

 $\mathsf{D}$ 

# **CONTENTS**

BCM	COMMON ITEM	.18 F
DAGIO INODESTION	COMMON ITEM : Diagnosis Description	.18
BASIC INSPECTION3	COMMON ITEM : CONSULT-III Function (BCM -	
DIAGNOSIS AND REPAIR WORKFLOW 3	COMMON ITEM)	.18 <sub>G</sub>
Work Flow	DOOR LOCK	.19
	DOOR LOCK : CONSULT-III Function (BCM -	
ADDITIONAL SERVICE WHEN REPLACING	DOOR LOCK)	.19 H
CONTROL UNIT5		
ADDITIONAL SERVICE WHEN REPLACING	REAR WINDOW DEFOGGER	.19
CONTROL UNIT: Description5	REAR WINDOW DEFOGGER: CONSULT-III	10
ADDITIONAL SERVICE WHEN REPLACING	Function (BCM - REAR DEFOGGER)	.19
CONTROL UNIT : Special Repair Requirement5	BUZZER	.20
CONFIGURATION (BCM)6	BUZZER: CONSULT-III Function (BCM - BUZZ-	J
CONFIGURATION (BCM): Description6	ER)	.20
CONFIGURATION (BCM) : Special Repair Re-	INT LAMP	20
quirement6	INT LAMP : CONSULT-III Function (BCM - INT	.20 K
CONFIGURATION (BCM) : Configuration list7	LAMP)	
FUNCTION DIAGNOSIS8		
	HEADLAMP	.22 _
BODY CONTROL SYSTEM8	HEADLAMP: CONSULT-III Function (BCM -	
System Description8	HEAD LAMP)	.22
Component Parts Location9	WIPER	.24 BC
COMBINATION SWITCH READING SYSTEM	WIPER: CONSULT - III Function (BCM - WIPER)	.24
10	FLACUED	
System Diagram10	FLASHER : CONSULT-III Function (BCM -	.25 N
System Description	FLASHER)	25
	·	
SIGNAL BUFFER SYSTEM14	INTELLIGENT KEY	.26
System Diagram14	INTELLIGENT KEY: CONSULT-III Function	
System Description14	(BCM - INTELLIGENT KEY)	.26
POWER CONSUMPTION CONTROL SYS-	COMB SW	.29 P
TEM15	COMB SW : CONSULT-III Function (BCM -	
System Diagram15	COMB SW)	.29
System Description	,	
Component Parts Location17	BCM	
·	BCM : CONSULT-III Function (BCM - BCM)	.30
DIAGNOSIS SYSTEM (BCM)18	IMMU	30

IMMU : CONSULT-III Function (BCM - IMMU)	30	Special Repair Requirement	41
BATTERY SAVER	31	POWER SUPPLY AND GROUND CIRCUIT	42
BATTERY SAVER : CONSULT-III Function (BCM		Diagnosis Procedure	
- BATTERY SAVER)	31	Special Repair Requirement	42
TRUNK		COMBINATION SWITCH INPUT CIRCUIT	43
TRUNK : CONSULT-III Function (BCM - TRUNK).	32	Diagnosis Procedure	
THEFT ALM	32	Special Repair Requirement	44
THEFT ALM : CONSULT-III Function (BCM -		COMBINATION SWITCH OUTPUT CIRCUIT.	45
THEFT)	. 32	Diagnosis Procedure	
RETAINED PWR	22	Special Repair Requirement	
RETAINED PWR : CONSULT-III Function (BCM -	აა		
RETAINED PWR)	33	ECU DIAGNOSIS	47
,		BCM (BODY CONTROL MODULE)	47
SIGNAL BUFFER : CONSULT-III Function		Reference Value	
SIGNAL BUFFER . CONSULT-III FUNCTION	33	Terminal Layout	51
AIR PRESSURE MONITOR	. 34	Physical Values	52
AIR PRESSURE MONITOR : Diagnosis Descrip-		Wiring Diagram	
tion	34	Fail Safe	
AIR PRESSURE MONITOR: CONSULT-III Func-		DTC Inspection Priority Chart	
tion (BCM - AIR PRESSURE MONITOR)	35	DTC Index	81
COMPONENT DIAGNOSIS	. 37	SYMPTOM DIAGNOSIS	84
U1000 CAN COMM CIRCUIT	37	COMBINATION SWITCH SYSTEM SYMP-	
Description	37	TOMS	
DTC Logic	37	Symptom Table	84
Diagnosis Procedure	37	PREPARATION	85
U1010 CONTROL UNIT (CAN)	38		
DTC Logic		PREPARATION	
Diagnosis Procedure	38	Special Service Tool	
HOAAE VEHICLE OREER OLG		Commercial Service Tools	85
U0415 VEHICLE SPEED SIG		PRECAUTION	86
Description			00
DTC Logic  Diagnosis Procedure		PRECAUTIONS	86
Diagnosis Procedure	39	Supplemental Restraint System (SRS) "AIR B	
B2562 LOW VOLTAGE	40	AG" and "SEAT BELT PRE-TENSIONER"	86
DTC Logic		Necessary for Steering Wheel Rotation After Bat-	
Diagnosis Procedure		tery Disconnect	86
Special Repair Requirement	40	ON-VEHICLE REPAIR	87
B2563 HI VOLTAGE	. 41		
DTC Logic		BCM (BODY CONTROL MODULE)	
Diagnosis Procedure		Removal and Installation	87

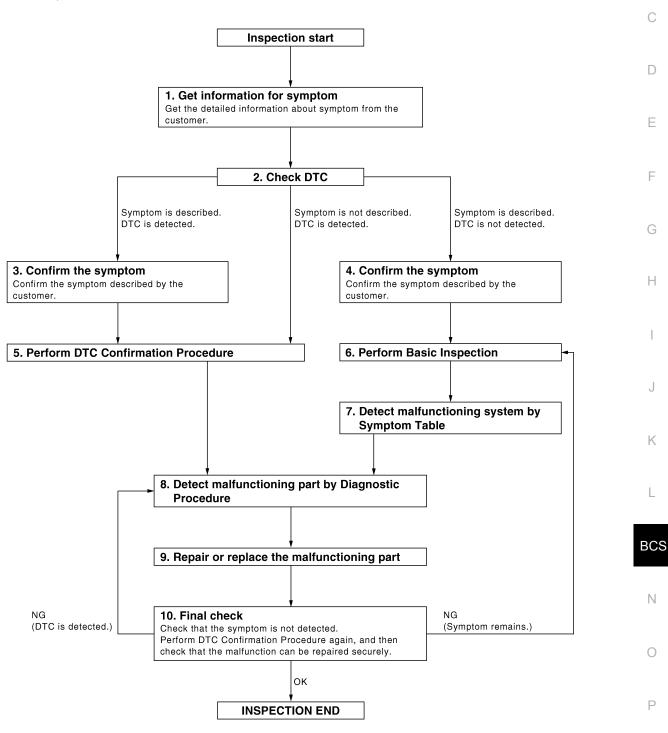
< BASIC INSPECTION > [BCM]

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

**OVERALL SEQUENCE** 



JMKIA0101GB

Α

< BASIC INSPECTION > [BCM]

# ${f 1}$ . GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

# 2. CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data.
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

#### Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3

Symptom is described, DTC is not displayed>>GO TO 4

Symptom is not described, DTC is displayed>>GO TO 5

# 3. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

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

>> GO TO 5

### 4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

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

>> GO TO 6

# ${f 5}$ . PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.

At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.

If two or more DTCs are detected, refer to <u>BCS-80, "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.

#### NOTE:

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

#### Is DTC detected?

YES >> GO TO 8

NO >> Refer to <u>BCS-81, "DTC Index".</u>

## 6. PERFORM BASIC INSPECTION

Perform BCS-3, "Work Flow".

Inspection End>>GO TO 7

# 7. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to <u>BCS-8</u>. "System Description" based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 8

#### DIAGNOSIS AND REPAIR WORKFLOW

[BCM] < BASIC INSPECTION > 8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE Α Inspect according to Diagnostic Procedure of the system. NOTE: The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also В required for the circuit check in the Diagnostic Procedure. Is malfunctioning part detected? YES >> GO TO 9 NO >> Check voltage of related BCM terminals using CONSULT-III.  $9.\,$  REPAIR OR REPLACE THE MALFUNCTIONING PART Repair or replace the malfunctioning part. D Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replace-2. ment. Check DTC. If DTC is displayed, erase it. Е >> GO TO 10 10. FINAL CHECK When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been repaired securely. When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected. Does the symptom reappear? Н YES (DTC is detected)>>GO TO 8 YES (Symptom remains)>>GO TO 6 >> Inspection End. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description INFOID:0000000004494663 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: BCS**  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. Ν When replacing BCM, perform the system initialization (NATS). ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement INFOID:0000000004494664  ${f 1}$  . SAVING VEHICLE SPECIFICATION CONSULT-III Configuration Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to BCS-6. "CONFIGU-RATION (BCM): Description".

NOTE:

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

#### DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [BCM]

>> GO TO 2

# 2. REPLACE BCM

Replace BCM. Refer to BCS-87, "Removal and Installation".

>> 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 <a href="https://example.com/BCS-6">BCS-6</a>, "CONFIGURATION (BCM): Special Repair Requirement".

>> GO TO 4

# 4. INITIALIZE BCM (NATS)

Perform BCM initialization (NATS). Refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.

>> Inspection End.

## CONFIGURATION (BCM)

# CONFIGURATION (BCM): Description

INFOID:0000000004494665

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

Function	Description
READ CONFIGURATION	<ul><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 cannot 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:0000000004494666

# 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"

(P)CONSULT-III Configuration

Perform "WRITE CONFIGURATION - Config File".

>> Inspection End.

#### DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [BCM]

# 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 <u>BCS-7</u>, "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 cannot be memorized.

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

>> GO TO 4

TIRE PRESSURE

## 4. OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Inspection End.

# CONFIGURATION (BCM): Configuration list

MANUAL SETTING ITEM

Items Setting value

AUTO LIGHT WITHOWITHOUT

AUTO LIGHT WITH⇔WITHOUT —

DTRL WITH⇔WITHOUT • WITH: Canada
• WITHOUT: Except Canada

TRANSMISSION • MT with ABS
• MT with ABS

TR CANCEL SW WITH —

240 kPa

BCS

D

Е

F

INFOID:0000000004494667

Ν

C

# **FUNCTION DIAGNOSIS**

# **BODY CONTROL SYSTEM**

# System Description

INFOID:0000000004218949

#### **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 saving 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.

#### CAN communication control

In CAN communication, control units are connected with 2 communication lines (CAN-L, CAN-H) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives the data but selectively reads required information only.

#### CAN communication signal

Refer to the LAN-27, "CAN Communication Signal Chart".

#### BCM control function list

System	Refer to
Combination switch reading system	BCS-10, "System Description"
Signal buffer system	BCS-14, "System Description"
Power consumption control system	BCS-15, "System Description"
Auto light system	EXL-12. "System Description"
Turn signal and hazard warning lamp system	EXL-17. "System Description"
Headlamp system	EXL-7, "System Description"
Front fog lamp system	EXL-15. "System Description"
Exterior lamp battery saver system	PCS-12, "System Description"
Daytime running light system (Canada only)	EXL-9. "System Description"
Interior room lamp control system	INL-6. "System Description"
Step lamp system	INC-0. System Description
Interior room lamp battery saver system	BCS-15, "System Description"
Front wiper and washer system	WW-6, "System Description"
Warning chime system	WCS-4, "WARNING CHIME SYSTEM : System Description"
Door lock system	DLK-13, "DOOR LOCK AND UNLOCK SWITCH : System Description"
Trunk open system	DLK-26, "TRUNK LID OPENER SWITCH: System Description"
Nissan vehicle immobilizer system	SEC-15, "System Description"
Vehicle security system	SEC 18 "System Description"
Panic alarm	SEC-18, "System Description"
Rear window defogger system	DEF-6. "System Description"

# **BODY CONTROL SYSTEM**

< FUNCTION DIAGNOSIS > [BCM]

System		Refer to	
Intelligent Key system/hybrid system start	Door lock function	DLK-15, "DOOR REQUEST SWITCH: System Description"     (door request switch)     SEC-10, "System Description" (Intelligent Key)	
	Trunk open function	DLK-26, "TRUNK LID OPENER SWITCH: System Description" (trunk request switch)     SEC-10, "System Description" (Intelligent Key)	
	Warning function	DLK-38, "System Description"	
	Key reminder function	DLK-46, "System Description"	
	Hybrid system start function	SEC-10, "System Description"	
Power window system		PWC-104, "System Description" (LH & RH front window antipinch)     PWC-10, "System Description" (LH front only window antipinch)	
RAP (retained accessory power) system		RF-8, "System Description"	
TPMS (tire pressure monitior system)		WT-8, "System Description"	

# Component Parts Location

INFOID:0000000004218950

Α

В

С

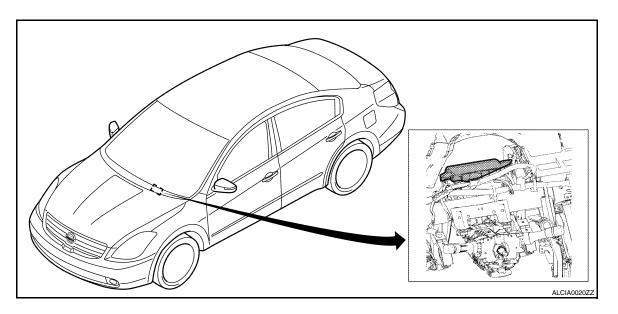
 $\mathsf{D}$ 

Е

F

G

Н



 BCM M16, M17, M18, M19, M20, M21 (view with instrument panel removed)

BCS

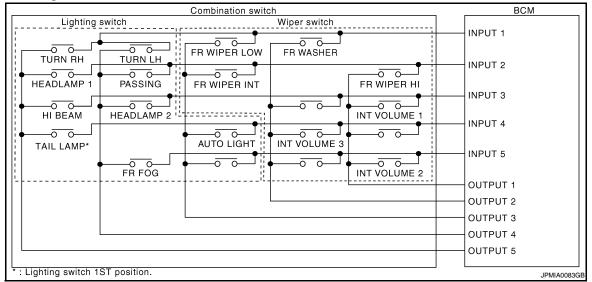
Ν

0

# COMBINATION SWITCH READING SYSTEM

# System Diagram

INFOID:0000000004218951



# **System Description**

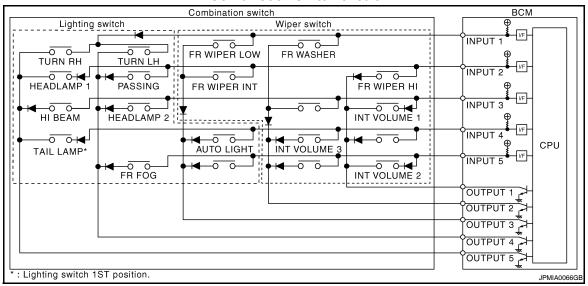
INFOID:0000000004218952

#### **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**

#### Combination switch circuit



Combination switch INPUT-OUTPUT system list

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	_	FR WASHER	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

#### **COMBINATION SWITCH READING SYSTEM**

### < FUNCTION DIAGNOSIS >

[BCM]

Α

В

D

Н

**BCS** 

Ν

Р

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 4	_	INT VOLUME 3	AUTO LIGHT	_	TAIL LAMP
INPUT 5	INT VOLUME 2	_	_	FR FOG	_

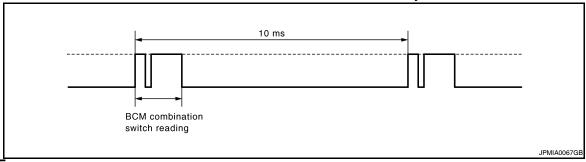
#### NOTE:

Headlamp has a dual system switch.

#### COMBINATION SWITCH READING FUNCTION

#### Description

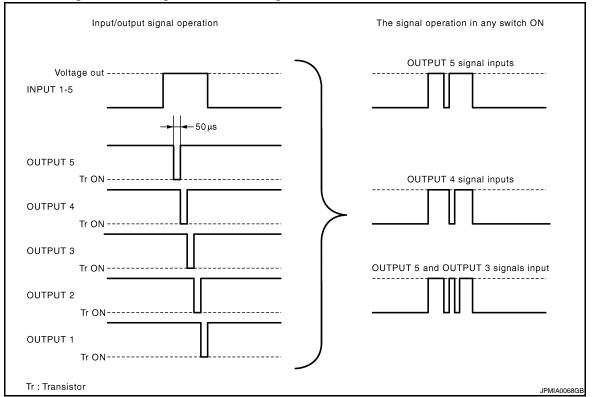
BCM reads the status of the combination switch at 10ms interval normally.



#### NOTE:

BCM reads the status of the combination switch at 60ms interval when BCM is controlled at low power consumption 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  $5\rightarrow4\rightarrow3\rightarrow2\rightarrow1$ .
- 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.



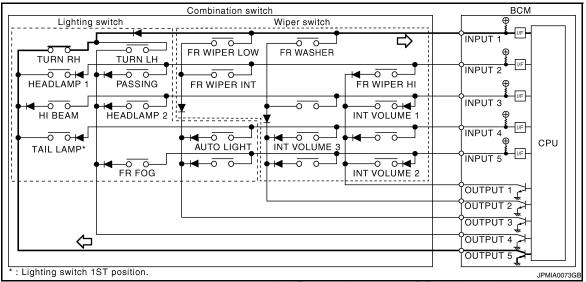
#### Operation Example

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.

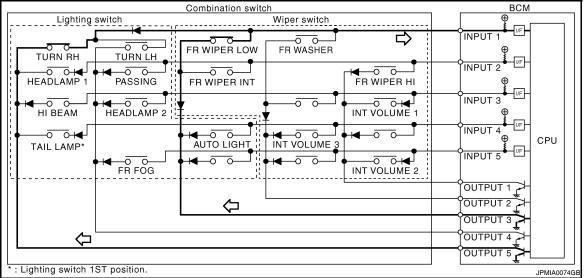
< FUNCTION DIAGNOSIS >



- 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, FR WIPER LOW switch) are turned ON

• 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.

# **COMBINATION SWITCH READING SYSTEM**

< FUNCTION DIAGNOSIS > [BCM]

Wiper intermittent dial posi-	Intermittent oper-	INT VOLUME switch ON/OFF status			
tion	ation delay inter- val	INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch	
1		ON	ON	ON	
2	Short	ON	ON	OFF	
3		ON	OFF	OFF	
4	<b>↓</b>	OFF	OFF	OFF	
5		OFF	OFF	ON	
6	Long	OFF	ON	ON	
7	_==:19	OFF	ON	OFF	

Α

В

С

D

Е

F

G

Н

ı

J

Κ

L

BCS

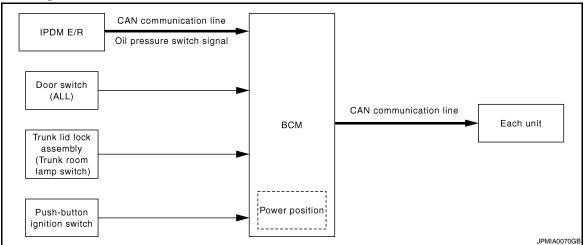
Ν

0

# SIGNAL BUFFER SYSTEM

# System Diagram

INFOID:0000000004218953



# **System Description**

INFOID:0000000004218954

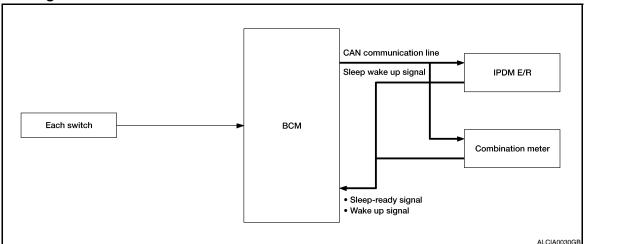
## **OUTLINE**

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
<ul><li> Ignition switch ON signal</li><li> Ignition switch signal</li></ul>	Push-button ignition switch	IPDM E/R (CAN)	Inputs the push-button ignition switch signal and transmits the ignition switch status judged with BCM via CAN communication.
Door switch signal	Any door switch	Combination meter (CAN)     IPDM E/R (CAN)	Inputs the door switch signal and transmits it via CAN communication.
Trunk switch signal	Trunk room lamp switch	Combination meter (CAN)	Inputs the trunk room lamp switch signal and transmits the trunk switch signal via CAN communication.
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

## System Diagram



# System Description

INFOID:0000000004218956

INFOID:0000000004218955

Α

D

Е

Н

#### **OUTLINE**

- BCM incorporates a power saving 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 10ms interval to 60ms 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 wakeup 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.

BCS

0

#### POWER CONSUMPTION CONTROL SYSTEM

[BCM]

< FUNCTION DIAGNOSIS >

ep condition		
CAN sleep condition	BCM sleep condition	
Receiving the sleep-ready signal (ready) from all units Ignition switch: OFF Vehicle security system alarm and panic alarm: No operation Warning lamp: No operation Intelligent Key system buzzer: No operation Trunk room lamp switch status: No change Brake switch: OFF Key slot status: No change Turn signal indicator lamp: No operation Exterior lamp: OFF Door lock status: No change CONSULT-III communication status: No communication Meter display signal: No transmission Electronic steering column lock operation: No operation Door switch status: No change Rear window defogger: OFF	<ul> <li>Interior room lamp battery saver: Time out</li> <li>RAP system: OFF</li> <li>Power window serial link communication: No transmission</li> <li>Push-button ignition switch illumination: OFF</li> <li>NATS: No operation</li> <li>Remote keyless entry receiver communication status: No communication</li> <li>Tire pressure monitor system: Stop</li> </ul>	

### Wake-up operation

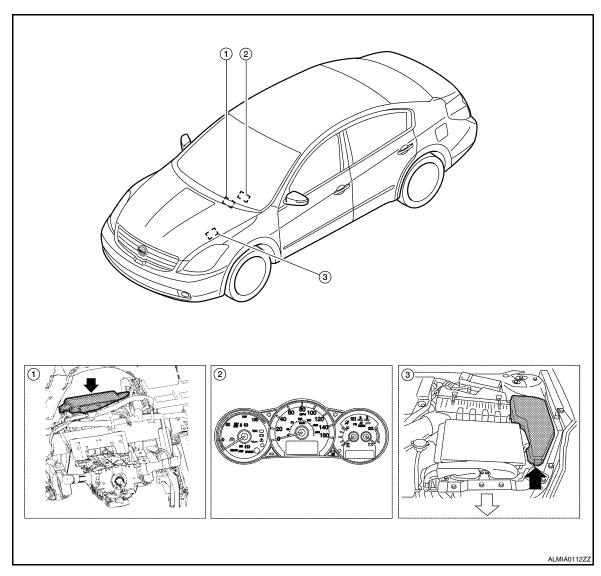
- BCM changes from the low power consumption mode to the CAN communication sleep mode when the any of the BCM wake-up conditions is fulfilled. Only the control with BCM is activated.
- BCM transmits the sleep wake up signal (wake up) to each unit when any of the CAN wake-up conditions is fulfilled. It changes from the low power consumption mode or the CAN communication sleep mode to the normal mode.
- Each unit starts the transmission of CAN communication with the sleep wake up signal. In addition, the combination meter transmits the wake up signal to BCM via CAN communication to report the CAN communication start.

Wake-up condition

BCM wake-up condition	CAN wake-up condition	
<ul> <li>Front door unlock sensor: OFF→ON, ON→OFF</li> <li>Front door lock lock assembly LH (key cylinder switch): Lock or unlock</li> <li>Door lock switch: OFF→ON</li> <li>Door unlock switch: OFF→ON</li> <li>Trunk lid opener switch: OFF→ON</li> <li>Power window serial link communication: Receiving</li> <li>Remote keyless entry receiver: Receiving valid keyfob</li> </ul>	<ul> <li>Receiving the sleep-ready signal (Not-ready) from any units</li> <li>Key slot: OFF→ON, ON→OFF</li> <li>Push-button ignition switch: OFF→ON</li> <li>Hazard switch: OFF→ON</li> <li>PASSING switch: OFF→ON</li> <li>TAIL LAMP switch: OFF→ON,</li> <li>Front door switch LH: OFF→ON, ON→OFF</li> <li>Front door switch RH: OFF→ON, ON→OFF</li> <li>Rear door switch LH: OFF→ON, ON→OFF</li> <li>Rear door switch RH: OFF→ON, OFF→ON</li> <li>Trunk room lamp switch: OFF→ON, ON→OFF</li> <li>Front door LH request switch: OFF→ON</li> <li>Front door RH request switch: OFF→ON</li> <li>Trunk request switch: OFF→ON</li> <li>Stop lamp switch 2 signal: ON</li> <li>Remote keyless entry receiver: Receiving valid keyfob</li> </ul>	

Component Parts Location

INFOID:0000000004218957



- BCM M16, M17, M18, M19, M20, M21 (view with instrument panel removed)
- Combination meter M24
- 3. IPDM E/R E16, E17, E18, E200, E201, F10

В

Α

С

D

Е

F

G

Н

J

Κ

L

BCS

Ν

0

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

**COMMON ITEM: Diagnosis Description** 

INFOID:0000000004218958

#### **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.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	<ul> <li>Read and save the vehicle specification.</li> <li>Write the vehicle specification when replacing BCM.</li> </ul>

#### 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.

System	Cub quatam adjection item	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

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

INFOID:0000000004218959

ECU IDENTIFICATION Displays the BCM part No.

**SELF-DIAG RESULT** 

Refer to BCS-81, "DTC Index".

# **DIAGNOSIS SYSTEM (BCM)**

< FUNCTION DIAGNOSIS > [BCM]

# **DOOR LOCK**

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

#### INFOID:0000000004218960

Α

В

D

Е

F

Н

**BCS** 

0

Р

## **WORK SUPPORT**

Work item	Description
DOOR LOCK-UNLOCK SET	• ON • OFF
AUTOMATIC DOOR LOCK SELECT	SHIFT OUT OF P     VH SPD
AUTOMATIC DOOR UNLOCK SE- LECT	MODE1     MODE2     MODE3     MODE4     MODE5     MODE6
AUTOMATIC LOCK/UNLOCK SE- LECT	• ON • OFF

#### **DATA MONITOR**

Monitor item	Contents
REQ SW-DR	Indicated [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicated [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicated [ON/OFF] condition of trunk lid opener request switch.
DOOR SW-DR	Indicated [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicated [ON/OFF] condition of passenger side door switch.
DOOR SW-RR	NOTE: This item is displayed, but cannot be monitored.
DOOR SW-RL	NOTE: This item is displayed, but cannot be monitored.
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.
CDL LOCK SW	Indicated [ON/OFF] condition of lock signal from door lock unlock switch.
CDL UNLOCK SW	Indicated [ON/OFF] condition of unlock signal from door lock unlock switch.
KEY CYL LK-SW	Indicated [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN-SW	Indicated [ON/OFF] condition of unlock signal from key cylinder.

#### **ACTIVE TEST**

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation.  The all door lock actuators are locked when "LOCK" on CONSULT-III screen is touched.  The all door lock actuators are unlocked when "ALL UNLK" on CONSULT-III screen is touched.  The driver side door lock actuator and fuel lid lock actuator are unlocked when "DR UNLK" on CONSULT-III screen is touched.  The passenger side door lock actuator is unlocked when "AS UNLK" on CONSULT- III screen is touched.

# **REAR WINDOW DEFOGGER**

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

NFOID:000000000421896

**DATA MONITOR** 

Monitor item [Unit]	Description
PUSH SW [ON/OFF]	Indicates condition of push switch
REAR DEF SW [ON/OFF]	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch

## **ACTIVE TEST**

Test item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation. Rear window defogger operates when "ON" on CONSULT-III screen is touched.

# BUZZER

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

INFOID:0000000004218962

## **DATA MONITOR**

Display item [Unit]	Description
VEH SPEED 1 [Km/h]	Value of vehicle speed signal received from ABS actuator and electric unit (control unit) with CAN communication line.
PUSH SW [ON/OFF]	Status of push-button ignition switch judged by BCM.
UNLK SEN-DR [ON/OFF]	Status of front door lock assembly LH (door unlock sensor) judged by BCM.
KEY SW-SLOT [ON/OFF]	Status of key slot judged by BCM.
TAIL LAMP SW [ON/OFF]	Status of each switch judged by BCM using the combination SW readout function.
FR FOG SW [ON/OFF]	Status of front fog lamp switch judged by BCM.
DOOR SW-DR [ON/OFF]	Status of front door switch LH judged by BCM.

# **ACTIVE TEST**

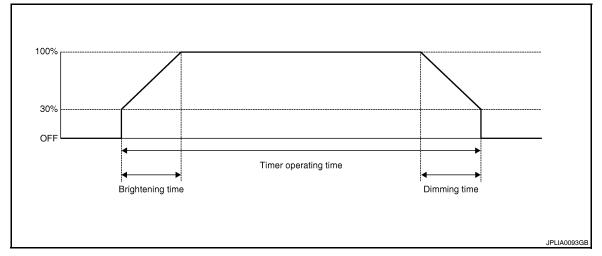
Display item [Unit]	Description
IGN KEY WARN ALM	The key warning chime operation can be checked by operating the relevant function (ON/OFF).
SEAT BELT WARN TEST	The seat belt warning chime operation can be checked by operating the relevant function (ON/OFF).
ID REGIST WARNING	The ID regist warning chime operation can be checked by operating the relevant function (ON/OFF).
LIGHT WARN ALM	The light warning chime operation can be checked by operating the relevant function (ON/OFF).

# INT LAMP

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

INFOID:0000000004218963

## **WORK SUPPORT**



Work Item	Setting item	Setting	
ROOM LAMP TIMER SET	MODE 2	7.5 sec.	
	MODE 3*	15 sec.	Sets the interior room lamp ON time. (Timer operating time)
	MODE 4	30 sec.	
SET I/L D-UNLCK INTCON	ON*	With the interior room lamp timer function	
SET I/L D-UNLCK INTCOM	OFF	Without the interior room lamp timer function	
	MODE 1	0.5 sec.	
	MODE 2*	1 sec.	
ROOM LAMP ON TIME SET	MODE 3	2 sec.	Sets the interior room lamp gradual brightening time.
	MODE 4	3 sec.	
	MODE 5	0 sec.	
	MODE 1	0.5 sec.	
	MODE 2	1 sec.	
ROOM LAMP OFF TIME SET	MODE 3	2 sec.	Sets the interior room lamp gradual dimming time.
	MODE 4*	3 sec.	
	MODE 5	0 sec.	
D LAMB TIMED LOGIC CET	ON* (MODE 1)	Interior room lamp timer activates with synchronizing all doors.	
R LAMP TIMER LOGIC SET	OFF (MODE 2)	Interior room lamp timer activates with synchronizing the front door LF only.	

<sup>\* :</sup> Initial setting

## DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [ON/OFF]	The switch status input from request switch (front LH)
REQ SW-AS [ON/OFF]	The switch status input from front request switch (front RH)
PUSH SW [ON/OFF]	The switch status input from push-button ignition switch
KEY SW-SLOT [ON/OFF]	Key switch status input from key slot

С

В

Α

D

Е

F

G

Н

J

K

L

BCS

Ν

0

Monitor item [Unit]	Description
DOOR SW-DR [ON/OFF]	The switch status input from front door switch LH
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH
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
DOOR SW-BK [ON/OFF]	NOTE: The item is indicated, not monitored.
CDL LOCK SW [ON/OFF]	Lock switch status received from door lock/unlock switch by power window serial link
CDL UNLOCK SW [ON/OFF]	Unlock switch status received from door lock/unlock switch by power window serial link
KEY CYL LK-SW [ON/OFF]	Lock switch status received from key cylinder switch by power window serial link
KEY CYL UN-SW [ON/OFF]	Unlock switch status received from key cylinder switch by power window serial link
TRNK/HAT MNTR [ON/OFF]	The switch status input from trunk room lamp switch
RKE-LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver
RKE-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 map lamp and personal lamp ON (Map lamp switch is in DOOR position).
	OFF	Stops the interior room lamp control signal to turn map lamp and personal lamp OFF.
STEP LAMP TEST	ON	Outputs the step lamp control signal to turn step lamp ON.
	OFF	Stops the step lamp control signal to turn step lamp OFF.
LUGGAGE LAMP TEST	ON	Outputs the luggage room lamp control signal to turn step lamp ON.
	OFF	Stops the luggage room lamp control signal to turn step lamp ON.

# **HEADLAMP**

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

INFOID:0000000004218964

# **WORK SUPPORT**

Work item	Setting item	em Setting	
BATTERY SAVER SET	ON <sup>1</sup>	With the exterior lamp battery saver function	
	OFF	Without the exterior lamp battery saver function	

# **DIAGNOSIS SYSTEM (BCM)**

< FUNCTION DIAGNOSIS >

[BCM]

Α

В

С

 $\mathsf{D}$ 

Е

F

Work item	Setting item	Setting		
	MODE 1 <sup>1</sup>	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET <sup>2</sup>	MODE 4	60 sec.	Sets delay timer function timer operation time (All doors closed)	
	MODE 5	90 sec.	(viii doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
	MODE 1 <sup>1</sup>	Normal		
CUSTOM A/LIGHT SETTING <sup>2</sup>	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)		
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation.)		

<sup>1 :</sup> Initial setting

# DATA MONITOR

Monitor item [Unit]	Description	
PUSH SW [ON/OFF]	The switch status input from push-button ignition switch	
ENGINE STATE [STOP/STALL/CRANK/RUN]	The engine status received from ECM with CAN communication	
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter with CAN communication	
KEY SW-SLOT [ON/OFF]	Key switch status input from key slot	
TURN SIGNAL R [ON/OFF]		
TURN SIGNAL L [ON/OFF]		
TAIL LAMP SW [ON/OFF]		
HI BEAM SW [ON/OFF]		
HEAD LAMP SW1 [ON/OFF]	Each switch status that BCM judges from the combination switch reading function	
HEAD LAMP SW2 [ON/OFF]		
PASSING SW [ON/OFF]		
AUTO LIGHT SW [ON/OFF]		
FR FOG SW [ON/OFF]		
DOOR SW-DR [ON/OFF]	The switch status input from front door switch LH	
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH	

G

Н

K

J

L

BCS

Ν

0

<sup>2 :</sup> With auto light system

Monitor item [Unit]	Description
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
DOOR SW-BK <sup>1</sup> [ON/OFF]	_
OPTICAL (LIGHT) SENSOR [V] <sup>2</sup>	The value of exterior brightness voltage input from the optical sensor

<sup>1:</sup> The item is indicated, not monitored

#### **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.
	Н	Transmits the high beam request signal with CAN communication to turn the headlamp (HI)
HEAD LAMP	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 lamp light request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	OFF	Stops the front fog lamp request signal transmission.
DAYTIME DUNING LIGHT	ON	Transmits the daytime running light system request signal to IPDM E/R
DAYTIME RUNNING LIGHT <sup>1</sup>	OFF	Stops the daytime running light request signal transmission
	RH	
CORNERING LAMP <sup>2</sup>	LH	<del>-</del>
	OFF	
ILL DIM SIGNAL <sup>2</sup>	ON	
ILL DIW SIGNAL	OFF	<del>_</del>
DD FOOL AMP?	ON	
RR FOG LAMP <sup>2</sup>	OFF	_

<sup>1:</sup> With daytime running light system.

# **WIPER**

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

INFOID:0000000004218965

## **WORK SUPPORT**

Work item	Setting item	Description	
WIPER SPEED SET- TING	ON	With vehicle speed (Front wiper intermittent time linked with the vehicle speed and wiper dial position)	
	OFF*	Without vehicle speed (Front wiper intermittent time linked with the wiper dial position)	

<sup>\*:</sup> Factory setting

## **DATA MONITOR**

<sup>2:</sup> With auto light system

<sup>2:</sup> The item is indicated, not monitored.

Monitor Item [Unit]	Description		
PUSH SW [ON/OFF]	Displays the status of the push-button ignition switch judged by BCM.		
VEH SPEED 1 [km/h]	Displays the value of the vehicle speed signal received from combination meter with CAN communication.		
FR WIPER HI [OFF/ON]	Status of each switch judged by BCM using the combination switch reading function		
FR WIPER LOW [OFF/ON]			
FR WASHER SW [OFF/ON]			
FR WIPER INT [OFF/ON]			
FR WIPER STOP [OFF/ON]	Displays the status of the front wiper auto stop signal received from IPDM E/R with CAN communication.		
INT VOLUME [1 – 7]	Status of each switch judged by BCM using the combination switch reading function		

## **ACTIVE TEST**

Test item	Operation	Description		
Н		Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.		
FRONT WIPER	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.		

# FLASHER

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

## **WORK SUPPORT**

Service item	Setting item	Setting		
HAZARD ANSWER BACK	LOCK ONLY*	Activated when locking.		
	UNLK ONLY Activated when unlocking.		Sets the hazard warning lamp answer back activation when the door is lock/unlock with the request switch or	
	LOCK/UNLK	Activated when locking/ unlocking	the key fob.	
	OFF	Not activated		

<sup>\* :</sup> Initial setting

## **DATA MONITOR**

Monitor item [Unit]	Description	
TURN SIGNAL R [ON/OFF]	Each quite and ities that DOM indeed from the combination quite reading function	
TURN SIGNAL L [ON/OFF]	Each switch condition that BCM judges from the combination switch reading func-	
HAZARD SW [ON/OFF]	The switch status input from the hazard warning switch	

141]

В

Α

D

Е

F

G

Н

l

.1

00000000004218966

BCS

Ν

0

Monitor item [Unit]	Description
RKE LOCK [ON/OFF]	The lock signal status received from the keyless receiver
RKE UNLOCK [ON/OFF]	The unock signal status received from the keyless receiver
RKE PANIC [ON/OFF]	The panic alarm signal status received from the keyless receiver

## **ACTIVE TEST**

Test item	Operation	Description
	RH	Blinks right turn signal lamp.
FLASHER	LH	Blinks left turn signal lamp.
	OFF	Turns turn signal lamps (right and left) OFF.

# INTELLIGENT KEY

# INTELLIGENT KEY: CONSULT-III Function (BCM - INTELLIGENT KEY) INFOID:000000004218967

# **WORK SUPPORT**

Work item	Description
REMO CONT ID CONFIR	It can be checked whether Intelligent Key ID code is registered or not in this mode.
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch (driver side, passenger side and trunk) mode can be changed to operate (ON) or not operate (OFF) in this mode.
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode.
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk opener request switch can be changed to operate (ON) or not operate (OFF) with this mode.
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode.  • 0.5 sec.  • 1.5 sec.  • OFF: Non-operation
TAKE OUT FROM WIN WARN	Take away warning chime (from window) mode can be changed to operate (ON) or not operate (OFF) with this mode.
PW DOWN SET	Unlock button pressing time on Intelligent Key button can be selected from the following with this mode.  • 3 sec.  • 5 sec.  • OFF: Non-operation
TRUNK OPEN DELAY	Trunk button pressing time on Intelligent Key button can be selected from the following with this mode.  • 0.5 sec.  • 1.5 sec.  • OFF: Non-operation
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode.
KEYLESS FUNCTION	Door lock function with Intelligent Key can be changed to operate (ON) or not operate (OFF) with this mode.
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
HAZARD ANSWER BACK	Hazard reminder function mode can be selected from the following with this mode.  • LOCK ONLY: Door lock operation only  • UNLOCK ONLY: Door unlock operation only  • LOCK AND UNLOCK: Lock/unlock operation  • OFF: Non-operation

# **DIAGNOSIS SYSTEM (BCM)**

# < FUNCTION DIAGNOSIS > [BCM]

Work item	Description
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode.  • HORN CHIRP: Sound horn  • BUZZER: Sound Intelligent Key warning buzzer  • OFF: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode.
SHORT CRANKING OUTPUT	Starter motor can operate during the times below.  • 70 msec.  • 100 msec.  • 200 msec.
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis.
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode.
AUTO LOCK SET	Auto door lock function mode can be changed to operate (ON) or not operate (OFF) with this mode.

# SELF-DIAG RESULT

Refer to BCS-81, "DTC Index".

## DATA MONITOR

Monitor item	Condition
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h].
VEH SPEED 2	Display the vehicle speed signal received from ABS or eCVT by numerical value [Km/h].
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value starts changing.
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.
REQ SW -DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW -AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW -BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.
IGN RLY2 -F/B	Indicates [ON/OFF] condition of ignition relay 2.
ACC RLY -F/B	Indicates [ON/OFF] condition of ACC relay.
CLUCH SW	Indicates [ON/OFF] condition of clutch switch.
BRAKE SW 1	Indicates [ON/OFF] condition of brake switch.
DETE/CANCL SW	Indicates [ON/OFF] condition of P position.
SFT PN/N SW	Indicates [ON/OFF] condition of P or N position.
S/L -LOCK	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L -UNLOCK	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY -F/B	Indicates [ON/OFF] condition of ignition switch.
UNLK SEN -DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
PUSH SW -IPDM	Indicates [ON/OFF] condition of push-button ignition switch.
IGN RLY1 -F/B	Indicates [ON/OFF] condition of ignition relay 1.
DETE SW -IPDM	Indicates [ON/OFF] condition of P position.
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position.
SFT P -MET	Indicates [ON/OFF] condition of P position.
SFT N -MET	Indicates [ON/OFF] condition of N position.
ENGINE STATE	Indicates [STOP/START/CRANK/RUN] condition of engine states.

er A

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

K

L

BCS

Ν

0

# < FUNCTION DIAGNOSIS >

Monitor item	Condition
S/L LOCK-IPDM	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L UNLK-IPDM	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY-REQ	Indicates [ON/OFF] condition of steering lock relay.
DR DOOR STATE	Indicates [LOCK/READY/UNLK] condition of driver side door status.
AS DOOR STATE	Indicates [LOCK/READY/UNLK] condition of passenger side door status.
ID OK FLAG	Indicates [SET/RESET] condition of key ID.
PRMT ENG STRT	Indicates [SET/RESET] condition of engine start possibility.
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk lid.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.
RKE-PANIC	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.
RKE-P/W OPEN	Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key.
RKE-MODE CHG	Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key.

# **ACTIVE TEST**

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT-III screen is touched.
PW REMOTO DOWN SET	This test is able to check power window down operation. The power window down will be activated after "ON" on CONSULT-III screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. Intelligent Key warning buzzer sounds when "ON" on CONSULT-III screen is touched.
INSIDE BUZZER	This test is able to check warning chime in combination meter operation.  • Take away warning chime sounds when "TAKE OUT" on CONSULT-III screen is touched.  • Key warning chime sounds when "KEY WARN" on CONSULT-III screen is touched.  • P position warning chime sounds when "P RNG WARN" on CONSULT-III screen is touched.  • ACC warning chime sounds when "ACC WARN" on CONSULT-III screen is touched.
INDICATOR	This test is able to check warning lamp operation.  • "KEY" Warning lamp illuminates when "KEY IND ON" on CONSULT-III screen is touched.  • "KEY" Warning lamp flashes when "KEY IND FSH" on CONSULT-III screen is touched.
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT-III screen is touched.
LCD	<ul> <li>This test is able to check meter display information</li> <li>Engine start information displays when "BRAKE/P" on CONSULT-III screen is touched.</li> <li>Engine start information displays when "BRAKE/P/ON" on CONSULT-III screen is touched.</li> <li>Key ID warning displays when "KEY ID NG" on CONSULT-III screen is touched.</li> <li>Steering lock information displays when "STLCK RELES" on CONSULT-III screen is touched.</li> <li>P position warning displays when "P RNG IND" on CONSULT-III screen is touched.</li> <li>Intelligent Key insert information displays when "INSERT KEY" on CONSULT-III screen is touched.</li> <li>Intelligent Key low battery warning displays when "KEY BAT LOW" on CONSULT-III screen is touched.</li> <li>Take away through window warning displays when "TK AWAY WDW" on CONSULT-III screen is touched.</li> <li>Take away warning display when "TAKE AWAY" on CONSULT-III screen is touched.</li> <li>OFF position warning display when "IGN OFF WARN" on CONSULT-III screen is touched.</li> </ul>
TRUNK/GLASS HATCH	This test is able to check trunk lid opener actuator open operation. This actuator opens when "ON" on CONSULT-III screen is touched.

# **DIAGNOSIS SYSTEM (BCM)**

# < FUNCTION DIAGNOSIS >

[BCM]

Α

В

 $\mathsf{D}$ 

Е

F

Н

Test item	Description
FLASHER	This test is able to check security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.
HORN	This test is able to check horn operation. The horn will be activated after "ON" on CONSULT-III screen is touched.
IGN CONT2	This test is able to check security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.
P RANGE	This test is able to check CVT device power supply CVT device power is supplied when "ON" on CONSULT-III screen is touched.
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation.  Push-ignition switch illumination illuminates when "ON" on CONSULT-III screen is touched.
LOCK INDCATOR	This test is able to check LOCK indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
ACC INDICATOR	This test is able to check ACC indicator in push-ignition switch operation.  LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
IGNITION ON IND	This test is able to check INGITION ON indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
KEY SLOT ILLUMI	This test is able to check key slot illumination operation.  Key slot illumination flash when "ON" on CONSULT-III screen is touched.

# **COMB SW**

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

INFOID:0000000004218968

## **DATA MONITOR**

Monitor item [UNIT]	Description	I
FR WIPER HI [OFF/ON]	Displays the status of the FR WIPER HI switch in combination switch judged by BCM with the combination switch reading function.	-
FR WIPER LOW [OFF/ON]	Displays the status of the FR WIPER LOW switch in combination switch judged by BCM with the combination switch reading function.	J
FR WASHER SW [OFF/ON]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function.	K
FR WIPER INT [OFF/ON]	Displays the status of the FR WIPER INT switch in combination switch judged by BCM with the combination switch reading function.	-
FR WIPER STOP [OFF/ON]	Displays the status of the front wiper stop position signal received from IPDM E/R via CAN communication.	L
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function	BCS
TURN SIGNAL R [OFF/ON]	Displays the status of the TURN RH switch in combination switch judged by BCM with the combination switch reading function.	
TURN SIGNAL L [OFF/ON]	Displays the status of the TURN LH switch in combination switch judged by BCM with the combination switch reading function.	Ν
TAIL LAMP SW [OFF/ON]	Displays the status of the TAIL LAMP switch in combination switch judged by BCM with the combination switch reading function.	0
HI BEAM SW [OFF/ON]	Displays the status of the HI BEAM switch in combination switch judged by BCM with the combination switch reading function.	-
HEAD LAMP SW 1 [OFF/ON]	Displays the status of the HEADLAMP 1 switch in combination switch judged by BCM with the combination switch reading function.	Р
HEAD LAMP SW 2 [OFF/ON]	Displays the status of the HEADLAMP 2 switch in combination switch judged by BCM with the combination switch reading function.	=
PASSING SW [OFF/ON]	Displays the status of the PASSING switch in combination switch judged by BCM with the combination switch reading function.	=

Monitor item [UNIT]	Description
AUTO LIGHT SW [OFF/ON]	Displays the status of the AUTO LIGHT switch in combination switch judged by BCM with the combination switch reading function.
FR FOG SW [OFF/ON]	Displays the status of the FR FOG switch in combination switch judged by BCM with the combination switch reading function.

# **ACTIVE TEST**

< FUNCTION DIAGNOSIS >

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.
	HI	Transmits the high beam request signal with CAN communication to turn the headlamp (HI)
HEAD LAMP	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 lamp light request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	OFF	Stops the front fog lamp request signal transmission.
	RH	Blinks right turn signal lamp.
FLASHER	LH	Blinks left turn signal lamp.
	OFF	Turns turn signal lamps (right and left) OFF.
	HI	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.
FRONT WIPER	LO	Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operate the front wiper LO operation.
I KONI WIFER	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.

вСМ

BCM : CONSULT-III Function (BCM - BCM)

INFOID:0000000004218970

[BCM]

## **WORK SUPPORT**

Work item	Description
RESET SETTING VALUE	Return a value set with Work Support of each system to a default value in factory shipment.

# **IMMU**

IMMU: CONSULT-III Function (BCM - IMMU)

INFOID:0000000004218971

## **DATA MONITOR**

Monitor item	Content			
CONFRM ID ALL				
CONFIRM ID4				
CONFIRM ID3	Indicates [YET] at all time. Switch to [DONE] when a registered Intelligent Key is inserted into the key slot.			
CONFIRM ID2				
CONFIRM ID1				

# **DIAGNOSIS SYSTEM (BCM)**

## < FUNCTION DIAGNOSIS >

[BCM]

Α

В

C

 $\mathsf{D}$ 

Е

Monitor item	Content				
TP 4					
TP 3	Indicates the number of ID which has been registered				
TP 2	Indicates the number of ID which has been registered.				
TP 1					
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.				
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.				

## **ACTIVE TEST**

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation.  The lamp will be turned on when "ON" on CONSULT-III screen touched.

# **BATTERY SAVER**

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

INFOID:0000000004218972

## **WORK SUPPORT**

Work item	Setting item		Setting
BATTERY SAVER SET	ON*	With the e	exterior lamp battery saver function
DATTERT SAVER SET	OFF	Without th	ne exterior lamp battery saver function
ROOM LAMP BAT SAV SET	ON*	With the in	nterior room lamp battery saver function
NOOM LAWF BAT SAV SET	OFF	Without th	ne interior room lamp battery saver function
ROOM LAMP TIMER SET	MODE 1*	30 min.	Sets the interior room lamp battery saver timer operating
NOOW LAWF TIMEN SET	MODE 2	60 min.	time.

<sup>\*:</sup> Initial setting

#### **DATA MONITOR**

Monitor item [Unit]	Description
REQ SW-DR [ON/OFF]	The switch status input from request switch (front LH)
REQ SW-AS [ON/OFF]	The switch status input from front request switch (front RH)
PUSH SW [ON/OFF]	The switch status input from push-button ignition switch
UNLK SEN-DR [ON/OFF]	Status of front door lock assembly LH (door unlock sensor)
KEY SW-SLOT [ON/OFF]	Key switch status input from key slot
DOOR SW-DR [ON/OFF]	The switch status input from front door switch LH
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH
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
DOOR SW-BK [ON/OFF]	NOTE: The item is indicated, not monitored.

G

Н

J

K

L

BCS

Ν

 $\bigcirc$ 

Monitor item [Unit]	Description
CDL LOCK SW [ON/OFF]	Lock switch status received from door lock/unlock switch by power window serial link
CDL UNLOCK SW [ON/OFF]	Unlock switch status received from door lock/unlock switch by power window serial link
KEY CYL LK-SW [ON/OFF]	Lock switch status received from key cylinder switch by power window serial link
KEY CYL UN-SW [ON/OFF]	Unlock switch status received from key cylinder switch by power window serial link
TRNK/HAT MNTR [ON/OFF]	The switch status input from trunk room lamp switch
RKE-LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver
RKE-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 lamp OFF.
	ON	Outputs the interior room lamp power supply to turn interior room lamp ON.*

<sup>\*:</sup> Each lamp switch is in ON position.

# **TRUNK**

TRUNK: CONSULT-III Function (BCM - TRUNK)

INFOID:0000000004218973

#### **DATA MONITOR**

Monitor Item	Contents
PUSH SW	Indicates [ON/OFF] condition of push switch.
UNLK SEN -DR	Indicates [ON/OFF] condition of unlock sensor.
VEH SPEED 1	Indicates [Km/h] condition of vehicle speed signal from combination meter.
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.
TR CANCEL SW	Indicates [ON/OFF] condition of trunk lid opener cancel switch.
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk lid opener switch.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.
RKE-TR/BD	Indicates [ON/OFF] condition of trunk open signal from Intelligent Key remote controller button.

# **THEFT ALM**

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

INFOID:0000000004218974

### **WORK SUPPORT**

Work item	Description
SECURITY ALARM SET	This mode is able to confirm and change security alarm ON-OFF setting.
THEFT ALM TRG	The switch which triggered vehicle security alarm is recorded. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching "CLEAR" on CONSULT-III screen.

#### **DATA MONITOR**

Α

В

 $\mathsf{D}$ 

Е

F

Н

Monitor item	Description
REQ SW-DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch
UNLK SEN-DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-BK	This is displayed even when it is not equipped.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from front door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from front door key cylinder switch.
KEY CYL SW-TR	This is displayed even when it is not equipped.
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk lid opener switch.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.

#### **ACTIVE TEST**

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-III screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after "ON" on CONSULT-III screen is touched.
HEADLAMP(HI)	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after "ON" on CONSULT-III screen is touched.
FLASHER	This test is able to check vehicle security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.

# **RETAINED PWR**

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

INFOID:0000000004218975

## **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

INFOID:0000000004218976

**DATA MONITOR** 

**BCS-33** 

BCS

0

Monitor item [UNIT]	Description
PUSH SW [OFF/ON]	Displays the status of the push-button ignition switch judged by BCM.

#### **ACTIVE TEST**

Test item	Opera- tion	
OIL PRESSURE SW	OFF	OFF
	ON	BCM transmits the oil pressure switch signal to the combination meter via CAN communication, which illuminates the oil pressure warning lamp.

### AIR PRESSURE MONITOR

## AIR PRESSURE MONITOR: Diagnosis Description

INFOID:0000000004218977

#### **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 warning lamps in the combination meter comes on.

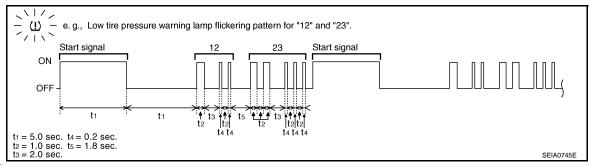
#### SELF DIAGNOSTIC PROCEDURE (WITH CONSULT-III)

- (P) With CONSULT-III
- Touch "SELF-DIAG RESULTS" display shows malfunction experienced since the last erasing operation.
   Refer to <u>BCS-81, "DTC\_Index"</u>.

### 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 warning lamp flashing.



#### NOTE:

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

Flickering pattern	Items	Diagnostic items detected when···	Check item
15	Tire pressure value (Front LH)	Front LH tire pressure drops to 181 kPa (1.8 kg/cm, 25.25 psi) or less.	
16	Tire pressure value (Front RH)	Front RH tire pressure drops to 181 kPa (1.8 kg/cm, 25.25 psi) or less.	
17	Tire pressure value (Rear RH)	Rear RH tire pressure drops to 181 kPa (1.8 kg/cm, 25.25 psi) or less.	_
18	Tire pressure value (Rear LH)	Rear LH tire pressure drops to 181 kPa (1.8 kg/cm, 25.25 psi) or less.	
21	Transmitter no data (Front LH)	Data from front LH transmitter can not be received.	
22	Transmitter no data (Front RH)	Data from front RH transmitter can not be received.	W/T 40
23	Transmitter no data (Rear RH)	Data from Rear RH transmitter can not be received.	<u>WT-49</u>
24	Transmitter no data (Rear LH)	Data from Rear LH transmitter can not be received.	

## < FUNCTION DIAGNOSIS >

[BCM]

CS

Ν

0

Flickering pattern	Items	Diagnostic items detected when···	Check item	
31	Transmitter checksum error (Front LH)	Checksum data from front LH transmitter is malfunctioning.		
32	Transmitter checksum error (Front RH)	Checksum data from front RH transmitter is malfunctioning.	WT-49	
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.		
36	Transmitter pressure data error (Front RH)	Air pressure data from front RH transmitter is malfunction.	NA/T 40	
37	Transmitter pressure data error (Rear RH)	Air pressure data from rear RH transmitter is malfunction.	WT-49	
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.		
42	Transmitter function code error (Front RH)	Function code data from front RH transmitter is malfunction.	)N/T 40	
43	Transmitter function code error (Rear RH)	Function code data from rear RH transmitter is malfunction.	<u>WT-49</u>	
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.		
46	Transmitter battery voltage low (Front RH)	Battery voltage of front RH transmitter drops.	<u>WT-49</u>	
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.	<u>WT-49</u>	
53	BCM failure about TPMS	Tire pressure monitoring system malfunction in BCM	<u>WT-49</u>	
No flicker- ing	Tire pressure warning check switch	Tire pressure warning switch circuit is open.	_	

#### **ERASE SELF-DIAGNOSIS**

#### (II) With CONSULT-III

1. Perform applicable inspection of malfunctioning item and then repair or replace.

- Turn ignition switch "ON" and select "SELF-DIĂG RESULTS" mode for "AİR PRESSURE MONITOR" with CONSULT-III.
- 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 MONI-

TOR)

#### **WORK SUPPORT**

**ID Read** 

The registered ID number is displayed.

**ID Regist** 

Refer to WT-6.

#### **SELF-DIAG RESULTS**

Operation Procedure

Refer to BCS-81, "DTC Index".

#### **DATA MONITOR**

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
AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RL	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)
ID REGST FL ID REGST FR ID REGST RR ID REGST RL		Registration ID: Green No registration: Red
WARNING LAMP	Ignition switch ON	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**

#### NOTE:

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

#### **TEST ITEM LIST**

Test item	Content
WARNING LAMP	This test is able to check to make sure that the warning lamp turns on.
ID REGIST WARNING	This test is able to check to make sure that the buzzer sounds or the warning lamp turns on.
FLASHER	This test is able to check to make sure that each turn signal lamp turns on.
HORN	This test is able to check to make sure that the horn sounds.

Α

## **COMPONENT DIAGNOSIS**

## U1000 CAN COMM CIRCUIT

Description BINFOID:0000000004218979

Refer to LAN-7, "System Description".

DTC Logic

### **DTC DETECTION LOGIC**

CONSULT-III dis- play description	DTC Detection Condition	Possible cause
CAN COMM CIR- CUIT [U1000]	When any listed module cannot communicate CAN communication signal continuously for 2 seconds or more with ignition switch ON	In CAN communication system, any item (or items) of the following listed below is malfunctioning.  • ECVT  • Receiving (ECM)  • Receiving (VDC/TCS/ABS)  • Receiving (METER/M&A)  • Receiving (TCM)  • Receiving (IPDM E/R)

### Diagnosis Procedure

1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.

Check "SELF-DIAG RESULTS".

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-8, "CAN Communication Control Circuit".

NO >> Refer to GI-42, "Intermittent Incident".

INFOID:0000000004218981

U

Н

K

BCS

Ν

0

## **U1010 CONTROL UNIT (CAN)**

< COMPONENT DIAGNOSIS >

[BCM]

## U1010 CONTROL UNIT (CAN)

DTC Logic

### DTC DETECTION LOGIC

CONSULT-III display description	DTC Detection Condition	Possible cause
CAN COMM CIRCUIT [U1010]	BCM detected internal CAN communication circuit malfunction.	ВСМ

## Diagnosis Procedure

INFOID:0000000004218983

## 1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-87, "Removal and Installation".

Α

D

Е

F

Н

INFOID:0000000004218986

### U0415 VEHICLE SPEED SIG

Description INFOID:000000004218984

U0415 is displayed if any unusual condition is present in the reception status of the vehicle speed signal from the brake ECU.

DTC Logic

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when	Probable malfunction location
U0415	VEHICLE SPEED SIG [U0415]	When the vehicle speed signal received from the brake ECU remains abnormal for 2 seconds or more.	Brake ECU     BCM

#### DTC CONFIRMATION PROCEDURE

## 1. DTC CONFIRMATION

- 1. Erase the DTC.
- Turn ignition switch OFF.
- Perform the "SELF-DIAG RESULTS" of CONSULT-III, when passed 2 seconds or more after the ignition switch is turned ON

#### Is any DTC detected?

YES >> Refer to BCS-81, "DTC Index".

NO >> Inspection End.

### Diagnosis Procedure

1. BRAKE ECU SELF-DIAG RESULTS

Perform "SELF-DIAG RESULTS" of brake ECU with CONSULT-III. Refer to <u>BRC-45</u>, "CONSULT-III Function". <u>Is any DTC detected?</u>

YES >> Repair or replace the malfunctioning part.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

BCS

K

Ν

0

### **B2562 LOW VOLTAGE**

**DTC Logic** INFOID:0000000004218987

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when	Possible cause
B2562	LOW VOLTAGE	When the power supply voltage to BCM remains less than 8.8V for 1.5 seconds or more	Harness or connector (power supply circuit)

#### DTC CONFIRMATION PROCEDURE

### 1. DTC CONFIRMATION

- Erase DTC.
- Turn ignition switch OFF.
- Perform the "SELF-DIAG RESULTS" of CONSULT-III, when passed 1.5 seconds or more after ignition switch is turned ON.

#### Is any DTC detected?

YES >> Refer to BCS-40, "Diagnosis Procedure".

NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000004218988

## 1. CHECK 12-VOLT BATTERY VOLTAGE

Check 12-volt battery voltage.

#### Is 12-volt battery voltage less than 8.8V?

Yes >> Charge battery and retest. Refer to PG-70, "Battery".

No >> GO TO 2

## 2. CHECK POWER SUPPLY CIRCUIT

Check BCM power supply circuit. Refer to BCS-42, "Diagnosis Procedure".

#### Is the circuit OK?

Yes >> Replace BCM. Refer to BCS-87, "Removal and Installation".

No >> Repair or replace the malfunctioning part.

## Special Repair Requirement 1. REQUIRED WORK WHEN REPLACING BCM

INFOID:0000000004218989

Initialize control unit. Refer to CONSULT-III operation manual NATS-IVIS/NVIS.

>> Work End.

INFOID:0000000004218993

### POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuse or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	J
11	battery power suppry	10

#### Is the fuse or fusible link blown?

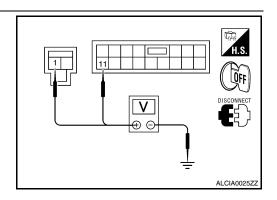
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

## 2. CHECK POWER SUPPLY CIRCUIT

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

(	Voltage			
В	СМ		(Approx.)	
Connector				
M16	1	1 Ground		
M17	11		Battery voltage	



#### Is the measurement normal?

YES >> GO TO 3

NO >> Repair or replace harness.

## 3. CHECK GROUND CIRCUIT

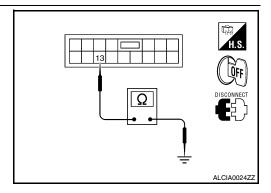
Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M17 13			Yes	

### Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



#### INFOID:0000000004218994

## Special Repair Requirement

## 1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual.

>> Work End.

INFOID:0000000004218995

Α

В

C

D

Е

F

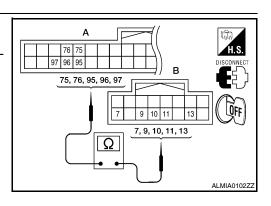
### COMBINATION SWITCH INPUT CIRCUIT

### Diagnosis Procedure

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

- 1. Turn the ignition switch OFF.
- 2. Disconnect the BCM and combination switch.
- 3. Check continuity between BCM harness connector (A) and combination switch harness connector (B).

System	BCM		Combination switch		Continuity
System	Connector	Terminal	Connector	Terminal	Continuity
INPUT 1		95		11	
INPUT 2		97		9	
INPUT 3	M19 (A)	76	M28 (B)	7	Yes
INPUT 4	( , ,	96	(=)	10	
INPUT 5		75		13	



#### Does continuity exist?

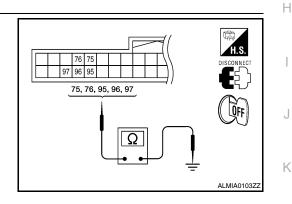
YES >> GO TO 2

NO >> Repair or replace harness.

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

Check for continuity between BCM harness connector and ground.

0 -1	BCM			Continuity
System	Connector	Terminal		Continuity
INPUT 1		95		
INPUT 2		97	Ground	No
INPUT 3	M19	76	=	
INPUT 4		96	=	
INPUT 5		75		



#### Does continuity exist?

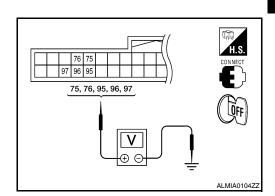
YES >> Repair or replace harness.

NO >> GO TO 3

### 3. CHECK BCM OUTPUT VOLTAGE

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

System	(+)		(-)	Voltage
Gystein	BCM			(Approx.)
	Connector	Terminal		
INPUT 1		95		
INPUT 2		97	Ground	Refer to BCS-
INPUT 3	M19	76		52, "Physical
INPUT 4		96		<u>Values"</u> .
INPUT 5		75		



Is the measurement normal?

YES >> GO TO 4

BCS

L

Ν

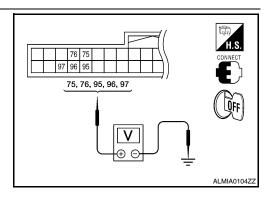
0

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

## 4. CHECK BCM INPUT SIGNAL

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

System	(+)		(-)	Voltage
System	BCM			(Approx.)
	Connector	Terminal		
INPUT 1		95		
INPUT 2		97	Ground	Refer to BCS-
INPUT 3	M19	76		52, "Physical
		96		<u>Values"</u> .
INPUT 5		75		



#### Is the measurement normal when any of the switches are turned ON?

YES >> Replace BCM. Refer to <u>BCS-87</u>, "Removal and Installation".

NO >> Replace the combination switch. Refer to <a href="EXL-168">EXL-168</a>, "Removal and Installation".

### Special Repair Requirement

INFOID:0000000004218996

### 1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual NATS-IVIS/NVIS.

>> Work End.

#### **COMBINATION SWITCH OUTPUT CIRCUIT**

< COMPONENT DIAGNOSIS >

[BCM]

INFOID:0000000004218997

Α

В

C

D

Е

F

Н

### COMBINATION SWITCH OUTPUT CIRCUIT

### Diagnosis Procedure

## 1. CHECK COMBINATION SWITCH OUTPUTS

(E) With CONSULT-III perform combination switch "ACTIVE TEST" and operate combination switch outputs. Refer to BCS-29, "COMB SW: CONSULT-III Function (BCM - COMB SW)".

#### Do combination switch outputs function?

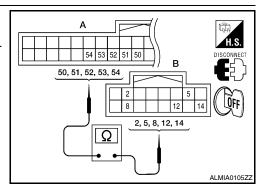
YES >> Combination switch outputs are OK.

NO >> GO TO 2

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

- 1. Turn the ignition switch OFF.
- 2. Disconnect the BCM and combination switch.
- 3. Check continuity between BCM harness connector (A) and combination switch harness connector (B).

System	ВСМ		Combination switch		Continuity
System	Connector	Terminal	Connector	Terminal	Continuity
OUTPUT 1		51		12	
OUTPUT 2		52		14	
OUTPUT 3	M18 (A)	53	M28 (B)	5	Yes
OUTPUT 4	(4.7)	54	(=)	2	
OUTPUT 5		50		8	



#### Does continuity exist?

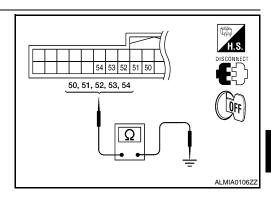
YES >> GO TO 3

NO >> Repair or replace harness.

## $oldsymbol{3}.$ CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	ВС	CM		Continuity
System	Connector Terminal		=	Continuity
OUTPUT 1		51	=	
OUTPUT 2	Ī	52	Ground	No
OUTPUT 3	M18	53		
OUTPUT 4		54		
OUTPUT 5		50		



#### Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 4

### 4. CHECK COMBINATION SWITCH OUTPUT VOLTAGE

BCS

Ν

0

K

L

#### **COMBINATION SWITCH OUTPUT CIRCUIT**

#### < COMPONENT DIAGNOSIS >

[BCM]

- Connect BCM and combination switch.
- Turn ON any switch in the system that is malfunctioning.
- Check voltage between combination switch harness connector and ground.

		Terminals		
System	(+	)	(-)	Value (Approx.)
System	Combination	on switch		ναίαε (Αρρίολ.)
•	Connector Terminal			
OUTPUT 1		12		
OUTPUT 2		14	0	(V)
OUTPUT 3		5	Ground	10
OUTPUT 4	M28	M28 2		0
OUTPUT 5		8		2 ms JPMIA0041GB
				1.4V

2, 5, 8, 12, 14 ALMIA0107ZZ

Is the measurement normal when any of the switches is turned ON?

YES

>> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>.
>> Replace the combination switch. Refer to <u>EXL-168, "Removal and Installation"</u>. NO

### Special Repair Requirement

INFOID:0000000004218998

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual NATS-IVIS/NVIS.

>> Work End.

[BCM] < ECU DIAGNOSIS >

# **ECU DIAGNOSIS**

## BCM (BODY CONTROL MODULE)

Reference Value INFOID:0000000004218999 В

Α

### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
ED WIDED III	Other than front wiper switch HI	OFF	_
FR WIPER HI	Front wiper switch HI	ON	
	Other than front wiper switch LO	OFF	_
FR WIPER LOW	Front wiper switch LO	ON	_
	Front washer switch OFF	OFF	- E
FR WASHER SW	Front washer switch ON	ON	
FR WIPER INT	Other than front wiper switch INT	OFF	F
FR WIPER IN I	Front wiper switch INT	ON	_
ED WIDED STOD	Front wiper is not in STOP position	OFF	=
FR WIPER STOP	Front wiper is in STOP position	ON	_ (
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	=
TUDNI CIONAL D	Other than turn signal switch RH	OFF	-  -
TURN SIGNAL R	Turn signal switch RH	ON	_ `
TUDNI CIONIAL I	Other than turn signal switch LH	OFF	_
TURN SIGNAL L	Turn signal switch LH	ON	_
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	OFF	_
	Lighting switch 1ST or 2ND	ON	_
	Other than lighting switch HI	OFF	_ (
HI BEAM SW	Lighting switch HI	ON	_
LIEAD LAMB OWA	Other than lighting switch 2ND	OFF	k
HEAD LAMP SW 1	Lighting switch 2ND	ON	_
LIEAD LAMB CWA	Other than lighting switch 2ND	OFF	
HEAD LAMP SW 2	Lighting switch 2ND	ON	_ [
	Other than lighting switch PASS	OFF	_
PASSING SW	Lighting switch PASS	ON	В
ALITO LIGHT OW	Other than lighting switch AUTO	OFF	
AUTO LIGHT SW	Lighting switch AUTO	ON	-
ED 500 014	Front fog lamp switch OFF	OFF	- 1
FR FOG SW	Front fog lamp switch ON	ON	_
DOOD OW DD	Front door LH closed	OFF	_ (
DOOR SW-DR	Front door LH opened	ON	_
DOOD SW AC	Front door RH closed	OFF	_
DOOR SW-AS	Front door RH opened	ON	- F
D00D 0W 55	Rear door RH closed	OFF	=
DOOR SW-RR	Rear door RH opened	ON	=
D00D 0W 5:	Rear door LH closed	OFF	_
DOOR SW-RL	Rear door LH opened	ON	_

Monitor Item	Condition	Value/Status
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF
001 1 001 011	Other than power door lock switch LOCK	OFF
CDL LOCK SW	Door lock/unlock switch LOCK	ON
	Other than door lock/unlock switch UNLOCK	OFF
CDL UNLOCK SW	Door lock/unlock switch UNLOCK	ON
1/E// 0// 1 / 0/M	Other than front door LH key cylinder LOCK position	OFF
KEY CYL LK-SW	Front door LH key cylinder LOCK position	ON
ICEN ON LINEON	Other than front door LH key cylinder UNLOCK position	OFF
KEY CYL UN-SW	Front door LH key cylinder UNLOCK position	ON
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF
LIAZADD CM	When hazard switch is not pressed	OFF
HAZARD SW	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
FAN ON SIG	When AUTO switch or fan switch is pressed	ON
AIR COND SW	When A/C switch is pressed	ON
TD CANCEL CW	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
TD/DD ODEN CW	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
TONIC/LIAT MANTO	Trunk lid closed	OFF
TRNK/HAT MNTR	Trunk lid opened	ON
DKE I OCK	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
DKE TIMI OCK	When UNLOCK button of Intelligent Key is not pressed	OFF
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
DVC TD/DD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
RRE-FAINIC	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RRE-F/W OFEN	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
RRE-WODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
OPTICAL SENSOR	When outside of the vehicle is dark	Close to 0 V
REQ SW-DR	When front door LH request switch is not pressed	OFF
NEW SW-DK	When front door LH request switch is pressed	ON
REQ SW-AS	When front door RH request switch is not pressed	OFF
NEW OW-MO	When front door RH request switch is pressed	ON
REQ SW-BD/TR	When trunk request switch is not pressed	OFF
TLG OW-DD/TR	When trunk request switch is pressed	ON

< ECU DIAGNOSIS > [BCM]

Monitor Item	Condition	Value/Status	
DUCH CW	When push-button ignition switch is not pressed	OFF	_
PUSH SW	When push-button ignition switch is pressed	ON	_
ON DLV. E/D	Ignition switch OFF or ACC	OFF	
GN RLY -F/B	Ignition switch ON	ON	
.00 DIV E/D	Ignition switch OFF	OFF	
ACC RLY -F/B	Ignition switch ACC or ON	ON	_
DAKE OM 4	When the brake pedal is not depressed	ON	
BRAKE SW 1	When the brake pedal is depressed	OFF	
DETE (CANOL OW)	When selector lever is in P position	OFF	
DETE/CANCL SW	When selector lever is in any position other than P	ON	
NET DAVIALONA	When selector lever is in any position other than P or N	OFF	
SFT PN/N SW	When selector lever is in P or N position	ON	_
N. 1.001/	Electronic steering column lock LOCK status	OFF	_
s/L -LOCK	Electronic steering column lock UNLOCK status	ON	_
A/I LINII 0017	Electronic steering column lock UNLOCK status	OFF	
S/L -UNLOCK	Electronic steering column lock LOCK status	ON	
W DELAYE'S	Ignition switch OFF or ACC	OFF	_
S/L RELAY-F/B	Ignition switch ON	ON	_
INILIZ OEN DO	Front door LH UNLOCK status	OFF	_
INLK SEN-DR	Front door LH LOCK status	ON	_
NIOLI OW IDDM	When push-button ignition switch is not pressed (IPDM E/R sends via CAN)	OFF	
PUSH SW -IPDM	When push-button ignition switch is pressed (IPDM E/R sends via CAN)	ON	_
	Ignition switch OFF or ACC	OFF	
GN RLY1 F/B	Ignition switch ON	ON	
	When selector lever is in P position (IPDM E/R sends via CAN)	OFF	
ETE SW -IPDM	When selector lever is in any position other than P (IPDM E/R sends via CAN)	ON	<del></del>
SFT PN -IPDM	When selector lever is in any position other than P or N (IPDM E/R sends via CAN)	OFF	_
	When selector lever is in P or N position (IPDM E/R sends via CAN)	ON	_
SFT P -MET	When selector lever is in any position other than P (combination meter sends via CAN)	OFF	_
	When selector lever is in P position (combination meter sends via CAN)	ON	
SFT N -MET	When selector lever is in any position other than N (combination meter sends via CAN)	OFF	
a i 14 °1VI⊑1	When selector lever is in N position (combination meter sends via CAN)	ON	_
	Engine stopped	STOP	_
NGINE STATE	While the engine stalls	STALL	_
AND THE STATE	At engine cranking	CRANK	_
	Engine running	RUN	_
ALLI OCK IDDM	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	OFF	
S/L LOCK-IPDM	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	ON	<del></del>

BCS-49

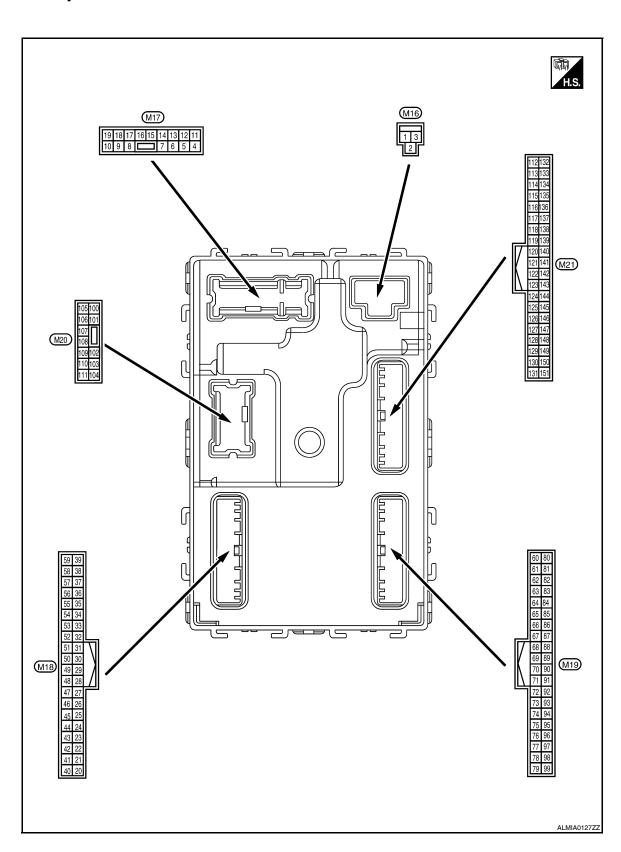
Monitor Item	Condition	Value/Status
	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	OFF
S/L UNLCK-IPDM	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	ON
0/L DEL AV DEO	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Front door LH LOCK status	LOCK
DR DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY
	Front door LH UNLOCK status	UNLK
	Front door RH LOCK status	LOCK
AS DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY
	Front door RH UNLOCK status	UNLK
ID OK ELAC	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
DDMT ENG OTAT	When the hybrid system start is prohibited	RESET
PRMT ENG STAT	When the hybrid system start is permitted	SET
PRMT RKE STAT	NOTE: This item is displayed, but cannot be monitored.	RESET
KEN OM OLOT	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key
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	When ID of front LH tire transmitter is registered (refer to <u>WT-6, "ID Registration Procedure"</u> )	DONE
ID REGOTTET	When ID of front LH tire transmitter is not registered (refer to <u>WT-6.</u> "ID Registration Procedure")	YET
ID REGST FR1	When ID of front RH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
ID NEGOT TIXT	When ID of front RH tire transmitter is not registered (refer to <u>WT-6</u> , "ID Registration Procedure")	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered (refer to <u>WT-6. "ID Registration Procedure"</u> )	DONE
וט אבטטו אאו	When ID of rear RH tire transmitter is not registered (refer to <u>WT-6.</u> "ID Registration Procedure")	YET
ID DECCT DI 4	When ID of rear LH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
ID REGST RL1	When ID of rear LH tire transmitter is not registered (refer to WT-6, "ID Registration Procedure")	YET

< ECU DIAGNOSIS > [BCM]

Monitor Item	Condition	Value/Status	
WARNING LAMP	Tire pressure indicator OFF	OFF	
WAINING LAWF	Tire pressure indicator ON	ON	

Terminal Layout

INFOID:0000000004219000



С

Α

D

Е

F

G

Н

J

Κ

BCS

Ν

0

## Physical Values

INFOID:0000000004219001

	inal No.	Description				Value
(Wire	e color) (-)	Signal name	Input/ Output		Condition	Value (Approx.)
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OF	F	Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4	Ground	Interior room lamp	Output	After passing the ir er operation time	terior room lamp battery sav-	0V
(P/W)	Giodila	power supply	Output	Any other time after lamp battery saver	er passing the interior room roperation time	Battery voltage
5	Ground	Front door RH UN-	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Giodila	LOCK	Output	FIOR GOOFKE	Other than UNLOCK (actuator is not activated)	0V
7	Cround	Cton lown	Outout	Doom lows times	ON	Battery voltage
(R/W)	Ground	Step lamp	Output	Room lamp timer	OFF	0V
8	Cround	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
(V)	Ground	All doors LOCK	Output	ut All doors -	Other than LOCK (actuator is not activated)	0V
9	9 Grand Front door	Front door LH UN-	Output	Output Front door LH	UNLOCK (actuator is activated)	Battery voltage
(G)	Ground	LOCK	Output	TION GOOF ETT	Other than UNLOCK (actuator is not activated)	0V
10	Ground	Rear door RH and rear door LH UN-	Output	Rear door RH	UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Ground	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0V
14 (R/Y)	Ground	Push-button ignition switch illumination ground	Input	Tail lamp	OFF	NOTE: When the illumination brightening/dimming level is in the neutral position  (V)  10  2 ms  JSNIA0010GB
15 (Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	OFF ACC	Battery voltage 0V

Terminal No. Description					Value	
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF  Turn signal switch RH	0V  (V) 15 10 5 1 1 s  PKID0926E 6.5V
					Turn signal switch OFF	0.5V
18 (G/O)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5V
19	Cround	Room lamp timer	Output	Interior room	Lamps fully OFF	Battery voltage
(Y)	Ground	control	Output	lamp	Lamps fully ON	0V
21	Ground	Optical sensor signal	Input	Ignition switch	When outside of the vehi- cle is bright	Close to 5V
(P/B)	Ciodila	Space scribol signal	прис	ON	When outside of the vehi- cle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is not depressed)	0V
(O/L)	Ground	Ctop lamp switch 2	mpat	Otop lamp switch	ON (brake pedal is depressed)	Battery voltage
27 (G/W)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB
				NA/lean Intelligence	UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input		(ey is inserted into key slot	Battery voltage
				vvnen intelligent K	ey is not inserted into key slot  OFF	0V 0
30 (V/Y)	Ground	ACC feedback signal	Input	Ignition switch	ACC or ON	Battery voltage
31		Ignition relay-2 feed-			OFF	0V
(G)	Ground	back signal	Input	Ignition switch	ON	Battery voltage

Term	Terminal No. Description					.,,	
(Wire	e color)	Signal name	Input/		Condition	Value (Approx.)	
(+)	(-)	Signal name	Output			(, tpp:ox.)	
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (when front door RH opens)	OV	
33	Ground	Compressor ON sig-	Input	A/C switch	OFF	Battery voltage	
(SB)	Ground	nal	прис	A C SWITCH	ON	0V	
34*	0	Front door lock as-	المسال	Front door lock	OFF (neutral)	Battery voltage	
(L/R)	Ground	sembly LH (key cylinder switch) (unlock)	Input	assembly LH (key cylinder switch)	ON (unlock)	0V	
36*	0	Last suitab sissal	la a d	Door lock/unlock	Lock	Battery Voltage	
(GR)	Ground	Lock switch signal	Input	switch	Unlock	0V	
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB	
38 (GR/	Ground	Rear window defog- ger ON signal	Input	Rear window de- fogger switch	ON OFF	0V Battery Voltage V	
W)				.oggo: cc.	ON	0V	
39* (GR/	Ground	Unlock switch signal	Input	Door lock/unlock	Unlock	Battery Voltage	
R)	Cround	Official contain digital	mpat	switch	Lock	0V	
40* (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB	
				Ignition switch OF	F or ACC	0V	
41	Ground	Push-button ignition	Outout	Engine switch	ON	5.5V	
(W)	Ground	switch illumination	Output	(push switch) illu- mination	OFF	OV	
42	Ground	LOCK indicator lamp	Output	LOCK indicator	ON	0V	
(R)	Giound		Output	lamp	OFF	Battery voltage	
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V	

	inal No.	Description				Value	
(+)	e color) (-)	Signal name	Input/ Output	Condition		(Approx.)	
46	Ground	Receiver & sensor	Output	Ignition switch	OFF	0V	
(V/W)	Giouria	power supply output	Output	ignition switch	ACC or ON	5.0V	
47		<b>T</b> :	lana di		Standby state	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	When receiving the signal from the transmitter	(V) 6 4 2 0 	
48	Ground	Selector lever P/N	Input	Selector lever	P or N position	12.0V	
(R/B)		position signal			Except P and N positions	0V	
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON	0V (V) 15 10 5 0 JPMIA0014GB	
					OFF	Battery voltage	
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF Lighting switch 1ST Lighting switch high-beam Lighting switch 2ND  Turn signal switch RH	0V  (V) 15 10 5 0 2 ms  JPMIA0031GB	
						10.7V	
					All switch OFF (Wiper intermittent dial 4)	0V	
51 (L/W) Ground	Combination switch OUTPUT 1 Output	Output	Output Combination switch	Front wiper switch HI (Wiper intermittent dial 4)  Any of the conditions below with all switch OFF  Wiper intermittent dial 1  Wiper intermittent dial 2  Wiper intermittent dial 3  Wiper intermittent dial 6	(V) 15 10 5 0 2 ms  JPMIA0032GB		

Terminal No. (Wire color)   Signal name   Description   Output	< ECU	J DIAGN	B IOSIS >	CM (E	BODY CONT	ROL MODULE)	[BCM]	
Combination switch   Combina			Description					
Ground Combination switch Output Combination switch OUTPUT 2  Ground Combination switch OUTPUT 2  Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 4  All switch OFF  Front wiper switch INT  Front of lamp switch OFF  Front fog lamp switch OFP  Front fog lamp switch OPP  Ground Ground Int			Signal name			Condition		
Second Combination switch OUTPUT 2   Combination switch OUTPUT 2   Combination switch OUTPUT 3   Combination switch OUTPUT 4   Combination switch OUTPUT 5							0V	
Section   Combination switch   Output   Combination switch   Out							(V)	
All switch OFF Front wiper switch LO  Combination Switch OUTPUT 3  Ground  Ground  Combination switch OUTPUT 3  Ground  Combination switch OUTPUT 4  Combination Switch OFF Front fog lamp switch ON Lighting switch Pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Lighting switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Lighting switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Lighting switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Display Switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Display Switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Display Switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON Display Switch flash-to-pass  Turn signal switch LH  Combination Switch OFF Front fog lamp switch ON  Lighting switch AUTO  Combination Switch OFF Front fog lamp switch ON  Combination Switch OFF Front fog lamp switch ON  Combination Switch OFF Pront fog lamp switch ON  Combination Switch OFF  Front door IN OFF (Front door LH OPEN)  ON (front door		Ground		Output		with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5	10 5 0 2 ms JPMIA0033GB	
Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 4  All switch OFF Front fog lamp switch 2ND Lighting switch flash-to-pass  Turn signal switch LH  GOFF OV  Front blower monitor switch OFF OFF OV  OFF OFF OV  OFF OFF ON  OFF ON  Battery voltage  ON  ON  GoFF ON  OFF ON  ON						All switch OFF		
Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 4  All switch OFF Front fog lamp switch ON Lighting switch Bash-to- pass  Turn signal switch LH  GOPF  OV  OPF  OPF  OV  OPF  OPF  OPF  OV  OPF  ON  Battery voltage  ON  OFF  OV  OPF  ON  OFF  OV  OFF  ON  OFF  OV  OFF  ON  OFF  ON  OFF  OV  OFF  ON  ON						Front wiper switch INT		
Ground Combination switch Output Switch Output (Wiper intermittent dial 4)  Ground Combination switch OUTPUT 3  Ground Combination switch OUTPUT 4  Ground Sembly LH (key cylinder switch) (Wiper intermittent dial 4)  Front blower monitor switch (Wiper intermittent dial 4)  Front blower monitor switch (Wiper intermittent dial 4)  Front blower monitor switch (Wiper intermittent dial 4)  Ground Front blower monitor (Wiper intermittent dial 4)  Front door lock assembly LH (key cylinder switch) (lock)  Ground Front door lock assembly LH (key cylinder switch) (lock)  Tire pressure warning check switch  Tire pressure warning check switch  Front door LH switch  Input Front door LH Switch  ON (Greutal)  ON (Greutal)  Battery voltage  OFF (front door LH CLOSE)  ON (Input (Vi)  Input (Vi					Combination	Front wiper switch LO	(V)	
Ground   Ground   Combination switch   Output   Combination swit	(LG/	Ground		Output	switch (Wiper intermit-	Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB	
Front fog lamp switch ON Lighting switch 2ND Lighting switch 1ABh-to- pass  Front fog lamp switch ON Lighting switch 2ND Lighting switch flash-to- pass  Turn signal switch LH  Front blower mo- tor switch (Wiper intermit- tent dial 4)  Front blower mo- tor switch (DIB)  Front door lock as- sembly LH (key cylin- der switch) (lock)  Front door lock as- sembly LH (key cylin- der switch) (lock)  Front door lock as- sembly LH (key cylin- der switch) (lock)  Front door lock assembly LH (key cylinder switch)  ON (lock)  OFF (neutral)  ON (lock)  OV  Front door LH  Battery voltage  ON (lock)  OV  Front door LH  COSE)  Front door LH  Switch  ON (lock)  OV  OFF (front door LH  COSE)  OFF (front door LH  COSE)  Active  Battery voltage  ON (lock)  ON (lock)  OV  Active  Battery voltage						All switch OFF		
Ground Ground General Combination switch (Migher intermittent dial 4)   Lighting switch 18ah-to-pass   Lighting switch 18a								
Ground (G/Y)  Ground (M)  Ground (M)  Ground (M)  Ground (M)  Front blower monitor (M)  Front blower monitor (M)  Front door lock assembly LH (key cylinder switch) (M)  Ground (L/B)  Ground (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door lock assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck assembly LH (key cylinder switch) (M)  Front door leck switch (M)					Combinetic		(V)	
S5   Ground   Front blower monitor   Input   Front blower monitor   W)   Front blower monitor   Input   Front blower monitor switch   OFF   OV		Ground			Output	Output switch (Wiper intermit-	pass	10 5 0
Ground   Front blower monitor   Input   Front door lock assembly LH (key cylinder switch)   Input   Ground   Ground   Ground   Front door lock assembly LH (key cylinder switch)   Input   Front door lock assembly LH (key cylinder switch)   Input   Ground   Grou						Turn signal switch LH		
W) Front door lock assembly LH (key cylinder switch) (lock)  Ground (L/B) Ground (L		Craund	Front blower monitor	lmmt	Front blower mo-	ON	Battery voltage	
Ground sembly LH (key cylinder switch)  Front door LH switch  Ground Sembly LH (key cylinder switch)  Front door LH switch  Front door LH switch  Input Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Ground Front door LH switch  Front door LH switch  Ground Front door LH Switch  Front door LH Switch  Ground Front door LH OPEN)  Ground Front door LH OPEN)  Front door LH OPEN)  Ground Front door LH OPEN)  Front door LH OPEN)  Ground Front door LH OPEN)  Front door LH OPEN)  Ground Front door LH OPEN)  Active Battery voltage		Ground	From blower monitor	Input	tor switch	OFF	0V	
(L/B) Ground Sembly LH (key cylinder switch) (lock)  57 (W) Ground Tire pressure warning check switch  Front door LH switch  OFF (front door LH CLOSE)  OFF (front door LH CLOSE)  OFF (front door LH CLOSE)  ON (lock)  OV  Active  Battery voltage	56					OFF (neutral)	Battery voltage	
(W) Ground ing check switch input ing check switch input Front door LH switch input Front door LH switch input Front door LH switch OFF (front door LH CLOSE)  Sequence of the state of the		Ground		Input		ON (lock)	0V	
Ground Front door LH switch Input Front door LH switch CLOSE)  OFF (front door LH CLOSE)  OFF (front door LH CLOSE)  OFF (front door LH CLOSE)  ON (front door LH OPEN)  ON (front door LH OPEN)  OV  Rear window defog- Output Rear window de- Output Rear window de-		Ground		Input		_	Battery voltage	
ON (front door LH OPEN)  Separation of the control		Ground	Front door LH switch	Input			10 5 0 10 ms	
59 Ground Rear window defog-Output Rear window de- Active Battery voltage						ON (front door LH OPEN)		
Ground . Ground .	59	0	Rear window defog-	04	Rear window de-	Active	Battery voltage	
		Ground		Output	fogger	Not activated	OV	

	inal No.	Description				Value
(Wire (+)	e color)	Signal name	Input/ Output		Condition	value (Approx.)
60 (B/R) Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB	
61 (W/R) Ground	Center console an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	
	Glound	tenna 2 (+)	Culput	ŌFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
62 (B/Y) Groun	Ground	d Front outside handle RH antenna (-)		When the front door RH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
	Giouria		Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

	inal No. e color)	Description	Innut/		Condition	Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
63		Front outside handle		tput When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(LG)	Ground	RH antenna (+)	Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 1	
64	Ground	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(V)	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
65	Ground	d Front outside handle LH antenna (+)		When the front door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
(P)	Ground		Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	

< ECU DIAGNOSIS > [BCM]

Α

В

С

 $\square$ 

Е

F

G

Н

Κ

L

BCS

Ν

Р

	inal No. e color)	Description		_	O a sull'é a	Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
66	Ground	Instrument nanel an-	nstrument panel an- enna (-)  Output Ignition switch OFF  Win	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s  JMKIA0062GB	
(R)		tenna (-)		When Intelligent Key is not in the passenger compartment	(V) 15 10 5 1 s  JMKIA0063GB		
67	Ground	Instrument panel antenna (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
67 (G)	Clound				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB	
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
70	Ground	Ignition relay-2 con-	Output	Ignition switch	OFF or ACC	0V	
(R/B)		trol	4		ON	Battery voltage	

**BCS-59** 

	inal No. e color)	Description	_		Condition	Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
71	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		(V) 15 10 5 0 1 ms	
(L/O)	Glound			When operating either button on Intelligent Key		(V) 15 10 5 0 1 ms JMKIA0065GB	
	Ground	Combination switch INPUT 5	Input	out Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB	
75 (R/Y)					Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB	
					Any of the conditions below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 6  • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB	

(Wire color)  (+) (-) Signal name Input/ Output  All switch OFF (Wiper intermittent dial 4)  Lighting switch high-beam (Wiper intermittent dial 4)		inal No.	Description					1
All switch OFF (Wiper intermittent dial 4)  Lighting switch high-beam (Wiper intermittent dial 4)  Lighting switch Public Pub	(Wire	e color)				Condition	Value (Approx.)	Α
All switch OFF (Wiper intermittent dial 4)  Lighting switch high-beam (Wiper intermittent dial 4)  Lighting switch high-beam (Wiper intermittent dial 4)  Lighting switch Public (Wiper intermittent dial 4)  Any of the conditions below with all switch OFF (Wiper intermittent dial 2)  Any of the conditions below with all switch OFF (Wiper intermittent dial 2)  Wiper intermittent dial 2  Wiper intermittent dial 3  Any of the conditions below with all switch OFF (Wiper intermittent dial 2)  Wiper intermittent dial 3  Wiper intermittent dial 3  Not pressed  Bottery voltage  Bottery voltage  Record (RA)  Frameworkers (RA)  Record (RA)  Frameworkers (RA)  Frameworkers (RA)  Any of the conditions below with all switch OFF (Wiper intermittent dial 3)  Not pressed  Bottery voltage  Record (RA)  Frameworkers (RA	(+)	(-)	Signal name	Output		T	(	•
Combination switch   Input							15 10 5 0 2 ms	С
Combination switch   Input   Combination switch   Input   Combination   Input   Combination   Input   Combination   Input				Input			15 10 5 0	
Lighting switch 2ND (Wiper intermittent dial 4)  Any of the conditions below with all switch OFF  Wiper intermittent dial 1  Wiper intermittent dial 2  Wiper intermittent dial 3  Pressed  Not pressed  Battery voltage  80  Ground  CAN-L  Input Output  OFF  OFF  OFF  OFF  OFF  OFF  OFF  O	76 (R/G)	Ground					1.3V	G
Any of the conditions below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3  77 (BR) Ground Push-button ignition switch (push switch)  Response of the conditions below with all switch OFF  • Wiper intermittent dial 3  • Wiper intermittent dial 3  1.3V  Pressed  Not pressed  Battery voltage  80 (P) Ground CAN-L  Output  Output  Output  OFF  OFF  OV  Philopolical  Any of the conditions below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 1  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 2  • Wiper intermittent dial 2  • Wiper intermittent dial 1  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper							15 10 5 0 2 ms	Н
Pressed   OV   Not pressed   Battery voltage						with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2	(V) 15 10 5 0 2 ms	
(BR) Ground Switch (push switch) Not pressed Battery voltage  BCS  Rep Ground CAN-L Input/Output — — — — — — — — — — — — — — — — — — —	77	0	Push-button ignition	11	Engine switch	Pressed		-
Record   CAN-L   Input   Output		Ground		input		Not pressed	Battery voltage	BCS.
(L) Ground CAN-H Output Open OFF OV    80 (R/L)   Ground Key slot illumination   Output Key s		Ground	CAN-L			_	_	ВСЗ
80 (R/L) Ground Key slot illumination Output Key slot illumination Blinking  OFF  OV  OV		Ground	CAN-H			_	_	N
JPMIA0015GB 6.5V	80	Ground	round Key slot illumination	Output			(V) 15 10 5 0	
						ON	1 s JPMIA0015GB	

Term	inal No.	Description				
	e color)	Description	Innut/		Condition	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
81	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage
(LG)	Ground	ON indicator famp	Output	igilillori switch	ON	0V
83	Ground	ACC relay control	Output	Ignition switch	OFF	0V
(L)	Ground	ACC relay control	Output	igilition switch	ACC or ON	Battery voltage
84 (Y/R)	Ground	ECTV device (detent switch)	Output		_	Battery voltage
85	0	Electronic steering	11	Electronic steer-	Lock status	0V
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage
86	Ground	Electronic steering column lock condition	Input	Electronic steer-	Lock status	Battery voltage
(G/R)	Ground	No. 2	Input	ing column lock	Unlock status	0V
87	Ground	ECTV device (detent	Input	Selector lever	P position	0V
(G/B)	Ground	switch)	трис	Ocicotol level	Any position other than P	Battery voltage
					ON (pressed)	0V
88 (P/L) Ground	Ground	Front door RH request switch	Input	Front door RH request switch	OFF (not pressed)	(V) 15 10 5 10 ms JPMIA0016GB
					ON (pressed)	0V
89 (B/W)	Ground	Front door LH request switch	Input	Front door LH request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
90	Ground	Front blower motor	Output	Ignition switch	OFF or ACC	OV
(Y)	Ground	relay control	Output	igilition switch	ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	Battery voltage
94		Electronic steering	_		OFF or ACC	Battery voltage
(G/Y) Ground	_	Output	Ignition switch	ON	0V	

< ECU DIAGNOSIS > [BCM]

Terminal No.	Description				Value	А
(Wire color) (+) (-)	Signal name	Input/ Output		Condition	(Approx.)	
				All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	B C
				Turn signal switch LH	(V) 15 10 5 0 2 ms	E
95 (R/W) Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	1.3V  (V) 15 10 5 0 JPMIA0036GB	G H
				Front wiper switch LO	1.3V  (V) 15 10 5 0 2 ms  JPMIA0038GB 1.3V	J K
				Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB	BC

**BCS-63** 

	inal No. e color)	Description	Input/		0 1111	Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB	
96	Ground	Combination switch	Input	Combination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0038GB	
(P/B)		INPUT 4		switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V	
					Any of the conditions below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	(V) 15 10 5 2 ms JPMIA0039GB	

< ECU DIAGNOSIS >

	inal No. e color)	Description				Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch flash-to- pass	(V) 15 10 5 0 2 ms JPMIA0037GB
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB
					Front wiper switch HI	(V) 15 10 2 ms JPMIA0040GB
					Pressed	0 V
98 (G/R)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 10 ms  JPMIA0012GB 1.1V

	inal No. e color)	Description			0 1111	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					LOCK status	Battery voltage
99 (L/Y)	Ground	Electronic steering column lock CPU communication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 ms JMKIA0066GB
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	OV
103	Cround	Trunk lid opening	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage
(V)	Ground			Trunk iid	Close (trunk lid opener actuator is not activated)	OV
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
(V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	OFF	Battery voltage
114	Ground	nd Trunk room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(B)	Glound				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB

	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
115		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Ground	1 (+)	Output	ŎFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
118	Ground	Rear bumper anten-	Cuttering	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 1
(L/O)	Glound	na (-)	Output	lid request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
119 (BR/	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
W)	Giouria	na (+)	•	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s

- 100	EGO DIAGNOGIO >										
	inal No. e color)	Description	I		0 1111	Value					
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)					
127		Ignition relay (IPDM	0		OFF or ACC	Battery voltage					
(BR/ W)	Ground	E/R) control	Output	Ignition switch	ON	0V					
130 (Y/G)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB					
					ON (trunk is open)	0V					
132	Ground	ound Start signal	Output	Ignition switch ON	When selector lever is in P or N position and the brake peddle is not depressed	0V					
(R)	Glound	Start Signal			When selector lever is in P or N position and the brake peddle is depressed	Battery voltage					
					ON (pressed)	0V					
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB					
111		Doguest switch huzz		Dogwoot owitch	Sounding	0V					
144 (GR)	Ground	Request switch buzz- er	Output	Request switch buzzer	Not sounding	Battery voltage					
147		Trunk lid opener	_	Trunk lid opener	Pressed	0V					
(L/R)	Ground	switch	Input	switch	Not pressed	Battery voltage					
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms  JPMIA0011GB 11.8V					
					ON (when rear door RH opens)	0V					

< ECU DIAGNOSIS > [BCM]

Terminal No. (Wire color)		Description				Value
		Signal name	Input/ Output	Condition		(Approx.)
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (when rear door LH opens)	0V

<sup>\*:</sup> With LH and RH front window anti-pinch system

F

Е

Α

В

С

 $\mathsf{D}$ 

G

Н

.

J

Κ

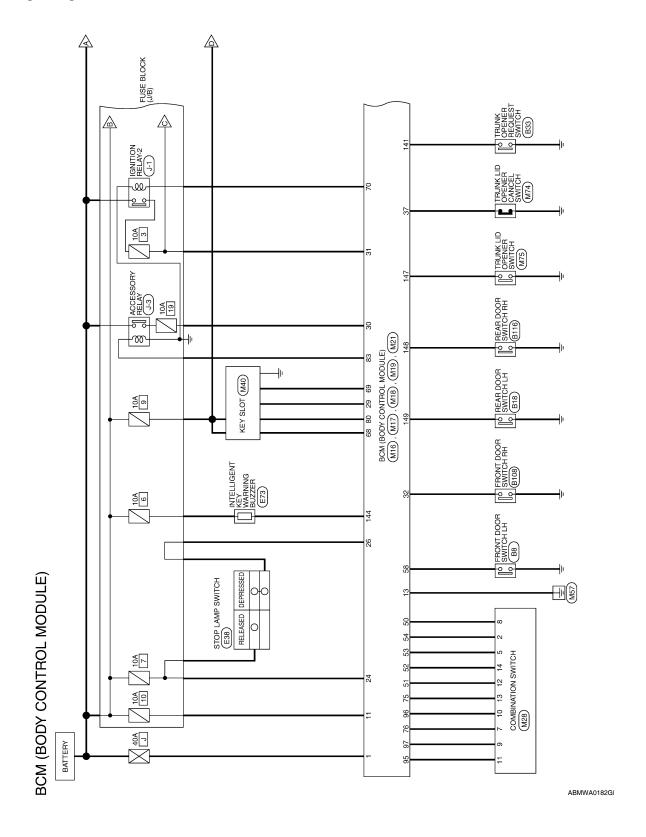
L

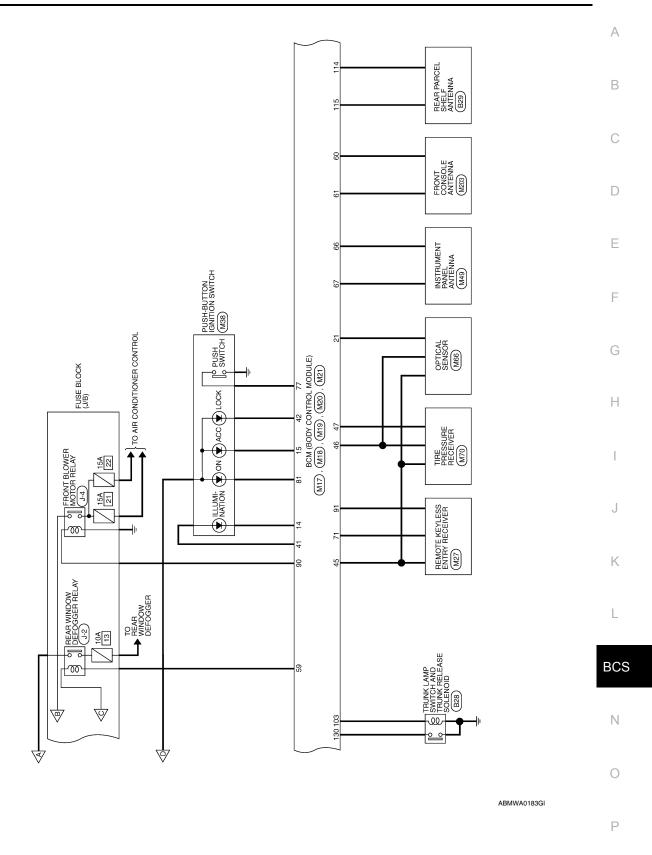
BCS

Ν

0

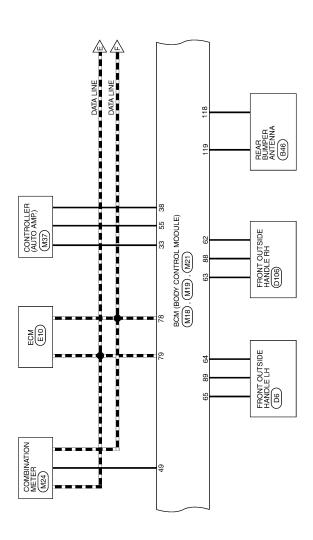
Wiring Diagram





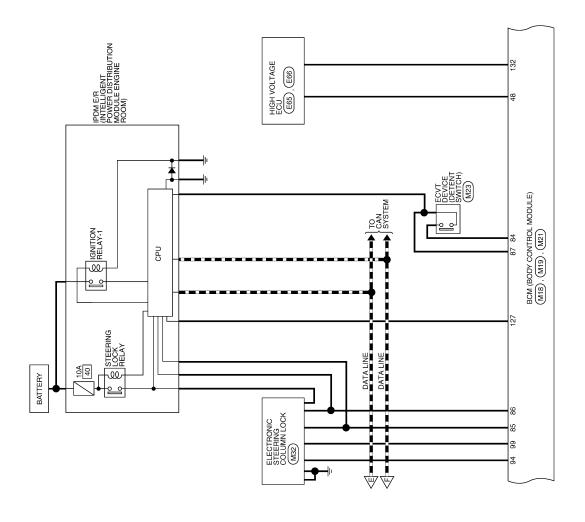
**BCS-71** 

■□■: DATA LINE



ALMWA0039GE

■■■: DATA LINE



Α

В

С

D

Е

F

G

Н

J

Κ

L

BCS

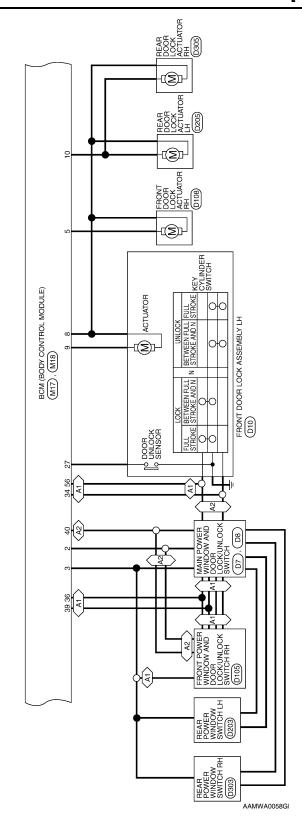
Ν

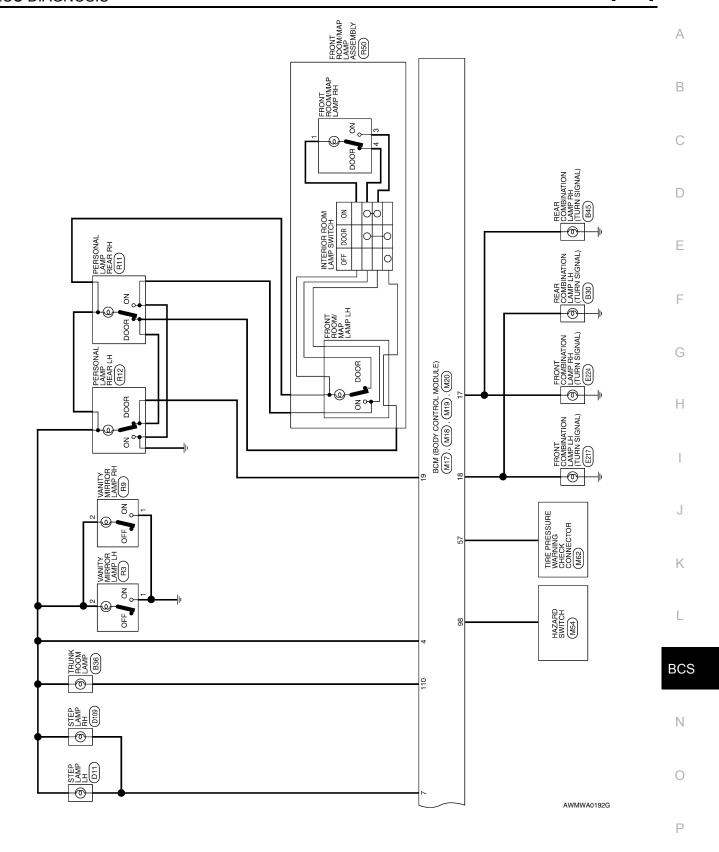
0

Р

ALMWA0040GE

 $\overline{\text{A1}}$  : WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM  $\overline{\text{A2}}$  : WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM





Signal Name CDL\_DR/FL

Color of

Ferminal No.

Connector Name BCM (BODY CONTROL MODULE)

M17

Connector No.

Connector Color WHITE

# BCM (BODY CONTROL MODULE) CONNECTORS

M16	Connector Name   BCM (BODY CONTROL	MODULE)	BLACK	
Connector No.	Connector Name		Connector Color   BLACK	

	BODY CONTROL JLE)	~	
M16	BCM (BOD MODULE)	BLAC	
Connector No.	Connector Name   BCM (BODY CONTROL   MODULE)	Connector Color BLACK	



oly logic	Color of	Signal Name
liai NO.	Wire	
1	W/B	BAT_POWER_
c	να.	P/W_POWER_SI
7		Y_PERM
		POWER_ WIND
c	747	POWER_ SUPF
0	>	(RAP)

Ę



oly logicus	Color of	Signal Name
erriniai NO.	Wire	
1	W/B	BAT_POWER_F/I
2	R/Υ	P/W_POWER_SUP Y PERM
		POWER_ WINDOW
က	M	POWER_ SUPPLY (RAP)

ROOM LAMP OUTPUT

19

STEP\_LAMP\_OUTPUT

₩

ဖ 7 ω

CDL\_AS

GΥ

CDL\_COMMON

FR FLASHER FL FLASHER

G/B G/O

ROOM\_LAMP\_BAT

₽W

Signal Name

Color of

Terminal No.

16 12 | 29 |

LOW\_SIDE\_PUSH\_LE

Ш Ϋ́

D OUTPUT ACC\_LED

CDL RR RL BACK BAT\_BCM\_FUSE

ď√ Q

9

7 12 13 4



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

DOOR\_LOCK\_STATUS

Ø/W

27

Signal Name

Color of

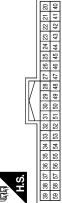
Terminal No.

FOB IN SW 1

≻|} ଠା

8 8 8 8

IGN\_F/B





Torminal Mo	Color of	Signal Name
IIII III	Wire	
20	-	1
21	B/A	AUTO_LIGHT_SENSO
		R_INPUT1
22	-	1
23	-	1
24	M/H	STOP_LAMP_LOW_SW
25	-	-
26	7/0	STOP_LAMP_HIGH_SW
_		

REAR\_DEFOGGER\_SW CENTRAL\_UNLOCK\_SW

GR/W GR/R S/L LOCK LED

PW\_K-LINE PUSH\_LED

≥

Œ

TRUNK CANCEL SW

SW

CENTRAL\_LOCK\_

G G G

35 35 38 8 9 41 43 44 5

Signal Name	KEYLESS_TUNER_SI	SHIFT_N/P	IMMO_LED	INPUT_5	INPUT_1	INPUT_2	INPUT_3	INPUT_4	BLOWER_FAN_SW	DOOR_KEY/C_ LOCK_SW	TPMS_MODE_TRIGG ER_SW	DR_DOOR_SW	REAR_DEFOGGER_ RLY
Color of Wire	9/0	B/B	9	LG/B	MΠ	G/B	LG/R	G/Y	BR/W	L/B	M	SB	G/R
Terminal No.	47	48	49	20	51	52	53	54	55	56	22	58	69

AS DOOR SW AIRCON SW DOOR\_KEY/C\_ UNLOCK\_SW

SB RB

888

AWMIA0392GB

A/L\_SENS\_KEYLESS\_ TUNER\_POWER\_SUP PLY

**≷** 

46

GND RF2 A/L

Δ

< ECU DIAGNOSIS >

[BCM]

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Terminal No.	Color of Wire	Signal Name
82	-	-
83	7	ACC_CONT
84	Y/R	AT_DEVICE_OUT
85	L/0	S/L_CONDITION_1
98	B/B	S/L_CONDITION_2
87	G/B	SHIFT_P
88	I/A	AS_REQUEST SWITCH
68	B/W	DR_REQUEST SWITCH
90	λ	IGN2_CONT
91	L/R	RF1_POWER_SUPPLY
92	-	1
93	1	-
94	G/Y	S/L_POWER_SUPPLY_ 12V
92	R/W	OUTPUT_1
96	B/B	OUTPUT_4
26	R/B	OUTPUT_2
98	G/R	HAZARD_SW
66	$\lambda \Box$	S/L_K-LINE

Terminal No.	Color of Wire	Signal Name
62	B/Y	AS_DOOR_ANT_B
63	ГG	AS_DOOR_ANT_A
64	۸	DR_DOOR_ANT_B
65	Ь	DR_DOOR_ANT_A
99	В	ROOM_ANT_1_B
29	G	ROOM_ANT_1_A
89	0/5	FOB_READER_CLOCK
69	0	FOB_READER_DATA
70	R/B	IGN_ELEC_CONT
71	Γ/0	RF1_TUNER_SIGNAL
72	-	ı
73	-	1
75	R/Y	OUTPUT_5
92	R/G	OUTPUT_3
27	BR	ENG_START_SW
78	Ь	CAN-L
4	7	CAN-H
80	B/L	FOB_SLOT_ ILLUMINATION
81	FIG	IGN_ON_LED

			,	61 60	81 80				
	ITROL			68 67 66 65 64 63 62 61	86 85 84 83 82 81	Signal Name		ROOM_ANT_2_B	ROOM_ANT_2_A
	BCM (BODY CONTROL MODULE)	X			88 87	Signal		/_MOOR	ROOM_
M19		or BLACK		4 73 72 71 70 69	14 93 92 91 90 89	Color of	Wire	B/B	W/R
Connector No.	Connector Name	Connector Color	呵呵 H.S.	79 78 77 76 75 74	99 98 97 96 95 94	- IN locional	i emina i No.	09	61

Signal Name	-	-	-	CDL_BACK_TRUNK	-	-	-	-	-	-	TRUNK_LAMP_OUTPUT	1
Color of Wire	ı	1	-	۸	-	1	ı	I	1	-	M/N	1
Terminal No.	100	101	102	103	104	105	106	107	108	109	110	111

M20	ctor Name BCM (BODY CONTROL MODULE)	WHITE	100 101 102 103 104
ctor No.	ctor Name	ctor Color WHITE	



BCS

Κ

Ν

0

Р

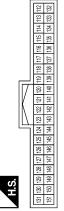
ALMIA0084GB

Vo. Color of Signal Name Wire	1	1	1	G/R TRUNK_REQUEST_SW	1	1	GR BUZZER	1	1	BACK_TRUNK_ OPENER	R/W RR_DOOR_SW	R/B RL DOOR SW	1	
Terminal No.	138	139	140	141	142	143	144	145	146	147	148	149	150	. = .

Signal Name	BACK_DOOR_ANT_A	1	_	-	_	1	ı	ı	IGN_USM_CONT1	ı	-	TRUNK_SW	-	ST_CONT_USM	-	1	-	_	1
Color of Wire	BR/W	-	_	_	_	-	-	-	BR/W	1	-	5/A	-	В	-	-	_	_	-
Terminal No.	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137

Signal Name	OUTPUT_5	INPUT_2	INPUT_4	INPUT_1	OUTPUT_1	INPUT_5	OUTPUT_2	1	1
Color of Wire	LG/B	R/B	P/B	R/W	L/W	R/Υ	G/B	=	_
Terminal No.	8	6	10	11	12	13	14	15	16

Connector No.	M21
Connector Name	Connector Name BCM (BODY CONTROL
	MODULE)
Connector Color   GRAY	GRAY



2   10	151 150 149 148 148 147 146 145 144 148 142 141 140 159 158 158 155 154 153 152	149	2 2	147	146	3 5	<u>₹</u>	3 &	22 22	141	<u>₹</u>	2 28	88	137	28	135	25 ≛	5 8	55	
Ш																				_
LĚ	Terminal No.	.≦	<u>_</u>	∣≗		Color of Wire	읒 등	Solor of Wire	<b>-</b>			S	l B	ਯ	Signal Name	⊑	o o			
		=	112				Ι'	١.	$\vdash$					Ι'	١.					
		=	113				l '	١. ا						ľ	١, ١					
		1	114				В				ᄩ	TRUNK_ANT_1_B	∣¥	١٩	Ż	ا∟ا		В		
		Ξ	115				≥				뜬	TRUNK ANT 1 A	l¥	٩	Ż	ا∟ا	-	⋖		
		11	116				l		Н											
		11	117				'	١, ١						ļ '	١, ١					
		11	118				≤	0/1		B/	BACK_DOOR_ANT_B		ᆸ	18	觅,	Α.	Ξ		m	
	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı	ı

M28	Connector Name COMBINATION SWITCH	WHITE	2 8 9 10 11 12 13 14
Connector No.	Connector Name	Connector Color WHITE	H.S.

Signal Name		WASH_MTR	OUTPUT_4	1	_	OUTPUT_3	GND	INPUT 3
Color of	Wire	R/L	G/Y	-	_	LG/R	В	R/G
Tocional No	erillia No.	-	2	3	4	5	9	7

AWMIA0393GB

Fail Safe

INFOID:0000000004219003

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit hybrid system cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit hybrid system cranking	Erase DTC

# **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS > [BCM]

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit hybrid system crank- ing	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit hybrid system crank- ing	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit hybrid system crank- ing	Erase DTC
B2195: ANTI-SCANNING	Inhibit hybrid system crank- ing	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from brake ECU actuator and electric unit (control unit) for 500 ms
B2562: LOW VOLTAGE	Inhibit hybrid system cranking     Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 V
B2563: HI VOLTAGE	Inhibit hybrid system cranking     Inhibit electronic steering column lock	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION	Inhibit electronic steering column lock	<ul> <li>5 seconds after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 /h or more</li> </ul>
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	<ul> <li>500 ms after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul>
B2604: PNP SW	Inhibit electronic steering column lock	<ul> <li>500 ms after any of the following BCM recognition conditions is fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P and N position (battery voltage)</li> <li>P range signal or N range signal (CAN): ON</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>P range signal and N range signal (CAN): OFF</li> </ul>
B2605: PNP SW	Inhibit electronic steering column lock	500 ms after any of the following BCM recognition conditions is fulfilled  • Ignition switch is in the ON position  - Power position: IGN  - Selector lever P/N position signal: Except P and N positions (0 V)  - Interlock/PNP switch signal (CAN): OFF  • Status 2  - Ignition switch is in the ON position  - Selector lever P/N position signal: P or N position (battery voltage)  - PNP switch signal (CAN): ON

**BCS-79** 

< ECU DIAGNOSIS > [BCM]

Display contents of CONSULT	Fail-safe	Cancellation
B2606: S/L RELAY	Inhibit hybrid system cranking	500 ms after the following CAN signal communication status has become consistent  • Electronic steering column lock relay signal (Request signal)  • Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit hybrid system cranking	500 ms after the following CAN signal communication status has become consistent  • Electronic steering column lock relay signal (Request signal)  • Electronic steering column lock relay signal (Condition signal)
B2609: S/L STATUS	Inhibit hybrid system cranking     Inhibit electronic steering column lock	When the following electronic steering column lock conditions agree  BCM electronic steering column lock control status  Electronic steering column lock condition No. 1 signal status  Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit hybrid system cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled  • Power position changes to ACC  • Receives hybrid system status signal (CAN)
B2612: S/L STATUS	Inhibit hybrid system cranking     Inhibit electronic steering column lock	When any of the following conditions is fulfilled  Electronic steering column lock unit status signal (CAN) is received normally  The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit hybrid system cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit hybrid system cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit hybrid system cranking	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit hybrid system cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit hybrid system cranking	When any of the following conditions is fulfilled Power position changes to ACC Receives hybrid system status signal (CAN)

# DTC Inspection Priority Chart

INFOID:0000000004219004

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

Priority	DTC
1	B2562: LOW VOLTAGE     B2563: HI VOLTAGE     B261E: VEHICLE TYPE
2	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)
3	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM

## **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS > [BCM]

DTC Index

## NOTE:

Details of time display

< ECU DIAGNOSIS > [BCM]

- 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	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	-
U1000: CAN COMM CIRCUIT	_	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	_	_	_	BCS-38
U0415: VEHICLE SPEED SIG	_	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	_	_	<u>SEC-30</u>
B2014: CHAIN OF S/L-BCM	×	_	_	<u>SEC-31</u>
B2190: NATS ANTENNA AMP	×	_	_	SEC-40
B2191: DIFFERENCE OF KEY	×	_	_	SEC-43
B2192: ID DISCORD BCM-ECM	×	_	_	SEC-44
B2193: CHAIN OF BCM-ECM	×	_	_	SEC-45
B2553: IGNITION RELAY	_	_	_	PCS-53
B2555: STOP LAMP	_	_	_	SEC-46
B2556: PUSH-BTN IGN SW	_	×	_	SEC-49
B2557: VEHICLE SPEED	×	×	_	SEC-51
B2562: LOW VOLTAGE	_	_	_	BCS-40
B2563: HI VOLTAGE	×	×	_	BCS-41
B2601: SHIFT POSITION	×	×	_	SEC-52
B2602: SHIFT POSITION	×	×	_	<u>SEC-55</u>
B2603: SHIFT POSI STATUS	×	×	_	<u>SEC-57</u>
B2604: PNP SW	×	×	_	SEC-60
B2607: S/L RELAY	×	×	_	<u>SEC-62</u>
B2609: S/L STATUS	×	×	_	<u>SEC-64</u>
B260A: IGNITION RELAY	×	×	_	PCS-55
B260B: STEERING LOCK UNIT	_	×	_	SEC-68
B260C: STEERING LOCK UNIT	_	×	_	SEC-69
B260D: STEERING LOCK UNIT	_	×	_	<u>SEC-70</u>
B260F: ENG STATE SIG LOST	×	×	_	<u>SEC-71</u>
B2611: ACC RELAY	_	_	_	PCS-56
B2612: S/L STATUS	×	×	_	<u>SEC-72</u>
B2614: ACC RELAY CIRC	_	×	_	PCS-58
B2615: BLOWER RELAY CIRC	_	×		PCS-61
B2616: IGN RELAY CIRC	_	×	_	PCS-64
B2617: STARTER RELAY CIRC	×	×	_	<u>SEC-76</u>
B2618: BCM	×	×	_	PCS-67
B2619: BCM	×	×		<u>SEC-78</u>
B261A: PUSH-BTN IGN SW	_	×	_	SEC-79

# **BCM (BODY CONTROL MODULE)**

[BCM] < ECU DIAGNOSIS >

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	_	SEC-81
B2621: INSIDE ANTENNA	_	_	_	DLK-59
B2622: INSIDE ANTENNA	_	_	_	DLK-62
B2623: INSIDE ANTENNA	_	_	_	DLK-65
C1704: LOW PRESSURE FL	_	_	×	<u>WT-8</u>
C1705: LOW PRESSURE FR	_	_	×	<u>WT-8</u>
C1706: LOW PRESSURE RR	_	_	×	<u>WT-8</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-8</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-14</u>
C1711: [NO DATA] RL	_	_	×	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	×	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-18</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	_	_	×	<u>WT-18</u>
C1720: [CODE ERR] FL	_	_	×	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-16</u>
C1722: [CODE ERR] RR	_	_	×	<u>WT-16</u>
C1723: [CODE ERR] RL	_	_	×	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	_	_	×	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	_	_	×	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	_	×	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	_	_	×	<u>WT-19</u>
C1734: CONTROL UNIT	_	_	×	WT-20

Ν

0

Р

[BCM]

# SYMPTOM DIAGNOSIS

## COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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

Malfunction item: x

	Data monitor item													
Malfunction combi- nation	FR WIPER HI	FR WIPER LOW	FR WASHER SW	FR WIPER INT	INT VOLUME	TURN SIGNAL R	TURN SIGNAL L	TAIL LAMP SW	HI BEAM SW	HEAD LAMP SW 1	HEAD LAMP SW 2	PASSING SW	AUTO LIGHT SW	FR FOG SW
A		×	×			×	×							
В	×			×						×		×		
С					×				×		×			
D					×			×					×	
E					×									×
F	×				×									
G			×		×									
Н		×		×									×	
I							×				×	×		×
J						×		×	×	×				
K	All Items													
L	If only one item is detected or the item is not applicable to the combinations A to K													

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

Malfunction combination	Malfunctioning part	Repair or replace		
А	Combination switch INPUT 1 circuit			
В	Combination switch INPUT 2 circuit			
С	Combination switch INPUT 3 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. BCS-43, "Diagnosis Procedure"		
D	Combination switch INPUT 4 circuit	part. <u>DOO-40. Diagritosis Frocedure</u>		
Е	Combination switch INPUT 5 circuit			
F	Combination switch OUTPUT 1 circuit			
G	Combination switch OUTPUT 2 circuit			
Н	Combination switch OUTPUT 3 circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. BCS-45, "Diagnosis Procedure"		
1	Combination switch OUTPUT 4 circuit	ang para <u>200 to. Diagnosis recodule</u>		
J	Combination switch OUTPUT 5 circuit			
K	ВСМ	Replace BCM. Refer to BCS-87, "Removal and Installation".		
L	Combination switch	Replace the combination switch. Refer to EXL-168, "Removal and Installation".		

## **PREPARATION**

	ID ON I
< PRFPARATION >	[BCM]
S PREPARATION 2	[5011]

# **PREPARATION**

## **PREPARATION**

# Special Service Tool

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
(J-44615) Air bag lock master key set	LRS191	Removing and installing air bag lock

## **Commercial Service Tools**

INFOID:0000000004476275

INFOID:0000000004476274

Tool name	Description	
Power tools	Loosening bolts, nuts and screws	Н
		I
PIIB1407E		J

K

Α

В

C

 $\mathsf{D}$ 

Е

F

G

BCS

Ν

C

Р

< PRECAUTION > [BCM]

# **PRECAUTION**

## **PRECAUTIONS**

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"

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.

Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000004499332

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both 12-volt battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both 12volt battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work.
   If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the 12-volt battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the 12-volt battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

Connect both 12-volt battery cables.

#### NOTE:

Supply power using jumper cables if 12-volt battery is discharged.

- Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both 12-volt battery cables. The steering lock will remain released with both 12-volt battery cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- When the repair work is completed, re-connect both 12-volt battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

[BCM] < ON-VEHICLE REPAIR >

## **ON-VEHICLE REPAIR**

# **BCM (BODY CONTROL MODULE)**

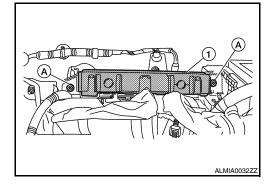
### Removal and Installation

#### REMOVAL

#### **CAUTION:**

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to BCS-5, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description".

- Disconnect the 12-volt battery negative terminal.
- Remove the combination meter. Refer to MWI-135, "Removal and Installation".
- 3. Remove the BCM screws (A), and pull out the BCM (1).
- Disconnect the BCM connector and remove the BCM (1).



## **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- When replacing BCM, perform "WRITE CONFIGURATION". Refer to BCS-6, "CONFIGURATION (BCM) : Description".
- When replacing BCM, perform the system initialization (NATS). Refer to the CONSULT-III operation manual for the initialization procedure.
- . When replacing BCM, if new BCM does not come with keyfobs attached, all existing keyfobs must be re-registered. Refer to the CONSULT-III operation manual for the initialization procedure.

**BCS** 

0

Р

**BCS-87** 

Α

В

INFOID:0000000004219007

D

Е

F

Н

K

Ν