SECTION **BCS**

BODY CONTROL SYSTEM

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# PRECAUTIONS

PFP:00001

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

*EKS00DFQ*

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 SRS 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 SRS 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.**

# BCM (BODY CONTROL MODULE)

PFP:284B2

## System Description

EKS00DFR

BCM (body control module) controls the operation of various electrical units installed on the vehicle.

### BCM FUNCTION

BCM has a combination switch reading function for reading the operation of combination switches (light, wiper washer, turn signal) in addition to the function for controlling the operation of various electrical components. Also, it functions as an interface that receives signals from the A/C control unit, and sends signals to ECM using CAN communication.

### COMBINATION SWITCH READING FUNCTION

1. Description
   - BCM reads combination switch (light, wiper) status, and controls various electrical components according to the results.
   - BCM reads information of a maximum of 20 switches by combining five output terminals (OUTPUT 1-5) and five input terminals (INPUT 1-5).
2. Operation description
   - BCM activates transistors of output terminals (OUTPUT 1-5) periodically and allows current to flow in turn.
   - If any (1 or more) of the switches are turned ON, circuit of output terminals (OUTPUT 1-5) and input terminals (INPUT 1-5) becomes active.
   - At this time, transistors of output terminals (OUTPUT 1-5) are activated to allow current to flow. When voltage of input terminals (INPUT 1-5) corresponding to that switch changes, interface in BCM detects voltage change and BCM determines that switch is ON.



※1 : LIGHTING SWITCH 1ST POSITION

SKIB7592E
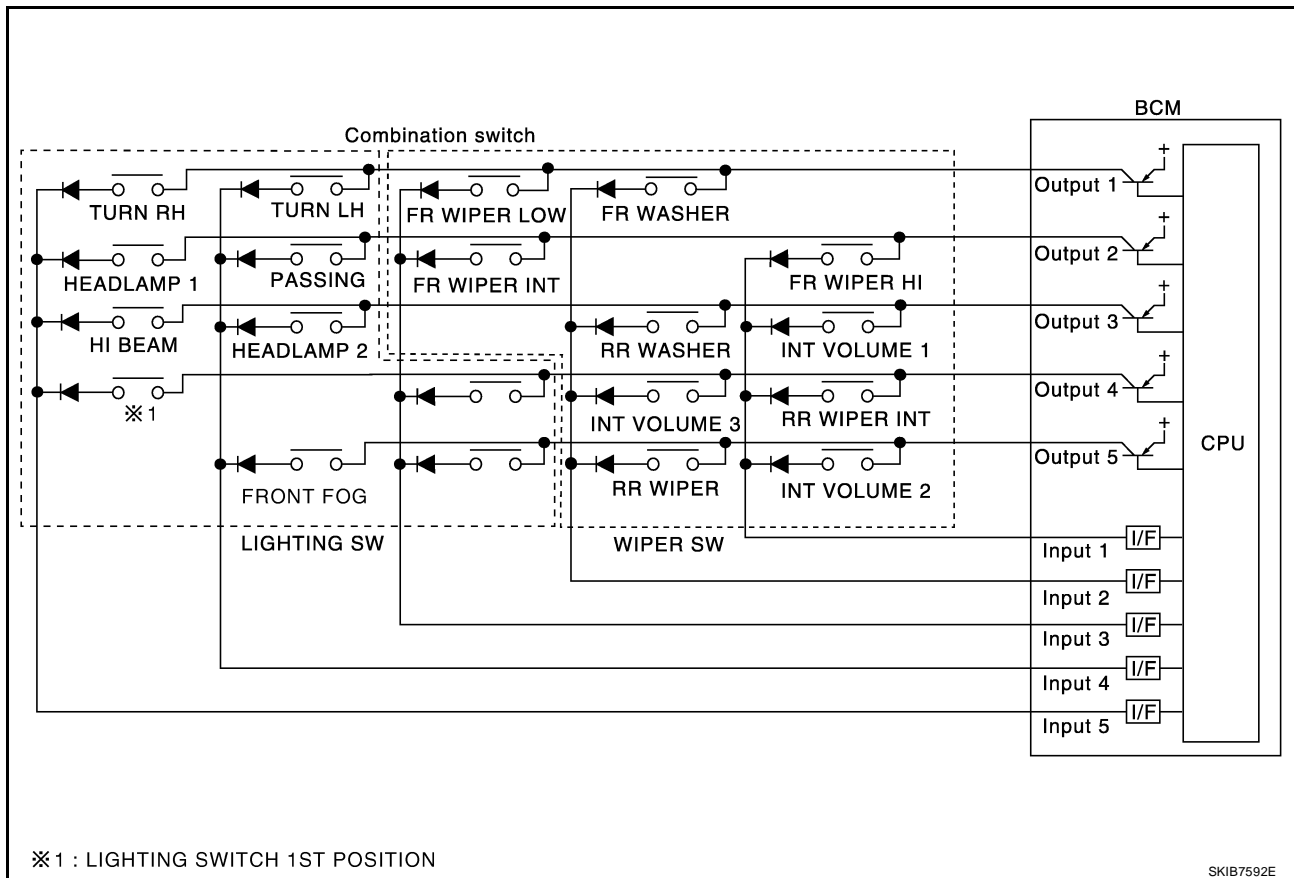
3. BCM - Operation table of combination switch
   - BCM reads operation status of combination switch by the combination shown in the following table.

| | COMB SW OUTPUT 1 | | COMB SW OUTPUT 2 | | COMB SW OUTPUT 3 | | COMB SW OUTPUT 4 | | COMB SW OUTPUT 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ON | OFF | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| COMB SW INPUT 1 | — | — | FRONT WIPER HI ON | FRONT WIPER HI OFF | INT VOLUME 1 ON | INT VOLUME 1 OFF | RR WIPER INT ON | RR WIPER INT OFF | INT VOLUME 2 ON | INT VOLUME 2 OFF |
| COMB SW INPUT 2 | FRONT WASHER ON | FRONT WASHER OFF | — | — | RR WASHER ON | RR WASHER OFF | INT VOLUME 3 ON | INT VOLUME 3 OFF | RR WIPER ON | RR WIPER OFF |
| COMB SW INPUT 3 | FRONT WIPER LO ON | FRONT WIPER LO OFF | FRONT WIPER INT ON | FRONT WIPER INT OFF | — | — | — | — | — | — |
| COMB SW INPUT 4 | TURN LH ON | TURN LH OFF | PASSING ON | PASSING OFF | HEAD-LAMP 2 ON | HEAD-LAMP 2 OFF | — | — | FRONT FOG ON | FRONT FOG OFF |
| COMB SW INPUT 5 | TURN RH ON | TURN RH OFF | HEAD-LAMP 1 ON | HEAD-LAMP 1 OFF | HI BEAM ON | HI BEAM OFF | LIGHTING SW (1ST) ON | LIGHTING SW (1ST) OFF | — | — |

SKIB7614E

**NOTE:**
Headlamp has a dual system switch.

4. Example operation: (When lighting switch 1st position turned ON)
- When lighting switch 1st position is turned ON, contact in combination switch turns ON. At this time if OUTPUT 4 transistor is activated, BCM detects that voltage changes in INPUT 5.
- When OUTPUT 4 transistor is ON, BCM detects that voltage changes in INPUT 5, and judges lighting switch 1st position is ON. Then BCM sends tail lamp ON signal to IPDM E/R using CAN communication.
- When OUTPUT 4 transistor is activated again, BCM detects that voltage changes in INPUT 5 and recognizes that lighting switch 1st position is continuously ON.

# BCM (BODY CONTROL MODULE)

SKIB7615E
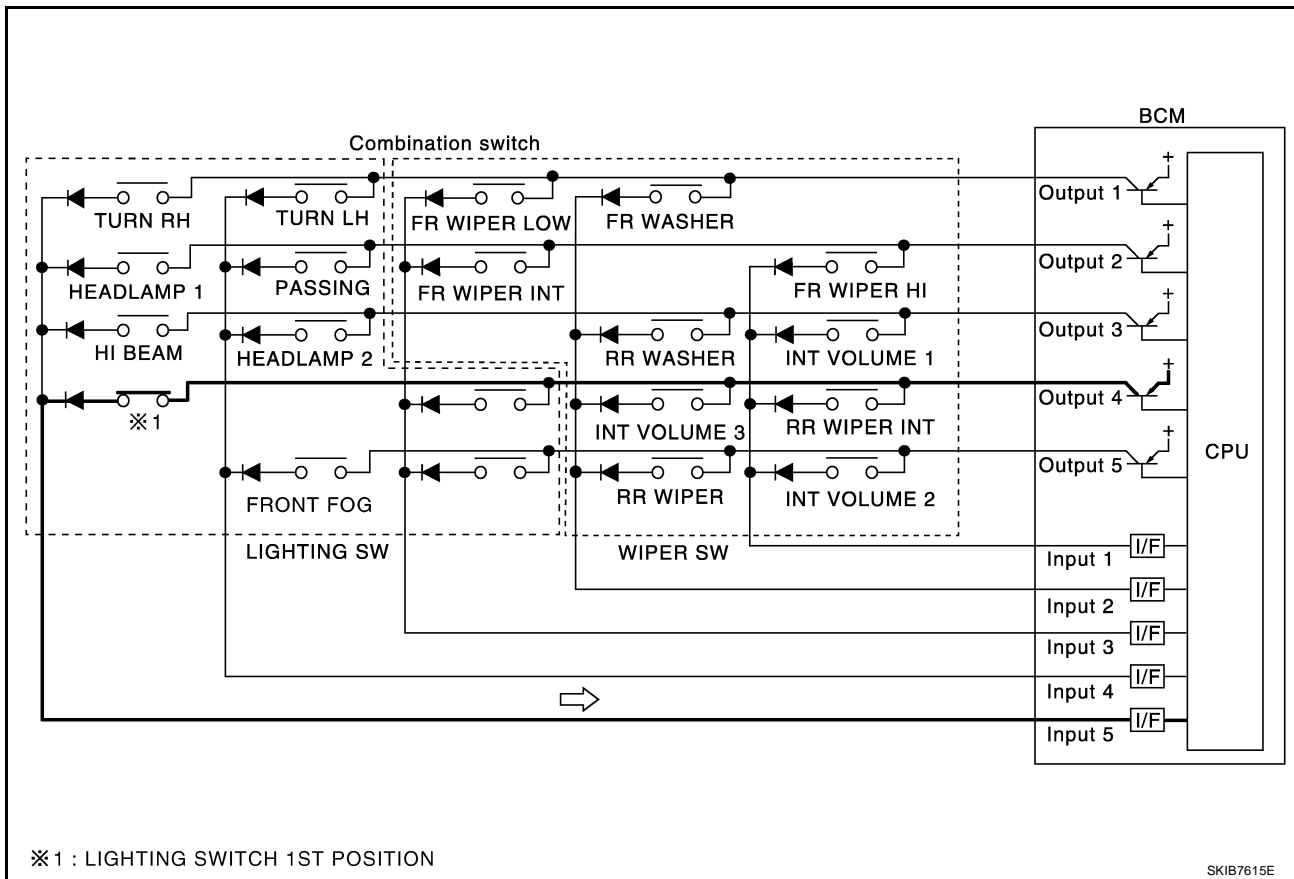
**NOTE:**
Each OUTPUT terminal transistor is activated at 10ms intervals. Therefore, after a switch is turned ON, electrical loads are activated with a time delay. But this time delay is so short that it cannot be noticed.

5. Operation mode

- Combination switch reading function has operation modes as follows:

Normal status

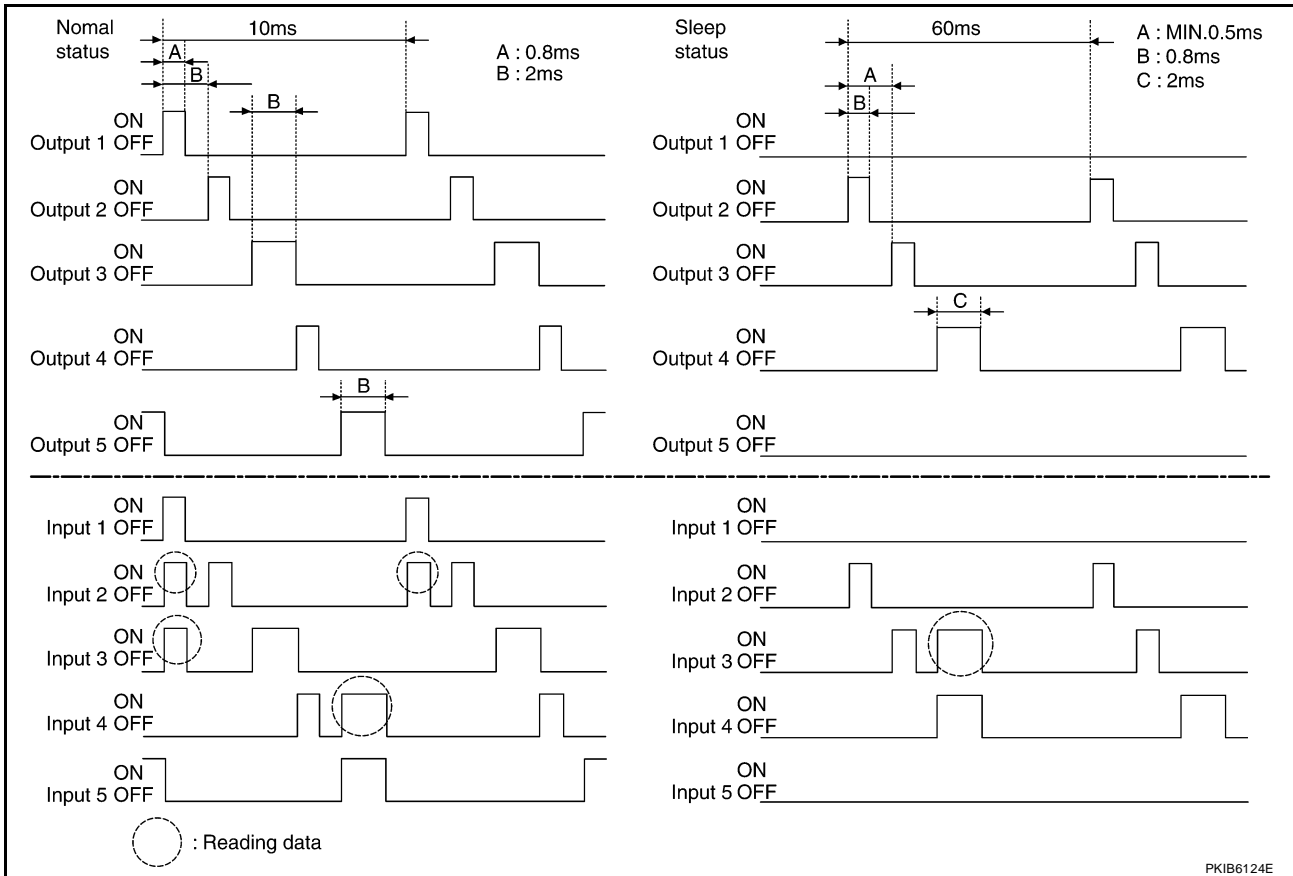- When BCM is not in sleep status, OUTPUT terminals (1-5) each turn ON-OFF every 10ms.

Sleep status

# BCM (BODY CONTROL MODULE)

- When BCM is in sleep mode, transistors of OUTPUT 1 and 5 stop the output, and BCM enters low-current-consumption mode. OUTPUTS (2, 3, and 4) turn ON-OFF at 60ms intervals, and receives lighting switch input only.



PKIB6124E

## CAN COMMUNICATION CONTROL

CAN communication allows a high rate of information through the two communication lines (CAN-L, CAN-H) connecting the various control units in the system. Each control unit transmits/receives data, but selectively reads required data only.

## BCM STATUS CONTROL

BCM changes its status depending on the operation status in order to save power consumption.

1. CAN communication status
   - With ignition switch ON, CAN communicates with other control units normally.
   - Control by BCM is being operated properly.
   - When ignition switch is OFF, switching to sleep mode is possible.
   - Even when ignition switch is OFF, if CAN communication with IPDM E/R and combination meter is active, CAN communication status is active.

2. Sleep transient status
   - This status shuts down CAN communication when ignition switch is turned OFF.
   - It transmits sleep request signal to IPDM E/R and combination meter.
   - Two seconds after CAN communication of all control units stops, CAN communication switches to inactive status.

3. CAN communication inactive status
   - With ignition switch OFF, CAN communication is not active.
   - With ignition switch OFF, control performed only by BCM is active.
   - Three seconds after CAN communication of all control units stops, CAN communication switches to inactive status.

4. Sleep status

- BCM is activated with low current consumption mode.
- CAN communication is not active.
- When CAN communication operation is detected, it switches to CAN communication status.
- When a state of the following switches changes, it switches to CAN communication state:
  - Ignition switch
  - Key switch
  - Hazard switch
  - Door lock/unlock switch
  - Front door switch (LH, RH)
  - Rear door switch (LH, RH)
  - Back door switch
  - Combination switch (passing, lighting switch 1st position, front fog lamp)
  - Keyfob (lock/unlock signal)
  - Door lock assembly LH (key cylinder switch)
  - Back door key cylinder switch
- When control performed only by BCM is required by switch, it shifts to CAN communication inactive mode.
- Status of combination switch reading function is changed.

## SYSTEMS CONTROLLED BY BCM DIRECTLY

- Power door lock system. Refer to BL-16, "POWER DOOR LOCK SYSTEM" .
- Remote keyless entry system. Refer to BL-41, "REMOTE KEYLESS ENTRY SYSTEM" .
- Power window system. Refer to GW-15, "POWER WINDOW SYSTEM" . NOTE
- Room lamp timer. Refer to LT-99, "INTERIOR ROOM LAMP" .
- Warning chime system. Refer to DI-34, "WARNING CHIME" .
- Turn signal and hazard warning lamps system. Refer to LT-47, "TURN SIGNAL AND HAZARD WARNING LAMPS" .
- Trailer turn signal and hazard warning lamps system. Refer to LT-90, "TRAILER TOW" .
- Rear wiper and washer system. Refer to WW-30, "REAR WIPER AND WASHER SYSTEM" .

**NOTE:**
Power supply only. No system control.

## SYSTEMS CONTROLLED BY BCM AND IPDM E/R

- Panic system. Refer to BL-41, "REMOTE KEYLESS ENTRY SYSTEM" .
- Vehicle security (theft warning) system. Refer to BL-65, "VEHICLE SECURITY (THEFT WARNING) SYSTEM" .
- Headlamp, tail lamp and battery saver control systems. Refer to LT-74, "PARKING, LICENSE PLATE AND TAIL LAMPS" , LT-5, "HEADLAMP (FOR USA)"  or LT-27, "HEADLAMP (FOR CANADA) - DAYTIME LIGHT SYSTEM -" .
- Front wiper and washer system. Refer to WW-4, "FRONT WIPER AND WASHER SYSTEM" .
- Rear window defogger system. Refer to GW-61, "REAR WINDOW DEFOGGER" .

## MAJOR COMPONENTS AND CONTROL SYSTEM

| System | Input | Output |
|---|---|---|
| Remote keyless entry system | Remote keyless entry receiver (keyfob) | ● All door locking actuators<br>● Turn signal lamp (LH, RH) |
| Power door lock system | Front power door lock/unlock switch (LH, RH) | All door locking actuators |
| Power supply (IGN) to power window | Ignition power supply | Power supply to power window system |
| Power supply (BAT) to power window | Battery power supply | Power supply to power window system |
| Panic alarm | ● Key switch<br>● Keyfob | IPDM E/R |

# BCM (BODY CONTROL MODULE)

| System | Input | Output |
|---|---|---|
| Battery saver control | ● Ignition switch<br>● Combination switch | IPDM E/R |
| Headlamp | Combination switch | IPDM E/R |
| Tail lamp | Combination switch | IPDM E/R |
| Fog lamp (with front fog lamps) | Combination switch | IPDM E/R |
| Turn signal lamp | Combination switch | ● Turn signal lamp<br>● Combination meter |
| Hazard lamp | Hazard switch | ● Turn signal lamp<br>● Combination meter |
| Room lamp timer | ● Key switch<br>● Keyfob<br>● Main power window and door lock/unlock switch<br>● Front door switch LH<br>● All door switch | Interior room lamp |
| Key warning chime | ● Key switch<br>● Front door switch LH | Combination meter (warning buzzer) |
| Light warning chime | ● Combination switch<br>● Key switch<br>● Front door switch LH | Combination meter (warning buzzer) |
| Rear window defogger | Rear window defogger switch | IPDM E/R |
| Air conditioner switch signal | Front air control | ECM |
| Blower fan switch signal | Front air control | ECM |

## CAN Communication System Description

EKS00DFS

Refer to LAN-4, "SYSTEM DESCRIPTION" .
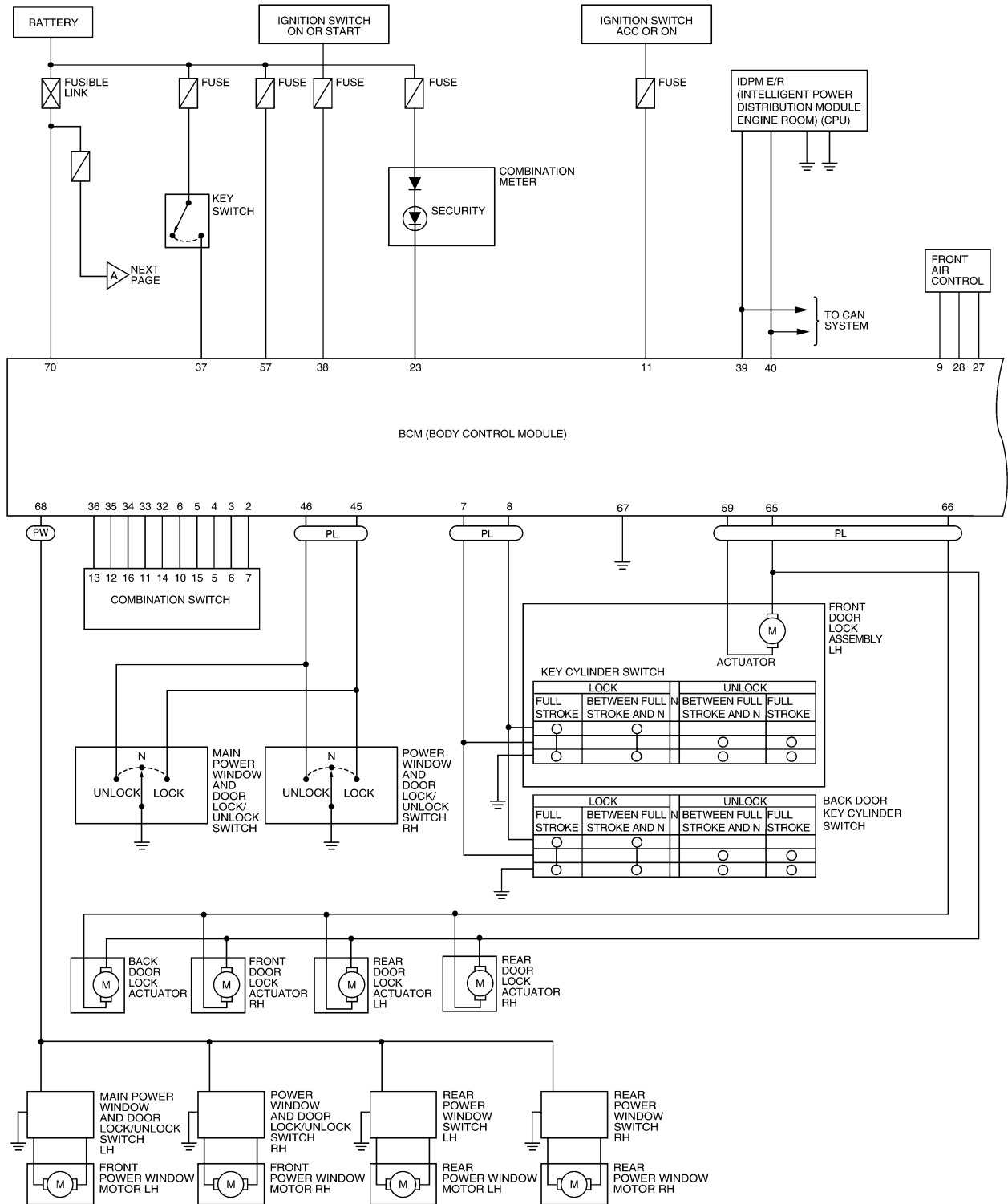
## Schematic

EKS00DFT

PL : WITH POWER DOOR LOCKS
PW : WITH POWER WINDOWS
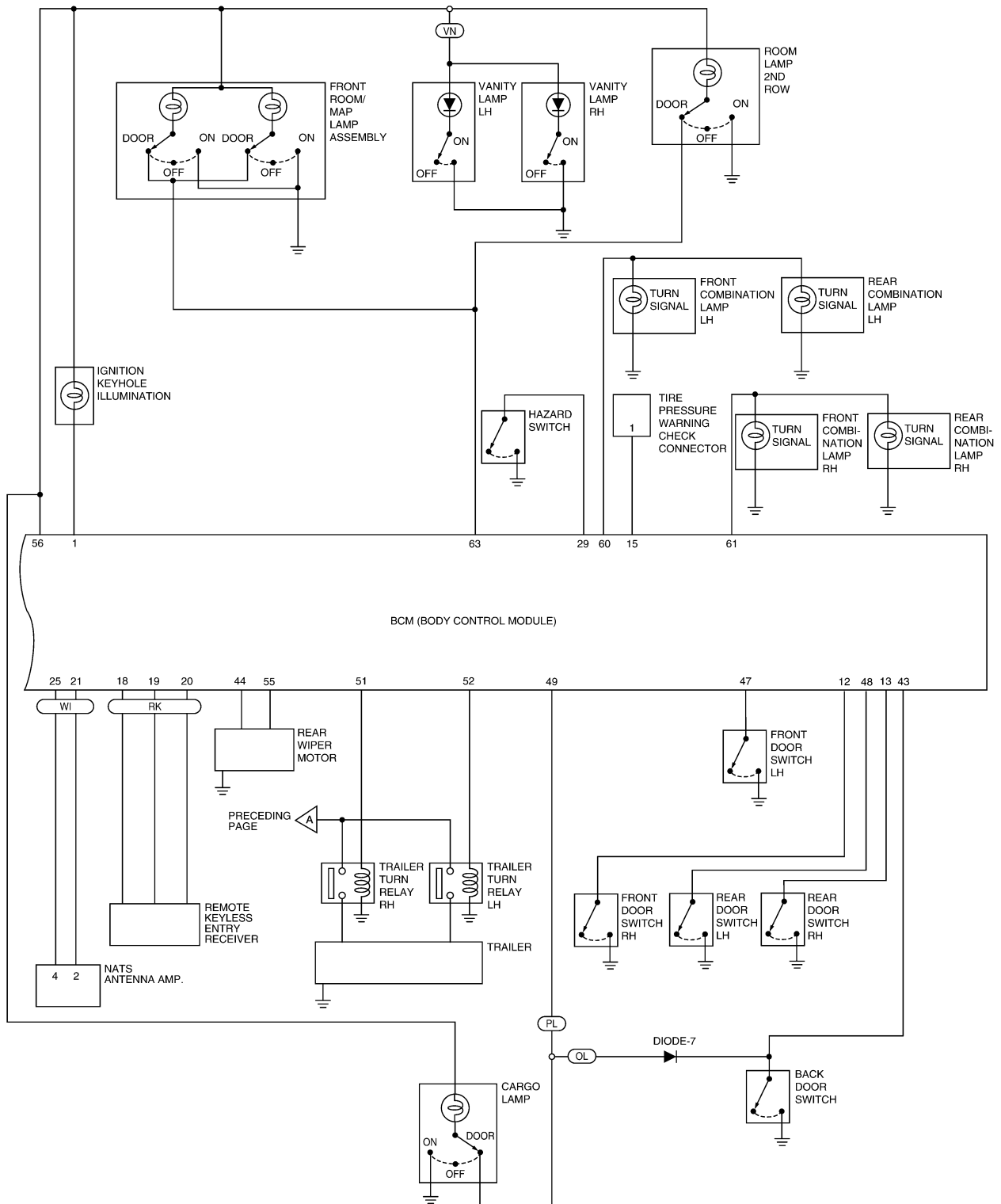


WIWA1684E

OL : WITHOUT POWER DOOR LOCKS
PL : WITH POWER DOOR LOCKS
RK : WITH REMOTE KEYLESS ENTRY SYSTEM
WI : WITH IMMOBILIZER
VN : WITH VANITY LAMPS



WIWA5363E

# BCM (BODY CONTROL MODULE)

## BCM Terminal Arrangement

M18

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

M19

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

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

M20
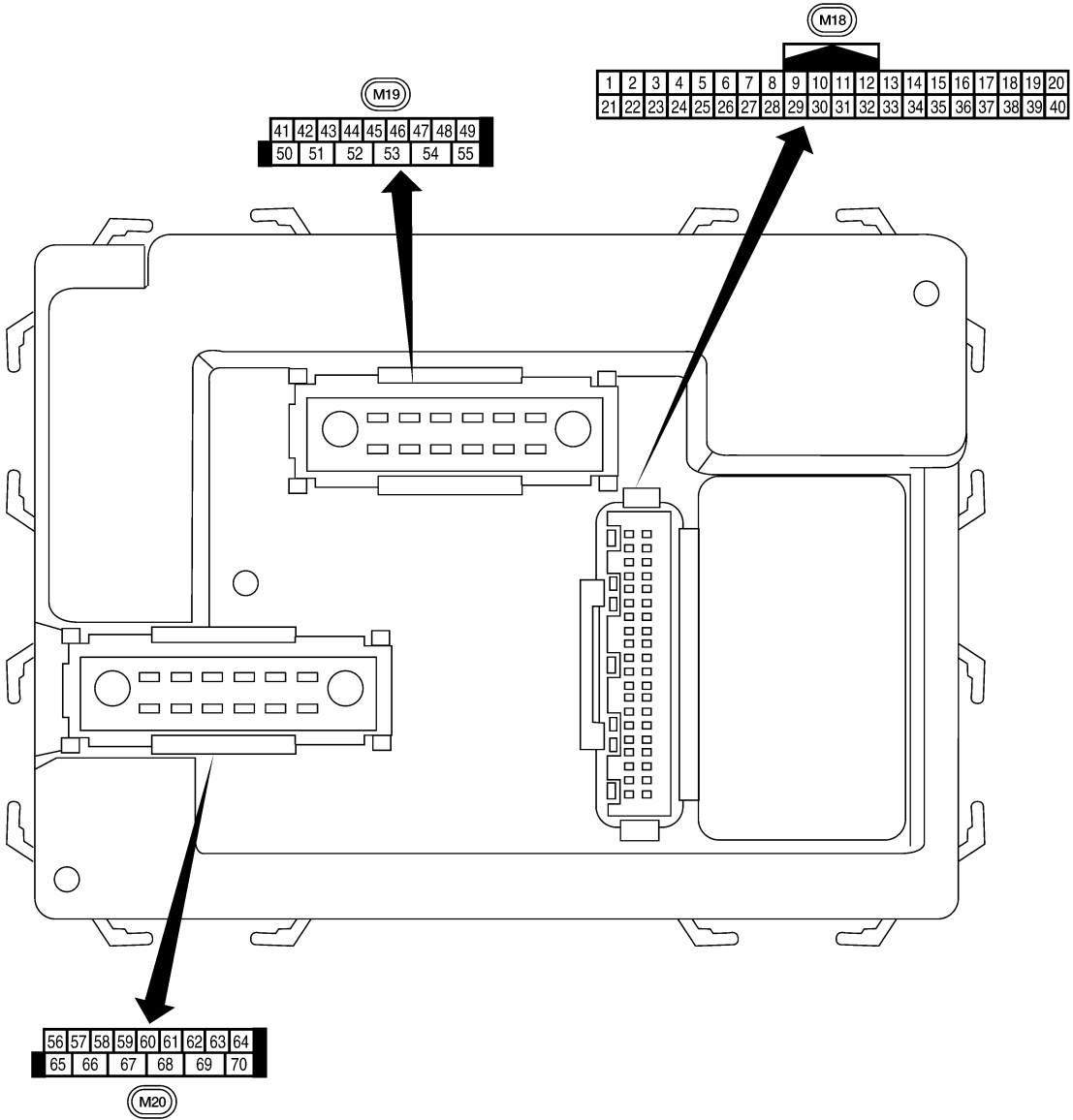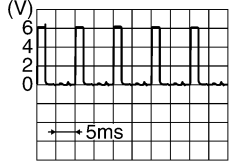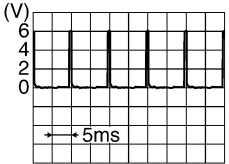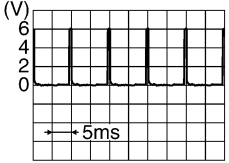
LIIA2443E

# BCM (BODY CONTROL MODULE)

## Terminals and Reference Values for BCM

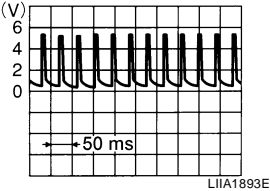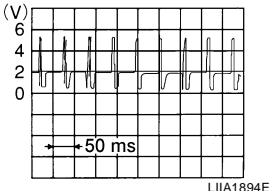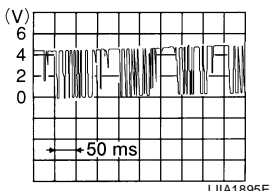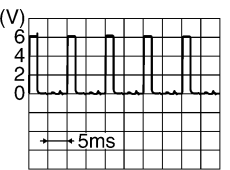| Terminal | Wire color | Signal name | Signal input/ output | Measuring condition Ignition switch | Operation or condition | Reference value or waveform (Approx.) |
|---|---|---|---|---|---|---|
| 1 | BR | Ignition keyhole illumination | Output | OFF | Door is locked (SW OFF) | Battery voltage |
| | | | | | 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) and back door key cylinder switch (unlock) | Input | OFF | ON (open, 2nd turn) | Momentary 1.5V |
| | | | | | OFF (closed) | 0V |
| 8 | SB | Front door lock assembly LH (key cylinder switch) and back door key cylinder switch (lock) | Input | | On (open) | Momentary 1.5V |
| | | | | | OFF (closed) | 0V |
| 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 | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 13 | L | Rear door switch RH | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |

| Terminal | Wire color | Signal name | Signal input/ output | Measuring condition | | Reference value or waveform (Approx.) |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | Ignition switch | Operation or condition | |
| 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 |  |
| 20 | G | Remote keyless entry receiver signal (signal) | Input | OFF | Stand-by (keyfob buttons released) |  |
| | | | | | When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed) |  |
| 21 | GR | NATS antenna amp. | Input | OFF → ON | Ignition switch (OFF → ON) | Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage. |
| 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 for approx. 1 second, then return to battery voltage. |
| 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 |
| 32 | O | Combination switch output 5 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 |  |

# BCM (BODY CONTROL MODULE)

| Terminal | Wire color | Signal name | Signal input/ output | Measuring condition | | Reference value or waveform (Approx.) |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | Ignition switch | Operation or condition | |
| 33 | GR | Combination switch output 4 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 | (V) 6 4 2 0 ⟵5ms⟶ SKIA5292E |
| 34 | G | Combination switch output 3 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 | (V) 6 4 2 0 ⟵5ms⟶ SKIA5291E |
| 35 | BR | Combination switch output 2 | Output | ON | Lighting, turn, wiper OFF Wiper dial position 4 | (V) 6 4 2 0 ⟵5ms⟶ SKIA5292E |
| 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 | — | — | — | — |
| 43 | Y | Back door switch | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 44 | O | Rear wiper auto stop | Input | ON | Rear wiper operating | 0 |
| | | | | | Rear wiper stopped | Battery |
| 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 | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 48 | P | Rear door switch LH | Input | OFF | ON (open) | 0V |
| | | | | | OFF (closed) | Battery voltage |
| 49 | L | Cargo lamp | Output | OFF | Any door open (ON) | 0V |
| | | | | | All doors closed (OFF) | Battery voltage |
| 51 | G | Trailer turn signal (right) | Output | ON | Turn right ON | (V) 15 10 5 0 ⟵500 ms⟶ SKIA3009J |

| Terminal | Wire color | Signal name | Signal input/output | Measuring condition Ignition switch | Measuring condition Operation or condition | | Reference value or waveform (Approx.) |
|---|---|---|---|---|---|---|---|
| 52 | V | Trailer turn signal (left) | Output | ON | Turn left ON | |  SKIA3009J |
| 55 | W | Rear wiper motor output | Output | ON | OFF | | 0 |
| | | | | | ON | | Battery voltage |
| 56 | V | Battery saver output | Output | OFF | 30 minutes after ignition switch is turned OFF | | 0V |
| | | | | ON | — | | Battery voltage |
| 57 | R/Y | Battery power supply | Input | OFF | — | | Battery voltage |
| 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 | |  SKIA3009J |
| 61 | G | Turn signal (right) | Output | ON | Turn right ON | |  SKIA3009J |
| 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 and back door lock actuator (unlock) | Output | OFF | OFF (neutral) | | 0V |
| | | | | | ON (unlock) | | Battery voltage |
| 67 | B | Ground | Input | ON | — | | 0V |
| 68 | 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 |
| 70 | W | Battery power supply | Input | OFF | — | | Battery voltage |

# BCM (BODY CONTROL MODULE)

## BCM Power Supply and Ground Circuit Check

## 1. CHECK FUSES AND FUSIBLE LINK

● Check 50A fusible link (letter **g** , located in the fuse and fusible link box).

● Check 10A fuses [No. 1, 4 and 18, located in the fuse block (J/B)].
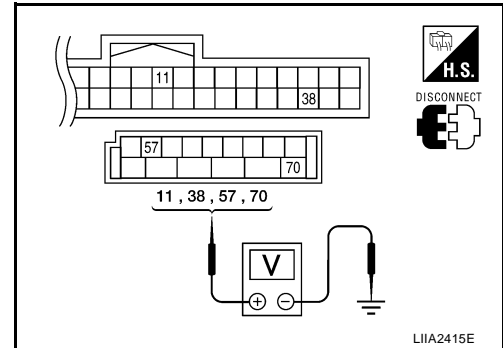
OK or NG

OK     >> GO TO 2.

NG     >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

## 2. CHECK BCM POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM.

3. Check voltage between BCM connectors 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 |

LIIA2415E

OK or NG

OK     >> GO TO 3.

NG     >> Repair or replace the harness.

## 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 terminal 67 and ground.

    **67 - Ground**           **: Continuity should exist.**

BCM connector

LIIA0915E

OK or NG

OK     >> Power supply and ground circuit is OK.

NG     >> Repair or replace harness.
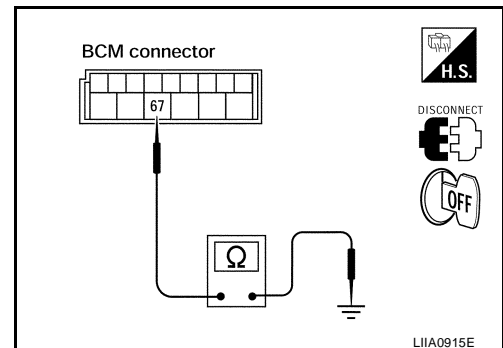
# BCM (BODY CONTROL MODULE)

## CONSULT-II Function (BCM)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

| BCM diagnostic test item | Diagnostic mode | Content |
|---|---|---|
| Inspection by part | WORK SUPPORT | Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed. |
| | DATA MONITOR | Displays BCM input/output data in real time. |
| | ACTIVE TEST | Operation of electrical loads can be checked by sending drive signal to them. |
| | SELF-DIAG RESULTS | Displays BCM self-diagnosis results. |
| | CAN DIAG SUPPORT MNTR | The results of transmit/receive diagnosis of CAN communication can be read. |
| | ECU PART NUMBER | BCM part number can be read. |
| | CONFIGURATION | Performs BCM configuration read/write functions. |

### CONSULT-II START PROCEDURE

Refer to GI-38, "CONSULT-II Start Procedure" .

### ITEMS OF EACH PART

**NOTE:**
CONSULT-II will only display systems the vehicle possesses.

| System and item | CONSULT-II display | Diagnostic test mode (Inspection by part) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | WORK SUPPORT | SELF–DIAG RESULTS | CAN DIAG SUPPORT MNTR | DATA MONITOR | ECU PART NUMBER | ACTIVE TEST | CON-FIGU-RATION |
| BCM | BCM | × | × | × | | × | | × |
| Power door lock system | DOOR LOCK | × | | | × | | × | |
| Rear defogger | REAR DEFOGGER | | | | × | | × | |
| Warning chime | BUZZER | | | | × | | × | |
| Room lamp timer | INT LAMP | × | | | × | | × | |
| Remote keyless entry system | MULTI REMOTE ENT | × | | | × | | × | |
| Headlamp | HEAD LAMP | × | | | × | | × | |
| Wiper | WIPER | × | | | × | | × | |
| Turn signal lamp Hazard lamp | FLASHER | | | | × | | × | |
| Blower fan switch signal Air conditioner switch signal | AIR CONDITIONER | | | | × | | | |
| Combination switch | COMB SW | | | | × | | | |
| NVIS (NATS) | IMMU | | | | × | | × | |
| Interior lamp battery saver | BATTERY SAVER | × | | | × | | × | |
| Back door | TRUNK | | | | × | | × | |
| Theft alarm | THEFT ALARM | × | | | × | | × | |
| Retained accessory power control | RETAINED PWR | × | | | × | | × | |
| Oil pressure switch | SIGNAL BUFFER | | | | × | | × | |

| System and item | CONSULT-II display | Diagnostic test mode (Inspection by part) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | WORK SUPPORT | SELF–DIAG RESULTS | CAN DIAG SUPPORT MNTR | DATA MONITOR | ECU PART NUMBER | ACTIVE TEST | CON-FIGU-RATION |
| Low tire pressure monitor | AIR PRESSURE MONITOR | × | × | | × | | × | |
| Panic alarm | PANIC ALARM | | | | | | × | |

## WORK SUPPORT
### Display Item List

| Item | Description |
|---|---|
| RESET SETTING VALUE | Return a value set with WORK SUPPORT of each system to a default value in factory shipment. |

# CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)    *EKS00DFV*
## 1. SELF-DIAGNOSTIC RESULT CHECK

**NOTE:**
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

1. Connect CONSULT–II and CONSULT-II CONVERTER, and select "BCM" on "SELECT SYSTEM" screen.
2. Select "BCM " on "SELECT TEST ITEM" screen, and select "SELF-DIAG RESULTS".
3. Check display content in self-diagnostic results.

| CONSULT-II display code | Diagnosis item |
|---|---|
| U1000 | INITIAL DIAG |
| | TRANSMIT DIAG |
| | ECM |
| | IPDM E/R |
| | METER/M&A |
| | I-KEY |

Contents displayed

No malfunction>>Inspection End

Malfunction in CAN communication system>>After printing the monitor items, go to "CAN System". Refer to LAN-7, "TROUBLE DIAGNOSIS" .

## Configuration

### DESCRIPTION

CONFIGURATION has two functions as follows:

- READ CONFIGURATION is the function to confirm vehicle configuration of current BCM.
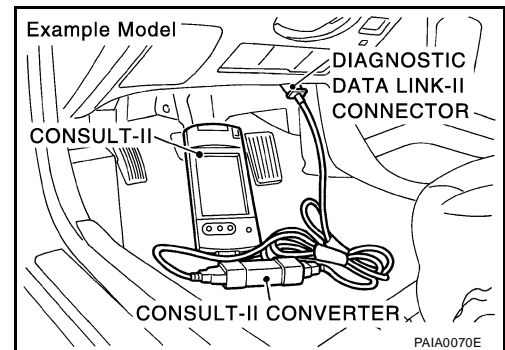- WRITE CONFIGURATION is the function to write vehicle configuration on BCM.

**CAUTION:**
- **When replacing BCM, you must perform WRITE CONFIGURATION with CONSULT-II.**
- **Complete the procedure of WRITE CONFIGURATION in order.**
- **If you set incorrect WRITE CONFIGURATION, incidents will occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

### READ CONFIGURATION PROCEDURE

**CAUTION:**
**If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.**
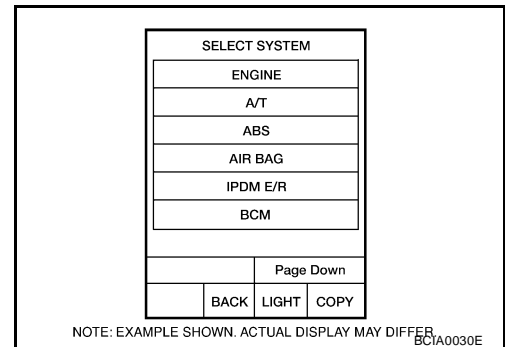
1. With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector and turn ignition switch ON.



PAIA0070E

2. Touch "START (NISSAN BASED VHCL)".



NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0029E
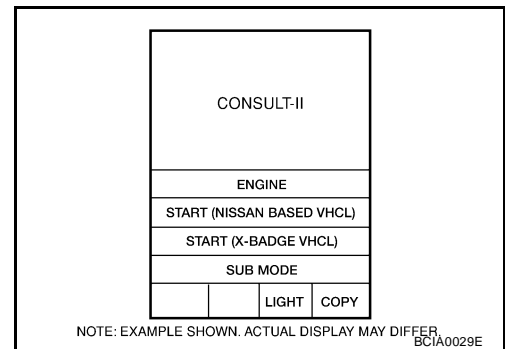
3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, go to GI section. Refer to GI-40, "CONSULT-II Data Link Connector (DLC) Circuit" .
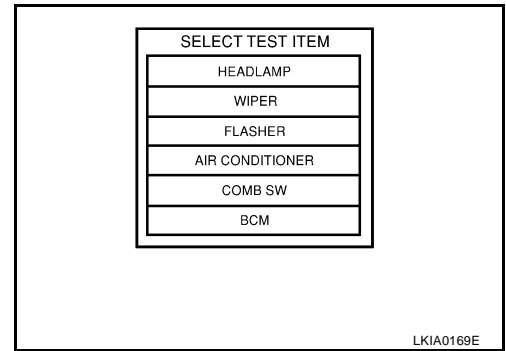


NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
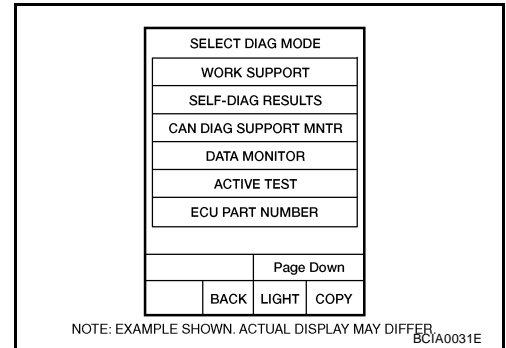BCIA0030E

4. Touch "BCM" on "SELECT TEST ITEM" screen.

| SELECT TEST ITEM |
| --- |
| HEADLAMP |
| WIPER |
| FLASHER |
| AIR CONDITIONER |
| COMB SW |
| BCM |

LKIA0169E

5. Touch "CONFIGURATION" on "SELECT DIAG MODE" screen.

| SELECT DIAG MODE |
| --- |
| WORK SUPPORT |
| SELF-DIAG RESULTS |
| CAN DIAG SUPPORT MNTR |
| DATA MONITOR |
| ACTIVE TEST |
| ECU PART NUMBER |

| | | Page Down |
| --- | --- | --- |
| | BACK | LIGHT | COPY |

NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.

BCIA0031E

6. Touch "R51/D40/N51" and "OK" on "VEHICLE SELECT" screen.
   For canceling, touch "CANCEL" on "VEHICLE SELECT" screen.
   **NOTE:**
   Confirm vehicle model on IDENTIFICATION PLATE. Refer to GI-48, "Model Variation" in GI section.

| SELECT DIAG MODE |
| --- |
| WORK SUPPORT |

| VEHICLE SELECT | |
| --- | --- |
| A60 | |
| L31(SPEC1) | |
| L31(SPEC2) | |
| R51/D40/N51 | |
| ∧ ∧ | |
| OK | CANCEL |

LKIA0613E
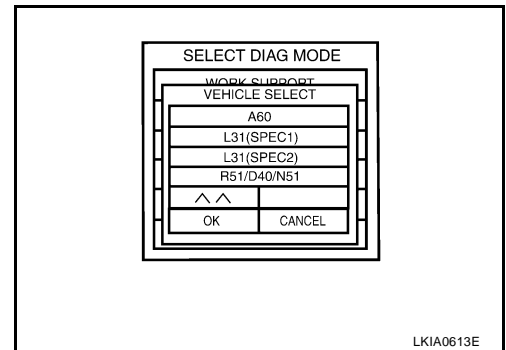
7. Touch "READ CONFIGURATION" on "SELECT CONFIG ITEM" screen.

| SELECT CONFIG ITEM |
| --- |
| READ CONFIGURATION |
| WRITE CONFIGURATION |
| |
| |
| |
| |

| | | |
| --- | --- | --- |
| | BACK | LIGHT | COPY |
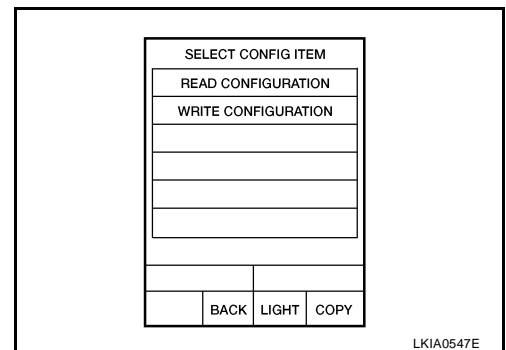
LKIA0547E

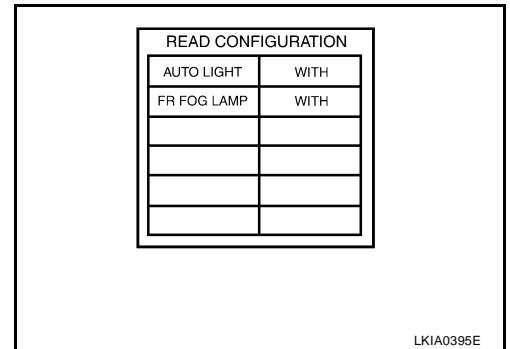8.  Configuration of current BCM is printed out automatically. A listing of manual setting items and auto setting items will be displayed. Auto setting items are preset and cannot be changed. Manual setting items can be set by using WRITE CONFIGURATION PROCEDURE. Refer to BCS-21, "WRITE CONFIGURATION PROCEDURE" .

```
                NISSAN
              CONSULT-II
           READ CONFIGURATION


SYSTEM        XXXXXXXXX
DATE          MM/DD/YYYY  HH:MM:SS
P#            P#
VEHICLE       XX


MANUAL SETTING ITEM
```

| Items | Setting Value |
|---|---|
| AUTO LIGHT | WITH |
| FR FOG LAMP | WITH |

AUTO SETTING ITEM

| Items | Setting Value |
|---|---|
| KEYLESS ENTRY | WITH |
| H/L BULB | DEFAULT |

WKIA3039E
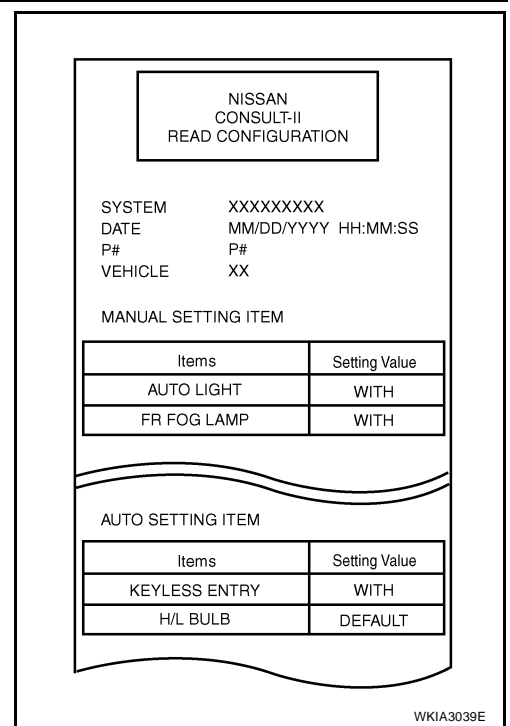
9.  Touch "BACK" on "READ CONFIGURATION" screen.

READ CONFIGURATION

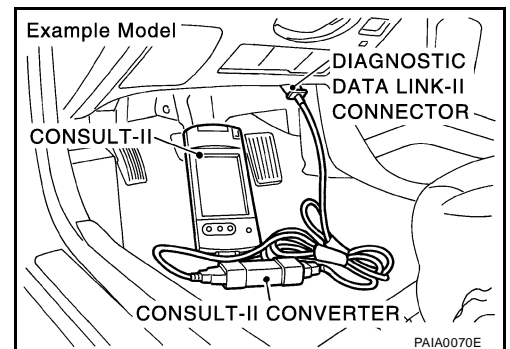| AUTO LIGHT | WITH |
|---|---|
| FR FOG LAMP | WITH |
| | |
| | |
| | |
| | |

LKIA0395E

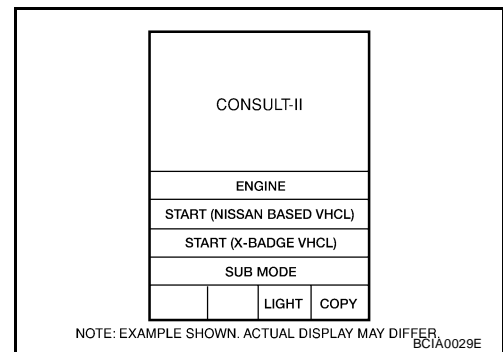## WRITE CONFIGURATION PROCEDURE

**CAUTION:**
**If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.**

1.  With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector and turn ignition switch ON.
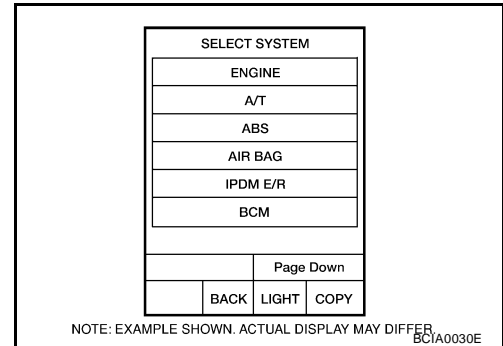
Example Model

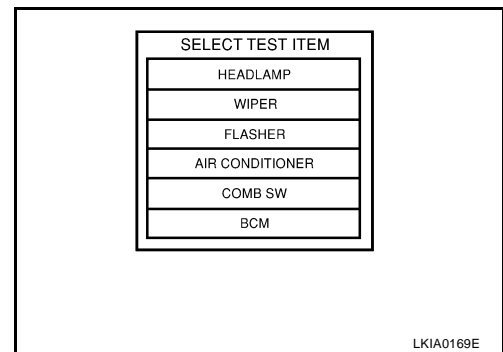DIAGNOSTIC DATA LINK-II CONNECTOR

CONSULT-II

CONSULT-II CONVERTER

PAIA0070E

2. Touch "START (NISSAN BASED VHCL)".

```
        CONSULT-II


     ENGINE
  START (NISSAN BASED VHCL)
  START (X-BADGE VHCL)
     SUB MODE
            LIGHT  COPY
```
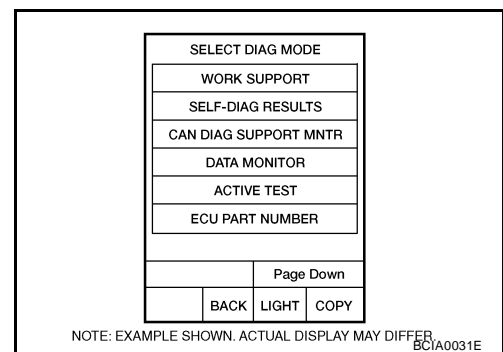NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0029E

3. Touch "BCM" on "SELECT ITEM" screen. If "BCM" is not indicated, go to GI section to check CONSULT II data link connector (DLC) circuit. Refer to GI-40, "CONSULT-II Data Link Connector (DLC) Circuit" .
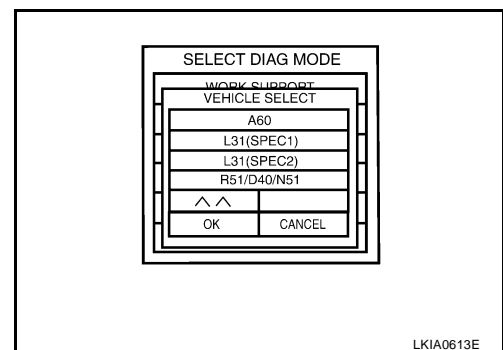
```
     SELECT SYSTEM
       ENGINE
        A/T
        ABS
      AIR BAG
      IPDM E/R
        BCM

              Page Down
       BACK  LIGHT  COPY
```
NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0030E

4. Touch "BCM" on "SELECT TEST ITEM" screen.

```
    SELECT TEST ITEM
      HEADLAMP
       WIPER
      FLASHER
   AIR CONDITIONER
      COMB SW
        BCM
```
LKIA0169E

5. Touch "CONFIGURATION" on "SELECT DIAG MODE" screen.

```
    SELECT DIAG MODE
     WORK SUPPORT
   SELF-DIAG RESULTS
  CAN DIAG SUPPORT MNTR
     DATA MONITOR
      ACTIVE TEST
    ECU PART NUMBER

              Page Down
       BACK  LIGHT  COPY
```
NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0031E

6. Touch "R51/D40/N51" and "OK" on "VEHICLE SELECT" screen. For canceling, touch "CANCEL" on "VEHICLE SELECT" screen.
   **NOTE:**
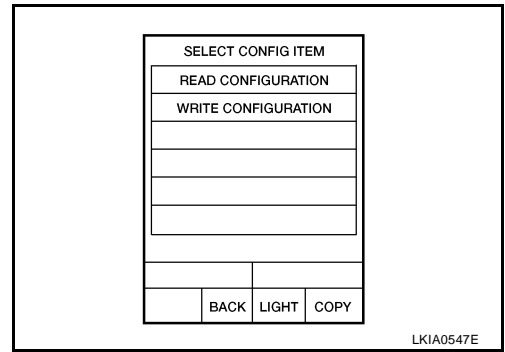   Confirm vehicle model on IDENTIFICATION PLATE. Refer to GI-48, "Model Variation" .
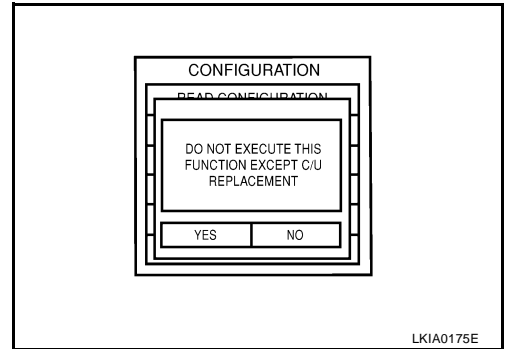
```
    SELECT DIAG MODE
     WORK SUPPORT
     VEHICLE SELECT
        A60
      L31(SPEC1)
      L31(SPEC2)
      R51/D40/N51
       ∧ ∧
    OK      CANCEL
```
LKIA0613E

7. Touch "WRITE CONFIGURATION" on "SELECT CONFIG ITEM" screen.

8. Touch "YES".
For canceling, touch "NO".

9. Using the following flow chart, identify the correct model and configuration list. Confirm and/or change setting value for each item according to the configuration list.
Depending on CONSULT-II software version being used, some or all of the write configuration items shown in the following configuration lists may be displayed. If an item does not appear on the CONSULT-II "WRITE CONFIGURATION" screen(s), then it is an auto setting item and it cannot be manually set or changed.
**NOTE:**
Confirm vehicle model on IDENTIFICATION PLATE. Refer to GI-48, "Model Variation" .

| ITEM | SET VAL |
|---|---|
| KEYLESS ENTRY | WITH ⇔ WITHOUT |
| DTRL | WITH ⇔ WITHOUT |
| SPEED SNS WIP | WITH ⇔ WITHOUT |
| THEFT ALARM | WITH ⇔ WITHOUT |

10. Touch "CHNG SETTING" on "WRITE CONFIGURATION" screen.
**CAUTION:**
**Make sure to touch "CHNG 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 cannot be memorized.**

11. Touch "OK" on "WRITE CONFIGURATION" screen.
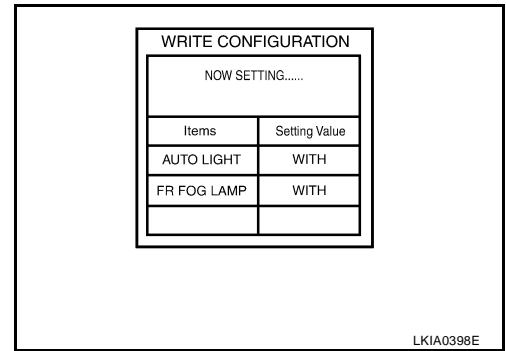If "CANCEL" is touched, it will return to previous screen.
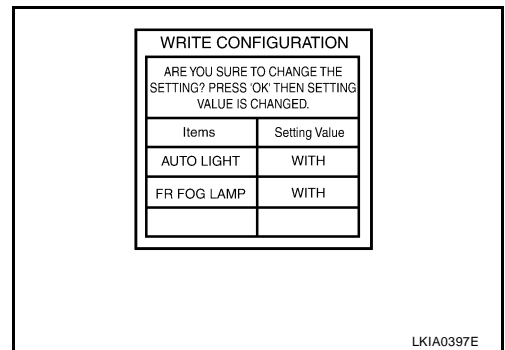
# BCM (BODY CONTROL MODULE)
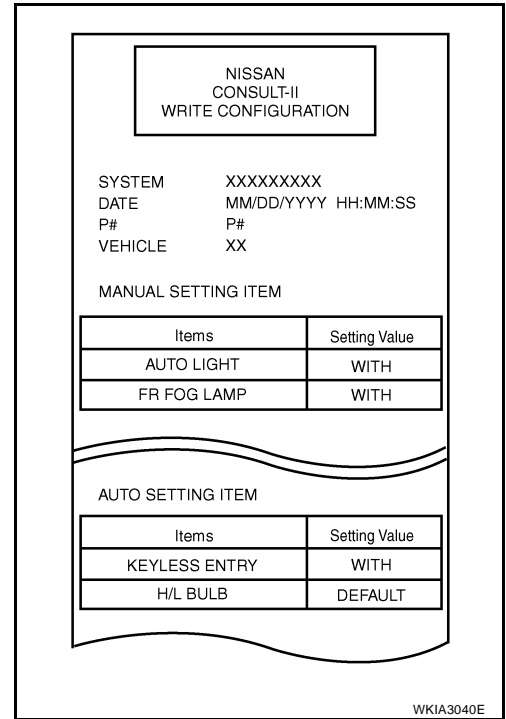
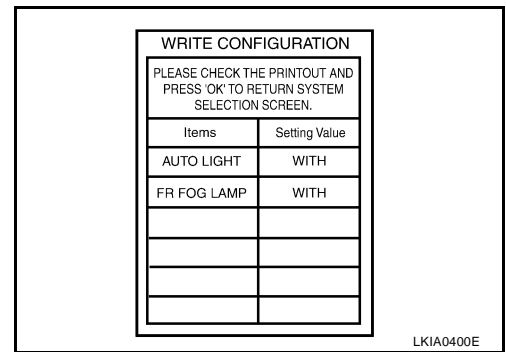12. Wait until the next screen during setting.



WRITE CONFIGURATION

NOW SETTING......

| Items | Setting Value |
|---|---|
| AUTO LIGHT | WITH |
| FR FOG LAMP | WITH |
| | |

LKIA0398E

13. WRITE CONFIGURATION results are printed out automatically. Confirm "WRITE CONFIGURATION" is correctly executed by comparing sheet automatically printed out with applicable configuration list shown in step 9.



NISSAN
CONSULT-II
WRITE CONFIGURATION

SYSTEM          XXXXXXXXX
DATE            MM/DD/YYYY  HH:MM:SS
P#              P#
VEHICLE         XX

MANUAL SETTING ITEM

| Items | Setting Value |
|---|---|
| AUTO LIGHT | WITH |
| FR FOG LAMP | WITH |

AUTO SETTING ITEM

| Items | Setting Value |
|---|---|
| KEYLESS ENTRY | WITH |
| H/L BULB | DEFAULT |

WKIA3040E

14. Touch "OK" on "WRITE CONFIGURATION" screen.
    WRITE CONFIGURATION is completed.



WRITE CONFIGURATION

PLEASE CHECK THE PRINTOUT AND PRESS 'OK' TO RETURN SYSTEM SELECTION SCREEN.

| Items | Setting Value |
|---|---|
| AUTO LIGHT | WITH |
| FR FOG LAMP | WITH |
| | |
| | |
| | |
| | |

LKIA0400E

# BCM (BODY CONTROL MODULE)

## Removal and Installation of BCM

### 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-19, "Configuration" .

1. Disconnect negative battery cable.

2. Remove lower instrument panel LH. Refer to IP-12, "LOWER INSTRUMENT PANEL LH" .

3. Remove knee protector. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .

4. Remove screws and release BCM.

5. Disconnect connectors and then remove BCM.



LKIA0564E
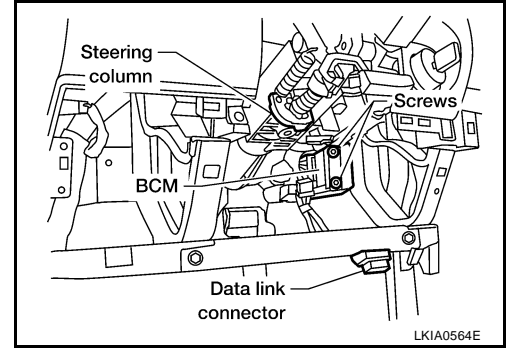
### INSTALLATION

Installation is in the reverse order of removal.

**NOTE:**

- When replacing BCM, it must be configured. Refer to BCS-19, "Configuration" .

- When replacing BCM, perform initialization of NATS system and registration of all NATS ignition key IDs. Refer to BL-97, "NVIS(NISSAN Vehicle Immobilizer System-NATS)" .

- When replacing BCM, perform ID registration procedure of low tire pressure warning system. Refer to WT-12, "ID Registration Procedure" .

- When replacing BCM, register the remote keyless entry system keyfob ID codes. Refer to BL-61, "ID Code Entry Procedure" .

- When replacing BCM, preform adjustment procedure for the steering angle sensor. Refer to BRC-125, "Adjustment of Steering Angle Sensor Neutral Position" .