

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:000000001451449

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:000000001451450

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-57. "Removal and Installation of BCM"](#).

>> 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:000000001451451

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:000000001451452

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 or WITHOUT
SUPER LOCK	WITH
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITH
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	WITH or WITHOUT
SUPER LOCK	WITHOUT
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITH
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

• Diesel 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 or WITHOUT
SUPER LOCK	WITH
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITH
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	WITH or WITHOUT
SUPER LOCK	WITHOUT
I-KEY	WITH or WITHOUT
DOOR/L SPEED	WITH
H/L BAT SAVER	WITH
KEY WARNING	MODE1
R LAMP LOGIC	MODE2

>> WORK END

BODY CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

BODY CONTROL SYSTEM

System Description

INFOID:000000001451453

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-12, "System Diagram"
Turn signal and hazard warning lamp system	EXL-22, "System Diagram"
Headlamp system	EXL-8, "System Diagram"
Front fog lamp system	EXL-19, "System Diagram"
Rear fog lamp system	EXL-21, "System Diagram"
Daytime light system	EXL-17, "System Diagram"
Interior room lamp control system	INL-5, "System Diagram"
Interior room lamp battery saver system	INL-12, "BATTERY SAVER : CONSULT-III Function (BCM - BATTERY SAVER)"
Front wiper and washer system	WW-4, "System Diagram"
Rear wiper and washer system	WW-9, "System Diagram"
Headlamp washer system	WW-12, "System Diagram"
Warning chime system	WCS-4, "WARNING CHIME SYSTEM : System Diagram"
Door lock system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-20, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-244, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY & SUPER LOCK: DLK-473, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY, WITH SUPER LOCK: DLK-614, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"
(NATS) Nissan anti-theft system	• WITH INTELLIGENT KEY SYSTEM: SEC-12, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-84, "System Diagram"
Rear window defogger system	DEF-6, "System Diagram"
Remote keyless entry system	• WITHOUT I-KEY & SUPER LOCK: DLK-475, "REMOTE KEYLESS ENTRY : System Diagram" • WITHOUT I-KEY, WITH SUPER LOCK: DLK-614, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"
Intelligent Key system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-23, "INTELLIGENT KEY : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-244, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"

BODY CONTROL SYSTEM

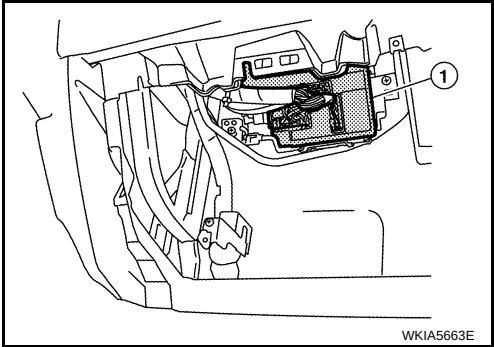
< FUNCTION DIAGNOSIS >

System	Refer to
Power window system	PWC-6, "System Diagram"
PTC heater control system	HAC-142, "PTC HEATER (300 WATT) : PTC Heater System Description"

Component Parts Location

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- BCM (1) M18, M19, M20 (view with glove box removed)

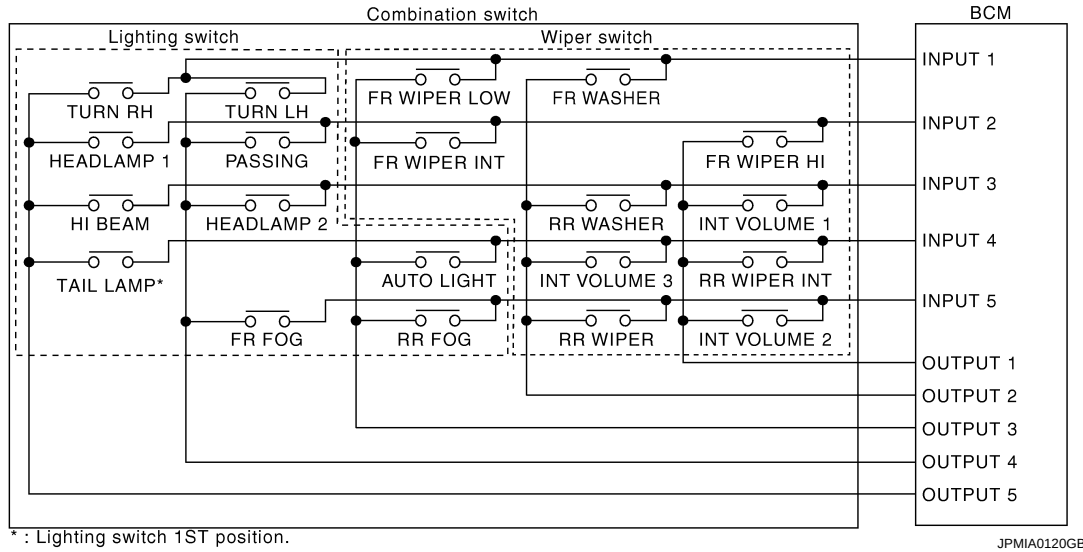


COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING SYSTEM

System Diagram



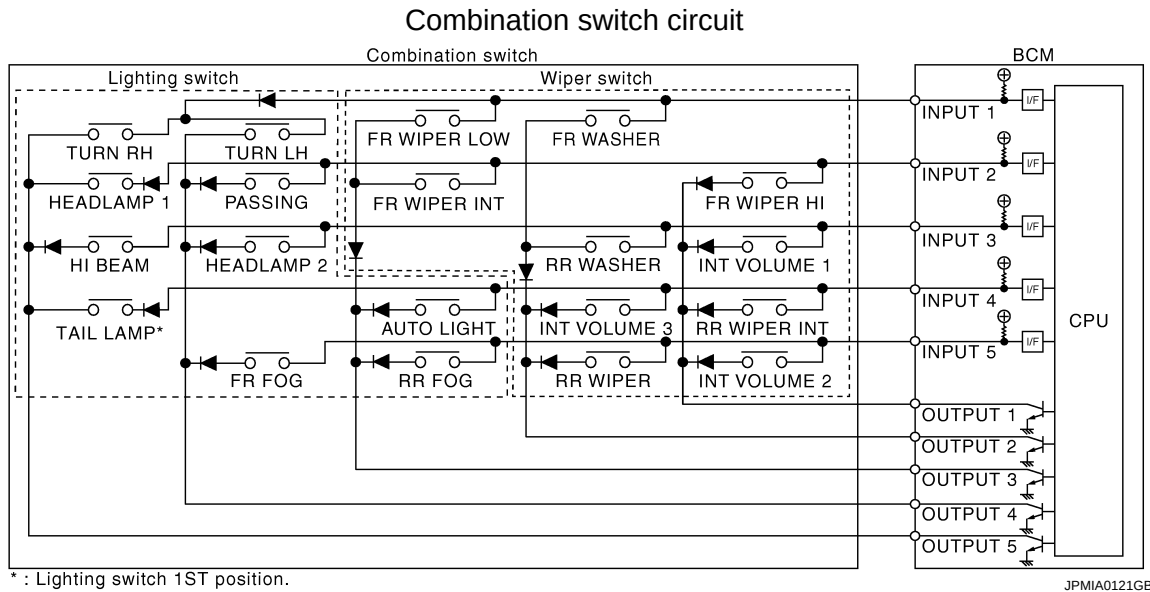
System Description

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OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM is a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5). It reads a maximum of 20 switch status.

COMBINATION SWITCH MATRIX



Combination switch INPUT-OUTPUT system list

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
INPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
INPUT 3	INT VOLUME 1	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	—

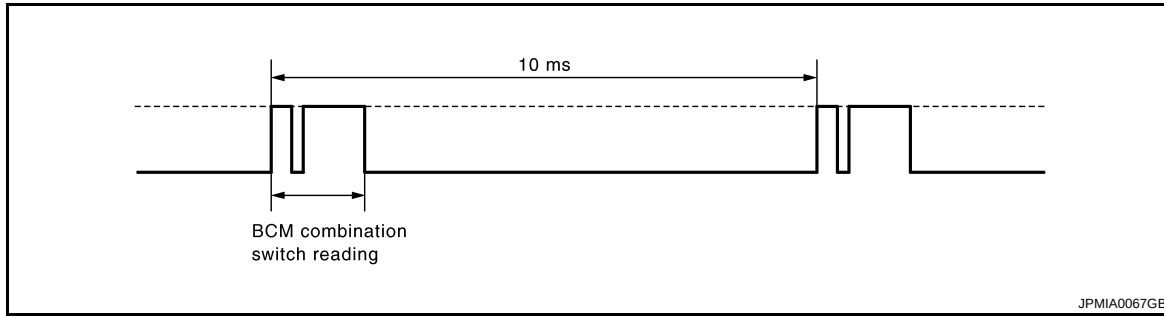
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

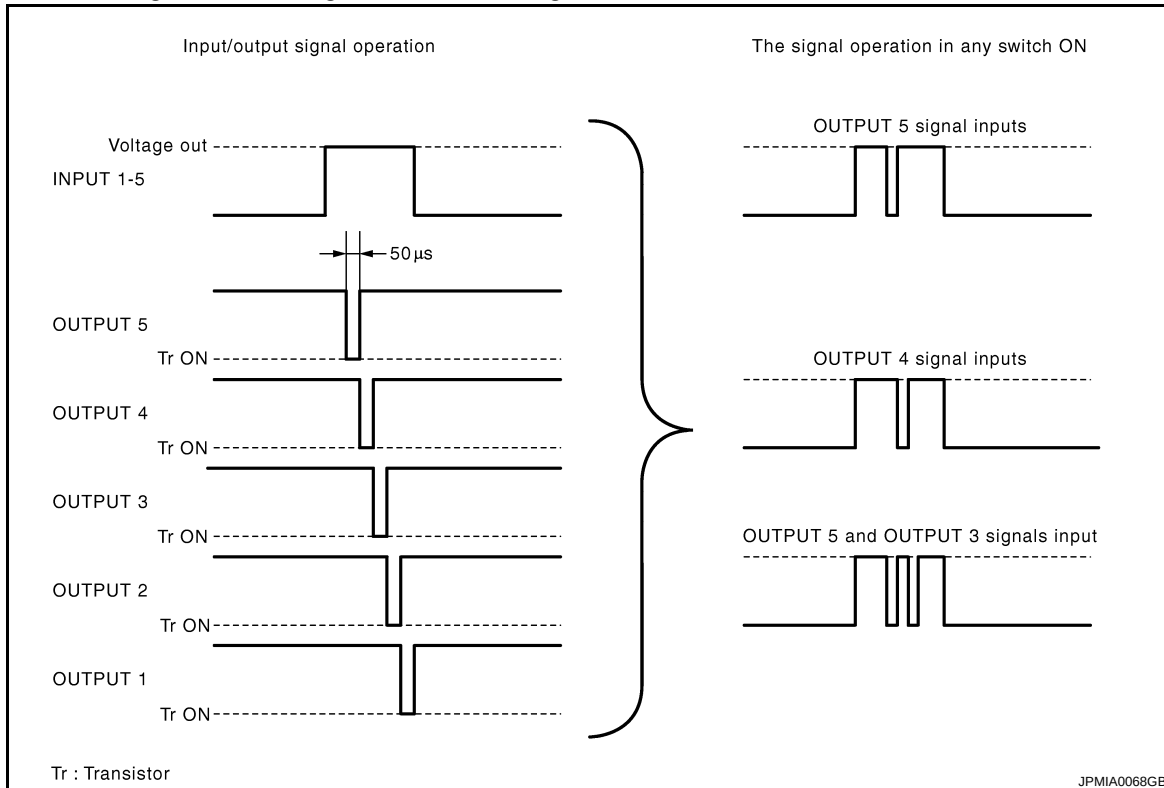
- BCM reads the status of the combination switch at 10 ms interval normally.



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

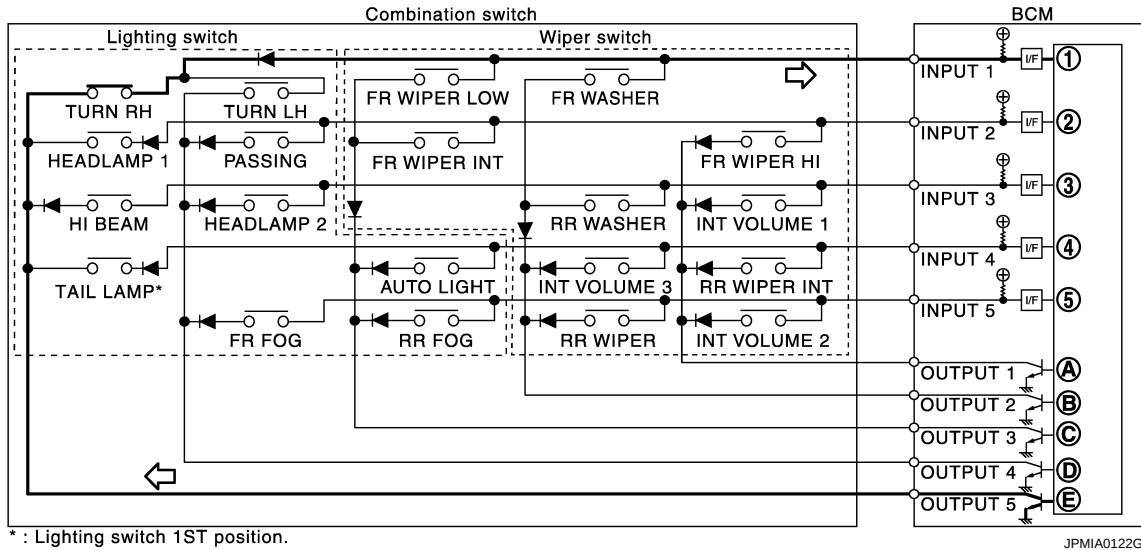
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

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

COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

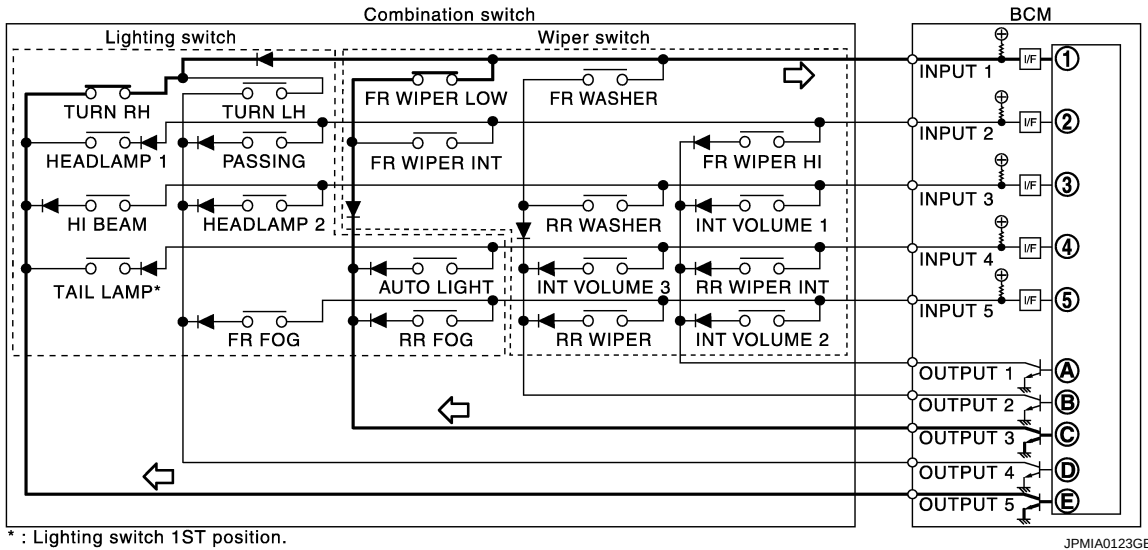
- The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



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

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

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



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

WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

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

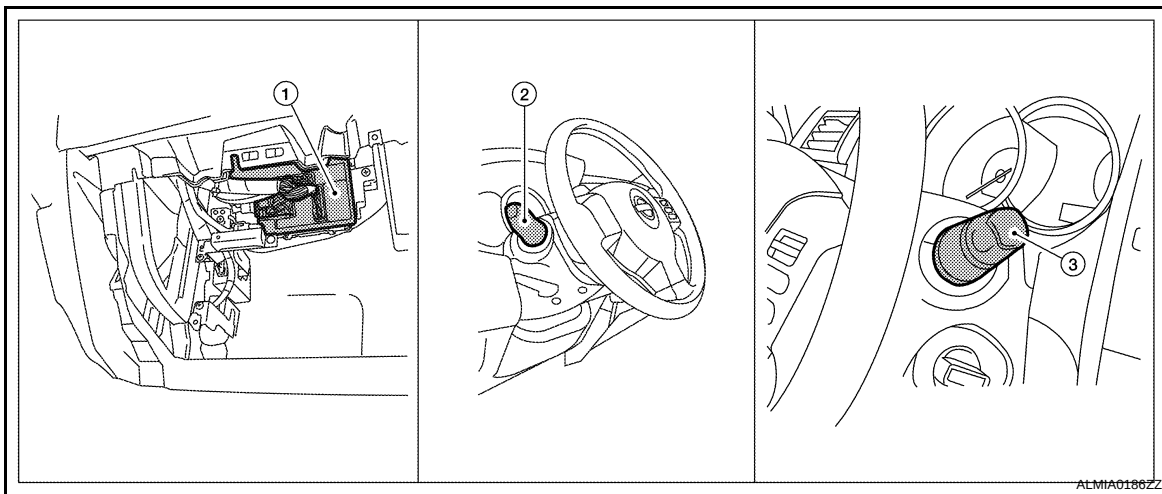
COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

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

Component Parts Location

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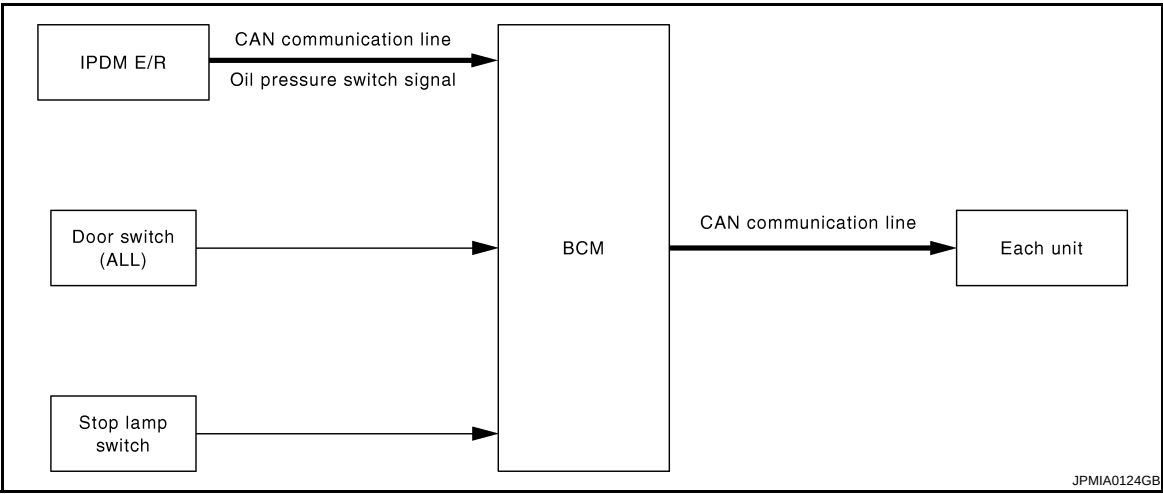
1. BCM M18, M19, M20 (view with glove box removed)
2. Combination switch (light and turn signal switch) M28
3. Combination switch (wiper and washer switch) M28

SIGNAL BUFFER SYSTEM

< FUNCTION DIAGNOSIS >

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:0000000001451459

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) ECM (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.

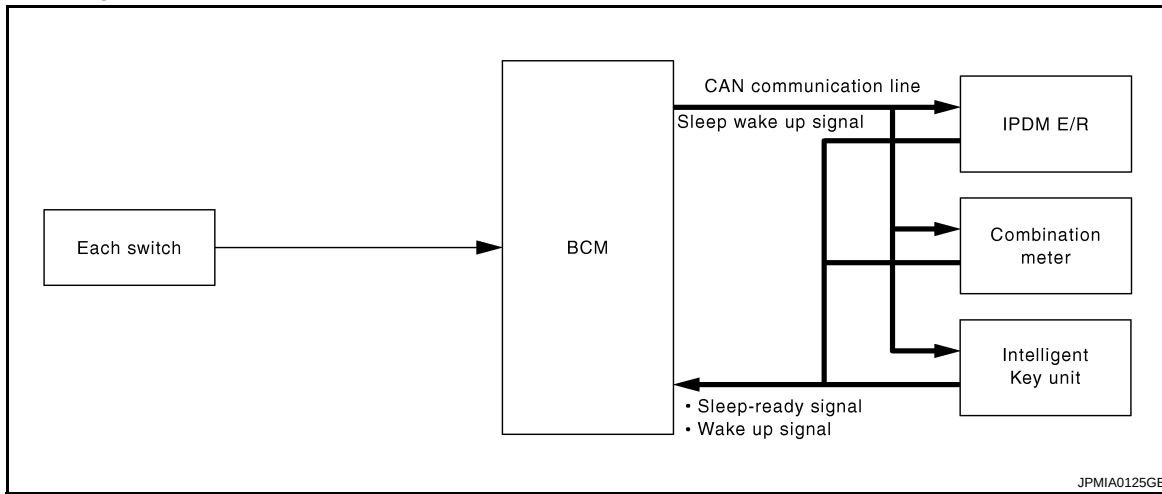
BCS

POWER CONSUMPTION CONTROL SYSTEM

< FUNCTION DIAGNOSIS >

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

INFOID:000000001451461

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 (with Intelligent Key)] 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 (with Intelligent Key) 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: No operation - Warning lamp: No operation - Warning chime: No operation - Stop lamp switch: OFF - Key switch status: No change for 2 seconds - Hazard warning lamp: No operation - Exterior lamp: OFF - Door lock status: No change for 2 seconds - CONSULT-III communication status: No communication - Door switch status: No change for 2 seconds	The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)

Wake-up operation

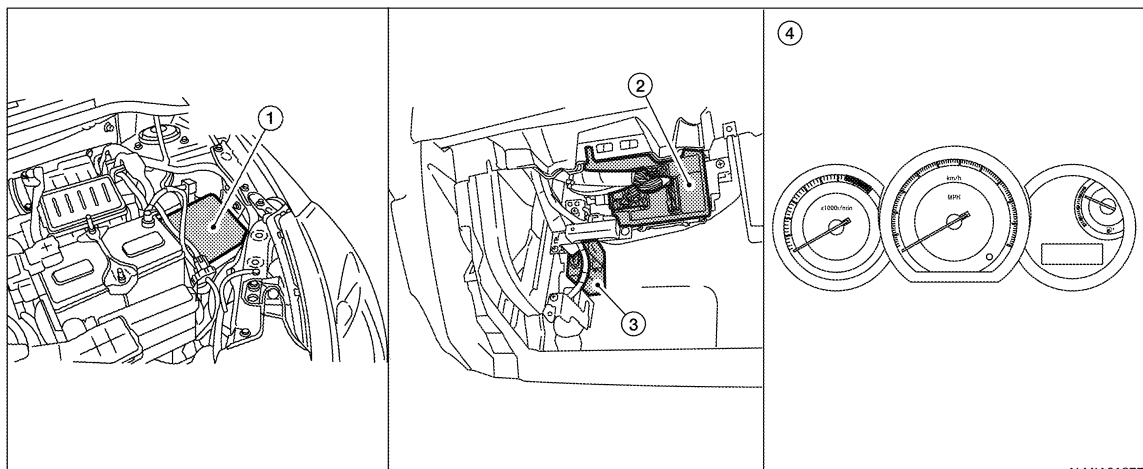
- BCM transmits sleep wake up signal (wake up) to each unit when any condition listed below is established, and then goes into normal mode from low power consumption mode.
- Each unit starts transmissions with CAN communication by receiving sleep wake up signals. Each unit transmits wake up signals to 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 (with remote keyless entry) - Intelligent Key unit: Receiving (with Intelligent Key)

Component Parts Location

INFOID:000000001451462



ALMIA0187ZZ

- IPDM E/R E46
- BCM M18, M19, M20 (view with glove box removed)
- Intelligent Key unit M52 (with Intelligent Key) (view with glove box removed)
- Combination meter M24

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000001451463

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-54, "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	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system ¹	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 ²	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open (sedan)/Back door open (hatch back)	DOOR LOCK		×	×
Vehicle security system	THEFT ALM	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
PTC heater system	PTC HEATER		×	×

1: With remote keyless entry system

2: With Intelligent Key

BCM

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

BCM : CONSULT-III Function (BCM - BCM)

INFOID:000000001451464

WORK SUPPORT

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:000000001451465

WORK SUPPORT

Work 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.
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

DATA MONITOR

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

1: With Intelligent Key

2: With remote keyless entry system

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock operation [ALL LOCK/ALL UNLOCK/DR UNLOCK/OTHER UNLOCK].
SUPER LOCK*	This test is able to check super lock operation [LOCK (SET)/UNLOCK (RELEASE)].

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Test item	Description
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].
TRUNK/BACK DOOR	This test is able to check trunk/back door lock operation [LOCK (SET)/UNLOCK (RELEASE)].

*: With super lock

REAR WINDOW DEFOGGER

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

INFOID:000000001451466

DATA MONITOR

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

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT-III Function (BCM - BUZZER)

INFOID:000000001451467

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged by ignition power supply input.
PUSH SW ¹ [ON/OFF]	Ignition knob status.
KEY SW ² [ON/OFF]	Key switch status.
DOOR SW -DR [ON/OFF]	Front door switch (driver side) status judged by BCM.
DOOR SW -AS [ON/OFF]	Front door switch (passenger side) status judged by BCM.
DOOR SW -RR [ON/OFF]	Rear door switch RH status judged by BCM.
DOOR SW -RL [ON/OFF]	Rear door switch LH status judged by BCM.
BACK DOOR SW [ON/OFF]	Back door switch status judged by BCM.
CDL LOCK SW [ON/OFF]	Door lock/unlock switch status.
CDL UNLOCK SW [ON/OFF]	Door lock/unlock switch status.
LIGHTING SW [ON/OFF]	Lighting switch status judged by the lighting switch signal read with combination switch reading function.
TRNK OPNR SW [ON/OFF]	Trunk switch status.

ACTIVE TEST

Test Item	Description
LIGHT WARN ALM	The light reminder 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).

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Test Item	Description
BACK DR OPEN WARN	The back door open warning operation can be checked by operating the relevant function (On/Off).
DOOR WARNING IND	The door open warning operation can be checked by operating the relevant function (On/Off).

INT LAMP

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

INFOID:000000001451468

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judges from IGN signal (ignition power supply)
PUSH SW ¹ [ON/OFF]	Push switch status received from Intelligent Key unit by CAN communication
KEY SW ² [ON/OFF]	The switch status input from key switch
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
KEYLESS LOCK ² [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK ² [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)
I-KEY LOCK ¹ [ON/OFF]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK ¹ [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication
I-KEY ALL UNL ¹ [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication

1: With Intelligent Key

2: With remote keyless entry

ACTIVE TEST

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:000000001451469

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Work 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-617. "REMOTE KEYLESS ENTRY : 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

DATA MONITOR

Monitor Item [Unit]	Condition
IGN ON SW [ON/OFF]	Indicates condition of ignition switch in ON position.
KEY SW [ON/OFF]	Indicates condition of key switch.
KEYLESS LOCK [ON/OFF]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [ON/OFF]	Indicates condition of unlock signal from keyfob.
DOOR SW-DR [ON/OFF]	Indicates condition of front door switch (driver side).
DOOR SW-AS [ON/OFF]	Indicates condition of front door switch (passenger side).
DOOR SW-RR [ON/OFF]	Indicates condition of rear door switch RH.
DOOR SW-RL [ON/OFF]	Indicates condition of rear door switch LH.
BACK DOOR SW [ON/OFF]	Indicates condition of back door switch.
CDL LOCK SW [ON/OFF]	Indicates condition of door lock and unlock switch.
CDL UNLOCK SW [ON/OFF]	Indicates 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].

HEADLAMP

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

INFOID:000000001451470

WORK SUPPORT

Work item	Setting	Description
BATTERY SAVER SET	ON*	Battery saver mode can be changed.
	OFF	

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged from IGN signal (ignition power supply)

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor item [Unit]	Description
HI BEAM SW [ON/OFF]	Each switch status that BCM judges from the combination switch reading function
H/L SW POS [ON/OFF]	
LIGHT SW 1ST [ON/OFF]	
PASSING SW [ON/OFF]	
AUTO LIGHT 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)
ENGINE STATUS	The engine status received from ECM with 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:000000001451471

WORK SUPPORT

Work Item	Setting Item	Description
WIPER SPEED SETTING	ON ¹	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)
RR WIP RVRS SET	ON ²	Change ON/OFF mode setting or rear wiper operation when gear is shifted to reverse
	OFF	

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

1: Factory setting

2: If equipped

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Ignition switch ON status judged from ignition power supply.
FR WIPER HI [ON/OFF]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER LOW [ON/OFF]	
FR WIPER INT [ON/OFF]	
FR WASHER SW [ON/OFF]	
INT VOLUME [1 - 7]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER STOP [ON/OFF]	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.
H/L SW POS [ON/OFF]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER ON [ON/OFF]	
RR WIPER INT [ON/OFF]	
RR WASHER SW [ON/OFF]	
RR WIPER STOP [ON/OFF]	Rear wiper motor (stop position) status input from the rear wiper motor.
REVERSE SW CAN [ON/OFF]	Transmission reverse position monitored via CAN.

ACTIVE TEST

Test Item	Operation	Description
HEADLAMP WASH-ER	ON	Transmits the headlamp washer request signal to IPDM E/R with CAN communication to operate the headlamp washer operation.
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.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000001451472

WORK SUPPORT

Work Item	Description								
HAZARD LAMP SET	Operation	MODE1		MODE2		MODE3		MODE4	
	Keyfob operation	Lock	Unlock	Lock	Unlock	Lock	Unlock	Lock	Unlock
	Hazard lamp flash	-	-	-	Twice	Once	-	Once	Twice

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]	
TURN/L MNTR [ON/OFF]	Displays status (one bulb out: ON/other: OFF) as judged from bulb signal

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:000000001451473

ACTIVE TEST

Test Item	Operation	Description
A/C INDICATOR	ON	Outputs the signal to turn the A/C indicator ON.
	OFF	Stops the signal to turn the A/C indicator OFF.

DATA MONITOR

Monitor Item [Unit]	Contents
IGNSW [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:000000001451474

DATA MONITOR

Monitor Item [Unit]	Condition
IGN ON SW [ON/OFF]	Indicates condition of ignition switch in ON position.
PUSH SW [ON/OFF]	Indicates condition of ignition knob switch.
I-KEY LOCK [ON/OFF]	Indicates condition of lock signal from Intelligent Key.
I-KEY UNLOCK [ON/OFF]	Indicates [condition of unlock signal from Intelligent Key.
I-KEY ALL UNL [ON/OFF]	Indicates condition of all unlock signal from Intelligent Key.
I-KEY TRUNK OP [ON/OFF]	Indicates condition of trunk open signal from Intelligent Key.
DOOR SW-DR [ON/OFF]	Indicates condition of front door switch (driver side).
DOOR SW-AS [ON/OFF]	Indicates condition of front door switch (passenger side).
DOOR SW-RR [ON/OFF]	Indicates condition of rear door switch RH.

A

B

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor Item [Unit]	Condition
DOOR SW-RL [ON/OFF]	Indicates condition of front door switch LH.
BACK DOOR SW [ON/OFF]	Indicates condition of back door switch.

COMB SW

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

INFOID:000000001451475

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.
H/L SW POS [OFF/ON]	Displays the status of the HEADLAMP switch in combination switch judged by BCM with the combination switch reading function.
LIGHT SW 1ST [OFF/ON]	Displays the status of the HEADLAMP 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:000000001451476

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

Monitor Item	Description
IGN ON SW [ON/OFF]	Indicates condition of ignition switch in ON position.
KEY SW ¹ [ON/OFF]	Indicates condition of key switch.
PUSH SW ² [ON/OFF]	Indicates condition of ignition knob switch.

1: With remote keyless entry.

2: With Intelligent Key.

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:000000001451477

WORK SUPPORT

Work Item	Setting Item	Setting	
ROOM LAMP TIMER SET	MODE 1*	15 min.	Sets the interior room lamp battery saver timer operating time.
	MODE 2	30 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)
KEY SW ¹ [ON/OFF]	The switch status input from key switch
PUSH SW ² [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 ² [ON/OFF]	Lock signal status received from Intelligent Key unit by CAN communication
I-KEY UNLOCK ² [ON/OFF]	Unlock signal status received from Intelligent Key unit by CAN communication
KEYLESS LOCK ¹ [ON/OFF]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
KEYLESS UNLOCK ¹ [ON/OFF]	Unlock signal status received from remote keyless entry receiver (integrated in the BCM)

1: With remote keyless entry

2: With Intelligent Key

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.*

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

*: Each lamp switch is in ON position.

THEFT ALM

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

INFOID:0000000001451479

WORK SUPPORT

Work 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.

SIGNAL BUFFER

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

INFOID:0000000001451480

DATA MONITOR

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

ACTIVE TEST

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:0000000001451481

DATA MONITOR

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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

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

U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000001451482

Refer to [LAN-33, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:0000000001451483

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:0000000001451484

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-22, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-55, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000001451485

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:0000000001451486

1. REPLACE BCM

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

>> Replace BCM. Refer to [BCS-57, "Removal and Installation of BCM"](#).

Special Repair Requirement

INFOID:0000000001451487

1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

BCS

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000001451488

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.
22	Battery power supply	9 (10A)
72		8 (10A)
74		G (40A)
79		
24	Ignition power supply	55 (10A)

Is the fuse fusing?

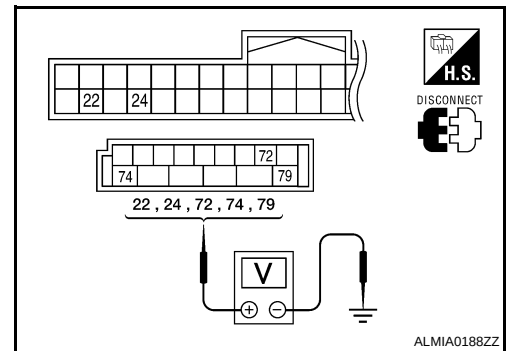
YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals			Ignition switch position		
(+)		(-)			
BCM			OFF	ACC	ON
Connector	Terminal				
M18	22	Ground	Battery voltage	Battery voltage	Battery voltage
	24		Approx. 0 V	Approx. 0 V	Battery voltage
M20	72		Battery voltage	Battery voltage	Battery voltage
	74				
	79				



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

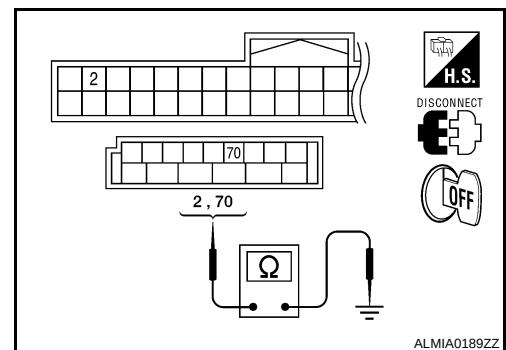
Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M18	2	Ground	Yes
M20	70		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair or replace harness.



COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

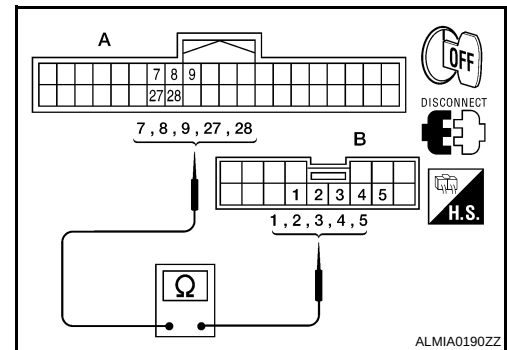
Diagnosis Procedure

INFOID:000000001451489

1. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M20 (A)	9	M28 (B)	1	Yes
INPUT 2		28		2	
INPUT 3		8		3	
INPUT 4		27		4	
INPUT 5		7		5	



Does continuity exist?

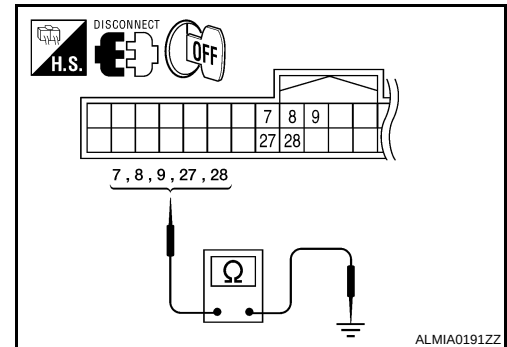
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM			Continuity
	Connector	Terminal		
INPUT 1	M20	9	Ground	No
INPUT 2		28		
INPUT 3		8		
INPUT 4		27		
INPUT 5		7		



Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 3

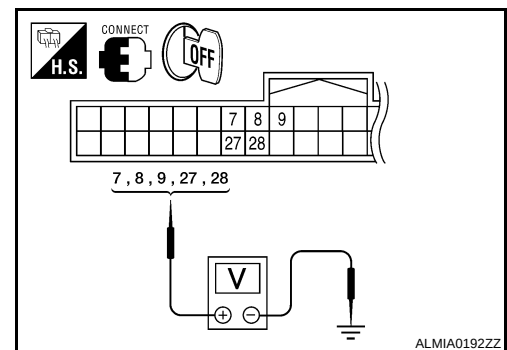
3. CHECK BCM OUTPUT VOLTAGE

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

System	Terminals			Voltage (Approx.)
	(+)		(-)	
	BCM		Ground	
	Connector	Terminal		
INPUT 1	M20	9		
INPUT 2		28		
INPUT 3		8		
INPUT 4		27		
INPUT 5		7		
				Refer to BCS-35, "Reference Value" .

Refer to [BCS-35](#), "Reference Value".

Is the measurement value normal?



COMBINATION SWITCH INPUT CIRCUIT

< COMPONENT DIAGNOSIS >

YES >> GO TO 4

NO >> Replace BCM. Refer to [BCS-57, "Removal and Installation of BCM"](#).

4. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-34, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-57, "Removal and Installation of BCM"](#).

NO >> Replace the combination switch (applicable parts). Refer to [EXL-101, "Removal and Installation"](#).

Special Repair Requirement

INFOID:0000000001451490

1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

COMBINATION SWITCH OUTPUT CIRCUIT

< COMPONENT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

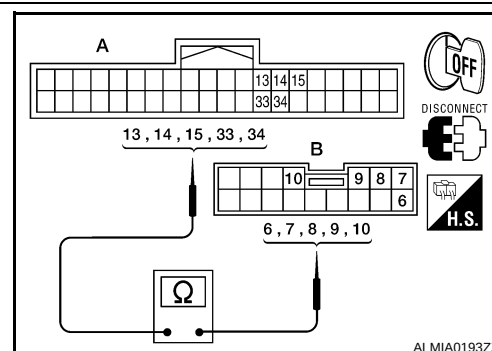
Diagnosis Procedure

INFOID:000000001451491

1. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M20	13	M28	6	Yes
OUTPUT 2		33		7	
OUTPUT 3		14		10	
OUTPUT 4		34		9	
OUTPUT 5		15		8	



Does continuity exist?

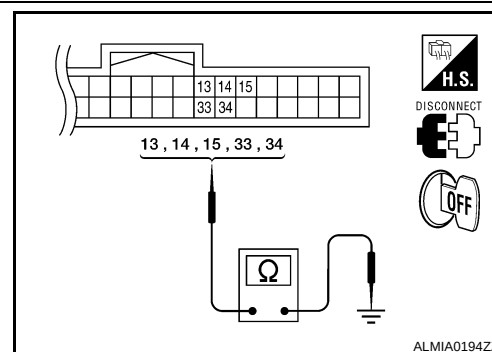
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM		Continuity
	Connector	Terminal	
OUTPUT 1	M20	13	No
OUTPUT 2		33	
OUTPUT 3		14	
OUTPUT 4		34	
OUTPUT 5		15	



Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 3

3. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-34, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-57, "Removal and Installation of BCM"](#).

NO >> Replace combination switch (applicable parts). Refer to [EXL-101, "Removal and Installation"](#).

Special Repair Requirement

INFOID:000000001451492

1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

COMBINATION SWITCH

< COMPONENT DIAGNOSIS >

COMBINATION SWITCH

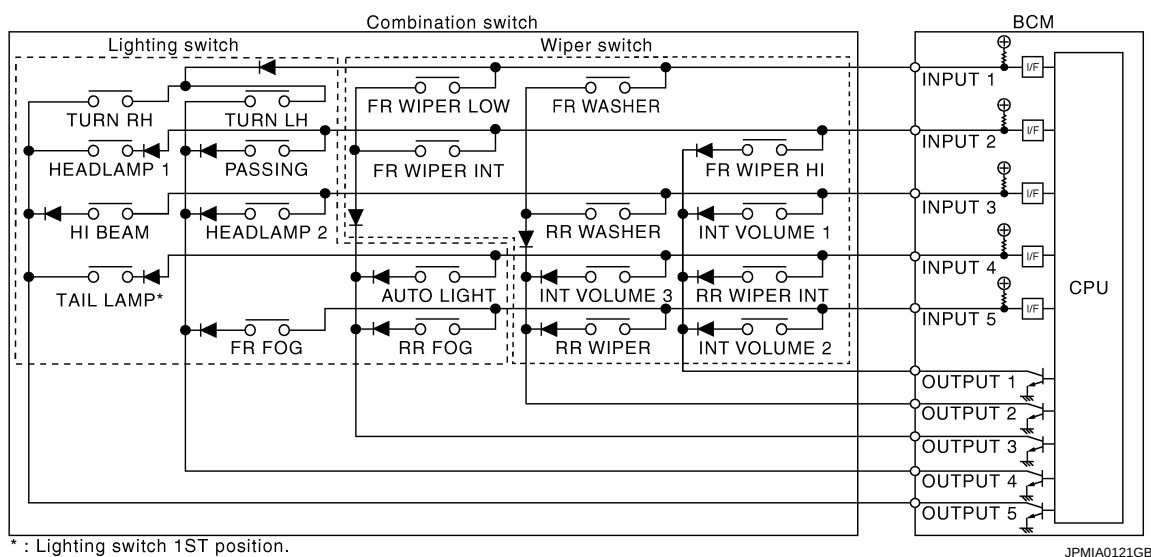
Description

INFOID:000000001451493

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:000000001451494

1. CHECK LIGHT & TURN SIGNAL SWITCH

Check operation with normal light & turn signal switch installed.

Does it operate normally?

- YES >> Replace light & turn signal switch. Refer to [EXL-101, "Removal and Installation"](#).
- NO >> GO TO 2

2. CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

- YES >> Replace wiper & washer switch. Refer to [WW-76, "Removal and Installation"](#).
- NO >> GO TO 3

3. CHECK SWITCH BASE (SPIRAL CABLE)

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

Does it operate normally?

- YES >> Replace switch base (spiral cable). Refer to [SR-7, "Removal and Installation"](#).
- NO >> Combination switch is normal.

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000001451495

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
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
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
ENG COOLNT T NOTE: Diesel engine models only	Engine running		Approximately the same as engine water temperature

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
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
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1st	ON
H/L SW POS	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON
HI BEAM SW	High beam switch OFF	OFF
	High beam 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
I-KEY LOCK ¹	LOCK button of Intelligent Key is not pressed	OFF
	LOCK button of Intelligent Key is pressed	ON

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is not pressed	OFF	A
	UNLOCK button of Intelligent Key is pressed	ON	
KEY SW ²	Mechanical key is removed from key cylinder	OFF	B
	Mechanical key is inserted to key cylinder	ON	
KEYLESS LOCK ²	LOCK button of key fob is not pressed	OFF	C
	LOCK button of key fob is pressed	ON	
KEYLESS UNLOCK ²	UNLOCK button of key fob is not pressed	OFF	D
	UNLOCK button of key fob is pressed	ON	
LIT-SEN FAIL	Light & rain sensor is in normal condition	OK	E
	Light & rain sensor is with internal error	NOTOK	
OIL PRESS SW	- Ignition switch OFF or ACC - Engine running	OFF	F
	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	G
	Lighting switch PASS	ON	
PUSH SW ¹	Return to ignition switch to LOCK position	OFF	H
	Press ignition switch	ON	
REAR DEF SW	Rear window defogger switch OFF	OFF	I
	Rear window defogger switch ON	ON	
RKE LOCK AND UNLOCK ²	NOTE: The item is indicated, but not monitored	OFF	J
		ON	
RR FOG SW	Rear fog lamp switch OFF	OFF	K
	Rear fog lamp switch ON	ON	
RR WASHER SW ³	Rear washer switch OFF	OFF	L
	Rear washer switch ON	ON	
RR WIPER INT ³	Rear wiper switch OFF	OFF	M
	Rear wiper switch INT	ON	
RR WIPER ON ³	Rear wiper switch OFF	OFF	N
	Rear wiper switch ON	ON	
RR WIPER STOP ³	Rear wiper stop position	OFF	O
	Other than rear wiper stop position	ON	
TAIL LAMP SW	Lighting switch OFF	OFF	P
	Lighting switch 1ST	ON	
TRNK OPNR SW	When back door opener switch is not pressed	OFF	Q
	When back door opener switch is pressed	ON	
TURN SIGNAL L	Turn signal switch OFF	OFF	R
	Turn signal switch LH	ON	
TURN SIGNAL R	Turn signal switch OFF	OFF	S
	Turn signal switch RH	ON	
UNLOCK WITH DR	NOTE: The item is indicated, but not monitored	OFF	T
		ON	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	

BCS

BCM (BODY CONTROL MODULE)

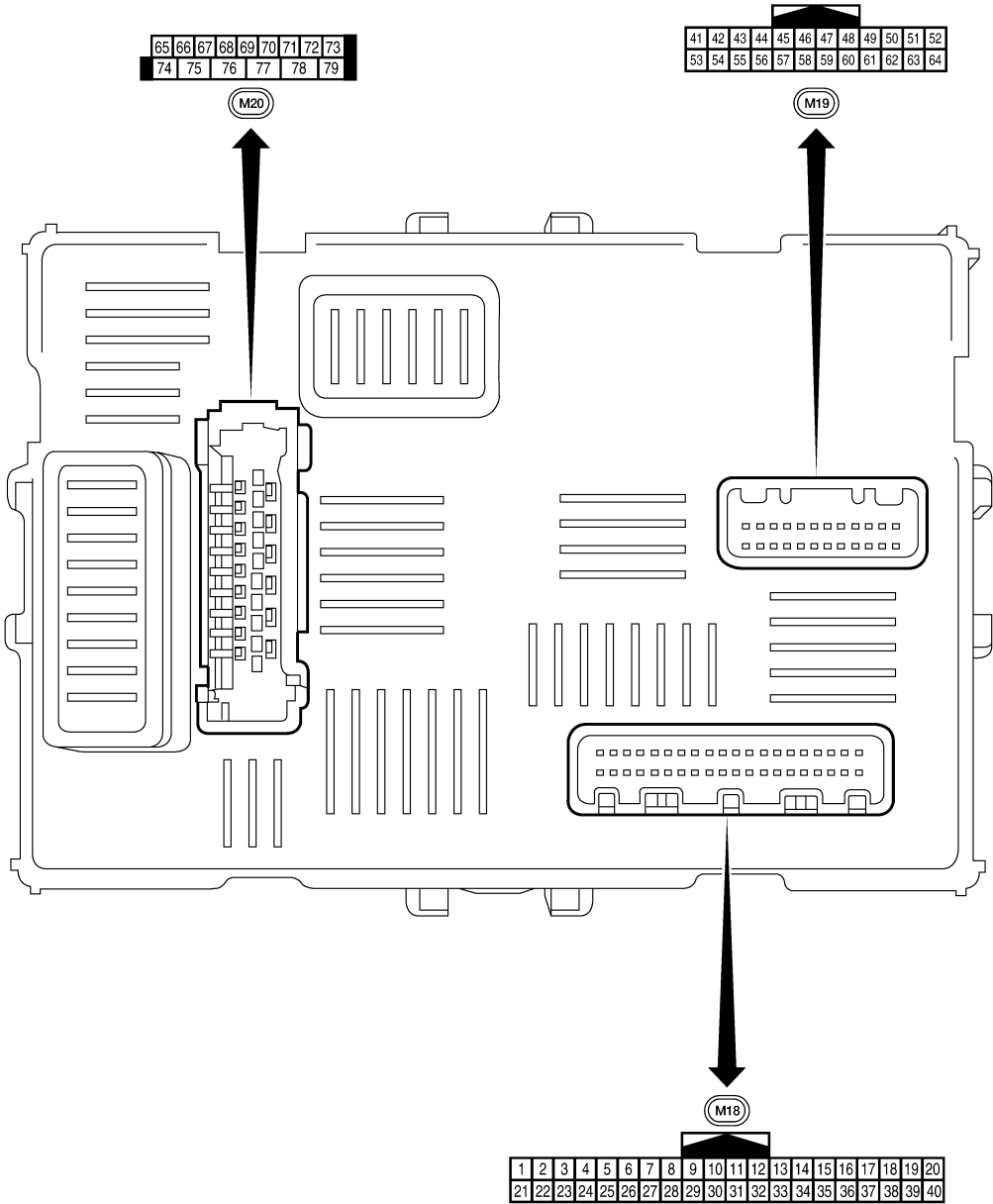
< ECU DIAGNOSIS >

- 1: With Intelligent Key
- 2: With remote keyless entry system
- 3: Hatchback

Terminal Layout

INFOID:000000001538883

TERMINAL LAYOUT



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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Physical Values

INFOID:000000001538886

PHYSICAL VALUES

CAUTION:

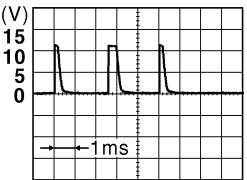
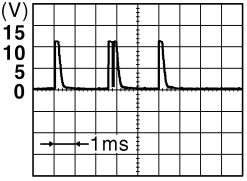
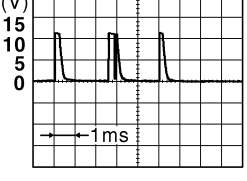
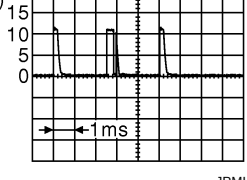
- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT -III. Refer to [BCS-24, "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"](#).

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
2 (B)	Ground	Ground	—	—		0V
3 (G)	Ground	Key switch	Output	Insert mechanical key into ignition key cylinder		Battery voltage
				Remove mechanical key from ignition key cylinder		0V
4 (W)	Ground	Rear window defogger switch	Output	Rear window defogger switch	Not pressed	5V
					While pressing	0V
5 ¹ (V)	Ground	Back door opener switch	Output	Back door opener switch	Not pressed	Battery voltage
					Pressed	0V
5 ² (V)	Ground	Trunk opener switch	Output	Trunk opener switch	Not pressed	Battery voltage
					Pressed	0V
6 (GR)	Ground	Door lock/unlock switch (Lock)	Output	Door lock/unlock switch	Not pressed	5V
					Pressed to the lock side	0V

BCS

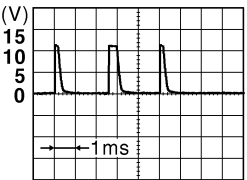
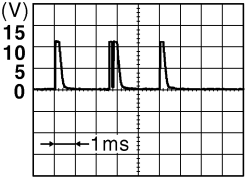
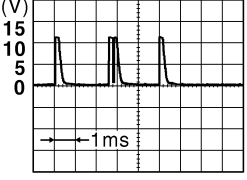
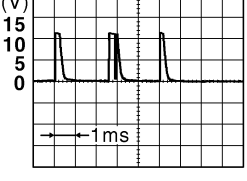
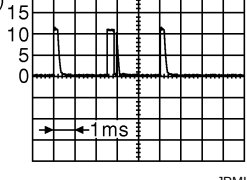
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Reference Value (Approx.)
+	-	Signal name	Input/ Output		
7 (LG)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  JPMIA0165GB 1.3V
					Front fog lamp switch ON (Wiper intermittent dial 4)  JPMIA0167GB 1.3V
					Rear fog lamp switch ON (Wiper intermittent dial 4)  JPMIA0168GB 1.3V
					Rear wiper switch ON (Wiper intermittent dial 4)  JPMIA0169GB 1.3V
					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  JPMIA0196GB 1.3V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

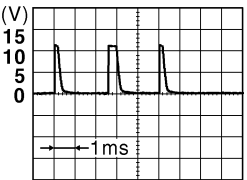
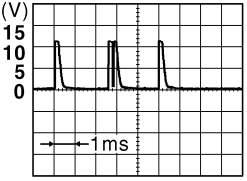
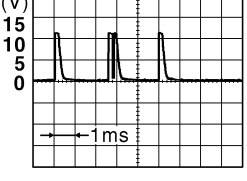
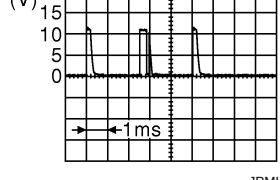
Terminal No. (Wire color)		Description		Condition	Reference Value (Approx.)
+	-	Signal name	Input/ Output		
8 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)  JPMIA0165GB 1.4V
					Lighting switch HI (Wiper intermittent dial 4)  JPMIA0166GB 1.3V
					Lighting switch 2ND (Wiper intermittent dial 4)  JPMIA0167GB 1.3V
					Rear wiper switch ON  JPMIA0169GB 1.3V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3  JPMIA0196GB 1.3V

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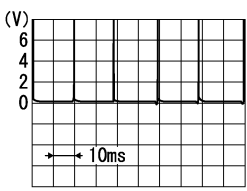
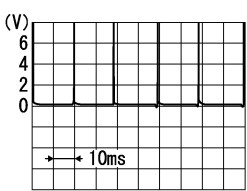
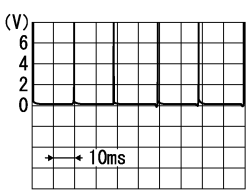
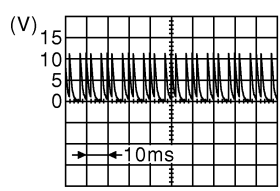
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition	Reference Value (Approx.)
+	-	Signal name	Input/ Output		
9 (P)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	 JPMIA0165GB 1.4V
					 JPMIA0167GB 1.3V
					 JPMIA0166GB 1.3V
					 JPMIA0168GB 1.3V
					 JPMIA0196GB 1.3V
10 ¹ (Y)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed) Battery voltage ON (When back door opened) 0V
				Trunk switch	OFF (When trunk closed) Battery voltage ON (When trunk opened) 0V

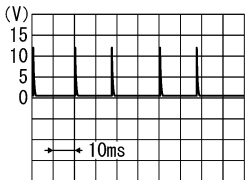
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)	
+	-	Signal name	Input/ Output				
13 (V)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V	A
					Front wiper switch HI (Wiper intermittent dial 4)	 SKIA2167J	B
					Rear wiper switch INT (Wiper intermittent dial 4)		C
					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		D
							E
14 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0V	F
					Lighting switch AUTO	 SKIA2167J	G
					Rear fog lamp switch OFF		H
					Front wiper switch MIST		I
					Front wiper switch INT		J
					Front wiper switch LO		K
15 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0V	L
					Lighting switch 1ST	 SKIA2167J	M
					Lighting switch 2ND		N
					Lighting switch HI		O
					Turn signal switch RH		P
16 (R)	Ground	Stop lamp switch	Input	Depress the brake pedal		Battery voltage	
				Release the brake pedal		0V	
17 (Y)	Ground	Back up lamp signal	Input	Shift lever in reverse		Battery voltage	
				Other than above		0V	
19 (L)	—	CAN-H	Input/ Output	—		—	BCS
21 (BR)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage	
					ON	0V	
22 (P)	Ground	Battery power sup- ply	Input	—		Battery voltage	
23 ¹ (LG)	Ground	Rear wiper auto stop	Output	Ignition switch ON	Rear wiper stop position	0V	
					Any position other than rear wiper stop position	 JPMIA0197GB	

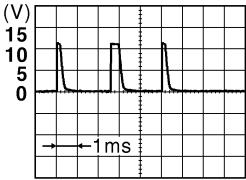
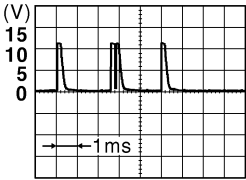
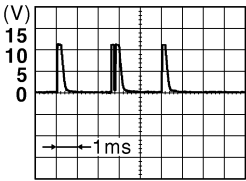
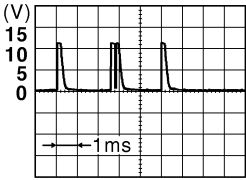
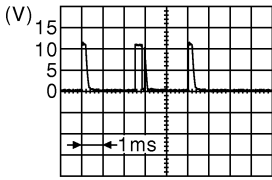
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
24 (O)	Ground	Ignition power supply	Input	Ignition switch OFF or ACC		0V
				Ignition switch ON or START		Battery voltage
25 (L)	Ground	Door lock/unlock switch (Unlock)	Output	Door lock/unlock switch	Not pressed	5V
					Pressed to the unlock side	0V
26 (L)	Ground	Hazard switch	Output	Hazard switch	Not pressed	
					Pressed	

BCM (BODY CONTROL MODULE)

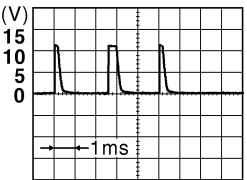
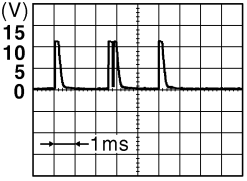
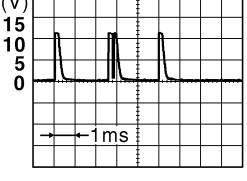
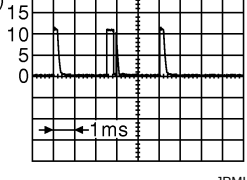
< ECU DIAGNOSIS >

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

BCS

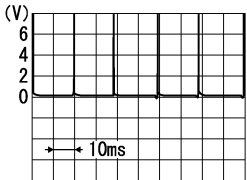
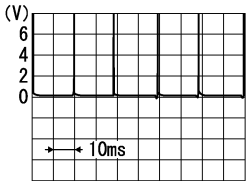
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
28 (R)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 JPMIA0165GB 1.4V
					Lighting switch PASS	 JPMIA0167GB 1.3V
					Lighting switch 2ND	 JPMIA0166GB 1.3V
					Front wiper switch INT	 JPMIA0168GB 1.3V
					Front wiper switch HI	 JPMIA0196GB 1.3V
29 (BR)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	Battery voltage
					ON (When driver door opened)	0V
30 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	Battery voltage
					ON (When passenger door opened)	0V
31 ³ (SB)	Ground	A/C indicator	Output	A/C switch	OFF	Battery voltage
					ON	0V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
32 ⁴ (LG)	Ground	Door lock status indicator	Output	Door lock status indicator	ON	Battery voltage
					OFF	0V
33 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 SKIA2167J
					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	
34 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0V
					Lighting switch 2ND	 SKIA2167J
					Lighting switch PASS	
					Front fog lamp switch ON	
					Turn signal switch LH	
35 ^{3, 7} (BR)	Ground	Sensor ground	Output	Ignition switch	ON	0V → 5V
					OFF	0V
36 ⁷ (V)	Ground	Ambient sensor sig- nal	Input	Ignition switch	ON	0V → 5V
					OFF	0V
38 ⁵ (V)	Ground	NATS antenna amp.	Input/ Output	Insert mechanical key into ignition key cylin- der		Just after Insert mechanical key into ignition key cylinder. Pointer of tester should move
39 (P)	—	CAN-L	Input/ Output	—		—
45 ³ (GR)	Ground	Intake sensor	Input	Ignition switch	ON	0V
					OFF	Battery voltage
47 ⁵ (GR)	Ground	Security indicator	Output	Security indica- tor	ON	0V
					Blinking (every 2.4 seconds)	Battery voltage → 0V
					OFF	Battery voltage
48 (W)	Ground	Start power supply	Input	Ignition switch START		Battery voltage
				Other than above		0V
49 (R)	Ground	Front demist vent switch	Input	Front demist vent switch	ON	0V → 5V
					OFF	0V
50 (P)	Ground	Fan switch	Output	Fan switch	Not pressed	Battery voltage
					Pressed	0
51 ⁷ (L)	Ground	PTC relay 3 control	Output	Ignition ON	PTC heater 3 ON	0V
					PTC heater 3 OFF	Battery voltage

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BCS

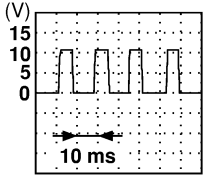
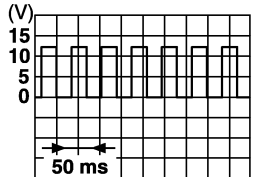
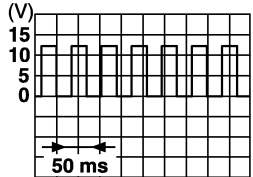
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O

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
52 ⁷ (GR)	Ground	PTC relay 2 control	Output	Ignition ON	PTC heater 2 ON	0V
					PTC heater 2 OFF	Battery voltage
58 (Y)	Ground	Door unlock sensor	Input	Driver door	Lock	Battery voltage
					Unlock	0V
59 (O)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	Battery voltage
					ON (When rear door LH opened)	0V
60 (GR)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	Battery voltage
					ON (When rear door RH opened)	0V
61 ³ (O)	Ground	A/C switch	Output	A/C switch	Not pressed	Battery voltage
					Pressed	0V
63 (R)	Ground	Light & rain sensor serial link	Output	Ignition switch OFF		Battery voltage
				Ignition switch ON		 MKIB0173E
64 ⁷ (O)	Ground	PTC relay 1 control	Output	Ignition ON	PTC heater 1 ON	0V
					PTC heater 1 OFF	Battery voltage
65 (V)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 SKIA1120J
66 (W)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 SKIA1120J
67 (G)	Ground	Door unlock (passenger and rear doors)	Output	Door lock/unlock switch	Pressed to the unlock side	Battery voltage
					Pressed to the lock side	0V
68 ¹ (R)	Ground	Back door lock actuator	Output	Back door opener switch	Pressed	Battery voltage
					Not pressed	0V
68 ² (R)	Ground	Trunk release solenoid	Output	Trunk lid opener switch	Pressed	Battery voltage
					Not pressed	0V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Condition		Reference Value (Approx.)
+	-	Signal name	Input/ Output			
69 (G)	Ground	Rear fog lamp	Output	Lighting switch 1ST and front fog lamp switch ON	Rear fog lamp switch OFF	0V
					Rear fog lamp switch ON	Battery voltage
70 (B)	Ground	Ground	—	—		0V
71 ¹ (V)	Ground	Rear wiper motor	Output	Rear wiper switch OFF		0V
				Rear wiper switch ON		Battery voltage
72 (LG)	Ground	Battery power supply	Input	—		Battery voltage
73 (R)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
74 (Y)	Ground	Battery power supply	Input	—		Battery voltage
75 ⁴ (V)	Ground	Super lock	Output	When lock button of keyfob or Intelligent Key is not pressed		0V
				When lock button of keyfob or Intelligent Key is pressed		Battery voltage
76 (G)	Ground	Driver door unlock	Output	Door lock/unlock switch	Pressed to the unlock side	Battery voltage
					Pressed to the lock side	0V
77 (SB)	Ground	Door lock (All)	Output	Door lock/unlock switch	Pressed to the unlock side	0V
					Pressed to the lock side	Battery voltage
78 (L)	Ground	Power window power supply	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
79 (Y)	Ground	Battery power supply	Input	—		Battery voltage

1: Hatchback

2: Sedan

3: Manual A/C

4: Superlock

5: Remote keyless entry

6: Intelligent Key

7: LHD diesel

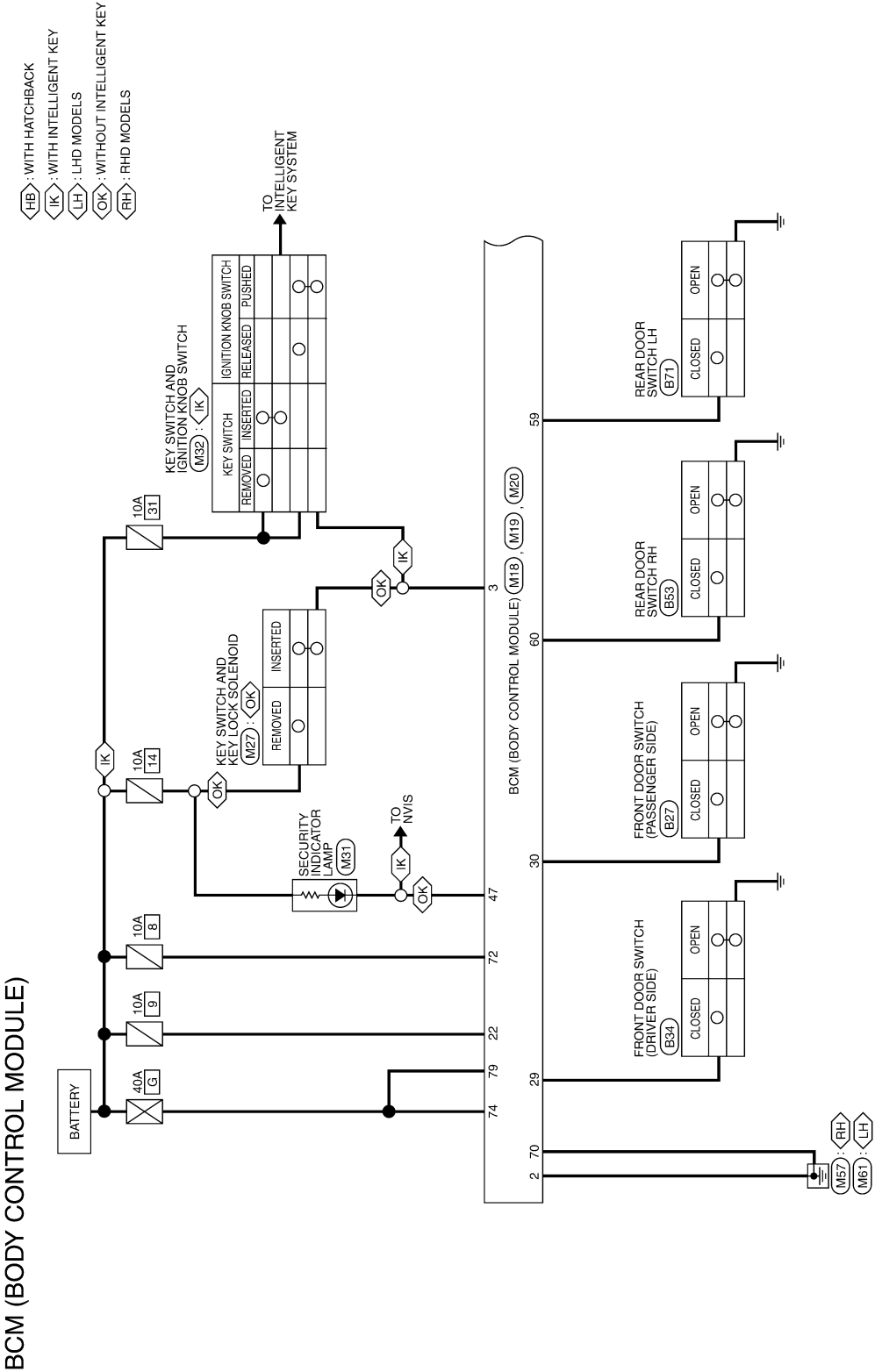
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Wiring Diagram

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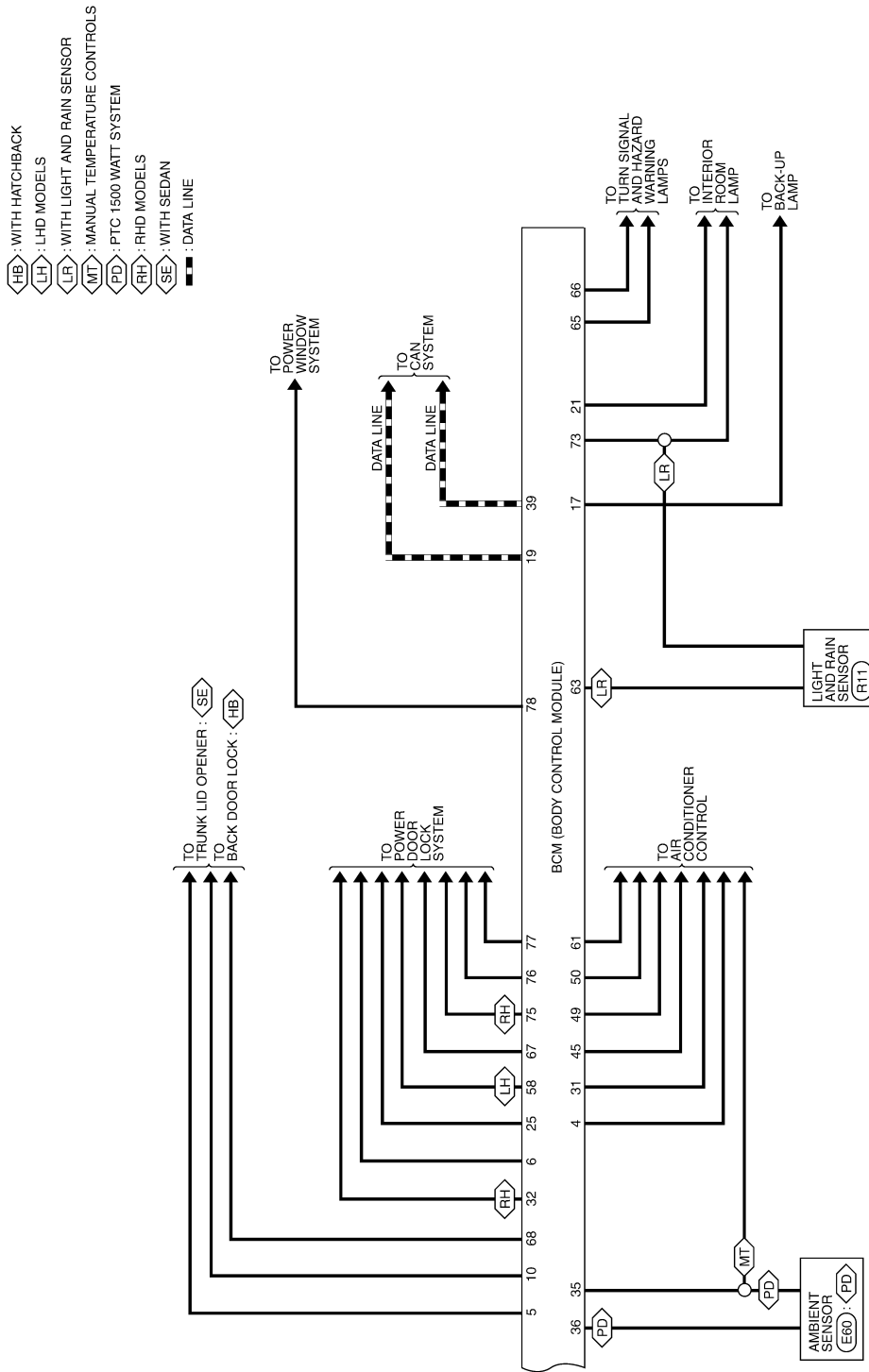
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BCM (BODY CONTROL MODULE)

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) CONNECTORS

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



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

Terminal No.	Color of Wire	Signal Name
2	B	GND
3	G	KEY IN SW
4	W	REAR DEFOGGER
5	V	TRUNK OPENER SWITCH
6	GR	CENTRAL LOCK SW
7	LG	COMBI SW OUTPUT 5
8	V	COMBI SW OUTPUT 3
9	P	COMBI SW OUTPUT 1
10	Y	DOOR SW BACK
13	V	COMBI SW INPUT 1
14	L	COMBI SW INPUT 3
15	BR	COMBI SW INPUT 5
16	R	CLOSE ACTIVE FOOT BRAKE SWITCH
17	Y	REVERSE SWITCH
19	L	CAN-H

Terminal No.	Color of Wire	Signal Name
21	BR	LOGICAL LIGHTING CONTROL
22	P	BATT SAFETY LINE
23	LG	REAR WIPER AUTO STOP SW
24	O	IGN SW
25	L	CENTRAL UNLOCK SW
26	L	HAZARD SW
27	Y	COMBI SW OUTPUT 4
28	R	COMBI SW OUTPUT 2
29	BR	DOOR SW DR
30	SB	DOOR SW AS
31	SB	A/C INDICATOR
32	LG	DOOR LOCK STATUS INDICATOR/ALARM TX
33	G	COMBI SW INPUT 2
34	GR	COMBI SW INPUT 4
35	BR	OAT SENSOR GND
36	V	OAT SENSOR
38	V	IMMOBILIZER LINK
39	P	CAN-L

DTC Inspection Priority Chart

Priority	DTC
1	- U1000: CAN COMM CIRCUIT - U1010: CONTROL UNIT (CAN)

ALMIA0320GB

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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-28
U1010: CONTROL UNIT (CAN)	0	1 - 39	—	BCS-29

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:000000001451500

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-31, "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-33, "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-34, "Description" .
L	BCM	Replace BCM. Refer to BCS-57, "Removal and Installation of BCM" .
M	Light and turn signal switch or front wiper and washer switch	Replace the switch that cannot be operated.

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

BCM (BODY CONTROL MODULE)

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

BCM (BODY CONTROL MODULE)

Removal and Installation of BCM

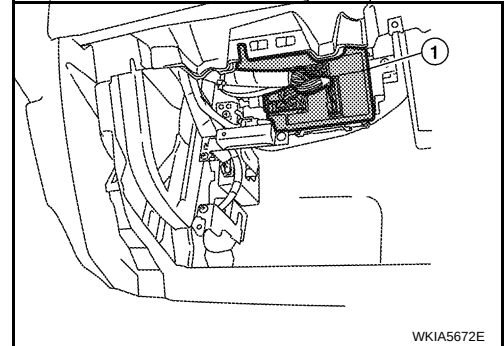
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NOTE:

The LHD model shown, RHD model similar.

REMOVAL

1. Remove the glove box. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the BCM screws, disconnect the connectors and remove the BCM (1).



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

- When replacing BCM, it must be configured. Refer to [BCS-4, "CONFIGURATION : Special Repair Requirement"](#).
- When replacing BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).
- When replacing BCM, if new BCM does not come with keyfobs attached, all existing keyfobs must be re-registered.

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BCS