

# SECTION **BCS**

## BODY CONTROL SYSTEM

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# PRECAUTIONS

## PRECAUTIONS

PF0:00001

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

EKS002BU

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

### Wiring Diagrams and Trouble Diagnosis

EKS002BV

When you read wiring diagrams, refer to the following:

- [GI-13, "How to Read Wiring Diagrams"](#)
- [PG-2, "POWER SUPPLY ROUTING"](#)

When you perform trouble diagnosis, refer to the following:

- [GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#)
- [GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident"](#)

Check for any Service bulletins before servicing the vehicle.

# SMART ENTRANCE CONTROL UNIT

PFP:28596

EKS002BW

## SMART ENTRANCE CONTROL UNIT

### Description OUTLINE

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime
- Rear window defogger and door mirror defogger
- Power door locks
- Remote keyless entry system
- Vehicle security system
- Interior lamp
- Battery saver control

### BATTERY SAVER CONTROL

#### Interior Lamp/Map Lamp/Vanity Lamps

The lamps turn off automatically when the interior lamp, map lamp or/and vanity lamps are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for approximately 10 minutes.

After lamps are turned off by the battery saver system, the lamps illuminate again when:

- Driver's door is locked or unlocked,
- Door is opened or closed,
- Key is inserted into or removed from the ignition key cylinder.

#### Rear Window Defogger/Door Mirror Defogger

Rear window defogger and door mirror defogger are turned off in approximately 15 minutes after the rear window defogger switch is turned on.

### INPUT/OUTPUT

| System  | Input   | Output   |
|---|---|--|
| Power door lock                               | Door lock and unlock switch LH and RH<br>Key switch (Insert)<br>Door switches<br>Door key cylinder switch   | Door lock actuator   |
| Remote keyless entry                          | Key switch (Insert)<br>Ignition switch (ACC)<br>Door switches<br>Front door unlock sensor LH<br>Keyfob signal   | Vehicle security lamp relay<br>Vehicle security horn relay<br>Interior lamp<br>Remote keyless entry relay<br>Door lock actuator<br>Trunk lid opener actuator |
| Warning chime                                 | Key switch (Insert)<br>Ignition switch (ON)<br>Lighting switch (1st or 2nd)<br>Seat belt buckle switch LH<br>Front door switch LH   | Warning chime (located in smart entrance control unit)   |
| Rear window defogger and door mirror defogger | Ignition switch (ON)<br>Rear window defogger switch   | Rear window defogger relay   |
| Vehicle security                              | Ignition switch (ACC, ON)<br>Door switches<br>Hood switch<br>Door lock/unlock switches<br>Door key cylinder switch (lock/unlock)<br>Trunk lid key cylinder switch (unlock)<br>Door unlock sensors | Vehicle security lamp relay<br>Horn relay<br>Security indicator lamp   |

# SMART ENTRANCE CONTROL UNIT

| System  | Input   | Output                                    |
|---|---|---|
| Interior lamp   | Door switches<br>Front door unlock sensor LH<br>Ignition switch (ON)<br>Key switch (Insert)             | Interior lamp                             |
| Battery saver control for interior lamp/map lamp/vanity lamps | Ignition switch (ON)<br>Door switches<br>Lamp switches<br>Main power window and door lock/unlock switch | Interior lamp<br>Map lamp<br>Vanity lamps |

# SMART ENTRANCE CONTROL UNIT

## CONSULT-II DIAGNOSTIC ITEMS APPLICATION

EKS002BX

| Item (CONSULT-II screen terms) | Diagnosed system                        | DATA MONITOR | ACTIVE TEST | WORK SUPPORT |
|--------------------------------|---|--------------|-------------|--------------|
| DOOR LOCK                      | Power door lock                         | X            | X           |              |
| REAR DEFOGGER                  | Rear window defogger                    | X            | X           |              |
| KEY WARN ALM                   | Warning chime                           | X            | X           |              |
| LIGHT WARN ALM                 | Warning chime                           | X            | X           |              |
| SEAT BELT ALM                  | Warning chime                           | X            | X           |              |
| INT LAMP                       | Interior lamps                          | X            | X           |              |
| BATTERY SAVER                  | Battery saver control for interior lamp | X            | X           |              |
| THEFT WAR ALM                  | Vehicle security system                 | X            | X           | X            |
| MULTI REMOTE ENT               | Remote keyless entry system             | X            | X           | X            |

X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

## DIAGNOSTIC ITEM DESCRIPTION

| MODE                              | Description  |
|-----------------------------------|--|
| DATA MONITOR                      | Input/output data in the smart entrance control unit can be read.  |
| ACTIVE TEST                       | Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit. |
| WORK SUPPORT for THEFT WAR ALM    | The recorded trigger signal when vehicle security system was activated can be checked.                   |
| WORK SUPPORT for MULTI REMOTE ENT | ID code of keyfob can be registered and erased.  |

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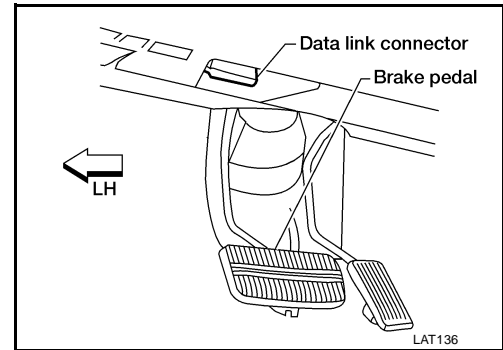
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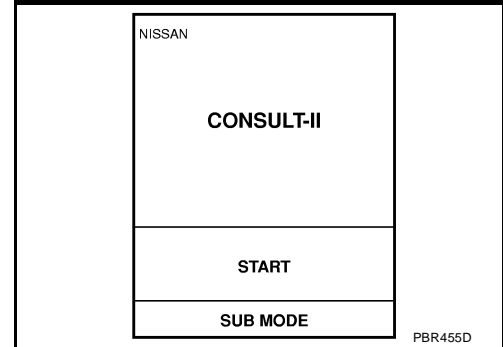
# SMART ENTRANCE CONTROL UNIT

## CONSULT-II INSPECTION PROCEDURE

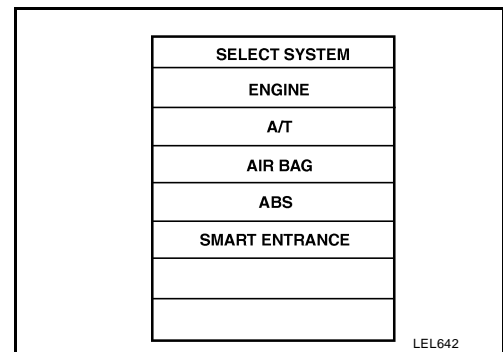
1. Turn the ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



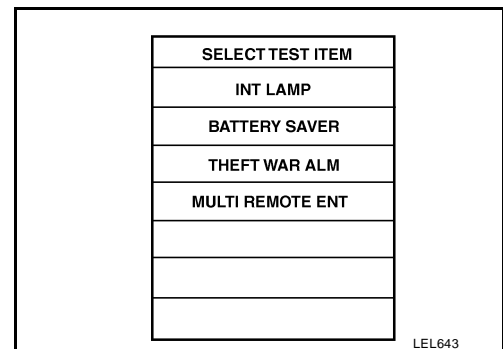
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".

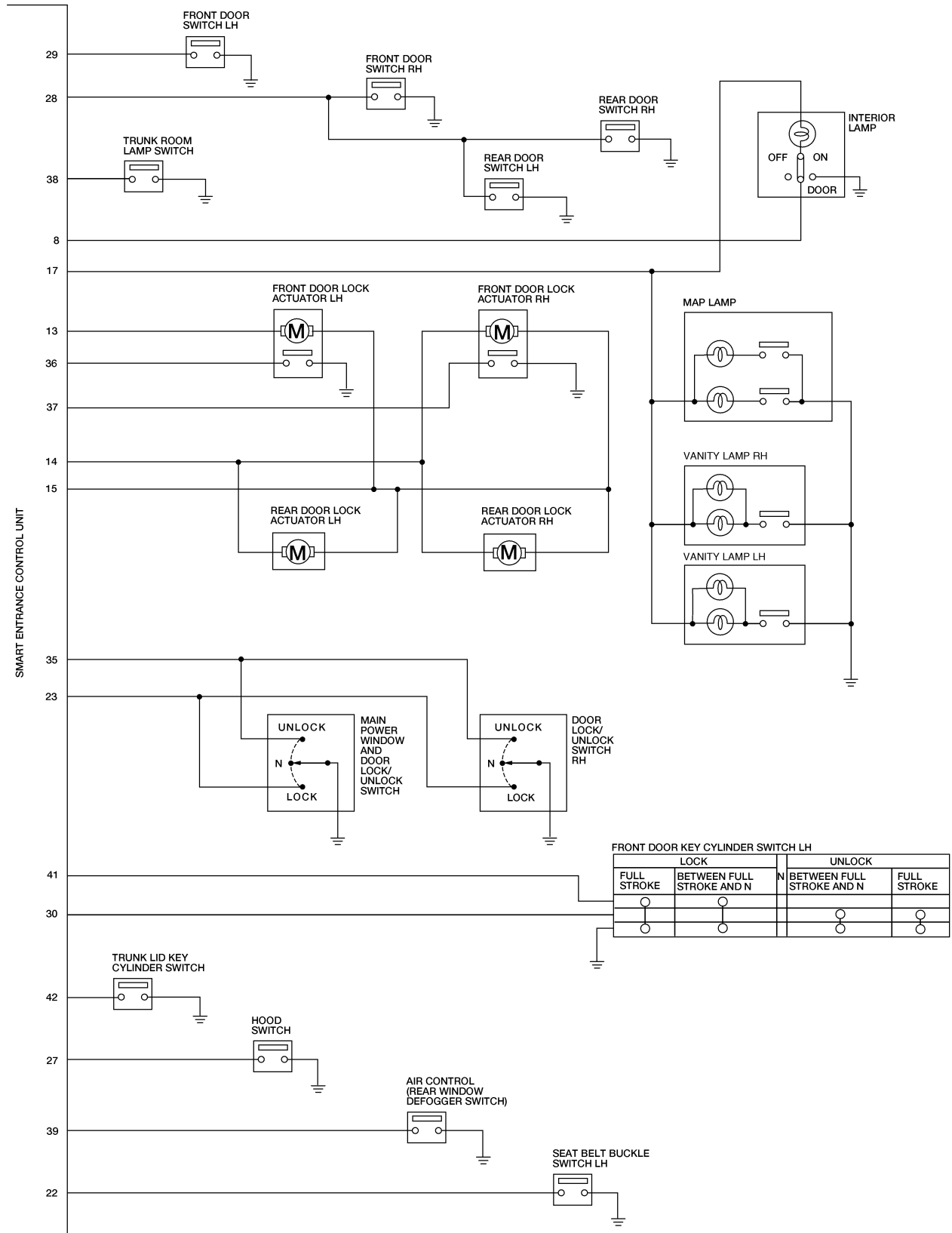


6. Perform each diagnostic item according to "DIAGNOSTIC ITEMS APPLICATION". Refer to [BCS-5, "DIAGNOSTIC ITEMS APPLICATION"](#).





# SMART ENTRANCE CONTROL UNIT



LEL120A



# SMART ENTRANCE CONTROL UNIT

## Smart Entrance Control Unit Inspection Table

EKS002BZ

| Terminal No. | Wire color | Connections                                | Operated condition   | Voltage (Approx.) |
|--------------|------------|--|--|-------------------|
| 2            | G/R        | Rear window defogger relay                 | OFF → ON (Ignition key is in "ON" position)                                  | 0V → 12V          |
| 4            | SB         | Horn relay and vehicle security lamp relay | When panic alarm is operated using Keyfob or when alarm is activated         | 12V → 0V          |
| 7            | OR/B       | Remote keyless entry relay                 | When doors are locked using Keyfob   | 12V → 0V          |
| 8            | R/Y        | Interior lamp                              | When interior lamp is operated using Keyfob (Lamp switch in "DOOR" position) | 0V → 12V          |
| 10           | PU         | Power source (Fuse)                        | —  | 12V               |
| 11           | W/L        | Power source (C/B)                         | —  | 12V               |
| 12           | P/B        | Trunk lid opener actuator                  | ON (Open) → OFF (Closed)   | 0V → 12V          |
| 13           | L/R        | Driver door lock actuator                  | Door lock & unlock switch  | Free<br>0V        |
| 14           | W/R        | Passenger and rear doors lock actuators    |  | Unlocked<br>12V   |
| 15           | R/B        | Door lock actuators                        | Door lock & unlock switch  | Free<br>0V        |
|              |            |  |  | Locked<br>12V     |
| 16           | B          | Ground                                     | —  | —                 |
| 17           | R/B        | Battery saver (Interior lamp)              | Battery saver does not operate → Operate                                     | 12V → 0V          |
| 19           | W/G        | Horn relay                                 | When doors are locked using Keyfob with horn chirp mode                      | 12V → 0V          |
| 21           | P          | Ignition switch (ACC, ON)                  | "ACC" or "ON" position   | 12V               |
| 22           | W/B        | Seat belt buckle switch LH                 | Unfasten → Fasten (Ignition key is in "ON" position)                         | 0V → 5V           |
| 23           | GY         | Door lock & unlock switches                | Neutral → Locks  | 5V → 0V           |
| 27           | P/B        | Hood switch                                | ON (Open) → OFF (Closed)   | 0V → 5V           |
| 28           | R/W        | Other door switches                        | OFF (Closed) → ON (Open)   | 5V → 0V           |
| 29           | R          | Front door switch LH                       | OFF (Closed) → ON (Open)   | 5V → 0V           |
| 30           | W/L        | Door key cylinder unlock switch            | OFF (Neutral) → ON (Unlocked)  | 5V → 0V           |
| 31           | GY/R       | Vehicle security indicator                 | Goes off → Illuminates   | 12V → 0V          |
| 32           | L/W        | Ignition key switch (Insert)               | Key inserted → Key removed from IGN key cylinder                             | 12V → 0V          |
| 33           | G          | Ignition switch (ON, START)                | Ignition key is in "ON" or "START" position                                  | 12V               |
| 34           | R/G        | Combination switch (Lighting switch)       | 1ST, 2ND positions: ON → OFF   | 12V → 0V          |
| 35           | PU/R       | Door lock & unlock switches                | Neutral → Unlocks  | 5V → 0V           |
| 36           | Y/G        | Door unlock sensor LH                      | Driver door: Locked → Unlocked   | 5V → 0V           |
| 37           | Y          | Door unlock sensor RH                      | Passenger door: Locked → Unlocked  | 5V → 0V           |
| 38           | R/B        | Trunk room lamp switch                     | ON (Open) → OFF (Closed)   | 0V → 12V          |
| 39           | G/B        | Air control (Rear window defogger switch)  | OFF → ON   | 5V → 0V           |
| 41           | LG/R       | Door key cylinder lock switch              | OFF (Neutral) → ON (Locked)  | 5V → 0V           |
| 42           | L/OR       | Trunk lid key cylinder switch              | OFF (Neutral) → ON (Unlock)  | 5V → 0V           |

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# TIME CONTROL UNIT

## TIME CONTROL UNIT

PF2:28491

### Description (Without Power Door Locks) OUTLINE

EKS002C0

The time control unit totally controls the following body electrical system operations.

- Warning chime
- Rear window defogger

### INPUT/OUTPUT

| System               | Input   | Output                                       |
|----------------------|---|--|
| Warning chime        | Key switch (Insert)<br>Ignition switch (ON)<br>Lighting switch (1st or 2nd)<br>Seat belt buckle switch LH<br>Front door switch LH | Warning chime (located in time control unit) |
| Rear window defogger | Ignition switch (ON)<br>Rear window defogger switch   | Rear window defogger relay                   |



## TIME CONTROL UNIT

### Time Control Unit Inspection Table (Without Power Door Locks)

EKS002C2

| Terminal No. | Wire color | Connections                               | Operated condition                                   | Voltage (Approx.) |
|--------------|------------|---|--|-------------------|
| 1            | W/B        | Seat belt buckle switch LH                | Unfasten → Fasten (Ignition key is in "ON" position) | 0V → 5V           |
| 2            | R          | Front door switch LH                      | OFF (Closed) → ON (Open)                             | 5V → 0V           |
| 3            | G/B        | Air control (Rear window defogger switch) | OFF → ON   | 5V → 0V           |
| 4            | L/W        | Ignition key switch (Insert)              | Key inserted → Key removed from IGN key cylinder     | 12V → 0V          |
| 5            | R/G        | Combination switch (Lighting switch)      | 1ST, 2ND positions: ON → OFF                         | 12V → 0V          |
| 7            | PU         | Power source (Fuse)                       | —  | 12V               |
| 8            | B          | Ground                                    | —  | —                 |
| 9            | G          | Ignition switch (ON, START)               | Ignition key is in "ON" or "START" position          | 12V               |
| 10           | G/R        | Rear window defogger relay                | OFF → ON (Ignition key is in "ON" position)          | 0V → 12V          |