

SECTION **BCS**

BODY CONTROL SYSTEM

A

B

C

D

E

CONTENTS

PRECAUTION	3	COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)	15		
PRECAUTIONS	3	DOOR LOCK	16		
Precaution for Technicians Using Medical Electric.....	3	DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)	17		
Point to Be Checked Before Starting Maintenance Work	3	REAR WINDOW DEFOGGER	17		
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	REAR WINDOW DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)	18		
Precautions for Removing Battery Terminal	4	BUZZER	18		
SYSTEM DESCRIPTION	6	BUZZER : CONSULT Function (BCM - BUZZER).....	18		
COMPONENT PARTS	6	INT LAMP	18		
BODY CONTROL SYSTEM	6	INT LAMP : CONSULT Function (BCM - INT LAMP)	19		
BODY CONTROL SYSTEM : Component Parts Location	6	HEADLAMP	20		
POWER CONSUMPTION CONTROL SYSTEM	6	HEADLAMP : CONSULT Function (BCM - HEAD LAMP)	20		
POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location	6	WIPER	23		
SYSTEM	7	WIPER : CONSULT Function - WIPER	23		
BODY CONTROL SYSTEM	7	FLASHER	24		
BODY CONTROL SYSTEM : System Description.....	7	FLASHER : CONSULT Function (BCM - FLASHER)	24		
BODY CONTROL SYSTEM : Fail-safe	8	INTELLIGENT KEY	25		
COMBINATION SWITCH READING SYSTEM	8	INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)	25		
COMBINATION SWITCH READING SYSTEM : System Description	9	COMB SW	28		
SIGNAL BUFFER SYSTEM	12	COMB SW : CONSULT Function (BCM - COMB SW)	28		
SIGNAL BUFFER SYSTEM : System Description... ..	12	BCM	28		
POWER CONSUMPTION CONTROL SYSTEM	12	BCM : CONSULT Function (BCM - BCM)	28		
POWER CONSUMPTION CONTROL SYSTEM : System Description	13	IMMU	29		
DIAGNOSIS SYSTEM (BCM)	15	IMMU : CONSULT Function (BCM - IMMU)	29		
COMMON ITEM	15	BATTERY SAVER	29		

F

G

H

I

J

K

L

BCS

N

O

P

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)	29	DTC/CIRCUIT DIAGNOSIS	66
TRUNK	30	U1000 CAN COMM	66
TRUNK : CONSULT Function (BCM - TRUNK)	30	Description	66
THEFT ALM	31	DTC Logic	66
THEFT ALM : CONSULT Function (BCM - THEFT)	31	Diagnosis Procedure	66
RETAINED PWR	32	U1010 CONTROL UNIT (CAN)	67
RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)	32	DTC Logic	67
SIGNAL BUFFER	32	Diagnosis Procedure	67
SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)	32	U0293 HV C/U CAN COMM	68
AIR PRESSURE MONITOR	32	DTC Logic	68
AIR PRESSURE MONITOR : CONSULT Function (BCM - AIR PRESSURE MONITOR)	32	Diagnosis Procedure	68
ECU DIAGNOSIS INFORMATION	34	U0415 VEHICLE SPEED	69
BCM	34	Description	69
Reference Value	34	DTC Logic	69
Fail-safe	54	Diagnosis Procedure	69
DTC Inspection Priority Chart	55	B2562 LOW VOLTAGE	70
DTC Index	56	DTC Logic	70
WIRING DIAGRAM	59	Diagnosis Procedure	70
BCM	59	POWER SUPPLY AND GROUND CIRCUIT	71
Wiring Diagram	59	Diagnosis Procedure	71
BASIC INSPECTION	63	COMBINATION SWITCH OUTPUT CIRCUIT ...	72
INSPECTION AND ADJUSTMENT	63	Diagnosis Procedure	72
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM)	63	COMBINATION SWITCH INPUT CIRCUIT	74
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Description	63	Diagnosis Procedure	74
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure	63	SYMPTOM DIAGNOSIS	76
CONFIGURATION (BCM)	63	COMBINATION SWITCH SYSTEM SYMPTOMS	76
CONFIGURATION (BCM) : Description	64	Symptom Table	76
CONFIGURATION (BCM) : Work Procedure	64	REMOVAL AND INSTALLATION	77
CONFIGURATION (BCM) : Configuration list	65	BCM	77
		Removal and Installation	77
		COMBINATION SWITCH	78
		Exploded View	78
		Removal and Installation	78

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Technicians Using Medical Electric

INFOID:000000007632824

OPERATION PROHIBITION

WARNING:

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

NORMAL CHARGE PRECAUTION

WARNING:

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by on board charger at normal charge operation may effect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not enter the vehicle compartment (including luggage room) during normal charge operation.

PRECAUTION AT TELEMATICS SYSTEM OPERATION

WARNING:

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

PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

WARNING:

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

Point to Be Checked Before Starting Maintenance Work

INFOID:000000007632825

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.

NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

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

INFOID:000000007632826

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS

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

PRECAUTIONS

< PRECAUTION >

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.
- Never 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:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the power switch ON, never 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 power switch OFF, disconnect the 12V battery, and wait at least 3 minutes before performing any service.

Precautions for Removing Battery Terminal

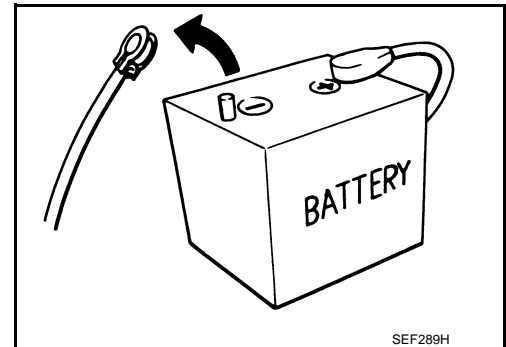
INFOID:000000007632827

- When removing the 12V battery terminal, turn OFF the power switch and wait at least 5 minutes.

NOTE:

ECU may be active for several minutes after the power switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- Always disconnect the battery terminal within 60 minutes after turning OFF the power switch. Even when the power switch is OFF, the 12V battery automatic charge control may automatically start after a lapse of 60 minutes from power switch OFF.
- Disconnect 12V battery terminal according to the following steps.



WORK PROCEDURE

1. Check that EVSE is not connected.

NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

2. Turn the power switch OFF → ON → OFF. Get out of the vehicle. Close all doors (including back door).
3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

NOTE:

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery terminal within 60 minutes after turning the power switch OFF → ON → OFF.

CAUTION:

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

NOTE:

Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

PRECAUTIONS

< PRECAUTION >

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the power switch.

A

NOTE:

If the power switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

B

NOTE:

The removal of 12V battery may cause a DTC detection error.

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

COMPONENT PARTS

< SYSTEM DESCRIPTION >

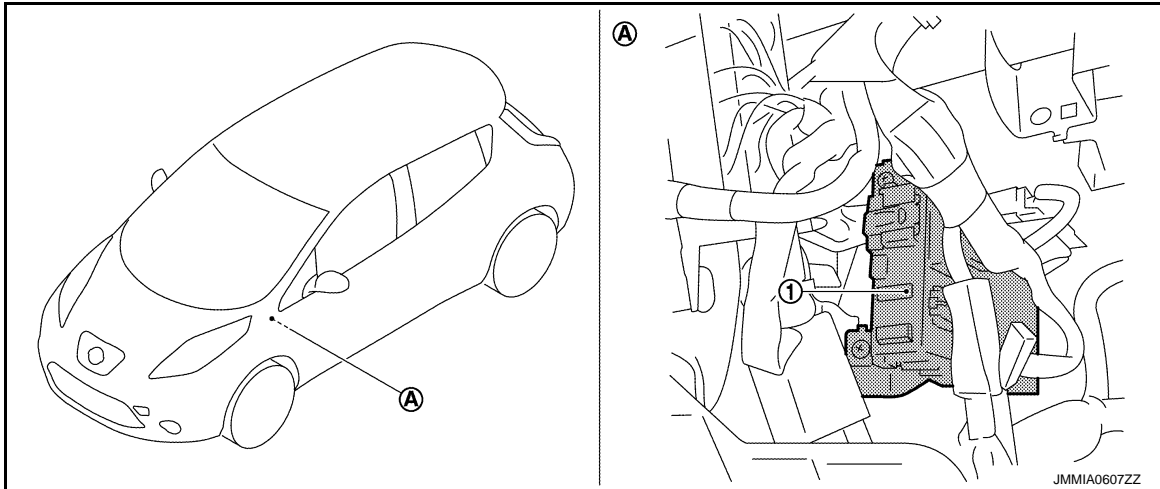
SYSTEM DESCRIPTION

COMPONENT PARTS

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : Component Parts Location

INFOID:000000007632828

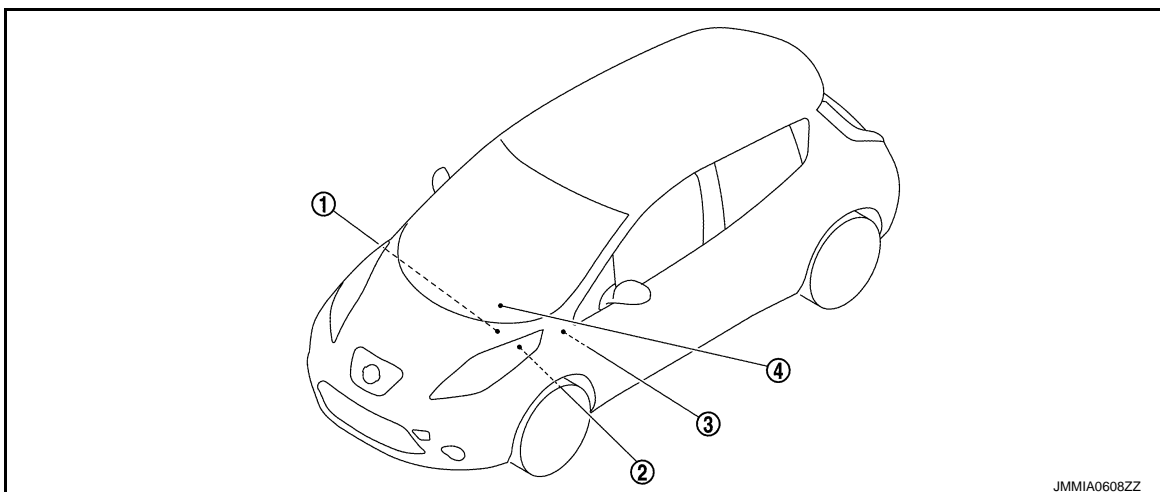


1. BCM
- A. Behind of instrument lower panel LH
(Left side back)

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : Component Parts Location

INFOID:000000007632829



1. Electrically-driven Intelligent Brake unit
Refer to [TM-28, "Component Parts Location"](#).
2. IPDM E/R
Refer to [PCS-7, "Component Parts Location"](#).
3. BCM
Refer to [BCS-6, "BODY CONTROL SYSTEM : Component Parts Location"](#).
4. Combination meter
Refer to [MWI-7, "METER SYSTEM : Component Parts Location"](#).

SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM

BODY CONTROL SYSTEM

BODY CONTROL SYSTEM : System Description

INFOID:000000007632830

OUTLINE

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

BCM CONTROL FUNCTION LIST

System	Reference
Combination switch reading system	BCS-9. "COMBINATION SWITCH READING SYSTEM : System Description"
Signal buffer system	BCS-12. "SIGNAL BUFFER SYSTEM : System Description"
Power consumption control system	BCS-13. "POWER CONSUMPTION CONTROL SYSTEM : System Description"
Headlamp system	EXL-12. "HEADLAMP SYSTEM : System Description"
Auto light system	EXL-15. "AUTO LIGHT SYSTEM (EXCEPT FOR CANADA) : System Description"
Daytime running light system	EXL-21. "DAYTIME RUNNING LIGHT SYSTEM : System Description"
Turn signal and hazard warning lamp system	EXL-23. "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description"
Parking, license plate, side marker and tail lamps system	EXL-25. "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description"
Front fog lamp system	EXL-29. "FRONT FOG LAMP SYSTEM : System Description"
Exterior lamp battery saver system	EXL-31. "EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description"
Interior room lamp control system	INL-8. "INTERIOR ROOM LAMP CONTROL SYSTEM : System Description"
Interior room lamp battery saver system	INL-11. "INTERIOR ROOM LAMP BATTERY SAVER SYSTEM : System Description"
Front wiper and washer system	WW-9. "FRONT WIPER AND WASHER SYSTEM : System Description"
Rear wiper and washer system	WW-13. "REAR WIPER AND WASHER SYSTEM : System Description"
Warning chime system	WCS-6. "WARNING CHIME SYSTEM : System Description"
Power door lock system	DLK-19. "System Description"
Intelligent Key system	DLK-22. "INTELLIGENT KEY SYSTEM : System Description"
Back door opener system	DLK-36. "System Description"
Nissan Vehicle Immobilizer System (NVIS) - NATS	SEC-17. "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description"
Vehicle security system	<ul style="list-style-type: none"> • SEC-22. "VEHICLE SECURITY SYSTEM : System Description (Except for Canada)" • SEC-25. "VEHICLE SECURITY SYSTEM : System Description (For Canada)"
Rear window defogger system	DEF-8. "System Description"

SYSTEM

< SYSTEM DESCRIPTION >

System	Reference
Power window system [Retained accessory power (RAP function)]	PWC-8. "System Description"
Tire pressure monitoring system	WT-10. "System Description"

BODY CONTROL SYSTEM : Fail-safe

INFOID:000000007827616

FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2193: CHAIN OF BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2195: ANTI-SCANNING	Inhibit setting the vehicle to READY	Power switch ON → OFF
B2196: DONGLE NG	Inhibit setting the vehicle to READY	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit setting the vehicle to READY	Erase DTC
B261E: VEHICLE TYPE	Inhibit setting the vehicle to READY	When the VCM status signal is normally received from VCM.
B26F1: IGN RELAY OFF	Inhibit setting the vehicle to READY	When the following conditions are fulfilled <ul style="list-style-type: none"> • Power switch ON signal (CAN: Transmitted from BCM): ON • Power switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit setting the vehicle to READY	When the following conditions are fulfilled <ul style="list-style-type: none"> • Power switch ON signal (CAN: Transmitted from BCM): OFF • Power switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F7: BCM	Inhibit setting the vehicle to READY by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

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

REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

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

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

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

NOTE:

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

COMBINATION SWITCH READING SYSTEM

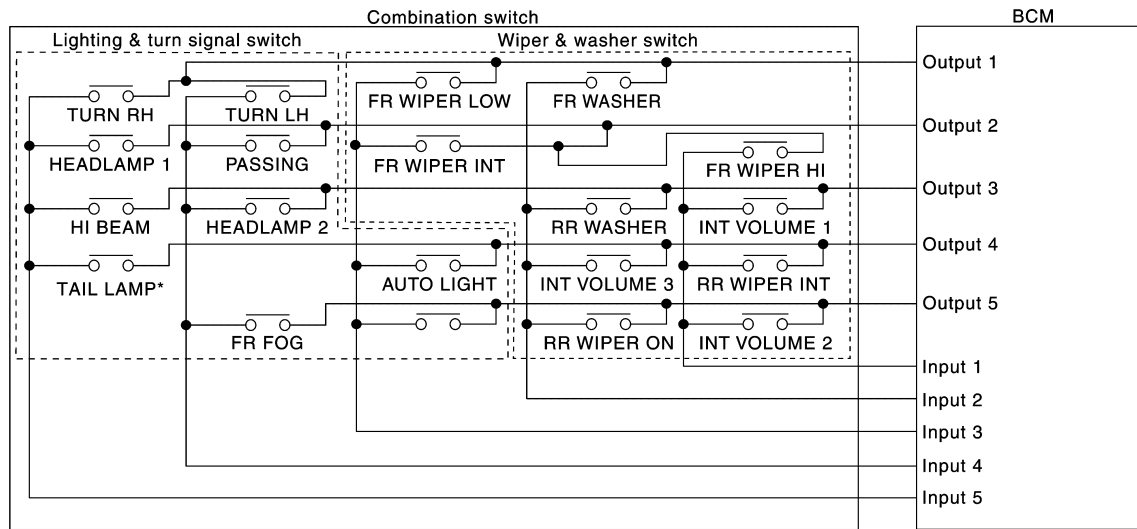
SYSTEM

< SYSTEM DESCRIPTION >

COMBINATION SWITCH READING SYSTEM : System Description

INFOID:000000007632831

SYSTEM DIAGRAM



JMMIA0636GB

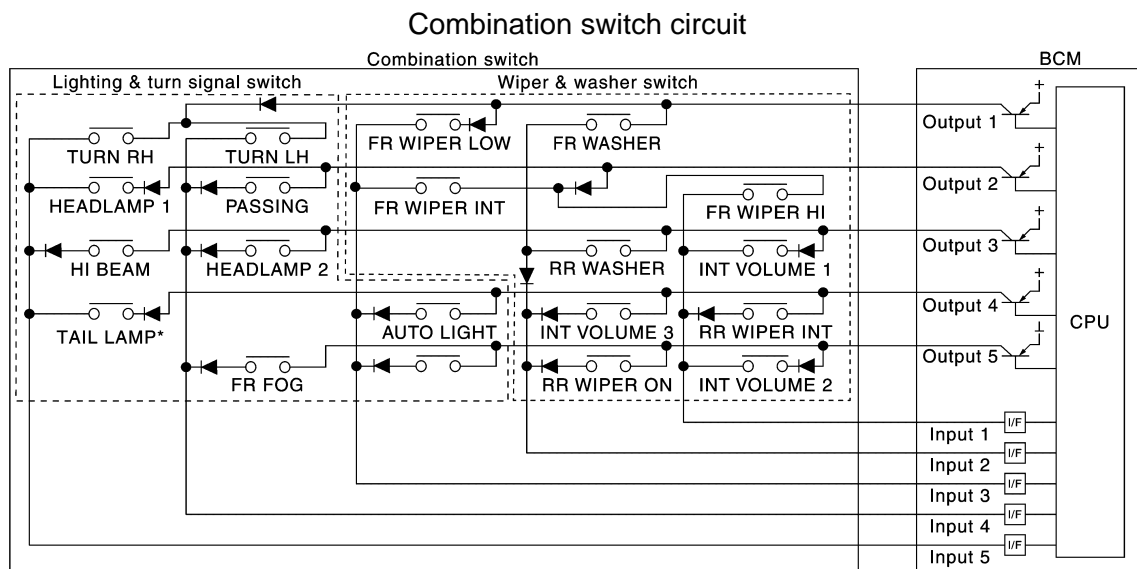
NOTE:

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

OUTLINE

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

COMBINATION SWITCH MATRIX



JMMIA0637GB

NOTE:

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

Combination switch INPUT-OUTPUT system list

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

SYSTEM

< SYSTEM DESCRIPTION >

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

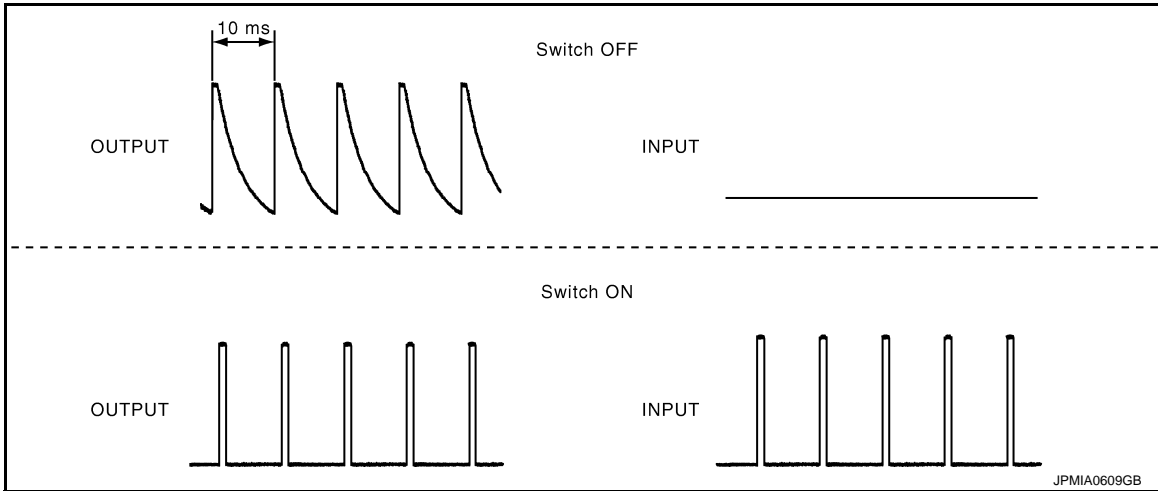
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

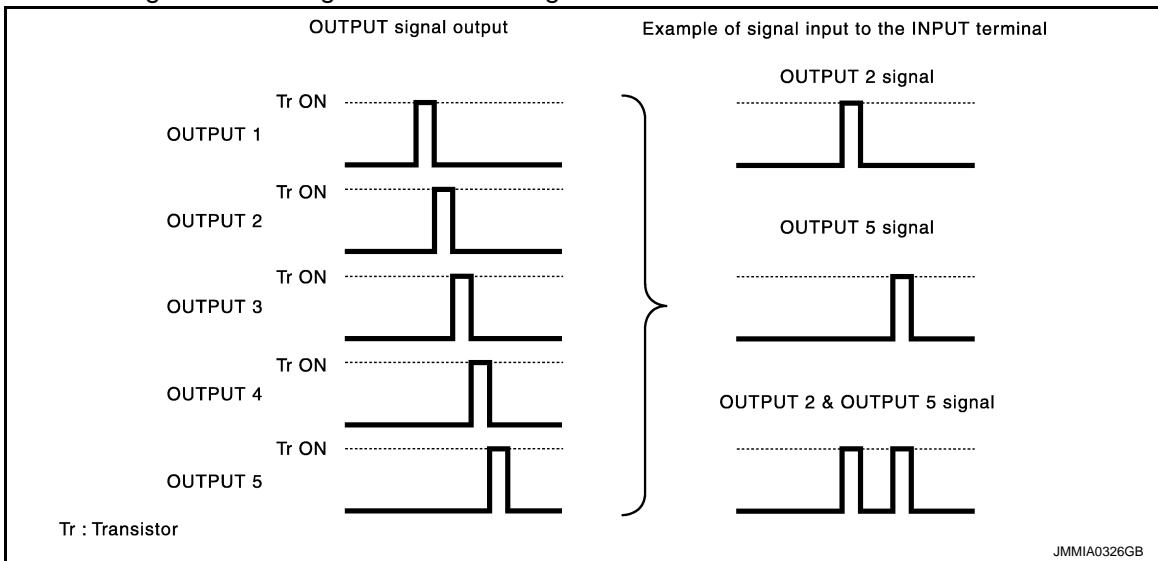
- BCM reads the status of the combination switch at 10 ms interval normally.



NOTE:

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

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



Operation Example

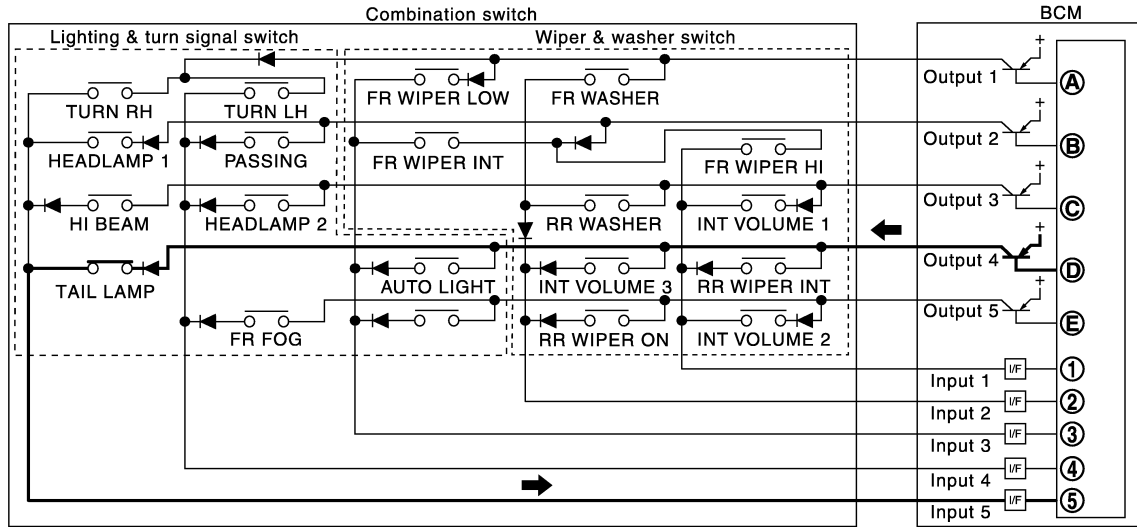
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

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

SYSTEM

< SYSTEM DESCRIPTION >

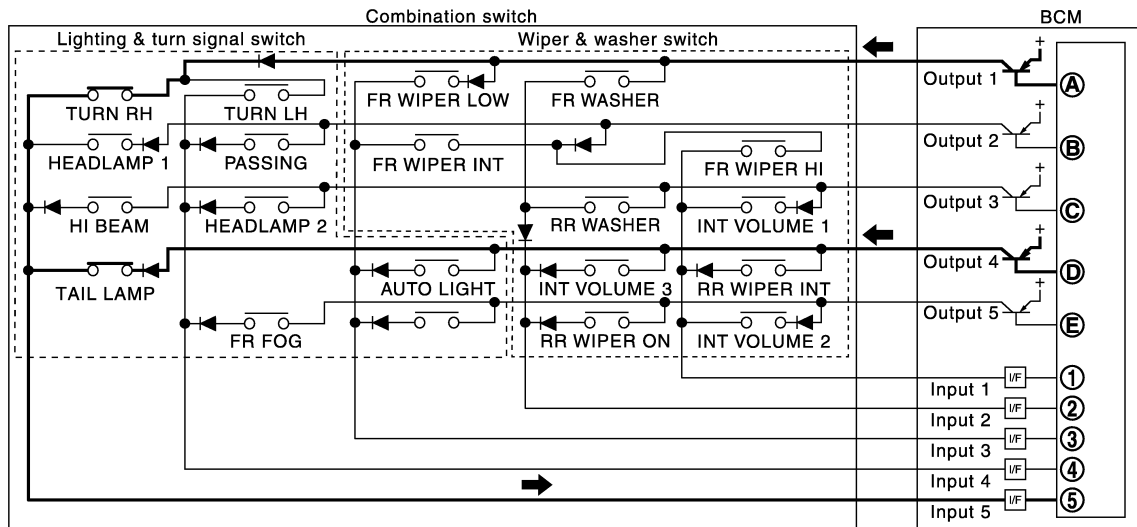
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



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

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

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



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

WIPER VOLUME DIAL POSITION

BCM judges the lighting the wiper volume dial 1 - 7 by the status of WIP VOLUME 1, 2 and 3 switches.

Wiper volume dial position	Switch status		
	WIP VOLUME 1	WIP VOLUME 2	WIP VOLUME 3
1	ON	ON	ON
2	ON	ON	OFF
3	ON	OFF	OFF
4	OFF	OFF	OFF
5	OFF	OFF	ON

SYSTEM

< SYSTEM DESCRIPTION >

Wiper volume dial position	Switch status		
	WIP VOLUME 1	WIP VOLUME 2	WIP VOLUME 3
6	OFF	ON	ON
7	OFF	ON	OFF

NOTE:

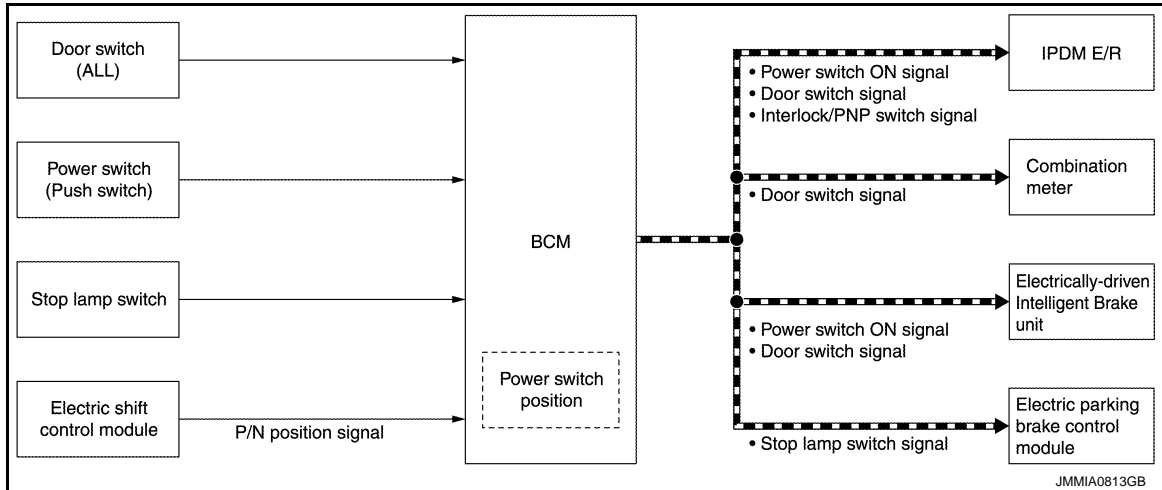
For details of wiper volume dial position, refer to [WW-9. "FRONT WIPER AND WASHER SYSTEM : System Description"](#).

SIGNAL BUFFER SYSTEM

SIGNAL BUFFER SYSTEM : System Description

INFOID:000000007632832

SYSTEM DIAGRAM



OUTLINE

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

Signal transmission function list

Signal name	Input	Output	Description
Power switch ON signal	Power switch (push switch)	<ul style="list-style-type: none"> IPDM E/R (CAN) Electrically-driven Intelligent Brake unit (CAN) 	Inputs the power switch (push switch) signal and transmits the power switch position status judged with BCM via CAN communication.
Door switch signal	Any door switch	<ul style="list-style-type: none"> Combination meter (CAN) IPDM E/R (CAN) Electrically-driven Intelligent Brake unit (CAN) 	Inputs the door switch signal and transmits it via CAN communication.
Stop lamp switch signal	Stop lamp switch	Electric parking brake control module (CAN)	Inputs the stop lamp switch 1 signal and stop lamp switch 2 signal, and transmits it via CAN communication.
Interlock/PNP switch signal	Electric shift control module	IPDM E/R (CAN)	Inputs the P/N position signal, and transmits the interlock/PNP switch signal via CAN communication.

POWER CONSUMPTION CONTROL SYSTEM

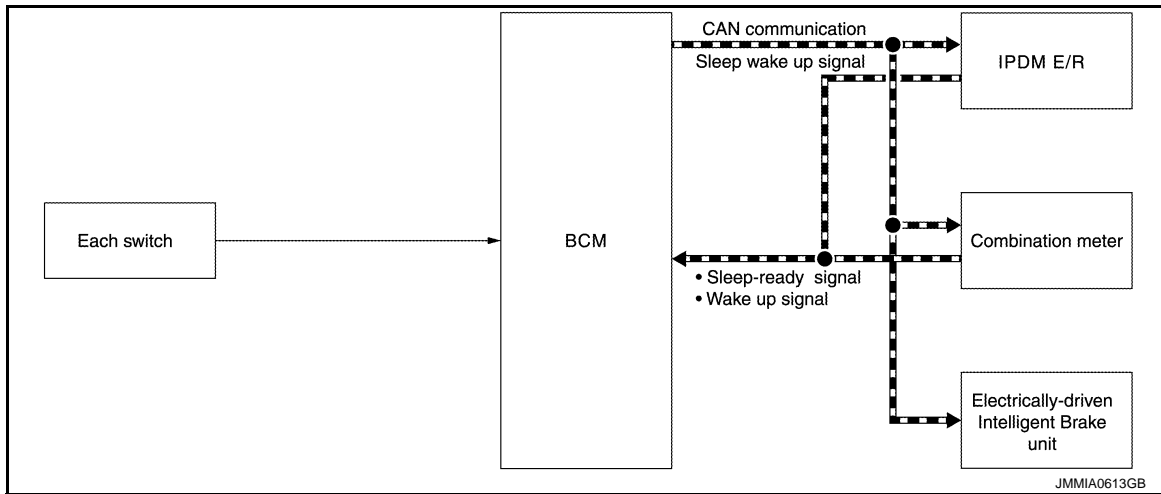
SYSTEM

< SYSTEM DESCRIPTION >

POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:000000007632833

SYSTEM DIAGRAM



OUTLINE

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

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

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

Sleep mode activation

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

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

BCS

SYSTEM

< SYSTEM DESCRIPTION >

Sleep condition

CAN sleep condition	BCM sleep condition
<ul style="list-style-type: none"> • Receiving the sleep-ready signal (ready) from all units • 1 minute after turning power switch OFF • Theft warning alarm and panic alarm: Not operation • Warning chime: Not operation • Intelligent Key system buzzer: Not operation • Stop lamp switch: OFF • Turn signal indicator lamp: Not operation • Exterior lamp: OFF • Door lock status: No change • CONSULT communication status: Not communication • Meter display signal: Non-transmission • Door switch status: No change • Driver door lock status: No change 	<ul style="list-style-type: none"> • Interior room lamp battery saver: Time out* • RAP system: Not operation • Nissan Vehicle Immobilizer System (NVIS) - NATS: Not operation • Remote keyless entry receiver communication status: No communication • Tire pressurer monitoring system (TPMS): Stop • ACC/ON indicator lamp: Not operation

NOTE:

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

Wake-up operation

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

Wake-up condition

Wake-up condition
<ul style="list-style-type: none"> • Receiving the sleep-ready signal (Not-ready) from any units • Power switch (push switch): OFF → ON • Hazard switch: ON • HI BEAM switch: OFF → ON, ON → OFF • PASSING switch: OFF → ON, ON → OFF • HEADLAMP 1 switch: OFF → ON, ON → OFF • HEADLAMP 2 switch: OFF → ON, ON → OFF • TAIL LAMP switch: OFF → ON • FR FOG switch: OFF → ON, ON → OFF • TURN RH: OFF → ON, ON → OFF • TURN LH: OFF → ON, ON → OFF • Driver door switch: OFF → ON, ON → OFF • Passenger door switch: OFF → ON, ON → OFF • Rear RH door switch: OFF → ON, ON → OFF • Rear LH door switch: OFF → ON, ON → OFF • Back door switch: OFF → ON, ON → OFF • Driver door request switch: OFF → ON • Passenger door request switch: OFF → ON • Back door request switch: OFF → ON • Back door opener switch: OFF → ON • Stop lamp switch: ON • Door lock and unlock switch: NEUTRAL → LOCK, NEUTRAL → UNLOCK • Front door lock assembly (driver side) (door key cylinder switch): NEUTRAL → LOCK, NEUTRAL → UNLOCK • Remote keyless entry receiver communication: Receiving • Front door lock assembly (driver side) (unlock sensor): OFF → ON, ON → OFF

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007632834

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> Read and save the vehicle specification. Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
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 CONDITONER*		×	×
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

*: This item is displayed, but not used.

FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power supply position status of the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (LOCK)]
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode [Power supply position is OFF (OFF)]
	LOCK>ACC		While turning power supply position from OFF (LOCK) to ACC
	ACC>ON		While turning power supply position from ACC to ON
	RUN>ACC		While turning power supply position from READY (RUN) to ACC (Except emergency stop operation)
	CRANK>RUN		While turning power supply position from READY (CRANK) to READY (RUN)
	RUN>URGENT		While turning power supply position from READY (RUN) to ACC (Emergency stop operation)
	ACC>OFF		While turning power supply position from ACC to OFF (OFF)
	OFF>LOCK		While turning power supply position from OFF (OFF) to OFF (LOCK)
	OFF>ACC		While turning power supply position from OFF (OFF) to ACC
	ON>CRANK		While turning power supply position from ON to READY (CRANK)
	OFF>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (OFF)] to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode [Power supply position is OFF (LOCK)] to low power consumption mode
	LOCK		Power supply position is OFF (LOCK)
	OFF		Power supply position is OFF (OFF)
	ACC		Power supply position is ACC
	ON		Power supply position is ON
ENGINE RUN	Power supply position is READY (RUN)		
CRANKING	Power supply position is READY (CRANK)		
IGN Counter	0 - 39	<p>The number of times that power switch is turned ON after DTC is detected</p> <ul style="list-style-type: none"> • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever power switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

NOTE:

*: Refer to the following for details of the power supply position.

- OFF (OFF, LOCK): Power switch OFF
- ACC: Power switch ACC
- ON: Power switch ON
- READY (CRANK): Shifting to vehicle condition READY (Transmitting the READY signal from BCM to VCM)
- READY (RUN): Vehicle condition READY

Power supply position shifts to "OFF (LOCK)" from "OFF (OFF)", when power switch is in the OFF position, shift position is in the P position, and any of the following conditions are met.

- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the power switch (push switch) is pushed at "OFF (LOCK)".

DOOR LOCK

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:000000007827602

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Selective unlock function mode can be changed to operation with this mode <ul style="list-style-type: none"> On: Operate Off: Non-operation
AUTOMATIC DOOR LOCK SELECT	Automatic door lock function mode can be selected from the following in this mode <ul style="list-style-type: none"> VH SPD: All doors are locked when vehicle speed more than 24km/h (15MPH) P RANGE: All doors are locked when shifting the selector lever from P position to other than the P position
AUTOMATIC DOOR UNLOCK SELECT	Automatic door unlock function mode can be selected from the following in the mode <ul style="list-style-type: none"> MODE 1: All doors are unlocked when the power supply position is changed from ON to OFF MODE 2: All doors are unlocked when shifting the selector lever from any position other than the P to P position MODE 3: Driver side door is unlocked when the power supply position is changed from ON to OFF MODE 4: Driver side door is unlocked when shifting the selector lever from any position other than the P to P position MODE 5: This item is displayed, but cannot be used MODE 6: This item is displayed, but cannot be used
AUTOMATIC LOCK/UNLOCK SET	Automatic door lock/unlock function mode can be selected from the following in this mode <ul style="list-style-type: none"> Off: Non-operational Unlock Only: Door unlock operation only Lock Only: Door lock operation only Lock/Unlock: Lock and unlock operation

DATA MONITOR

Monitor Item	Contents
REQ SW-DR	Indicated [On/Off] condition of door request switch (driver side)
REQ SW-AS	Indicated [On/Off] condition of door request switch (passenger side)
REQ SW-BD/TR	Indicated [On/Off] condition of back door request switch
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	Indicated [On/Off] condition of lock signal from door key cylinder
KEY CYL UN-SW	Indicated [On/Off] condition of unlock signal from door key cylinder

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none"> The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched The door lock actuator (driver side) is unlocked when "DR UNLK" on CONSULT screen is touched The door lock actuator (passenger side) is unlocked when "UNLK" on CONSULT screen is touched The door lock actuator (other) is unlocked when "OTR ULK" on CONSULT screen is touched

REAR WINDOW DEFOGGER

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

INFOID:000000007827613

DATA MONITOR

Monitor Item	Description
REAR DEF SW	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch.
PUSH SW	Indicates [ON/OFF] condition of push switch.

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	Rear window defogger operates when ON on CONSULT screen is touched.

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:000000007827615

CONSULT APPLICATION ITEMS

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

DATA MONITOR

Display item [Unit]	Description
PUSH SW [On/Off]	Status of push-button power switch judged by BCM.
UNLK SEN-DR [On/Off]	Status of unlock sensor judged by BCM.
VEH SPEED 1 [km/h]	Value of vehicle speed signal received from combination meter with CAN communication line.
TAIL LAMP SW [On/Off]	Status of lighting switch judged by BCM using the combination switch readout function.
FR FOG SW [On/Off]	Status of front fog lamp switch judged by BCM using the combination switch readout function.
DOOR SW-DR [On/Off]	Status of driver side door switch judged by BCM.
CDL LOCK SW [On/Off]	Status of door lock unlock switch judged by BCM.

ACTIVE TEST

Display item [Unit]	Description
SEAT BELT WARN TEST	The seat belt warning chime operation can be checked by operating the relevant function (On/Off).
ID REGIST WARNING	The ID regist warning chime operation can be checked by operating the relevant function (On/Off).
LIGHT WARN ALM	The light warning chime operation can be checked by operating the relevant function (On/Off).

INT LAMP

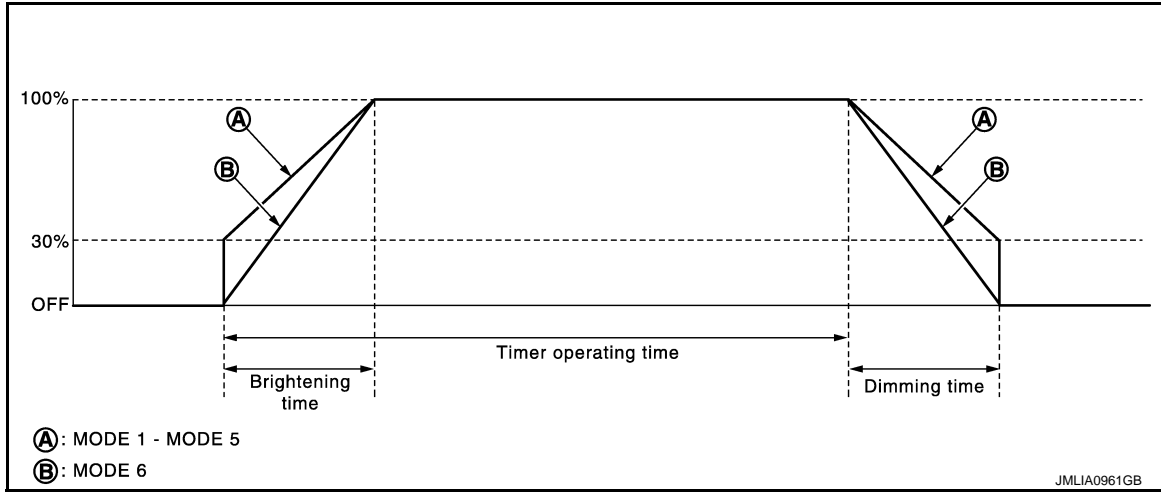
DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:000000007827610

WORK SUPPORT



Service item	Setting item	Setting
SET I/L D-UNLCK INTCON	On*	With the interior room lamp timer function
	Off	Without the interior room lamp timer function
ROOM LAMP TIMER SET	MODE 2	7.5 sec.
	MODE 3*	15 sec.
	MODE 4	30 sec.
ROOM LAMP ON TIME SET	MODE 1	0.5 sec.
	MODE 2	1 sec.
	MODE 3	2 sec.
	MODE 4	3 sec.
	MODE 5	0 sec.
	Factory setting	Gradually brightens from 0% to 100% brightness in 1 second.
ROOM LAMP OFF TIME SET	MODE 1	0.5 sec.
	MODE 2	1 sec.
	MODE 3	2 sec.
	MODE 4	3 sec.
	MODE 5	0 sec.
	Factory setting	Gradually dims from 100% to 0% in 1 second.
R LAMP TIMER LOGIC SET	MODE 1*	Interior room lamp timer activates with synchronizing all doors.
	MODE 2	Interior room lamp timer activates with synchronizing the driver door only.

*: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from request switch (passenger side)

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
REQ SW-RR [On/Off]	NOTE: The item is indicated, but not monitored.
REQ SW-RL [On/Off]	
PUSH SW [On/Off]	The switch status input from power switch
UNLK SEN -DR [On/Off]	Driver door unlock status input unlock sensor
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
DOOR SW- BK [On/Off]	The switch status input from back door switch
CDL LOCK SW [On/Off]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [On/Off]	Unlock switch status input from door lock and unlock switch
KEY CYL LK-SW [On/Off]	Lock switch status received from door key cylinder switch
KEY CYL UN-SW [On/Off]	Unlock switch status received from door key cylinder switch
TRNK/HAT MNTR [On/Off]	NOTE: The item is indicated, but not monitored.
RKE-LOCK [On/Off]	Lock signal status received from remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from remote keyless entry receiver

ACTIVE TEST

Test item	Operation	Description
INT LAMP	On	Outputs the interior room lamp control signal to turn the interior room lamps ON. [Map lamp, room lamp (when applicable lamps switch is in DOOR position.)]
	Off	Stops the interior room lamp control signal to turn the interior room lamps OFF.
STEP LAMP TEST	On	NOTE: The item is indicated, but can not tested
	Off	

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:000000007827608

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Service item	Setting item	Setting
CUSTOM A/LIGHT SETTING*1	MODE 1*3	Normal
	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation)
	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2)
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation)
BATTERY SAVER SET	On*3	With the exterior lamp battery saver function
	Off	Without the exterior lamp battery saver function
ILL DELAY SET*1	MODE 1*3	45 sec.
	MODE 2	Without the function
	MODE 3	30 sec.
	MODE 4	60 sec.
	MODE 5	90 sec.
	MODE 6	120 sec.
	MODE 7	150 sec.
	MODE 8	180 sec.
AUTO LIGHT LOGIC SET*2	MODE 1*3	With twilight ON custom & with wiper INT, LO and HI
	MODE 2	With twilight ON custom & with wiper LO and HI
	MODE 3	With twilight ON custom & without
	MODE 4	Without twilight ON custom & with wiper INT, LO and HI
	MODE 5	Without twilight ON custom & with wiper LO and HI
	MODE 6	Without twilight ON custom & without

*1: For models without auto light system, this item is displayed but is not operated.

*2: For models without auto light system and all models for Canada, this item is displayed but is not operated.

*3: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
PUSH SW [On/Off]	The switch status input from power switch
ENGINE STATE [Stop/Stall/Crank/Run]	The traction motor status received from VCM via CAN communication
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter via CAN communication

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW*1 [On/Off]	
FR FOG SW*2 [On/Off]	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
DOOR SW-BK [On/Off]	The switch status input from back door switch
OPTICAL SENSOR [On/Off/NG]	NOTE: This item is indicated, but can not monitored
OPTI SEN (DTCT)*1 [V]	The value of outside brightness voltage input from the optical sensor
OPTI SEN (FILT)*1 [V]	The value of outside brightness voltage filtered by BCM

*1: For models without auto light system, this item is not displayed.

*2: For models without front fog lamp, this item is displayed but is not monitored.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R via CAN communication to turn the tail lamp ON
	Off	Stops the tail lamp request signal transmission
HEAD LAMP	Hi	Transmits the high beam request signal via CAN communication to turn the headlamp (HI)
	Lo	Transmits the low beam request signal via CAN communication to turn the headlamp (LO)
	Off	Stops the high & low beam request signal transmission
FR FOG LAMP*1	On	Transmits the front fog lights request signal to IPDM E/R via CAN communication to turn the front fog lamp ON
	Off	Stops the front light request signal transmission

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Test item	Operation	Description
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal via CAN communication to IPDM E/R
	Off	Stop the daytime running light request signal transmission
ILL DIM SIGNAL	On	<ul style="list-style-type: none"> Transmits the dimmer signal to combination meter via CAN communication and dims combination meter Transmits the dimmer signal to AV control unit and dims display
	Off	Stops the dimmer signal transmission

*1: For models without front fog lamp, this item is displayed but is not tested.

*2: For models without daytime running light system, this item is not displayed.

WIPER

WIPER : CONSULT Function - WIPER

INFOID:000000007827612

WORK SUPPORT

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

*: Factory setting

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [Off/On]	The switch status input from power switch (push switch)
VEH SPEED 1 [km/h]	Displays the value of the vehicle speed signal received from combination meter via CAN communication
FR WIPER HI [Off/On]	Status of each switch judged by BCM using the combination switch reading function
FR WIPER LOW [Off/On]	
FR WASHER SW [Off/On]	
FR WIPER INT [Off/On]	
FR WIPER STOP [Off/On]	Displays the status of the front wiper stop position signal received from IPDM E/R via CAN communication.
INT VOLUME [1 - 7]	Status of each switch judged by BCM using the combination switch reading function
RR WIPER ON [Off/On]	Status of each switch judged by BCM using the combination switch reading function
RR WIPER INT [Off/On]	
RR WASHER SW [Off/On]	
RR WIPER STOP [Off/On]	Rear wiper motor (stop position) status input from the rear wiper motor
RAIN SENSOR [OFF/LOW/HIGH/SPLASH/NG]	NOTE: The item is indicated, but not monitored

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

ACTIVE TEST

Test item	Operation	Description
FR WIPER	Hi	Transmits the front wiper request signal (HI) to IPDM E/R via CAN communication to operate the front wiper HI operation.
	Lo	Transmits the front wiper request signal (LO) to IPDM E/R via CAN communication to operate the front wiper LO operation.
	INT	Transmits the front wiper request signal (INT) to IPDM E/R via CAN communication to operate the front wiper INT operation.
	Off	Stops transmitting the front wiper request signal to stop the front wiper operation.
RR WIPER	On	Output the voltage to operate the rear wiper motor.
	Off	Stops the voltage to stop the rear wiper motor.

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000007827609

WORK SUPPORT

Service item	Setting item	Setting	
HAZARD ANSWER BACK	Lock Only	With locking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or the Intelligent Key.
	Unlk Only	With unlocking only	
	Lock&Unlk*	With locking/unlocking	
	Off	Without the function	

*: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)
PUSH SW [On/Off]	The switch status input from the power switch
TURN SIGNAL R [On/Off]	Each switch status that BCM detects from the combination switch reading function
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	The switch status input from the hazard switch
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000007827603

WORK SUPPORT

Monitor item	Description
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
ENGINE START BY I-KEY	READY set function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
TRUNK/GLASS HATCH OPEN	NOTE: This item is displayed, but cannot be used
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode <ul style="list-style-type: none"> • MODE 1: 0.5 sec. • MODE 2: Non-operation • MODE 3: 1.5 sec.
TRUNK OPEN DELAY	NOTE: This item is displayed, but cannot be used
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
HAZARD ANSWER BACK	Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode <ul style="list-style-type: none"> • Lock Only: Door lock operation only • Unlock Only: Door unlock operation only • Lock/Unlock: Lock and unlock operation • Off: Non-operation
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch can be selected from the following with this mode <ul style="list-style-type: none"> • Horn Chirp: Sound horn • Buzzer: Sound Intelligent Key warning buzzer • Off: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
SHORT CRANKING OUTPUT	NOTE: This item is displayed, but cannot be used

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
AUTO LOCK SET	Auto door lock operation time can be changed in this mode <ul style="list-style-type: none"> • MODE 1: OFF • MODE 2: 30 sec. • MODE 3: 1 minute • MODE 4: 2 minutes • MODE 5: 3 minutes • MODE 6: 4 minutes • MODE 7: 5 minutes

SELF-DIAG RESULT

Refer to [BCS-56. "DTC Index"](#).

DATA MONITOR

Monitor Item	Condition
REQ SW -DR	Indicates [On/Off] condition of door request switch (driver side)
REQ SW -AS	Indicates [On/Off] condition of door request switch (passenger side)
REQ SW -BD/TR	Indicates [On/Off] condition of back door request switch
PUSH SW	Indicates [On/Off] condition of power switch
CLUTCH SW	NOTE: This item is displayed, but cannot be monitored
BRAKE SW 1	Indicates [On/Off]* condition of stop lamp switch power supply
BRAKE SW 2	Indicates [On/Off] condition of stop lamp switch
DETE/CANCL SW	Indicates [On/Off] condition of P position
SFT PN/N SW	Indicates [On/Off] condition of P or N position
UNLK SEN -DR	Indicates [On/Off] condition of driver door UNLOCK status
PUSH SW -IPDM	Indicates [On/Off] condition of power switch
IGN RLY1 -F/B	Indicates [On/Off] condition of ignition relay 1
DETE SW -IPDM	Indicates [On/Off] condition of P position
SFT PN -IPDM	NOTE: This item is displayed, but cannot be monitored
SFT P -MET	Indicates [On/Off] condition of P position
SFT N -MET	Indicates [On/Off] condition of N position
ENGINE STATE	NOTE: This item is displayed, but cannot be monitored
S/L LOCK-IPDM	NOTE: This item is displayed, but cannot be monitored
S/L UNLK-IPDM	NOTE: This item is displayed, but cannot be monitored
S/L RELAY-REQ	NOTE: This item is displayed, but cannot be monitored
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [km/h]
VEH SPEED 2	Display the vehicle speed signal received from ABS actuator and electric unit (control unit) by numerical value [km/h]
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status
ID OK FLAG	Indicates [Set/Reset] condition of key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of ENGINE START BY I-KEY setting in WORK SUPPORT mode
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item	Condition
TRNK/HAT MNTR	NOTE: This item is displayed, but cannot be monitored
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-TR/BD	NOTE: This item is displayed, but cannot be monitored
RKE-PANIC	Indicates [On/Off] condition of PANIC button of Intelligent Key
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored

*: OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

ACTIVE TEST

Test item	Description
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation <ul style="list-style-type: none"> • Take Out: Take away warning chime sounds when CONSULT screen is touched • Key: Key warning chime sounds when CONSULT screen is touched • Knob: OFF position warning chime sounds when CONSULT screen is touched • Off: Non-operation
INDICATOR	This test is able to check warning lamp operation <ul style="list-style-type: none"> • KEY ON: "KEY" Warning lamp illuminates when CONSULT screen is touched • KEY IND: "KEY" Warning lamp blinks when CONSULT screen is touched • Off: Non-operation
INT LAMP	This test is able to check interior room lamp operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
LCD	This test is able to check meter display information <ul style="list-style-type: none"> • Traction motor start information displays when "BP N" on CONSULT screen is touched • Traction motor start information displays when "BP I" on CONSULT screen is touched • Key ID warning displays when "ID NG" on CONSULT screen is touched • ROTAT: This item is displayed, but cannot be used • INSRT: This item is displayed, but cannot be used • Intelligent Key low battery warning displays when "BATT" on CONSULT screen is touched • Take away warning displays when "OUTKEY" on CONSULT screen is touched • OFF position warning displays when "LK WN" on CONSULT screen is touched
FLASHER	This test is able to check security hazard lamp operation The hazard lamps are activated after "LH/RH/Off" on CONSULT screen is touched
HORN	This test is able to check horn operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
P RANGE	This test is able to check P position signal from electric shift control unit <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
ENGINE SW ILLUMI	This test is able to check power switch illumination operation Power switch illumination illuminates when "ON" on CONSULT screen is touched
PUSH SWITCH INDICATOR	This test is able to check LOCK indicator in power switch operation LOCK indicator in power switch illuminates when "ON" on CONSULT screen is touched

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT screen is touched.
TRUNK/BACK DOOR	This test is able to check back door opener actuator open operation. This actuator opens when "Open" on CONSULT screen is touched.

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:000000007632843

DATA MONITOR

Monitor item [UNIT]	Description
FR WIPER HI [Off/On]	Displays the status of the FR WIPER HI switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER LOW [Off/On]	Displays the status of the FR WIPER LOW switch in combination switch judged by BCM with the combination switch reading function.
FR WASHER SW [Off/On]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER INT [Off/On]	Displays the status of the FR WIPER AUTO switch in combination switch judged by BCM with the combination switch reading function.
INT VOLUME [1 - 7]	Displays the status of wiper volume dial position judged by BCM with the combination switch reading function.
RR WIPER ON [Off/On]	Displays the status of the RR WIPER ON switch in combination switch judged by BCM with the combination switch reading function.
RR WIPER INT [Off/On]	Displays the status of the RR WIPER INT switch in combination switch judged by BCM with the combination switch reading function.
RR WASHER SW [Off/On]	Displays the status of the RR WASHER switch in combination switch judged by BCM with the combination switch reading function.
TURN SIGNAL R [Off/On]	Displays the status of the TURN RH switch in combination switch judged by BCM with the combination switch reading function.
TURN SIGNAL L [Off/On]	Displays the status of the TURN LH switch in combination switch judged by BCM with the combination switch reading function.
TAIL LAMP SW [Off/On]	Displays the status of the TAIL LAMP switch in combination switch judged by BCM with the combination switch reading function.
HI BEAM SW [Off/On]	Displays the status of the HI BEAM switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 1 [Off/On]	Displays the status of the HEADLAMP 1 switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 2 [Off/On]	Displays the status of the HEADLAMP 2 switch in combination switch judged by BCM with the combination switch reading function.
PASSING SW [Off/On]	Displays the status of the PASSING switch in combination switch judged by BCM with the combination switch reading function.
AUTO LIGHT SW [Off/On]	Displays the status of the AUTO LIGHT switch in combination switch judged by BCM with the combination switch reading function.
FR FOG SW [Off/On]	Displays the status of the FR FOG switch in combination switch judged by BCM with the combination switch reading function.

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:000000007632844

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000007827606

DATA MONITOR

Monitor item	Content
CONFIRM ID ALL	Indicates [YET] at all time. Switches to [DONE] when a registered Intelligent Key backside is contacted to power switch.
CONFIRM ID4	
CONFIRM ID3	
CONFIRM ID2	
CONFIRM ID1	
NOT REGISTERED	Indicates [ID OK] when key ID that is registered is received or is not yet received. Indicates [ID NG] when key ID that is not registered is received.
TP 4	Indicates the number of IDs that are registered.
TP 3	
TP 2	
TP 1	
PUSH SW	Indicates [ON/OFF] condition of power switch.

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT screen touched.

WORK SUPPORT

Service item	Description
CONFIRM DONGLE ID	It is possible to check that dongle unit is applied to the vehicle.

BATTERY SAVER

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:000000007827611

WORK SUPPORT

Service item	Setting item	Setting
ROOM LAMP TIMER SET	MODE 1	30 min.
	MODE 2	60 min.
	MODE 3*	15 min.
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
	Off	Without the exterior lamp battery saver function

*:Factory setting

DATA MONITOR

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from front request switch (passenger side)
REQ SW-RR [On/Off]	NOTE: The item is indicated, but not monitored.
REQ SW-RL [On/Off]	
PUSH SW [On/Off]	The switch status input from power switch
UNLK SEN-DR [On/Off]	Driver door unlock status input unlock sensor
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
DOOR SW- BK [On/Off]	The switch status input from back door switch
CDL LOCK SW [On/Off]	Lock switch status input from door lock and unlock switch
CDL UNLOCK SW [On/Off]	Unlock switch status input from door lock and unlock switch
TRNK/HAT MNTR [On/Off]	NOTE: The item is indicated, but not monitored
KEY CYL LK-SW [On/Off]	Lock switch status received from door key cylinder switch
KEY CYL UN-SW [On/Off]	Unlock switch status received from door key cylinder switch
RKE-LOCK [On/Off]	Lock signal status received from remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from remote keyless entry receiver

ACTIVE TEST

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

*: Each lamp switch is in ON position.

TRUNK

TRUNK : CONSULT Function (BCM - TRUNK)

INFOID:000000007827604

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item	Contents
PUSH SW	Indicates [On/Off] condition of power switch
UNLK SEN -DR	Indicates [On/Off] condition of unlock sensor
VEH SPEED 1	Indicates [km/h] condition of vehicle speed signal from combination meter
TR/BD OPEN SW	Indicates [On/Off] condition of back door opener switch.
TRNK/HAT MNTR	NOTE: This item is displayed, but cannot be monitored
RKE-TR/BD	NOTE: This item is displayed, but cannot be monitored

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:000000007827605

WORK SUPPORT

Service Item	Description
SECURITY ALARM SET	This mode is able to confirm and change security alarm ON-OFF setting.
THEFT ALM TRG	The switch which triggered vehicle security alarm is recorded. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching "CLEAR" on CONSULT screen.

DATA MONITOR

Monitored Item	Description
REQ SW -DR	Indicates [On/Off] condition of door request switch (driver side).
REQ SW -AS	Indicates [On/Off] condition of door request switch (passenger side).
REQ SW -RR	NOTE: This is displayed even when it is not equipped.
REQ SW -RL	NOTE: This is displayed even when it is not equipped.
REQ SW -BD/TR	Indicates [On/Off] condition of back door request switch.
PUSH SW	Indicates [On/Off] condition of power switch
UNLK SEN -DR	Indicates [On/Off] condition of driver door UNLOCK status.
DOOR SW-DR	Indicates [On/Off] condition of front door switch (driver side).
DOOR SW-AS	Indicates [On/Off] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [On/Off] condition of rear door switch RH.
DOOR SW-RL	Indicates [On/Off] condition of rear door switch LH.
DOOR SW-BK	Indicates [On/Off] condition of back door switch.
CDL LOCK SW	Indicates [On/Off] condition of lock signal from door lock/unlock switch.
CDL UNLOCK SW	Indicates [On/Off] condition of unlock signal from door lock/unlock switch.
KEY CYL LK-SW	Indicates [On/Off] condition of lock signal from door key cylinder.
KEY CYL UN-SW	Indicates [On/Off] condition of unlock signal from door key cylinder.
TR/BD OPEN SW	Indicates [On/Off] condition of back door opener switch.
TRNK/HAT MNTR	NOTE: This is displayed even when it is not equipped.
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	NOTE: This is displayed even when it is not equipped.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT screen is touched.
VEHICLE SECURITY HORN	This test is able to check horns operation. Horns are activated for 0.5 seconds after "ON" on CONSULT screen is touched.
HEADLAMP(HI)	This test is able to check headlamp operation. Headlamps are activated for 0.5 seconds after "ON" on CONSULT screen is touched.
FLASHER	This test is able to check hazard warning lamp operation. Hazard warning lamps are activated after "ON" on CONSULT screen is touched.

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000007827607

DATA MONITOR

Monitor Item	Description
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
DOOR SW-AS	Indicates [ON/OFF] condition of passenger side door switch.

SIGNAL BUFFER

SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:000000007632850

DATA MONITOR

Monitor item [UNIT]	Description
PUSH SW [Off/On]	Displays the status of the power switch (push switch) judged by BCM.

ACTIVE TEST

Test item	Operation	Description
OIL PRESSURE SW	Off	NOTE: This item is displayed, but not tested.
	On	

AIR PRESSURE MONITOR

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

INFOID:000000007827614

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Self Diagnostic Result	Retrieve DTC from ECU and display diagnostic items.
Data Monitor	Monitor the input/output signal of the control unit in real time.
Active Test	Send the drive signal from CONSULT to the actuator. The operation check can be performed.
Work Support	This mode enables a technician to adjust some devices faster and more accurately.

SELF DIAGNOSTIC RESULT

Refer to [BCS-56, "DTC Index"](#).

DATA MONITOR MODE

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor item (Unit)	Remarks	
AIR PRESS FL (kPa, kg/cm ² or Psi)	Tire pressure	A
AIR PRESS FR (kPa, kg/cm ² or Psi)		B
AIR PRESS RR (kPa, kg/cm ² or Psi)		C
AIR PRESS RL (kPa, kg/cm ² or Psi)		D
ID REGST FL1 (Yet, Done)	Registration ID	E
ID REGST FR1 (Yet, Done)		F
ID REGST RR1 (Yet, Done)		G
ID REGST RL1 (Yet, Done)		H
WARNING LAMP (On/Off)	Low tire pressure warning lamp	I
BUZZER (On/Off)	NOTE: This item is displayed, but cannot be use this item.	J

ACTIVE TEST MODE

NOTE:

After completing the work below, perform an active test.

1. Check ID registration state and perform self-diagnosis.
2. Erase the self-diagnosis result history.

Item	Description	
WARNING LAMP	Low tire pressure warning lamp can be turned ON arbitrarily.	K
ID REGIST WARNING	NOTE: Displayed but not used in TPMS.	L
RUN FLAT TIRE W/L	NOTE: Displayed but not used in TPMS.	M
RUN FLAT/T WARN BUZZER	NOTE: Displayed but not used in TPMS.	N
FLASHER	Turn signal lamps can be turned ON arbitrarily.	O
HORN	This test is able to check to check that the horn sounds.	P

WORK SUPPORT

Item	Description	
ID READ	Registered tire pressure sensor ID can be displayed.	Q
ID REGIST	Tire pressure sensor ID can be registered.	R

BCM

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM

Reference Value

INFOID:000000007632852

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
INT VOLUME	Wiper volume dial is in a dial position 1 - 7	Wiper volume dial position
RR WIPER ON	Other than rear wiper switch ON	Off
	Rear wiper switch ON	On
RR WIPER INT	Other than rear wiper switch INT	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On

BCM

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
	Power door lock switch LOCK	On
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off
	Power door lock switch UNLOCK	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
HAZARD SW	Hazard switch is OFF	Off
	Hazard switch is ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TR/BD OPEN SW	Back door opener switch OFF	Off
	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
FAN ON SIG	NOTE: The item is indicated, but not monitored.	Off
AIR COND SW	NOTE: The item is indicated, but not monitored.	Off
RKE-LOCK	LOCK button of the key is not pressed	Off
	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
RKE-PANIC	PANIC button of the key is not pressed	Off
	PANIC button of the key is pressed	On
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
OPTI SEN (FILT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	Off

A

B

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

BCM

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -DR	Driver door request switch is not pressed	Off
	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Power switch (push switch) is not pressed	Off
	Power switch (push switch) is pressed	On
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
BRAKE SW 1	The brake pedal is not depressed	Off
	The brake pedal is depressed	On
BRAKE SW 2	The brake pedal is depressed when No. 38 fuse is blown	Off
	The brake pedal is not depressed when No. 38 fuse is blown, or No. 38 fuse is normal	On
DETE/CANCL SW	Shift position in P position	Off
	Shift position in any position other than P	On
SFT PN/N SW	Shift position in any position other than P and N	Off
	Shift position in P or N position	On
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
UNLK SEN -DR	Driver door is locked	Off
	Driver door is unlocked	On
PUSH SW -IPDM	Power switch (push switch) is not pressed	Off
	Power switch (push switch) is pressed	On
IGN RLY1 -F/B	Power switch in OFF or ACC position	Off
	Power switch in ON position	On
DETE SW -IPDM	Shift position in any position other than P	Off
	Shift position in P position	On
SFT PN -IPDM	NOTE: The item is indicated, but not monitored.	Off
SFT P -MET	Shift position in any position other than P	Off
	Shift position in P position	On
SFT N -MET	Shift position in any position other than N	Off
	Shift position in N position	On
ENGINE STATE	NOTE: The item is indicated, but not monitored.	Stop

BCM

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off	A
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off	B
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off	
VEH SPEED 1	While driving	Equivalent to speedometer reading	C
VEH SPEED 2	While driving	Equivalent to speedometer reading	D
DOOR STAT-DR	Driver door is locked	LOCK	E
	Wait with selective unlock operation (60 seconds)	READY	
	Driver door is unlocked	UNLOCK	
DOOR STAT-AS	Passenger door is locked	LOCK	F
	Wait with selective unlock operation (60 seconds)	READY	
	Passenger door is unlocked	UNLOCK	
ID OK FLAG	Driver side door is open after power switch is turned OFF (Shift position is in the P position)	Reset	G
	Power switch ON	Set	
PRMT ENG STRT	The setting the vehicle to READY is prohibited	Reset	H
	The setting the vehicle to READY is permitted	Set	
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset	I
RKE OPE COUN1	During the operation of the key	Operation frequency of the key	
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	—	J
CONFIRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet	K
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done	
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet	L
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done	
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet	N
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done	
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet	O
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done	
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet	P
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done	
NOT REGISTERED	BCM detects registered key ID, or BCM does not detect key ID.	ID OK	
	BCM detects non-registration key ID.	ID NG	

BCS

BCM

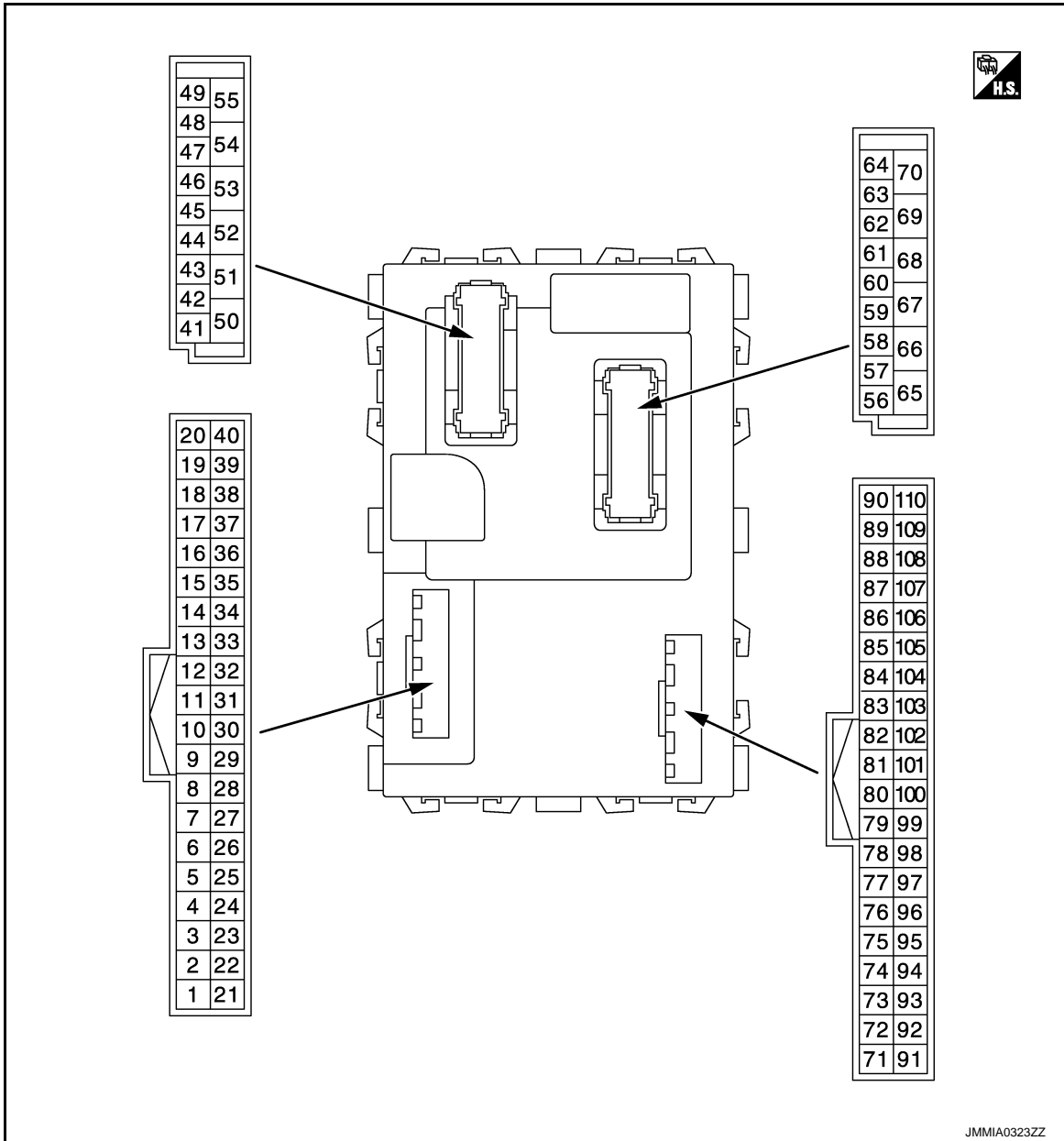
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
TP 4	The ID of fourth key is not registered to BCM	Yet
	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
	The ID of second key is registered to BCM	Done
TP 1	The ID of first key is not registered to BCM	Yet
	The ID of first key is registered to BCM	Done
AIR PRESS FL	Power switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Power switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Power switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Power switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

BCM

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
2 (L)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Turn signal switch RH	<p style="text-align: right; font-size: small;">PKIB4958J</p>
					Lighting switch HI	
					Lighting switch 1ST	
					Lighting switch 2ND	<p style="text-align: right; font-size: small;">JPMIA0342JP</p>
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Turn signal switch LH	<p style="text-align: right; font-size: small;">PKIB4958J</p>
					Lighting switch PASS	
					Lighting switch 2ND	
					Front fog lamp switch ON	<p style="text-align: right; font-size: small;">PKIB4956J</p>
4 (BR)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Front wiper switch LO	<p style="text-align: right; font-size: small;">PKIB4958J</p>
					Front wiper switch MIST	
					Front wiper switch INT	
					Lighting switch AUTO	

BCM

< ECU DIAGNOSIS INFORMATION >

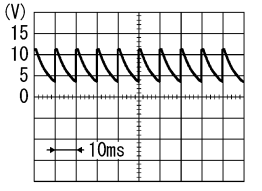
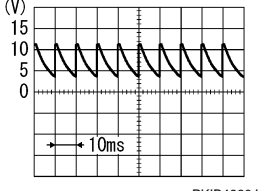
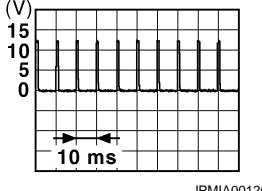
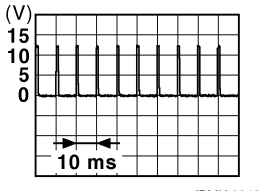
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switches OFF (Wiper volume dial 4)	0 V
					Front washer switch ON (Wiper volume dial 4)	
					Rear washer switch ON (Wiper volume dial 4)	
					Any of the condition below with all switches OFF <ul style="list-style-type: none"> • Wiper volume dial 1 • Wiper volume dial 5 • Wiper volume dial 6 	
Rear wiper switch ON (Wiper volume dial 4)		0.8 V				
6 (V)	Ground	Combination switch INPUT 1	Input	Combination switch	All switches OFF (Wiper volume dial 4)	0 V
					Front wiper switch HI (Wiper volume dial 4)	
					Rear wiper switch INT (Wiper volume dial 4)	
					Wiper volume dial 3 (All switches OFF)	
					Any of the condition below with all switches OFF <ul style="list-style-type: none"> • Wiper volume dial 1 • Wiper volume dial 2 	
Any of the condition below with all switches OFF <ul style="list-style-type: none"> • Wiper volume dial 6 • Wiper volume dial 7 		0.8 V				

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

BCS

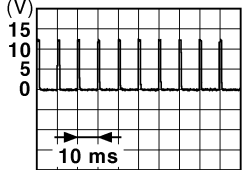
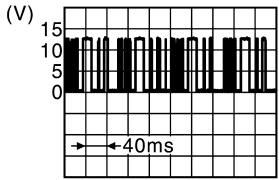
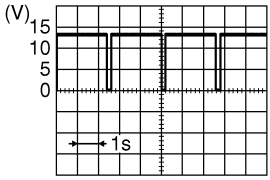
BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
7 (GR)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylinder switch	NEUTRAL position  7.0 - 8.0 V
					UNLOCK position 0 V
8 (R)	Ground	Door key cylinder switch LOCK	Input	Door key cylinder switch	NEUTRAL position  7.0 - 8.0 V
					LOCK position 0 V
9 (BR)	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal is not depressed) 0 V
					ON (Brake pedal is de- pressed) 9 - 16 V
12 (Y)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position  1.0 - 1.5 V
					LOCK position 0 V
13 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position  1.0 - 1.5 V
					UNLOCK position 0 V
14 (G)	Ground	Optical sensor	Input	Power switch ON	When bright outside of the vehicle Close to 5 V
					When dark outside of the vehicle Close to 0 V

BCM

< ECU DIAGNOSIS INFORMATION >

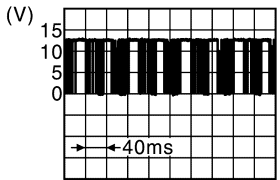
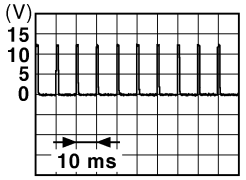
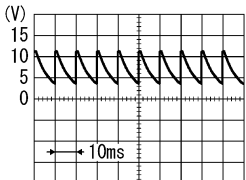
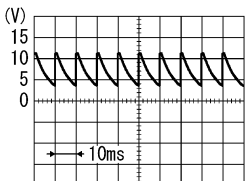
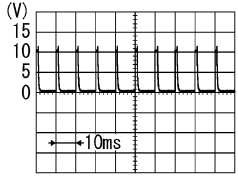
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
15 (W)	Ground	Rear window defogger switch	Input	Rear window defogger switch	 <p style="text-align: center;">1.0 - 1.5 V</p>
				Being pressed	0 V
16 (R)	Ground	Dimmer signal	Output	Power switch ON	0 V
				Power switch OFF	7.5 - 16 V
17 (Y)	Ground	Sensor power supply	Output	Power switch OFF, ACC	0 V
				Power switch ON	4.65 - 5.5 V
18 (V)	Ground	Receiver and sensor ground	Input	Power switch ON	0 V
21 (P)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key battery is removed	 <p style="text-align: center;">9 - 16 V</p>
				Brake pedal: Released	0 - 0.5 V
23 (R)	Ground	Security indicator lamp	Output	Security indicator lamp	 <p style="text-align: center;">12.0 V</p>
				Security indicator lamp	9 - 16 V
24* (SB)	Ground	Dongle link	Input/ Output	Ignition switch OFF	5 V

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

BCS

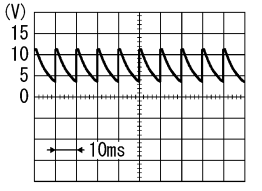
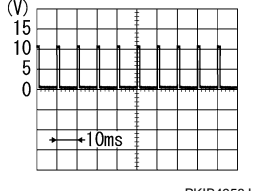
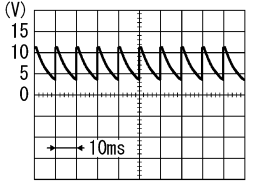
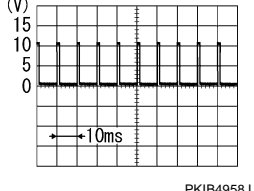
BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
+	-	Signal name	Input/ Output				
25 (LG)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key battery is re- moved	 <p style="text-align: right; font-size: small;">JMKIA6233JP</p>		
				Brake pedal: Released	9 - 16 V		
29 (P)	Ground	Hazard switch	Input	Hazard switch	OFF	9 - 16 V	
				ON	0 - 1.5 V		
30 (L)	Ground	Back door opener switch	Input	Back door opener switch	Pressed	0 V	
				Not pressed	 <p style="text-align: right; font-size: small;">JPMIA0012GB</p>	1.0 - 1.5 V	
31 (W)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sen- sor switch OFF)	 <p style="text-align: right; font-size: small;">PKIB4960J</p>	7.0 - 8.0 V
				UNLOCK status (Unlock sensor switch ON)	0 V		
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switches OFF (Wiper volume dial 4)	 <p style="text-align: right; font-size: small;">PKIB4960J</p>	7.0 - 8.0 V
				Front fog lamp switch ON (Wiper volume dial 4)	 <p style="text-align: right; font-size: small;">PKIB4956J</p>	1.0 V	
				Rear wiper switch ON (Wiper volume dial 4)			
				Any of the condition below with all switches OFF	<ul style="list-style-type: none"> • Wiper volume dial 1 • Wiper volume dial 2 • Wiper volume dial 6 • Wiper volume dial 7 		

BCM

< ECU DIAGNOSIS INFORMATION >

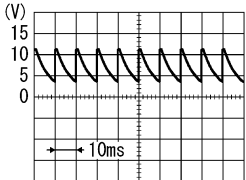
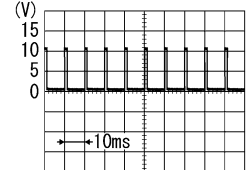
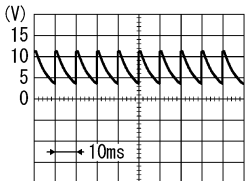
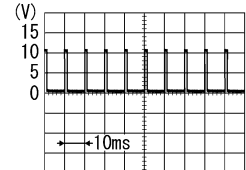
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
33 (Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switches OFF (Wiper volume dial 4)	 <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 1ST (Wiper volume dial 4)	 <p style="text-align: center;">1.2 V</p>
					Lighting switch AUTO (Wiper volume dial 4)	
					Rear wiper switch INT (Wiper volume dial 4)	
Any of the condition below with all switches OFF						
<ul style="list-style-type: none"> • Wiper volume dial 1 • Wiper volume dial 5 • Wiper volume dial 6 						
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switches OFF (Wiper volume dial 4)	 <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND (Wiper volume dial 4)	 <p style="text-align: center;">1.2 V</p>
					Lighting switch HI (Wiper volume dial 4)	
					Rear washer switch ON (Wiper volume dial 4)	
Any of the condition below with all switches OFF						
<ul style="list-style-type: none"> • Wiper volume dial 1 • Wiper volume dial 2 • Wiper volume dial 3 						

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

BCS

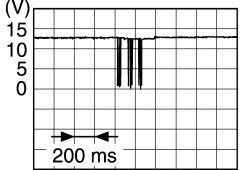
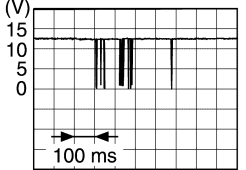
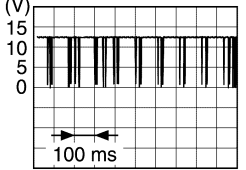
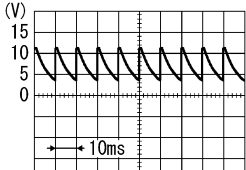
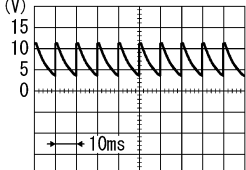
BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
35 (R)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper volume dial 4)	All switches OFF	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch PASS	
					Front wiper switch INT	
Front wiper switch HI						
36 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper volume dial 4)	All switches OFF	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Turn signal switch RH	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Turn signal switch LH	
					Front wiper switch LO	
					Front wiper switch MIST	
Front washer switch ON						
37 (W)	Ground	P position	Input	Shift position	P position	0 - 1.5 V
					Any position other than P	6 - 16 V

BCM

< ECU DIAGNOSIS INFORMATION >

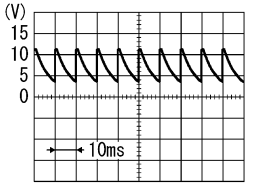
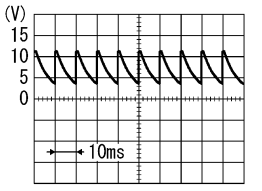
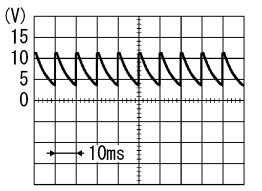
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
38 (SB)	Ground	Receiver communi- cation	Input/ Output	Power switch OFF (Remote keyless entry communication)	Waiting 12 V
				Power switch ON (TPMS communication)	When operating either button on Intelligent Key  JMMIA0572GB
				Power switch ON (TPMS communication)	Waiting  JMMIA0573GB
Power switch ON (TPMS communication)	When receiving signal from tire pressure sensor  JMMIA0574GB				
39 (L)	Ground	CAN-H	Input/ Output	—	—
40 (P)	Ground	CAN-L	Input/ Output	—	—
43 (Y)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)  PKIB4960J 7.0 - 8.0 V
				ON (When back door opened)	0 V
44 (LG)	Ground	Rear wiper stop po- sition	Input	Power switch ON	Rear wiper stop position 9 - 16 V
				Power switch ON	Any position other than rear wiper stop position 0 - 1.5 V
45 (BR)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)  PKIB4960J 7.0 - 8.0 V
				Passenger door switch	ON (When passenger door opened) 0 V

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

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
46 (R)	Ground	Rear RH door switch	Input	Rear RH door switch	 7.0 - 8.0 V
				OFF (When rear RH door closed)	0 V
47 (SB)	Ground	Driver door switch	Input	Driver door switch	 7.0 - 8.0 V
				OFF (When driver door closed)	0 V
48 (W)	Ground	Rear LH door switch	Input	Rear LH door switch	 7.0 - 8.0 V
				OFF (When rear LH door closed)	0 V
49 (L)	Ground	Luggage room lamp	Output	Luggage room lamp	9 - 16 V
				OFF	0 - 1 V
51 (P)	Ground	Back door request switch	Input	Back door request switch	ON (Pressed)
				ON (Pressed)	0 - 1.5 V
53 (GR)	Ground	Back door open	Output	Back door	OFF (Actuator is not activated)
				OFF (Actuator is not activated)	0 V
54 (P)	Ground	Rear wiper	Output	Back door	OPEN (Actuator is activated)
				OPEN (Actuator is activated)	9 - 16 V
55 (GR)	Ground	Rear door UNLOCK	Output	Rear door	OFF (Stopped)
				OFF (Stopped)	0 V
56 (P)	Ground	Interior room lamp power supply	Output	Rear door	ON (Activated)
				ON (Activated)	9 - 16 V
55 (GR)	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)
				UNLOCK (Actuator is activated)	9 - 16 V
56 (P)	Ground	Interior room lamp power supply	Output	Rear door	Other then UNLOCK (Actuator is not activated)
				Other then UNLOCK (Actuator is not activated)	0 V
56 (P)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)	0 V
				Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)	9 - 16 V

BCM

< ECU DIAGNOSIS INFORMATION >

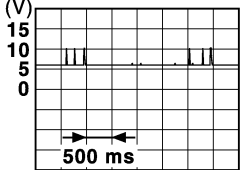
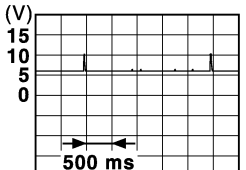
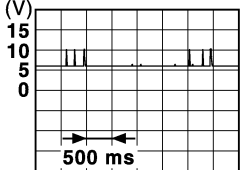
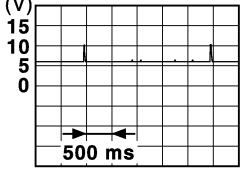
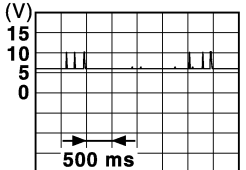
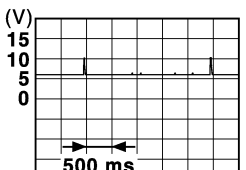
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
57 (P)	Ground	Battery power supply	Input	Power switch OFF		9 - 16 V
59 (LG)	Ground	Passenger door UNLOCK	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
					Other then UNLOCK (Actuator is not activated)	0 V
60 (V)	Ground	Turn signal LH	Output	Power switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	<p style="text-align: center;">6.5 V (Turn signal lamp turn on: 9 - 16 V)</p>
61 (W)	Ground	Turn signal RH	Output	Power switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	<p style="text-align: center;">6.5 V (Turn signal lamp turn on: 9 - 16 V)</p>
63 (BR)	Ground	Interior room lamp control	Output	Interior room lamp	OFF	9 - 16 V
					ON	0 - 1 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	9 - 16 V
					Other then LOCK (Actuator is not activated)	0 V
66 (G)	Ground	Driver door UNLOCK	Output	Driver door	UNLOCK (Actuator is activated)	9 - 16 V
					Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Power switch ON		0 V
68 (L)	Ground	P/W power supply (ON)	Output	Power switch OFF		0 V
				Power switch ON		9 - 16 V
69 (P)	Ground	P/W power supply (BAT)	Output	Power switch OFF		9 - 16 V
70 (Y)	Ground	Battery power supply	Input	Power switch OFF		9 - 16 V
75 (LG)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 - 1.5 V
					OFF (Not pressed)	9 - 16 V
76 (SB)	Ground	Power switch (push switch)	Input	Power switch (push switch)	Pressed	0 - 1.5 V
					Not pressed	9 - 16 V

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

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
78 (P)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with power switch ON	<p>When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)</p>  <p style="text-align: right; font-size: small;">JMKIA5954GB</p>
				When the driver door request switch is operated with power switch ON	<p>When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)</p>  <p style="text-align: right; font-size: small;">JMKIA5955GB</p>
79 (V)	Ground	Driver door antenna (-)	Output	When the driver door request switch is operated with power switch ON	<p>When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)</p>  <p style="text-align: right; font-size: small;">JMKIA5954GB</p>
				When the driver door request switch is operated with power switch ON	<p>When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)</p>  <p style="text-align: right; font-size: small;">JMKIA5955GB</p>
80 (LG)	Ground	Passenger door antenna (+)	Output	When the passenger door request switch is operated with power switch ON	<p>When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)</p>  <p style="text-align: right; font-size: small;">JMKIA5954GB</p>
				When the passenger door request switch is operated with power switch ON	<p>When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)</p>  <p style="text-align: right; font-size: small;">JMKIA5955GB</p>

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
81 (Y)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	<p style="text-align: right; font-size: small;">JMkia5954GB</p>
				When the passenger door request switch is operated with power switch ON	<p style="text-align: right; font-size: small;">JMkia5955GB</p>
82 (W)	Ground	Rear bumper antenna (+)	Output	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	<p style="text-align: right; font-size: small;">JMkia5954GB</p>
				When the back door request switch is operated with power switch ON	<p style="text-align: right; font-size: small;">JMkia5955GB</p>
83 (B)	Ground	Rear bumper antenna (-)	Output	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	<p style="text-align: right; font-size: small;">JMkia5954GB</p>
				When the back door request switch is operated with power switch ON	<p style="text-align: right; font-size: small;">JMkia5955GB</p>

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
84 (BR)	Ground	Room antenna 1 (+) (Instrument center)	Output	Power switch ON	<p style="text-align: right; font-size: small;">JMKIA5951GB</p>
				Power switch ON	<p style="text-align: right; font-size: small;">JMKIA3839GB</p>
85 (Y)	Ground	Room antenna 1 (-) (Instrument center)	Output	Power switch ON	<p style="text-align: right; font-size: small;">JMKIA5951GB</p>
				Power switch ON	<p style="text-align: right; font-size: small;">JMKIA3839GB</p>
86 (G)	Ground	Room antenna 2 (+) (Rear seat)	Output	Power switch ON	<p style="text-align: right; font-size: small;">JMKIA5951GB</p>
				Power switch ON	<p style="text-align: right; font-size: small;">JMKIA3839GB</p>

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
87 (R)	Ground	Room antenna 2 (-) (Rear seat)	Output	Power switch ON	When Intelligent Key is not in the antenna detec- tion area	
					When Intelligent Key is in the antenna detection area	
88 (V)	Ground	Luggage room an- tenna (+)	Output	Power switch ON	When Intelligent Key is not in the antenna detec- tion area	
					When Intelligent Key is in the antenna detection area	
89 (LG)	Ground	Luggage room an- tenna (-)	Output	Power switch ON	When Intelligent Key is not in the antenna detec- tion area	
					When Intelligent Key is in the antenna detection area	
90 (W)	Ground	Power switch illumi- nation power supply	Output	Power switch il- lumination	ON	9 - 16 V
					OFF	0 - 1.5 V

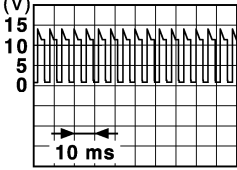
A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

BCM

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
91 (V)	Ground	ACC/ON indicator lamp	Output	Power switch	OFF	9 - 16 V
					ACC or ON	0 - 1.5 V
92 (B)	Ground	Power switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	NOTE: When the illumination brightening/dimming level is in the neutral position  6.0 - 7.0 V
93 (GR)	Ground	Intelligent Key warning buzzer	Output	Intelligent Key warning buzzer	Sounding	0 - 1.5 V
					Not sounding	9 - 16 V
96 (BR)	Ground	Accessory relay control	Output	Power switch	OFF	0 - 0.5 V
					ACC or ON	9 - 16 V
97 (W)	Ground	READY signal	Output	Power switch ON	9 - 16 V	
				Power switch ON → Set the vehicle to READY [Power supply position: READY (CRANK)]	0 - 0.5 V	
98 (G)	Ground	Ignition relay (IPDM E/R) control	Output	Power switch	OFF or ACC	9 - 16 V
					ON	0 - 0.5 V
99 (R)	Ground	Ignition relay (F/B) control	Output	Power switch	OFF or ACC	0 - 0.5 V
					ON	9 - 16 V
100 (P)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 - 1.5 V
					OFF (Not pressed)	9 - 16 V
102 (R)	Ground	P/N position	Input	Shift position	P or N position	9 - 16 V
					Except P and N positions	0 - 1.5 V
104 (LG)	Ground	Wake-up (electric shift)	Output	Power switch ON	9 - 16 V	
105 (P)	Ground	Stop lamp switch 2	Input	Power switch OFF	9 - 16 V	

*: For Canada

Fail-safe

INFOID:000000007632853

FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2193: CHAIN OF BCM-ECM*	Inhibit setting the vehicle to READY	Erase DTC
B2195: ANTI-SCANNING	Inhibit setting the vehicle to READY	Power switch ON → OFF

BCM

< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2196: DONGLE NG	Inhibit setting the vehicle to READY	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit setting the vehicle to READY	Erase DTC
B261E: VEHICLE TYPE	Inhibit setting the vehicle to READY	When the VCM status signal is normally received from VCM.
B26F1: IGN RELAY OFF	Inhibit setting the vehicle to READY	When the following conditions are fulfilled <ul style="list-style-type: none"> Power switch ON signal (CAN: Transmitted from BCM): ON Power switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit setting the vehicle to READY	When the following conditions are fulfilled <ul style="list-style-type: none"> Power switch ON signal (CAN: Transmitted from BCM): OFF Power switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F7: BCM	Inhibit setting the vehicle to READY by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

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

REAR WIPER MOTOR PROTECTION

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

Condition of cancellation

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

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

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

NOTE:

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

DTC Inspection Priority Chart

INFOID:000000007632854

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	<ul style="list-style-type: none"> U1000: CAN COMM U1010: CONTROL UNIT (CAN) U0293: HV C/U CAN COMM
3	<ul style="list-style-type: none"> B2192: ID DISCORD BCM-ECM* B2193: CHAIN OF BCM-ECM* B2195: ANTI-SCANNING B2196: DONGLE NG B2198: NATS ANTENNA AMP

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

BCS

BCM

< ECU DIAGNOSIS INFORMATION >

Priority	DTC
4	<ul style="list-style-type: none"> • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP/CLUTCH SW • B2614: BCM • B2616: BCM • B2617: BCM • B2618: BCM • B261A: PUSH-BTN IGN SW • B261E: VEHICLE TYPE • B26F1: IGN RELAY OFF • B26F2: IGN RELAY ON • B26F6: BCM • B26F7: BCM • B26FC: KEY REGISTRATION • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED
5	<ul style="list-style-type: none"> • C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL
6	<ul style="list-style-type: none"> • B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA
7	<ul style="list-style-type: none"> • B2626: OUTSIDE ANTENNA • B2627: OUTSIDE ANTENNA • B2628: OUTSIDE ANTENNA

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

DTC Index

INFOID:000000007632855

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. For details of Freeze Frame Data, refer to [BCS-15, "COMMON ITEM : CONSULT Function \(BCM - COMMON ITEM\)"](#).

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM	—	—	—	—	BCS-66
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-67

BCM

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	
U0293: HV C/U CAN COMM	—	—	—	—	BCS-68	A
U0415: VEHICLE SPEED	×	—	×	—	BCS-69	B
B2192: ID DISCORD BCM-ECM*	×	—	—	—	SEC-52	C
B2193: CHAIN OF BCM-ECM*	×	—	—	—	SEC-53	
B2195: ANTI-SCANNING	×	—	—	—	SEC-54	D
B2196: DONGLE NG	×	—	—	—	SEC-55	
B2198: NATS ANTENNA AMP	×	—	—	—	SEC-57	E
B2555: STOP LAMP	—	×	×	—	SEC-60	
B2556: PUSH-BTN IGN SW	—	×	×	—	SEC-63	
B2557: VEHICLE SPEED	×	×	×	—	SEC-65	F
B2562: LOW VOLTAGE	—	×	—	—	BCS-70	
B2601: SHIFT POSITION	×	×	×	—	SEC-66	G
B2602: SHIFT POSITION	×	×	×	—	SEC-68	
B2603: SHIFT POSI STATUS	×	×	×	—	SEC-70	H
B2604: PNP/CLUTCH SW	×	×	×	—	SEC-72	
B2614: BCM	—	×	×	—	PCS-48	I
B2616: BCM	—	×	×	—	PCS-50	
B2617: BCM	—	×	×	—	SEC-74	J
B2618: BCM	—	×	×	—	PCS-52	
B2619: BCM	—	×	×	—	SEC-76	K
B261A: PUSH-BTN IGN SW	—	×	×	—	PCS-54	
B261E: VEHICLE TYPE	—	×	×	—	SEC-79	L
B2621: INSIDE ANTENNA	—	×	—	—	DLK-55	
B2622: INSIDE ANTENNA	—	×	—	—	DLK-57	
B2623: INSIDE ANTENNA	—	×	—	—	DLK-59	
B2626: OUTSIDE ANTENNA	—	×	—	—	DLK-61	
B2627: OUTSIDE ANTENNA	—	×	—	—	DLK-63	
B2628: OUTSIDE ANTENNA	—	×	—	—	DLK-65	BCS
B26F1: IGN RELAY OFF	×	×	×	—	PCS-56	
B26F2: IGN RELAY ON	×	×	×	—	PCS-57	
B26F6: BCM	—	×	×	—	PCS-59	N
B26F7: BCM	×	×	×	—	SEC-80	
B26FC: KEY REGISTRATION	—	×	×	—	SEC-81	O
C1704: LOW PRESSURE FL	—	—	—	×	WT-24	
C1705: LOW PRESSURE FR	—	—	—	×		
C1706: LOW PRESSURE RR	—	—	—	×		P
C1707: LOW PRESSURE RL	—	—	—	×		
C1708: [NO DATA] FL	—	—	—	×	WT-26	
C1709: [NO DATA] FR	—	—	—	×		
C1710: [NO DATA] RR	—	—	—	×		
C1711: [NO DATA] RL	—	—	—	×		

BCM

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-28
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-30


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

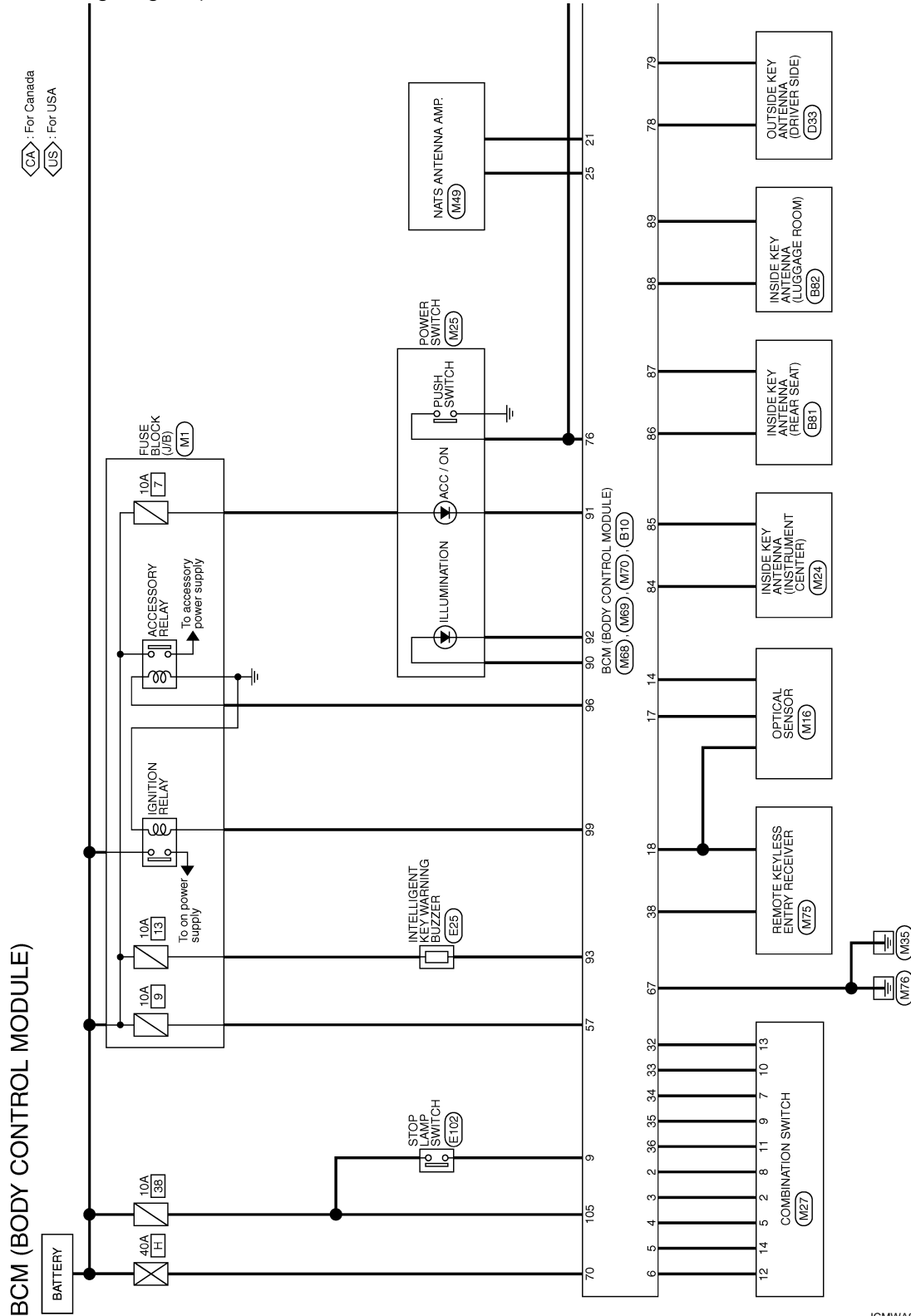
WIRING DIAGRAM

BCM

Wiring Diagram

INFOID:000000007632856

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).

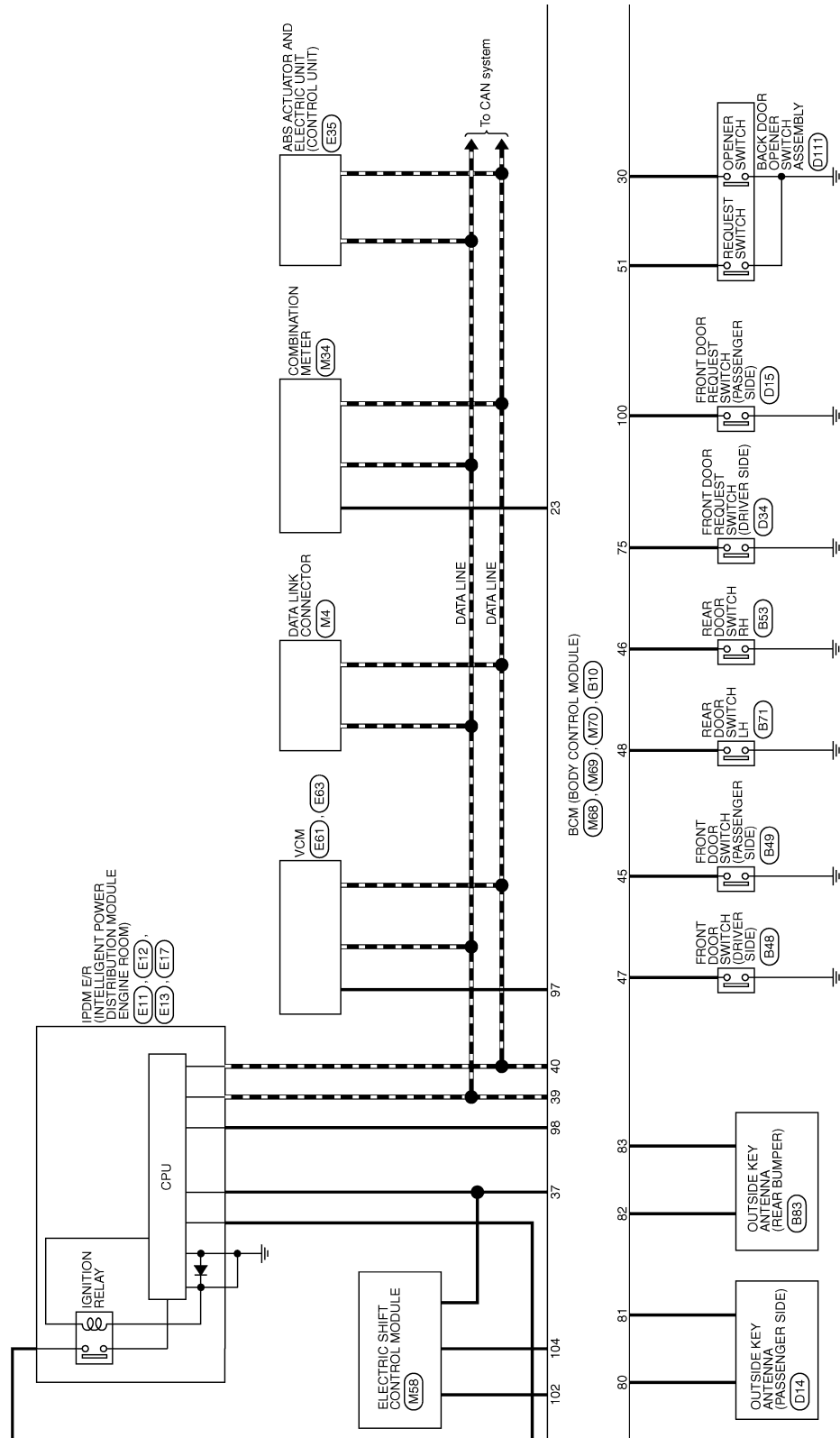


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

BCS

BCM

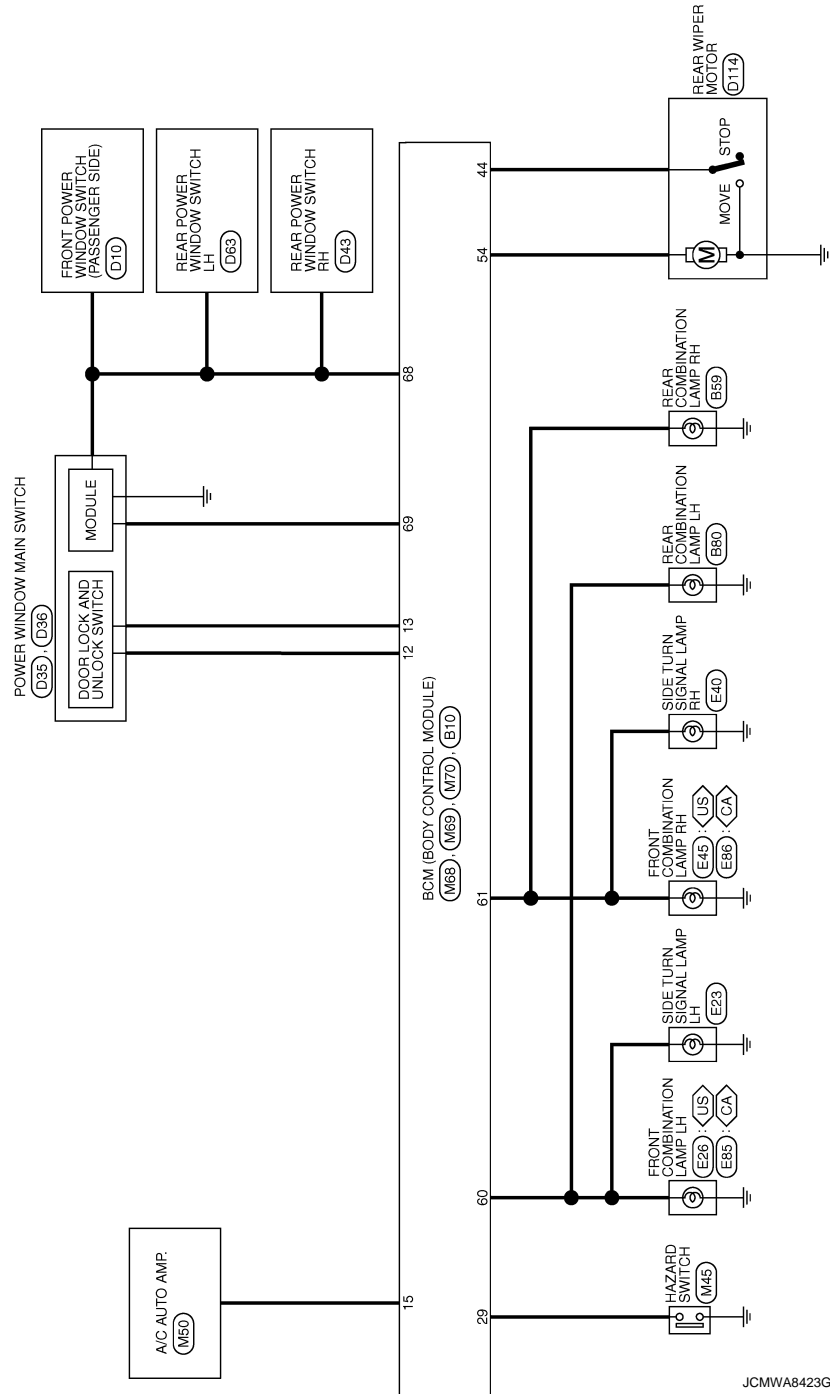
< WIRING DIAGRAM >



JCMWA8421GB

BCM

< WIRING DIAGRAM >



JCMWA8423GB

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:000000007632857

BEFORE REPLACEMENT

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

NOTE:

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

AFTER REPLACEMENT

CAUTION:

When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, BCM control function does not operate normally.

- Complete the procedure of "WRITE CONFIGURATION" in order.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.

NOTE:

When replacing BCM, perform the system initialization (NATS) (if equipped).

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

INFOID:000000007632858

1. SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-64, "CONFIGURATION \(BCM\) : Description"](#).

NOTE:

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

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to [BCS-77, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [BCS-64, "CONFIGURATION \(BCM\) : Work Procedure"](#).

>> GO TO 4.

4. INITIALIZE BCM (NATS) (IF EQUIPPED)

Perform BCM initialization. (NATS)

>> WORK END

CONFIGURATION (BCM)

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

CONFIGURATION (BCM) : Description

INFOID:000000007632859

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

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none">• Reads the vehicle configuration of current BCM.• Saves the read vehicle configuration.
WRITE CONFIGURATION - Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION - Config file	Writes the vehicle configuration with saved data.

NOTE:

Manual setting item: Items which need selection by vehicle specifications

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

For some models and specifications, the automatic setting item may not be displayed.

CAUTION:

When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, BCM control function does not operate normally.

- Complete the procedure of "WRITE CONFIGURATION" in order.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "WRITE CONFIGURATION" except for new BCM.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.

CONFIGURATION (BCM) : Work Procedure

INFOID:000000007632860

1. WRITING MODE SELECTION

ⓐCONSULT Configuration

Select "CONFIGURATION" of BCM.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM "WRITE CONFIGURATION - CONFIG FILE"

ⓐCONSULT Configuration

Perform "WRITE CONFIGURATION - Config file".

>> WORK END

3. PERFORM "WRITE CONFIGURATION - MANUAL SELECTION"

ⓐCONSULT Configuration

1. Select "WRITE CONFIGURATION - Manual selection".
2. Identify the correct model and configuration list. Refer to [BCS-65. "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.

NOTE:

If items are not displayed, touch "SETTING". Refer to [BCS-65. "CONFIGURATION \(BCM\) : Configuration list"](#) for written items and setting value.

4. Select "SETTING".

CAUTION:

Make sure to select "SETTING" even if the indicated configuration of brand new BCM is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.

5. When "COMMAND FINISHED", select "END".

>> GO TO 4.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

4. OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> WORK END

CONFIGURATION (BCM) : Configuration list

INFOID:000000007632861

CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

SETTING ITEM		NOTE
Items	Setting value	
AUTO LIGHT	WITH ⇔ WITHOUT	—
THEFT ALM AREA	MODE2	—

⇔: Items which confirm vehicle specifications

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

U1000 CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM

Description

INFOID:000000007632862

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

CAN Communication Signal Chart. Refer to [LAN-33, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000007632863

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U1000	CAN COMM	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:000000007632864

1. PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

- YES >> Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-51, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000007632865

DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT (CAN)	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:000000007632866

1. REPLACE BCM

When DTC "U1010" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-77. "Removal and Installation"](#).

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

U0293 HV C/U CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

U0293 HV C/U CAN COMM

DTC Logic

INFOID:000000007632867

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
U0293	HV C/U CAN COMM	When the VCM status signal received from the VCM remains abnormal for 2 seconds or more.	<ul style="list-style-type: none">• BCM• VCM

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

1. Erase the DTC.
2. Turn power switch OFF.
3. Perform the "Self Diagnostic Result" of BCM with CONSULT, when passed 2 seconds or more after the power switch is turned ON.

Is any DTC detected?

- YES >> Refer to [BCS-68. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007632868

1. VCM SELF-DIAG RESULTS

Perform "Self-Diagnostic Result" of VCM with CONSULT. Refer to [EVC-84. "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning part.
NO >> Replace BCM. Refer to [BCS-77. "Removal and Installation"](#).

U0415 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

U0415 VEHICLE SPEED

Description

INFOID:000000007632869

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

DTC Logic

INFOID:000000007632870

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Probable cause
U0415	VEHICLE SPEED	When the vehicle speed signal received from the ABS actuator and electric unit (control unit) remains abnormal for 2 seconds or more.	<ul style="list-style-type: none">• ABS actuator and electric unit (control unit)• BCM

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

1. Erase the DTC.
2. Turn power switch OFF.
3. Perform the "Self Diagnostic Result" of BCM with CONSULT, when passed 2 seconds or more after the power switch is turned ON.

Is any DTC detected?

- YES >> Refer to [BCS-69, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007632871

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

Perform "Self-Diagnostic Result" of ABS actuator and electric unit (control unit) with CONSULT. Refer to [BRC-50, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning part.
NO >> Replace BCM. Refer to [BCS-77, "Removal and Installation"](#).

A
B
C
D
E
F
G
H
I
J
K
L

BCS

N
O
P

B2562 LOW VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

B2562 LOW VOLTAGE

DTC Logic

INFOID:000000007632872

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible cause
B2562	LOW VOLTAGE	When the power supply voltage to BCM remains less than 8.8 V for 120 seconds or more	Harness or connector (power supply circuit)

DTC CONFIRMATION PROCEDURE

1. DTC CONFIRMATION

1. Erase DTC.
2. Turn power switch OFF.
3. Perform the "Self Diagnostic Result" of BCM with CONSULT, when passed 120 seconds or more after the power switch is turned ON.

Is any DTC detected?

- YES >> Refer to [BCS-70, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007632873

1. CHECK POWER SUPPLY CIRCUIT

Check BCM power supply circuit. Refer to [BCS-71, "Diagnosis Procedure"](#).

Is the circuit normal?

- YES >> Replace BCM. Refer to [BCS-77, "Removal and Installation"](#).
NO >> Repair the malfunctioning part.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000007632874

1.CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Battery power supply	H
	9

Is the fuse fusing?

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

2.CHECK POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Ground
Connector	Terminal	
M69	70	
	57	
		9 -16 V

Is the measurement value normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M69	67		Existed

Does continuity exist?

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

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

BCS

COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

INFOID:000000007632875

1. CHECK OUTPUT 1 - 5 CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
OUTPUT 1	M68	36	M27	11	Existed
OUTPUT 2		35		9	
OUTPUT 3		34		7	
OUTPUT 4		33		10	
OUTPUT 5		32		13	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair harnesses or connectors.

2. CHECK OUTPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
OUTPUT 1	M68	36	Ground	Not existed
OUTPUT 2		35		
OUTPUT 3		34		
OUTPUT 4		33		
OUTPUT 5		32		

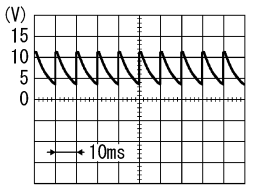
Does continuity exist?

YES >> Repair harnesses or connectors.

NO >> GO TO 3.

3. CHECK BCM OUTPUT VOLTAGE

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

System	Terminals		Ground	Voltage (Approx.)	
	(+)				(-)
	BCM				
	Connector	Terminal			
OUTPUT 1	M68	36	Ground	 <p>PKIB4960J 7.0 - 8.0 V</p>	
OUTPUT 2		35			
OUTPUT 3		34			
OUTPUT 4		33			
OUTPUT 5		32			

Is the measurement value normal?

COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace combination switch.

NO >> Replace BCM. Refer to [BCS-77, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

INFOID:000000007632876

1. CHECK INPUT 1 - 5 CIRCUIT FOR OPEN

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

System	BCM		Combination switch		Continuity
	Connector	Terminal	Connector	Terminal	
INPUT 1	M68	6	M27	12	Existed
INPUT 2		5		14	
INPUT 3		4		5	
INPUT 4		3		2	
INPUT 5		2		8	

Does continuity exist?

YES >> GO TO 2.

NO >> Repair harnesses or connectors.

2. CHECK INPUT 1 - 5 CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

System	BCM		Ground	Continuity
	Connector	Terminal		
INPUT 1	M68	6	Ground	Not existed
INPUT 2		5		
INPUT 3		4		
INPUT 4		3		
INPUT 5		2		

Does continuity exist?

YES >> Repair harnesses 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 malfunction.
3. Check voltage between BCM harness connector and ground.

System	Terminals		Voltage (Approx.)
	(+)	(-)	
	BCM		
	Connector	Terminal	
INPUT 1	M68	6	Ground
INPUT 2		5	
INPUT 3		4	
INPUT 4		3	
INPUT 5		2	

Is the measurement value normal?

Yes >> Replace BCM. Refer to [BCS-77. "Removal and Installation"](#).

COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

No >> Replace combination switch.

A

B

C

D

E

F

G

H

I

J

K

L

BCS

N

O

P

COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

INFOID:000000007632877

1. Perform "Data Monitor" of CONSULT to check for any malfunctioning item.
2. Check the malfunction combinations.

Malfunction item: ×

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

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 OUTPUT 1 circuit	Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to BCS-72, "Diagnosis Procedure" .
B	Combination switch OUTPUT 2 circuit	
C	Combination switch OUTPUT 3 circuit	
D	Combination switch OUTPUT 4 circuit	
E	Combination switch OUTPUT 5 circuit	
F	Combination switch INPUT 1 circuit	Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-74, "Diagnosis Procedure" .
G	Combination switch INPUT 2 circuit	
H	Combination switch INPUT 3 circuit	
I	Combination switch INPUT 4 circuit	
J	Combination switch INPUT 5 circuit	
K	BCM	Replace BCM. Refer to BCS-77, "Removal and Installation" .
L	Combination switch	Replace combination switch.

REMOVAL AND INSTALLATION

BCM

Removal and Installation

INFOID:000000007632878

NOTE:

Before replacing BCM, perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-63. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).

REMOVAL

1. Disconnect the 12V battery cable from the negative terminal. Refer to [BCS-4. "Precautions for Removing Battery Terminal"](#).
2. Remove instrument lower panel. Refer to [IP-14. "Removal and Installation"](#).
3. Remove fuse block (J/B).
4. Remove harness clip.
5. Remove BCM mounting screws.
6. Remove BCM and disconnect the connectors.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform "WRITE CONFIGURATION" when replacing BCM. Op not doing so, BCM control function does not operate normally.

NOTE:

Be sure to perform the system initialization (NATS) when replacing BCM. Refer to [BCS-63. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).

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

BCS

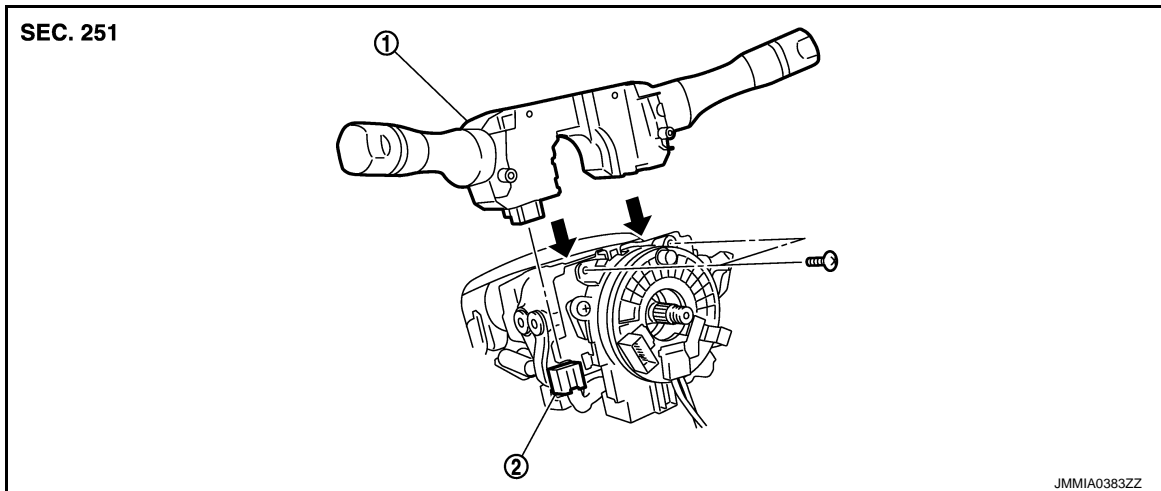
COMBINATION SWITCH

< REMOVAL AND INSTALLATION >

COMBINATION SWITCH

Exploded View

INFOID:000000007632879



1. Combination switch

2. Combination switch connector

Removal and Installation

INFOID:000000007632880

REMOVAL

1. Disconnect the 12V battery cable from the negative terminal. Refer to [BCS-4, "Precautions for Removing Battery Terminal"](#).
2. Remove steering column cover. Refer to [IP-14, "Removal and Installation"](#).
3. Remove screws.
4. Disconnect the connector.
5. Pull up the combination switch to remove it.

INSTALLATION

Install in the reverse order of removal.