SECTION BCS
BODY CONTROL SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

Precaution for Technicians Using Medical Electric

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OPERATION PROHIBITION

WARNING:

- **Parts with strong magnet is used in this vehicle.**
- **Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.**

NORMAL CHARGE PRECAUTION

WARNING:

- **If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.**
- **As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.**

PRECAUTION AT TELEMATICS SYSTEM OPERATION

WARNING:

- **If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.**
- **The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.**
- **If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.**

PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

WARNING:

- **If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.**
- **The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.**
- **If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.**

Point to Be Checked Before Starting Maintenance Work

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The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.
NOTE:
If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS

system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Removing 12V Battery

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1. Check that EVSE is not connected.
   NOTE:
   If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.
2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.
   NOTE:
   If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.
4. Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.
   NOTE:
   - The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
   - Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

   CAUTION:

   - **After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.**
   - **After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.**

SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

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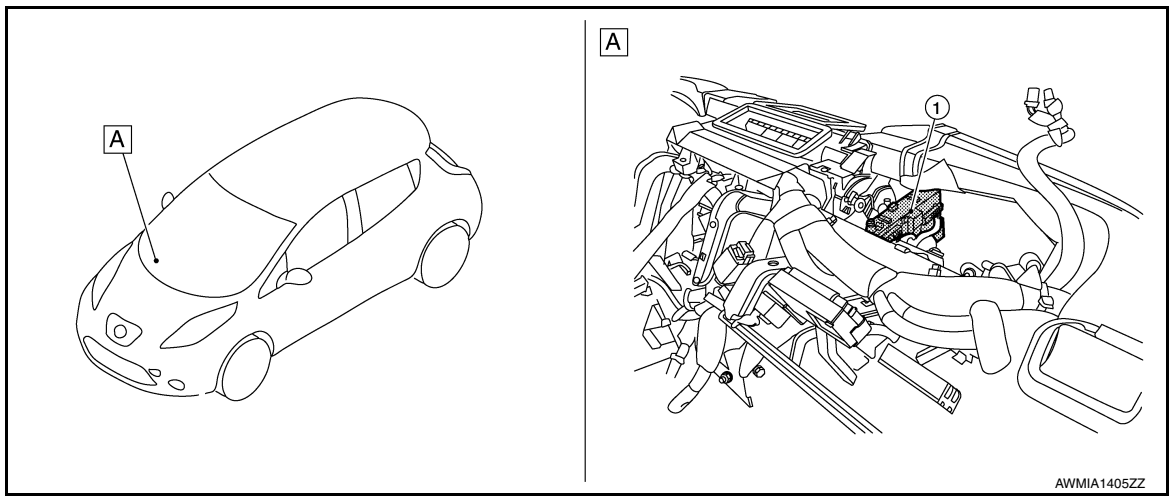

1. BCM
A. Behind RH side of instrument panel

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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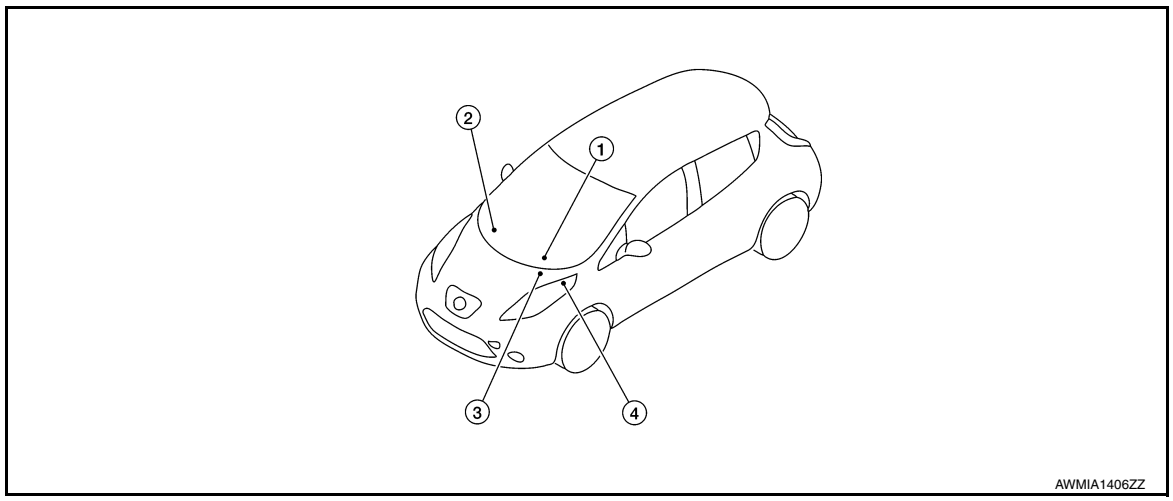

1. Combination meter
Refer to MWI-6, "METER SYSTEM : Component Parts Location".
2. BCM
Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location".
3. Electrically-driven Intelligent Brake unit
Refer to TM-32, "Component Parts Location".
4. IPDM E/R
Refer to PCS-7, "Component Parts Location".

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 power 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-8, "COMBINATION SWITCH READING SYSTEM : System Description"
Signal buffer system	BCS-11, "SIGNAL BUFFER SYSTEM : System Description"
Power consumption control system	BCS-12, "POWER CONSUMPTION CONTROL SYSTEM : System Description"
Headlamp system	EXL-15, "HEADLAMP SYSTEM : System Description"
Auto light system	EXL-16, "AUTO LIGHT SYSTEM (EXCEPT FOR CANADA) : System Description"
Daytime running light system	EXL-19, "DAYTIME RUNNING LIGHT SYSTEM : System Description"
Turn signal and hazard warning lamp system	EXL-20, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description"
Parking, license plate, side marker and tail lamps system	EXL-21, "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description"
Front fog lamp system	EXL-22, "FRONT FOG LAMP SYSTEM : System Description"
Exterior lamp battery saver system	EXL-23, "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description"
Interior room lamp control system	INL-9, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Interior room lamp battery saver system	INL-11, "INTERIOR ROOM LAMP BATTERY SAVER SYSTEM : System Description"
Front wiper and washer system	WW-10, "FRONT WIPER AND WASHER SYSTEM : System Description"
Rear wiper and washer system	WW-13, "REAR WIPER AND WASHER SYSTEM : System Description"
Warning chime system	WCS-6, "WARNING CHIME SYSTEM : System Description"
Power door lock system	DLK-23, "System Description"
Intelligent Key system	DLK-25, "INTELLIGENT KEY SYSTEM : System Description"
Back door opener system	DLK-36, "System Description"
Nissan Vehicle Immobilizer System (NVIS) - NATS	SEC-15, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description"
Vehicle security system	• SEC-18, "VEHICLE SECURITY SYSTEM : System Description (Except for Canada)" • SEC-21, "VEHICLE SECURITY SYSTEM : System Description (For Canada)"
Rear window defogger system	DEF-7, "System Description"

System	Reference
Power window system [Retained accessory power (RAP function)]	PWC-10, "System Description"
Tire pressure monitoring system	WT-10, "System Description"

BODY CONTROL SYSTEM : Fail-safe

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FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2193: CHAIN OF BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2195: ANTI-SCANNING	Inhibit setting the vehicle to READY	Power switch ON → OFF
B2196: DONGLE NG	Inhibit setting the vehicle to READY	Erase DTC
B2198: IMMOBI ANT NG	Inhibit setting the vehicle to READY	Erase DTC
B261E: FUEL MIS CONFIG	Inhibit setting the vehicle to READY	When the VCM status signal is normally received from VCM.
B26F1: IGN RELAY OFF STUCK	Inhibit setting the vehicle to READY	When the following conditions are fulfilled • Power switch ON signal (CAN: Transmitted from BCM): ON • Power switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON STUCK	Inhibit setting the vehicle to READY	When the following conditions are fulfilled • Power switch ON signal (CAN: Transmitted from BCM): OFF • Power switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F7: LF DRIVER COMMUNICATION	Inhibit setting the vehicle to READY	When inside key antennas function normally
U0415: VDC CAN CIRC2	Inhibit setting the vehicle to READY	When vehicle speed signal (Meter) (CAN) is received normally

*: “ECM” is indicated on CONSULT display, however this means VCM on this vehicle.

REAR WIPER MOTOR PROTECTION

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

Condition of cancellation
1. More than 1 minute is passed after the rear wiper stop.
2. Turn rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

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.

COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Description

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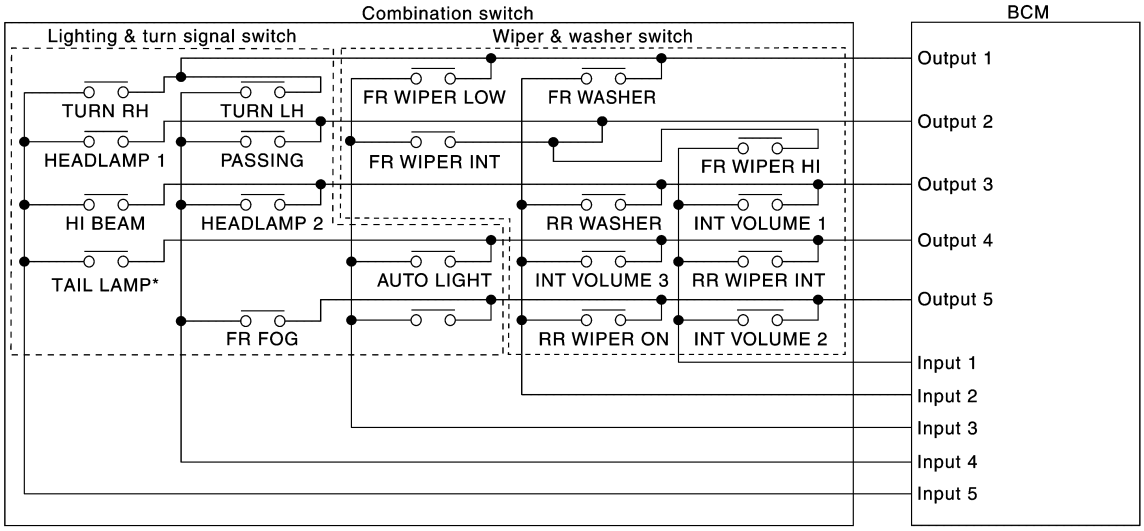
SYSTEM DIAGRAM



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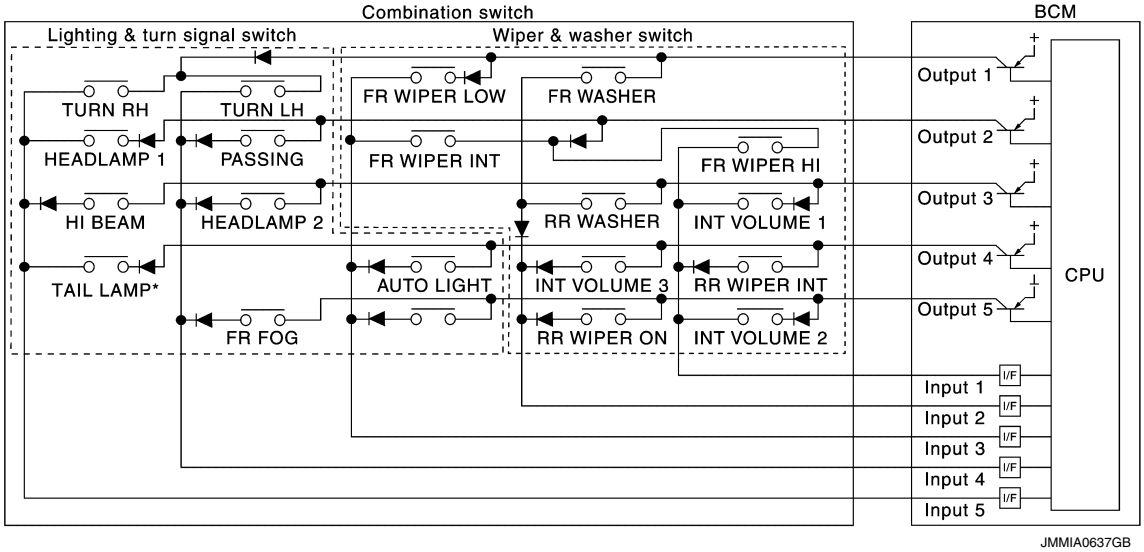
NOTE:
*: TAIL LAMP switch links lighting switch 1ST and 2ND positions.

OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



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NOTE:
*: TAIL LAMP switch links lighting switch 1ST and 2ND positions.

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	RR WASHER	—	HEADLAMP 2	HI BEAM

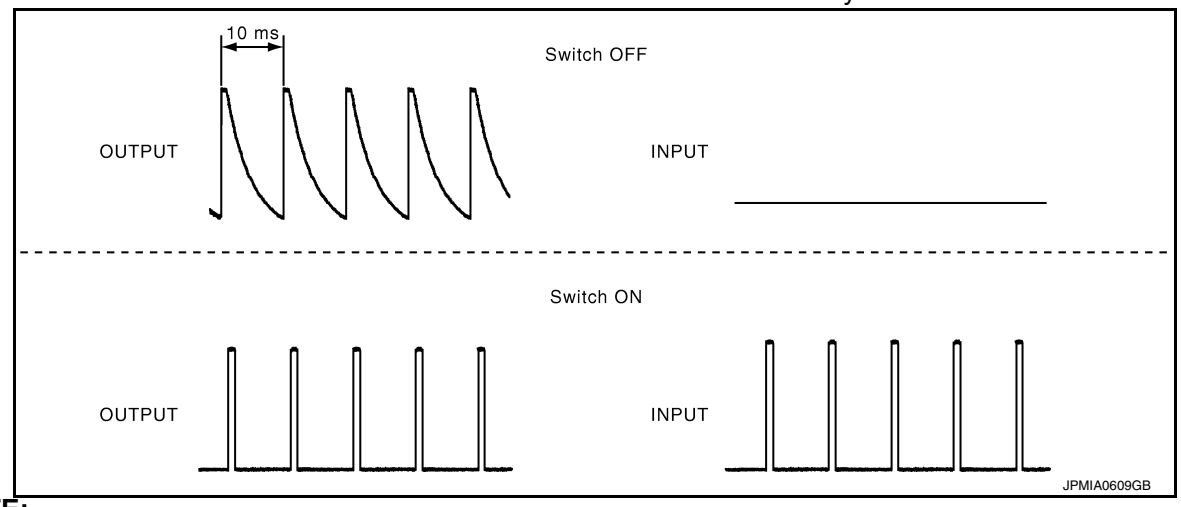
System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 4	RR WIPER INT	INT VOLUME 3	AUTO LIGHT	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	RR WIPER ON	—	FR FOG	—

NOTE:
Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

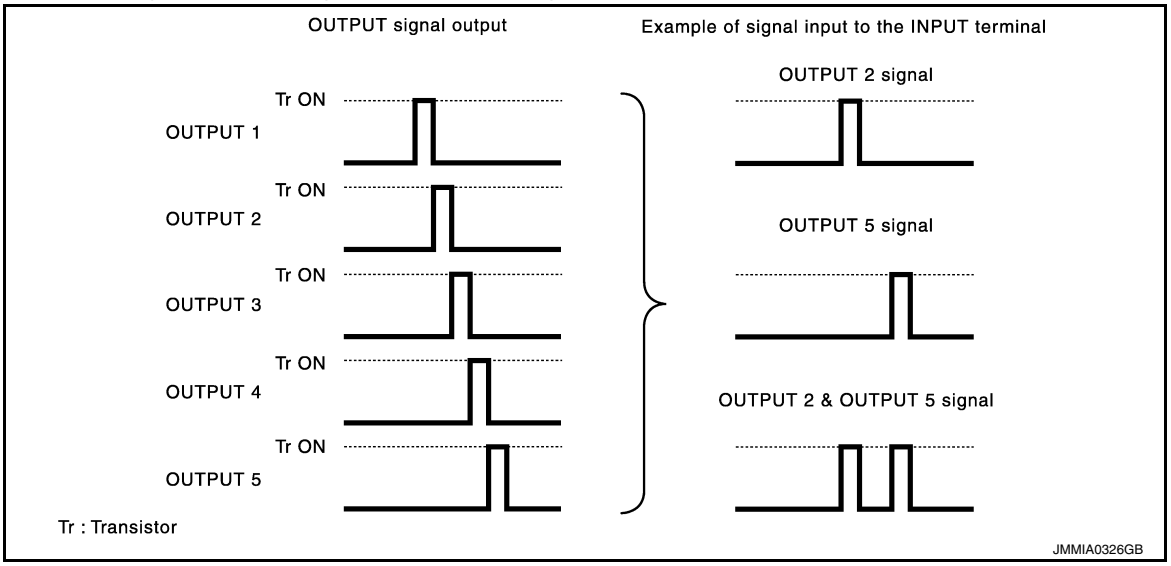
Description

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



NOTE:
BCM reads the status of the combination switch at 60 ms interval 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.

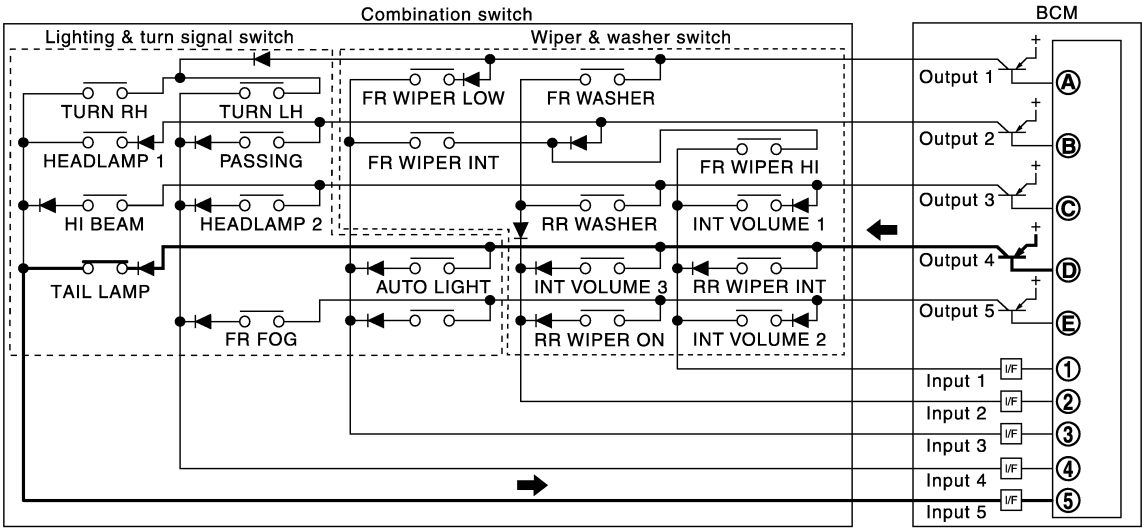


Operation Example

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 switch) is turned ON

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



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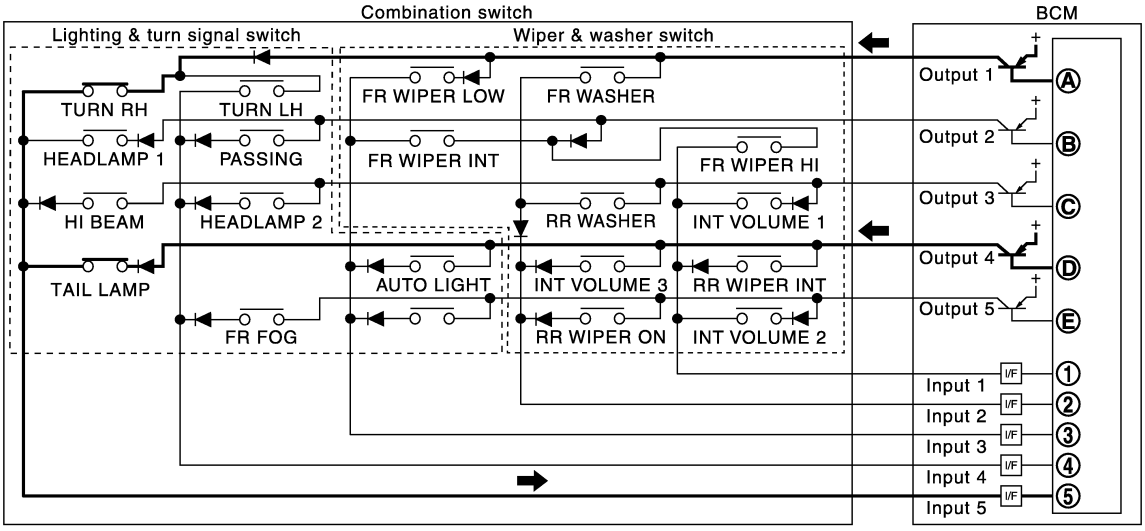
- BCM detects the combination switch status signal “5D” when the signal of OUTPUT 4 is input to INPUT 5.
- BCM judges that the TAIL LAMP switch is ON when the signal “5D” is detected.

Example 2: When some switches (TURN RH switch, TAIL LAMP switch) 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.



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- 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 VOLUME DIAL POSITION

BCM judges the wiper volume 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

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

NOTE:

For details of wiper volume dial position, refer to WW-10, "FRONT WIPER AND WASHER SYSTEM : System Description".

SIGNAL BUFFER SYSTEM

SIGNAL BUFFER SYSTEM : System Description

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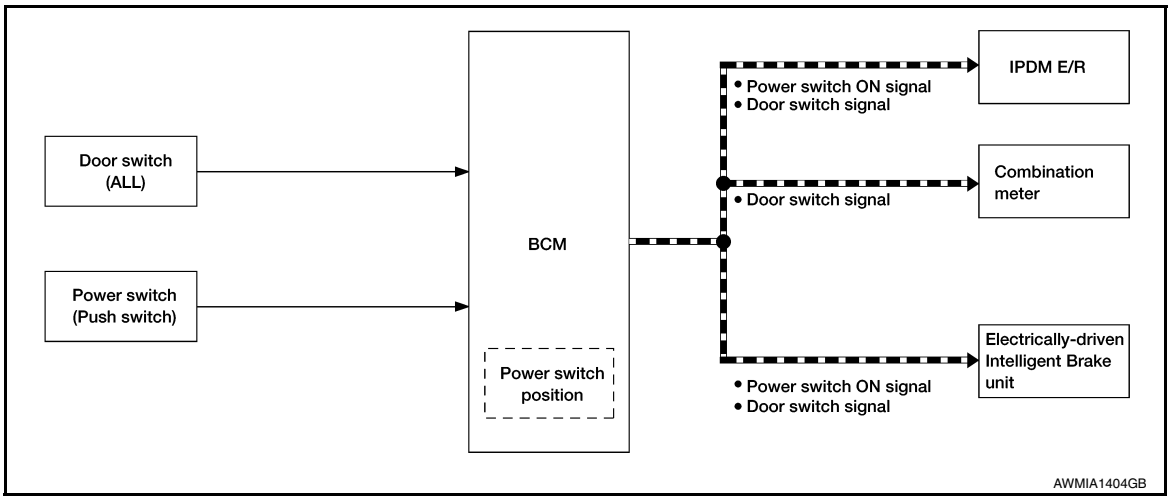
SYSTEM DIAGRAM



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
Power switch ON signal	Power switch (push switch)	• IPDM E/R (CAN) • Electrically-driven Intelligent Brake unit (CAN)	Inputs the power switch (push switch) signal and transmits the power switch position status judged with BCM via CAN communication.
Door switch signal	Any door switch	• Combination meter (CAN) • IPDM E/R (CAN) • Electrically-driven Intelligent Brake unit (CAN)	Inputs the door switch signal and transmits it via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Description

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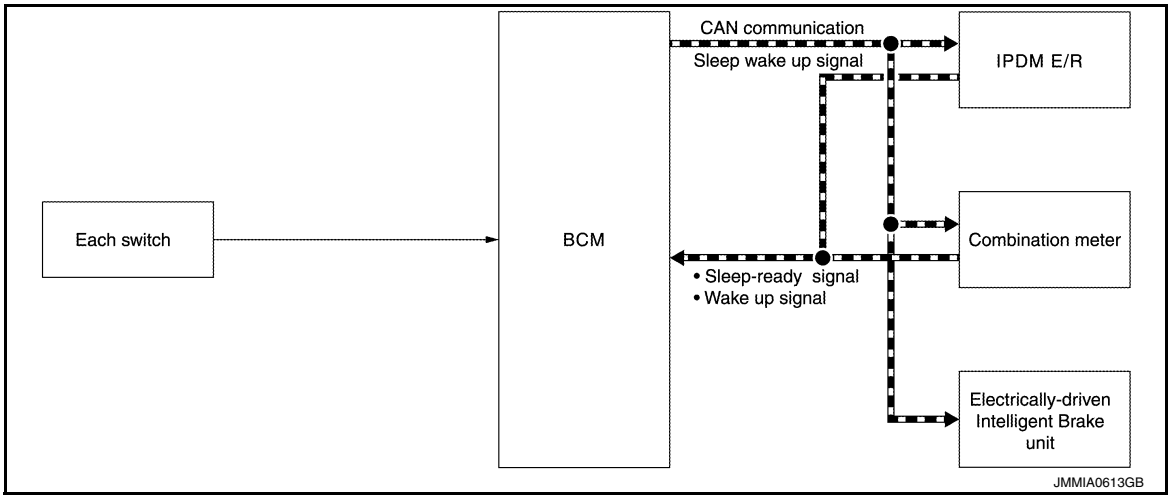
SYSTEM DIAGRAM



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, combination meter and Electrically-driven Intelligent Brake unit) that operates with the power switch OFF.

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

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

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

LOW POWER CONSUMPTION CONTROL WITH BCM

BCM reduces the power consumption with the following operation in the low power consumption mode.
- The reading interval of the each switches changes from 10 ms interval to 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 perform the low power consumption control when all of the BCM sleep conditions are fulfilled with CAN sleep condition.

Sleep condition

CAN sleep condition	BCM sleep condition
• Receiving the sleep-ready signal (ready) from all units • 1 minute after turning power switch OFF • Theft warning alarm and panic alarm: Not operation • Warning chime: Not operation • Intelligent Key system buzzer: Not operation • Stop lamp switch: OFF • Turn signal indicator lamp: Not operation • Exterior lamp: OFF • Door lock status: No change • CONSULT communication status: Not communication • Meter display signal: Non-transmission • Door switch status: No change • Driver door lock status: No change	• Interior room lamp battery saver: Time out* • RAP system: Not operation • Nissan Vehicle Immobilizer System (NVIS) - NATS: Not operation • Remote keyless entry receiver communication status: No communication • Tire pressurer monitoring system (TPMS): Stop • ACC/ON indicator lamp: Not operation

NOTE:

*: Refer to INL-11, "INTERIOR ROOM LAMP BATTERY SAVER SYSTEM : System Description" for details of the interior room lamp battery saver time.

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 transmit 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 • Power switch (push switch): OFF→ ON • 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 • FR FOG switch: OFF → ON, ON → OFF • 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 RH door switch: OFF → ON, ON → OFF • Rear LH door switch: OFF → ON, ON → OFF • Back door switch: OFF → ON, ON → OFF • Driver door request switch: OFF → ON • Passenger door request switch: OFF → ON • Back door request switch: OFF → ON • Back door opener switch: OFF → ON • 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 • Front door lock assembly (driver side) (unlock sensor): OFF → ON, ON → OFF

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

INFOID:0000000010642143

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	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×	×			
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
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)

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SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

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 back door request 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 back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
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 [ALL LOCK/ALL UNLK/DR UNLK/AS UNLK/OTR ULK].

WORK SUPPORT

Support Item	Setting	Description
DOOR LOCK-UNLOCK SET	On*	Selective unlock function ON.
	Off	Selective unlock function OFF.
AUTOMATIC LOCK/UNLOCK SELECT	Lock/Unlock*	Automatic door lock and unlock functions ON.
	Lock Only	Automatic door lock only function ON.
	Unlock Only	Automatic door unlock only function ON.
	Off	Automatic door lock function OFF.
AUTOMATIC DOOR LOCK SELECT	P RANGE	Doors lock automatically when shifted out of P (park).
	VH SPD	Doors lock automatically when vehicle speed is greater than 24 km/h (15 mph).
AUTOMATIC DOOR UNLOCK SELECT	MODE6	This mode is not used.
	MODE5	This mode is not used.
	MODE4	Driver door is unlocked automatically when shifted into P (park).
	MODE3	Driver door is unlocked automatically when ignition is switched from ON to OFF.
	MODE2	All doors unlock automatically when shifted into P (park).
	MODE1*	All doors unlock automatically when ignition is switched from ON to OFF.

*: Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:0000000010642145

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of power 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:0000000010642146

DATA MONITOR

Monitor Item [Unit]	Description
PUSH -SW [On/Off]	Indicates condition of power switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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:0000000010642147

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 power switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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 back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.

Monitor Item [Unit]	Description
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	MODE2		Interior room lamp timer activates from driver door switch only.
	MODE1*		Interior room lamp timer activates from any door switch.
SET I/L D-UNLCK INTCON	On*		Interior room lamp timer function ON.
	Off		Interior room lamp timer function OFF.
ROOM LAMP TIMER SET	MODE4	30 sec.	Interior room lamp timer ON time.
	MODE3*	15 sec.	
	MODE2	7.5 sec.	
FOG LAMP OVERRIDE	On		With fog override function.
	Off*		Without fog override function.

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000010642148

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of power 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 headlamp operation [Off/Low/Hi].
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].
TAIL LAMP	This test is able to check taillamp operation [Off/On].

WORK SUPPORT

Support Item	Setting		Description
AUTO LIGHT LOGIC SET	MODE6		Autolamp function OFF.
	MODE5		
	MODE4		
	MODE3		Autolamp function ON at twilight.
	MODE2		Autolamp function ON at twilight or with wiper LO and HI operation.
	MODE1*		Autolamp function ON at twilight or with wiper INT, LO and HI operation.
BATTERY SAVER SET	Off		Exterior lamp battery saver function OFF.
	On*		Exterior lamp battery saver function ON.
CUSTOM A/LIGHT SETTING	MODE4		Less sensitive than normal setting (turns ON later).
	MODE3		More sensitive than MODE2.
	MODE2		More sensitive than normal setting (turns ON earlier).
	MODE1*		Normal setting.
ILL DELAY SET	MODE 8	180 sec.	Autolamp delay timer operation time.
	MODE 7	150 sec.	
	MODE 6	120 sec.	
	MODE 4	90 sec.	
	MODE 5	60 sec.	
	MODE 3	30 sec.	
	MODE 2	OFF	
	MODE 1*	45 sec.	

*: Initial setting

WIPER

WIPER : CONSULT Function - WIPER

INFOID:0000000010642149

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of power 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.

Monitor Item [Unit]	Description
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
RR WIPER STOP [On/Off]	Indicates rear wiper auto stop input from rear wiper motor.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
DROP WIPE FUNC SET	MODE4	Front wiper and rear wiper drop wiper function ON.
	MODE3	Front wiper drop wiper function OFF and rear wiper drop wiper function ON.
	MODE2*	Front wiper drop wiper function ON and rear wiper drop wiper function OFF.
	MODE1	Front wiper and rear wiper drop wiper function OFF.
WIPER SPEED SETTING	Off*	Front wiper intermittent time linked with wiper dial position.
	On	Front wiper intermittent time linked with vehicle speed and wiper dial position.

*: Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000010642150

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 power 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 answer back for LOCK and UNLOCK with request switch or Intelligent Key.
	Unlock Only	Hazard warning lamp answer back for UNLOCK only with request switch or Intelligent Key.
	Lock Only	Hazard warning lamp answer back for LOCK only with request switch or Intelligent Key.
	Off	Hazard warning lamp answer back OFF.

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

INFOID:0000000010642151

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.

ACTIVE TEST

Test Item	Description
A/C INDICATOR	This test is able to check A/C indicator operation [Off/On].

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000010642152

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "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 back door request switch.
PUSH SW [On/Off]		Indicates condition of power 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 door unlock sensor.
PUSH SW -IPDM [On/Off]		Indicates condition of power 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 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.

Monitor Item [Unit]	Main	Description
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.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating the Intelligent Key, the numerical value starts changing.
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 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 [Off/Take Out/Knob/Key].	
LCD	B&P N	This test is able to check combination meter traction motor start information.
	B&P I	
	ID NG	This test is able to check combination meter key ID warning information.
	ROTAT	This item is displayed, but is not used.
	SFT P	
	INSRT	
	BATT	This test is able to check combination meter Intelligent Key low battery warning information.
	NO KY	This item is displayed, but is not used.
	OUTKEY	This test is able to check combination meter take away warning information.
	LK WN	This test is able to check combination meter OFF position warning information.
	Off	—
BATTERY SAVER	This test is able to check interior room lamp battery saver operation [Off/On].	
ENGINE SW ILLUMI	This test is able to check power switch illumination operation [Off/On].	
PUSH SWITCH INDICATOR	This test is able to check power switch ACC/ON indicator operation [Off/On].	
TRUNK/BACK DOOR	This test is able to check back door opener actuator operation [Open].	
INT LAMP	This test is able to check interior room lamp operation [Off/On].	
INDICATOR	This test is able to check combination meter warning lamp operation [Off/KEY ON/KEY IND].	
FLASHER	This test is able to check security hazard lamp operation [RH/LH/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].	

WORK SUPPORT

Support Item	Setting	Description
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from request switch ON.
	Off	Door lock/unlock function from request switch OFF.

Support Item	Setting		Description
ANTI KEY LOCK IN-FUNCTI	On*		Key reminder function ON.
	Off		Key reminder function OFF.
ANS BACK I-KEY UNLOCK	On*		Buzzer reminder function when doors are unlocked with request switch ON.
	Off		Buzzer reminder function when doors are unlocked with request switch OFF.
ANS BACK I-KEY LOCK	Horn Chirp		Horn chirp reminder function when doors are locked with request switch.
	Buzzer*		Buzzer reminder function when doors are locked with request switch.
	Off		No reminder function when doors are locked with request switch.
HORN WITH KEYLESS LOCK	On*		Horn reminder function when doors are locked with Intelligent Key ON.
	Off		Horn reminder function when doors are locked with Intelligent Key OFF.
HAZARD ANSWER BACK	Lock/Unlock*		Horn reminder function when doors are locked or unlocked with request switch or Intelligent Key.
	Unlock Only		Horn reminder function when doors are unlocked with request switch or Intelligent Key.
	Lock Only		Horn reminder function when doors are locked with request switch or Intelligent Key.
	Off		Horn reminder function when doors are locked or unlocked with request switch or Intelligent Key OFF.
INSIDE ANT DIAGNOSIS	—		This function allows inside key antenna self-diagnosis.
CONFIRM KEY FOB ID	MEMORY 1		Intelligent Key ID code can be checked.
	MEMORY 2		
	MEMORY 3		
	MEMORY 4		
	NON REGIST		
PANIC ALARM SET	MODE 3	1.5 sec.	Panic alarm button set time on Intelligent Key can be set.
	MODE 2	OFF	
	MODE 1*	0.5 sec.	
AUTO LOCK SET	MODE7	5 min.	Auto door lock time can be set.
	MODE6	4 min.	
	MODE5	3 min.	
	MODE4	2 min.	
	MODE3*	1 min.	
	MODE2	30 sec.	
	MODE1	OFF	

*: Initial Setting

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:0000000010642153

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.
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
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.
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:0000000010642154

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "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-58, "CONFIGURATION (BCM) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000010642155

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "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]	
NOT REGISTERED [ID OK/ID NG]	ID OK indicates Intelligent Key being registered is registered.
TP 4 [Yet/DONE]	DONE indicates the number of Intelligent Key ID that has been registered.
TP 3 [Yet/DONE]	
TP 2 [Yet/DONE]	
TP 1 [Yet/DONE]	
PUSH SW [On/Off]	Indicates condition of power switch.

ACTIVE TEST

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

WORK SUPPORT

Service item	Description
CONFIRM DONGLE ID	Checks that dongle unit is applied to the vehicle.

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000010642156

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 power switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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.
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 [Off/On].

WORK SUPPORT

Support item	Setting		Description
ROOM LAMP TIMER SET	MODE3	15 min.	Interior room lamp battery saver timer operating time.
	MODE2	60 min.	
	MODE1*	30 min.	
BATTERY SAVER SET	On*		Exterior lamp battery saver function ON.
	Off		Exterior lamp battery saver function OFF.

*:Initial setting

TRUNK

TRUNK : CONSULT Function (BCM - TRUNK)

INFOID:0000000010642157

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of power switch.
UNLK SEN -DR [On/Off]	Indicates condition of door unlock sensor.
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 back door opener switch.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000010642158

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 back door request switch.
PUSH SW [On/Off]	Indicates condition of power switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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 back door opener 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
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 [RH/LH/Off].
THEFT IND	This test is able to check security indicator lamp operation [Off/On].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

Support Item	Setting	Description
THEFT ALM TRG	Off/On	The switch that triggered vehicle security alarm is recorded [On].
	CLEAR	Trigger data can be erased.
SECURITY ALARM SET	On	Security alarm ON.
	Off	Security alarm OFF.

RETAINED POWER

RETAINED POWER : CONSULT Function (BCM - RETAINED PWR)

INFOID:0000000010642159

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:0000000010642160

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of the power switch.

AIR PRESSURE MONITOR

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

INFOID:0000000010642161

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

SELF DIAGNOSTIC RESULT

NOTE:
Before performing Self Diagnostic Result, be sure to register the transmitter ID or the actual malfunction may be different from that displayed on CONSULT.
Refer to BCS-48, "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.

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 [RH/LH/Off].
WARNING LAMP	This test is able to check tire pressure warning lamp operation [Off/On].

WORK SUPPORT

Support Item	Description
ID READ	Registered ID number of the wheel transmitters is displayed.
ID REGIST	Wheel transmitter ID registration procedure. Refer to WT-21, "Description".

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:0000000010642162

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

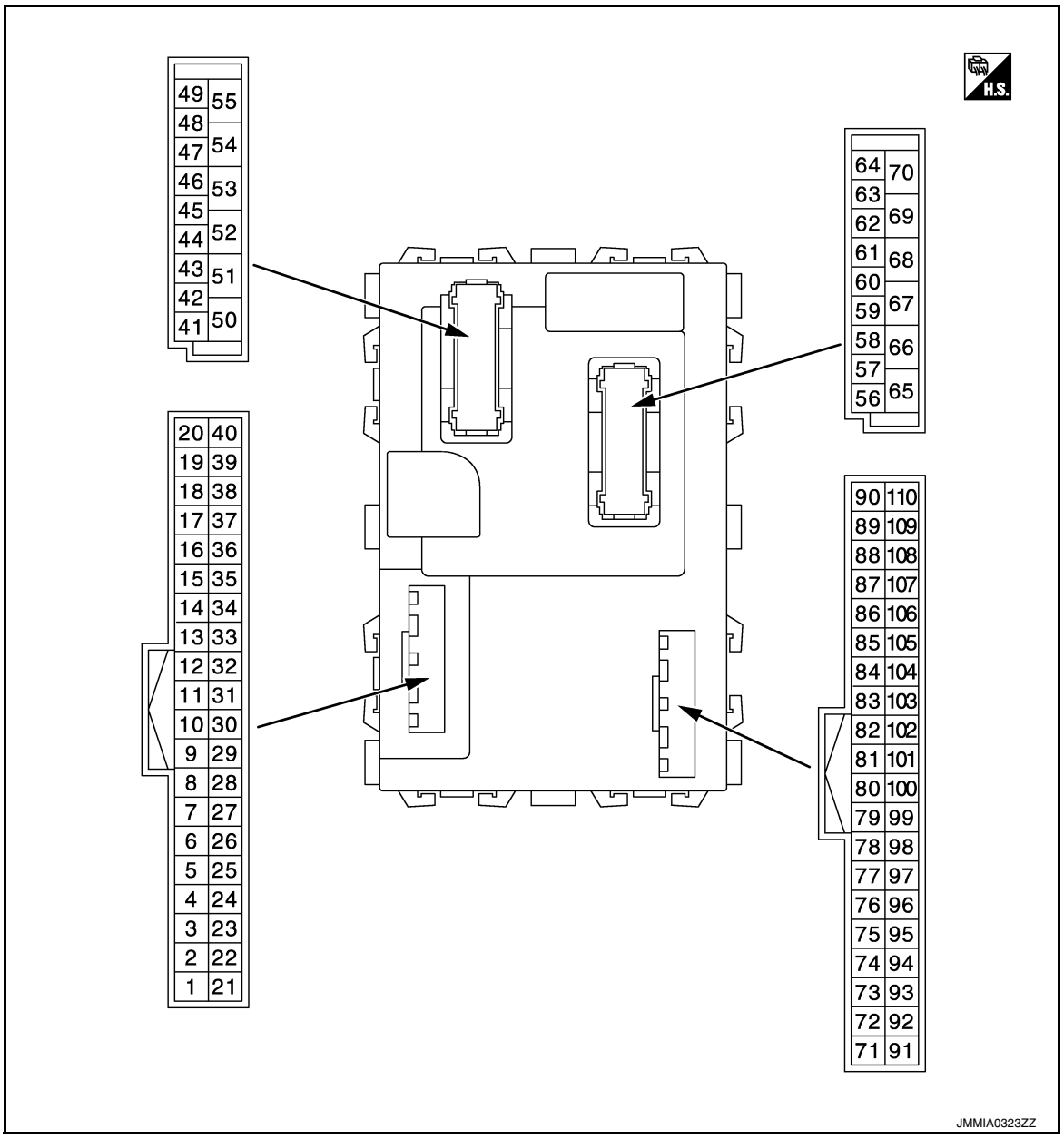
Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm^2, psi
AIR PRESS RR	Rear 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
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
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
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

Monitor Item	Condition	Value/Status
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	Back door closed	Off
	Back door 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
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

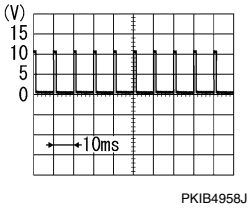
Monitor Item	Condition	Value/Status
ID REGST FL1	ID registration of front left tire incomplete	YET
	ID registration of front left tire complete	DONE
ID REGST FR1	ID registration of front right tire incomplete	YET
	ID registration of front right tire complete	DONE
ID REGST RL1	ID registration of rear 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
I-KEY OK FLAG	I-Key OFF	Key OFF
	I-Key ON	Key ON
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
NOT REGISTERED	Intelligent Key ID registered.	ID OK
	Intelligent Key ID not registered.	ID NG
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
PRBT ENG STRT	When the engine start is prohibited	Reset
	When the engine start is permitted	Set
PUSH SW	Power switch not pressed	Off
	Power switch pressed	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 back door request switch is not pressed	Off
	When back door request 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
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

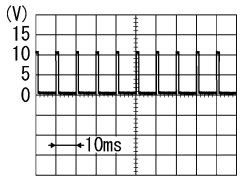
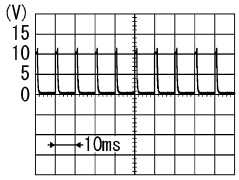
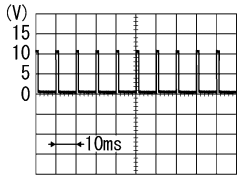
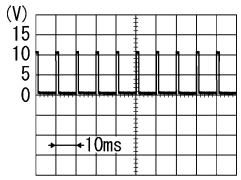
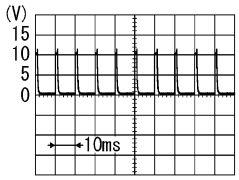
Monitor Item	Condition	Value/Status
RKE OPE COUN1	Operation frequency of Intelligent Key	0-19
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	Off
	When PANIC button of Intelligent Key is pressed	On
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	Off
	When UNLOCK button of Intelligent Key is pressed	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
RR WIPER ON	Rear wiper switch OFF	Off
	Rear wiper switch ON	On
RR WIPER STOP	Rear wiper in STOP position	Off
	Any position other than rear wiper position	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/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
TR/BD OPEN SW	Back door opener switch not pressed	Off
	Back door opener switch pressed	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

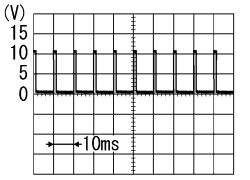
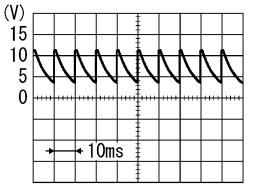
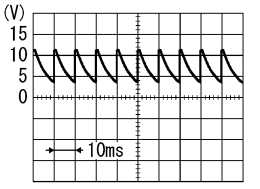
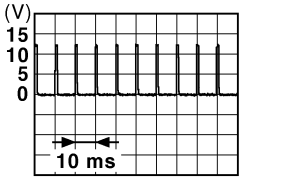
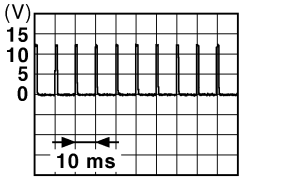
TERMINAL LAYOUT

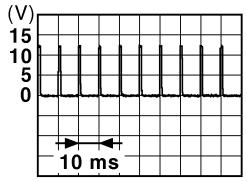
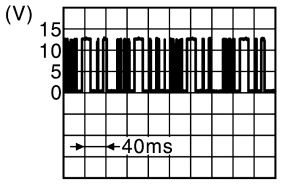
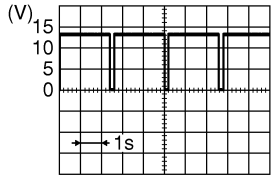
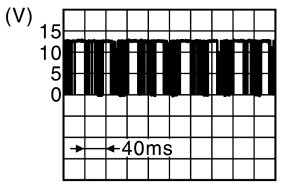


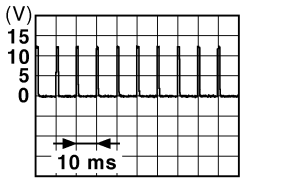
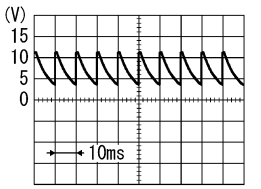
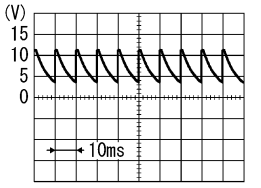
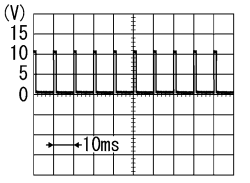
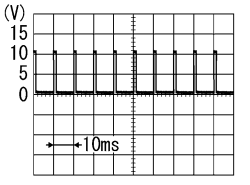
PHYSICAL VALUES

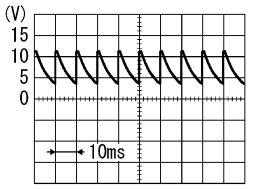
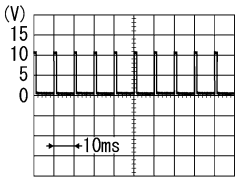
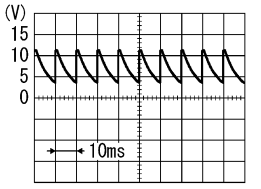
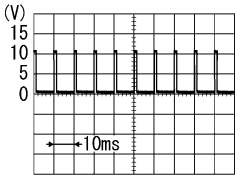
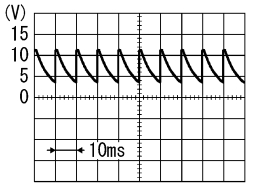
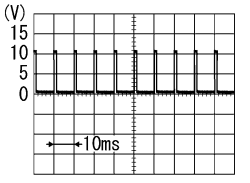
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
2 (L)	Ground	Combination switch INPUT 5	Input	Combination switch	OFF	0 V
					TURN RH	 PKIB4958J 1.0 V
					HEADLAMP 1	
					HI BEAM	
					TAIL LAMP	

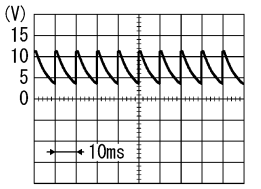
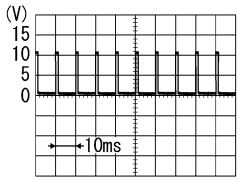
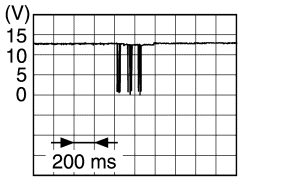
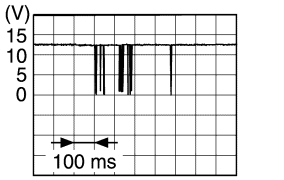
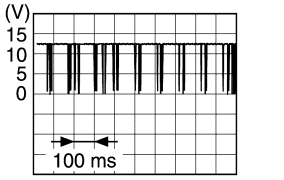
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch	OFF	0 V
					TURN LH PASSING HEADLAMP 2	 PKIB4958J 1.0 V
					FR FOG	 PKIB4956J 0.8 V
4 (BR)	Ground	Combination switch INPUT 3	Input	Combination switch	OFF	0 V
					AUTO LIGHT FR WIPER LOW FR WIPER INT (Wiper intermittent dial 4)	 PKIB4958J 1.0 V
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	OFF	0 V
					FR WASHER RR WASHER INT VOLUME 3 • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	 PKIB4958J 1.0 V
					RR WIPER ON	 PKIB4956J 0.8 V

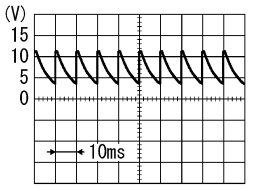
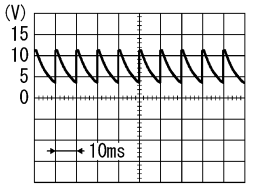
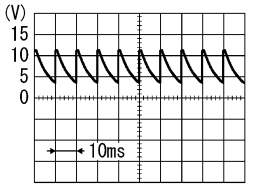
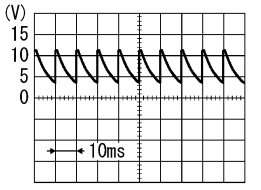
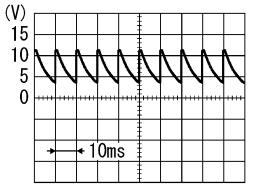
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
6 (V)	Ground	Combination switch INPUT 1	Input	Combination switch	OFF	0 V
					FR WIPER HI	 PKIB4958J 1.0 V
					INT VOLUME 1 • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	
					INT VOLUME 2 • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	
					RR WIPER INT	
7 (GR)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylinder switch	NEUTRAL	 PKIB4960J 7.0 - 8.0 V
					UNLOCK	0 V
8 (R)	Ground	Door key cylinder switch LOCK	Input	Door key cylinder switch	NEUTRAL	 PKIB4960J 7.0 - 8.0 V
					LOCK	0 V
9 (BR)	Ground	Stop lamp switch	Input	Stop lamp switch	Brake pedal released	0 V
					Brake pedal depressed	Battery voltage
12 (Y)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL	 JPMIA0012GB 1.0 - 1.5 V
					LOCK	0 V
13 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL	 JPMIA0012GB 1.0 - 1.5 V
					UNLOCK	0 V

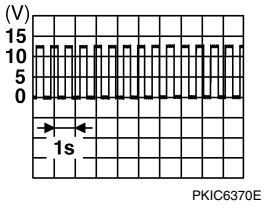
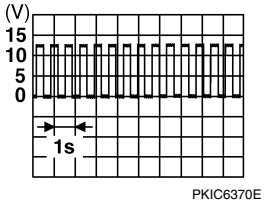
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
14 (G)	Ground	Optical sensor	Input	Power switch ON	Daylight	Close to 5 V
					Night	Close to 0 V
15 (W)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Switch released	 JPMIA0012GB 1.0 - 1.5 V
					Switch pressed	0 V
16 (R)	Ground	MR output	Output	—	—	—
17 (Y)	Ground	Sensor power supply	Output	Power switch	OFF, ACC	0 V
					ON	4.65 - 5.5 V
18 (L)	Ground	Receiver and sensor ground	Input	Power switch ON		0 V
21 (P)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key battery removed	Brake pedal depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6232JP
					Brake pedal released	Battery voltage
23 (R)	Ground	Security indicator lamp	Output	Security indicator lamp	ON	0 - 0.5 V
					Blinking (Power switch OFF)	 JPMIA0590GB 12.0 V
					OFF	Battery voltage
24* (SB)	Ground	Dongle link	Input/ Output	Power switch OFF		5 V
25 (LG)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key battery removed	Brake pedal depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6233JP
					Brake pedal released	Battery voltage
29 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
					ON	0 - 1.5 V

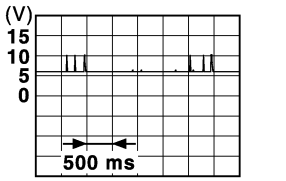
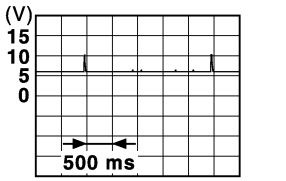
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
30 (V)	Ground	Back door opener switch	Input	Back door opener switch	Pressed	0 V
					Released	 JPMIA0012GB 1.0 - 1.5 V
31 (W)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor OFF)	 PKIB4960J 7.0 - 8.0 V
					UNLOCK status (Unlock sensor ON)	0 V
32 (GR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					INT VOLUME 2 • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 PKIB4958J 1.2 V
					RR WIPER ON	
					FR FOG	 PKIB4958J 1.0 V

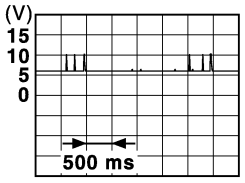
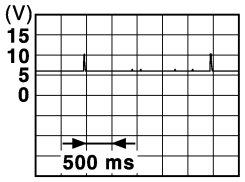
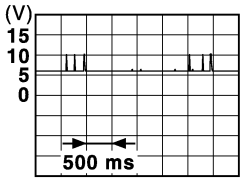
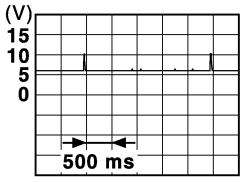
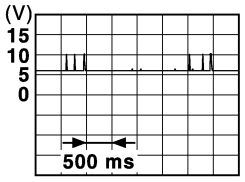
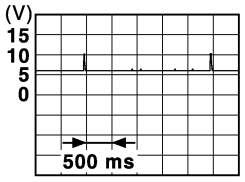
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
33 (Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					RR WIPER INT INT VOLUME 3 • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6 TAIL LAMP AUTO LIGHT	 PKIB4958J 1.2 V
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					INT VOLUME 1 • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 RR WASHER HI BEAM HEADLAMP 2	 PKIB4958J 1.2 V
35 (BG)	Ground	Combination switch OUTPUT 2	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR WIPER HI FR WIPER INT HEADLAMP 1 PASSING	 PKIB4958J 1.2 V

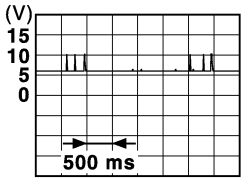
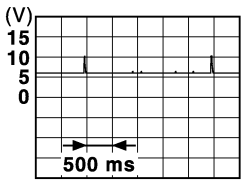
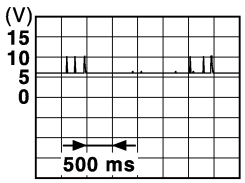
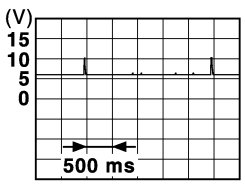
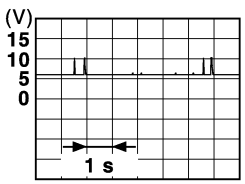
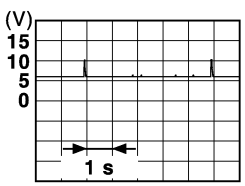
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
36 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					FR WASHER	 PKIB4958J 1.2 V
					FR WIPER LOW	
					TURN RH	
					TURN LH	
37 (V)	Ground	P position	Input	Shift position	P position	0 - 1.5 V
					Any position other than P	6 - 16 V
38 (SB)	Ground	Receiver communication	Input/ Output	Power switch OFF (Remote keyless entry communication)	Waiting	12 V
					When operating buttons on Intelligent Key	 JMMIA0572GB
				Power switch ON (TPMS communication)	Waiting	 JMMIA0573GB
					When receiving signal from tire pressure sensor	 JMMIA0574GB
39 (L)	Ground	CAN H	Input/ Output	—		—
40 (P)	Ground	CAN L	Input/ Output	—		—

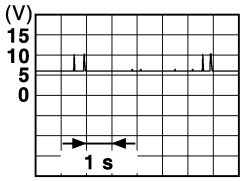
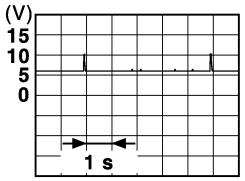
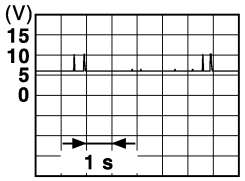
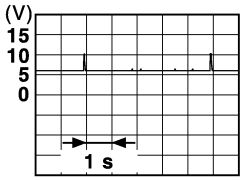
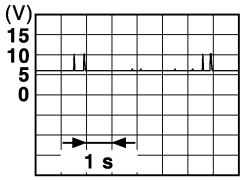
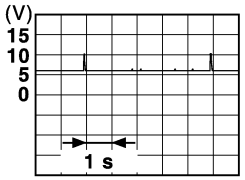
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
43 (Y)	Ground	Back door switch	Input	Back door switch	OFF (Door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Door open)	0 V
44 (LG)	Ground	Rear wiper stop position	Input	Power switch ON	Rear wiper stop position	Battery voltage
					Any position other than rear wiper stop position	0 - 1.5 V
45 (BR)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Door open)	0 V
46 (R)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Door open)	0 V
47 (SB)	Ground	Driver door switch	Input	Driver door switch	OFF (Door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Door open)	0 V
48 (W)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (Door open)	0 V

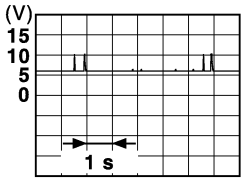
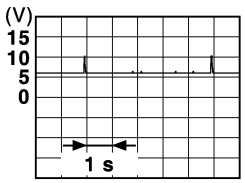
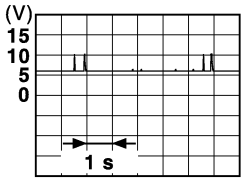
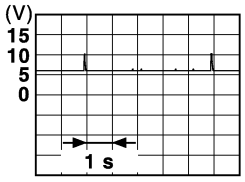
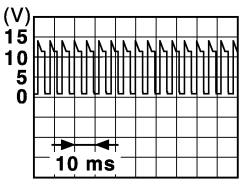
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
49 (L)	Ground	Luggage room lamp	Output	Luggage room lamp	OFF	Battery voltage
					ON	0 - 1 V
51 (P)	Ground	Back door request switch	Input	Back door request switch	ON (Pressed)	0 - 1.5 V
					OFF (Released)	Battery voltage
53 (GR)	Ground	Back door open	Output	Back door	OFF (Actuator idle)	0 V
					OPEN (Actuator activated)	Battery voltage
54 (P)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
					ON (Activated)	Battery voltage
55 (G)	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator activated)	Battery voltage
					Other then UNLOCK (Actuator idle)	0 V
56 (P)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver activated.		0 V
				Interior room lamp battery saver not activated.		Battery voltage
57 (P)	Ground	Battery power supply	Input	Power switch OFF		Battery voltage
58 (W)	—	Air bag deployment information	Input	—	—	—
59 (LG)	Ground	Passenger door UNLOCK	Output	Passenger door	UNLOCK (Actuator activated)	12 V
					Other then UNLOCK (Actuator idle)	0 V
60 (V)	Ground	Turn signal LH	Output	Power switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 PKIC6370E 6.5 V (Turn signal lamp turn on: 9 - 16 V)
61 (R)	Ground	Turn signal RH	Output	Power switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKIC6370E 6.5 V (Turn signal lamp turn on: 9 - 16 V)
63 (BR)	Ground	Interior room lamp control	Output	Interior room lamp	OFF	Battery voltage
					ON	0 - 1 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator activated)	Battery voltage
					Other then LOCK (Actuator idle)	0 V
66 (G)	Ground	Driver door UNLOCK	Output	Driver door	UNLOCK (Actuator activated)	Battery voltage
					Other then UNLOCK (Actuator idle)	0 V
67 (B)	Ground	Ground	Output	Power switch ON		0 V
68 (L)	Ground	P/W power supply (ON)	Output	Power switch OFF		0 V
				Power switch ON		Battery voltage
69 (R)	Ground	P/W power supply (BAT)	Output	Power switch OFF		Battery voltage
70 (Y)	Ground	Battery power supply	Input	Power switch OFF		Battery voltage
73 (V)	Ground	Push switch signal output	Output	—	—	—
75 (LG)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 - 1.5 V
					OFF (Released)	Battery voltage
76 (SB)	Ground	Power switch (push switch)	Input	Power switch (push switch)	Pressed	0 - 1.5 V
					Released	Battery voltage
78 (P)	Ground	Outside key antenna (driver side) +	Output	Driver door request switch operated with power switch ON	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			
79 (V)	Ground	Outside key antenna (driver side) -	Output	Driver door request switch operated with power switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
80 (LG)	Ground	Outside key antenna (passenger side) +	Output	Passenger door request switch operated with power switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
81 (Y)	Ground	Outside key antenna (passenger side) -	Output	Passenger door request switch operated with power switch ON	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			
82 (W)	Ground	Outside key antenna (rear bumper) +	Output	Back door request switch operated with power switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
83 (B)	Ground	Outside key antenna (rear bumper) -	Output	Back door request switch operated with power switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
84 (BR)	Ground	Inside key antenna (instrument center) +	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
85 (Y)	Ground	Inside key antenna (instrument center) -	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB
86 (G)	Ground	Inside key antenna (rear seat) +	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB
87 (R)	Ground	Inside key antenna (rear seat) –	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
88 (G)	Ground	Inside key antenna (luggage room) +	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB
89 (R)	Ground	Inside key antenna (luggage room) -	Output	Power switch ON	Intelligent Key not in antenna detection area	 JMKIA5951GB
					Intelligent Key in antenna detection area	 JMKIA3839GB
90 (W)	Ground	Power switch illumination power supply	Output	Power switch illumination	ON	Battery voltage
					OFF	0 - 1.5 V
91 (V)	Ground	ACC/ON indicator lamp	Output	Power switch	OFF	Battery voltage
					ACC or ON	0 - 1.5 V
92 (B)	Ground	Power switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JPMIA1554GB 6.0 - 7.0 V
93 (GR)	Ground	Intelligent Key warning buzzer	Output	Intelligent Key warning buzzer	Sounding	0 - 1.5 V
					Not sounding	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
96 (BR)	Ground	Accessory relay control	Output	Power switch	OFF	0 - 0.5 V
					ACC or ON	Battery voltage
97 (LG)	Ground	READY signal	Output	Power switch ON		Battery voltage
				Power switch ON → Set the vehicle to READY [Power supply position: READY (CRANK)]		0 - 0.5 V
98 (L)	Ground	Ignition relay (IPDM E/R) control	Output	Power switch	OFF or ACC	Battery voltage
					ON	0 - 0.5 V
99 (GR)	Ground	Ignition relay (F/B) control	Output	Power switch	OFF or ACC	0 - 0.5 V
					ON	Battery voltage
100 (P)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 - 1.5 V
					OFF (Released)	Battery voltage
102 (BG)	Ground	P/N position	Input	Shift position	P or N position	Battery voltage
					Except P and N positions	0 - 1.5 V
105 (W)	Ground	Stop lamp switch 2	Input	Power switch OFF		Battery voltage

*: For Canada

Fail-safe

INFOID:0000000010642163

FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2193: CHAIN OF BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2195: ANTI-SCANNING	Inhibit setting the vehicle to READY	Power switch ON → OFF
B2196: DONGLE NG	Inhibit setting the vehicle to READY	Erase DTC
B2198: IMMOBI ANT NG	Inhibit setting the vehicle to READY	Erase DTC
B261E: FUEL MIS CONFIG	Inhibit setting the vehicle to READY	When the VCM status signal is normally received from VCM.
B26F1: IGN RELAY OFF STUCK	Inhibit setting the vehicle to READY	When the following conditions are fulfilled • Power switch ON signal (CAN: Transmitted from BCM): ON • Power switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON STUCK	Inhibit setting the vehicle to READY	When the following conditions are fulfilled • Power switch ON signal (CAN: Transmitted from BCM): OFF • Power switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F7: LF DRIVER COMMUNICATION	Inhibit setting the vehicle to READY	When inside key antennas function normally
U0415: VDC CAN CIRC2	Inhibit setting the vehicle to READY	When vehicle speed signal (Meter) (CAN) is received normally

*: “ECM” is indicated on CONSULT display, however this means VCM on this vehicle.

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

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

Condition of cancellation
1. More than 1 minute is passed after the rear wiper stop.
2. Turn rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

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:0000000010642164

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT(CAN) • U0293: LOST COMM (HV ECU)
3	• B2192: ID DISCORD BCM-ECM* • B2193: CHAIN OF BCM-ECM* • B2195: ANTI-SCANNING • B2196: DONGLE NG • B2198: IMMOBI ANT NG
4	• 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 • B2614: ACC RELAY REQ F/B • B2616: IGN RELAY2 REQ F/B • B2617: ST RELAY REQ F/B • B2618: IGN RELAY1 REQ F/B • B261A: ENG SW • B261E: FUEL MIS CONFIG • B26F1: IGN RELAY OFF STUCK • B26F2: IGN RELAY ON STUCK • B26F6: IGN USM CONT • B26F7: LF DRIVER COMMUNICATION • B26FC: KEYFOB MISS REGISTRATION • C1729: VHCL SPEED SIG ERR • U0415: VDC CAN CIR2
5	• 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: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL

Priority	DTC
6	• B2621: INSIDE ANTENNA 1 • B2622: INSIDE ANTENNA 2 • B2623: INSIDE ANTENNA 3
7	• B2626: OUTSIDE 1 ANTENNA • B2627: OUTSIDE 2 ANTENNA • B2628: OUTSIDE 3 ANTENNA

*: “ECM” is indicated on CONSULT display, however this means VCM on this vehicle.

DTC Index

INFOID:0000000010642165

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.	—	—	—	—	—
U0293: LOST COMM (HV ECU)	—	—	—	—	BCS-63
U0415: VDC CAN CIR2	×	—	×	—	BCS-64
U1000: CAN COMM CIRCUIT	—	—	—	—	BCS-61
U1010: CONTROL UNIT(CAN)	—	—	—	—	BCS-62
B2192: ID DISCORD BCM-ECM*	×	—	—	—	SEC-70
B2193: CHAIN OF BCM-ECM*	×	—	—	—	SEC-71
B2195: ANTI-SCANNING	×	—	—	—	SEC-72
B2196: DONGLE NG	×	—	—	—	SEC-73
B2198: IMMOBI ANT NG	×	—	—	—	SEC-75
B2555: STOP LAMP CIRCUIT	—	×	×	—	SEC-78
B2556: ENG START SW	—	×	×	—	SEC-81
B2557: VEHICLE SPEED	×	×	×	—	SEC-83
B2562: LOW VOLTAGE	—	×	—	—	BCS-65
B2601: SHIFT P SIGNAL	×	×	×	—	SEC-84
B2602: SHIFT P DIAG	×	×	×	—	SEC-86
B2603: SHIFT POSITION	×	×	×	—	SEC-88
B2604: SHIFT PN DIAG CAN	×	×	×	—	SEC-90
B2614: ACC RELAY REQ F/B	—	×	×	—	PCS-55
B2616: IGN RELAY2 REQ F/B	—	×	×	—	PCS-57
B2617: ST RELAY REQ F/B	—	×	×	—	SEC-92
B2618: IGN RELAY1 REQ F/B	—	×	×	—	PCS-59
B261A: ENGINE SW	—	×	×	—	PCS-61
B261E: FUEL MIS CONFIG	—	×	×	—	SEC-96
B2621: INSIDE ANTENNA 1	—	×	—	—	DLK-69
B2622: INSIDE ANTENNA 2	—	×	—	—	DLK-71

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
B2623: INSIDE ANTENNA 3	—	×	—	—	DLK-73
B2626: OUTSIDE 1 ANTENNA	—	×	—	—	DLK-75
B2627: OUTSIDE 2 ANTENNA	—	×	—	—	DLK-77
B2628: OUTSIDE 3 ANTENNA	—	×	—	—	DLK-79
B26F1: IGN RELAY OFF STUCK	×	×	×	—	PCS-63
B26F2: IGN RELAY ON STUCK	×	×	×	—	PCS-64
B26F6: IGN USM CONT FAIL	—	×	×	—	PCS-65
B26F7: LF DRIVER COMMUNICATION	×	×	×	—	SEC-97
B26FC: KEYFOB MISS REGISTRATION	—	×	×	—	SEC-98
C1704: LOW PRESSURE FL	—	—	—	×	WT-24
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	WT-26
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-29
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-31

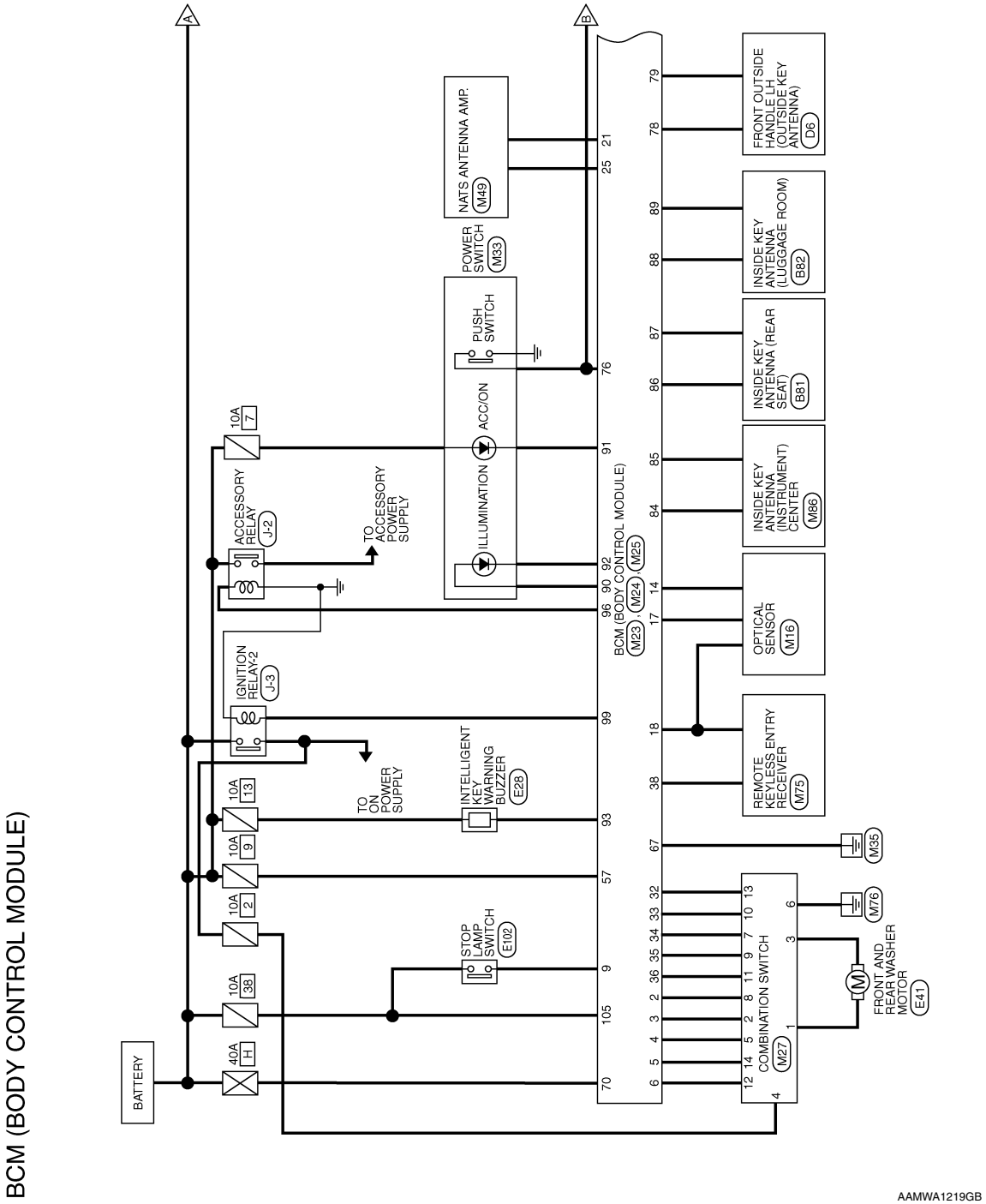
*: “ECM” is indicated on CONSULT display, however this means VCM on this vehicle.

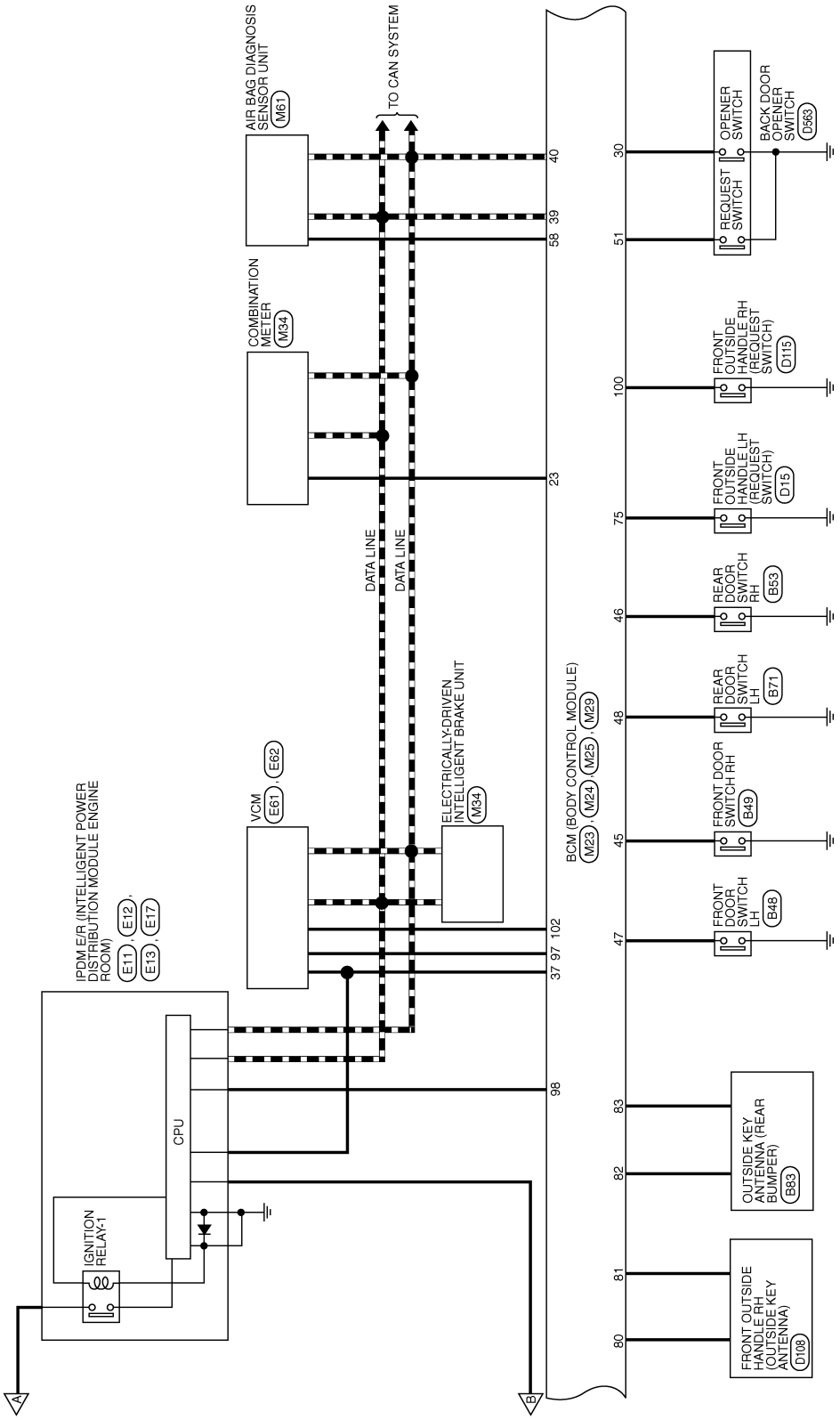
WIRING DIAGRAM

BCM

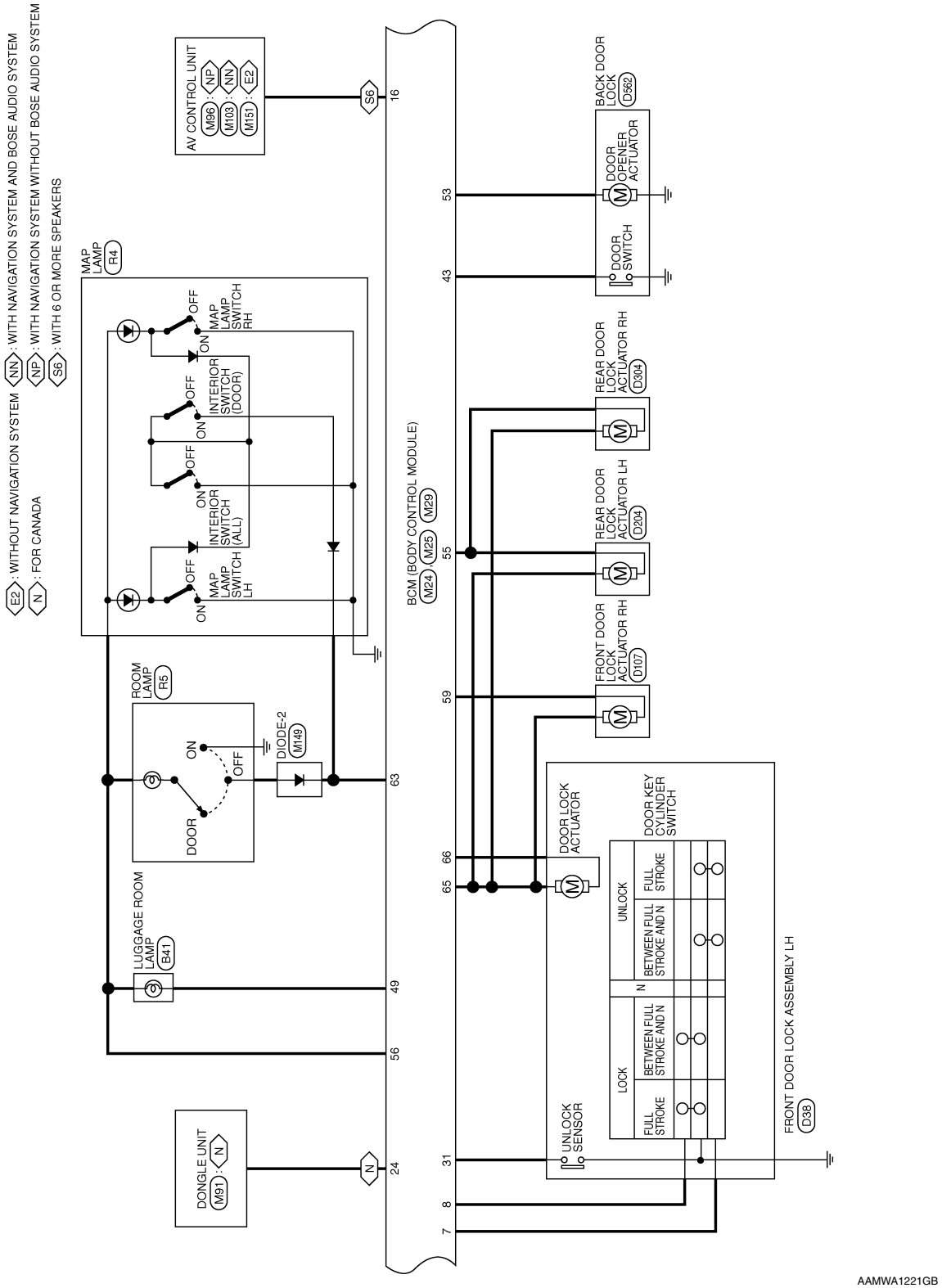
Wiring Diagram

INFOID:0000000010642166

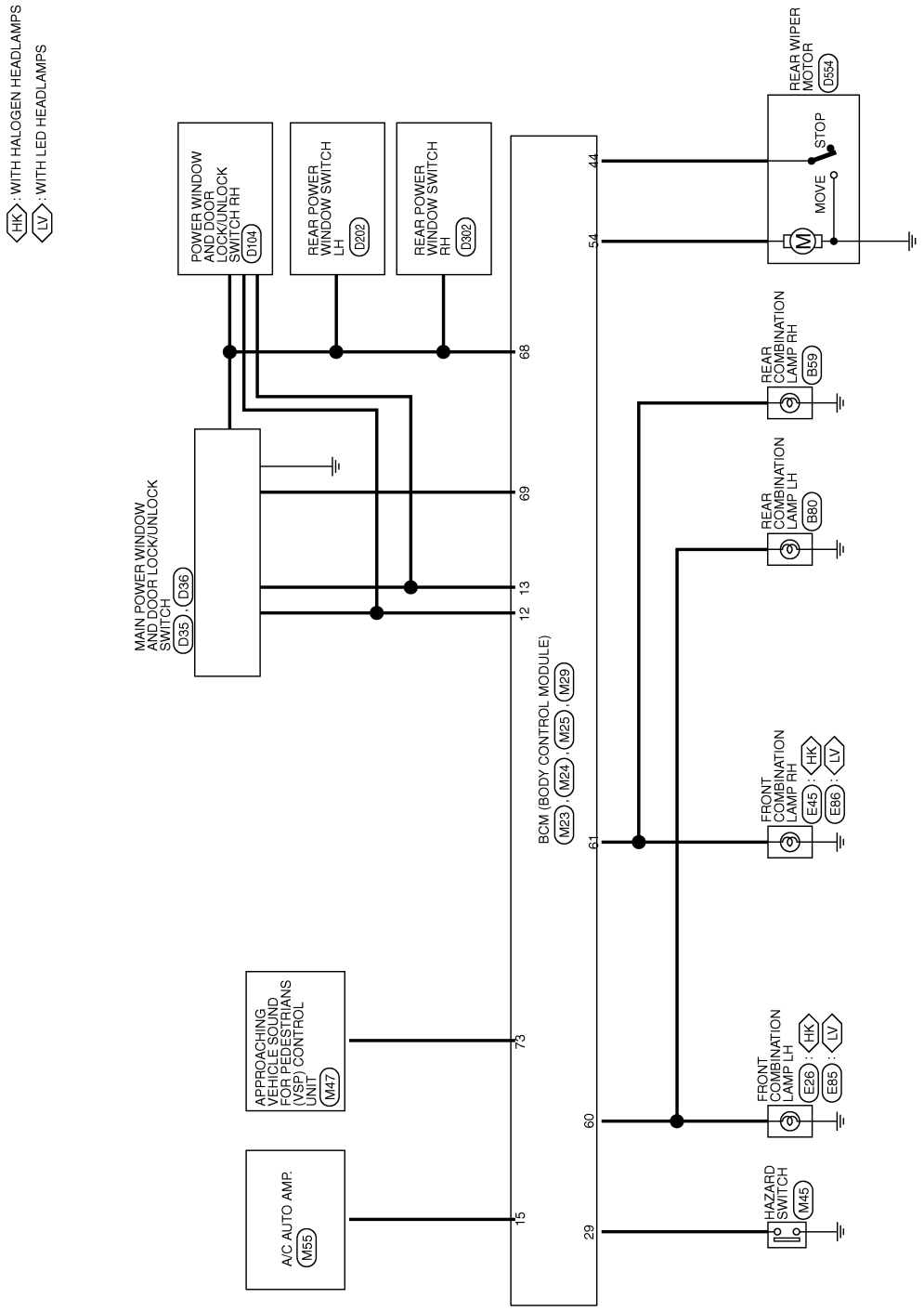




AAMWA1220GB



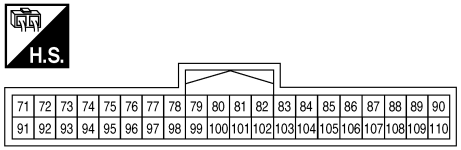
AAMWA1221GB



AAMWA1222GB

BCM (BODY CONTROL MODULE) CONNECTORS

Connector No.	M23
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
71	–	–
72	–	–
73	V	PUSH SW SIGNAL OUTPUT
74	–	–
75	LG	REQUEST SW (DR)
76	SB	ENGINE START SW
77	–	–
78	P	DOOR ANTENNA (DR) +
79	V	DOOR ANTENNA (DR) –
80	LG	DOOR ANTENNA (AS) +
81	Y	DOOR ANTENNA (AS) –
82	W	BACK DOOR ANTENNA +
83	B	BACK DOOR ANTENNA –
84	BR	ROOM ANTENNA 1 +
85	Y	ROOM ANTENNA 1 –
86	G	ROOM ANTENNA 2 +
87	R	ROOM ANTENNA 2 –
88	G	ROOM ANTENNA 3 +
89	R	ROOM ANTENNA 3 –
90	W	HIGH SIDE ENGINE START SW ILLUMINATION LED
91	V	POWER POSITION LED (LOCK POSITION LED)
92	B	LOW SIDE ENGINE START SW ILLUMINATION LED OUTPUT
93	GR	SMART KEYLESS BUZZER OUTPUT
94	–	–
95	–	–
96	BR	ACC RELAY OUTPUT
97	LG	STARTER RELAY OUTPUT
98	L	IGN RELAY OUTPUT1 (USM)
99	GR	IGN RELAY OUTPUT2 (ELEC)
100	P	REQUEST SW (AS)
101	–	–
102	BG	SHIFT N, P
103	–	–
104	–	–
105	W	BRAKE SW2
106	–	–
107	–	–
108	–	–
109	–	–
110	–	–

AAMIA2418GB

Connector No.	M24
Connector Name	BCM (BODY CONTROL MODULE)
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	G	COMBINATION SW INPUT 2
6	V	COMBINATION SW INPUT 1
7	GR	KEY CYLINDER UNLOCK SW
8	R	KEY CYLINDER LOCK SW
9	BR	BRAKE SW1
10	–	–
11	–	–
12	Y	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	G	AUTO LIGHT SENSOR INPUT
15	W	REAR DEFOGGER SW
16	R	MR OUTPUT
17	Y	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT
18	L	KEYLESS TUNER, AUTO LIGHT SENSOR GND
19	–	–
20	–	–
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
22	–	–
23	R	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
26	–	–
27	–	–
28	–	–
29	G	HAZARD SW
30	V	TRUNK/BACK DOOR OPENER SW
31	W	DOOR LOCK STATUS SW (DR)
32	GR	COMBINATION SW OUTPUT 5
33	Y	COMBINATION SW OUTPUT 4
34	W	COMBINATION SW OUTPUT 3
35	BG	COMBINATION SW OUTPUT 2
36	P	COMBINATION SW OUTPUT 1
37	V	SHIFT P POSITION, PARKING POSITION SW
38	SB	INTELLIGENT TUNER
39	L	CAN–H
40	P	CAN–L

AAMIA2419GB

Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
56	P	BATTERY SAVER OUTPUT
57	P	BATTERY (FUSE)
58	W	SHOCK DETECT SIGNAL
59	LG	DOOR UNLOCK OUTPUT (AS)
60	V	FLASHER OUTPUT (LEFT)
61	R	FLASHER OUTPUT (RIGHT)
62	–	–
63	BR	ROOM LAMP OUTPUT
64	–	–
65	V	DOOR LOCK OUTPUT
66	G	DOOR UNLOCK COMMON (DR)
67	B	GND
68	L	POWER WINDOW POWER SUPPLY (RAP)
69	R	POWER WINDOW POWER SUPPLY (BATTERY)
70	Y	BATTERY (F/L)

Connector No.	M27
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	LG	–
2	GR	–
3	R	–
4	SB	–
5	BR	–
6	B	–
7	W	–
8	L	–
9	BG	–
10	Y	–
11	P	–
12	V	–
13	GR	–
14	G	–

Connector No.	M29
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
41	–	–
42	–	–
43	Y	DOOR SW (BACK)
44	LG	REAR WIPER AUTO STOP SW
45	BR	DOOR SW (AS)
46	R	DOOR SW (RR)
47	SB	DOOR SW (DR)
48	W	DOOR SW (RL)
49	L	LUGGAGE LAMP OUTPUT
50	–	–
51	P	REQUEST SW (TRUNK/BACK DOOR)
52	–	–
53	GR	TRUNK/BACK DOOR OPEN OUTPUT
54	P	REAR WIPER MOTOR OUTPUT
55	G	DOOR UNLOCK OUTPUT (RR, RL)

AAMIA2420GB

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description

INFOID:0000000010642167

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:0000000010642168

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-72, "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-58, "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-58, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

CONFIGURATION (BCM)

CONFIGURATION (BCM) : Description

INFOID:0000000010642169

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:0000000010642170

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-59, "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:0000000010642171

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

MANUAL SETTING ITEM	
Items	Setting value
DTRL	WITHOUT ⇔ WITH
AUTO LIGHT	WITHOUT ⇔ WITH

⇔: Items which confirm vehicle specifications

TRANSIT MODE CANCEL OPERATION

Description

INFOID:0000000010642172

- BCM is in transit mode if turn signal indicator on combination meter turns ON for 1 minute when ignition switch is turned from OFF to ON.
- In this case, cancel operation must be performed.

NOTE:
Do not cancel transit mode during storage of the vehicle. Always cancel transit mode before delivery of the vehicle to customer.

Work Procedure

INFOID:0000000010642173

1. TRANSIT MODE CANCEL OPERATION

1. Turn ignition switch OFF.
2. Turn and hold front wiper switch to HI, and then operate turn signal switch to RH or LH.

>> GO TO 2.

2. TRANSIT MODE CANCEL CHECK

1. Turn front wiper switch and turn signal switch OFF.
2. Turn ignition switch ON.
3. Check that turn signal indicator on combination meter does not turn ON.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000010642174

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-37, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

DTC Logic

INFOID:0000000010642175

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM [U1000]	BCM cannot communicate with CAN communication signal for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:0000000010642176

1.PERFORM SELF DIAGNOSTIC

1. Turn power switch ON and wait for 2 seconds or more.
2. Check Self Diagnostic Result of BCM.

Is DTC U1000 displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-53, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000010642177

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:0000000010642178

1.REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-72, "Removal and Installation".

U0293 HV C/U CAN COMM

DTC Logic

INFOID:0000000010642179

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
HV C/U CAN COMM [U0293]	VCM status signal received from VCM remains abnormal for 2 seconds or more.	• BCM • VCM

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

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

Is DTC U0293 detected?

YES >> Refer to BCS-63, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010642180

1.VCM SELF-DIAG RESULTS

Perform Self-Diagnostic Result of VCM with CONSULT. Refer to EVC-103, "DTC Index".

Are any DTCs detected?

YES >> Repair or replace the malfunctioning part.
NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

U0415 VEHICLE SPEED

Description

INFOID:0000000010642181

U0415 is displayed if any unusual condition is present in the reception status of the vehicle speed signal from the ABS actuator and electric unit (control unit).

DTC Logic

INFOID:0000000010642182

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VEHICLE SPEED [U0415]	Vehicle speed signal received from ABS actuator and electric unit (control unit) remains abnormal for 2 seconds or more.	• ABS actuator and electric unit (control unit) • BCM

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

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

Is DTC U0415 detected?

YES >> Refer to BCS-64, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010642183

1.ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAG RESULTS

Perform Self-Diagnostic Result of ABS actuator and electric unit (control unit) with CONSULT. Refer to BRC-56, "DTC Index".

Are any DTCs detected?

YES >> Repair or replace the malfunctioning part.
NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

B2562 LOW VOLTAGE

DTC Logic

INFOID:0000000010642184

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.DTC CONFIRMATION

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

Is DTC B2562 detected?

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

Diagnosis Procedure

INFOID:0000000010642185

1.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to BCS-66, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".
NO >> Repair or replace harness or connectors.

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000010642186

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1.CHECK FUSE AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuse and fusible link No.
57	Battery power supply	9 (10A)
70		H (40A)

Is the fuse or fusible link 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 M25.
2. Check voltage between BCM connector M25 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M25	57	—	Battery voltage
	70		

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M25 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M25	67	—	Yes

Is the inspection result normal?

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

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000010642187

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1.CHECK INPUT 1 - 5 CIRCUIT FOR OPEN

1. Turn power switch OFF.
2. Disconnect BCM connector M24 and combination switch connector.
3. Check continuity between BCM connector M24 and combination switch connector M27.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M24	36	M27	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 or replace harness or connectors.

2.CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector M24 and ground.

Combination switch signal	BCM		Ground	Continuity
	Connector	Terminal		
INPUT 1	M24	36	—	No
INPUT 2		35		
INPUT 3		34		
INPUT 4		33		
INPUT 5		32		

Is the inspection result normal?

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

3.CHECK BCM OUTPUT VOLTAGE

1. Connect BCM connector M24.
2. Check voltage between BCM connector M24 and ground.

BCM signal	BCM		Ground	Voltage (Approx.)
	Connector	Terminal		
OUTPUT 1	M24	36	Ground	Refer to BCS-28, "Reference Value".
OUTPUT 2		35		
OUTPUT 3		34		
OUTPUT 4		33		
OUTPUT 5		32		

Is the inspection result normal?

YES >> Replace combination switch. Refer to BCS-73, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:0000000010642188

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1.CHECK OUTPUT 1 - 5 CIRCUIT FOR OPEN

1. Turn power switch OFF.
2. Disconnect BCM connector M24 and combination switch connector.
3. Check continuity between BCM connector M24 and combination switch connector M27.

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M24	6	M27	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 or replace harness or connectors.

2.CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector M24 and ground.

Combination switch signal	BCM		Ground	Continuity
	Connector	Terminal		
OUTPUT 1	M24	6	—	No
OUTPUT 2		5		
OUTPUT 3		4		
OUTPUT 4		3		
OUTPUT 5		2		

Is the inspection result normal?

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

3.CHECK BCM INPUT VOLTAGE

1. Connect BCM connector M24 and combination switch connector.
2. Turn power switch ON.
3. Check voltage between BCM connector M24 and ground.

BCM signal	BCM		Ground	Voltage (Approx.)
	Connector	Terminal		
INPUT 1	M68	6	Ground	Refer to BCS-28, "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-72, "Removal and Installation".
No >> Replace combination switch. Refer to BCS-73, "Removal and Installation".

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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1. Perform 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	RR WIPER ON	RR WIPER INT	RR WASHER SW	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 combinations A to K																

3. Identify the malfunctioning part from the combinations 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-67, "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-69, "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-72, "Removal and Installation".
L	Combination switch	Replace combination switch. Refer to BCS-73, "Removal and Installation".

REMOVAL AND INSTALLATION

BCM

Removal and Installation

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CAUTION:
Before replacing BCM, perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-57, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description".

REMOVAL

1. Disconnect the 12V battery cable from the negative terminal. Refer to BCS-4, "Precaution for Removing 12V Battery".
2. Remove glove box cover assembly. Refer to IP-17, "Removal and Installation".
3. Remove BCM screws, slide BCM bracket upward to release locating hook and locating pin.
4. Disconnect the harness connectors from the BCM and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Be sure to perform "WRITE CONFIGURATION" when replacing the BCM. Refer to BCS-57, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description"**
- **Be sure to perform the system initialization (NATS) when replacing BCM. Refer to BCS-57, "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.**
- **For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions**

COMBINATION SWITCH

Exploded View

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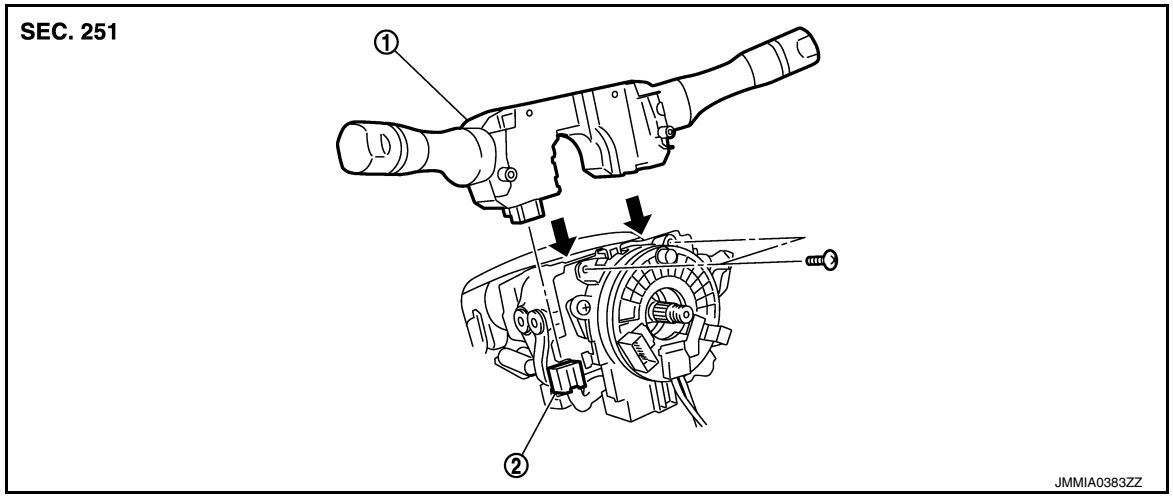

1. Combination switch
2. Combination switch connector

Removal and Installation

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REMOVAL

1. Disconnect the 12V battery cable from the positive and negative terminal. Refer to PG-82, "Removal and Installation".
2. Remove steering column covers (upper/lower). Refer to IP-17, "Removal and Installation".
3. Remove screws.
4. Disconnect the harness connector.
5. Pull up the combination switch and remove.

INSTALLATION

Installation is in the reverse order of removal.