

SECTION **BCS**

BODY CONTROL SYSTEM

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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:000000007322288

BEFORE REPLACEMENT

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

NOTE:

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

AFTER REPLACEMENT

CAUTION:

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

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

INFOID:000000007322289

1. SAVING VEHICLE SPECIFICATION

CONSULT

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

NOTE:

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

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to [BCS-49. "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to [BCS-4. "CONFIGURATION \(BCM\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [BCS-4. "CONFIGURATION \(BCM\) : Work Procedure"](#).

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

CONFIGURATION (BCM)

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

CONFIGURATION (BCM) : Description

INFOID:000000007322290

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

| Function | Description |
|--------------------------|---|
| "Before Replace ECU" | <ul style="list-style-type: none">• Reads the vehicle configuration of current BCM.• Saves the read vehicle configuration. |
| "After Replace ECU" | Writes the vehicle configuration with manual selection. |
| "Select Saved Data List" | Writes the vehicle configuration with saved data. |

CAUTION:

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

CONFIGURATION (BCM) : Work Procedure

INFOID:000000007322291

1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of BCM.

When writing saved data >> GO TO 2.

When writing manually >> GO TO 3.

2. PERFORM "SAVED DATA LIST"

CONSULT

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

>> Work End.

3. PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

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

>> GO TO 4.

4. OPERATION CHECK

Confirm that each function controlled by BCM operates normally.

>> Work End.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

CONFIGURATION (BCM) : Configuration List

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CAUTION:

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

| MANUAL SETTING ITEM | |
|-------------------------|----------------|
| Items | Setting value |
| KEYLESS ENTRY | WITH ⇔ WITHOUT |
| I-KEY | WITH ⇔ WITHOUT |
| AUTO LIGHT | WITH ⇔ WITHOUT |
| DTRL | WITH ⇔ WITHOUT |
| THEFT ALARM | WITH ⇔ WITHOUT |
| AUTO DOOR UNLOCK TIMING | A/T ⇔ M/T |

⇔: Items which confirm vehicle specifications

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BODY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

BODY CONTROL SYSTEM

System Description

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OUTLINE

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

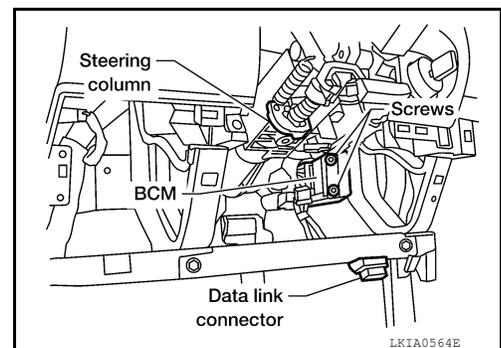
BCM control function list

| System | Refer to |
|---|--|
| Combination switch reading system | BCS-7. "System Diagram" |
| Signal buffer system | BCS-11. "System Diagram" |
| Power consumption control system | BCS-12. "System Diagram" |
| Auto light system | EXL-12. "System Diagram" |
| Turn signal and hazard warning lamp system | EXL-16. "System Diagram" |
| Headlamp system | EXL-7. "System Diagram" |
| Front fog lamp system (if equipped) | EXL-14. "System Diagram" |
| Daytime running light system (Canada only) | EXL-9. "System Diagram" |
| Interior room lamp control system | INL-6. "System Diagram" |
| Interior room lamp battery saver system | INL-6. "System Description" |
| Front wiper and washer system | WW-4. "System Diagram" |
| Warning chime system | WCS-4. "WARNING CHIME SYSTEM : System Diagram" |
| Door lock system (if equipped) | DLK-12. "DOOR LOCK AND UNLOCK SWITCH : System Diagram" |
| (NATS) Nissan anti-theft system (if equipped) | SEC-8. "System Diagram" |
| Vehicle security system (if equipped) | SEC-11. "System Diagram" |
| Remote keyless entry system (if equipped) | DLK-14. "REMOTE KEYLESS ENTRY : System Diagram" |
| Power window system (if equipped) | PWC-4. "System Diagram" |
| RAP (retained accessory power) system | PWC-4. "System Description" |
| TPMS (tire pressure monitoring system) | WT-8. "System Diagram" |

Component Parts Location

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- BCM M18, M19, M20 (view with lower instrument panel LH removed)

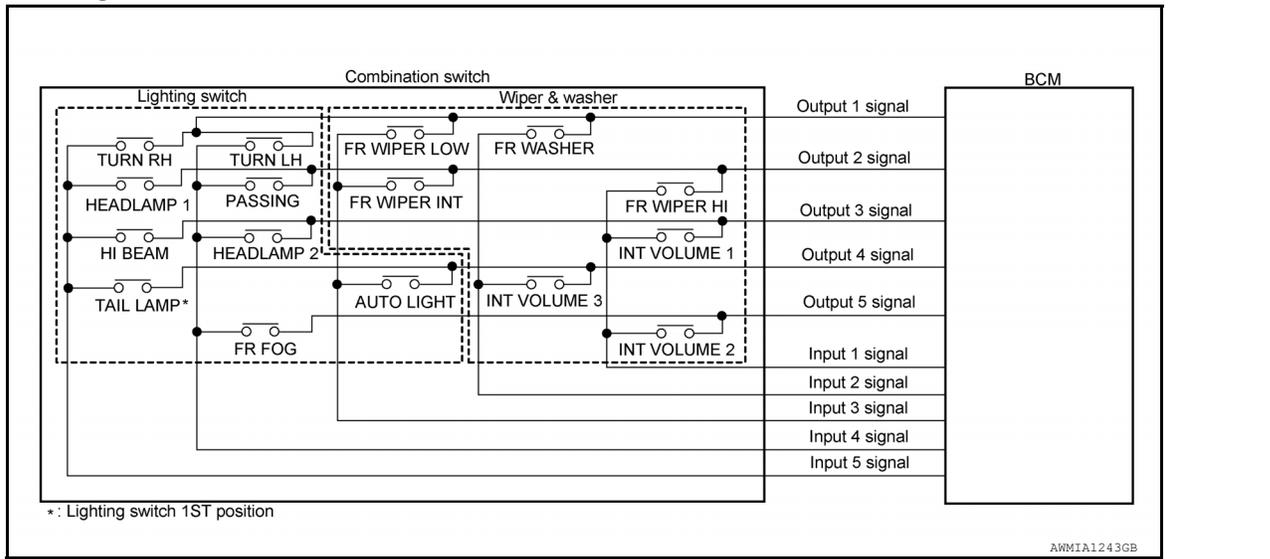


COMBINATION SWITCH READING SYSTEM

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COMBINATION SWITCH READING SYSTEM

System Diagram



System Description

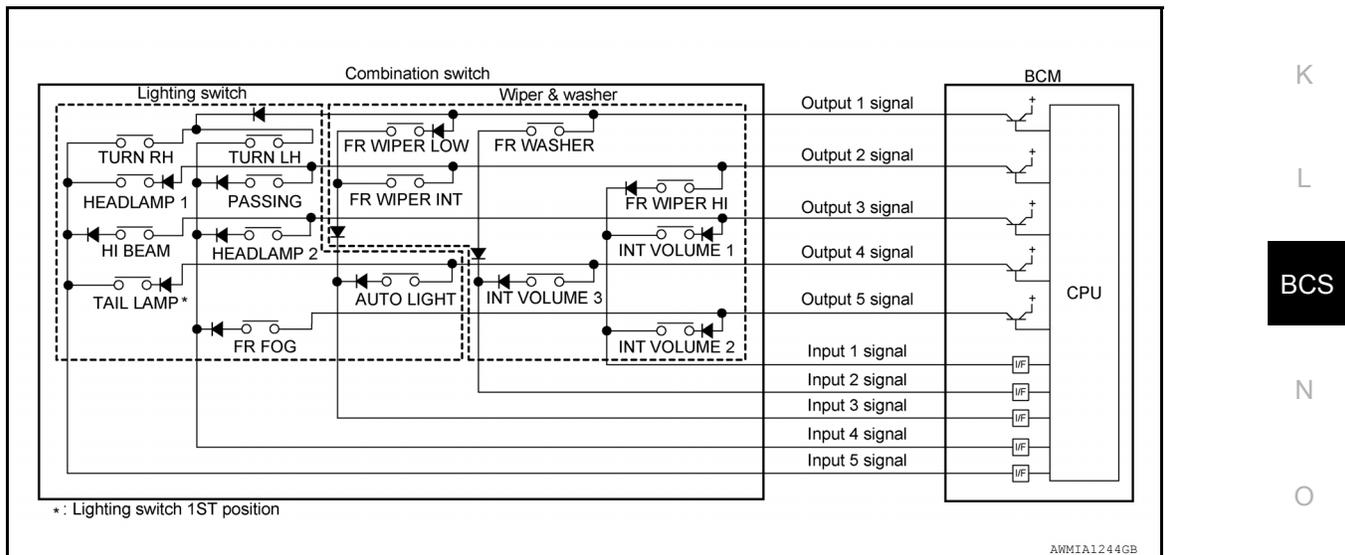
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OUTLINE

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

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPUT-OUTPUT system list

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

COMBINATION SWITCH READING SYSTEM

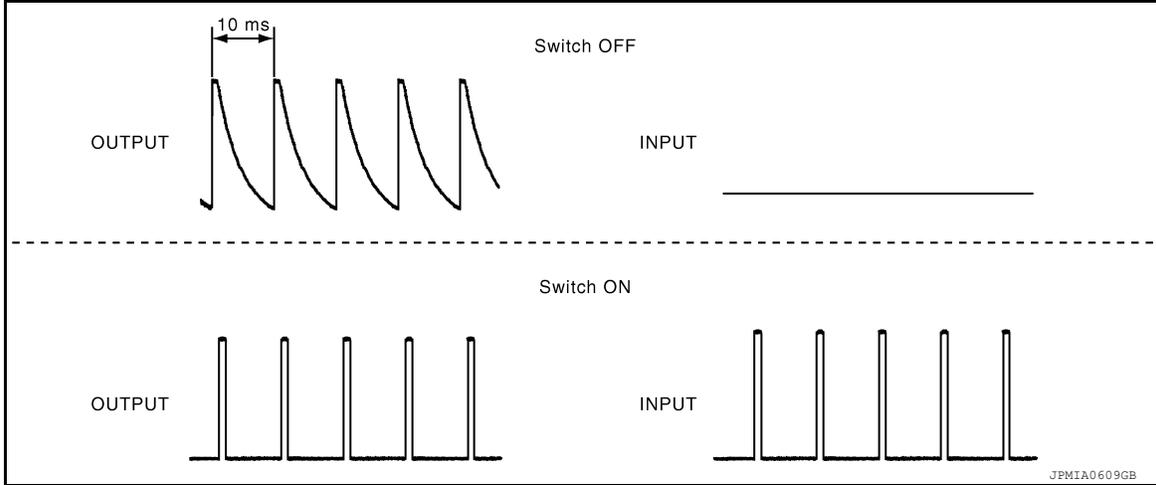
< SYSTEM DESCRIPTION >

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

COMBINATION SWITCH READING FUNCTION

Description

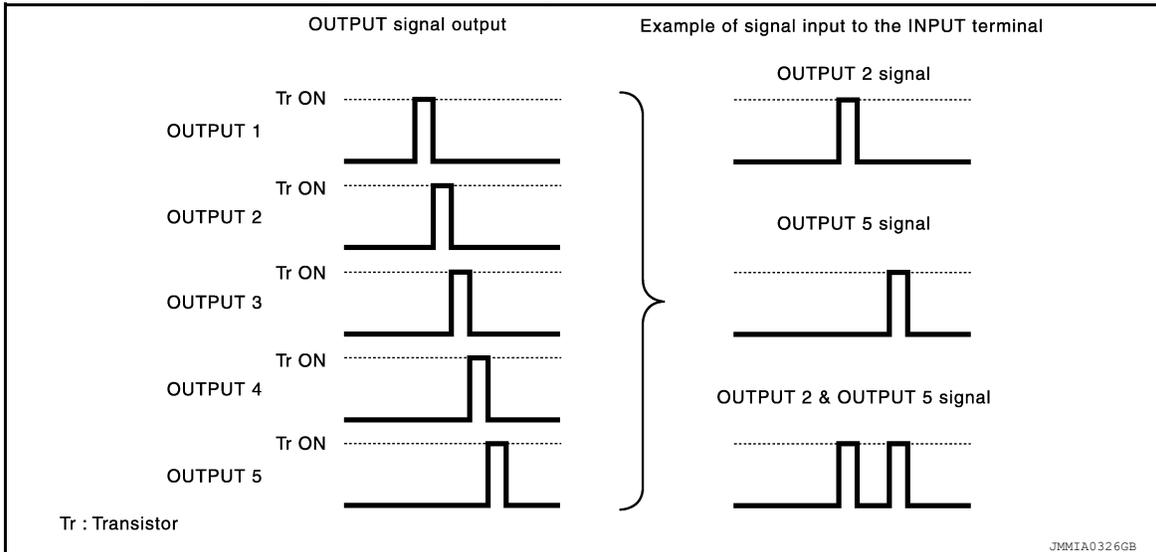
- BCM reads the status of the combination switch at 10 ms intervals normally.



NOTE:

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

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



Operation Example

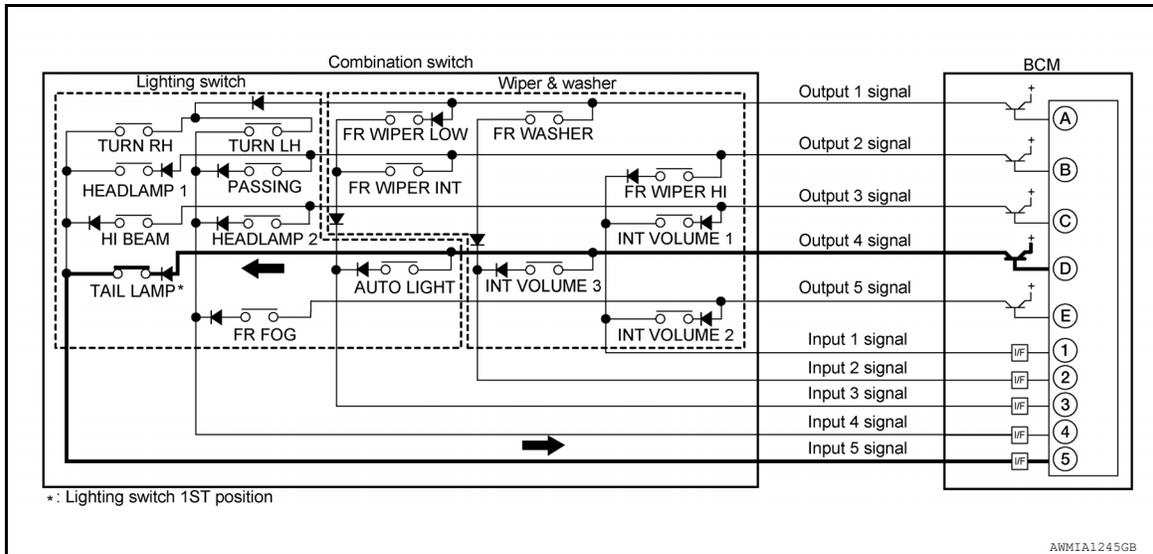
In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

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

COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

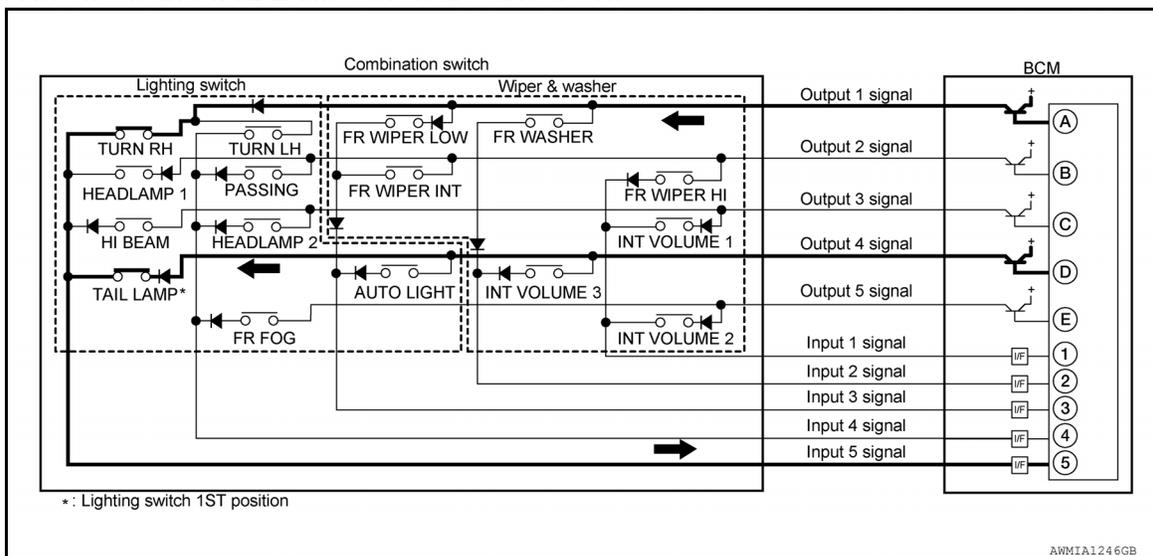
- The circuit between OUTPUT 4 and INPUT 5 is formed when the TAIL LAMP switch is turned ON.



- 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, TAIL LAMP) are turned ON

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



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

WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION)

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

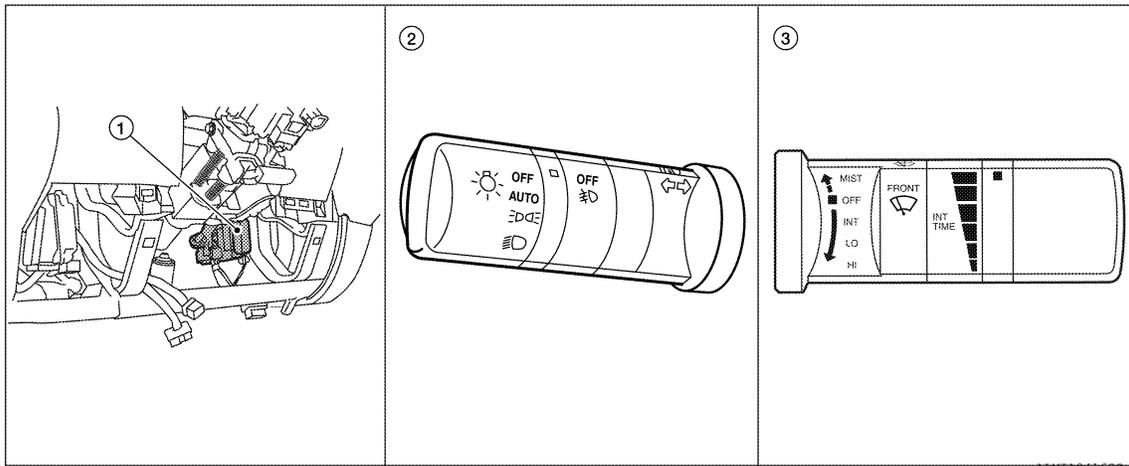
COMBINATION SWITCH READING SYSTEM

< SYSTEM DESCRIPTION >

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

Component Parts Location

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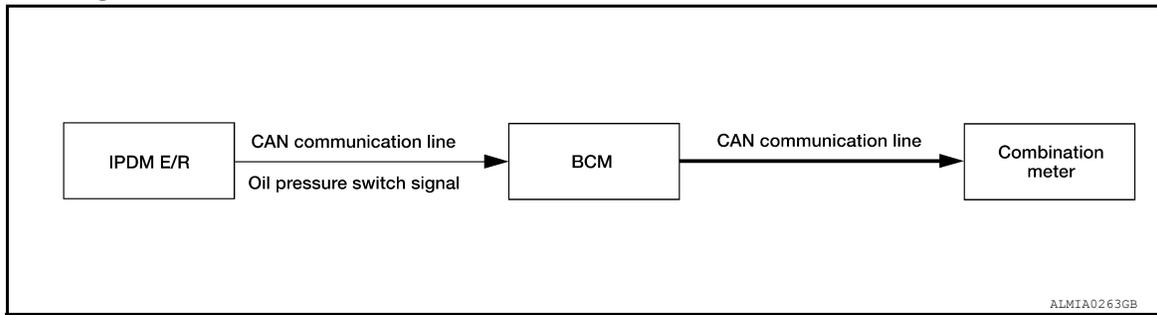
1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Combination switch (lighting and turn signal switch) M28
3. Combination switch (wiper and washer switch) M28

SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

SIGNAL BUFFER SYSTEM

System Diagram



System Description

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OUTLINE

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

Signal transmission function list

| Signal name | Input | Output | Description |
|----------------------------|----------------|-------------------------|--|
| Oil pressure switch signal | IPDM E/R (CAN) | Combination meter (CAN) | Transmits the received oil pressure switch signal via CAN communication. |

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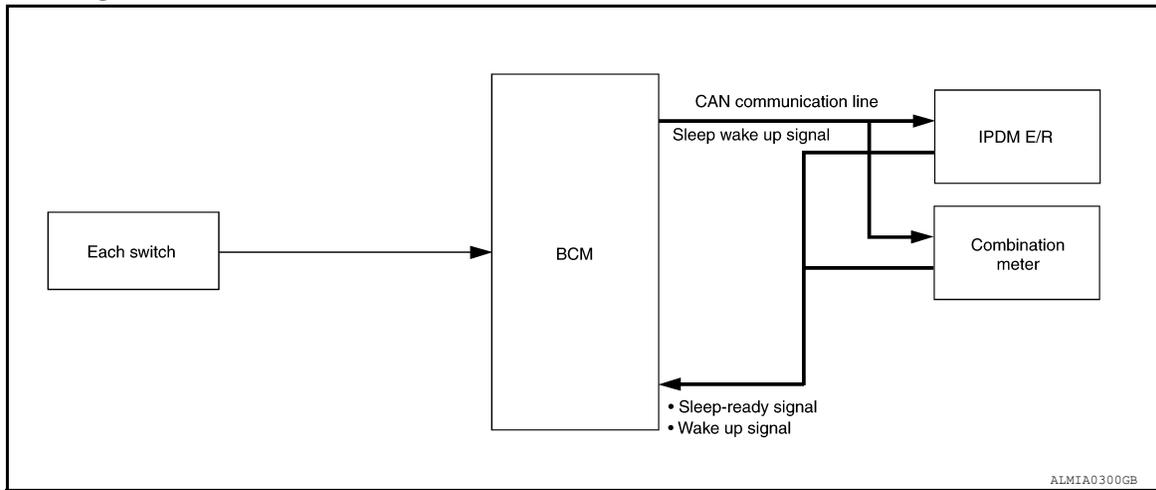
BCS

POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

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OUTLINE

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

Normal mode (wake-up)

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

CAN communication sleep mode (CAN sleep)

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

Low power consumption mode (BCM sleep)

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

LOW POWER CONSUMPTION CONTROL WITH BCM

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

- The reading interval of the each switches changes from 10 ms interval to 20 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.

POWER CONSUMPTION CONTROL 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 • Ignition switch: OFF • Vehicle security system alarm: No operation • Warning lamp: No operation • Warning chime: No operation • Stop lamp switch: OFF • Key switch status: No change for 2 seconds • Hazard warning lamp: No operation • Exterior lamp: OFF • Door lock status: No change for 2 seconds • CONSULT communication status: No communication • Door switch status: No change for 2 seconds | <p>The controls only BCM are completed. (Interior room lamp battery saver: Time out etc.)</p> |

Wake-up operation

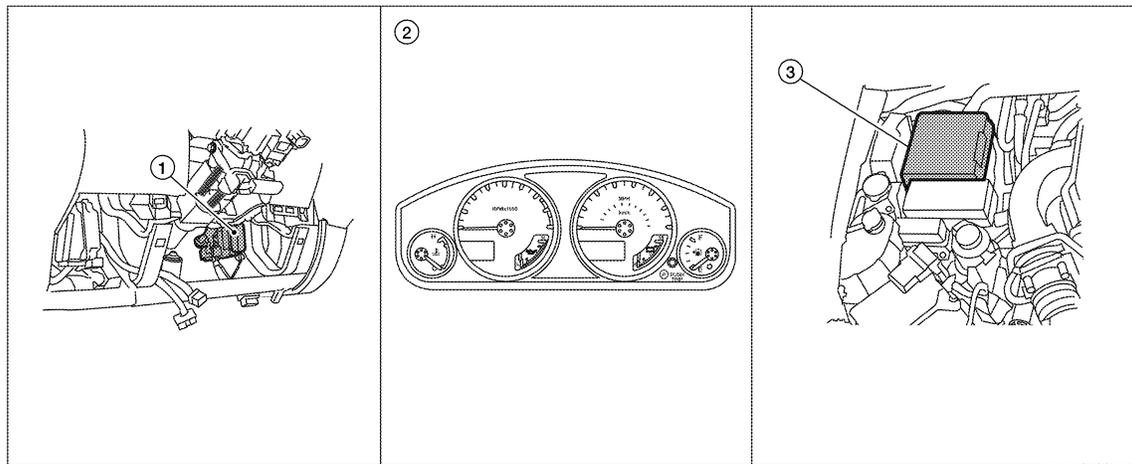
- BCM transmits sleep wake up signal (wake up) to each unit when any condition listed below is established, and then goes into normal mode from low power consumption mode.
- Each unit starts transmissions with CAN communication by receiving sleep wake up signals. Each unit transmits wake up signals to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

Wake-up condition

| BCM wake-up condition |
|--|
| <ul style="list-style-type: none"> • Ignition switch: OFF → ACC or ON • Stop lamp switch: ON (Depress brake pedal) • Any door switch: OFF → ON • Lighting switch: OFF → 1ST or PASS • Hazard switch: OFF → ON • Remote keyless entry receiver: Receiving (with remote keyless entry) |

Component Parts Location

INFOID:000000007322301



1. BCM M18, M19, M20 (view with lower instrument panel LH removed)
2. Combination meter M24
3. IPDM E/R

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007322302

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Direct Diagnostic Mode | Description |
|------------------------|--|
| Ecu Identification | The BCM part number is displayed. |
| Self Diagnostic Result | The BCM self diagnostic results are displayed. |
| Data Monitor | The BCM input/output data is displayed in real time. |
| Active Test | The BCM activates outputs to test components. |
| Work support | The settings for BCM functions can be changed. |
| Configuration | <ul style="list-style-type: none"> • The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM. |
| CAN Diag Support Mntr | The result of transmit/receive diagnosis of CAN communication is displayed. |

SYSTEM APPLICATION

BCM can perform the following functions.

| System | Sub System | Direct Diagnostic Mode | | | | | | |
|--------------------------------------|----------------------|------------------------|------------------------|--------------|-------------|--------------|---------------|-----------------------|
| | | Ecu Identification | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr |
| Door lock | DOOR LOCK | | | x | x | x | | |
| Rear window defogger | REAR DEFOGGER | | | x | x | | | |
| Warning chime | BUZZER | | | x | x | | | |
| Interior room lamp timer | INT LAMP | | | x | x | x | | |
| Remote keyless entry system | MULTI REMOTE ENT | | | x | x | x | | |
| Exterior lamp | HEAD LAMP | | | x | x | x | | |
| Wiper and washer | WIPER | | | x | x | x | | |
| Turn signal and hazard warning lamps | FLASHER | | | x | x | | | |
| Air conditioner | AIR CONDITIONER | | | x | | | | |
| Combination switch | COMB SW | | | x | | | | |
| BCM | BCM | x | x | | | x | x | x |
| Immobilizer | IMMU | | x | x | x | | | |
| Interior room lamp battery saver | BATTERY SAVER | | | x | x | x | | |
| Vehicle security system | THEFT ALM | | | x | x | x | | |
| RAP system | RETAINED PWR | | | x | x | x | | |
| Signal buffer system | SIGNAL BUFFER | | | x | x | | | |
| TPMS | AIR PRESSURE MONITOR | | x | x | x | x | | |
| Panic alarm system | PANIC ALARM | | | | x | | | |

DOOR LOCK

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)

INFOID:000000007322303

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

| Support Item | Setting | Description |
|------------------------------|----------------|--|
| DOOR LOCK-UNLOCK SET | On* | Automatic door locks function ON. |
| | Off | Automatic door locks function OFF. |
| ANTI-LOCK OUT SET | Off | Anti lock out function OFF. |
| | On* | Anti lock out function ON. |
| AUTOMATIC DOOR LOCK SELECT | SHIFT OUT OF P | Doors lock automatically when shifted out of park (P). |
| | VH SPD* | Doors lock automatically when vehicle speed reaches 24 km/h (15 mph). |
| AUTOMATIC DOOR UNLOCK SELECT | MODE6 | Drivers door unlocks automatically when key is removed. |
| | MODE5 | Drivers door unlocks automatically when shifted into park (P). |
| | MODE4 | Drivers door unlocks automatically when ignition is switched from ON to OFF. |
| | MODE3 | Doors unlock automatically when key is removed. |
| | MODE2* | Doors unlock automatically when shifted into park (P). |
| AUTOMATIC LOCK/UNLOCK SELECT | On | Automatic lock/unlock function ON. |
| | Off* | Automatic lock/unlock function OFF. |

* : Initial setting

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

INFOID:000000007322304

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

ACTIVE TEST

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

BUZZER

BUZZER : CONSULT Function (BCM - BUZZER)

INFOID:000000007322305

DATA MONITOR

| Monitor Item [Unit] | Description |
|-----------------------|---|
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| IGN ON SW [On/Off] | Indicates condition of ignition switch ON position. |
| KEY ON SW [On/Off] | Indicates condition of key switch. |
| LIGHT SW 1ST [On/Off] | Indicates condition of combination switch. |
| BUCKLE SW [On/Off] | Indicates condition of seat belt buckle switch. |

ACTIVE TEST

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

INT LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:000000007322306

DATA MONITOR

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

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Test Item | Description |
|-----------|--|
| IGN ILLUM | This test is able to check ignition keyhole illumination operation [Off/On]. |
| INT LAMP | This test is able to check interior room lamp operation [Off/On]. |

WORK SUPPORT

| Support Item | Setting | Description |
|------------------------|---------|--|
| SET I/L D-UNLCK INTCON | Off | Interior room lamp timer function OFF. |
| | On* | Interior room lamp timer function ON. |
| ROOM LAMP ON TIME SET | MODE7 | 0 sec. |
| | MODE6 | 5 sec. |
| | MODE5 | 4 sec. |
| | MODE4 | 3 sec. |
| | MODE3 | 2 sec. |
| | MODE2* | 1 sec. |
| | MODE1 | 0.5 sec. |
| ROOM LAMP OFF TIME SET | MODE7 | 0 sec. |
| | MODE6 | 5 sec. |
| | MODE5 | 4 sec. |
| | MODE4 | 3 sec. |
| | MODE3 | 2 sec. |
| | MODE2* | 1 sec. |
| | MODE1 | 0.5 sec. |

* : Initial setting

MULTI REMOTE ENT

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

INFOID:000000007322307

DATA MONITOR

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

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Test Item | Description |
|-----------|---|
| DOOR LOCK | This test is able to check door lock operation [OTR ULK/DR UNLK/ALL ULK/ALL LCK]. |
| FLASHER | This test is able to check hazard reminder operation [Off/LH/RH]. |
| HORN | This test is able to check horn operation [On]. |

WORK SUPPORT

| Support Item | Setting | Description | |
|-----------------------|---------|--|--|
| HORN CHIRP SET | Off | Horn chirp function can be changed in this mode. | |
| | On* | | |
| HAZARD LAMP SET | MODE4* | Lock and Unlock | Hazard warning lamp function can be changed in this mode. |
| | MODE3 | Lock Only | |
| | MODE2 | Unlock Only | |
| | MODE1 | OFF | |
| MULTI ANSWER BACK SET | MODE2* | Lock | Hazard warning lamps flash twice and horn does not sound. |
| | | Unlock | Hazard warning lamps do not flash and horn does not sound. |
| | MODE1 | Lock | Hazard warning lamps flash twice and horn sounds once. |
| | | Unlock | Hazard warning lamps flash once and horn does not sound. |
| AUTO LOCK SET | MODE3 | 1 min | Auto locking function can be changed in this mode. |
| | MODE2 | OFF | |
| | MODE1* | 5 min | |
| PANIC ALRM SET | MODE3 | 1.5 sec | Panic alarm operation can be changed in this mode. |
| | MODE2 | OFF | |
| | MODE1* | 0.5 sec | |
| REMO CONT ID REGIST | — | Keyfob ID code can be registered. | |
| REMO CONT ID ERASUR | — | Keyfob ID code can be erased. | |
| REMO CONT ID CONFIR | — | Keyfob ID code registration is displayed. | |

*: Initial setting

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEADLAMP)

INFOID:000000007322308

DATA MONITOR

| Monitor Item [Unit] | Description |
|-------------------------|--|
| IGN ON SW [On/Off] | Indicates condition of ignition switch ON position. |
| ACC ON SW [On/Off] | Indicates condition of ignition switch ACC position. |
| HI BEAM SW [On/Off] | Indicates condition of combination switch. |
| HEAD LAMP SW 1 [On/Off] | |
| HEAD LAMP SW 2 [On/Off] | |
| LIGHT SW 1ST [On/Off] | |
| AUTO LIGHT SW [On/Off] | |
| PASSING SW [On/Off] | |
| FR FOG SW [On/Off] | |
| DOOR SW-DR [On/Off] | Indicates condition of front door switch LH. |
| DOOR SW-AS [On/Off] | Indicates condition of front door switch RH. |
| DOOR SW-RR [On/Off] | Indicates condition of rear door switch RH. |

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | Description |
|------------------------|---|
| DOOR SW-RL [On/Off] | Indicates condition of rear door switch LH. |
| TURN SIGNAL R [On/Off] | Indicates condition of combination switch. |
| TURN SIGNAL L [On/Off] | |
| CARGO LAMP SW [On/Off] | Indicates condition of cargo lamp switch. |
| OPTICAL SENSOR [V] | Indicates voltage signal from optical sensor. |

ACTIVE TEST

| Test Item | Description |
|-------------|---|
| TAIL LAMP | This test is able to check tail lamp operation [Off/On]. |
| HEAD LAMP | This test is able to check head lamp operation [Off/Lo/Hi]. |
| FR FOG LAMP | This test is able to check front fog lamp operation [Off/On]. |
| CARGO LAMP | This test is able to check cargo lamp operation [Off/On]. |

WORK SUPPORT

| Support Item | Setting | Description |
|------------------------|---------|--|
| BATTERY SAVER SET | Off | Exterior lamp battery saver function OFF. |
| | On* | Exterior lamp battery saver function ON. |
| CUSTOM A/LIGHT SETTING | MODE4 | Less sensitive setting than normal setting (Turns ON later than normal operation). |
| | MODE3 | More sensitive setting than MODE 2 (Turns ON earlier than MODE 2). |
| | MODE2 | More sensitive setting than normal setting (Turns ON earlier than normal operation). |
| | MODE1* | Normal. |
| ILL DELAY SET | MODE8 | Sets delay timer function operation time (All doors closed). |
| | 180 sec | |
| | MODE7 | |
| | 150 sec | |
| | MODE6 | |
| | 120 sec | |
| | MODE5 | |
| | 90 sec | |
| MODE4 | | |
| 60 sec | | |
| MODE3 | | |
| 30 sec | | |
| MODE2 | | |
| OFF | | |
| MODE1* | | |
| 45 sec | | |

*: Initial setting

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000007322309

DATA MONITOR

| Monitor Item [Unit] | Description |
|-----------------------|---|
| IGN ON SW [On/Off] | Indicates condition of ignition switch ON position. |
| IGN SW CAN [On/Off] | Indicates ignition switch ON signal received from IPDM E/R on CAN communication line. |
| FR WIPER HI [On/Off] | Indicates condition of front wiper operation of combination switch. |
| FR WIPER LOW [On/Off] | |
| FR WIPER INT [On/Off] | |
| FR WASHER SW [On/Off] | |
| INT VOLUME [1 - 7] | |
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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | Description |
|--------------------------|--|
| FR WIPER STOP [On/Off] | Indicates front wiper motor auto stop signal received from IPDM E/R on CAN communication line. |
| VEHICLE SPEED [km/h/mph] | Indicates vehicle speed signal received from combination meter on CAN communication line. |

ACTIVE TEST

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

WORK SUPPORT

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

* : Initial setting

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000007322310

DATA MONITOR

| Monitor Item [Unit] | Description |
|------------------------|--|
| IGN ON SW [On/Off] | Indicates condition of ignition switch ON position. |
| HAZARD SW [On/Off] | Indicates condition of hazard switch. |
| TURN SIGNAL R [On/Off] | Indicates condition of turn signal function of combination switch. |
| TURN SIGNAL L [On/Off] | |
| BRAKE SW [On/Off] | Indicates condition of brake switch. |

ACTIVE TEST

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

AIR CONDITIONER

AIR CONDITIONER : CONSULT Function (BCM - AIR CONDITIONER)

INFOID:000000007322311

DATA MONITOR

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

COMB SW

COMB SW : CONSULT Function (BCM - COMB SW)

INFOID:000000007322312

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | Description | |
|-------------------------|--|---|
| TURN SIGNAL R [On/Off] | Indicates condition of turn signal operation of combination switch. | A |
| TURN SIGNAL L [On/Off] | | |
| HI BEAM SW [On/Off] | Indicates condition of hi beam operation of combination switch. | B |
| HEAD LAMP SW 1 [On/Off] | Indicates condition of headlamp operation of combination switch. | C |
| HEAD LAMP SW 2 [On/Off] | | |
| LIGHT SW 1ST [On/Off] | Indicates condition of lighting operation of combination switch. | |
| PASSING SW [On/Off] | Indicates condition of passing switch operation of combination switch. | D |
| AUTO LIGHT SW [On/Off] | Indicates condition of auto light operation of combination switch. | |
| FR FOG SW [On/Off] | Indicates condition of front fog light operation of combination switch. | |
| FR WIPER HI [On/Off] | Indicates condition of front wiper operation of combination switch. | E |
| FR WIPER LOW [On/Off] | | |
| FR WIPER INT [On/Off] | | |
| FR WASHER SW [On/Off] | Indicates condition of front washer operation of combination switch. | F |
| INT VOLUME [1 - 7] | Indicates condition of intermittent wiper operation of combination switch. | |

BCM

BCM : CONSULT Function (BCM - BCM)

INFOID:000000007322313

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to [BCS-41, "DTC Index"](#).

WORK SUPPORT

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

CONFIGURATION

Refer to [BCS-4, "CONFIGURATION \(BCM\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-51, "CAN Diagnostic Support Monitor"](#).

IMMU

BCS

IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000007322314

SELF DIAGNOSTIC RESULT

Refer to [BCS-41, "DTC Index"](#).

DATA MONITOR

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

ACTIVE TEST

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

BATTERY SAVER

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

BATTERY SAVER : CONSULT Function (BCM - BATTERY SAVER)

INFOID:000000007322315

DATA MONITOR

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

ACTIVE TEST

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

WORK SUPPORT

| Support Item | Setting | Description |
|---------------------|---------|---|
| ROOM LAMP TIMER SET | MODE2 | 60 min |
| | MODE1 | 15 min (early production) 10 min (late production) |
| | | Sets the interior room lamp battery saver timer operating time. |

*: Initial setting

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:000000007322316

DATA MONITOR

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

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

WORK SUPPORT

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

*: Initial setting

RETAINED PWR

RETAINED PWR : CONSULT Function (BCM - RETAINED PWR)

INFOID:000000007322317

DATA MONITOR

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

ACTIVE TEST

| Test Item | Description |
|--------------|---|
| RETAINED PWR | This test is able to check retained power operation [Off/On]. |

WORK SUPPORT

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

*: Initial setting

SIGNAL BUFFER

SIGNAL BUFFER : CONSULT Function (BCM - SIGNAL BUFFER)

INFOID:000000007322318

DATA MONITOR

| Monitor Item [Unit] | Description |
|-----------------------|---|
| OIL PRESS SW [On/Off] | Indicates condition of oil pressure switch signal received from IPDM E/R on CAN communication line. |

ACTIVE TEST

| Test Item | Description |
|-----------------|---|
| OIL PRESSURE SW | This test is able to check the oil pressure gauge operation [Off/On]. |

AIR PRESSURE MONITOR

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

INFOID:000000007322319

NOTE:

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

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs

SELF DIAGNOSTIC RESULT

NOTE:

Before performing Self Diagnostic Result, be sure to register the ID, or else the actual malfunction may be different from that displayed on CONSULT.

Refer to [BCS-41, "DTC Index"](#).

DATA MONITOR

| Monitor Item | Condition | Specification |
|---------------|--|--|
| VEHICLE SPEED | Drive vehicle. | Vehicle speed (km/h or mph). |
| AIR PRESS FL | • Drive vehicle for a few minutes. or • Ignition switch ON and activation tool is transmitting activation signals. | Tire pressure (kPa, kg/cm ² or psi). |
| AIR PRESS FR | | |
| AIR PRESS RR | | |
| AIR PRESS RL | | |
| ID REGST FL1 | Ignition switch ON. | Registration ID: Green. No registration: Red. |
| ID REGST FR1 | | |
| ID REGST RR1 | | |
| ID REGST RL1 | | |
| WARNING LAMP | Ignition switch ON. | Low tire pressure warning lamp on: ON. Low tire pressure warning lamp off: OFF. |
| BUZZER | Ignition switch ON. | Buzzer in combination meter on: ON. Buzzer in combination meter off: OFF. |

ACTIVE TEST

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

WORK SUPPORT

| Support Item | Description |
|--------------|--|
| ID REGIST | Refer to WT-6, "ID Registration Procedure" . |
| ID READ | The registered ID number is displayed. |

PANIC ALARM

PANIC ALARM : CONSULT Function (BCM - PANIC ALARM)

INFOID:000000007322320

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

| Test Item | Description |
|----------------|---|
| HEAD LAMP (HI) | This test is able to check head lamp HI operation [On]. |
| PANIC ALARM | This test is able to check panic alarm operation [On]. |

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000007322321

Refer to [LAN-48, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000007322322

DTC DETECTION LOGIC

| DTC | CONSULT display description | DTC Detection Condition | Possible cause |
|-------|-----------------------------|--|--|
| U1000 | CAN COMM CIRCUIT | When BCM cannot communicate CAN communication signal continuously for 2 seconds or more. | Any item (or items) of the following listed below is malfunctioning in CAN communication system. <ul style="list-style-type: none">• Transmission• Receiving (ECM)• Receiving (METER/M&A)• Receiving (TCM)• Receiving (IPDM E/R) |

Diagnosis Procedure

INFOID:000000007322323

1. PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-46, "Intermittent Incident"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000007322324

Regarding Wiring Diagram information, refer to [BCS-43. "Wiring Diagram"](#).

1. CHECK FUSES AND FUSIBLE LINK

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

| Terminal No. | Signal name | Fuses and fusible link No. |
|--------------|----------------------|----------------------------|
| 57 | Battery power supply | 21 (10A) |
| 70 | | G (50A) |
| 11 | Ignition ACC or ON | 4 (10A) |
| 38 | Ignition ON or START | 1 (10A) |

Is the fuse blown?

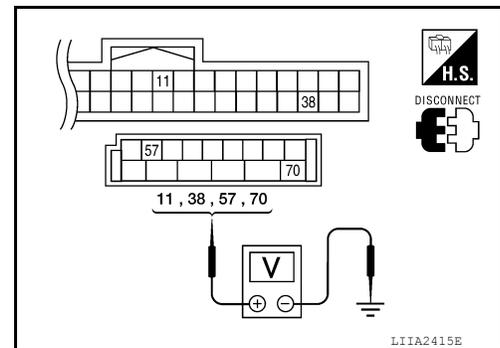
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

| Connector | Terminals | | Power source | Condition | Voltage (V) (Approx.) |
|-----------|-----------|--------|-----------------------|-----------------------------|-----------------------|
| | (+) | (-) | | | |
| M18 | 11 | Ground | ACC power supply | Ignition switch ACC or ON | Battery voltage |
| | 38 | Ground | Ignition power supply | Ignition switch ON or START | Battery voltage |
| M20 | 57 | Ground | Battery power supply | Ignition switch OFF | Battery voltage |
| | 70 | Ground | Battery power supply | Ignition switch OFF | Battery voltage |



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

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BCS

POWER SUPPLY AND GROUND CIRCUIT

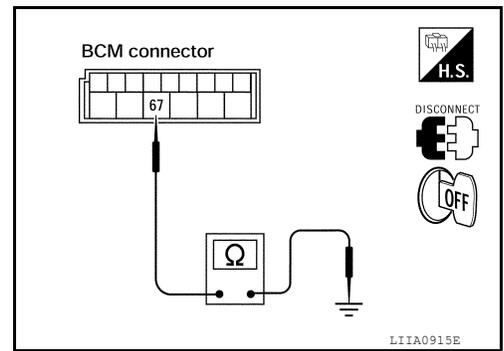
< DTC/CIRCUIT DIAGNOSIS >

Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|-----------|----------|--------|------------|
| Connector | Terminal | | |
| M20 | 67 | | Yes |

Does continuity exist?

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



COMBINATION SWITCH INPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH INPUT CIRCUIT

Diagnosis Procedure

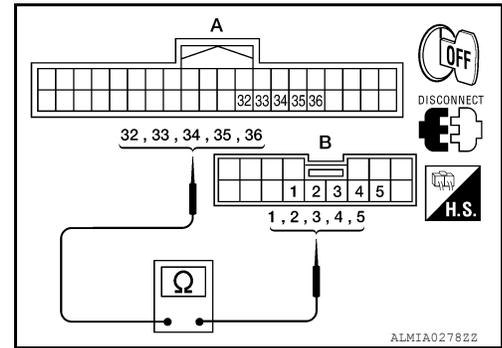
INFOID:000000007322325

Regarding Wiring Diagram information, refer to [BCS-43. "Wiring Diagram"](#).

1. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

| System | BCM | | Combination switch | | Continuity |
|---------|------------|----------|--------------------|----------|------------|
| | Connector | Terminal | Connector | Terminal | |
| INPUT 1 | M18 (A) | 36 | M28 (B) | 1 | Yes |
| INPUT 2 | | 35 | | 2 | |
| INPUT 3 | | 34 | | 3 | |
| INPUT 4 | | 33 | | 4 | |
| INPUT 5 | | 32 | | 5 | |



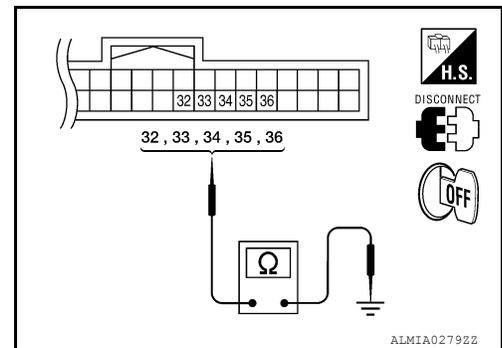
Does continuity exist?

- YES >> GO TO 2
 NO >> Repair or replace harness.

2. CHECK INPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

| System | BCM | | Continuity |
|---------|-----------|----------|------------|
| | Connector | Terminal | |
| INPUT 1 | M18 | 36 | No |
| INPUT 2 | | 35 | |
| INPUT 3 | | 34 | |
| INPUT 4 | | 33 | |
| INPUT 5 | | 32 | |



Does continuity exist?

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

3. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-47. "Symptom Table"](#).

Is the check result normal?

- YES >> Replace BCM. Refer to [BCS-49. "Removal and Installation"](#).
 NO >> Replace combination switch (applicable parts). Refer to [EXL-146. "Removal and Installation"](#).

Special Repair Requirement

INFOID:000000007322326

1. ADDITIONAL SERVICE WHEN REPLACING BCM

>> Refer to [BCS-3. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).

COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

COMBINATION SWITCH OUTPUT CIRCUIT

Diagnosis Procedure

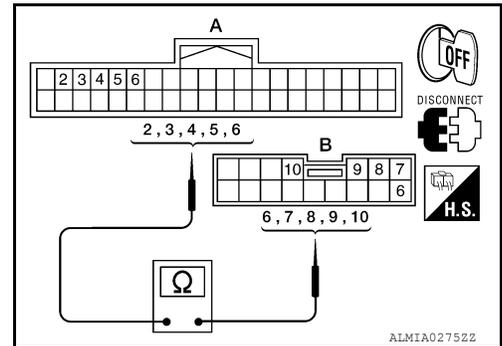
INFOID:000000007322327

Regarding Wiring Diagram information, refer to [BCS-43. "Wiring Diagram"](#).

1. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR OPEN

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

| System | BCM | | Combination switch | | Continuity |
|----------|------------|----------|--------------------|----------|------------|
| | Connector | Terminal | Connector | Terminal | |
| OUTPUT 1 | M18 (A) | 6 | M28 (B) | 6 | Yes |
| OUTPUT 2 | | 5 | | 7 | |
| OUTPUT 3 | | 4 | | 10 | |
| OUTPUT 4 | | 3 | | 9 | |
| OUTPUT 5 | | 2 | | 8 | |



Does continuity exist?

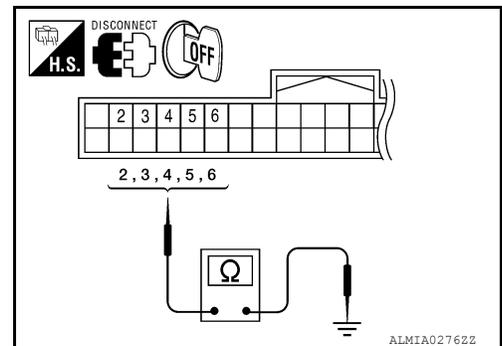
YES >> GO TO 2

NO >> Repair or replace harness.

2. CHECK OUTPUT 1 - 5 SYSTEM CIRCUIT FOR SHORT

Check for continuity between BCM harness connector and ground.

| System | BCM | | Continuity |
|----------|-----------|----------|------------|
| | Connector | Terminal | |
| OUTPUT 1 | M18 | 6 | No |
| OUTPUT 2 | | 5 | |
| OUTPUT 3 | | 4 | |
| OUTPUT 4 | | 3 | |
| OUTPUT 5 | | 2 | |



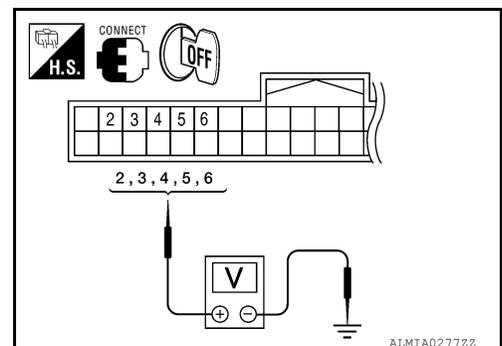
Does continuity exist?

YES >> Repair or replace harness.

NO >> GO TO 3

3. CHECK BCM INPUT VOLTAGE

1. Connect BCM.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector and ground.



COMBINATION SWITCH OUTPUT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

| System | Terminals | | Voltage (Approx.) |
|---------|-----------|----------|----------------------|
| | (+) | (-) | |
| | BCM | | |
| | Connector | Terminal | |
| INPUT 1 | M18 | 6 | Ground |
| INPUT 2 | | 5 | |
| INPUT 3 | | 4 | |
| INPUT 4 | | 3 | |
| INPUT 5 | | 2 | |

Is the measurement value normal?

YES >> GO TO 4

NO >> Replace BCM. Refer to [BCS-49, "Removal and Installation"](#).

4. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-47, "Symptom Table"](#).

Is the check result normal?

YES >> Replace BCM. Refer to [BCS-49, "Removal and Installation"](#).

NO >> Replace the combination switch (applicable parts). Refer to [EXL-146, "Removal and Installation"](#).

Special Repair Requirement

INFOID:000000007322328

1. ADDITIONAL SERVICE WHEN REPLACING BCM

>> Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Description"](#).

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000007322331

NOTE:

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

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Test remote keyless entry keyfob relative signal strength

VALUES ON THE DIAGNOSIS TOOL

| Monitor Item | Condition | Value/Status |
|---------------|--|-------------------------------|
| ACC ON SW | Ignition switch OFF or ON | Off |
| | Ignition switch ACC | On |
| AIR COND SW | A/C switch OFF | Off |
| | A/C switch ON | On |
| AIR PRESS FL | Front left tire air pressure value | kPa, kg/cm ² , psi |
| AIR PRESS FR | Front right tire air pressure value | kPa, kg/cm ² , psi |
| AIR PRESS RL | Rear left tire air pressure value | kPa, kg/cm ² , psi |
| AIR PRESS RR | Rear right tire air pressure value | kPa, kg/cm ² , psi |
| BRAKE SW | Brake pedal released | Off |
| | Brake pedal applied | On |
| BUCKLE SW | Seat belt buckle unfastened | Off |
| | Seat belt buckle fastened | On |
| BUZZER | Buzzer in combination meter OFF | Off |
| | Buzzer in combination meter ON | On |
| CARGO LAMP SW | Cargo lamp switch OFF | Off |
| | Cargo lamp switch ON | On |
| CDL LOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the LOCK side | On |
| CDL UNLOCK SW | Door lock/unlock switch does not operate | Off |
| | Press door lock/unlock switch to the UNLOCK side | On |
| DOOR SW-AS | Front door RH closed | Off |
| | Front door RH opened | On |
| DOOR SW-DR | Front door LH closed | Off |
| | Front door LH opened | On |
| DOOR SW-RL | Rear door LH closed | Off |
| | Rear door LH opened | On |
| DOOR SW-RR | Rear door RH closed | Off |
| | Rear door RH opened | On |
| FAN ON SIG | Blower motor fan switch OFF | Off |
| | Blower motor fan switch ON | On |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Monitor Item | Condition | Value/Status | |
|----------------|---|--------------|-----|
| FR FOG SW | Front fog lamp switch OFF | Off | A |
| | Front fog lamp switch ON | On | |
| FR WASHER SW | Front washer switch OFF | Off | B |
| | Front washer switch ON | On | |
| FR WIPER LOW | Front wiper switch OFF | Off | C |
| | Front wiper switch LO | On | |
| FR WIPER HI | Front wiper switch OFF | Off | D |
| | Front wiper switch HI | On | |
| FR WIPER INT | Front wiper switch OFF | Off | E |
| | Front wiper switch INT | On | |
| FR WIPER STOP | Any position other than front wiper stop position | Off | |
| | Front wiper stop position | On | |
| HAZARD SW | When hazard switch is not pressed | Off | F |
| | When hazard switch is pressed | On | |
| HEAD LAMP SW 1 | Headlamp switch OFF | Off | G |
| | Headlamp switch 1st | On | |
| HEAD LAMP SW 2 | Headlamp switch OFF | Off | H |
| | Headlamp switch 1st | On | |
| HI BEAM SW | High beam switch OFF | Off | I |
| | High beam switch HI | On | |
| ID REGST FL1 | ID registration of front left tire incomplete | YET | J |
| | ID registration of front left tire complete | DONE | |
| ID REGST FR1 | ID registration of front right tire incomplete | YET | K |
| | ID registration of front right tire complete | DONE | |
| ID REGST RL1 | ID registration of rear left tire incomplete | YET | L |
| | ID registration of rear left tire complete | DONE | |
| ID REGST RR1 | ID registration of rear right tire incomplete | YET | |
| | ID registration of rear right tire complete | DONE | |
| IGN ON SW | Ignition switch OFF or ACC | Off | |
| | Ignition switch ON | On | |
| IGN SW CAN | Ignition switch OFF or ACC | Off | BCS |
| | Ignition switch ON | On | |
| INT VOLUME | Wiper intermittent dial is in a dial position 1 - 7 | 1 - 7 | |
| KEY CYL LK-SW | Door key cylinder LOCK position | Off | N |
| | Door key cylinder other than LOCK position | On | |
| KEY CYL UN-SW | Door key cylinder UNLOCK position | Off | O |
| | Door key cylinder other than UNLOCK position | On | |
| KEY ON SW | Mechanical key is removed from key cylinder | Off | P |
| | Mechanical key is inserted to key cylinder | On | |
| KEYLESS LOCK | LOCK button of key fob is not pressed | Off | |
| | LOCK button of key fob is pressed | On | |
| KEYLESS PANIC | PANIC button of key fob is not pressed | Off | |
| | PANIC button of key fob is pressed | On | |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

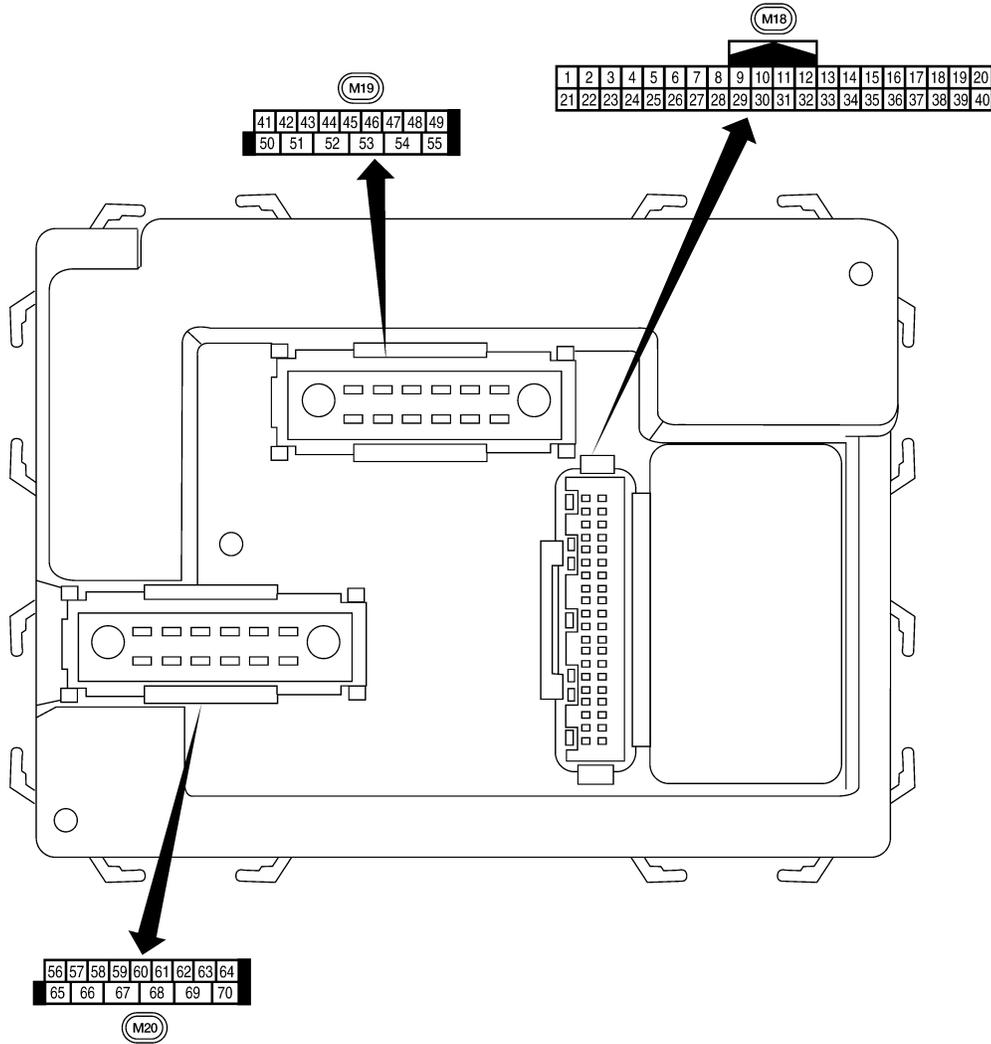
| Monitor Item | Condition | Value/Status |
|----------------|---|-----------------------------------|
| KEYLESS UNLOCK | UNLOCK button of key fob is not pressed | Off |
| | UNLOCK button of key fob is pressed | On |
| LIGHT SW 1ST | Lighting switch OFF | Off |
| | Lighting switch 1st | On |
| OIL PRESS SW | <ul style="list-style-type: none">Ignition switch OFF or ACCEngine running | Off |
| | Ignition switch ON | On |
| PASSING SW | Other than lighting switch PASS | Off |
| | Lighting switch PASS | On |
| REAR DEF SW | Rear window defogger switch OFF | Off |
| | Rear window defogger switch ON | On |
| TURN SIGNAL L | Turn signal switch OFF | Off |
| | Turn signal switch LH | On |
| TURN SIGNAL R | Turn signal switch OFF | Off |
| | Turn signal switch RH | On |
| VEHICLE SPEED | While driving | Equivalent to speedometer reading |
| WARNING LAMP | Low tire pressure warning lamp in combination meter OFF | Off |
| | Low tire pressure warning lamp in combination meter ON | On |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal Layout

INFOID:000000007322332



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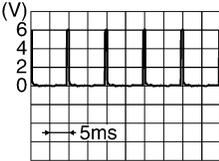
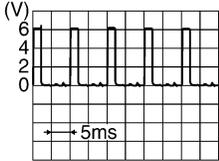
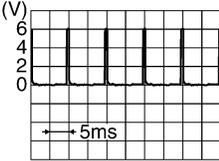
Physical Values

LIIA2443E

INFOID:000000007322333

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Terminal | Wire color | Item | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) |
|----------|------------|--|---------------------|---------------------|--|--|
| | | | | Ignition switch | Operation or condition | |
| 1 | BR | Ignition keyhole illumination | Output | OFF | Door is locked (SW OFF) | Battery voltage |
| | | | | | Door is unlocked (SW ON) | 0V |
| 2 | P | Combination switch input 5 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  SKIA5291E |
| 3 | SB | Combination switch input 4 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  SKIA5292E |
| 4 | V | Combination switch input 3 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  SKIA5291E |
| 5 | L | Combination switch input 2 | Input | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  SKIA5292E |
| 6 | R | Combination switch input 1 | | | | |
| 7 | GR | Front door lock assembly LH (key cylinder switch) unlock | Input | OFF | ON (open, 2nd turn) | Momentary 1.5V |
| 8 | SB | Front door lock assembly LH (key cylinder switch) lock | | | OFF (closed) | 0V |
| | | | On (open) | Momentary 1.5V | | |
| 9 | Y | Rear window defogger switch | Input | ON | Rear window defogger switch ON | 0V |
| | | | | | Rear window defogger switch OFF | 5V |
| 11 | G/B | Ignition switch (ACC or ON) | Input | ACC or ON | Ignition switch ACC or ON | Battery voltage |
| 12 | LG | Front door switch RH (All) | Input | OFF | ON (open) | 0V |
| | | Rear door switch upper RH (King Cab) | | | OFF (closed) | Battery voltage |
| | | Rear door switch lower RH (King Cab) | | | | |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

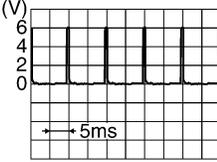
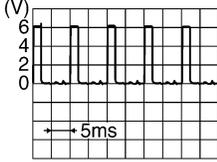
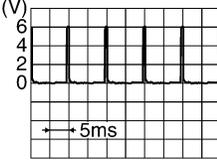
| Terminal | Wire color | Item | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) |
|----------|------------|---|---------------------|---------------------|---|---|
| | | | | Ignition switch | Operation or condition | |
| 13 | L | Rear door switch RH (Crew Cab) | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 15 | W | Tire pressure warning check connector | Input | OFF | — | 5V |
| 18 | BR | Remote keyless entry receiver (Ground) | Output | OFF | — | 0V |
| 19 | V | Remote keyless entry receiver (power supply) | Output | OFF | Ignition switch OFF | <p style="text-align: right; font-size: small;">LIIA1893E</p> |
| 20 | G | Remote keyless entry receiver signal (Signal) | Input | OFF | Stand-by (keyfob buttons released) | <p style="text-align: right; font-size: small;">LIIA1894E</p> |
| | | | | | When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed) | <p style="text-align: right; font-size: small;">LIIA1895E</p> |
| 21 | GR | NATS antenna amp. | Input | OFF → ON | Ignition switch (OFF → ON) | Just after turning ignition switch ON: Pointer of tester should move. |
| 23 | G | Security indicator lamp | Output | OFF | Goes OFF → illuminates (Every 2.4 seconds) | Battery voltage → 0V |
| 25 | BR | NATS antenna amp. | Input | OFF → ON | Ignition switch (OFF → ON) | Just after turning ignition switch ON: Pointer of tester should move. |
| 27 | W | Compressor ON signal | Input | ON | A/C switch OFF | 5V |
| | | | | | A/C switch ON | 0V |
| 28 | R | Front blower monitor | Input | ON | Front blower motor OFF | Battery voltage |
| | | | | | Front blower motor ON | 0V |
| 29 | G | Hazard switch | Input | OFF | ON | 0V |
| | | | | | OFF | 5V |
| 31 | GR | Cargo lamp switch | Input | OFF | ON | 0V |
| | | | | | OFF | Battery voltage |

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Terminal | Wire color | Item | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) |
|----------|------------|--------------------------------------|---------------------|---------------------|--|---|
| | | | | Ignition switch | Operation or condition | |
| 32 | O | Combination switch output 5 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 33 | GR | Combination switch output 4 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 34 | G | Combination switch output 3 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5291E</p> |
| 35 | BR | Combination switch output 2 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  <p style="text-align: right; font-size: small;">SKIA5292E</p> |
| 36 | LG | Combination switch output 1 | | | | |
| 37 | B | Key switch | Input | OFF | Key inserted | Battery voltage |
| | | | | | Key removed | 0V |
| 38 | W/R | Ignition switch (ON) | Input | ON | — | Battery voltage |
| 39 | L | CAN-H | — | — | — | — |
| 40 | P | CAN-L | — | — | — | — |
| 45 | V | Lock switch | Input | OFF | ON (lock) | 0V |
| | | | | | OFF | Battery voltage |
| 46 | LG | Unlock switch | Input | OFF | ON (unlock) | 0V |
| | | | | | OFF | Battery voltage |
| 47 | GR | Front door switch LH (All) | Input | OFF | ON (open) | 0V |
| | | Rear door switch upper LH (King Cab) | | | OFF (closed) | Battery voltage |
| | | Rear door switch lower LH (King Cab) | | | | |
| 48 | P | Rear door switch LH (Crew Cab) | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 50 | P | Cargo lamp | Output | OFF | Any door open (ON) | 0V |
| | | | | | All doors closed (OFF) | Battery voltage |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Terminal | Wire color | Item | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) | |
|----------|------------|--|---------------------|---------------------|---|---|-----------------|
| | | | | Ignition switch | Operation or condition | | |
| 51 | O | Trailer turn signal (right) | Output | ON | Turn right ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> | |
| 52 | LG | Trailer turn signal (left) | Output | ON | Turn left ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> | |
| 56 | R/Y | Battery saver output | Output | OFF | 15 minutes (early production) or 10 minutes (late production) after ignition switch is turned OFF | 0V | |
| | | | | ON | — | Battery voltage | |
| 57 | R/Y | Battery power supply | Input | — | — | Battery voltage | |
| 58 | W | Optical sensor | Input | ON | When optical sensor is illuminated | 3.1V or more | |
| | | | | | When optical sensor is not illuminated | 0.6V or less | |
| 59 | GR | Front door lock assembly LH (unlock) | Output | OFF | OFF (neutral) | 0V | |
| | | | | | ON (unlock) | Battery voltage | |
| 60 | LG | Turn signal (left) | Output | ON | Turn left ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> | |
| 61 | G | Turn signal (right) | Output | ON | Turn right ON | <p style="text-align: right; font-size: small;">SKIA3009J</p> | |
| 63 | BR | Interior room/map lamp | Output | OFF | Any door switch | ON (open) | 0V |
| | | | | | | OFF (closed) | Battery voltage |
| 65 | V | All door lock actuators (lock) | Output | OFF | OFF (neutral) | 0V | |
| | | | | | ON (lock) | Battery voltage | |
| 66 | L | Front door lock actuator RH, rear door lock actuators LH/RH (unlock) | Output | OFF | OFF (neutral) | 0V | |
| | | | | | ON (unlock) | Battery voltage | |
| 67 | B | Ground | Input | ON | — | 0V | |

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Terminal | Wire color | Item | Signal input/output | Measuring condition | | Reference value or waveform (Approx.) |
|-----------------|------------|---------------------------------|---------------------|---------------------|---|---------------------------------------|
| | | | | Ignition switch | Operation or condition | |
| 68 ¹ | O | Power window power supply (RAP) | Output | — | Ignition switch ON | Battery voltage |
| | | | | | Within 45 seconds after ignition switch OFF | Battery voltage |
| | | | | | More than 45 seconds after ignition switch OFF | 0V |
| | | | | | When front door LH or RH is open or power window timer operates | 0V |
| 68 ² | SB | Power window power supply (RAP) | Output | — | Ignition switch ON | Battery voltage |
| | | | | | Within 45 seconds after ignition switch OFF | Battery voltage |
| | | | | | More than 45 seconds after ignition switch OFF | 0V |
| | | | | | When front door LH or RH is open or power window timer operates | 0V |
| 69 | P | Power window power supply (BAT) | Output | OFF | — | Battery voltage |
| 70 | W | Battery power supply | Input | OFF | — | Battery voltage |

1: King cab (with power door lock system)

2: Crew cab (without power door lock system)

Fail Safe

INFOID:000000007322334

Fail-safe index

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

| Display contents of CONSULT | Fail-safe | Cancellation |
|-----------------------------|-------------------------|---|
| U1000: CAN COMM CIRCUIT | Inhibit engine cranking | When the BCM re-establishes communication with the other modules. |

DTC Inspection Priority Chart

INFOID:000000007322335

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

| Priority | DTC |
|----------|---|
| 1 | <ul style="list-style-type: none"> U1000: CAN COMM CIRCUIT |
| 2 | <ul style="list-style-type: none"> B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| Priority | DTC | |
|----------|--|---------------------------------|
| 3 | <ul style="list-style-type: none"> • C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL | A |
| 4 | <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 • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL | B C D E F G H |

DTC Index

INFOID:000000007322336

NOTE:

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

| CONSULT display | Fail-safe | Low tire pressure warning lamp ON | Reference page |
|--|-----------|-----------------------------------|------------------------|
| No DTC is detected. further testing may be required. | — | — | — |
| U1000: CAN COMM CIRCUIT | — | — | BCS-26 |
| B2190: NATS ANTENA AMP | — | — | SEC-18 |
| B2191: DIFFERENCE OF KEY | — | — | SEC-21 |
| B2192: ID DISCORD BCM-ECM | — | — | SEC-22 |
| B2193: CHAIN OF BCM-ECM | — | — | SEC-24 |
| C1708: [NO DATA] FL | — | X | WT-14 |
| C1709: [NO DATA] FR | — | X | WT-14 |
| C1710: [NO DATA] RR | — | X | WT-14 |
| C1711: [NO DATA] RL | — | X | WT-14 |
| C1712: [CHECKSUM ERR] FL | — | X | WT-16 |
| C1713: [CHECKSUM ERR] FR | — | X | WT-16 |
| C1714: [CHECKSUM ERR] RR | — | X | WT-16 |
| C1715: [CHECKSUM ERR] RL | — | X | WT-16 |

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

| CONSULT display | Fail-safe | Low tire pressure warning lamp ON | Reference page |
|---------------------------|-----------|-----------------------------------|-----------------------|
| C1716: [PRESSDATA ERR] FL | — | X | WT-18 |
| C1717: [PRESSDATA ERR] FR | — | X | WT-18 |
| C1718: [PRESSDATA ERR] RR | — | X | WT-18 |
| C1719: [PRESSDATA ERR] RL | — | X | WT-18 |
| C1720: [CODE ERR] FL | — | X | WT-16 |
| C1721: [CODE ERR] FR | — | X | WT-16 |
| C1722: [CODE ERR] RR | — | X | WT-16 |
| C1723: [CODE ERR] RL | — | X | WT-16 |
| C1724: [BATT VOLT LOW] FL | — | X | WT-16 |
| C1725: [BATT VOLT LOW] FR | — | X | WT-16 |
| C1726: [BATT VOLT LOW] RR | — | X | WT-16 |
| C1727: [BATT VOLT LOW] RL | — | X | WT-16 |
| C1729: VHCL SPEED SIG ERR | — | X | WT-20 |
| C1735: IGNITION SIGNAL | — | X | WT-21 |

BCM (BODY CONTROL MODULE)

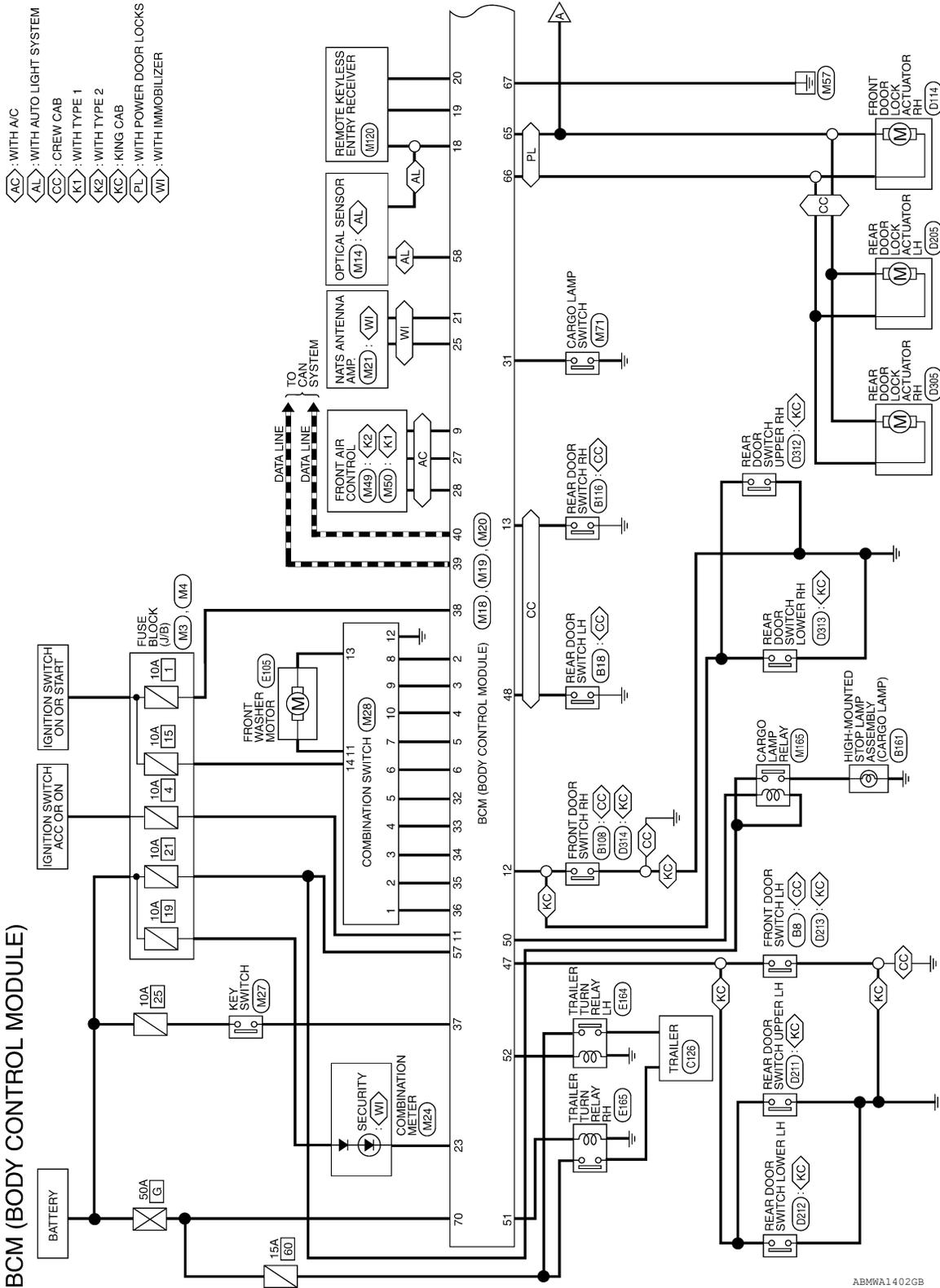
< WIRING DIAGRAM >

WIRING DIAGRAM

BCM (BODY CONTROL MODULE)

Wiring Diagram

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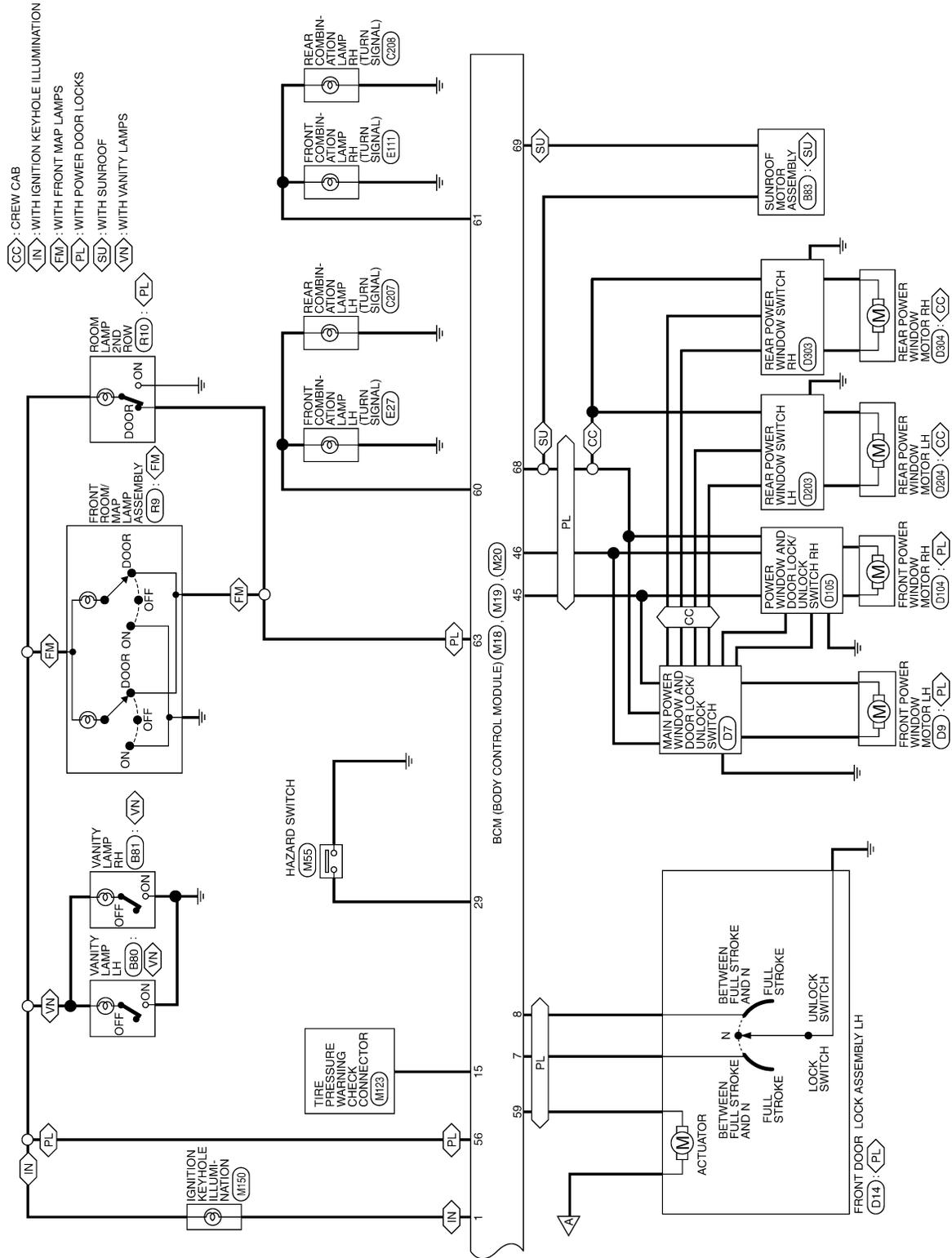
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BCS

BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >



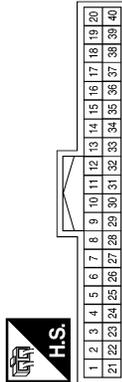
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BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

BCM (BODY CONTROL MODULE) CONNECTORS

| | |
|-----------------|---------------------------|
| Connector No. | M18 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-----------------------------------|
| 1 | BR | KEY RING OUTPUT |
| 2 | P | INPUT 5 |
| 3 | SB | INPUT 4 |
| 4 | V | INPUT 3 |
| 5 | L | INPUT 2 |
| 6 | R | INPUT 1 |
| 7 | GR | KEY CYLINDER UNLOCK SW |
| 8 | SB | KEY CYLINDER LOCK SW |
| 9 | Y | RR DEFOGGER SW |
| 10 | - | - |
| 11 | G/B | ACC SW |
| 12 | LG | DOOR SW (AS) |
| 13 | L | DOOR SW (RR) |
| 14 | - | - |
| 15 | W | TPMS MODE TRIGGER SW |
| 16 | - | - |
| 17 | - | - |
| 18 | BR | KEYLESS & AUTO LIGHT SENSOR GND |
| 19 | V | KEYLESS TUNER POWER SUPPLY OUTPUT |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------------------------------|
| 20 | G | KEYLESS TUNER SIGNAL |
| 21 | GR | IMMOBILIZER ANTENNA SIGNAL (CLOCK) |
| 22 | - | - |
| 23 | G | SECURITY INDICATOR OUTPUT |
| 24 | - | - |
| 25 | BR | IMMOBILIZER ANTENNA SIGNAL (RX, TX) |
| 26 | - | - |
| 27 | W | AIRCON SW |
| 28 | R | BLOWER FAN SW |
| 29 | G | HAZARD SW |
| 30 | - | - |
| 31 | GR | CARGO LAMP SW |
| 32 | O | OUTPUT 5 |
| 33 | GR | OUTPUT 4 |
| 34 | G | OUTPUT 3 |
| 35 | BR | OUTPUT 2 |
| 36 | LG | OUTPUT 1 |
| 37 | B | KEY SW |
| 38 | W/R | IGN SW |
| 39 | L | CAN-H |
| 40 | P | CAN-L |

| | |
|-----------------|---------------------------|
| Connector No. | M19 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------------------------|
| 41 | - | - |
| 42 | - | - |
| 43 | - | - |
| 44 | - | - |
| 45 | V | CDL LOCK SW |
| 46 | LG | CDL UNLOCK SW |
| 47 | GR | DOOR SW (DR) |
| 48 | P | DOOR SW (RL) |
| 49 | - | - |
| 50 | P | CARGO LAMP OUTPUT |
| 51 | O | TRAILER FLASHER OUTPUT (RIGHT) |
| 52 | LG | TRAILER FLASHER OUTPUT (LEFT) |
| 53 | - | - |
| 54 | - | - |
| 55 | - | - |

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BCM (BODY CONTROL MODULE)

< WIRING DIAGRAM >

| | |
|-----------------|---------------------------|
| Connector No. | M20 |
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK |



| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 55 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| 65 | 66 | 67 | 68 | 69 | 70 | | | |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------------------|
| 56 | R/Y | BATTERY SAVER OUTPUT |
| 57 | R/Y | BAT (FUSE) |
| 58 | W | AUTO LIGHT SENSOR INPUT 2 |
| 59 | GR | DOOR UNLOCK OUTPUT (DR) |
| 60 | LG | FLASHER OUTPUT (LEFT) |
| 61 | G | FLASHER OUTPUT (RIGHT) |
| 62 | - | - |
| 63 | BR | ROOM LAMP OUTPUT |
| 64 | - | - |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--|
| 65 | V | DOOR LOCK OUTPUT (ALL) |
| 66 | L | DOOR UNLOCK OUTPUT (OTHER) |
| 67 | B | GND (POWER) |
| 68 | O | POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP) (WITH POWER DOOR LOCK SYSTEM) |
| 68 | SB | POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP) (CREW CAB WITHOUT POWER DOOR LOCK SYSTEM) |
| 69 | P | POWER WINDOW POWER SUPPLY OUTPUT (BAT) |
| 70 | W | BAT (F/L) |

| | |
|-----------------|--------------------|
| Connector No. | M28 |
| Connector Name | COMBINATION SWITCH |
| Connector Color | WHITE |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------------|
| 1 | LG | INPUT 1 |
| 2 | BR | INPUT 2 |
| 3 | G | INPUT 3 |
| 4 | GR | INPUT 4 |
| 5 | O | INPUT 5 |
| 6 | R | OUTPUT 1 |
| 7 | L | OUTPUT 2 |
| 8 | P | OUTPUT 5 |
| 9 | SB | OUTPUT 4 |
| 10 | V | OUTPUT 3 |
| 11 | O | WASH FR (-) RR (+) |
| 12 | B | GND |
| 13 | L | WASH FR (+) RR (-) |
| 14 | W/G | IGN |

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COMBINATION SWITCH SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

COMBINATION SWITCH SYSTEM SYMPTOMS

Symptom Table

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

Malfunction item: x

| Malfunction combination | Data monitor item | | | | | | | | | | | | | |
|-------------------------|---|---------------|------------|---------------|---------------|--------------|------------|---------------|-----------|-------------|--------------|--------------|--------------|------------|
| | TURN SIGNAL R | TURN SIGNAL L | HI BEAM SW | HEADLAMP SW 1 | HEADLAMP SW 2 | TAIL LAMP SW | PASSING SW | AUTO LIGHT SW | FR FOG SW | FR WIPER HI | FR WIPER LOW | FR WIPER INT | FR WASHER SW | INT VOLUME |
| A | x | x | | | | | | | | | x | | x | |
| B | | | | x | | | x | | | x | | x | | |
| C | | | x | | x | | | | | | | | | x |
| D | | | | | | x | | x | | | | | | x |
| E | | | | | | | | | x | | | | | x |
| F | | | | | | | | | | x | | | | x |
| G | | | | | | | | | | | | | x | x |
| H | | | | | | | | x | | | x | x | | |
| I | | x | | | x | | x | | x | | | | | |
| J | x | | x | x | | x | | | | | | | | |
| K | All Items | | | | | | | | | | | | | |
| L | If only one item is detected or the item is not applicable to the combinations A to 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 INPUT 1 circuit | Inspect the combination switch input circuit applicable to the malfunctioning part. Refer to BCS-29, "Diagnosis Procedure" . |
| B | Combination switch INPUT 2 circuit | |
| C | Combination switch INPUT 3 circuit | |
| D | Combination switch INPUT 4 circuit | |
| E | Combination switch INPUT 5 circuit | |
| F | Combination switch OUTPUT 1 circuit | Inspect the combination switch output circuit applicable to the malfunctioning part. Refer to BCS-30, "Diagnosis Procedure" . |
| G | Combination switch OUTPUT 2 circuit | |
| H | Combination switch OUTPUT 3 circuit | |
| I | Combination switch OUTPUT 4 circuit | |
| J | Combination switch OUTPUT 5 circuit | |
| K | BCM | Replace BCM. Refer to BCS-49, "Removal and Installation" . |
| L | Light and turn signal switch or front wiper and washer switch | Replace the switch that cannot be operated. |

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

Removal and Installation

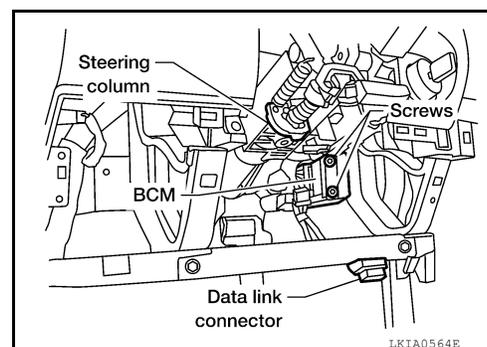
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REMOVAL

NOTE:

If possible, before removing BCM, retrieve current BCM configuration to use for reference when configuring brand-new BCM after installation. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).

1. Disconnect the battery negative terminal.
2. Remove the instrument lower panel LH. Refer to [IP-18, "Removal and Installation"](#).
3. Remove the BCM screws and release the BCM.
4. Disconnect the BCM connectors and then remove the BCM.



INSTALLATION

Installation is in the reverse order of removal.

- When replacing the BCM, it must be configured. Refer to [BCS-4, "CONFIGURATION \(BCM\) : Work Procedure"](#).
- When replacing the BCM, if equipped with NATS perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to [BCS-4, "CONFIGURATION \(BCM\) : Work Procedure"](#).
- When replacing the BCM, perform ID registration procedure of low tire pressure warning system. Refer to [WT-6, "ID Registration Procedure"](#).
- When replacing the BCM, if equipped with remote keyless entry, register the remote keyless entry system keyfob ID codes. Refer to [BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).
- When replacing the BCM, perform adjustment procedure for the steering angle sensor (if equipped). Refer to [BRC-12, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (TYPE 1) or [BRC-122, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#) (TYPE 2).

BCS