

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:000000006247430

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:000000006247431

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-55. "Removal and Installation"](#).

>> 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-3. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

>> GO TO 4

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

CONFIGURATION

CONFIGURATION : Description

INFOID:000000006247432

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:

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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:000000006247433

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.

MANUAL SETTING ITEM	
Items	Setting value
KEYLESS ENTRY	WITH⇔WITHOUT
I-KEY	WITH⇔WITHOUT
AUTO LIGHT	WITH⇔WITHOUT
DTRL	WITH⇔WITHOUT
THEFT ALARM	WITH⇔WITHOUT
ASSIST LAMP TYPE	MODE1⇔MODE2
AUTO DOOR UNLOCK TIMING	WITH I-KEY⇔WITHOUT I-KEY

NOTE:

Confirm vehicle model. Refer to [GI-20. "Model Variation"](#).

>> Work End.

BODY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

BODY CONTROL SYSTEM

System Description

INFOID:000000006247434

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-7, "System Diagram"
Signal buffer system	BCS-12, "System Diagram"
Power consumption control system	BCS-13, "System Diagram"
Auto light system	EXL-12, "System Diagram"
Turn signal and hazard warning lamp system	EXL-17, "System Diagram"
Headlamp system	EXL-7, "System Diagram"
Front fog lamp system (if equipped)	EXL-15, "System Diagram"
Daytime running light system (if equipped)	EXL-9, "System Diagram"
Interior room lamp control system	INL-6, "System Diagram"
Step lamp system	INL-6, "System Diagram"
Interior room lamp battery saver system	INL-6, "System Diagram"
Front wiper and washer system	WW-4, "System Diagram"
Rear wiper and washer system	WW-8, "System Diagram"
Warning chime system	WCS-4, "WARNING CHIME SYSTEM : System Diagram"
Door lock system	<ul style="list-style-type: none"> • WITH INTELLIGENT KEY SYSTEM: DLK-15, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: DLK-214, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"
(NATS) Nissan anti-theft system	<ul style="list-style-type: none"> • WITH INTELLIGENT KEY SYSTEM: SEC-15, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-120, "System Diagram"
Vehicle security system	<ul style="list-style-type: none"> • WITH INTELLIGENT KEY SYSTEM: SEC-19, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-123, "System Diagram"
Rear window defogger system	DEF-4, "System Diagram"
Remote keyless entry system	DLK-216, "REMOTE KEYLESS ENTRY : System Diagram"
Intelligent Key system (if equipped)	DLK-43, "CONSULT-III Function (INTELLIGENT KEY)"
Power window system	PWC-6, "System Diagram"
RAP (retained accessory power) system	BCS-26, "RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)"
TPMS (tire pressure monitoring system)	WT-8, "System Diagram"

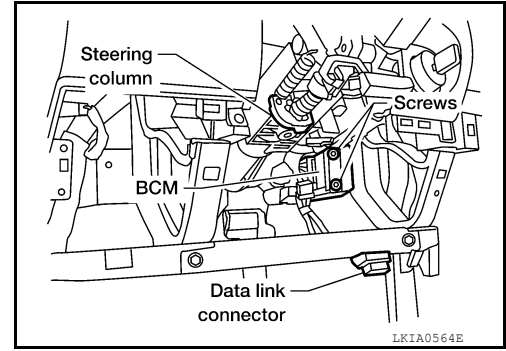
BODY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006247435

- BCM M18, M19, M20 (view with instrument panel removed)



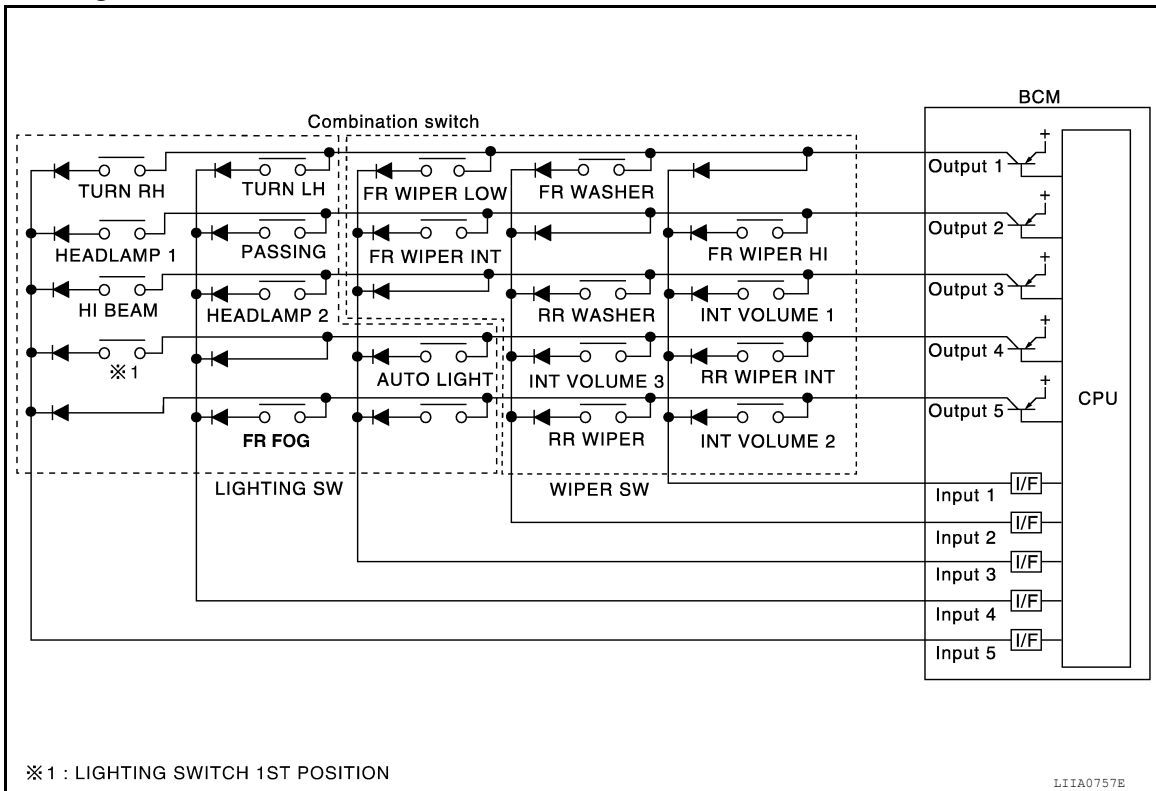
COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

COMBINATION SWITCH READING SYSTEM

System Diagram

INFOID:000000006247436



System Description

INFOID:000000006247437

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

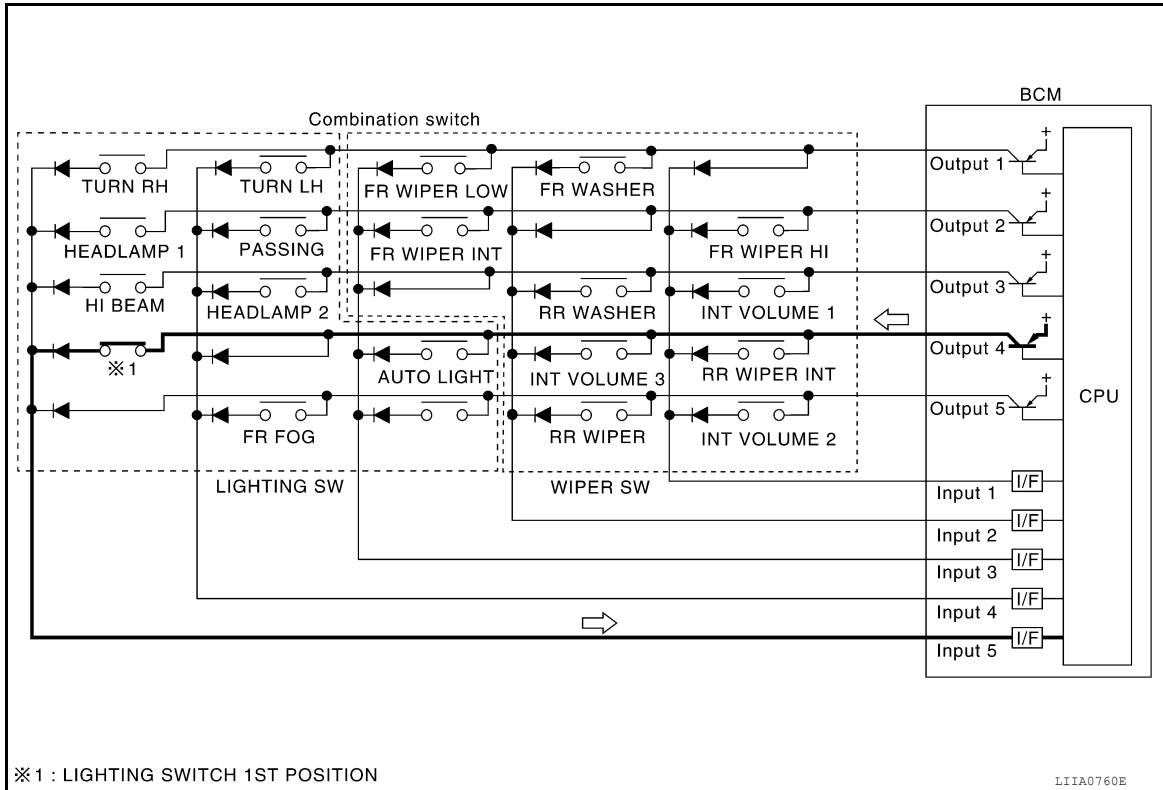
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COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

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	—	FR FOG	—

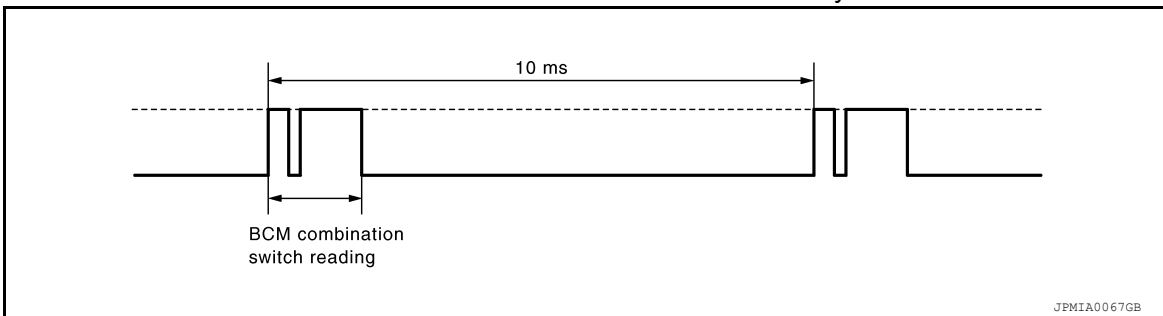
NOTE:

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:

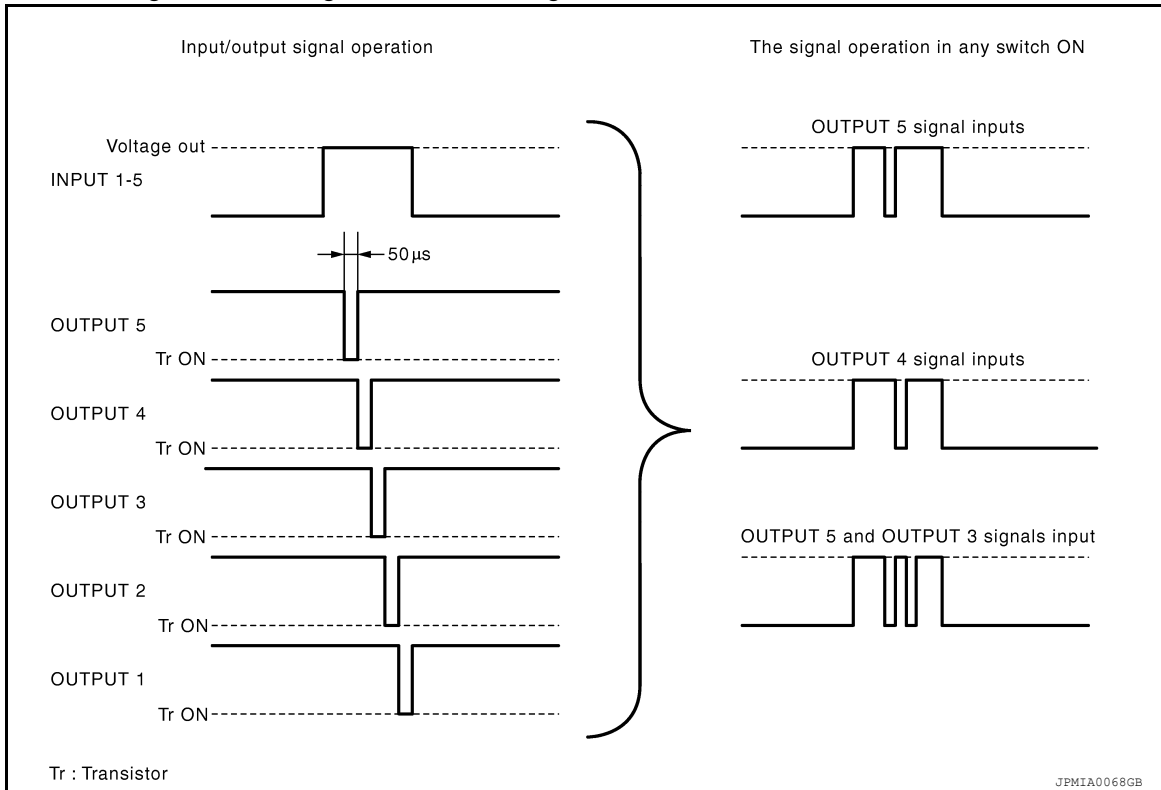
BCM reads the status of the combination switch at 20 ms interval when BCM is controlled at low power consumption control mode.

- 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.

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

- 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.

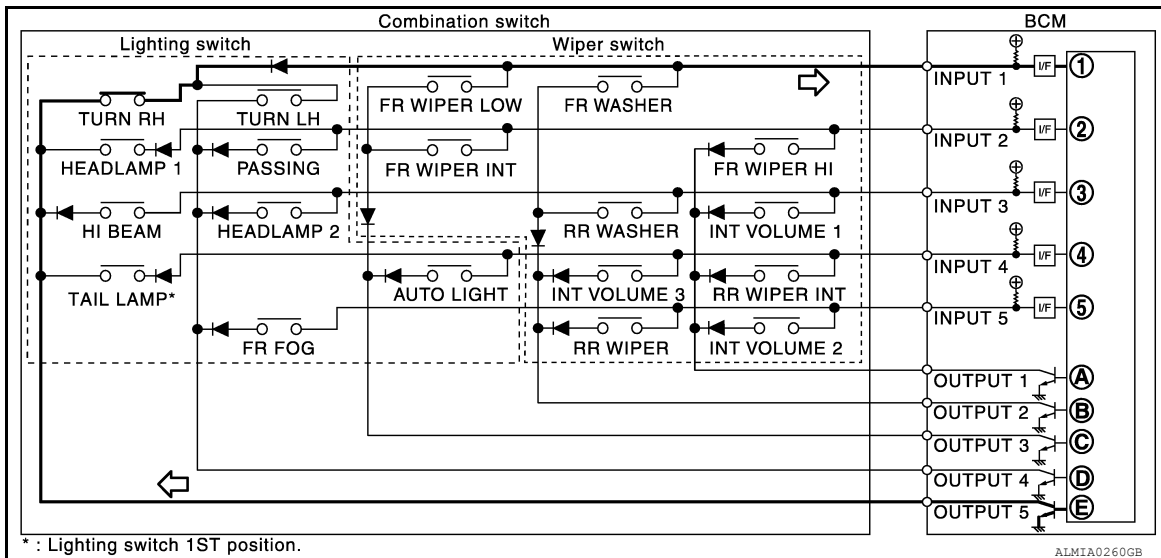


Operation Example

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

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



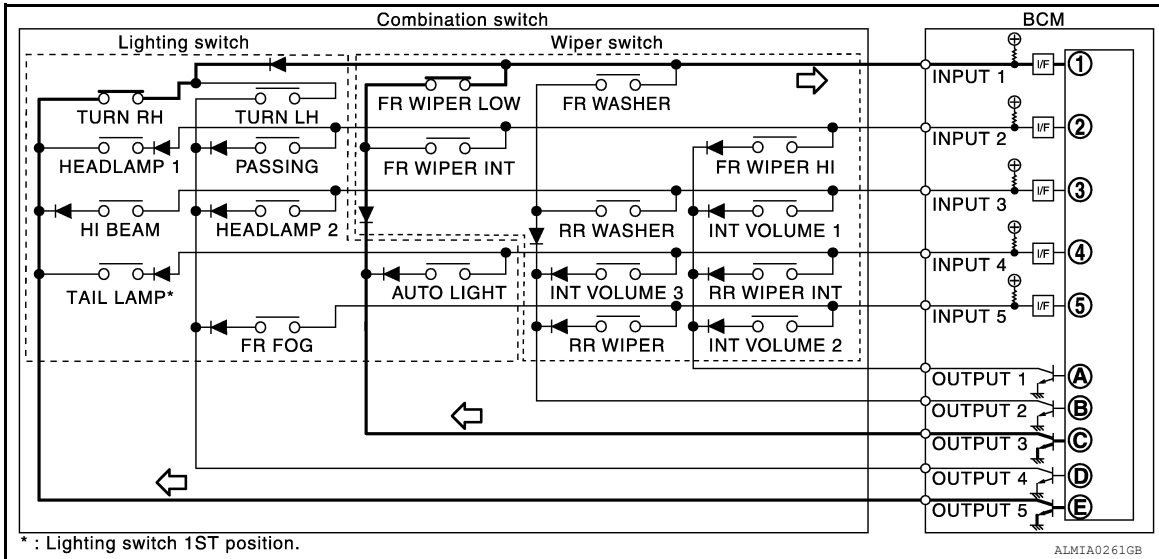
- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.

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

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

- 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.

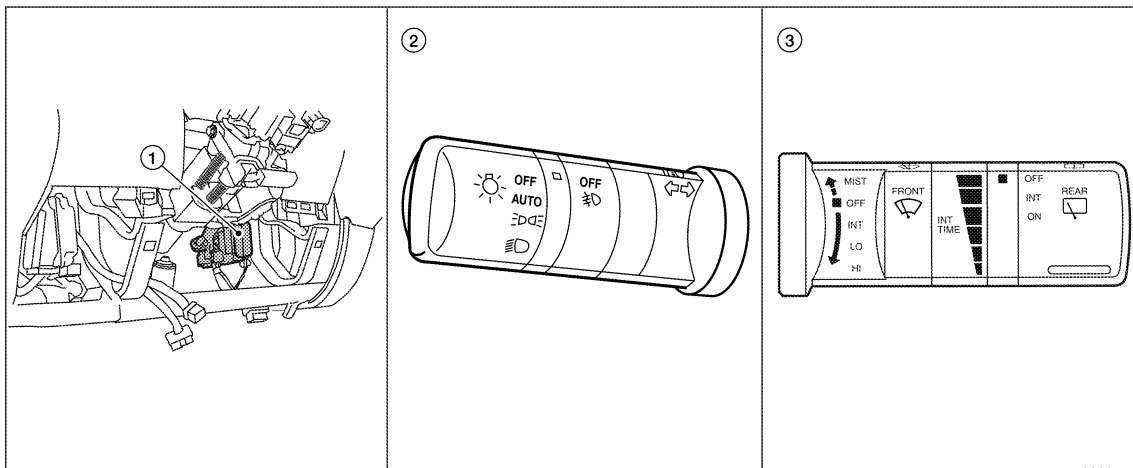
WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

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

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	Long ↓	OFF	OFF	OFF
5		OFF	OFF	ON
6		OFF	ON	ON
7		OFF	ON	OFF

Component Parts Location

INFOID:000000006247438



COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Combination switch (lighting and turn signal switch) M28
3. Combination switch (wiper and washer switch) M28

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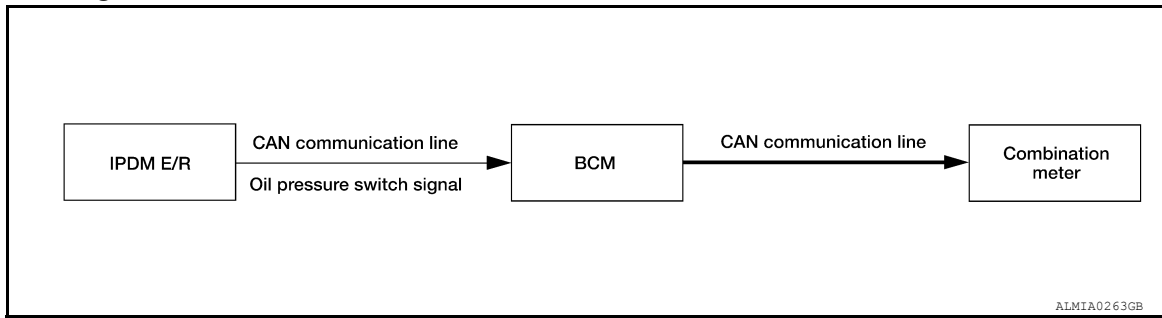
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SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:000000006247440

OUTLINE

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

Signal transmission function list

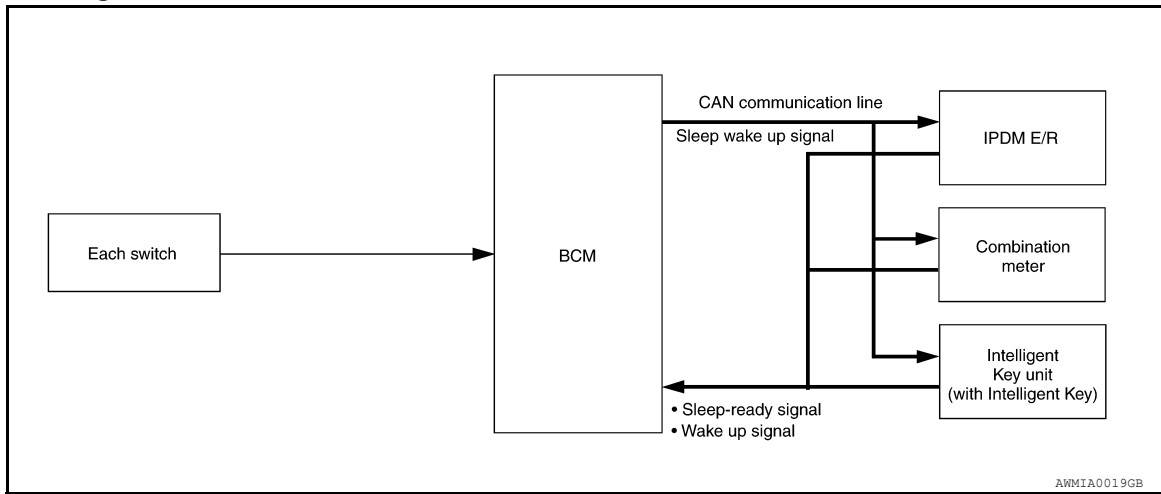
Signal name	Input	Output	Description
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pressure switch signal via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

INFOID:000000006247442

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.

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POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Sleep condition

CAN sleep condition	BCM sleep condition
<ul style="list-style-type: none"> • Receiving the sleep-ready signal (ready) from all units • Ignition switch: OFF • Vehicle security system 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 	<p>The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)</p>

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

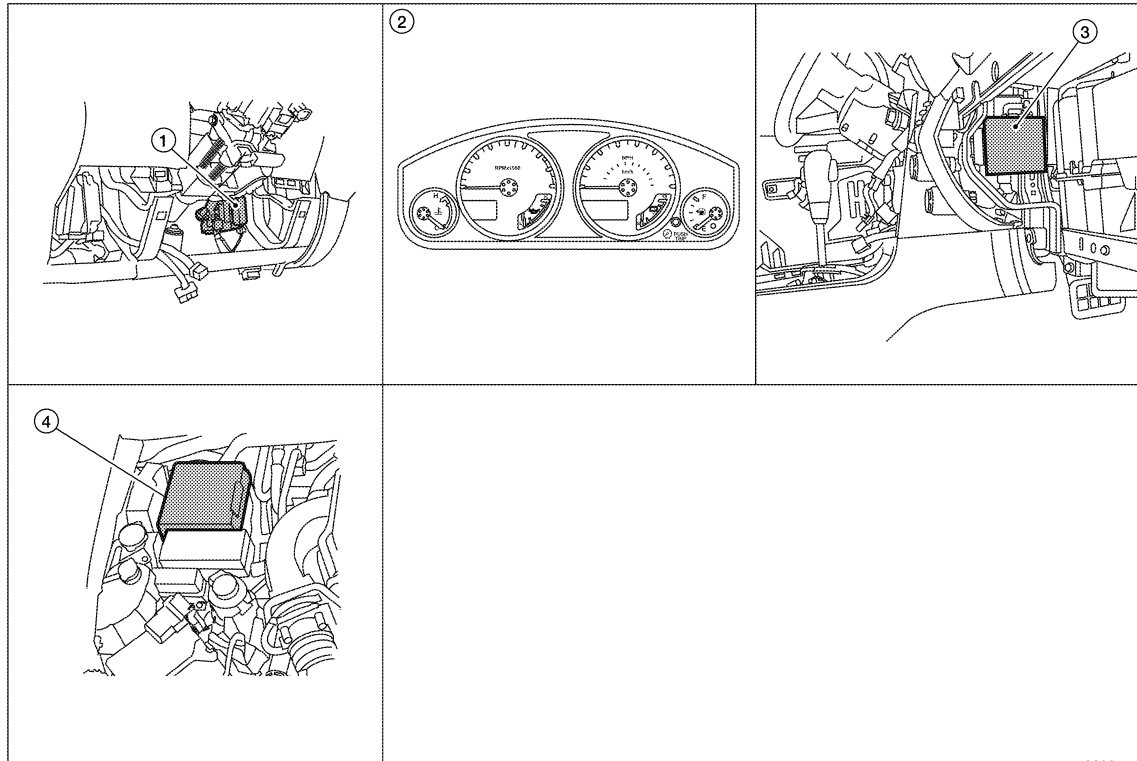
BCM wake-up condition
<ul style="list-style-type: none"> • Ignition switch: OFF → ACC or ON • Stop lamp switch: ON (Depress brake pedal) • Any door switch: OFF → ON • Lighting switch: OFF → 1ST or PASS • Hazard switch: OFF → ON • Back door opener switch OFF → ON • Remote keyless entry receiver: Receiving (with remote keyless entry) • Intelligent Key unit: Receiving (with Intelligent Key)

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006247443



1. BCM M18, M19, M20 (view with lower instrument lower panel LH removed)
2. Combination meter M24
3. Intelligent Key unit M164 (with Intelligent Key) (view with glove box removed)
4. IPDM E/R

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:000000006247444

APPLICATION ITEM

CONSULT-III 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	<ul style="list-style-type: none"> • 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.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Back door open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DOOR LOCK

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

INFOID:000000006247446

SELF DIAGNOSTIC RESULT

Refer to [BCS-46, "DTC Index"](#).

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 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.
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.
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.
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.

* : with Intelligent Key

** : without Intelligent Key

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.
	Off	Automatic door locks function OFF.
ANTI-LOCK OUT SET	Off	Anti lock out function OFF.
	On*	Anti lock out function ON.
AUTOMATIC DOOR LOCK SELECT	SHIFT OUT OF PARK	Doors lock automatically when shifted out of park (P).
	VH SPD*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).
AUTOMATIC DOOR UNLOCK SELECT	MODE6	Drivers door unlocks automatically when key is removed.
	MODE5	Drivers door unlocks automatically when shifted into park (P).
	MODE4	Drivers door unlocks automatically when ignition is switched from ON to OFF.
	MODE3	Doors unlock automatically when key is removed.
	MODE2	Doors unlock automatically when shifted into park (P).
MODE1*	Doors unlock automatically when ignition is switched from ON to OFF.	

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Support Item	Setting	Description
AUTOMATIC LOCK/UNLOCK SELECT	On*	Automatic lock/unlock function ON.
	Off	Automatic lock/unlock function OFF.

* : Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT-III Function (BCM - REAR DEFOGGER) INFOID:000000006247447

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.
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT-III Function (BCM - BUZZER) INFOID:000000006247448

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
LIGHT SW 1ST [On/Off]	Indicates condition of combination switch.
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.

ACTIVE TEST

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

INT LAMP

INT LAMP : CONSULT-III Function (BCM - INT LAMP) INFOID:000000006247449

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.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
BACK DOOR SW [On/Off]	Indicates condition of back door switch.
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.
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.
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.
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.

* : with Intelligent Key

** : without Intelligent Key

ACTIVE TEST

Test Item	Description
IGN ILLUM	This test is able to check ignition keyhole illumination operation [Off/On].
INT LAMP	This test is able to check interior room lamp operation [Off/On].
LUGGAGE LAMP TEST	This test is able to check cargo lamp operation [Off/On].

WORK SUPPORT

Support Item	Setting	Description
SET I/L D-UNLCK INTCON	Off	Interior room lamp timer function OFF.
	On*	Interior room lamp timer function ON.
ROOM LAMP ON TIME SET	MODE7	0 sec.
	MODE6	5 sec.
	MODE5	4 sec.
	MODE4	3 sec.
	MODE3	2 sec.
	MODE2*	1 sec.
	MODE1	0.5 sec.
ROOM LAMP OFF TIME SET	MODE7	0 sec.
	MODE6	5 sec.
	MODE5	4 sec.
	MODE4	3 sec.
	MODE3	2 sec.
	MODE2*	1 sec.
	MODE1	0.5 sec.

* : Initial setting

MULTI REMOTE ENT

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

INFOID:000000006247450

DATA MONITOR

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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.
KEYLESS PANIC [On/Off]	Indicates condition of panic 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 rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
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.
KEY CYL LK SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.

ACTIVE TEST

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [OTR ULK/DR UNLK/ALL ULK/ALL LCK].
PW REMOTO DOWN SET	This test is able to check keyfob power window down operation [Off/On].
FLASHER	This test is able to check hazard reminder operation [Off/LH/RH].
HORN	This test is able to check horn operation [On].

WORK SUPPORT

Support Item	Setting	Description	
HORN CHIRP SET	Off	Horn chirp function can be changed in this mode.	
	On*		
HAZARD LAMP SET	MODE4*	Lock and Unlock	Hazard warning lamp function can be changed in this mode.
	MODE3	Lock Only	
	MODE2	Unlock Only	
	MODE1	OFF	
MULTI ANSWER BACK SET	MODE2	Lock	Hazard warning lamps flash twice and horn does not sound.
		Unlock	Hazard warning lamps do not flash and horn does not sound.
	MODE1*	Lock	Hazard warning lamps flash twice and horn sounds once.
		Unlock	Hazard warning lamps flash once and horn does not sound.
AUTO LOCK SET	MODE3	1 min	Auto locking function can be changed in this mode.
	MODE2	OFF	
	MODE1*	5 min	
PANIC ALRM SET	MODE3	1.5 sec	Panic alarm operation can be changed in this mode.
	MODE2	OFF	
	MODE1*	0.5 sec	
PW DOWN SET	MODE3	5 sec	Keyfob power window down can be changed in this mode.
	MODE2	OFF	
	MODE1*	3 sec	
REMO CONT ID REGIST	—	Keyfob ID code can be registered.	

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Support Item	Setting	Description
REMO CONT ID ERASUR	—	Keyfob ID code can be erased.
REMO CONT ID CONFIR	—	Keyfob ID code registration is displayed.

*: Initial setting

HEADLAMP

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

INFOID:000000006247451

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]	
LIGHT SW 1ST [On/Off]	
AUTO LIGHT SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
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 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.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
OPTICAL SENSOR [V]	Indicates voltage signal from optical sensor.

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].

WORK SUPPORT

Support Item	Setting	Description
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.
	On*	Exterior lamp battery saver function ON.
CUSTOM A/LIGHT SETTING	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation).
	MODE3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2).
	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation).
	MODE1*	Normal.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Support Item	Setting		Description
ILL DELAY SET	MODE8	180 sec	Sets delay timer function operation time (All doors closed).
	MODE7	150 sec	
	MODE6	120 sec	
	MODE5	90 sec	
	MODE4	60 sec	
	MODE3	30 sec	
	MODE2	OFF	
	MODE1*	45 sec	

*: Initial setting

WIPER

WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:000000006247452

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.
FR WIPER HI [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	
INT VOLUME [1 - 7]	
FR WIPER STOP [On/Off]	Indicates front wiper motor auto stop signal received from IPDM E/R on CAN communication line.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
RR WIPER STOP [On/Off]	Indicates rear wiper motor auto stop input from rear wiper motor.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
WIPER SPEED SETTING	Off*	Front wiper intermittent time linked with wiper dial position.
	On	Front wiper intermittent time linked with vehicle speed and wiper dial position.

* : Initial setting

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000006247453

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
HAZARD SW [On/Off]	Indicates condition of hazard switch.
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.
TURN SIGNAL L [On/Off]	
BRAKE SW [On/Off]	Indicates condition of brake switch.

ACTIVE TEST

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

AIR CONDITIONER

AIR CONDITIONER : CONSULT-III Function (BCM - AIR CONDITIONER) INFOID:000000006247454

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.
AIR COND SW [On/Off]	Indicates condition of A/C switch.

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY) INFOID:000000006247455

DATA MONITOR

Monitor Item [Unit]	Description
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 PW DWN [On/Off]	Indicates condition of power window down signal from Intelligent Key.
I-KEY PANIC [On/Off]	Indicates condition of panic signal from Intelligent Key.
PUSH SW [On/Off]	Indicates condition of ignition knob switch.

COMB SW

COMB SW : CONSULT-III Function (BCM - COMB SW) INFOID:000000006247456

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]	
HI BEAM SW [On/Off]	Indicates condition of hi beam operation of combination switch.
HEAD LAMP SW 1 [On/Off]	Indicates condition of headlamp operation of combination switch.
HEAD LAMP SW 2 [On/Off]	
LIGHT SW 1ST [On/Off]	Indicates condition of lighting operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
AUTO LIGHT SW [On/Off]	Indicates condition of auto light operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog light operation of combination switch.

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
FR WIPER HI [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	Indicates condition of rear washer operation of combination switch.

BCM

BCM : CONSULT-III Function (BCM - BCM)

INFOID:000000006247445

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to [BCS-46. "DTC Index"](#).

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-3. "CONFIGURATION : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-10. "CAN Diagnostic Support Monitor"](#).

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:000000006247457

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.

ACTIVE TEST

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

BATTERY SAVER

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

INFOID:000000006247458

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.

DIAGNOSIS SYSTEM (BCM)

< 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 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.
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.
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.
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.
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.

* : with Intelligent Key

** : without Intelligent Key

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check battery saver operation [Off/On].

WORK SUPPORT

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

*: Initial setting

TRUNK

TRUNK : CONSULT-III Function (BCM - TRUNK)

INFOID:000000006247459

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
TRNK OPNR SW [On/Off]	Indicates condition of back door opener switch.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

Test item	Description
TRUNK/BACK DOOR	This test is able to check back door latch operation [Open].

THEFT ALM

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

INFOID:000000006247464

DATA MONITOR

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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.
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.
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 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.
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.
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.

* : with Intelligent Key

** : without Intelligent Key

ACTIVE TEST

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].

WORK SUPPORT

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

*: Initial setting

RETAINED PWR

RETAINED PWR : CONSULT-III Function (BCM - RETAINED PWR)

INFOID:000000006247460

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.

ACTIVE TEST

Test Item	Description
RETAINED PWR	This test is able to check retained power operation [Off/On].

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

WORK SUPPORT

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

*: Initial setting

SIGNAL BUFFER

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

INFOID:000000006247461

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 communication line.

ACTIVE TEST

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

AIR PRESSURE MONITOR

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

INFOID:000000006247463

SELF DIAGNOSTIC RESULT

NOTE:

Before performing Self Diagnostic Result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT-III.

Refer to [BCS-46, "DTC Index"](#).

DATA MONITOR

Monitor Item	Condition	Specification
VEHICLE SPEED	Drive vehicle	Vehicle speed (km/h or mph)
AIR PRESS FL	<ul style="list-style-type: none"> Drive vehicle for a few minutes. or Ignition switch ON and activation tool is transmitting activation signals. 	Tire pressure (kPa, kg/cm ² or psi).
AIR PRESS FR		
AIR PRESS RR		
AIR PRESS RL		
ID REGST FL1	Ignition switch ON.	Registration ID: Green No registration: Red
ID REGST FR1		
ID REGST RR1		
ID REGST RL1		
WARNING LAMP	Ignition switch ON.	Low tire pressure warning lamp on: ON. Low tire pressure warning lamp off: OFF.
BUZZER	Ignition switch ON.	Buzzer in combination meter on: ON. Buzzer in combination meter off: OFF.

ACTIVE TEST

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Test Item	Description
WARNING LAMP	This test is able to check tire pressure warning lamp operation [Off/On].
ID REGIST WARNING	This test is able to check ID regist warning chime operation [Off/On].
FLAT TIRE WARNING	This test is able to check flat tire warning chime operation [Off/On].
HORN	This test is able to check horn operation [On].
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

WORK SUPPORT

Support Item	Description
ID REGIST	Refer to WT-6. "ID Registration Procedure" .
ID READ	The registered ID number is displayed.

PANIC ALARM

PANIC ALARM : CONSULT-III Function (BCM - PANIC ALARM)

INFOID:000000006247465

ACTIVE TEST

Test Item	Description
HEAD LAMP (HI)	This test is able to check head lamp HI operation [On].
PANIC ALARM	This test is able to check panic alarm operation [On].

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000006247466

Refer to [LAN-53, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000006247467

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. <ul style="list-style-type: none">• Transmission• Receiving (ECM)• Receiving (METER/M&A)• Receiving (TCM)• Receiving (MULTI AV)• Receiving (IPDM E/R)• Receiving (I-KEY)

Diagnosis Procedure

INFOID:000000006247468

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-14, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-37, "Intermittent Incident"](#).

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:00000006247469

Regarding Wiring Diagram information, refer to [BCS-48. "Wiring Diagram"](#).

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	21 (10A)
70		G (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	1 (10A)

Is the fuse blown?

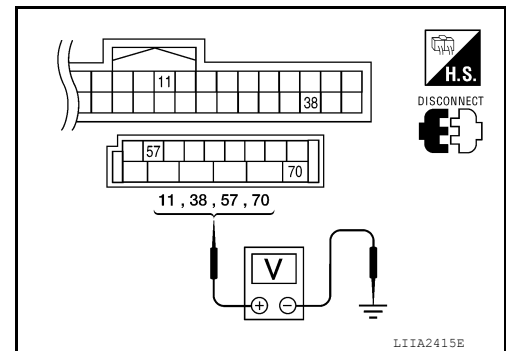
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Power source	Condition	Voltage (V) (Approx.)
	(+)	(-)			
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

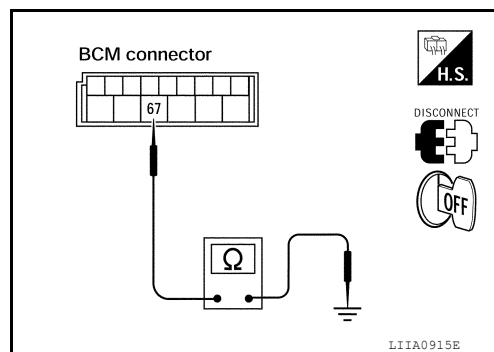
< DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Does continuity exist?

- YES >> Inspection End.
- NO >> Repair or replace harness.



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COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

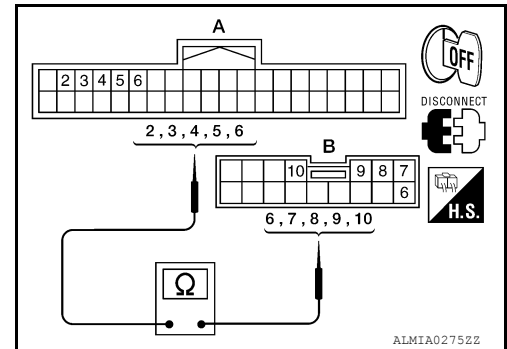
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Regarding Wiring Diagram information, refer to [BCS-48. "Wiring Diagram"](#).

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	M18 (A)	6	M28 (B)	6	Yes
INPUT 2		5		7	
INPUT 3		4		10	
INPUT 4		3		9	
INPUT 5		2		8	



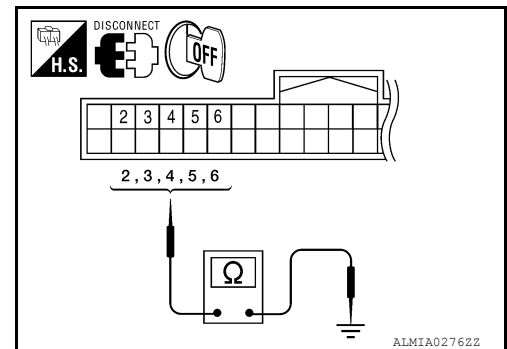
Does continuity exist?

- 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	M18	6	No
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	

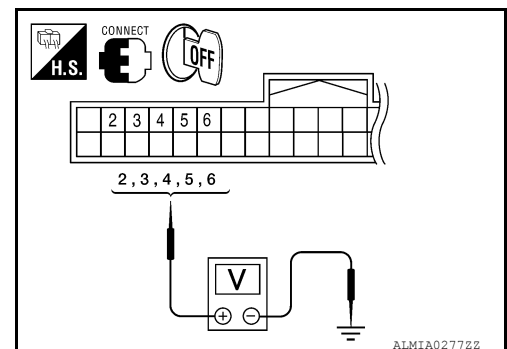


Does continuity exist?

- 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.



COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

System	Terminals		Voltage (Approx.)
	(+)	(-)	
	BCM		
	Connector	Terminal	
INPUT 1	M18	6	Ground
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	

Is the measurement value normal?

YES >> GO TO 4

NO >> Replace BCM. Refer to [BCS-55, "Removal and Installation"](#).

4. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-35, "Description"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-55, "Removal and Installation"](#).

NO >> Replace the combination switch (applicable parts). Refer to [EXL-149, "Removal and Installation"](#).

Special Repair Requirement

INFOID:000000006247471

1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

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COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

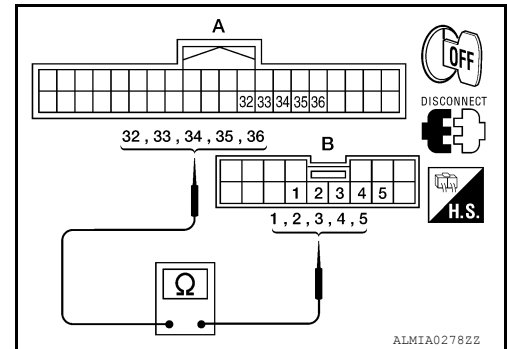
INFOID:000000006247472

Regarding Wiring Diagram information, refer to [BCS-48. "Wiring Diagram"](#).

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	M18 (A)	36	M28 (B)	1	Yes
OUTPUT 2		35		2	
OUTPUT 3		34		3	
OUTPUT 4		33		4	
OUTPUT 5		32		5	



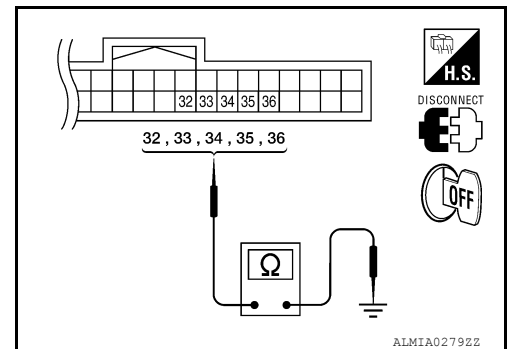
Does continuity exist?

- 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	M18	36	No
OUTPUT 2		35	
OUTPUT 3		34	
OUTPUT 4		33	
OUTPUT 5		32	



Does continuity exist?

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

3. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-35. "Description"](#).

Is the check result normal?

- YES >> Replace BCM. Refer to [BCS-55. "Removal and Installation"](#).
 NO >> Replace combination switch (applicable parts). Refer to [EXL-149. "Removal and Installation"](#).

Special Repair Requirement

INFOID:000000006247473

1. ADDITIONAL SERVICE WHEN REPLACING BCM

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

COMBINATION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH

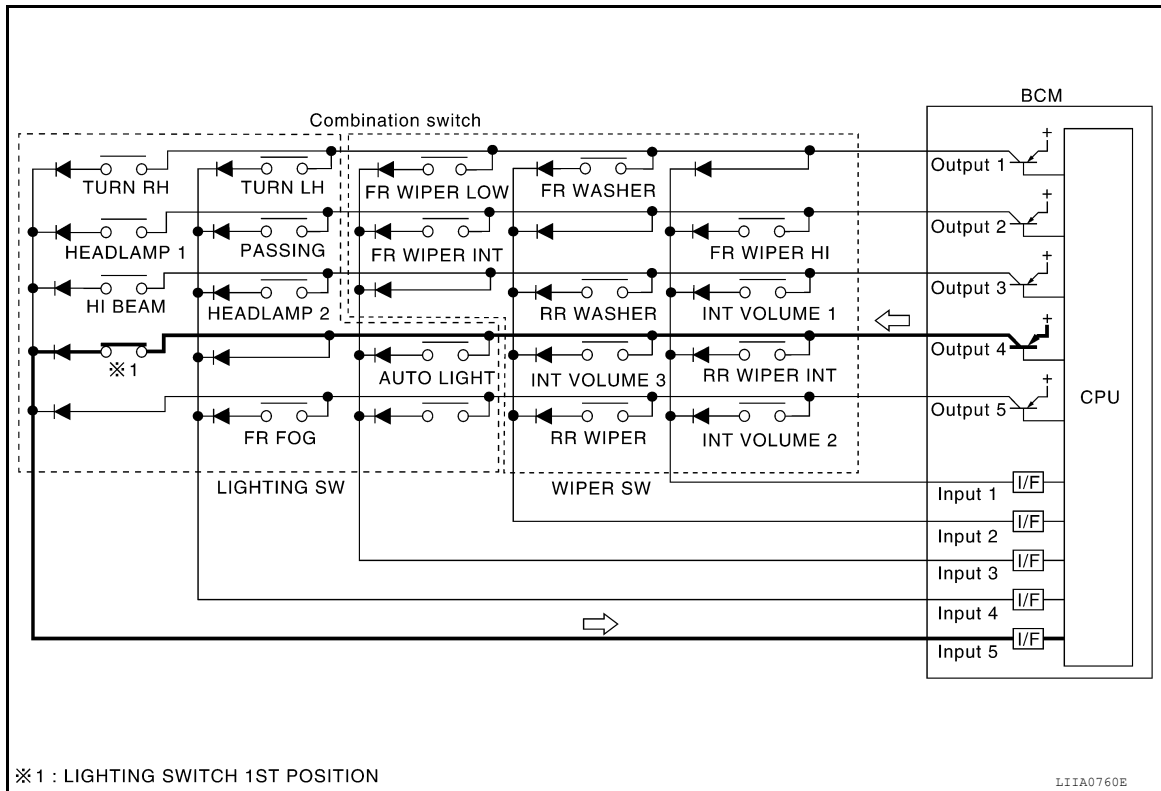
Description

INFOID:000000006247474

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	—	FR FOG	—

NOTE:

Headlamp has a dual system switch.

Diagnosis Procedure

INFOID:000000006247475

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-149. "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-70. "Removal and Installation"](#).

COMBINATION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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 INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000006247476

NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength
- Test remote keyless entry keyfob relative signal strength

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm ² , psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
BRAKE SW	Brake pedal released	Off
	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW 1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW 2	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
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
I-KEY PANIC ¹	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
I-KEY PW DWN ¹	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction	On
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
KEY CYL LK-SW	Door key cylinder LOCK position	Off	A
	Door key cylinder other than LOCK position	On	
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off	B
	Door key cylinder other than UNLOCK position	On	
KEY ON SW	Mechanical key is removed from key cylinder	Off	C
	Mechanical key is inserted to key cylinder	On	
KEYLESS LOCK ²	LOCK button of key fob is not pressed	Off	D
	LOCK button of key fob is pressed	On	
KEYLESS PANIC ²	PANIC button of key fob is not pressed	Off	E
	PANIC button of key fob is pressed	On	
KEYLESS UNLOCK ²	UNLOCK button of key fob is not pressed	Off	F
	UNLOCK button of key fob is pressed	On	
LIGHT SW 1ST	Lighting switch OFF	Off	G
	Lighting switch 1st	On	
OIL PRESS SW	<ul style="list-style-type: none"> • Ignition switch OFF or ACC • Engine running 	Off	H
	Ignition switch ON	On	
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V	I
	Dark outside of the vehicle	Close to 0V	
PASSING SW	Other than lighting switch PASS	Off	J
	Lighting switch PASS	On	
PUSH SW ¹	Return to ignition switch to LOCK position	Off	K
	Press ignition switch	On	
REAR DEF SW	Rear window defogger switch OFF	Off	L
	Rear window defogger switch ON	On	
RR WASHER SW	Rear washer switch OFF	Off	
	Rear washer switch ON	On	
RR WIPER INT	Rear wiper switch OFF	Off	
	Rear wiper switch INT	On	
RR WIPER ON	Rear wiper switch OFF	Off	
	Rear wiper switch ON	On	
RR WIPER STOP	Rear wiper stop position	Off	BCS
	Other than rear wiper stop position	On	
TURN SIGNAL L	Turn signal switch OFF	Off	N
	Turn signal switch LH	On	
TURN SIGNAL R	Turn signal switch OFF	Off	O
	Turn signal switch RH	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off	P
	Low tire pressure warning lamp in combination meter ON	On	

1: With Intelligent Key

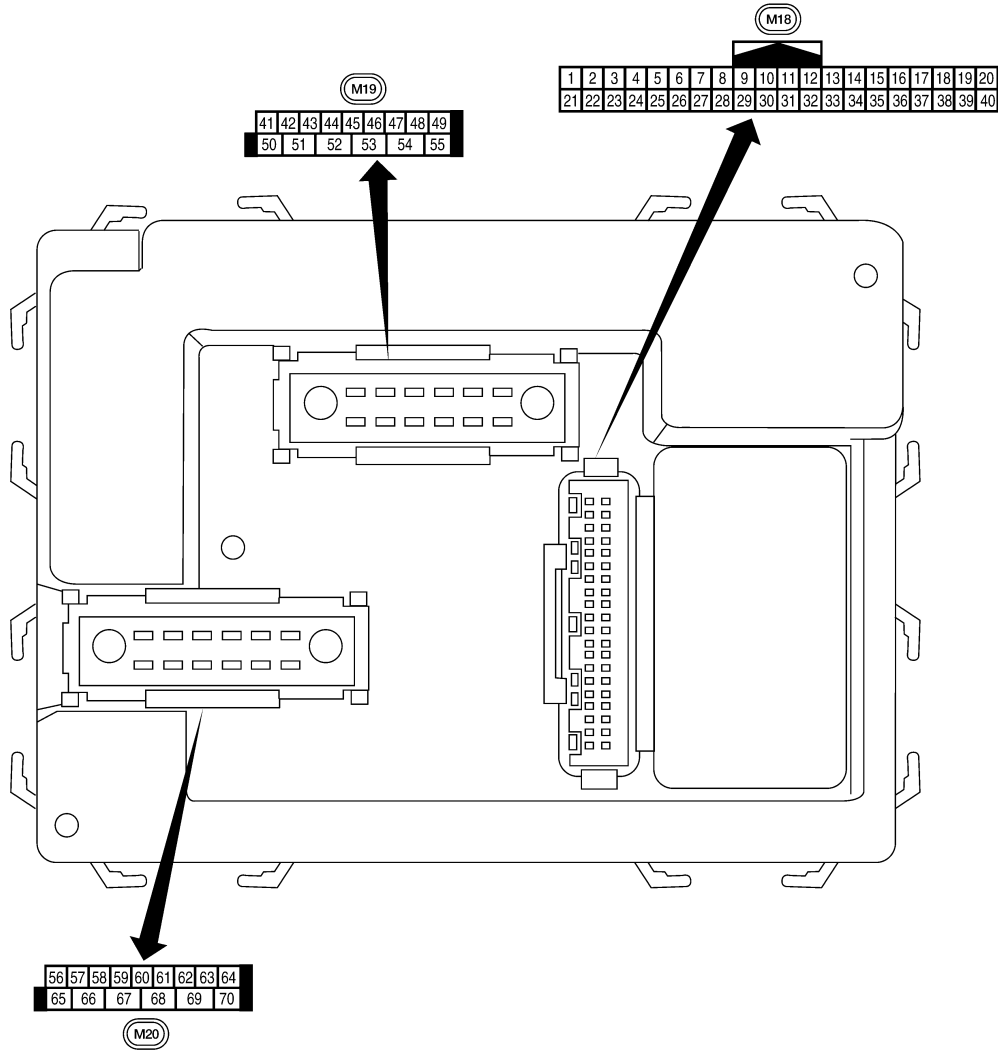
2: With remote keyless entry system

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal Layout

INFOID:000000006247477




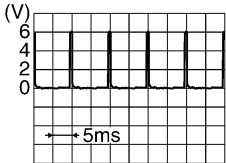

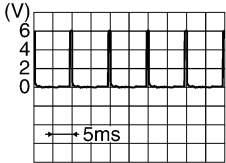
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Physical Values

INFOID:000000006247478

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	P	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
5	L	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
6	R	Combination switch input 1				
9	Y	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	L	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	BR	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

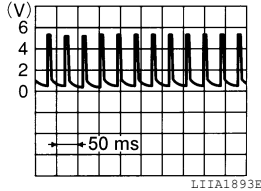
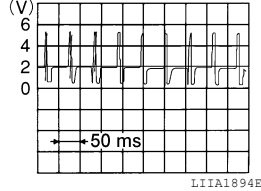
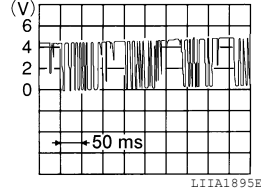
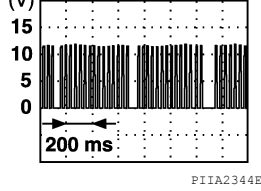
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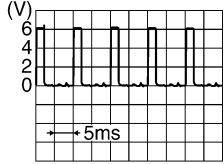

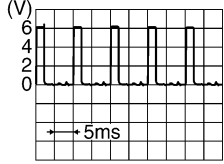
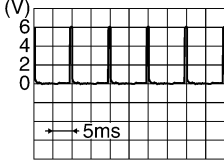
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 <p style="text-align: right; font-size: small;">L1IA1893E</p>
20	G	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 <p style="text-align: right; font-size: small;">L1IA1894E</p>
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 <p style="text-align: right; font-size: small;">L1IA1895E</p>
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	V	BUS	—	—	Ignition switch ON or power window timer operates	 <p style="text-align: right; font-size: small;">P1IA2344E</p>
23	G	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
					OFF	5V
30 ¹	G	Back door opener switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
30 ²	SB	Back door opener switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

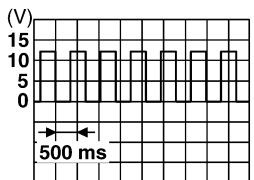
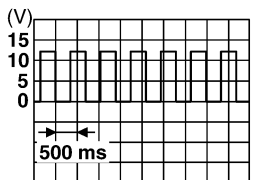
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	O	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
35	BR	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
36	LG	Combination switch output 1				
37 ¹	B	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
37 ²	B	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key removed	0V
38	W/R	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
42	LG	Glass hatch ajar switch	Input	ON	Glass hatch open	0V
					Glass hatch closed	Battery voltage
43	P	Back door latch switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
44	O	Rear wiper auto stop switch	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	GR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	P	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	L	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	O	Trailer turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
53	L	Back door latch actuator	Output	OFF	OFF	0
					ON	Battery voltage
55	W	Rear wiper output circuit 1	Output	ON	OFF	0
					ON	Battery voltage
56	R/Y	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	R/Y	Battery power supply	Input	OFF	—	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	GR	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
60	LG	Turn signal (left)	Output	ON	Turn left ON	<p>SKIA3009J</p>
61	G	Turn signal (right)	Output	ON	Turn right ON	<p>SKIA3009J</p>
63	BR	Interior room/map lamp	Output	OFF	Any door switch	ON (open) 0V
					OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	L	Front door lock actuator RH, rear door lock actuators LH/RH and glass hatch lock actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68	O	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	L	Power window power supply	Output	—	—	Battery voltage
70	W	Battery power supply	Input	OFF	—	Battery voltage

1: With remote keyless entry system

2: With Intelligent Key system

Fail Safe

INFOID:000000006247480

Fail-safe index

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

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:000000006247481

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Priority	DTC
1	<ul style="list-style-type: none"> U1000: CAN COMM CIRCUIT
2	<ul style="list-style-type: none"> B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2013: STRG COMM 1 B2552: INTELLIGENT KEY B2590: NATS MALFUNCTION
3	<ul style="list-style-type: none"> C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL
4	<ul style="list-style-type: none"> C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] FR C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL

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.
- 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	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. Further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-29
B2013: STRG COMM 1	—	—	—	SEC-30
B2190: NATS ANTENNA AMP	—	—	—	SEC-33 (with I-Key) SEC-131 (without I-Key)
B2191: DIFFERENCE OF KEY	—	—	—	SEC-36 (with I-Key) SEC-134 (without I-Key)

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
B2192: ID DISCORD BCM-ECM	—	—	—	SEC-37 (with I-Key) SEC-135 (without I-Key)	B
B2193: CHAIN OF BCM-ECM	—	—	—	SEC-39 (with I-Key) SEC-137 (without I-Key)	C
B2552: INTELLIGENT KEY	—	—	—	SEC-41	
B2590: NATS MALFUNCTION	—	—	—	SEC-42	D
C1708: [NO DATA] FL	—	—	—	WT-14	E
C1709: [NO DATA] FR	—	—	—	WT-14	F
C1710: [NO DATA] RR	—	—	—	WT-14	G
C1711: [NO DATA] RL	—	—	—	WT-14	H
C1712: [CHECKSUM ERR] FL	—	—	—	WT-16	I
C1713: [CHECKSUM ERR] FR	—	—	—	WT-16	J
C1714: [CHECKSUM ERR] RR	—	—	—	WT-16	K
C1715: [CHECKSUM ERR] RL	—	—	—	WT-16	L
C1716: [PRESSDATA ERR] FL	—	—	—	WT-18	
C1717: [PRESSDATA ERR] FR	—	—	—	WT-18	
C1718: [PRESSDATA ERR] RR	—	—	—	WT-18	
C1719: [PRESSDATA ERR] RL	—	—	—	WT-18	
C1720: [CODE ERR] FL	—	—	—	WT-16	
C1721: [CODE ERR] FR	—	—	—	WT-16	
C1722: [CODE ERR] RR	—	—	—	WT-16	
C1723: [CODE ERR] RL	—	—	—	WT-16	
C1724: [BATT VOLT LOW] FL	—	—	—	WT-16	
C1725: [BATT VOLT LOW] FR	—	—	—	WT-16	
C1726: [BATT VOLT LOW] RR	—	—	—	WT-16	
C1727: [BATT VOLT LOW] RL	—	—	—	WT-16	
C1729: VHCL SPEED SIG ERR	—	—	—	WT-20	
C1735: IGNITION SWITCH	—	—	—	—	

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BCM (BODY CONTROL MODULE)

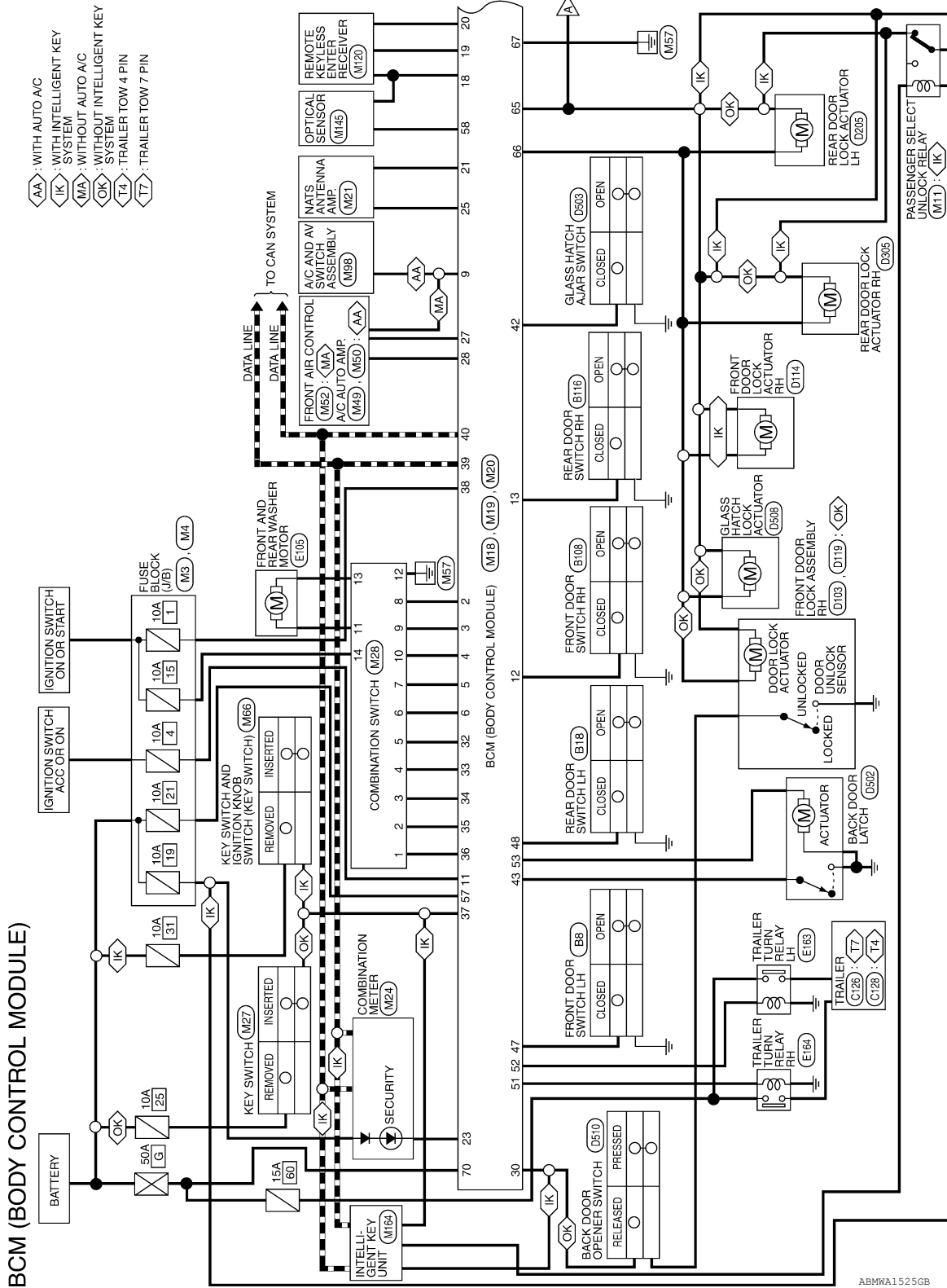
< WIRING DIAGRAM >

WIRING DIAGRAM

BCM (BODY CONTROL MODULE)

Wiring Diagram

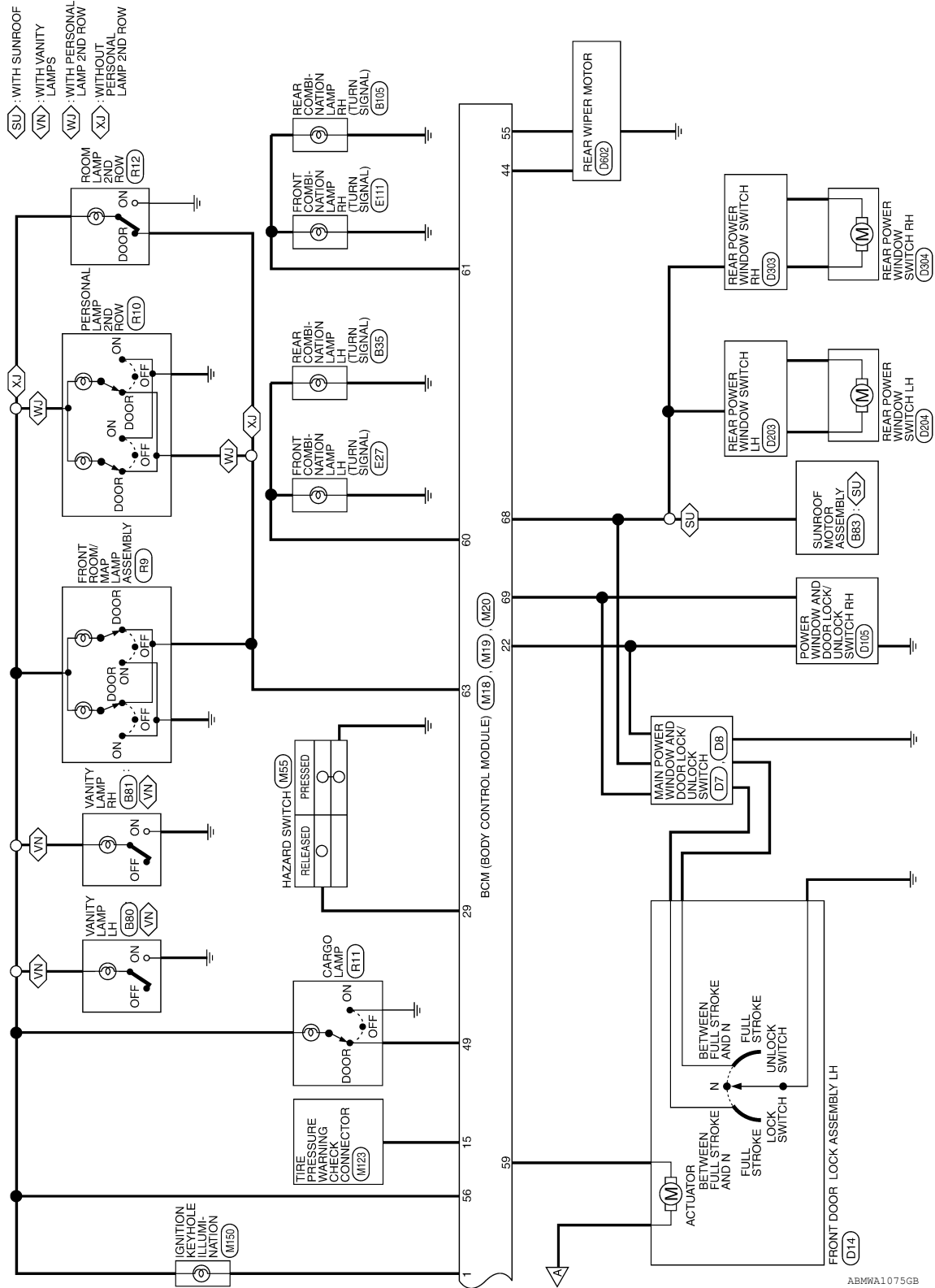
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BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >



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BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

BCM (BODY CONTROL MODULE) CONNECTORS

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



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

Terminal No.	Color of Wire	Signal Name
1	BR	KEY RING OUTPUT
2	P	INPUT 5
3	SB	INPUT 4
4	V	INPUT 3
5	L	INPUT 2
6	R	INPUT 1
7	-	-
8	-	-
9	Y	REAR DEFOGGER SW
10	-	-

Terminal No.	Color of Wire	Signal Name
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
14	-	-
15	W	TPMS MODE TRIGGER SW
16	-	-
17	-	-
18	BR	KEYLESS AND AUTO LIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIG (CLOCK)
22	V	ANTI-PINCH SERIAL LINK (RX, TX)
23	G	SECURITY INDICATOR OUTPUT

Terminal No.	Color of Wire	Signal Name
25	BR	IMMOBILIZER ANTENNA SIGNAL (TX, RX)
26	-	-
27	W	AIRCON SW
28	R	BLOWER FAN SW
29	G	HAZARD SW
30	SB	BACK DOOR AUTO CLOSURE (WITH INTELLIGENT KEY SYSTEM)
30	G	LIFTGATE OPENER SW (WITHOUT INTELLIGENT KEY SYSTEM)
31	-	-
32	O	OUTPUT 5
33	GR	OUTPUT 4
34	G	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
41	-	-
42	LG	GLASS HATCH SW
43	P	BACK DOOR SW

Terminal No.	Color of Wire	Signal Name
44	O	REAR WIPER AUTO STOP SW1
45	-	-
46	-	-
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)
49	L	LUGGAGE LAMP OUTPUT
50	-	-
51	O	TRAILER FLASHER OUTPUT (RIGHT)

Terminal No.	Color of Wire	Signal Name
52	LG	TRAILER FLASHER OUTPUT (LEFT)
53	L	LIFTGATE OPENER OUTPUT
54	-	-
55	W	REAR WIPER MOTOR OUTPUT1

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BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70			



Terminal No.	Color of Wire	Signal Name
56	R/Y	BATTERY SAVER OUTPUT
57	R/Y	BAT (FUSE)
58	W	AUTO LIGHT SENSOR INPUT 2
59	GR	DOOR UNLOCK OUTPUT (DR)
60	LG	FLASHER OUTPUT (LEFT)

12	13	10	9	8	7		
14	11	1	2	3	4	5	6



Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
61	G	FLASHER OUTPUT (RIGHT)
62	-	-
63	BR	ROOM LAMP
64	-	-
65	V	DOOR LOCK OUTPUT (ALL)
66	L	DOOR UNLOCK OUTPUT (OTHER)
67	B	GND (POWER)
68	O	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP)
69	L	POWER WINDOW POWER SUPPLY OUTPUT (BAT)
70	W	BAT (F/L)

Terminal No.	Color of Wire	Signal Name
1	LG	INPUT 1
2	BR	INPUT 2
3	G	INPUT 3
4	GR	INPUT 4
5	O	INPUT 5
6	R	OUTPUT 1
7	L	OUTPUT 2
8	P	OUTPUT 5
9	SB	OUTPUT 4
10	V	OUTPUT 3
11	O	WASHER MOTOR (RR+)
12	B	GND
13	L	WASHER MOTOR (RR-)
14	W/G	IGN

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BCS

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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1. Perform the data monitor of CONSULT-III to check for any malfunctioning item.
2. Check the malfunction combinations.

Malfunction item: ×

Data monitor item																Malfunction combination	
TURN SIGNAL R	TURN SIGNAL L	HI BEAM SW	HEADLAMP SW 1	HEADLAMP SW 2	TAIL LAMP SW	PASSING SW	AUTO LIGHT SW	FR 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-32, "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	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to BCS-34, "Diagnosis Procedure" .
F	Combination switch OUTPUT 1 circuit	
G	Combination switch OUTPUT 2 circuit	
H	Combination switch OUTPUT 3 circuit	
I	Combination switch OUTPUT 4 circuit	
J	Combination switch OUTPUT 5 circuit	Refer to BCS-35, "Description" .
K	Light and turn signal switch or front wiper and washer switch	
L	BCM	Replace BCM. Refer to BCS-55, "Removal and Installation" .
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"

INFOID:000000006247484

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

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.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

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NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

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PRECAUTIONS

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5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

Removal and Installation

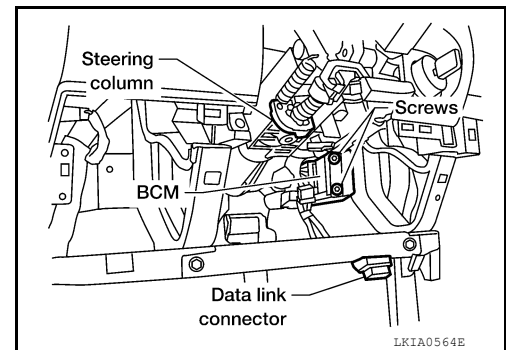
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REMOVAL

NOTE:

If possible, before removing BCM, retrieve current BCM configuration to use for reference when configuring brand-new BCM after installation. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).

1. Disconnect the battery negative terminal.
2. Remove the instrument lower panel LH. Refer to [IP-14, "Removal and Installation"](#).
3. Remove the BCM screws and release the BCM.
4. Disconnect the BCM connectors and then remove the BCM.



INSTALLATION

Installation is in the reverse order of removal.

- When replacing the BCM, it must be configured. Refer to [BCS-4, "CONFIGURATION : Special Repair Requirement"](#).
- When replacing the BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to [SEC-10, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).
- When replacing the BCM, perform ID registration procedure of low tire pressure warning system. Refer to [WT-6, "ID Registration Procedure"](#).
- When replacing the BCM, register the remote keyless entry system keyfob ID codes. Refer to [DLK-10, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"](#).
- When replacing the BCM, perform adjustment procedure for the steering angle sensor. Refer to [BRC-12, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

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