SECTION BCS
BODY CONTROL SYSTEM

CONTENTS

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

INFOID:0000000001451318

BEFORE REPLACEMENT

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

NOTE:

If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

AFTER REPLACEMENT

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 might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000001451319

1.SAVING VEHICLE SPECIFICATION

CONSULT-III Configuration

Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-3, "CONFIGURATION (BCM) : Description".

NOTE:

If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. refer to BCS-68, "Exploded View".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT-III Configuration

Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to BCS-4, "CONFIGURATION (BCM) : Special Repair Requirement".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> WORK END

CONFIGURATION (BCM)

CONFIGURATION (BCM) : Description

INFOID:0000000001451320

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

Configuration has three functions as follows

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current BCM. • Saves the read vehicle configuration.
WRITE CONFIGURATION - Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION - Config file	Writes the vehicle configuration with saved data.

NOTE:

Manual setting item: Items which need selection by vehicle specifications

Automatic setting item: Items which are written in automatically (Setting can not be changed)

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 might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “WRITE CONFIGURATION” except for new BCM.**

CONFIGURATION (BCM) : Special Repair Requirement

INFOID:0000000001451321

1.WRITING MODE SELECTION

CONSULT-III Configuration
Select “CONFIGURATION” of BCM.

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

2.PERFORM “WRITE CONFIGURATION - CONFIG FILE”

CONSULT-III Configuration
Perform “WRITE CONFIGURATION - Config file”.

>> WORK END

3.PERFORM “WRITE CONFIGURATION - MANUAL SELECTION”

CONSULT-III Configuration

1. Select "WRITE CONFIGURATION - Manual selection".
2. Identify the correct model and configuration list. Refer to BCS-4, "CONFIGURATION (BCM) : Configuration list".
3. Confirm and/or change setting value for each item.
4. Select "Setting change".
   CAUTION:
   Make sure to select “Setting change” even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "COMMAND FINISHED", select "END".

>> WORK END

CONFIGURATION (BCM) : Configuration list

INFOID:0000000001403874

RHD MODELS WITHOUT I-KEY

MANUAL SETTING ITEM		NOTE
Items	Setting value	
RAIN SENSOR	WITH ⇔ WITHOUT	—
H/L BULB	H4 HALOGEN	H4 HALOGEN: Halogen headlamp

MANUAL SETTING ITEM		NOTE
Items	Setting value	
AUTO LIGHT	WITH ⇔ WITHOUT	—
HANDLE	RHD	—
KEYLESS ENTRY	WITH	—
I-KEY	WITHOUT	—
DTRL	WITHOUT	—
THEFT ALARM	WITH	—
H/L WASHER	WITHOUT	—

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
H/L WSR SWTRG	FR WSR SW	—
FR FOG LAMP	WITH	Even on a vehicle without front fog lamp. it displays “WITH”.
DONGLE	WITH	—
SUPER LOCK	WITH	—
DOOR/L SPEED	WITH	—
KEY WARNING	MODE1	—
R LAMP LOGIC	MODE2	—
RR SPEED WIPER	MODE1	—
ROOM LAMP TIMER	MODE3	—
R/L ON TIME	MODE2	—
R/L OFF TIME	MODE2	—
HLW TIME 1	MODE1	—
HLW TIME 2	MODE1	—
RAIN SEN TYPE	MODE1	—
REVERSE LINK	WITHOUT	—
TRUNK ACT OUTPUT	MODE1	—
RR WIPER GND	MODE1	—
HLW ACT STEP	MODE1	—

RHD MODELS WITH I-KEY

MANUAL SETTING ITEM		NOTE
Items	Setting value	
RAIN SENSOR	WITH	—
H/L BULB	H4 HALOGEN ⇔ DEFAULT	• H4 HALOGEN: Halogen headlamp • DEFAULT: Xenon headlamp
AUTO LIGHT	WITH	—
HANDLE	RHD	—
KEYLESS ENTRY	WITHOUT	—
I-KEY	WITH	—
DTRL	WITHOUT	—
THEFT ALARM	WITH	—
H/L WASHER	WITH ⇔ WITHOUT	H/L WASHER: Headlamp washer system

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
H/L WSR SWTRG	FR WSR SW	—
FR FOG LAMP	WITH	Even on a vehicle without front fog lamp. it displays “WITH”.
DONGLE	WITH	—
SUPER LOCK	WITH	—
DOOR/L SPEED	WITH	—
KEY WARNING	MODE1	—
R LAMP LOGIC	MODE2	—
RR SPEED WIPER	MODE1	—
ROOM LAMP TIMER	MODE3	—
R/L ON TIME	MODE2	—
R/L OFF TIME	MODE2	—
HLW TIME 1	MODE1	—
HLW TIME 2	MODE1	—
RAIN SEN TYPE	MODE1	—
REVERSE LINK	WITHOUT	—
TRUNK ACT OUTPUT	MODE1	—
RR WIPER GND	MODE1	—
HLW ACT STEP	MODE1	—

LHD MODELS WITHOUT I-KEY

MANUAL SETTING ITEM		NOTE
Items	Setting value	
RAIN SENSOR	WITH ⇔ WITHOUT	—
H/L BULB	H4 HALOGEN	H4 HALOGEN: Halogen headlamp
AUTO LIGHT	WITH ⇔ WITHOUT	—
HANDLE	LHD	—
KEYLESS ENTRY	WITH	—
I-KEY	WITHOUT	—
DTRL	WITH ⇔ WITHOUT	DTRL: Daytime running light system
THEFT ALARM	WITHOUT	—
H/L WASHER	WITH ⇔ WITHOUT	H/L WASHER: Headlamp washer system

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
H/L WSR SWTRG	FR WSR SW	—
FR FOG LAMP	WITH	Even on a vehicle without front fog lamp. it displays “WITH”.
DONGLE	WITHOUT	—
SUPER LOCK	WITHOUT	—
DOOR/L SPEED	WITH	—
KEY WARNING	MODE1	—
R LAMP LOGIC	MODE2	—
RR SPEED WIPER	MODE1	—

AUTO SETTING ITEM		NOTE
Items	Setting value	
ROOM LAMP TIMER	MODE3	—
R/L ON TIME	MODE2	—
R/L OFF TIME	MODE2	—
HLW TIME 1	MODE1	—
HLW TIME 2	MODE1	—
RAIN SEN TYPE	MODE1	—
REVERSE LINK	WITHOUT	—
TRUNK ACT OUTPUT	MODE1	—
RR WIPER GND	MODE1	—
HLW ACT STEP	MODE1	—

LHD MODELS WITH I-KEY

MANUAL SETTING ITEM		NOTE
Items	Setting value	
RAIN SENSOR	WITH	—
H/L BULB	H4 HALOGEN ⇔ DEFAULT	• H4 HALOGEN: Halogen headlamp • DEFAULT: Xenon headlamp
AUTO LIGHT	WITH	—
HANDLE	LHD	—
KEYLESS ENTRY	WITHOUT	—
I-KEY	WITH	—
DTRL	WITH ⇔ WITHOUT	DTRL: Daytime running light system
THEFT ALARM	WITHOUT	—
H/L WASHER	WITH ⇔ WITHOUT	H/L WASHER: Headlamp washer system

⇔: Items which confirm vehicle specifications

AUTO SETTING ITEM		NOTE
Items	Setting value	
H/L WSR SWTRG	FR WSR SW	—
FR FOG LAMP	WITH	Even on a vehicle without front fog lamp. it displays “WITH”.
DONGLE	WITHOUT	—
SUPER LOCK	WITHOUT	—
DOOR/L SPEED	WITH	—
KEY WARNING	MODE1	—
R LAMP LOGIC	MODE2	—
RR SPEED WIPER	MODE1	—
ROOM LAMP TIMER	MODE3	—
R/L ON TIME	MODE2	—
R/L OFF TIME	MODE2	—
HLW TIME 1	MODE1	—
HLW TIME 2	MODE1	—
RAIN SEN TYPE	MODE1	—
REVERSE LINK	WITHOUT	—
TRUNK ACT OUTPUT	MODE1	—

AUTO SETTING ITEM		NOTE
Items	Setting value	
RR WIPER GND	MODE1	—
HLW ACT STEP	MODE1	—

FUNCTION DIAGNOSIS

BODY CONTROL SYSTEM

System Description

INFOID:0000000001158217

OUTLINE

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

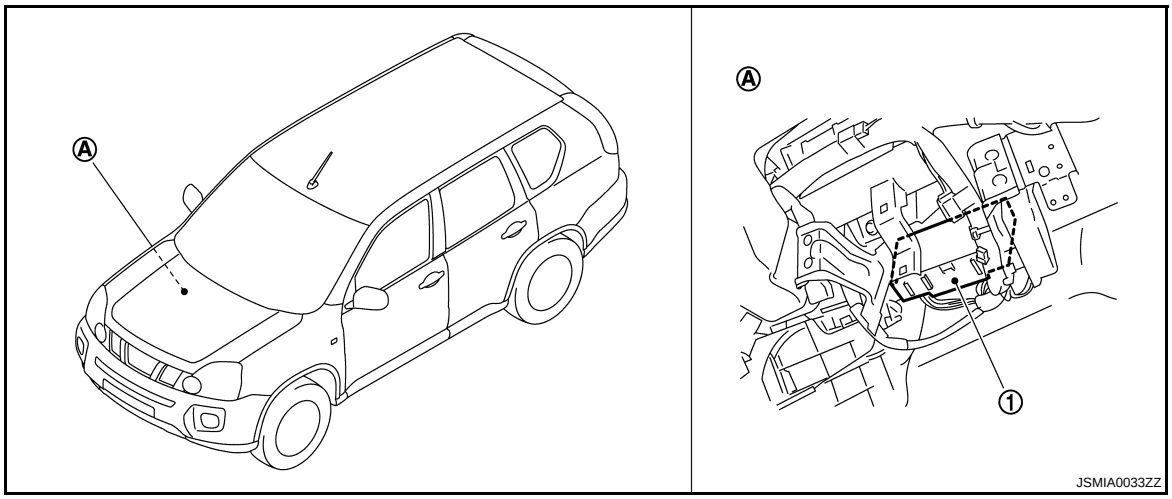
BCM FUNCTION LIST

System	Reference page
Combination switch reading system	BCS-11, "System Diagram"
Signal buffer system	BCS-15, "System Diagram"
Power consumption control system	BCS-16, "System Diagram"
Auto light system	EXL-19, "System Diagram"
Turn signal and hazard warning lamp system	EXL-26, "System Diagram"
Headlamp system	• XENON TYPE: EXL-13, "System Diagram" • HALOGEN TYPE: EXL-237, "System Diagram"
Front fog lamp system	EXL-24, "System Diagram"
Rear fog lamp system	EXL-32, "System Diagram"
Daytime running light system	EXL-16, "System Diagram"
Interior room lamp control system	INL-5, "System Diagram"
Interior room lamp battery saver system	INL-8, "System Diagram"
Front wiper and washer system	WW-6, "System Diagram"
Rear wiper and washer system	WW-11, "System Diagram"
Headlamp washer system	WW-14, "System Diagram"
Warning chime system	WCS-4, "WARNING CHIME SYSTEM : System Diagram"
Door lock system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-26, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-307, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY & SUPER LOCK: DLK-601, "DOOR LOCK AND UNLOCK SWITCH : System Diagram" • WITHOUT I-KEY, WITH SUPER LOCK: DLK-760, "DOOR LOCK AND UNLOCK SWITCH : System Diagram"
Nissan anti-theft system	• WITH INTELLIGENT KEY SYSTEM: SEC-16, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-235, "System Diagram"
Vehicle security system	• WITH INTELLIGENT KEY SYSTEM: SEC-21, "System Diagram" • WITHOUT INTELLIGENT KEY SYSTEM: SEC-239, "System Diagram"
Rear window defogger system	DEF-4, "System Diagram"
Multi-remote control system	• WITHOUT I-KEY & SUPER LOCK: DLK-604, "KEYFOB : System Diagram" • WITHOUT I-KEY, WITHOUT SUPER LOCK: DLK-763, "KEYFOB : System Diagram"

System	Reference page
Intelligent Key system	• WITH I-KEY, WITHOUT SUPER LOCK: DLK-30, "INTELLIGENT KEY : System Diagram" • WITH I-KEY & SUPER LOCK: DLK-311, "INTELLIGENT KEY : System Diagram"
Power window system	PWC-6, "System Diagram"

Component Parts Location

INFOID:0000000001158218

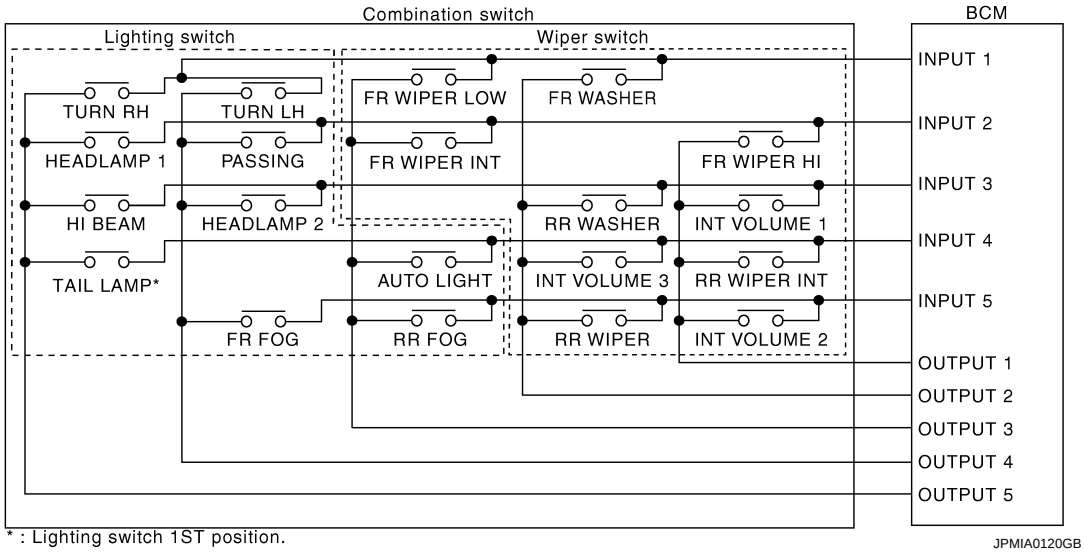


1. BCM
A. Over the glove box

COMBINATION SWITCH READING SYSTEM

System Diagram

INFOID:0000000001158219



* : Lighting switch 1ST position.

JPMIA0120GB

System Description

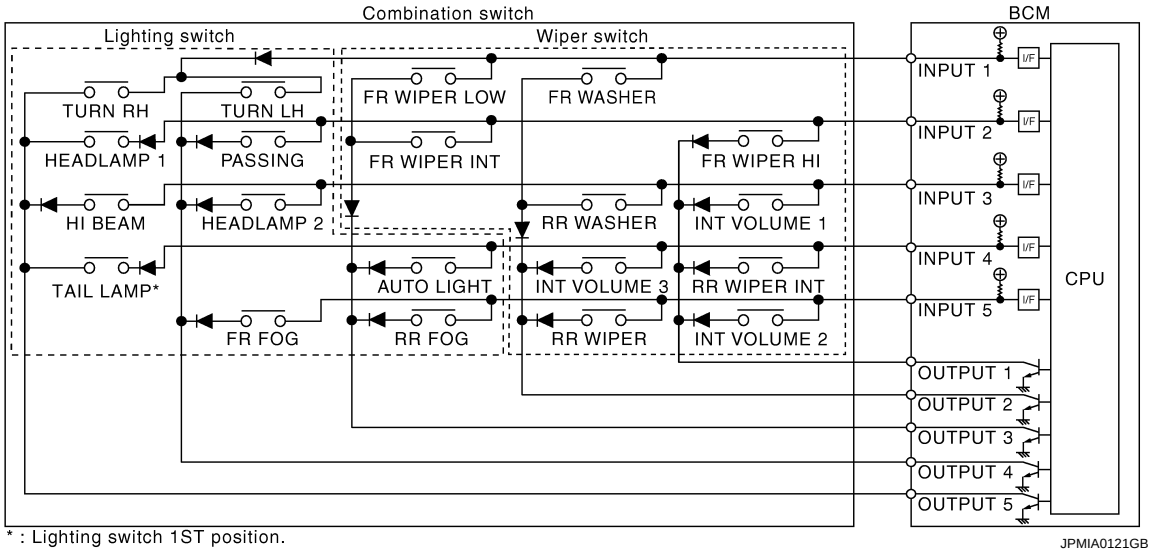
INFOID:0000000001158220

OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



* : Lighting switch 1ST position.

JPMIA0121GB

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

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

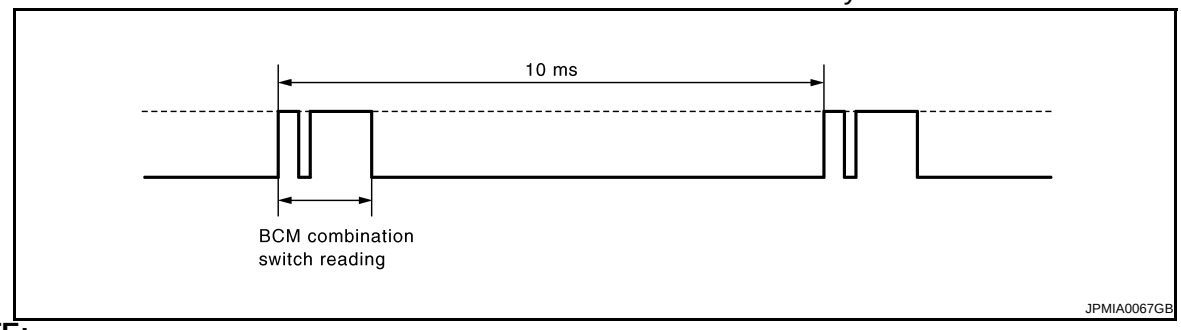
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

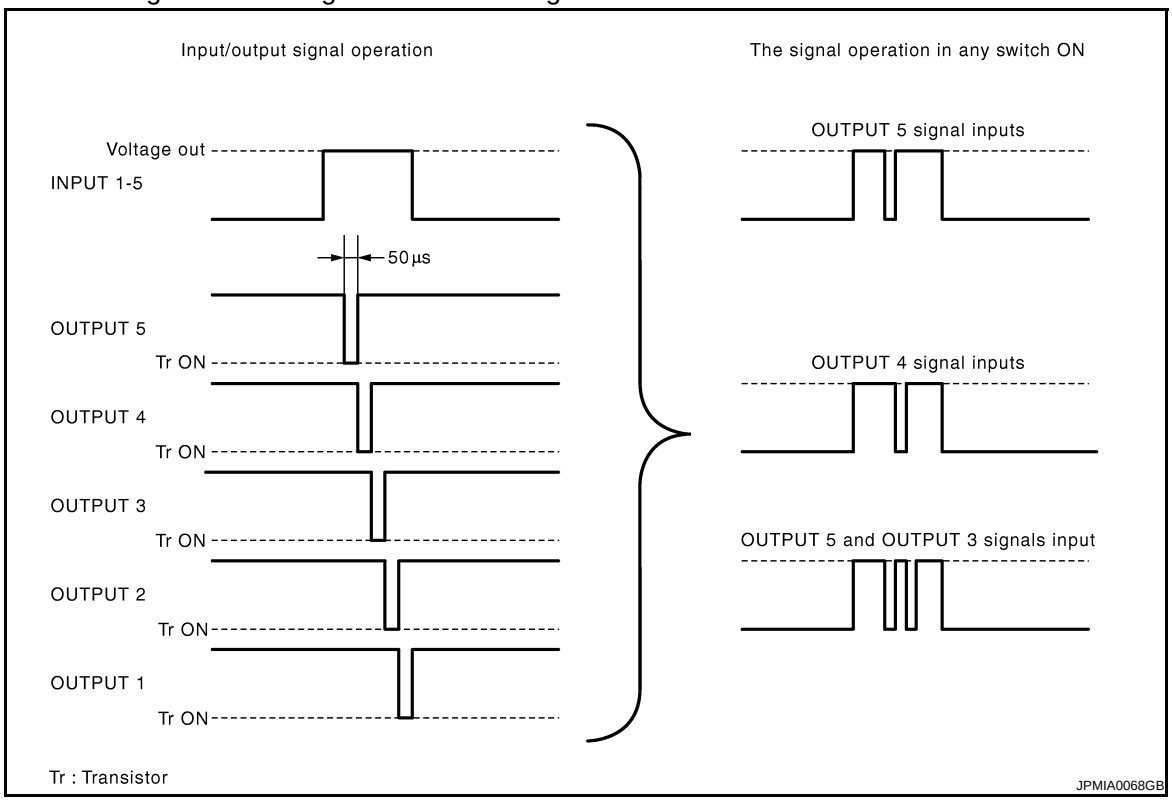
- BCM reads the status of the combination switch at 10 ms interval normally.



NOTE:

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

- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 - 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT 5 → 4 → 3 → 2 → 1.
- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

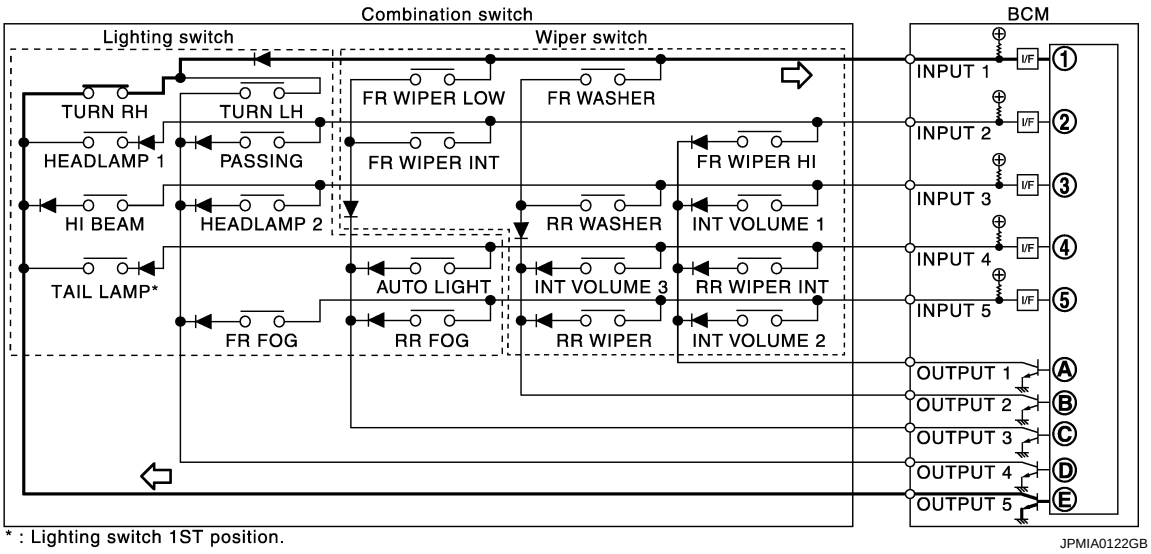


Operation Example

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

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

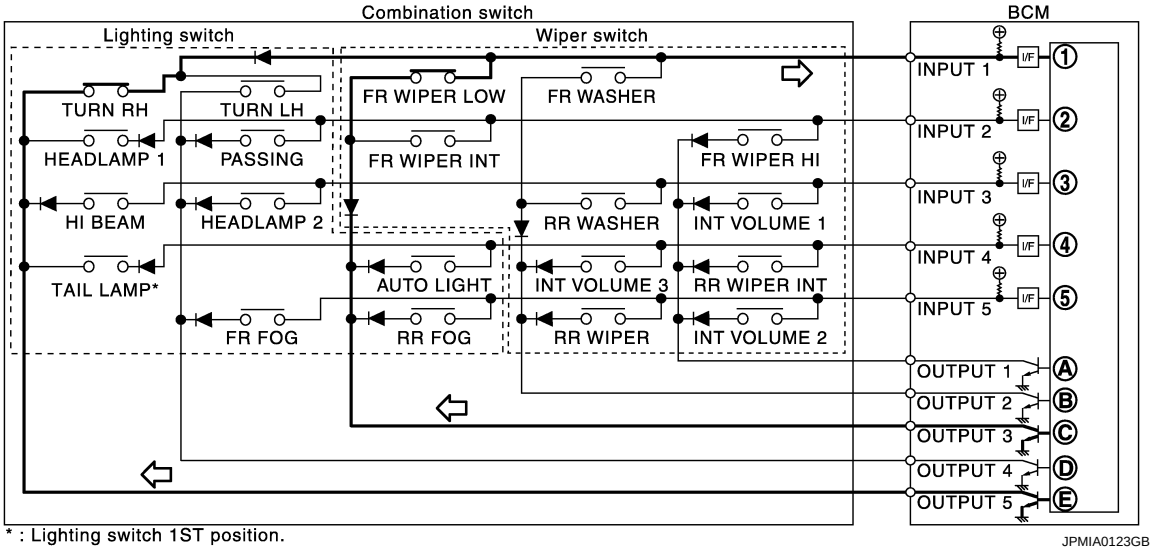
- The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



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

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

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



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

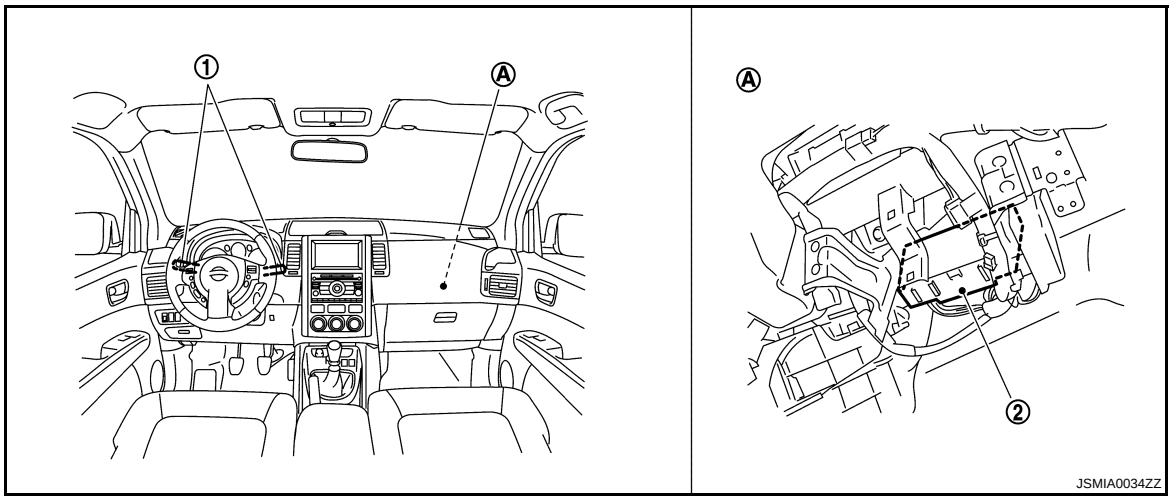
WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

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

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

Component Parts Location

INFOID:0000000001158221



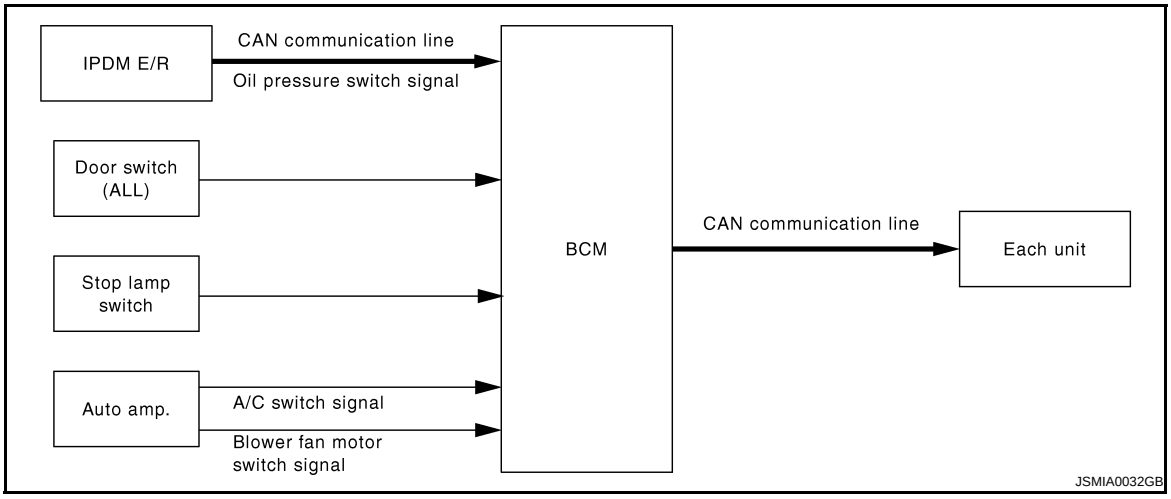
1. Combination switch
2. BCM

A. Over the glove box

SIGNAL BUFFER SYSTEM

System Diagram

INFOID:0000000001158222



System Description

INFOID:0000000001158223

OUTLINE

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

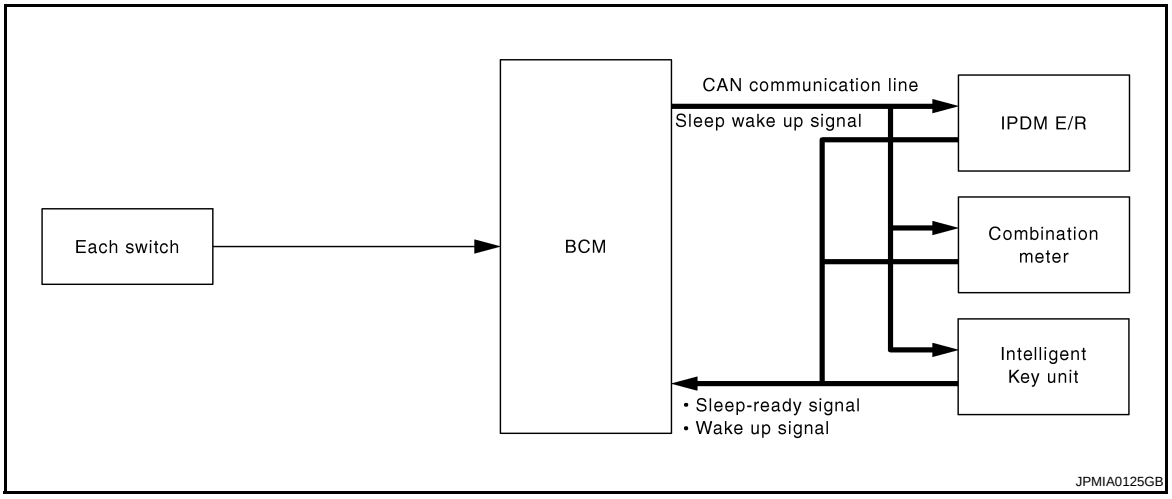
SIGNAL TRANSMISSION FUNCTION LIST

Signal name	Input	Output	Description
Door switch signal	Any door switch	• Combination meter (CAN) • IPDM E/R (CAN) • Intelligent Key unit (CAN) • NAVI control unit (CAN)	Inputs the door switch signal and transmits it with CAN communication.
Stop lamp switch signal	Stop lamp switch	TCM (CAN)	Inputs the stop lamp switch signal and transmits it with CAN communication.
Oil pressure switch signal	IPDM E/R (CAN)	Combination meter (CAN)	Transmits the received oil pressure switch signal with CAN communication.
A/C switch signal	Auto amp.	ECM (CAN)	Inputs the A/C switch signal and transmits it with CAN communication.
Blower fan motor switch signal			Inputs the Blower fan motor switch signal and transmits it with CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

System Diagram

INFOID:0000000001158224



System Description

INFOID:0000000001158225

OUTLINE

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

Normal mode (wake-up)
- CAN communication is normally performed with other units
- Each control with BCM is operating properly

CAN communication sleep mode (CAN sleep)
- CAN transmission is stopped
- Control with BCM only is operating

Low power consumption mode (BCM sleep)
- Low power consumption control is active
- CAN transmission is stopped

LOW POWER CONSUMPTION CONTROL WITH BCM

BCM reduces the power consumption with the following operation in the low power consumption mode.
- The reading interval of the each switches changes from 10 ms interval to 20 ms interval.

SLEEP OPERATION

- BCM receives the sleep-ready signal (ready) from IPDM E/R, combination meter and Intelligent Key unit with 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.

Sleep condition

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

WAKE-UP OPERATION

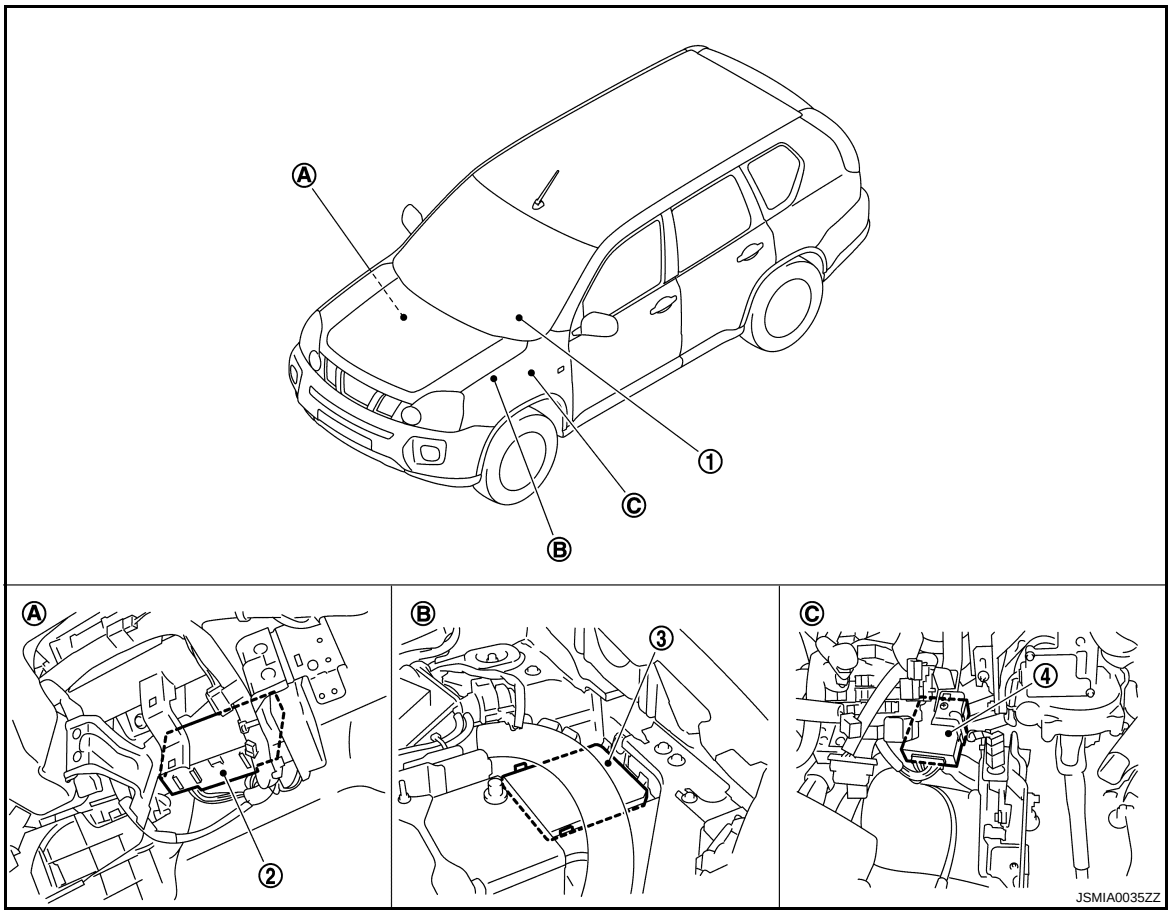
- BCM transmits sleep wake up signal (wake up) to each unit when any condition listed below is established, and then goes into normal mode from low power consumption mode.
- Each unit starts transmissions with CAN communication by receiving sleep wake up signals. Each unit transmits wake up signals to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

Wake-up condition

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

Component Parts Location

INFOID:0000000001158226



1. Combination meter
2. BCM
3. IPDM E/R
4. Intelligent Key unit

A. Over the glove box
B. Engine room (left side)
C. Over the instrument lower panel (driver side)

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000001158227

APPLICATION ITEM

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Results	Displays the diagnosis results judged by BCM. Refer to BCS-65, "DTC Index".
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

×: Applicable item

System	CONSULT-III sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
—	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER	×	×	×
Warning chime	BUZZER		×	×
Interior room lamp control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
—	PTC HEATER*			

*: This item is displayed, but is not function.

DOOR LOCK

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

INFOID:0000000001509115

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

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

*1: For the Intelligent key equipped vehicle.

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

ACTIVE TEST

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

:*1 For the super lock equipped vehicle.

WORK SUPPORT

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

REAR WINDOW DEFOGGER

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

INFOID:0000000001510606

Data monitor

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

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT-III Function (BCM - BUZZER)

INFOID:0000000001510620

CONSULT-III FUNCTION (BCM – BUZZER)

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

DATA MONITOR

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

ACTIVE TEST

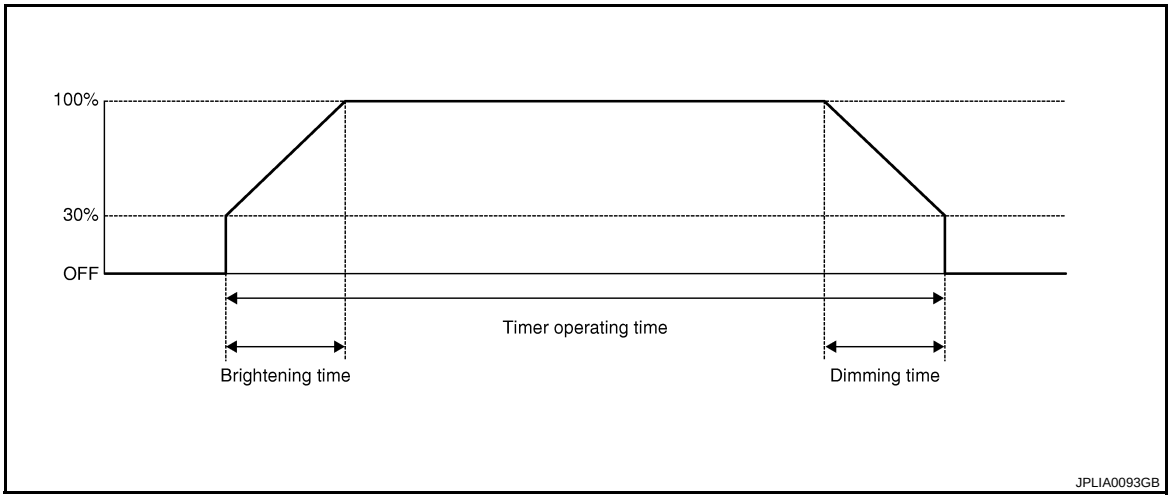
Display item	Description
LIGHT WARN ALM	The light reminder warning operation can be checked by operating the relevant function (On/Off).
ANTI KEY LOCK IN	The anti key lock in warning operation can be checked by operating the relevant function (On/Off).
KEY REMINDER WARN	The key reminder warning operation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

INT LAMP

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

INFOID:0000000001510593

WORK SUPPORT



Service item	Setting item	Setting	
ROOM LAMP TIMER SET	MODE 2	7.5 sec.	Sets the interior room lamp ON time. (Timer operating time)
	MODE 3*	15 sec.	
	MODE 4	30 sec.	
SET I/L D-UNLCK INTCON	On*	With the interior room lamp timer function	
	Off	Without the interior room lamp timer function	
ROOM LAMP ON TIME SET	MODE 1	0.5 sec.	Sets the interior room lamp gradual brightening time.
	MODE 2*	1 sec.	
	MODE 3	2 sec.	
	MODE 4	3 sec.	
	MODE 5	4 sec.	
	MODE 6	5 sec.	
	MODE 7	0 sec.	
	MODE 8	1 sec. linear	
ROOM LAMP OFF TIME SET	MODE 1	0.5 sec.	Sets the interior room lamp gradual dimming time.
	MODE 2*	1 sec.	
	MODE 3	2 sec.	
	MODE 4	3 sec.	
	MODE 5	4 sec.	
	MODE 6	5 sec.	
	MODE 7	0 sec.	
	MODE 8	1 sec. linear	
R LAMP TIMER LOGIC SET	MODE 1*	Interior room lamp timer activates with synchronizing all doors.	
	MODE 2	Interior room lamp timer activates with synchronizing the driver door only.	

*: Initial setting

DATA MONITOR

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

ACTIVE TEST

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

MULTIREMOTE ENT

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

INFOID:0000000001509193

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYKESS LOCK	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from key fob.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
RKE LOCK AND UNLOCK	This item is indicated, but not monitored.
MEMORY 1	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 2	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 3	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 4	Indicates [ON/OFF] condition of remote controller ID code registration.
MEMORY 5	Indicates [ON/OFF] condition of remote controller ID code registration.

ACTIVE TEST

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

WORK SUPPORT

Test item	Description
HAZARD LAMP SET	Answer back function (hazard) mode can be changed in this mode. For the detail of the setting, refer to DLK-620, "System Description".
AUTO LOCK SET	Auto door lock time can be changed in this mode. • MODE 1: 1 minute • MODE 2: 2 minutes • MODE 3: 3 minutes • MODE 4: 4 minutes • MODE 5: 5 minutes

HEADLAMP

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

INFOID:0000000001510591

WORK SUPPORT

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

*: Initial setting

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
ACC SW [On/Off]	Ignition switch (ACC) status judged from ACC signal (ACC power supply)
HI BEAM SW [On/Off]	Each switch status that BCM judges from the combination switch reading function
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
TAIL LAMP SW [On/Off]	
AUTO LIGHT SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
BACK DOOR SW [On/Off]	The switch status input from back door switch
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
ENGINE RUNNING [On/Off]	The engine status received from ECM with CAN communication
LIT-SEN FAIL [OK/NOTOK]	• The sensor status received from light & rain sensor with serial link • The serial link condition that BCM judges
AUT LIGHT SYS [On/Off]	Auto light system status received from light & rain sensor with serial link
HD LIGHT TIME [Sec]	Setting time of the follow me home function set by the work support

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	Off	Stops the tail lamp request signal transmission.

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

WIPER

WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:0000000001510603

WORK SUPPORT

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

*:Factory setting

DATA MONITOR

Monitor Item [Unit]	Description
VEHICLE SPEED [km/h]	The value of the vehicle speed signal received from combination meter with CAN communication.
IGN ON SW	Ignition switch ON status judged from ignition power supply.
IGN SW CAN	Ignition switch ON status received from IPDM E/R with CAN communication.
FR WIPER HI [OFF/ON]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER LOW [OFF/ON]	
FR WIPER INT [OFF/ON]	
FR WASHER SW [OFF/ON]	
INT VOLUME [1 – 7]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER STOP [OFF/ON]	Front wiper motor (stop position) status received from IPDM E/R with CAN communication.

Monitor Item [Unit]	Description
RR WIPER ON [OFF/ON]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER INT [OFF/ON]	
RR WASHER SW [OFF/ON]	
RR WIPER STOP [OFF/ON]	Rear wiper motor (stop position) status input from the rear wiper motor.
REVERSE SW CAN [OFF/ON]	**NOTE:** The item is indicated, but not monitored.
H/L WASH SW [OFF/ON]	Switch status input from headlamp washer switch.

ACTIVE TEST

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

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:0000000001510592

DATA MONITOR

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

ACTIVE TEST

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

AIR CONDITIONER

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

INFOID:0000000001510618

DATA MONITOR

Display Item List

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

INTELLIGENT KEY

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

INFOID:0000000001510610

BCM CONSULT-III FUNCTION

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

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

DATA MONITOR

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

COMB SW

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

INFOID:0000000001158239

DATA MONITOR

Monitor item [UNIT]	Description
TURN SIGNAL R [Off/On]	Displays the status of “TURN RH” switch in combination switch judged by the combination switch reading function.
TURN SIGNAL L [Off/On]	Displays the status of the “TURN LH” switch in combination switch judged by the combination switch reading function.
HI BEAM SW [Off/On]	Displays the status of “HI BEAM” switch in combination switch judged by the combination switch reading function.
HEAD LAMP SW 1 [Off/On]	Displays the status of “HEADLAMP 1” switch in combination switch judged by the combination switch reading function.
HEAD LAMP SW 2 [Off/On]	Displays the status of “HEADLAMP 2” switch in combination switch judged by the combination switch reading function.
TAIL LAMP SW [Off/On]	Displays the status of “TAIL LAMP” switch in combination switch judged by the combination switch reading function.
PASSING SW [Off/On]	Displays the status of “PASSING” switch in combination switch judged by the combination switch reading function.

Monitor item [UNIT]	Description
AUTO LIGHT SW [Off/On]	Displays the status of “AUTO LIGHT” switch in combination switch judged by the combination switch reading function.
FR FOG SW [Off/On]	Displays the status of “FR FOG” switch in combination switch judged by the combination switch reading function.
RR FOG SW [Off/On]	Displays the status of “RR FOG” switch in combination switch judged by the combination switch reading function.
FR WIPER HI [Off/On]	Displays the status of “FR WIPER HI” switch in combination switch judged by the combination switch reading function.
FR WIPER LOW [Off/On]	Displays the status of “ FR WIPER LOW” switch in combination switch judged by the combination switch reading function.
FR WIPER INT [Off/On]	Displays the status of “FR WIPER INT” switch in combination switch judged by the combination switch reading function.
FR WASHER SW [Off/On]	Displays the status of “ FR WASHER” switch in combination switch judged by the combination switch reading function.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by the combination switch reading function.
RR WIPER ON [Off/On]	Displays the status of “RR WIPER” switch in combination switch judged by the combination switch reading function.
RR WIPER INT [Off/On]	Displays the status of “RR WIPER INT” switch in combination switch judged by the combination switch reading function.
RR WASHER SW [Off/On]	Displays the status of “RR WASHER” switch in combination switch judged by the combination switch reading function.

BCM

BCM : CONSULT-III Function (BCM - BCM)

INFOID:0000000001158228

WORK SUPPORT

Item	Description
RESET SETTING VALUE	Return a value set with WORK SUPPORT of each system to a default value in factory shipment.

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:0000000001509194

APPLICATION ITEM

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

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

DATA MONITOR

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

*1: For the vehicle Intelligent key is equipped.

ACTIVE TEST

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

BATTERY SAVER

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

INFOID:0000000001510594

WORK SUPPORT

Service item	Setting item	Setting	
ROOM LAMP TIMER SET	MODE 1*	30 min.	Sets the interior room lamp battery saver timer operating time.
	MODE 2	60 min.	

*: Initial setting

DATA MONITOR

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

ACTIVE TEST

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

*: Each lamp switch is in ON position.

TRUNK

TRUNK : CONSULT-III Function (BCM - TRUNK)

INFOID:0000000001509116

APPLICATION ITEM

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

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

DATA MONITOR

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

*1: For the Intelligent key equipped vehicle.

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

ACTIVE TEST

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

THEFT ALM

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

INFOID:0000000001509195

APPLICATION ITEM

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

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

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYKESS LOCK*2	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK*2	Indicates [ON/OFF] condition of unlock signal from key fob.
I-KEY LOCK*1	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK*1	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.
HOOD SW	Indicates [ON/OFF] condition of hood switch.

Monitor Item	Condition
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.

*1: For vehicle equipped with Intelligent Key.

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

ACTIVE TEST

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

WORK SUPPORT

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

SIGNAL BUFFER

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

INFOID:0000000001158244

DATA MONITOR

Monitor item [UNIT]	Description
OIL PRESS SW [Off/On]	Displays the status of oil pressure switch received from IPDM E/R with CAN communication.
BRAKE SW [Off/On]	Displays the status of stop lamp switch.

ACTIVE TEST

Test item	Operation	Description
OIL PRESSURE SW	On	Transmits the oil pressure switch signal with CAN communication to illuminate the oil pressure warning lamp in the combination meter.
	Off	Stops the oil pressure switch signal transmission.

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000001158246

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-25, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000001158247

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000001158248

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-13, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000001158249

DTC DETECTION LOGIC

DTC	DTC Detection Condition	Possible cause
U1010: CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of CAN controller of BCM.	BCM

Diagnosis Procedure

INFOID:0000000001158250

1.REPLACE BCM

When “DTC:U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-68, "Exploded View".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000001158252

1.CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
41	Battery power supply	10
57		J
4	ACC power supply	20
3	Ignition power supply	1

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

Terminals			Ignition switch position		
(+)		(–)			
BCM			OFF	ACC	ON
Connector	Terminal				
M67	57	Ground	Battery voltage	Battery voltage	Battery voltage
M66	41				
M65	4		Approx. 0 V	Battery voltage	Battery voltage
	3		Approx. 0 V	Approx. 0 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M67	55		Existed

Does continuity exist?

YES >> INSPECTION END
NO >> Repair harness or connector.

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000001158253

1.CHECK INPUT 1 - 5 CIRCUIT FOR OPEN

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

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

Does continuity exist?

YES >> GO TO 2.
NO >> Repair harnesses or connectors.

2.CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
INPUT 1	M65	8	Ground	Not existed
INPUT 2		9		
INPUT 3		6		
INPUT 4		7		
INPUT 5		10		

Does continuity exist?

YES >> Repair harnesses or connectors.
NO >> GO TO 3.

3.CHECK BCM OUTPUT VOLTAGE

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

System	Terminals				Voltage (Approx.)
	(+)		(–)		
	BCM				
	Connector	Terminal			
INPUT 1	M65	8	Ground		Refer to BCS-40, "Reference Value".
INPUT 2		9			
INPUT 3		6			
INPUT 4		7			
INPUT 5		10			

Is the measurement value normal?

YES >> GO TO 4.
NO >> Replace BCM. Refer to BCS-68, "Exploded View".

4. CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-39, "Description".

Is the check result normal?

YES >> Replace BCM. Refer to BCS-68, "Exploded View".
NO >> Replace the combination switch (applicable parts).

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000001158255

1.CHECK OUTPUT 1 - 5 CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M65	40	M27	6	Existed
OUTPUT 2		37		7	
OUTPUT 3		38		10	
OUTPUT 4		39		9	
OUTPUT 5		36		8	

Does continuity exist?

YES >> GO TO 2.
NO >> Repair harnesses or connectors.

2.CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM			Continuity
	Connector	Terminal		
OUTPUT 1	M65	40	Ground	Not existed
OUTPUT 2		37		
OUTPUT 3		38		
OUTPUT 4		39		
OUTPUT 5		36		

Does continuity exist?

YES >> Repair harnesses or connectors.
NO >> GO TO 3.

3.CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-39, "Description".

Is the check result normal?

YES >> Replace BCM. Refer to BCS-68, "Exploded View".
NO >> Replace combination switch (applicable parts).

COMBINATION SWITCH

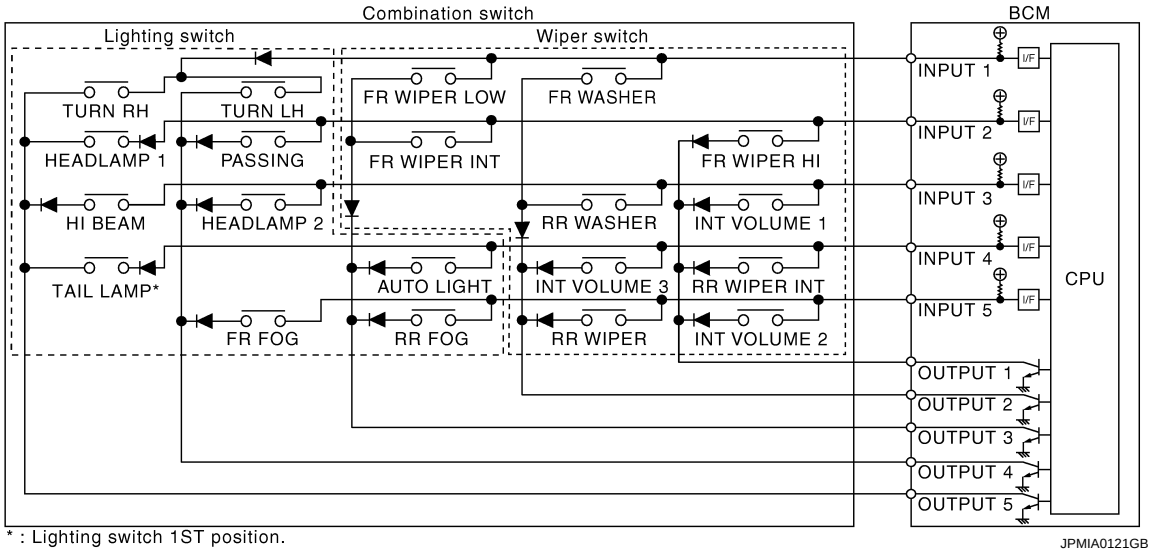
Description

INFOID:0000000001158257

COMBINATION SWITCH MATRIX

Combination switch consists of INPUT circuit and OUTPUT circuit.

Combination switch circuit



* : Lighting switch 1ST position.

JPMIA0121GB

Combination switch INPUT-OUTPUT system list

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

NOTE:

Headlamp has a dual system switch.

Diagnosis Procedure

INFOID:0000000001158258

1.CHECK LIGHT & TURN SIGNAL SWITCH

Check operation with normal light & turn signal switch installed.

Does it operate normally?

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

2.CHECK WIPER & WASHER SWITCH

Check operation with normal wiper & washer switch installed.

Does it operate normally?

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

3.CHECK SWITCH BASE (SPIRAL CABLE)

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

Does it operate normally?

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

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000001158259

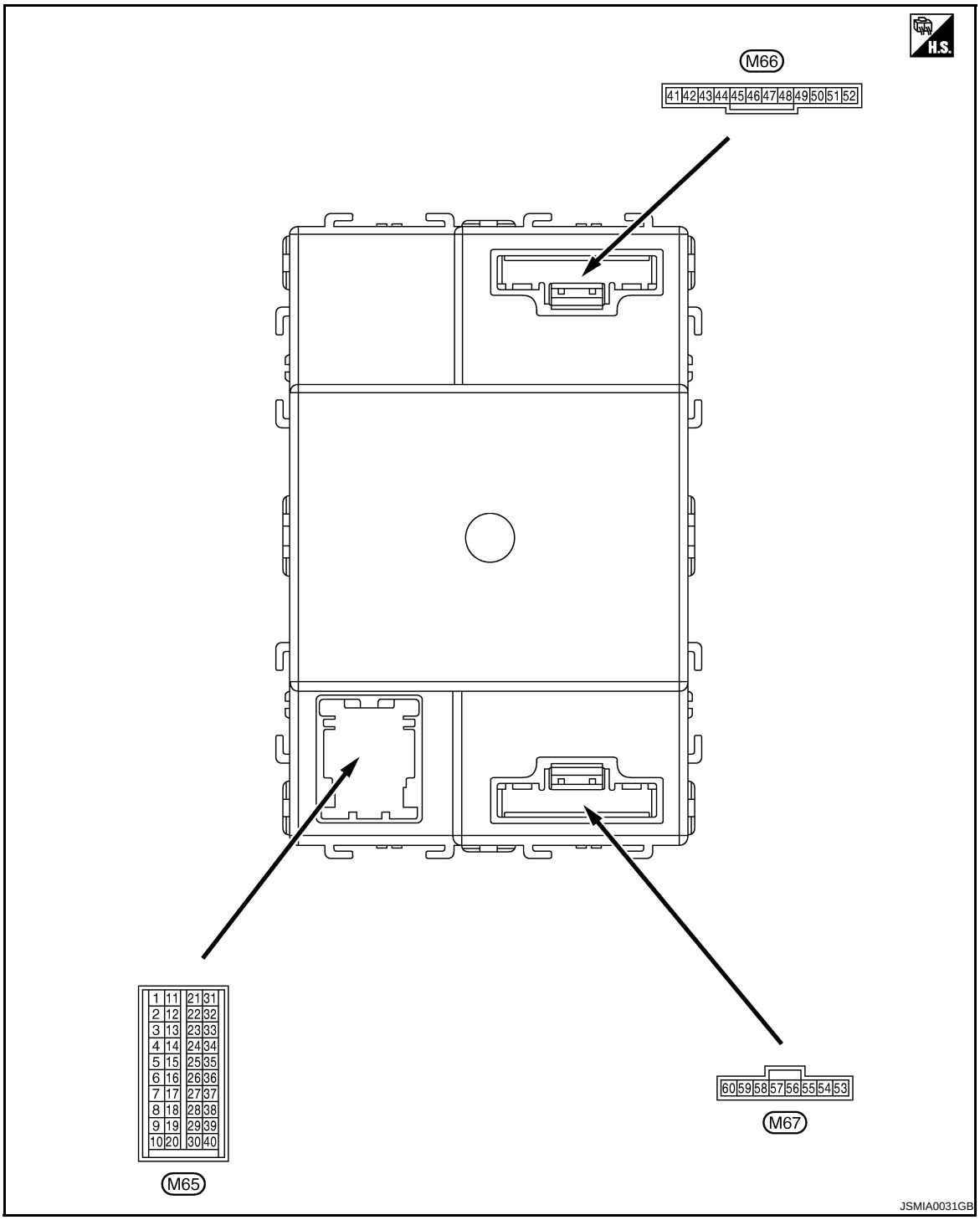
VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
VEHICLE SPEED	While driving	Equivalent to speedometer reading
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	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-DR	Driver's door closed	Off
	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
I-KEY LOCK	“LOCK” button of Intelligent Key or door request switch are not pressed	Off
	“LOCK” button of Intelligent Key or door request switch are pressed	On
I-KEY UNLOCK	“UNLOCK” button of Intelligent Key or door request switch are not pressed	Off
	“UNLOCK” button of Intelligent Key or door request switch are pressed	On
PUSH SW	Return to ignition switch to “LOCK” position	Off
	Press ignition switch	On
KEYLESS LOCK	“LOCK” button of key fob is not pressed	Off
	“LOCK” button of key fob is pressed	On
KEYLESS UNLOCK	“UNLOCK” button of key fob is not pressed	Off
	“UNLOCK” button of key fob is pressed	On
SHOCK SENSOR	Ignition switch ON	NOMAL
	After the reception of air bag deployment signal from air bag diagnosis sensor unit	Off
	During the reception of air bag deployment signal from air bag diagnosis sensor unit	On
UNLOCK SHOCK	Other than the following	Off
	During the unlock operation interlocked with air bag	On

Monitor Item	Condition	Value/Status
UNLOCK WITH DR	**NOTE:** The item is indicated, but not monitored	On
		Off
LOCK WITH SPEED	Vehicle speed sensing auto door lock function does not operate	Off
	Vehicle speed sensing auto door lock function is operating	On
ACC ON SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TAIL LAMP SW	Lighting switch OFF	Off
	Lighting switch 1ST	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	Rear fog lamp switch OFF	Off
	Rear fog lamp switch ON	On
ENGINE RUN	Engine stopped	Off
	Engine running	On
LIT-SEN FAIL	Light & rain sensor is in normal condition	OK
	Light & rain sensor is with error	NOTOK
AUT LIGHT SYS	Outside of the room is dark	On
	Outside of the room is bright	Off
HD LIGHT TIME	—	Displays a setting time of the follow me home function set by the work support
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On

Monitor Item	Condition	Value/Status
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
RR WIPER ON	Rear wiper switch OFF	Off
	Rear wiper switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
RR WIPER STOP	Rear wiper stop position	Off
	Other than rear wiper stop position	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
REVERSE SW CAN	**NOTE:** The item is indicated, but not monitored	Off
		On
H/L WASH SW	When headlamp washer switch is not pressed	Off
	When headlamp washer switch is pressed	On
FAN ON SIG	Blower fan motor switch OFF	Off
	Blower fan motor switch ON (other than OFF)	On
AIR COND SW	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	Off
	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	On
HAZARD SW	Hazard switch OFF	Off
	Hazard switch ON	On
BRAKE SW	Brake pedal is not depressed	Off
	Brake pedal is depressed	On
TRNK OPNR SW	When back door opener switch is not pressed	Off
	When back door opener switch is pressed	On
HOOD SW	Close the hood **NOTE:** Vehicles without theft warning system are OFF-fixed	Off
	Open the hood	On
AUTO RELOCK	Auto lock function does not operate	Off
	Auto lock function is operating	On
GLS BREAK SEN	The vehicle without glass break sensor	Off
	The vehicle with glass break sensor	On
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	Off
	Ignition switch ON	On

TERMINAL LAYOUT

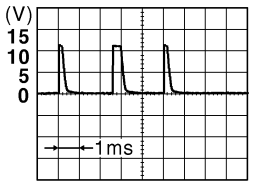
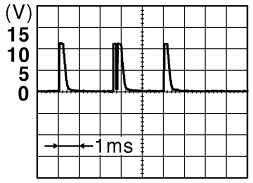
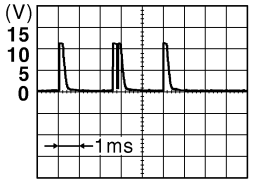
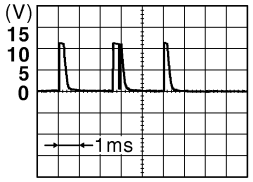
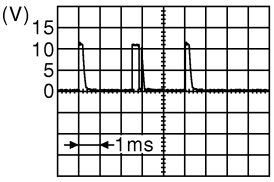


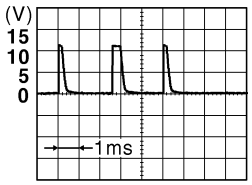
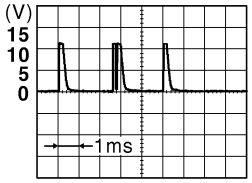
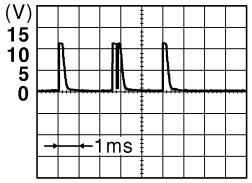
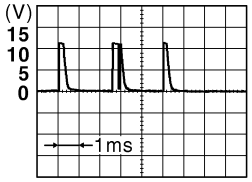
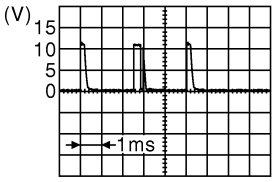
PHYSICAL VALUES

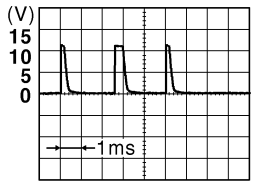
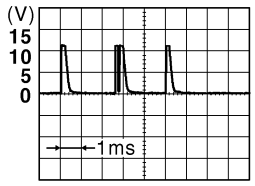
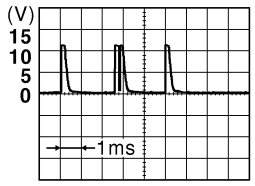
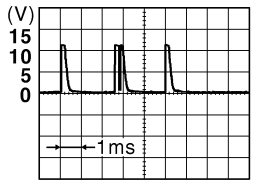
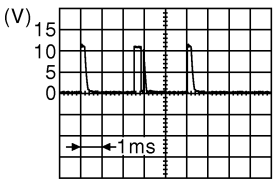
CAUTION:

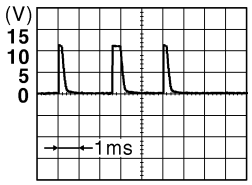
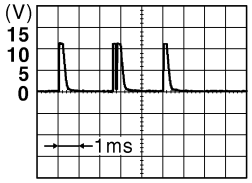
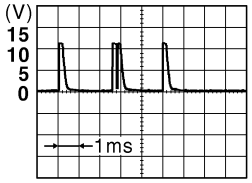
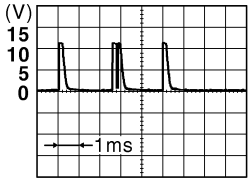
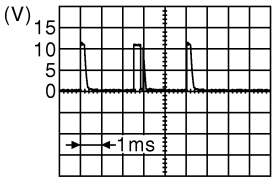
- **Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.**
- **Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT-III. Refer to BCS-28, "COMB SW : CONSULT-III Function (BCM - COMB SW)".**
- **BCM reads the status of the combination switch at 10 ms internal normally. Refer to BCS-9, "System Description".**

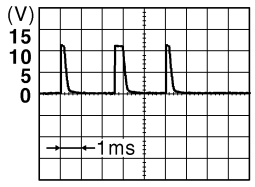
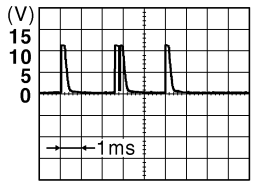
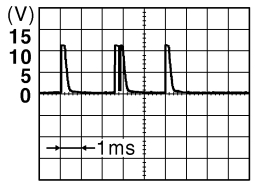
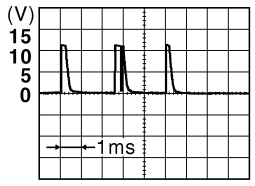
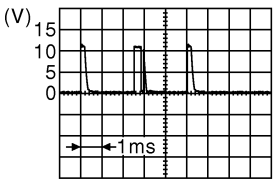
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	–				
1 (W)	Ground	NATS antenna amp.	Input/ Output	Insert mechanical key into ignition key cylinder	Just after Insert mechanical key into ignition key cylinder. Pointer of tester should move
2 (G)	Ground	NATS antenna amp.	Input/ Output	Insert mechanical key into ignition key cylinder	Just after Insert mechanical key into ignition key cylinder. Pointer of tester should move
3 (W)	Ground	Ignition power supply	Input	Ignition switch OFF or ACC	0 V
				Ignition switch ON or START	Battery voltage
4 (SB)	Ground	ACC power supply	Input	Ignition switch OFF	0 V
				Ignition switch ON or ACC	Battery voltage
5 (LG)*1 (R)*2	Ground	Key switch	Input	Insert mechanical key into ignition key cylinder	Battery voltage
				Remove mechanical key from ignition key cylinder	0 V

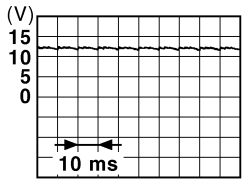
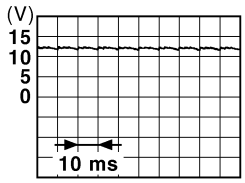
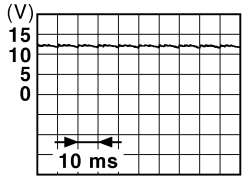
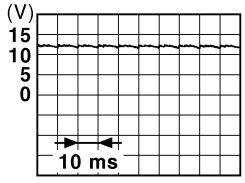
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
6 (L)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0165GB 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)	 JPMIA0166GB 1.3 V
		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

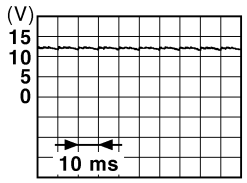
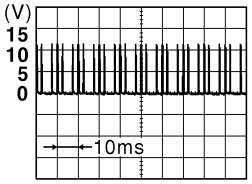
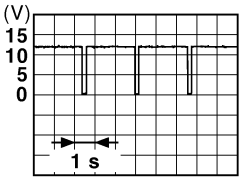
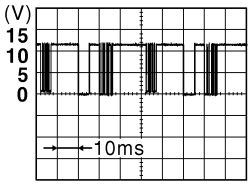
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
7 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0165GB 1.4 V
					Lighting switch 1ST (Wiper intermittent dial 4)	 JPMIA0166GB 1.3 V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0168GB 1.3 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 6	 JPMIA0169GB 1.3 V
					Rear wiper INT (Wiper intermittent dial 4)	 JPMIA0196GB 1.3 V

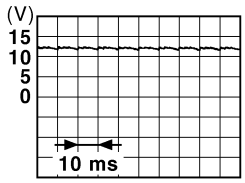
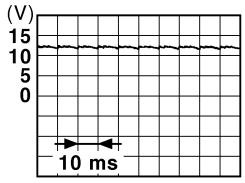
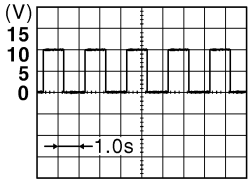
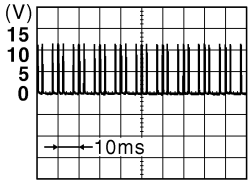
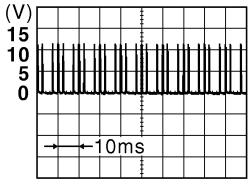
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
8 (V)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0165GB 1.4 V
					Turn signal switch RH	 JPMIA0166GB 1.3 V
					Turn signal switch LH	 JPMIA0167GB 1.3 V
					Front wiper switch LO	 JPMIA0168GB 1.3 V
					Front washer switch ON	 JPMIA0196GB 1.3 V

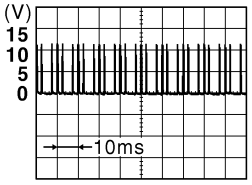
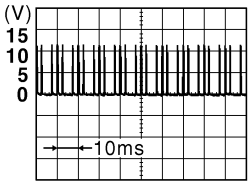
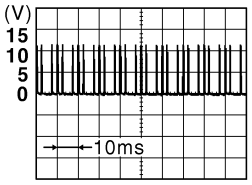
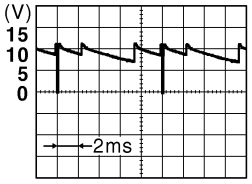
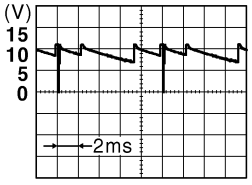
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
9 (G)*3 (B)*4	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0165GB 1.4 V
					Lighting switch 2ND	 JPMIA0166GB 1.3 V
					Lighting switch PASS	 JPMIA0167GB 1.3 V
					Front wiper switch INT	 JPMIA0168GB 1.3 V
					Front wiper switch HI	 JPMIA0196GB 1.3 V

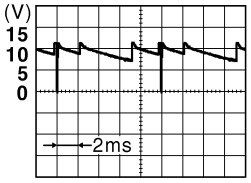
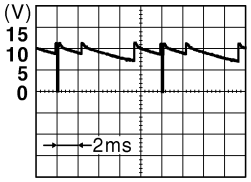
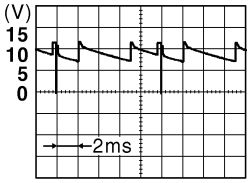
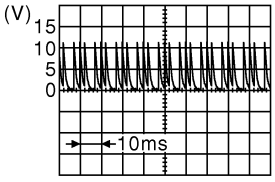
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
10 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0165GB 1.3 V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0167GB 1.3 V
					Rear fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0168GB 1.3 V
					Rear wiper switch ON (Wiper intermittent dial 4)	 JPMIA0169GB 1.3 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 JPMIA0196GB 1.3 V
11 (B)	Ground	Audio link	Input/ Output	—	—	—

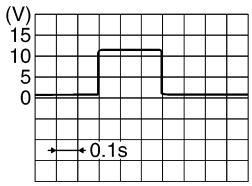
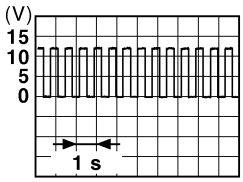
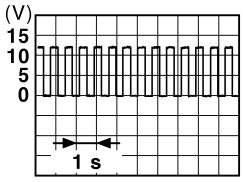
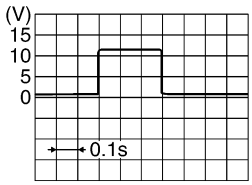
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
12 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	 PKID0924E 11.2 V
					ON (When rear door RH opened)	0 V
13 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 PKID0924E 11.2 V
					ON (When back door opened)	0 V
14 (P)*3 (BR)*4	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 PKID0924E 11.2 V
					ON (When passenger door opened)	0 V
15 (BR)*3 (P)*4	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 PKID0924E 11.2 V
					ON (When driver door opened)	0 V

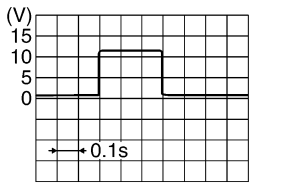
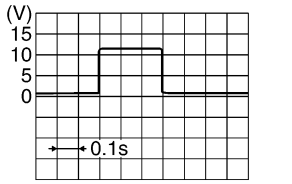
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
16 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	 PKID0924E 11.2 V
					ON (When rear door LH opened)	0 V
17 (L)	Ground	Door lock status indicator	Output	Door lock status indicator	ON	12 V
					OFF	0 V
20 (SB)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	 JPMIA0154GB 1.1 V
					While pressing	0 V
21 (P)	—	CAN-L	Input/ Output	—		—
22 (L)	—	CAN-H	Input/ Output	—		—
23 (V)	Ground	Security indicator	Output	Security indicator	ON	0 V
					Blinking	 JPMIA0014GB 10.3 V
					OFF	12 V
24 (GR)	Ground	Light & rain sensor serial link	Input/ Output	Ignition switch OFF or ACC		12 V
				Ignition switch ON		 JPMIA0156GB 8.7 V
25 (G)	Ground	Alarm link	Output	—		—

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
26 (GR)*5 (LG)*6	Ground	Blower fan motor switch	Input	Blower fan motor switch	OFF	 PKID0924E 11.2 V
					ON (other than OFF)	0 V
27 (P)*5 (Y)*6	Ground	A/C switch	Input	Ignition switch ON	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	 PKID0924E 11.2 V
					Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	0 V
28 (LG)*7 (R)*8	Ground	Shock detect sensor	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		 JPMIA0155GB 6.0 V
29 (LG)*3 (O)*4	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed	0 V
32 (BR)	Ground	Door lock/unlock switch (Unlock)	Input	Door lock/unlock switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed to the unlock side	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
33 (W)*9 (Y)*10	Ground	Hazard switch	Input	Hazard switch	OFF	 JPMIA0154GB 1.3 V
					ON	0 V
34 (SB)*3 (P)*4	Ground	Door lock/unlock switch (Lock)	Input	Door lock/unlock switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed to the lock side	0 V
35 (G)	Ground	Headlamp washer switch	Input	Headlamp washer switch	Not pressed	 JPMIA0154GB 1.2 V
					Pressed to the lock side	0 V
36 (G)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch RH	 JPMIA0164GB 9.1 V
					Lighting switch 2ND	
					Lighting switch HI	
					Lighting switch 1ST	
37 (R)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0161GB 9.1 V
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	
					Rear wiper switch ON (Wiper intermittent dial 4)	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
38 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Front wiper switch LO Front wiper switch MIST Front wiper switch INT Lighting switch AUTO Rear fog lamp switch ON	 JPMIA0162GB 9.3 V
39 (Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch LH Lighting switch PASS Lighting switch 2ND Front fog lamp switch ON	 JPMIA0163GB 9.3 V
40 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	 JPMIA0160GB 9.1 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	
					Rear wiper switch INT (Wiper intermittent dial 4)	
41 (LG)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
42 (V)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver activation		0 V
				Interior room lamp battery saver no activation		12 V
43 (SB)	Ground	Rear wiper motor	Output	Rear wiper switch OFF		0 V
				Rear wiper switch ON		12 V
44 (B)	Ground	Rear wiper auto stop	Input	Ignition switch ON	Rear wiper stop position	 JPMIA0197GB
					Any position other than rear wiper stop position	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
45 (V)	Ground	Back door lock actuator	Output	Back door opener switch	Pressed	 SKIA9232E
					Not pressed	0 V
47 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKID0926E 6.5 V
48 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKID0926E 6.5 V
49 (Y)	Ground	Rear fog lamp	Output	Rear fog lamp	OFF	0 V
					ON	12 V
50 (G)	Ground	Unlock sensor	Input	Driver's door	Unlock	5 V
					lock	0 V
51 (R)	Ground	Stop lamp switch	Input	Depress the brake pedal		Battery voltage
				Release the brake pedal		0 V
52 (R)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	12 V
					ON	0 V
53 (L)	Ground	Power window power supply (IGN)	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
54 (O)	Ground	Door unlock (All other than driver's door)	Output	Door lock/unlock switch	Pressed to the unlock side	 SKIA9232E
					Not pressed	0 V
55 (B)	Ground	Ground	—	Ignition switch ON		0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
56 (V)	Ground	Door lock (All) and fuel lid lock	Output	Door lock/unlock switch	Not pressed	0 V
					Pressed to the lock side	 SKIA9232E
57 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
58 (P)	Ground	Power window power supply (BAT)	Output	Ignition switch OFF		12 V
59 (R)	Ground	Super lock	Output	When lock button of key fob or Intelligent Key is not pressed		0 V
				When lock button of key fob or Intelligent Key is pressed		12 V
60 (G)	Ground	Driver's door unlock and fuel lid unlock	Output	Door lock/unlock switch	Pressed to the unlock side	 SKIA9232E
					Not pressed	0 V

*1: With Intelligent Key

*2: Without Intelligent Key

*3: RHD models

*4: LHD models

*5: With gasoline engine

*6: With diesel engine

*7: RHD models with side air bag

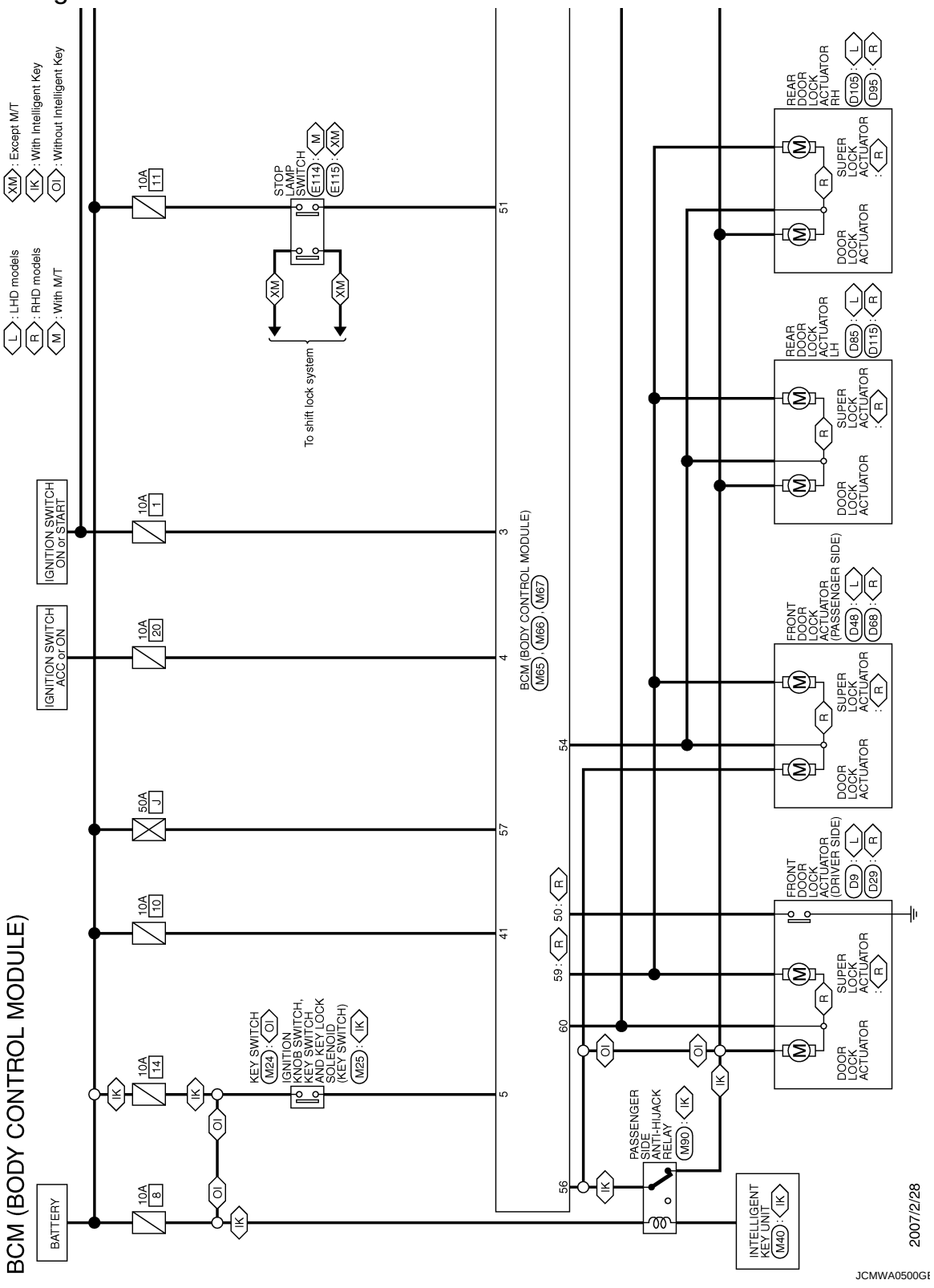
*8: LHD models with side air bag

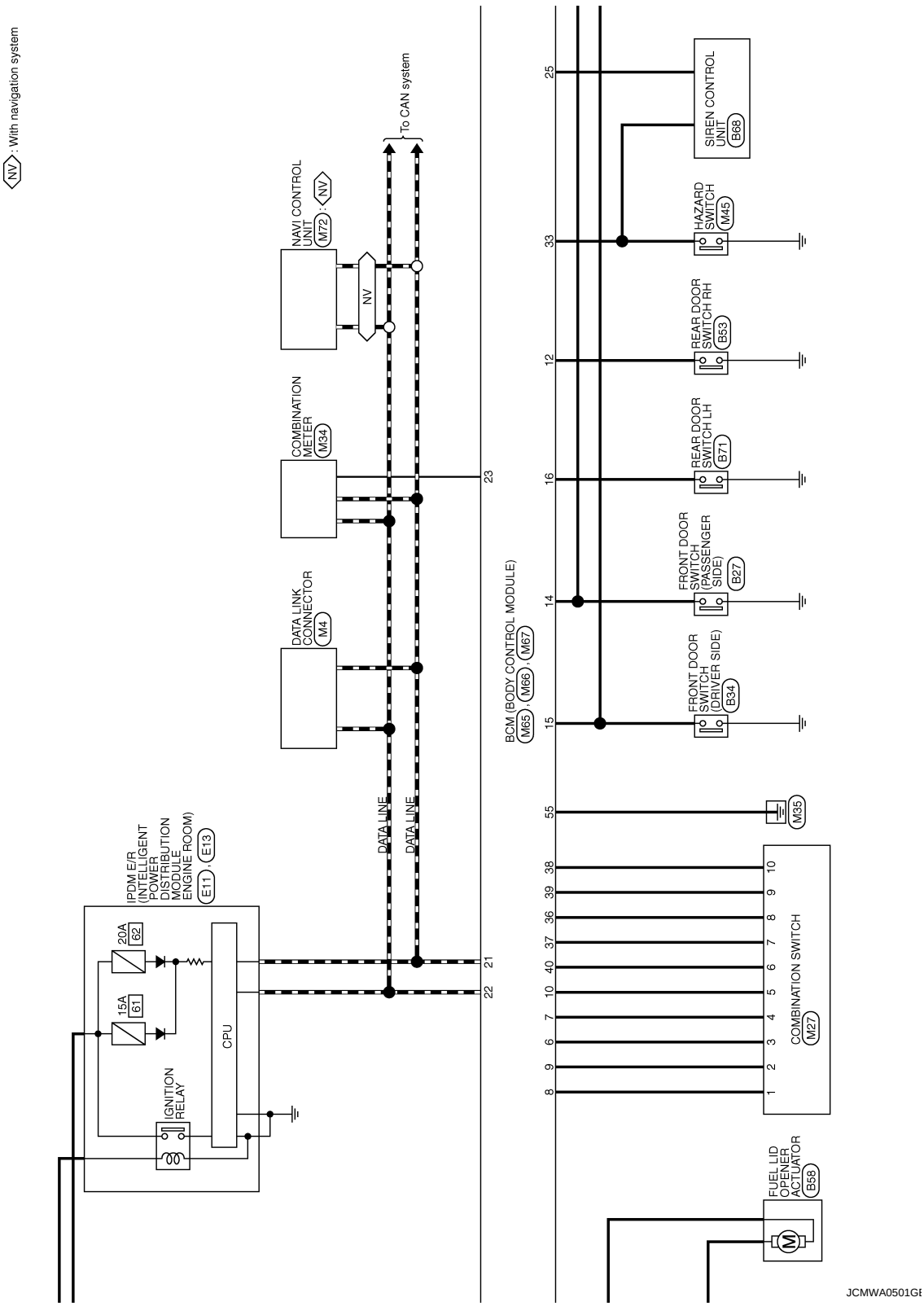
*9: With xenon headlamp and daytime light system

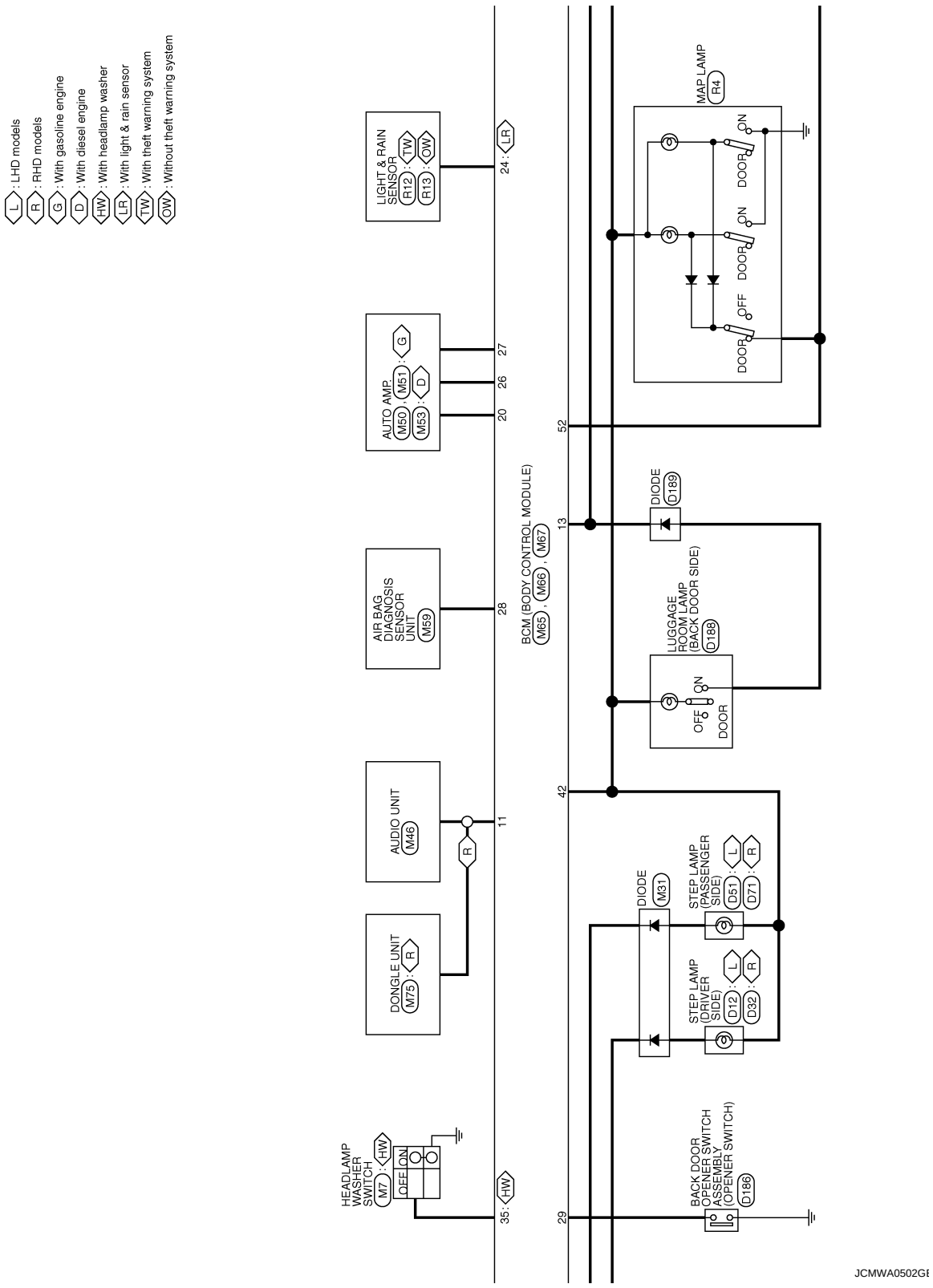
*10: Except with xenon headlamp and daytime light system

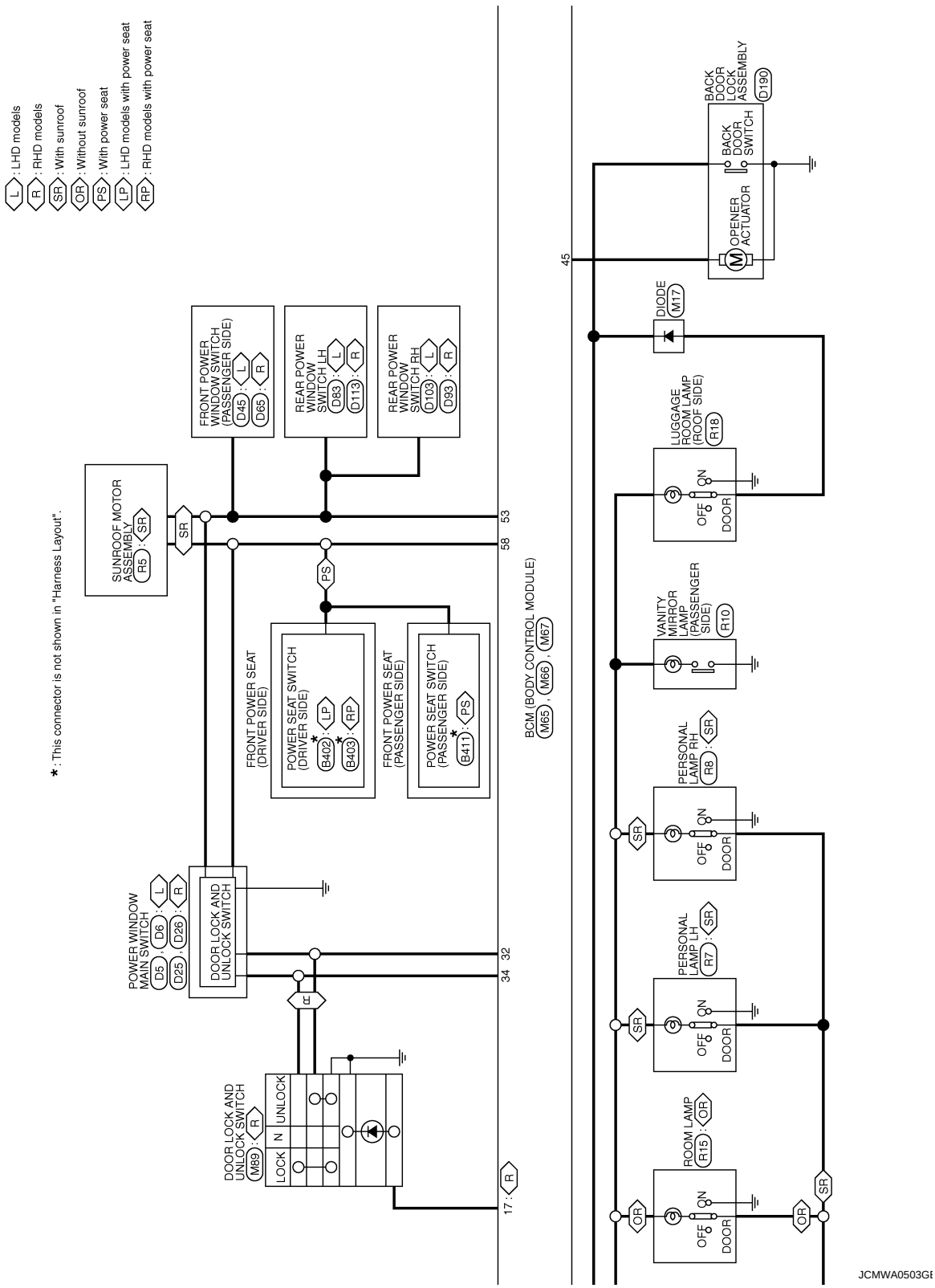
Wiring Diagram - BCM -

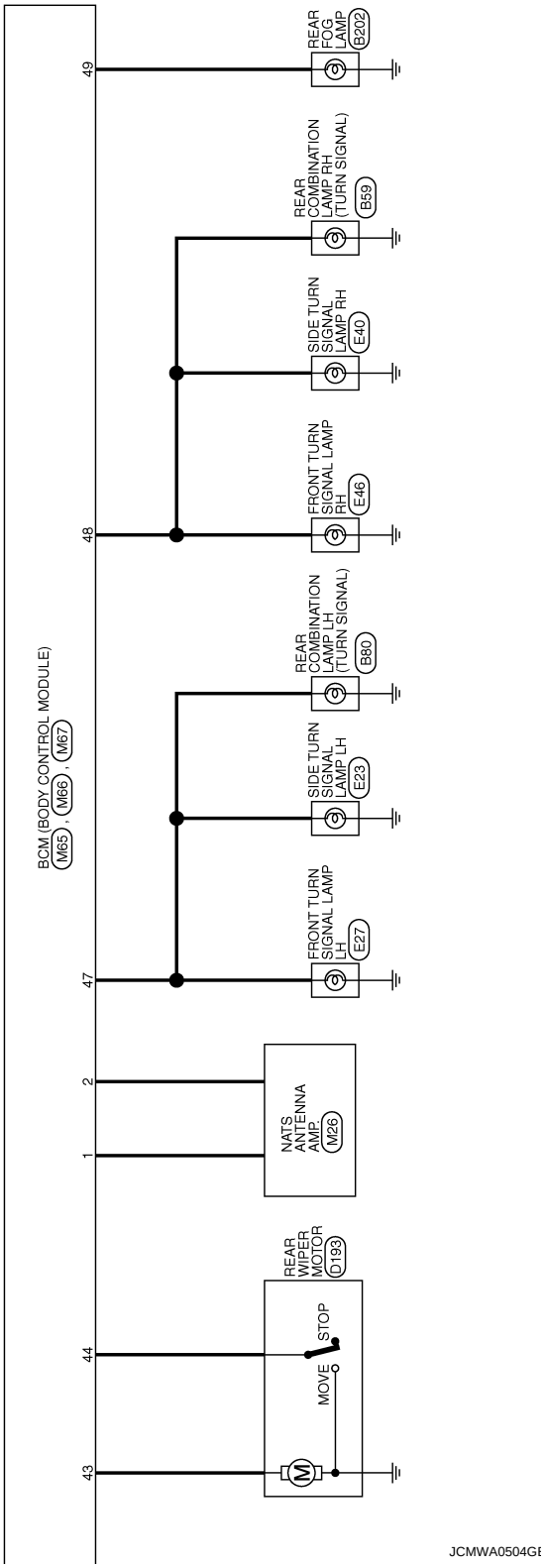
INFOID:0000000001158260

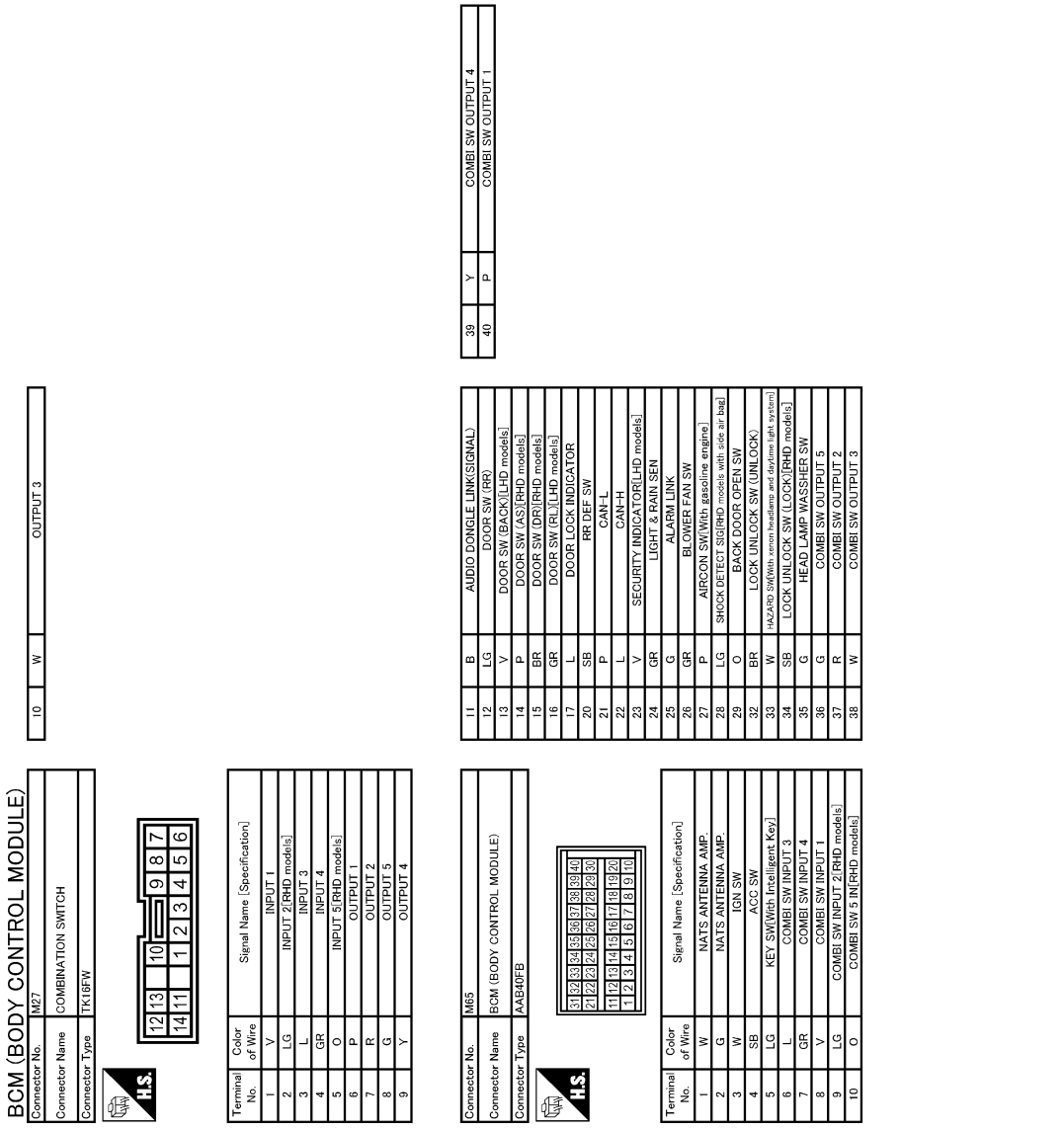



NV : With navigation system
To CAN system
NAVI CONTROL UNIT (M72), NV
COMBINATION METER (M34)
DATA LINK CONNECTOR (M4)
DATA LINE
DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E11), (E13)
20A 62
15A 61
IGNITION RELAY
CPU
BCM (BODY CONTROL MODULE) (M65), (M66), (M67)
SIREN CONTROL UNIT (B68)
HAZARD SWITCH (M45)
REAR DOOR SWITCH RH (B53)
REAR DOOR SWITCH LH (B71)
FRONT DOOR SWITCH (PASSENGER SIDE) (B27)
FRONT DOOR SWITCH (DRIVER SIDE) (B34)
(M35)
COMBINATION SWITCH (M27)
FUEL LID OPENER ACTUATOR (B58)
JCMWA0501GB

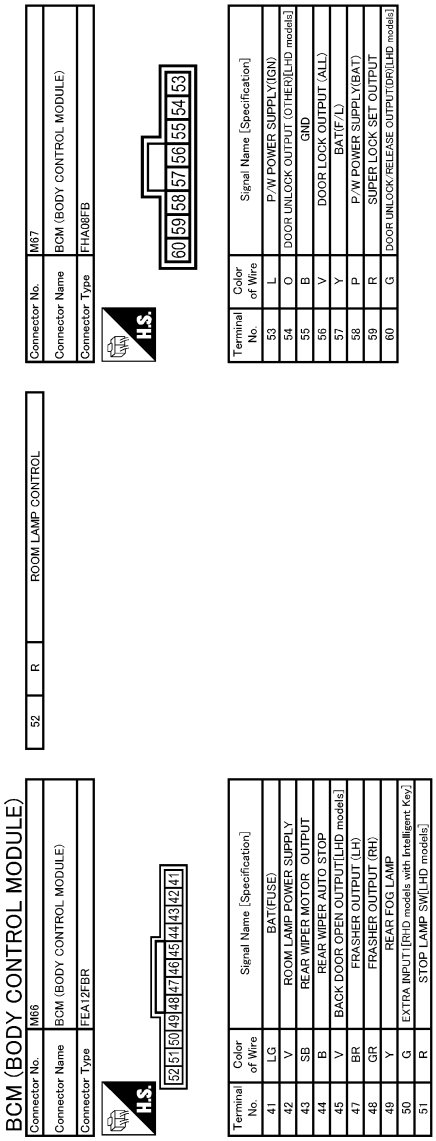

L : LHD models
R : RHD models
G : With gasoline engine
D : With diesel engine
HW : With headlamp washer
LR : With light & rain sensor
TW : With theft warning system
OW : Without theft warning system
LIGHT & RAIN SENSOR
R12 : TW
R13 : OW
24 : LR
AUTO AMP.
M50 : M51 : G
M53 : D
27
26
20
AIR BAG DIAGNOSIS SENSOR UNIT
M59
28
AUDIO UNIT
M46
11
R
DONGLE UNIT
M75 : R
HEADLAMP WASHER SWITCH
M7 : HW
OFF ON
35 : HW
BCM (BODY CONTROL MODULE)
M65 , M66 , M67
52
13
42
29
MAP LAMP
R4
DOOR SW
OFF
ON
DOOR
DIODE
D189
LUGGAGE ROOM LAMP (BACK DOOR SIDE)
D188
OFF
ON
DOOR
DIODE
M31
STEP LAMP (PASSENGER SIDE)
D51 : L
D71 : R
STEP LAMP (DRIVER SIDE)
D12 : L
D32 : R
BACK DOOR OPENER SWITCH ASSEMBLY (OPENER SWITCH)
D186
JCMWA0502GB


L : LHD models
R : RHD models
SR : With sunroof
OR : Without sunroof
PS : With power seat
LP : LHD models with power seat
RP : RHD models with power seat
*: This connector is not shown in "Harness Layout".
SUNROOF MOTOR ASSEMBLY R5 : SR
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) D45 : L D65 : R
REAR POWER WINDOW SWITCH LH D83 : L D113 : R
REAR POWER WINDOW SWITCH RH D103 : L D93 : R
POWER WINDOW MAIN SWITCH D5 : D6 : L D25 : D26 : R
DOOR LOCK AND UNLOCK SWITCH
FRONT POWER SEAT (DRIVER SIDE)
POWER SEAT SWITCH (DRIVER SIDE) B402* : LP B403* : RP
FRONT POWER SEAT (PASSENGER SIDE)
POWER SEAT SWITCH (PASSENGER SIDE) B411* : PS
DOOR LOCK AND UNLOCK SWITCH M89 : R
LOCK N UNLOCK
BCM (BODY CONTROL MODULE) M65 : M66 : M67
53 58 32 34 17 : R 45
BACK DOOR LOCK ASSEMBLY D190
BACK DOOR SWITCH
OPENER ACTUATOR
DIODE M17
LUGGAGE ROOM LAMP (ROOF SIDE) R18
VANITY MIRROR LAMP (PASSENGER SIDE) R10
PERSONAL LAMP RH R8 : SR
PERSONAL LAMP LH R7 : SR
ROOM LAMP R15 : OR
ON OFF DOOR
JCMWA0503GB


BCM (BODY CONTROL MODULE)
(M65), (M66), (M67)
49
48
47
2
1
44
43
REAR FOG LAMP B202
REAR COMBINATION LAMP RH (TURN SIGNAL) B59
SIDE TURN SIGNAL LAMP RH E40
FRONT TURN SIGNAL LAMP RH E46
REAR COMBINATION LAMP LH (TURN SIGNAL) B80
SIDE TURN SIGNAL LAMP LH E23
FRONT TURN SIGNAL LAMP LH E27
NATS ANTENNA AMP M26
REAR WIPER MOTOR D193
STOP
MOVE
JCMWA0504GB



JCMWA0505GB



JCMWA0506GB

Fail Safe

INFOID:0000000001158261

FAIL-SAFE CONTROL BY DTC

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

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

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper auto stop signal.
When the rear wiper auto stop signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation
1. Turn ignition switch OFF.
2. Pass more than 1 minute after the rear wiper stop.
3. Turn ignition switch ON.
4. Operate the rear wiper switch.

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status from the terminal voltage.
BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.
NOTE:
The blinking speed is normal while activating the hazard warning lamp.

FAIL-SAFE CONTROL BY LIGHT & RAIN SENSOR MALFUNCTION

BCM detects the light & rain sensor serial link error and the light & rain sensor malfunction.
BCM controls the following fail-safe when light & rain sensor has a malfunction.

Fail-safe Control
- Auto light control: Headlamp is turned ON.
- Front wiper control: The condition just before the activation of fail-safe is maintained until the front wiper switch is turned OFF.

DTC Inspection Priority Chart

INFOID:0000000001158262

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

DTC Index

INFOID:0000000001158263

NOTE:

Details of time display

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

DTC	TIME		Fail-safe	Reference
U1000: CAN COMM CIRCUIT	0	1 - 39	—	BCS-33
U1010: CONTROL UNIT (CAN)	0	1 - 39	—	BCS-34
B2190: NATS ANTENNA AMP	CRNT	PAST	×	• With Intelligent Key system: SEC-41 • Without Intelligent Key system: SEC-254
B2191: DIFFERENCE OF KEY	CRNT	PAST	×	• With Intelligent Key system: SEC-43 • Without Intelligent Key system: SEC-256
B2192: ID DISCORD BCM-ECM	CRNT	PAST	×	• With Intelligent Key system: SEC-38 • Without Intelligent Key system: SEC-251
B2193: CHAIN OF BCM-ECM	CRNT	PAST	×	• With Intelligent Key system: SEC-40 • Without Intelligent Key system: SEC-253
B2194: DISCORD BCM-I-KEY	CRNT	PAST	×	SEC-53
B2195: ANTI SCANNING	CRNT	PAST	×	• With Intelligent Key system: SEC-54 • Without Intelligent Key system: SEC-264
B2196: DONGLE NG	CRNT	PAST	×	• With Intelligent Key system: SEC-55 • Without Intelligent Key system: SEC-265

PRECAUTION

PRECAUTIONS

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

INFOID:0000000001559839

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the “SRS AIRBAG” and “SEAT BELT” 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 “SRS AIRBAG”.**
- **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.**

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000001158265

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

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch “INPUT 1” circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-36, "Diagnosis Procedure".
B	Combination switch “INPUT 2” circuit	
C	Combination switch “INPUT 3“ circuit	
D	Combination switch “INPUT 4” circuit	
E	Combination switch “INPUT 5” circuit	
F	Combination switch “OUTPUT 1” circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to BCS-38, "Diagnosis Procedure".
G	Combination switch “OUTPUT 2” circuit	
H	Combination switch “OUTPUT 3” circuit	
I	Combination switch “OUTPUT 4” circuit	
J	Combination switch “OUTPUT 5” circuit	
K	Light & turn signal switch or wiper & washer switch	Inspect the combination switch. Refer to BCS-39, "Description".
L	BCM	Replace BCM.
M	Light & turn signal switch or wiper & washer switch	Replace the applicable switch that cannot be operated.

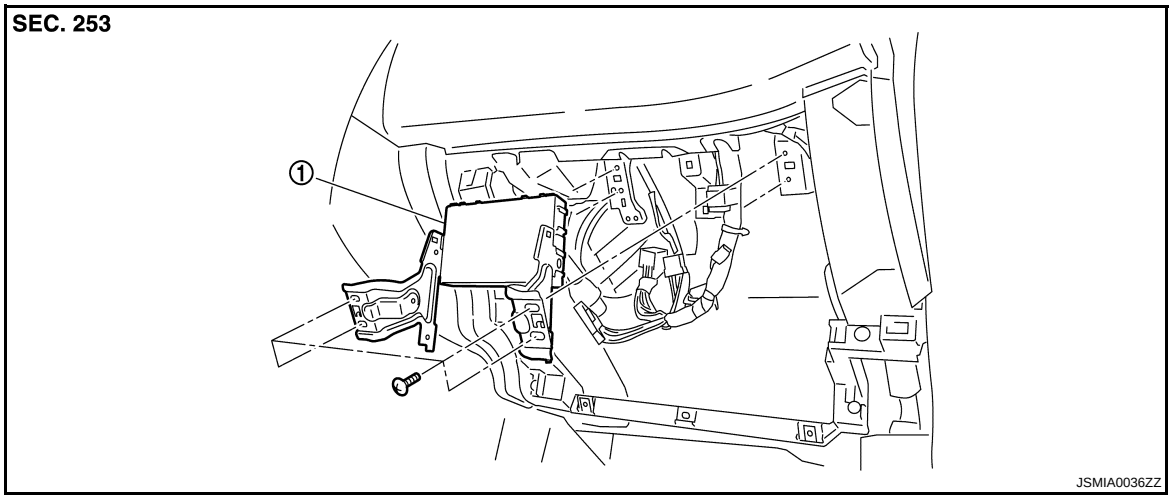
ON-VEHICLE REPAIR

BCM (BODY CONTROL MODULE)

Exploded View

INFOID:0000000001158266

CAUTION:
Before replacing BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".



1. BCM

Removal and Installation

INFOID:0000000001158267

CAUTION:
Before replacing BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

REMOVAL

1. Remove glove box assembly. Refer to IP-11, "Exploded View".
2. Remove NAVI control unit (if equipped). Refer to AV-257, "Exploded View".
3. Disconnect 4WD control unit connector (if equipped).
4. Remove BCM bracket mounting screws.
5. Remove BCM and disconnect the connector.

INSTALLATION

Install in the reverse order of removal.

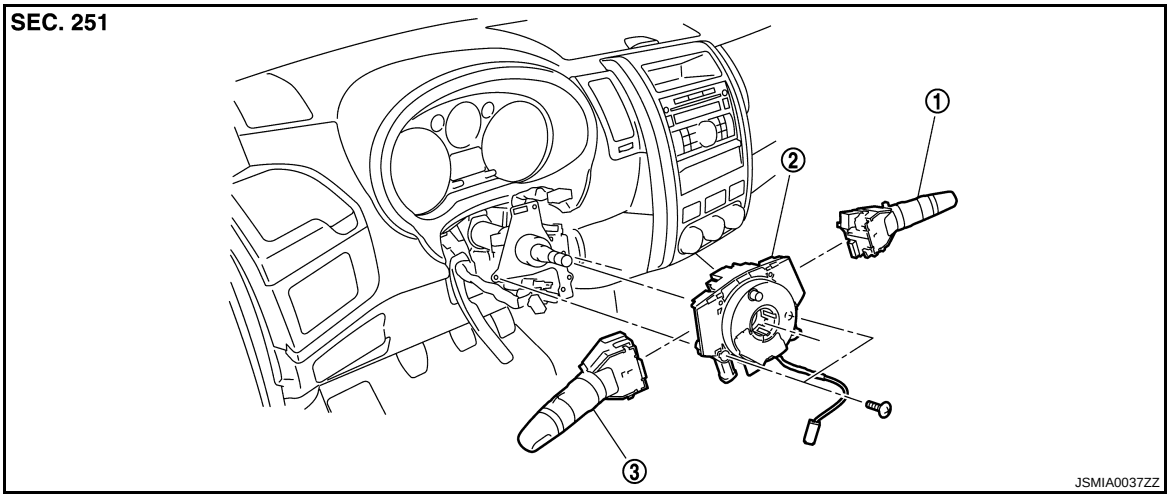
CAUTION:
- **Be sure to perform “WRITE CONFIGURATION” when replacing BCM.**
- **Be sure to perform the system initialization (NATS) when replacing BCM.**

Refer to BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

COMBINATION SWITCH

Exploded View

INFOID:0000000001158268



1. Wiper & washer switch
2. Switch base (Spiral cable)
3. Light & turn signal switch

Removal and Installation

INFOID:0000000001158269

Refer to the spiral cable removal and installation SR-7, "Exploded View".