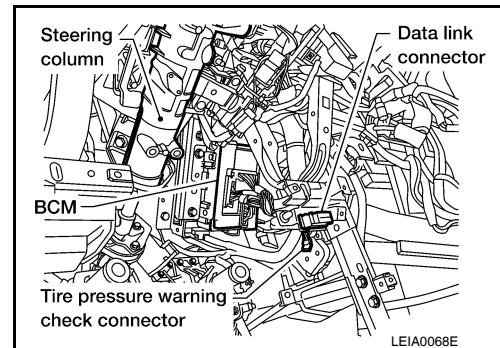
< SYSTEM DESCRIPTION >

[BCM]

## Component Parts Location

INFOID:000000006161312

- BCM M18, M19, M20 (view with instrument panel removed)



# COMBINATION SWITCH READING SYSTEM

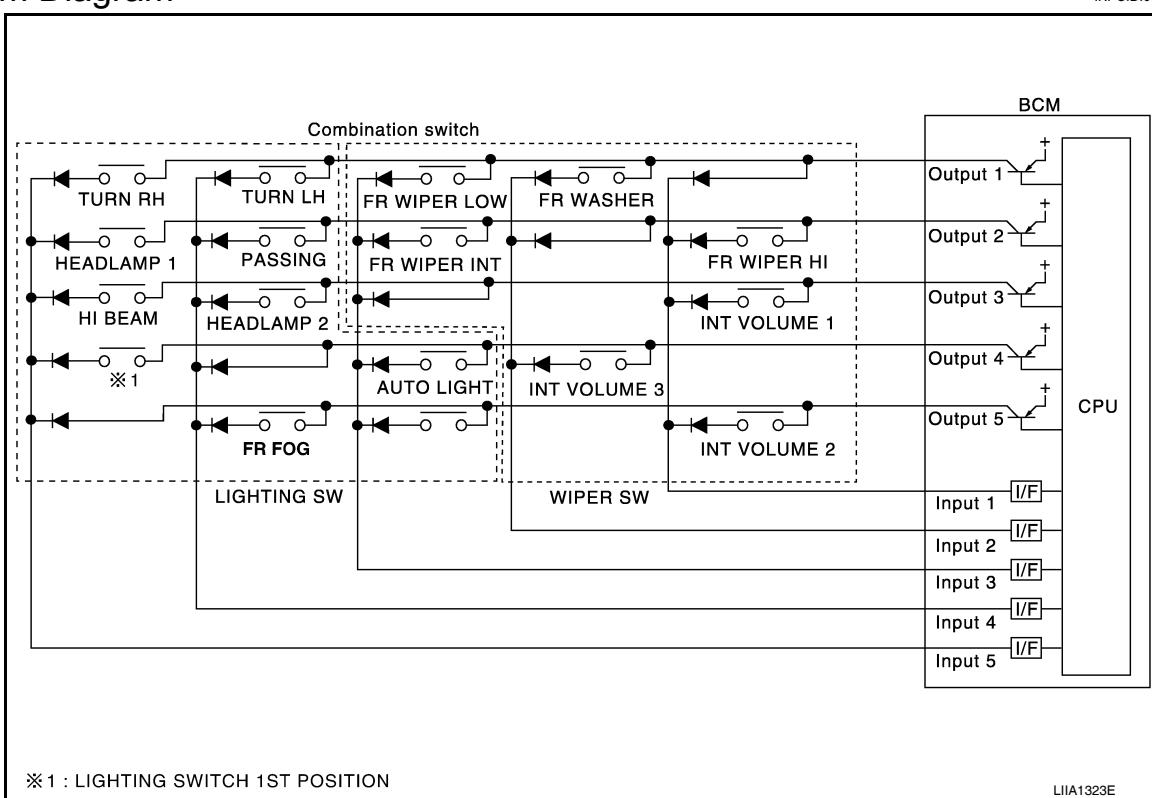
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[BCM]

## COMBINATION SWITCH READING SYSTEM

### System Diagram

INFOID:0000000006161313



### 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 is 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

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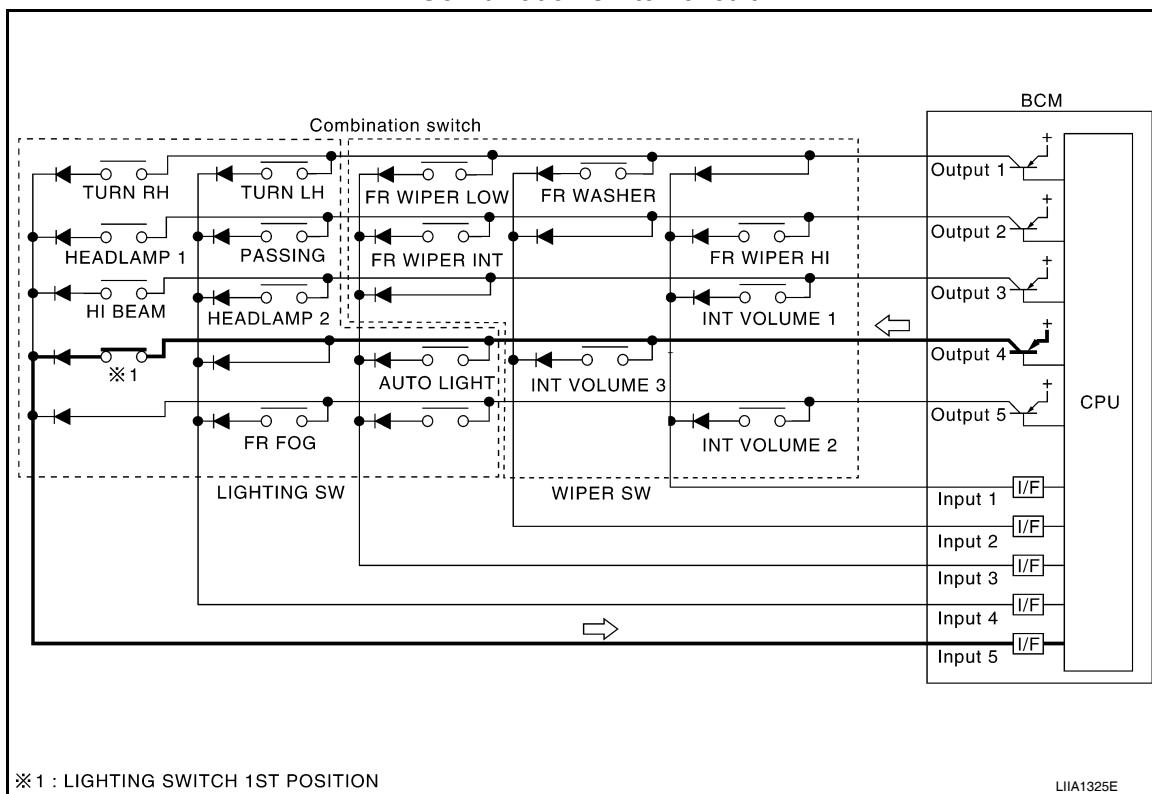
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# COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

[BCM]

## Combination switch circuit



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### Combination switch INPUT-OUTPUT system list

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

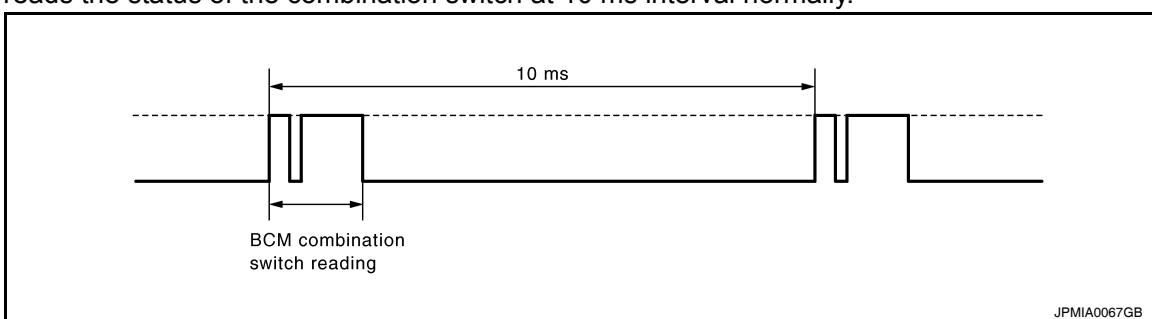
### NOTE:

Headlamp has a dual system switch.

## COMBINATION SWITCH READING FUNCTION

### Description

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



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### NOTE:

BCM reads the status of the combination switch at 20 ms interval when BCM is controlled at low power consumption control mode.

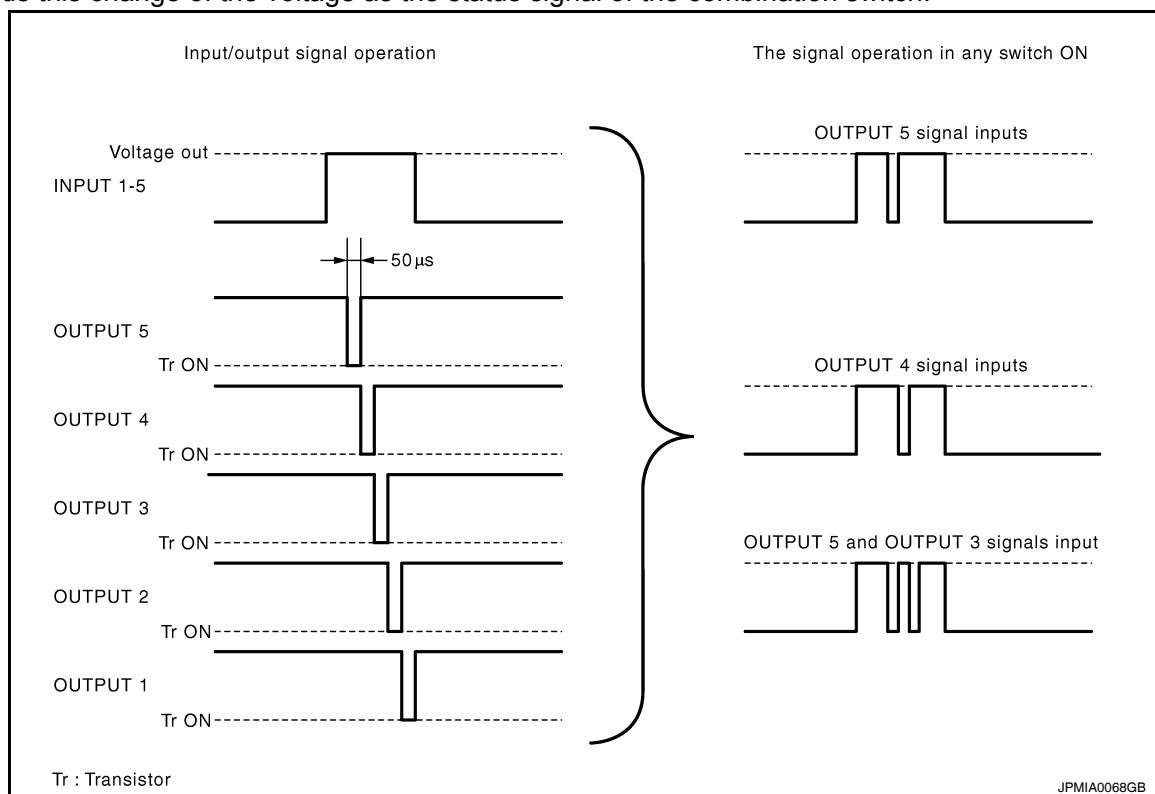
- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 - 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT 5 → 4 → 3 → 2 → 1.

# COMBINATION SWITCH READING SYSTEM

[BCM]

## < SYSTEM DESCRIPTION >

- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

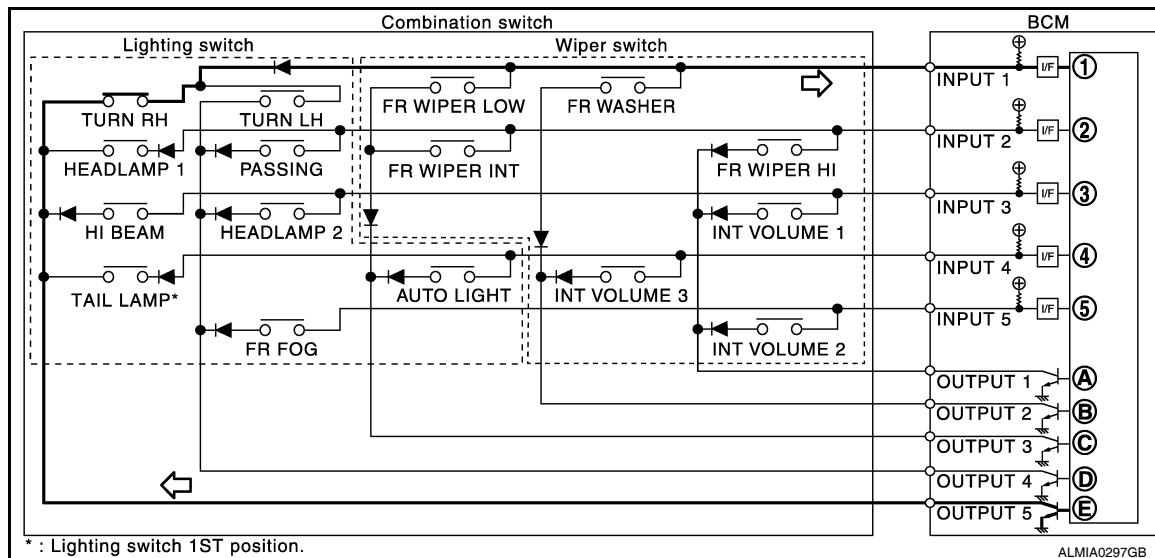


## Operation Example

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

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

- The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.

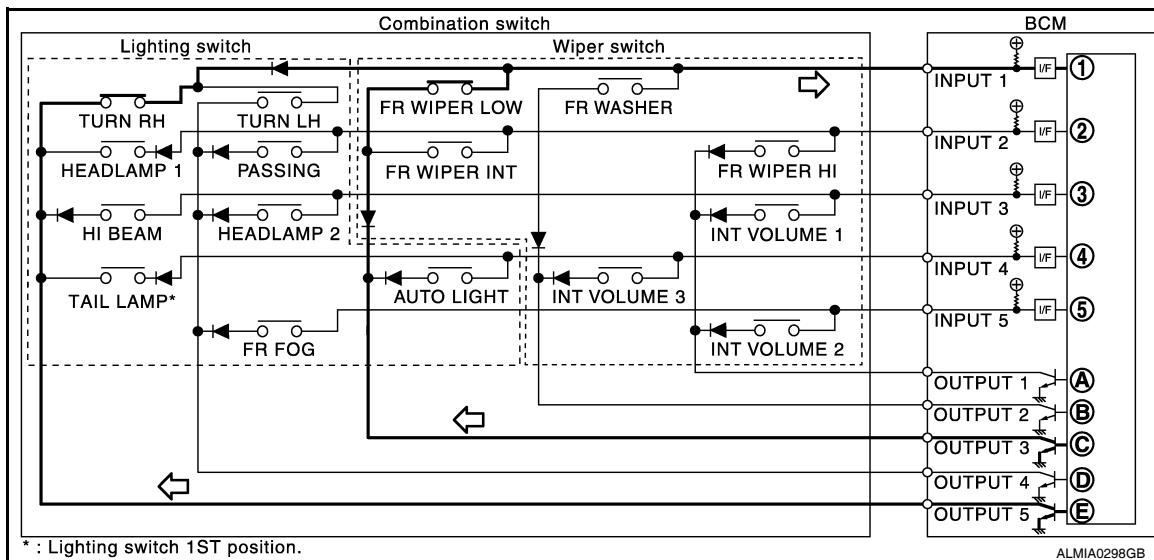
Example 2: When some switches (turn RH switch, front wiper LO switch) are turned ON

# COMBINATION SWITCH READING SYSTEM

[BCM]

## < SYSTEM DESCRIPTION >

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



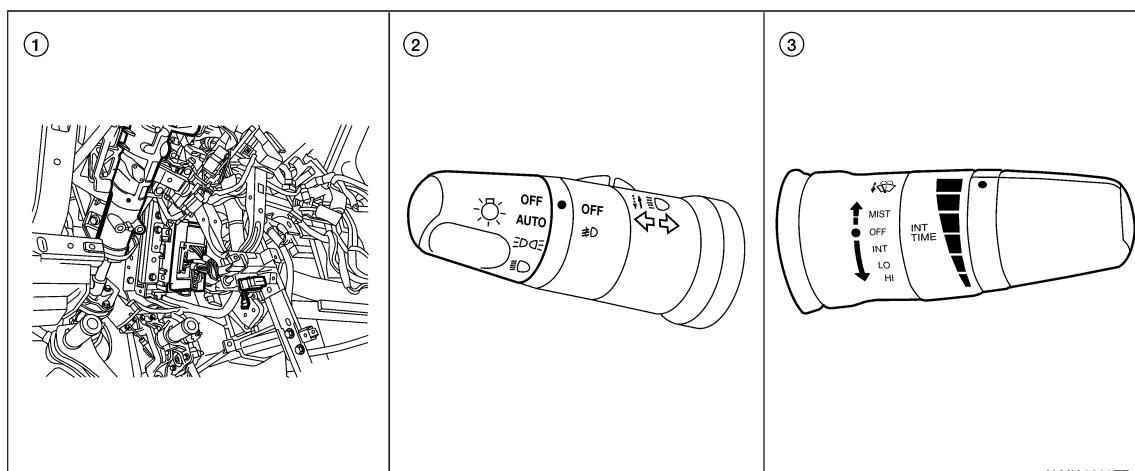
- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is detected.

**WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)**  
BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2 and 3 switches.

Wiper intermittent dial position	Intermittent operation delay interval	INT VOLUME switch ON/OFF status		
		INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch
1	Short ↑	ON	ON	ON
2		ON	ON	OFF
3		ON	OFF	OFF
4		OFF	OFF	OFF
5		OFF	OFF	ON
6		OFF	ON	ON
7		OFF	ON	OFF

## Component Parts Location

INFOID:0000000006161315



# COMBINATION SWITCH READING SYSTEM

## < SYSTEM DESCRIPTION >

[BCM]

1. BCM M18, M19, M20 (view with instrument panel removed)
2. Combination switch (lighting and turn signal switch) M28
3. Combination switch (wiper and washer switch) M28

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# SIGNAL BUFFER SYSTEM

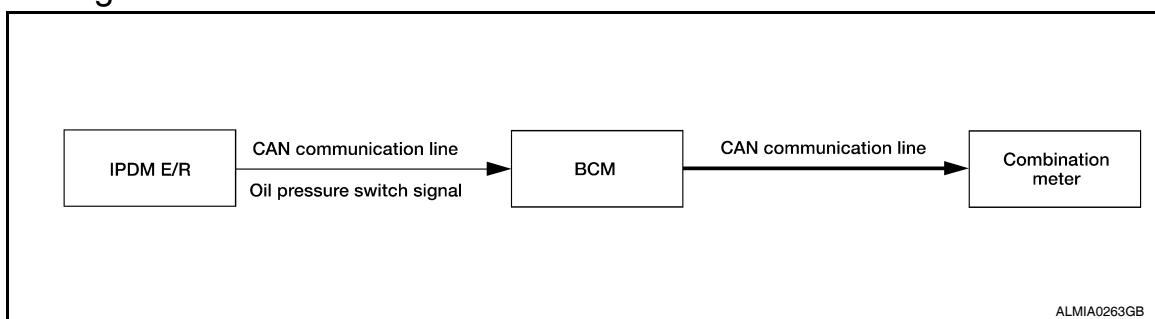
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[BCM]

## SIGNAL BUFFER SYSTEM

### System Diagram

INFOID:0000000006161316



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### System Description

INFOID:0000000006161317

#### 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
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pressure switch signal via CAN communication.

# POWER CONSUMPTION CONTROL SYSTEM

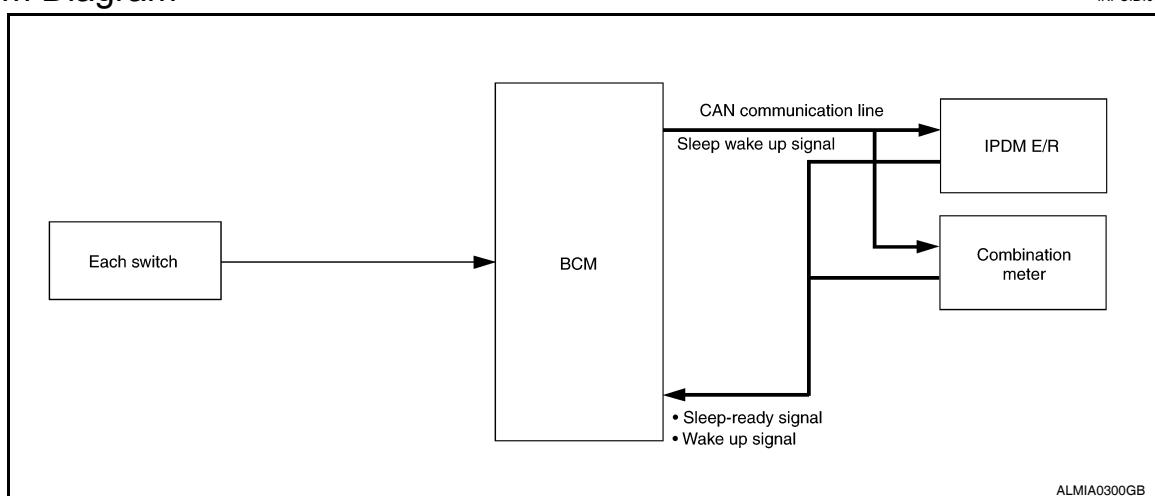
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[BCM]

## POWER CONSUMPTION CONTROL SYSTEM

### System Diagram

INFOID:0000000006161318



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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 and combination meter) 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 20 ms interval.

#### Sleep mode activation

- BCM receives the sleep-ready signal (ready) from IPDM E/R and combination meter via 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.

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# POWER CONSUMPTION CONTROL SYSTEM

[BCM]

## < SYSTEM DESCRIPTION >

### Sleep condition

CAN sleep condition	BCM sleep condition
<ul style="list-style-type: none"> <li>Receiving the sleep-ready signal (ready) from all units</li> <li>Ignition switch: OFF</li> <li>Vehicle security system alarm: No operation</li> <li>Warning lamp: No operation</li> <li>Warning chime: No operation</li> <li>Stop lamp switch: OFF</li> <li>Key switch status: No change for 2 seconds</li> <li>Hazard warning lamp: No operation</li> <li>Exterior lamp: OFF</li> <li>Door lock status: No change for 2 seconds</li> <li>CONSULT-III communication status: No communication</li> <li>Door switch status: No change for 2 seconds</li> </ul>	<p>The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)</p>

### Wake-up operation

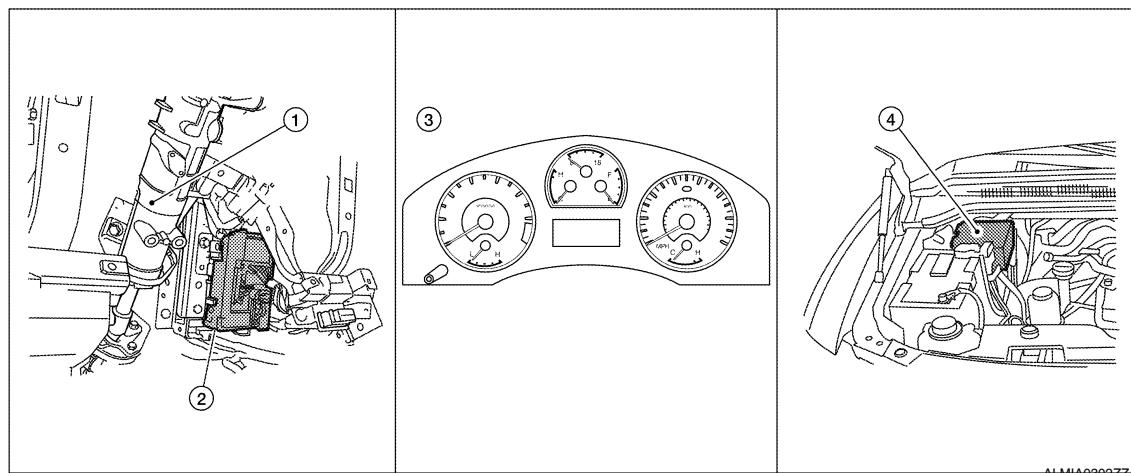
- BCM transmits sleep wake up signal (wake up) to each unit when any condition listed below is established, and then goes into normal mode from low power consumption mode.
- Each unit starts transmissions with CAN communication by receiving sleep wake up signals. Each unit transmits wake up signals to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

### Wake-up condition

BCM wake-up condition
<ul style="list-style-type: none"> <li>Ignition switch: OFF → ACC or ON</li> <li>Stop lamp switch: ON (Depress brake pedal)</li> <li>Any door switch: OFF → ON</li> <li>Lighting switch: OFF → 1ST or PASS</li> <li>Hazard switch: OFF → ON</li> <li>Remote keyless entry receiver: Receiving</li> </ul>

## Component Parts Location

INFOID:000000006161320



1. Steering column (view with instrument panel removed)
2. BCM M18, M19, M20
3. Combination meter M24
4. IPDM E/R

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000006161321

##### APPLICATION ITEM

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

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

##### SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

## DOOR LOCK

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

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

INFOID:0000000006161323

## SELF DIAGNOSTIC RESULT

Refer to [BCS-44, "DTC Index"](#).

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

## ACTIVE TEST

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

## WORK SUPPORT

Support Item	Setting	Description
DOOR LOCK-UNLOCK SET	On*	Automatic door locks function ON.
	Off	Automatic door locks function OFF.
ANTI-LOCK OUT SET	Off	Anti lock out function OFF.
	On*	Anti lock out function ON.
AUTOMATIC DOOR LOCK SELECT	SHIFT OUT OF PARK	Doors lock automatically when shifted out of park (P).
	VH SPD*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).
AUTOMATIC DOOR UNLOCK SELECT	MODE6	Drivers door unlocks automatically when key is removed.
	MODE5	Drivers door unlocks automatically when shifted into park (P).
	MODE4	Drivers door unlocks automatically when ignition is switched from ON to OFF.
	MODE3	Doors unlock automatically when key is removed.
	MODE2*	Doors unlock automatically when shifted into park (P).
	MODE1	Doors unlock automatically when ignition is switched from ON to OFF.
AUTOMATIC LOCK/UNLOCK SELECT	On*	Automatic lock/unlock function ON.
	Off	Automatic lock/unlock function OFF.

\* : Initial setting

## REAR DEFOGGER

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

INFOID:0000000006161324

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.

## ACTIVE TEST

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

## BUZZER

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

INFOID:000000006161325

## DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
LIGHT SW 1ST [On/Off]	Indicates condition of combination switch.
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.

## ACTIVE TEST

Test Item	Description
SEAT BELT WARN TEST	This test is able to check seat belt warning operation [Off/On].
LIGHT WARN ALM	This test is able to check light reminder warning operation [Off/On].
IGN KEY WARN ALM	This test is able to check key warning chime operation [Off/On].

## INT LAMP

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

INFOID:000000006161326

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

## ACTIVE TEST

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# DIAGNOSIS SYSTEM (BCM)

[BCM]

## < SYSTEM DESCRIPTION >

Test Item	Description
INT LAMP	This test is able to check interior room lamp operation [Off/On].
STEP LAMP TEST	This test is able to check step lamp operation [Off/On].
LUGGAGE LAMP TEST	This test is able to check cargo lamp operation [Off/On].

## WORK SUPPORT

Support Item	Setting	Description
SET I/L D-UNLCK INTCON	Off	Interior room lamp timer function OFF.
	On*	Interior room lamp timer function ON.
ROOM LAMP ON TIME SET	MODE7 0 sec.	Sets the interior room lamp gradual brightening time.
	MODE6 5 sec.	
	MODE5 4 sec.	
	MODE4 3 sec.	
	MODE3 2 sec.	
	MODE2* 1 sec.	
	MODE1 0.5 sec.	
ROOM LAMP OFF TIME SET	MODE7 0 sec.	Sets the interior room lamp gradual dimming time.
	MODE6 5 sec.	
	MODE5 4 sec.	
	MODE4 3 sec.	
	MODE3 2 sec.	
	MODE2* 1 sec.	
	MODE1 0.5 sec.	

\* : Initial setting

## MULTI REMOTE ENT

### MULTI REMOTE ENT : CONSULT-III Function (BCM - MULTI REMOTE ENT)

INFOID:0000000006161327

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
KEYLESS PANIC [On/Off]	Indicates condition of panic signal from keyfob.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.

## ACTIVE TEST

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [OTR ULK/DR UNLK/ALL UNLK/ALL LCK].
PW REMOTO DOWN SET	This test is able to check keyfob power window down operation [Off/On].
FLASHER	This test is able to check hazard reminder operation [Off/LH/RH].
HORN	This test is able to check horn operation [On].

## WORK SUPPORT

Support Item	Setting	Description
HORN CHIRP SET	Off	Horn chirp function can be changed in this mode.
	On*	
HAZARD LAMP SET	MODE4* Lock and Unlock	Hazard warning lamp function can be changed in this mode.
	MODE3 Lock Only	
	MODE2 Unlock Only	
	MODE1 OFF	
MULTI ANSWER BACK SET	MODE2 Lock	Hazard warning lamps flash twice and horn does not sound.
	Unlock	Hazard warning lamps do not flash and horn does not sound.
	MODE1* Lock	Hazard warning lamps flash twice and horn sounds once.
	Unlock	Hazard warning lamps flash once and horn does not sound.
AUTO LOCK SET	MODE3 1 min	Auto locking function can be changed in this mode.
	MODE2 OFF	
	MODE1* 5 min	
PANIC ALRM SET	MODE3 1.5 sec	Panic alarm operation can be changed in this mode.
	MODE2 OFF	
	MODE1* 0.5 sec	
PW DOWN SET	MODE3 5 sec	Keyfob power window down can be changed in this mode.
	MODE2 OFF	
	MODE1* 3 sec	
REMO CONT ID REGIST	—	Keyfob ID code can be registered.
REMO CONT ID ERASUR	—	Keyfob ID code can be erased.
REMO CONT ID CONFIR	—	Keyfob ID code registration is displayed.

\*: Initial setting

## HEADLAMP

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

INFOID:0000000006161328

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.

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# DIAGNOSIS SYSTEM (BCM)

[BCM]

## < SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
HI BEAM SW [On/Off]	Indicates condition of combination switch.
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
LIGHT SW 1ST [On/Off]	
AUTO LIGHT SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
CARGO LAMP SW [ON/OFF]	Indicates condition of cargo lamp switch.
OPTICAL SENSOR [ON/OFF]	Indicates voltage signal from optical sensor.

## ACTIVE TEST

Test Item	Description
TAIL LAMP	This test is able to check tail lamp operation [Off/On].
HEAD LAMP	This test is able to check head lamp operation [Off/Lo/Hi].
FR FOG LAMP	This test is able to check front fog lamp operation [Off/On].
CARGO LAMP	This test is able to check cargo lamp operation [Off/On].
CORNERING LAMP	This test is able to check turn signal lamp operation [Off/LH/RH].

## WORK SUPPORT

Support Item	Setting	Description
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.
	On*	Exterior lamp battery saver function ON.
CUSTOM A/LIGHT SETTING	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation).
	MODE3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2).
	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation).
	MODE1*	Normal.
	MODE8	Sets delay timer function operation time (All doors closed).
	MODE7	
	MODE6	
	MODE5	
	MODE4	
	MODE3	
	MODE2	
	MODE1*	
	180 sec	
	150 sec	
	120 sec	
	90 sec	
	60 sec	
	30 sec	
	OFF	
	45 sec	

\*: Initial setting

## WIPER

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:000000006161329

A

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
IGN SW CAN [On/Off]	Indicates ignition switch ON signal received from IPDM E/R on CAN communication line.
FR WIPER HI [On/Off]	
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WASHER SW [On/Off]	
INT VOLUME [1 - 7]	
FR WIPER STOP [On/Off]	Indicates front wiper motor auto stop signal received from IPDM E/R on CAN communication line.
VEHICLE SPEED [km/h mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

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## ACTIVE TEST

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

G

## WORK SUPPORT

Support Item	Setting	Description
WIPER SPEED SETTING	Off*	Front wiper intermittent time linked with wiper dial position.
	On	Front wiper intermittent time linked with vehicle speed and wiper dial position.

I

\* : Initial setting

## FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000006161330

K

## DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
HAZARD SW [On/Off]	Indicates condition of hazard switch.
TURN SIGNAL R [On/Off]	
TURN SIGNAL L [On/Off]	Indicates condition of turn signal function of combination switch.
BRAKE SW [On/Off]	Indicates condition of brake switch.

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## ACTIVE TEST

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

O

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## AIR CONDITIONER

AIR CONDITIONER : CONSULT-III Function (BCM - AIR CONDITIONER)

INFOID:000000006161331

P

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
FAN ON SIG [On/Off]	Indicates condition of fan switch.
AIR COND SW [On/Off]	Indicates condition of A/C switch.

COMB SW

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

INFOID:000000006161332

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	Indicates condition of turn signal operation of combination switch.
TURN SIGNAL L [On/Off]	
HI BEAM SW [On/Off]	Indicates condition of hi beam operation of combination switch.
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	Indicates condition of headlamp operation of combination switch.
LIGHT SW 1ST [On/Off]	Indicates condition of lighting operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
AUTO LIGHT SW [On/Off]	Indicates condition of auto light operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog light operation of combination switch.
FR WIPER HI [On/Off]	
FR WIPER LOW [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.

BCM

BCM : CONSULT-III Function (BCM - BCM)

INFOID:000000006161322

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to [BCS-44, "DTC Index"](#).

WORK SUPPORT

Support Item	Setting	Description
RESET SETTING VALUE	Reset	Returns BCM to initial value in factory shipment.
	Cancel	Cancels the reset function.

CONFIGURATION

Refer to [BCS-3, "CONFIGURATION : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-54, "CAN Diagnostic Support Monitor"](#).

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:000000006161333

DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.

## ACTIVE TEST

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

## BATTERY SAVER

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

INFOID:000000006161334

#### DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

#### ACTIVE TEST

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

#### WORK SUPPORT

Support Item	Setting	Description
ROOM LAMP TIMER SET	MODE3	10 min
	MODE2	60 min
	MODE1*	15 min

\*: Initial setting

## THEFT ALM

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

INFOID:000000006161339

#### DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

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

## ACTIVE TEST

Test Item	Description	
THEFT IND	This test is able to check security indicator lamp operation [Off/On].	
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].	
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].	

## WORK SUPPORT

Support Item	Setting	Description
SECURITY ALARM SET	Off	Security alarm OFF.
	On*	Security alarm ON.
THEFT ALM TRG	Off/On	The switch which triggered vehicle security alarm is recorded [On]. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].
	CLEAR	

\*: Initial setting

## RETAINED PWR

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

INFOID:0000000006161335

## DATA MONITOR

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

## ACTIVE TEST

Test Item	Description	
RETAINED PWR	This test is able to check retained power operation [Off/On].	

## WORK SUPPORT

Support Item	Setting	Description
RETAINED PWR SET	MODE3	2 min
	MODE2	OFF
	MODE1*	45 sec

\*: Initial setting

## SIGNAL BUFFER

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

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

INFOID:000000006161336

A

## DATA MONITOR

Monitor Item [Unit]	Description
OIL PRESS SW [On/Off]	Indicates condition of oil pressure switch signal received from IPDM E/R on CAN communication line.

B

## ACTIVE TEST

Test Item	Description
OIL PRESSURE SW	This test is able to check the oil pressure gauge operation [Off/On].

C

## AIR PRESSURE MONITOR

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

INFOID:000000006161338

D

## SELF DIAGNOSTIC RESULT

### NOTE:

Before performing Self Diagnostic Result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT-III.

E

Refer to [BCS-44, "DTC Index"](#).

F

## DATA MONITOR

Monitor Item	Condition	Specification
VEHICLE SPEED	Drive vehicle	Vehicle speed (km/h or mph)
AIR PRESS FL	• Drive vehicle for a few minutes. or • Ignition switch ON and activation tool is transmitting activation signals.	Tire pressure (kPa, kg/cm <sup>2</sup> or psi).
AIR PRESS FR	Ignition switch ON.	Registration ID: Green. No registration: Red.
AIR PRESS RR		
AIR PRESS RL	Ignition switch ON.	Low tire pressure warning lamp on: ON. Low tire pressure warning lamp off: OFF.
ID REGST FL1		
ID REGST FR1		
ID REGST RR1		
ID REGST RL1		
WARNING LAMP	Ignition switch ON.	Low tire pressure warning lamp on: ON. Low tire pressure warning lamp off: OFF.
BUZZER	Ignition switch ON.	Buzzer in combination meter on: ON. Buzzer in combination meter off: OFF.

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## ACTIVE TEST

Test Item	Description
WARNING LAMP	This test is able to check tire pressure warning lamp operation [Off/On].
ID REGIST WARNING	This test is able to check ID regist warning chime operation [Off/On].
FLAT TIRE WARNING	This test is able to check flat tire warning chime operation [Off/On].
HORN	This test is able to check horn operation [On].
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

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## WORK SUPPORT

# DIAGNOSIS SYSTEM (BCM)

[BCM]

< SYSTEM DESCRIPTION >

Support Item	Description
ID REGIST	Refer to <a href="#">WT-6, "ID Registration Procedure".</a>
ID READ	The registered ID number is displayed.

## PANIC ALARM

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

INFOID:000000006628783

## ACTIVE TEST

Test Item	Description
HEAD LAMP (HI)	This test is able to check head lamp HI operation [On].
PANIC ALARM	This test is able to check panic alarm operation [On].

&lt; DTC/CIRCUIT DIAGNOSIS &gt;

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000006161340

Refer to [BCS-27, "Description"](#).CAN Communication Signal Chart. Refer to [LAN-51, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000006161341

#### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	<p>Any item (or items) of the following listed below is malfunctioning in CAN communication system.</p> <ul style="list-style-type: none"> <li>• Transmission</li> <li>• Receiving (ECM)</li> <li>• Receiving (METER/M&amp;A)</li> <li>• Receiving (TCM)</li> <li>• Receiving (IPDM E/R)</li> </ul>

#### Diagnosis Procedure

INFOID:000000006161342

##### 1. PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

YES    >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).  
 NO    >> Refer to [GI-39, "Intermittent Incident"](#).

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BCM]

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:0000000006161343

Regarding Wiring Diagram information, refer to [BCS-46, "Wiring Diagram"](#).

#### 1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	22 (15A)
70		F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

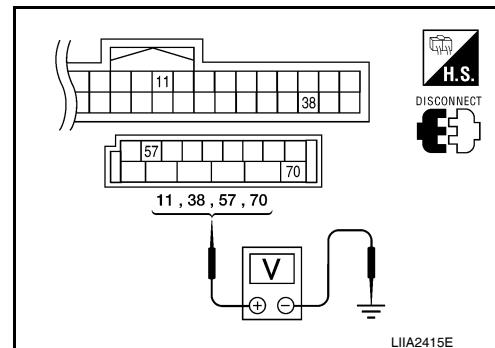
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

#### 2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Power source	Condition	Voltage (V) (Approx.)
	(+)	(-)			
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

#### 3. CHECK GROUND CIRCUIT

# POWER SUPPLY AND GROUND CIRCUIT

[BCM]

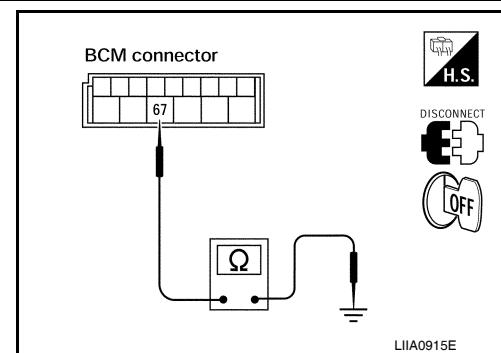
< DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Does continuity exist?

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



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# COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BCM]

## COMBINATION SWITCH INPUT CIRCUIT

### Diagnosis Procedure

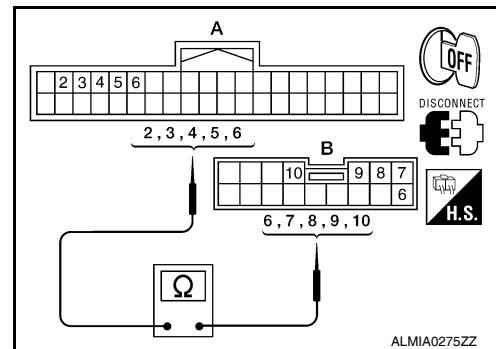
INFOID:0000000006161344

Regarding Wiring Diagram information, refer to [BCS-46, "Wiring Diagram"](#).

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M18 (A)	6	M28 (B)	6	Yes
INPUT 2		5		7	
INPUT 3		4		10	
INPUT 4		3		9	
INPUT 5		2		8	



Does continuity exist?

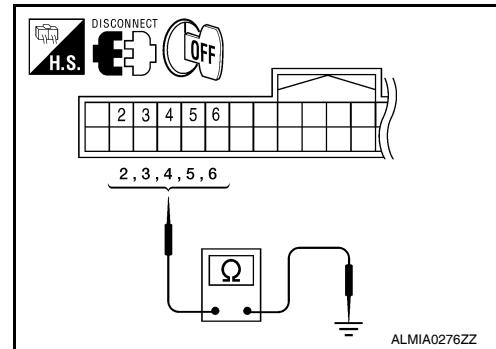
YES >> GO TO 2

NO >> Repair or replace harness.

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

Check for continuity between BCM harness connector and ground.

System	BCM		Continuity
	Connector	Terminal	
INPUT 1	M18 (A)	6	No
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	



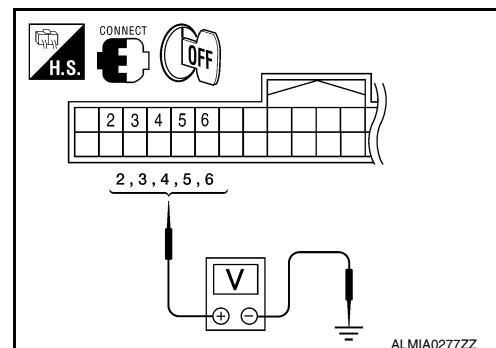
Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 3

#### 3. CHECK BCM OUTPUT VOLTAGE

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



# COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BCM]

System	Terminals		Voltage (Approx.)	
	(+)			
	BCM			
	Connector	Terminal		
INPUT 1	M18	6	Refer to <a href="#">BCS-35, "Reference Value".</a>	
INPUT 2		5		
INPUT 3		4		
INPUT 4		3		
INPUT 5		2		

Is the measurement value normal?

YES >> GO TO 4

NO >> Replace BCM. Refer to [BCS-53, "Removal and Installation".](#)

## 4. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-33, "Description".](#)

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-53, "Removal and Installation".](#)

NO >> Replace the combination switch (applicable parts). Refer to [EXL-144, "Removal and Installation".](#)

## Special Repair Requirement

INFOID:0000000006161345

### 1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

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# COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BCM]

## COMBINATION SWITCH OUTPUT CIRCUIT

### Diagnosis Procedure

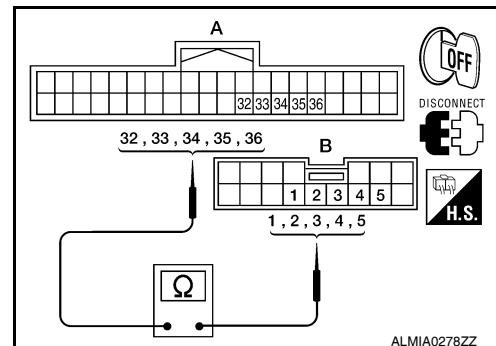
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Regarding Wiring Diagram information, refer to [BCS-46, "Wiring Diagram"](#).

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M18 (A)	36	M28 (B)	1	Yes
OUTPUT 2		35		2	
OUTPUT 3		34		3	
OUTPUT 4		33		4	
OUTPUT 5		32		5	



Does continuity exist?

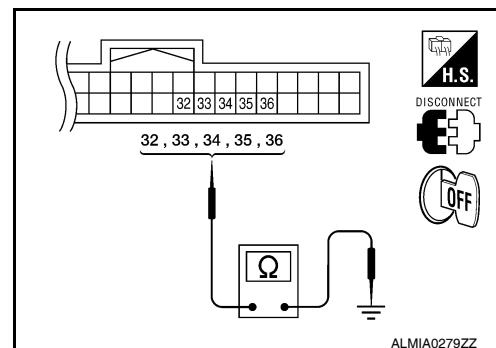
YES >> GO TO 2

NO >> Repair or replace harness.

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

Check for continuity between BCM harness connector and ground.

System	BCM		Continuity
	Connector	Terminal	
OUTPUT 1	M18 (A)	36	No
OUTPUT 2		35	
OUTPUT 3		34	
OUTPUT 4		33	
OUTPUT 5		32	



Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 3

#### 3. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-33, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-53, "Removal and Installation"](#).

NO >> Replace combination switch (applicable parts). Refer to [EXL-144, "Removal and Installation"](#).

### Special Repair Requirement

INFOID:0000000006161347

#### 1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

# COMBINATION SWITCH

[BCM]

< DTC/CIRCUIT DIAGNOSIS >

## COMBINATION SWITCH

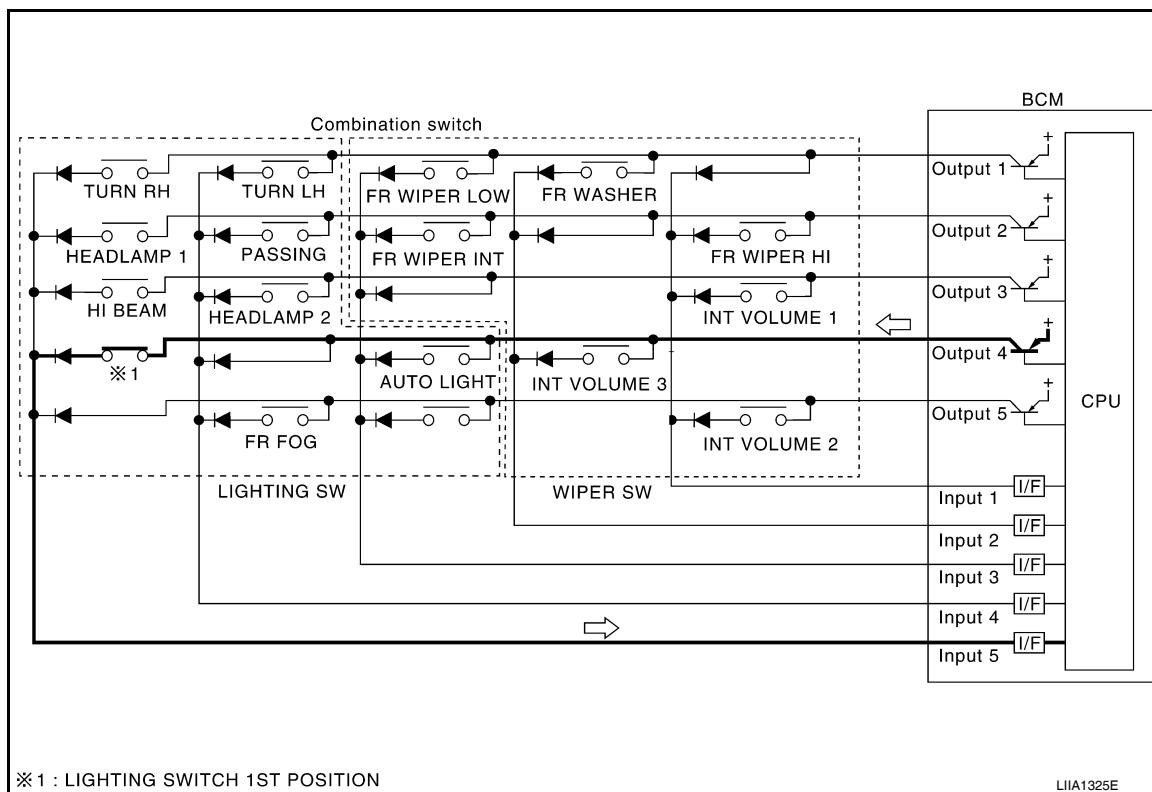
### Description

INFOID:0000000006161348

### COMBINATION SWITCH MATRIX

Combination switch consists of INPUT circuit and OUTPUT circuit.

Combination switch circuit



### Combination switch INPUT-OUTPUT system list

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

### NOTE:

Headlamp has a dual system switch.

### Diagnosis Procedure

INFOID:0000000006161349

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

Check operation with normal light & turn signal switch installed.

Does it operate normally?

YES >> Replace light & turn signal switch. Refer to [EXL-144, "Removal and Installation"](#).  
 NO >> GO TO 2

#### 2. CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

YES >> Replace wiper & washer switch. Refer to [WW-57, "Wiper and Washer Switch"](#).

## COMBINATION SWITCH

[BCM]

< DTC/CIRCUIT DIAGNOSIS >

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 switch base (spiral cable). Refer to [ST-22, "Disassembly and Assembly"](#).

NO >> Combination switch is normal.

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

## ECU DIAGNOSIS INFORMATION

### BCM (BODY CONTROL MODULE)

#### Reference Value

INFOID:000000006161350

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
	Cargo lamp switch ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

Monitor Item	Condition	Value/Status
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
KEY CYL LK-SW	Door key cylinder LOCK position	Off
	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
	Door key cylinder other than UNLOCK position	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
KEYLESS LOCK	LOCK button of key fob is not pressed	Off
	LOCK button of key fob is pressed	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC 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
LIGHT SW 1ST	Lighting switch OFF	Off
	Lighting switch 1st	On

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

[BCM]

Monitor Item	Condition	Value/Status
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	Off
	Ignition switch ON	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V
	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

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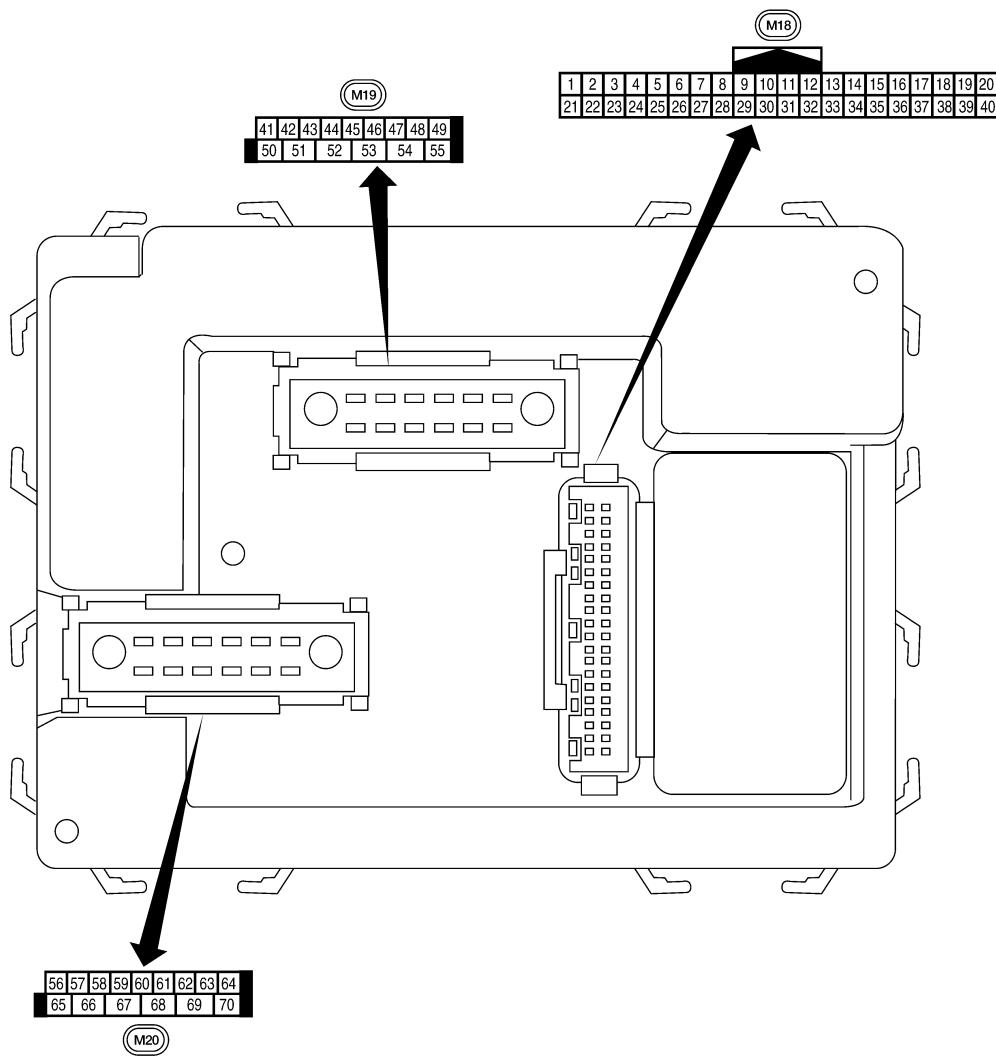
# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

## Terminal Layout

INFOID:0000000006161351



LIIA2443E

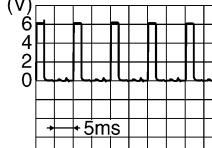
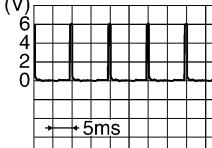
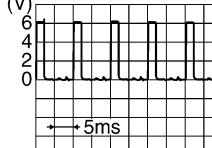
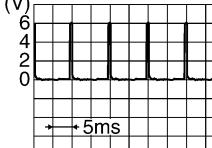
## Physical Values

INFOID:0000000006161352

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	V	Combination switch input 1				
9	Y/B	Rear window defogger switch (Crew Cab)	Input	ON	Rear window defogger switch ON Rear window defogger switch OFF	0V 5V
11	O	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH (All)	Input	OFF	ON (open)	0V
		Rear door switch lower RH (King Cab)				
		Rear door switch upper RH (King Cab)			OFF (closed)	Battery voltage
13	GR	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	—	5V
18	P	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

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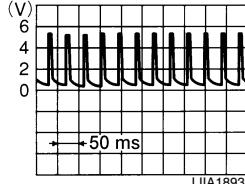
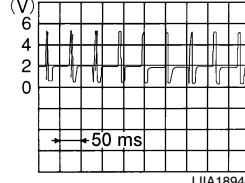
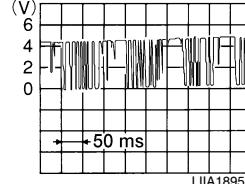
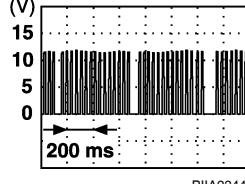
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

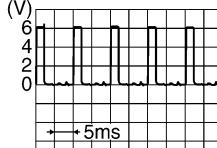
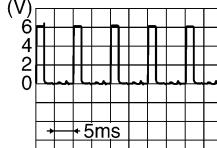
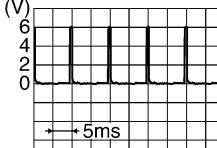
[BCM]

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	G	BUS	—	—	Ignition switch ON or power window timer operates	 PIIA2344E
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
31	P/L	Cargo lamp switch	Input	OFF	Cargo lamp switch ON	0
					Cargo lamp switch OFF	Battery voltage

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	O/B	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	R/W	Combination switch output 1				
37	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
47	SB	Front door switch LH (All)	Input	OFF	ON (open)	0V
		Rear door switch lower LH (King Cab)				Battery voltage
		Rear door switch upper LH (King Cab)			OFF (closed)	
48	R/Y	Rear door switch LH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
50	R/Y	Cargo bed lamp control	Output	OFF	Cargo lamp switch (ON)	0V
					Cargo lamp switch (OFF)	Battery voltage

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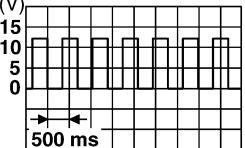
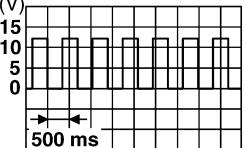
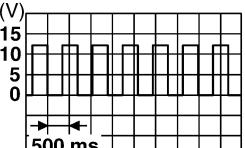
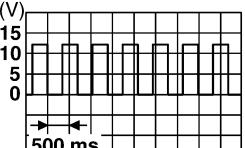
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
56	R/G	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch	0V
					ON (open) OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH and rear door lock actuators LH/RH (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage

# BCM (BODY CONTROL MODULE)

[BCM]

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
67	B	Ground	Input	ON	—	0V
68	W/L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	W/R	Power window power supply	Output	—	—	Battery voltage
70	W/B	Battery power supply	Input	OFF	—	Battery voltage

## Fail Safe

INFOID:000000006161354

### Fail-safe index

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

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

## DTC Inspection Priority Chart

INFOID:000000006161355

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	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

[BCM]

Priority	DTC
3	<ul style="list-style-type: none"> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• C1735: IGNITION SIGNAL</li> </ul>
4	<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: [PRESSDATA ERR] FL</li> <li>• C1717: [PRESSDATA ERR] FR</li> <li>• C1718: [PRESSDATA ERR] RR</li> <li>• C1719: [PRESSDATA 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> </ul>

## DTC Index

INFOID:0000000006161356

### 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	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—
U1000: CAN COMM CIRCUIT	—	—	<a href="#">BCS-27</a>
B2190: NATS ANTENNA AMP	—	—	<a href="#">SEC-18</a>
B2191: DIFFERENCE OF KEY	—	—	<a href="#">SEC-21</a>
B2192: ID DISCORD BCM-ECM	—	—	<a href="#">SEC-22</a>
B2193: CHAIN OF BCM-ECM	—	—	<a href="#">SEC-24</a>
C1708: [NO DATA] FL	—	—	<a href="#">WT-14</a>
C1709: [NO DATA] FR	—	—	<a href="#">WT-14</a>
C1710: [NO DATA] RR	—	—	<a href="#">WT-14</a>
C1711: [NO DATA] RL	—	—	<a href="#">WT-14</a>
C1712: [CHECKSUM ERR] FL	—	—	<a href="#">WT-16</a>
C1713: [CHECKSUM ERR] FR	—	—	<a href="#">WT-16</a>
C1714: [CHECKSUM ERR] RR	—	—	<a href="#">WT-16</a>
C1715: [CHECKSUM ERR] RL	—	—	<a href="#">WT-16</a>

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[BCM]

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	—	—	<a href="#">WT-18</a>
C1717: [PRESSDATA ERR] FR	—	—	<a href="#">WT-18</a>
C1718: [PRESSDATA ERR] RR	—	—	<a href="#">WT-18</a>
C1719: [PRESSDATA ERR] RL	—	—	<a href="#">WT-18</a>
C1720: [CODE ERR] FL	—	—	<a href="#">WT-16</a>
C1721: [CODE ERR] FR	—	—	<a href="#">WT-16</a>
C1722: [CODE ERR] RR	—	—	<a href="#">WT-16</a>
C1723: [CODE ERR] RL	—	—	<a href="#">WT-16</a>
C1724: [BATT VOLT LOW] FL	—	—	<a href="#">WT-16</a>
C1725: [BATT VOLT LOW] FR	—	—	<a href="#">WT-16</a>
C1726: [BATT VOLT LOW] RR	—	—	<a href="#">WT-16</a>
C1727: [BATT VOLT LOW] RL	—	—	<a href="#">WT-16</a>
C1729: VHCL SPEED SIG ERR	—	—	<a href="#">WT-19</a>
C1735: IGNITION SIGNAL	—	—	<a href="#">WT-20</a>

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# BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

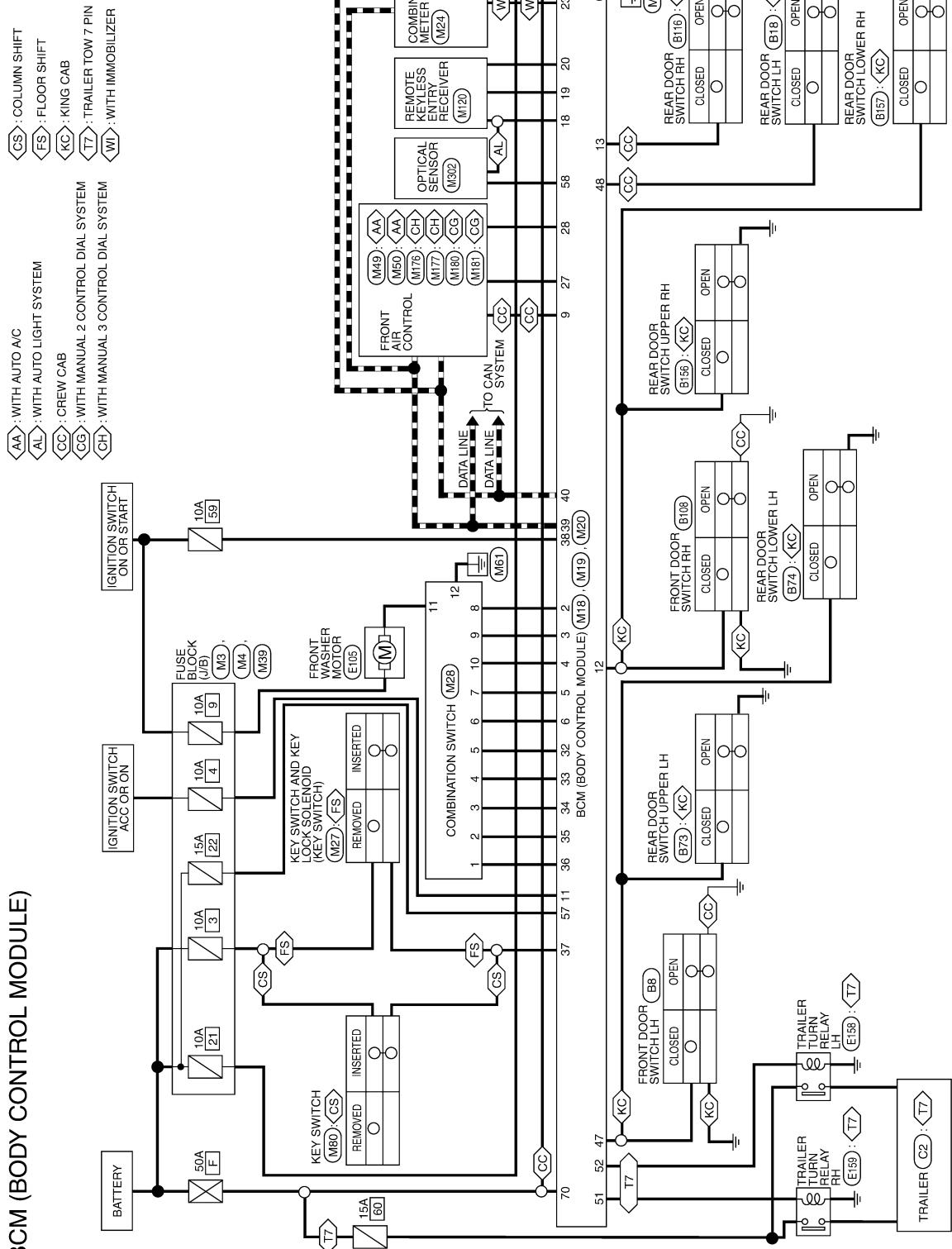
[BCM]

## WIRING DIAGRAM

### BCM (BODY CONTROL MODULE)

#### Wiring Diagram

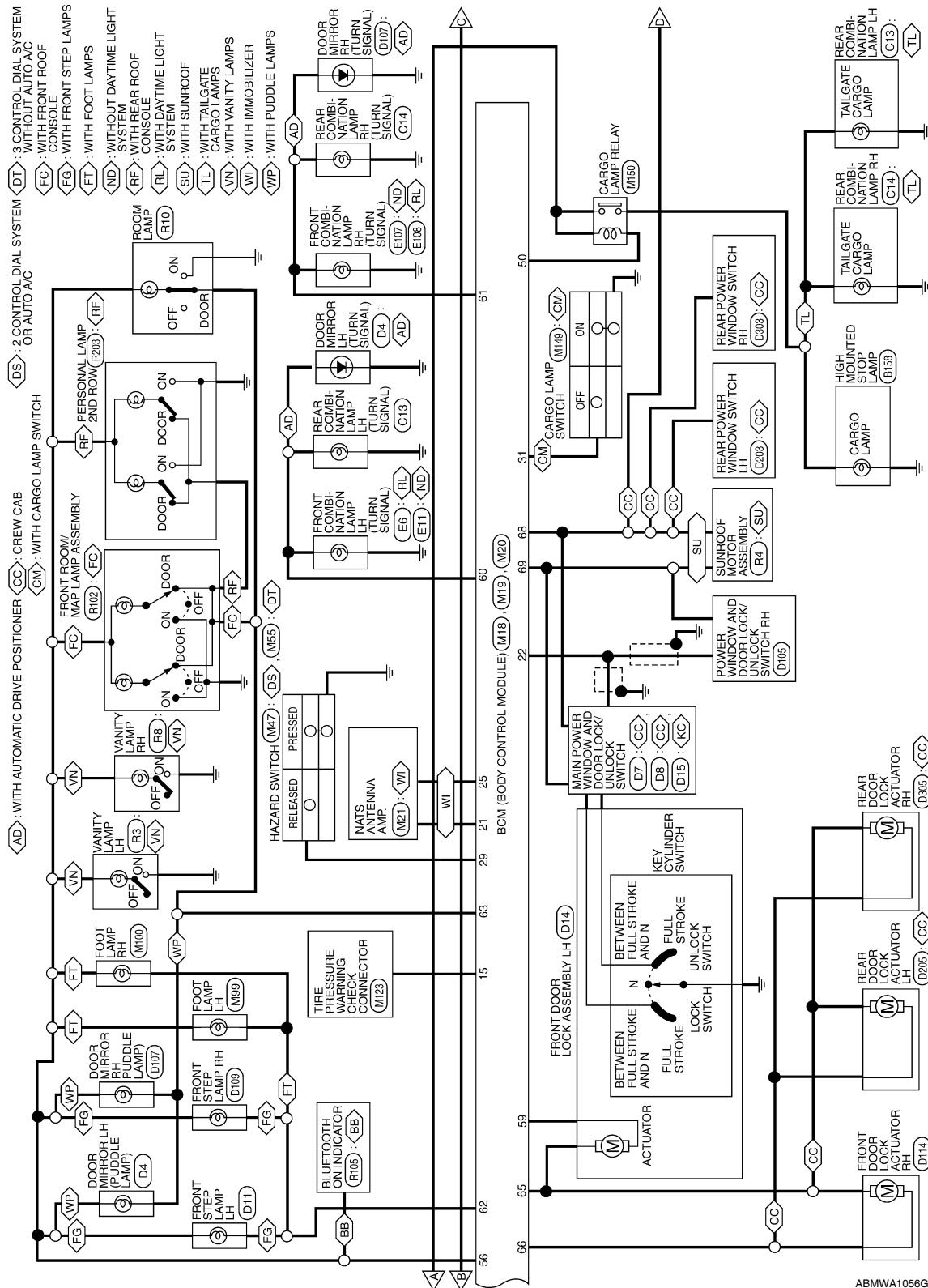
#### BCM (BODY CONTROL MODULE)



# BCM (BODY CONTROL MODULE)

[BCM]

< WIRING DIAGRAM >



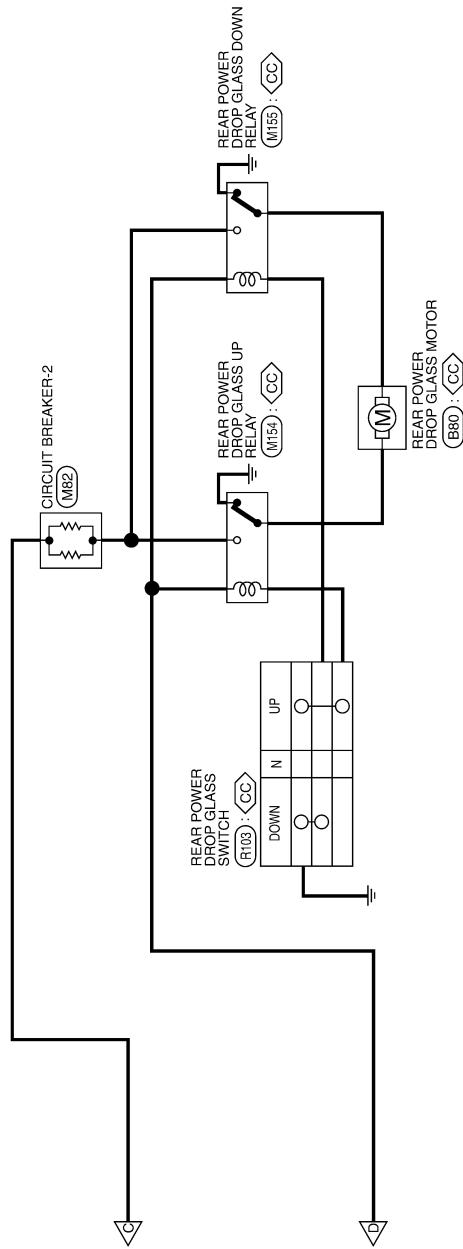
ABMWA1056GB

# BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

[BCM]

⟨CC⟩. CREW CAB



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# BCM (BODY CONTROL MODULE)

[BCM]

< WIRING DIAGRAM >

## BCM (BODY CONTROL MODULE) CONNECTORS

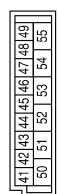
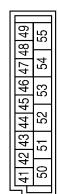
Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
16	—	—	41	—	—
17	—	—	42	—	—
18	P	KEYLESS AND AUTO LIGHT SENSOR GND	43	—	—
19	V/W	KEYLESS TUNER POWER SUPPLY OUTPUT	44	—	—
20	G/W	KEYLESS TUNER SIGNAL	45	—	—
21	G	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	46	—	—
22	G	ANTI-PINCH SERIAL LINK (RX,TX)	47	SB	DOOR SW (DR)
23	G/O	SECURITY INDICATOR OUTPUT	48	RY	DOOR SW (RL)
24	—	—	49	—	—
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX,TX)	50	RY	CARGO LAMP OUTPUT
26	—	—	51	GY	TRAILER FLASHER OUTPUT (RIGHT)
27	W/R	AIRCON SW	52	GB	TRAILER FLASHER OUTPUT (LEFT)
28	L/R	BLOWER FAN SW	53	—	—
29	W/B	HAZARD SW	54	—	—
30	—	—	55	—	—
31	P/L	CARGO LAMP SW			
32	R/G	OUTPUT 5			
33	R/Y	OUTPUT 4			
34	L	OUTPUT 3			
35	O/B	OUTPUT 2			
36	R/W	OUTPUT 1			
37	B/R	KEY SW			
38	W/L	IGN SW			
39	L	CAN-H			
40	P	CAN-L			

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

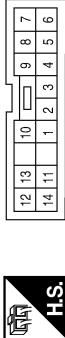


# BCM (BODY CONTROL MODULE)

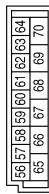
< WIRING DIAGRAM >

[BCM]

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT	1	R/W	INPUT 1
57	Y/R	BAT (FUSE)	2	O/B	INPUT 2
			3	L	INPUT 3
58	W/R	AUTO LIGHT SENSOR INPUT 2	4	R/Y	INPUT 4
59	G	DOOR UNLOCK OUTPUT (DR)	5	R/G	INPUT 5
60	G/B	FLASHER OUTPUT (LEFT)	6	V	OUTPUT 1
61	G/Y	FLASHER OUTPUT (RIGHT)	7	G/B	OUTPUT 2
62	R/W	STEP LAMP OUTPUT	8	SB	OUTPUT 5
63	L	ROOM LAMP OUTPUT	9	G/Y	OUTPUT 4
64	-	-	10	Y	OUTPUT 3
65	V	DOOR LOCK OUTPUT (ALL)	11	V/W	WASHER MOTOR
			12	B	GND

Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT	1	R/W	INPUT 1
57	Y/R	BAT (FUSE)	2	O/B	INPUT 2
			3	L	INPUT 3
58	W/R	AUTO LIGHT SENSOR INPUT 2	4	R/Y	INPUT 4
59	G	DOOR UNLOCK OUTPUT (DR)	5	R/G	INPUT 5
60	G/B	FLASHER OUTPUT (LEFT)	6	V	OUTPUT 1
61	G/Y	FLASHER OUTPUT (RIGHT)	7	G/B	OUTPUT 2
62	R/W	STEP LAMP OUTPUT	8	SB	OUTPUT 5
63	L	ROOM LAMP OUTPUT	9	G/Y	OUTPUT 4
64	-	-	10	Y	OUTPUT 3
65	V	DOOR LOCK OUTPUT (ALL)	11	V/W	WASHER MOTOR
			12	B	GND

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# COMBINATION SWITCH SYSTEM SYMPTOMS

[BCM]

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### COMBINATION SWITCH SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000006161357

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

Data monitor item													Malfunction item: x	
TURN SIGNAL R	TURN SIGNAL L	HI BEAM SW	HEADLAMP SW 1	HEADLAMP SW 2	TAIL LAMP SW	PASSING SW	AUTO LIGHT SW	FR FOG SW	FR WIPER HI	FR WIPER LOW	FR WIPER INT	FR WASHER SW	INT VOLUME	Malfunction combination
x	x								x		x			A
			x			x			x	x				B
		x	x									x		C
				x		x						x		D
							x					x		E
								x				x		F
										x	x			G
							x		x	x				H
	x			x		x	x							I
x		x	x		x									J
Combinations other than those above													K	
All Items													L	
If only one item is detected or the item is not applicable to the combinations A to L													M	

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-30, "Diagnosis Procedure"</a> .
B	Combination switch INPUT 2 circuit	
C	Combination switch INPUT 3 circuit	
D	Combination switch INPUT 4 circuit	
E	Combination switch INPUT 5 circuit	
F	Combination switch OUTPUT 1 circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-32, "Diagnosis Procedure"</a> .
G	Combination switch OUTPUT 2 circuit	
H	Combination switch OUTPUT 3 circuit	
I	Combination switch OUTPUT 4 circuit	
J	Combination switch OUTPUT 5 circuit	
K	Light and turn signal switch or front wiper and washer switch	Refer to <a href="#">BCS-33, "Description"</a> .
L	BCM	Replace BCM. Refer to <a href="#">BCS-53, "Removal and Installation"</a> .
M	Light and turn signal switch or front wiper and washer switch	Replace the switch that cannot be operated.

BCS

&lt; PRECAUTION &gt;

## PRECAUTION

### PRECAUTIONS

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

INFOID:0000000006161358

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 SR and SB section of this Service Manual.

**WARNING:**

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

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

**WARNING:**

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

&lt; REMOVAL AND INSTALLATION &gt;

## REMOVAL AND INSTALLATION

### BCM (BODY CONTROL MODULE)

#### Removal and Installation

INFOID:000000006161359

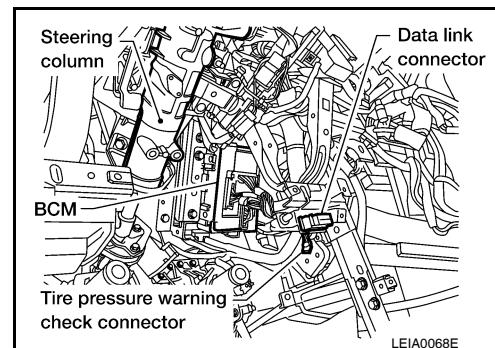
##### BCM

###### Removal

###### NOTE:

If possible, before removing BCM, retrieve current BCM configuration to use for reference when configuring brand-new BCM after installation. Refer to [BCS-4, "CONFIGURATION : Special Repair Requirement"](#).

1. Disconnect the battery negative terminal.
2. Remove the lower knee protector. Refer to [IP-12, "Removal and Installation"](#).
3. Remove the screw and release the BCM.
4. Disconnect the connectors and then remove the BCM.



###### Installation

Installation is in the reverse order of removal.

###### NOTE:

- When replacing BCM, it must be configured. Refer to [BCS-4, "CONFIGURATION : Special Repair Requirement"](#).
- When replacing BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to [SEC-7](#).
- When replacing BCM, perform ID registration procedure of low tire pressure warning system. Refer to [WT-6, "ID Registration Procedure"](#).

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