

A
B
C

SECTION **BCS**

BODY CONTROL SYSTEM

CONTENTS

BASIC INSPECTION	2	ECU DIAGNOSIS INFORMATION	14	F
TRANSIT MODE CANCEL OPERATION	2	BCM (BODY CONTROL MODULE)	14	G
Description	2	Wiring Diagram - BCM -	14	
Work Procedure	2	SYMPTOM DIAGNOSIS	18	
SYSTEM DESCRIPTION	3	NORMAL OPERATING CONDITION	18	H
BODY CONTROL SYSTEM	3	Description	18	
System Description	3	PRECAUTION	19	I
Component Parts Location	4	PRECAUTIONS	19	
COMBINATION SWITCH READING SYSTEM	5	Precaution for Working Range at a Regular Dealership	19	J
System Diagram	5	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	19	K
System Description	5	Precaution for Battery Service	19	
SIGNAL BUFFER SYSTEM	9	REMOVAL AND INSTALLATION	20	L
System Diagram	9	BCM (BODY CONTROL MODULE)	20	
System Description	9	Exploded View	20	
POWER CONSUMPTION CONTROL SYSTEM	10	Removal and Installation	20	BCS
System Diagram	10	COMBINATION SWITCH	21	
System Description	10	Exploded View	21	N
Component Parts Location	12	Removal and Installation	21	
DTC/CIRCUIT DIAGNOSIS	13			O
POWER SUPPLY AND GROUND CIRCUIT	13			P
Diagnosis Procedure	13			

TRANSIT MODE CANCEL OPERATION

< BASIC INSPECTION >

BASIC INSPECTION

TRANSIT MODE CANCEL OPERATION

Description

INFOID:000000009160226

- BCM is in transit mode if turn signal indicator on combination meter turns ON for 1 minute when ignition switch is turned from OFF to ON.
- In this case, cancel operation must be performed.

NOTE:

Do not cancel transit mode during storage of the vehicle. Always cancel transit mode before delivery of the vehicle to customer.

Work Procedure

INFOID:000000009160227

1. TRANSIT MODE CANCEL OPERATION

1. Turn ignition switch OFF.
2. Turn and hold front wiper switch to HI, and then operate turn signal switch to RH or LH.

>> GO TO 2.

2. TRANSIT MODE CANCEL CHECK

1. Turn front wiper switch and turn signal switch OFF.
2. Turn ignition switch ON.
3. Check that turn signal indicator on combination meter does not turn ON.

>> WORK END

BODY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

BODY CONTROL SYSTEM

System Description

INFOID:000000009160228

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 and various settings.

BCM control function list

System	Refer to	
Combination switch reading system	BCS-5, "System Diagram"	
Signal buffer system	BCS-9, "System Diagram"	
Power consumption control system	BCS-10, "System Diagram"	
Turn signal and hazard warning lamp system	EXL-9, "System Diagram"	
Headlamp system	EXL-3, "System Diagram"	
Auto light system	EXL-5, "System Diagram"	
Parking, license plate and tail lamps system	EXL-11, "System Diagram"	
Exterior lamp battery saver system	EXL-15, "System Diagram"	
Daytime running light system	EXL-7, "System Diagram"	
Interior room lamp control system		
Step lamp system	INL-2, "System Diagram"	
Trunk room lamp system		
Interior room lamp battery saver system	INL-6, "System Diagram"	
Illumination control system	INL-9, "System Diagram"	
Front wiper and washer system	WW-2, "System Diagram"	
Warning chime system	WCS-3, "WARNING CHIME SYSTEM : System Diagram"	
Door lock system	DLK-6, "System Diagram"	
Trunk open system	DLK-40, "System Diagram"	
Nissan Vehicle Immobilizer System (NVIS) - NATS	SEC-9, "System Diagram"	
Vehicle security system	SEC-12, "System Diagram"	
Panic alarm	DLK-24, "REMOTE KEYLESS ENTRY FUNCTION : System Description"	
Rear window defogger system	DEF-3, "System Diagram"	
Intelligent Key system/engine start system	Door lock function	
	Trunk open function	
	Remote keyless entry function	DLK-10, "INTELLIGENT KEY SYSTEM : System Diagram"
	Key reminder function	
	Warning function	
	Engine start function	

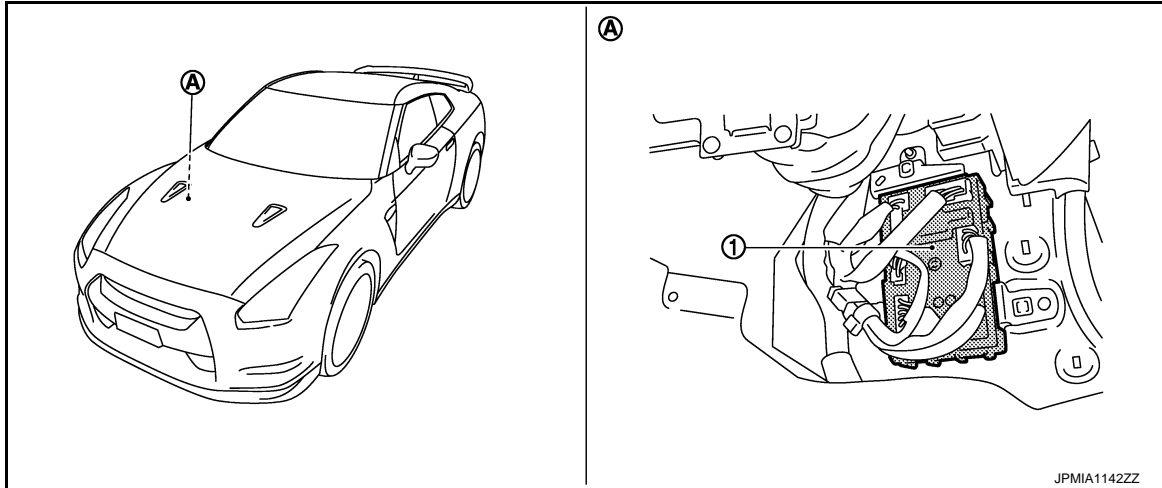
BODY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

System	Refer to
Power window system	PWC-7. "System Diagram"
Retained accessory power (RAP) system	PWC-7. "System Description"

Component Parts Location

INFOID:000000009160229



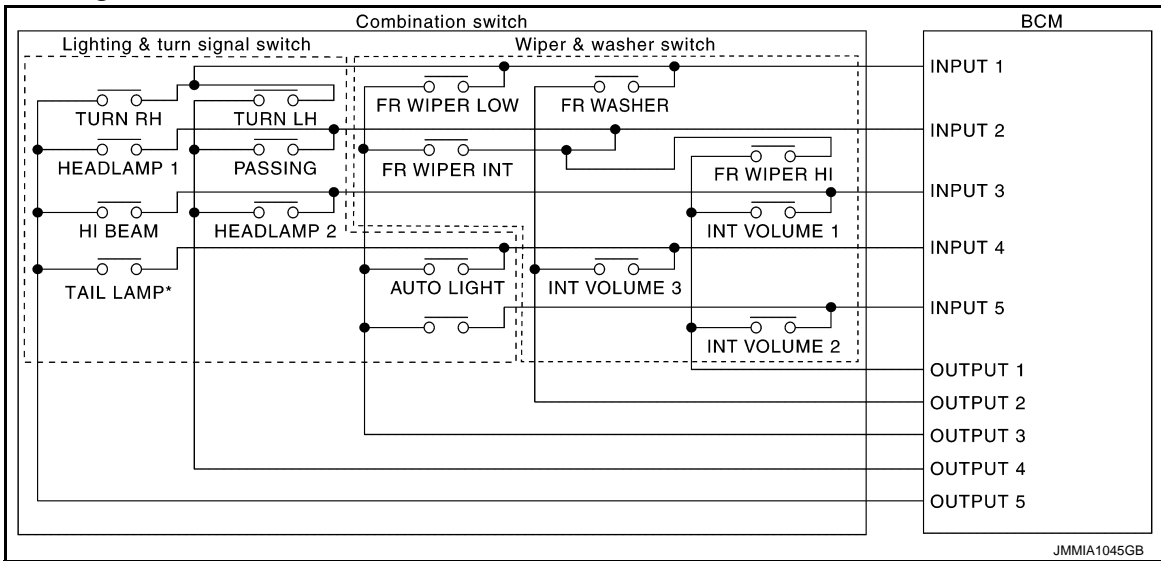
- 1. BCM
- A. Dash side lower (passenger side)

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

COMBINATION SWITCH READING SYSTEM

System Diagram



NOTE:

*: TAIL LAMP switch links lighting switch 1ST position.

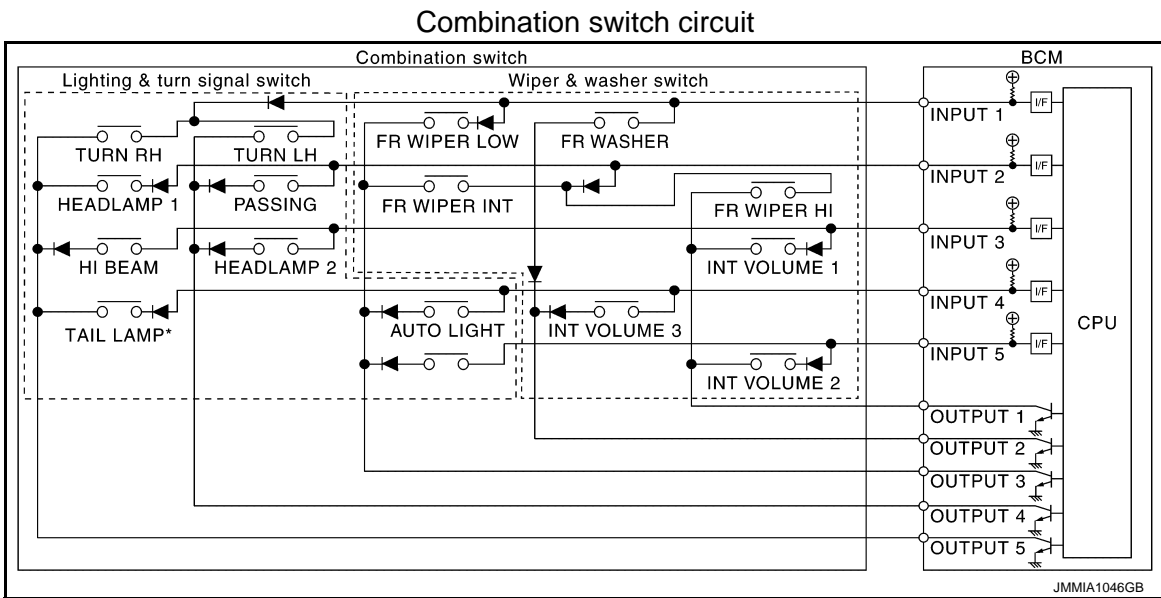
System Description

INFOID:000000009160231

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



NOTE:

*: TAIL LAMP switch links lighting switch 1ST position.

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

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

BCS

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 3	INT VOLUME 1	—	—	HEADLAMP 2	HI BEAM
INPUT 4	—	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
INPUT 5	INT VOLUME 2	—	—	—	—

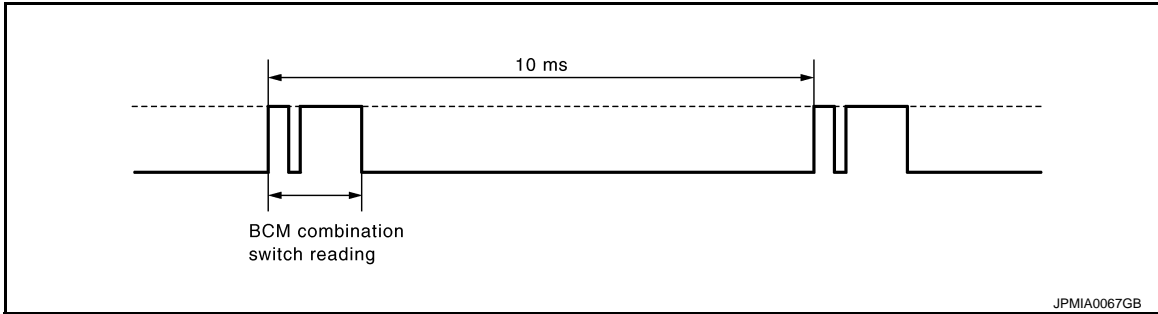
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

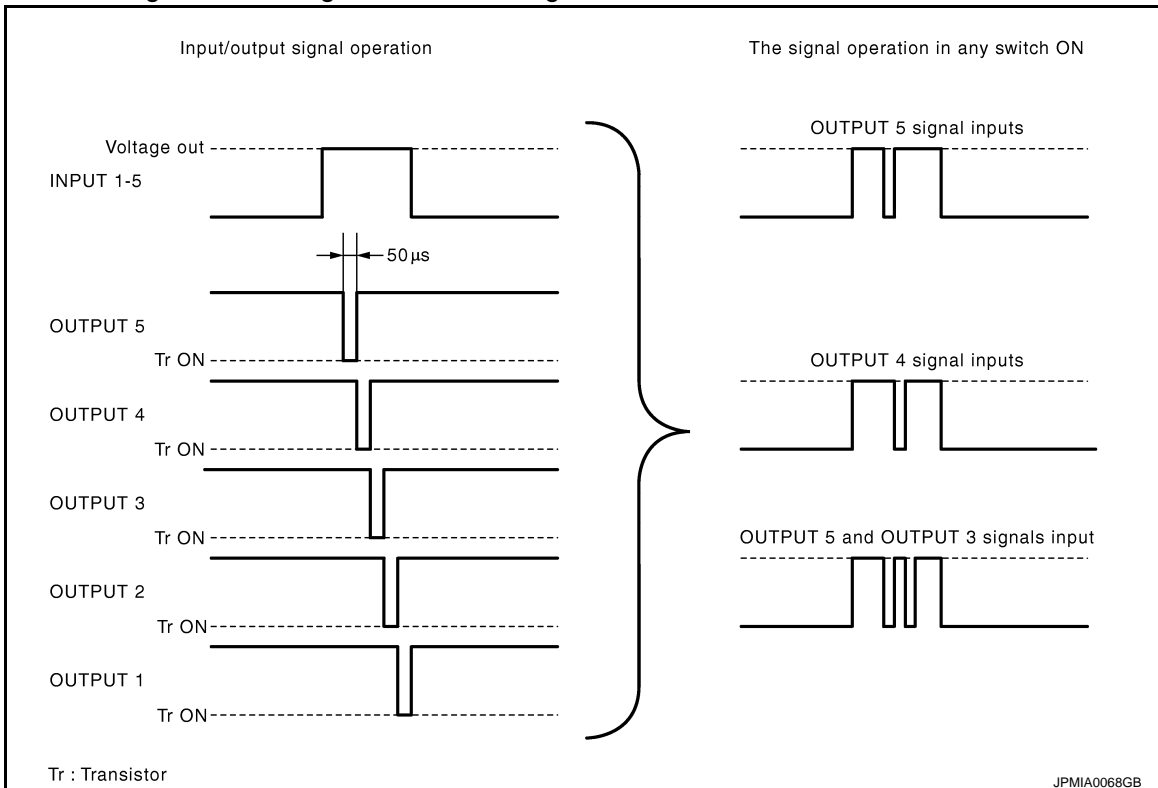
- BCM reads the status of the combination switch at 10 ms interval normally.



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

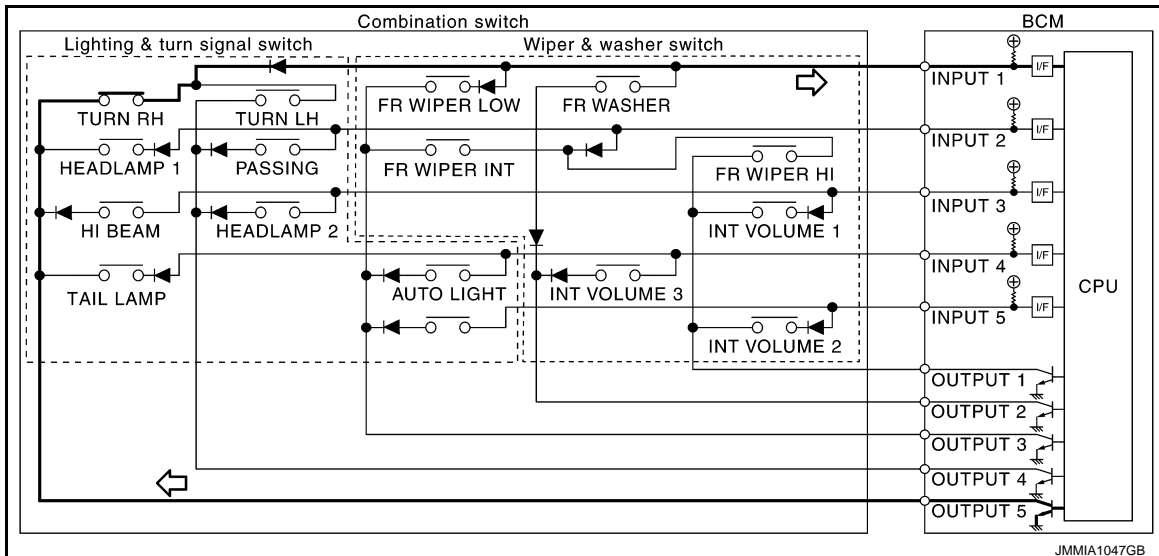
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

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

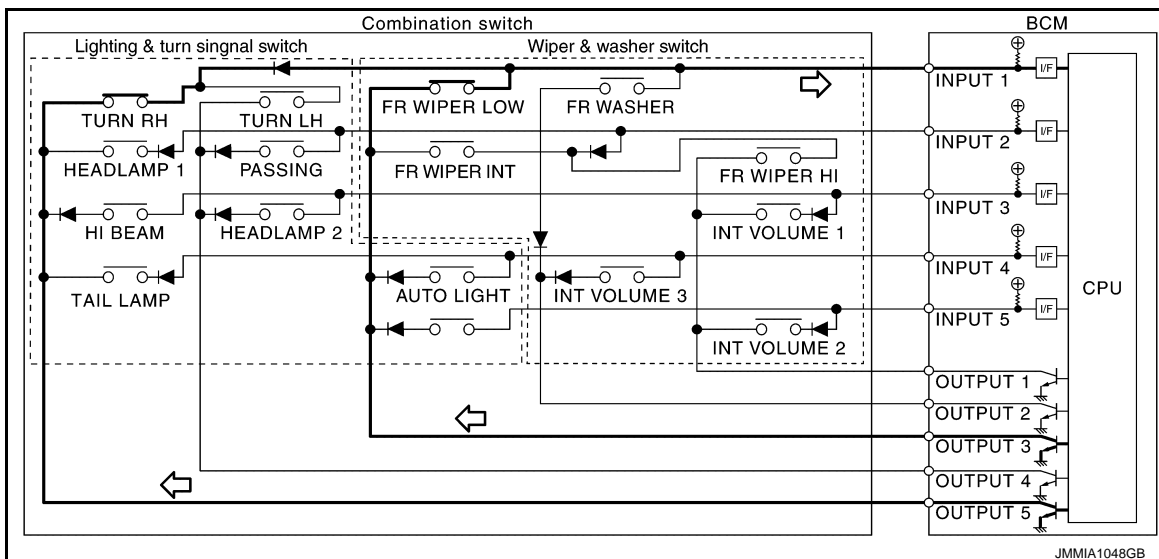
- The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



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

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

- 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

BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2 and 3 switches.

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

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

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

NOTE:

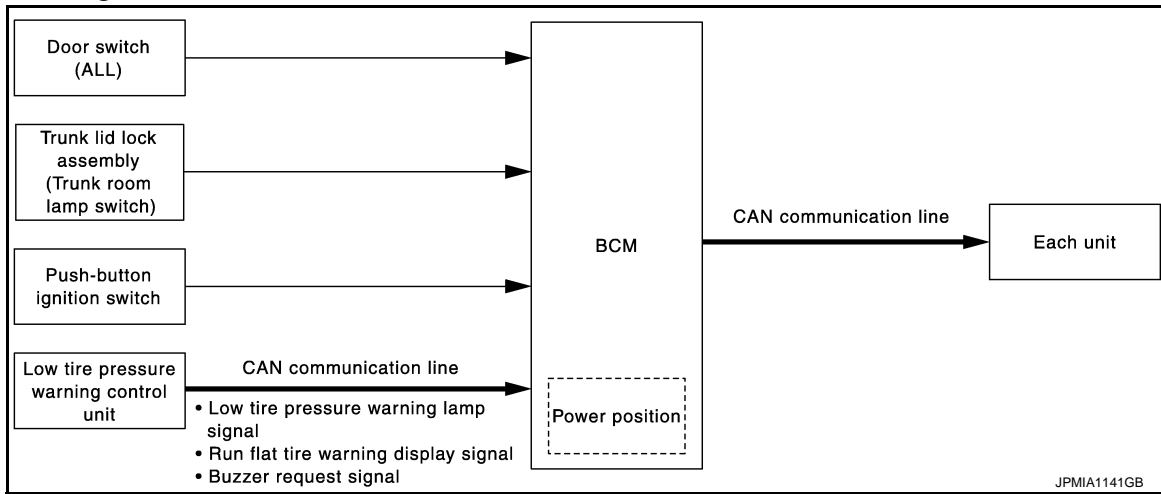
For details of wiper intermittent dial position, refer to [WW-2. "System Description"](#).

SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:000000009160233

OUTLINE

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

Signal transmission function list

Signal name	Input	Output	Description
Ignition switch ON signal	Push-button ignition switch (push switch)	IPDM E/R (CAN)	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"> Combination meter (CAN) IPDM E/R (CAN) 	Inputs the door switch signal and transmits it via CAN communication.
Trunk switch signal	Trunk room lamp switch	Combination meter (CAN)	Inputs the trunk room lamp switch signal and transmits the trunk switch signal via CAN communication.
Low tire pressure warning lamp signal	Low tire pressure warning control unit (CAN)	Combination meter (CAN)	Transmits the received low tire pressure warning lamp signal via CAN communication.
Run-flat tire warning display signal	Low tire pressure warning control unit (CAN)	Combination meter (CAN)	Transmits the received run flat tire warning display signal via CAN communication.
Buzzer request signal	Low tire pressure warning control unit (CAN)	Combination meter (CAN)	Transmits the received buzzer request signal via CAN communication.

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

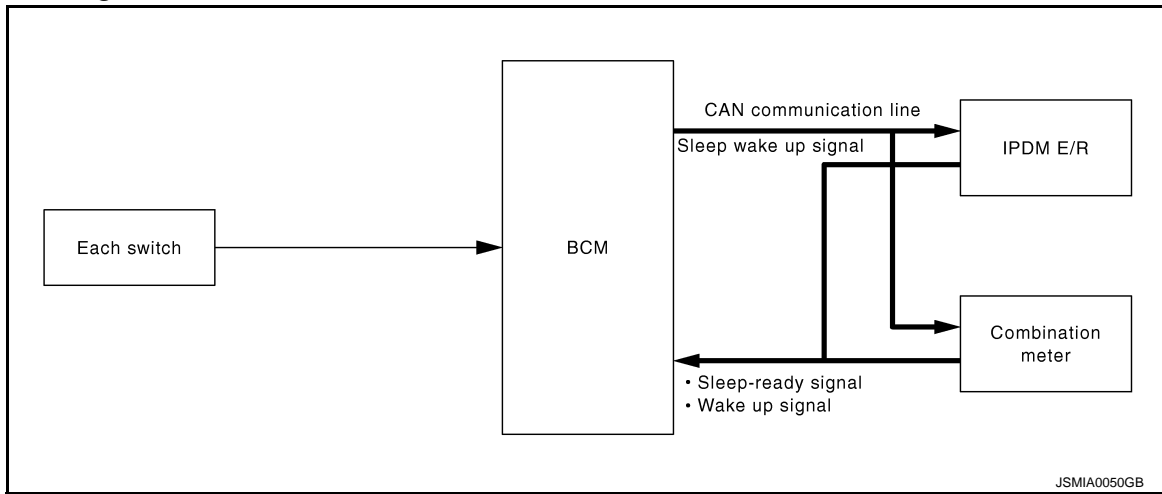
BCS

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



INFOID:000000009160234

System Description

INFOID:000000009160235

OUTLINE

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

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

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

Sleep mode activation

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

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Sleep condition

CAN sleep condition	BCM sleep condition	
<ul style="list-style-type: none"> Receiving the sleep-ready signal (ready) from all units Ignition switch: OFF Vehicle security system and panic alarm: Not operation Warning chime: Not operation Intelligent Key system buzzer: Not operation Trunk room lamp switch status: No change Stop lamp switch: OFF Key slot (card switch) status: No change Turn signal indicator lamp: Not operation Exterior lamp: OFF Door lock status: No change CONSULT communication status: Not communication Meter display signal: Non-transmission Door switch status: No change Rear window defogger: OFF 	<ul style="list-style-type: none"> Interior room lamp battery saver: Time out RAP system: OFF Push-button ignition switch illumination: OFF Nissan Vehicle Immobilizer System (NVIS) - NATS: Not operation Remote keyless entry receiver communication status: No communication LOCK indicator lamp: OFF ACC indicator lamp: OFF ON indicator lamp: OFF 	A
		B
		C
		D
		E

Wake-up operation

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

Wake-up condition

BCM wake-up condition	CAN wake-up condition	
<ul style="list-style-type: none"> Trunk lid opener switch: OFF → ON Remote keyless entry receiver: Receiving Door lock and unlock switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK 	<ul style="list-style-type: none"> Receiving the sleep-ready signal (Not-ready) from any units Key slot (key switch): OFF → ON, ON → OFF Push-button ignition switch (push switch): OFF → ON Hazard switch: OFF → ON PASSING switch: OFF → ON, ON → OFF TAIL LAMP switch: OFF → ON Driver door switch: OFF → ON, ON → OFF Passenger door switch: OFF → ON, ON → OFF Trunk room lamp switch: OFF → ON, ON → OFF Driver door request switch: OFF → ON Passenger door request switch: OFF → ON Trunk lid request switch: OFF → ON Stop lamp switch signal: ON 	J
		K
		L
		BCS

N

O

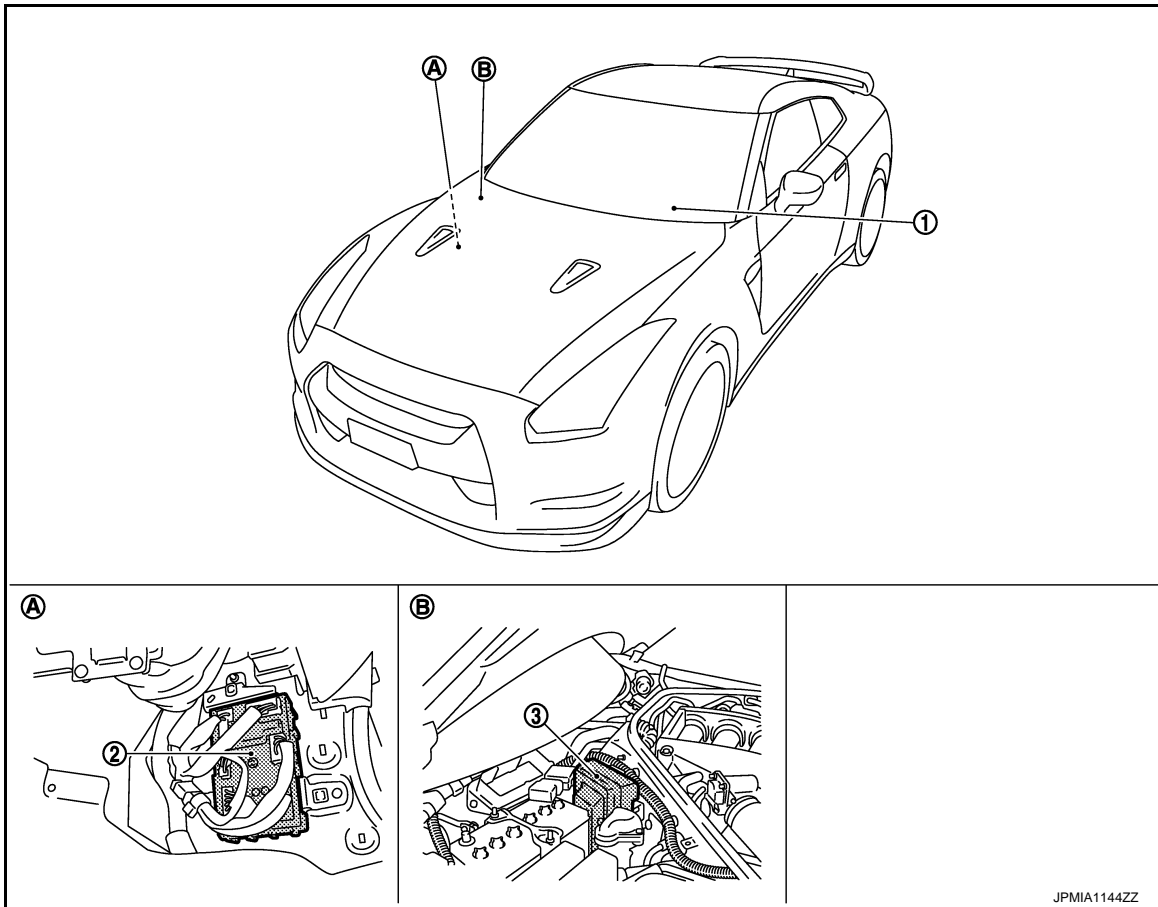
P

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000009160236



1. Combination meter

2. BCM

3. IPDM E/R

A. Dash side lower (passenger side)

B. Engine room dash panel (RH)

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000009160266

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	I
	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.

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

BCS

BCM (BODY CONTROL MODULE)


< ECU DIAGNOSIS INFORMATION >

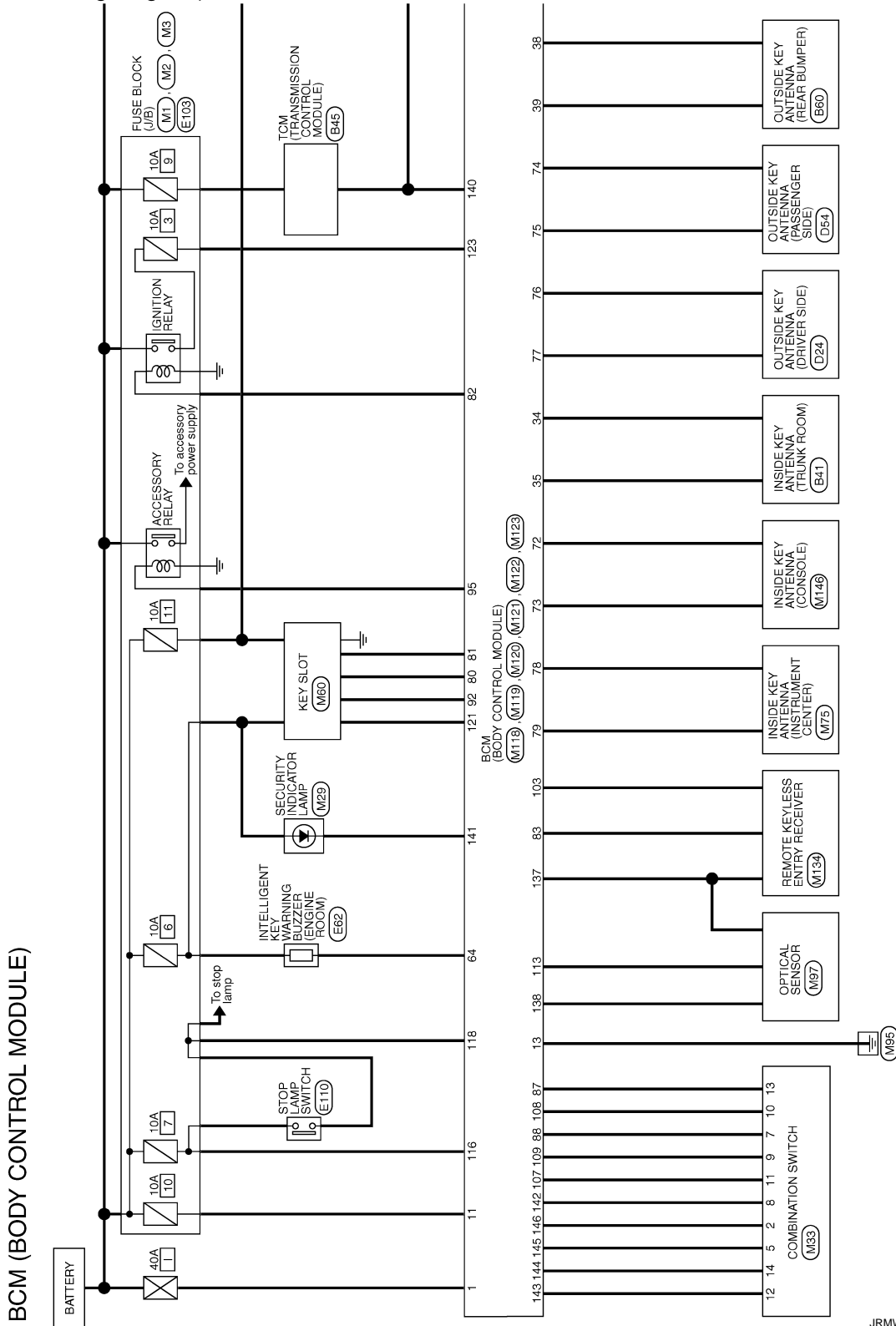
ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Wiring Diagram - BCM -

INFOID:000000009160270

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12. "Connector Information"](#).

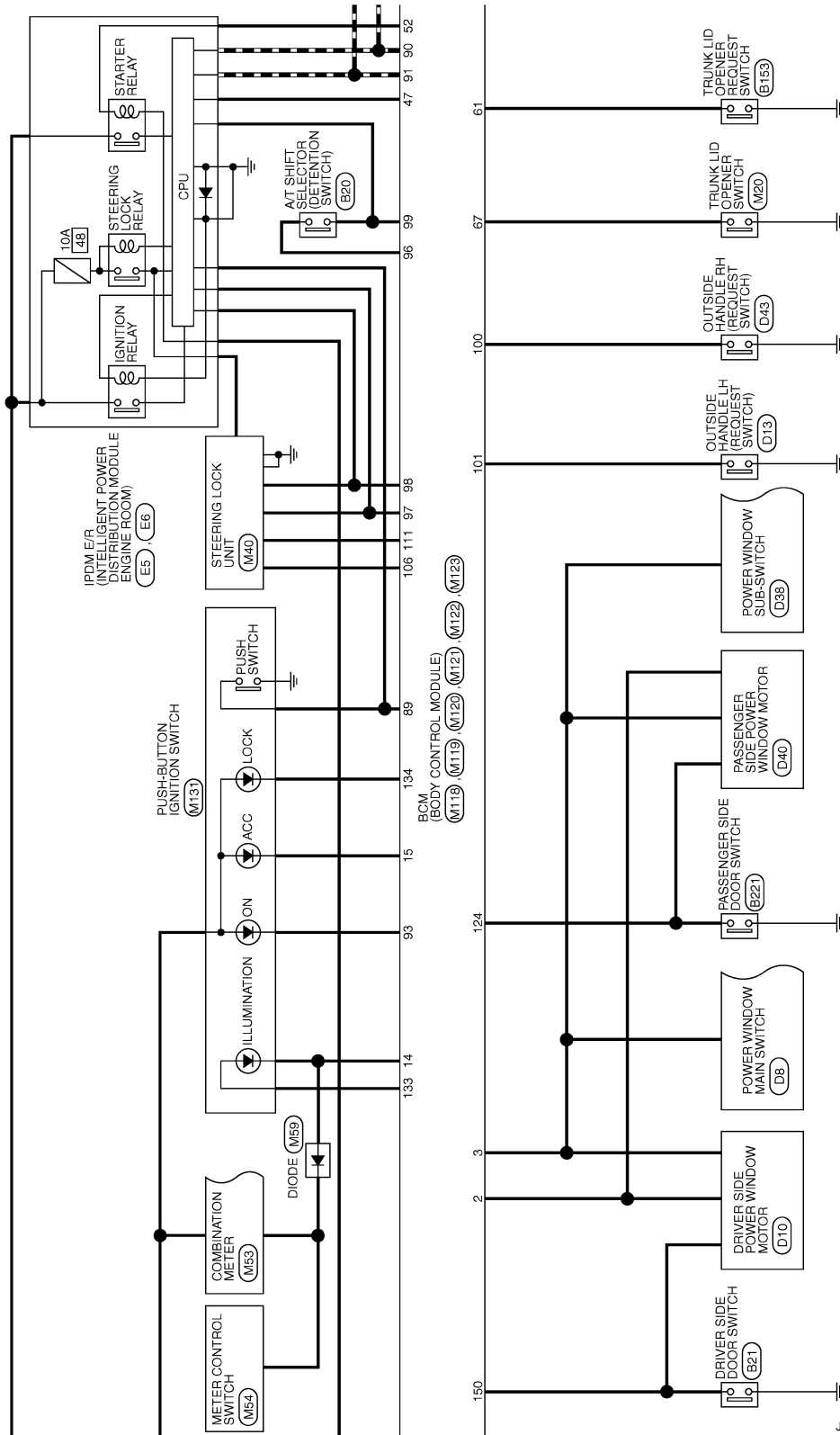


2011/10/12

JRMWC6657GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



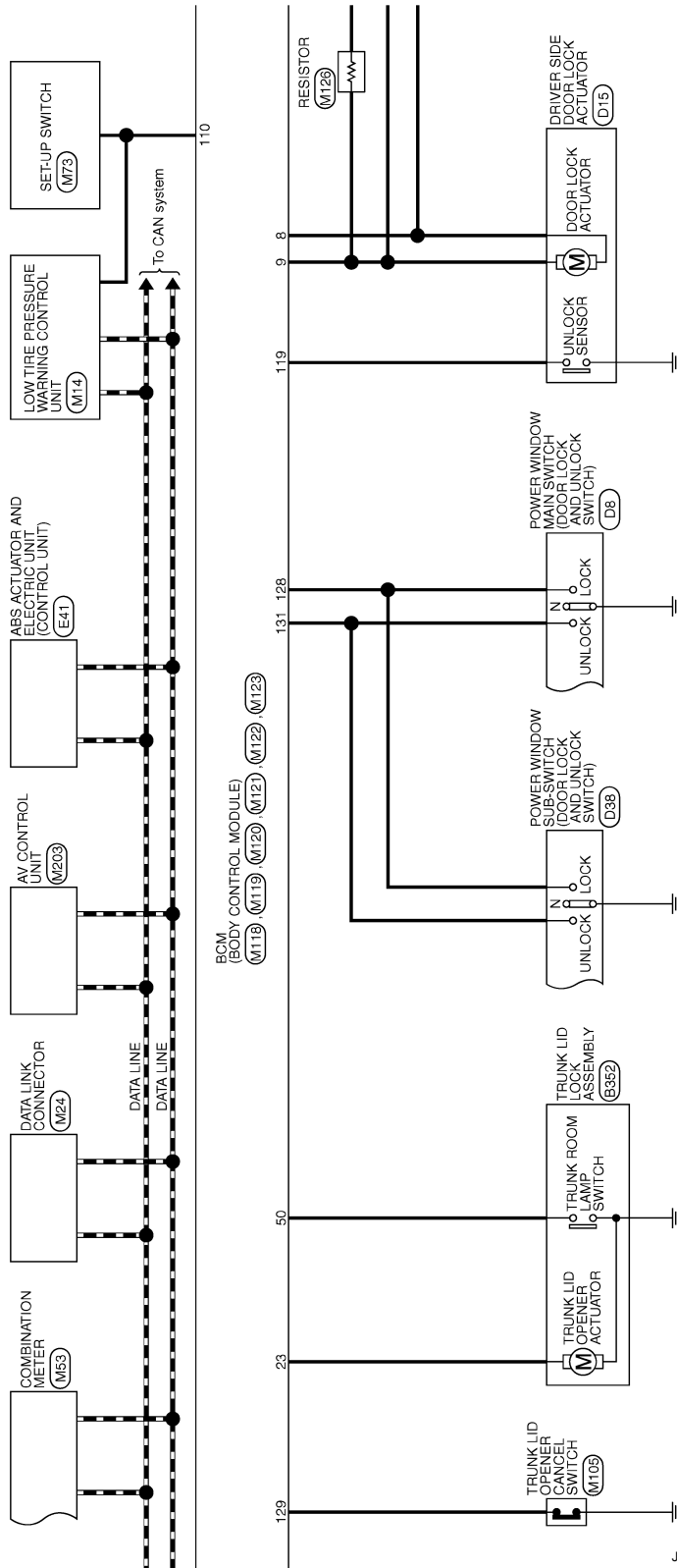
JRMWC6858GB

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

BCS

BCM (BODY CONTROL MODULE)

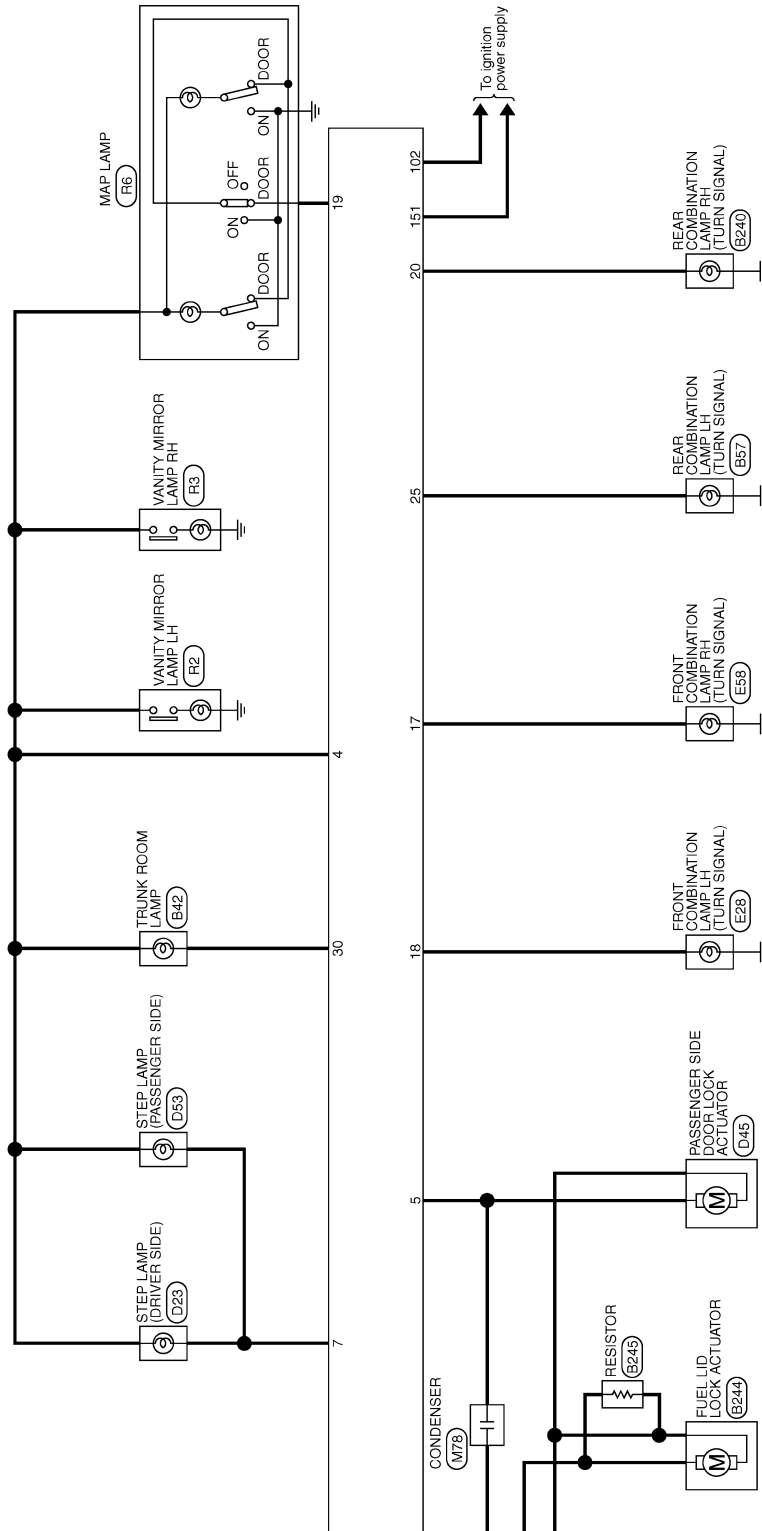
< ECU DIAGNOSIS INFORMATION >



JRMWC6659GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



JRMWC6660GB

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

BCS

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NORMAL OPERATING CONDITION

Description

INFOID:000000009160275

TRANSIT MODE

- Transit mode inhibits battery power consumption during transportation or storage of the vehicle.
- BCM is set to transit mode before delivery.
- In transit mode, remote keyless entry function, headlamp ON/OFF function, theft warning alarm function, and other BCM control functions do not operate normally.
- Therefore, cancel operation must be performed so that the vehicle is used in normal status.
- For transit mode cancel operation, refer to [BCS-2, "Description"](#).

NOTE:

Do not cancel transit mode during storage of the vehicle. Always cancel transit mode before delivery of the vehicle to customer.

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Working Range at a Regular Dealership

INFOID:000000009186406

CAUTION:

The service items unmentioned on this manual are recommended to be performed by a GT-R certified NISSAN dealer. Because those service items require special equipment and a GT-R certified technical staff who completed special training.

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

INFOID:000000009186529

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 AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Battery Service

INFOID:000000009186592

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.

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

BCS

BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

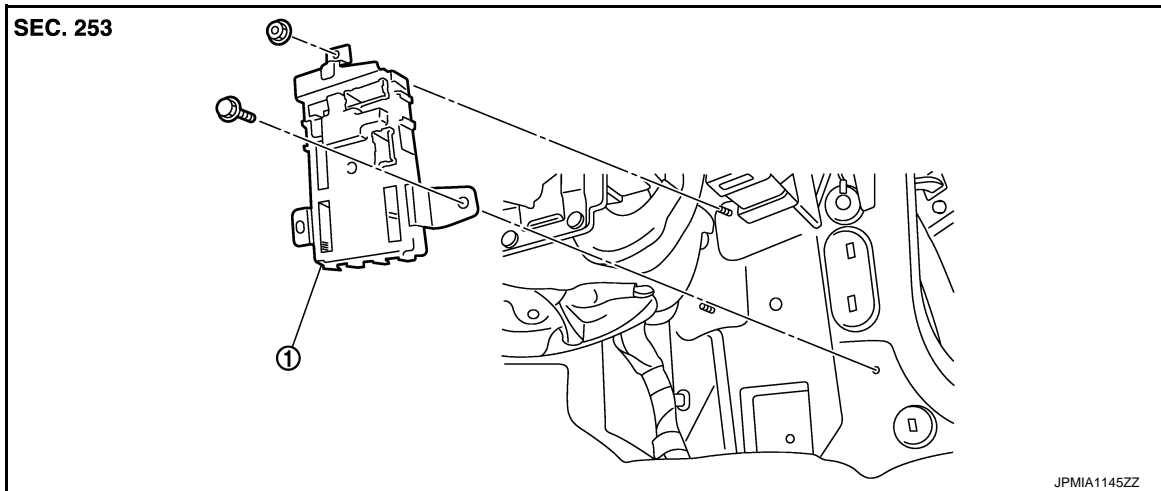
BCM (BODY CONTROL MODULE)

Exploded View

INFOID:000000009160278

NOTE:

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. (This work is recommended to be performed by GT-R certified NISSAN dealer.)



1. BCM

Removal and Installation

INFOID:000000009160279

NOTE:

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. (This work is recommended to be performed by GT-R certified NISSAN dealer.)

REMOVAL

1. Remove dash side finisher (passenger side). Refer to [INT-15, "Removal and Installation"](#).
2. Remove bolt and nut.
3. Remove BCM and disconnect the connector.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform "WRITE CONFIGURATION" when replacing BCM. Or not doing so, BCM control function does not operate normally. (This work is recommended to be performed by GT-R certified NISSAN dealer.)

NOTE:

Be sure to perform the system initialization (NATS) when replacing BCM. (This work is recommended to be performed by GT-R certified NISSAN dealer.)

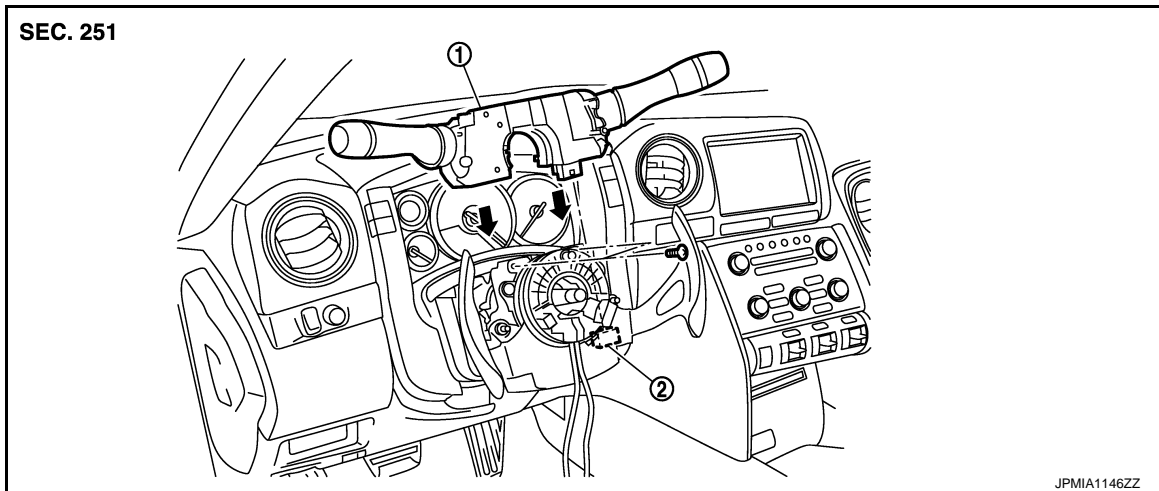
COMBINATION SWITCH

< REMOVAL AND INSTALLATION >

COMBINATION SWITCH

Exploded View

INFOID:000000009160280



1. Combination switch

2. Combination switch connector

Removal and Installation

INFOID:000000009160281

REMOVAL

1. Remove steering column cover. Refer to [IP-12. "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.

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

BCS

N
O
P