

SECTION BCS

BODY CONTROL SYSTEM

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:000000000892455

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

Configuration has three functions as follows

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

CAUTION:

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000000892456

1. SAVING VEHICLE SPECIFICATION

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

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to [BCS-64. "Exploded View"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

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

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> WORK END

CONFIGURATION

CONFIGURATION : Description

INFOID:000000000892457

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

Configuration has three functions as follows

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

CAUTION:

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

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

CONFIGURATION : Special Repair Requirement

INFOID:000000000892458

1. WRITING VEHICLE SPECIFICATION

Perform "WRITE CONFIGURATION" with CONSULT-III.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM "WRITE CONFIGURATION - CONFIG FILE"

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

>> WORK END

3. PERFORM "WRITE CONFIGURATION - MANUAL SELECTION"

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

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

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

- Gasoline engine models (RHD)

MANUAL SETTING ITEM	
Items	Setting value
HANDLE	RHD
PTC HEATER	WITHOUT
AUTO LIGHT	WITH⇔WITHOUT
KEYLESS ENTRY	WITH⇔WITHOUT
DTRL	WITHOUT
THEFT ALARM	WITH⇔WITHOUT
AUTO SETTING ITEM	
RAIN SENSOR	WITH or WITHOUT
H/L WSR SWTRG	FR WSR SW
H/L_BULB	H4 HALOGEN or DEFAULT
FR FOG LAMP	WITH or WITHOUT
DONGLE	WITH
SUPER LOCK	WITH
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITHOUT
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

- Gasoline engine models (LHD)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

MANUAL SETTING ITEM	
Items	Setting value
HANDLE	LHD
PTC HEATER	WITHOUT
AUTO LIGHT	WITH⇔WITHOUT
KEYLESS ENTRY	WITH⇔WITHOUT
DTRL	WITH⇔WITHOUT
THEFT ALARM	WITHOUT
AUTO SETTING ITEM	
RAIN SENSOR	WITH or WITHOUT
H/L WSR SWTRG	FR WSR SW
H/L_BULB	H4 HALOGEN or DEFAULT
FR FOG LAMP	WITH or WITHOUT
DONGLE	WITHOUT
SUPER LOCK	WITHOUT
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITHOUT
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

- Diesel engine models (RHD)

MANUAL SETTING ITEM	
Items	Setting value
HANDLE	RHD
PTC HEATER	2 PTC
AUTO LIGHT	WITH⇔WITHOUT
KEYLESS ENTRY	WITH⇔WITHOUT
DTRL	WITHOUT
THEFT ALARM	WITH⇔WITHOUT
AUTO SETTING ITEM	
RAIN SENSOR	WITH or WITHOUT
H/L WSR SWTRG	FR WSR SW
H/L_BULB	H4 HALOGEN or DEFAULT
FR FOG LAMP	WITH or WITHOUT
DONGLE	WITH
SUPER LOCK	WITH
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITHOUT
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

- Diesel engine models (LHD)

A

B

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

MANUAL SETTING ITEM	
Items	Setting value
HANDLE	LHD
PTC HEATER	2 PTC
AUTO LIGHT	WITH⇔WITHOUT
KEYLESS ENTRY	WITH⇔WITHOUT
DTRL	WITH⇔WITHOUT
THEFT ALARM	WITHOUT
AUTO SETTING ITEM	
RAIN SENSOR	WITH or WITHOUT
H/L WSR SWTRG	FR WSR SW
H/L_BULB	H4 HALOGEN or DEFAULT
FR FOG LAMP	WITH or WITHOUT
DONGLE	WITHOUT
SUPER LOCK	WITHOUT
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITHOUT
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

>> WORK END

BODY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

BODY CONTROL SYSTEM

System Description

INFOID:000000000924591

OUTLINE

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

BCM control function list

System	Refer to
Combination switch reading system	BCS-9, "System Diagram"
Signal buffer system	BCS-13, "System Diagram"
Power consumption control system	BCS-14, "System Diagram"
Auto light system	EXL-15, "System Diagram"
Turn signal and hazard warning lamp system	EXL-21, "System Diagram"
Headlamp system	EXL-11, "System Diagram"
Front fog lamp system	EXL-17, "System Diagram"
Rear fog lamp system	EXL-25, "System Diagram"
Daytime running light system	EXL-13, "System Diagram"
Interior room lamp control system	INL-6, "System Diagram"
Interior room lamp battery saver system	INL-10, "System Diagram"
Front wiper and washer system	WW-6, "System Diagram"
Rear wiper and washer system	WW-11, "System Diagram"
Headlamp washer system	WW-15, "System Diagram"
Warning chime system	WCS-4, "WARNING CHIME SYSTEM : System Diagram"
Door lock system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-24, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-287, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY & SUPER LOCK: DLK-557, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY, WITH SUPER LOCK: DLK-717, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"
Nissan anti-theft system	• WITH INTELLIGENT KEY SYSTEM: SEC-14, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-161, "System Diagram"
Vehicle security system	• WITH INTELLIGENT KEY SYSTEM: SEC-19, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-165, "System Diagram"
Rear window defogger system	DEF-4, "System Diagram"
Multi-remote control system	• WITHOUT I-KEY & SUPER LOCK: DLK-559, "KEYFOB : System Diagram" • WITHOUT I-KEY, WITHOUT SUPER LOCK: DLK-719, "KEYFOB : System Diagram"
Intelligent Key system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-28, "INTELLIGENT KEY : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-291, "INTELLIGENT KEY : System Diagram"

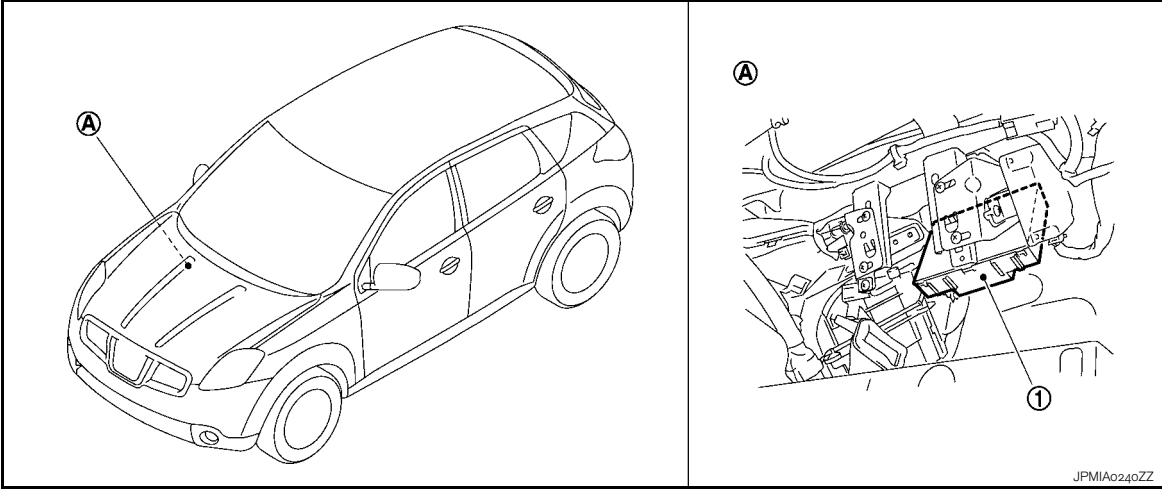
BODY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

System	Refer to
Power window system	PWC-6, "System Diagram"
PTC heater control system	HAC-46, "Description"

Component Parts Location

INFOID:000000000924592



- 1. BCM
- A. Over the glove box

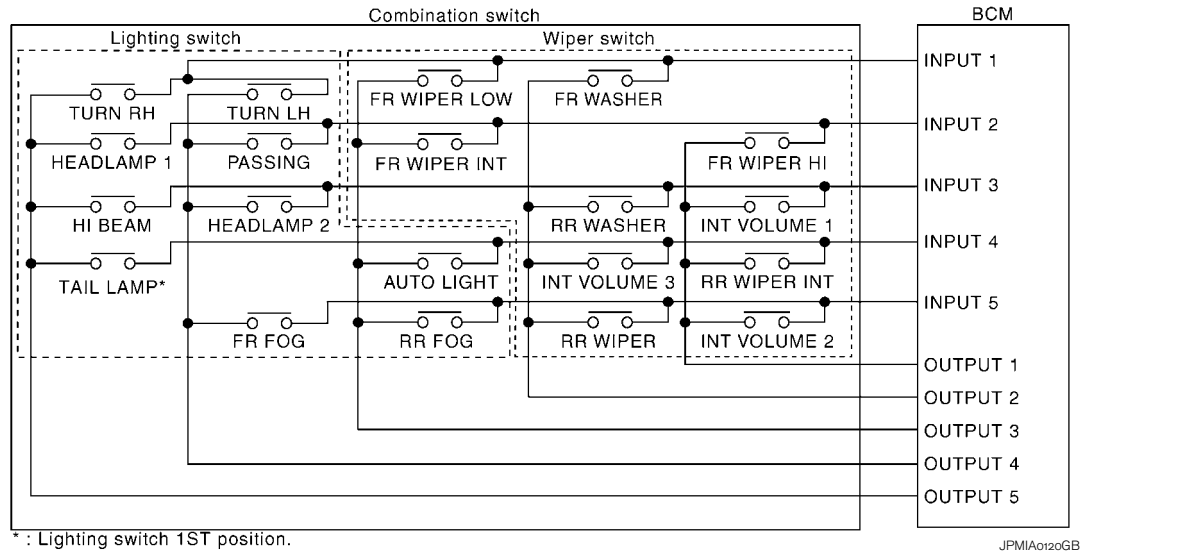
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COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING SYSTEM

System Diagram



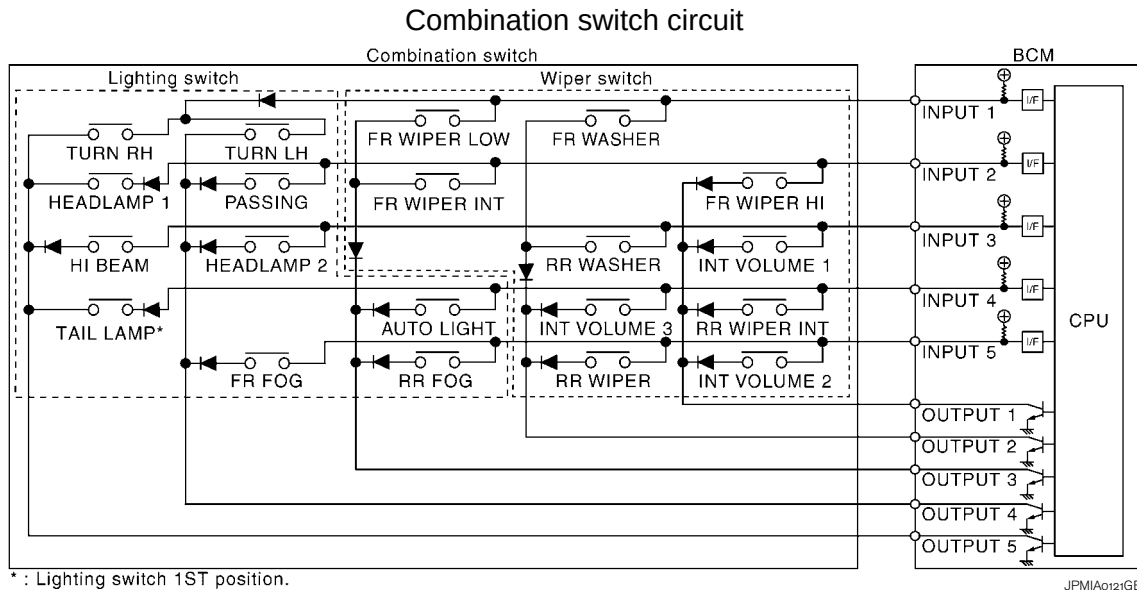
System Description

INFOID:000000000924594

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	RR WASHER	—	HEADLAMP 2	HI BEAM

COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

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

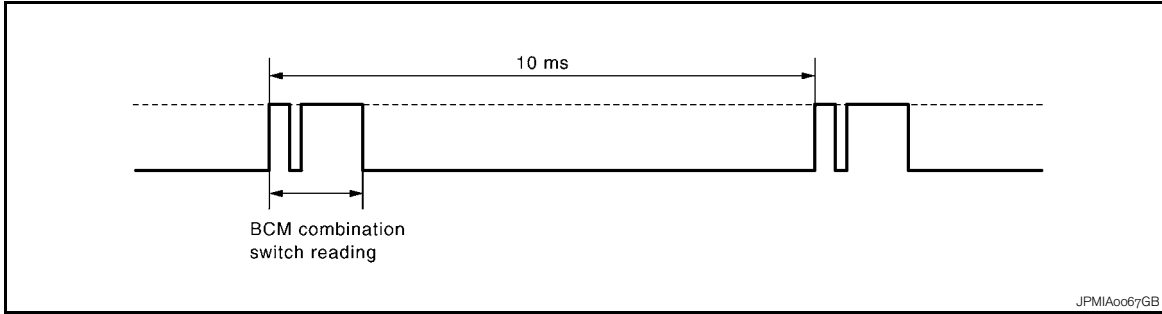
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

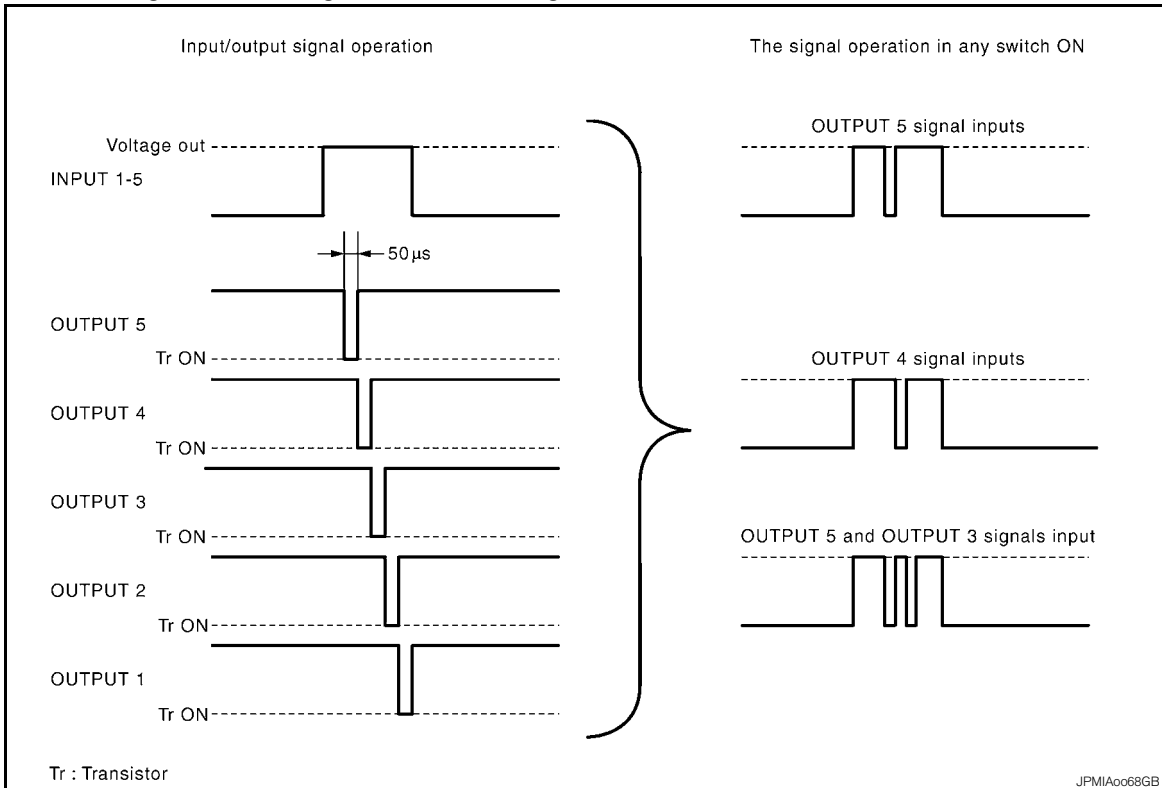
- BCM reads the status of the combination switch at 10 ms interval normally.



NOTE:

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

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

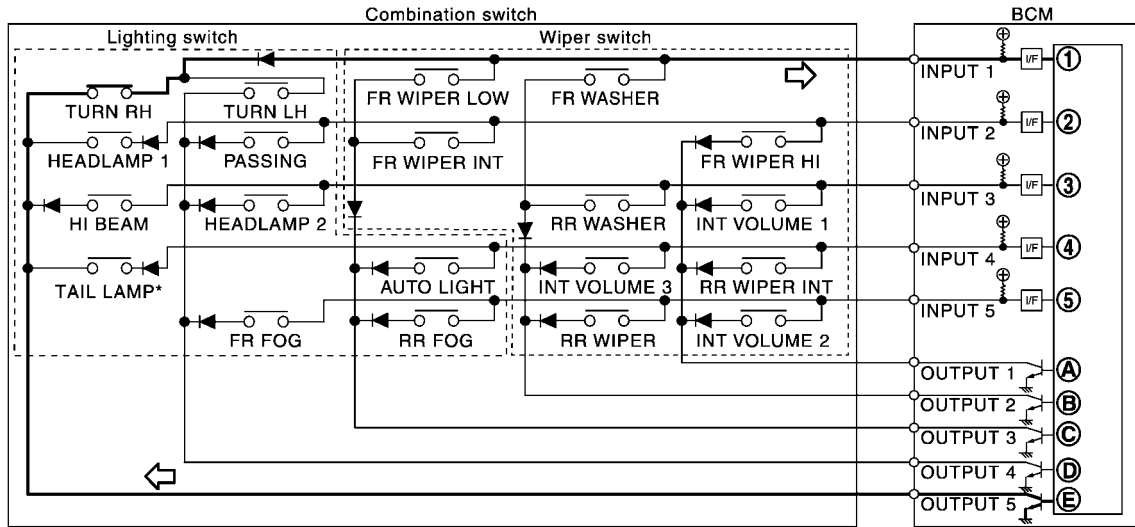
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

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.

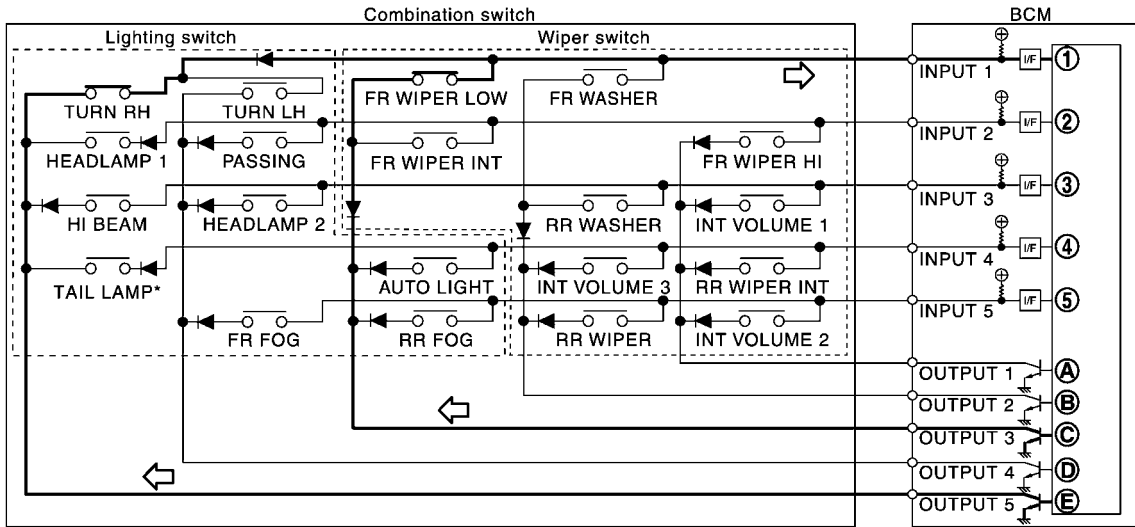


* : Lighting switch 1ST position.

- 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.



* : Lighting switch 1ST position.

- 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.

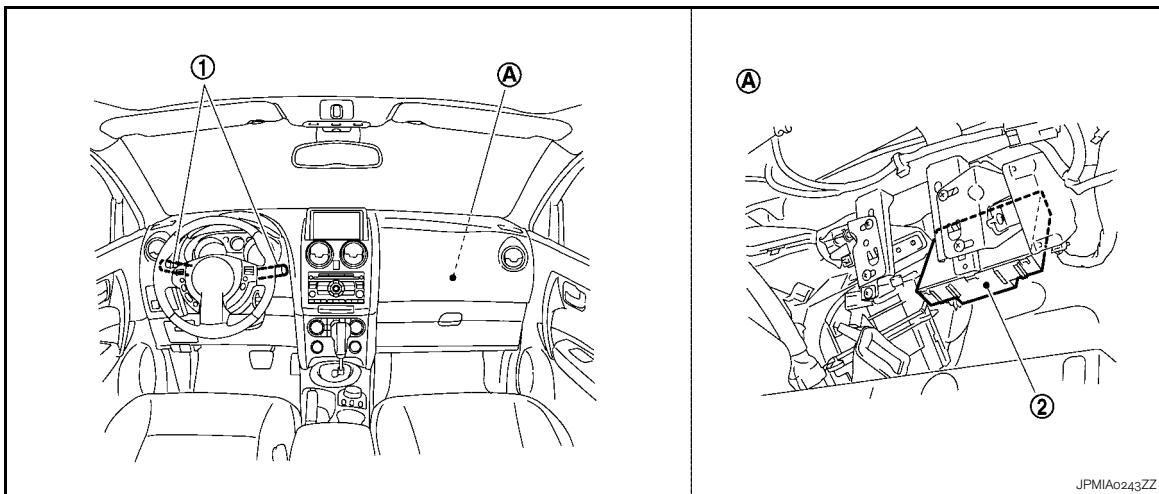
COMBINATION SWITCH READING SYSTEM

< 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

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1. Combination switch
- A. Over the glove box

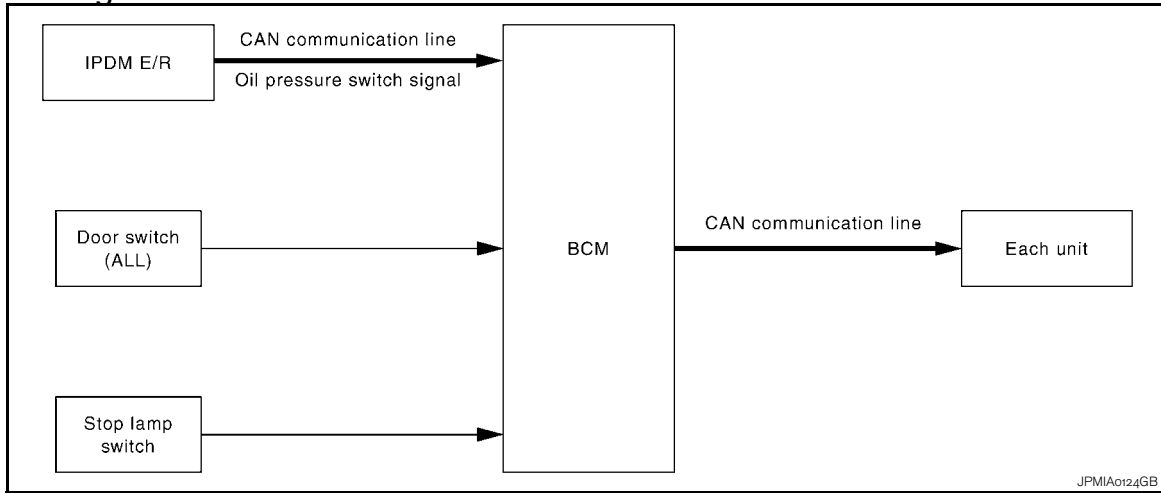
2. BCM

SIGNAL BUFFER SYSTEM

< FUNCTION DIAGNOSIS >

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:0000000000924597

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
Door switch signal	Any door switch	- Combination meter (CAN) - IPDM E/R (CAN) - Intelligent Key unit (CAN) - NAVI control unit (CAN)	Inputs the door switch signal and transmits it via CAN communication.
Stop lamp switch signal	Stop lamp switch	TCM (CAN)	Inputs the stop lamp switch signal and transmits the stop lamp switch signal via CAN communication.
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pressure switch signal via CAN communication.

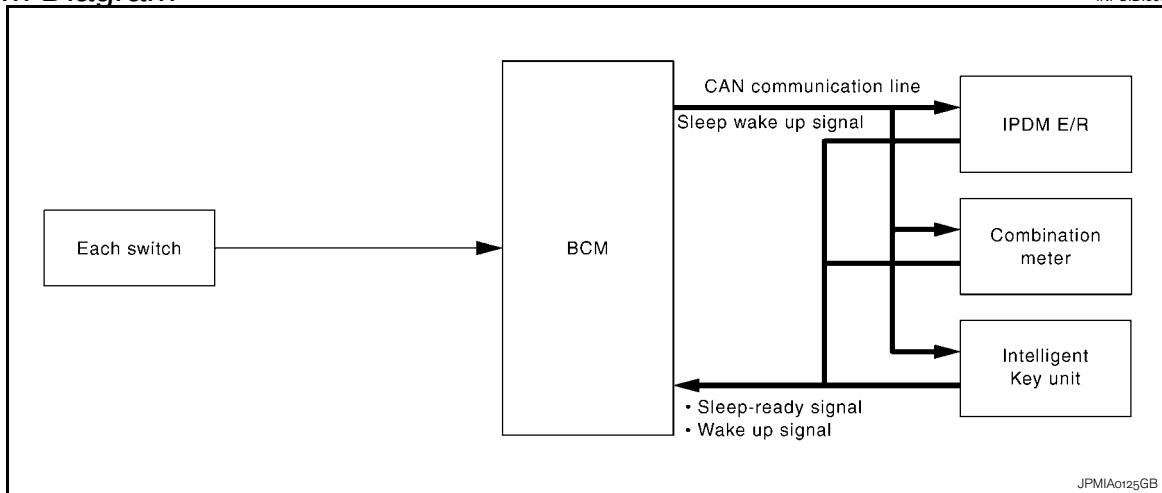
BCS

POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

INFOID:000000000924599

OUTLINE

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

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

- The reading interval of the each switches changes from 10 ms interval to 20 ms interval.

Sleep mode activation

- BCM receives the sleep-ready signal (ready) from IPDM E/R, combination meter and Intelligent Key unit 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
• Receiving the sleep-ready signal (ready) from all units • Ignition switch: OFF • Vehicle security system alarm: Not operation • Warning lamp: Not operation • Warning chime: Not operation • Stop lamp switch: OFF • Key switch status: No change for 2seconds • Hazard warning lamp: Not operation • Exterior lamp: OFF • Door lock status: No change for 2seconds • CONSULT-III communication status: Not communication • Door switch status: No change for 2seconds	The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)

Wake-up operation

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

Wake-up condition

BCM wake-up condition
• Ignition switch: OFF → ACC or ON • Stop lamp switch: ON (Depress brake pedal) • Any door switch: OFF → ON • Lighting switch: OFF → 1ST or PASS • Hazard switch: OFF → ON • Back door opener switch OFF → ON • Remote keyless entry receiver: Receiving

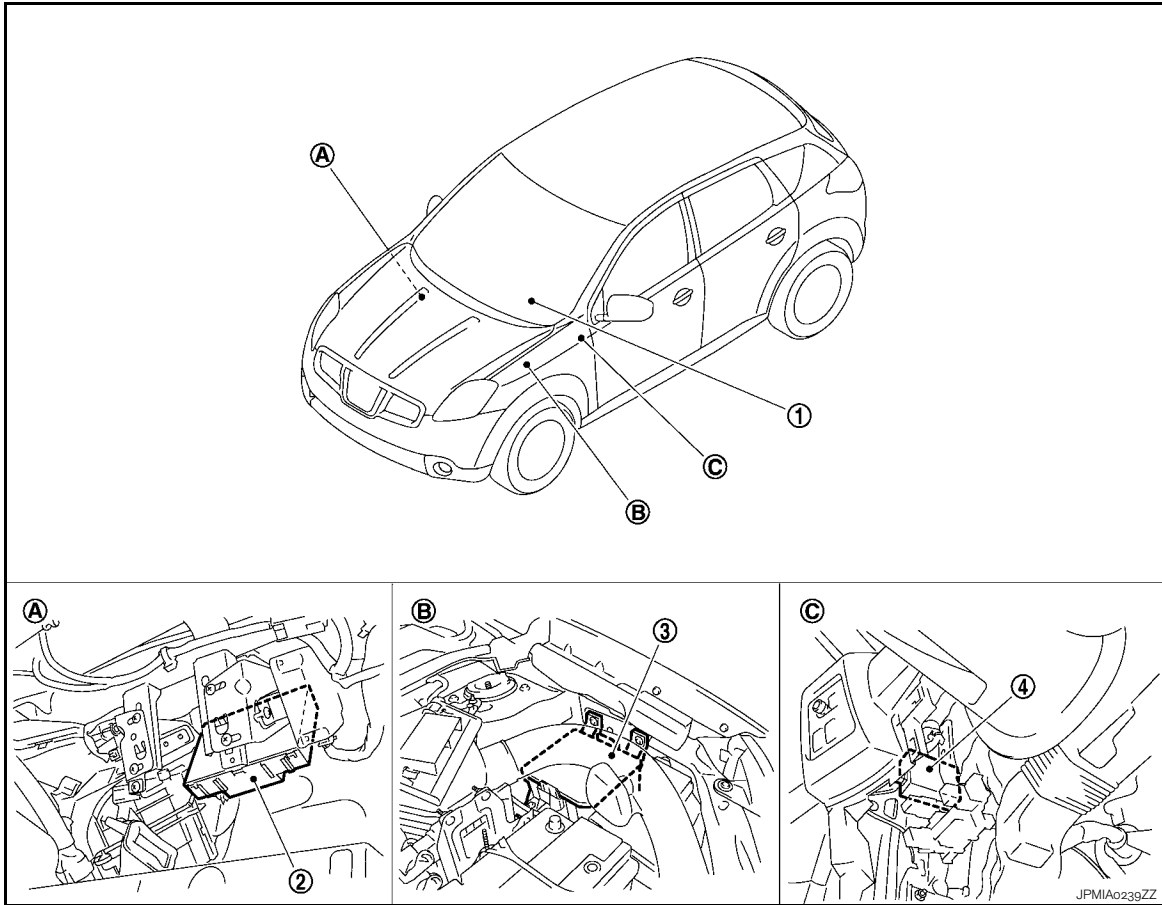
Component Parts Location

INFOID:000000000924600

BCS

POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >



1. Combination meter

4. Intelligent Key unit

A. Over the glove box

2. BCM

B. Engine room (left side)

3. IPDM E/R

C. Over the instrument lower panel
(driver side)

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000000924601

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-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-61, "DTC Index" .
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	- Enables to read and save the vehicle specification. - Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
—	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	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		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
PTC heater system	PTC HEATER		×	×

BCM

BCM : CONSULT-III Function (BCM - BCM)

INFOID:000000000924608

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.

DOOR LOCK

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

INFOID:000000001097013

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
PUSH SW*1	Indicates [ON/OFF] condition of ignition knob switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEYLESS LOCK*2	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK*2	Indicates [ON/OFF] condition of unlock signal from key fob.
I-KEY LOCK*1	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK*1	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.
UNLOCK WITH DR	This item is indicated, but not monitored.
UNLOCK SHOCK	Indicates [ON/OFF] condition of signal from air bag diagnosis unit. • ON: During the unlock operation interlock with air bag. • OFF: Other than above.
SHOCK SENSOR	Indicates [NORMAL/ON/OFF] condition of circuit between BCM and air bag diagnosis sensor unit. • NORMAL: Ignition switch ON. (BCM is receiving normal condition signal from air bag diagnosis sensor unit.) • ON: During the receiving of air bag deployment signal from air bag diagnosis sensor unit. • OFF: After the receiving of air bag deployment signal from air bag diagnosis sensor unit.
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h].

*1: For the Intelligent key equipped vehicle.

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

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Test item	Description
SUPER LOCK ^{*1}	This test is able to check super lock operation [LOCK (SET)/UNLOCK (RELEASE)].
DOOR LOCK IND	This test is able to check door lock indicator (built in door lock and unlock switch on center console) operation [ON/OFF].
DOOR LOCK	This test is able to check door lock operation [ALL LOCK/ALL UNLOCK/DR UNLOCK/OTHER UNLOCK].

:^{*1} For the super lock equipped vehicle.

WORK SUPPORT

Test item	Description
SECURITY DOOR LOCK SET	Anti hijack function mode can be changed in this mode. • ON: Anti hijack mode is active. • OFF: Anti hijack mode is inactive.

REAR WINDOW DEFOGGER

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

INFOID:0000000001097014

Data monitor

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

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	Give a drive signal to the rear window defogger relay to activate it.

BUZZER

BUZZER : CONSULT-III Function (BCM - BUZZER)

INFOID:0000000001097015

CONSULT-III FUNCTION (BCM – BUZZER)

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

DATA MONITOR

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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Display item [Unit]	Description
BUCKLE SW [On/Off]	Seat belt buckle switch status judged by the seat belt buckle switch signal received from combination meter via CAN communication.
DOOR SW -AS	Front door switch (passenger side) status judged by BCM.
DOOR SW -RR	Rear door switch RH status judged by BCM.
DOOR SW -RL	Rear door switch LH status judged by BCM.
BACK DOOR SW	Back door switch status judged by BCM.
VEHICLE SPEED [km/h]	Vehicle speed signal value received from combination meter via CAN communication.

ACTIVE TEST

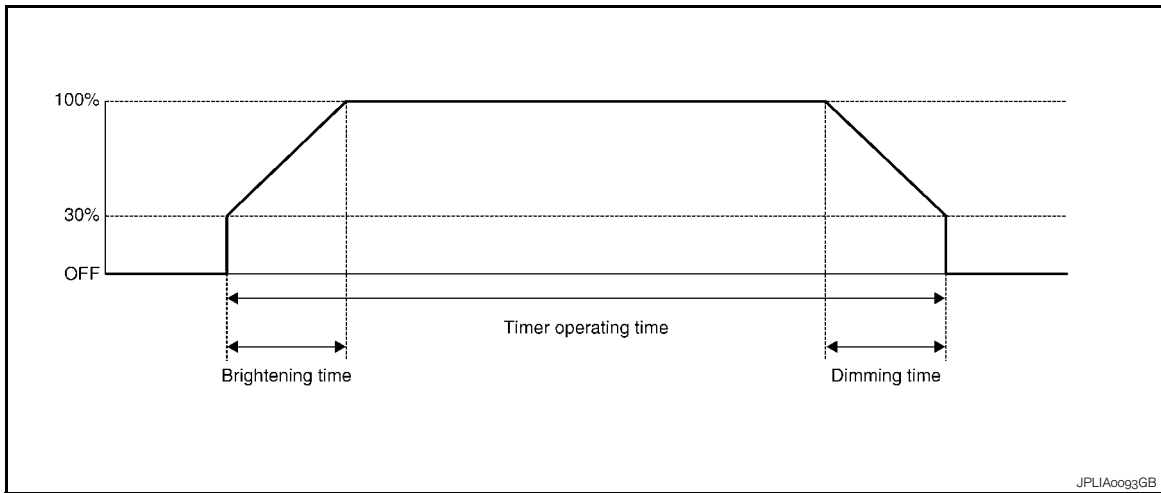
Display item	Description
LIGHT WARN ALM	The light reminder warning operation can be checked by operating the relevant function (On/Off).
IGN KEY WARN ALM	The key warning operation can be checked by operating the relevant function (On/Off).
KEY REMINDER WARN	The key reminder warning operation can be checked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

INT LAMP

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

INFOID:0000000001097016

WORK SUPPORT



JPLIAoog3GB

Service item	Setting item	Setting
ROOM LAMP TIMER SET	MODE 1	0 sec.
	MODE 2	7.5 sec.
	MODE 3*	15 sec.
	MODE 4	30 sec.
SET I/L D-UNLCK INTCON	ON*	With the interior room lamp timer function
	OFF	Without the interior room lamp timer function
ROOM LAMP ON TIME SET	MODE 1	0.5 sec.
	MODE 2*	1 sec.
	MODE 3	2 sec.
	MODE 4	3 sec.
	MODE 5	4 sec.
	MODE 6	5 sec.
	MODE 7	0 sec.

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Service item	Setting item	Setting	
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.	
	MODE 5	4 sec.	
	MODE 6	5 sec.	
	MODE 7	0 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
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
ACC SW [ON/OFF]	Ignition switch (ACC) status judges from ACC signal (ACC power supply)
KEY ON SW [ON/OFF]	The switch status input from key switch
PUSH SW [ON/OFF]	Push switch status received from Intelligent Key unit by CAN communication
DOOR SW-DR [ON/OFF]	The switch status input from front door switch (driver side)
DOOR SW-AS [ON/OFF]	The switch status input from front door switch (passenger side)
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH
DOOR SW-RL [ON/OFF]	The switch status input from rear door switch LH
BACK DOOR SW [ON/OFF]	The switch status input from back door switch
CDL LOCK SW [ON/OFF]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Unlock switch status input from door lock and unlock switch
I-KEY LOCK [ON/OFF]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication
KEYLESS LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Test item	Operation	Description
INT LAMP	ON	Outputs the interior room lamp control signal to turn the interior room lamps ON. [Map lamp, personal lamp, room lamp, luggage room lamp (when applicable lamps switch is in DOOR position.)]
	OFF	Stops the interior room lamp control signal to turn the interior room lamps.

MULTIREMOTE ENT

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

INFOID:000000001097017

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
RKE LOCK AND UNLOCK	This item is indicated, but not monitored.

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check warning chime in combination meter operation. [ALL LOCK/ALL UNLOCK/DR UNLOCK/OTHER UNLOCK]
INT LAMP	This test is able to check interior lamp operation [ON/OFF].
FLASHER	This test is able to check flasher operation [LH/RH/OFF].

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Test item	Description
HAZARD LAMP SET	Answer back function (hazard) mode can be changed in this mode. For the detail of the setting, refer to DLK-575, "System Description" .
AUTO LOCK SET	Auto door lock time can be changed in this mode. • MODE 1: 1 minute • MODE 2: 2 minutes • MODE 3: 3 minutes • MODE 4: 4 minutes • MODE 5: 5 minutes

HEADLAMP

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

INFOID:000000001097018

WORK SUPPORT

Service item	Setting item	Setting
HEAD LIGHT TIMER	MODE 1	10 sec.
	MODE 2*	30 sec.
		Sets follow me home function activating time.

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
ACC SW [ON/OFF]	Ignition switch (ACC) status judged from ACC signal (ACC power supply)
HI BEAM SW [ON/OFF]	Each switch status that BCM judges from the combination switch reading function
HEAD LAMP SW1 [ON/OFF]	
HEAD LAMP SW2 [ON/OFF]	
TAIL LAMP SW [ON/OFF]	
AUTO LIGHT SW [ON/OFF]	
PASSING SW [ON/OFF]	
FR FOG SW [ON/OFF]	
RR FOG SW [ON/OFF]	
DOOR SW-DR [ON/OFF]	The switch status input from front door switch (driver side)
DOOR SW-AS [ON/OFF]	The switch status input from front door switch (passenger side)
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH
DOOR SW- RL [ON/OFF]	The switch status input from rear door switch LH
BACK DOOR SW [ON/OFF]	The switch status input from back door switch

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
TURN SIGNAL R [ON/OFF]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [ON/OFF]	
ENGINE RUNNING [ON/OFF]	The engine status received from ECM with CAN communication
PUSH SW [ON/OFF]	Push switch status received from Intelligent Key unit by CAN communication
LIT-SEN FAIL [OK/NOTOK]	- The sensor status received from light & rain sensor with serial link - The serial link condition that BCM judges
AUT LIGHT SYS [ON/OFF]	Auto light system status that BCM judges from the vehicle condition

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	ON	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	OFF	Stops the tail lamp request signal transmission.
HEAD LAMP	HI	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	LO	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	OFF	Stops the high & low beam request signal transmission.
FR FOG LAMP	ON	Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	OFF	Stops the front fog lights request signal transmission.
RR FOG LAMP	ON	- Outputs the voltage to turn the rear fog lamp ON. - Transmits the rear fog lamp status signal to the combination meter with CAN communication to turn the rear fog lamp indicator lamp ON.
	OFF	- Stops the voltage to turn the rear fog lamp OFF. - Stops the rear fog lamp status signal transmission.
DAYTIME RUNNING LIGHT	ON	Transmits the day time running light request signal to IPDM E/R with CAN communication to turn the each lamps ON.
	OFF	Stops the day time running light request signal transmission.

WIPER

WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:0000000001097019

WORK SUPPORT

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

*:Factory setting

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

ACTIVE TEST

Test item	Operation	Description
FR WIPER	HI	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.
	LO	Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operate the front wiper LO operation.
	INT	Transmits the front wiper request signal (INT) to IPDM E/R with CAN communication to operate the front wiper INT operation.
	OFF	Stops transmitting the front wiper request signal to stop the front wiper operation.
RR WIPER	ON	Outputs the voltage to operate the rear wiper motor.
	OFF	Stops the voltage to stop.
HEADLAMP WASH-ER	ON	Transmits the headlamp washer request signal to IPDM E/R with CAN communication to operate the headlamp washer operation.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:0000000001097020

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

ACTIVE TEST

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

AIR CONDITIONER

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

INFOID:0000000001098003

DATA MONITOR

Display Item List

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

INTELLIGENT KEY

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

INFOID:0000000001097021

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch.
I-KEY LOCK	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.

COMB SW

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

INFOID:0000000000924607

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DATA MONITOR

Monitor item [UNIT]	Description
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.
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.
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.
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.
RR FOG SW [OFF/ON]	Displays the status of the RR FOG switch in combination switch judged by BCM with the combination switch reading function.
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 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 WASHER SW [OFF/ON]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function.
RR WIPER ON [OFF/ON]	Displays the status of the RR WIPER switch in combination switch judged by BCM with the combination switch reading function.
RR WIPER INT [OFF/ON]	Displays the status of the RR WIPER INT switch in combination switch judged by BCM with the combination switch reading function.
RR WASHER SW [OFF/ON]	Displays the status of the RR WASHER switch in combination switch judged by BCM with the combination switch reading function.

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:000000001097022

APPLICATION ITEM

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

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

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
PUSH SW ^{*1}	Indicates [ON/OFF] condition of ignition knob switch.

^{*1}: For the vehicle Intelligent key is equipped.

ACTIVE TEST

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

BATTERY SAVER

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

INFOID:000000001097023

WORK SUPPORT

Service item	Setting item	Setting
ROOM LAMP TIMER SET	MODE 1*	30 min.
	MODE 2	60 min.

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
ACC SW [ON/OFF]	Ignition switch (ACC) status judges from ACC signal (ACC power supply)
KEY ON SW [ON/OFF]	The switch status input from key switch
PUSH SW [ON/OFF]	Push switch status received from Intelligent Key unit by CAN communication
DOOR SW-DR [ON/OFF]	The switch status input from front door switch (driver side)
DOOR SW-AS [ON/OFF]	The switch status input from front door switch (passenger side)
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH
DOOR SW- RL [ON/OFF]	The switch status input from rear door switch LH
BACK DOOR SW [ON/OFF]	The switch status input from back door switch
CDL LOCK SW [ON/OFF]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [ON/OFF]	Unlock switch status input from door lock and unlock switch
I-KEY LOCK [ON/OFF]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
KEYLESS LOCK [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)

ACTIVE TEST

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

*: Each lamp switch is in ON position.

TRUNK

TRUNK : CONSULT-III Function (BCM - TRUNK)

INFOID:0000000001097025

APPLICATION ITEM

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
PUSH SW ^{*1}	Indicates [ON/OFF] condition of ignition knob switch.
TRNK OPNR SW	Indicates [ON/OFF] condition of back door opener switch.
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h].

^{*1}: For the Intelligent key equipped vehicle.

^{*2}: For the remote keyless entry system equipped vehicle.

ACTIVE TEST

Test item	Description
TRUNK/GLASS HATCH	This test is able to check back door opener operation [ON/OFF].

THEFT ALM

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

INFOID:0000000001097026

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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

*¹: For vehicle equipped with Intelligent Key.

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

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator operation [ON/OFF].
VEHICLE SECURITY HORN	This test is able to check horn operation [ON].
FLASHER	This test is able to check flasher operation [LH/RH/OFF].

WORK SUPPORT

Test item	Description
SECURITY ALARM SET	Vehicle security function mode can be changed in this mode. • ON: Vehicle security function is ON. • OFF: Vehicle security function is OFF.
THEFT ALM TRG	The switch which triggered vehicle security system is recorded. This mode can be able to confirm and erase the record of vehicle security system.

SIGNAL BUFFER

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

INFOID:000000000924610

DATA MONITOR

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

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

PTC HEATER

PTC HEATER : CONSULT-III Function (BCM - PTC HEATER)

INFOID:0000000001098004

DATA MONITOR

Display Item List

Monitor Item [Unit]	Description
ELEC PWR CUT [OFF/FREEZ/INHBT]	Indicate [OFF/FREEZ/INHBT] condition of the PTC heater states.
FAN ON SIG [On/Off]	Displays [FAN (ON)/FAN (OFF)] status as judged from blower fan motor signal.
ENGINE STATUS [STOP/STAL/RUN/CRA]	Indicate [STOP/STALL/RUN/CRA] condition of the engine states.
ENG COOLNT T [°C]	The engine coolant temperature (determined by the signal voltage of the engine coolant temperature sensor) is displayed.
BATTERY VOLT [V]	The power supply voltage of BCM is displayed.
ENGINE RPM [rpm]	Indicates the engine speed computed from the signal of the crankshaft position sensor.
OUTSIDE TEMP [°C]	The outside air temperature (determined by the signal voltage of the OAT sensor) is displayed.

ACTIVE TEST

Test item

Test Item	Operation	Description
PTC HEATER	OFF PTC 1 PTC 2 PTC 3	This test is able to check PTC heater operation.

BCS

U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000000924613

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-59, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000000924614

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.	Any item (or items) of the following listed below is malfunctioning in CAN communication system. • Transmission • Receiving (ECM) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (MULTI AV) • Receiving (IPDM E/R) • Receiving (I-KEY)

Diagnosis Procedure

INFOID:000000000943712

1.PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-46, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-39, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000000924616

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of CAN controller of BCM.	BCM

Diagnosis Procedure

INFOID:000000000924617

1.REPLACE BCM

When "DTC:U1010" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-64, "Exploded View"](#).

Special Repair Requirement

INFOID:000000000927249

1.ADDITIONAL SERVICE WHEN REPLACING BCM

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

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POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000000924627

1.CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
41	Battery power supply	9
57		J
37	ACC power supply	5
38	Ignition power supply	4

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		(-)	Ignition switch position		
(+) BCM					
Connector	Terminal		OFF	ACC	ON
M65	37	Ground	Approx. 0 V	Battery voltage	Battery voltage
	38		Approx. 0 V	Approx. 0 V	Battery voltage
M66	41		Battery voltage	Battery voltage	Battery voltage
M67	57		Battery voltage	Battery voltage	Battery voltage

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		
M67	55		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:000000000924629

1.CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M65	33	M27	1	Existed
INPUT 2		32		2	
INPUT 3		35		3	
INPUT 4		34		4	
INPUT 5		31		5	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair harnesses or connectors.

2.CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM			Continuity
	Connector	Terminal		
INPUT 1	M65	33	Ground	Not existed
INPUT 2		32		
INPUT 3		35		
INPUT 4		34		
INPUT 5		31		

Does continuity exist?

YES >> Repair harnesses or connectors.

NO >> GO TO 3.

3.CHECK BCM OUTPUT VOLTAGE

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

System	Terminals		Voltage (Approx.)	
	(+) (−)			
	BCM			
	Connector	Terminal		
INPUT 1	M65	33	Ground	Refer to BCS-39 , "Reference Value".
INPUT 2		32		
INPUT 3		35		
INPUT 4		34		
INPUT 5		31		

Is the measurement value normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to [BCS-64](#), "Exploded View".

COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

4.CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-38, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-64, "Exploded View"](#).

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

Special Repair Requirement

INFOID:000000000927429

1.ADDITIONAL SERVICE WHEN REPLACING BCM

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

COMBINATION SWITCH OUTPUT CIRCUIT

< COMPONENT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:000000000924631

1.CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

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

Does continuity exist?

YES >> GO TO 2.

NO >> Repair 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	M65	1	Ground	Not existed
OUTPUT 2		4		
OUTPUT 3		3		
OUTPUT 4		2		
OUTPUT 5		5		

Does continuity exist?

YES >> Repair harnesses or connectors.

NO >> GO TO 3.

3.CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-38, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-64, "Exploded View"](#).

NO >> Replace combination switch (applicable parts).

Special Repair Requirement

INFOID:000000000927430

1.ADDITIONAL SERVICE WHEN REPLACING BCM

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

COMBINATION SWITCH

< COMPONENT DIAGNOSIS >

COMBINATION SWITCH

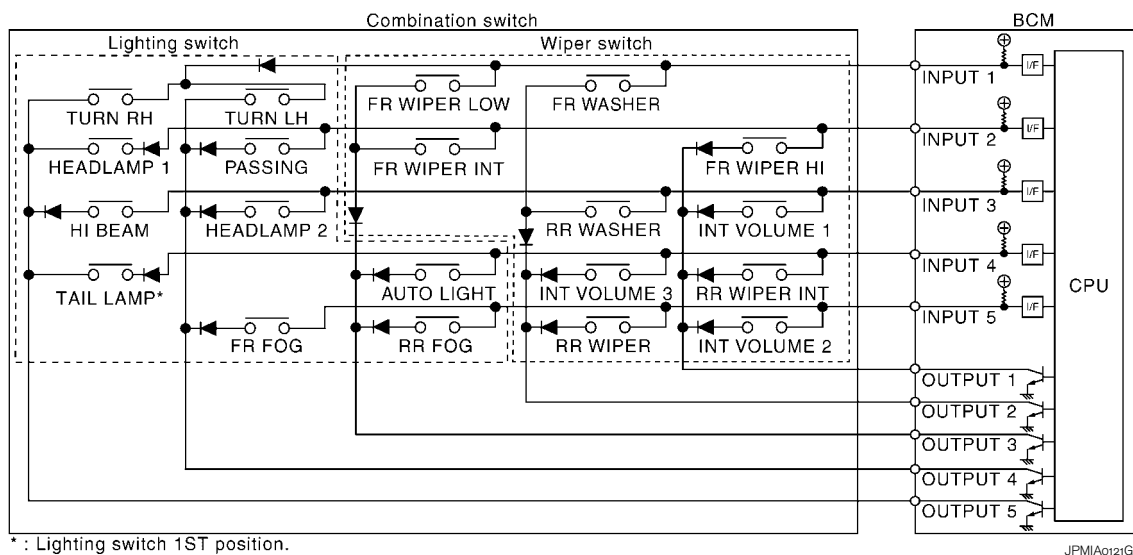
Description

INFOID:0000000001026782

COMBINATION SWITCH MATRIX

Combination switch consists of INPUT circuit and OUTPUT circuit.

Combination switch circuit



Combination switch INPUT-OUTPUT system list

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

NOTE:

Headlamp has a dual system switch.

Diagnosis Procedure

INFOID:0000000001026783

1.CHECK LIGHT & TURN SIGNAL SWITCH

Check operation with normal light & turn signal switch installed.

Does it operate normally?

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

2.CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

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

3.CHECK SWITCH BASE (SPIRAL CABLE)

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

Does it operate normally?

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000000924644

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
ACC ON SW	Ignition switch OFF		OFF
	Ignition switch ACC or ON		ON
AIR COND SW	A/C switch OFF		OFF
	A/C switch ON		ON
AUT LIGHT SYS	Outside of the room is dark		OFF
	Outside of the room is bright		ON
AUTO LIGHT SW	Lighting switch OFF		OFF
	Lighting switch AUTO		ON
BACK DOOR SW	Back door closed		OFF
	Back door opened		ON
BATTERY VOLT NOTE: Diesel engine models only	Ignition switch ON		Approximately the same as power supply voltage
BUCKLE SW	Driver's seat belt unfastened		OFF
	Driver's seat belt fastened		ON
CDL LOCK SW	Door lock/unlock switch does not operate		OFF
	Press door lock/unlock switch to the LOCK side		ON
CDL UNLOCK SW	Door lock/unlock switch does not operate		OFF
	Press door lock/unlock switch to the UNLOCK side		ON
DOOR SW-AS	Passenger door closed		OFF
	Passenger door opened		ON
DOOR SW-DR	Driver door closed		OFF
	Driver door opened		ON
DOOR SW-RL	Rear LH door closed		OFF
	Rear LH door opened		ON
DOOR SW-RR	Rear RH door closed		OFF
	Rear RH door opened		ON
ELEC PWR CUT NOTE: Diesel engine models only	Engine running	Fan switch ON (when engine coolant is cool) NOTE: Depending on the ambient temperature, battery voltage, etc.	OFF
		The current status maintained with the signal from ECM received.	FREEZ
		- Fan switch OFF - Fan switch ON after engine warming UP NOTE: Depending on the engine coolant temperature, ambient temperature, battery voltage, etc.	INHBT

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
ENG COOLNT T NOTE: Diesel engine models only	Engine running	Approximately the same as water temperature gauge reading
ENGINE RPM NOTE: Diesel engine models only	Engine running	Approximately the same as tachometer reading
ENGINE RUN	Engine stopped	OFF
	Engine running	ON
ENGINE STATUS NOTE: Diesel engine models only	Engine stopped	STOP
	While the engine stalls	STALL
	Engine running	RUN
	At engine cranking	CRA
FAN ON SIG	Fan switch OFF	OFF
	Fan switch ON	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER LOW	Front wiper switch OFF	OFF
	Front wiper switch LO	ON
FR WIPER HI	Front wiper switch OFF	OFF
	Front wiper switch HI	ON
FR WIPER INT	Front wiper switch OFF	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Any position other than front wiper stop position	OFF
	Front wiper stop position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
HEAD LAMP SW 1	Lighting switch OFF	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Lighting switch OFF	OFF
	Lighting switch 2ND	ON
HI BEAM SW	Lighting switch OFF	OFF
	Lighting switch HI	ON
HOOD SW	Close the hood NOTE: Vehicles without theft warning system are OFF-fixed	OFF
	Open the hood	ON
H/L WASH SW	NOTE: The item is indicated, but not monitored	OFF
IGN ON SW	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
IGN SW CAN	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
I-KEY LOCK	LOCK button of Intelligent Key is not pressed	OFF
	LOCK button of Intelligent Key is pressed	ON
I-KEY UNLOCK	UNLOCK button of Intelligent Key is not pressed	OFF
	UNLOCK button of Intelligent Key is pressed	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
	Mechanical key is inserted to key cylinder	ON
KEYLESS LOCK	LOCK button of key fob is not pressed	OFF
	LOCK button of key fob is pressed	ON
KEYLESS UNLOCK	UNLOCK button of key fob is not pressed	OFF
	UNLOCK button of key fob is pressed	ON
LIT-SEN FAIL	Light & rain sensor is in normal condition	OK
	Light & rain sensor is with internal error	NOTOK
OIL PRESS SW	- Ignition switch OFF or ACC - Engine running	OFF
	Ignition switch ON	ON
OUT SIDE TEMP NOTE: Diesel engine models	Ignition switch ON	Approximately the same as outside air temperature
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
PUSH SW	Return to ignition switch to LOCK position	OFF
	Press ignition switch	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
	Rear window defogger switch ON	ON
RKE LOCK AND UN-LOCK	NOTE: The item is indicated, but not monitored	OFF
		ON
RR FOG SW	Rear fog lamp switch OFF	OFF
	Rear fog lamp switch ON	ON
RR WASHER SW	Rear washer switch OFF	OFF
	Rear washer switch ON	ON
RR WIPER INT	Rear wiper switch OFF	OFF
	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
SHOCK SENSOR	Ignition switch ON	NOMAL
	After the reception of air bag deployment signal from air bag diagnosis sensor unit	OFF
	During the reception of air bag deployment signal from air bag diagnosis sensor unit	ON
TAIL LAMP SW	Lighting switch OFF	OFF
	Lighting switch 1ST	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
	When back door opener switch is pressed	ON

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BCM (BODY CONTROL MODULE)

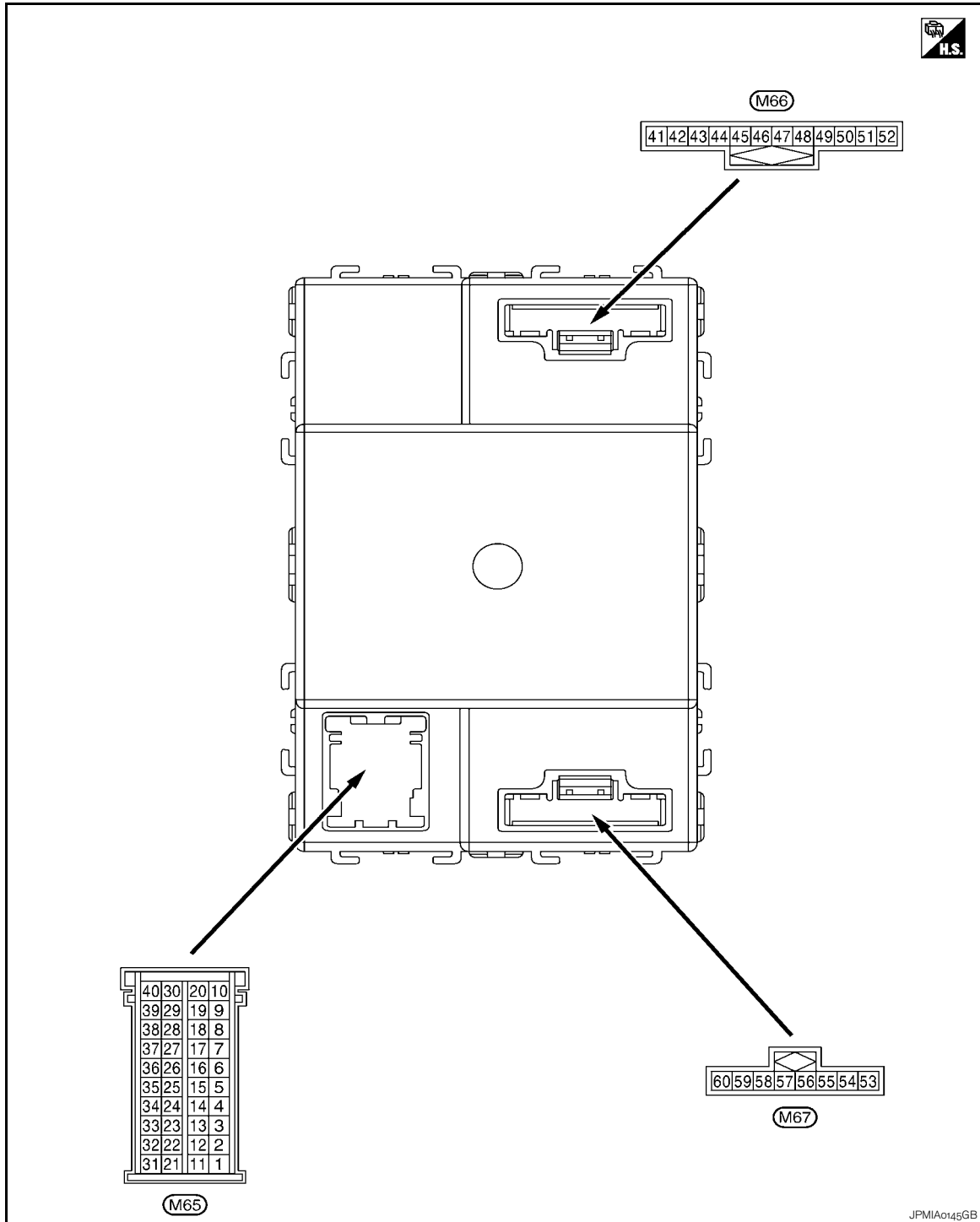
< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
TURN SIGNAL L	Turn signal switch OFF	OFF
	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
	Turn signal switch RH	ON
UNLOCK WITH DR	NOTE: The item is indicated, but not monitored	OFF
		ON
UNLOCK SHOCK	Other than the following	OFF
	During the unlock operation interlocked with air bag	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

TERMINAL LAYOUT



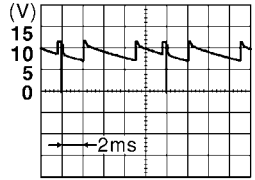
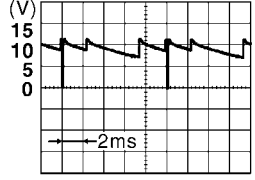
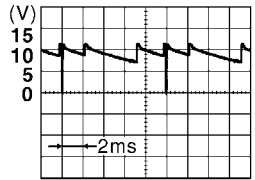
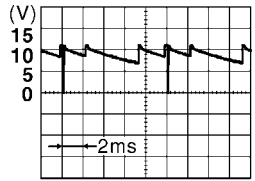
PHYSICAL VALUES

CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT -III. Refer to [BCS-26, "COMB SW : CONSULT-III Function \(BCM - COMB SW\)"](#).
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to [BCS-7, "System Description"](#).

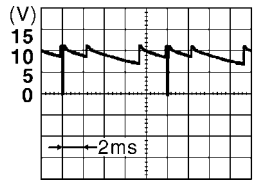
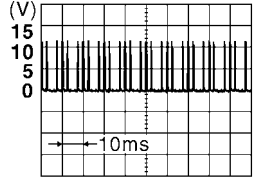
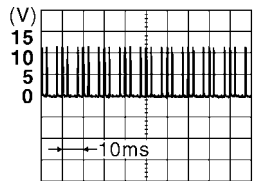
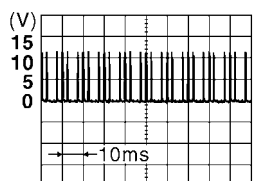
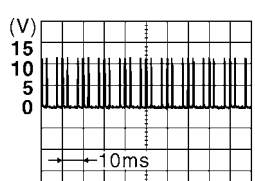
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (P)	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)	 JPMIAor16oGB 9.1 V
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Any of the condition 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	
2 (Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Lighting switch 2ND	 JPMIAor163GB 9.3 V
					Lighting switch PASS	
					Front fog lamp switch ON	
					Turn signal switch LH	
3 (LG)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Lighting switch AUTO	 JPMIAor162GB 9.3 V
					Rear fog lamp switch OFF	
					Front wiper switch MIST	
					Front wiper switch INT	
					Front wiper switch LO	
4 (R)	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)	 JPMIAor161GB 9.1 V
					Rear wiper switch ON (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF	
					• Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	

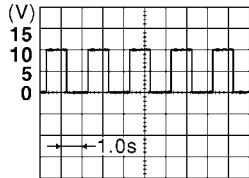
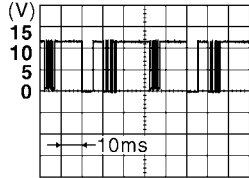
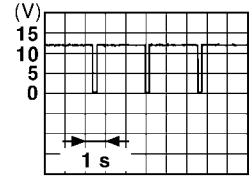
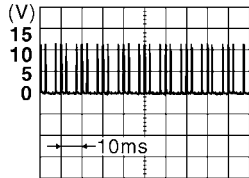
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
5 (W)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Lighting switch 1ST	 JPMIA0164GB 9.1 V
					Lighting switch 2ND	
					Lighting switch HI	
					Turn signal switch RH	
7 (P)	Ground	Door lock/unlock switch (Lock)	Output	Door lock/un- lock switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed to the lock side	0 V
8 (LG)	Ground	Hazard switch	Output	Hazard switch	Not pressed	 JPMIA0154GB 1.3 V
					Pressed	0 V
9 (BR)	Ground	Door lock/unlock switch (Unlock)	Output	Door lock/un- lock switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed to the unlock side	0 V
12 (P)	Ground	Back door opener switch	Output	Back door opener switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed	0 V

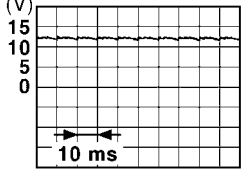
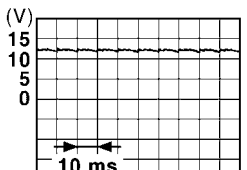
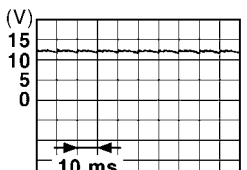
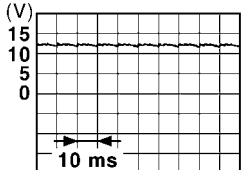
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
13 (R)	Ground	Shock detect sensor	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		 6.0 V JPMIA0155GB
14 (L/R)	Ground	A/C switch	Output	A/C switch	Not pressed	Battery voltage
					Pressed	0 V
15 (LG/B)	Ground	Fan switch	Output	Fan switch	Not pressed	Battery voltage
					Pressed	0 V
16 (GR)	Ground	Alarm link	Input	—		—
17 (BR)	Ground	Light & rain sensor serial link	Output	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		 8.7 V JPMIA0156GB
18 (SB)	Ground	Security indicator	Output	Security indicator	ON	0 V
					Blinking	 10.3 V JPMIA0014GB
					OFF	Battery voltage
19 (L)	—	CAN-H	Input/ Output	—		—
20 (P)	—	CAN-L	Input/ Output	—		—
21 (SB)	Ground	Rear window defog- ger switch	Output	Rear window defogger switch	Not pressed	 1.1 V JPMIA0154GB
					While pressing	0 V

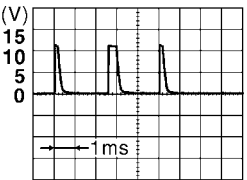
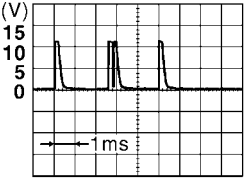
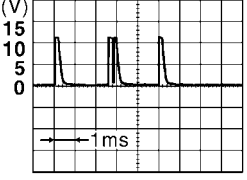
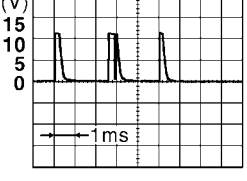
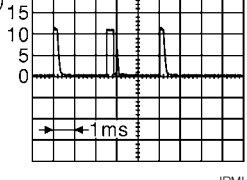
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
24 (GR)	Ground	Door lock status indicator	Output	Door lock status indicator	ON	Battery voltage
					OFF	0 V
25 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	 11.2 V
					ON (When rear door LH opened)	0 V
26 (R)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 11.2 V
					ON (When driver door opened)	0 V
27 (BR)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 11.2 V
					ON (When passenger door opened)	0 V
28 (G)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	Battery voltage
					ON (When back door opened)	0 V
29 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	 11.2 V
					ON (When rear door RH opened)	0 V
30 (SB)	Ground	Audio link	Output	—	—	—

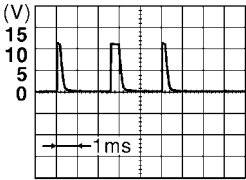
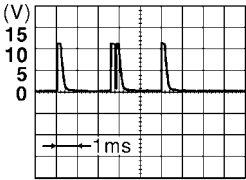
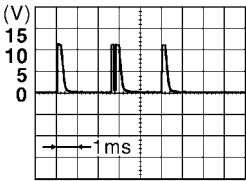
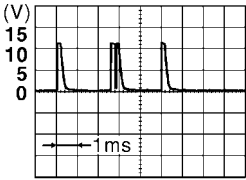
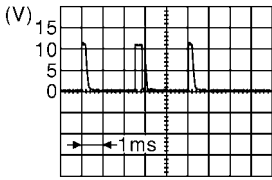
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
31 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  1.3 V
					Front fog lamp switch ON (Wiper intermittent dial 4)  1.3 V
					Rear fog lamp switch ON (Wiper intermittent dial 4)  1.3 V
					Rear wiper switch ON (Wiper intermittent dial 4)  1.3 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7  1.3 V

BCM (BODY CONTROL MODULE)

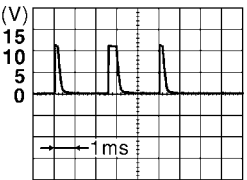
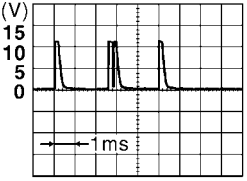
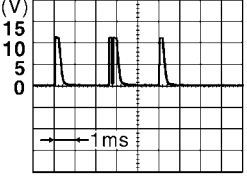
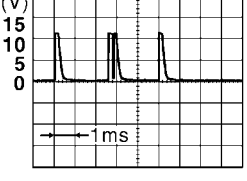
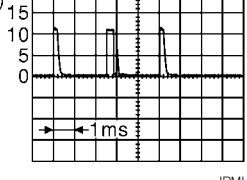
< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
32 (G)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent 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

BCS

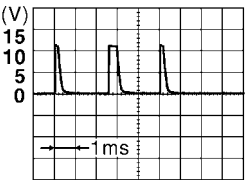
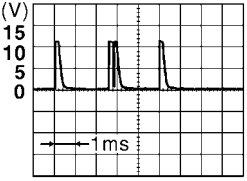
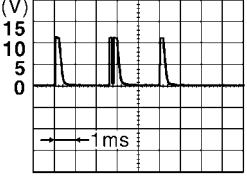
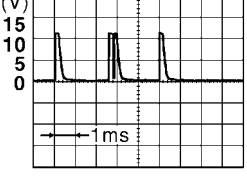
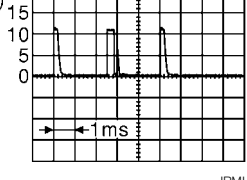
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
33 (V)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	 JPMIAor165GB 1.4 V
					 JPMIAor167GB 1.3 V
					 JPMIAor166GB 1.3 V
					 JPMIAor168GB 1.3 V
					 JPMIAor196GB 1.3 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
34 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  1.4 V JPMIA0165GB
					Lighting switch AUTO (Wiper intermittent dial 4)  1.3 V JPMIA0167GB
					Lighting switch 1ST (Wiper intermittent dial 4)  1.3 V JPMIA0166GB
					Rear wiper INT (Wiper intermittent dial 4)  1.3 V JPMIA0167GB
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 6  1.3 V JPMIA0196GB

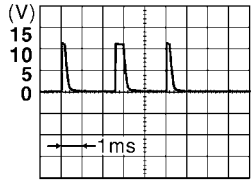
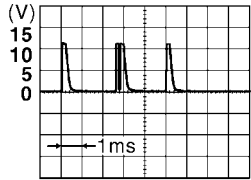
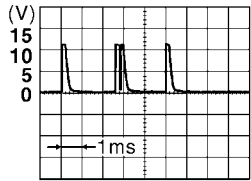
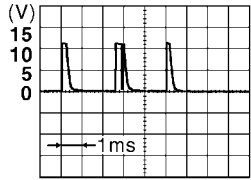
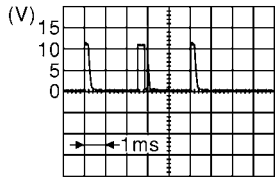
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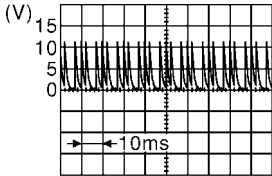
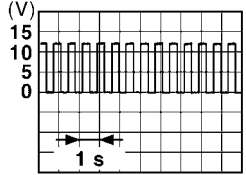
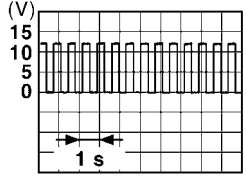
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
35 (L)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  JPMIAor165GB 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)  JPMIAor166GB 1.3 V
					Lighting switch 2ND (Wiper intermittent dial 4)  JPMIAor167GB 1.3 V
					Rear wiper switch ON  JPMIAor169GB 1.3 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3  JPMIAor196GB 1.3 V
36 (V)	Ground	Key switch	Output	Insert mechanical key into ignition key cylinder	Battery voltage
				Remove mechanical key from ignition key cylinder	0 V
37 (R)	Ground	ACC power supply	Output	Ignition switch OFF	0 V
				Ignition switch ACC or ON	Battery voltage
38 (W/L)	Ground	Ignition power supply	Output	Ignition switch OFF or ACC	0 V
				Ignition switch ON	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
39 (P)	Ground	NATS antenna amp.	Input/ Output	Insert mechanical key into ignition key cylinder		Just after Insert mechanical key into ignition key cylinder. Pointer of tester should move
40 (LG)	Ground	NATS antenna amp.	Input/ Output	Insert mechanical key into ignition key cylinder		Just after Insert mechanical key into ignition key cylinder. Pointer of tester should move
41 (V)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
42 (V)	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
43 (L)	Ground	Rear wiper motor	Output	Rear wiper switch OFF		0 V
				Rear wiper switch ON		Battery voltage
44 (L/W)	Ground	Rear wiper auto stop	Output	Ignition switch ON	Rear wiper stop position	0 V
					Any position other than rear wiper stop position	 JPMIA0197GB
45 (GR)	Ground	Back door lock actuator	Output	Back door opener switch	Pressed	Battery voltage (300ms)
					Not pressed	0 V
47 (G/Y)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKID0926E 6.5 V
48 (G/B)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKID0926E 6.5 V
49 (Y)	Ground	Rear fog lamp	Output	Lighting switch 1ST and front fog lamp switch ON	Rear fog lamp switch OFF	0 V
					Rear fog lamp switch ON	Battery voltage
51 (R/W)*1 (R)*2	Ground	Stop lamp switch	Output	Depress the brake pedal		Battery voltage
				Release the brake pedal		0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	—	Signal name	Input/ Output			
52 (R)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0 V
53 (L)	Ground	Power window power supply	Output	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
54 (O)	Ground	Door unlock (All)	Output	Door lock/unlock switch	Pressed to the unlock side	Battery voltage
					Pressed to the lock side	0 V
55 (B)	Ground	Ground	—	Ignition switch ON		0 V
56 (Y)* ¹ (SB)* ²	Ground	Door lock (All)	Output	Door lock/unlock switch	Pressed to the unlock side	0 V
					Pressed to the lock side	Battery voltage
57 (Y)	Ground	Battery power supply	Output	Ignition switch OFF		Battery voltage
58 (P)	Ground	Power window power supply	Output	Ignition switch OFF		Battery voltage
59 (BR)	Ground	Super lock	Output	When lock button of key fob or Intelligent Key is not pressed		0 V
				When lock button of key fob or Intelligent Key is pressed		Battery voltage
60 (GR)	Ground	Driver door unlock	Output	Door lock/unlock switch	Pressed to the unlock side	Battery voltage
					Pressed to the lock side	0 V

*1: With Intelligent Key system

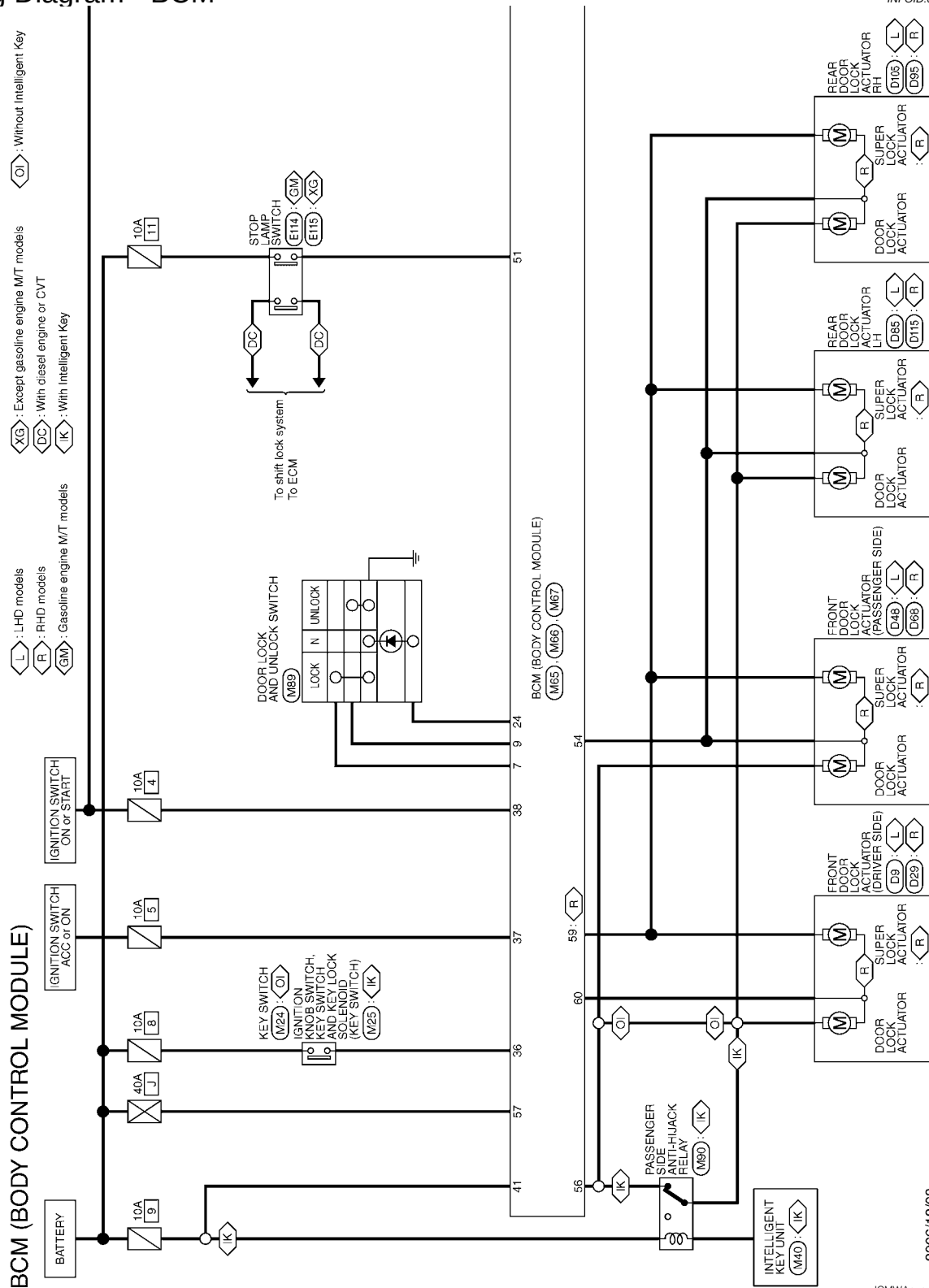
*2: Without Intelligent Key system

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Wiring Diagram - BCM -

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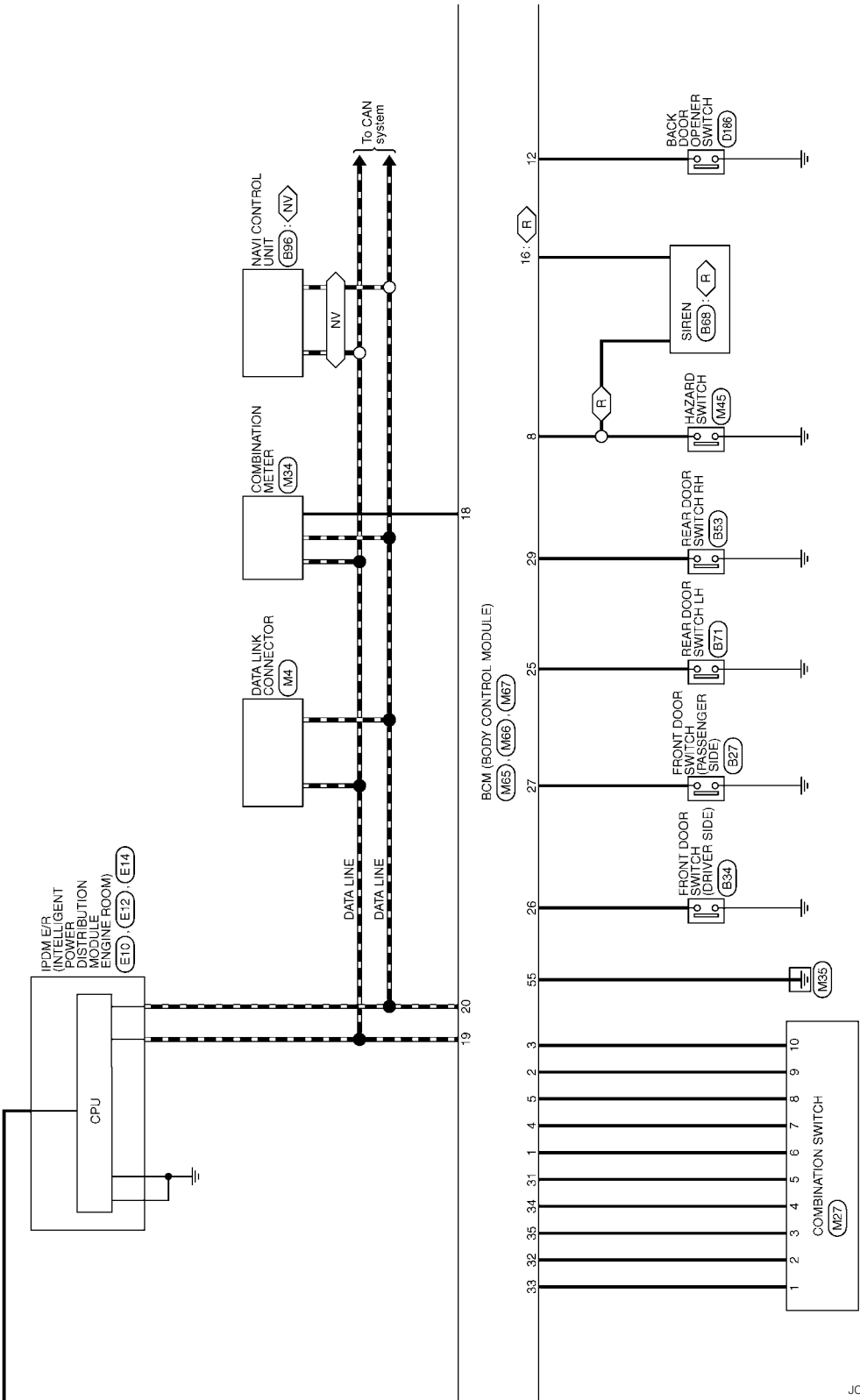
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BCM (BODY CONTROL MODULE)

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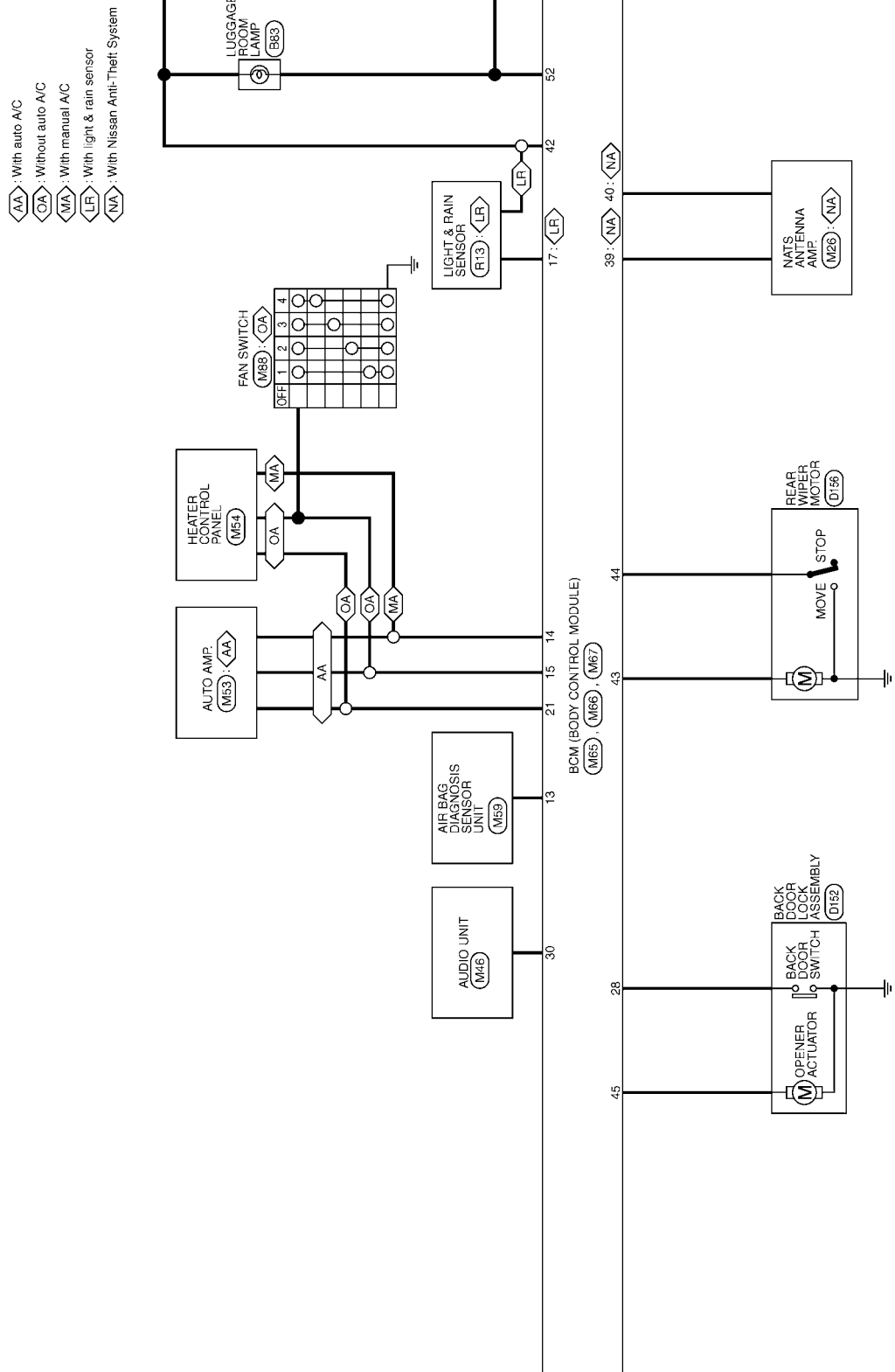
R : RHD models
NV : With navigation system



JCMWA0408GB

BCM (BODY CONTROL MODULE)

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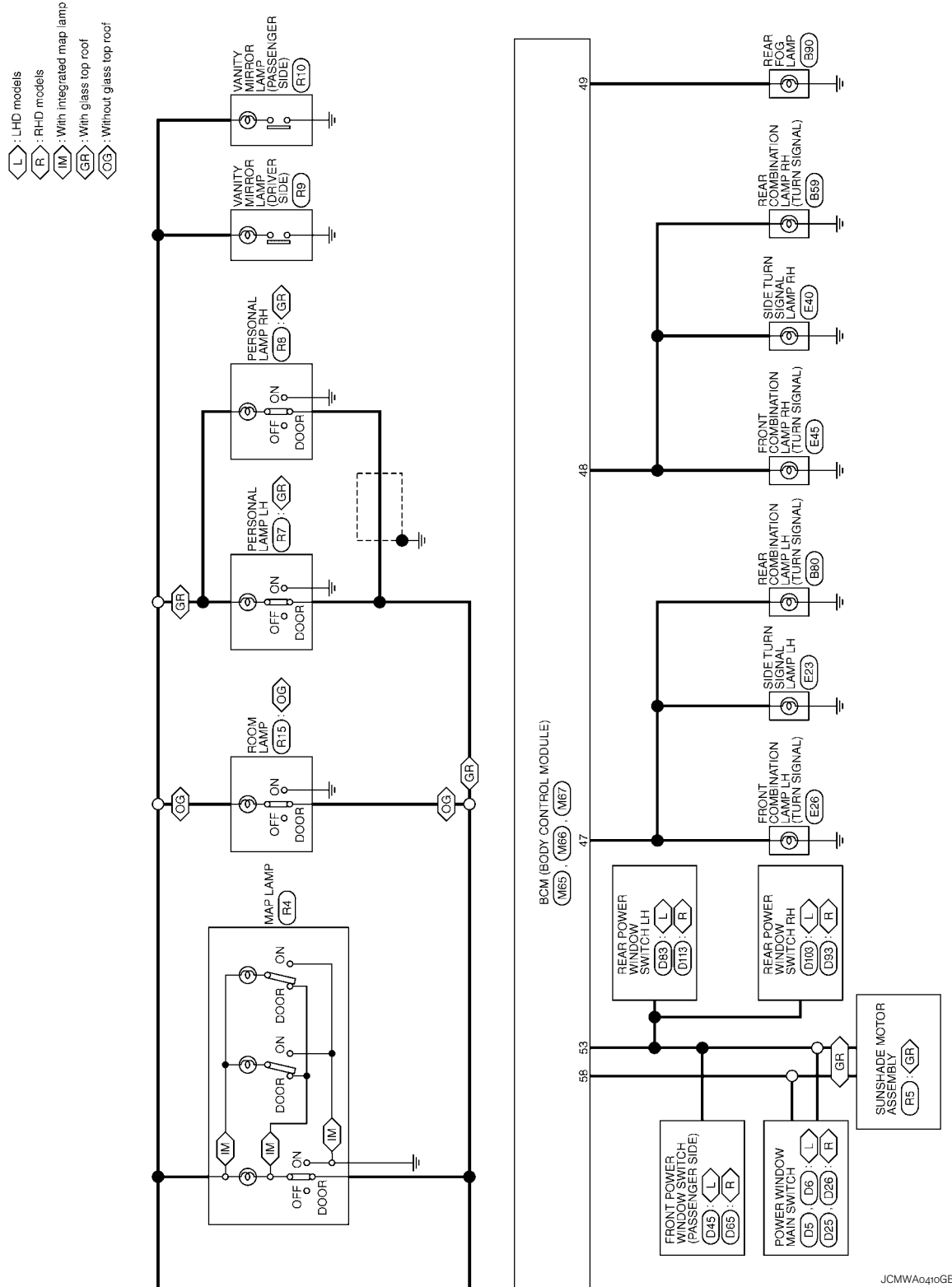


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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >



JCMWA0410GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TK16FW



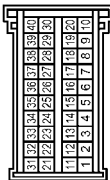
Terminal No.	Color of Wire	Signal Name [Specification]
1	V	INPUT1
2	G	INPUT2
3	L	INPUT3
4	GR	INPUT4
5	BR	INPUT5
6	P	OUTPUT1
7	R	OUTPUT2
8	W	OUTPUT3
9	Y	OUTPUT4
10	LG	OUTPUT3

Connector No.	M67
Connector Name	BOM (BODY CONTROL MODULE)
Connector Type	FCI 211PC38S0017



Terminal No.	Color of Wire	Signal Name [Specification]
53	L	POWER WDW PWR SUPPLY (LINKED TO IGN)
54	O	DOOR UNLOCK OUTPUT (OTHER)
55	B	GRND/POWER
56	Y	DOOR LOCK OUTPUT (ALL (With Intelligent Key))
56	SB	DOOR LOCK OUTPUT (ALL (Without Intelligent Key))
57	Y	BAT(F/L)
58	P	POWER WDW PWR SUPPLY (BAT)
59	BR	SUPER LOCK SET OUTPUT
60	GR	UNLOCK (DR)

Connector No.	M65
Connector Name	BOM (BODY CONTROL MODULE)
Connector Type	AA840FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	P	COMBI SW OUTPUT 1
2	Y	COMBI SW OUTPUT 4
3	LG	COMBI SW OUTPUT 3
4	R	COMBI SW OUTPUT 2
5	W	COMBI SW OUTPUT 5
7	P	LOCK/UNLOCK SW (LOCK)
8	LG	HAZARD SW
9	BR	LOCK/UNLOCK SW (UNLOCK)
12	P	TRUNK/BACK DOOR OPEN SW
13	R	SHOCK DETECT SIG
14	L/R	A/C SW

15	LG/B	BLOWER FAN SW
16	GR	ALARM LINK
17	BR	LIGHT & RAIN SENS
18	SB	SECURITY INDICATOR
19	L	CAN-H
20	P	CAN-L
21	SB	REAR DEFOGGER SW
24	GR	DOOR LOCK STATUS IND
25	GR	DOOR SW (RL)
26	R	DOOR SW (DR)
27	BR	DOOR SW (LS)
28	G	DOOR SW (BACK)
28	LG	DOOR SW (RR)
30	SB	AUDIO LINK
31	BR	COMBI SW INPUT 5
32	G	COMBI SW INPUT 2
33	V	COMBI SW INPUT 1
34	GR	COMBI SW INPUT 4
35	L	COMBI SW INPUT 3
36	V	KEY SW
37	R	ACC SW
38	W/L	IGN SW
39	P	NATS ANTENNA AMP
40	LG	NATS ANTENNA AMP

Connector No.	M66
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FCI 211PC123S017



Terminal No.	Color of Wire	Signal Name [Specification]
41	V	BAT(FUSE)
42	V	ROOM LAMP POWER SUPPLY
43	L	REAR WIPER MOTOR OUTPUT
44	L/W	REAR WIPER AUTO STOP
45	GR	BACK DOOR OPENER
47	G/Y	FLASHER OUTPUT (LEFT)
48	G/B	FLASHER OUTPUT (RIGHT)
49	Y	REAR FOG LAMP
51	R/W	STOP LAMP SW (With Intelligent Key)
51	R	STOP LAMP SW (Without Intelligent Key)
52	R	ROOM LAMP OUTPUT

Fail Safe

Fail-safe index

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	- Inhibits engine cranking - Inhibits steering lock unlocking (Intelligent Key unit) - Fuel cut (ECM)	Erase DTC
B2191: DIFFERENCE OF KEY	- Inhibits engine cranking - Inhibits steering lock unlocking (Intelligent Key unit) - Fuel cut (ECM)	Erase DTC
B2192: ID DISCORD BCM-ECM	Fuel cut (ECM)	Erase DTC
B2193: CHAIN OF BCM-ECM	Fuel cut (ECM)	Erase DTC
B2194: DISCORD BCM-I-KEY	- Inhibits engine cranking - Inhibits steering lock unlocking (Intelligent Key unit) - Fuel cut (ECM)	Erase DTC
B2195: ANTI SCANNING	- Inhibits engine cranking - Inhibits steering lock unlocking (Intelligent Key unit) - Fuel cut (ECM)	Erase DTC
B2196: DONGLE NG	- Inhibits engine cranking - Inhibits steering lock unlocking (Intelligent Key unit) - Fuel cut (ECM)	Erase DTC

REAR WIPER CONTROL

BCM detects a rear wiper stopping position according to a rear wiper auto stop signal.

When a rear wiper auto stop signal is in the condition listed below, BCM stops power supply to rear wiper after rear wiper is activated for five seconds.

Ignition switch	Rear wiper switch	Auto stop signal
ON	OFF	Rear wiper stop position signal cannot be input 5 seconds.
	ON	The signal does not change for 5 seconds.

NOTE:

The above operation is repeated when operating the rear wiper switch one minute after the stop of the rear wiper caused by Fail-safe.

TURN SIGNAL LAMP CONTROL

BCM detects the turn signal lamp circuit status from the terminal voltage.

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

NOTE:

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

LIGHT & RAIN SENSOR MALFUNCTION DETECTION FUNCTION

BCM controls the following items when LIGHT & RAIN sensor has a malfunction.

Auto Light Control

Headlamp is turned ON.

Front Wiper Control

The condition just before the activation of Fail-safe is maintained until the front wiper switch is turned OFF.

DTC Inspection Priority Chart

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Priority	DTC
1	- U1000: CAN COMM CIRCUIT - U1010: CONTROL UNIT (CAN)
2	- B2190: NATS ANTENNA AMP - B2191: DIFFERNCE OF KEY - B2192: ID DISCORD BCM-ECM - B2193: CHAIN OF BCM-ECM - B2194: DISCORD BCM-I-KEY - B2195: ANTI SCANNING - B2196: DONGLE NG

DTC Index

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NOTE:

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

CONSULT display	TIME		Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	0	1 - 39	—	BCS-32
U1010: CONTROL UNIT (CAN)	0	1 - 39	—	BCS-33
B2190: NATS ANTENNA AMP	CRNT	PAST	×	- With Intelligent Key system SEC-33 - Without Intelligent Key system SEC-174
B2191: DIFFERENCE OF KEY	CRNT	PAST	×	- With Intelligent Key system SEC-35 - Without Intelligent Key system SEC-176
B2192: ID DISCORD BCM-ECM	CRNT	PAST	×	- With Intelligent Key system SEC-36 - Without Intelligent Key system SEC-177
B2193: CHAIN OF BCM-ECM	CRNT	PAST	×	- With Intelligent Key system SEC-38 - Without Intelligent Key system SEC-178
B2194: DISCORD BCM-I-KEY	CRNT	PAST	×	SEC-39
B2195: ANTI SCANNING	CRNT	PAST	×	- With Intelligent Key system SEC-179 - Without Intelligent Key system SEC-179
B2196: DONGLE NG	CRNT	PAST	×	- With Intelligent Key system SEC-41 - Without Intelligent Key system SEC-180

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000001097632

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 SRC and SB section of this Service Manual.

WARNING:

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

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:000000000936046

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

Malfunction item: x

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

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-35, "Diagnosis Procedure" .
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 BCS-37, "Diagnosis Procedure" .
G	Combination switch OUTPUT 2 circuit	
H	Combination switch OUTPUT 3 circuit	
I	Combination switch OUTPUT 4 circuit	
J	Combination switch OUTPUT 5 circuit	
K	Light and turn signal switch or front wiper and washer switch	Refer to BCS-38, "Description" .
L	BCM	Replace BCM.
M	Light and turn signal switch or front wiper and washer switch	Replace the switch that cannot be operated.

BCM (BODY CONTROL MODULE)

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

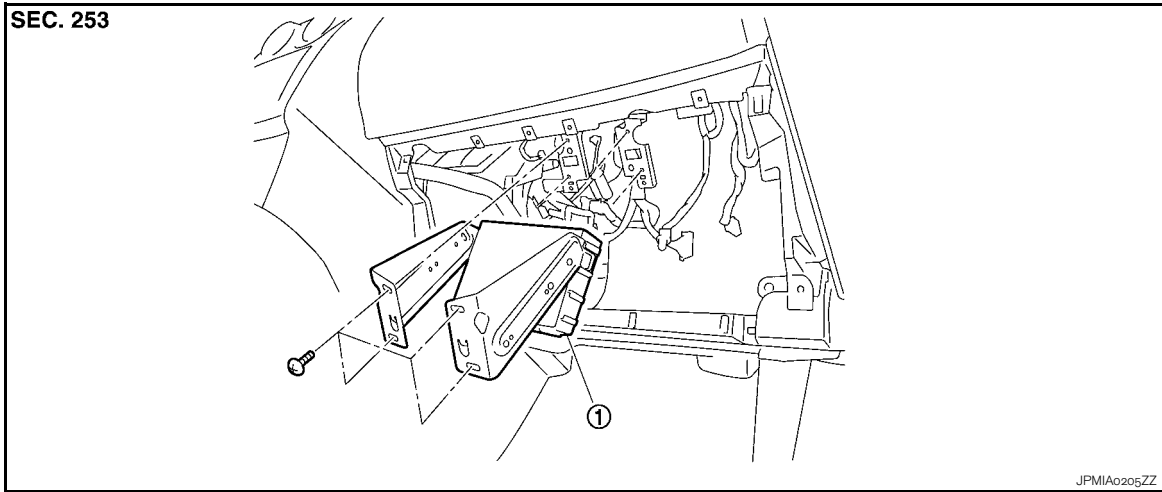
BCM (BODY CONTROL MODULE)

Exploded View

INFOID:000000000924640

CAUTION:

Before replacing BCM, perform configuration. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description"](#).



1. BCM

Removal and Installation

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CAUTION:

Before replacing BCM, perform configuration. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description"](#).

REMOVAL

1. Remove glove box assembly. Refer to [JP-11, "Exploded View"](#).
2. Disconnect 4WD control unit connector.
3. Remove intake heater duct.
4. Remove mounting screws.
5. Remove BCM and disconnect the connector.

INSTALLATION

Install in the reverse order of removal.

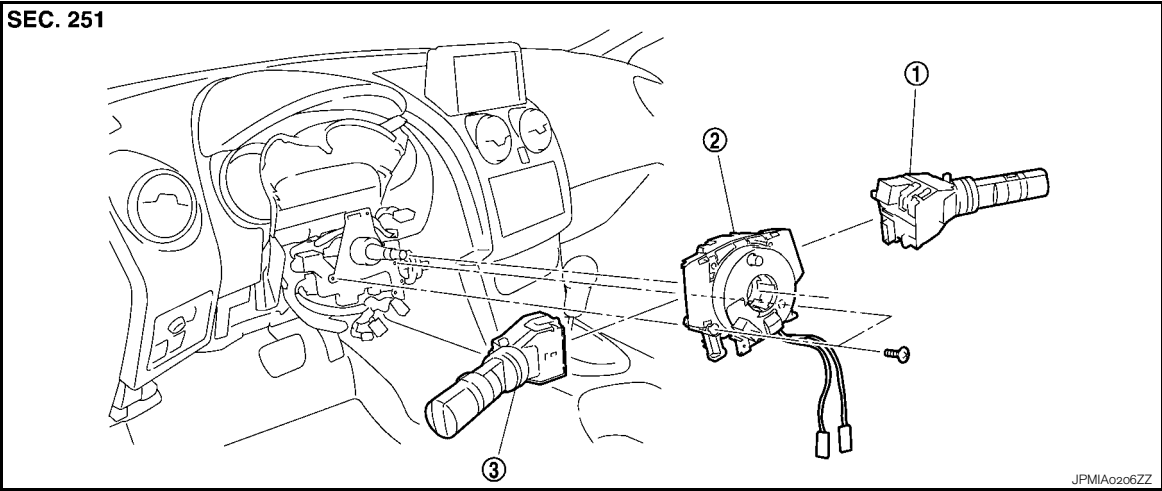
COMBINATION SWITCH

< ON-VEHICLE REPAIR >

COMBINATION SWITCH

Exploded View

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Removal and Installation

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Refer to [SR-6, "Exploded View"](#).