SECTION BCS **BODY CONTROL SYSTEM**

А

С

D

Е

CONTENTS

BCM

BASIC INSPECTION3
INSPECTION AND ADJUSTMENT 3
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT
CONFIGURATION
SYSTEM DESCRIPTION5
BODY CONTROL SYSTEM 5 System Description 5 Component Parts Location 6
COMBINATION SWITCH READING SYSTEM
7 System Diagram7 System Description7 Component Parts Location10
SIGNAL BUFFER SYSTEM12
System Diagram12 System Description12
POWER CONSUMPTION CONTROL SYS-
TEM 13 System Diagram 13
System Description
DIAGNOSIS SYSTEM (BCM)16
COMMON ITEM16

COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)	.16	F
DOOR LOCK DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)		G
REAR DEFOGGER REAR DEFOGGER : CONSULT-III Function (BCM - REAR DEFOGGER)	-	Н
BUZZER BUZZER : CONSULT-III Function (BCM - BUZZ- ER)		
INT LAMP INT LAMP : CONSULT-III Function (BCM - INT LAMP)		J
MULTI REMOTE ENT MULTI REMOTE ENT : CONSULT-III Function (BCM - MULTIREMOTE ENT)		L
HEADLAMP HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)		BC
WIPER		N
FLASHER FLASHER : CONSULT-III Function (BCM - FLASHER)		0
AIR CONDITIONER AIR CONDITIONER : CONSULT-III Function (BCM - AIR CONDITIONER)		P
INTELLIGENT KEY INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)		
COMB SW		

COMB SW : CONSULT-III Function (BCM - COMB SW)
BCM
BCM : CONSULT-III Function (BCM - BCM)
IMMU
IMMU : CONSULT-III Function (BCM - IMMU) 24
BATTERY SAVER
BATTERY SAVER : CONSULT-III Function (BCM
- BATTERY SAVER)25
TRUNK
TRUNK : CONSULT-III Function (BCM - TRUNK) 25
THEFT ALM
THEFT ALM : CONSULT-III Function (BCM -
THEFT ALM)
RETAINED PWR
RETAINED PWR : CONSULT-III Function (BCM -
RETAINED PWR)
SIGNAL BUFFER
SIGNAL BUFFER : CONSULT-III Function (BCM
- SIGNAL BUFFER)
AIR PRESSURE MONITOR
tion (BCM - AIR PRESSURE MONITOR)
PANIC ALARM 28
PANIC ALARM : CONSULT-III Function (BCM -
PANIC ALARM)
DTC/CIRCUIT DIAGNOSIS 29
U1000 CAN COMM CIRCUIT
Description
DTC Logic
Diagnosis Procedure 29
POWER SUPPLY AND GROUND CIRCUIT 30
Diagnosis Procedure
COMBINATION SWITCH INPUT CIRCUIT 32

3	Diagnosis Procedure
4 4	COMBINATION SWITCH OUTPUT CIRCUIT 34 Diagnosis Procedure
4 4	COMBINATION SWITCH
5	Description
5	ECU DIAGNOSIS INFORMATION
5	BCM (BODY CONTROL MODULE)
5	Terminal Layout
6	Fail Safe45 DTC Inspection Priority Chart46
6	DTC Index46
6	WIRING DIAGRAM 48
7	BCM (BODY CONTROL MODULE) 48 Wiring Diagram
7	SYMPTOM DIAGNOSIS53
7	COMBINATION SWITCH SYSTEM SYMP-
7	TOMS
8	PRECAUTION
8	PRECAUTIONS
9	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-
9 9	SIONER"54 Precaution Necessary for Steering Wheel Rota-
9 9	tion After Battery Disconnect
0	REMOVAL AND INSTALLATION 56
0	BCM (BODY CONTROL MODULE) 56
	Removal and Installation56

006144193
efore
on on
acted
le-
006144194
100144134
with
<u>CING</u>
ľ
006144195
006144195

CAUTION:



INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

• When replacing BCM, you must perform WRITE CONFIGURATION with CONSULT-III.

Complete the procedure of WRITE CONFIGURATION in order.

• If you set incorrect WRITE CONFIGURATION, incidents will occur.

• Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

CONFIGURATION : Special Repair Requirement

INFOID:000000006144196

[BCM]

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			
DTRL	WITH⇔WITHOUT			
AUTO DOOR UNLOCK TIMING	WITH I-KEY⇔W/O I-KEY			

NOTE:

Confirm vehicle model. Refer to GI-20, "Model Variation".

>> Work End.

BODY CONTROL SYSTEM

System Description

INFOID:000000006144197 В

OUTLINE

- · BCM (Body Control Module) controls the various electrical components. It inputs the information required to С 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 com-D ponents. 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-11. "System Diagram"		
Turn signal and hazard warning lamp system	EXL-14, "System Diagram"		
Headlamp system	EXL-7, "System Diagram"		
Front fog lamp system (if equipped)	EXL-13. "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	WITH INTELLIGENT KEY SYSTEM: <u>DLK-16, "DOOR LOCK AND UN-LOCK SWITCH : System Diagram"</u> WITHOUT INTELLIGENT KEY SYSTEM: <u>DLK-252, "DOOR LOCK AN UNLOCK SWITCH : System Diagram"</u>		
(NATS) Nissan anti-theft system	WITH INTELLIGENT KEY SYSTEM: <u>SEC-15, "System Diagram"</u> WITHOUT INTELLIGENT KEY SYSTEM: <u>SEC-128, "System Diagram"</u>		
Vehicle security system	WITH INTELLIGENT KEY SYSTEM: <u>SEC-19, "System Diagram"</u> WITHOUT INTELLIGENT KEY SYSTEM: <u>SEC-131, "System Diagram"</u>		
Rear window defogger system	DEF-4, "System Diagram"		
Remote keyless entry system	DLK-254, "REMOTE KEYLESS ENTRY : System Diagram"		
Intelligent Key system (if equipped)	DLK-23, "INTELLIGENT KEY : System Diagram"		
Power window system	PWC-5. "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"		

А

Е

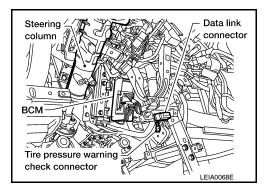
< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000006144198

[BCM]

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



< SYSTEM DESCRIPTION >

COMBINATION SWITCH READING SYSTEM

[BCM]

А

INFOID:000000006144199

System Diagram

	Combination swit	ch	BCM	
		LOW FR WASHER	Output 1	
HEADLAMP 1		₅┚╺╶┥	Output 2	
	HEADLAMP 2	RR WASHER INT VOLUME 1	Output 3	
×1				
	FR FOG		Output 5	
	LIGHTING SW	WIPER SW	Input 1 1/F Input 2	
			Input 2	
			Input 4 //F Input 5	

System Description

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

BCS

L

J

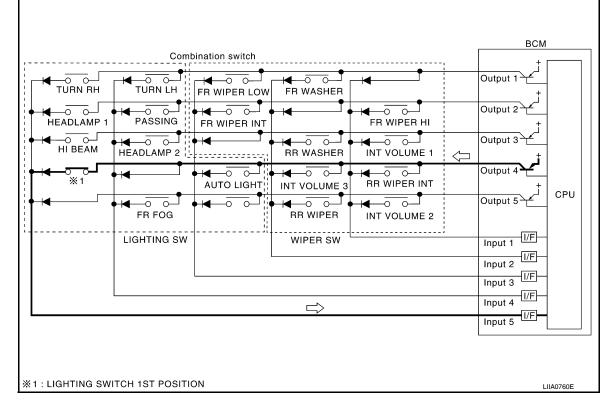
Ν

0

INFOID:000000006144200

< 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	—

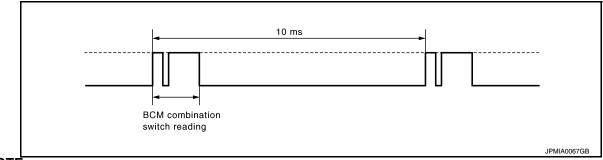
NOTE:

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:

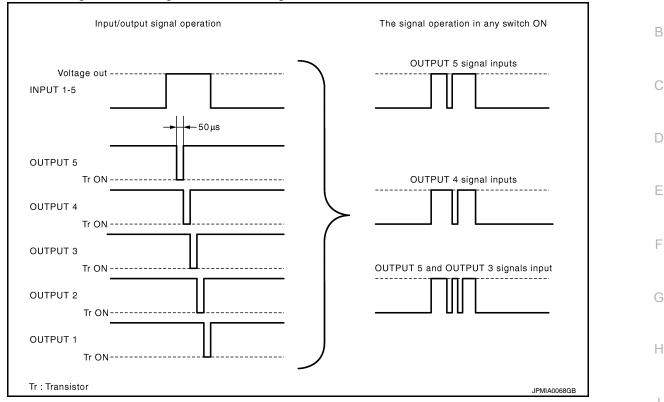
BCM reads the status of the combination switch at 20 ms interval when BCM is controlled at low power consumption control mode.

- 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 $5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$.

< 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.

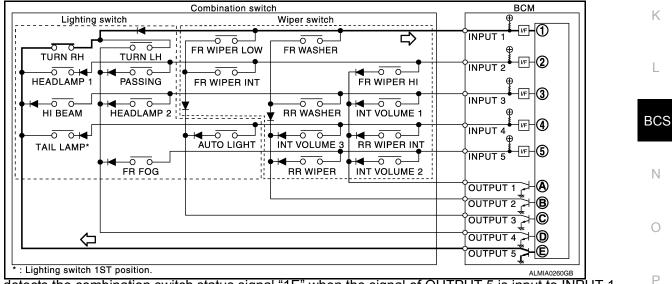


Operation Example

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

[BCM]

А

< 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.

	Combination switch	ВСМ
Lighting switch	Wiper switch	
	FR WIPER LOW FR WASHER	
HEADLAMP 1 PASSING		
HI BEAM HEADLAMP 2		
	AUTO LIGHT	
FR FOG		
	[
	· · ·	
↓ ↓		
· · · · · · · · · · · · · · · · · · ·		
* : Lighting switch 1ST position.		ALMIA0261GB

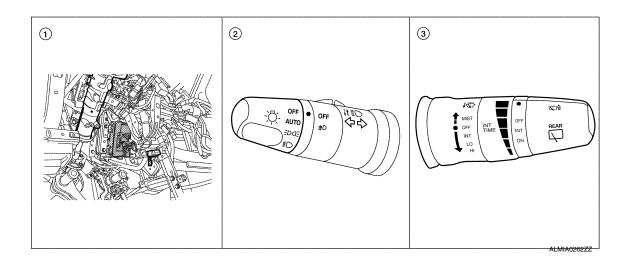
- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is detected.

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

Component Parts Location

INFOID:000000006144201



< SYSTEM DESCRIPTION >

1. BCM M18, M19, M20 (view with in- 2. strument panel removed)

Combination switch (lighting and turn signal switch) M28

3. Combination switch (wiper and washer switch) M28

А

В

С

D

Е

F

G

Н

J

Κ

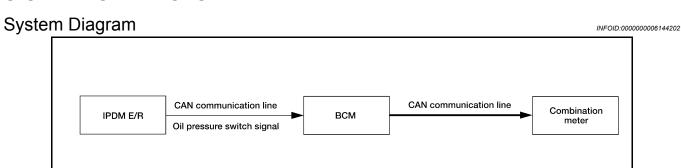
L

- 0
- Ρ

SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

SIGNAL BUFFER SYSTEM



System Description

INFOID:000000006144203

ALMIA0263GB

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 pres- sure switch signal via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

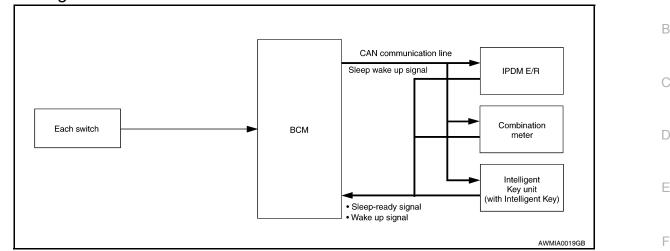
POWER CONSUMPTION CONTROL SYSTEM

[BCM]

INFOID:000000006144204

А

System Diagram



System Description

INFOID:000000006144205

Н

Κ

BCS

Ρ

OUTLINE

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

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

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

Sleep mode activation

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

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Sleep condition

[BCM]

CAN sleep condition	BCM sleep condition
 Receiving the sleep-ready signal (ready) from all units Ignition switch: OFF Vehicle security system alarm: No operation Warning lamp: No operation Warning chime: No operation Stop lamp switch: OFF Key switch status: No change for 2 seconds Hazard warning lamp: No operation Exterior lamp: OFF Door lock status: No change for 2 seconds CONSULT-III communication status: No communication Door switch status: No change for 2 seconds 	The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)

Wake-up operation

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

Wake-up condition

BCM wake-up condition

- Ignition switch: $OFF \rightarrow ACC$ or ON
- · Stop lamp switch: ON (Depress brake pedal)
- Any door switch: $OFF \rightarrow ON$
- Lighting switch: OFF \rightarrow 1ST or PASS
- Hazard switch: $OFF \rightarrow ON$
- Back door opener switch $OFF \rightarrow ON$
- Remote keyless entry receiver: Receiving
- Intelligent Key unit: Receiving (with Intelligent Key)

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

[BCM]

А

J

Κ

L

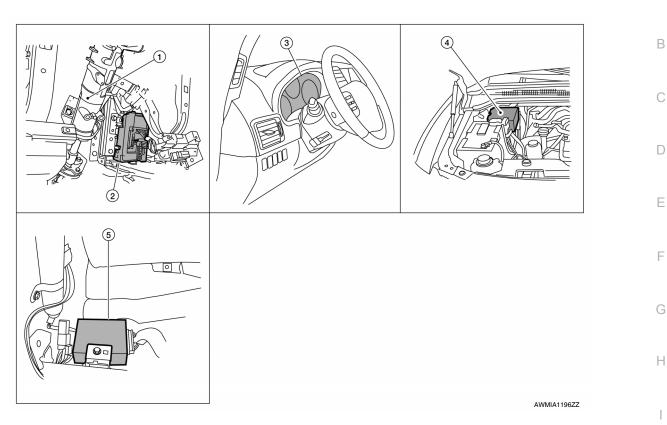
BCS

Ν

Ο

Ρ

INFOID:000000006144206



- 1. Steering column (view with instrument panel removed)
- 4. IPDM E/R

- 2. BCM M18, M19, M20
- 5. Intelligent Key unit M70 (with Intelligent Key) (view with instrument panel removed)

3.

Combination meter M24

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000006144207

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	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 Diagnostic Mode						
System	Sub System	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	HEADLAMP			×	×	×		
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				×			

Revision: July 2010

DOOR LOCK

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

SELF DIAGNOSTIC RESULT

Refer to BCS-46, "DTC Index".

DATA MONITOR

Description	
Indicates condition of ignition switch ON position.	
Indicates condition of key switch.	
Indicates condition of lock signal from door lock and unlock switch.	
Indicates condition of unlock signal from door lock and unlock switch.	
Indicates condition of front door switch LH.	
Indicates condition of front door switch RH.	
Indicates condition of rear door switch RH.	
Indicates condition of rear door switch LH.	
Indicates condition of back door switch.	
Indicates condition of lock signal from door key cylinder switch.	
Indicates condition of unlock signal from door key cylinder switch.	
Indicates condition of lock signal from Intelligent Key.	
Indicates condition of unlock signal from Intelligent Key.	
Indicates condition of lock signal from keyfob.	
Indicates condition of unlock signal from keyfob.	
	Indicates condition of ignition switch ON position.Indicates condition of key switch.Indicates condition of lock signal from door lock and unlock switch.Indicates condition of unlock signal from door lock and unlock switch.Indicates condition of front door switch LH.Indicates condition of front door switch RH.Indicates condition of rear door switch RH.Indicates condition of rear door switch LH.Indicates condition of rear door switch LH.Indicates condition of rear door switch RH.Indicates condition of rear door switch LH.Indicates condition of lock signal from door key cylinder switch.Indicates condition of lock signal from door key cylinder switch.Indicates condition of lock signal from lntelligent Key.Indicates condition of unlock signal from Intelligent Key.Indicates condition of lock signal from lntelligent Key.

** : without Intelligent Key

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description	
DOOR LOCK-UNLOCK SET	On*	Automatic door locks function ON.	BCS
DOOR LOCK-UNLOCK SET	Off	Automatic door locks function OFF.	-
ANTI-LOCK OUT SET	Off	Anti lock out function OFF.	N
ANTI-LOCK OUT SET	On*	Anti lock out function ON.	IN
AUTOMATIC DOOR LOCK SELECT	SHIFT OUT OF PARK	Doors lock automatically when shifted out of park (P).	0
	VH SPD*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).	
	MODE6	Drivers door unlocks automatically when key is removed.	-
	MODE5	Drivers door unlocks automatically when shifted into park (P).	Ρ
AUTOMATIC DOOR UNLOCK SELECT	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.	-

INFOID:000000006144209

В

С

J

L

А

< SYSTEM DESCRIPTION >

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

* : Initial setting all vehicles

** : Initial setting vehicles with Intelligent Key

*** : Initial setting vehicles without Intelligent Key

REAR DEFOGGER

REAR DEFOGGER : CONSULT-III Function (BCM - REAR DEFOGGER) INFOLD:00000006144210

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:000000006144211

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 [On/Off].
LIGHT WARN ALM	This test is able to check light reminder warning operation [On/Off].
IGN KEY WARN ALM	This test is able to check key warning chime operation [On/Off].

INT LAMP

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

INFOID:000000006144212

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.

< SYSTEM DESCRIPTION >

F

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

WORK SUPPORT

Support Item	Setting		Description	
	Off		Interior room lamp timer function OFF.	J
SET I/L D-UNLCK INTCON	On*		Interior room lamp timer function ON.	
	MODE7	0 sec.		
	MODE6	5 sec.		K
	MODE5	4 sec.		
ROOM LAMP ON TIME SET	MODE4	3 sec.	Sets the interior room lamp gradual brightening time.	L
	MODE3	2 sec.		
	MODE2*	1 sec.		
	MODE1	0.5 sec.		BC
	MODE7	0 sec.	Sets the interior room lamp gradual dimming time.	
	MODE6	5 sec.		Ν
	MODE5	4 sec.		
ROOM LAMP OFF TIME SET	MODE4	3 sec.		
	MODE3	2 sec.		C
	MODE2*	1 sec.		
	MODE1	0.5 sec.		

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

MULTI REMOTE ENT

DATA MONITOR

< 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.
BACK DOOR SW [On/Off]	Indicates condition of back 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.
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 UNLK/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		the sector for the sector is the sector of the first sector	
NURN UNIKP SEI	On*		Horn chirp function can be changed in this mode.	
	MODE4*	Lock and Unlock		
HAZARD LAMP SET	MODE3	Lock Only	lleard warring laws function can be changed in this mode	
HAZARD LAIVIP SET	MODE2	Unlock Only	Hazard warning lamp function can be changed in this mode.	
	MODE1	OFF		
	MODE2	Lock	Hazard warning lamps flash twice and horn does not sound.	
	WODEZ	Unlock	Hazard warning lamps do not flash and horn does not sound.	
MULTI ANSWER BACK SET	MODE1*	Lock	Hazard warning lamps flash twice and horn sounds once.	
	NODET	Unlock	Hazard warning lamps flash once and horn does not sound.	
	MODE3	1 min		
AUTO LOCK SET	MODE2	OFF	Auto locking function can be changed in this mode.	
	MODE1*	5 min		
	MODE3	1.5 sec		
PANIC ALRM SET	MODE2	OFF	Panic alarm operation can be changed in this mode.	
	MODE1*	0.5 sec		
	MODE3	5 sec		
PW DOWN SET	MODE2	OFF	Keyfob power window down can be changed in this mode.	
	MODE1*	3 sec		
REMO CONT ID REGIST		·	Keyfob ID code can be registered.	

Revision: July 2010

< SYSTEM DESCRIPTION >

INFOID:000000006144214

В

С

L

Ο

Support Item	Setting	Description	٨
REMO CONT ID ERASUR	—	Keyfob ID code can be erased.	A
REMO CONT ID CONFIR	—	Keyfob ID code is registeration is displayed.	

*: Initial setting

HEADLAMP

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

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.	E
HI BEAM SW [On/Off]		
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]		F
LIGHT SW 1ST [On/Off]	Indicates condition of combination switch.	
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.	ŀ
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 quitab	
TURN SIGNAL L [On/Off]	Indicates condition of combination switch.	
CARGO LAMP SW [ON/OFF]	Indicates condition of cargo lamp switch.	
OPTICAL SENSOR [V]	Indicates voltage signal from optical sensor.	r

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].	BCS
FR FOG LAMP	This test is able to check front fog lamp operation [Off/On].	
CARGO LAMP	This test is able to check cargo lamp operation [Off/On].	N
CORNERING LAMP	This test is able to check turn signal lamp operation [Off/LH/RH].	

WORK SUPPORT

Support Item	Setting	Description	
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.	D
DATTERT SAVER SET	On*	Exterior lamp battery saver function ON.	F

< SYSTEM DESCRIPTION >

Support Item	Setting		Description
	MODE4		Less sensitive setting than normal setting (Turns ON later than normal operation).
CUSTOM A/LIGHT SETTING	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.
	MODE8	180 sec	
	MODE7	150 sec	Sets delay timer function operation time
	MODE6	120 sec	
ILL DELAY SET	MODE5	90 sec	
ILL DELAT SET	MODE4	60 sec	(All doors closed).
	MODE3	30 sec	
	MODE2	OFF	
	MODE1*	45 sec	

*: Initial setting WIPER

WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:000000006144215

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]	
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	Indicates condition of front wiper operation of combination switch.
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 communica- tion line.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.
RR WIPER ON [On/Off]	
RR WIPER INT [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WASHER SW [On/Off]	
RR WIPER STOP [On/Off]	Indicates rear wiper motor auto stop input from rear wiper motor.
RR WIPER STP2 [On/Off]	Indicates rear wiper motor auto stop 2 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].
RISE UP WIPER TEST	This test is able to check front wiper operation [On].

WORK SUPPORT

< SYSTEM DESCRIPTION >

[BCM]

Support Item	Setting	Description
WIPER SPEED SETTING	Off*	Front wiper intermittent time linked with wiper dial position.
WIFER SPEED SETTING	On	Front wiper intermittent time linked with vehicle speed and wiper dial position.
* : Initial setting FLASHER ELASHER : CONSULT_II	II Function	
DATA MONITOR		(BCM - FLASHER) INFOID:00000006144210
		(BCM - FLASHER)
DATA MONITOR		``````````````````````````````````````
DATA MONITOR Monitor Item [Unit]	Indicates	Description
DATA MONITOR Monitor Item [Unit] IGN ON SW [On/Off]	Indicates Indicates	Description condition of ignition switch ON position.

ACTIVE TEST

BRAKE SW [On/Off]

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

AIR CONDITIONER

AIR CONDITIONER : CONSULT-III Functio	n (BCM - AIR CONDITIONER) INFOID:00000006144217
---------------------------------------	---

Indicates condition of brake switch.

DATA MONITOR

Monitor Item [Unit]	Description	0
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
FAN ON SIG [On/Off]	Indicates condition of fan switch.	Κ
AIR COND SW [On/Off]	Indicates condition of A/C switch.	

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY) INFOLD:00000006144218

DATA MONITOR

BCS

L

Monitor Item [Unit]	Description	
I-KEY LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.	N
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.	0
I-KEY PANIC [On/Off]	Indicates condition of panic signal from Intelligent Key.	
PUSH SW [On/Off]	Indicates condition of ignition knob switch.	
		P

COMB SW

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

DATA MONITOR

INFOID:000000006144219

< SYSTEM DESCRIPTION >

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.
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 - 7]	Indicates condition of intermittent wiper operation of combination switch.
RR WIPER ON [On/Off]	Indicator condition of rear winer exerction of combination switch
RR WIPER INT [On/Off]	 Indicates condition of rear wiper operation of combination switch.
RR WASHER SW [On/Off]	Indicates condition of rear washer operation of combination switch.

BCM

BCM : CONSULT-III Function (BCM - BCM)

INFOID:000000006144208

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.
RESET SETTING VALUE	Cancel	Cancels the reset function.

CONFIGURATION

Refer to BCS-3, "CONFIGURATION : Description".

CAN DIAG SUPPORT MNTR

Refer to <u>LAN-49</u>, "CAN Diagnostic Support Monitor". IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

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].



INFOID:000000006144220

< SYSTEM DESCRIPTION >

BATTERY SAVER

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

INFOID:000000006144221

[BCM]

А

В

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.	
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.	

** : without Intelligent Key

ACTIVE TEST

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

WORK SUPPORT

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

*: Initial setting

TRUNK : CONSULT-III Function (BCM - TRUNK)

DATA MONITOR

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

THEFT ALM

INFOID:000000006628781

J

Ν

Ο

Ρ

< SYSTEM DESCRIPTION >

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

INFOID:000000006144227

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.
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.		
SECONT ALANNISET	On*	Security alarm ON.		
	Off/On	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 PWR

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

INFOID:000000006144223

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

< SYSTEM DESCRIPTION >

[BCM]

Test Item		Description				
RETAINED PWR	This test is	able to che	ck retained power o	peration [Off/On].		
WORK SUPPORT						
Support Item	Se	tting		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-III	l Functio	on (BCM - SI	GNAL BUFFER)	0006144224	
			,	,		
DATA MONITOR						
Monitor Item [Unit]			Г	Description		
	Indicates c	ondition of c		ignal received from IPDM E/R on CAN comm	unica-	
OIL PRESS SW [On/Off]	tion line.		on pressure switch s		unica-	
ACTIVE TEST						
Test Item			D	escription		
OIL PRESSURE SW	This test is					
				(BCM - AIR PRESSURE MC		
TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displaye	IONITOR : CC ESULT Diagnostic Result, d on CONSULT-II	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46, "DTC</u>	IONITOR : CC ESULT Diagnostic Result, d on CONSULT-II	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displaye Refer to <u>BCS-46, "DTC</u>	IONITOR : CC ESULT Diagnostic Result, d on CONSULT-II	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displaye Refer to <u>BCS-46, "DTC</u>	IONITOR : CC ESULT Diagnostic Result, d on CONSULT-II	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR	IONITOR : CC ESULT Diagnostic Result, d on CONSULT-II	DNSULT be sure to I.	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displaye Refer to <u>BCS-46</u> , "DTC DATA MONITOR	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FR	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayer Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FR AIR PRESS RR	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT	-III Function	(BCM - AIR PRESSURE MC	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RL	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index". Drive vehicle. • Drive vehicle fo • Ignition switch (mitting activatio	DNSULT be sure to I. Condition or a few minu or ON and activ	-III Function	(BCM - AIR PRESSURE MC INFOLD:000000 or else the actual malfunction may b Specification Vehicle speed (km/h or mph) Tire pressure (kPa, kg/cm ² or psi). Registration ID: Green.	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RR AIR PRESS RL ID REGST FL1	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index".	DNSULT be sure to I. Condition or a few minu or ON and activ	-III Function	(BCM - AIR PRESSURE MC INFOLD:000000 or else the actual malfunction may b Specification Vehicle speed (km/h or mph) Tire pressure (kPa, kg/cm ² or psi).	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayed Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FR AIR PRESS FR AIR PRESS RR AIR PRESS RR AIR PRESS RL ID REGST FL1 ID REGST FR1	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index". Drive vehicle. • Drive vehicle fo • Ignition switch (mitting activatio	DNSULT be sure to I. Condition or a few minu or ON and activ	-III Function	(BCM - AIR PRESSURE MC INFOLD:000000 or else the actual malfunction may b Specification Vehicle speed (km/h or mph) Tire pressure (kPa, kg/cm ² or psi). Registration ID: Green.	0006144226 De dif-	
AIR PRESSURE M TOR) SELF DIAGNOSTIC R NOTE: Before performing Self D ferent from that displayer Refer to <u>BCS-46</u> , "DTC DATA MONITOR Monitor Item VEHICLE SPEED AIR PRESS FL AIR PRESS FL AIR PRESS FR AIR PRESS RR AIR PRESS RR AIR PRESS RL ID REGST FL1 ID REGST FR1 ID REGST RR1	ONITOR : CO ESULT Diagnostic Result, d on CONSULT-II Index". Drive vehicle. • Drive vehicle fo • Ignition switch (mitting activatio	DNSULT be sure to I. Condition or a few minu or ON and activ on signals.	-III Function	(BCM - AIR PRESSURE MC INFOLD:000000 or else the actual malfunction may b Specification Vehicle speed (km/h or mph) Tire pressure (kPa, kg/cm ² or psi). Registration ID: Green.	0006144226 De dif-	

< SYSTEM DESCRIPTION >

ACTIVE TEST

Test Item	Description
WARNING LAMP	This test is able to check tire pressure warning lamp operation [On/Off].
ID REGIST WARNING	This test is able to check ID regist warning chime operation [On/Off].
FLAT TIRE WARNING	This test is able to check flat tire warning chime operation [On/Off].
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:000000006144228

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].

DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

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.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause	F
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN com- munication signal continuously for 2 sec- onds or more.	Any item (or items) of the following listed below is malfunctioning in CAN communication system. • Transmission • Receiving (ECM) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (MULTI AV) • Receiving (IPDM E/R) • Receiving (I-KEY)	C

Diagnosis Procedure

INFOID:000000006144231

- 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 <u>GI-38, "Intermittent Incident"</u>.

INFOID:000000006144229

INFOID:000000006144230

А

В

Е

Κ

BCS

Ν

Ρ

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

[BCM]

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	Pottony power supply	22 (15A)
70	Battery power supply	F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

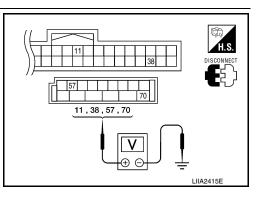
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

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	Condition	Voltage (V) (Ap-
	(+)	(-)	source	Condition	prox.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	lgnition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	lgnition switch OFF	Battery voltage
IVI2U	70	Ground	Battery power supply	lgnition 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

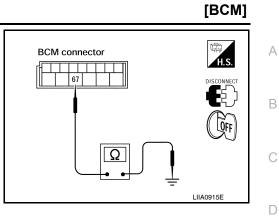
< DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

B	CM		Continuity
Connector	Terminal	Ground	Continuity
M20	67		Yes

Does continuity exist?

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



L

Е

F

G

Н

J

Κ

0

Р

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:000000006144233

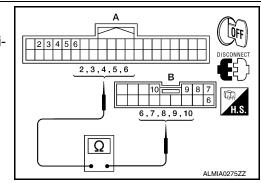
[BCM]

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	BC	CM	Combinat	Continuity	
System	Connector	Terminal	Connector	Terminal	Continuity
INPUT 1		6		6	
INPUT 2	M18 (A)	5	M28 (B)	7	
INPUT 3		4		10	Yes
INPUT 4		3		9	
INPUT 5		2		8	



Does continuity exist?

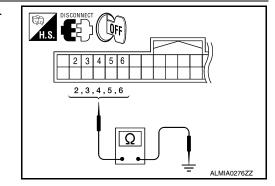
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BC	CM		Continuity	
Gystein	Connector Terminal			Continuity	
INPUT 1		6			
INPUT 2	M18	5	Ground	No	
INPUT 3		4			
INPUT 4		3			
INPUT 5		2			

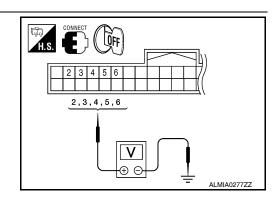


Does continuity exist?

YES >> Repair or replace harness.

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 >

	Terminals				
Sustam	(+	+)	(-) Voltage		
System	BC	M		(Approx.)	
	Connector	Terminal			
INPUT 1		6	a		
INPUT 2		5	Ground	Refer to BCS-	
INPUT 3	M18	4		37, "Refer-	
INPUT 4		3		ence Value".	
INPUT 5		2			
4. CHECK Check comb s the check YES >>	COMBINAT	FION SWIT tch. Refer t <u>nal?</u> CM. Refer t	°CH :0 <u>BCS-35, "E</u> :0 <u>BCS-56, "F</u>	Removal and I	
	epair Re				INFOID:000000006144234
	•	•	N REPLACIN	G BCM	INF OILL00000000144234
~~	Refer to R	יחמי ג-פי			REPLACING CONTROL UNIT : Special Repair

L

Κ

[BCM]

BCS

Ν

0



COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:000000006144235

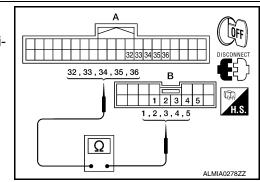
[BCM]

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		Combinat	Continuity	
System	Connector	Terminal	Connector	Terminal	Continuity
OUTPUT 1		36		1	
OUTPUT 2	M18 (A)	35	M28 (B)	2	
OUTPUT 3		34		3	Yes
OUTPUT 4		33		4	
OUTPUT 5		32		5	



Does continuity exist?

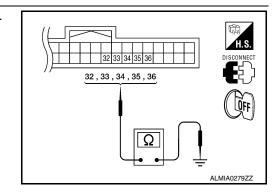
YES >> GO TO 2

NO >> Repair or replace harness.

 $\mathbf{2}$. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System		BC	CM		Continuity	
	Oystem	Connector	Terminal		Continuity	
	OUTPUT 1		36			
	OUTPUT 2	M18	35	Ground	No	
	OUTPUT 3		34			
	OUTPUT 4		33			
	OUTPUT 5		32			



Does continuity exist?

YES >> Repair or replace harness.

 $\mathbf{3}$. CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-35, "Description".

Is the check result normal?

YES >> Replace BCM. Refer to <u>BCS-56, "Removal and Installation"</u>.

NO >> Replace combination switch (applicable parts). Refer to EXL-140, "Removal and Installation".

Special Repair Requirement

INFOID:000000006144236

- 1. ADDITIONAL SERVICE WHEN REPLACING BCM
 - >> Refer to <u>BCS-3</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair <u>Requirement"</u>.

COMBINATION SWITCH

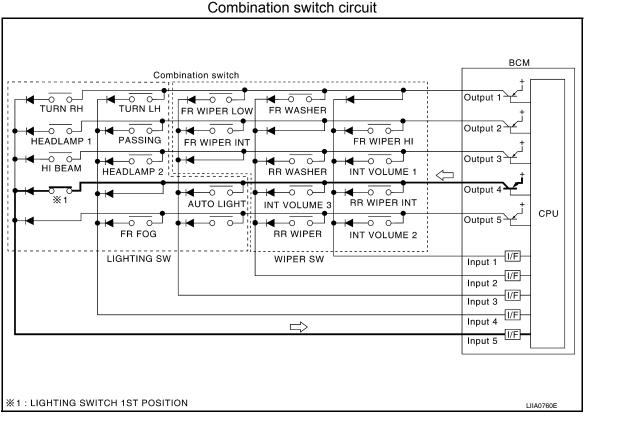
< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH

Description

COMBINATION SWITCH MATRIX

Combination switch consists of INPUT circuit and OUTPUT circuit.



Combination switch INPUT-OUTPUT system list	

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

NOTE:

Headlamp has a dual system switch.

Diagnosis Procedure

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-140, "Removal and Installation".

- NO >> GO TO 2
- 2. CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

>> Replace wiper & washer switch. Refer to <u>WW-75, "Wiper and Washer Switch"</u>. YES

INFOID:000000006144238

INFOID:00000006144237

А

В

D

Е

Н

Κ

Ο

Ρ

< 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?

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

ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
	Ignition switch OFF or ON	Off	
ACC ON SW	Ignition switch ACC	On	
	A/C switch OFF	Off	
AIR COND SW	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	(
AUTO LIGHT SW	Lighting switch AUTO	On	
BACK DOOR SW	Back door closed	Off	
BACK DOOK SW	Back door opened	On	
BRAKE SW	Brake pedal released	Off	
DRAKE SW	Brake pedal applied	On	
BUCKLE SW	Seat belt buckle unfastened	Off	
BUCKLE SVI	Seat belt buckle fastened	On	
BUZZER	Buzzer in combination meter OFF	Off	
DUZZER	Buzzer in combination meter ON	On	
CARGO LAMP SW	Cargo lamp switch OFF	Off	
CARGO LAIVIF 3VV	Cargo lamp switch ON	On	
CDL LOCK SW	Door lock/unlock switch does not operate	Off	
ODE LOOK SW	Press door lock/unlock switch to the LOCK side	On	
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off	
ODE UNEOCK SW	Press door lock/unlock switch to the UNLOCK side	On	B
DOOR SW-AS	Front door RH closed	Off	
bookowno	Front door RH opened	On	
DOOR SW-DR	Front door LH closed	Off	
DOOR OW-DIX	Front door LH opened	On	
DOOR SW-RL	Rear door LH closed	Off	
DOOR SWIRE	Rear door LH opened	On	
DOOR SW-RR	Rear door RH closed	Off	
	Rear door RH opened	On	
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	

А

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	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
TR WIFER STOP	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
HAZARD SW	When hazard switch is pressed	On
HEAD LAMP SW1	Headlamp switch OFF	Off
HEAD LAWF SWI	Headlamp switch 1st	On
HEAD LAMP SW2	Headlamp switch OFF	Off
HEAD LAWF SWZ	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 REGGI FLI	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
ID REGOT FRI	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
ID REGOT RET	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
ID REGOT RRT	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
I-RET LOOK	LOCK button of Intelligent Key is pressed	On
I-KEY PANIC ¹	PANIC button of Intelligent Key is not pressed	Off
I-RET FAINIC	PANIC button of Intelligent Key is pressed	On
	UNLOCK button of Intelligent Key is not pressed	Off
I-KEY PW DWN ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 sec- onds and driver's window operating in DOWN direction	On
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is not pressed	Off
I-RET UNLUUK'	UNLOCK button of Intelligent Key is pressed	On
KEY CYL LK-SW	Door key cylinder LOCK position	Off
NET UTL LN-OW	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
	Door key cylinder other than UNLOCK position	On

< ECU DIAGNOSIS INFORMATION >

[BCM]

Monitor Item	Condition	Value/Status
	Mechanical key is removed from key cylinder	Off
KEY ON SW	Mechanical key is inserted to key cylinder	On
	LOCK button of key fob is not pressed	Off
KEYLESS LOCK ²	LOCK button of key fob is pressed	On
	PANIC button of key fob is not pressed	Off
KEYLESS PANIC ²	PANIC button of key fob is pressed	On
	UNLOCK button of key fob is not pressed	Off
KEYLESS UNLOCK ²	UNLOCK button of key fob is pressed	On
	Lighting switch OFF	Off
LIGHT SW 1ST	Lighting switch 1st	On
OIL PRESS SW	Ignition switch OFF or ACCEngine running	Off
	Ignition switch ON	On
	Bright outside of the vehicle	Close to 5V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
1	Return to ignition switch to LOCK position	Off
PUSH SW ¹	Press ignition switch	On
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper switch OFF	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
	Rear wiper stop position	Off
RR WIPER STP2	Other than rear wiper stop position	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
	Low tire pressure warning lamp in combination meter OFF	Off
WARNING LAMP	Low tire pressure warning lamp in combination meter ON	On

1: With Intelligent Key

2: With remote keyless entry system

Ρ

< ECU DIAGNOSIS INFORMATION >

Terminal Layout

[BCM]

LIIA2443E

INFOID:000000006144241

Physical Values

< ECU DIAGNOSIS INFORMATION >

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
4	BR/W	Ignition keyhole illumi-	Outrout	055	Door is locked (SW OFF)	Battery voltage
1	BK/W	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 0 • • • • • • • • • • • • •
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 0 • • • 5 ms SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
5	G/B	Combination switch input 2				(V)
6	V	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	SKIA5292E
9	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch ON Rear window defogger switch	0V 5V
10	G	Hazard lamp flash	Input	OFF	OFF ON (opening or closing)	0V
		-	•		OFF (other than above)	Battery voltage
11	0	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	_	5V
18	Ρ	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V

< ECU DIAGNOSIS INFORMATION >

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
19	V/W	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 4 2 0 + 50 ms LIIA1893E
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons re- leased)	(V) 6 4 2 0 +++50 ms LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 0 +
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	W/V	BUS	_		Ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms PIIA2344E
23	G/O	Security indicator lamp	Output	OFF	Goes OFF \rightarrow illuminates (Every 2.4 seconds)	Battery voltage \rightarrow 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Forward sweep (counterclock- wise direction)	Fluctuating
					B Position (full counterclock- wise stop position)	Battery voltage
					Reverse sweep (clockwise di- rection)	Fluctuating
27	W/R	Compressor ON sig- nal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V

< ECU DIAGNOSIS INFORMATION >

	\\/ire		Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
20	L/K	FIGHT DIOWEI MONITOI	Input	ON	Front blower motor ON	0V
		Liszard awitab	lagut		ON	0V
29	W/B	Hazard switch	Input	OFF	OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 2 0 + 5 ms SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 2 0 • • • 5ms SKIA5292E
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 2 0 * 5ms SKIA5291E
35	O/B	Combination switch				
36	R/W	output 2 Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 + • 5ms SKIA5292E
1		Key switch and igni-	la a st	055	Intelligent Key inserted	Battery voltage
37 ¹	B/R	tion knob switch	Input	OFF	Intelligent Key inserted	0V
	D. (2)	Key switch and key	1. 1	055	Key inserted	Battery voltage
37 ²	B/R	lock solenoid	Input	OFF	Key inserted	OV
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H	_	_	_	_
40	Р	CAN-L	_	_	_	_
42	GR	Glass hatch ajar	Innut	ON	Glass hatch open	0
42	GR	switch	Input		Glass hatch closed	Battery
		Back door switch			ON (open)	0V
43	R/B	(without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	OFF (closed)	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	\\/iro		Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
44	0	Rear wiper auto stop switch 1	Input	ON	Forward sweep (counterclock- wise direction)	Fluctuating
					B Position (full counterclock- wise stop position)	0V
					Reverse sweep (clockwise di- rection)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
	00		mpar	011	OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
	101		mpar		OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
		cargo lamp	output	011	All doors closed (OFF)	Battery voltage
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 50 500 ms 500 ms 500 ms 500 ms 500 ms 500 ms 500 ms
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 50 500 ms SKIA3009J
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
54	Y	Rear wiper output cir- cuit 2	Input	ON	Forward sweep (counterclock- wise direction)	0V
					B Position (full counterclock- wise stop position)	Battery voltage
					Reverse sweep (clockwise di- rection)	Battery voltage
55	SB	Rear wiper output cir-	Output	ON	OFF	0
	00	cuit 1	Julpul		ON	Battery voltage
56	R/G	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[BCM]

	Wire		Signal		Measuring cond	dition	Reference value or waveform		
Terminal	color	Signal name	input/ output	Ignition switch	Operation	or condition	(Approx.)		
58	W/R	Optical sensor	Input	ON	When optical s nated	ensor is illumi-	3.1V or more		
50	VV/IX	Oplical sensor	input	ON	When optical s minated	ensor is not illu-	0.6V or less		
		Front door lock as-			OFF (neutral)		0V		
59	G	sembly LH actuator (unlock)	Output	OFF	ON (unlock)		Battery voltage		
60	G/B	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 50 50 50 50 50 50 50 50 50 5		
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 50 500 ms 500 ms 500 ms 500 ms 500 ms 500 ms		
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)		0V		
			o atpat		OFF (all doors	closed)	Battery voltage		
63	L	Interior room/map	Output	OFF	Any door	ON (open)	0V		
00	L	lamp	Output		switch	OFF (closed)	Battery voltage		
6E	V	All door lock actuators	Output	OFF	OFF (neutral)		0V		
65	v	(lock)	Output	OFF	ON (lock)		Battery voltage		
		Front door lock actua-			OFF (neutral)		0V		
66	G/Y	tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	ON (unlock)		Battery voltage		
67	В	Ground	Input	ON	-	_	0V		
					Ignition switch	ON	Battery voltage		
					Within 45 seco tion switch OF		Battery voltage		
68	W/L	Power window power supply (RAP)	Output	_	More than 45 seconds after ig- nition switch OFF	0V			
							When front doo open or power operates		0V
69	W/R	Power window power supply	Output	_	-	_	Battery voltage		
70	W/B	Battery power supply	Input	OFF	-	_	Battery voltage		

1: With Intelligent Key system

2: With remote keyless entry system

Fail Safe

Fail-safe index

< ECU DIAGNOSIS INFORMATION >

[BCM]

INFOID:000000006144244

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 mod- ules.

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
1	U1000: CAN COMM CIRCUIT
2	 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	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL
4	 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] RR C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] FR C1724: [BATT VOLT LOW] FL C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL

DTC Index

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

< ECU DIAGNOSIS INFORMATION >

[BCM]

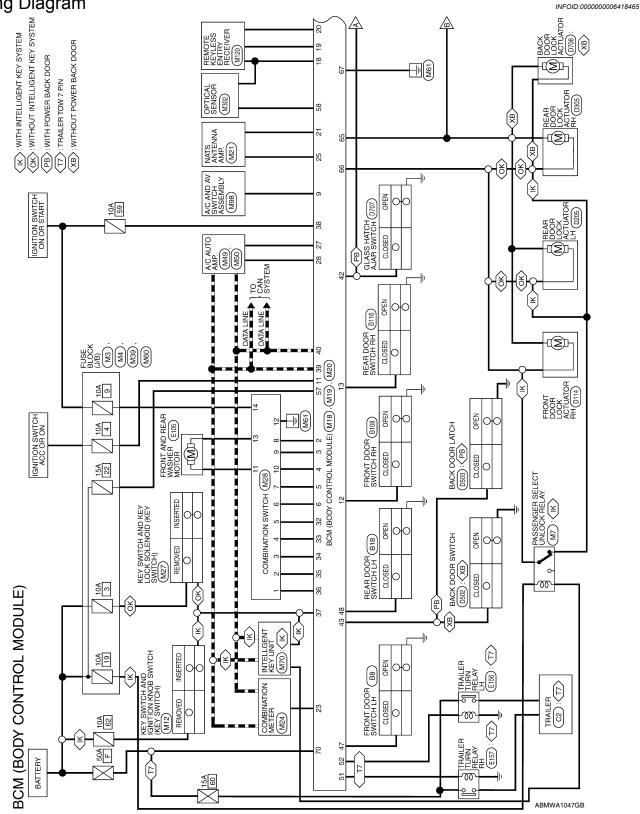
CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	А
B2013: STRG COMM 1	_	_	—	<u>SEC-30</u>	-
B2190: NATS ANTENNA AMP	_	_	_	<u>SEC-33</u> (with I- Key), <u>SEC-139</u> (without I-Key)	В
B2191: DIFFERENCE OF KEY	_	_	_	<u>SEC-36</u> (with I- Key), <u>SEC-142</u> (without I-Key)	С
B2192: ID DISCORD BCM-ECM	_	_	_	<u>SEC-37</u> (with I- Key), <u>SEC-143</u> (without I-Key)	D
B2193: CHAIN OF BCM-ECM	_	_	_	<u>SEC-39</u> (with I- Key), <u>SEC-145</u> (without I-Key)	E
B2552: INTELLIGENT KEY	_	_	—	<u>SEC-41</u>	_
B2590: NATS MALFUNCTION	_	_	_	<u>SEC-42</u>	F
C1708: [NO DATA] FL	_	_	—	<u>WT-14</u>	-
C1709: [NO DATA] FR	_	_	_	<u>WT-16</u>	G
C1710: [NO DATA] RR	_	—	—	<u>WT-16</u>	-
C1711: [NO DATA] RL		_		<u>WT-16</u>	
C1712: [CHECKSUM ERR] FL	_	_	—	<u>WT-16</u>	H
C1713: [CHECKSUM ERR] FR	_	_	—	<u>WT-16</u>	-
C1714: [CHECKSUM ERR] RR	_	—	_	<u>WT-16</u>	
C1715: [CHECKSUM ERR] RL	_	—	_	<u>WT-16</u>	
C1716: [PRESSDATA ERR] FL	_	_	—	<u>WT-18</u>	-
C1717: [PRESSDATA ERR] FR	_	_	_	<u>WT-16</u>	J
C1718: [PRESSDATA ERR] RR	_	_	_	<u>WT-16</u>	-
C1719: [PRESSDATA ERR] RL	_	_	—	<u>WT-16</u>	- K
C1720: [CODE ERR] FL	_	_	—	<u>WT-16</u>	
C1721: [CODE ERR] FR	_	_	—	<u>WT-16</u>	-
C1722: [CODE ERR] RR	_	_	—	<u>WT-16</u>	L
C1723: [CODE ERR] RL	_	_	_	<u>WT-16</u>	-
C1724: [BATT VOLT LOW] FL	_	_	—	<u>WT-16</u>	DO
C1725: [BATT VOLT LOW] FR	_	_	—	<u>WT-16</u>	BC
C1726: [BATT VOLT LOW] RR	_	_	—	<u>WT-16</u>	
C1727: [BATT VOLT LOW] RL	_	_	—	<u>WT-16</u>	Ν
C1729: VHCL SPEED SIG ERR	_	_	—	<u>WT-19</u>	-
C1735: IGN_CIRCUIT_OPEN	_	—	_	—	-

Ρ

[BCM]

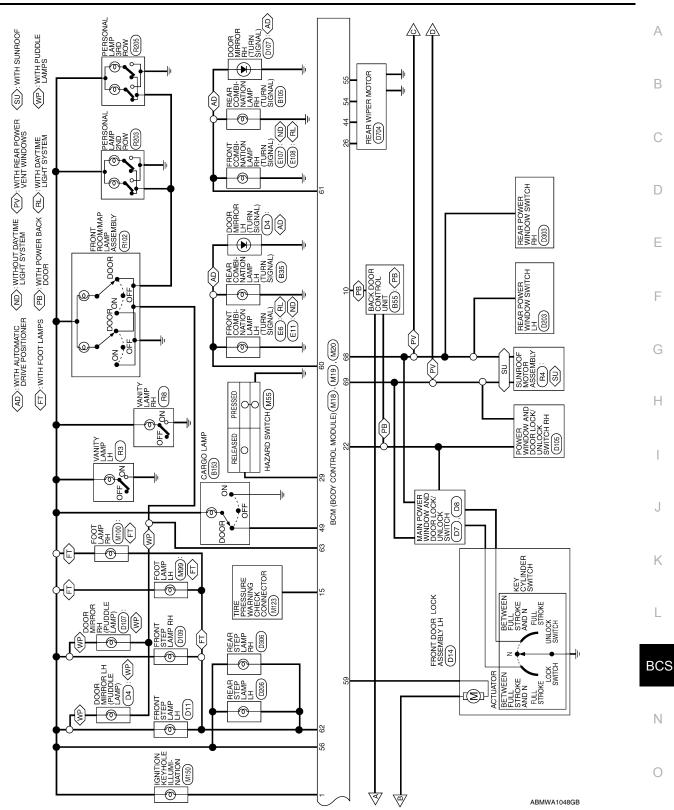
WIRING DIAGRAM BCM (BODY CONTROL MODULE)





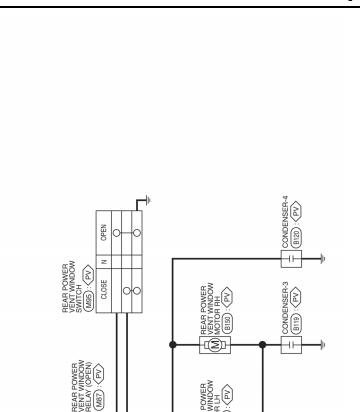
< WIRING DIAGRAM >

[BCM]

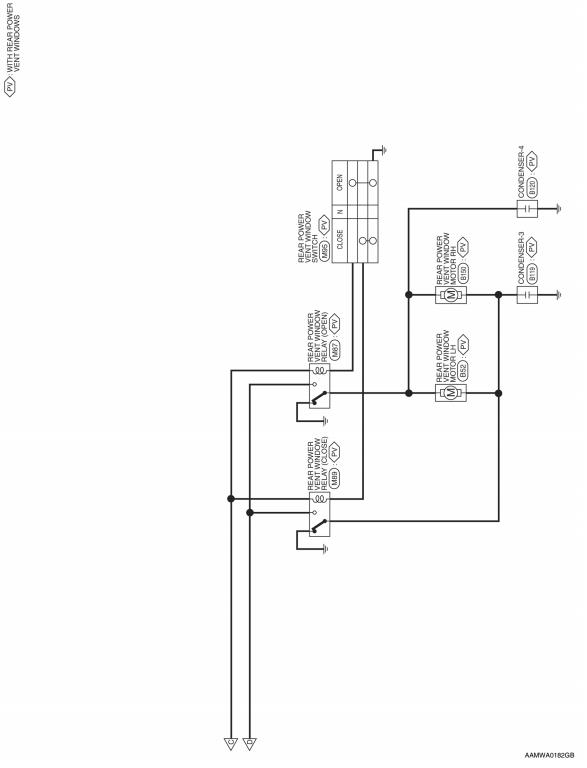


Ρ

< WIRING DIAGRAM >





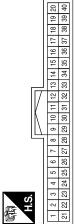


< WIRING DIAGRAM >

Connector	CONNECTOR	Connector	E	H.S.		lerminal [42	43	;	45 46	47	48	49	50	51		52		53	54		55			
Signal Name	1	1	KEYLESS AND AUTO LIGHT SENSOR GND	KEYLESS TUNER POWER SUPPLY OUTPUT	KEYLESS TUNER SIGNAL	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	ANTI-PINCH SERIAL LINK (RX,TX)	SECURITY INDICATOR OUTPUT	1	IMMOBILIZER ANTENNA SIGNAL (RX,TX)	REAR WIPER AUTO	AIRCON 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	1	1	<u>م</u>	M/N	G/W	U	NΝ	G/O	ı	BR	٨٦	W/R	R	W/B	Т	I	R/G	R/Y	_	O/B	R/W	B/R	M/L	_	٩
Terminal No.	16	17	8	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



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



Signal Name	KEY RING OUTPUT	INPUT 5	INPUT 4	INPUT 3	INPUT 2	I TUPUT 1	-	I	REAR DEFOGGER SW	IVCS INPUT	ACC SW	DOOR SW (AS)	DOOR SW (RR)	I	TPMS MODE TRIGGER SW
Color of Wire	BR/W	SB	G/Y	Υ	G/B	^	I	I	GR/R	g	0	R/L	GR	-	L/W
Ferminal No.	1	2	3	4	5	6	7	8	6	10	11	12	13	14	15

BCS-51

ABMIA1055GB

Ρ

0

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

	41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 55	
ł	H.S.	

Signal Name		GLASS HATCH SW	BACK DOOR SW	REAR WIPER AUTO STOP SW1	I	1	DOOR SW (DR)	DOOR SW (RL)	LUGGAGE LAMP OUTPUT	I	TRAILER FLASHER OUTPUT (RIGHT)	TRAILER FLASHER OUTPUT (LEFT)	I	REAR WIPER MOTOR OUTPUT 2	REAR WIPER MOTOR OUTPUT 1
Color of Wire		GR	R/B	0	I	I	SB	R/Y	В	I	G/Y	G/B	I	٢	SB
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55

А

В

С

D

Е

F

G

Н

J

Κ

L

BCS

Ν





								_				_			·
Signal Name	BATTERY SAVER OUTPUT	BAT (FUSE)	AUTO LIGHT SENSOR INPUT 2	DOOR UNLOCK OUTPUT (DR)	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	STEP LAMP OUTPUT	ROOM LAMP OUTPUT	1	DOOR LOCK OUTPUT (ALL)	DOOR UNLOCK OUTPUT (OTHER)	GND (POWER)	POWER WINDOW POWER SUPPLY (LINKED TO RAP)	POWER WINDOW POWER SUPPLY (BAT)	BAT (F/L)
Color of Wire	R/G	Y/R	W/R	g	G/B	G/Y	ΜM	_	I	>	G/Y	В	M/L	W/R	W/B
erminal No.	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70

	Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUPUT 1	OUPUT 2	OUPUT 5	OUPUT 4	OUPUT 3	WASHER MOTOR	GND	WASHER MOTOR	IGN	
	Color of Wire	RМ	O/B	_	RУ	R/G	>	G/B	SB	G/Y	۲	N/N	В	W/R	R/L	
HS	Ferminal No.	-	2	з	4	5	6	7	8	9	10	11	12	13	14	

Connector No.		M28
Connector Na	me	Connector Name COMBINATION SWITCH
Connector Color WHITE	<u>o</u>	WHITE
E	12 13	13 10 - 9 8 7
Ŭ	4	11 1 2 3 4 5 6

Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUPUT 1	OUPUT 2	OUPUT 5	OUPUT 4	OUPUT 3	WASHER MOTOR	GND	WASHER MOTOR
Color of Wire	R/W	O/B	_	R/Y	R/G	>	G/B	SB	G/Y	٢	W/N	в	W/R
l No.													

< WIRING DIAGRAM >

BCS-52

ABMIA1056GB

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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

Malfunction item: × Data monitor item 2 D ۲ **RR WASHER SW** AUTO LIGHT SW FR WASHER SW FR WIPER LOW HEAD LAMP SW HEAD LAMP SW TAIL LAMP SW FR WIPER INT **RR WIPER ON RR WIPER INT** INT VOLUME **TURN SIGNAL** PASSING SW HI BEAM SW FR WIPER HI **TURN SIGNAL** FR FOG SW Malfunction combination Ε F × × А × х В х × х х С × × х × D х х х × Е × х × F \times Н х х G х х × х Н х × х L х × х × J х х × х κ Combinations other than those above J L All Items If only one item is detected or the item is not applicable to the combinations A to L Μ

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

Malfunction combination	Malfunctioning part	Repair or replace	L
А	Combination switch INPUT 1 circuit		_
В	Combination switch INPUT 2 circuit		BC
С	Combination switch INPUT 3 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to <u>BCS-32</u> , "Diagnosis Procedure".	
D	Combination switch INPUT 4 circuit		
E	Combination switch INPUT 5 circuit		Ν
F	Combination switch OUTPUT 1 circuit		
G	Combination switch OUTPUT 2 circuit		C
Н	Combination switch OUTPUT 3 circuit	Inspect the combination switch output circuit applicable to the malfunction- ing part. Refer to BCS-34, "Diagnosis Procedure".	C
I	Combination switch OUTPUT 4 circuit	ing part. Refer to <u>Boo or, Blagnosis Hocedare</u> .	
J	Combination switch OUTPUT 5 circuit		F
К	Light and turn signal switch or front wip- er and washer switch	Refer to <u>BCS-35</u> , "Description".	
L	ВСМ	Replace BCM. Refer to BCS-56, "Removal and Installation".	
М	Light and turn signal switch or front wip- er and washer switch	Replace the switch that cannot be operated.	

Revision: July 2010

Κ

А

INFOID:000000006144246 B

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. 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

INFOID:000000006144248

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- 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

- 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.

PRECAUTIONS

< PRECAUTION > [BCM]	
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.

REMOVAL AND INSTALLATION BCM (BODY CONTROL MODULE)

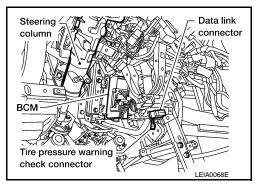
Removal and Installation

REMOVAL

NOTE:

If possible, before removing BCM, retrieve current BCM configuration to use for reference when configuring brand-new BCM after installation. Refer to <u>BCS-3</u>, <u>"CONFIGURATION : Description"</u>.

- 1. Disconnect the battery negative terminal.
- 2. Remove the lower knee protector. Refer to IP-13, "Removal and Installation".
- 3. Remove the screw and release the BCM.
- 4. Disconnect the connectors and then remove the BCM.



INSTALLATION

Installation is in the reverse order of removal. **NOTE:**

- When replacing BCM, it must be configured. Refer to <u>BCS-4</u>, <u>"CONFIGURATION : Special Repair Require-ment"</u>.
- When replacing BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to the CONSULT-III operation manual for the initialization procedure.
- When replacing BCM, perform ID registration procedure of low tire pressure warning system. Refer to <u>WT-6</u>, <u>"ID Registration Procedure"</u>.

[BCM]