

# SECTION **BCS**

## BODY CONTROL SYSTEM

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**BCS**

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# BODY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

### BODY CONTROL SYSTEM

#### System Description

INFOID:000000001612370

#### 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.

#### BCM control function list

System	Refer to
Combination switch reading system	<a href="#">BCS-5, "System Diagram"</a>
Signal buffer system	<a href="#">BCS-9, "System Diagram"</a>
Power consumption control system	<a href="#">BCS-10, "System Diagram"</a>
Auto light system	<a href="#">EXL-12, "System Diagram"</a>
Turn signal and hazard warning lamp system	<a href="#">EXL-24, "System Diagram"</a>
Headlamp system	<a href="#">EXL-8, "System Diagram"</a>
Parking, license plate and tail lamps system	<a href="#">EXL-26, "System Diagram"</a>
Front fog lamp system	<a href="#">EXL-22, "System Diagram"</a>
Exterior lamp battery saver system	<a href="#">EXL-28, "System Diagram"</a>
Daytime running light system	<a href="#">EXL-15, "System Diagram"</a>
Interior room lamp control system	<a href="#">INL-5, "System Diagram"</a>
Step lamp system	
Trunk room lamp system	
Interior room lamp battery saver system	<a href="#">INL-9, "System Diagram"</a>
Front wiper and washer system	<a href="#">WW-5, "System Diagram"</a>
Warning chime system	<a href="#">WCS-5, "WARNING CHIME SYSTEM : System Diagram"</a>
Door lock system	<a href="#">DLK-12, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"</a>
Trunk open system	<a href="#">DLK-26, "TRUNK LID OPENER SWITCH : System Diagram"</a>
Infiniti Vehicle Immobilizer System (IVIS) - NATS	<a href="#">SEC-17, "System Diagram"</a>
Vehicle security system	<a href="#">SEC-23, "System Diagram"</a>
Panic alarm	
Automatic drive positioner system	<a href="#">ADP-13, "AUTOMATIC DRIVE POSITIONER SYSTEM : System Diagram"</a>
Rear window defogger system	<a href="#">DEF-4, "System Diagram"</a>

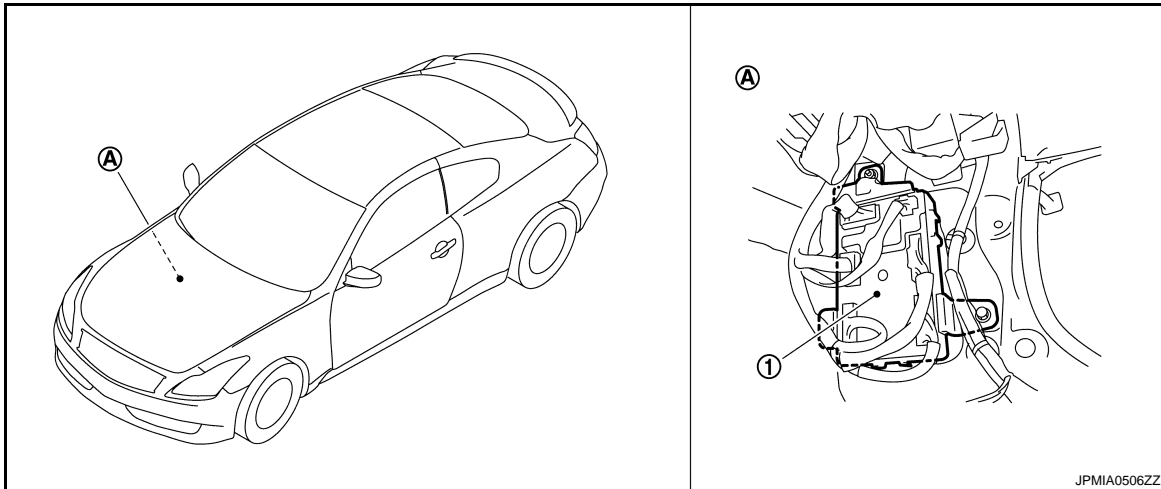
# BODY CONTROL SYSTEM

## < FUNCTION DIAGNOSIS >

System		Refer to
Intelligent Key system/engine start system	Door lock function	<ul style="list-style-type: none"> <li>• <a href="#">DLK-15, "DOOR REQUEST SWITCH : System Diagram"</a> (door request switch)</li> <li>• <a href="#">DLK-20, "INTELLIGENT KEY : System Diagram"</a> (Intelligent Key)</li> </ul>
	Trunk open function	<ul style="list-style-type: none"> <li>• <a href="#">DLK-29, "TRUNK REQUEST SWITCH : System Diagram"</a> (trunk request switch)</li> <li>• <a href="#">DLK-34, "INTELLIGENT KEY : System Diagram"</a> (Intelligent Key)</li> </ul>
	Warning function	<a href="#">DLK-39, "System Description"</a>
	Key reminder function	<a href="#">DLK-46, "System Description"</a>
	Engine start function	<a href="#">SEC-9, "System Diagram"</a>
Power window system		<a href="#">PWC-6, "System Diagram"</a> (front and rear window anti-pinch)
Retained accessory power (RAP) system		<a href="#">PWC-6, "System Description"</a>
Tire pressure monitor system (TPMS) - AIR PRESSURE MONITOR		<a href="#">WT-7, "System Diagram"</a>

## Component Parts Location

INFOID:000000001612371



JPMIA0506ZZ

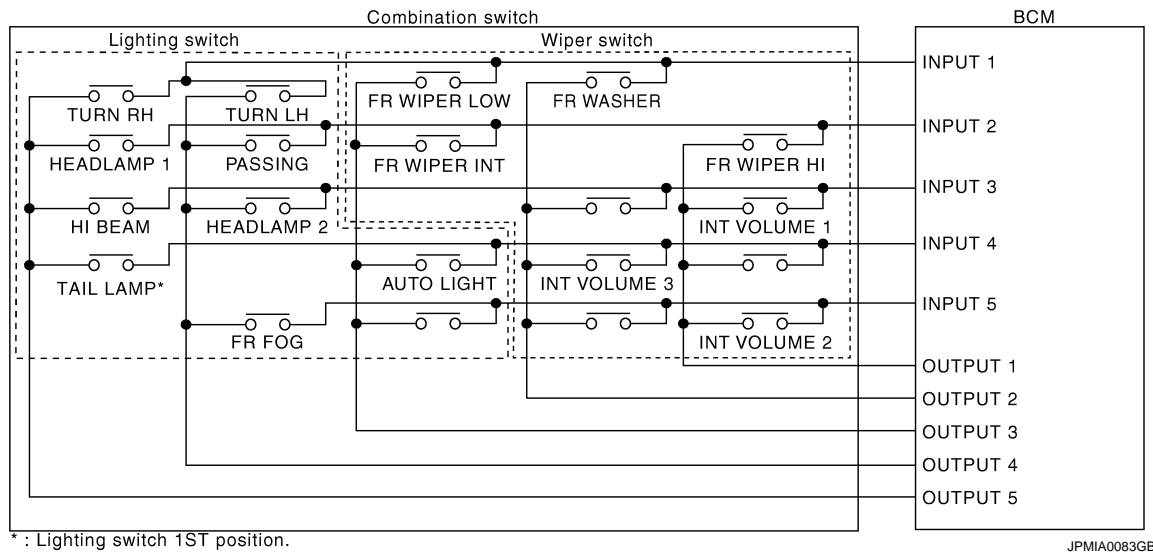
1. BCM
- A. Dash side lower (passenger side)

# COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

## COMBINATION SWITCH READING SYSTEM

### System Diagram



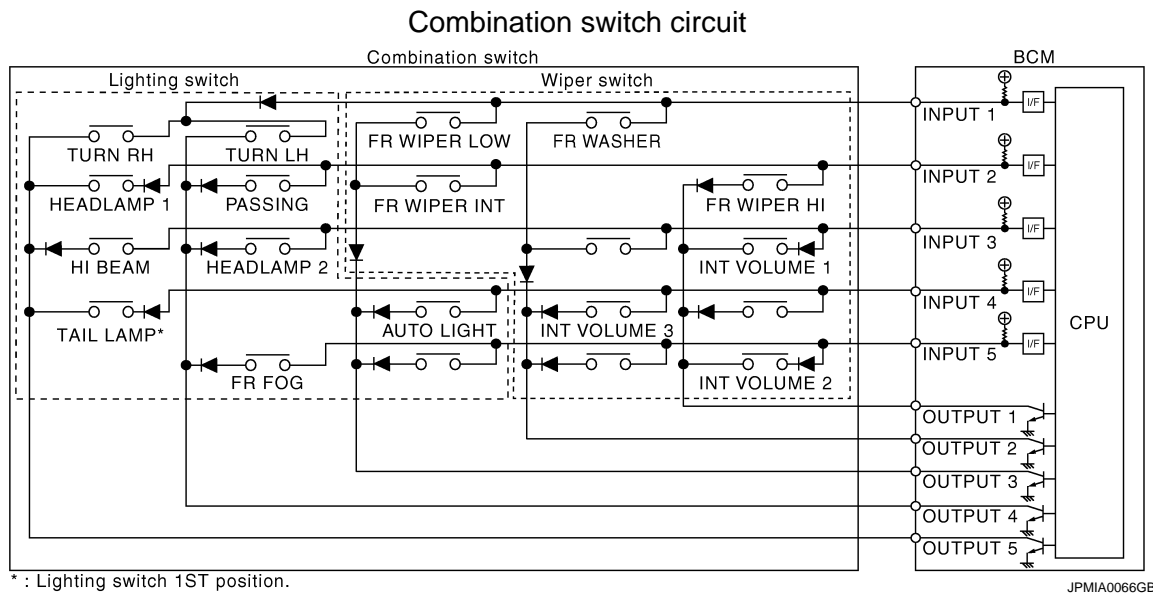
### System Description

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#### OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM 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 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 >

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	—

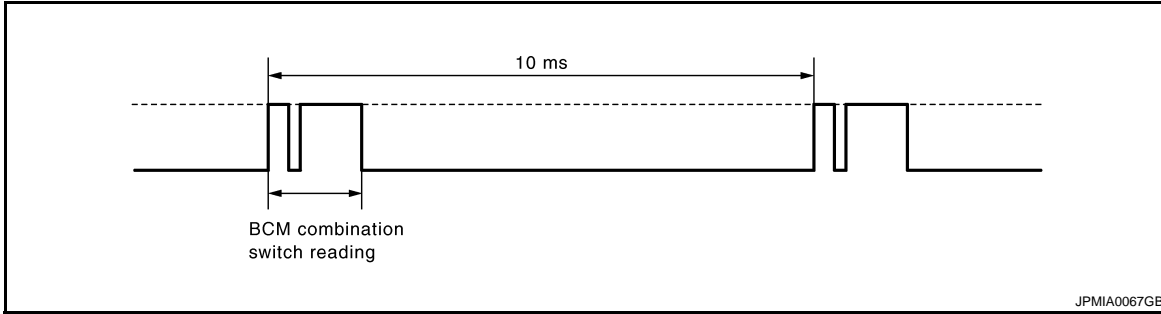
### NOTE:

Headlamp has a dual system switch.

## COMBINATION SWITCH READING FUNCTION

### Description

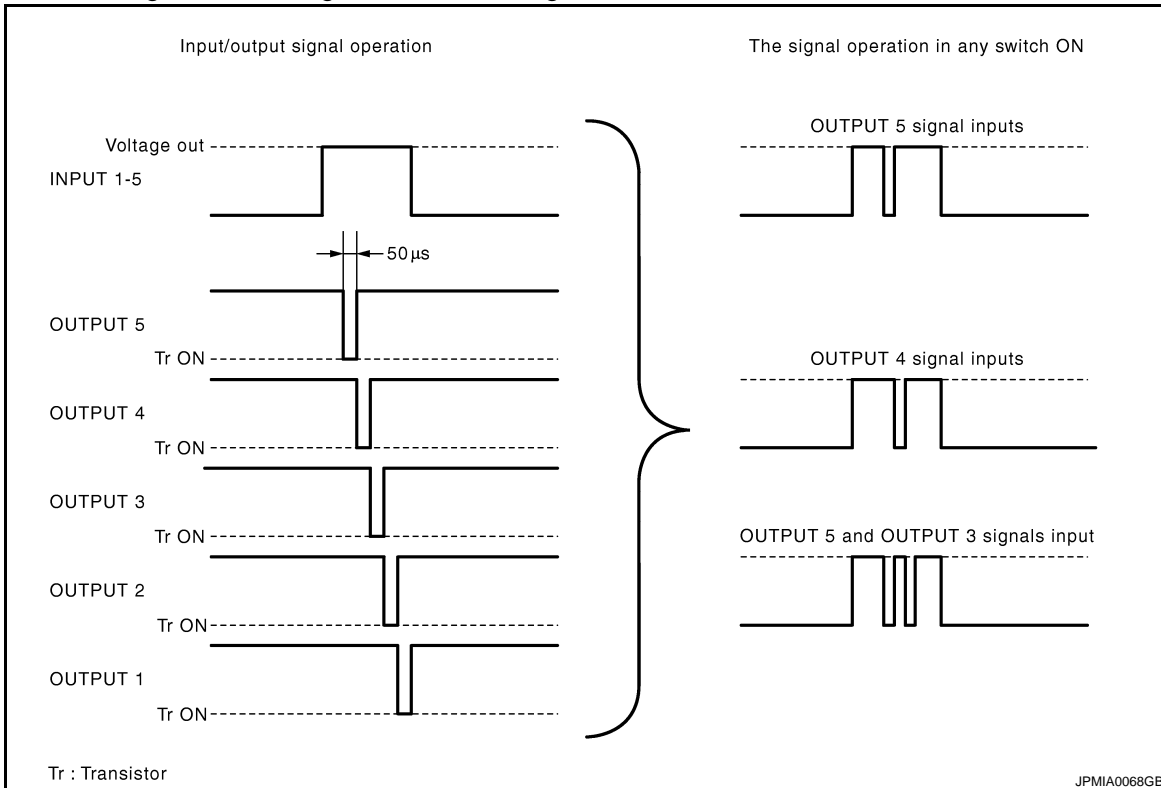
- BCM reads the status of the combination switch at 10 ms interval normally.



### NOTE:

BCM reads the status of the combination switch at 60 ms 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 → 4 → 3 → 2 → 1.
  - 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

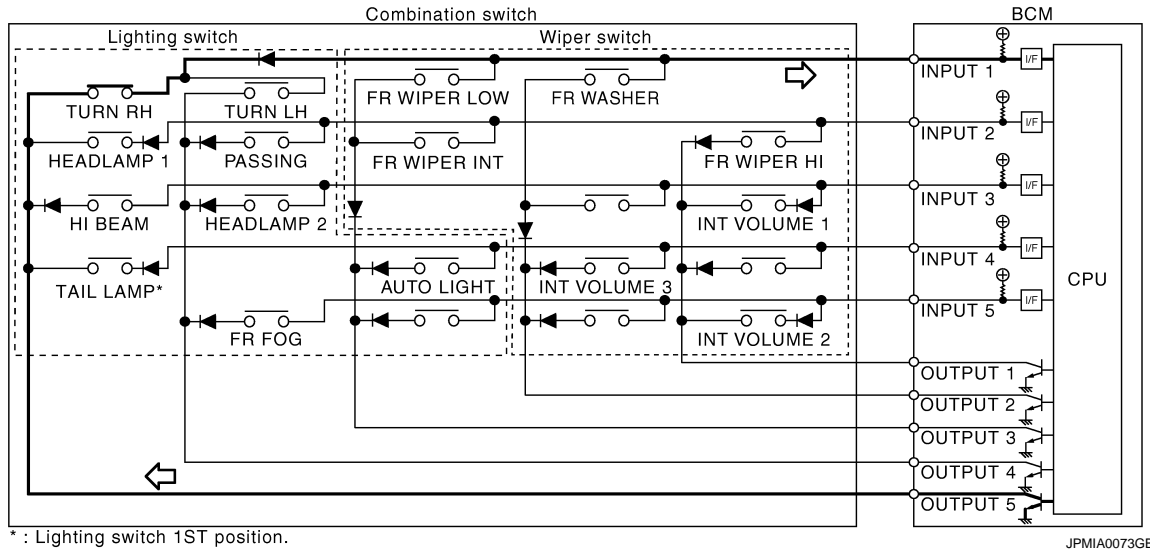
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

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

# COMBINATION SWITCH READING SYSTEM

## < FUNCTION DIAGNOSIS >

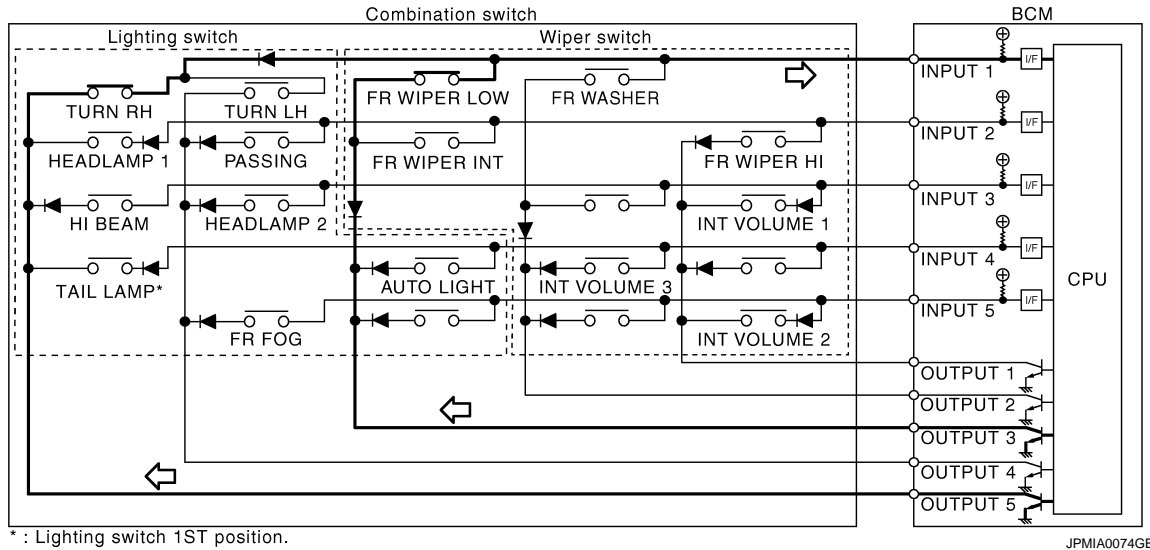
- The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



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

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

- 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.

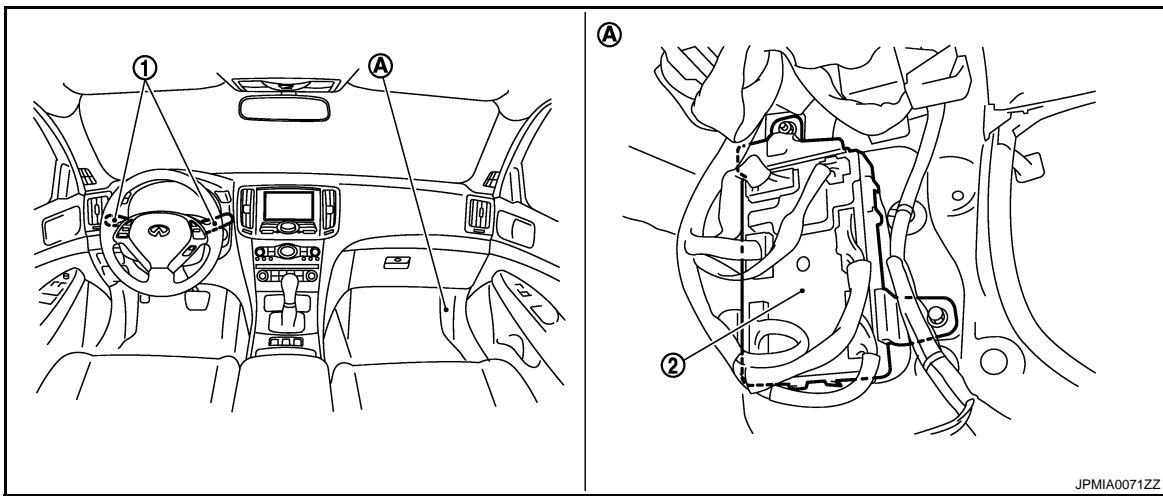
# COMBINATION SWITCH READING SYSTEM

## < FUNCTION DIAGNOSIS >

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

## Component Parts Location

INFOID:000000001612374



- 1. Combination switch
- 2. BCM
- A. Dash side lower (passenger side)

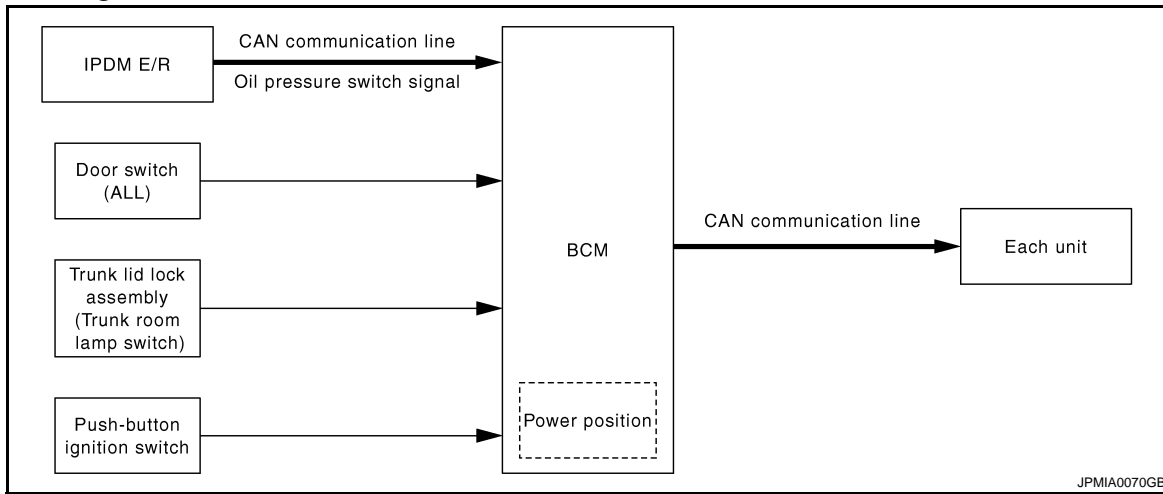


# SIGNAL BUFFER SYSTEM

< FUNCTION DIAGNOSIS >

## SIGNAL BUFFER SYSTEM

### System Diagram



### System Description

INFOID:000000001612376

#### 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 style="list-style-type: none"> <li>Ignition switch ON signal</li> <li>Ignition switch signal</li> </ul>	Push-button ignition switch (push switch)	<ul style="list-style-type: none"> <li>IPDM E/R (CAN)</li> <li>Driver seat control unit (CAN)</li> </ul>	Inputs the push-button ignition switch (push switch) signal and transmits the ignition switch status judged with BCM via CAN communication.
Door switch signal	Any door switch	<ul style="list-style-type: none"> <li>Combination meter (via unified meter and A/C amp.) (CAN)</li> <li>IPDM E/R (CAN)</li> <li>Driver seat control unit (CAN)</li> <li>AV control unit (CAN)</li> </ul>	Inputs the door switch signal and transmits it via CAN communication.
Trunk switch signal	Trunk room lamp switch	<ul style="list-style-type: none"> <li>Combination meter (via unified meter and A/C amp.) (CAN)</li> <li>AV control unit (CAN)</li> </ul>	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 (via unified meter and A/C amp.) (CAN)	Transmits the received oil pressure switch signal via CAN communication.

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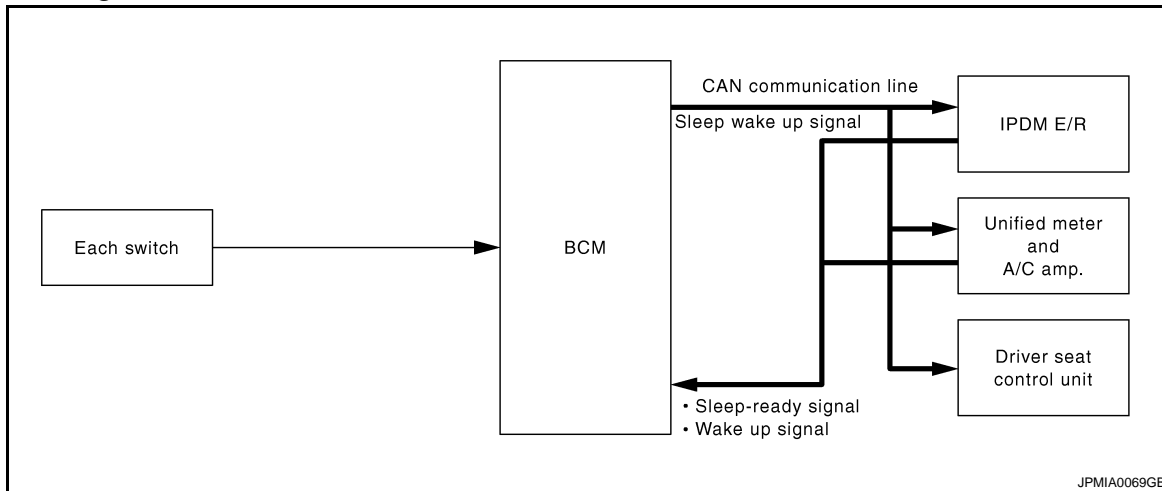
BCS

# POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## POWER CONSUMPTION CONTROL SYSTEM

### System Diagram



### System Description

INFOID:000000001612378

#### 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, combination meter (unified meter and A/C amp.) and driver seat control unit] that operates with the ignition switch OFF.

#### Normal mode (wake-up)

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

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

- CAN transmission is stopped
- Control with BCM only is operating

#### Low power consumption mode (BCM sleep)

- Low power consumption control is active
- CAN transmission is stopped

#### LOW POWER CONSUMPTION CONTROL WITH BCM

BCM reduces the power consumption with the following operation in the low power consumption mode.

- The reading interval of the each switches changes from 10 ms interval to 60 ms interval.

#### Sleep mode activation

- BCM receives the sleep-ready signal (ready) from IPDM E/R and unified meter and A/C amp. via CAN communication.
- BCM transmits the sleep wake up signal (sleep) to each unit when all of the CAN sleep conditions are fulfilled.
- Each unit stops the transmission of CAN communication with the sleep wake up signal. BCM is in CAN communication sleep mode.
- BCM is in the low power consumption mode and perform the low power consumption control when all of the BCM sleep conditions are fulfilled with CAN sleep condition.

# POWER CONSUMPTION CONTROL SYSTEM

## < FUNCTION DIAGNOSIS >

### Sleep condition

CAN sleep condition	BCM sleep condition	
<ul style="list-style-type: none"> <li>Receiving the sleep-ready signal (ready) from all units</li> <li>Ignition switch: OFF</li> <li>Vehicle security system and panic alarm: Not operation</li> <li>Warning lamp: Not operation</li> <li>Intelligent Key system buzzer: Not operation</li> <li>Trunk room lamp switch status: No change</li> <li>Brake switch: OFF</li> <li>Key slot (card switch) status: No change</li> <li>Turn signal indicator lamp: Not operation</li> <li>Exterior lamp: OFF</li> <li>Door lock status: No change</li> <li>CONSULT-III communication status: Not communication</li> <li>Meter display signal: Non-transmission</li> <li>Steering lock operation: Not operation</li> <li>Door switch status: No change</li> <li>Rear window defogger: OFF</li> </ul>	<ul style="list-style-type: none"> <li>Interior room lamp battery saver: Time out</li> <li>RAP system: OFF</li> <li>Power window switch communication: No transmission</li> <li>Push-button ignition switch illumination: OFF</li> <li>Infiniti Vehicle Immobilizer System (IVIS) - NATS: Not operation</li> <li>Remote keyless entry receiver communication status: No communication</li> <li>Tire pressure monitor system (TPMS) - AIR PRESSURE MONITOR: Stop</li> </ul>	A
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### 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 unified meter and A/C amp. transmits the wake up signal to BCM via CAN communication to report the CAN communication start.

### Wake-up condition

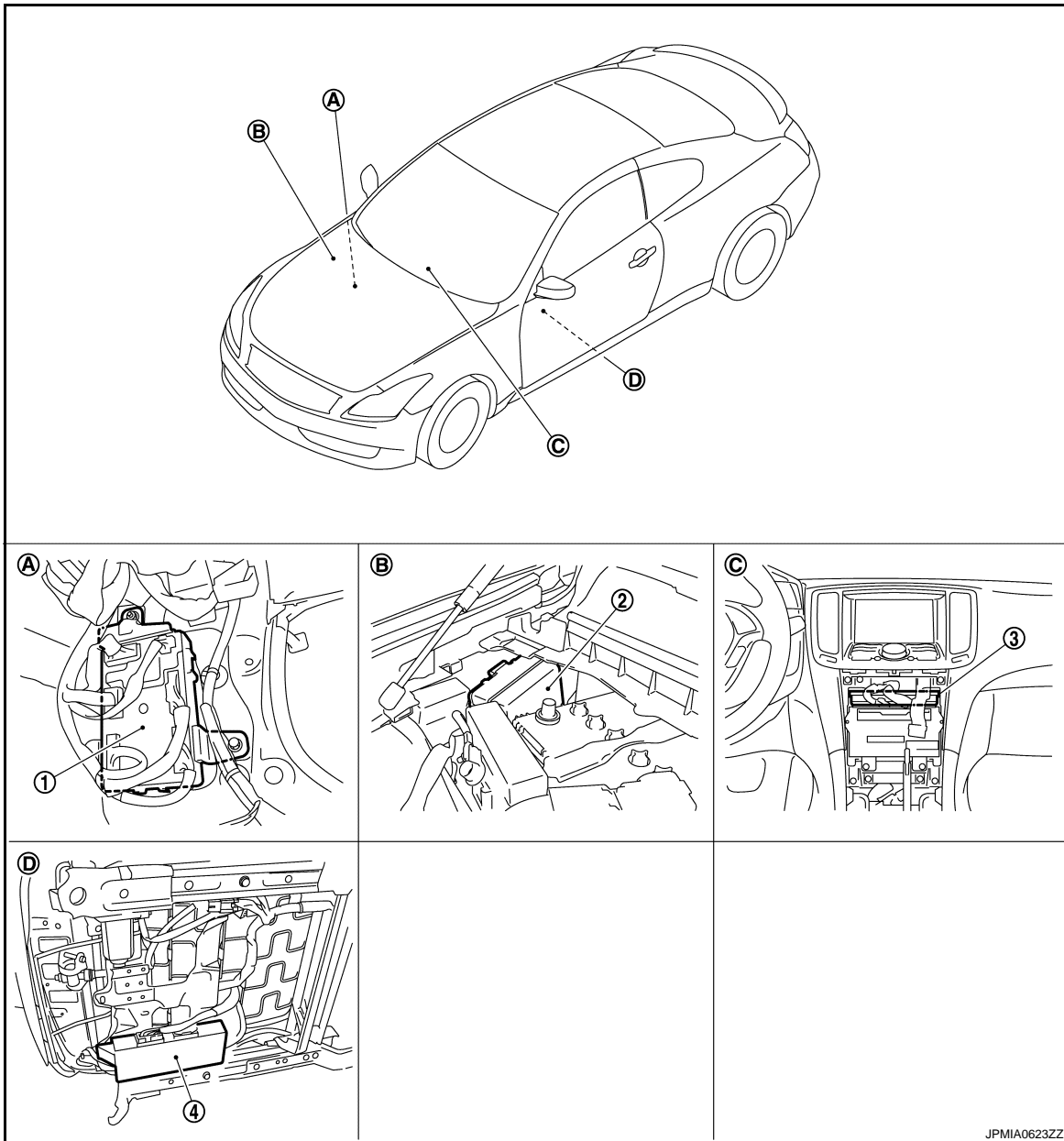
BCM wake-up condition	CAN wake-up condition	
<ul style="list-style-type: none"> <li>Trunk lid opener switch: OFF → ON</li> <li>Power window switch communication: Receiving</li> <li>Remote keyless entry receiver: Receiving</li> </ul>	<ul style="list-style-type: none"> <li>Receiving the sleep-ready signal (Not-ready) from any units</li> <li>Key slot (key switch): OFF → ON, ON → OFF</li> <li>Push-button ignition switch (push switch): OFF → ON</li> <li>Hazard switch: OFF → ON</li> <li>PASSING switch: OFF → ON, ON → OFF</li> <li>TAIL LAMP switch: OFF → ON</li> <li>Driver door switch: OFF → ON, ON → OFF</li> <li>Passenger door switch: OFF → ON, ON → OFF</li> <li>Trunk room lamp switch: OFF → ON, ON → OFF</li> <li>Driver door request switch: OFF → ON</li> <li>Passenger door request switch: OFF → ON</li> <li>Trunk request switch: OFF → ON</li> <li>Stop lamp switch 2 signal: ON</li> <li>Clutch interlock switch: OFF → ON</li> </ul>	J
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# POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

## Component Parts Location

INFOID:000000001612379



1. BCM

4. Driver seat control unit

A. Dash side lower (passenger side)

D. Backside of the seat cushion (driver seat)

2. IPDM E/R

B. Engine room dash panel (RH)

3. Unified meter and A/C amp.

C. Behind Cluster lid C

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:0000000001612380

### APPLICATION ITEM

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

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	This function is not used even though it is displayed.

### 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	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Air conditioner*	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
IVIS - NATS	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	TPMS (AIR PRESSURE MONITOR)	×	×	×

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

### FREEZE FRAME DATA (FFD) AND IGN COUNTER

#### Freeze Frame Data

The BCM records the following condition at the moment a particular DTC is detected.

- Vehicle Speed
- Odd Trip Meter

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

- Vehicle Condition (BCM detected condition)

CONSULT screen terms	Description
SLEEP>LOCK	While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")
SLEEP>OFF	While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
LOCK>ACC	While turning power supply position from "LOCK" to "ACC"
ACC>ON	While turning power supply position from "ACC" to "IGN"
RUN>ACC	While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
CRANK>RUN	While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)
RUN>URGENT	While turning power supply position from "RUN" to "ACC" (Emergency stop operation)
ACC>OFF	While turning power supply position from "ACC" to "OFF"
OFF>LOCK	While turning power supply position from "OFF" to "LOCK"
OFF>ACC	While turning power supply position from "OFF" to "ACC"
ON>CRANK	While turning power supply position from "IGN" to "CRANKING"
OFF>SLEEP	While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode
LOCK>SLEEP	While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode
LOCK	Power supply position is "LOCK" (Ignition switch OFF with steering is locked.)
OFF	Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
ACC	Power supply position is "ACC" (Ignition switch ACC)
ON	Power supply position is "IGN" (Ignition switch ON with engine stopped)
ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)
CRANKING	Power supply position is "CRANKING" (At engine cranking)

### IGN Counter

IGN counter indicates the number of times that ignition switch is turned ON after DTC is detected.

- The number is 0 when a malfunction is detected now.
- The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

## DOOR LOCK

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

INFOID:000000001830801

### BCM CONSULT-III FUNCTION

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

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

### WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Selective unlock function mode can be changed to operate (WITH) or not operate (WITHOUT) with this mode.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

### 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	<b>NOTE:</b> This item is displayed, but cannot be monitored.
DOOR SW-RL	<b>NOTE:</b> This item is displayed, but cannot be monitored.
DOOR SW-BK	<b>NOTE:</b> 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	<p>This test is able to check door lock/unlock operation.</p> <ul style="list-style-type: none"> <li>The all door lock actuators are locked when "LOCK" on CONSULT-III screen is touched.</li> <li>The all door lock actuators are unlocked when "ALL UNLK" on CONSULT-III screen is touched.</li> <li>The driver side door lock actuator and fuel lid lock actuator are unlocked when "DR UNLK" on CONSULT-III screen is touched.</li> <li>The passenger side door lock actuator is unlocked when "AS UNLK" on CONSULT- III screen is touched.</li> </ul>

### REAR WINDOW DEFOGGER

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

INFOID:000000001830804

#### Data monitor

Monitor Item	Description
REAR DEF SW	This is displayed even when it is not equipped.
PUSH SW	Indicates [ON/OFF] condition of push 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:000000001830805

### CONSULT-III APPLICATION ITEMS

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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

### DATA MONITOR

Display item [Unit]	Description
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 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 switch readout function.
FR FOG SW [On/Off]	Status of front fog lamp switch judged by BCM.
DOOR SW-DR [On/Off]	Status of driver side door switch judged by BCM.

### ACTIVE TEST

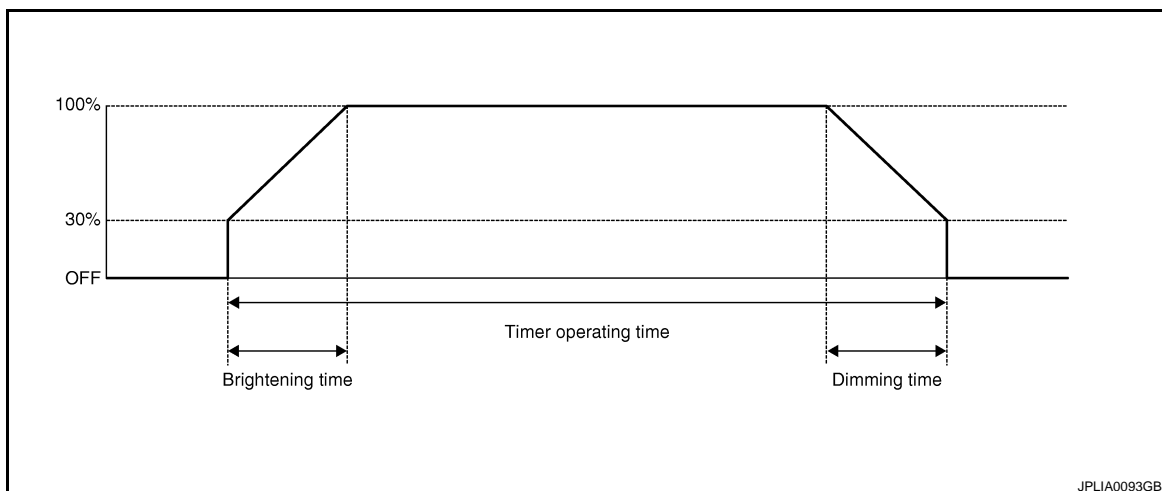
Display item [Unit]	Description
IGN KEY WARN ALM	The key warning chime operation can be checked by operating the relevant function (On/Off).
SEAT BELT WARN TEST	The seat belt warning chime operation can be checked by operating the relevant function (On/Off).
ID REGIST WARNING	The ID regist warning chime 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).
RUN FLAT/T WARN BUZZER	The run-flat tire warning chime operation can be checked by operating the relevant function (On/Off).

### INT LAMP

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

INFOID:000000001830806

#### WORK SUPPORT



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# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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

\*: Initial setting

## DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from front request switch (passenger side)
PUSH SW [On/Off]	The switch status input from push-button ignition switch
ACC RLY-F/B [On/Off]	ACC relay feedback signal status input from ACC relay
KEY SW-SLOT [On/Off]	Key switch status input from key slot
DOOR SW-DR [On/Off]	The switch status input from driver side door switch
DOOR SW-AS [On/Off]	The switch status input from passenger side door switch
DOOR SW-RR [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.
DOOR SW- RL [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.
DOOR SW-BK [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.
CDL LOCK SW [On/Off]	Lock switch status received from the door lock and unlock switch by power window switch serial link
CDL UNLOCK SW [On/Off]	Unlock switch status received from the door lock and unlock switch by power window switch serial link
KEY CYL LK-SW [On/Off]	Lock switch status received from key cylinder switch by power window switch serial link

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
KEY CYL UN-SW [On/Off]	Unlock switch status received from key cylinder switch by power window switch 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 ON (Map lamp switch is in DOOR position).
	Off	Stops the interior room lamp control signal to turn map 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 trunk room lamp control signal to turn the trunk room lamp ON.
	Off	Stops the trunk room lamp control signal to turn the trunk room lamp OFF.

## HEADLAMP

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

INFOID:000000001830810

## WORK SUPPORT

Service item	Setting item	Setting
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
	Off	Without the exterior lamp battery saver function
ILL DELAY SET	MODE 1*	45 sec.
	MODE 2	Without the function
	MODE 3	30 sec.
	MODE 4	60 sec.
	MODE 5	90 sec.
	MODE 6	120 sec.
	MODE 7	150 sec.
	MODE 8	180 sec.
		Sets delay timer function timer operation time. (All doors closed)
CUSTOM A/LIGHT SETTING	MODE 1*	Normal
	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.)

\*: Initial setting

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description	
PUSH SW [On/Off]	The switch status input from push-button ignition switch	A
ENGINE STATE [Stop/Stall/Crank/Run]	The engine status received from ECM with CAN communication	B
VEH SPEED 1 [km/h]	The value of the vehicle speed received from unified meter and A/C amp. with CAN communication	C
KEY SW-SLOT [On/Off]	Key switch status input from key slot	D
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function	E
TURN SIGNAL L [On/Off]		F
TAIL LAMP SW [On/Off]		G
HI BEAM SW [On/Off]		H
HEAD LAMP SW1 [On/Off]		I
HEAD LAMP SW2 [On/Off]		J
PASSING SW [On/Off]		K
AUTO LIGHT SW [On/Off]		L
FR FOG SW [On/Off]		
RR FOG SW [On/Off]		<b>NOTE:</b> The item is indicated, but not monitored.
DOOR SW-DR [On/Off]	The switch status input from driver side door switch	
DOOR SW-AS [On/Off]	The switch status input from passenger side door switch	
DOOR SW-RR [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	
DOOR SW- RL [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	
DOOR SW-BK [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	

BCS

## 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.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Test item	Operation	Description
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	Low	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP	On	Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	Off	Stops the front fog lights request signal transmission.
RR FOG LAMP	On	<b>NOTE:</b> The item is indicated, but cannot be tested.
	Off	
DAYTIME RUNNING LIGHT	On	<b>NOTE:</b> The item is indicated, but cannot be tested.
	Off	
CORNERING LAMP	RH	<b>NOTE:</b> The item is indicated, but cannot be tested.
	LH	
	Off	
ILL DIM SIGNAL	On	<b>NOTE:</b> The item is indicated, but cannot be tested.
	Off	

## WIPER

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

INFOID:000000001830812

## WORK SUPPORT

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

\*:Initial setting

## DATA MONITOR

Monitor Item [Unit]	Description
VEH SPEED 1 [km/h]	Displays the value of the vehicle speed signal received from unified meter and A/C amp. with CAN communication.
PUSH SW	The switch status input from push-button ignition switch.
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 stop position 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

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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

## FLASHER

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

INFOID:000000001830811

## WORK SUPPORT

Service item	Setting item	Setting
HAZARD ANSWER BACK	Lock Only*	With locking only
	Unlk Only	With unlocking only
	Lock/Unlk	With locking/unlocking
	Off	Without the function

Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or the key fob.

\*: Initial setting

## DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)
PUSH SW [On/Off]	The switch status input from the push-button ignition switch
TURN SIGNAL R [On/Off]	Each switch condition that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	The switch status input from the hazard switch
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver

## ACTIVE TEST

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

## INTELLIGENT KEY

## DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

**INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)** INFOID:000000001830802

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

### WORK SUPPORT

Monitor 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. <ul style="list-style-type: none"> <li>• 0.5 sec.</li> <li>• 1.5 sec.</li> <li>• OFF: Non-operation</li> </ul>
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. <ul style="list-style-type: none"> <li>• 3 sec.</li> <li>• 5 sec.</li> <li>• OFF: Non-operation</li> </ul>
TRUNK OPEN DELAY	Trunk button pressing time on Intelligent Key button can be selected from the following with this mode. <ul style="list-style-type: none"> <li>• 0.5 sec.</li> <li>• 1.5 sec.</li> <li>• OFF: Non-operation</li> </ul>
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. <ul style="list-style-type: none"> <li>• LOCK ONLY: Door lock operation only</li> <li>• UNLOCK ONLY: Door unlock operation only</li> <li>• LOCK AND UNLOCK: Lock/unlock operation</li> <li>• OFF: Non-operation</li> </ul>
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. <ul style="list-style-type: none"> <li>• HORN CHIRP: Sound horn</li> <li>• BUZZER: Sound Intelligent Key warning buzzer</li> <li>• OFF: Non-operation</li> </ul>
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.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item	Description
SHORT CRANKING OUTPUT	Starter motor can operate during the times below. <ul style="list-style-type: none"> <li>• 70 msec.</li> <li>• 100 msec.</li> <li>• 200 msec.</li> </ul>
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-75, "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, VDC or CVT 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	<b>NOTE:</b> 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.
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.

## DIAGNOSIS SYSTEM (BCM)

### < FUNCTION DIAGNOSIS >

Monitor Item	Condition
PRMT ENG STRT	Indicates [SET/RESET] condition of engine start possibility.
PRMT RKE STRT	<b>NOTE:</b> 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. <ul style="list-style-type: none"> <li>• Take away warning chime sounds when "TAKE OUT" on CONSULT-III screen is touched.</li> <li>• Key warning chime sounds when "KEY WARN" on CONSULT-III screen is touched.</li> <li>• P position warning chime sounds when "P RNG WARN" on CONSULT-III screen is touched.</li> <li>• ACC warning chime sounds when "ACC WARN" on CONSULT-III screen is touched.</li> </ul>
INDICATOR	This test is able to check warning lamp operation. <ul style="list-style-type: none"> <li>• "KEY" Warning lamp illuminates when "KEY IND ON" on CONSULT-III screen is touched.</li> <li>• "KEY" Warning lamp flashes when "KEY IND FSH" on CONSULT-III screen is touched.</li> </ul>
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	This test is able to check meter display information <ul style="list-style-type: none"> <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.
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 A/T device power supply A/T device power is supplied when "ON" on CONSULT-III screen is touched.



# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Test item	Description
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:000000001612389

## DATA MONITOR

Monitor item [UNIT]	Description
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.
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.
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.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function.
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.
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.
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.
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.
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.

## BCM

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

INFOID:000000001612390

## WORK SUPPORT

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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:000000001830813

#### APPLICATION ITEM

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

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

#### DATA MONITOR

Monitor item	Content
CONFRM ID ALL	Indicates [YET] at all time. Switch to [DONE] when a registered Intelligent Key is inserted into the key slot.
CONFIRM ID4	
CONFIRM ID3	
CONFIRM ID2	
CONFIRM ID1	
TP 4	Indicates the number of ID which has been registered.
TP 3	
TP 2	
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:000000001830807

#### WORK SUPPORT

Service item	Setting item	Setting	
BATTERY SAVER SET	On*	With the exterior lamp battery saver function	
	Off	Without the exterior lamp battery saver function	
ROOM LAMP BAT SAV SET	On*	With the interior room lamp battery saver function	
	Off	Without the interior room lamp battery saver function	
ROOM LAMP TIMER SET	MODE 1*	30 min.	Sets the interior room lamp battery saver timer operating time.
	MODE 2	60 min.	

\*: Initial setting

#### DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description	
REQ SW-DR [On/Off]	The switch status input from request switch (driver side)	A
REQ SW-AS [On/Off]	The switch status input from front request switch (passenger side)	B
REQ SW-RR [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	C
REQ SW-RL [On/Off]		D
PUSH SW [On/Off]	The switch status input from push-button ignition switch	E
ACC RLY-F/B [On/Off]	ACC relay feedback signal status input from ACC relay	F
KEY SW-SLOT [On/Off]	Key switch status input from key slot	G
UNLK SEN-DR [On/Off]	Driver door unlock status input from unlock sensor	H
DOOR SW-DR [On/Off]	The switch status input driver side front door switch	I
DOOR SW-AS [On/Off]	The switch status input from passenger side door switch	J
DOOR SW-RR [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	K
DOOR SW- RL [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	L
DOOR SW-BK [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.	
CDL LOCK SW [On/Off]	Lock switch status received from the door lock and unlock switch by power window switch serial link	
CDL UNLOCK SW [On/Off]	Unlock switch status received from the door lock and unlock switch by power window switch serial link	
KEY CYL LK-SW [On/Off]	Lock switch status received from key cylinder switch by power window switch serial link	
KEY CYL UN-SW [On/Off]	Unlock switch status received from key cylinder switch by power window switch serial link	
TRNK/HAT MNTR [On/Off]	The switch status input from trunk room lamp switch	BCS
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	N

### 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.*

\*: Each lamp switch is in ON position.

### TRUNK

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

INFOID:000000001830803

### BCM CONSULT-III FUNCTION

## DIAGNOSIS SYSTEM (BCM)

### < FUNCTION DIAGNOSIS >

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

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

### DATA MONITOR

Monitor Item	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	<b>NOTE:</b> 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:000000001830814

#### APPLICATION ITEM

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

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

### DATA MONITOR

Monitored 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.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Monitored Item	Description
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.

## WORK SUPPORT

Test 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.

## 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:000000001830815

#### Data monitor

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

## SIGNAL BUFFER

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

INFOID:000000001612396

#### DATA MONITOR

Monitor item [UNIT]	Description
PUSH SW [Off/On]	Displays the status of the push-button ignition switch (push switch) judged by BCM.

## ACTIVE TEST

Test item	Operation	Description
OIL PRESSURE SW	Off	OFF
	On	BCM transmits the oil pressure switch signal to the unified meter and A/C amp. via CAN communication, which illuminates the oil pressure warning lamp in the combination meter.

## AIR PRESSURE MONITOR

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# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## AIR PRESSURE MONITOR : Diagnosis Description

INFOID:000000001830816

### DESCRIPTION

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

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

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

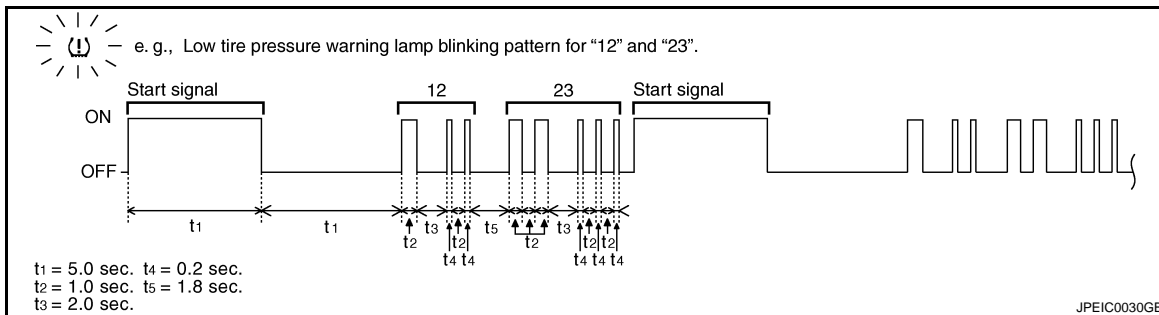
④ With CONSULT-III

Touch "SELF-DIAG RESULT" display shows malfunction experienced since the last erasing operation. Refer to [WT-77, "DTC Index"](#).

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

⊗ Without CONSULT-III

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



### NOTE:

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

Blinking pattern	Items	Diagnostic items detected when...	Check item
15	Tire pressure value (Front LH)	Front LH tire pressure drops to * kPa (* kg/cm <sup>2</sup> , * psi) or less. [NOTE]	-
16	Tire pressure value (Front RH)	Front RH tire pressure drops to * kPa (* kg/cm <sup>2</sup> , * psi) or less. [NOTE]	
17	Tire pressure value (Rear RH)	Rear RH tire pressure drops to * kPa (* kg/cm <sup>2</sup> , * psi) or less. [NOTE]	
18	Tire pressure value (Rear LH)	Rear LH tire pressure drops to * kPa (* kg/cm <sup>2</sup> , * psi) or less. [NOTE]	
21	Transmitter no data (Front LH)	Data from front LH transmitter can not be receive.	<a href="#">WT-17</a>
22	Transmitter no data (Front RH)	Data from front RH transmitter can not be receive.	
23	Transmitter no data (Rear RH)	Data from Rear RH transmitter can not be receive.	
24	Transmitter no data (Rear LH)	Data from Rear LH transmitter can not be receive.	
31	Transmitter checksum error (Front LH)	Checksum data from front LH transmitter is malfunctioning.	<a href="#">WT-20</a>
32	Transmitter checksum error (Front RH)	Checksum data from front RH transmitter is malfunctioning.	
33	Transmitter checksum error (Rear RH)	Checksum data from rear RH transmitter is malfunctioning.	
34	Transmitter checksum error (Rear LH)	Checksum data from rear RH transmitter is malfunctioning.	

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

Blinking pattern	Items	Diagnostic items detected when...	Check item	
35	Transmitter pressure data error (Front LH)	Air pressure data from front LH transmitter is malfunction.	<a href="#">WT-23</a>	A
36	Transmitter pressure data error (Front RH)	Air pressure data from front RH transmitter is malfunction.		B
37	Transmitter pressure data error (Rear RH)	Air pressure data from rear RH transmitter is malfunction.		C
38	Transmitter pressure data error (Rear LH)	Air pressure data from rear LH transmitter is malfunction.		
41	Transmitter function code error (Front LH)	Function code data from front LH transmitter is malfunction.	<a href="#">WT-25</a>	D
42	Transmitter function code error (Front RH)	Function code data from front RH transmitter is malfunction.		E
43	Transmitter function code error (Rear RH)	Function code data from rear RH transmitter is malfunction.		F
44	Transmitter function code error (Rear LH)	Function code data from rear LH transmitter is malfunction.		
45	Transmitter battery voltage low (Front LH)	Battery voltage of front LH transmitter drops.	<a href="#">WT-28</a>	G
46	Transmitter battery voltage low (Front RH)	Battery voltage of front RH transmitter drops.		H
47	Transmitter battery voltage low (Rear RH)	Battery voltage of rear RH transmitter drops.		I
48	Transmitter battery voltage low (Rear LH)	Battery voltage of rear LH transmitter drops.		
52	Vehicle speed signal error	Speed signal is not detected.	<a href="#">WT-31</a>	
53	BCM failure about TPMS	Tire pressure monitoring system malfunction in BCM	<a href="#">WT-32</a>	
No blinking	Tire pressure warning check switch	Tire pressure warning switch circuit is open.	-	J

### NOTE:

- 182.7 kPa (1.9 kg/cm<sup>2</sup>, 26 psi): Standard air pressure is for 230 kPa (2.3 kg/cm<sup>2</sup>, 33 psi) vehicles.
- 189.6 kPa (1.9 kg/cm<sup>2</sup>, 27 psi): Standard air pressure is for 240 kPa (2.4 kg/cm<sup>2</sup>, 35 psi) vehicles.

## ERASE SELF-DIAGNOSIS

### With CONSULT-III

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

### Without CONSULT-III

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

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

INFOID:000000001830817

## WORK SUPPORT MODE

### ID Read

The registered ID number is displayed.

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

ID Regist

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

## SELF-DIAG RESULTS MODE

Operation Procedure

Refer to [WT-77, "DTC Index"](#).

## DATA MONITOR MODE

Screen of data monitor mode is displayed.

### NOTE:

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

Display item list

Monitor	Condition	Specification
AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RL	<ul style="list-style-type: none"> <li>Drive vehicle for a few minutes. or</li> <li>Ignition switch ON and activation tool is transmitting activation signals.</li> </ul>	Tire pressure (kPa or Psi)
ID REGST FL ID REGST FR ID REGST RR ID REGST RL	Ignition switch ON	Registration ID : Green No registration : Red
WARNING LAMP		Low tire pressure warning lamp on: ON Low tire pressure warning lamp off: OFF
BUZZER		Buzzer in combination meter on: ON Buzzer in combination meter off: OFF

### NOTE:

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

## ACTIVE TEST MODE

### NOTE:

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

## TEST ITEM LIST

Test item	Content
WARNING LAMP	This test is able to check to check that the low tire pressure warning lamp turns on.
ID REGIST WARNING	This test is able to check to check that the buzzer sounds or the low tire pressure warning lamp turns on.
RUN FLAT/T WARN BUZZER	This test is able to check to check that the buzzer sounds.
FLASHER	This test is able to check to check that each turn signal lamp turns on.
HORN	This test is able to check to check that the horn sounds.



# U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:0000000001612399

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.  
CAN Communication Signal Chart. Refer to [LAN-25, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:0000000001612400

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:0000000001612401

#### 1. PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-16, "Trouble Diagnosis Flow Chart"](#).  
NO >> Refer to [GI-38, "Intermittent Incident"](#).

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BCS

# U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000001612402

### DTC DETECTION LOGIC

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

### Diagnosis Procedure

INFOID:000000001612403

#### 1. REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM.

### Special Repair Requirement

INFOID:000000001612404

#### 1. REQUIRED WORK WHEN REPLACING BCM

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

>> Work end.

# U0415 VEHICLE SPEED SIG

< COMPONENT DIAGNOSIS >

## U0415 VEHICLE SPEED SIG

### Description

INFOID:000000001612405

U0415 is displayed if any unusual condition is present in the reception status of the vehicle speed signal from the ABS actuator and electric unit (control unit).

### DTC Logic

INFOID:000000001612406

### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Probable cause
U0415	VEHICLE SPEED SIG	When the vehicle speed signal received from the ABS actuator and electric unit (control unit) remains abnormal for 2 seconds or more.	<ul style="list-style-type: none"><li>• ABS actuator and electric unit (control unit)</li><li>• BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION

1. Erase the DTC.
2. Turn ignition switch OFF.
3. Perform the "Self Diagnostic 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-35. "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000001612407

#### 1. ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAG RESULTS

Perform "Self-Diag Results" of ABS actuator and electric unit (control unit) with CONSULT-III. Refer to [BRC-26. "CONSULT-III Function"](#).

#### Is any DTC detected?

- YES >> Repair or replace the malfunctioning part.  
NO >> Replace BCM.

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BCS

# B2562 LOW VOLTAGE

< COMPONENT DIAGNOSIS >

## B2562 LOW VOLTAGE

### DTC Logic

INFOID:000000001612408

### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
B2562	LOW VOLTAGE	When the power supply voltage to BCM remains less than 8.8 V for 1.5 seconds or more	Harness or connector (power supply circuit)

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION

1. Erase DTC.
2. Turn ignition switch OFF.
3. Perform the "Self Diagnostic Results" of CONSULT-III, when passed 1.5 seconds or more after the ignition switch is turned ON.

#### Is any DTC detected?

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

### Diagnosis Procedure

INFOID:000000001612409

#### 1. CHECK POWER SUPPLY CIRCUIT

Check BCM power supply circuit. Refer to [BCS-38, "Diagnosis Procedure"](#).

#### Is the circuit normal?

- YES >> Replace BCM.  
NO >> Repair the malfunctioning part.

### Special Repair Requirement

INFOID:000000001612410

#### 1. REQUIRED WORK WHEN REPLACING BCM

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

>> Work end.

# B2563 HI VOLTAGE

< COMPONENT DIAGNOSIS >

## B2563 HI VOLTAGE

### DTC Logic

INFOID:000000001612411

### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
B2563	HI VOLTAGE	When the power supply voltage to BCM remains more than 18 V for 90 seconds or more	Harness or connector (power supply circuit)

### DTC CONFIRMATION PROCEDURE

#### 1. DTC CONFIRMATION

1. Erase DTC.
2. Turn ignition switch OFF.
3. Perform the "Self Diagnostic Results" of CONSULT-III, when passed 90 seconds or more after the ignition switch is turned ON.

#### Is any DTC detected?

- YES >> Refer to [BCS-37, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000001612412

#### 1. CHECK POWER SUPPLY CIRCUIT

Check BCM power supply circuit. Refer to [BCS-38, "Diagnosis Procedure"](#).

#### Is the circuit normal?

- YES >> Replace BCM.  
NO >> Repair the malfunctioning part.

### Special Repair Requirement

INFOID:000000001612413

#### 1. REQUIRED WORK WHEN REPLACING BCM

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

>> Work end.

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# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000001612414

#### 1. CHECK FUSE AND FUSIBLE LINK

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

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

#### Is the fuse fusing?

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

#### 2. CHECK POWER SUPPLY CIRCUIT

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

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

#### Is the measurement value normal?

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

#### 3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M119	13		Existed

#### Does continuity exist?

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

# COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

## COMBINATION SWITCH INPUT CIRCUIT

### Diagnosis Procedure

INFOID:000000001612415

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M122	107	M33	11	Existed
INPUT 2		109		9	
INPUT 3		88		7	
INPUT 4		108		10	
INPUT 5		87		13	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

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

Check for continuity between BCM harness connector and ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
INPUT 1	M122	107	Ground	Not existed
INPUT 2		109		
INPUT 3		88		
INPUT 4		108		
INPUT 5		87		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 3.

#### 3. CHECK BCM OUTPUT VOLTAGE

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

System	Terminals		Ground	Voltage (Approx.)	
	(+)				(-)
	Connector	Terminal			
INPUT 1	M122	107	Ground	Refer to <a href="#">BCS-43</a> , "Reference Value".	
INPUT 2		109			
INPUT 3		88			
INPUT 4		108			
INPUT 5		87			

Is the measurement value normal?

YES >> GO TO 4.

NO >> Replace BCM.

A

B

C

D

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# COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

## 4. CHECK BCM INPUT SIGNAL

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

System	Terminals		Voltage (Approx.)	
	(+)	(-)		
	BCM			
	Connector	Terminal	Ground	Refer to <a href="#">BCS-43</a> , "Reference Value".
INPUT 1	M122	107		
INPUT 2		109		
INPUT 3		88		
INPUT 4		108		
INPUT 5		87		

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

- YES >> Replace BCM.  
NO >> Replace the combination switch.

### Special Repair Requirement

INFOID:000000001612416

## 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 >

## COMBINATION SWITCH OUTPUT CIRCUIT

### Diagnosis Procedure

INFOID:000000001612417

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

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M123	143	M33	12	Existed
OUTPUT 2		144		14	
OUTPUT 3		145		5	
OUTPUT 4		146		2	
OUTPUT 5		142		8	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

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

Check for continuity between BCM harness connector and ground.

System	BCM		Continuity
	Connector	Terminal	
OUTPUT 1	M123	143	Not existed
OUTPUT 2		144	
OUTPUT 3		145	
OUTPUT 4		146	
OUTPUT 5		142	

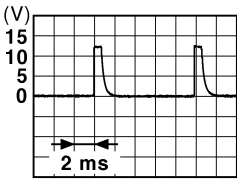
Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 3.

#### 3. CHECK COMBINATION SWITCH OUTPUT VOLTAGE

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

System	Terminals		Value (Approx.)
	(+)	(-)	
	Combination switch Connector	Terminal	
OUTPUT 1	M33	12	 <p>1.4 V</p> <p>JPMIA0041GB</p>
OUTPUT 2		14	
OUTPUT 3		5	
OUTPUT 4		2	
OUTPUT 5		8	

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## COMBINATION SWITCH OUTPUT CIRCUIT

### < COMPONENT DIAGNOSIS >

---

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

YES >> Replace BCM.

NO >> Replace the combination switch.

### Special Repair Requirement

INFOID:000000001612418

### 1. REQUIRED WORK WHEN REPLACING BCM

---

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

>> Work end.

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## ECU DIAGNOSIS

### BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000001612419

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
DOOR SW-RL	<b>NOTE:</b> The item is indicated, but not monitored.	Off

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
DOOR SW-BK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
CDL LOCK SW	Other than power door lock switch LOCK	Off
	Power door lock switch LOCK	On
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off
	Power door lock switch UNLOCK	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
HAZARD SW	Hazard switch is not pressed	Off
	Hazard switch is pressed	On
REAR DEF SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
H/L WASH SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off
	Trunk lid opener cancel switch ON	On
TR/BD OPEN SW	Trunk lid opener switch OFF	Off
	While the trunk lid opener switch is turned ON	On
TRNK/HAT MNTR	Trunk lid closed	Off
	Trunk lid opened	On
RKE-LOCK	LOCK button of Intelligent Key is not pressed	Off
	LOCK button of Intelligent Key is pressed	On
RKE-UNLOCK	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed	On
RKE-TR/BD	TRUNK OPEN button of Intelligent Key is not pressed	Off
	TRUNK OPEN button of Intelligent Key is pressed	On
RKE-PANIC	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
RKE-P/W OPEN	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed and held	On
RKE-MODE CHG	LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
REQ SW-DR	Driver door request switch is not pressed	Off
	Driver door request switch is pressed	On
REQ SW-AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW-BD/TR	Trunk request switch is not pressed	Off
	Trunk request switch is pressed	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off	A
	Push-button ignition switch (push switch) is pressed	On	
IGN RLY2 -F/B	Ignition switch in OFF or ACC position	Off	B
	Ignition switch in ON position	On	
ACC RLY -F/B	Ignition switch in OFF position	Off	C
	Ignition switch in ACC or ON position	On	
CLUCH SW	The clutch pedal is not depressed	Off	
	The clutch pedal is depressed	On	D
BRAKE SW 1	The brake pedal is not depressed	On	
	The brake pedal is depressed	Off	E
DETE/CANCL SW	Selector lever in P position	Off	
	Selector lever in any position other than P	On	F
SFT PN/N SW	Selector lever in any position other than P and N	Off	
	Selector lever in P or N position	On	G
S/L -LOCK	Steering is locked	Off	
	Steering is unlocked	On	H
S/L -UNLOCK	Steering is unlocked	Off	
	Steering is locked	On	I
S/L RELAY-F/B	Ignition switch in OFF or ACC position	Off	
	Ignition switch in ON position	On	J
UNLK SEN-DR	Driver door is unlocked	Off	
	Driver door is locked	On	K
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off	
	Push-button ignition switch (push-switch) is pressed	On	L
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off	
	Ignition switch in ON position	On	
DETE SW -IPDM	Selector lever in P position	Off	
	Selector lever in any position other than P	On	
SFT PN -IPDM	Selector lever in any position other than P and N	Off	
	Selector lever in P or N position	On	
SFT P -MET	Selector lever in any position other than P	Off	
	Selector lever in P position	On	BCS
SFT N -MET	Selector lever in any position other than N	Off	
	Selector lever in N position	On	N
ENGINE STATE	Engine stopped	Stop	
	While the engine stalls	Stall	
	At engine cranking	Crank	O
	Engine running	Run	
S/L LOCK-IPDM	Steering is locked	Off	
	Steering is unlocked	On	P
S/L UNLK-IPDM	Steering is unlocked	Off	
	Steering is locked	On	
S/L RELAY-REQ	Ignition switch in OFF or ACC position	Off	
	Ignition switch in ON position	On	

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DR DOOR STATE	Driver door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLK
AR DOOR STATE	Passenger door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLK
ID OK FLAG	Ignition switch in ACC or ON position	Reset
	Ignition switch in OFF position	Set
PRMT ENG STRT	The engine start is prohibited	Reset
	The engine start is permitted	Set
PRMT RKE STRT	<b>NOTE:</b> The item is indicated, but not monitored.	Reset
KEY SW -SLOT	Intelligent Key is not inserted into key slot	Off
	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	<b>NOTE:</b> The item is indicated, but not monitored.	—
CONFIRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
	The ID of fourth Intelligent Key is registered to BCM	DONE
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
	The ID of third Intelligent Key is registered to BCM	DONE
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
	The ID of second Intelligent Key is registered to BCM	DONE
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
	The ID of first Intelligent Key is registered to BCM	DONE

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

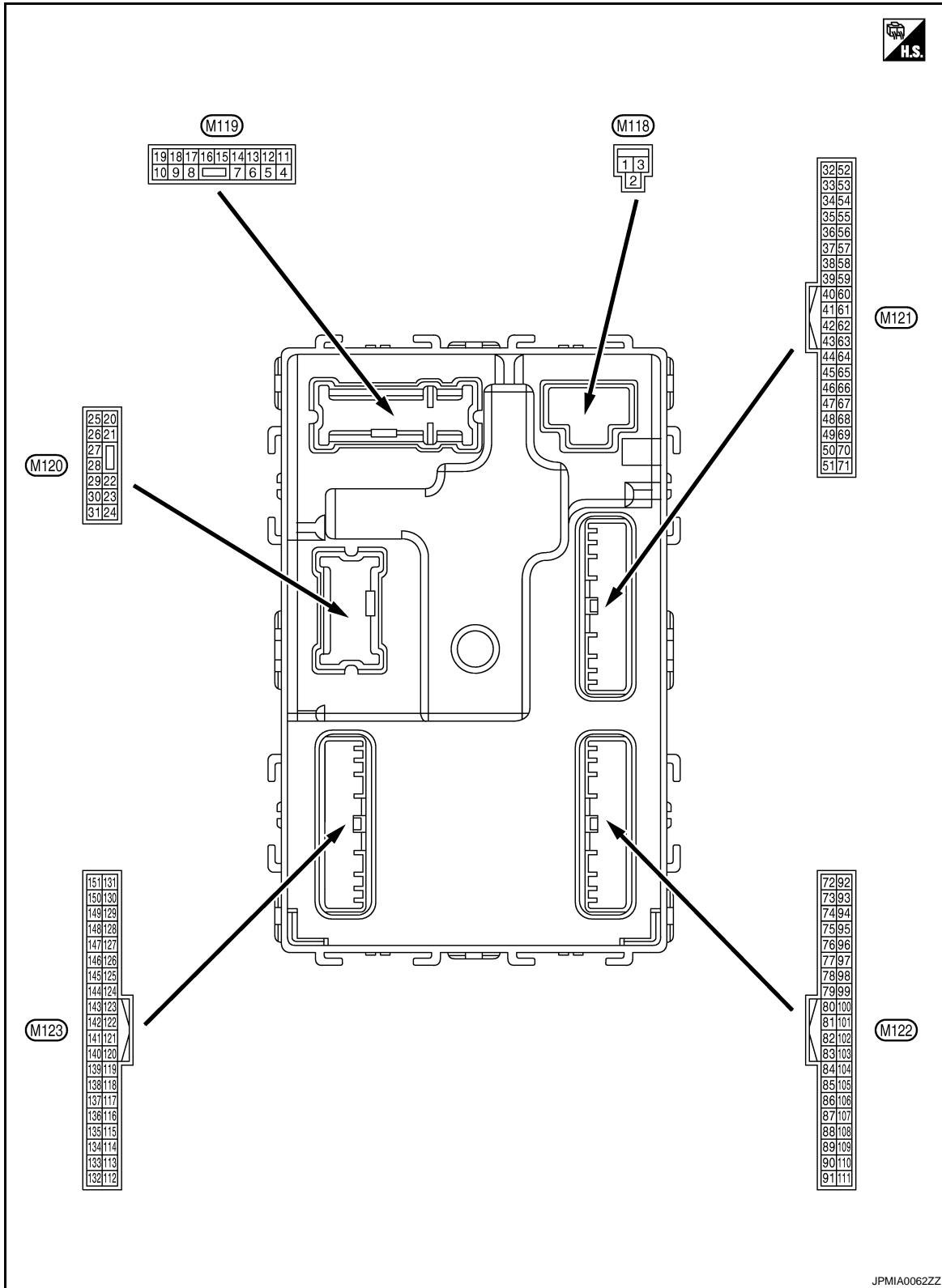
Monitor Item	Condition	Value/Status	
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire	A
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire	B
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire	C
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire	
ID REGST FL1	ID of front LH tire transmitter is registered	Green	D
	ID of front LH tire transmitter is not registered	Red	
ID REGST FR1	ID of front RH tire transmitter is registered	Green	E
	ID of front RH tire transmitter is not registered	Red	
ID REGST RR1	ID of rear RH tire transmitter is registered	Green	F
	ID of rear RH tire transmitter is not registered	Red	
ID REGST RL1	ID of rear LH tire transmitter is registered	Green	G
	ID of rear LH tire transmitter is not registered	Red	
WARNING LAMP	Tire pressure indicator OFF	Off	H
	Tire pressure indicator ON	On	
BUZZER	Tire pressure warning alarm is not sounding	Off	I
	Tire pressure warning alarm is sounding	On	

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >  
 TERMINAL LAYOUT

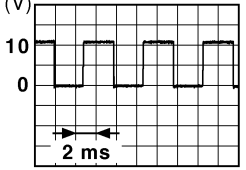


PHYSICAL VALUES



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
4 (LG)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0 V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (P)	Ground	Passenger door UN- LOCK	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
					Other than UNLOCK (Actuator is not activated)	0 V
7 (Y)	Ground	Step lamp	Output	Step lamp	ON	0 V
					OFF	Battery voltage
8 (V)	Ground	All doors, fuel lid LOCK	Output	All doors, fuel lid	LOCK (Actuator is activated)	Battery voltage
					Other than LOCK (Actuator is not activated)	0 V
9 (G)	Ground	Driver door, fuel lid UNLOCK	Output	Driver door, fuel lid	UNLOCK (Actuator is activated)	Battery voltage
					Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	<p><b>NOTE:</b> When the illumination brightening/dimming level is in the neutral position</p>  <p style="text-align: right; font-size: small;">JSNIA0010GB</p>
15 (O)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC or ON	0 V

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
17 (V)	Ground	Turn signal (front RH)	Output	Ignition switch ON	Turn signal switch OFF	0 V
				Turn signal switch RH	<p style="text-align: center;">6.5 V</p>	
18 (G)	Ground	Turn signal (front LH)	Output	Ignition switch ON	Turn signal switch LH	<p style="text-align: center;">6.5 V</p>
				Turn signal switch OFF	0 V	
19 (V)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
				ON	0 V	
20 (V)	Ground	Turn signal (rear RH)	Output	Ignition switch ON	Turn signal switch RH	<p style="text-align: center;">6.5 V</p>
				Turn signal switch OFF	0 V	
23 (G)	Ground	Trunk lid opening.	Output	Trunk lid	Open (Trunk lid opener ac- tuator is activated)	Battery voltage
				Close (Trunk lid opener ac- tuator is not activated)	0 V	
25 (G)	Ground	Turn signal (rear LH)	Output	Ignition switch ON	Turn signal switch LH	<p style="text-align: center;">6.5 V</p>
				Turn signal switch OFF	0 V	
30 (R)	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0 V
				OFF	Battery voltage	

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

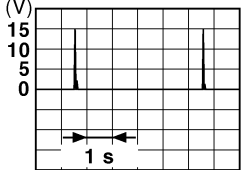
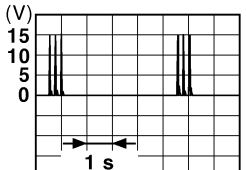
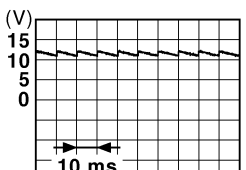
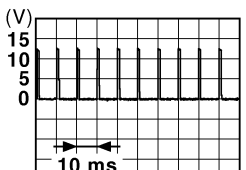
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
34 (SB)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
35 (V)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
38 (B)	Ground	Rear bumper anten- na (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

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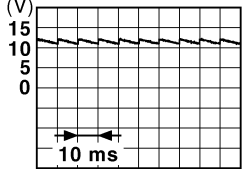
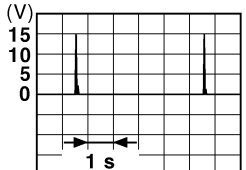
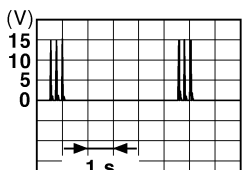
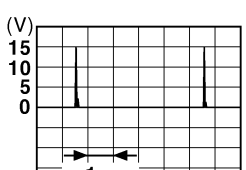
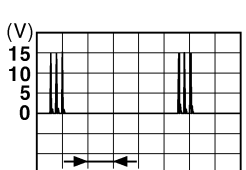
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
39 (W)	Ground	Rear bumper antenna (+)	Output	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When Intelligent Key is not in the antenna detection area	 <small>JMKIA0063GB</small>
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC ON Battery voltage 0 V
50 (R)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	 <small>JPMIA0011GB</small> 11.8 V
				OFF (Trunk is closed)	0 V
52 (SB)	Ground	Starter relay control	Output	Ignition switch OFF (M/T models)	When the clutch pedal is depressed Battery voltage When the clutch pedal is not depressed 0 V
				Ignition switch ON (A/T models)	When selector lever is in P or N position and the brake is depressed Battery voltage
					When selector lever is in P or N position and the brake is not depressed 0 V
					ON (Pressed) 0 V
61 (SB)	Ground	Trunk request switch	Input	Trunk request switch	ON (Pressed) 0 V OFF (Not pressed)  <small>JPMIA0016GB</small> 1.0 V
64 (L)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding 0 V Not sounding Battery voltage

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0 V
				Not pressed	Not pressed	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p> <p style="text-align: center;">11.8 V</p>
72 (R)	Ground	Room antenna 2 (-) (center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
73 (G)	Ground	Room antenna 2 (+) (center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
74 (SB)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
75 (BR)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
76 (V)	Ground	Driver door antenna (-)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
77 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
78 (Y)	Ground	Room antenna (-) (instrument panel)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
79 (BR)	Ground	Room antenna (+) (instrument panel)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

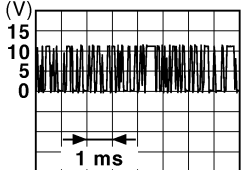
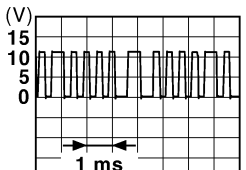



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# BCM (BODY CONTROL MODULE)

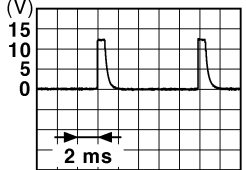
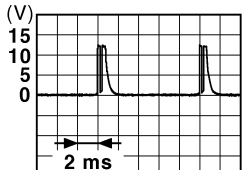

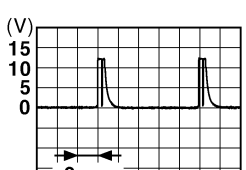
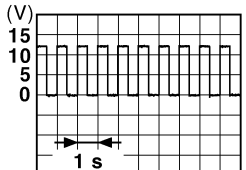
## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
80 (GR)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (R)	Ground	Ignition relay [fuse block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V
						ON
83 (Y)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 <p style="text-align: right; font-size: small;">JMKIA0064GB</p>
				When operating either button on Intelligent Key		 <p style="text-align: right; font-size: small;">JMKIA0065GB</p>
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Front fog lamp switch ON (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switch OFF	 <p style="text-align: right; font-size: small;">JPMIA0040GB</p> <p style="text-align: center;">1.3 V</p>
					<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>	



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
88 (O)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <small>JPMIA0041GB</small> 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)	 <small>JPMIA0036GB</small> 1.3 V
					Lighting switch 2ND (Wiper intermittent dial 4)	 <small>JPMIA0037GB</small> 1.3 V
					Any of the conditions below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 3</li> </ul>	 <small>JPMIA0040GB</small> 1.3 V
89 (BR)	Ground	Push-button ignition switch (push switch)	Input	Push-button igni- tion switch (push switch)	Pressed Not pressed 0 V Battery voltage	
90 (P)	Ground	CAN - L	Input/ Output	—	—	
91 (L)	Ground	CAN - H	Input/ Output	—	—	
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	OFF	0 V
					Blinking	 <small>JPMIA0015GB</small> 6.5 V
					ON	Battery voltage

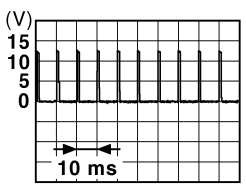
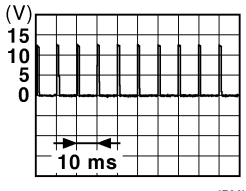
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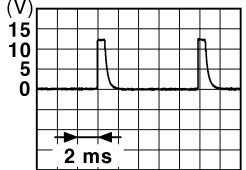
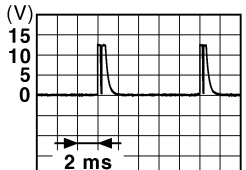

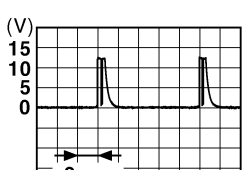

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
95 (O)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	Battery voltage
96 (Y)	Ground	A/T device (detention switch) power supply	Output	—		Battery voltage
97 (L)	Ground	Steering lock condition No. 1	Input	Steering lock	LOCK status	0 V
					UNLOCK status	Battery voltage
98 (P)	Ground	Steering lock condition No. 2	Input	Steering lock	LOCK status	Battery voltage
					UNLOCK status	0 V
99 (R)	Ground	Selector lever P position switch (Except M/T models)	Input	Selector lever	P position	0 V
					Any position other than P	Battery voltage
		ASCD clutch switch (M/T models with ICC)		ASCD clutch switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	Battery voltage
		ICC clutch switch (M/T models without ICC)		ICC clutch switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	Battery voltage
100 (Y)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
101 (P)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
102 (O)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage
106 (W)	Ground	Steering wheel lock unit power supply	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0 V

# BCM (BODY CONTROL MODULE)

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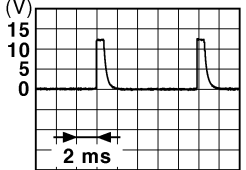
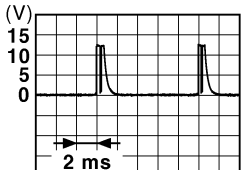
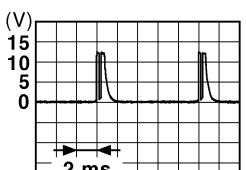
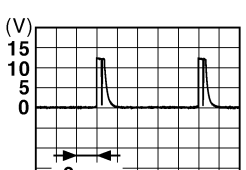
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Turn signal switch LH	 <p style="text-align: right; font-size: small;">JPMIA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Turn signal switch RH	 <p style="text-align: right; font-size: small;">JPMIA0036GB</p> <p style="text-align: center;">1.3 V</p>
					Front wiper switch LO	 <p style="text-align: right; font-size: small;">JPMIA0038GB</p> <p style="text-align: center;">1.3 V</p>
					Front washer switch ON	 <p style="text-align: right; font-size: small;">JPMIA0039GB</p> <p style="text-align: center;">1.3 V</p>

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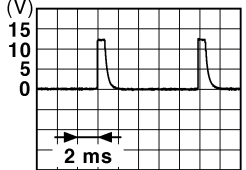
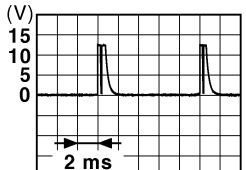

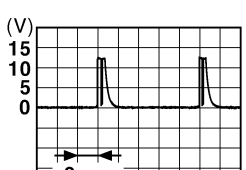

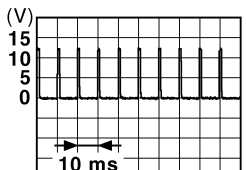
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Lighting switch AUTO (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0038GB</p> <p style="text-align: center;">1.3 V</p>
					Lighting switch 1ST (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0036GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>	 <p style="text-align: right; font-size: small;">JPMIA0039GB</p> <p style="text-align: center;">1.3 V</p>

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
109 (W)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 1.4 V
					Lighting switch PASS	 1.3 V
					Lighting switch 2ND	 1.3 V
					Front wiper switch INT	 1.3 V
					Front wiper switch HI	 1.3 V
					Pressed	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	 1.1 V	
				Not pressed		

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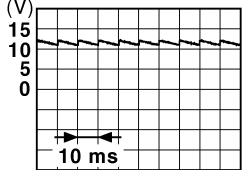
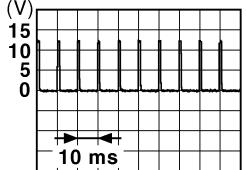

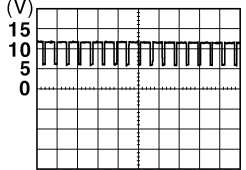
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
111 (Y)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK status	Battery voltage
					LOCK or UNLOCK	<p style="text-align: right; font-size: small;">JMkia0066GB</p>
					For 15 seconds after UN- LOCK	Battery voltage
					15 seconds or later after UNLOCK	0 V
113 (P)	Ground	Optical sensor signal	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
				When dark outside of the vehicle	Close to 0 V	
114 (R)	Ground	Clutch interlock switch	Input	Clutch interlock switch	OFF (Clutch pedal is not depressed)	0 V
					ON (Clutch pedal is de- pressed)	Battery voltage
116 (SB)	Ground	Stop lamp switch 1	Input	—	Battery voltage	
118 (BR)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
					ON (Brake pedal is de- pressed)	Battery voltage
				ICC brake hold relay (With ICC)	OFF	0 V
					ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (unlock sensor)	Input	Driver door	LOCK status	<p style="text-align: right; font-size: small;">JPMIA0011GB</p>
					UNLOCK status	0 V
					11.8 V	
121 (SB)	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot	Battery voltage	
				When Intelligent Key is not inserted into key slot	0 V	
122 (P)	Ground	ACC feedback signal	Input	Ignition switch	OFF	0 V
				ACC or ON	Battery voltage	
123 (W)	Ground	IGN feedback signal	Input	Ignition switch	OFF or ACC	0 V
				ON	Battery voltage	

# BCM (BODY CONTROL MODULE)

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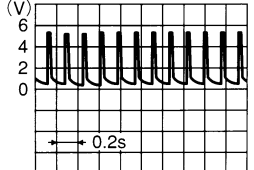

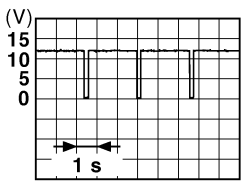
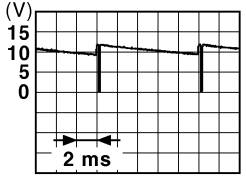
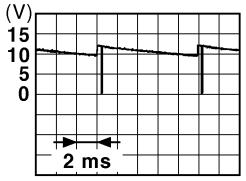
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p> <p style="text-align: center;">11.8 V</p>
				OFF (When passenger door closes)	0 V
129 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	 <p style="text-align: right; font-size: small;">JPMIA0012GB</p> <p style="text-align: center;">1.1 V</p>
				CANCEL	0 V
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON	 <p style="text-align: right; font-size: small;">JPMIA0013GB</p> <p style="text-align: center;">10.2 V</p>
				Ignition switch OFF or ACC	0 V
133 (L)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	<p><b>NOTE:</b> The pulse width of this wave is varied by the illumination bright- ening/dimming level.</p>  <p style="text-align: right; font-size: small;">JPMIA0159GB</p>
				ON (When tail lamps OFF)	5.5 V
				ON (When tail lamps ON)	0 V
134 (LG)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON
				OFF	Battery voltage
137 (O)	Ground	Receiver and sensor ground	Input	Ignition switch ON	0 V
138 (V)	Ground	Receiver and sensor power supply output	Output	Ignition switch	OFF
				ACC or ON	5.0 V

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
139 (L)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state  OCC3881D	
				When receiving the signal from the transmitter  OCC3880D		
140 (GR)	Ground	Selector lever P/N position signal	Input	Selector lever	P or N position 12.0 V Except P and N positions 0 V	
				141 (R)	Ground	Security indicator signal
Blinking  11.3 V JPMIA0014GB						
142 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF 0 V Lighting switch 1ST Lighting switch HI Lighting switch 2ND  10.7 V JPMIA0031GB	
				Turn signal switch RH		
143 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4) 0 V 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 • Wiper intermittent dial 7  10.7 V JPMIA0032GB	



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
+	-	Signal name	Input/ Output				
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch ON (Wiper intermittent dial 4)	<p style="text-align: right;">JPMIA0033GB</p>	
					Any of the conditions below with all switch OFF		
					<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>		
					10.7 V		
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V	
					Front wiper switch INT	<p style="text-align: right;">JPMIA0034GB</p>	
					Front wiper switch LO		
					Lighting switch AUTO		
					10.7 V		
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V	
					Front fog lamp switch ON	<p style="text-align: right;">JPMIA0035GB</p>	
					Lighting switch 2ND		
					Lighting switch PASS		
					10.7 V		
149 (W)	Ground	Tire pressure warn- ing check switch	Input	—	5 V		
150 (R)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closes)	<p style="text-align: right;">JPMIA0011GB</p>	
					ON (When driver door opens)		0 V
151 (G)	Ground	Rear window defog- ger relay	Output	Rear window de- fogger	Active	0 V	
				Not activated	Battery voltage		

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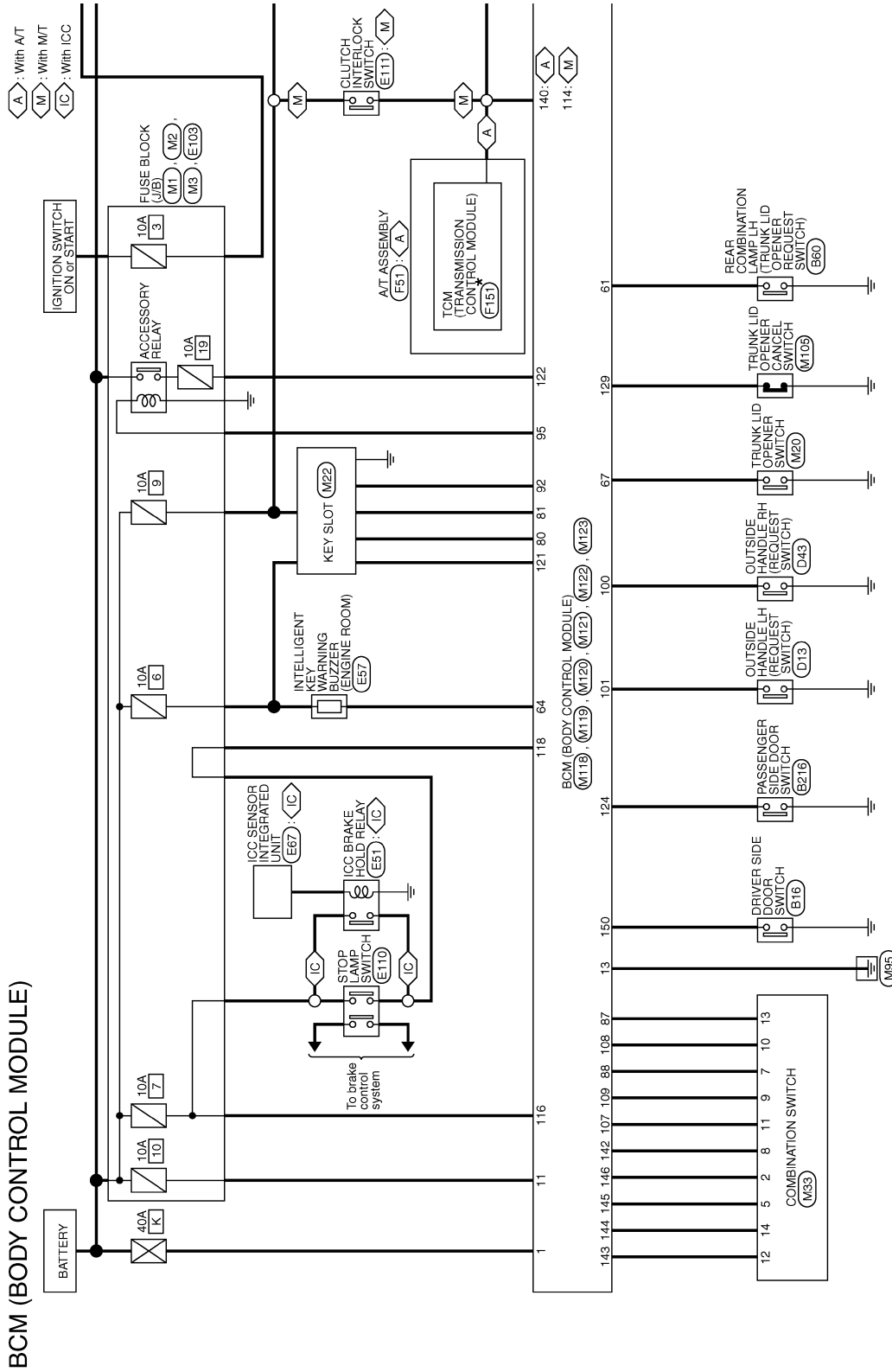
# BCM (BODY CONTROL MODULE)

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## Wiring Diagram - BCM -

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Click here to view the eWD.



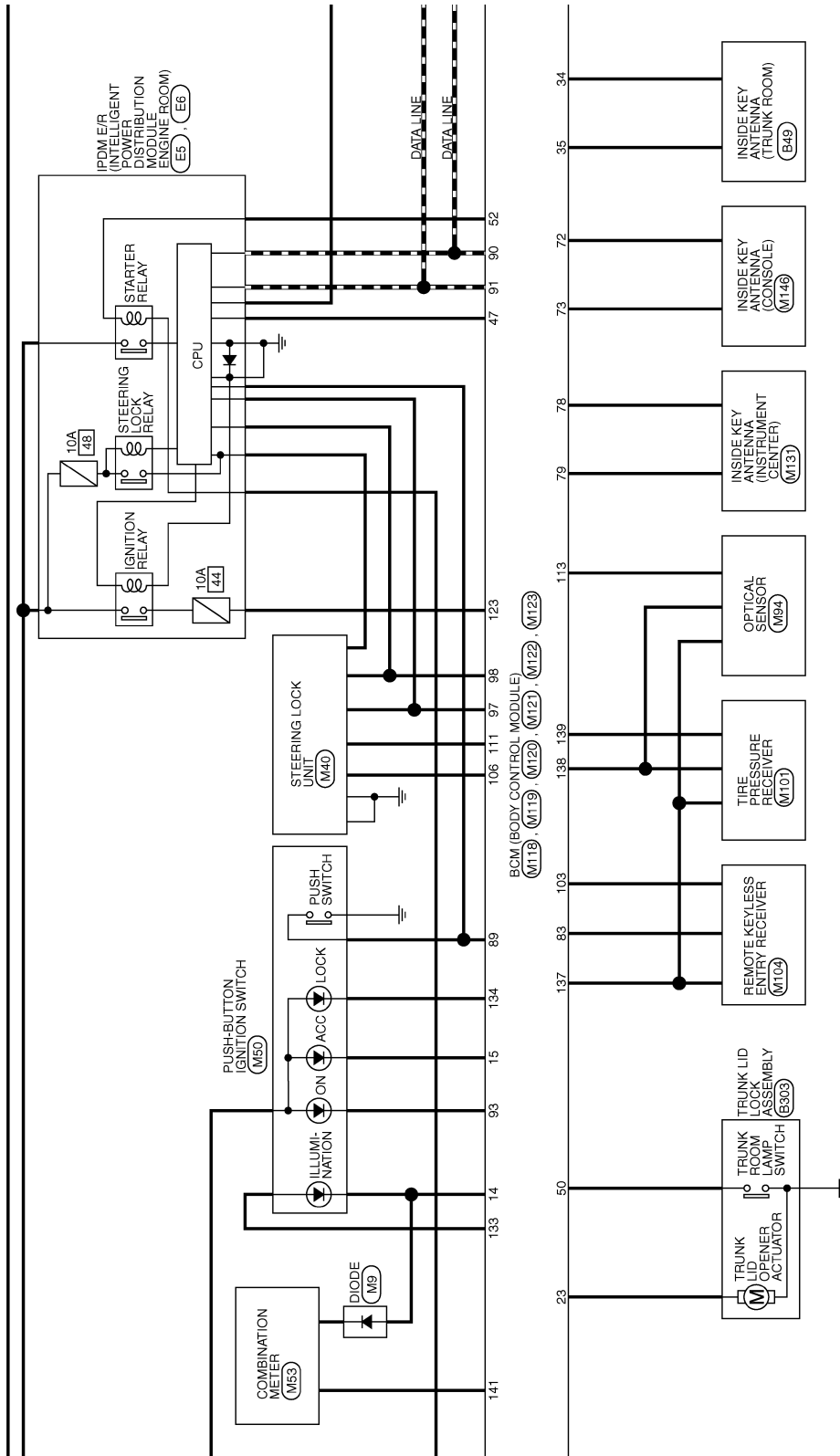
\*: This connector is not shown in "Harness Layout".

2007/05/18

JCMWA0834GI

# BCM (BODY CONTROL MODULE)

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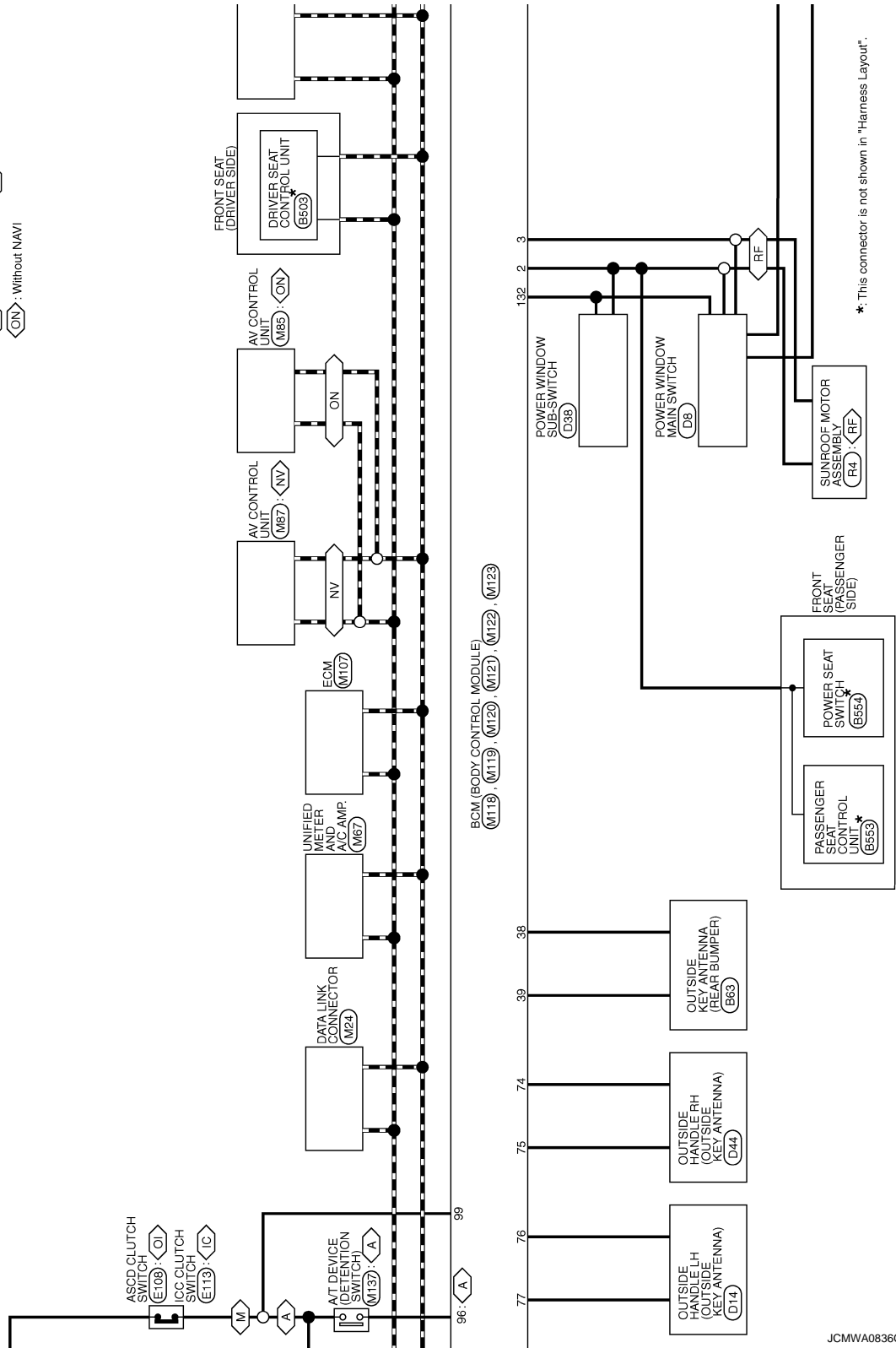
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# BCM (BODY CONTROL MODULE)

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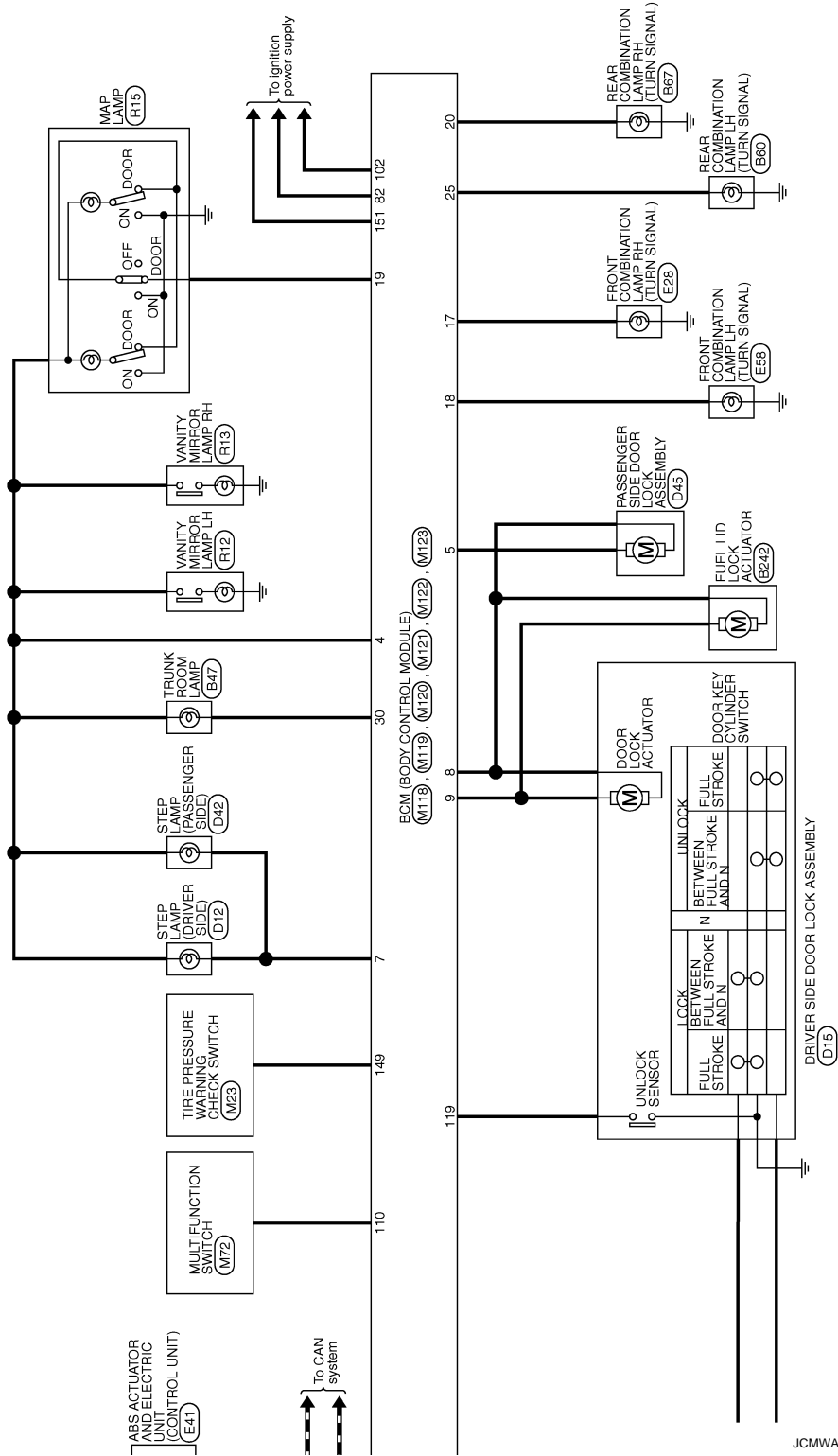
- : With A/T
- : With M/T
- : With NAVI
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- : With sunroof
- : With ICC
- : Without ICC



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# BCM (BODY CONTROL MODULE)

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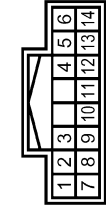
BCS

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

**BCM (BODY CONTROL MODULE)**

Connector No.	M33
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	SB	OUTPUT 4
5	L	OUTPUT 3
7	O	INPUT 3
8	BR	OUTPUT 5
9	W	INPUT 2
10	R	INPUT 4
11	LG	INPUT 1
12	V	OUTPUT 1
13	Y	INPUT 5
14	G	OUTPUT 2

**BCM (BODY CONTROL MODULE)**

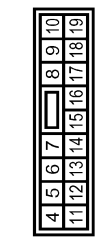
Connector No.	M118
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	IM33FB-LC



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	BAT (F/L)
2	Y	POWER WINDOW POWER SUPPLY (BAT)
3	O	POWER WINDOW POWER SUPPLY (RAP)

**BCM (BODY CONTROL MODULE)**

Connector No.	M119
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
4	LG	BAT SAVER OUTPUT
5	P	DOOR UNLOCK OUTPUT (AS)
7	SB	STEP LAMP OUTPUT
8	V	DOOR LOCK OUTPUT (ALL)
9	G	DOOR UNLOCK OUTPUT (DR)
11	R	BAT (FUSE)
13	B	GND
14	W	RING/SW LED GND
15	O	ACC LED
17	W	FRONT FLASHER OUTPUT (RIGHT)
18	O	FRONT FLASHER OUTPUT (LEFT)

19	V	ROOM LAMP OUTPUT
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**BCM (BODY CONTROL MODULE)**

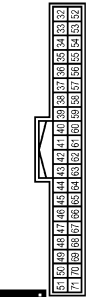
Connector No.	M120
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS12PW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
20	V	REAR FLASHER OUTPUT (RIGHT)
23	L	TRUNK OPENER OUTPUT
25	Y	REAR FLASHER OUTPUT (LEFT)
30	P	TRUNK LAMP OUTPUT

**BCM (BODY CONTROL MODULE)**

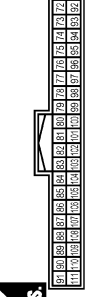
Connector No.	M121
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40GY-NH



Terminal No.	Color of Wire	Signal Name [Specification]
34	SB	TRUNK ANTI-
35	V	TRUNK ANTI+
38	B	BACK ANTI-
39	W	BACK ANTI+
47	Y	RING USM CONT1
50	R	TRUNK SW
52	SB	ST CONT USM
61	SB	TRUNK REQUEST SW
64	L	BUTZRES
67	GR	INTERIOR TRUNK SW

**BCM (BODY CONTROL MODULE)**

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



Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANTI-
73	G	ROOM ANTI+
74	SB	AS DOOR ANTI-
75	BR	AS DOOR ANTI+
76	V	DR DOOR ANTI-
77	LG	DR DOOR ANTI+
78	Y	ROOM ANTI-
79	BR	ROOM ANTI+
80	GR	IMMOBI ANTENNA CONTROL
81	W	IMMOBI ANTENNA SIGNAL
82	R	IGN ELEC CONT

83	Y	KEYLESS TUNER SIGNAL
87	Y	COMBI SW INPUT 5
88	O	COMBI SW INPUT 3
89	BR	ENG SW
90	P	CAN-L
91	L	CAN-H
92	LG	KEY SLOT ILL
93	Y	ON LED
95	O	ACC CONT
96	GR	A-T DEVICE
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P
100	Y	AS REQUEST SW
101	P	DR REQUEST SW
102	O	IGN2 CONT
103	LG	KEYLESS TUNER POWER SUPPLY
106	W	S/L 12V (CPU)
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	W	COMBI SW INPUT 2
110	G	HAZARD SW
111	Y	S/L (K LINE)

# BCM (BODY CONTROL MODULE)

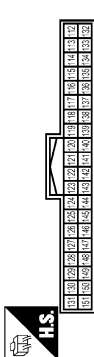
< ECU DIAGNOSIS >

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133	L	RING/SW LED
134	LG	LOCK LED
137	O	SENSOR GND
138	V	AUTO LIGHT SENSOR POWER SUPPLY
139	L	RECEIVER SIGNAL
140	GR	SHIFT INP
141	R	SECURITY INDICATOR OUTPUT
142	BR	COMET SW OUTPUT 5
143	V	COMET SW OUTPUT 1
144	G	COMET SW OUTPUT 2
145	L	COMET SW OUTPUT 3
146	SB	COMET SW OUTPUT 4
149	W	MODE TRG SW
150	R	DOOR SW (DR)
151	G	REAR DEFROGGER OUTPUT

## BCM (BODY CONTROL MODULE)

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



Terminal No.	Color of Wire	Signal Name [Specification]
113	O	AUTO LIGHT SENSOR INPUT
114	R	CLUTCH SW
116	SB	STOP LAMP LOW
118	BR	STOP LAMP HIGH
119	SB	DR CONDITION SW
121	SB	KEY SWITCH SIGNAL
122	P	ACC F/B
123	W	IGN F/B
124	LG	DOOR SW (AS)
129	O	TRUNK CANCEL SW
132	V	POWER WINDOW SERIAL LINK

**BCS**

## Fail Safe

JCMWA0839G1

INFOID:000000001612421

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENA AMP	Inhibit engine cranking	Erase DTC

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit steering lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>• Starter control relay signal</li> <li>• Starter relay status signal</li> </ul>
B2563: HI VOLTAGE	<ul style="list-style-type: none"> <li>• Inhibit engine cranking</li> <li>• Inhibit steering lock</li> </ul>	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit steering lock	500 ms after the following signal reception status becomes consistent <ul style="list-style-type: none"> <li>• Selector lever P position switch signal</li> <li>• P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION	Inhibit steering lock	5 seconds after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <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 steering lock	500 ms after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <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 steering lock	500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> <li>• Status 1               <ul style="list-style-type: none"> <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> </ul> </li> <li>• Status 2               <ul style="list-style-type: none"> <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> </li> </ul>
B2605: PNP SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions is fulfilled <ul style="list-style-type: none"> <li>• Ignition switch is in the ON position               <ul style="list-style-type: none"> <li>- Power position: IGN</li> <li>- Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>- Interlock/PNP switch signal (CAN): OFF</li> </ul> </li> <li>• Status 2               <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P/N position signal: P or N position (battery voltage)</li> <li>- PNP switch signal (CAN): ON</li> </ul> </li> </ul>
B2606: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>• Steering lock relay signal (Request signal)</li> <li>• Steering lock relay signal (Condition signal)</li> </ul>
B2607: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent <ul style="list-style-type: none"> <li>• Steering lock relay signal (Request signal)</li> <li>• Steering lock relay signal (Condition signal)</li> </ul>



## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> <li>• Starter motor relay control signal</li> <li>• Starter relay status signal (CAN)</li> </ul>
B2609: S/L STATUS	<ul style="list-style-type: none"> <li>• Inhibit engine cranking</li> <li>• Inhibit steering lock</li> </ul>	When the following steering lock conditions agree <ul style="list-style-type: none"> <li>• BCM steering lock control status</li> <li>• Steering lock condition No. 1 signal status</li> <li>• Steering lock condition No. 2 signal status</li> </ul>
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled <ul style="list-style-type: none"> <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 <ul style="list-style-type: none"> <li>• Power position changes to ACC</li> <li>• Receives engine status signal (CAN)</li> </ul>
B2612: S/L STATUS	<ul style="list-style-type: none"> <li>• Inhibit engine cranking</li> <li>• Inhibit steering lock</li> </ul>	When any of the following conditions is fulfilled <ul style="list-style-type: none"> <li>• Steering lock unit status signal (CAN) is received normally</li> <li>• The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)</li> </ul>
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions is fulfilled <ul style="list-style-type: none"> <li>• Power position changes to ACC</li> <li>• Receives engine status signal (CAN)</li> </ul>

### DTC Inspection Priority Chart

INFOID:000000001612422

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

Priority	DTC
1	<ul style="list-style-type: none"> <li>• B2562: LOW VOLTAGE</li> <li>• B2563: HI VOLTAGE</li> </ul>
2	<ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>
3	<ul style="list-style-type: none"> <li>• B2190: NATS ANTENA AMP</li> <li>• B2191: DIFFERENCE OF KEY</li> <li>• B2192: ID DISCORD BCM-ECM</li> <li>• B2193: CHAIN OF BCM-ECM</li> </ul>

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Priority	DTC
4	<ul style="list-style-type: none"> <li>• B2013: ID DISCORD BCM-S/L</li> <li>• B2014: CHAIN OF S/L-BCM</li> <li>• B2553: IGNITION RELAY</li> <li>• B2555: STOP LAMP</li> <li>• B2556: PUSH-BTN IGN SW</li> <li>• B2557: VEHICLE SPEED</li> <li>• B2560: STARTER CONT RELAY</li> <li>• B2601: SHIFT POSITION</li> <li>• B2602: SHIFT POSITION</li> <li>• B2603: SHIFT POSI STATUS</li> <li>• B2604: PNP SW</li> <li>• B2605: PNP SW</li> <li>• B2606: S/L RELAY</li> <li>• B2607: S/L RELAY</li> <li>• B2608: STARTER RELAY</li> <li>• B2609: S/L STATUS</li> <li>• B260A: IGNITION RELAY</li> <li>• B260B: STEERING LOCK UNIT</li> <li>• B260C: STEERING LOCK UNIT</li> <li>• B260D: STEERING LOCK UNIT</li> <li>• B260F: ENG STATE SIG LOST</li> <li>• B2611: ACC RELAY</li> <li>• B2612: S/L STATUS</li> <li>• B2614: ACC RELAY CIRC</li> <li>• B2615: BLOWER RELAY CIRC</li> <li>• B2616: IGN RELAY CIRC</li> <li>• B2617: STARTER RELAY CIRC</li> <li>• B2618: BCM</li> <li>• B2619: BCM</li> <li>• B261A: PUSH-BTN IGN SW</li> <li>• B261E: VEHICLE TYPE</li> <li>• B26E1: ENG STATE NO RECIV</li> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• U0415: VEHICLE SPEED SIG</li> </ul>
5	<ul style="list-style-type: none"> <li>• C1704: LOW PRESSURE FL</li> <li>• C1705: LOW PRESSURE FR</li> <li>• C1706: LOW PRESSURE RR</li> <li>• C1707: LOW PRESSURE RL</li> <li>• C1708: [NO DATA] FL</li> <li>• C1709: [NO DATA] FR</li> <li>• C1710: [NO DATA] RR</li> <li>• C1711: [NO DATA] RL</li> <li>• C1712: [CHECKSUM ERR] FL</li> <li>• C1713: [CHECKSUM ERR] FR</li> <li>• C1714: [CHECKSUM ERR] RR</li> <li>• C1715: [CHECKSUM ERR] RL</li> <li>• C1716: [PRESSDATA ERR] FL</li> <li>• C1717: [PRESSDATA ERR] FR</li> <li>• C1718: [PRESSDATA ERR] RR</li> <li>• C1719: [PRESSDATA ERR] RL</li> <li>• C1720: [CODE ERR] FL</li> <li>• C1721: [CODE ERR] FR</li> <li>• C1722: [CODE ERR] RR</li> <li>• C1723: [CODE ERR] RL</li> <li>• C1724: [BATT VOLT LOW] FL</li> <li>• C1725: [BATT VOLT LOW] FR</li> <li>• C1726: [BATT VOLT LOW] RR</li> <li>• C1727: [BATT VOLT LOW] RL</li> <li>• C1734: CONTROL UNIT</li> </ul>
6	<ul style="list-style-type: none"> <li>• B2621: INSIDE ANTENNA</li> <li>• B2622: INSIDE ANTENNA</li> <li>• B2623: INSIDE ANTENNA</li> </ul>

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## DTC Index

INFOID:000000001612423

### NOTE:

The details of time display are as follows.

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

IGN counter is displayed on Freeze Frame Data. The details of Freeze Frame Data and IGN Counter. Refer to [BCS-13, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

CONSULT display	Fail-safe	Freeze Frame Data	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	—	—	—	—	<a href="#">BCS-33</a>
U1010: CONTROL UNIT (CAN)	—	—	—	—	<a href="#">BCS-34</a>
U0415: VEHICLE SPEED SIG	—	—	—	—	<a href="#">BCS-35</a>
B2013: ID DISCORD BCM-S/L	×	×	—	—	<a href="#">SEC-54</a>
B2014: CHAIN OF S/L-BCM	×	×	—	—	<a href="#">SEC-55</a>
B2190: NATS ANTENA AMP	×	—	—	—	<a href="#">SEC-46</a>
B2191: DIFFERENCE OF KEY	×	—	—	—	<a href="#">SEC-49</a>
B2192: ID DISCORD BCM-ECM	×	—	—	—	<a href="#">SEC-50</a>
B2193: CHAIN OF BCM-ECM	×	—	—	—	<a href="#">SEC-52</a>
B2553: IGNITION RELAY	—	×	—	—	<a href="#">PCS-50</a>
B2555: STOP LAMP	—	×	—	—	<a href="#">SEC-58</a>
B2556: PUSH-BTN IGN SW	—	×	×	—	<a href="#">SEC-60</a>
B2557: VEHICLE SPEED	×	×	×	—	<a href="#">SEC-62</a>
B2560: STARTER CONT RELAY	×	×	×	—	<a href="#">SEC-63</a>
B2562: LOW VOLTAGE	—	×	—	—	<a href="#">BCS-36</a>
B2563: HI VOLTAGE	×	×	×	—	<a href="#">BCS-37</a>
B2601: SHIFT POSITION	×	×	×	—	<a href="#">SEC-64</a>
B2602: SHIFT POSITION	×	×	×	—	<a href="#">SEC-67</a>
B2603: SHIFT POSI STATUS	×	×	×	—	<a href="#">SEC-69</a>
B2604: PNP SW	×	×	×	—	<a href="#">SEC-72</a>
B2605: PNP SW	×	×	×	—	<a href="#">SEC-74</a>
B2606: S/L RELAY	×	×	×	—	<a href="#">SEC-76</a>
B2607: S/L RELAY	×	×	×	—	<a href="#">SEC-77</a>
B2608: STARTER RELAY	×	×	×	—	<a href="#">SEC-79</a>
B2609: S/L STATUS	×	×	×	—	<a href="#">SEC-81</a>
B260A: IGNITION RELAY	×	×	×	—	<a href="#">PCS-52</a>
B260B: STEERING LOCK UNIT	—	×	×	—	<a href="#">SEC-85</a>
B260C: STEERING LOCK UNIT	—	×	×	—	<a href="#">SEC-86</a>
B260D: STEERING LOCK UNIT	—	×	×	—	<a href="#">SEC-87</a>
B260F: ENG STATE SIG LOST	×	×	×	—	<a href="#">SEC-88</a>
B2611: ACC RELAY	—	×	—	—	<a href="#">PCS-54</a>
B2612: S/L STATUS	×	×	×	—	<a href="#">SEC-90</a>
B2614: ACC RELAY CIRC	—	×	×	—	<a href="#">PCS-57</a>
B2615: BLOWER RELAY CIRC	—	×	×	—	<a href="#">PCS-60</a>

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

CONSULT display	Fail-safe	Freeze Frame Data	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2616: IGN RELAY CIRC	—	×	×	—	<a href="#">PCS-63</a>
B2617: STARTER RELAY CIRC	×	×	×	—	<a href="#">SEC-94</a>
B2618: BCM	×	×	×	—	<a href="#">PCS-66</a>
B2619: BCM	×	×	×	—	<a href="#">SEC-96</a>
B261A: PUSH-BTN IGN SW	—	×	×	—	<a href="#">SEC-97</a>
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	<a href="#">SEC-100</a>
B2621: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-59</a>
B2622: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-61</a>
B2623: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-63</a>
B26E1: ENG STATE NO RES	×	×	×	—	<a href="#">SEC-89</a>
C1704: LOW PRESSURE FL	—	—	—	×	<a href="#">WT-15</a>
C1705: LOW PRESSURE FR	—	—	—	×	<a href="#">WT-15</a>
C1706: LOW PRESSURE RR	—	—	—	×	<a href="#">WT-15</a>
C1707: LOW PRESSURE RL	—	—	—	×	<a href="#">WT-15</a>
C1708: [NO DATA] FL	—	—	—	×	<a href="#">WT-17</a>
C1709: [NO DATA] FR	—	—	—	×	<a href="#">WT-17</a>
C1710: [NO DATA] RR	—	—	—	×	<a href="#">WT-17</a>
C1711: [NO DATA] RL	—	—	—	×	<a href="#">WT-17</a>
C1712: [CHECKSUM ERR] FL	—	—	—	×	<a href="#">WT-20</a>
C1713: [CHECKSUM ERR] FR	—	—	—	×	<a href="#">WT-20</a>
C1714: [CHECKSUM ERR] RR	—	—	—	×	<a href="#">WT-20</a>
C1715: [CHECKSUM ERR] RL	—	—	—	×	<a href="#">WT-20</a>
C1716: [PRESSDATA ERR] FL	—	—	—	×	<a href="#">WT-23</a>
C1717: [PRESSDATA ERR] FR	—	—	—	×	<a href="#">WT-23</a>
C1718: [PRESSDATA ERR] RR	—	—	—	×	<a href="#">WT-23</a>
C1719: [PRESSDATA ERR] RL	—	—	—	×	<a href="#">WT-23</a>
C1720: [CODE ERR] FL	—	—	—	×	<a href="#">WT-25</a>
C1721: [CODE ERR] FR	—	—	—	×	<a href="#">WT-25</a>
C1722: [CODE ERR] RR	—	—	—	×	<a href="#">WT-25</a>
C1723: [CODE ERR] RL	—	—	—	×	<a href="#">WT-25</a>
C1724: [BATT VOLT LOW] FL	—	—	—	×	<a href="#">WT-28</a>
C1725: [BATT VOLT LOW] FR	—	—	—	×	<a href="#">WT-28</a>
C1726: [BATT VOLT LOW] RR	—	—	—	×	<a href="#">WT-28</a>
C1727: [BATT VOLT LOW] RL	—	—	—	×	<a href="#">WT-28</a>
C1729: VHCL SPEED SIG ERR	—	—	—	×	<a href="#">WT-31</a>
C1734: CONTROL UNIT	—	—	—	×	<a href="#">WT-32</a>

# COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### COMBINATION SWITCH SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000001612424

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

Malfunction item: x

Malfunction combination	Data monitor item													
	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		x	x			x	x							
B	x			x						x		x		
C					x				x		x			
D					x			x					x	
E					x									x
F	x				x									
G			x		x									
H		x		x									x	
I							x				x	x		x
J						x		x	x	x				
K	All Items													
L	If only one item is detected or the item is not applicable to the combinations A to K													

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-39, "Diagnosis Procedure"</a> .
B	Combination switch INPUT 2 circuit	
C	Combination switch INPUT 3 circuit	
D	Combination switch INPUT 4 circuit	
E	Combination switch INPUT 5 circuit	
F	Combination switch OUTPUT 1 circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to <a href="#">BCS-41, "Diagnosis Procedure"</a> .
G	Combination switch OUTPUT 2 circuit	
H	Combination switch OUTPUT 3 circuit	
I	Combination switch OUTPUT 4 circuit	
J	Combination switch OUTPUT 5 circuit	
K	BCM	Replace BCM.
L	Combination switch	Replace the combination switch.

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000001903400

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

#### **WARNING:**

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

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

INFOID:000000001903401

#### **NOTE:**

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

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

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

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

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

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

#### Precaution for Battery Service

INFOID:000000001910909

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

# BCM (BODY CONTROL MODULE)

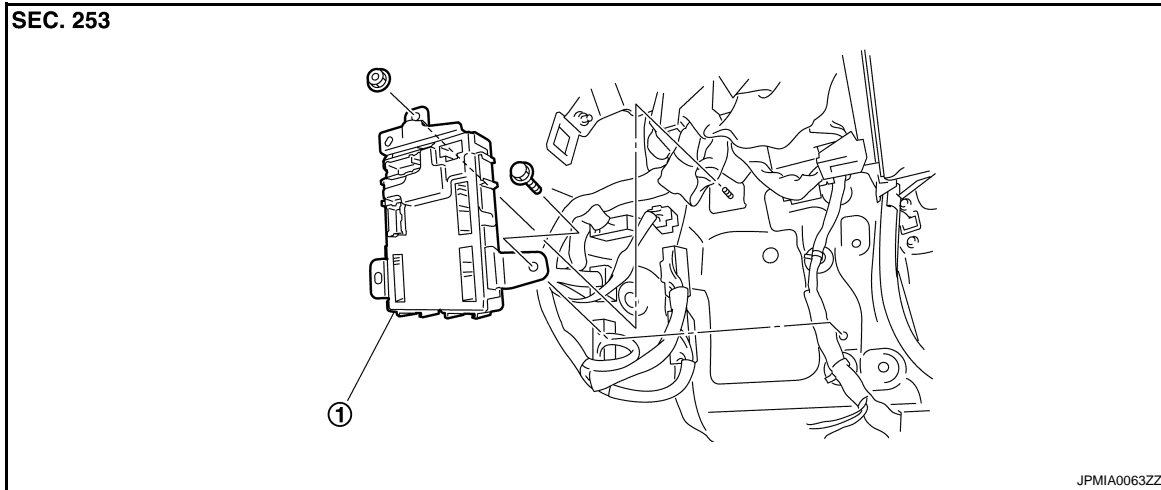
< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

### BCM (BODY CONTROL MODULE)

Exploded View

INFOID:000000001612426



1. BCM

### Removal and Installation

INFOID:000000001612427

#### REMOVAL

1. Remove dash side finisher (passenger side). Refer to [INT-14, "Exploded View"](#).
2. Remove bolt and nut.
3. Remove BCM and disconnect the connector.

#### INSTALLATION

Install in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L

BCS

N  
O  
P

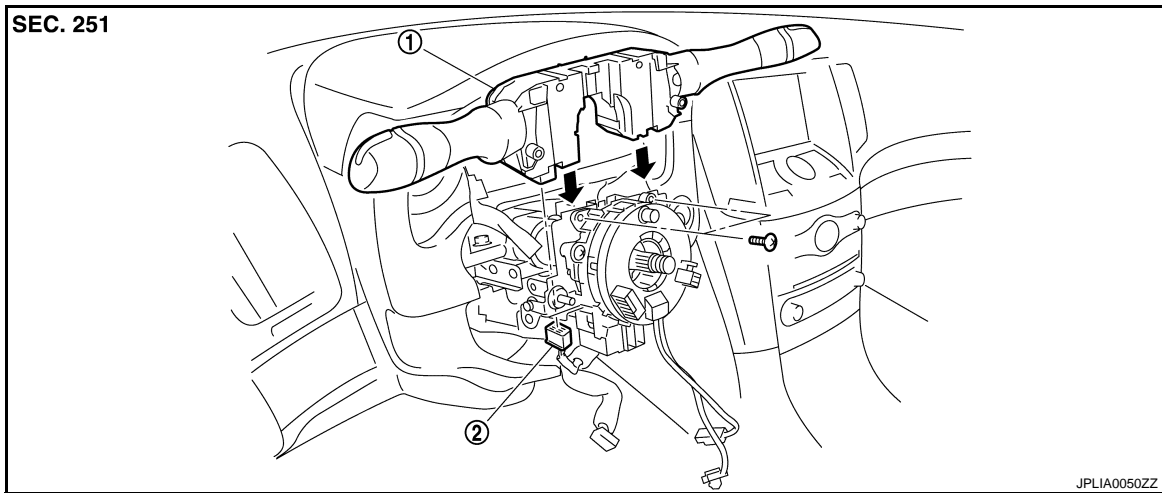
# COMBINATION SWITCH

< ON-VEHICLE REPAIR >

## COMBINATION SWITCH

### Exploded View

INFOID:000000001612428



1. Combination switch

2. Combination switch connector

### Removal and Installation

INFOID:000000001612429

#### REMOVAL

1. Remove steering column cover. Refer to [IP-11, "Exploded View"](#).
2. Remove screws.
3. Disconnect the connector.
4. Pull up the combination switch to remove it.

#### INSTALLATION

Install in the reverse order of removal.