BODY CONTROL SYSTEM C

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PRECAUTION PRECAUTIONS

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

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.

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.

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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COMPONENT PARTS

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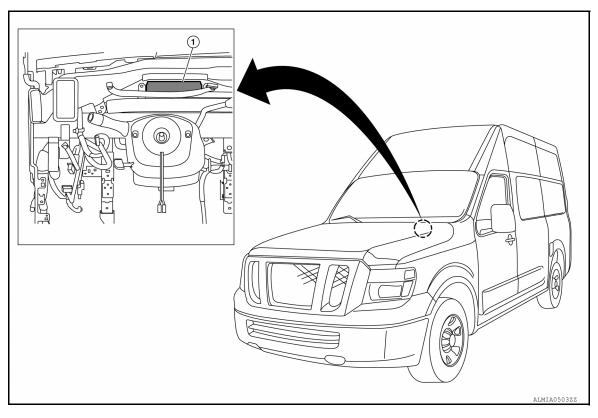
[BCM]

SYSTEM DESCRIPTION COMPONENT PARTS BODY CONTROL SYSTEM

BODT CONTROL STOTEM

BODY CONTROL SYSTEM : Component Parts Location

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1. BCM

POWER CONSUMPTION CONTROL SYSTEM

COMPONENT PARTS

< SYSTEM DESCRIPTION >

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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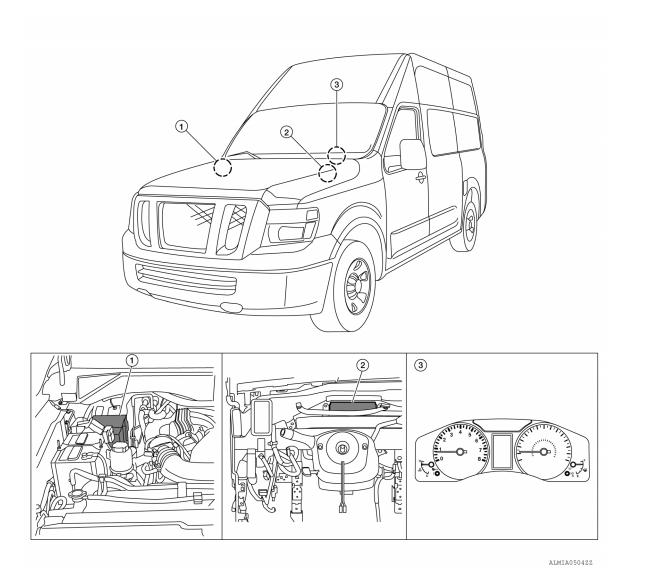
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1. IPDM E/R

- 2. BCM (view with instrument panel and steering wheel removed)
- 3. Combination meter

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SYSTEM BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : System Description

INFOID:000000006889162

[BCM]

OUTLINE

- BCM (Body Control Module) controls various electrical components. It receives the information required from CAN communication and the signals received from each switch and sensor.
- BCM has a combination and lighting switch reading function for reading the status of combination and lighting switches (light, turn signal, wiper and washer) in addition to functions for controlling the operation of various electrical components. It also has a signal transmission function, for other systems, and a power consumption control function that reduces the power consumption with the ignition switch OFF.
- BCM is equipped with a diagnosis function that operates with CONSULT and allows for various settings to be changed.

BCM FUNCTION LIST

System	Reference page
Combination and lighting switch reading system	BCS-7, "COMBINATION AND LIGHTING SWITCH READING SYS- TEM : System Diagram"
Signal buffer system	BCS-12, "SIGNAL BUFFER : System Diagram"
Power consumption control system	BCS-12. "POWER CONSUMPTION CONTROL SYSTEM : System Diagram"
Headlamp system	EXL-8. "HEADLAMP SYSTEM : System Diagram - For USA" EXL-8. "HEADLAMP SYSTEM : System Diagram - For Canada"
Front fog lamp system	EXL-10, "FRONT FOG LAMP SYSTEM : System Diagram"
Daytime running light system	EXL-9, "DAYTIME RUNNING LIGHT SYSTEM : System Diagram - For USA" EXL-10, "DAYTIME RUNNING LIGHT SYSTEM : System Diagram - For Canada"
Turn signal and hazard warning lamp system	EXL-11, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram"
Parking, license plate, side maker and tail lamps system	EXL-12, "PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : System Diagram"
Trailer tow system	EXL-12, "TAIL LAMPS : (TRAILER TOW SYSTEM) System Dia- gram"
Exterior lamp battery saver system	EXL-13, "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description"
Interior room lamp control system	INL-7, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Di- agram"
Interior room lamp battery saver system	INL-9. "ILLUMINATION CONTROL SYSTEM : System Diagram"
Front wiper and washer system	WW-5, "System Diagram"
Manual air conditioner system	HAC-128, "FRONT MANUAL AIR CONDITIONING SYSTEM : Sys- tem Diagram"
Warning chime system	WCS-6, "WARNING CHIME SYSTEM : System Diagram"
Power door lock system	DLK-10. "POWER DOOR LOCK SYSTEM : System Diagram"
Nissan vehicle immobilizer system-NATS (NVIS)	SEC-8. "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Sys- tem Diagram"
Vehicle security system	SEC-7, "VEHICLE SECURITY SYSTEM : System Diagram"
Panic alarm	SEC-7. "VEHICLE SECURITY SYSTEM : System Diagram"
Rear window defogger system	DEF-8. "System Diagram"
Remote keyless entry system	DLK-12, "REMOTE KEYLESS ENTRY SYSTEM : System Diagram"

< SYSTEM DESCRIPTION >

Front fog lamps switch

HEADLAMP 1

TAIL LAMP*

TURN RH

HI BEAM

: Lighting switch 1ST position

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Lighting switch

High beam & turn signal

HEADLAMP 2

TURN LH

PASSING

FR FOG

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Output 1 signal

Output 2 signal

Output 3 signal

Output 4 signal

Output 5 signal

Input 1 signal Input 2 signal Input 3 signal Input 4 signal Input 5 signal

System	Reference page	
Power window system	PWC-7, "System Diagram"	A
Retained accessory power (RAP) system	PWC-7, "System Diagram"	

COMBINATION AND LIGHTING SWITCH READING SYSTEM

Combination switch

FR WIPER LOW

00

FR WIPER INT

COMBINATION AND LIGHTING SWITCH READING SYSTEM : System Diagram

Wiper & washe

FR WASHER

FR WIPER HI

INT VOLUME 1

INT VOLUME 2

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OUTLINE

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

COMBINATION AND LIGHTING SWITCH READING SYSTEM : System Description

BCM has a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5). It reads a Maximum of 20 switch states.

COMBINATION AND LIGHTING SWITCH MATRIX

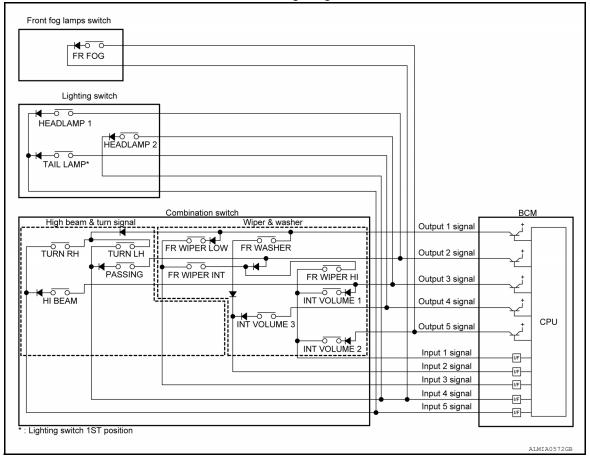
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< SYSTEM DESCRIPTION >

Combination and lighting switch circuit



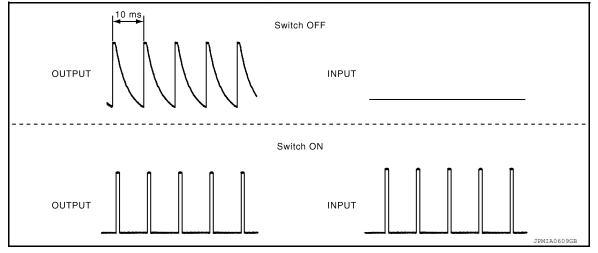
Combination and lighting switch INPUT-OUTPUT system list

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

COMBINATION AND LIGHTING SWITCH READING FUNCTION

Description

• BCM reads the status of the combination and lighting switches at 10 ms intervals normally.

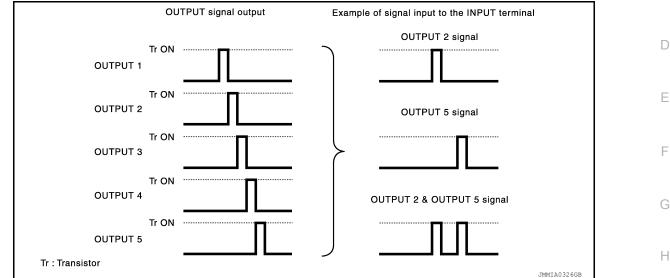


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NOTE:

BCM reads the status of the combination and lighting switches at 60 ms intervals when BCM is controlled at A low power consumption control mode.

- BCM operates as follows and judges the status of the combination and lighting switches.
- It operates the transistor on OUTPUT side in the following order: OUTPUT $1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5$, and outputs voltage waveform.
- The voltage waveform of OUTPUT corresponding to the formed circuit is input into the interface on INPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination and lighting switches.



Operation Example

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

Example 1: When a switch (TAIL LAMP) is turned ON

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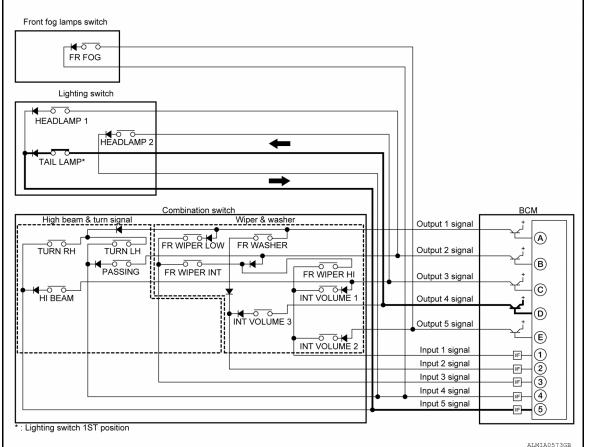
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The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



- BCM detects the combination and lighting switch status signal "5D" when the signal of OUTPUT 4 is input to INPUT 5.
- BCM judges that the TAIL LAMP switch is ON when the signal "5D" is detected.

Example 2: When some switches (TURN RH, TAIL LAMP) are turned ON

< SYSTEM DESCRIPTION >

• The circuits between OUTPUT 1 and INPUT 5 and between OUTPUT 4 and INPUT 5 are formed when the TURN RH switch and TAIL LAMP switch are turned ON.

ont fog lamps switc]			
Lighting swi	itch									
HEADLAMP 1	H-0 0		+	•						
L High beam & tu	n signal	Combination switch	Wiper & was	her			Output 1 signal	<u> </u>	:м]	
	TURN LH		FR WASHEF			•	Output 2 signal	- ¥	AB	
	į	¥					Output 4 signal	 ئ	© • • • • • • • • • • • • • • • • • • •	
		!					Input 1 signal Input 2 signal Input 3 signal		E 1 2 3	
					-+1∳	-	Input 4 signal Input 5 signal	VF	4	

- BCM detects the combination and lighting switch status signal "5AD" when the signals of OUTPUT 1 and OUTPUT 4 are input to INPUT 5.
- BCM judges that the TURN RH switch and TAIL LAMP switch are ON when the signal "5AD" is detected.

WIPER INTERMITTENT DIAL POSITION

BCM judges the wiper intermittent dial 1 - 5 by the status of INT VOLUME 1, 2 and 3 switches.

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

NOTE:

For details of wiper intermittent dial position, refer to $\underline{\text{WW-5}}, \underline{\text{"System Description"}}.$ SIGNAL BUFFER

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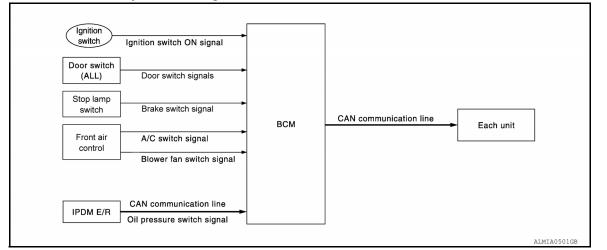
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< SYSTEM DESCRIPTION >

SIGNAL BUFFER : System Diagram



SIGNAL BUFFER : System Description

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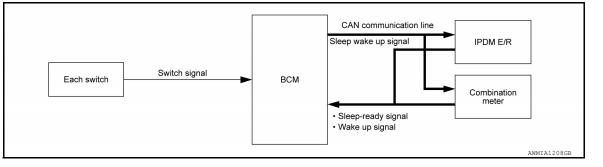
OUTLINE

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

Signal name	Input	Output	Description
Ignition switch ON signal	Ignition switch	IPDM E/R (CAN)	Inputs the ignition switch signal and transmits it with CAN com- munication.
Brake switch signal	Stop lamp switch	IPDM E/R (CAN)	Inputs the brake switch signal and transmits it with CAN com- munication.
Door switch signal	Any door switch	 Combination meter (CAN) IPDM E/R (CAN) 	Inputs the door switch signal and transmits it with CAN com- munication.
Blower fan ON signal			Inputs each signals, and trans-
A/C ON signal	Front air control	ECM (CAN)	mits the blower fan ON signal and A/C ON signal via CAN communication.
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pres- sure switch signal with CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Diagram



[BCM]

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< SYSTEM DESCRIPTION >		[BCM]
POWER CONSUMPTION CONTROL S	YSTEM : System Description	INFOID:00000000688916
OUTLINE		
 BCM incorporates a power saving control function vehicle status. 	on that reduces the power consumption	according to the
 BCM switches the status (control mode) by itself w request to each unit (IPDM E/R and combination r 		
Normal mode (wake-up) - CAN communication is normally performed with of - Each control with BCM is operating properly	ther units	
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 WI BCM reduces the power consumption with the follow • The reading interval of the switches changes from	wing operation in the low power consumption	tion mode.
Sleep mode activation		
 BCM receives the sleep-ready signal (ready) from tion. BCM transmits the sleep wake up signal (sleep) to the sleep wake up sleep wake		
filled.Each unit stops the transmission of CAN communi munication sleep mode.		
 BCM is in the low power consumption mode and p BCM sleep conditions are fulfilled with CAN sleep 		ol when all of the
Sleep condition		
CAN sleep condition	BCM sleep condition	
 Receiving the sleep-ready signal (ready) from all units Ignition switch: OFF Vehicle security system and panic alarm: No operation Warning chime: No operation 		
 Stop lamp switch: OFF Turn signal indicator lamp: No operation Exterior lamp: OFF 	 Interior room lamp battery saver: Time out RAP system: OFF Nissan Vehicle Immobilizer System (NVIS) 	- NATS: No opera-
 Door lock status: No change CONSULT communication status: No communication Door switch status: No change 	tionRemote keyless entry receiver communicat munication	ion status: No com-
 Rear window defogger: OFF 		

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.

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Wake-up condition

Wake-up condition

- Receiving the sleep-ready signal (Not-ready) from any units
- Hazard switch: ON
- + HI BEAM switch: OFF \rightarrow ON, ON \rightarrow OFF
- PASSING switch: $OFF \rightarrow ON$, $ON \rightarrow OFF$
- + HEADLAMP 1 switch: OFF \rightarrow ON, ON \rightarrow OFF
- + HEADLAMP 2 switch: OFF \rightarrow ON, ON \rightarrow OFF
- TAIL LAMP switch: $OFF \rightarrow ON$
- TURN RH: OFF \rightarrow ON, ON \rightarrow OFF
- + TURN LH: OFF \rightarrow ON, ON \rightarrow OFF
- Driver door switch: $OFF \rightarrow ON$, $ON \rightarrow OFF$
- + Passenger door switch: $\mathsf{OFF} \to \mathsf{ON}, \, \mathsf{ON} \to \mathsf{OFF}$
- Back door switch RH: OFF \rightarrow ON, ON \rightarrow OFF
- Back door switch LH: OFF \rightarrow ON, ON \rightarrow OFF
- Stop lamp switch: ON
- Door lock and unlock switch:
- $\mathsf{NEUTRAL} \to \mathsf{LOCK}, \, \mathsf{NEUTRAL} \to \mathsf{UNLOCK}$
- Front door lock assembly (driver side) (door key cylinder switch): NEUTRAL → LOCK, NEUTRAL → UNLOCK
- · Remote keyless entry receiver communication: Receiving

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description		
Ecu Identification	The BCM part number is displayed.		
Self Diagnostic Result	The BCM self diagnostic results are displayed.	[
Data Monitor	The BCM input/output data is displayed in real time.		
Active Test	The BCM activates outputs to test components.	[
Work support	The settings for BCM functions can be changed.		
Configuration	The vehicle specification can be read and saved.The vehicle specification can be written when replacing BCM.		
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.		

SYSTEM APPLICATION

BCM can perform the following functions.

				Direct I	Diagnosti	c Mode			- H
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	- H I J
Door lock	DOOR LOCK			×	×	×			-
Rear window defogger	REAR DEFOGGER			×	×				K
Warning chime	BUZZER			×	×				-
Interior room lamp timer	INT LAMP			×	×	×			
Remote keyless entry system	MULTI REMOTE ENT			×	×	×			
Exterior lamp	HEAD LAMP			×	×	×			-
Wiper and washer	WIPER			×	×				BCS
Turn signal and hazard warning lamps	FLASHER			×	×				-
Air conditioner	AIR CONDITIONER			×					NI
Combination switch	COMB SW			×					- N
BCM	BCM	×	×			×	×	×	-
Immobilizer	IMMU		×		×				0
Interior room lamp battery saver	BATTERY SAVER			×	×	×			-
Vehicle security system	THEFT ALM			×	×	×			-
RAP system	RETAINED PWR			×		×			P
Signal buffer system	SIGNAL BUFFER			×	×				-
Panic alarm system	PANIC ALARM				×				-

DOOR LOCK

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< SYSTEM DESCRIPTION >

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

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[BCM]

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of back door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of sliding door or back door switch.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [OTR ULK/DR UNLK/ALL ULK/ALL LCK].

WORK SUPPORT

Support Item	Setting	Description
DOOR LOCK-UNLOCK SET	On*	Automatic door locks function ON.
DOOR LOCK-UNLOCK SET	Off	Automatic door locks function OFF.
AUTOMATIC DOOR LOCK SELECT	P RANGE	Doors lock automatically when shifted out of P (Park).
AUTOMATIC DOOR LOCK SELECT	VH SPD*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).
	MODE6	Doors unlock automatically when key is removed.
	MODE5	Driver's door unlocks automatically when key is removed.
AUTOMATIC DOOR UNLOCK	MODE4	Driver's door unlocks automatically when shifted into P (Park).
SELECT	MODE3	Driver's door unlocks automatically when ignition is switched from ON to OFF.
	MODE2*	Doors unlock automatically when shifted into P (Park).
	MODE1	Doors unlock automatically when ignition is switched from ON to OFF.
	Lock/Unlock*	Automatic lock and unlock functions ON.
AUTOMATIC LOCK/UNLOCK	Lock Only	Automatic lock function only ON.
SELECT	Unlock Only	Automatic unlock function only ON.
	Off	Automatic lock/unlock function OFF.

* : Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

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DATA MONITOR

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	A
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.	В

ACTIVE TEST

Test Item	Description	U
REAR DEFOGGER	This test is able to check rear window defogger operation [Off/On].	
BI 177ER		D

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

DATA MONITOR

Monitor Item [Unit]	Description		
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.		
KEY ON SW [On/Off]	Indicates condition of key switch.	0	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	G	
TAIL LAMP SW [On/Off]	Indicates condition of lighting switch.		
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.	Н	
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.		

ACTIVE TEST

Test Item	Description	
IGN KEY WARN ALM	This test is able to check key warning chime operation [Off/On].	
SEAT BELT WARN TEST	This test is able to check seat belt warning operation [Off/On].	0
LIGHT WARN ALM	This test is able to check light reminder warning operation [Off/On].	
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IN I LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

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DATA MONITOR

Monitor Item [Unit]	Description	BCS
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
KEY ON SW [On/Off]	Indicates condition of key switch.	N
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of back door switch.	0
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.	
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	P
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.	
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.	
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	

Revision: March 2012

[BCM]

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< SYSTEM DESCRIPTION >

ACTIVE TEST

Test Item	Description
INT LAMP	This test is able to check interior room lamp operation [Off/On].

WORK SUPPORT

Support Item	Set	ting	Description
SET I/L D-UNLCK INTCON	Off		Interior room lamp timer function OFF.
SET I/E D-UNECK INTCOM	On* Interior room lamp timer function ON.		Interior room lamp timer function ON.
	MODE4*	30 sec.	
ROOM LAMP TIMER SET	MODE3	15 sec.	Sets the interior room lamp ON time (timer operation).
ROOM LAMP TIMER SET	MODE2	7.5 sec.	
	MODE1	0 sec.	
	MODE7	0 sec.	
	MODE6	5 sec.	
	MODE5	4 sec.	
ROOM LAMP ON TIME SET	MODE4	3 sec.	Sets the interior room lamp gradual brightening time.
	MODE3	2 sec.	
	MODE2*	1 sec.	
	MODE1	0.5 sec.	
	MODE7	0 sec.	
	MODE6	5 sec.	
	MODE5	4 sec.	
ROOM LAMP OFF TIME SET	MODE4	3 sec.	Sets the interior room lamp gradual dimming time.
	MODE3	2 sec.	
	MODE2*	1 sec.	
	MODE1	0.5 sec.	
R LAMP TIMER LOGIC SET	MODE2		Interior room lamp timer activation synchronizing all doors.
R LAWF TIMER LUGIC SET	MODE1*		Interior room lamp timer activation synchronizing driver door only.

* : Initial setting

MULTI REMOTE ENT

MULTI REMOTE ENT : CONSULT Function (BCM - MULTI REMOTE ENT)

INFOID:000000006889176

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
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 LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of back door switch.
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.

< SYSTEM DESCRIPTION >

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Monitor Item [Unit]	Description	
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	А
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	
KEYLESS PANIC [On/Off]	Indicates condition of panic signal from keyfob.	В

ACTIVE TEST

Test Item	Description	С
INT LAMP	This test is able to check interior room lamp operation [Off/On].	
FLASHER	This test is able to check hazard reminder operation [Off/RH/LH].	
HORN	This test is able to check horn operation [On].	

WORK SUPPORT

Support Item		Setting	Description	-
REMO CONT ID REGIST	—		Keyfob ID code can be registered.	-
REMO CONT ID ERASUR			Keyfob ID code can be erased.	-
REMO CONT ID CONFIR	—		Keyfob ID code registration is displayed.	-
HORN CHIRP SET	Off		Ham shim function can be abanged in this made	-
NUKN UNIKP SEI	On*		Horn chirp function can be changed in this mode.	
HAZARD LAMP SET	MODE4*	Lock and Unlock		-
	MODE3	Lock Only	Hazard warning lamp function can be abanged in this made	
	MODE2	Unlock Only	Hazard warning lamp function can be changed in this mode.	
	MODE1	OFF		
	MODE3	1.5 sec	Panic alarm operation can be changed in this mode.	-
PANIC ALARM SET	MODE2	OFF		
	MODE1*	0.5 sec		
	MODE7	5 min		-
	MODE6	4 min		
	MODE5	3 min		
AUTO LOCK SET	MODE4	2 min	Auto locking function can be changed in this mode.	
	MODE3*	1 min		
	MODE2	30 sec		
	MODE1	OFF		.

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEADLAMP)

DATA MONITOR

Monitor Item [Unit]	Description	
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
HI BEAM SW [On/Off]	Indicates condition of combination switch.	
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]	Indicates condition of lighting switch.	
TAIL LAMP SW [On/Off]		
PASSING SW [On/Off]	Indicates condition of combination switch.	

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of back door switch.	
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.	
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.	
TURN SIGNAL L [On/Off]		
KEY ON SW [On/Off]	Indicates condition of key switch.	
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.	
PKB SW [On/Off]	Indicates parking brake switch signal received from combination meter on CAN communication line.	
ENGINE RUN [On/Off]	Indicates run condition of engine.	
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.	

ACTIVE TEST

Test Item	Description
TAIL LAMP	This test is able to check tail lamp operation [Off/On].
HEAD LAMP	This test is able to check head lamp operation [Off/Lo/Hi].
FR FOG LAMP	This test is able to check front fog lamp operation [Off/On].
DAYTIME RUNNING LIGHT	This test is able to check daytime running light operation [Off/On].
ILL DIM SIGNAL	This test is able to check illumination dimming operation [Off/On].

WORK SUPPORT

Support Item	Se	tting	Description
	Off		Exterior lamp battery saver function OFF.
BATTERY SAVER SET	On*		Exterior lamp battery saver function ON.
	MODE8	180 sec	
	MODE7	150 sec	
	MODE6	120 sec	
ILL DELAY SET	MODE5	90 sec	Sate delay timer function encrotion time (all deers alonged)
ILL DELAT SET	MODE4	60 sec	Sets delay timer function operation time (all doors close
	MODE3	30 sec	
	MODE2	OFF	
	MODE1*	45 sec	

*: Initial setting

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000006889178

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
IGN SW CAN [On/Off]	Indicates ignition switch ON signal received from IPDM E/R on CAN communication line.

< SYSTEM DESCRIPTION >

[BCM]

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Monitor Item [Unit]	Description	٨
FR WIPER HI [On/Off]		A
FR WIPER LOW [On/Off]		
FR WIPER INT [On/Off]	Indicates condition of front wiper operation of combination switch.	В
FR WASHER SW [On/Off]	-	
INT VOLUME [1 - 5]		
FR WIPER STOP [On/Off]	Indicates front wiper motor auto stop signal received from IPDM E/R on CAN communica- tion line.	С

ACTIVE TEST

Test Item	Description	
FR WIPER	This test is able to check front wiper operation [Off/INT/Lo/Hi].	E

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

DATA MONITOR

Monitor Item [Unit]	Description	0
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.	Η
TURN SIGNAL L [On/Off]		

ACTIVE TEST

Test Item	Description	
FLASHER	This test is able to check turn signal lamp operation [Off/RH/LH].	J

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

DATA MONITOR

Monitor Item [Unit]	Description	
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
FAN ON SIG [On/Off]	Indicates condition of fan switch.	BCS
AIR COND SW [On/Off]	Indicates condition of A/C switch.	
FR DEF SW [On/Off]	Indicates condition of front defroster switch.	N

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

DATA MONITOR

Monitor Item [Unit]	Description	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal operation of combination switch	-
TURN SIGNAL L [On/Off]	 Indicates condition of turn signal operation of combination switch. 	
HI BEAM SW [On/Off]	Indicates condition of HI beam operation of combination switch.	-

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	Indicates condition of lighting switch.
TAIL LAMP SW [On/Off]	
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
FR WIPER HI [On/Off]	
FR WIPER LOW [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.
INT VOLUME [1 - 5]	Indicates condition of intermittent wiper operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT Refer to <u>BCS-35, "DTC Index"</u>.

WORK SUPPORT

Support Item	Setting	Description
RESET SETTING VALUE	Reset	Returns BCM to initial value in factory shipment.
	Cancel	Cancels the reset function.

CONFIGURATION

Refer to BCS-44, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to <u>LAN-12</u>, "CAN Diagnostic Support Monitor". IMMU

IMMU : CONSULT Function (BCM - IMMU)

SELF DIAGNOSTIC RESULT

Refer to BCS-35, "DTC Index".

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator operation [Off/On].

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:000000006889185

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.

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Revision: March 2012

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation [Off/On].
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].
FLASHER	This test is able to check hazard reminder operation [Off/RH/LH].

ACTIVE TEST

Monitor Item [Unit]	Description	
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	J
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
KEY ON 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 LH.	L
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of back door switch.	
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.	BCS
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	N
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	
TRANSPONDER [On/Off]	Indicates condition of key ID verification results.	0
AUTO RELOCK [On/Off]	Indicates condition of auto relock.	

DATA MONITOR

*: Initial setting

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

Support Item	Setting		Description	E
	MODE3	10 min		Γ
ROOM LAMP TIMER SET	MODE2	60 min	Sets the interior room lamp battery saver timer operating time.	
	MODE1*	15 min		G

WORK SUPPORT

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of back door switch.	
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.	
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.	
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.	
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	
ACC SW [On/Off]	Indicates condition of ignition switch ACC position.	

DIAGNOSIS SYSTEM (BCM)

[BCM]

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< SYSTEM DESCRIPTION >

WORK SUPPORT

[BCM]

Support Item	Setting	Description
SECURITY ALARM SET		Security alarm OFF.
		Security alarm ON.
55 , t		The switch which triggered vehicle security alarm is recorded [On]. This mode is able
THEFT ALM TRG	CLEAR	to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].

*: Initial setting

RETAINED POWER

RETAINED POWER : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000006889188

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.

WORK SUPPORT

Support Item	Setting		Description	
	MODE3	2 min		
RETAINED PWR SET	MODE2	OFF	Sets the retained accessory power operating time.	
	MODE1*	45 sec		

*: Initial setting

SIGNAL BUFFER

SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:000000006889189

DATA MONITOR

Monitor Item [Unit]	Description
OIL PRESS SW [On/Off]	Indicates condition of oil pressure switch signal received from IPDM E/R on CAN communica- tion line.
BRAKE SW [On/Off]	Indicates condition of stop lamp switch.

ACTIVE TEST

Test Item	Description

OIL PRESSURE SW This test is able to check the oil pressure gauge operation [Off/On].

PANIC ALARM

PANIC ALARM : CONSULT Function (BCM - PANIC ALARM)

INFOID:000000006889192

ACTIVE TEST

Test Item	Description
HEAD LAMP (HI)	This test is able to check head lamp HI operation [On].
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].

ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	-
ACC SW	Ignition switch OFF or ON	Off	
ACC 311	Ignition switch ACC	On	D
ACC ON SW	Ignition switch OFF or ON	Off	
ACC ON SW	Ignition switch ACC	On	
AIR COND SW	A/C switch OFF	Off	
AIR COND SW	A/C switch ON	On	
BRAKE SW	Brake pedal released	Off	F
DIVARE SW	Brake pedal applied	On	
BUCKLE SW	Seat belt buckle unfastened	Off	
BUCKLE SW	Seat belt buckle fastened	On	G
CDL LOCK SW	Door lock/unlock switch does not operate	Off	
ODE LOOK SW	Press door lock/unlock switch to the LOCK side	On	Н
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off	
CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	On	
DOOR SW-AS	Front door RH closed	Off	
DOOR SW-AS	Front door RH opened	On	
DOOR SW-DR	Front door LH closed	Off	J
DOOR 3W-DR	Front door LH opened	On	
DOOR SW-RL	Sliding door or back doors closed	Off	
DOOR SW-RL	Sliding door or back doors opened	On	K
DOOR SW-RR	Back door RH closed	Off	
DOOR SW-RR	Back door RH opened	On	
FAN ON SIG	Blower motor fan switch OFF	Off	L
TAN ON SIG	Blower motor fan switch ON	On	
FR FOG SW	Front fog lamp switch OFF	Off	BCS
11110330	Front fog lamp switch ON	On	
FR WASHER SW	Front washer switch OFF	Off	N
TR WASHER SW	Front washer switch ON	On	— N
FR WIPER LOW	Front wiper switch OFF	Off	
	Front wiper switch LO	On	0
FR WIPER HI	Front wiper switch OFF	Off	
	Front wiper switch HI	On	
	Front wiper switch OFF	Off	P
FR WIPER INT	Front wiper switch INT	On	
FR WIPER STOP	Any position other than front wiper stop position	Off	
IN WIFER SIUP	Front wiper stop position	On	
HAZARD SW	When hazard switch is not pressed	Off	
	When hazard switch is pressed	On	

[BCM]

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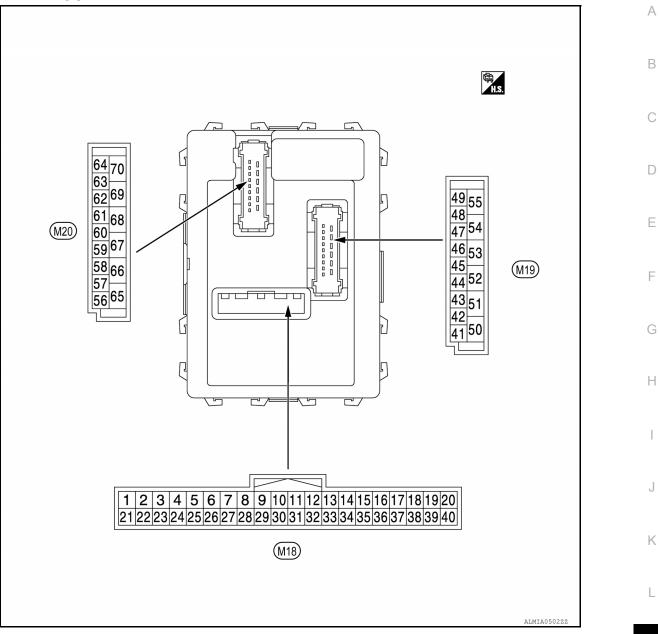
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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HEAD LAMP SW 1	Headlamp switch OFF	Off
HEAD LAIVIP SVV I	Headlamp switch 1st	On
HEAD LAMP SW 2	Headlamp switch OFF	Off
HEAD LAIVIP SVV 2	Headlamp switch 1st	On
	High beam switch OFF	Off
HI BEAM SW	High beam switch HI	On
	Ignition switch OFF or ACC	Off
IGN ON SW	Ignition switch ON	On
	Ignition switch OFF or ACC	Off
IGN SW CAN	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position of 1 - 5	1 - 5
	Door key cylinder LOCK position	Off
KEY CYL LK-SW	Door key cylinder other than LOCK position	On
	Door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Door key cylinder other than UNLOCK position	On
	Mechanical key is removed from key cylinder	Off
KEY ON SW	Mechanical key is inserted into key cylinder	On
	LOCK button of keyfob is not pressed	Off
KEYLESS LOCK	LOCK button of keyfob is pressed	On
	PANIC button of keyfob is not pressed	Off
KEYLESS PANIC	PANIC button of keyfob is pressed	On
	UNLOCK button of keyfob is not pressed	Off
KEYLESS UNLOCK	UNLOCK button of keyfob is pressed	On
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off
	Ignition switch ON	On
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
	Parking brake switch disengaged	Off
PKB SW	Parking brake switch engaged	On
REAR DEF SW	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
	Lighting switch OFF	Off
TAIL LAMP SW	Lighting switch 1st position	On
TRANSPONDER	Key ID not verified	Off
TRANSPONDER	Key ID verified	On
	Turn signal switch OFF	Off
TURN SIGNAL L	Turn signal switch LH	On
	Turn signal switch OFF	Off
TURN SIGNAL R	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

	nal No.	Description	1			Value	•		
(Wire	e color) –	Signal name	Input/ Output	out/ Condition (Approx.)					Ν
				Combination and lighting switches	OFF	0 V	0		
				Combination	TURN RH				
2				switch	HI BEAM	(V) 15	Ρ		
(L)	Ground	Input 5 signal	Input						
				Lighting switch	TAIL LAMP	0 ++10ms ++++++++++++++++++++++++++++++++++++			

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< ECU DIAGNOSIS INFORMATION >

(IND GROUP) Signal name Input/ Output Combination, front fog lamps and lighting switches OFF 0 V 3 (P) Ground Input 4 signal Input Combination, front fog lamps switches OFF 0 V 3 (P) Ground Input 4 signal Input Combination switch TURN LH 0V 10 Combination switch TURN LH 0V 0V 0V 4 (LG) Ground Input 3 signal Input Combination switch TURN LH 0FF 0V 4 (LG) Ground Input 3 signal Input Combination switch FR WIPER INT (any intermittent position) 0FF 0V 5 Conucle Lampt 2 signal Input Combination combination OFF 0V V 5 Conucle Lampt 2 signal Input Combination FR WIPER INT (any intermittent position) VIE VIE VIE 5 Conucle Lampt 2 signal Input Combination VIE VIE VIE VIE VIE 6 Combination Combination VIE VIE VIE VIE VIE VIE	Value			Description	Terminal No.	
3 (P) Ground Input 4 signal Input				Signal name	-	-
3 (P) Ground Input 4 signal Input Switch TURN LH 10 Combination switch TURN LH PASSING Lighting switch HEADLAMP 2 10 V OFF 0 FF 0 V FR WIPER LOW FR WIPER INT (any intermittent position) 0 FF 0 V FR WIPER INT (any intermittent dial 2 0 FF 0 FF 0 V	mps OFF OV	front fog lamps and lighting				
(P) Ground Input 4 signal Input 4 signal Input 4 signal Input 4 signal (P) Ground Input 4 signal Input 4 signal Input 4 signal Input 4 signal PASSING Lighting switch HEADLAMP 2 Input 3 signal Input 4 signal OFF 0 V (LG) Ground Input 3 signal Input 4 signal Combination switch FR WIPER INT (any intermittent position) Input 3 signal 5 Ground Input 3 signal Input 4 signal Combination switch OFF 0 V FR WIPER INT (any intermittent position) OFF 0 V Input 3 signal Input 4 signal OFF 0 V	ON					
4 (LG) Ground Input 3 signal Input Combination switch OFF 0 V FR WIPER LOW FR WIPER LOW 10 V 0 V FR WIPER NT (any intermittent position) 0 FF 0 V FR WIPER NT (any intermittent position) 0 FF 0 V FR WASHER 0 FF 0 V FR WASHER 0 FF 0 V		Combination	Input	Input 4 signal	Ground	3 (P)
4 (LG) Ground Input 3 signal Input Combination switch FR WIPER INT (any intermittent position) (V) 10 V 5 Cround Input 3 signal Input Combination switch OFF 0 V 6 FR WIPER INT (any intermittent position) 0 V FR WIPER INT (any intermittent position) Input 0 V		switch				(•)
4 (LG) Ground Input 3 signal Input Combination switch FR WIPER LOW FR WIPER INT (any intermittent position) Input 10ms (any intermittent position) Input 10ms (any intermittent position) Input 10ms (any intermittent position) 5 Ground Input 2 signal Input 10ms (any intermittent dial 2) Input 10ms (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	vitch HEADLAMP 2	Lighting switch HEADLAMP 2				
4 (LG) Ground Input 3 signal Input Combination switch FR WIPER INT (any intermittent position) Imput 10 signal PRIB4958J Imput 2 signal Imput 10 signal Imput 10 signal Imput 10 signal 5 Ground Imput 2 signal Imput 10 signal Imput 10 signal Imput 10 signal	OFF 0 V					
4 (LG) Ground Input 3 signal Input Combination switch FR WIPER INT (any intermittent position) 10 5 0 FR WIPER INT (any intermittent position) 0 FR WIPER INT (any intermittent position) 0 FR WASHER 0 0 V FR WASHER Wiper intermittent dial 2 0 5 Cround Input 2 signal Input 2 combination	FR WIPER LOW					
5 Cround Input 2 signal Input Combination	FR WIPER INT (any intermittent position)		Input	Input 3 signal	Ground	
5 Cround Input 2 signal Lingut Combination	0FF 0 V					
5 Cround Input 2 signal Input Combination						
(O) Croand input 2 signal switch Wiper intermittent dial 3	Wiper intermittent dial 3	Combination switch	Input	Input 2 signal	Ground	5 (O)
OFF 0V						
FR WIPER HI						
6 (D) Ground Input 1 signal Input Combination wiper intermittent dial 2	on Wiper intermittent dial 2		Input	Input 1 signal	Ground	6
(R) Ground input i signal input switch Wiper intermittent dial 5	Wiper intermittent dial 5	wiper intermittent dial 5	mput	input i signai	Giodila	(R)
7 (Y) Ground Key cylinder unlock sw signal Input Key cylinder switch NEUTRAL position	er NEUTRAL position		Input		Ground	7 (Y)
UNLOCK position 0 V						

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		-		Value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
8	Ground	Key cylinder lock sw	Input	Key cylinder	NEUTRAL position	12 V	
(SB)	Ground	signal	mput	switch	LOCK position	0 V	
9	Ground	Brake sw 1 signal	Input	Stop lamp	OFF (Brake pedal re- leased)	0 V	
(LG)	Ground	Diake Sw i Signai	input	switch	ON (Brake pedal de- pressed)	Battery voltage	
10	Ground	Rear defogger sw	Input	Rear window	OFF (Released)	12 V	
(BR)	Cround	signal	mput	defogger switch	ON (Pressed)	0 V	
11	Ground	ACC sw signal	Input	Ignition switch O	FF	0 V	
(O)	Ground	ACC SW SIGHAL	input	Ignition switch A	CC or ON	Battery voltage	
12 (O)	Ground	Door switch (AS) signal	Input	Front door switch RH	OFF (Front door RH closed)	(V) 10 50 • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •	
					ON (Front door RH open)	0 V	
					OFF (Back door RH closed)	0 V	
13 (GR)	Ground	Door switch (RR) signal	Input	Back door switch upper RH	ON (Back door RH open)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0	
18 (P)	Ground	Keyless gnd signal	Input	Ignition switch O	N	0 V	
					Key inserted into ignition key cylinder	0 V	
					Key removed from ignition key cylinder (Any door open)	5 V	
19 (V)	Ground	Keyless tuner power supply signal	Input	Ignition switch OFF	Key removed from ignition key cylinder (Any door closed)	(V) 6 4 2 0 •••0, 2, 5 JPMIA0338JP	

< ECU DIAGNOSIS INFORMATION >

Termina		Description				Value	
(Wire o	color) _	Signal name	Input/ Output		Condition	(Approx.)	
					Key inserted into ignition key cylinder	0 V	
20 (W)	Ground	Keyless tuner signal	Input	Ignition switch OFF	Waiting	(V) 6 4 2 0 • • • 1. Oms PIIB7728J	
					Signal receiving	(V) 6 4 2 0 ••••1.0ms PIIB7729J	
21 (G)	Ground	Immobilizer one way communication (Clock) signal	Input/ Output	While waiting	Turn ignition switch ON.	Turn ignition switch ON: Pointer of tester should move.	
					ON	0 V	
23 (G)	Ground	Security indicator output signal	Input	Security indica- tor	Blinking (Ignition switch OFF)	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15	
					OFF	12 V	
25 (BR)	Ground	Immobilizer two way communication sig- nal	Input/ Output	While waiting	Turn ignition switch ON.	Turn ignition switch ON: Pointer of tester should move.	
27 (GR)	Ground	Air con sw signal	Input	A/C switch	OFF	(V) 15 10 10 ms JPHIA0012GB	
					ON	1.0 - 1.5 V 0 V	
28 (Y)	Ground	Blower fan sw signal	Input	Fan switch	Blower fan switch OFF	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0	
					Blower fan switch ON	7.0 - 8.0 V 0 V	

< ECU DIAGNOSIS INFORMATION >

[BCM]

Terminal No. (Wire color)		Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	А
29	Ground	Hazard sw signal	Input	Hazard switch	OFF	Battery voltage	В
(0)	Giouna	i lazaru sw sigilar	mput		ON	0 V	D
32				Combination switch	OFF	(V) 10 0 0 0 0 0 0 0 0 0 0 0 0 0	C D E
(SB)	Ground	Output 5 signal	Output	Front fog lamps switch	ON		
					Wiper intermittent dial 1	(V) 15	F
					Wiper intermittent dial 2		
				Combination switch	Wiper intermittent dial 5	0 milen len len len len len len len len len	G
						1.2 V	Н
33				Combination and lighting switches	OFF	(V) 10 50 ★ + 10ms FKIB4960J 7.0 - 8.0 V	J
(G)	Ground	Output 4 signal	Output	Lighting switch	TAIL LAMP		17
					Wiper intermittent dial 2	(V) 15 10 5	Κ
				Combination switch	Wiper intermittent dial 3	0 ← 10ms	
						1.2 V	BCS

Ν

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< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
34	Ground	Output 3 signal	Output	Combination and lighting switches	OFF	(V) 10 50 •••••••••••••••••••••••••••••••••
(Y)	Gibuliu	Output 5 signal	Output	Lighting switch	HEADLAMP 2	
					HI BEAM	(V) 15
				Combination switch	Wiper intermittent dial 5	(V) 15 0 +10ms FKIB4958J 1.2 V
				Combination and lighting switches	OFF	(V) 10 0 0 0 0 0 0 0 0 0 0 0 0 0
35 (BR)	Ground	Output 2 signal	Output	Lighting switch H	HEADLAMP 1	7.0 - 8.0 V
()					PASSING	
				Combination switch	FR WIPER HI	(V) 15 10
					FR WIPER INT (any intermittent position)	5 0 ++10ms FKIB4958J 1.2 V
36				Combination	OFF	(V) 10 0 0 0 0 0 0 0 0 0 0 0 0 0
(Y)	Ground	Output 1 signal	Output	switch	TURN RH	
					TURN LH	(V) 15
					FR WIPER LOW	(V) 15 10 5
					FR WASHER	0 ← +10ms ► KIB4958J
						1.2 V
37	Ground	Key sw signal	Input		ignition key cylinder	Battery voltage
(BR)		, , ,	P	Key removed fro	m ignition key cylinder	0 V

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	Λ
(VVire +	e color)	Signal name	Input/ Output	Condition		(Approx.)	А
38 (R)	Ground	lgn sw signal	Input	Ignition switch O Ignition switch O		0 V Battery voltage	В
39 (L)	Ground	CAN-H signal	Input/ Output		_	_	С
40 (P)	Ground	CAN-L signal	Input/ Output		_	_	0
45 (GR)	Ground	Central door lock sw signal	Input	Door lock/un- lock switch	NEUTRAL position	(V) 15 10 5 0 10 ms 10 ms 1.0 - 1.5 V	D E F
					LOCK position	0 V	
46 (R)	Ground	Central door unlock sw signal	Input	Door lock/un- lock switch	NEUTRAL position	(V) 15 10 5 10 10 ms JPMIA0012GB 1.0 - 1.5 V	G H
					UNLOCK position	0 V	
47 (SB)	Ground	Door switch (DR) signal	Input	Front door switch LH	OFF (Front door LH closed)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0	J K L
					ON (Front door LH open)	0 V	
48 (O)	Ground	Door switch (RL) sig- nal	Input	Back door switch lower LH, back door lower RH, secondary sliding door switch (with high roof) or sliding door	OFF (Back door LH, back door RH or sliding door closed)	(V) 15 0 • • 10ms • • 10ms • • 10ms • • 10ms • • • 10ms • • • 10ms • • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •	N O
				switch	ON (Back door LH, back door RH or sliding door open)	0 V	Ρ

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
(VVire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
51 (V)	Ground	Trailer flasher output (right) signal	Output	Turn signal switch RH ON		(V) 15 0 50 50 50 500 ms 500 ms	
52 (G)	Ground	Trailer flasher output (left) signal	Output	Turn signal switch LH ON		(V) 15 0 50 500 ms SKIA3009J	
56		Battery saver output		Interior room larr	np battery saver activated	0 V	
(SB)	Ground	signal	Output	Interior room larr	np battery saver not activat-	12 V	
57 (LG)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage	
59		Door unlock output		Front door LH	Actuated to UNLOCK po- sition	12 V	
(W)			Output	actuator	Other than actuated to UNLOCK position	0 V	
					Turn signal switch OFF	0 V	
60 (Y)	Ground	Flasher output (left) signal	Output	lgnition switch ON	Turn signal switch LH ON	(V) 15 0 	
					Turn signal switch OFF	0 V	
61 (G)	Ground	Flasher output (right) signal	Output	lgnition switch ON	Turn signal switch RH ON	(V) 15 0 15 15 15 15 15 15 15 15 15 15	
63	Ground	Room lamp output	Outout	Interior room	OFF	12 V	
(L)	Ground	signal	Output	lamp	ON	0 V	
65	Ground	Door lock output sig-	Output	All door actua-	Actuated to LOCK posi- tion	12 V	
(G)		nal		tors	Other than actuated to LOCK position	0 V	

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	^	
(Wire +	e color) _	Signal name	Input/ Output		Condition	(Approx.)	A	
66		Door unlock output			front door lock sition	Actuated to UNLOCK po- sition	12 V	В
(Y)	Ground	(AS, SD, BD) signal	Output	RH and sliding door lock actua- tors	Other than actuated to UNLOCK position	0 V	С	
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V	0	
68 (W)	Ground	Power window pow- er supply (RAP) sig- nal	Output	Ignition switch ON		12 V	D	
69 (L)	Ground	Power window pow- er supply (battery) signal	Output	Ignition switch OFF		12 V	E	
70 (R)	Ground	Battery power sup- ply (F/L)	Input	Ignition switch OFF		Battery voltage	F	

Fail-safe

FAIL-SAFE CONTROL BY DTC

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

CONSULT display	Fail-safe	Cancellation	H
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC	I
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$	J

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

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

NOTE:

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

DTC Inspection Priority Chart

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

Priority	DTC	N
1	U1000: CAN COMM U1010: CONTROL UNIT (CAN)	_
2	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	O
3	C1735: IGN CIRCUIT OPEN	-

DTC Index

NOTE:

Details of time display

INFOID:000000006889196

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[BCM]

INFOID:000000006889195

INFOID:000000006889197

< ECU DIAGNOSIS INFORMATION >

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

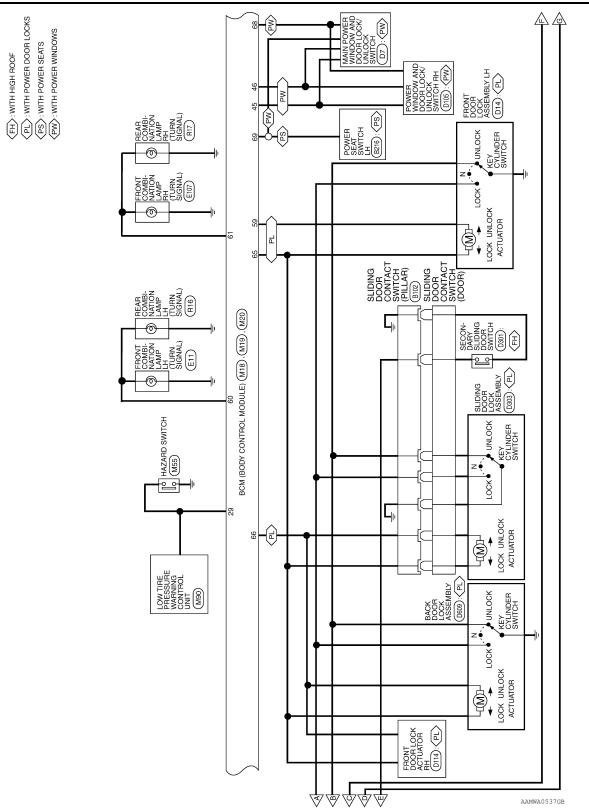
CONSULT display	Fail-safe	Reference
U1000: CAN COMM	—	<u>SEC-38</u>
U1010: CONTROL UNIT (CAN)	—	<u>BCS-47</u>
B2190: NATS ANTENNA AMP	×	<u>SEC-40</u>
B2191: DIFFERENCE OF KEY	×	<u>SEC-42</u>
B2192: ID DISCORD BCM-ECM	×	<u>SEC-43</u>
B2193: CHAIN OF BCM-ECM	×	<u>SEC-45</u>
B2195: ANTI SCANNING	×	<u>SEC-46</u>
C1735: IGN CIRCUIT OPEN	_	<u>BCS-48</u>

WIRING DIAGRAM А BCM (BODY CONTROL MODULE) Wiring Diagram INFOID:000000006737479 В (HX) : WITH REMOTE KEVLESS ENTRY (TT) : TRAILER TOW 7 PIN (VT) : PASSENGER VAN (WI) : WITH IMMOBILIZER POWER DISTRIBUTION MODULE ENGINE ROOM) (E119) IPDM E/R (INTELLIGENT \mathbb{A} 4 \triangle A A K K 19 20 REMOTE KEYLESS С RELAY E128 E125 8 €)] 10A ABS/TCS/VDC CONTROL UNIT ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) W D NATS ANTENNA AMP. (M21): (WI PRE-WIRING FOR TELEMATICS CONTROL MODULE M7 M4 ⋝ STOP LAMP SWITCH E38 25 Ε (FH) : WITH HIGH ROOF (PL) : WITH POWER DOOR LOCKS IGNITION SWITCH ON OR START BACK DOOR SWITCH UPPER RH (R21) 10A 88 F FRONT AIR CONTROL 27 10 28 M49 <u>c</u> TO CAN SYSTEM BI08 B108 B108 . ШЦ П \$ 2 0 Н 10A 9 11 39 , M20 57 1. (M19),(10A B116 B116 32 6 5 4 3 2 (BODY CONTROL MODULE) (M18) IGNITION SWITCH ACC OR ON E24 10A E105 ല J Į COMBINATION SWITCH (M28) 10A BACK DOOR SWITCH LOWER LH Κ FRONT FOG LAMPS SWITCH (M10) D407 N 33 BCM 34 BACK DOOR SWITCH LOWER RH KEY SWITCH (M27) 35 D607 10A 36 BCS BCM (BODY CONTROL MODULE) 37 TO ILLUMINATION [← LIGHTING SWITCH M34 E Ν ц 199 COMBINATION METER (M24) E SWITCH LH B8 23 0 TO ILLUMINATION Ē TRAILER TURN RELAY RH (E157) : < 2 Ρ BATTERY ŝ 2 ത īc 4 15A 31 AAMWA0536GB

BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

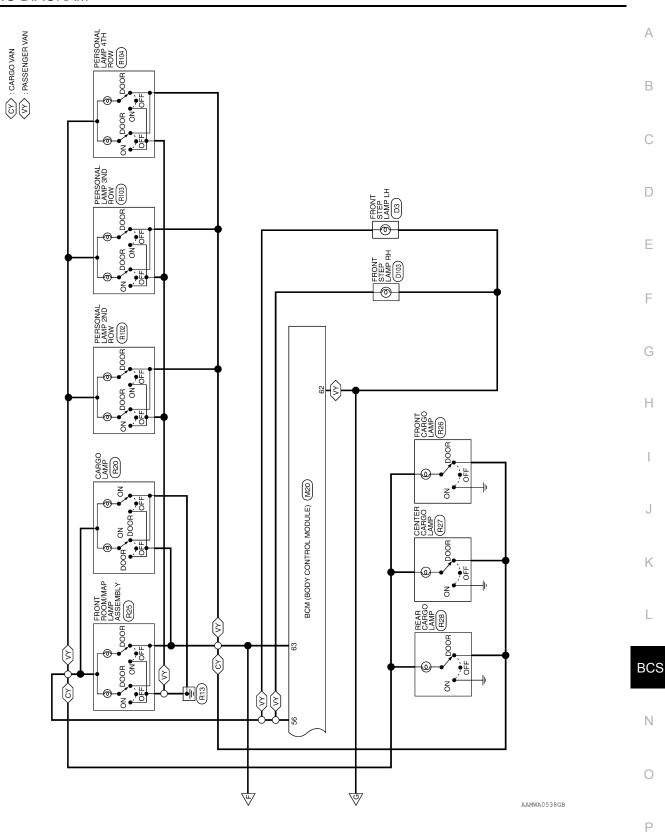
[BCM]



BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

[BCM]



BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

Signal Name	1	I	KEYLESS AND AUTO LIGHT SENSOR GND	KEYLESS TUNER POWER SUPPLY	KEYLESS TUNER SIGNAL	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)	I	SECURITY INDICATOR OUTPUT	1	IMMOBILIZER TWO WAY COMMUNICATION	Ι	AIR CON SW	BLOWER FAN SW	HAZARD SW	I	I	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	KEY SW	IGN SW	CAN-H	CAN-L
Color of Wire	I	-	Ч	^	8	U	I	U	I	BR	I	GR	Y	0	I	I	SB	U	Y	BR	Y	BR	щ	L	٩
Terminal No.	16	17	18	19	20	21	22	23	54	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

				19 20 39 40																
	BCM (BODY CONTROL MODULE)	WHITE		9 10 11 12 13 14 15 16 17 18 29 30 31 32 33 34 35 36 37 38	Signal Name	-	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	KEY CYLINDER UNLOCK SW	KEY CYLINDER LOCK SW	BRAKE SW 1	REAR DEFOGGER SW	ACC SW	DOOR SW (AS)	DOOR SW (RR)	T	1
M18				27 28	Color of Wire	Т	Γ	٩	ŋ	0	ш	≻	SB	ГG	ВВ	0	0	GR	ī	ı
Connector No.	Connector Name	Connector Color	品.S.H	1 2 3 4 5 6 21 22 23 24 25 26	Terminal No.	-	2	ю	4	5	9	2	8	6	10	11	12	13	14	15

BCM (BODY CONTROL MODULE) CONNECTORS

Connector No. M10 Connector Name FRONT FOG LAMP SWITCH Connector Color WHITE



Signal Name	I	I	I	I	I	1
Color of Wire	SB	٩	I	>	BR	I
Terminal No. Color of Wire	-	2	3	4	5	9

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AAMIA1033GB

Image BCM (BODY CONTROL MODULE) Connector Name BCM (BODY MODULE) Image WHITE Connector Name MODULE) Image MODULE) Connector Color BLACK Image Signal Name Connector Color BLACK Image Signal Name Connector Color BLACK Image Connector Color BLACK Image Image Signal Name Connector Color BLACK Image Signal Name Connector Color BLACK Image Connector Color Signal Name Signal Name Image Centrat DoOR Signal Name Si	BOM (BDP) CONTROL Connector Name (MITE BOM (BDP) CONTROL Connector Name (MITE Conne	BCM (BODY CONTROL MODULE) WHITE Connector Name BCA WODULE) WHITE Connector Color BLA Connector Color BLA MODULE) Translation Connector Color BLA MODULE) Connector Color BLA MODU COLOR COL CONNECTOR CONNECTO	CONTROL al Name DEPUT UTPUT ERY SAVER UTPUT ER UNLOCK PUT (DR) ER OUTPUT ER OUTPUT COCK OUTPUT ER OUTPUT AMP OUTPUT C AMP OUTPUT C AMP OUTPUT C C C C C C C C C C C C C C C C C C C	Connector Name Connector Color Terminal No. Cc 5 7 7 10 10 12 13 13	MICH ame ame 7.2 2.1 2.2 7.2 7.2 7.2 7.2 7.2 7.2 7.2 7.2 7.2
Joint IMHE Connector Color BLACK Image: Signal Name Image: Signal Name Image: Signal Name Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Im		WHTE Connector Color BLA 0151 20 30 341 350 00 21 20 341 350 0151 20 35 341 350 0151 20 35 341 350 0151 20 35 400 400 144444 55 56 58 57 116 01 CENTRAL DOOR 59 W 46 57 116 56 58 57 116 56 58 57 116 57 116 57 116 57 116 57 116 57 116 56 7 66 7 66 7 66 7 66 7 66 7 66 7 66 7 66 7 66 7 66 7 70 8 1 1 70 8 1 1 66 7 66 1 1 66 1 1 70 8 1 1 1 1 <td< th=""><th>al Name al Name UTPUT ERY SAVER UTPUT ERY (FUSE) - - - - - - - - - - - - - - - - - - -</th><th>Inimal No. C Inimal No. C 1 1 1 1 1 1 1 1</th><th>ame ame 773777</th></td<>	al Name al Name UTPUT ERY SAVER UTPUT ERY (FUSE) - - - - - - - - - - - - - - - - - - -	Inimal No. C Inimal No. C 1 1 1 1 1 1 1 1	ame ame 773777
		स्वयित्तित्वति स्वयित्ति स्वयित्तित्वति स्वयित्ति स्वयित्त्ति स्वयित्त्ति स्वयित्त्त स्वयित्त स्वयित्त स्वयित्त स्वयित्त स्वयित्त स्वयित्त स्वयित्त स्वयित स्वयित्त स्वयित्त	al Name al Name UTPUT ERY (FUSE) ERY (FUSE) ER (FUSE) PUT (DR) FUT (DR) FUT (DR) ER OUTPUT LEFT) AMP OUTPUT - - - - - - - - - - - - - - - - - - -	S minal No. C 11111110	ame ame 173
Signal Name Signal Name Color of Wire Signal Name Terminal No. Color of Wire Signal Name Terminal No. Color of Wire Terminal No. Color of Wire Signal Name Terminal No. Color of Wire Terminal No. Terminal No. Color of Wire Terminal No. Terminal No. Terminal No. Terminal No. Color of Wire Terminal No. Terminal No. Terminal No. Te	Control Signal Name Terminal No. Control Signal Name Terminal No. Control Signal Name Terminal No. Control Terminal No. Control Terminal No. Control Terminal No.	Signal Name Terminal No. Color of Wire - - 56 SB - - 57 LG - - 53 - - - 58 57 - - 58 - - - 58 - - - 59 W CENTRAL DOOR 60 Y DOOR SW (DR) 61 G 0UNLOCK SW 61 G - - 63 L - - - 64 - - - - 65 G OUTPUT (LEFT) 68 W - - 69 L - - - 69 L	nal Name ERY SAVER UTPUT ERY (FUSE) - - - - - - - - - - - - - - - - - - -		lame
- 56 58 BATTERY SAVER 1 R 1 - 57 LG BATTERY (FUSE) 5 LG P P - 57 LG BATTERY (FUSE) 55 LG P P - 58 - DOOR UNLOCK S9 W DOOR UNLOCK P V <	56 58 BATTERY SAVER OUTPUT 1	- 56 58 - 57 LG - 58 - - 58 - - 58 - - 59 W CENTRAL DOOR 60 Y UNLOCK SW 61 G DOOR SW (DR) 61 G V 000R SW 63 L - - 65 G - - 65 H - - 65 H - - 65 G - - 65 H - - 65 H - - 65 <td>ERY SAVER UTPUT ERY (FUSE) - PUT (DR) FPUT (DR) EER OUTPUT LEFT) EER OUTPUT - AMP OUTPUT - AMP OUTPUT - CCK OUTPUT - CCK OUTPUT - - - - - - - - - - - - - - - - - - -</td> <td></td> <td>Л 4 7 3 7 3 7 3 7 1 7 1 7 1 7 2 7 1 7 2 7 2 7 1 7 2 7 2 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3</td>	ERY SAVER UTPUT ERY (FUSE) - PUT (DR) FPUT (DR) EER OUTPUT LEFT) EER OUTPUT - AMP OUTPUT - AMP OUTPUT - CCK OUTPUT - CCK OUTPUT - - - - - - - - - - - - - - - - - - -		Л 4 7 3 7 3 7 3 7 1 7 1 7 1 7 2 7 1 7 2 7 2 7 1 7 2 7 2 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3
	m m	- -	UTPUT ERY (FUSE) - NULOCK PUT (DR) ER OUTPUT ER OUTPUT - - - - - - - - - - - - - - - - - - -		Л 4 Л 3 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7
57 LG BATTERY (FUSE) 5 LG OUTPUT -	57 LG BATTERY (FUSE) 5 LG V 58 - - - - 6 V 58 - - - - - 6 V 7 Y Y - - - - - - - - 6 V -	- - 57 LG - - 58 - CENTRAL DOOR CENTRAL DOOR 59 W CENTRAL DOOR CENTRAL DOOR 60 Y UNLOCK SW 61 G Y DOOR SW (DR) 61 G Y DOOR SW (SLIDE, BK LWR) 63 L - - 64 - - - - 64 - - OUTPUT (RIGHT) 66 Y 67 B - - 65 G G - - - - 65 Y - - - - - 65 Y -	ERY (FUSE) R UNLOCK PUT (DR) ER OUTPUT ER OUTPUT		Л 3 Т 5 Т 1 Т 1 Т 1 Т 2 Т 1 Т 1 Т 2 Т 2 Т 2 Т 2 Т 2 Т 2 Т 2 Т 2
Image: Section Lock SW 58 - - - - - 6 V V V 59 W DOOR UNLOCK SW 59 W DOOR UNLOCK SW 8 L Y <	Image: marked	- - 58 - CENTRAL DOOR 59 W CENTRAL DOOR 60 Y DOOR SW 61 G DOOR SW 63 L Signal 63 L Cantral Door 66 Y DOOR SW 63 L Cantral EFLASHER 65 G Cantral FLASHER 66 Y Cantral Cart Lasher 66 Y Cantral Cart Lasher 66 Y Cantral Cart Lasher 68 W Cantral Cart Lasher 68 Y Cantral Cart Lasher 69 L Cantral Cart Lasher 69 L	- R UNLOCK PUT (DR) ER OUTPUT LEFT) ER OUTPUT - AMP OUTPUT - - AMP OUTPUT - - CK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND GND		73 75 71 75 72 72
CENTRAL DOOR LOCK SW 59 W DOOR UNLOCK OUTPUT (DR) 7 Y CENTRAL DOOR LOCK SW E V OUTPUT (DR) 8 L Y CENTRAL DOOR UNLOCK SW E Y FLASHER OUTPUT UNLOCK SW 60 Y FLASHER OUTPUT (EFT) 9 BR L DOOR SW (DR) E C FLASHER OUTPUT (REFT) 10 G Y L DOOR SW (DR) E C FLASHER OUTPUT (REFT) E FLASHER OUTPUT 10 G Y Y DOOR SW (DR) E C FLASHER OUTPUT E 10 Y Y Y Y DOOR SW (DR) E C F ROON LOCK OUTPUT 12 R Y	Centradi DOOR 59 W DOOR UNLOCK SW LOCK SW CLOCK SW 60 Y FLAHLER OUTPUT NULLOCK SW 60 Y FLAHLER OUTPUT 9 BR NULLOCK SW 61 G Y FLAHLER OUTPUT 9 BR NULLOCK SW 61 G Y FLAHLER OUTPUT 9 BR NULLOCK SW 61 G FLAHLER OUTPUT 10 G 11 Y NULLOCK SW 61 G FLAHLER OUTPUT 66 Y InfiGHT) 12 B NULLUR 66 Y OUTPUT (RIGHT) 66 Y OUTPUT (RIGHT) 13 SB NTRAILER FLASHER OUTPUT (RIGHT) 66 Y OUTPUT (RIGHT) 14 O 14 N OUTPUT (RIGHT) 66 Y OUTPUT (RIGHT) 14 O N OUTPUT (RIGHT) 66 Y OUTPUT (RIGHT) 14 O N OUTPUT (RIGHT) 66 Y OUTPUT (RIGHT) 14 O N OUTPUT (RIGHT) F F F 13 14 O N OUTPUT (RIGHT) F F F F	CENTRAL DOOR LOCK SW 59 W CENTRAL DOOR UNLOCK SW 60 Y DOOR SW (DR) 61 6 DOOR SW (DR) 61 G NLLOCK SW 61 6 DOOR SW (DR) 61 G NLLOCK SW 61 6 DOOR SW (DR) 61 G ITRALER FLASHER 63 L OUTPUT (RIGHT) 66 Y OUTPUT (LEFT) 68 W - 69 L - 69 L - 69 L	R UNLOCK PUT (DR) ER OUTPUT LEFT) ER OUTPUT - AMP OUTPUT - OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND GND		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Induction Enditient Flasher output 9 B 2 Inucck sw Inucck sw 61 G FLAsher output 9 B 7 Inucck sw Door sw (DR) 61 G FLAsher output 10 G 7 Inucck sw Door sw (DR) 61 G FLAsher output 11 Y 7 Inucck sw 63 L ROOM LAMP OUTPUT 63 B 11 Y 11 Y 12 R 11 Y 11 <td< td=""><td>CENTRAL DOOR 60 Y FLASHER OUTPUT 9 6 Y EASHER OUTPUT 9 6 Y P</td><td>CENTRAL DOOR UNLOCK SW 60 Y DOOR SW (DR) 61 G DOOR SW (DR) 62 - (SLIDE, BK LWR) 63 L - - 64 - - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y - - 65 G - - 65 B - - 65 Y - - 65 Y - - 65 Y</td><td>ER OUTPUT LEFT) ER OUTPUT - AMP OUTPUT - - OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND GND</td><td></td><td>7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7</td></td<>	CENTRAL DOOR 60 Y FLASHER OUTPUT 9 6 Y EASHER OUTPUT 9 6 Y P	CENTRAL DOOR UNLOCK SW 60 Y DOOR SW (DR) 61 G DOOR SW (DR) 62 - (SLIDE, BK LWR) 63 L - - 64 - - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y - - 65 G - - 65 B - - 65 Y - - 65 Y - - 65 Y	ER OUTPUT LEFT) ER OUTPUT - AMP OUTPUT - - OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND GND		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
UNLOCK SW DOOR SW (DR) (LEFT) 10 G DOOR SW (DR) 61 G FLASHER OUTPUT 11 Y DOOR SW (DR) 61 G FLASHER OUTPUT 11 Y Noncess (SLIDE, BK LWR) 62 - - - 13 SB - SLIDE, BK LWR) 63 L ROOM LAMP OUTPUT 12 R - - - 64 - - - - 14 0 - TRAILER FLASHER 66 Y DOOR LOCK OUTPUT - - - - - - 14 0 -	WINDOCKSW (LEF1) 10 6 DOOR SW (DR) DOOR SW (DR) 61 G FLASHER OUTPUT DOOR SW 62 - - - - SLUNDSCRSW 62 - - - - - BOOR SW 62 -	UNLIGE SWUT EI	ER OUTPUT ER OUTPUT - AMP OUTPUT - OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND ER WINDOW		7 4 7 1 7 5 7 2 7 2
DOOR SW (DR) 61 G FLASHER OUTPUT 11 γ DOOR SW 62 - (RIGHT) 12 R 12 R 13 SB 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 0 14 14	IDDOR SW (DF) 61 G FLASHER OUTPUT 11 χ 1 DOOR SW 62 - - - 13 58 - 1 - - - - - 13 58 - 1 - - - - - - 13 58 - 1 - - - - - - 13 58 - - 13 58 - - 13 58 - - 13 58 - - 13 58 - - 14 0 -	DOOR SW (DR) 61 G DOOR SW (DR) 62 - (SLIDE, BK LWR) 62 - - - 63 L - - 65 G - - 65 G - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y 67 - - 67 B - - 67 B - - 69 L - - 69 L	ER OUTPUT algHT) - AMP OUTPUT - OCK OUTPUT (AS,RR,RL,BD) GND GND ER WINDOW		Г1 JT 1 JT 2
DOORSW (SLIDE, BK LWR) E2 - - 12 R 1 <td>DOOR SW ICLIDE, BK LWR) EC - - - - 12 R -<td>DOOR SW (SLIDE, BK LWR) 62 - - - 63 L - - 64 - - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y 00TPUT (RIGHT) 66 Y - - 63 L - - 63 Y - - 63 Y - - 63 Y - - 63 Y</td><td>AMP OUTPUT - OCK OUTPUT OCK OUTPUT (AS,RR,RL,BD) GND GND</td><td></td><td>JT 1</td></td>	DOOR SW ICLIDE, BK LWR) EC - - - - 12 R - <td>DOOR SW (SLIDE, BK LWR) 62 - - - 63 L - - 64 - - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y 00TPUT (RIGHT) 66 Y - - 63 L - - 63 Y - - 63 Y - - 63 Y - - 63 Y</td> <td>AMP OUTPUT - OCK OUTPUT OCK OUTPUT (AS,RR,RL,BD) GND GND</td> <td></td> <td>JT 1</td>	DOOR SW (SLIDE, BK LWR) 62 - - - 63 L - - 64 - - - 65 G - - 65 G OUTPUT (RIGHT) 66 Y 00TPUT (RIGHT) 66 Y - - 63 L - - 63 Y - - 63 Y - - 63 Y - - 63 Y	AMP OUTPUT - OCK OUTPUT OCK OUTPUT (AS,RR,RL,BD) GND GND		JT 1
(3 L ROOM LAMP OUTPUT (3 L ROOM LAMP OUTPUT -	Constraint E3 L ROOM LAMP OUTPUT 63 L ROOM LAMP OUTPUT TRAILER FLASHER 64 -	Current of the control of the contro of the control of the control of the contro	AMP OUTPUT - OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND GND ER WINDOW		772
64 - - - TRAILER FLASHER 65 G DOOR LOCK OUTPUT 0UTPUT (RIGHT) 66 Y DOOR UNLOCK TRAILER FLASHER 66 Y DOOR UNLOCK 0UTPUT (IGHT) 66 Y OUTPUT (AS, RR, RL, BD) 0UTPUT (LEFT) 67 B GND 0UTPUT (LEFT) 68 W POWER WINDOW 69 L POWER WINDOW (BAP) 69 L POWER SUPPLY (BATTERY) 70 R BATTERY) BATTERY)	Imaller Flasher 64 - - Trailer Flasher 65 6 DOOR UNLOCK 0UTPUT (RIGHT) 66 Y DUTPUT (AS,RR,RI,BD) Trailer Flasher 67 B GND 0UTPUT (LEFT) 67 B GND 0UTPUT (LEFT) 68 W POWER WINDOW - - - - 0UTPUT (LEFT) 69 L POWER WINDOW - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	64 - TRAILER FLASHER 65 6 OUTPUT (RIGHT) 66 Υ TRAILER FLASHER 67 8 OUTPUT (LEFT) 68 W - - 69 L	OCK OUTPUT A UNLOCK (AS,RR,RL,BD) GND ER WINDOW		
TRAILER FLASHER 65 G OUTPUT (RIGHT) 66 Y TRAILER FLASHER 66 Y OUTPUT (LEFT) 68 W - - 69 L - - 69 L - - 69 L	TRAILER FLASHER 65 G OUTPUT (RIGHT) 66 Y FRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - - 69 L - - 69 L	TRAILER FLASHER 65 G OUTPUT (RIGHT) 66 Y TRAILER FLASHER 67 B OUTPUT (LEFT) 63 W - 63 V - 69 L - 69 L 70 R	OCK OUTPUT R UNLOCK (AS,RR,RL,BD) GND END		
Inductor FLASHER 66 Y OUTPUT (RIGHT) 66 Y TRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - - 69 L - - 69 L	Inductor Flaght) 66 Y TRAILER FLASHER 67 B OUTPUT (LEFT) 63 W - - 69 L - - 69 R	Inductor Floatient 66 Y OUTPUT (RIGHT) 66 Y TRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - 69 L - - 69 L	R UNLOCK (AS,RR,RL,BD) GND ER WINDOW		
TRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - - 68 W - - 69 L - - 69 L	TRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - - 63 L - - 69 L 70 R 70 R	TRAILER FLASHER 67 B OUTPUT (LEFT) 68 W - - 68 W - - 69 L - - 69 L	GND ER WINDOW		
			R WINDOW		
œ		æ	(RAP)		
ď	сс.	α	ER WINDOW ER SUPPLY TTERY)		
-			TERY (F/L)		

< WIRING DIAGRAM >

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	M34 LIGHTING SWITCH WHITE	Connector No. Connector Name Connector Color
e 2		
Donnector No. M34 Donnector Name LIGHTING SWITCH Donnector Color WHITE		
Connector No. M34 Connector Name LIGHTING SWITCH	WHITE	Connector Color
	LIGHTING SWITCH	Connector Name
	M34	Connector No.

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M34 LIGHTING SWITCH	WHITE	8	Signal Name	(+) ILL (+)	INPUT 2	INPUT 3	INPUT 4	OUTPUT 5	OUTPUT 4	I	(-) ILL (-)
le			Color of Wire	>	ВВ	≻	U	_	٩	I	BR
Connector No. Connector Name	Connector Color	同 H.S.	Terminal No.	Ŧ	N	e	4	5	9	7	8

BCS-42

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INSPECTION AND ADJUSTMENT
< BASIC INSPECTION > [BCM]
BASIC INSPECTION
INSPECTION AND ADJUSTMENT
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description
BEFORE REPLACEMENT When replacing BCM, save or print current vehicle specification with CONSULT configuration before replace- ment. NOTE:
If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replac- ing BCM.
AFTER REPLACEMENT CAUTION:
 When replacing BCM, you must perform "After Replace ECU" with CONSULT. Complete the procedure of "After Replace ECU" in order. If you set incorrect "After Replace ECU", incidents might occur. Configuration is different for each vehicle model. Confirm configuration of each vehicle model. When replacing BCM, perform the system initialization (NATS).
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Proce-
dure
1.SAVING VEHICLE SPECIFICATION
CONSULT Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification. NOTE: If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replac- ing BCM.
>> GO TO 2.
2.REPLACE BCM
Replace BCM. Refer to BCS-55, "Removal and Installation".
>> GO TO 3.
3. WRITING VEHICLE SPECIFICATION
 CONSULT Enter "Re/Programming, Configuration". If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to <u>BCS-44</u>, "<u>CONFIGURATION (BCM)</u>: <u>Work Procedure</u>". If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to <u>BCS-44</u>, "<u>CONFIGURATION (BCM)</u>: <u>Work Procedure</u>".
>> GO TO 4. 4.INITIALIZE BCM (NATS)
Perform BCM initialization. (NATS)
>> Work End. CONFIGURATION (BCM)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

CONFIGURATION (BCM) : Description

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

Function	Description
"Before Replace ECU"	Reads the vehicle configuration of current BCM.Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:

• When replacing BCM, you must perform "Select Saved Data List" or "After Replace ECU" with CON-SULT.

- Complete the procedure of "Select Saved Data List" or "After Replace ECU" in order.
- If you set incorrect "Select Saved Data List" or "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

• Never perform "Select Saved Data List" or "After Replace ECU" except for new BCM.

CONFIGURATION (BCM) : Work Procedure

INFOID:000000006889201

1.WRITING MODE SELECTION

CONSULT Select "Reprogramming, Configuration" of BCM.

When writing saved data>>GO TO 2. When writing manually>>GO TO 3.

2.Perform "Saved data list"

CONSULT

Automatically "Operation Log Selection" window will display if "Before Replace ECU" was performed. Select applicable file from the "Save Data List" and press "Confirm".

>> Work End.

 $\mathbf{3}$.PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

- 1. Select "After Replace ECU" or "Manual Configuration".
- Identify the correct model and configuration list. Refer to <u>BCS-45, "CONFIGURATION (BCM): Configura-</u> tion List".
- 3. Confirm and/or change setting value for each item.
- CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

- 4. Select "Next".
 - CAUTION:

Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.

5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Work End.

INFOID:000000006889200

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

CONFIGURATION (BCM) : Configuration List

CAUTION:

Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SE	ETTING ITEM	•
Items	Setting value	С
THEFT ALARM	$WITH \Leftrightarrow WITHOUT$	
KEYLESS ENTRY	WITH \Leftrightarrow WITHOUT	-
AUTO LOCK&UNLOCK FUNC	$WITH \Leftrightarrow WITHOUT$	D

⇔: Items which confirm vehicle specifications

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DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM

Description

INFOID:000000006889203

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. Refer to <u>LAN-28</u>, <u>"CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"</u>.

DTC Logic

INFOID:00000006889204

DTC DETECTION LOGIC

DTC	DTC Detection Condition	Possible cause
U1000: CAN COMM	When BCM cannot communicate CAN com- munication signal continuously for 2 sec- onds or more.	CAN communication system

Diagnosis Procedure

INFOID:000000006889205

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-15, "Trouble Diagnosis Flow Chart".
- NO >> Refer to <u>GI-39</u>, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION LOGIC

CONSULT display de- scription	DTC Detection Condition	Possible cause
CONTROL UNIT (CAN)	BCM detected internal CAN communication circuit malfunction.	ВСМ
sis Procedure		INFOID:0000000688920
ACE BCM		
C "U1010" is detected	d, replace BCM.	
>> Replace BCM. Re	fer to BCS-55. "Removal and Installation".	
	scription CONTROL UNIT (CAN) sis Procedure ACE BCM C "U1010" is detecte	scription Dife Detection Condition CONTROL UNIT (CAN) BCM detected internal CAN communication circuit malfunction. sis Procedure Sis Procedure

INFOID:00000006889206

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< DTC/CIRCUIT DIAGNOSIS >

C1735 IGN CIRCUIT OPEN

DTC Logic

INFOID:000000006889208

INFOID:00000006889209

[BCM]

DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause
C1735	IGN CIRCUIT OPEN	 Detected following signals are different for 2 seconds; Ignition switch ON signal inputted from ignition switch Ignition relay status signal received from IPDM E/R with CAN communication 	 Harness or connector (Ignition power supply circuit) BCM IPDM E/R

NOTE:

BCM may detect that ignition switch is OFF when IGN power supply voltage is low.

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

1. Erase DTC.

- 2. Turn the ignition switch OFF.
- 3. Perform "Self Diagnostic Result".

Is any DTC detected?

YES >> Refer to <u>BCS-48, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

1. CHECK BCM IGNITION POWER SUPPLY CIRCUIT

Check BCM ignition power supply circuit. Refer to BCS-49. "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the malfunctioning part.

2. CHECK IPDM E/R POWER SUPPLY CIRCUIT

Check IPDM E/R power supply circuit. Refer to PCS-23, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the malfunctioning part.

3.CHECK IPDM E/R IGNITION RELAY STATUS

CONSULT

- 1. Select "IGN RLY" of IPDM E/R data monitor item.
- 2. While operating the ignition switch, check the monitor status.

Monitor item	Con	Monitor status	
IGN RLY	Ignition switch	OFF	Off
IGN RLY	ignition switch	ON	On

Is the inspection result normal?

- YES >> Replace BCM. Refer to <u>BCS-55, "Removal and Installation"</u>.
- NO >> Replace IPDM E/R. Refer to PCS-24, "Removal and Installation".

Terminal No.	Signal name	Fuses and fusible link No.	
57	Potton / nowor ounnly	22 (10A)	F
70	Battery power supply	J (40A)	
11	Ignition ACC or ON	9 (10A)	
38	Ignition ON or START	12 (10A)	F

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connectors.

3. Check voltage between BCM connector and ground.

	Terminals		Ignition switch position			
((+) BCM					
В			OFF	ACC		J
Connector	Terminal		OFF	ACC	ON	
M20	70	Ground	Detter weltere	Battery voltage	Battery voltage	
WZ0	57		Battery voltage	Dattery voltage	Dattery voltage	K
M18	11		Approx. 0 V	Battery voltage	Battery voltage	-
IVI I O	38		Approx. 0 V	Approx. 0 V	Battery voltage	L

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM			Continuity	-
Connector	Terminal	Ground	Continuity	0
M20	67		Yes	_

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

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COMBINATION AND LIGHTING SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION AND LIGHTING SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:000000006889211

[BCM]

Regarding Wiring Diagram information, refer to BCS-37. "Wiring Diagram".

1. CHECK OUTPUT 1 - 5 CIRCUIT FOR OPEN

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM, combination switch, lighting switch and front fog lamps switch connectors.
- 3. Check continuity between BCM connector and combination switch connector.

Signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
Output 1	-	36	M28	11	Yes
Output 2		35		9	
Output 3	M18	34		7	
Output 4		33		10	
Output 5		32		13	

4. Check continuity between BCM connector and lighting switch connector.

Signal	BCM		Lighting switch		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
Output 2		35		2	
Output 3	M18	34	M34	3	Yes
Output 4		33		4	

5. Check continuity between BCM connector and front fog lamps switch connector.

Signal	BCM		Front fog lamps switch		Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	
Output 5	M18	32	M10	1	Yes	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harnesses or connectors.

2.CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Signal	BC	M		Continuity	
Signal	Connector	Terminal			
Output 1	M18	36		No	
Output 2		35	Ground		
Output 3		34			
Output 4		33			
Output 5		32	-		

Is the inspection result normal?

YES >> Repair harnesses or connectors.

NO >> GO TO 3.

COMBINATION AND LIGHTING SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BCM]

3.CHECK BCM OUTPUT VOLTAGE А 1. Connect BCM connector. 2. Check voltage between BCM connector and ground. В Terminals (+) (-) Voltage Signal (Approx.) С BCM Connector Terminal Output 1 36 D (V) Output 2 35 Ground 34 Output 3 M18 33 Ε Output 4 Omis Output 5 32 PKIB4960J F 7.0 - 8.0 V Is the inspection result normal? >> Replace malfunctioning switch. >> Replace BCM. Refer to <u>BCS-55, "Removal and Installation"</u>. YES NO Н J Κ L BCS Ν Ο Ρ

COMBINATION AND LIGHTING SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION AND LIGHTING SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:000000006889212

[BCM]

Regarding Wiring Diagram information, refer to BCS-37. "Wiring Diagram".

1. CHECK INPUT 1 - 5 CIRCUIT FOR OPEN

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM, combination switch, lighting switch and front fog lamps switch connectors.
- 3. Check continuity between BCM connector and combination switch connector.

Signal	BCM		Combination switch		Continuity
Signal	Connector	Terminal	Connector	Terminal	Continuity
Input 1	M18	6	M28	12	Yes
Input 2		5		14	
Input 3		4		5	
Input 4		3		2	
Input 5		2		8	

4. Check continuity between BCM connector and lighting switch connector.

Signal	BCM		Lighting switch		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
Input 4	M18	3	M34	6	Yes
Input 5		2		5	

5. Check continuity between BCM connector and front fog lamps switch connector.

Signal	BCM		Front fog lamps switch		Continuity	
	Connector	Terminal	Connector	Terminal	Continuity	
Input 4	M18	3	M10	2	Yes	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harnesses or connectors.

2.CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Cianal	BCI	Μ		Continuity	
Signal	Connector	Terminal			
Input 1		6		No	
Input 2		5	Ground		
Input 3	M18	4			
Input 4		3			
Input 5		2			

Is the inspection result normal?

YES >> Repair harnesses or connectors.

NO >> GO TO 3.

3.CHECK BCM INPUT SIGNAL

COMBINATION AND LIGHTING SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

		Terminals			
Signal	(+)	(-)	Voltage	
Signal	BC	M		(Approx.)	
	Connector	Terminal			
Input 1		6			
Input 2	M18	5	Ground	Refer to <u>BCS-25, "Refer-</u> ence Value".	
Input 3		4			
Input 4		3		<u></u>	
Input 5	-	2			

Is the inspection result normal?

Yes >> Replace BCM. Refer to <u>BCS-55. "Removal and Installation"</u>.

No >> Replace malfunctioning switch.

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COMBINATION AND LIGHTING SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION AND LIGHTING SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:000000006889214

[BCM]

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

													Malfunctioning item: ×
Data monitor item													
FR FOG SW	FR WIPER HI	FR WIPER LOW	FR WASHER SW	FR WIPER INT	INT VOLUME	TURN SIGNAL R	TURN SIGNAL L	TAIL LAMP SW	HI BEAM SW	HEAD LAMP SW 1	HEAD LAMP SW 2	PASSING SW	Malfunction combination
		×	×			×	×						А
	×			×						×		×	В
					×				×		×		С
					×			×					D
×					×								E
	×				×								F
			×		×								G
		×		×									Н
×							×				×	×	I
						×		×	×	×			J
					All I	tems							К
	lf or	nly one it	tem is de	etected o	or the ite	m is not	applicat	If only one item is detected or the item is not applicable to the combinations A to K					

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

Malfunction combination	Malfunctioning part	Repair or replace				
А	Output 1 signal circuit					
В	Output 2 signal circuit					
С	Output 3 signal circuit	 Inspect the output signal circuit applicable to the malfunctioning part. Refer to <u>BCS-50, "Diagnosis Procedure"</u>. 				
D	Output 4 signal circuit					
E	Output 5 signal circuit					
F	Input 1 signal circuit					
G	Input 2 signal circuit	_				
Н	Input 3 signal circuit	 Inspect the input signal circuit applicable to the malfunctioning part. Reference to BCS-52, "Diagnosis Procedure". 				
I	Input 4 signal circuit					
J	Input 5 signal circuit					
K	BCM	Replace BCM. Refer to BCS-55, "Removal and Installation".				
L	Combination or lighting switch	Replace malfunctioning switch.				

< REMOVAL AND INSTALLATION > **REMOVAL AND INSTALLATION** BCM (BODY CONTROL MODULE)

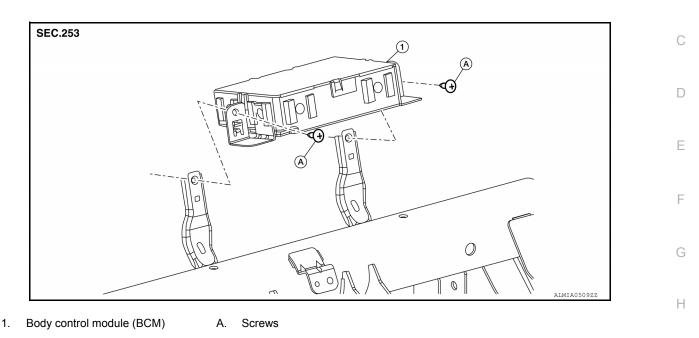
Exploded View

INFOID:000000007079156

INFOID:000000006737483

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[BCM]



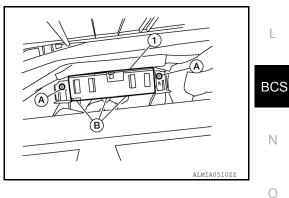
Removal and Installation

REMOVAL

CAUTION:

Before removing BCM, retrieve current BCM configuration to use for reference when configuring brand-new BCM after installation. Refer to BCS-44, "CONFIGURATION (BCM) : Description".

- 1. Disconnect the negative battery terminal.
- 2. Remove the combination meter. Refer to MWI-64, "Removal and Installation".
- 3. Remove the BCM screws (A).
- 4. Pull out the BCM (1).
- 5. Disconnect the harness connectors (B) from the BCM (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

- When replacing BCM, it must be configured. Refer to BCS-45, "CONFIGURATION (BCM) : Configuration List".
- When replacing BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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