

BCS

SECTION

BODY CONTROL SYSTEM

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

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

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COMPONENT PARTS

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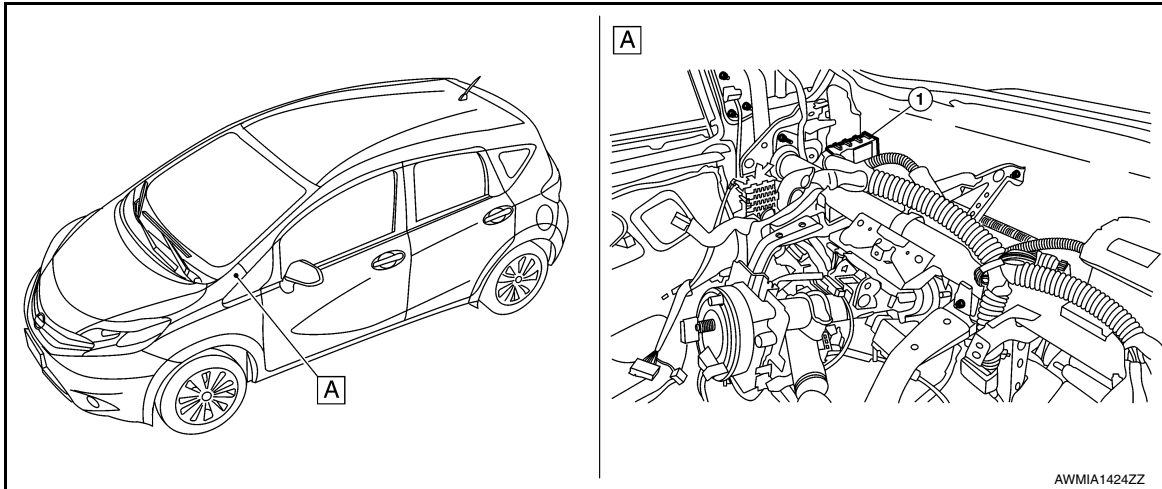
SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

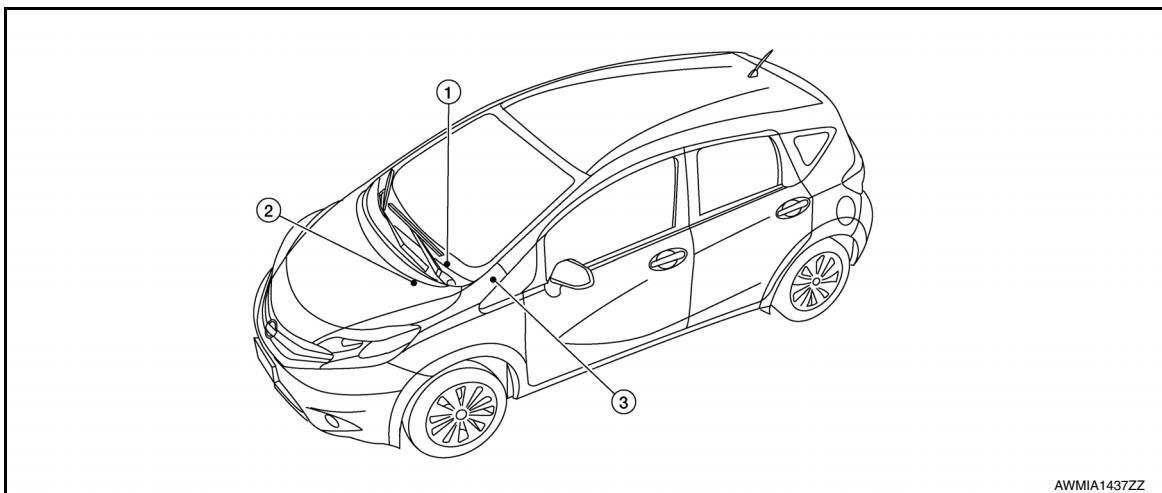
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POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

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SYSTEM

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SYSTEM

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : System Description

INFOID:000000009567510

OUTLINE

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

BCM CONTROL FUNCTION LIST

System	Reference
Combination switch reading system	BCS-7, "COMBINATION SWITCH READING SYSTEM : System Description"
Signal buffer system	BCS-13, "SIGNAL BUFFER SYSTEM : System Description"
Power consumption control system	BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description"
Headlamp system	EXL-8, "HEADLAMP SYSTEM : System Description"
Daytime light system	EXL-9, "DAYTIME RUNNING LIGHT SYSTEM : System Description"
Turn signal and hazard warning lamp system	EXL-10, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description"
Parking, license plate and tail lamps system	EXL-10, "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description"
Front fog lamp system	EXL-12, "FRONT FOG LAMP SYSTEM : System Description"
Exterior lamp battery saver system	EXL-13, "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description"
Interior room lamp control system	INL-7, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Interior room lamp battery saver system	INL-7, "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Front wiper and washer system	WW-8, "FRONT WIPER AND WASHER SYSTEM : System Description"
Rear wiper and washer system	WW-11, "REAR WIPER AND WASHER SYSTEM : System Description"
Rear window defogger system	DEF-5, "System Description"
Manual air conditioning system	HAC-13, "System Description"
Warning chime system	WCS-5, "WARNING CHIME SYSTEM : System Description"
Power door lock system	DLK-17, "System Description"
Nissan vehicle immobilizer system (NVIS)	SEC-13, "NISSAN ANTI-THEFT SYSTEM : System Description"
Vehicle security system	SEC-15, "VEHICLE SECURITY SYSTEM : System Description"

SYSTEM

< SYSTEM DESCRIPTION >

System		Reference
Intelligent Key system/engine start system	Door lock function	DLK-20. "DOOR LOCK FUNCTION : System Description"
	Warning function	DLK-24. "WARNING FUNCTION : System Description"
	Key reminder function	DLK-24. "KEY REMINDER FUNCTION : System Description"
	Engine start function	SEC-10. "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description"
Power window system		PWC-7. "System Description"
RAP (retained accessory power) system		BCS-26. "RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)"

BODY CONTROL SYSTEM : Fail-safe

INFOID:0000000009654074

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

CONSULT Display	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	—	When the following CAN signal status (vehicle speed signal) becomes consistent - Vehicle speed signal (ABS) - Vehicle speed signal (Meter)
B2601: SHIFT P SIGNAL	—	500 ms after the following signal reception status becomes consistent - Park position switch signal - P range signal (CAN)
B2602: SHIFT P DIAG	—	5 seconds after the following BCM recognition conditions are fulfilled - Ignition switch is in the ON position - Park position switch signal: P position (push selector button) or except P position (9 – 16 V) - Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSITION	—	500 ms after any of the following BCM recognition conditions are fulfilled - Status 1 - Ignition switch is in the ON position - Park position switch signal: P position (push selector button) or except P position (9 – 16 V) - P/N position signal: Except P and N positions (0 – 1.5 V) - Status 2 - Ignition switch is in the ON position - Park position switch signal: P position (release selector button) (0 – 1.5 V) - P/N position signal: P or N positions (9 – 16 V)
B2604: SHIFT PN DIAG CAN	—	500 ms after any of the following BCM recognition conditions are fulfilled - Status 1 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V) - Shift position signal (CAN): P or N position - Status 2 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) - Shift position signal (CAN): Except P and N position

SYSTEM

< SYSTEM DESCRIPTION >

CONSULT Display	Fail-safe	Cancellation
B2605: SHIFT PN DIAG IPDM	—	500 ms after any of the following BCM recognition conditions are fulfilled • Status 1 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) • Status 2 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V)
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B260F: ECM CAN COMM	Inhibit engine cranking	When any of the following conditions are fulfilled • Ignition switch changes to ACC • Receives engine status signal (CAN)
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): ON • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): OFF • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): OFF • Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): ON • Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VDC CAN CIR2	—	When vehicle speed signal (Meter) (CAN) is received normally

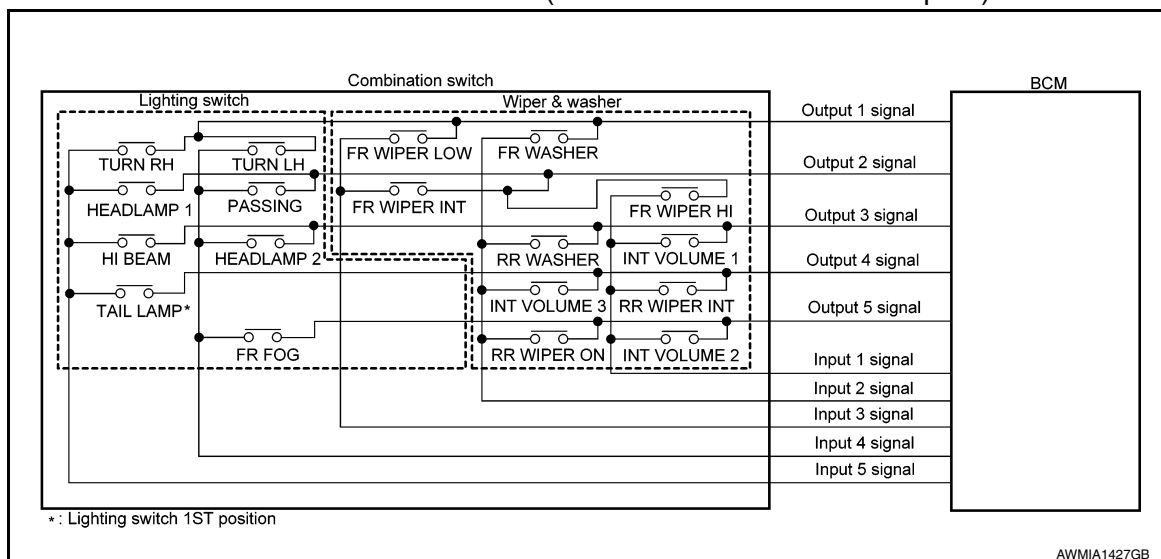
COMBINATION SWITCH READING SYSTEM

COMBINATION SWITCH READING SYSTEM : System Description

INFOID:000000009567512

SYSTEM DIAGRAM

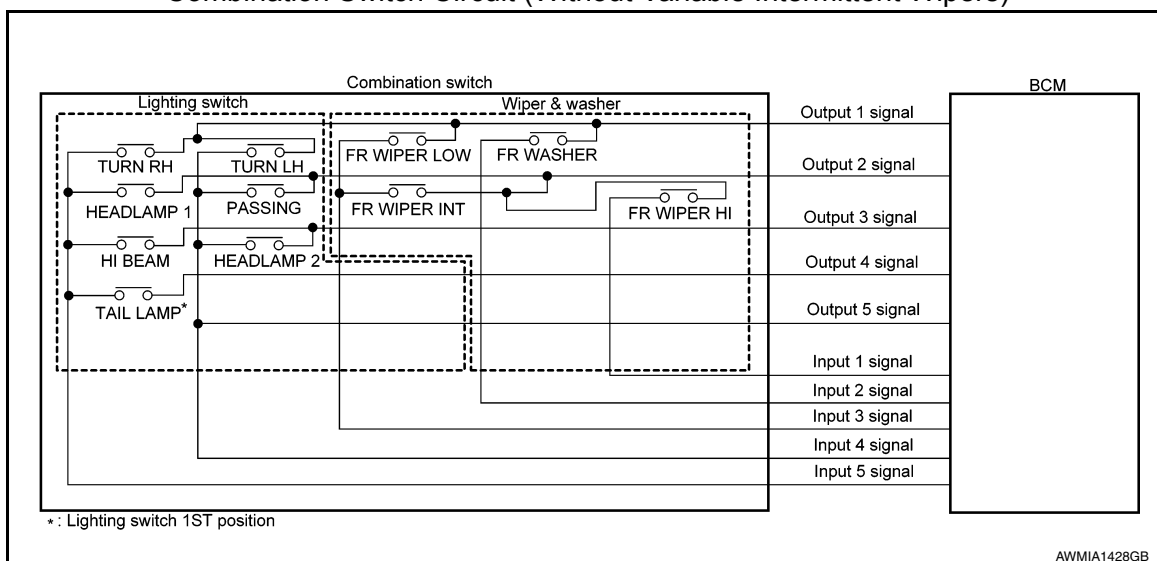
Combination Switch Circuit (With Variable Intermittent Wipers)



SYSTEM

< SYSTEM DESCRIPTION >

Combination Switch Circuit (Without Variable Intermittent Wipers)

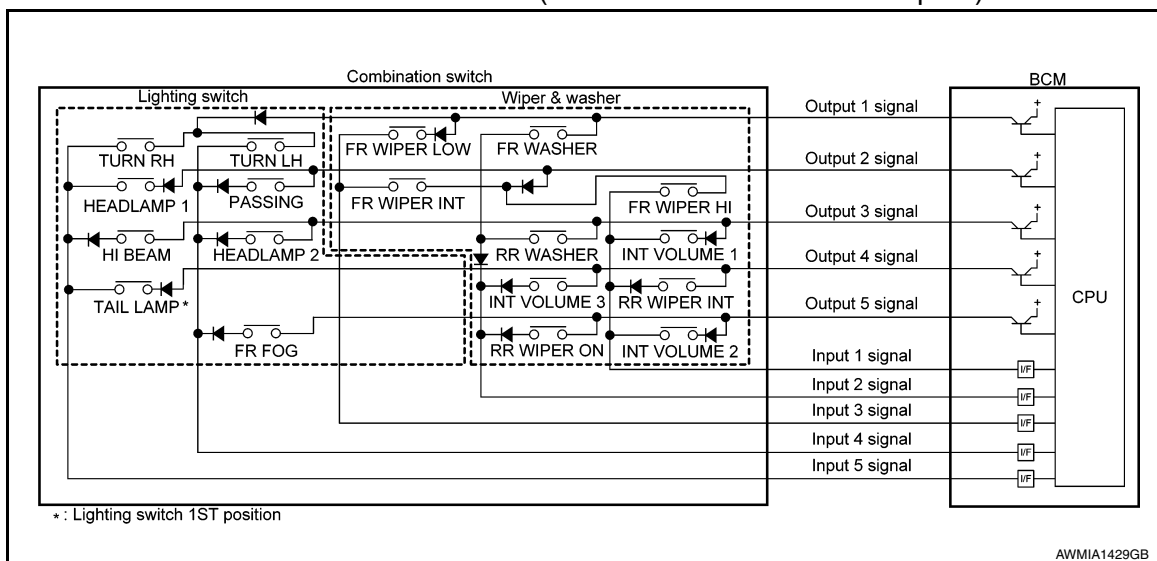


OUTLINE

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

COMBINATION SWITCH MATRIX (WITH VARIABLE INTERMITTENT WIPERS)

Combination switch circuit (With Variable Intermittent Wipers)



Combination switch INPUT-OUTPUT system list

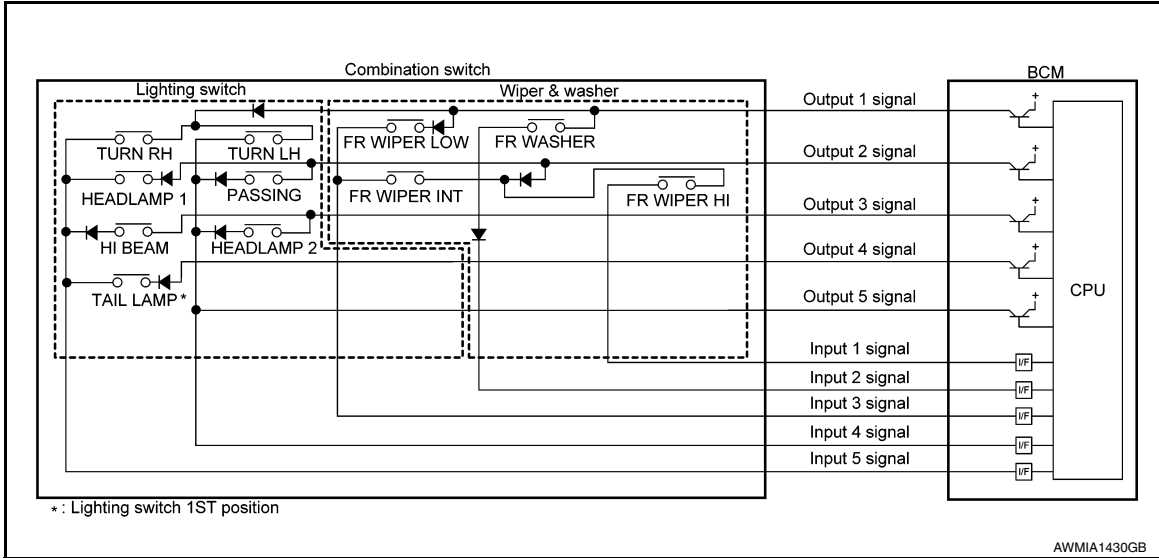
System	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
OUTPUT 1	—	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
OUTPUT 2	FR WIPER HI	—	FR WIPER INT	PASSING	HEADLAMP 1
OUTPUT 3	INT VOLUME 1	RR WASHER	—	HEADLAMP 2	HI BEAM
OUTPUT 4	RR WIPER INT	INT VOLUME 3	—	—	TAIL LAMP
OUTPUT 5	INT VOLUME 2	RR WIPER ON	—	FR FOG	—

COMBINATION SWITCH MATRIX (WITHOUT VARIABLE INTERMITTENT WIPERS)

SYSTEM

< SYSTEM DESCRIPTION >

Combination Switch Circuit (Without Variable Intermittent Wipers)



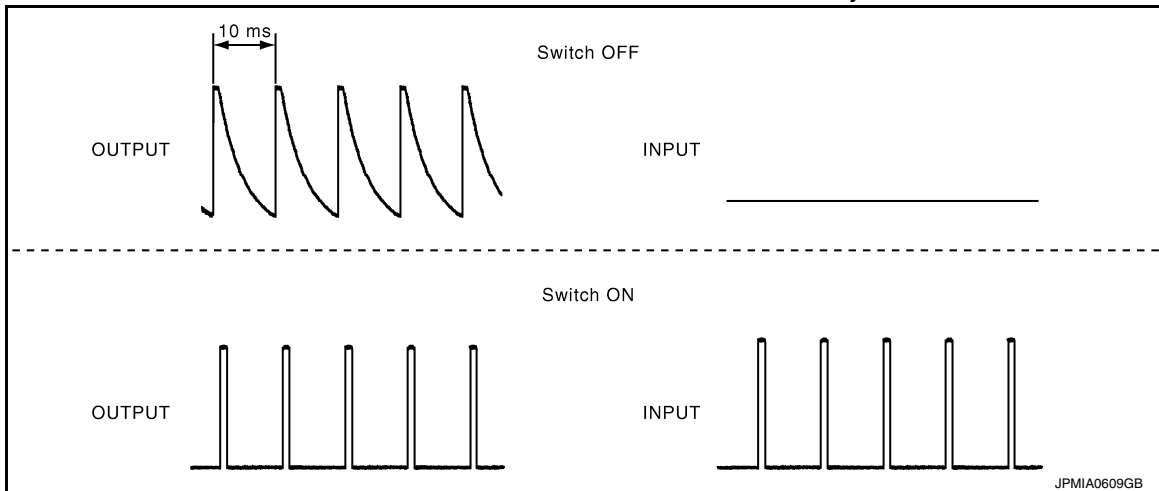
Combination switch INPUT-OUTPUT system list

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	—	—	—	HEADLAMP 2	HI BEAM
OUTPUT 4	—	—	—	—	TAIL LAMP
OUTPUT 5	—	—	—	—	—

COMBINATION SWITCH READING FUNCTION

Description

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



NOTE:

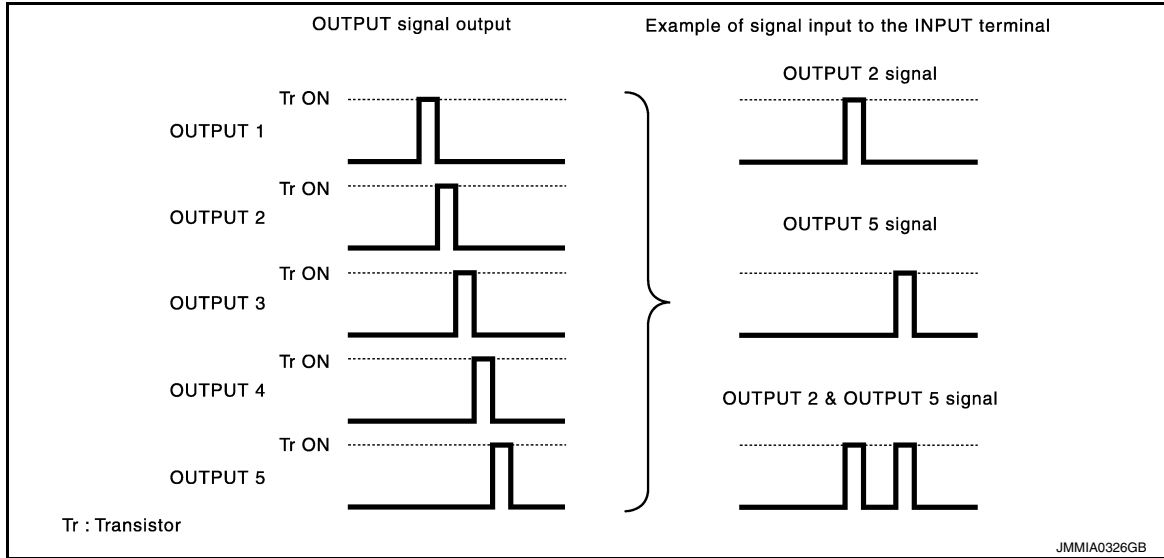
BCM reads the status of the combination switch at 60 ms intervals when BCM is controlled at low power consumption control mode.

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

SYSTEM

< SYSTEM DESCRIPTION >

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



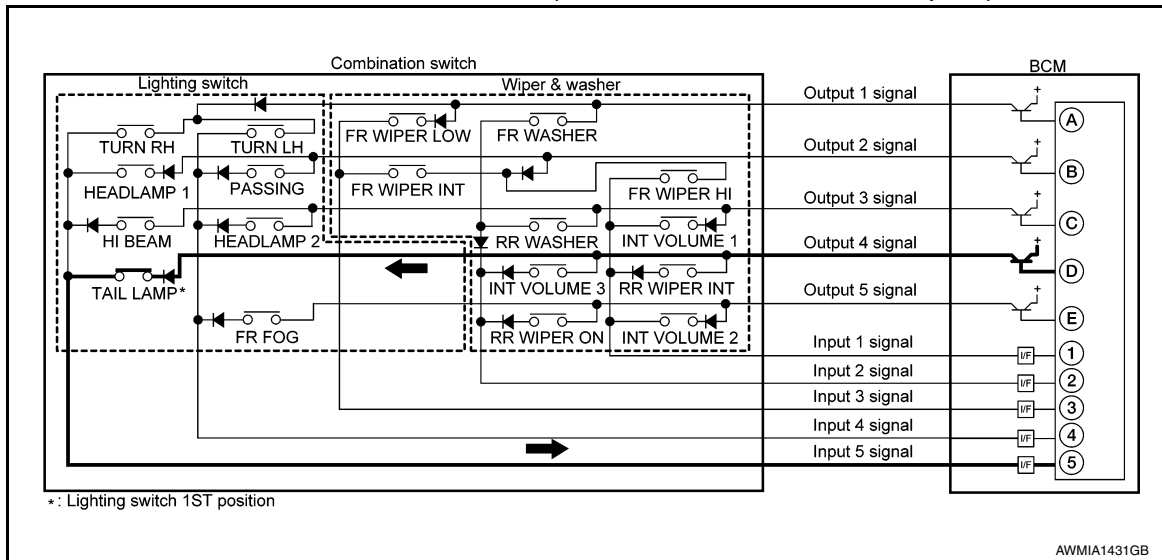
Operation Example

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

Example 1: When a switch (TAIL LAMP) is turned ON

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

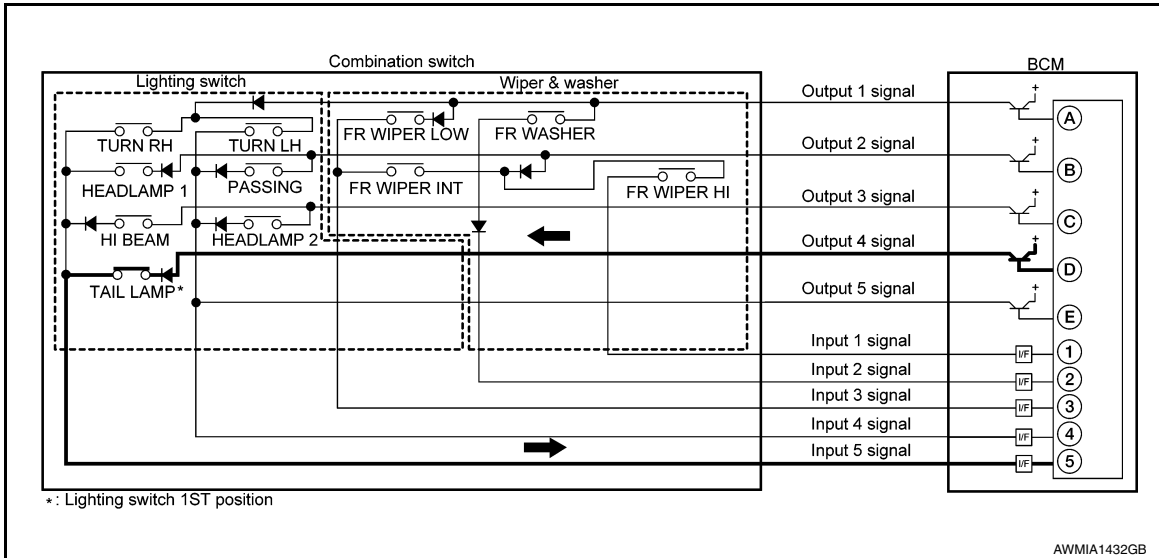
Combination switch circuit (With Variable Intermittent Wipers)



SYSTEM

< SYSTEM DESCRIPTION >

Combination switch circuit (Without Variable Intermittent Wipers)

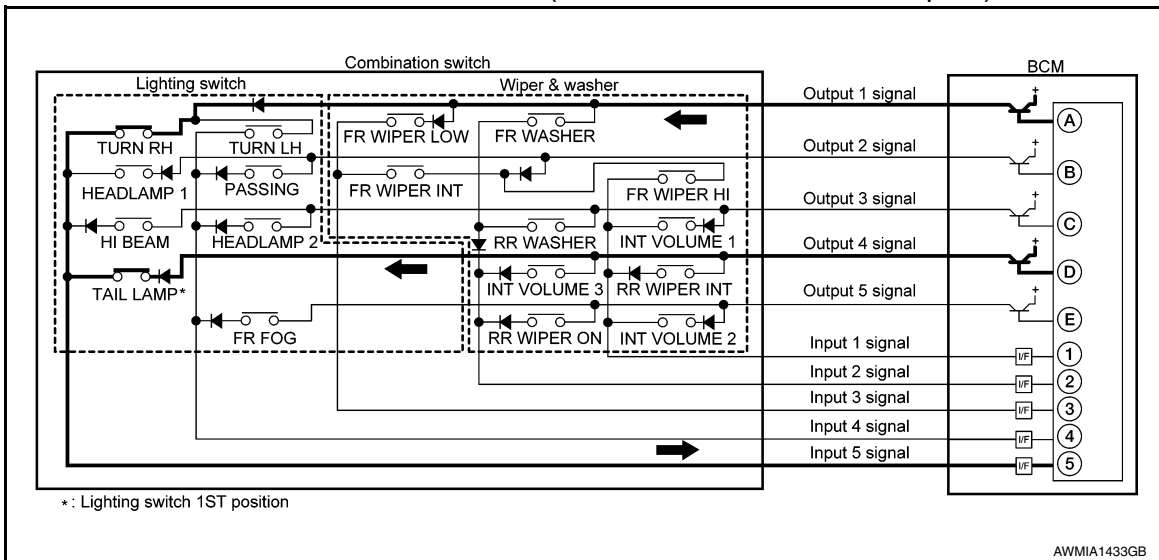


- BCM detects the combination switch status signal “5D” when the signal of OUTPUT 4 is input to INPUT 5.
- BCM judges that the TAIL LAMP switch is ON when the signal “5D” is detected.

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

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

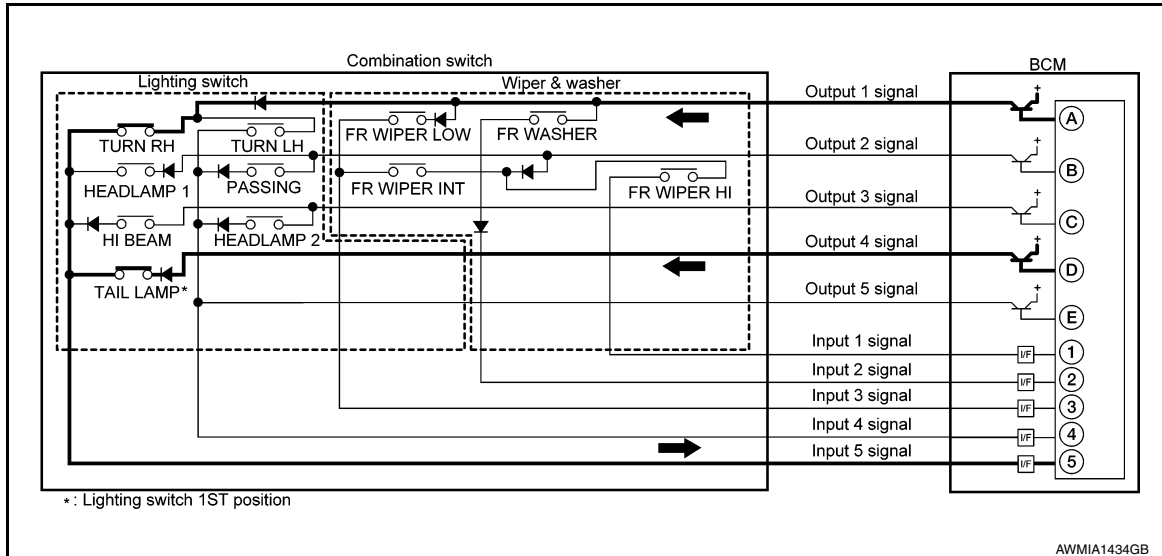
Combination switch circuit (With Variable Intermittent Wipers)



SYSTEM

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Combination switch circuit (Without Variable Intermittent Wipers)



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

WIPER INTERMITTENT DIAL POSITION (WITH VARIABLE INTERMITTENT WIPERS)

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

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

NOTE:

For details of wiper intermittent dial position, refer to [WW-8, "FRONT WIPER AND WASHER SYSTEM : System Description"](#).

SIGNAL BUFFER SYSTEM

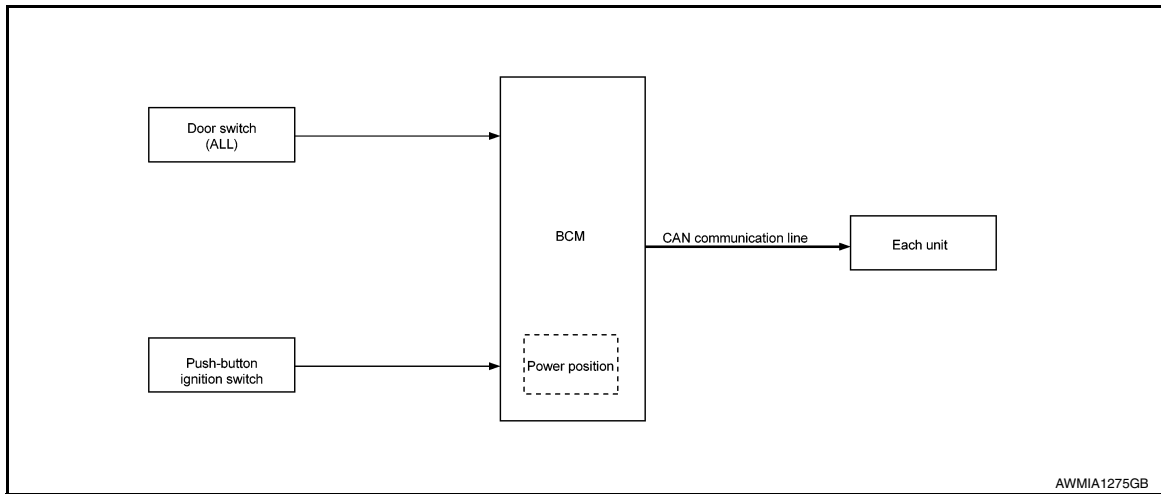
SYSTEM

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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

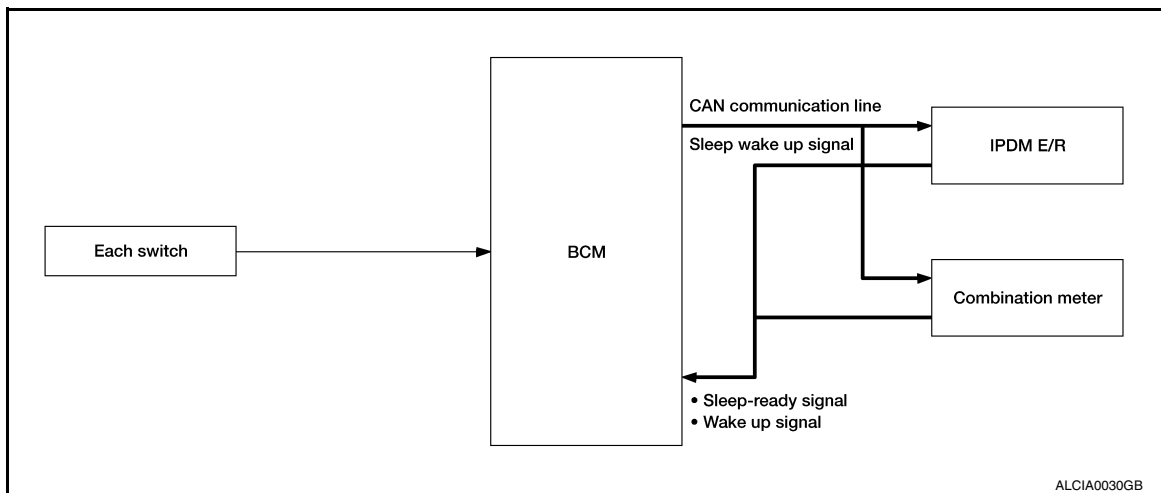
Signal name	Input	Output	Description
- Ignition switch ON signal - Ignition switch signal	Engine switch (push switch)	IPDM E/R (CAN)	Inputs the push-button ignition switch (push switch) signal and transmits the ignition switch status judged with BCM via CAN communication.
Door switch signal	Any door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

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:000000009567516

SYSTEM DIAGRAM



OUTLINE

- BCM incorporates a power saving control function that reduces the power consumption according to the vehicle status.

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- BCM switches the status (control mode) by itself with the power saving control function. It performs the sleep request to each unit (IPDM E/R and combination meter) that operates with the ignition switch OFF.

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

- The reading interval of each switch changes from 10 ms interval to 60 ms interval.

Sleep mode activation

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

Sleep condition

CAN sleep condition	BCM sleep condition
• Receiving the sleep-ready signal (ready) from all units • Ignition switch: OFF • Vehicle security system alarm: No operation • Warning lamp: Not operation • Intelligent Key system buzzer: No operation • Brake switch: OFF • Turn signal indicator lamp: No operation • Exterior lamp: OFF • Door lock status: No change • CONSULT communication status: No communication • Meter display signal: Non-transmission • Door switch status: No change • Rear window defogger: OFF	• Interior room lamp battery saver: Time out • RAP system: OFF • Push-button ignition switch (push switch) illumination: OFF • NATS: No operation • Remote keyless entry receiver communication status: No communication

Wake-up operation

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

SYSTEM

< SYSTEM DESCRIPTION >

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

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DIAGNOSIS SYSTEM (BCM)

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DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000009567517

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions.

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

DOOR LOCK

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:000000009567518

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 [OTR ULK/AS UNLK/DR UNLK/ALL UNLK/ALL LOCK].

WORK SUPPORT

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

*: Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:000000009567519

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:000000009567520

DATA MONITOR

Monitor Item [Unit]	Description
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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
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:000000009567521

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH -SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

ACTIVE TEST

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

WORK SUPPORT

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

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:000000009567522

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW 1 [On/Off]	
HEAD LAMP SW 2 [On/Off]	
PASSING SW [On/Off]	
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 back door switch.

ACTIVE TEST

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

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

*: Initial setting

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000009567523

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

FLASHER

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000009567524

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

INFOID:000000009567525

DATA MONITOR

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000009567526

SELF DIAGNOSTIC RESULT

Refer to [BCS-46, "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.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

ACTIVE TEST

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Test Item	Description
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
HORN	This test is able to check horn operation [On].
P RANGE	This test is able to check CVT shift selector illumination operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from Intelligent Key ON.
	Off	Door lock/unlock function from Intelligent Key OFF.
ANTI KEY LOCK IN FUNCTI	On*	Anti lock out setting ON.
	Off	Anti lock out setting OFF.
ANS BACK I-KEY UNLOCK	Off	No buzzer reminder when doors are unlocked with request switch.
	On*	Buzzer reminder when doors are unlocked with request switch.
ANS BACK I-KEY LOCK	Horn Chirp	Horn chirp reminder when doors are locked with request switch.
	Buzzer*	Buzzer reminder when doors are locked with request switch.
	Off	No reminder when doors are locked with request switch.
HORN WITH KEYLESS LOCK	Off	Horn chirp reminder when doors are locked with Intelligent Key.
	On*	No horn chirp reminder when doors are locked with Intelligent Key.
HAZARD ANSWER BACK	Lock/Unlock*	Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
	Unlock Only	Hazard warning lamp activation when doors are unlocked with Intelligent Key or request switch.
	Lock Only	Hazard warning lamp activation when doors are locked with Intelligent Key or request switch.
	Off	No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
INSIDE ANT DIAGNOSIS	—	This function allows inside key antenna self-diagnosis.
CONFIRM KEY FOB ID	—	Intelligent Key ID code can be checked.
SHORT CRANKING OUTPUT	Start	70 msec
		100 msec
		200 msec
	End	—
LO- BATT OF KEY FOB WARN	On*	Intelligent Key low battery warning ON.
	Off	Intelligent Key low battery warning OFF.
AUTO LOCK SET	MODE7	5 min
	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:000000009567527

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch operation of combination switch.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:000000009567528

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

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

WORK SUPPORT

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

CONFIGURATION

Refer to [BCS-55, "CONFIGURATION \(BCM\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-11, "CAN Diagnosis with CONSULT"](#).

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000009567529

SELF DIAGNOSTIC RESULT

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

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

ACTIVE TEST

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

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:000000009567530

DATA MONITOR

Monitor Item [Unit]	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
PUSH SW [On/Off]	Indicates condition push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of 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.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
BATTERY SAVER SET	ON*	Exterior lamp battery saver function ON.
	OFF	Exterior lamp battery saver function OFF.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

*: Initial setting

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:000000009567532

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 push-button ignition 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.
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 [LH/RH/Off].
THEFT IND	This test is able to check security indicator lamp operation [On/Off].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

Support Item	Setting	Description
THEFT ALM TRG	—	Displays status of components that can trigger the theft alarm.
SECURITY ALARM SET	On	Security alarm ON.
	Off	Security alarm OFF.

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000009567533

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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:0000000009567534

DATA MONITOR

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

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:000000009567536

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	Off
	A/C switch ON	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
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

BCM

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
DOOR SW-RR	Rear door RH closed	Off	A
	Rear door RH opened	On	
ENGINE STATE	Engine stopped	Stop	B
	While the engine stalls	Stall	
	At engine cranking	Crank	C
	Engine running	Run	
FAN ON SIG	Blower motor fan switch OFF	Off	D
	Blower motor fan switch ON	On	
FR FOG SW	Front fog lamp switch OFF	Off	E
	Front fog lamp switch ON	On	
FR WASHER SW	Front washer switch OFF	Off	F
	Front washer switch ON	On	
FR WIPER LOW	Front wiper switch OFF	Off	G
	Front wiper switch LO	On	
FR WIPER HI	Front wiper switch OFF	Off	H
	Front wiper switch HI	On	
FR WIPER INT	Front wiper switch OFF	Off	I
	Front wiper switch INT	On	
FR WIPER STOP	Any position other than front wiper stop position	Off	J
	Front wiper stop position	On	
HAZARD SW	When hazard switch is not pressed	Off	K
	When hazard switch is pressed	On	
HEAD LAMP SW 1	Headlamp switch OFF	Off	L
	Headlamp switch 1st	On	
HEAD LAMP SW 2	Headlamp switch OFF	Off	M
	Headlamp switch 1st	On	
HI BEAM SW	High beam switch OFF	Off	N
	High beam switch HI	On	
ID OK FLAG	Ignition switch ACC or ON	Reset	O
	Ignition switch OFF	Set	
IGN RLY1 F/B	Ignition switch OFF or ACC	Off	P
	Ignition switch ON	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
KEY CYL LK-SW	Door key cylinder LOCK position	Off	Q
	Door key cylinder other than LOCK position	On	
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off	R
	Door key cylinder other than UNLOCK position	On	
PASSING SW	Other than lighting switch PASS	Off	S
	Lighting switch PASS	On	
PRMT ENG STRT	When the engine start is prohibited	Reset	T
	When the engine start is permitted	Set	
PUSH SW	Return ignition switch to LOCK position	Off	U
	Press ignition switch	On	

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

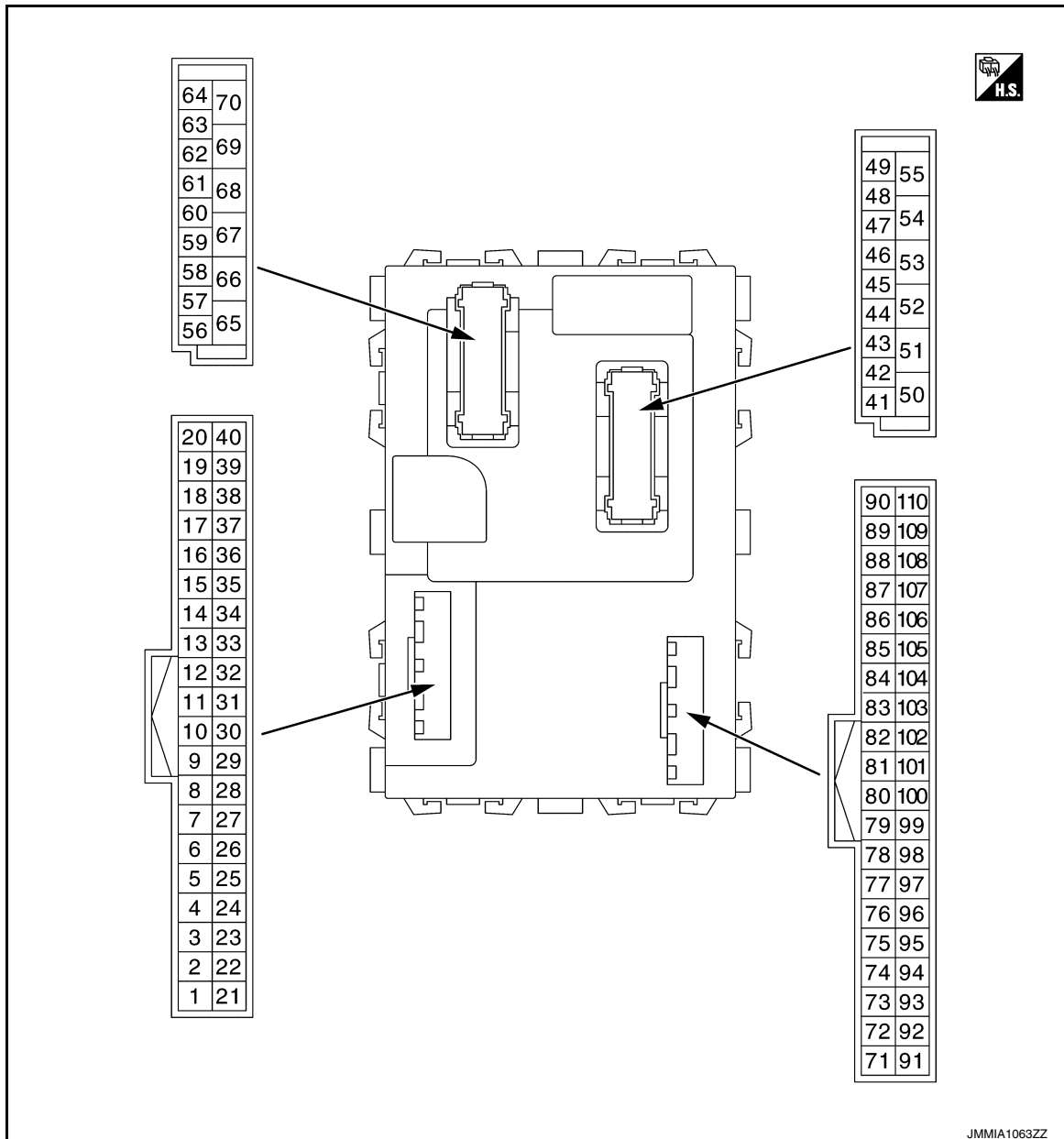
Monitor Item	Condition	Value/Status
PUSH SW-IPDM	When engine switch (push switch) is not pressed	Off
	When engine switch (push switch) is pressed	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
REQ SW-AS	When passenger door request switch is not pressed	Off
	When 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
RKE OPE COUN1	Operation frequency of Intelligent Key	0-19
RKE OPE COUN2	Operation frequency of Intelligent Key	0-19
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	Any position other than rear wiper stop position	Off
	Rear wiper stop 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 -IPDM	When selector lever is in any position other than P or N	Off
	When selector lever is in P or N position	On
SFT PN/N SW	When selector lever is in any position other than P or N	Off
	When selector lever is in P or N position	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
TP 4	The ID of fourth key is not registered to BCM	Yet
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	Yet
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	Yet
	The ID of second key is registered to BCM	DONE

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
TP 1	The ID of first key is not registered to BCM	Yet
	The ID of first key is registered to BCM	DONE
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

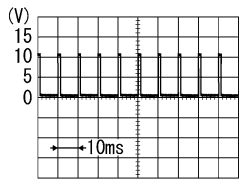
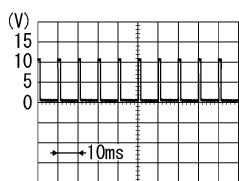
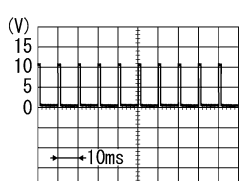
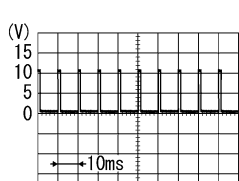
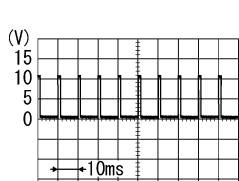
TERMINAL LAYOUT



PHYSICAL VALUES

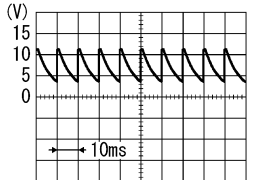
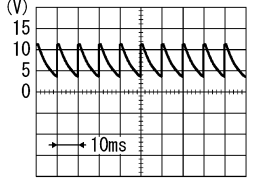
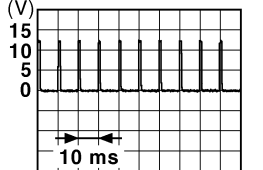
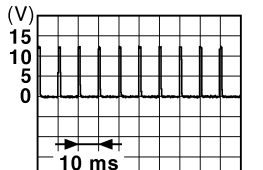
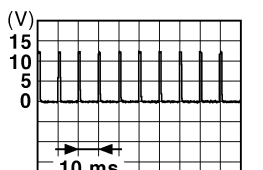
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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (GR)	Ground	Rear window defogger relay control	Input	Rear window defogger switch	OFF	Battery voltage
					ON	0 – 0.5 V
2 (BR)	Ground	INPUT 5 signal	Input	Combination switch	OFF	0 V
					TURN RH	 PKIB4958J
					HEADLAMP 1	
					HI BEAM	
					TAIL LAMP	
3 (Y)	Ground	INPUT 4 signal	Input	Combination switch	OFF	0 V
					TURN LH	 PKIB4958J
					PASSING	
					HEADLAMP 2	
					FR FOG	
4 (L)	Ground	INPUT 3 signal	Input	Combination switch	OFF	0 V
					FR WIPER LO	 PKIB4958J
					FR WIPER INT (any intermittent position)	
5 (G)	Ground	INPUT 2 signal	Input	Combination switch	OFF	0 V
					FR WASHER	 PKIB4958J
					Wiper intermittent dial 1	
					Wiper intermittent dial 5	
					Wiper intermittent dial 6	
6 (R)	Ground	INPUT 1 signal	Input	Combination switch	OFF	0 V
					FR WIPER HI	 PKIB4958J
					Wiper intermittent dial 1	
					Wiper intermittent dial 2	
					Wiper intermittent dial 3	
					Wiper intermittent dial 6	
					Wiper intermittent dial 7	

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
7 (W)	Ground	Key cylinder unlock sw signal	Input	Key cylinder switch	N position	 7.0 - 8.0 V
					UNLOCK position	0 V
8 (GR)	Ground	Key cylinder lock sw signal	Input	Key cylinder switch	N position	 7.0 - 8.0 V
					LOCK position	0 V
9 (LG)	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal released)	0 V
					ON (Brake pedal depressed)	Battery voltage
12 (GR)	Ground	Central door lock sw signal	Input	Door lock and unlock switch	NEUTRAL position	 1.0 - 1.5 V
					LOCK position	0 V
13 (BR)	Ground	Central door unlock sw signal	Input	Door lock and unlock switch	NEUTRAL position	 1.0 - 1.5 V
					UNLOCK position	0 V
15 (G)	Ground	Rear defogger switch signal	Input	Rear window defogger switch	Not pressed	 1.0 - 1.5 V
					Pressed	0 V

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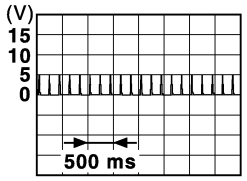
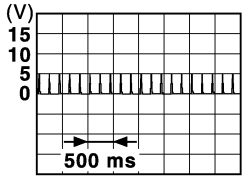
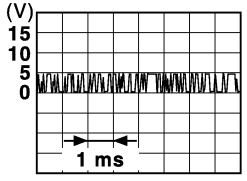
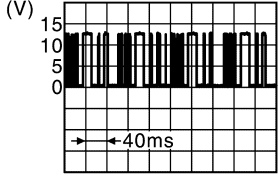
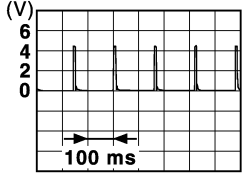
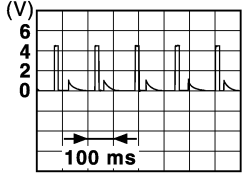
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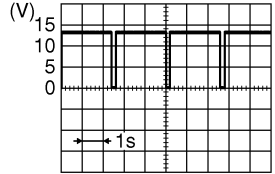
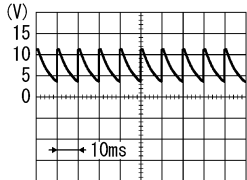
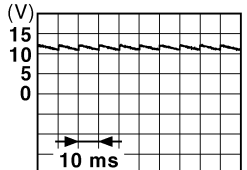
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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
18 (V)	Ground	Keyless tuner ground	Input	Push-button ignition switch ON		0 V
19 (LG)	Ground	Keyless tuner power supply	Output	Push-button ignition switch OFF		 JMKIA3838GB
				Push-button ignition switch ACC or ON		5 V
20 (G)	Ground	Keyless tuner signal	Input	Push-button ignition switch OFF	Waiting	 JMKIA3838GB
				Push-button ignition switch ON	When operating either button on Intelligent Key	 JMKIA3841GB
21 (P)	Ground	Immobilizer one way communication (CLOCK) signal	Input/ Output	Intelligent Key battery is removed	Brake pedal depressed NOTE: Waveform varies each time when brake pedal is depressed	 JMKIA6232JP
				Intelligent Key battery is re-installed	Brake pedal released	Battery voltage
22 (W)	Ground	Keyless tuner RSSI signal	Input	Push-button ignition switch OFF	Waiting	 JMKIA5952GB
				Push-button ignition switch ON	When pressing and holding either button on Intelligent Key	 JMKIA5953GB

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
23 (R/Y)	Ground	Security indicator output	Output	Security indica- tor lamp	ON	0 – 0.5 V
					Blinking (push-button igni- tion switch OFF)	 12.0 V
					OFF	Battery voltage
25 (LG)	Ground	Immobilizer two way communication sig- nal	Input/ Output	During waiting	Brake pedal depressed NOTE: Waveform varies each time when brake pedal is depressed	
					Brake pedal released	Battery voltage
27 (W)	Ground	Air con sw signal	Input	Push-button igni- tion switch ON and blower fan switch ON	A/C switch OFF	Battery voltage
					A/C switch ON	0 V
28 (SB)	Ground	Blower fan sw signal	Input	Fan switch	OFF	0 V
					ON	 7.0 - 8.0 V
29 (O)	Ground	Hazard sw signal	Input	Hazard switch	OFF	Battery voltage
					ON	0 – 1.5 V
31 (Y)	Ground	Driver door lock sta- tus	Input	Front door LH	LOCK status	 11.8V
					UNLOCK status	0V

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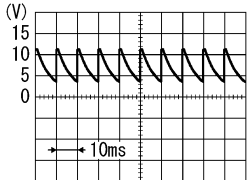
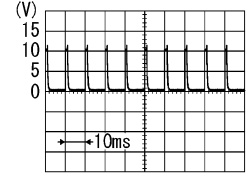
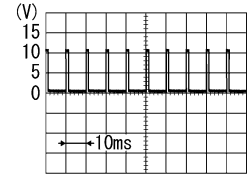
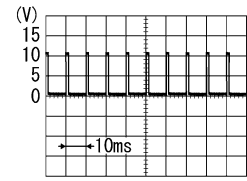
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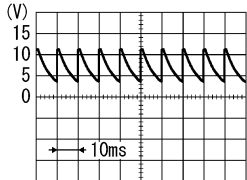
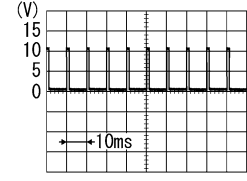
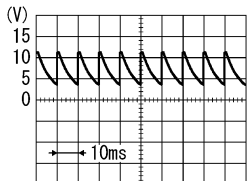
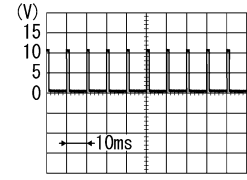
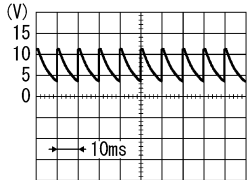
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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
32 (P)	Ground	OUTPUT 5	Output	Combination switch	OFF  PKIB4960J 7.0 - 8.0 V
					FR FOG
					Wiper intermittent dial 1
					Wiper intermittent dial 2
					Wiper intermittent dial 6
33 (V)	Ground	OUTPUT 4	Output	Combination switch	Wiper intermittent dial 7  PKIB4956J 1.0 V
					OFF
					TAIL LAMP
					Wiper intermittent dial 1
					Wiper intermittent dial 5
34 (W)	Ground	OUTPUT 3	Output	Combination switch	Wiper intermittent dial 6  PKIB4958J 1.2 V
					OFF
					HEADLAMP 2
					HI BEAM
					Wiper intermittent dial 1
34 (W)	Ground	OUTPUT 3	Output	Combination switch	Wiper intermittent dial 2  PKIB4958J 1.2 V
					Wiper intermittent dial 3
					OFF
					HEADLAMP 2
					HI BEAM

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
35 (GR)	Ground	OUTPUT 2	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					HEADLAMP 1	 PKIB4958J 1.2 V
					PASSING	
					FR WIPER HI	
					FR WIPER INT (any intermittent position)	
36 (LG)	Ground	OUTPUT 1	Output	Combination switch	OFF	 PKIB4960J 7.0 - 8.0 V
					TURN RH	 PKIB4958J 1.2 V
					TURN LH	
					FR WIPER LO	
					FR WASHER	
37 (R)	Ground	Park position switch signal	Input	Selector lever	P (Park) position	0 - 1.5 V
					Any position other than P (Park)	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output	—	—	—
40 (P)	Ground	CAN-L	Input/ Output	—	—	—
43 (P)	Ground	Door switch (Back) signal	Input	Back door switch	OFF (back door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (back door open)	0 V

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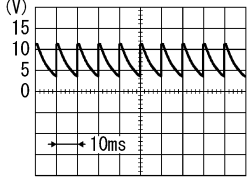
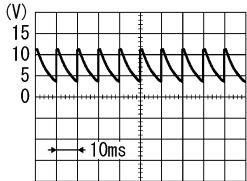
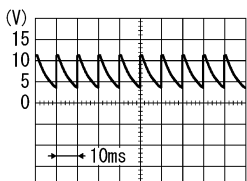
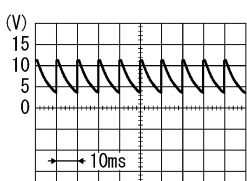
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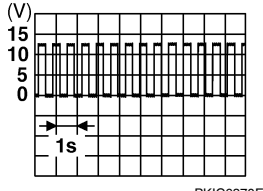
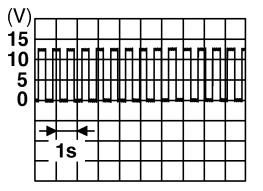
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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
44 (LG)	Ground	Rear wiper autostop switch	Input	Push-button ig- nition switch ON	Rear wiper stop position	Battery voltage
					Any position other than rear wiper stop position	0V
45 (O)	Ground	Door switch (AS) signal	Input	Front door switch RH	OFF (front RH door closed)	 7.0 - 8.0 V
					ON (front RH door open)	0 V
46 (BR)	Ground	Door switch (RR) signal	Input	Rear door switch RH	OFF (rear RH door closed)	 7.0 - 8.0 V
					ON (rear RH door open)	0 V
47 (SB)	Ground	Door switch (DR) signal	Input	Front door switch LH	OFF (front LH door closed)	 7.0 - 8.0 V
					ON (front LH door open)	0 V
48 (W)	Ground	Door switch (RL) signal	Input	Rear door switch LH	OFF (rear LH door closed)	 7.0 - 8.0 V
					ON (rear LH door open)	0 V
49 (L)	Ground	Cargo lamp control	Output	Back door is closed (cargo lamp turns OFF)		Battery voltage
				Back door is opened (cargo lamp turns ON)		0 - 1 V
50 (G)	Ground	Door unlock output (back)	Output	Back door	UNLOCK (Actuator is acti- vated)	Battery voltage
					Actuator is not activated	0 V
51 (W)	Ground	Request sw (back door) signal	Input	Back door re- quest switch	ON (Pressed)	0 - 1.5 V
					OFF (Not pressed)	Battery voltage
54 (R)	Ground	Rear wiper output	Output	Rear wiper	OFF (stopped)	0V
					ON (activated)	Battery voltage

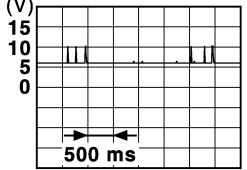
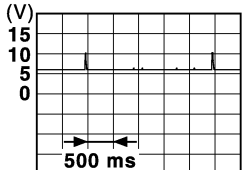
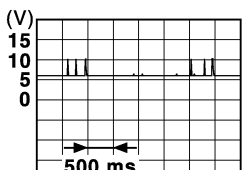
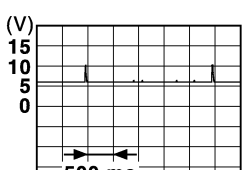
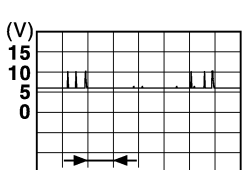
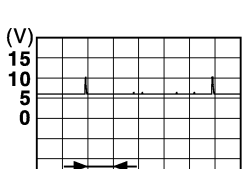
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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
+	-	Signal name	Input/ Output				
55 (G)	Ground	Door unlock output (RR, RL)	Output	Rear doors	UNLOCK (Actuator is activated)	Battery voltage	A
					Actuator is not activated	0 V	B
56 (W)	Ground	Battery saver output	Output	Interior room lamp battery saver timed out		0 V	C
				Except when interior room lamp battery saver timed out		Battery voltage	
57 (Y)	Ground	Battery power supply	Input	Push-button ignition switch OFF		Battery voltage	D
58 (O)	—	Air bag deployment information	Input	—	—	—	E
59 (G)	Ground	Door unlock output (AS)	Output	Front RH door	UNLOCK (Actuator is activated)	Battery voltage	F
					Actuator is not activated	0 V	
60 (V)	Ground	Flasher output (LEFT)	Output	Push-button ignition switch ON	Turn signal switch OFF	0 V	G
					Turn signal switch LH		
					Turn signal switch RH	6.5 V	H
61 (W)	Ground	Flasher output (RIGHT)	Output	Push-button ignition switch ON	Turn signal switch OFF	0 V	I
					Turn signal switch RH		J
63 (R)	Ground	Room lamp control	Output	Interior room lamp	OFF	Battery voltage	K
					ON	0 – 1.0 V	L
65 (SB)	Ground	Door lock output	Output	All doors	LOCK (Actuator is activated)	Battery voltage	BCS
					Actuator is not activated	0 V	
66 (G)	Ground	Door unlock output (DR)	Output	Front LH door	UNLOCK (Actuator is activated)	Battery voltage	N
					Actuator is not activated	0 V	
67 (B)	Ground	Ground	Output	Push-button ignition switch ON		0 V	O
68 (L)	Ground	Power window power supply (IGN)	Output	Push-button ignition switch ON		Battery voltage	P
70 (G)	Ground	Battery power supply	Input	Push-button ignition switch OFF		Battery voltage	
75 (GR)	Ground	Request sw (DR) signal	Input	Driver door request switch	ON (Pressed)	0 – 1.5 V	
					OFF (Not pressed)	Battery voltage	

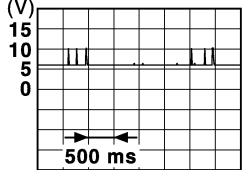
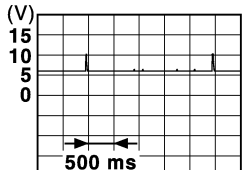
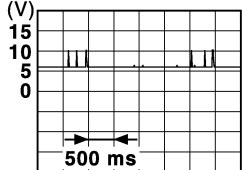
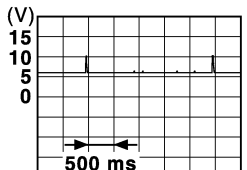
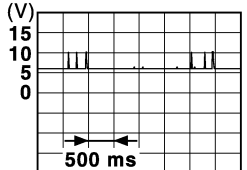
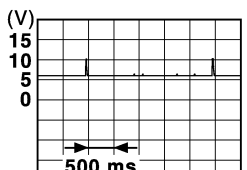
BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
76 (L)	Ground	Engine start sw	Input	Push-button ignition switch	START pressed	0 – 1.5 V
					Not pressed	Battery voltage
78 (P)	Ground	Door antenna (DR) +	Output	Push-button ignition switch ON Driver door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
79 (V)	Ground	Door antenna (DR) -	Output	Push-button ignition switch ON Driver door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB
80 (LG)	Ground	Door antenna (AS) +	Output	Push-button ignition switch ON Passenger door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMKIA5954GB
					Intelligent Key in antenna detection area (80 cm or less)	 JMKIA5955GB

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
+	-	Signal name	Input/ Output				
81 (Y)	Ground	Door antenna (AS) -	Output	Push-button ignition switch ON Passenger door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMkia5954GB	A
					Intelligent Key in antenna detection area (80 cm or less)	 JMkia5955GB	B
82 (W)	Ground	Outside key antenna (rear bumper) +	Output	Push-button ignition switch ON Back door request switch pressed	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMkia5954GB	C
					Intelligent Key in antenna detection area (80 cm or less)	 JMkia5955GB	D
83 (B)	Ground	Outside key antenna (rear bumper) -	Output	When the back door request switch is operated with push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JMkia5954GB	E
					Intelligent Key in antenna detection area (80 cm or less)	 JMkia5955GB	F

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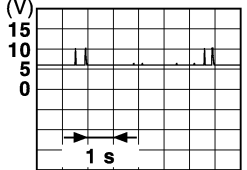
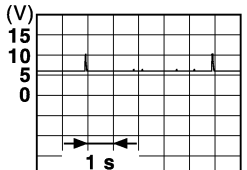
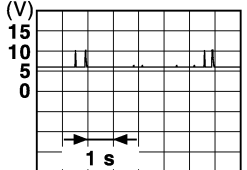
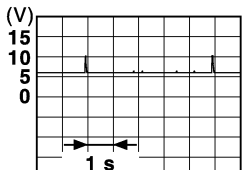
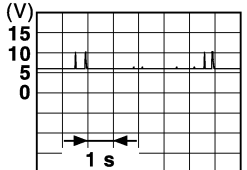
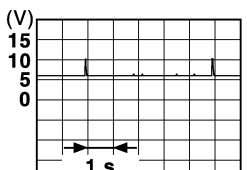
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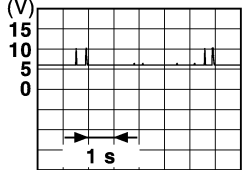
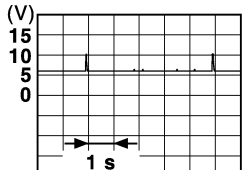
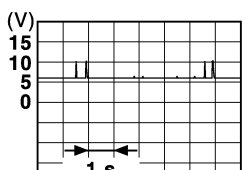
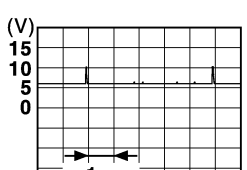
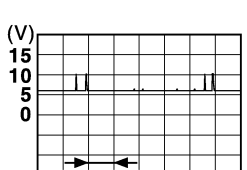
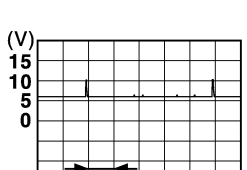
BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
84 (P)	Ground	Inside key antenna (instrument center) +	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JM KIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JM KIA3839GB
85 (L)	Ground	Inside key antenna (instrument center) -	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JM KIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JM KIA3839GB
86 (G)	Ground	Inside key antenna (console) +	Output	Push-button ignition switch ON	Intelligent Key not in antenna detection area (Approx. 2 m)	 JM KIA5951GB
					Intelligent Key in antenna detection area (80 cm or less)	 JM KIA3839GB

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
+	-	Signal name	Input/ Output				
87 (R)	Ground	Inside key antenna (console) -	Output	Push-button ig- nition switch ON	Intelligent Key not in an- tenna detection area (Approx. 2 m)		A
					Intelligent Key in antenna detection area (80 cm or less)		B
88 (V)	Ground	Inside key antenna (trunk room) +	Output	Push-button ig- nition switch ON	Intelligent Key not in an- tenna detection area (Approx. 2 m)		C
					Intelligent Key in antenna detection area (80 cm or less)		D
89 (LG)	Ground	Inside key antenna (trunk room) -	Output	Push-button ig- nition switch ON	Intelligent Key not in an- tenna detection area (Approx. 2 m)		E
					Intelligent Key in antenna detection area (80 cm or less)		F

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
90 (W)	Ground	Push-button ignition switch illumination power supply	Output	Push-button ignition switch illumination	ON	Battery voltage
					OFF	0 – 1.5 V
91 (V)	Ground	ACC/ON indicator lamp	Output	Push-button ignition switch	OFF	Battery voltage
					ACC or ON	0 – 1.5 V
93 (R)	Ground	Intelligent Key warn- ing buzzer	Output	Intelligent Key warning buzzer	Sounding	0 – 1.5 V
					Not sounding	Battery voltage
96 (SB)	Ground	Accessory relay control	Output	Ignition Push- button switch	OFF	0 – 0.5 V
					ACC or ON	Battery voltage
97 (R/Y)	Ground	Starter relay control	Output	Push-button ignition switch ON	Selector lever in P (Park) or N (Neutral) position	Battery voltage
					Selector lever not in P (Park) or N (Neutral) position	0 – 0.5 V
98 (O)	Ground	Ignition relay (IPDM E/R) control	Output	Push-button ignition switch	OFF or ACC	Battery voltage
					ON	0 – 0.5 V
99 (GR)	Ground	Ignition relay (F/B) control	Output	Push-button ignition switch	OFF or ACC	0 – 0.5 V
					ON	Battery voltage
100 (L)	Ground	Request sw (AS) signal	Input	Passenger door request switch	ON (Pressed)	0 – 1.5 V
					OFF (Not pressed)	Battery voltage
101 (V)	Ground	Clutch interlock switch	Input	Clutch interlock switch	OFF (clutch pedal is not depressed)	0V
					ON (clutch pedal is de- pressed)	Battery voltage
102 (BR)	Ground	P/N position	Input	Selector lever	Selector lever in P (Park) or N (Neutral) position	Battery voltage
					Selector lever not in P (Park) or N (Neutral) position	0 – 1.5 V
104 (V)	Ground	CVT shift selector (park position switch) power supply	Output	Push-button ignition switch ON		9 – 16 V
105 (SB)	Ground	Stop lamp switch 2	Input	Push-button ignition switch OFF		Battery voltage
106 (Y)	Ground	Blower relay control	Output	Push-button ignition switch	OFF or ACC	0 – 0.5 V
					ON	Battery voltage

Fail-safe

INFOID:000000009567537

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

CONSULT Display	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

BCM

< ECU DIAGNOSIS INFORMATION >

CONSULT Display	Fail-safe	Cancellation
B2557: VEHICLE SPEED	—	When the following CAN signal status (vehicle speed signal) becomes consistent - Vehicle speed signal (ABS) - Vehicle speed signal (Meter)
B2601: SHIFT P SIGNAL	—	500 ms after the following signal reception status becomes consistent - Park position switch signal - P range signal (CAN)
B2602: SHIFT P DIAG	—	5 seconds after the following BCM recognition conditions are fulfilled - Ignition switch is in the ON position - Park position switch signal: P position (push selector button) or except P position (9 – 16 V) - Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSITION	—	500 ms after any of the following BCM recognition conditions are fulfilled - Status 1 - Ignition switch is in the ON position - Park position switch signal: P position (push selector button) or except P position (9 – 16 V) - P/N position signal: Except P and N positions (0 – 1.5 V) - Status 2 - Ignition switch is in the ON position - Park position switch signal: P position (release selector button) (0 – 1.5 V) - P/N position signal: P or N positions (9 – 16 V)
B2604: SHIFT PN DIAG CAN	—	500 ms after any of the following BCM recognition conditions are fulfilled - Status 1 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V) - Shift position signal (CAN): P or N position - Status 2 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) - Shift position signal (CAN): Except P and N position
B2605: SHIFT PN DIAG IPDM	—	500 ms after any of the following BCM recognition conditions are fulfilled - Status 1 - Ignition switch is in the ON position - P/N position signal: Except P and N positions (0 – 1.5 V) - Status 2 - Ignition switch is in the ON position - P/N position signal: P or N position (9 – 16 V)
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent - Starter motor relay control signal - Starter relay status signal (CAN)
B260F: ECM CAN COMM	Inhibit engine cranking	When any of the following conditions are fulfilled - Ignition switch changes to ACC - Receives engine status signal (CAN)
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled - Ignition switch ON signal (CAN: Transmitted from BCM): ON - Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled - Ignition switch ON signal (CAN: Transmitted from BCM): OFF - Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled - Starter control relay signal (CAN: Transmitted from BCM): OFF - Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled - Starter control relay signal (CAN: Transmitted from BCM): ON - Starter control relay signal (CAN: Transmitted from IPDM E/R): ON

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< ECU DIAGNOSIS INFORMATION >

CONSULT Display	Fail-safe	Cancellation
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VDC CAN CIR2	—	When vehicle speed signal (Meter) (CAN) is received normally

DTC Inspection Priority Chart

INFOID:000000009567538

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	- U1000: CAN COMM CIRCUIT - U1010: CONTROL UNIT (CAN)
3	- B2192: ID DISCORD BCM-ECM - B2193: CHAIN OF BCM-ECM - B2195: ANTI SCANNING - B2198: NATS ANTENNA AMP
4	- B2555: STOP LAMP CIRCUIT - B2556: ENG START SW - B2557: VEHICLE SPEED - B2562: LOW VOLTAGE - B2601: SHIFT P SIGNAL - B2602: SHIFT P DIAG - B2603: SHIFT POSITION - B2604: SHIFT PN DIAG CAN - B2605: SHIFT PN DIAG IPDM - B2608: STARTER RELAY - B260F: ECM CAN COMM - B2614: ACC RELAY REQ FB - B2615: IGN RELAY3 REQ FB - B2616: IGN RELAY2 REQ FB - B2618: IGN RELAY1 REQ FB - B261A: ENGINE SW - B261F: ASCD CANCEL SW - B2620: NEUTRAL SW - B26E8: CLUTCH SW - B26F1: IGN RELAY OFF - B26F2: IGN RELAY ON - B26F3: START CONT RLY ON - B26F4: START CONT RLY OFF - B26F6: BCM - B26F7: BCM - B26FB: CLUTCH SWITCH - B26FC: KEY REGISTRATION - U0415: VDC CAN CIR2
5	- B2621: INSIDE ANTENNA 1 - B2622: INSIDE ANTENNA 2 - B2623: INSIDE ANTENNA 3
6	- B2626: OUTSIDE 1 ANTENNA - B2627: OUTSIDE 2 ANTENNA - B2628: OUTSIDE 3 ANTENNA

DTC Index

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NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
 - PAST: A malfunction was detected in the past.
- IGN counter is displayed on Freeze Frame Data.

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< ECU DIAGNOSIS INFORMATION >

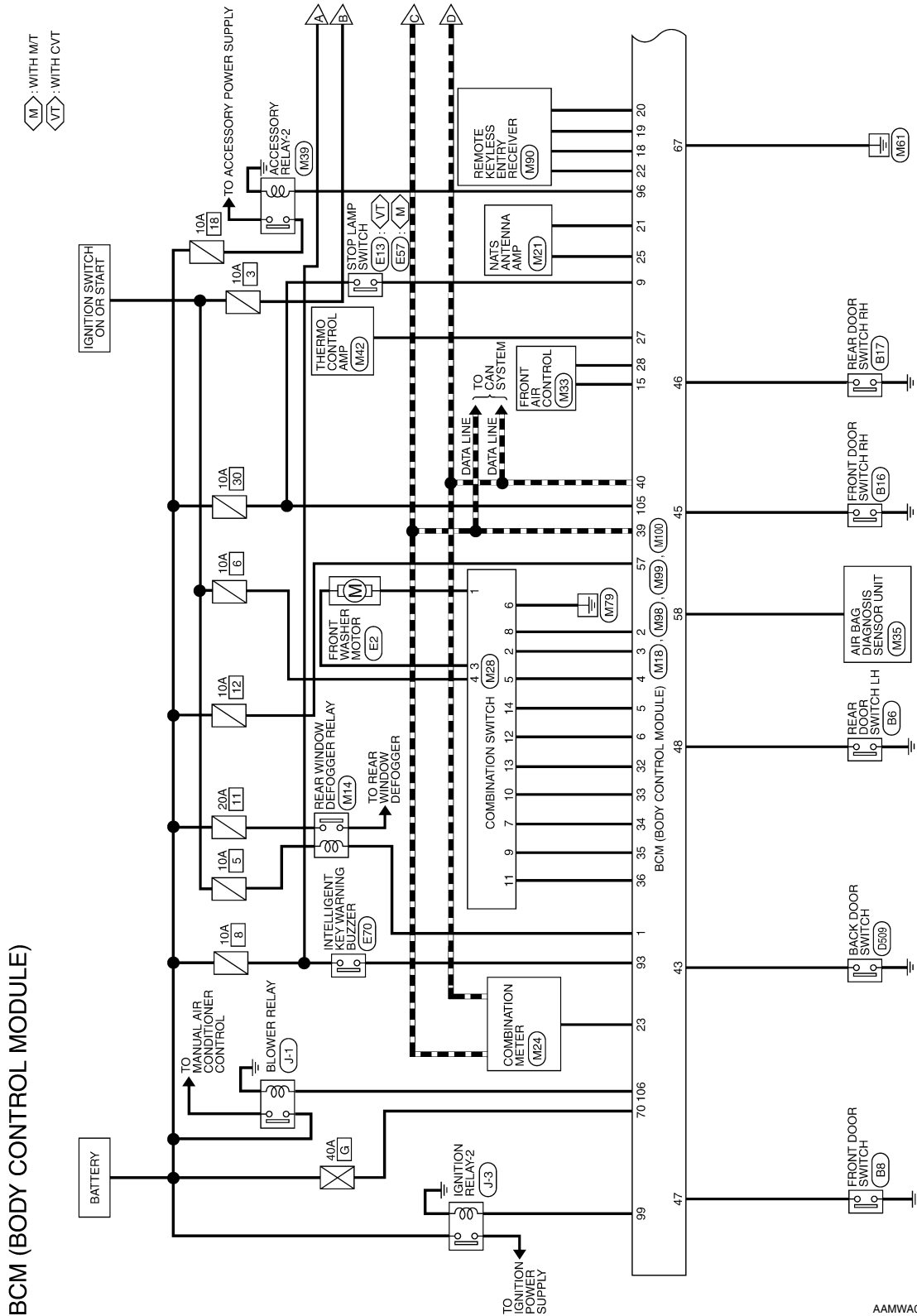
CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-57
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-58
U0415: VDC CAN CIR2	×	—	×	BCS-59
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-65
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-66
B2195: ANTI SCANNING	×	—	—	SEC-67
B2198: NATS ANTENNA AMP	×	—	—	SEC-68
B2555: STOP LAMP CIRCUIT	—	×	×	SEC-71
B2556: ENG START SW	—	×	×	SEC-74
B2557: VEHICLE SPEED	×	×	×	SEC-76
B2562: LOW VOLTAGE	—	×	—	BCS-60
B2601: SHIFT P SIGNAL	×	×	×	SEC-77
B2602: SHIFT P DIAG	×	×	×	SEC-79
B2603: SHIFT POSITION	×	×	×	SEC-82
B2604: SHIFT PN DIAG CAN	×	×	×	SEC-86
B2605: SHIFT PN DIAG IPDM	×	×	×	SEC-89
B2608: STARTER RELAY	×	×	×	SEC-91
B260F: ECM CAN COMM	×	×	×	SEC-93
B2614: ACC RELAY REQ FB	—	×	×	PCS-53
B2615: IGN RELAY3 REQ FB	—	×	×	PCS-55
B2616: IGN RELAY2 REQ FB	—	×	×	PCS-57
B2618: IGN RELAY1 REQ FB	—	×	×	PCS-59
B261A: ENGINE SW	—	×	×	PCS-61
B261F: ASCD CANCEL SW	—	×	×	SEC-94
B2620: NEUTRAL SW	—	×	×	SEC-97
B2621: INSIDE ANTENNA 1	—	×	—	DLK-54
B2622: INSIDE ANTENNA 2	—	×	—	DLK-56
B2623: INSIDE ANTENNA 3	—	×	—	DLK-58
B2626: OUTSIDE 1 ANTENNA	—	×	—	DLK-60
B2627: OUTSIDE 2 ANTENNA	—	×	—	DLK-62
B2628: OUTSIDE 3 ANTENNA	—	×	—	DLK-64
B26E8: CLUTCH SW	×	×	×	SEC-100
B26F1: IGN RELAY OFF	×	×	×	PCS-63
B26F2: IGN RELAY ON	×	×	×	PCS-65
B26F3: START CONT RLY ON	×	×	×	SEC-103
B26F4: START CONT RLY OFF	×	×	×	SEC-104
B26F6: BCM	—	×	×	PCS-67
B26F7: BCM	×	×	×	SEC-105
B26FB: CLUTCH SWITCH	—	×	×	SEC-106
B26FC: KEY REGISTRATION	—	×	×	SEC-107

WIRING DIAGRAM

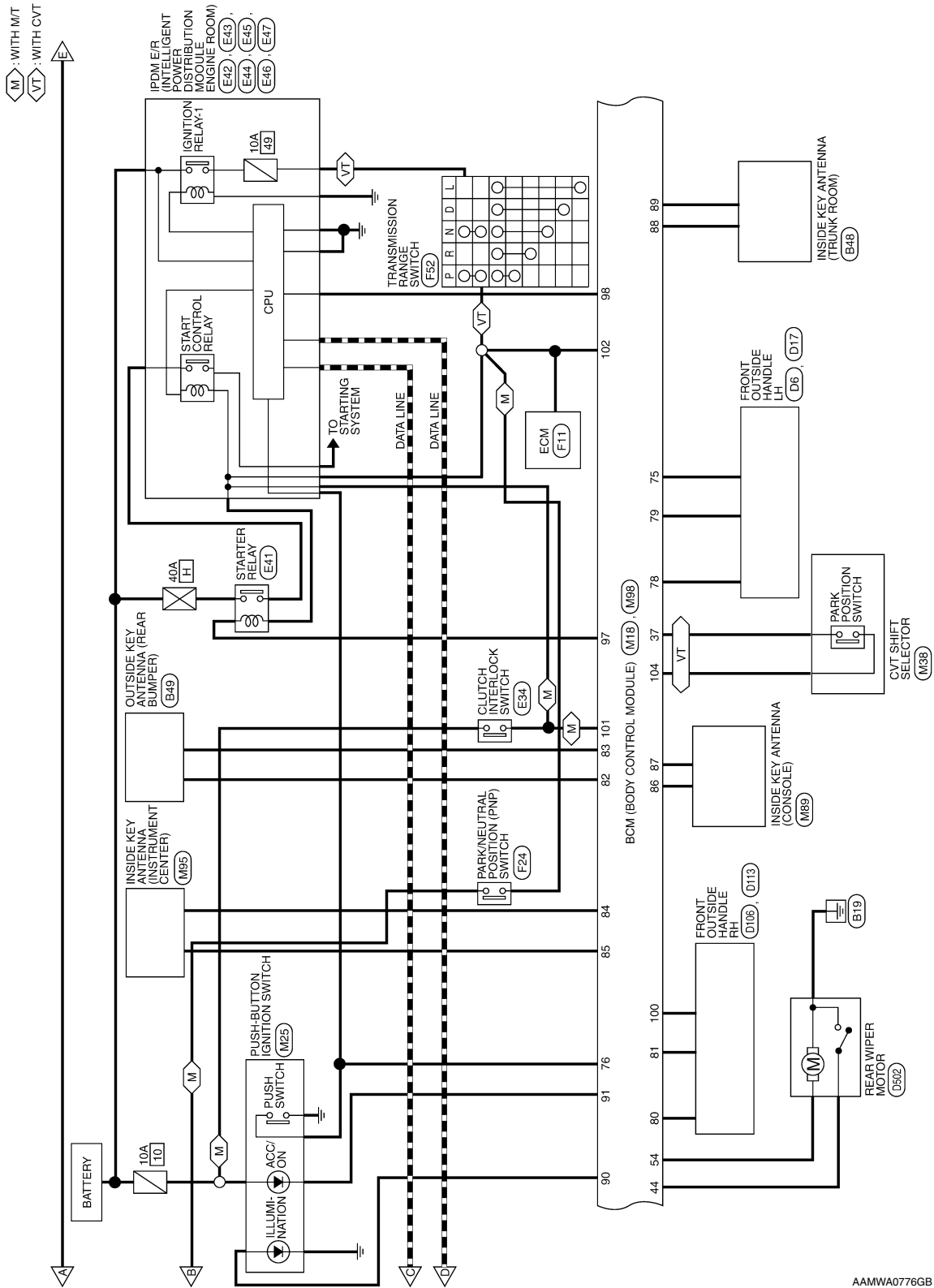
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Wiring Diagram

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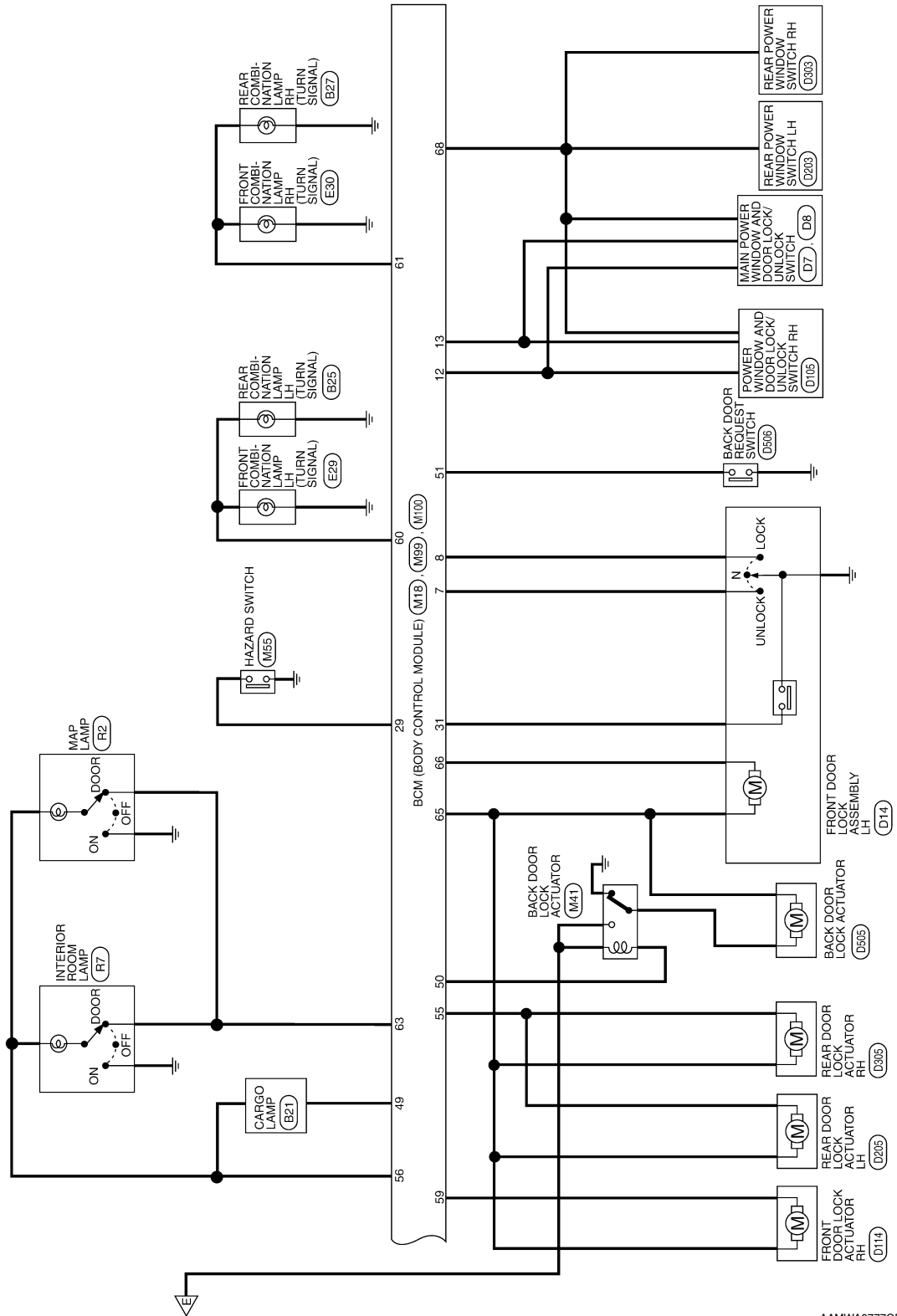
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< WIRING DIAGRAM >



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BCM (BODY CONTROL MODULE) CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



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	GR	REAR DEFOGGER RELAY OUTPUT
2	BR	COMBINATION SW INPUT 5
3	Y	COMBINATION SW INPUT 4
4	L	COMBINATION SW INPUT 3
5	G	COMBINATION SW INPUT 2
6	R	COMBINATION SW INPUT 1
7	W	KEY CYLINDER UNLOCK SW
8	GR	KEY CYLINDER LOCK SW
9	LG	BRAKE SW1
10	-	-
11	-	-
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	-	-
15	G	REAR DEFOGGER SW
16	-	-
17	-	-

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Terminal No.	Color of Wire	Signal Name
18	V	KEYLESS TUNER AUTO LIGHT SENSOR GND
19	LG	KEYLESS TUNER POWER SUPPLY
20	G	KEYLESS TUNER SIGNAL
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
22	W	KEYLESS TUNER RSSI
23	R/Y	SECURITY INDICATOR OUTPUT
24	-	-
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
26	-	-
27	W	AIR CON SW
28	SB	BLOWER FAN SW
29	O	HAZARD SW
30	-	-
31	-	-
32	P	COMBINATION SW OUTPUT 5
33	V	COMBINATION SW OUTPUT 4
34	W	COMBINATION SW OUTPUT 3
35	GR	COMBINATION SW OUTPUT 2
36	LG	COMBINATION SW OUTPUT 1
37	R	SHIFT P POSITION, PARKING POSITION SW
38	-	-
39	L	CAN-H
40	P	CAN-L

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



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

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

Connector No.	M99
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

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



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

Terminal No.	Color of Wire	Signal Name
92	-	-
93	R	SMART KEYLESS BUZZER OUTPUT
94	-	-
95	-	-
96	SB	ACC RELAY OUTPUT
97	R/Y	STARTER RELAY OUTPUT
98	O	IGN RELAY OUTPUT1 (USM)
99	GR	IGN RELAY OUTPUT2 (ELEC)
100	L	REQUEST SW (AS)
101	V	CLUTCH SW
102	BR	SHIFT N, P
103	-	-
104	V	AT DEVICE OUTPUT
105	SB	BRAKE SW2
106	Y	BLOWER FAN MOTOR RELAY OUTPUT
107	-	-
108	-	-
109	-	-
110	-	-

Connector No.	M98
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110

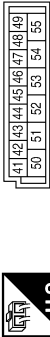


Terminal No.	Color of Wire	Signal Name
71	-	-
72	-	-
73	-	-
74	-	-
75	GR	REQUEST SW (DR)
76	L	ENGINE START SW
77	-	-
78	P	DOOR ANTENNA (DR) +
79	V	DOOR ANTENNA (DR) -
80	LG	DOOR ANTENNA (AS) +
81	Y	DOOR ANTENNA (AS) -
82	W	BACK DOOR ANTENNA +
83	B	BACK DOOR ANTENNA -
84	P	ROOM ANTENNA 1 +
85	L	ROOM ANTENNA 1 -
86	G	ROOM ANTENNA 2 +
87	R	ROOM ANTENNA 2 -
88	V	ROOM ANTENNA 3 +
89	LG	ROOM ANTENNA 3 -
90	W	HIGH SIDE ENGINE START SW ILLUMINATION LED
91	V	POWER POSITION LED (LOCK POSITION LED)

AAMIA1689GB

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Connector No.	M100
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



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

BCS

AAMIA1690GB

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

BASIC INSPECTION

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description

INFOID:000000009567541

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:000000009567542

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-67. "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-54. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [BCS-54. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

>> Work End.

CONFIGURATION (BCM)

CONFIGURATION (BCM) : Description

INFOID:0000000009567543

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:0000000009567544

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-56, "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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

Confirm that each function controlled by BCM operates normally.

>> Work End.

CONFIGURATION (BCM) : Configuration list

INFOID:0000000009567545

CAUTION:

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

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

⇔: Items which confirm vehicle specifications

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009567546

Refer to [LAN-6, "CAN COMMUNICATION SYSTEM : System Description"](#).

DTC Logic

INFOID:0000000009567547

DTC DETECTION LOGIC

NOTE:

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

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

Diagnosis Procedure

INFOID:0000000009567548

1. PERFORM SELF DIAGNOSTIC RESULT

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

Is "CAN COMM CIRCUIT" displayed?

- YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT Operation Manual.
NO >> Refer to [GI-41, "Intermittent Incident"](#).

BCS

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000009567549

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:000000009567550

1.REPLACE BCM

When DTC "U1010" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-67. "Removal and Installation"](#).

U0415 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

U0415 VEHICLE SPEED

DTC Logic

INFOID:000000009567551

DTC DETECTION LOGIC

NOTE:

- If DTC U0415 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-57, "DTC Logic"](#).
- If DTC U0415 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-58, "DTC Logic"](#).

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

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

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

Is any DTC detected?

- YES >> Refer to [BCS-46, "DTC Index"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009567552

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

Perform Self Diagnostic Result of ABS with CONSULT. Refer to [BRC-19, "CONSULT Function \(ABS\)"](#).

Is any DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BRC-26, "DTC Index"](#).
NO >> GO TO 2.

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

Check ABS actuator and electric unit (control unit) power and ground. Refer to [BRC-42, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

3. COMBINATION METER SELF DIAGNOSTIC RESULT

Perform Self Diagnostic Result of METER M&A with CONSULT. Refer to [MWI-15, "CONSULT Function"](#).

Is any DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [MWI-20, "DTC Index"](#).
NO >> Refer to [GI-41, "Intermittent Incident"](#).

B2562 LOW VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

B2562 LOW VOLTAGE

DTC Logic

INFOID:000000009567553

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

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

Is any DTC detected?

- YES >> Refer to [BCS-60, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009567554

1. CHECK BATTERY VOLTAGE

Check battery voltage.

Is battery voltage less than 8.8V?

- YES >> Charge battery and retest. Refer to [CHG-10, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-13, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).
NO >> GO TO 2.

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check BCM power supply and ground circuit. Refer to [BCS-61, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

3. BCM SELF DIAGNOSTIC RESULT

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

Is DTC B2562 CRNT?

- YES >> Replace BCM. Refer to [BCS-67, "Removal and Installation"](#).
NO >> Refer to [GI-41, "Intermittent Incident"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000009567555

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

1.CHECK FUSES AND FUSIBLE LINK

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

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

Is the fuse blown?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M99.
2. Check voltage between BCM connector M99 and ground.

BCM		Ground	Voltage
Connector	Terminal		
M99	57	—	Battery voltage
	70		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector M99 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M99	67	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:000000009567556

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

1. CHECK INPUT 1 - 5 CIRCUIT FOR OPEN

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

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M18	36	M28	11	Yes
INPUT 2		35		9	
INPUT 3		34		7	
INPUT 4		33		10	
INPUT 5		32		13	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connectors.

2. CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
INPUT 1	M18	36	Ground	No
INPUT 2		35		
INPUT 3		34		
INPUT 4		33		
INPUT 5		32		

Is the inspection result normal?

YES >> Repair harness or connectors.

NO >> GO TO 3.

3. CHECK BCM OUTPUT VOLTAGE

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

COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BCM signal	Terminals			Voltage
	(+)		(-)	
	BCM		Ground	
	Connector	Terminal		
OUTPUT 1	M18	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-68, "Removal and Installation"](#).
 NO >> Replace BCM. Refer to [BCS-67, "Removal and Installation"](#).

BCS

COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:000000009567557

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

1. CHECK OUTPUT 1 - 5 CIRCUIT FOR OPEN

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

Combination switch signal	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M18	6	M28	12	Yes
OUTPUT 2		5		14	
OUTPUT 3		4		5	
OUTPUT 4		3		2	
OUTPUT 5		2		8	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connectors.

2. CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM connector and ground.

Combination switch signal	BCM			Continuity
	Connector	Terminal		
OUTPUT 1	M18	6	Ground	No
OUTPUT 2		5		
OUTPUT 3		4		
OUTPUT 4		3		
OUTPUT 5		2		

Is the inspection result normal?

YES >> Repair harness or connectors.

NO >> GO TO 3.

3. CHECK BCM INPUT SIGNAL

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

COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BCM signal	Terminals		Voltage
	(+) (−)		
	BCM		
	Connector	Terminal	
INPUT 1	M18	6	Ground
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	

Refer to [BCS-28. "Reference Value"](#).

Is the inspection result normal?

- Yes >> Replace BCM. Refer to [BCS-67, "Removal and Installation"](#).
No >> Replace combination switch. Refer to [BCS-68, "Removal and Installation"](#).

BCS

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:000000009567558

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

Malfunction item: x

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	FR FOG SW
A		x	x						x	x						
B	x			x									x		x	
C					x			x				x		x		
D					x		x				x					
E					x	x										x
F	x				x		x									
G			x		x	x		x								
H		x		x												
I										x				x	x	x
J									x		x	x	x			
K	All Items															
L	If only one item is detected or the item is not applicable to the combinations A to K															

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

Malfunction combination	Malfunctioning part	Repair or replace
A	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-62, "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-64, "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-67, "Removal and Installation" .
L	Combination switch	Replace the combination switch.

BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

Removal and Installation

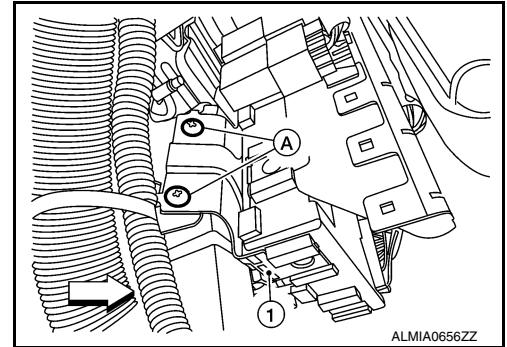
INFOID:000000009447118

REMOVAL

CAUTION:

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-55, "CONFIGURATION \(BCM\) : Description"](#).

1. Disconnect negative and positive battery terminals, then wait at least three minutes. Refer to [PG-69, "Removal and Installation \(Battery\)"](#).
2. Remove instrument lower panel LH. Refer to [IP-24, "Removal and Installation"](#).
3. Remove screws (A) and remove the BCM (1) from the steering member and position aside.
⇐: Front
4. Disconnect the harness connectors from the BCM.
5. Remove relays from relay bracket.
6. Remove relay bracket from BCM to transfer to new BCM.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Perform "CONFIGURATION (BCM)" when replacing BCM. Refer to [BCS-54, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).
- Make sure to perform the system initialization (NATS) when replacing BCM. Refer to [BCS-54, "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.

A
B
C
D
E
F
G
H
I
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K
L
N
O
P

BCS

COMBINATION SWITCH

< REMOVAL AND INSTALLATION >

COMBINATION SWITCH

Removal and Installation

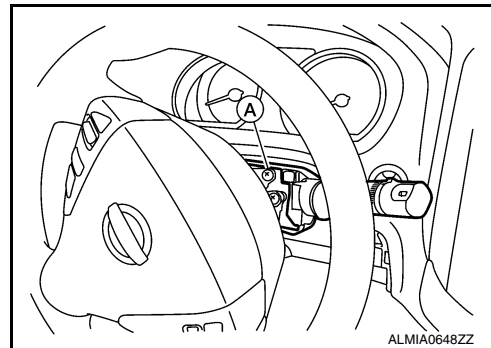
INFOID:000000009447322

CAUTION:

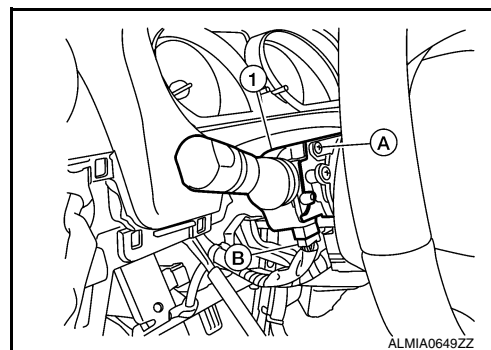
- Before servicing, turn the ignition switch OFF, disconnect both battery terminals and wait at least three minutes.
- Do not use air or electric tools when removing or installing the combination switch.

REMOVAL

1. Disconnect the negative and positive battery terminals, then wait at least three minutes. Refer to [PG-69, "Removal and Installation \(Battery\)"](#).
2. Remove the steering column covers. Refer to [IP-17, "Removal and Installation"](#).
3. Rotate steering wheel clockwise to access first combination switch screw (A) and remove.



4. Rotate steering wheel counter-clockwise to access second combination switch screw (A) and remove.
5. Disconnect the harness connector (B) from the combination switch (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- After the work is completed, make sure no system malfunction is detected by air bag warning lamp.
- In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.
- If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfunctions. Refer to [BCS-54, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).