SECTION BCS
BODY CONTROL SYSTEM

CONTENTS

WITH INTELLIGENT KEY SYSTEM

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010287697

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

WARNING:

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

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

WARNING:

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

SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

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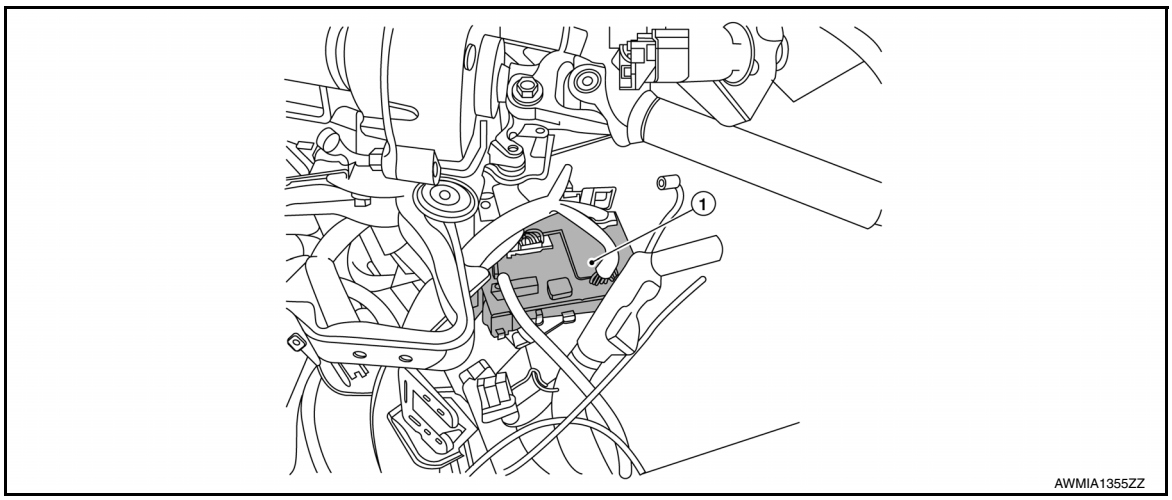

1. BCM (view with instrument panel removed)

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : Component Parts Location

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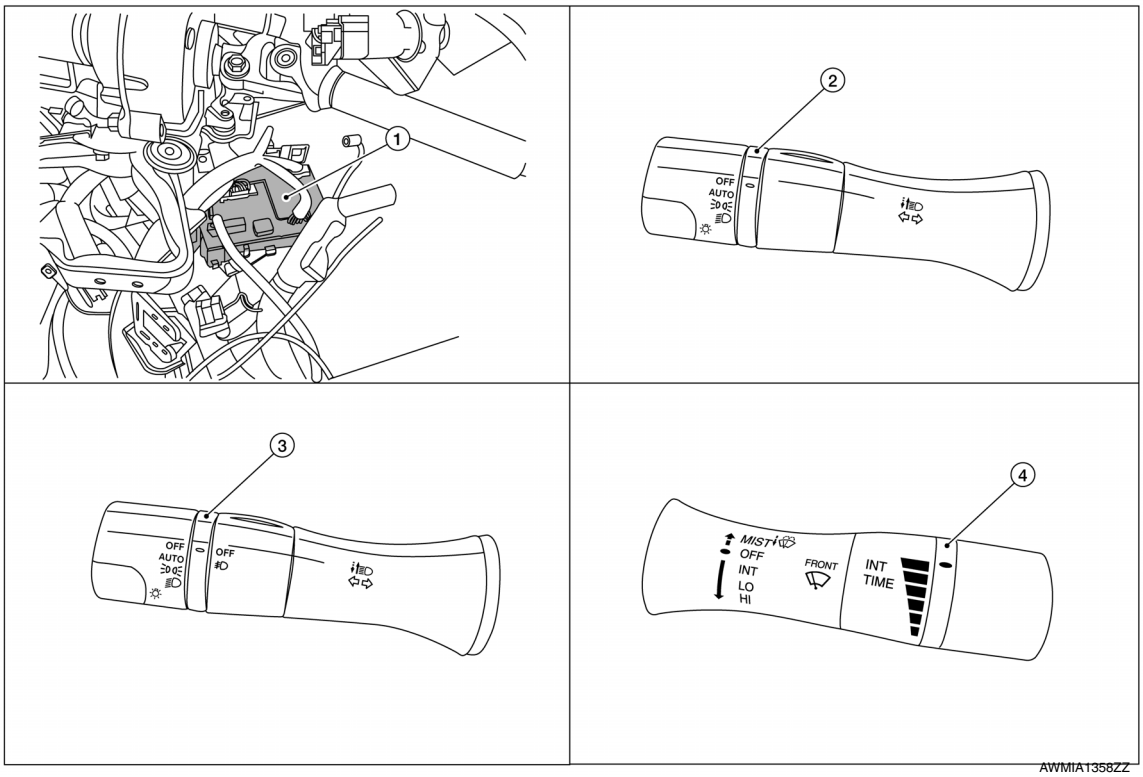

1. BCM (view with combination meter removed)
2. Combination switch (lighting and turn signal) (without fog lamps)
3. Combination switch (lighting and turn signal) (with fog lamps)
4. Combination switch (wiper and washer)

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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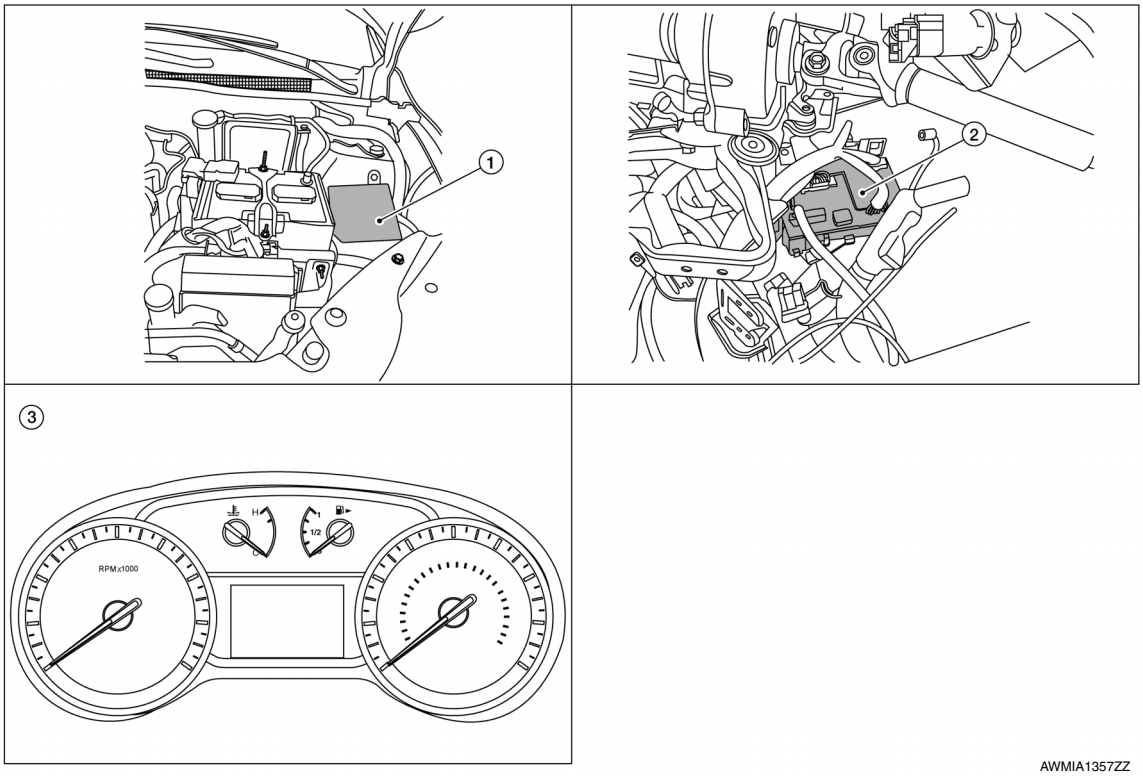

AWMIA1357ZZ

1 IPDM E/R
2 BCM (view with instrument panel removed)
3 Combination meter

SYSTEM
BODY CONTROL SYSTEM
BODY CONTROL SYSTEM : System Description

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OUTLINE

- BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.
- BCM has combination switch reading function for reading the operation status of combination switches (light, turn signal, wiper and washer) in addition to a function for controlling the operation of various electrical components. It also has the signal transmission function as the passed point of signal and the power saving control function that reduces the power consumption with the ignition switch OFF.
- BCM is equipped with the diagnosis function that performs the diagnosis with CONSULT and various settings.

BCM CONTROL FUNCTION LIST

System	Reference
Combination switch reading system	BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description"
Signal buffer system	BCS-13, "SIGNAL BUFFER SYSTEM : System Description"
Power consumption control system	BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description"
Auto light system (if equipped)	EXL-9, "AUTO LIGHT SYSTEM : System Description"
Headlamp system	EXL-8, "HEADLAMP SYSTEM : System Description"
Daytime light system (if equipped)	EXL-9, "DAYTIME RUNNING LIGHT SYSTEM : System Description"
Turn signal and hazard warning lamp system	EXL-10, "TURN SIGNAL AND HAZARD WARNING LAMPS : System Description"
Parking, license plate and tail lamps system	EXL-11, "PARKING, LICENSE PLATE AND TAIL LAMPS : System Description"
Front fog lamp system (if equipped)	EXL-10, "FRONT FOG LAMP SYSTEM : System Description"
Exterior lamp battery saver system	EXL-8, "HEADLAMP SYSTEM : System Description"
Interior room lamp control system	INL-8, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Interior room lamp battery saver system	INL-8, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Front wiper and washer system	WW-8, "System Description"
Rear window defogger system	DEF-6, "System Description"
Manual air conditioning system (if equipped)	HAC-121, "System Description"
Automatic air conditioning system (if equipped)	HAC-12, "System Description"
Warning chime system	WCS-6, "WARNING CHIME SYSTEM : System Description"
Power door lock system	DLK-22, "System Description"
Trunk lid opener system	DLK-34, "System Description"
Nissan vehicle immobilizer system (NVIS)	SEC-14, "NISSAN ANTI-THEFT SYSTEM : System Description"
Vehicle security system	SEC-16, "VEHICLE SECURITY SYSTEM : System Description"
Panic alarm	SEC-16, "VEHICLE SECURITY SYSTEM : System Description"

System		Reference
Intelligent Key system/engine start system	Door lock function	DLK-25, "DOOR LOCK FUNCTION : System Description"
	Trunk open function	DLK-27, "TRUNK OPEN FUNCTION : System Description"
	Warning function	DLK-31, "WARNING FUNCTION : System Description"
	Key reminder function	DLK-30, "KEY REMINDER FUNCTION : System Description"
Power window system		PWC-8, "System Description"
RAP (retained accessory power) system		BCS-27, "RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)"
TPMS (tire pressure monitoring system)		WT-8, "TIRE PRESSURE MONITORING SYSTEM : System Description"

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Diagram

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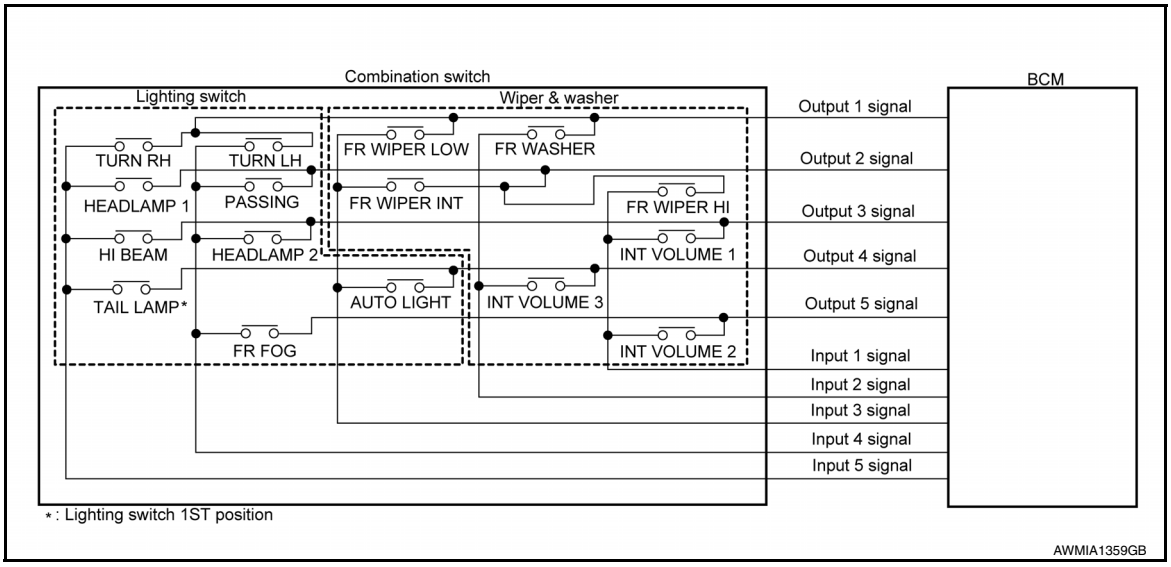

COMBINATION SWITCH READING SYSTEM : System Description

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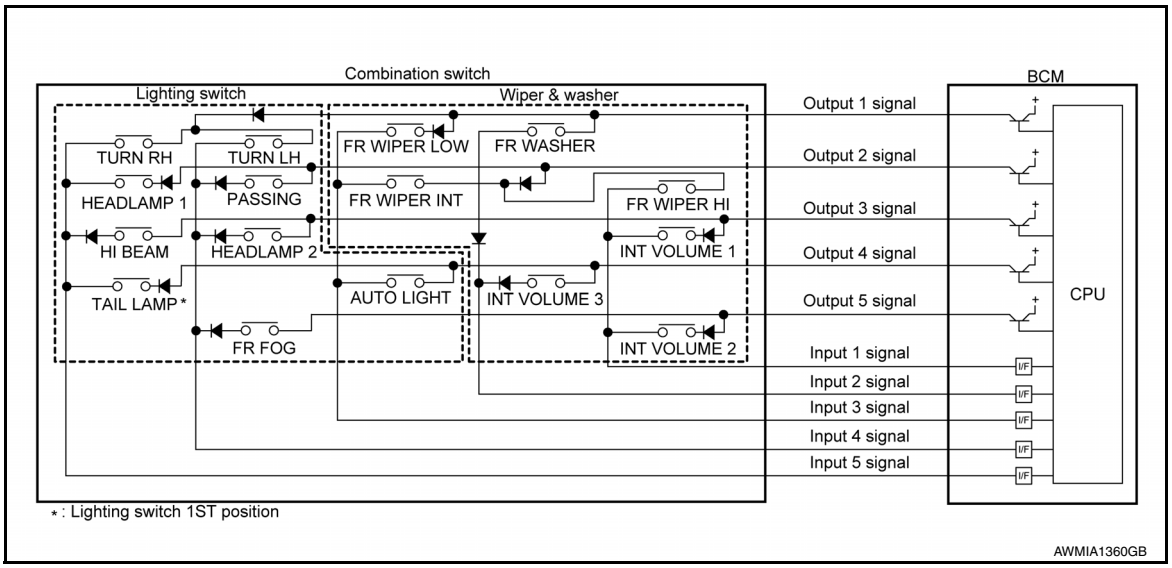
OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



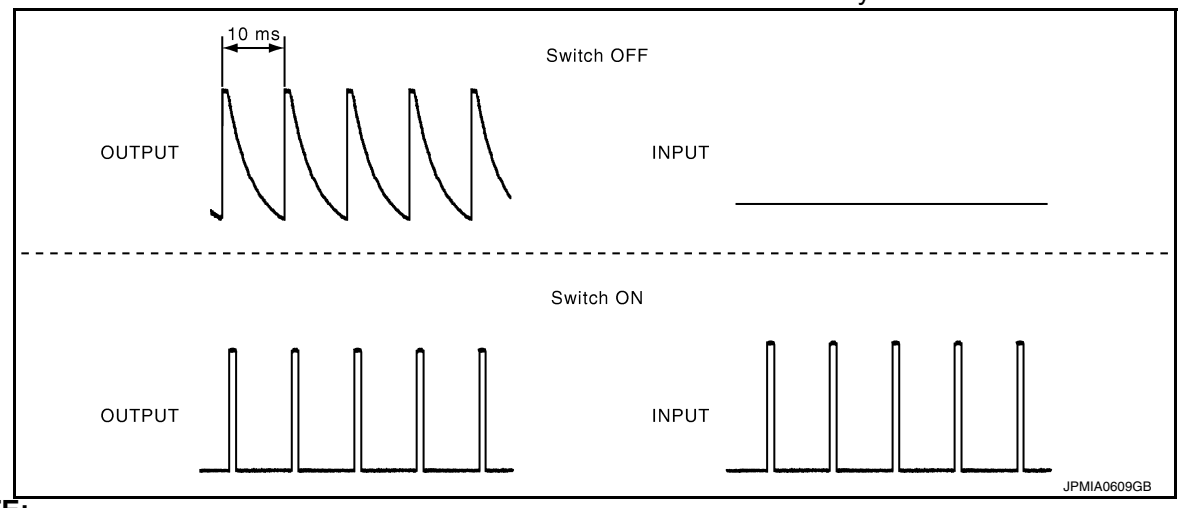
Combination switch INPUT-OUTPUT system list

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

COMBINATION SWITCH READING FUNCTION

Description

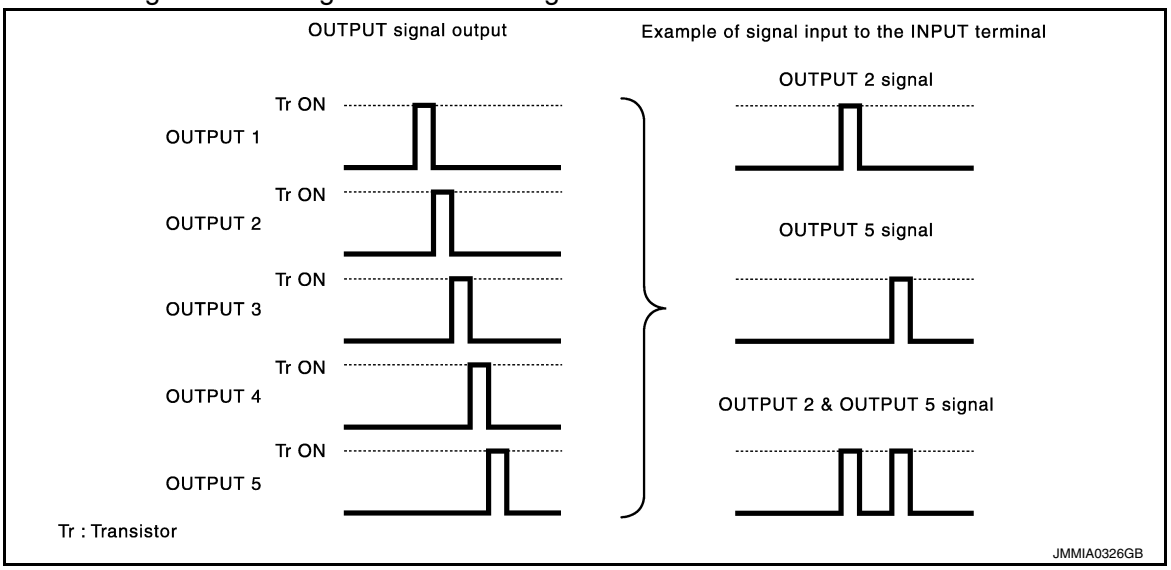
- BCM reads the status of the combination switch at 10 ms intervals normally.



NOTE:
BCM reads the status of the combination switch at 60 ms intervals when BCM is controlled at low power consumption control mode.

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

- It reads this change of the voltage as the status signal of the combination switch.

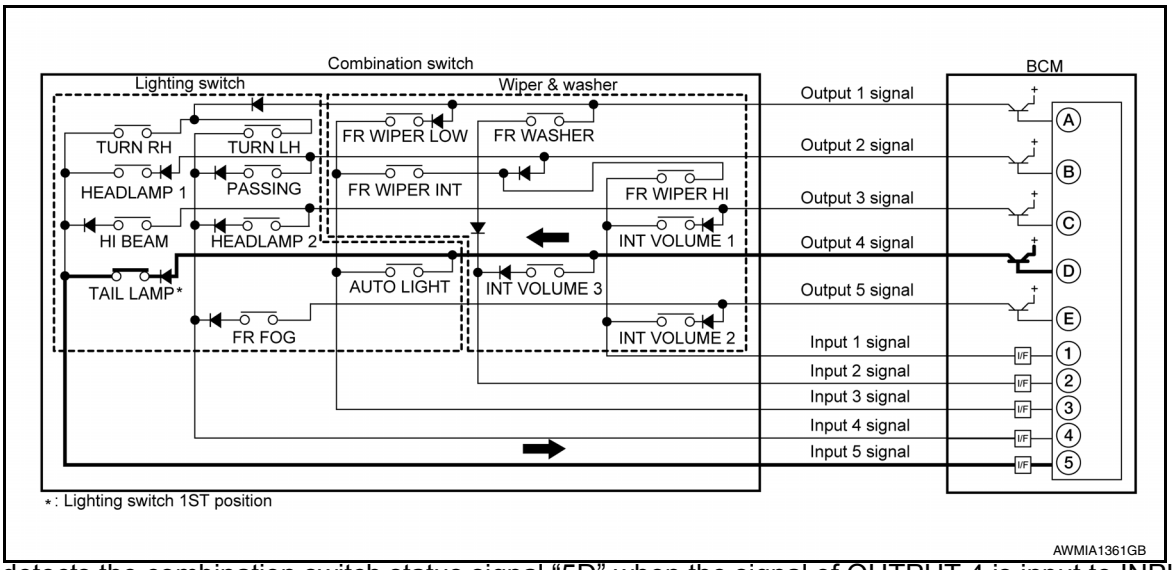


Operation Example

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 (TAIL LAMP) is turned ON

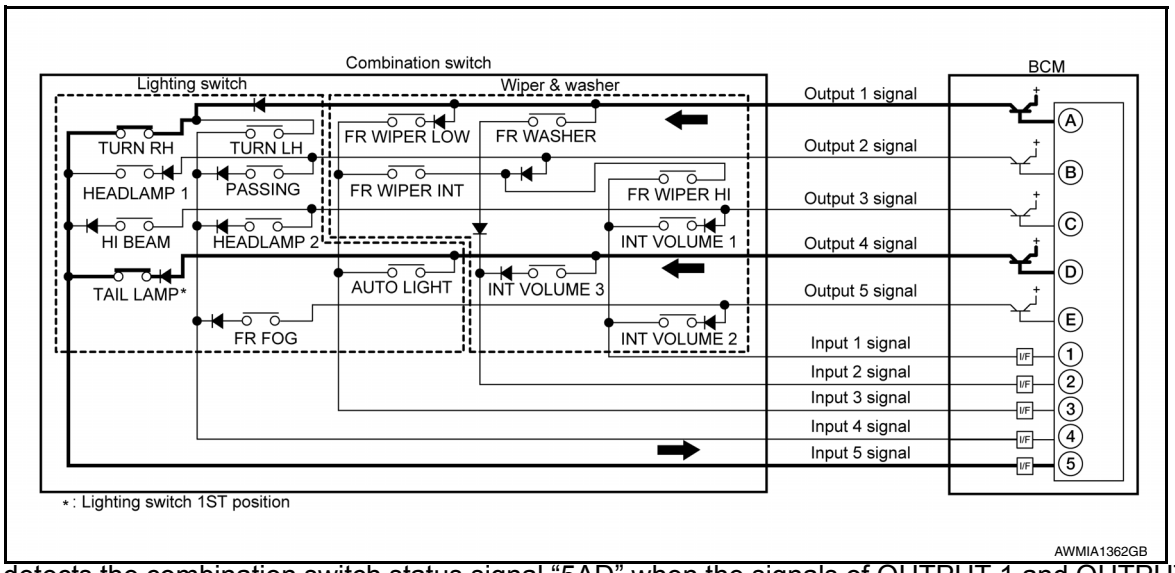
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



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

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

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



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

WIPER INTERMITTENT DIAL POSITION

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

Wiper intermittent dial position	Switch status		
	INT VOLUME 1	INT VOLUME 2	INT VOLUME 3
1	ON	ON	ON
2	ON	ON	OFF
3	ON	OFF	OFF
4	OFF	OFF	OFF
5	OFF	OFF	ON
6	OFF	ON	ON
7	OFF	ON	OFF

NOTE:

For details of wiper intermittent dial position, refer to WW-8, "System Description".

SIGNAL BUFFER SYSTEM

SIGNAL BUFFER SYSTEM : System Diagram

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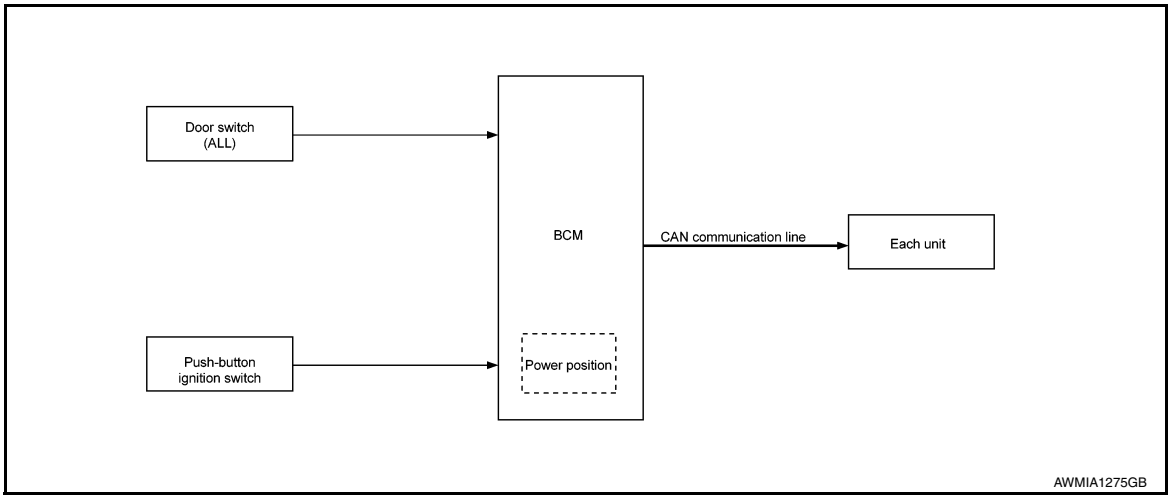

SIGNAL BUFFER SYSTEM : System Description

INFOID:0000000009757303

OUTLINE

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

Signal transmission function list

Signal name	Input	Output	Description
• Ignition switch ON signal • Ignition switch signal	Engine switch (push switch)	IPDM E/R (CAN)	Inputs the push-button ignition switch (push switch) signal and transmits the ignition switch status judged with BCM via CAN communication.
Door switch signal	Any door switch	• Combination meter (CAN) • IPDM E/R (CAN)	Inputs the door switch signal and transmits it via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Diagram

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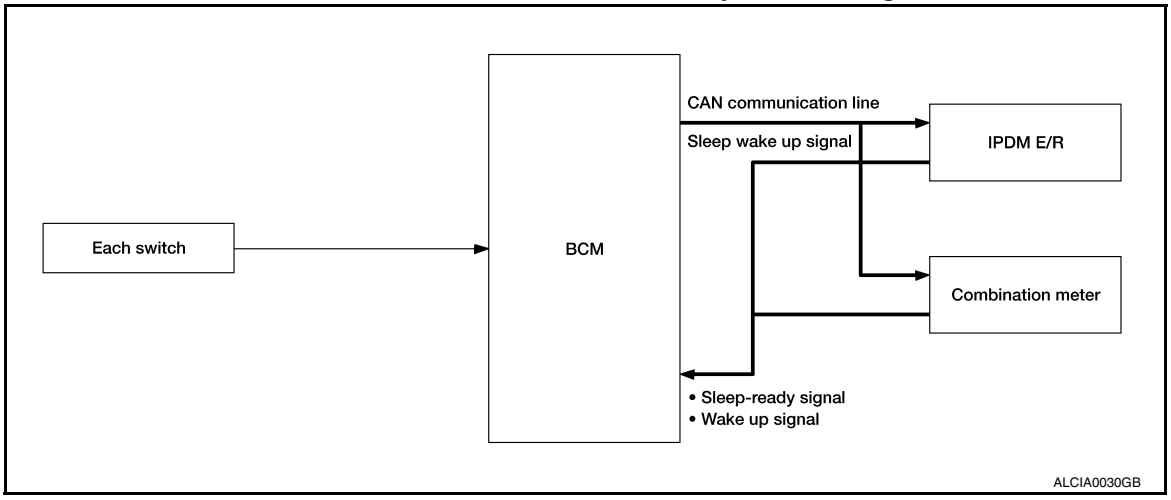


POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:0000000009757305

OUTLINE

- BCM incorporates a power saving 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 and combination meter) 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 each switch changes from 10 ms interval to 60 ms interval.

Sleep mode activation

- BCM receives the sleep-ready signal (ready) from IPDM E/R and combination meter via CAN communication.
- BCM transmits the sleep wake up signal (sleep) to each unit when all of the CAN sleep conditions are fulfilled.
- Each unit stops the transmission of CAN communication with the sleep wakeup signal. BCM is in CAN communication sleep mode.
- BCM is in the low power consumption mode and performs 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 and panic alarm: No operation • Warning lamp: Not operation • Intelligent Key system buzzer: No operation • Brake switch: OFF • Turn signal indicator lamp: No operation • Exterior lamp: OFF • Door lock status: No change • CONSULT communication status: No communication • Meter display signal: Non-transmission • Door switch status: No change • Rear window defogger: OFF	• Interior room lamp battery saver: Time out • RAP system: OFF • Push-button ignition switch (push switch) illumination: OFF • NATS: No operation • Remote keyless entry receiver communication status: No communication • Tire pressure monitoring system: Stop

Wake-up operation

- BCM changes from the low power consumption mode to the CAN communication sleep mode when the any of the BCM wake-up conditions are fulfilled. Only the control with BCM is activated.
- BCM transmits the sleep wake up signal (wake up) to each unit when any of the CAN wake-up conditions are fulfilled. It changes from the low power consumption mode or the CAN communication sleep mode to the normal mode.
- Each unit starts the transmission of CAN communication with the sleep wake up signal. In addition, the combination meter transmits the wake up signal to BCM via CAN communication to report the CAN communication start.

BCM wake-up condition	CAN wake-up condition
• Door lock assembly LH (key cylinder switch): Lock or unlock • Door lock switch: OFF→ON • Door unlock switch: OFF→ON • Trunk opener switch: OFF→ON • Remote keyless entry receiver: Receiving valid keyfob	• Receiving the sleep-ready signal (Not-ready) from any units • Push-button ignition switch (push switch): OFF→ON • Hazard switch: OFF→ON • PASSING switch: OFF→ON, ON→OFF • TAIL LAMP switch: OFF→ON • Driver door switch: OFF→ON, ON→OFF • Passenger door switch: OFF → ON, ON → OFF • Trunk switch: OFF→ON, ON→OFF • Driver door request switch: OFF→ON • Passenger door request switch: OFF→ON • Stop lamp switch 2 signal: ON • Remote keyless entry receiver: Receiving valid keyfob

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000009757306

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN DIAG SUPPORT MNTR
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

DOOR LOCK

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:0000000009757307

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW-DR [On/Off]	Indicates condition of door request switch LH.
REQ SW-AS [On/Off]	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	Indicates condition of trunk open switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.

ACTIVE TEST

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

WORK SUPPORT

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

*: Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:0000000009757308

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000009757309

DATA MONITOR

Monitor Item [Unit]	Description
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TAIL LAMP SW [On/Off]	Indicates condition of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.

ACTIVE TEST

Test Item	Description
ID REGIST WARNING	This test is able to check TPMS transmitter ID regist warning chime operation [On/Off].
SEAT BELT WARN TEST	This test is able to check seat belt warning chime operation [On/Off].
LIGHT WARN ALM	This test is able to check light warning chime operation [On/Off].

INT LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:0000000009757310

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.

Monitor Item [Unit]	Description
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk room lamp switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
R LAMP TIMER LOGIC SET	MODE 2		Interior room lamp timer activates with all doors.
	MODE 1*		Interior room lamp timer activates with the driver door only.
SET I/L D-UNLCK INTCON	On*		Interior room lamp timer function ON.
	Off		Interior room lamp timer function OFF.
ROOM LAMP TIMER SET	MODE 4	30 sec.	Sets the interior room lamp ON time. (Timer operating time).
	MODE 3*	15 sec.	
	MODE 2	7.5 sec.	

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000009757311

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
OPTI SEN (DTCT) [V]	Indicates outside brightness voltage signal from optical sensor.
OPTI SEN (FILT) [V]	Indicates outside brightness voltage signal from optical sensor filtered by BCM.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
AUTO LIGHT LOGIC SET	MODE 1*		With twilight ON custom & with wiper INT, LO and HI
	MODE 2		Witt twilight ON custom & with wiper LO and HI
	MODE 3		With twilight ON custom & without
	MODE 4		Without twilight ON custom & with wiper INT, LO and HI
	MODE 5		Without twilight ON custom & with wiper LO and HI
	MODE 6		Without twilight ON custom & without
BATTERY SAVER SET	On*		Exterior lamp battery saver function ON.
	Off		Exterior lamp battery saver function OFF.
CUSTOM A/LIGHT SETTING	MODE 1*		Normal
	MODE 2		More sensitive setting than normal setting (Turns ON earlier than normal operation)
	MODE 3		More sensitive setting than MODE 2 (Turns ON earlier than MODE 2)
	MODE 4		Less sensitive setting than normal setting (Turns ON later than normal operation)
ILL DELAY SET	MODE 8	180 sec.	Sets delay timer function operation time (All doors closed).
	MODE 7	150 sec.	
	MODE 6	120 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 3	30 sec.	
	MODE 2	OFF	
	MODE 1*	45 sec.	

*: Initial setting

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:0000000009757312

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WASHER SW [On/Off]	
FR WIPER INT [On/Off]	
FR WIPER STOP [On/Off]	Indicates front wiper auto stop signal received from IPDM E/R on CAN communication line.
INT VOLUME [1 – 7]	Indicates condition of intermittent wiper operation of combination switch.

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000009757313

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	Indicates condition of hazard switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
HAZARD ANSWER BACK	Lock/Unlock*	Hazard warning lamp activation when doors are locked or unlocked with Intelligent Key.
	Unlock Only	Hazard warning lamp activation when doors are unlocked with Intelligent Key.
	Lock Only	Hazard warning lamp activation when doors are locked with Intelligent Key.
	Off	No hazard warning lamp activation when doors are locked or unlocked with Intelligent Key.

* : Initial setting

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

INFOID:0000000009757314

DATA MONITOR

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000009757315

SELF DIAGNOSTIC RESULT

Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main	Description
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	×	Indicates condition of trunk open switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
CLUCH SW [On/Off]		Indicates condition of clutch switch.
BRAKE SW 1 [On/Off]	×	Indicates condition of brake switch.
BRAKE SW 2 [On/Off]		Indicates condition of brake switch.
DETE/CANCL SW [On/Off]	×	Indicates condition of P (park) position.
SFT PN/N SW [On/Off]	×	Indicates condition of P (park) or N (neutral) position.
UNLK SEN -DR [On/Off]	×	Indicates condition of driver door unlock sensor.
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line.
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line.
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line.
SFT N -MET [On/Off]		Indicates condition of N (neutral) position from IPDM E/R on CAN communication line.
ENGINE STATE [Stop/Start/Crank/Run]	×	Indicates condition of engine state from ECM on CAN communication line.
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN communication line.
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.
DOOR STAT -DR [LOCK/READY/UNLK]	×	Indicates condition of driver side door status.
DOOR STAT -AS [LOCK/READY/UNLK]	×	Indicates condition of passenger side door status.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
PRMT RKE STRT [Set/Reset]		Indicates condition of engine start possibility from Intelligent Key.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
TRNK/HAT MNTR [On/Off]		Indicates condition of trunk room lamp switch.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.

Monitor Item [Unit]	Main	Description
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of trunk open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off].
LCD	This test is able to check combination meter display information [Off/LK WN/OUTKEY/NO KY/BATT/INSRT/SFT P/ROTAT/ID NG/B&P I/B&P N].
BATTERY SAVER	This test is able to check battery saver operation [On/Off].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].
PUSH SWITCH INDICATOR	This test is able to check push-button ignition switch indicator operation [On/Off].
TRUNK/BACK DOOR	This test is able to check trunk actuator operation [Open].
INT LAMP	This test is able to check interior room lamp operation [On/Off].
INDICATOR	This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].
FLASHER	This test is able to check hazard lamp operation [LH/RH/Off].
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
HORN	This test is able to check horn operation [On].
P RANGE	This test is able to check CVT shift selector illumination operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from Intelligent Key ON.
	Off	Door lock/unlock function from Intelligent Key OFF.
TRUNK/GLASS HATCH OPEN	On*	Buzzer reminder function from trunk opener switch.
	Off	No buzzer reminder function from trunk opener switch.
ANTI KEY LOCK IN FUNCTI	On*	Anti lock out setting ON.
	Off	Anti lock out setting OFF.
ANS BACK I-KEY UNLOCK	Off	No buzzer reminder when doors are unlocked with request switch.
	On*	Buzzer reminder when doors are unlocked with request switch.
ANS BACK I-KEY LOCK	Horn Chirp	Horn chirp reminder when doors are locked with request switch.
	Buzzer*	Buzzer reminder when doors are locked with request switch.
	Off	No reminder when doors are locked with request switch.
HORN WITH KEYLESS LOCK	Off	Horn chirp reminder when doors are locked with Intelligent Key.
	On*	No horn chirp reminder when doors are locked with Intelligent Key.
ENGINE START BY I-KEY	On*	Engine start function from Intelligent Key ON.
	Off	Engine start function from Intelligent Key OFF.

Support Item	Setting		Description
HAZARD ANSWER BACK	Lock/Unlock*		Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
	Unlock Only		Hazard warning lamp activation when doors are unlocked with Intelligent Key or request switch.
	Lock Only		Hazard warning lamp activation when doors are locked with Intelligent Key or request switch.
	Off		No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
INSIDE ANT DIAGNOSIS	—		This function allows inside key antenna self-diagnosis.
CONFIRM KEY FOB ID	—		Intelligent Key ID code can be checked.
SHORT CRANKING OUTPUT	Start	70 msec	Starter motor operation duration time setting.
		100 msec	
		200 msec	
	End		—
PANIC ALARM SET	MODE 3	1.5 sec	Intelligent Key panic alarm button setting.
	MODE 2	OFF	
	MODE 1*	0.5 sec	
LO- BATT OF KEY FOB WARN	On*		Intelligent Key low battery warning ON.
	Off		Intelligent Key low battery warning OFF.
AUTO LOCK SET	MODE7	5 min	Auto door lock time setting.
	MODE6	4 min	
	MODE5	3 min	
	MODE4	2 min	
	MODE3*	1 min	
	MODE2	30 sec	
	MODE1	Off	
TRUNK OPEN DELAY	MODE 3	1.5 sec	Intelligent Key trunk open button setting.
	MODE 2	OFF	
	MODE 1*	0.5 sec	

*: Initial Setting

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000009757316

DATA MONITOR

Monitor Item [Unit]	Description
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WASHER SW [On/Off]	
FR WIPER INT [On/Off]	
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.
TURN SIGNAL R [On/Off]	Indicates condition of right turn signal operation of combination switch.
TURN SIGNAL L [On/Off]	Indicates condition of left turn signal operation of combination switch.
TAIL LAMP SW [On/Off]	Indicates condition of tail lamp switch operation of combination switch.
HI BEAM SW [On/Off]	Indicates condition of Hi beam switch operation of combination switch.
HEAD LAMP SW 1 [On/Off]	Indicates condition of head lamp switch 1 operation of combination switch.

Monitor Item [Unit]	Description
HEAD LAMP SW 2 [On/Off]	Indicates condition of head lamp switch 2 operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
AUTO LIGHT SW [On/Off]	Indicates condition of auto light switch operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:0000000009757317

ECU IDENTIFICATION
The BCM part number is displayed.

SELF DIAGNOSTIC RESULT
Refer to BCS-49, "DTC Index".

WORK SUPPORT

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

CONFIGURATION
Refer to BCS-61, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR
Refer to LAN-13, "CAN Diagnostic Support Monitor".

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000009757318

SELF DIAGNOSTIC RESULT
Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
CONFRM ID ALL [Yet/DONE]	Switches to DONE when an Intelligent Key is registered.
CONFIRM ID4 [Yet/DONE]	
CONFIRM ID3 [Yet/DONE]	
CONFIRM ID2 [Yet/DONE]	
CONFIRM ID1 [Yet/DONE]	
TP 4 [Yet/DONE]	DONE indicates the number of Intelligent Key ID which has been registered.
TP 3 [Yet/DONE]	
TP 2 [Yet/DONE]	
TP 1 [Yet/DONE]	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	—	Dongle ID code can be read.

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000009757319

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH SW [On/Off]	Indicates condition push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk room lamp switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
BATTERY SAVER SET	ON*		Exterior lamp battery saver function ON.
	OFF		Exterior lamp battery saver function OFF.
ROOM LAMP TIMER SET	MODE 3*	10 min.	Sets interior room lamp battery saver timer operating time.
	MODE 2	60 min.	
	MODE 1	15 min.	

*: Initial setting

TRUNK

TRUNK : CONSULT Function (BCM - TRUNK)

INFOID:0000000009757320

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.

Monitor Item [Unit]	Description
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TR/BD OPEN SW [On/Off]	Indicates condition of trunk open switch.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk room lamp switch.
RKE-TR/BD [On/Off]	Indicates condition of trunk open signal from Intelligent Key.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000009757321

DATA MONITOR

Monitored Item	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	Indicates condition of trunk open switch.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
TR/BD OPEN SW [On/Off]	Indicates condition of trunk open switch.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk room lamp switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]	Indicates condition of trunk open signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

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

*: Initial setting

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000009757322

DATA MONITOR

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

SIGNAL BUFFER

SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:0000000009757323

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of the push-button ignition switch.

AIR PRESSURE MONITOR

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

INFOID:0000000009757324

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

SELF DIAGNOSTIC RESULT

NOTE:
Before performing self diagnostic result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
AIR PRESS FL [kPa, kg/cm^2 or Psi]	Indicates air pressure of front LH tire.
AIR PRESS FR [kPa, kg/cm^2 or Psi]	Indicates air pressure of front RH tire.
AIR PRESS RR [kPa, kg/cm^2 or Psi]	Indicates air pressure of rear RH tire.
AIR PRESS RL [kPa, kg/cm^2 or Psi]	Indicates air pressure of rear LH tire.
ID REGST FL1 [Done/Yet]	Indicates ID registration status of front LH transmitter.
ID REGST FR1 [Done/Yet]	Indicates ID registration status of front RH transmitter.
ID REGST RR1 [Done/Yet]	Indicates ID registration status of rear RH transmitter.
ID REGST RL1 [Done/Yet]	Indicates ID registration status of rear LH transmitter.
WARNING LAMP [Off/On]	Indicates condition of low tire pressure warning lamp in combination meter.
BUZZER [Off/On]	Indicates condition of buzzer in combination meter.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-22, "Description".

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:0000000009757325

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

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

VALUES ON THE DIAGNOSIS TOOL

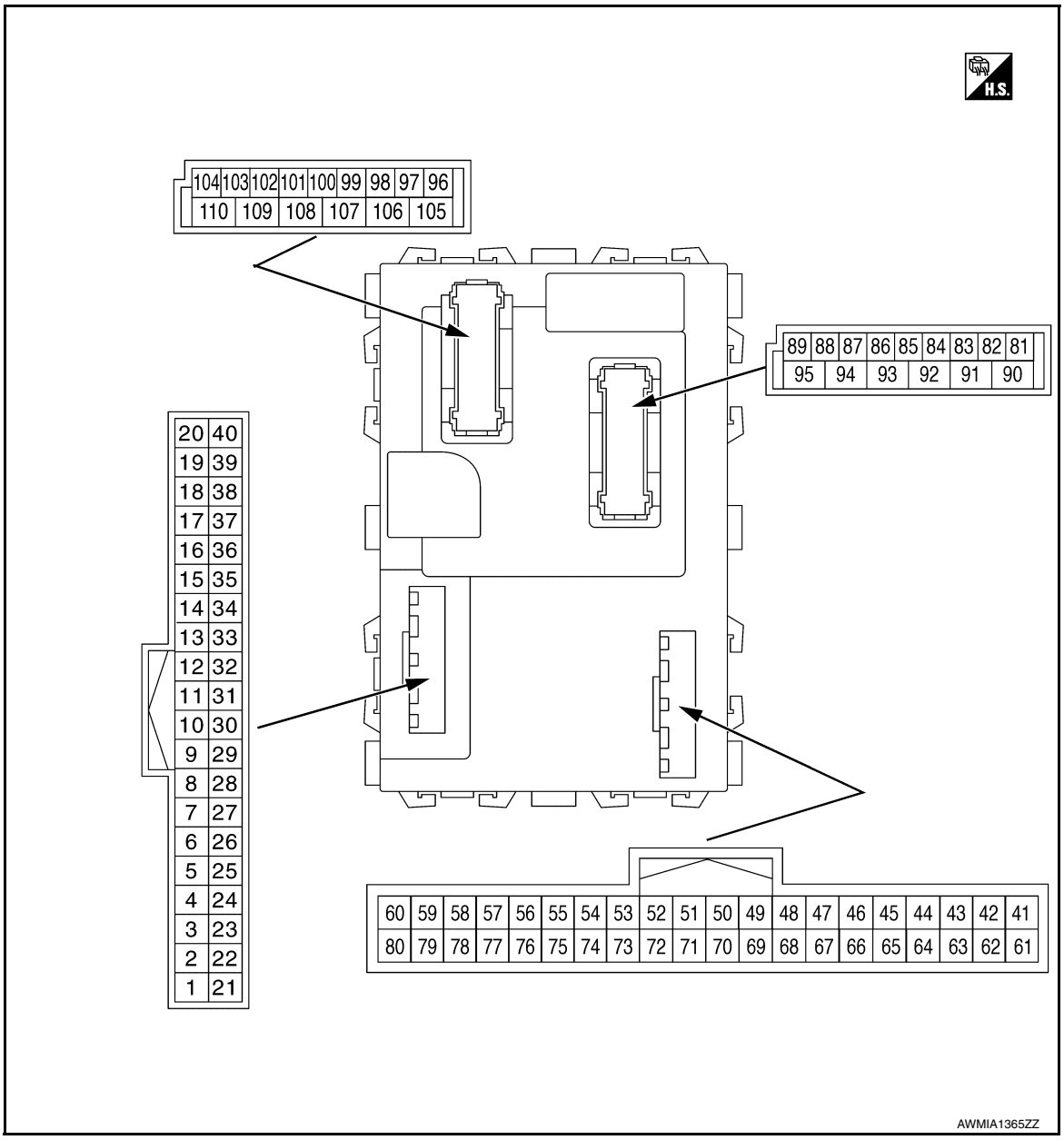
Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm^2, psi
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BRAKE SW 1	When the brake pedal is released	On
	When the brake pedal is depressed	Off
BRAKE SW2	Brake pedal released	Off
	Brake pedal depressed	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the UNLOCK side	On
CLUCH SW	Clutch pedal depressed	On
	Clutch pedal released	Off
CONFRM ID ALL	The key ID does not match any key ID registered to BCM.	Yet
	The key ID matches any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID does not match the fourth key ID registered to BCM.	Yet
	The key ID matches the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID does not match the third key ID registered to BCM.	Yet
	The key ID matches the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID does not match the second key ID registered to BCM.	Yet
	The key ID matches the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID does not match the first key ID registered to BCM.	Yet
	The key ID matches the first key ID registered to BCM.	DONE

Monitor Item	Condition	Value/Status
DETE SW -IPDM	When selector lever is in P position	Off
	When selector lever is in any position other than P	On
DETE/CANCL SW	When selector lever is in P position	Off
	When selector lever is in any position other than P	On
DOOR STAT-AS	Passenger door LOCK status	LOCK
	Passenger door UNLOCK status	UNLK
	Wait with selective UNLOCK operation (5 seconds)	READY
DOOR STAT-DR	Driver door LOCK status	LOCK
	Driver door UNLOCK status	UNLK
	Wait with selective UNLOCK operation (5 seconds)	READY
DOOR SW-AS	Front door RH closed	Off
	Front door RH opened	On
DOOR SW-BK	Trunk closed	Off
	Trunk opened	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
ENGINE STATE	Engine stopped	Stop
	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
FAN ON SIG	Blower motor fan switch OFF	Off
	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	When hazard switch is not pressed	Off
	When hazard switch is pressed	On
HEAD LAMP SW 1	Headlamp switch OFF	Off
	Headlamp switch 1st	On
HEAD LAMP SW 2	Headlamp switch OFF	Off
	Headlamp switch 1st	On

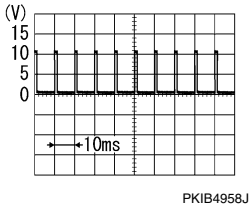
Monitor Item	Condition	Value/Status
HI BEAM SW	High beam switch OFF	Off
	High beam switch HI	On
ID OK FLAG	Ignition switch ACC or ON	Reset
	Ignition switch OFF	Set
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear left tire incomplete	YET
	ID registration of rear left tire complete	DONE
ID REGST RR1	ID registration of rear right tire incomplete	YET
	ID registration of rear right tire complete	DONE
IGN RLY1 F/B	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
KEY CYL LK-SW	Door key cylinder LOCK position	Off
	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
	Door key cylinder other than UNLOCK position	On
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5V
	Dark outside of the vehicle	Close to 0V
OPTI SEN (FILT)	Bright outside of the vehicle	Close to 5V
	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
PRMT ENG STRT	When the engine start is prohibited	Reset
	When the engine start is permitted	Set
PRMT RKE STRT	When the engine start is prohibited	Reset
	When the engine start is permitted	Set
PUSH SW	Return ignition switch to LOCK position	Off
	Press ignition switch	On
PUSH SW-IPDM	When engine switch (push switch) is not pressed	Off
	When engine switch (push switch) is pressed	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
REQ SW-AS	When passenger door request switch is not pressed	Off
	When passenger door request switch is pressed	On
REQ SW -BD/TR	When trunk open switch is not pressed	Off
	When trunk open switch is pressed	On
REQ SW-DR	When driver door request switch is not pressed	Off
	When driver door request switch is pressed	On
RKE-LOCK	When LOCK button of Intelligent Key is not pressed	Off
	When LOCK button of Intelligent Key is pressed	On

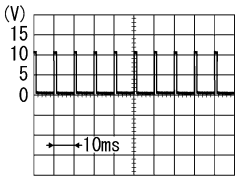
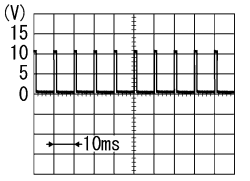
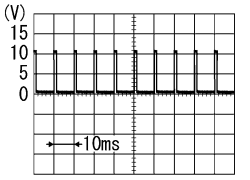
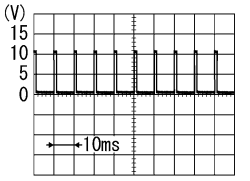
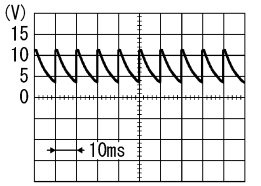
Monitor Item	Condition	Value/Status
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	Off
	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	On
RKE OPE COUN1	Operation frequency of Intelligent Key	0-19
RKE OPE COUN2	Operation frequency of Intelligent Key	0-19
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	Off
	When PANIC button of Intelligent Key is pressed	On
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	Off
	When TRUNK OPEN button of Intelligent Key is pressed	On
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	Off
	When UNLOCK button of Intelligent Key is pressed	On
SFT N-MET	When selector lever is in any position other than N	Off
	When selector lever is in N position	On
SFT P-MET	When selector lever is in any position other than P	Off
	When selector lever is in P position	On
SFT PN -IPDM	When selector lever is in any position other than P or N	Off
	When selector lever is in P or N position	On
SFT PN/N SW	When selector lever is in any position other than P or N	Off
	When selector lever is in P or N position	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
TP 4	The ID of fourth key is not registered to BCM	Yet
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	Yet
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	Yet
	The ID of second key is registered to BCM	DONE
TP 1	The ID of first key is not registered to BCM	Yet
	The ID of first key is registered to BCM	DONE
TRNK/HAT MNTR	Trunk lid closed	Off
	Trunk lid opened	On
TR/BD OPEN SW	Trunk opener switch OFF	Off
	While the trunk opener switch is turned ON	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
UNLK SEN-DR	Driver door UNLOCK status	Off
	Driver door LOCK status	On
VEH SPEED 1	While driving, equivalent to speedometer reading	mph, km/h
VEH SPEED 2	While driving, equivalent to speedometer reading	mph, km/h
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

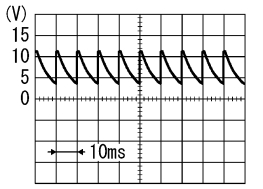
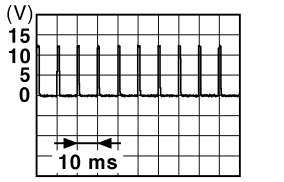
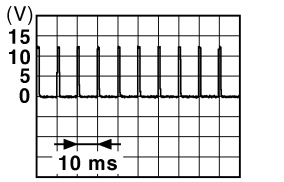
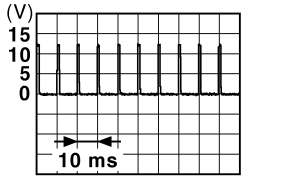
TERMINAL LAYOUT

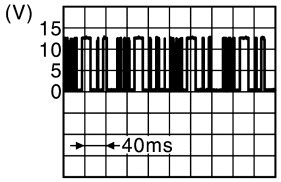
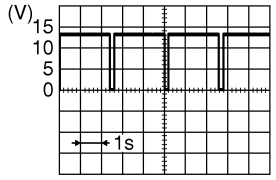
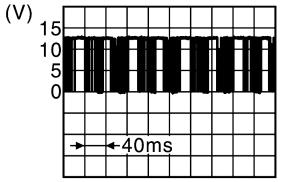
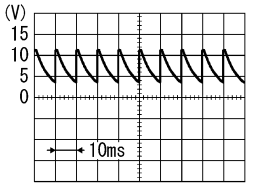


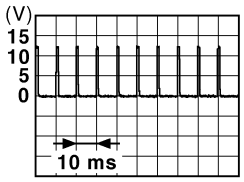
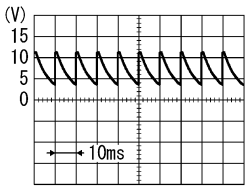
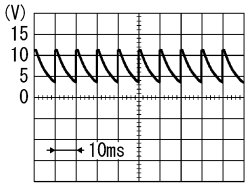
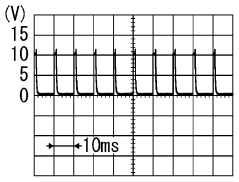
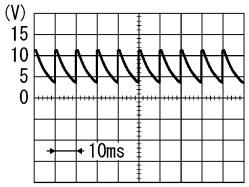
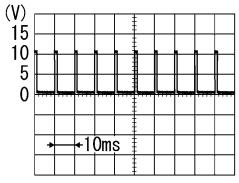
PHYSICAL VALUES

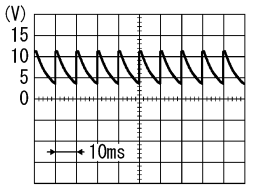
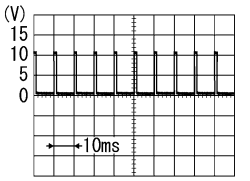
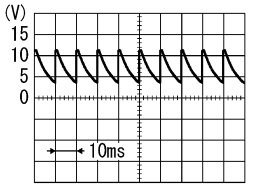
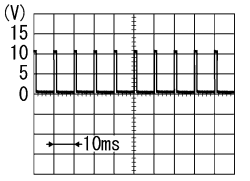
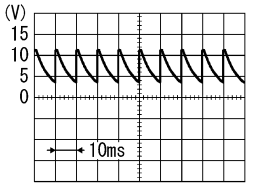
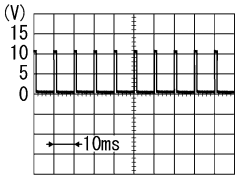
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
2 (L)	Ground	INPUT 5 signal	Input	Combination switch	OFF	0 V
					TURN RH	 PKIB4958J 1.0 V
					HEADLAMP 1	
					HI BEAM	
					TAIL LAMP	

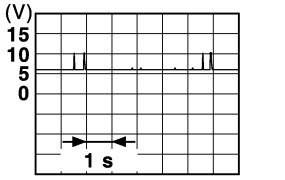
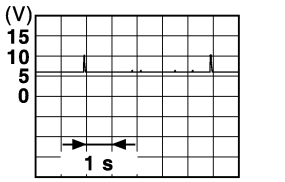
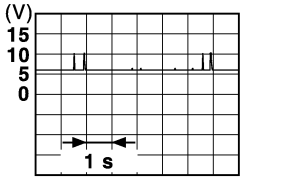
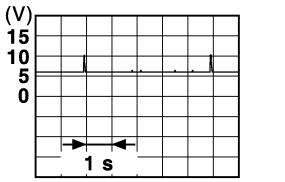
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
3 (GR)	Ground	INPUT 4 signal	Input	Combination switch	OFF	0 V
					TURN LH PASSING HEADLAMP 2 FR FOG	 PKIB4958J 1.0 V
4 (BR)	Ground	INPUT 3 signal	Input	Combination switch	OFF	0 V
					FR WIPER LO FR WIPER INT (any intermittent position) AUTO LIGHT	 PKIB4958J 1.0 V
5 (O)	Ground	INPUT 2 signal	Input	Combination switch	OFF	0 V
					FR WASHER Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	 PKIB4958J 1.0 V
6 (W)	Ground	INPUT 1 signal	Input	Combination switch	OFF	0 V
					FR WIPER HI Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3 Wiper intermittent dial 6 Wiper intermittent dial 7	 PKIB4958J 1.0 V
7 (L)	Ground	Key cylinder unlock sw signal	Input	Key cylinder switch	N position	 PKIB4960J 7.0 - 8.0 V
					UNLOCK position	0 V

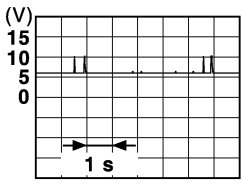
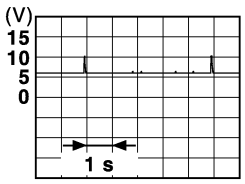
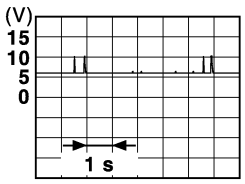
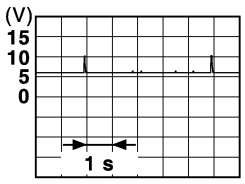
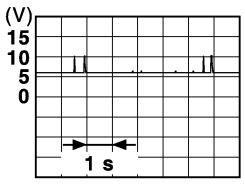
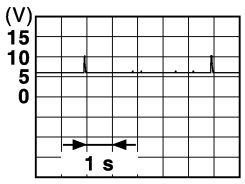
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
8 (V)	Ground	Key cylinder lock sw signal	Input	Key cylinder switch	N position	 PKIB4960J 7.0 - 8.0 V
					LOCK position	0 V
9 (R)	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal released)	0 V
					ON (Brake pedal depressed)	Battery voltage
12 (GR)	Ground	Central door lock sw signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0012GB 1.0 - 1.5 V
					LOCK position	0 V
13 (BR)	Ground	Central door unlock sw signal	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
14 (SB)	Ground	Optical sensor	Input	Push-button ignition switch ON	Daylight	5 V
					Night	0 V
15 (W)	Ground	Rear defogger switch signal	Input	Rear window defogger switch	Released	 JPMIA0012GB 1.0 - 1.5 V
					Depressed	0 V
16 (O)	—	MR output	—	—	—	—
17 (Y)	Ground	Sensor power supply	Output	Push-button ignition switch	OFF	0 V
					ON	5.5 V
18 (V)	Ground	Keyless tuner ground	Input	Push-button ignition switch	ON	0 V

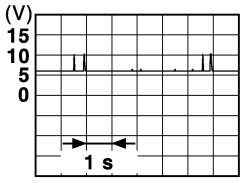
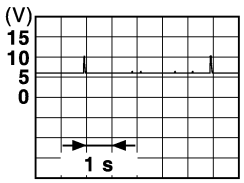
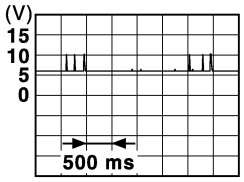
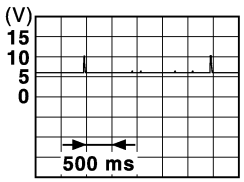
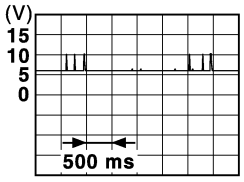
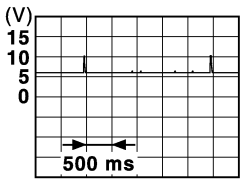
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
21 (P)	Ground	Immobilizer one way communication (CLOCK) signal	Input/ Output	Intelligent Key battery is removed	Brake pedal depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6232JP
					Brake pedal released	Battery voltage
23 (Y)	Ground	Security indicator output	Output	Security indicator lamp	ON	0 – 0.5 V
					Blinking (push-button ignition switch OFF)	 JPMIA0590GB 12.0 V
					OFF	Battery voltage
24 (SB)	Ground	Dongle link (SERIAL)	Input/ Output	Push-button ignition switch	OFF	5 V
25 (LG)	Ground	Immobilizer two way communication signal	Input/ Output	During waiting	Brake pedal depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6233JP
					Brake pedal released	Battery voltage
27 (Y)	Ground	Air con sw signal	Input	Push-button ignition switch ON and blower fan switch ON	A/C switch OFF	Battery voltage
					A/C switch ON	0 V
28 (LG)	Ground	Blower fan sw signal	Input	Fan switch	OFF	0 V
					ON	 PKIB4960J 7.0 - 8.0 V
29 (SB)	Ground	Hazard sw signal	Input	Hazard switch	OFF	Battery voltage
					ON	0 – 1.5 V

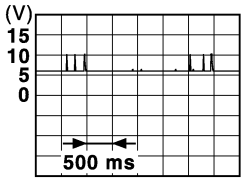
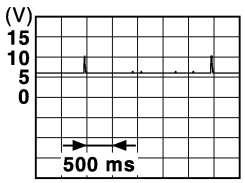
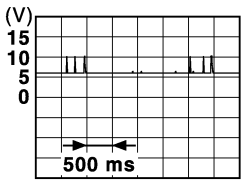
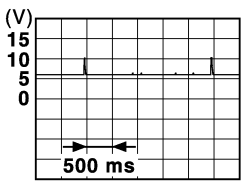
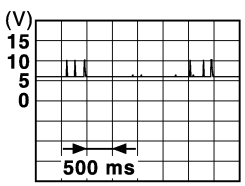
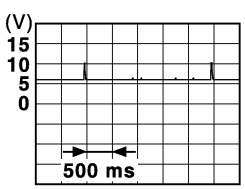
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
30 (L)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Depressed	0 V
					Released	 JPMIA0012GB 1.0 - 1.5 V
31 (R)	Ground	Driver door unlock sensor signal	Input	Driver door unlock sensor	OFF (LOCK)	 PKIB4960J 7.0 - 8.0 V
					ON (UNLOCK)	0 V
32 (LG)	Ground	OUTPUT 5	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR FOG Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 6 Wiper intermittent dial 7	 PKIB4956J 1.0 V
33 (Y)	Ground	OUTPUT 4	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					AUTO LIGHT TAIL LAMP Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	 PKIB4958J 1.2 V

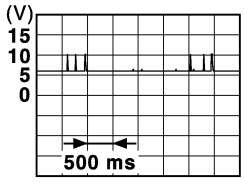
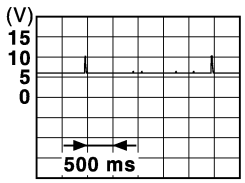
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
34 (V)	Ground	OUTPUT 3	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					HEADLAMP 2 HI BEAM Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3	 PKIB4958J 1.2 V
35 (R)	Ground	OUTPUT 2	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					HEADLAMP 1 PASSING FR WIPER HI FR WIPER INT (any intermittent position)	 PKIB4958J 1.2 V
36 (SB)	Ground	OUTPUT 1	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					TURN RH TURN LH FR WIPER LO FR WASHER	 PKIB4958J 1.2 V

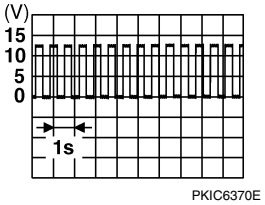
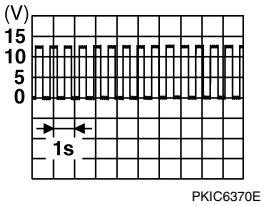
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
37[1] (P)	Ground	Park position switch signal	Input	Selector lever	P (Park) position	0 – 1.5 V
					Any position other than P (Park)	Battery voltage
37[2] (P)		Clutch cancel switch signal	Input	Clutch pedal position switch	OFF (clutch pedal depressed)	0 – 1.5 V
					ON (clutch pedal released)	Battery voltage
38 (LG)	Ground	Keyless intelligent tuner signal	Input	Push-button ignition switch	OFF or ACC	0 – 0.5 V
					ON	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output	—		—
40 (P)	Ground	CAN-L	Input/ Output	—		—
41 (W)	Ground	Push-button ignition switch illumination power supply	Output	Push-button ignition switch illumination	ON	Battery voltage
					OFF	0 – 1.5 V
42 (BR)	Ground	Inside key antenna (trunk room) -	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB
43 (Y)	Ground	Inside key antenna (trunk room) +	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB

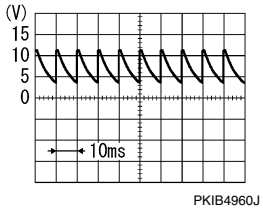
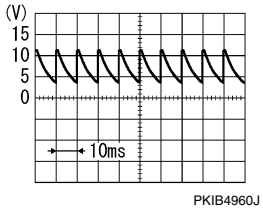
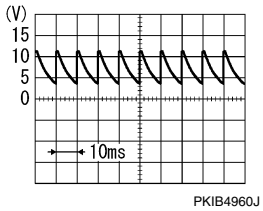
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
44 (R)	Ground	Inside key antenna (console) -	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB
45 (G)	Ground	Inside key antenna (console) +	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB
46 (GR)	Ground	Inside key antenna (instrument center) -	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB

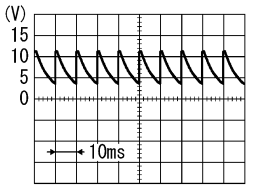
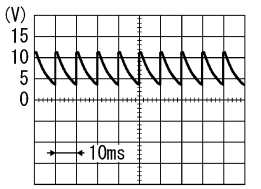
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
47 (BR)	Ground	Inside key antenna (instrument center) +	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA3839GB
48 (R)	Ground	Outside key antenna (rear bumper) -	Output	When the trunk lid opener switch is operated with push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
49 (W)	Ground	Outside key antenna (rear bumper) +	Output	Push-button ignition switch ON Trunk lid opener switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
50 (Y)	Ground	Door antenna (AS) -	Output	Push-button ignition switch ON Passenger door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
51 (BR)	Ground	Door antenna (AS) +	Output	Push-button ignition switch ON Passenger door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
52 (LG)	Ground	Door antenna (DR) -	Output	Push-button ignition switch ON Driver door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
53 (P)	Ground	Door antenna (DR) +	Output	Push-button ignition switch ON Driver door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
55 (LG)	Ground	Engine start sw	Input	Push-button ignition switch	START pressed	0 – 1.5 V
					Not pressed	Battery voltage
56 (G)	Ground	Request sw (DR) signal	Input	Driver door request switch	ON (Pressed)	0 – 1.5 V
					OFF (Not pressed)	Battery voltage
65 (P)	Ground	Blower relay control	Output	Push-button ignition switch	OFF or ACC	0 – 0.5 V
					ON	Battery voltage
66 (V)	Ground	Stop lamp switch 2	Input	Push-button ignition switch	OFF	Battery voltage
67 (SB)	Ground	CVT shift selector (park position switch) power supply	Output	Push-button ignition switch	ON	Battery voltage
69 (L)	Ground	Shift N/P[1]	Input	Selector lever	P (Park) or N (Neutral) position	Battery voltage
					Except P (Park) or N (Neutral) position	0 – 1.5 V
		Neutral switch[2]		Control lever	NEUTRAL position	Battery voltage
					Except NEUTRAL position	0 – 1.5 V
70 (O)	Ground	Inhibit relay output[1]	Input	Selector lever	P (Park) or N (Neutral) position	Battery voltage
					Except P (Park) or N (Neutral) position	0 – 0.5 V
		Clutch interlock switch[2]		Clutch pedal	Depressed	0 – 0.5 V
					Released	Battery voltage
71 (GR)	Ground	Request sw (AS) signal	Input	Passenger door request switch	ON (Pressed)	0 – 1.5 V
					OFF (Not pressed)	Battery voltage
72 (R)	Ground	Ignition relay (F/B) control	Output	Push-button ignition switch	OFF or ACC	0 – 0.5 V
					ON	Battery voltage
73 (V)	Ground	Ignition relay (IPDM E/R) control	Output	Push-button ignition switch	OFF or ACC	Battery voltage
					ON	0 – 0.5 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
74 (SB)	Ground	Starter relay control	Output	Push-button ignition switch ON	Selector lever in P (Park) or N (Neutral) position	Battery voltage
					Selector lever not in P (Park) or N (Neutral) position	0 – 0.5 V
75 (W)	Ground	Accessory relay control	Output	Ignition Push-button switch	OFF	0 – 0.5 V
					ACC or ON	Battery voltage
78 (W)	Ground	Intelligent Key warning buzzer	Output	Intelligent Key warning buzzer	Sounding	0 – 1.5 V
					Not sounding	Battery voltage
79 (R)	Ground	Push-button ignition switch illumination lamp	Output	Push-button ignition switch illumination	ON	5.5 V
					OFF	0 – 1.5 V
80 (V)	Ground	ACC/ON indicator lamp	Output	Push-button ignition switch	OFF	Battery voltage
					ACC or ON	0 – 1.5 V
81 (G)	Ground	Starter output enable input	Input	Push-button ignition switch ON	Engine stopped, selector lever in P (Park) position	0 – 0.5 V
					Engine stopped, selector lever not in P (Park) position	Battery voltage
					Engine running	Battery voltage
82 (BR)	Ground	Room lamp control	Output	Interior room lamp	OFF	Battery voltage
					ON	0 – 1.0 V
84 (W)	Ground	Flasher output (RIGHT)	Output	Push-button ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKIC6370E 6.5 V
85 (Y)	Ground	Flasher output (LEFT)	Output	Push-button ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKIC6370E 6.5 V
86 (SB)	Ground	Door unlock output (AS)	Output	Front RH door	UNLOCK (Actuator is activated)	Battery voltage
					Actuator is not activated	0 V
88 (O)	Ground	Battery power supply	Input	Push-button ignition switch	OFF	Battery voltage
89 (P)	Ground	Battery saver output	Output	Interior room lamp	Battery saver timed out	0 V
					Except battery saver timed out	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
90 (Y)	Ground	Battery power supply	Input	Push-button ignition switch	OFF	Battery voltage
91 (G)	Ground	Power window power supply (BATT)	Output	Push-button ignition switch	OFF	Battery voltage
92 (L)	Ground	Power window power supply (RAP/IGN)	Output	Push-button ignition switch	ON	Battery voltage
93 (B)	Ground	Ground	Output	Push-button ignition switch	ON	0 V
94 (SB)	Ground	Door unlock output (DR)	Output	Front LH door	UNLOCK (Actuator is activated)	Battery voltage
					Actuator is not activated	0 V
95 (O)	Ground	Door lock output	Output	All doors	LOCK (Actuator is activated)	Battery voltage
					Actuator is not activated	0 V
96 (LG)	Ground	Luggage lamp control	Output	Trunk lid closed	Trunk room lamp OFF	Battery voltage
				Trunk lid open	Trunk room lamp ON	0 – 1 V
97 (GR)	Ground	Door switch (RL) signal	Input	Rear door switch LH	OFF (rear LH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (rear LH door open)	0 V
98 (Y)	Ground	Door switch (DR) signal	Input	Front door switch LH	OFF (front LH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (front LH door open)	0 V
99 (P)	Ground	Door switch (RR) signal	Input	Rear door switch RH	OFF (rear RH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (rear RH door open)	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
100 (R)	Ground	Door switch (AS) signal	Input	Front door switch RH	OFF (front RH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (front RH door open)	0 V
103 (V)	Ground	Trunk room lamp switch signal	Input	Trunk room lamp switch	OFF (trunk lid closed)	 PKIB4960J 7.0 - 8.0 V
					ON (trunk lid open)	0 V
105 (G)	Ground	Door unlock output (RR, RL)	Output	Rear doors	UNLOCK (Actuator is activated)	Battery voltage
					Actuator is not activated	0 V
107 (GR)	Ground	Trunk open output	Output	Trunk opener request switch released	Trunk lid actuator idle	0 V
				Trunk opener request switch depressed	Trunk lid actuator activated	Battery voltage
109 (SB)	Ground	Request sw (trunk) signal	Input	Trunk opener request switch	Depressed	0 – 1.5 V
					Released	Battery voltage

[1]: with CVT

[2]: with M/T

Fail-safe

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BCM performs fail-safe control when the following DTCs are detected.

CONSULT Display	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	—	When the following CAN signal status (vehicle speed signal) becomes consistent • Vehicle speed signal (ABS) • Vehicle speed signal (Meter)
B2601: SHIFT P SIGNAL	—	500 ms after the following signal reception status becomes consistent • Park position switch signal • P range signal (CAN)

CONSULT Display	Fail-safe	Cancellation
B2602: SHIFT P DIAG	—	5 seconds after the following BCM recognition conditions are fulfilled • Ignition switch is in the ON position • Park position switch signal: P position (push selector button) or except P position (9 – 16 V) • Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSITION	—	500 ms after any of the following BCM recognition conditions are fulfilled • Status 1 - Ignition switch is in the ON position - Park position switch signal: P position (push selector button) or except P position (9 – 16 V) - P/N position signal: Except P and N positions (0 – 1.5 V) • Status 2 - Ignition switch is in the ON position - Park position switch signal: P position (release selector button) (0 – 1.5 V) - P/N position signal: P or N positions (9 – 16 V)
B2604: SHIFT PN DIAG CAN	—	500 ms after any of the following BCM recognition conditions are fulfilled • Status 1 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V) - Shift position signal (CAN): P or N position • Status 2 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) - Shift position signal (CAN): Except P and N position
B2605: SHIFT PN DIAG IPDM	—	500 ms after any of the following BCM recognition conditions are fulfilled • Status 1 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) • Status 2 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V)
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B260F: ECM CAN COMM	Inhibit engine cranking	When any of the following conditions are fulfilled • Ignition switch changes to ACC • Receives engine status signal (CAN)
B261F: ASCD CNCL/CLTCH SW	—	BCM detects clutch pedal position switch signal (CAN) status [ON (Clutch pedal is released)]
B2620: NEUTRAL SW	—	BCM detects neutral switch signal status [OFF (9 – 16 V: Control lever except NEUTRAL position)]
B26E8: CLUTCH SW	—	When any of the following BCM recognition conditions are fulfilled • Status 1 - Clutch pedal position switch signal: ON (9 – 16 V: Clutch pedal is released) - Clutch interlock switch signal: OFF (0 – 0.5 V: Clutch pedal is released) • Status 2 - Clutch pedal position switch signal: OFF (0 – 1.5 V: Clutch pedal is depressed) - Clutch interlock switch signal: ON (9 – 16 V: Clutch pedal is depressed)
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): ON • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): OFF • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF

CONSULT Display	Fail-safe	Cancellation
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): OFF • Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): ON • Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VDC CAN CIR2	—	When vehicle speed signal (Meter) (CAN) is received normally

DTC Inspection Priority Chart

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If more than one DTC is displayed at the same time, perform inspections based on the following priority chart.

Priority	DTC
1	B2562: LOW VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI SCANNING • B2196: DONGLE NG • B2198: NATS ANTENNA AMP
4	• B2553: IGN POWER CIRCUIT • B2555: STOP LAMP CIRCUIT • B2556: ENG START SW • B2557: VEHICLE SPEED • B2601: SHIFT P SIGNAL • B2602: SHIFT P DIAG • B2603: SHIFT POSITION • B2604: SHIFT PN DIAG CAN • B2605: SHIFT PN DIAG IPDM • B2608: STARTER RELAY • B260F: ECM CAN COMM • B2614: ACC RELAY REQ FB • B2615: IGN RELAY3 REQ FB • B2616: IGN RELAY2 REQ FB • B2618: IGN RELAY1 REQ FB • B261A: ENGINE SW • B261F: ASCD CNCL/CLTCH SW • B2620: NEUTRAL SW • B26E8: CLUTCH SW • B26F1: IGN RELAY OFF • B26F2: IGN RELAY ON • B26F3: START CONT RLY ON • B26F4: START CONT RLY OFF • B26F6: BCM • B26F7: BCM • B26FC: KEY REGISTRATION • U0415: VDC CAN CIR2
5	• B2621: INSIDE ANTENNA 1 • B2622: INSIDE ANTENNA 2 • B2623: INSIDE ANTENNA 3

Priority	DTC
6	• B2626: OUTSIDE 1 ANTENNA • B2627: OUTSIDE 2 ANTENNA • B2628: OUTSIDE 3 ANTENNA
7	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1716: [PRESS DATA ERR] FL • C1717: [PRESS DATA ERR] FR • C1718: [PRESS DATA ERR] RR • C1719: [PRESS DATA ERR] RL • C1729: VHCL SPEED SIG ERR

DTC Index

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NOTE:
The details of time display are as follows.
• CRNT: A malfunction is detected now.
• PAST: A malfunction was detected in the past.
IGN counter is displayed on Freeze Frame Data.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Low tire pressure warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	—	BCS-63
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-64
U0415: VDC CAN CIR2	×	—	×	—	BCS-65
B209F: STR CUT OFF OPEN	×	—	—	—	SEC-118
B20A0: STR CUT OFF SHORT	×	—	—	—	SEC-120
B2192: ID DISCORD BCM-ECM	×	—	—	—	SEC-66
B2193: CHAIN OF BCM-ECM	×	—	—	—	SEC-67
B2195: ANTI SCANNING	×	—	—	—	SEC-68
B2196: DONGLE NG	×	—	—	—	SEC-69
B2198: NATS ANTENNA AMP	×	—	—	—	SEC-71
B2555: STOP LAMP CIRCUIT	—	×	×	—	SEC-74
B2556: ENG START SW	—	×	×	—	SEC-77
B2557: VEHICLE SPEED	×	×	×	—	SEC-79
B2562: LOW VOLTAGE	—	×	—	—	BCS-66
B2601: SHIFT P SIGNAL	×	×	×	—	SEC-80
B2602: SHIFT P DIAG	×	×	×	—	SEC-82
B2603: SHIFT POSITION	×	×	×	—	SEC-85
B2604: SHIFT PN DIAG CAN	×	×	×	—	SEC-90
B2605: SHIFT PN DIAG IPDM	×	×	×	—	SEC-93
B2608: STARTER RELAY	×	×	×	—	SEC-95
B260F: ECM CAN COMM	×	×	×	—	SEC-97

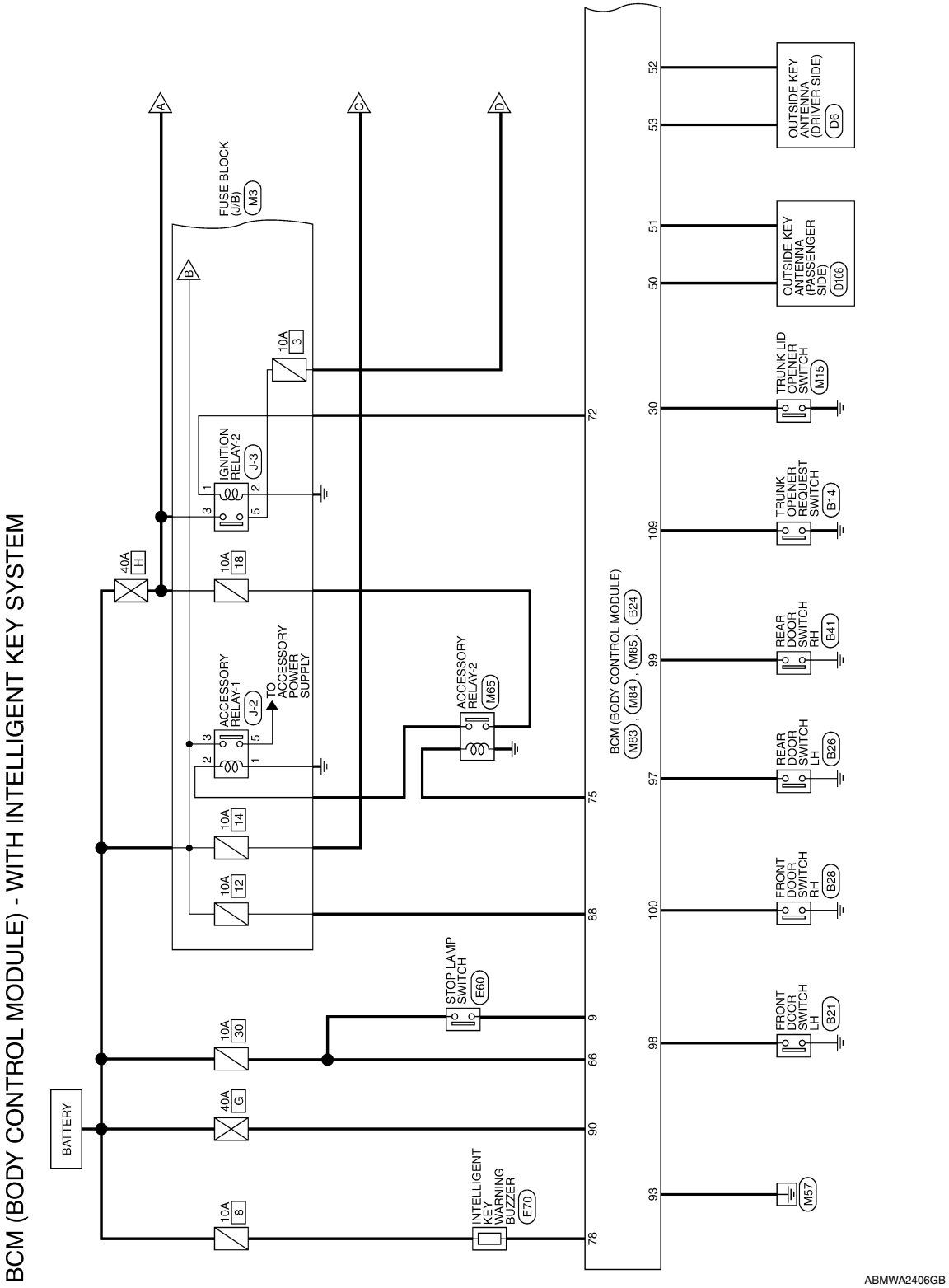
CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Low tire pressure warning lamp ON	Reference page
B2614: ACC RELAY REQ FB	—	×	×	—	PCS-82
B2615: IGN RELAY3 REQ FB	—	×	×	—	PCS-84
B2616: IGN RELAY2 REQ FB	—	×	×	—	PCS-86
B2618: IGN RELAY1 REQ FB	—	×	×	—	PCS-88
B261A: ENGINE SW	—	×	×	—	PCS-90
B261F: ASCD CANCLE SW	×	×	×	—	SEC-98
B2620: NEUTRAL SW	×	×	×	—	SEC-101
B2621: INSIDE ANTENNA 1	—	×	—	—	DLK-72
B2622: INSIDE ANTENNA 2	—	×	—	—	DLK-75
B2623: INSIDE ANTENNA 3	—	×	—	—	DLK-78
B2626: OUTSIDE 1 ANTENNA	—	×	—	—	DLK-81
B2627: OUTSIDE 2 ANTENNA	—	×	—	—	DLK-84
B2628: OUTSIDE 3 ANTENNA	—	×	—	—	DLK-87
B26E8: CLUTCH SW	×	×	×	—	SEC-104
B26F1: IGN RELAY OFF	×	×	×	—	PCS-92
B26F2: IGN RELAY ON	×	×	×	—	PCS-94
B26F3: START CONT RLY ON	×	×	×	—	SEC-108
B26F4: START CONT RLY OFF	×	×	×	—	SEC-109
B26F6: BCM	—	×	×	—	PCS-96
B26F7: BCM	×	×	×	—	SEC-110
B26F8: BCM	—	×	×	—	SEC-111
B26F9: CRANK REQ CIR SHORT	—	×	×	—	SEC-112
B26FA: CRANK REQ CIR OPEN	—	×	×	—	SEC-114
B26FB: CLUTCH SWITCH	—	×	×	—	SEC-116
B26FC: KEY REGISTRATION	—	×	×	—	SEC-117
C1704: LOW PRESSURE FL	—	—	—	×	WT-25
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	WT-27
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1716: [PRESS DATA ERR] FL	—	—	—	×	WT-30
C1717: [PRESS DATA ERR] FR	—	—	—	×	
C1718: [PRESS DATA ERR] RR	—	—	—	×	
C1719: [PRESS DATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-32

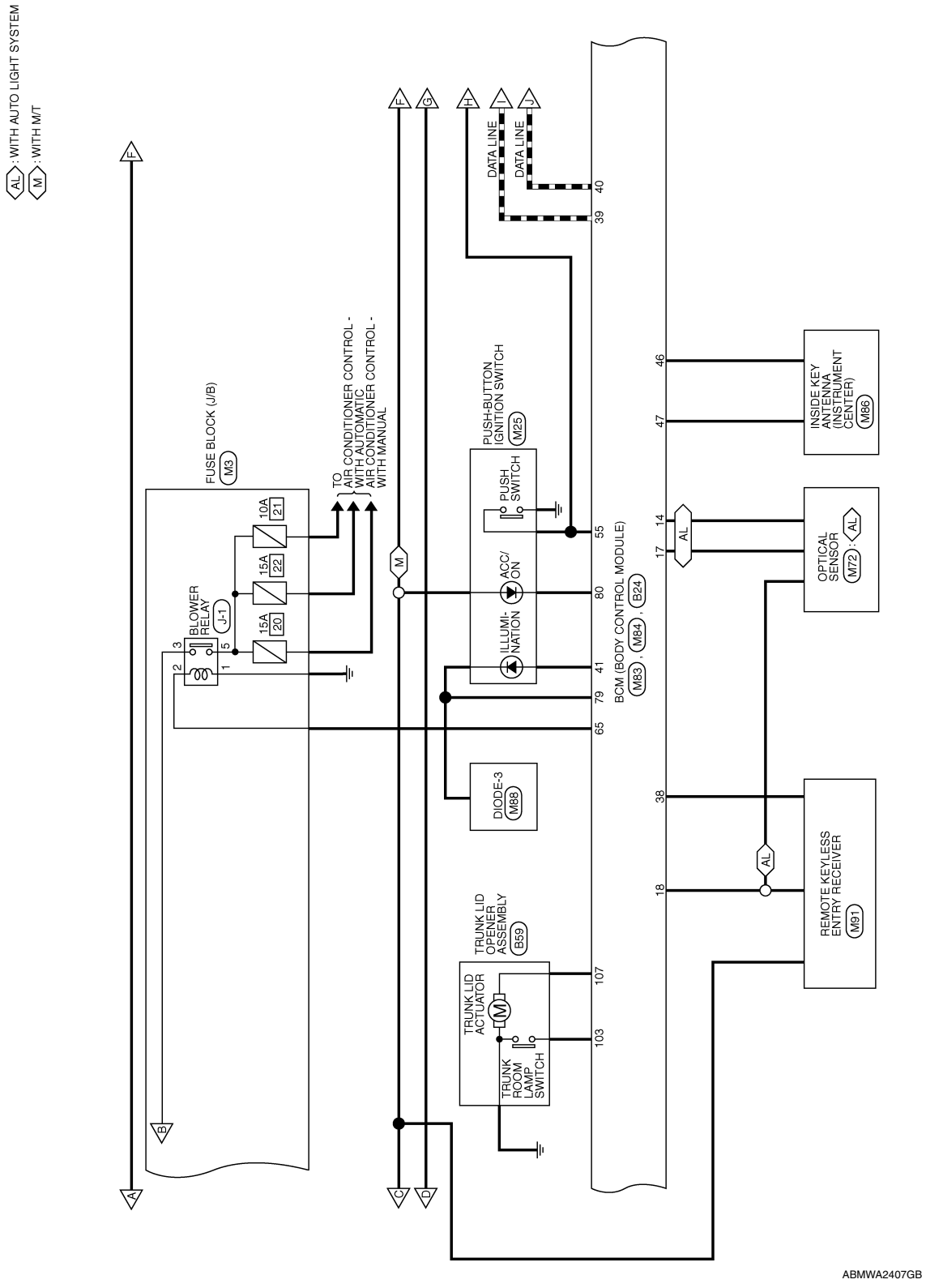
WIRING DIAGRAM

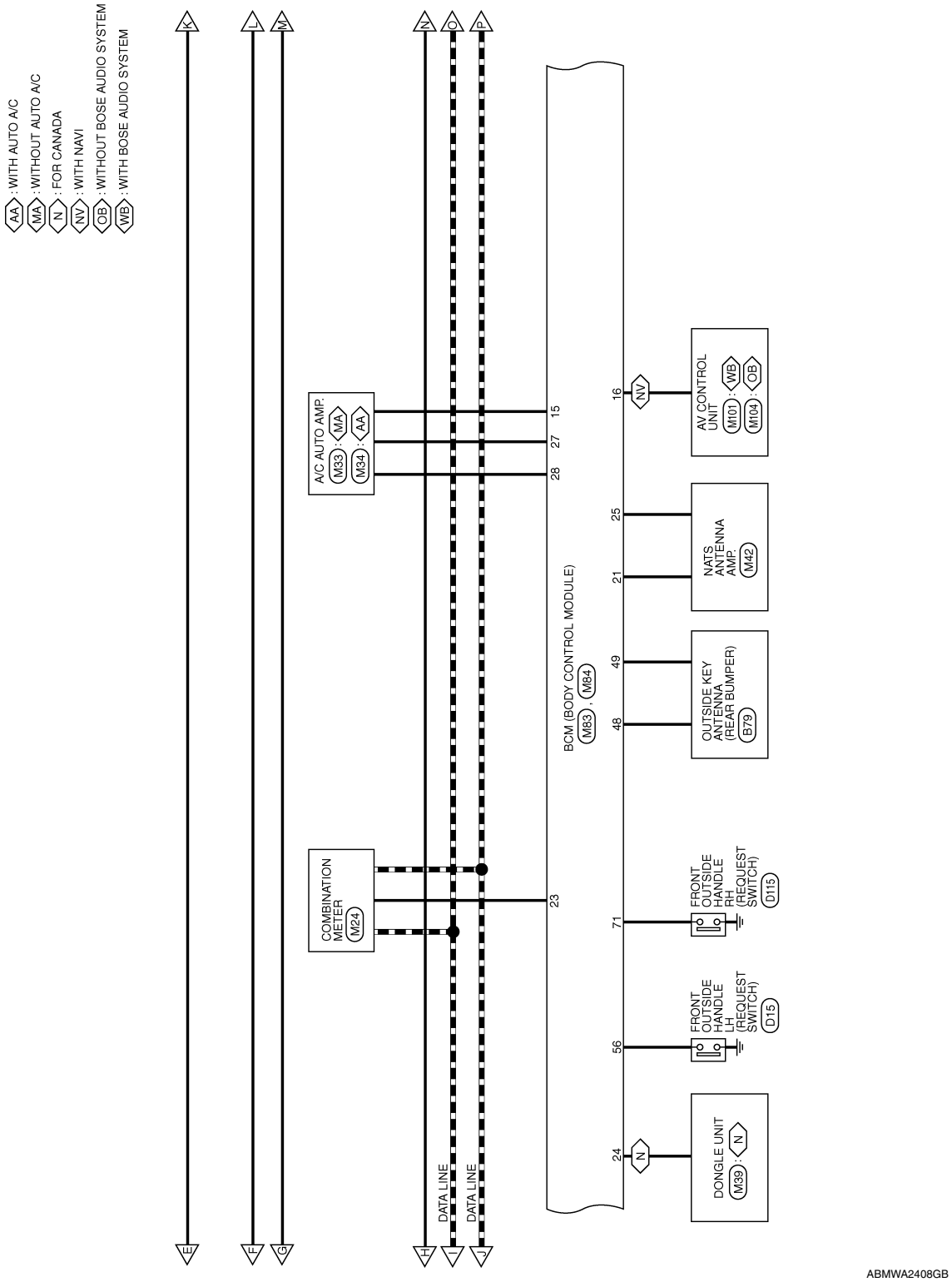
BCM

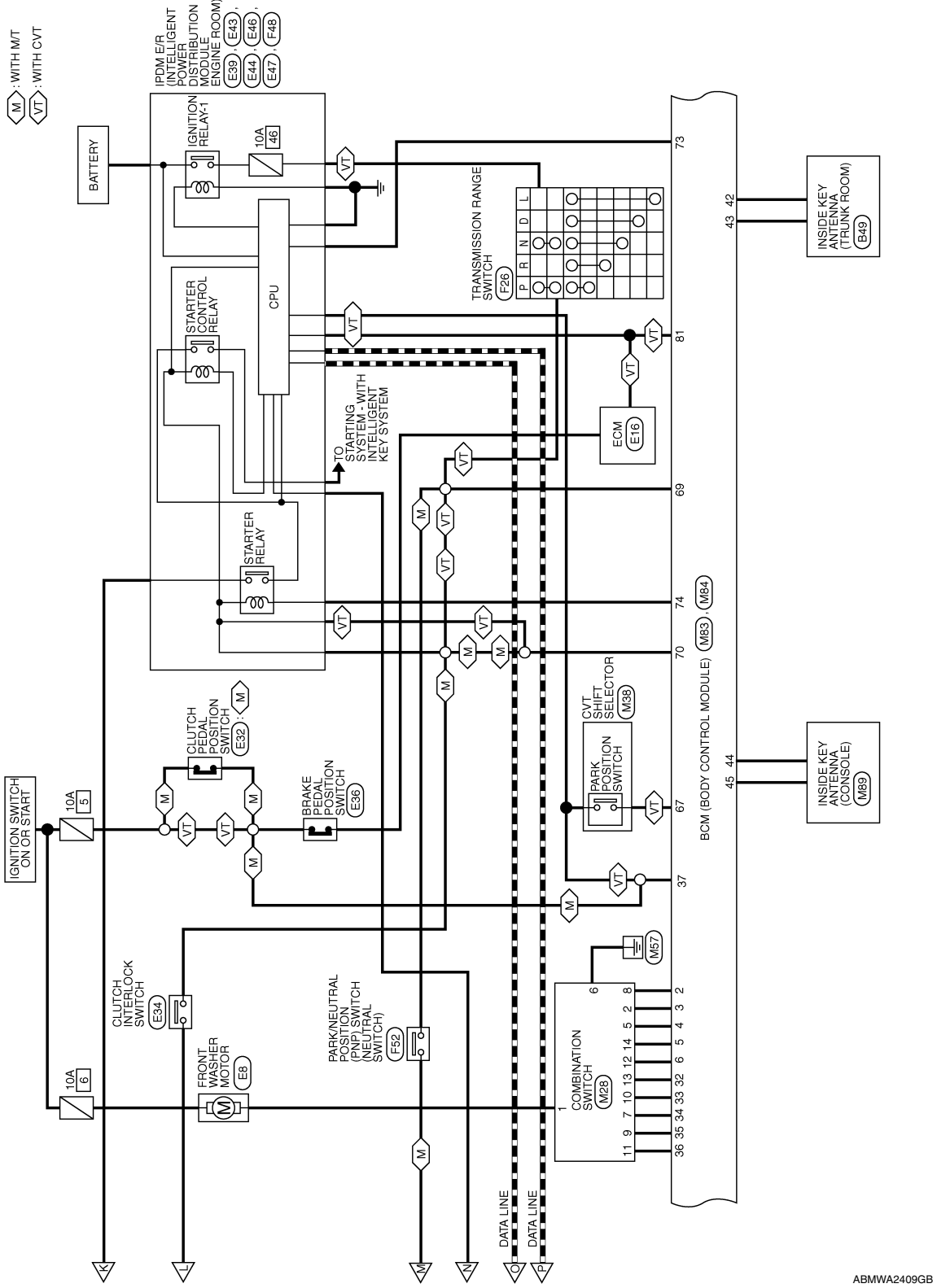
Wiring Diagram

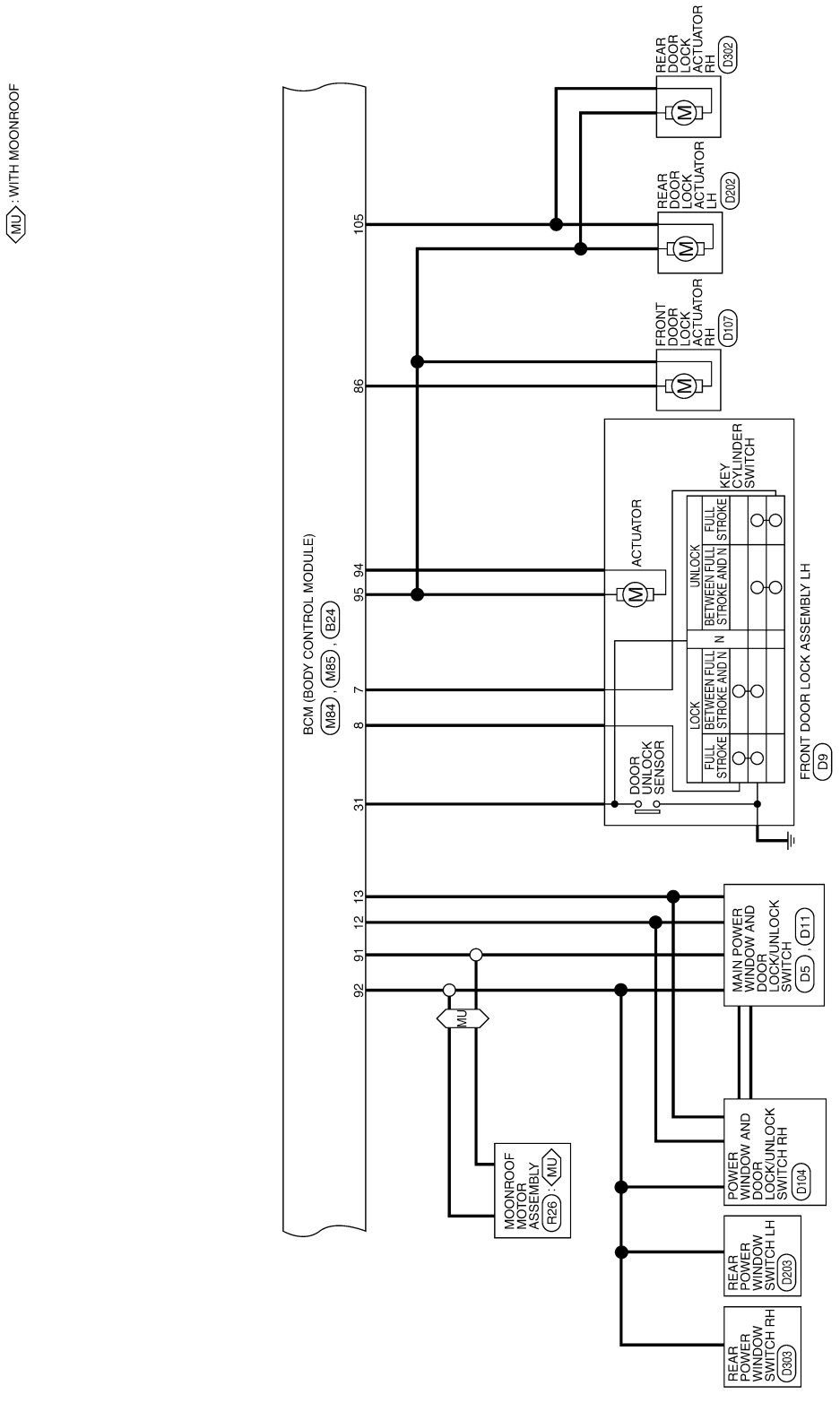
INFOID:0000000009757329



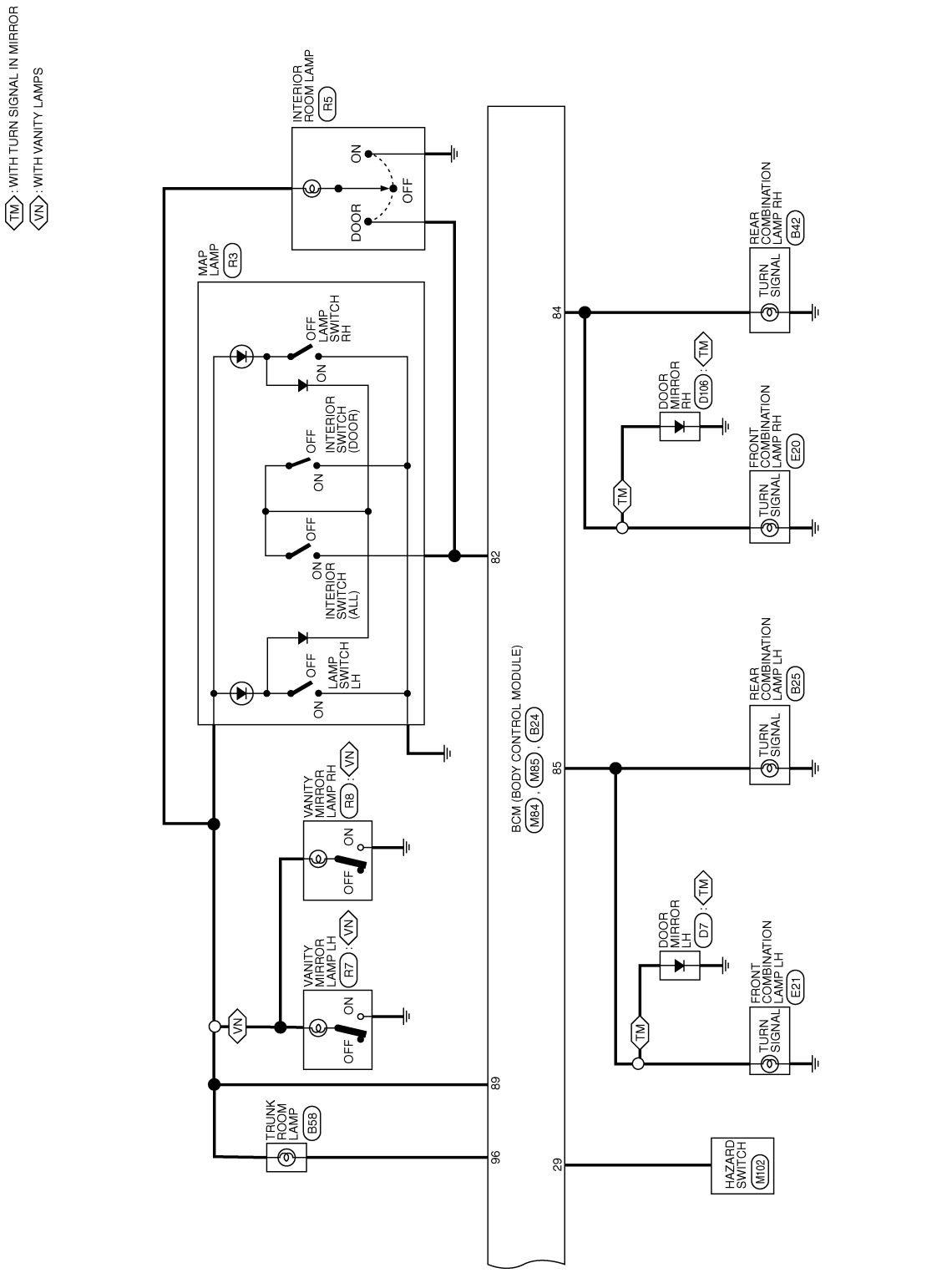

AL : WITH AUTO LIGHT SYSTEM
M : WITH M/T
FUSE BLOCK (J/B)
M3
10A 21
15A 22
15A 20
BLOWER RELAY
J-1
TO AIR CONDITIONER CONTROL - WITH AUTOMATIC AIR CONDITIONER CONTROL - WITH MANUAL
PUSH-BUTTON IGNITION SWITCH
M25
PUSH SWITCH
ACC/ ON
ILLUMI-NATION
DIODE-3
M88
TRUNK LID OPENER ASSEMBLY
B59
TRUNK LID ACTUATOR
TRUNK ROOM LAMP SWITCH
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE)
M83, M84, B24
INSIDE KEY ANTENNA (INSTRUMENT CENTER)
M86
OPTICAL SENSOR
M72
AL
REMOTE KEYLESS ENTRY RECEIVER
M91
ABMWA2407GB


AA : WITH AUTO A/C
MA : WITHOUT AUTO A/C
N : FOR CANADA
NV : WITH NAVI
OB : WITHOUT BOSE AUDIO SYSTEM
WB : WITH BOSE AUDIO SYSTEM
K
L
M
N
O
P
E
F
G
H
I
J
A/C AUTO AMP.
M33 : MA
M34 : AA
COMBINATION METER
M24
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE)
M83 , M84
15
27
28
23
16
25
21
49
48
71
56
24
AV CONTROL UNIT
M101 : WB
M104 : OB
NATS ANTENNA AMP.
M42
OUTSIDE KEY ANTENNA (REAR BUMPER)
B79
FRONT OUTSIDE HANDLE RH (REQUEST SWITCH)
D115
FRONT OUTSIDE HANDLE LH (REQUEST SWITCH)
D15
DONGLE UNIT
M39 : N
ABMWA2408GB


M : WITH M/T
VT : WITH CVT
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E39, E43, E44, E46, E47, F48
BATTERY
IGNITION RELAY-1
10A 46
CPU
STARTER CONTROL RELAY
STARTER RELAY
TO STARTING SYSTEM - WITH INTELLIGENT KEY SYSTEM
TRANSMISSION RANGE SWITCH F26
P R N D L
ECM E16
BCM (BODY CONTROL MODULE) M83, M84
INSIDE KEY ANTENNA (TRUNK ROOM) B49
INSIDE KEY ANTENNA (CONSOLE) M89
CVT SHIFT SELECTOR M38
PARK POSITION SWITCH
CLUTCH PEDAL POSITION SWITCH E32
BRAKE PEDAL POSITION SWITCH E36
IGNITION SWITCH ON OR START
10A 5
10A 6
CLUTCH INTERLOCK SWITCH E34
FRONT WASHER MOTOR E8
PARK/NEUTRAL POSITION (PNP) SWITCH (NEUTRAL SWITCH) F52
COMBINATION SWITCH M28
M57
DATA LINE
DATA LINE
ABMWA2409GB



ABMWA2410GB



ABMWA2411GB

BCM (BODY CONTROL MODULE) CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	GR	–
5	BR	–
6	B	–
7	V	–
8	L	–
9	R	–
10	Y	–
11	SB	–
12	W	–
13	LG	–
14	O	–

Connector No.	M83
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
41	W	HIGH SIDE ENGINE SW ILLUMINATION LED
42	BR	ROOM ANTENNA 3 -
43	Y	ROOM ANTENNA 3 +
44	R	ROOM ANTENNA 2 -
45	G	ROOM ANTENNA 2 +
46	GR	ROOM ANTENNA 1 -
47	BR	ROOM ANTENNA 1 +
48	R	BACK DOOR ANTENNA -
49	W	BACK DOOR ANTENNA +
50	Y	DOOR ANTENNA (AS) -
51	BR	DOOR ANTENNA (AS) +
52	LG	DOOR ANTENNA (DR) -
53	P	DOOR ANTENNA (DR) +
54	–	–
55	LG	ENGINE START SW
56	G	REQUEST SW (DR)
57	–	–
58	–	–
59	–	–
60	–	–
61	–	–

Terminal No.	Color of Wire	Signal Name
62	–	–
63	–	–
64	–	–
65	P	BLOWER FAN MOTOR RELAY OUTPUT
66	V	BRAKE SW2
67	SB	AT DEVICE OUTPUT
68	–	–
69	L	SHIFT N, P (WITH CVT)
69	L	NEUTRAL SW (WITH M/T)
70	O	INHIBIT RLY OUT (WITH CVT)
70	O	CLUTCH SW (WITH M/T)
71	GR	REQUEST SW (AS)
72	R	IGN RELAY OUTPUT 2 (ELEC)
73	V	IGN RELAY OUTPUT 1 (USM)
74	SB	STARTER RELAY OUTPUT
75	W	ACC RELAY INPUT
76	–	–
77	–	–
78	W	SMART KEYLESS BUZZER OUTPUT
79	R	LOW SIDE ENGINE START SW ILLUMINATION LED OUTPUT
80	V	POWER POSITION LED (LOCK POSITION LED)

ABMIA5643GB

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
9	R	BRAKE SW1
10	–	–
11	–	–
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	SB	AUTO LIGHT SENSOR INPUT
15	W	REAR DEFOGGER SW
16	O	MR OUTPUT
17	Y	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT
18	V	KEYLESS TUNER, AUTO LIGHT SENSOR GND
19	–	–
20	–	–
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
22	–	–
23	Y	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
26	–	–
27	Y	AIR CON SW
28	LG	BLOWER FAN SW
29	SB	HAZARD SW
30	L	TRUNK/BACK DOOR OPENER SW
31	R	DOOR LOCK STATUS SW (DR)
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
37	P	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)
37	P	ASCD CANCEL SW (CLUTCH CANCEL SW) (WITH M/T)
38	LG	INTELLIGENT TUNER
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
81	G	STARTER OUTPUT ENABLE INPUT
82	BR	ROOM LAMP OUTPUT
83	–	–
84	W	FLASHER OUTPUT (RIGHT)
85	Y	FLASHER OUTPUT (LEFT)
86	SB	DOOR UNLOCK OUTPUT (AS)
87	–	–
88	O	BATTERY (FUSE)
89	P	BATTERY SAVER OUTPUT
90	Y	BATTERY (F/L)
91	G	POWER WINDOW POWER SUPPLY (BATTERY)
92	L	POWER WINDOW SUPPLY (RAP)
93	B	GND (POWER)
94	SB	DOOR UNLOCK COMMON (DR)
95	O	DOOR LOCK OUTPUT (ALL)

ABMIA5644GB

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
96	LG	LUGGAGE LAMP OUTPUT
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)
101	–	–
102	–	–
103	V	TRUNK/GLASS HATCH SW
104	–	–
105	G	DOOR UNLOCK OUTPUT (RR, RL)
106	–	–
107	GR	TRUNK/BACK DOOR OPEN OUTPUT
108	–	–
109	SB	REQUEST SW (TRUNK/BACK DOOR)
110	–	–

ABMIA5645GB

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description

INFOID:0000000009757330

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

AFTER REPLACEMENT

CAUTION:

- **When replacing BCM, you must perform “After Replace ECU” with CONSULT.**
- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure

INFOID:0000000009757331

1.SAVING VEHICLE SPECIFICATION

CONSULT

Enter "Re/Programming, Configuration" and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-73, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

CONFIGURATION (BCM)

CONFIGURATION (BCM) : Description

INFOID:0000000009757332

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

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

CAUTION:
- **When replacing BCM, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new BCM.**

CONFIGURATION (BCM) : Work Procedure

INFOID:0000000009757333

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of BCM.

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

2.PERFORM “SAVED DATA LIST”

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

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to BCS-62, "CONFIGURATION (BCM) : Configuration list".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model cannot be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Work End.

CONFIGURATION (BCM) : Configuration list

INFOID:0000000009757334

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

SETTING ITEM	
Items	Setting value
TRANSMISSION	AT with ABS ⇔ MT with ABS
BLOWE FAN SIG	MODE1 ⇔ MODE2

⇔: Items which confirm vehicle specifications

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009757335

Refer to LAN-7, "CAN COMMUNICATION SYSTEM : System Description".

DTC Logic

INFOID:0000000009757336

DTC DETECTION LOGIC

NOTE:
U1000 can be set if a module harness was disconnected and reconnected, perhaps during a repair. Confirm that there are actual CAN diagnostic symptoms and a present DTC by performing the Self Diagnostic Result procedure.

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	When any listed module cannot communicate with CAN communication signal continuously for 2 seconds or more with ignition switch ON	In CAN communication system, any item (or items) of the following listed below is malfunctioning. • Transmission • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (IPDM E/R)

Diagnosis Procedure

INFOID:0000000009757337

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 second or more.
2. Check “SELF- DIAG RESULTS”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT Operation Manual.
NO >> Refer to GI-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000009757338

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:0000000009757339

1.REPLACE BCM

When DTC “U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-73, "Removal and Installation".

U0415 VEHICLE SPEED

DTC Logic

INFOID:0000000009757340

DTC DETECTION LOGIC

NOTE:

- If DTC U0415 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC U0415 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

CONSULT Display	DTC Detection Condition	Probable Cause
VDC CAN CIR2 [U0415]	When the vehicle speed signal received from the ABS actuator and electric unit (control unit) remains abnormal for 2 seconds or more.	• ABS system • Combination meter system • CAN bus harness

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

1. Erase the DTC.
2. Turn ignition switch OFF.
3. Perform Self Diagnostic Result of BCM with CONSULT, after the ignition switch has been turned ON for 2 seconds or more.

Is any DTC detected?

YES >> Refer to BCS-65, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009757341

1. ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform Self Diagnostic Result of ABS with CONSULT. Refer to BRC-31, "CONSULT Function (ABS)".

Is any DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-43, "DTC Index".
NO >> GO TO 2.

2. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) POWER SUPPLY AND GROUND CIRCUIT

Check ABS actuator and electric unit (control unit) power and ground. Refer to BRC-62, "Diagnosis Procedure".

Is the inspection result normal?

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

3. COMBINATION METER SELF DIAGNOSTIC RESULT

Perform Self Diagnostic Result of METER M&A with CONSULT. Refer to MWI-17, "CONSULT Function (METER/M&A)".

Is any DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-26, "DTC Index".
NO >> Refer to GI-39, "Intermittent Incident".

B2562 LOW VOLTAGE

DTC Logic

INFOID:0000000009757342

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
LOW VOLTAGE [B2562]	When the power supply voltage to BCM remains less than 8.8 V for 120 seconds or more	• Harness or connector (power supply circuit) • Vehicle battery

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

1. Erase DTC.
2. Turn ignition switch OFF.
3. Perform the Self Diagnostic Result of BCM with CONSULT, after the ignition switch has been turned ON for 120 seconds or more.

Is any DTC detected?

YES >> Refer to BCS-66, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000009757343

1. CHECK BATTERY VOLTAGE

Check battery voltage.

Is battery voltage less than 8.8V?

YES >> Charge battery and retest. Refer to CHG-14, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-17, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".
NO >> GO TO 2.

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to BCS-67, "Diagnosis Procedure".

Is the inspection result normal?

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

3. BCM SELF DIAGNOSTIC RESULT

Perform Self Diagnostic Result of BCM with CONSULT. Refer to BCS-24, "BCM : CONSULT Function (BCM - BCM)".

Is DTC B2562 CRNT?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Refer to GI-39, "Intermittent Incident".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009757344

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

1.CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
88	Battery power supply	12 (10A)
90		G (40A)

Is the fuse blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M85.
2. Check voltage between BCM connector M85 and ground.

BCM		Ground	Voltage
Connector	Terminal		
M85	88	—	Battery voltage
	90		

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M85 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	93	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000009757345

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

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 connector and combination switch connector.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M84	36	M28	11	Yes
INPUT 2		35		9	
INPUT 3		34		7	
INPUT 4		33		10	
INPUT 5		32		13	

Is the inspection result normal?

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

2.CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
INPUT 1	M84	36	Ground	No
INPUT 2		35		
INPUT 3		34		
INPUT 4		33		
INPUT 5		32		

Is the inspection result normal?

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

3.CHECK BCM OUTPUT VOLTAGE

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

BCM signal	Terminals			Voltage
	(+)		(–)	
	BCM			
	Connector	Terminal		
OUTPUT 1	M84	36	Ground	Refer to BCS-29, "Reference Value".
OUTPUT 2		35		
OUTPUT 3		34		
OUTPUT 4		33		
OUTPUT 5		32		

Is the inspection result normal?

YES >> Replace combination switch.
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation".

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000009757346

Regarding Wiring Diagram information, refer to BCS-51, "Wiring Diagram".

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 connector and combination switch connector.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M84	6	M28	12	Yes
OUTPUT 2		5		14	
OUTPUT 3		4		5	
OUTPUT 4		3		2	
OUTPUT 5		2		8	

Is the inspection result normal?

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

2.CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
OUTPUT 1	M84	6	Ground	No
OUTPUT 2		5		
OUTPUT 3		4		
OUTPUT 4		3		
OUTPUT 5		2		

Is the inspection result normal?

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

3.CHECK BCM INPUT SIGNAL

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

BCM signal	Terminals			Voltage
	(+)		(−)	
	BCM			
	Connector	Terminal		
INPUT 1	M84	6	Ground	Refer to BCS-29, "Reference Value".
INPUT 2		5		
INPUT 3		4		
INPUT 4		3		
INPUT 5		2		

Is the inspection result normal?

Yes >> Replace BCM. Refer to BCS-73, "Removal and Installation".
No >> Replace combination switch.

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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

Malfunction item: ×

Malfunction combination	Data monitor item													
	FR WIPER HI	FR WIPER LOW	FR WASHER SW	FR WIPER INT	INT VOLUME	TURN SIGNAL R	TURN SIGNAL L	TAIL LAMP SW	HI BEAM SW	HEAD LAMP SW 1	HEAD LAMP SW 2	PASSING SW	AUTO LIGHT SW	FR FOG SW
A		×	×			×	×							
B	×			×						×		×		
C					×				×		×			
D					×			×					×	
E					×									×
F	×				×									
G			×		×									
H		×		×									×	
I							×				×	×		×
J						×		×	×	×				
K	All Items													
L	If only one item is detected or the item is not applicable to the combinations A to K													

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-68, "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-70, "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	BCM	Replace BCM. Refer to BCS-73, "Removal and Installation".
L	Combination switch	Replace the combination switch.

REMOVAL AND INSTALLATION

BCM

Removal and Installation

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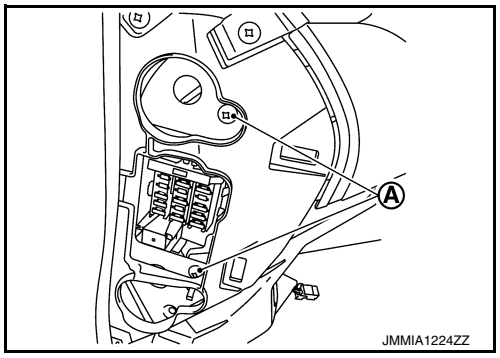
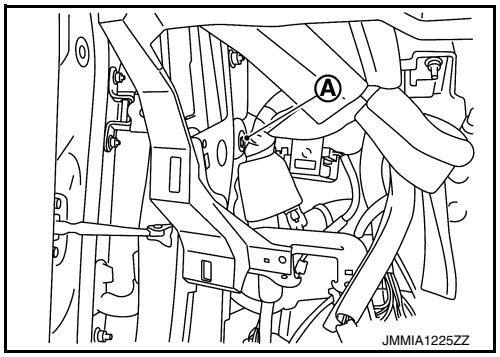
NOTE:
Before replacing BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-61, "CONFIGURATION (BCM) : Description".

REMOVAL

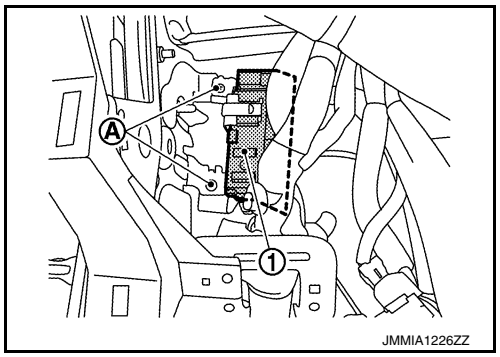
1. Disconnect the negative battery terminal. Refer to PG-52, "Removal and Installation".
2. Remove instrument lower panel LH and instrument side finisher LH. Refer to IP-21, "Removal and Installation".
3. Remove fuse block (J/B) screws (A) and position (BCM) aside.



4. Remove harness clip (A).



5. Remove the screws (A) from the BCM (1).



6. Disconnect the harness connectors and remove the BCM.

INSTALLATION
Installation is in the reverse order of removal.
CAUTION:
- **Perform “CONFIGURATION (BCM)” when replacing BCM. Refer to BCS-61, "CONFIGURATION (BCM) : Description"**

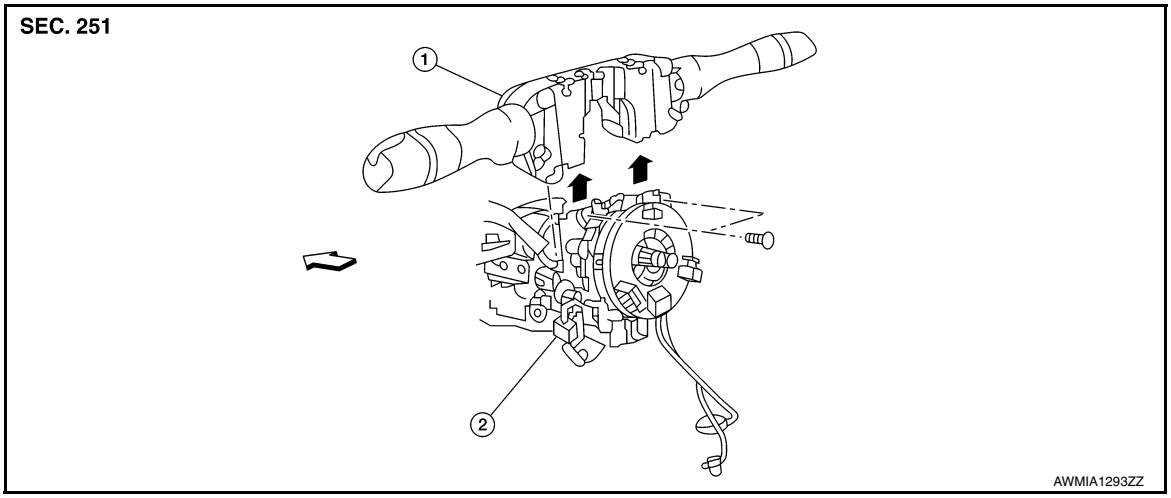
- **Be sure to perform the system initialization (NATS) when replacing BCM. Refer to BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".**
- **When replacing BCM, if new BCM does not come with keyfobs attached, all existing keyfobs must be re-registered. Refer to the CONSULT immobilizer mode and follow the on-screen instructions.**

COMBINATION SWITCH

Exploded View

INFOID:0000000009757349

SEC. 251



1. Combination switch
2. Combination switch harness connector
⇦ Front

NOTE:
Shown with the steering wheel removed for clarity only.

Removal and Installation

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REMOVAL

CAUTION:

- **Before servicing, turn the ignition switch OFF, disconnect both battery terminals and wait at least three minutes.**
- **Do not use air or electric tools when removing or installing the combination switch.**

1. Disconnect both the negative and positive battery terminals, then wait at least three minutes. Refer to PG-50, "Removal and Installation (Battery)".
2. Remove the steering column covers. Refer to IP-16, "Removal and Installation".
3. Rotate steering wheel clockwise to access first combination switch bolt and remove.
4. Rotate steering wheel counter-clockwise to access second combination switch bolt and remove.
5. Disconnect the harness connector from the combination switch and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **After the work is completed, make sure no system malfunction is detected by air bag warning lamp.**
- **In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.**
- **If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfunctions. Refer to SRC-41, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".**

PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

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

SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

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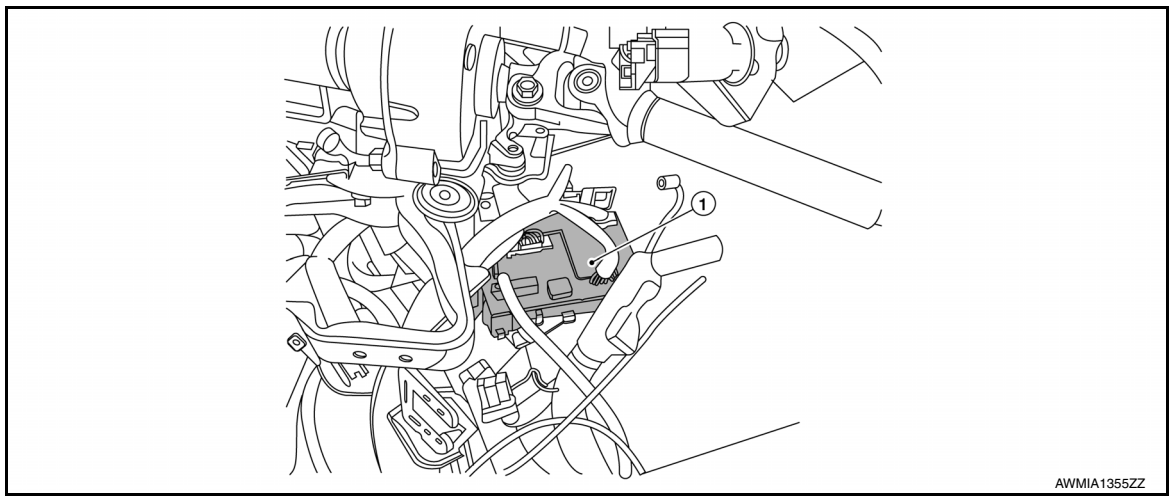

1. BCM (view with instrument panel removed)

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : Component Parts Location

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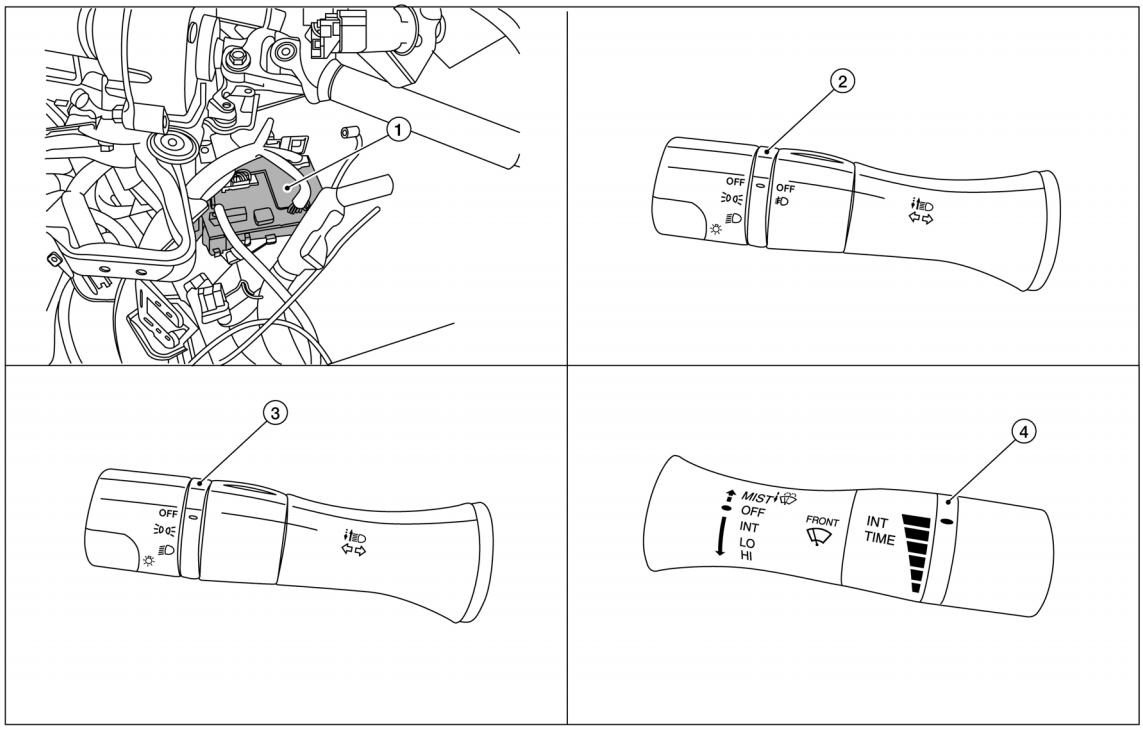

1. BCM (view with combination meter removed)
2. Combination switch (lighting and turn signal) (with fog lamps)
3. Combination switch (lighting and turn signal) (without fog lamps)
4. Combination switch (wiper and washer)

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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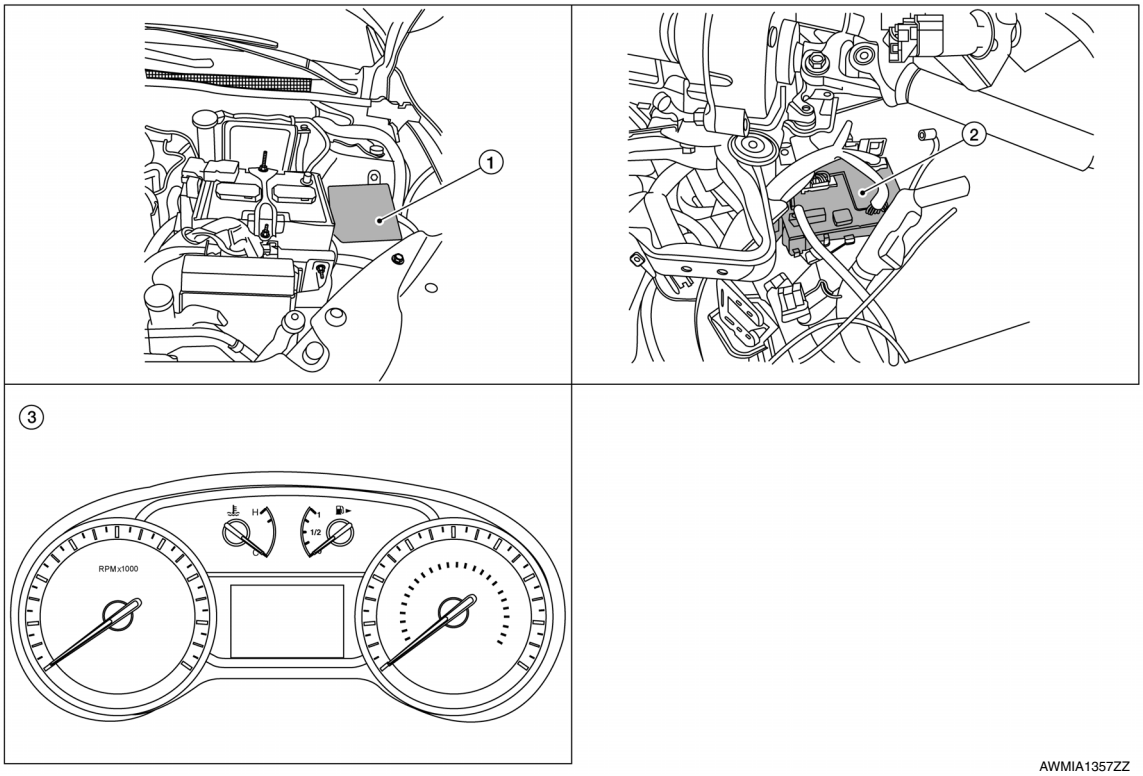

AWMIA1357ZZ

1 IPDM E/R
2 BCM (view with instrument panel removed)
3 Combination meter

SYSTEM
BODY CONTROL SYSTEM
BODY CONTROL SYSTEM : System Description

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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 switch (light, turn signal, wiper and washer) in addition to functions for controlling the operation of various electrical components. It also has a signal transmission function for other systems, and a power consumption control function that reduces the power consumption with the ignition switch OFF.
- BCM is equipped with a diagnosis function that operates with CONSULT and allows for various settings to be changed.

BCM FUNCTION LIST

System	Reference page
Combination switch reading system	BCS-80, "COMBINATION SWITCH READING SYSTEM : System Diagram"
Signal buffer system	BCS-83, "SIGNAL BUFFER : System Diagram"
Power consumption control system	BCS-83, "POWER CONSUMPTION CONTROL SYSTEM : System Diagram"
Headlamp system	EXL-8, "HEADLAMP SYSTEM : System Description"
Daytime running light system (if equipped)	EXL-9, "DAYTIME RUNNING LIGHT SYSTEM : System Description"
Turn signal and hazard warning lamp system	EXL-10, "TURN SIGNAL AND HAZARD WARNING LAMPS : System Description"
Parking, license plate, side maker and tail lamps system	EXL-11, "PARKING, LICENSE PLATE AND TAIL LAMPS : System Description"
Front fog lamp system (if equipped)	EXL-10, "FRONT FOG LAMP SYSTEM : System Description"
Exterior lamp battery saver system	EXL-8, "HEADLAMP SYSTEM : System Description"
Interior room lamp control system	INL-8, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Interior room lamp battery saver system	INL-8, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Front wiper and washer system	WW-8, "System Description"
Manual air conditioner system	HAC-121, "System Description"
Warning chime system	WCS-6, "WARNING CHIME SYSTEM : System Description"
Power door lock system	DLK-216, "POWER DOOR LOCK SYSTEM : System Description"
Trunk lid opener system	DLK-219, "System Description"
Nissan vehicle immobilizer system-NATS (NVIS)	SEC-141, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description"
Vehicle security system	SEC-142, "VEHICLE SECURITY SYSTEM : System Description"
Panic alarm	SEC-142, "VEHICLE SECURITY SYSTEM : System Description"
Rear window defogger system	DEF-6, "System Description"
Remote keyless entry system	DLK-217, "REMOTE KEYLESS ENTRY SYSTEM : System Description"
Power window system	PWC-8, "System Description"
Retained accessory power (RAP) system	BCS-95, "RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)"
TPMS (tire pressure monitoring system)	WT-8, "TIRE PRESSURE MONITORING SYSTEM : System Description"

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Diagram

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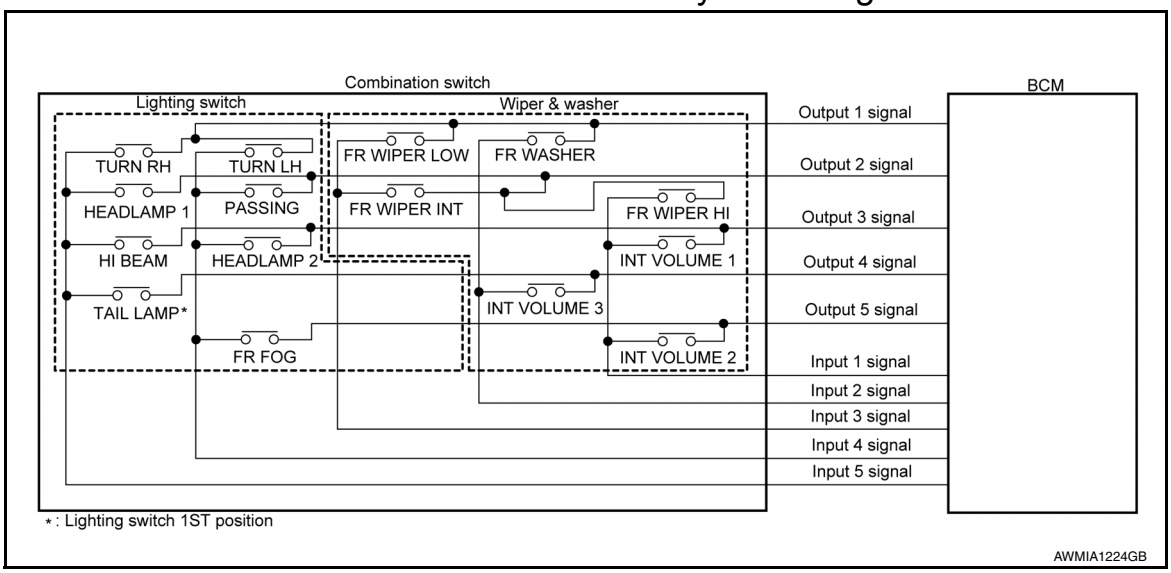

COMBINATION SWITCH READING SYSTEM : System Description

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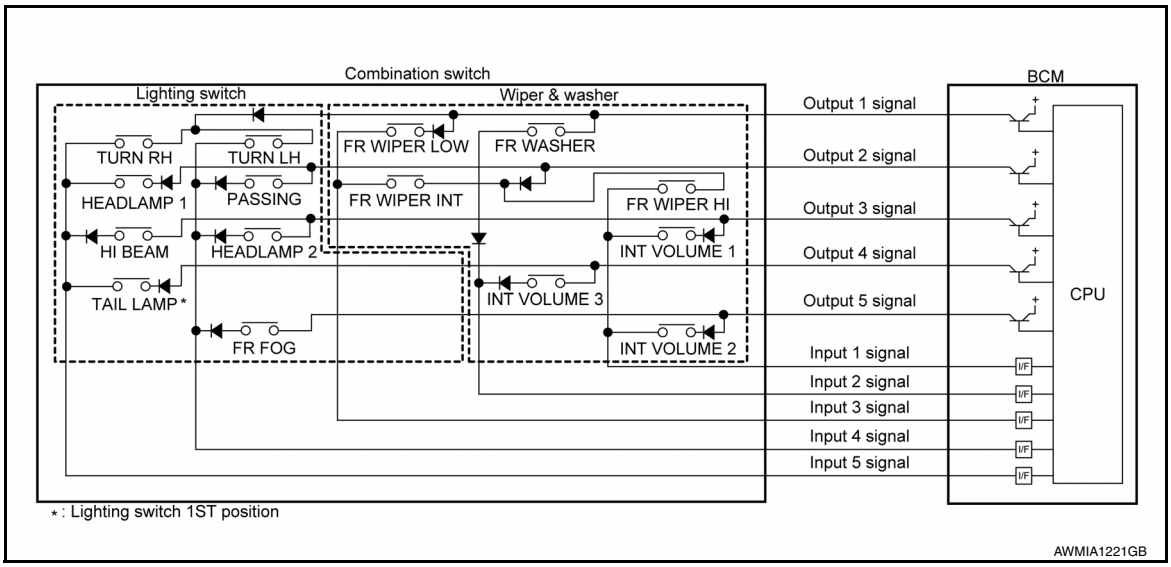
OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPUT-OUTPUT system list

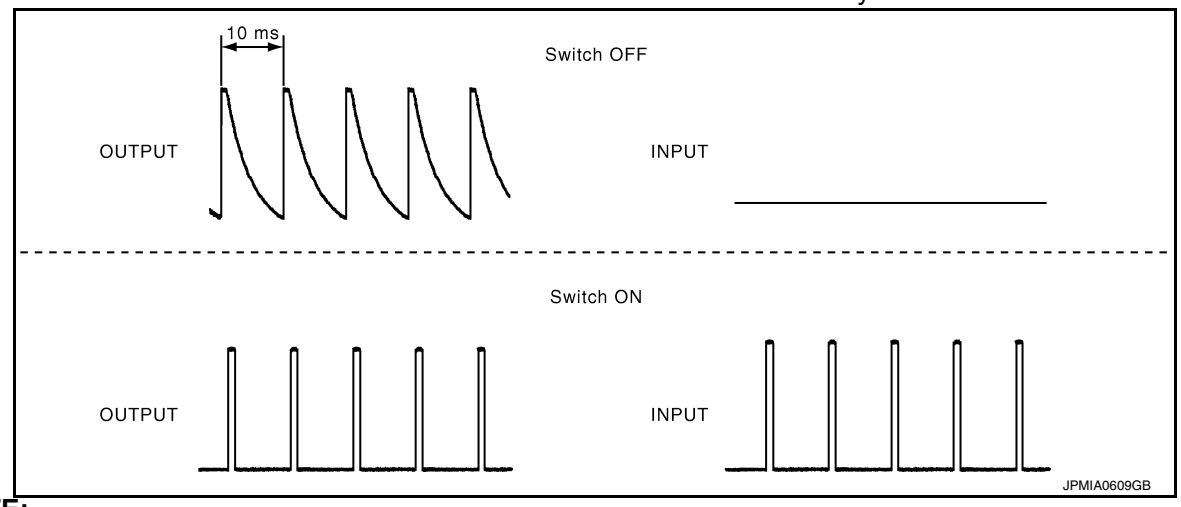
System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	—	—	HEADLAMP 2	HI BEAM

System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 4	—	INT VOLUME 3	—	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	—	—	FR FOG	—

COMBINATION SWITCH READING FUNCTION

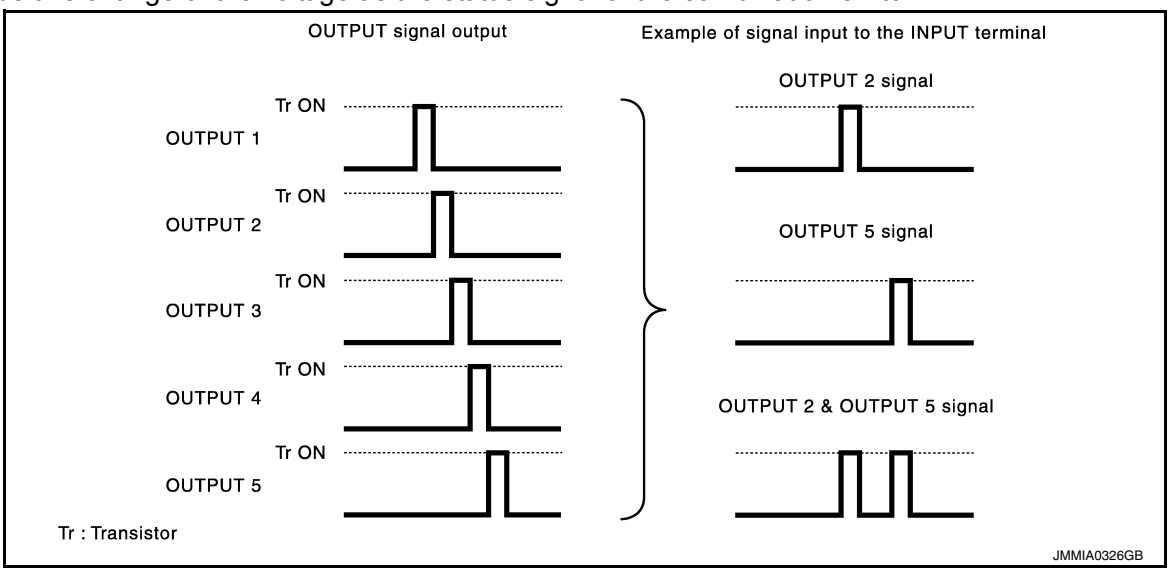
Description

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



NOTE:
BCM reads the status of the combination switch at 60 ms intervals when BCM is controlled at low power consumption control mode.

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

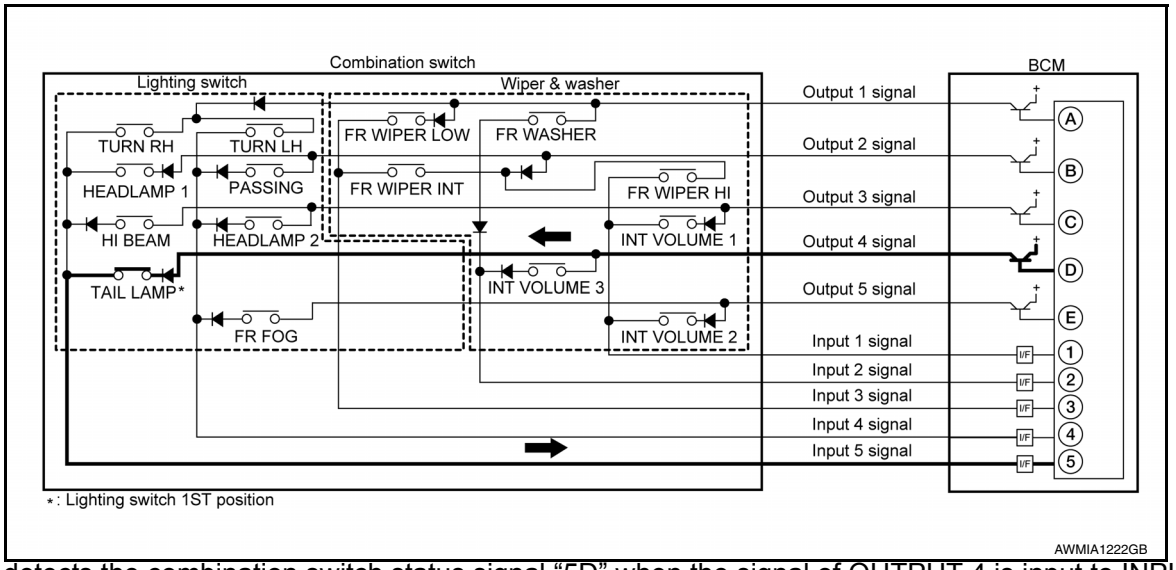


Operation Example

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 (TAIL LAMP) is turned ON

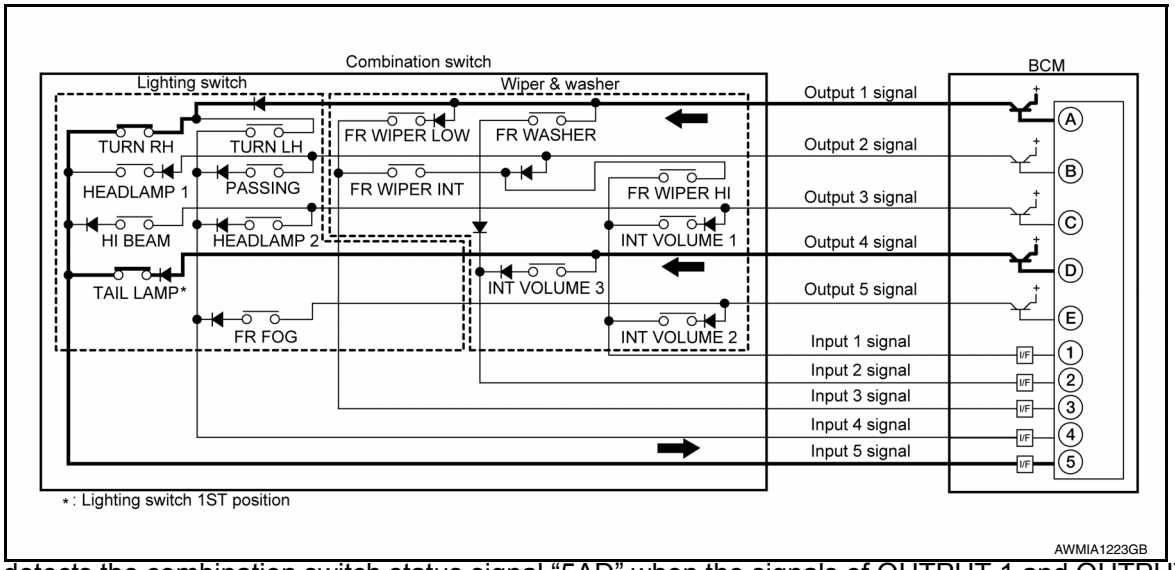
• The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



• BCM detects the combination switch status signal “5D” when the signal of OUTPUT 4 is input to INPUT 5.
• BCM judges that the TAIL LAMP switch is ON when the signal “5D” is detected.

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

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



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

SIGNAL BUFFER

SIGNAL BUFFER : System Diagram

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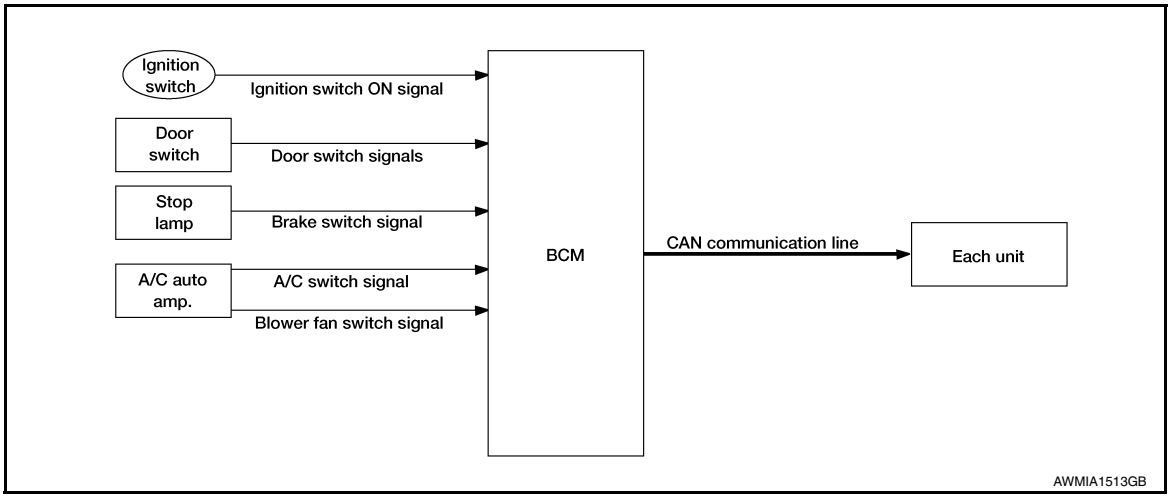

SIGNAL BUFFER : System Description

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OUTLINE

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

SIGNAL TRANSMISSION FUNCTION LIST

Signal name	Input	Output	Description
Ignition switch ON signal	Ignition switch	IPDM E/R (CAN)	Inputs the ignition switch signal and transmits it with CAN communication.
Brake switch signal	Stop lamp switch	IPDM E/R (CAN)	Inputs the brake switch signal and transmits it with CAN communication.
Door switch signal	Any door switch	• Combination meter (CAN) • IPDM E/R (CAN)	Inputs the door switch signal and transmits it with CAN communication.
Blower fan ON signal	A/C auto amp.	ECM (CAN)	Inputs each signals, and transmits the blower fan ON signal and A/C ON signal via CAN communication.
A/C ON signal			

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Diagram

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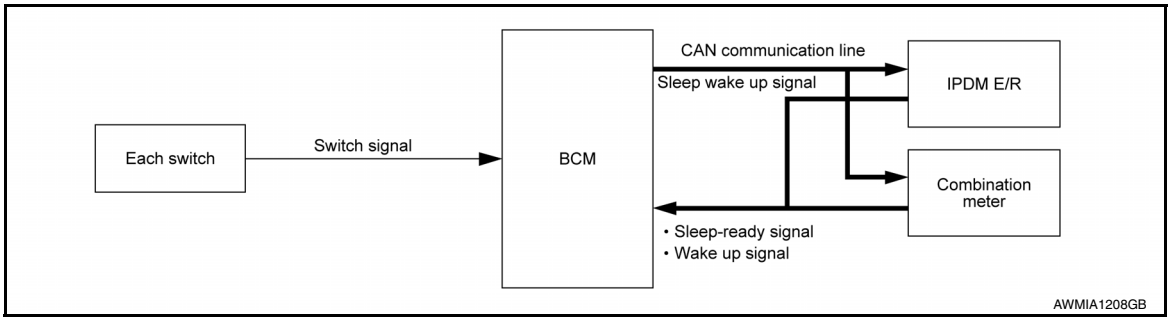


POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:0000000009757361

OUTLINE

- BCM incorporates a power saving 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 and combination meter) 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 switches changes from 10 ms interval to 60 ms interval.

Sleep mode activation

- BCM receives the sleep-ready signal (ready) from IPDM E/R and combination meter via CAN communication.
- BCM transmits the sleep wake up signal (sleep) to each unit when all of the CAN sleep conditions are fulfilled.
- Each unit stops the transmission of CAN communication with the sleep wake up signal. BCM is in CAN communication sleep mode.
- BCM is in the low power consumption mode and performs 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 • Panic alarm: No operation • Warning chime: No operation • Stop lamp switch: OFF • Turn signal indicator lamp: No operation • Exterior lamp: OFF • Door lock status: No change • CONSULT communication status: No communication • Door switch status: No change • Rear window defogger: OFF • Driver door lock status: No change • Key switch status: No change	• Interior room lamp battery saver: Time out • RAP system: OFF • Nissan Vehicle Immobilizer System (NVIS) - NATS: No operation • Remote keyless entry receiver communication status: No communication

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

Wake-up condition
• Receiving the sleep-ready signal (Not-ready) from any units • Hazard switch: ON • HI BEAM switch: OFF → ON, ON → OFF • PASSING switch: OFF → ON, ON → OFF • HEADLAMP 1 switch: OFF → ON, ON → OFF • HEADLAMP 2 switch: OFF → ON, ON → OFF • TAIL LAMP switch: OFF → ON • TURN RH: OFF → ON, ON → OFF • TURN LH: OFF → ON, ON → OFF • Driver door switch: OFF → ON, ON → OFF • Passenger door switch: OFF → ON, ON → OFF • Rear door switch RH: OFF → ON, ON → OFF • Rear door switch LH: OFF → ON, ON → OFF • Stop lamp switch: ON • Door lock and unlock switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK • Front door lock assembly (driver side) (door key cylinder switch): NEUTRAL → LOCK, NEUTRAL → UNLOCK • Remote keyless entry receiver communication: Receiving

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000009757362

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

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

DOOR LOCK

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:0000000009757363

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:0000000009757364

DATA MONITOR

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

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:0000000009757365

DATA MONITOR

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

ACTIVE TEST

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

INT LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:0000000009757366

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.

Monitor Item [Unit]	Description
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk lid switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
ACC SW [On/Off]	Indicates condition of ignition switch ACC position.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
SET I/L D-UNLCK INTCON	On*		Interior room lamp timer function ON.
	Off		Interior room lamp timer function OFF.
ROOM LAMP TIMER SET	MODE 4	30 sec.	Sets the interior room lamp ON time. (Timer operating time).
	MODE 3*	15 sec.	
	MODE 2	7.5 sec.	
	MODE 1	OFF	
ROOM LAMP ON TIME SET	MODE7	0 sec.	Sets the interior room lamp gradual brightening time.
	MODE6	5 sec.	
	MODE5	4 sec.	
	MODE4	3 sec.	
	MODE3	2 sec.	
	MODE2*	1 sec.	
	MODE1	0.5 sec.	
ROOM LAMP OFF TIME SET	MODE7	0 sec.	Sets the interior room lamp gradual dimming time.
	MODE6	5 sec.	
	MODE5	4 sec.	
	MODE4	3 sec.	
	MODE3	2 sec.	
	MODE2*	1 sec.	
	MODE1	0.5 sec.	
R LAMP TIMER LOGIC SET	MODE 2		Interior room lamp timer activates with all doors.
	MODE 1*		Interior room lamp timer activates with the driver door only.

* : Initial setting

MULTI REMOTE ENT

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

INFOID:0000000009757367

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.

Monitor Item [Unit]	Description
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS PANIC [On/Off]	Indicates condition of panic signal from keyfob.

ACTIVE TEST

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

WORK SUPPORT

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

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000009757368

DATA MONITOR

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

Monitor Item [Unit]	Description
HI BEAM SW [On/Off]	Indicates condition of combination switch.
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
TAIL LAMP SW [On/Off]	
PASSING SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
KEY ON SW [On/Off]	Indicates condition of key switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
PKB SW [On/Off]	Indicates park brake switch signal received from combination meter on CAN communication line.
ENGINE RUN [On/Off]	Indicates engine run signal received from ECM on CAN communication line.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
BATTERY SAVER SET	On*		Exterior lamp battery saver function ON.
	Off		Exterior lamp battery saver function OFF.
ILL DELAY SET	MODE 8	180 sec.	Sets delay timer function operation time (All doors closed).
	MODE 7	150 sec.	
	MODE 6	120 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 3	30 sec.	
	MODE 2	OFF	
	MODE 1*	45 sec.	

* : Initial setting

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:0000000009757369

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
IGN SW CAN [On/Off]	Indicates ignition switch ON signal received from IPDM E/R on CAN communication line.
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	
INT VOLUME [1 – 7]	Indicates condition of intermittent wiper operation of combination switch.
FR WIPER STOP [On/Off]	Indicates front wiper auto stop signal received from IPDM E/R on CAN communication line.
REVERSE SW CAN [On/Off]	Indicates reverse switch signal received from TCM on CAN communication line.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000009757370

DATA MONITOR

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

ACTIVE TEST

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

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

INFOID:0000000009757371

DATA MONITOR

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

Monitor Item [Unit]	Description
THERMO AMP [On/Off]	Indicates condition of thermo amp.
FR DEF SW [On/Off]	Indicates condition of front defrost switch.

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000009757372

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	Indicates condition of right turn signal operation of combination switch.
TURN SIGNAL L [On/Off]	Indicates condition of left turn signal operation of combination switch.
HI BEAM SW [On/Off]	Indicates condition of Hi beam switch operation of combination switch.
HEAD LAMP SW 1 [On/Off]	Indicates condition of head lamp switch 1 operation of combination switch.
HEAD LAMP SW 2 [On/Off]	Indicates condition of head lamp switch 2 operation of combination switch.
TAIL LAMP SW [On/Off]	Indicates condition of tail lamp switch operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch operation of combination switch.
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:0000000009757373

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to BCS-109, "DTC Index".

WORK SUPPORT

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

CONFIGURATION

Refer to BCS-116, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000009757374

SELF DIAGNOSTIC RESULT

Refer to BCS-109, "DTC Index".

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	—	Dongle ID code can be read.

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000009757375

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk lid switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
ACC SW [On/Off]	Indicates condition of ignition switch ACC position.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description
ROOM LAMP TIMER SET	MODE 3*	10 min.	Sets interior room lamp battery saver timer operating time.
	MODE 2	60 min.	
	MODE 1	15 min.	

* : Initial setting

TRUNK

TRUNK : CONSULT Function (BCM - TRUNK)

INFOID:0000000009757376

DATA MONITOR

Monitor Item [Unit]	Description
KEY ON SW [On/Off]	Indicates condition of key switch.

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

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000009757377

DATA MONITOR

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

WORK SUPPORT

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

*: Initial setting

SIGNAL BUFFER

SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:0000000009757378

DATA MONITOR

Monitor Item [Unit]	Description
BRAKE SW [On/Off]	Indicates condition of stop lamp switch signal received from ABS actuator and electric unit (control unit) on CAN communication line.

AIR PRESSURE MONITOR

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

INFOID:0000000009757379

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

SELF DIAGNOSTIC RESULT

NOTE:
Before performing self diagnostic result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-109, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
AIR PRESS FL [kPa, kg/cm^2 or Psi]	Indicates air pressure of front LH tire.
AIR PRESS FR [kPa, kg/cm^2 or Psi]	Indicates air pressure of front RH tire.

Monitor Item [Unit]	Description
AIR PRESS RR [kPa, kg/cm^2 or Psi]	Indicates air pressure of rear RH tire.
AIR PRESS RL [kPa, kg/cm^2 or Psi]	Indicates air pressure of rear LH tire.
ID REGST FL1 [Done/Yet]	Indicates ID registration status of front LH transmitter.
ID REGST FR1 [Done/Yet]	Indicates ID registration status of front RH transmitter.
ID REGST RR1 [Done/Yet]	Indicates ID registration status of rear RH transmitter.
ID REGST RL1 [Done/Yet]	Indicates ID registration status of rear LH transmitter.
WARNING LAMP [Off/On]	Indicates condition of low tire pressure warning lamp in combination meter.
BUZZER [Off/On]	Indicates condition of buzzer in combination meter.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Description
ID READ	The registered ID number is displayed.
ID REGIST	Refer to WT-22, "Description".

PANIC ALARM

PANIC ALARM : CONSULT Function (BCM - PANIC ALARM)

INFOID:0000000009757380

ACTIVE TEST

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

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:0000000009757381

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.
- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Test remote keyless entry keyfob relative signal strength

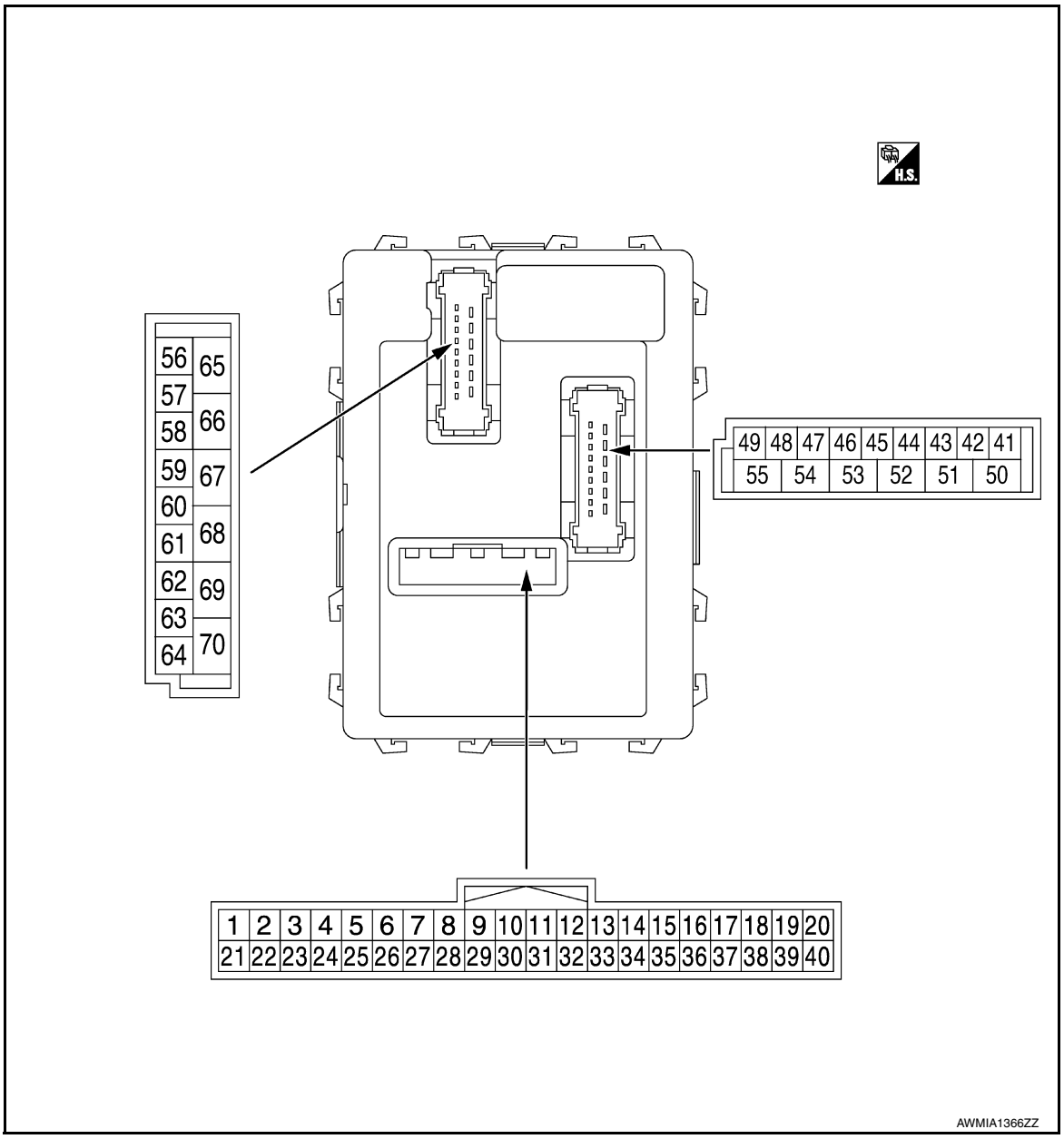
VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
ACC ON SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm^2, psi
BRAKE SW	Brake pedal released	Off
	Brake pedal depressed	On
BUCKLE SW	Seat belt buckle unfastened	Off
	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
	Buzzer in combination meter ON	On
CDL LOCK SW	Door lock/unlock switch neutral	Off
	Door lock/unlock switch LOCK	On
CDL UNLOCK SW	Door lock/unlock switch neutral	Off
	Door lock/unlock switch UNLOCK	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door open	On
DOOR SW-DR	Driver's door closed	Off
	Driver's door open	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door open	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door open	On
ENGINE RUN	Engine stopped	Off
	Engine running	On

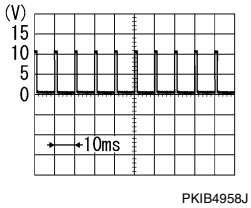
Monitor Item	Condition	Value/Status
FAN ON SIG	Blower fan OFF	Off
	Blower fan ON	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
HAZARD SW	Hazard switch OFF	Off
	Hazard switch ON	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 1ST	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
ID REGST FL1	ID registration of front left tire incomplete	Yet
	ID registration of front left tire complete	Done
ID REGST FR1	ID registration of front right tire incomplete	Yet
	ID registration of front right tire complete	Done
ID REGST RL1	ID registration of rear left tire incomplete	Yet
	ID registration of rear left tire complete	Done
ID REGST RR1	ID registration of rear right tire incomplete	Yet
	ID registration of rear right tire complete	Done
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
INT VOLUME	Intermittent wiper position	1 - 7
KEY CYL LK-SW	Key cylinder switch in N position	Off
	Key cylinder switch in LOCK position	On
KEY CYL UN-SW	Key cylinder switch in N position	Off
	Key cylinder switch in UNLOCK position	On
KEY ON SW	Key removed from ignition key cylinder	Off
	Key inserted into ignition key cylinder	On
KEYLESS LOCK	LOCK button of keyfob not pressed	Off
	LOCK button of keyfob pressed	On

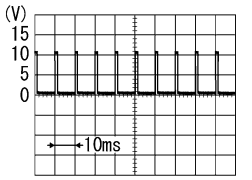
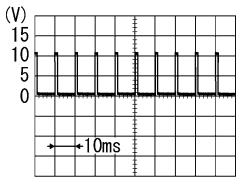
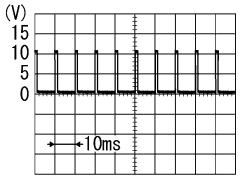
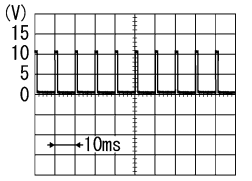
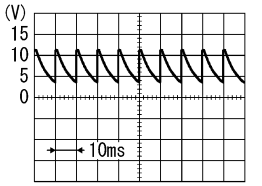
Monitor Item	Condition	Value/Status
KEYLESS PANIC	PANIC button of keyfob not pressed	Off
	PANIC button of keyfob pressed	On
KEYLESS UNLOCK	UNLOCK button of keyfob not pressed	Off
	UNLOCK button of keyfob pressed	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
PKB SW	Parking brake released	Off
	Parking brake engaged	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
REVERSE SW CAN	Reverse switch OFF	Off
	Reverse switch ON	On
TAIL LAMP SW	Lighting switch OFF	Off
	Lighting switch 1ST	On
THERMO AMP	A/C and fan ON switch OFF	Off
	A/C and fan ON switch ON	On
TRNK OPEN MNTR	Trunk lid switch OFF	Off
	Trunk lid switch ON	On
TRNK/HAT MNTR	Trunk lid closed	Off
	Trunk lid open	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
VEHICLE SPEED	While driving, equivalent to speedometer reading	mph, km/h
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
	Low tire pressure warning lamp in combination meter ON	On

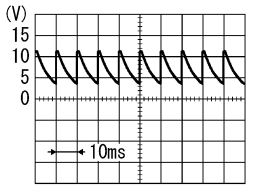
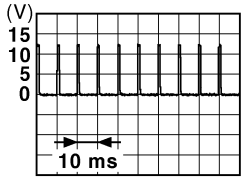
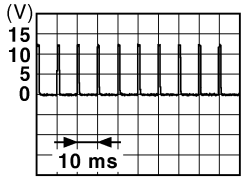
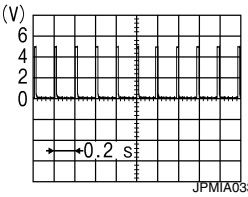
TERMINAL LAYOUT

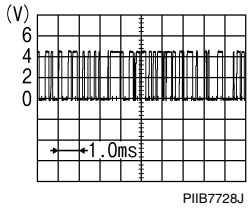
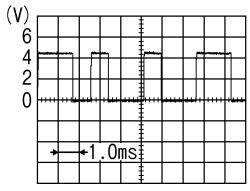
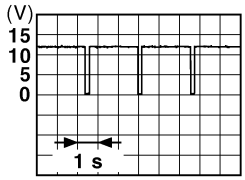
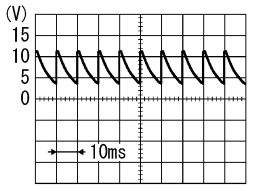


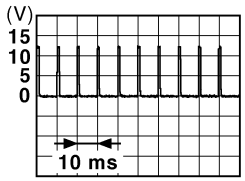
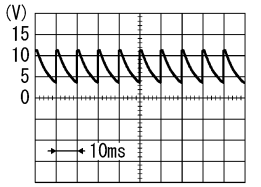
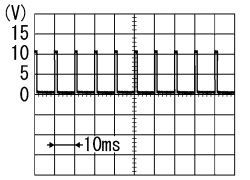
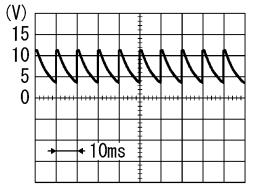
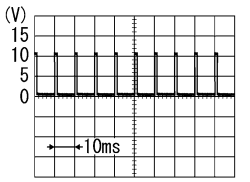
PHYSICAL VALUES

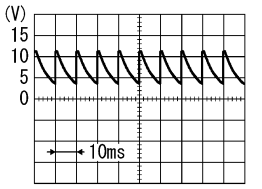
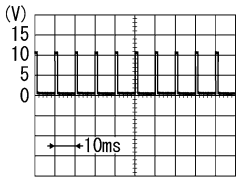
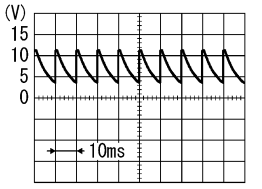
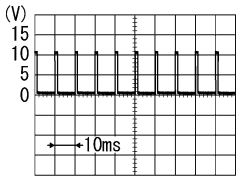
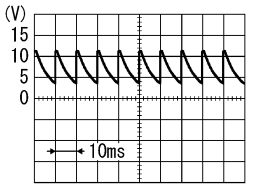
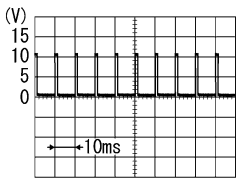
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
2 (L)	Ground	Input 5 signal	Input	Combination switch	OFF	0 V
					TURN RH	 PKIB4958J 1.0 V
					HEADLAMP 1	
					HI BEAM	
					TAIL LAMP	

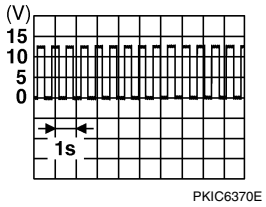
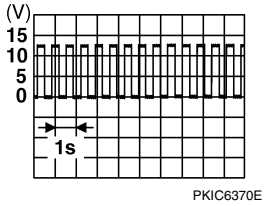
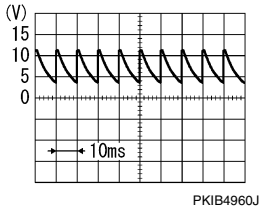
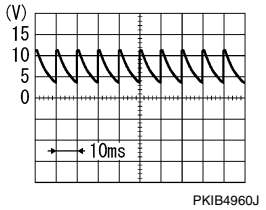
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
3 (GR)	Ground	Input 4 signal	Input	Combination switch	OFF	0 V
					TURN LH PASSING HEADLAMP 2 FR FOG	 PKIB4958J 1.0 V
4 (BR)	Ground	Input 3 signal	Input	Combination switch	OFF	0 V
					FR WIPER LOW FR WIPER INT (any intermittent position)	 PKIB4958J 1.0 V
5 (O)	Ground	Input 2 signal	Input	Combination switch	OFF	0 V
					FR WASHER Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	 PKIB4958J 1.0 V
6 (W)	Ground	Input 1 signal	Input	Combination switch	OFF	0 V
					FR WIPER HI Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3 Wiper intermittent dial 6 Wiper intermittent dial 7	 PKIB4958J 1.0 V
7 (L)	Ground	Key cylinder unlock sw signal	Input	Key cylinder switch	N position	 PKIB4960J 7.0 - 8.0 V
					UNLOCK position	0 V

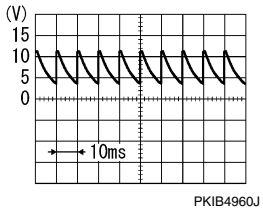
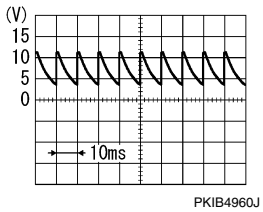
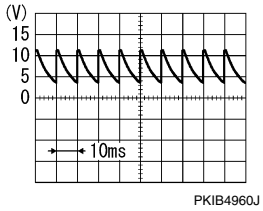
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
8 (V)	Ground	Key cylinder lock sw signal	Input	Key cylinder switch	N position	 PKIB4960J 7.0 - 8.0 V
					LOCK position	0 V
9 (R)	Ground	Brake sw signal	Input	Stop lamp switch	OFF (brake pedal released)	0 V
					ON (brake pedal depressed)	Battery voltage
10 (W)	Ground	Rear defogger sw signal	Input	Rear window defogger switch	OFF	Battery voltage
					ON	0 V
11 (G)	Ground	ACC switch signal	Input	Ignition switch	OFF	0 V
					ACC or ON	Battery voltage
12 (GR)	Ground	Central door lock sw signal	Input	Door lock and unlock switch	N position	 JPMIA0012GB 1.0 - 1.5 V
					LOCK position	0 V
13 (BR)	Ground	Central door unlock sw signal	Input	Door lock and unlock switch	N position	 JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
18 (V)	Ground	Keyless gnd signal	Input	Ignition switch ON		0 V
19 (BR)	Ground	Keyless tuner power supply	Input	Ignition switch OFF	Key inserted into ignition key cylinder	0 V
					Key removed from ignition key cylinder (Any door open)	5 V
					Key removed from ignition key cylinder (Any door closed)	 JPMIA0338JP

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
20 (LG)	Ground	Keyless tuner signal	Input	Ignition switch OFF	Key inserted into ignition key cylinder	0 V
					Waiting	 PIIB7728J
					Signal receiving	 PIIB7729J
21 (P)	Ground	Immobilizer one way communication (clock) signal	Input/ Output	While waiting	Turn ignition switch ON.	Turn ignition switch ON: Pointer of tester should move.
23 (Y)	Ground	Security indicator output signal	Input	Security indicator	ON	0 V
					Blinking (Ignition switch OFF)	 JPMIA0014GB 11.3 V
					OFF	Battery voltage
24 (SB)	Ground	Audio/dongle link (serial) signal	Input/ Output	Ignition switch OFF.		5 V
25 (LG)	Ground	Immobilizer two way communication signal	Input/ Output	While waiting	Turn ignition switch ON.	Turn ignition switch ON: Pointer of tester should move.
27 (Y)	Ground	Air con sw signal	Input	A/C and fan ON switch	OFF	Battery voltage
					ON	0 V
28 (LG)	Ground	Blower fan sw signal	Input	Fan switch	OFF	0 V
					I, II, III or IIII	 PKIB4960J 7.0 - 8.0 V
29 (SB)	Ground	Hazard sw signal	Input	Hazard switch	OFF	Battery voltage
					ON	0 – 1.5 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
30 (L)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Depressed	0 V
					Released	 JPMIA0012GB 1.0 - 1.5 V
32 (LG)	Ground	Output 5 signal	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR FOG Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 6 Wiper intermittent dial 7	 PKIB4958J 1.2 V
33 (Y)	Ground	Output 4 signal	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					TAIL LAMP Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	 PKIB4958J 1.2 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
34 (V)	Ground	Output 3 signal	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					HEADLAMP 2 HI BEAM Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3	 PKIB4958J 1.2 V
35 (R)	Ground	Output 2 signal	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR WIPER HI FR WIPER INT (any intermittent position) PASSING HEADLAMP 1	 PKIB4958J 1.2 V
36 (SB)	Ground	Output 1 signal	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR WASHER FR WIPER LOW TURN LH TURN RH	 PKIB4958J 1.2 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
37 (GR)	Ground	Key sw signal	Input	Ignition switch	Ignition key inserted into ignition key cylinder	Battery voltage
					Ignition key removed from ignition key cylinder	0 V
38 (R)	Ground	Ign sw signal	Input	Ignition switch	OFF or ACC	0 V
					ON or START	Battery voltage
39 (L)	Ground	CAN-H signal	Input/ Output	—		—
40 (P)	Ground	CAN-L signal	Input/ Output	—		—
41 (LG)	Ground	Flasher output (LEFT) signal	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKIC6370E 6.5 V (Turn signal lamp turn on: 9 - 16 V)
42 (O)	Ground	Flasher output (RIGHT) signal	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKIC6370E 6.5 V (Turn signal lamp turn on: 9 - 16 V)
45 (R)	Ground	Door sw (AS) signal	Input	Front door switch RH	OFF (front door RH closed)	 PKIB4960J 7.0 - 8.0 V
					ON (front door RH open)	0 V
46 (Y)	Ground	Door sw (DR) signal	Input	Front door switch LH	OFF (front door LH closed)	 PKIB4960J 7.0 - 8.0 V
					ON (front door LH open)	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
47 (GR)	Ground	Door sw (RL) signal	Input	Rear door switch LH	OFF (rear door LH closed)	 PKIB4960J 7.0 - 8.0 V
					ON (rear door LH open)	0 V
48 (P)	Ground	Door sw (RR) signal	Input	Rear door switch RH	OFF (rear door RH closed)	 PKIB4960J 7.0 - 8.0 V
					ON (rear door RH open)	0 V
50 (LG)	Ground	Luggage lamp output signal	Output	Trunk lid	Closed (trunk room lamp OFF)	Battery voltage
					Open (trunk room lamp ON)	0 – 1 V
51 (V)	Ground	Tr room lamp sw signal	Input	Trunk lid switch	OFF (Trunk lid closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Trunk lid open)	0 V
55 (GR)	Ground	Trunk open output	Output	Trunk opener request switch released	Trunk lid actuator idle	0 V
				Trunk opener request switch depressed	Trunk lid actuator activated	Battery voltage
60 (BR)	Ground	Room lamp output signal	Output	Interior room lamp or map lamp	OFF	Battery voltage
					ON	Battery voltage
					DOOR	0 – 1 V
62 (P)	Ground	Battery saver output signal	Output	Interior room lamp battery saver activated		0 V
				Interior room lamp battery saver not activated		Battery voltage
63 (O)	Ground	Battery (FUSE)	Input	Ignition switch OFF		Battery voltage
64 (SB)	Ground	Door unlock output (DR) signal	Output	Front door lock actuator LH	Actuated to UNLOCK position	Battery voltage
					Other than actuated to UNLOCK position	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
65 (B)	Ground	Gnd	Output	Ignition switch ON		0 V
66 (O)	Ground	Door lock output signal	Output	All door lock actuators	Actuated to LOCK position	Battery voltage
					Other than actuated to LOCK position	0 V
67 (SB)	Ground	Door unlock output (AS, RR, RL) signal	Output	Front door lock actuator RH, rear door lock actuator RH and rear door lock actuator LH	Actuated to UNLOCK position	Battery voltage
					Other than actuated to UNLOCK position	0 V
68 (L)	Ground	Power window power supply (RAP) signal	Output	Ignition switch ON		Battery voltage
69 (G)	Ground	Power window power supply (BATT)	Output	Push-button ignition switch	OFF	Battery voltage
70 (Y)	Ground	Battery (F/L)	Input	Ignition switch OFF		Battery voltage

Fail-safe

INFOID:0000000009757382

FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC

FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If voltage of battery power supply lower, BCM maintains combination switch reading to the status when input voltage is less than approximately 9 V.

NOTE:

When voltage of battery power supply is approximately 9 V or more, combination switch reading function returns to normal operation.

DTC Inspection Priority Chart

INFOID:0000000009757383

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

Priority	DTC
1	• U1000: CAN COMM • U1010: CONTROL UNIT (CAN)
2	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI SCANNING • B2196: DONGLE NG
3	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1716: [PRESS DATA ERR] FL • C1717: [PRESS DATA ERR] FR • C1718: [PRESS DATA ERR] RR • C1719: [PRESS DATA ERR] RL • C1729: VHCL SPEED SIG ERR

DTC Index

INFOID:0000000009757384

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Low tire pressure warning lamp ON	Reference
U1000: CAN COMM	—	—	BCS-118
U1010: CONTROL UNIT (CAN)	—	—	BCS-119
B2190: NATS ANTENNA AMP	×	—	SEC-179
B2191: DIFFERENCE OF KEY	×	—	SEC-182
B2192: ID DISCORD BCM-ECM	×	—	SEC-183
B2193: CHAIN OF BCM-ECM	×	—	SEC-185
B2195: ANTI SCANNING	×	—	SEC-186
B2196: DONGLE NG	×	—	SEC-187
C1704: LOW PRESSURE FL	—	×	WT-25
C1705: LOW PRESSURE FR	—	×	
C1706: LOW PRESSURE RR	—	×	
C1707: LOW PRESSURE RL	—	×	
C1708: [NO DATA] FL	—	×	WT-27
C1709: [NO DATA] FR	—	×	
C1710: [NO DATA] RR	—	×	
C1711: [NO DATA] RL	—	×	

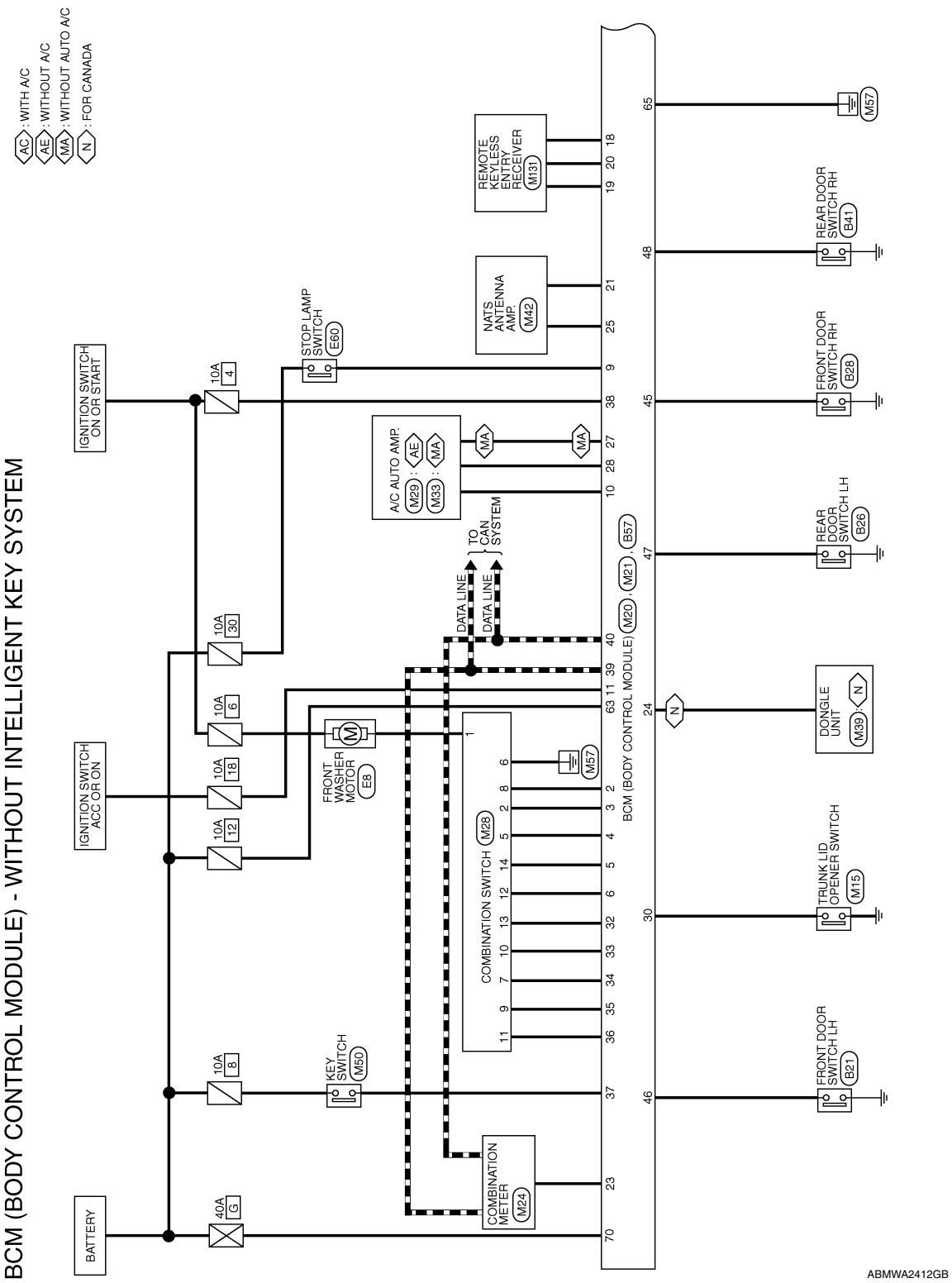
CONSULT display	Fail-safe	Low tire pressure warning lamp ON	Reference
C1716: [PRESS DATA ERR] FL	—	×	WT-30
C1717: [PRESS DATA ERR] FR	—	×	
C1718: [PRESS DATA ERR] RR	—	×	
C1719: [PRESS DATA ERR] RL	—	×	
C1729: VHCL SPEED SIG ERR	—	×	WT-32

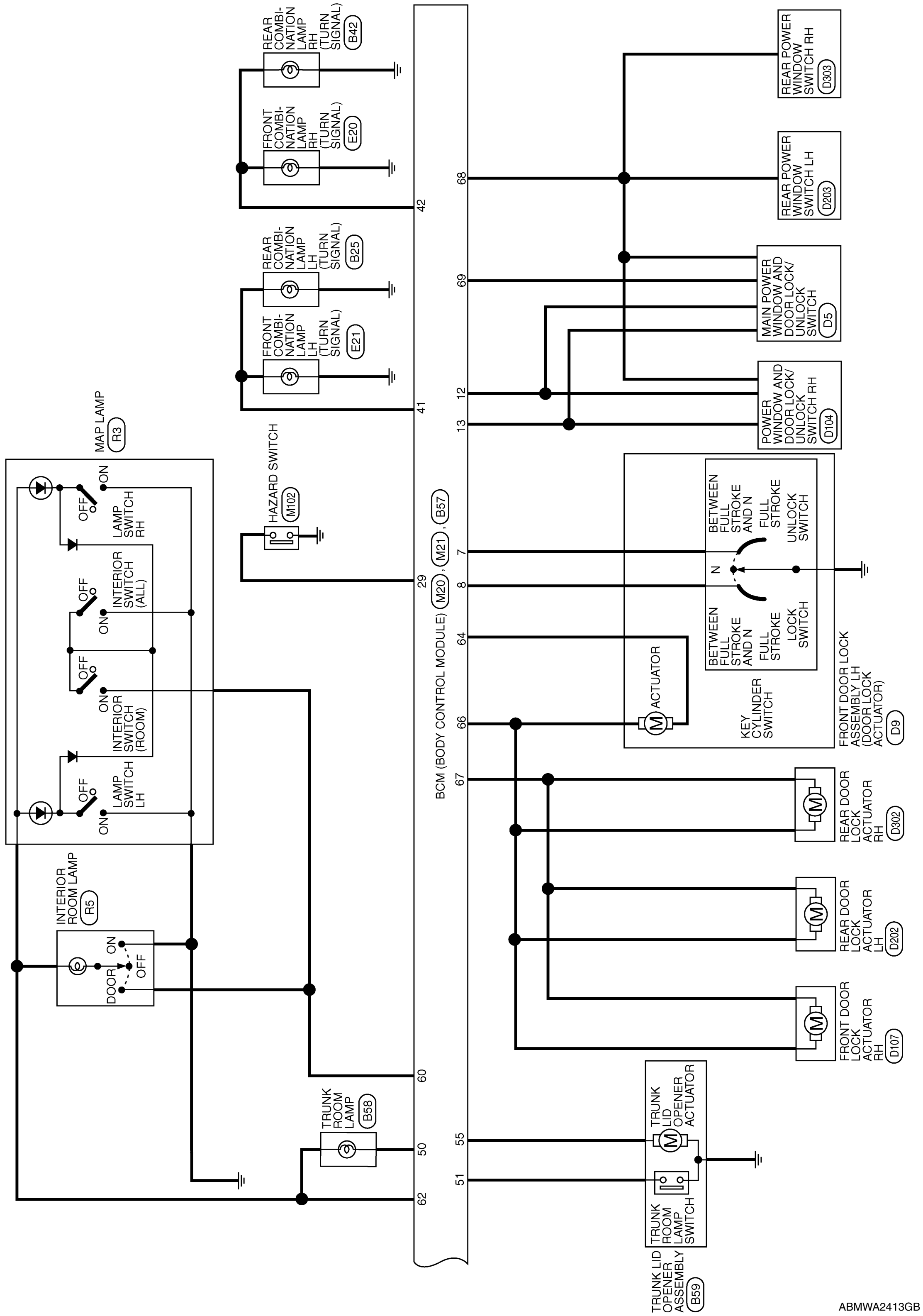
WIRING DIAGRAM

BCM

Wiring Diagram

INFOID:0000000009757385




BCM (BODY CONTROL MODULE)
M20
M21
B57
REAR COMBI-NATION LAMP RH (TURN SIGNAL)
B42
FRONT COMBI-NATION LAMP RH (TURN SIGNAL)
E20
REAR COMBI-NATION LAMP LH (TURN SIGNAL)
B25
FRONT COMBI-NATION LAMP LH (TURN SIGNAL)
E21
HAZARD SWITCH
M102
MAP LAMP
R3
LAMP SWITCH RH
INTERIOR SWITCH (ALL)
INTERIOR SWITCH (ROOM)
LAMP SWITCH LH
INTERIOR ROOM LAMP
R5
DOOR
TRUNK ROOM LAMP
B58
REAR POWER WINDOW SWITCH RH
D303
REAR POWER WINDOW SWITCH LH
D203
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
D5
POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH RH
D104
BETWEEN FULL STROKE AND N
FULL STROKE
UNLOCK SWITCH
LOCK SWITCH
ACTUATOR
KEY CYLINDER SWITCH
FRONT DOOR LOCK ASSEMBLY LH (DOOR LOCK ACTUATOR)
D9
REAR DOOR LOCK ACTUATOR RH
D302
REAR DOOR LOCK ACTUATOR LH
D202
FRONT DOOR LOCK ACTUATOR RH
D107
TRUNK LID OPENER ACTUATOR
TRUNK ROOM LAMP SWITCH
TRUNK LID OPENER ASSEMBLY
B59
ABMWA2413GB

BCM (BODY CONTROL MODULE) CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
56	–	–
57	–	–
58	–	–
59	–	–
60	BR	ROOM LAMP OUTPUT
61	–	–
62	P	BATTERY SAVER OUTPUT
63	O	BATTERY (FUSE)
64	SB	DOOR UNLOCK OUTPUT (DR)
65	B	GND
66	O	DOOR LOCK OUTPUT
67	SB	DOOR UNLOCK OUTPUT (AS, RR, RL)
68	L	POWER WINDOW POWER SUPPLY (RAP)
69	G	POWER WINDOW POWER SUPPLY (BATTERY)
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	–	–
2	L	COMBINATION SW INPUT 5
3	GR	COMBINATION SW INPUT 4
4	BR	COMBINATION SW INPUT 3
5	O	COMBINATION SW INPUT 2
6	W	COMBINATION SW INPUT 1
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER UNLOCK SW
9	R	BRAKE SW
10	W	REAR DEFOGGER SW
11	G	ACC SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	–	–
15	–	–
16	–	–
17	–	–
18	V	KEYLESS & AUTO LIGHT SENSOR GND
19	BR	KEYLESS TUNER POWER SUPPLY
20	LG	KEYLESS TUNER SIGNAL
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
22	–	–
23	Y	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
26	–	–
27	Y	AIRCON SW
28	LG	BLOWER FAN SW
29	SB	HAZARD SW
30	L	TRUNK/BACK DOOR OPENER SW
31	–	–
32	LG	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	V	COMBINATION SW OUTPUT 3
35	R	COMBINATION SW OUTPUT 2
36	SB	COMBINATION SW OUTPUT 1
37	GR	KEY SW
38	R	IGN SW
39	L	CAN-H
40	P	CAN-L

ABMIA5646GB

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	GR	–
5	BR	–
6	B	–
7	V	–
8	L	–
9	R	–
10	Y	–
11	SB	–
12	W	–
13	LG	–
14	O	–

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
41	LG	FLASHER OUTPUT (LEFT)
42	O	FLASHER OUTPUT (RIGHT)
43	–	–
44	–	–
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)
47	GR	DOOR SW (RL)
48	P	DOOR SW (RR)
49	–	–
50	LG	LUGGAGE LAMP OUTPUT
51	V	TRUNK SW
52	–	–
53	–	–
54	–	–
55	GR	TRUNK OPEN OUTPUT

ABMIA5647GB

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description

INFOID:0000000009757386

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

AFTER REPLACEMENT

CAUTION:

- **When replacing BCM, you must perform “After Replace ECU” with CONSULT.**
- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure

INFOID:0000000009757387

1. SAVING VEHICLE SPECIFICATION

CONSULT

Enter "Re/Programming, Configuration" and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to BCS-126, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to BCS-116, "CONFIGURATION (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to BCS-116, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

CONFIGURATION (BCM)

CONFIGURATION (BCM) : Description

INFOID:0000000009757388

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

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

CAUTION:
- **When replacing BCM, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new BCM.**

CONFIGURATION (BCM) : Work Procedure

INFOID:0000000009757389

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of BCM.

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

2.PERFORM “SAVED DATA LIST”

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

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to BCS-117, "CONFIGURATION (BCM) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model cannot be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Work End.

CONFIGURATION (BCM) : Configuration List

INFOID:0000000009757390

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

SETTING ITEM	
Items	Setting value
CAN CONNECTION UNIT	MODE4 ⇔ WITHOUT
BLOWE FAN SIG	MODE2

⇔: Items which confirm vehicle specifications

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM

Description

INFOID:0000000009757391

Refer to LAN-7, "CAN COMMUNICATION SYSTEM : System Description".

DTC Logic

INFOID:0000000009757392

DTC DETECTION LOGIC

NOTE:
U1000 can be set if a module harness was disconnected and reconnected, perhaps during a repair. Confirm that there are actual CAN diagnostic symptoms and a present DTC by performing the Self Diagnostic Result procedure.

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	When any listed module cannot communicate with CAN communication signal continuously for 2 seconds or more with ignition switch ON	In CAN communication system, any item (or items) of the following listed below is malfunctioning. • Transmission • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (IPDM E/R)

Diagnosis Procedure

INFOID:0000000009757393

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 second or more.
2. Check “SELF- DIAG RESULTS”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT Operation Manual.
NO >> Refer to GI-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000009757394

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:0000000009757395

1.REPLACE BCM

When DTC “U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-126, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009757396

Regarding Wiring Diagram information, refer to BCS-111, "Wiring Diagram".

1.CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
63	Battery power supply	12 (10A)
70		G (40A)
11	Ignition switch ACC or ON	18 (10A)

Is the fuse blown?

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

2.CHECK POWER SUPPLY CIRCUIT

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

BCM		Ground	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
M20	63	Ground	Battery voltage	Battery voltage	Battery voltage
	70				
M21	11	—	0 V	Battery voltage	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M20	65	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000009757397

Regarding Wiring Diagram information, refer to BCS-111, "Wiring Diagram".

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 connector and combination switch connector.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M21	36	M28	11	Yes
INPUT 2		35		9	
INPUT 3		34		7	
INPUT 4		33		10	
INPUT 5		32		13	

Is the inspection result normal?

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

2.CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
INPUT 1	M21	36	Ground	No
INPUT 2		35		
INPUT 3		34		
INPUT 4		33		
INPUT 5		32		

Is the inspection result normal?

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

3.CHECK BCM OUTPUT VOLTAGE

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

BCM signal	Terminals			Voltage
	(+)		(–)	
	BCM			
	Connector	Terminal		
OUTPUT 1	M21	36	Ground	Refer to BCS-97, "Reference Value".
OUTPUT 2		35		
OUTPUT 3		34		
OUTPUT 4		33		
OUTPUT 5		32		

Is the inspection result normal?

YES >> Replace combination switch.
NO >> Replace BCM. Refer to BCS-126, "Removal and Installation".

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000009757398

Regarding Wiring Diagram information, refer to BCS-111, "Wiring Diagram".

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 connector and combination switch connector.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M21	6	M28	12	Yes
OUTPUT 2		5		14	
OUTPUT 3		4		5	
OUTPUT 4		3		2	
OUTPUT 5		2		8	

Is the inspection result normal?

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

2.CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
OUTPUT 1	M21	6	Ground	No
OUTPUT 2		5		
OUTPUT 3		4		
OUTPUT 4		3		
OUTPUT 5		2		

Is the inspection result normal?

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

3.CHECK BCM INPUT SIGNAL

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

BCM signal	Terminals			Voltage
	(+)		(–)	
	BCM			
	Connector	Terminal		
INPUT 1	M21	6	Ground	Refer to BCS-97, "Reference Value".
INPUT 2		5		
INPUT 3		4		
INPUT 4		3		
INPUT 5		2		

Is the inspection result normal?

Yes >> Replace BCM. Refer to BCS-126, "Removal and Installation".
No >> Replace combination switch.

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009757399

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

Malfunction item: ×

Malfunction combination	Data monitor item										
	FR WIPER HI	FR WIPER LOW	FR WASHER SW	FR WIPER INT	TURN SIGNAL R	TURN SIGNAL L	TAIL LAMP SW	HI BEAM SW	HEAD LAMP SW 1	HEAD LAMP SW 2	PASSING SW
A		×	×		×	×					
B	×			×					×		×
C								×		×	
D							×				
E											
F	×										
G			×								
H		×		×							
I						×				×	×
J					×		×	×	×		
K	All Items										
L	If only one item is detected or the item is not applicable to the combinations A to K										

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-121, "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-123, "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	BCM	Replace BCM. Refer to BCS-126, "Removal and Installation".
L	Combination switch	Replace the combination switch.

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

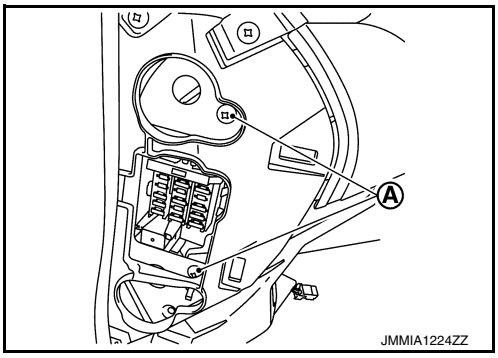
Removal and Installation

INFOID:0000000009757400

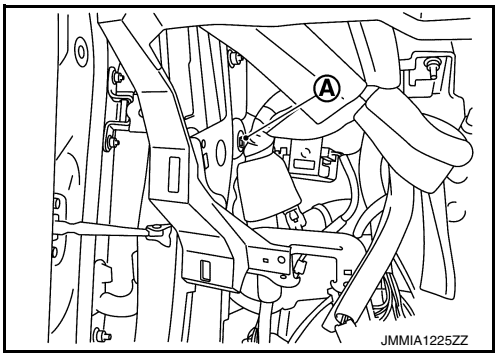
NOTE:
Before replacing BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-116, "CONFIGURATION (BCM) : Description".

REMOVAL

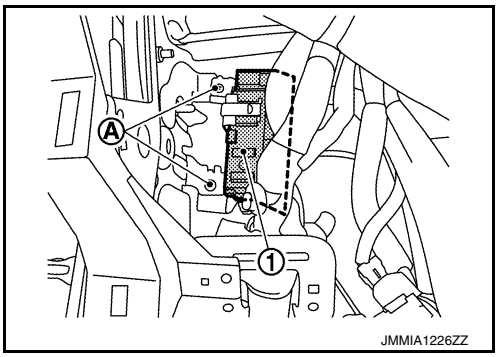
1. Disconnect the negative battery terminal. Refer to PG-52, "Removal and Installation".
2. Remove instrument lower panel LH and instrument side finisher LH. Refer to IP-21, "Removal and Installation".
3. Remove fuse block (J/B) screws (A) and position (BCM) aside.



4. Remove harness clip (A).



5. Remove the screws (A) from the BCM (1).



6. Disconnect the harness connectors and remove the BCM.

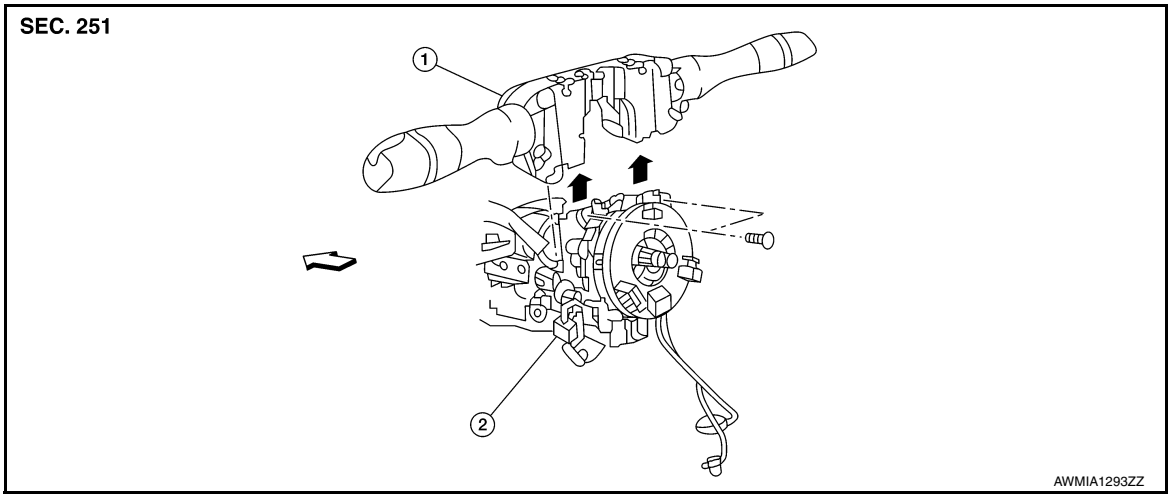
INSTALLATION
Installation is in the reverse order of removal.
CAUTION:
- **Perform “CONFIGURATION (BCM)” when replacing BCM. Refer to BCS-116, "CONFIGURATION (BCM) : Description"**

- **Be sure to perform the system initialization (NATS) when replacing BCM. Refer to BCS-115, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".**
- **When replacing BCM, if new BCM does not come with keyfobs attached, all existing keyfobs must be re-registered.**

COMBINATION SWITCH

Exploded View

INFOID:0000000009757401



1. Combination switch
2. Combination switch harness connector
⇦ Front

NOTE:
Shown with the steering wheel removed for clarity only.

Removal and Installation

INFOID:0000000009757402

REMOVAL

CAUTION:

- **Before servicing, turn the ignition switch OFF, disconnect both battery terminals and wait at least three minutes.**
- **Do not use air or electric tools when removing or installing the combination switch.**

1. Disconnect both the negative and positive battery terminals, then wait at least three minutes. Refer to PG-50, "Removal and Installation (Battery)".
2. Remove the steering column covers. Refer to IP-16, "Removal and Installation".
3. Rotate steering wheel clockwise to access first combination switch bolt and remove.
4. Rotate steering wheel counter-clockwise to access second combination switch bolt and remove.
5. Disconnect the harness connector from the combination switch and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **After the work is completed, make sure no system malfunction is detected by air bag warning lamp.**
- **In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.**
- **If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfunctions. Refer to SRC-41, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".**